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2000D	Index of Structure Plans (4 of 4)
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R-2510B 03/23/2010

⚠1 Added Sheets 2095A and 2096A

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 1 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
INDEX OF DRAWINGS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
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1	SGS	02/01/10	3			TOTAL SHEETS
2			4			

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TIME: 9:05:58 AM

USER NAME = sstredna
DGN: N:\Structure\Tar River Bridge\ADDENDUM\R2510B_SD_DSH_INDEX.dgn

SHEET NO.	TITLE
~~2326AA~~	~~Alternate Details - Pile Cap Type 1 (1 of 9)~~
~~2326AB~~	~~Alternate Details - Pile Cap Type 1 (2 of 9)~~
~~2326AC~~	~~Alternate Details - Pile Cap Type 1 (3 of 9)~~
~~2326AD~~	~~Alternate Details - Pile Cap Type 1 (4 of 9)~~
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2333	Details - Pile Cap Type 2 (5 of 11)
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2335	Details - Pile Cap Type 2 (7 of 11)
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2337	Details - Pile Cap Type 2 (9 of 11)
2338	Details - Pile Cap Type 2 (10 of 11)
2339	Details - Pile Cap Type 2 (11 of 11)
~~A2329~~	~~Alternate Details - Pile Cap Type 2 (1 of 11)~~
~~A2330~~	~~Alternate Details - Pile Cap Type 2 (2 of 11)~~
~~A2331~~	~~Alternate Details - Pile Cap Type 2 (3 of 11)~~
~~A2332~~	~~Alternate Details - Pile Cap Type 2 (4 of 11)~~
~~A2333~~	~~Alternate Details - Pile Cap Type 2 (5 of 11)~~
~~A2334~~	~~Alternate Details - Pile Cap Type 2 (6 of 11)~~
~~A2335~~	~~Alternate Details - Pile Cap Type 2 (7 of 11)~~
~~A2336~~	~~Alternate Details - Pile Cap Type 2 (8 of 11)~~
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~~A2338~~	~~Alternate Details - Pile Cap Type 2 (10 of 11)~~
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2352	Details - Pile Cap Type 3 (9 of 12)
2353	Details - Pile Cap Type 3 (10 of 12)
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~~A2344~~	~~Alternate Details - Pile Cap Type 3 (1 of 12)~~
~~A2345~~	~~Alternate Details - Pile Cap Type 3 (2 of 12)~~
~~A2346~~	~~Alternate Details - Pile Cap Type 3 (3 of 12)~~
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~~A2348~~	~~Alternate Details - Pile Cap Type 3 (5 of 12)~~
~~A2349~~	~~Alternate Details - Pile Cap Type 3 (6 of 12)~~
~~A2350~~	~~Alternate Details - Pile Cap Type 3 (7 of 12)~~
~~A2351~~	~~Alternate Details - Pile Cap Type 3 (8 of 12)~~
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~~A2353~~	~~Alternate Details - Pile Cap Type 3 (10 of 12)~~
~~A2354~~	~~Alternate Details - Pile Cap Type 3 (11 of 12)~~
~~A2355~~	~~Alternate Details - Pile Cap Type 3 (12 of 12)~~

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2359	Dimensions - Bent Type 7
2360	Details - Pile Cap Types 4 & 7 (1 of 12)
2361	Details - Pile Cap Types 4 & 7 (2 of 12)
2362	Details - Pile Cap Types 4 & 7 (3 of 12)
2363	Details - Pile Cap Types 4 & 7 (4 of 12)
2364	Details - Pile Cap Types 4 & 7 (5 of 12)
2365	Details - Pile Cap Types 4 & 7 (6 of 12)
2366	Details - Pile Cap Types 4 & 7 (7 of 12)
2367	Details - Pile Cap Types 4 & 7 (8 of 12)
2368	Details - Pile Cap Types 4 & 7 (9 of 12)
2369	Details - Pile Cap Types 4 & 7 (10 of 12)
2370	Details - Pile Cap Types 4 & 7 (11 of 12)
2371	Details - Pile Cap Types 4 & 7 (12 of 12)
~~A2360~~	~~Alternate Details - Pile Cap Types 4 & 7 (1 of 12)~~
~~A2361~~	~~Alternate Details - Pile Cap Types 4 & 7 (2 of 12)~~
~~A2362~~	~~Alternate Details - Pile Cap Types 4 & 7 (3 of 12)~~
~~A2363~~	~~Alternate Details - Pile Cap Types 4 & 7 (4 of 12)~~
~~A2364~~	~~Alternate Details - Pile Cap Types 4 & 7 (5 of 12)~~
~~A2365~~	~~Alternate Details - Pile Cap Types 4 & 7 (6 of 12)~~
~~A2366~~	~~Alternate Details - Pile Cap Types 4 & 7 (7 of 12)~~
~~A2367~~	~~Alternate Details - Pile Cap Types 4 & 7 (8 of 12)~~
~~A2368~~	~~Alternate Details - Pile Cap Types 4 & 7 (9 of 12)~~
~~A2369~~	~~Alternate Details - Pile Cap Types 4 & 7 (10 of 12)~~
~~A2370~~	~~Alternate Details - Pile Cap Types 4 & 7 (11 of 12)~~
~~A2371~~	~~Alternate Details - Pile Cap Types 4 & 7 (12 of 12)~~
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2376	Details - Pile Cap Type 5 (3 of 12)
2377	Details - Pile Cap Type 5 (4 of 12)
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2379	Details - Pile Cap Type 5 (6 of 12)
2380	Details - Pile Cap Type 5 (7 of 12)
2381	Details - Pile Cap Type 5 (8 of 12)
2382	Details - Pile Cap Type 5 (9 of 12)
2383	Details - Pile Cap Type 5 (10 of 12)
2384	Details - Pile Cap Type 5 (11 of 12)
2385	Details - Pile Cap Type 5 (12 of 12)
~~A2373~~	~~Alternate Details - Pile Cap Type 5 (1 of 12)~~
~~A2374~~	~~Alternate Details - Pile Cap Type 5 (2 of 12)~~
~~A2376~~	~~Alternate Details - Pile Cap Type 5 (3 of 12)~~
~~A2377~~	~~Alternate Details - Pile Cap Type 5 (4 of 12)~~
~~A2378~~	~~Alternate Details - Pile Cap Type 5 (5 of 12)~~
~~A2379~~	~~Alternate Details - Pile Cap Type 5 (6 of 12)~~
~~A2380~~	~~Alternate Details - Pile Cap Type 5 (7 of 12)~~
~~A2381~~	~~Alternate Details - Pile Cap Type 5 (8 of 12)~~
~~A2382~~	~~Alternate Details - Pile Cap Type 5 (9 of 12)~~
~~A2383~~	~~Alternate Details - Pile Cap Type 5 (10 of 12)~~
~~A2384~~	~~Alternate Details - Pile Cap Type 5 (11 of 12)~~
~~A2385~~	~~Alternate Details - Pile Cap Type 5 (12 of 12)~~
2388	Dimensions - Bent Type 6
2389	Details - Pile Cap Type 6 (1 of 14)
2390	Details - Pile Cap Type 6 (2 of 14)
2391	Details - Pile Cap Type 6 (3 of 14)
2392	Details - Pile Cap Type 6 (4 of 14)
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2394	Details - Pile Cap Type 6 (6 of 14)
2395	Details - Pile Cap Type 6 (7 of 14)
2396	Details - Pile Cap Type 6 (8 of 14)
2397	Details - Pile Cap Type 6 (9 of 14)
2398	Details - Pile Cap Type 6 (10 of 14)
2399	Details - Pile Cap Type 6 (11 of 14)
2400	Details - Pile Cap Type 6 (12 of 14)
2401	Details - Pile Cap Type 6 (13 of 14)
2402	Details - Pile Cap Type 6 (14 of 14)

SHEET NO.	TITLE
~~A2389~~	~~Alternate Details - Pile Cap Type 6 (1 of 14)~~
~~A2390~~	~~Alternate Details - Pile Cap Type 6 (2 of 14)~~
~~A2391~~	~~Alternate Details - Pile Cap Type 6 (3 of 14)~~
~~A2392~~	~~Alternate Details - Pile Cap Type 6 (4 of 14)~~
~~A2393~~	~~Alternate Details - Pile Cap Type 6 (5 of 14)~~
~~A2394~~	~~Alternate Details - Pile Cap Type 6 (6 of 14)~~
~~A2395~~	~~Alternate Details - Pile Cap Type 6 (7 of 14)~~
~~A2396~~	~~Alternate Details - Pile Cap Type 6 (8 of 14)~~
~~A2397~~	~~Alternate Details - Pile Cap Type 6 (9 of 14)~~
~~A2398~~	~~Alternate Details - Pile Cap Type 6 (10 of 14)~~
~~A2399~~	~~Alternate Details - Pile Cap Type 6 (11 of 14)~~
~~A2400~~	~~Alternate Details - Pile Cap Type 6 (12 of 14)~~
~~A2401~~	~~Alternate Details - Pile Cap Type 6 (13 of 14)~~
~~A2402~~	~~Alternate Details - Pile Cap Type 6 (14 of 14)~~
2404	Dimensions - Bent Type 8
2405	Details - Pile Cap Type 8 (1 of 12)
2406	Details - Pile Cap Type 8 (2 of 12)
2407	Details - Pile Cap Type 8 (3 of 12)
2408	Details - Pile Cap Type 8 (4 of 12)
2409	Details - Pile Cap Type 8 (5 of 12)
2410	Details - Pile Cap Type 8 (6 of 12)
2411	Details - Pile Cap Type 8 (7 of 12)
2412	Details - Pile Cap Type 8 (8 of 12)
2413	Details - Pile Cap Type 8 (9 of 12)
2414	Details - Pile Cap Type 8 (10 of 12)
2415	Details - Pile Cap Type 8 (11 of 12)
2416	Details - Pile Cap Type 8 (12 of 12)
~~A2405~~	~~Alternate Details - Pile Cap Type 8 (1 of 12)~~
~~A2406~~	~~Alternate Details - Pile Cap Type 8 (2 of 12)~~
~~A2407~~	~~Alternate Details - Pile Cap Type 8 (3 of 12)~~
~~A2408~~	~~Alternate Details - Pile Cap Type 8 (4 of 12)~~
~~A2409~~	~~Alternate Details - Pile Cap Type 8 (5 of 12)~~
~~A2410~~	~~Alternate Details - Pile Cap Type 8 (6 of 12)~~
~~A2411~~	~~Alternate Details - Pile Cap Type 8 (7 of 12)~~
~~A2412~~	~~Alternate Details - Pile Cap Type 8 (8 of 12)~~
~~A2413~~	~~Alternate Details - Pile Cap Type 8 (9 of 12)~~
~~A2414~~	~~Alternate Details - Pile Cap Type 8 (10 of 12)~~
~~A2415~~	~~Alternate Details - Pile Cap Type 8 (11 of 12)~~
~~A2416~~	~~Alternate Details - Pile Cap Type 8 (12 of 12)~~
2419	Dimensions - Bent Type 9
2420	Details - Pile Cap Type 9 (1 of 12)
2421	Details - Pile Cap Type 9 (2 of 12)
2422	Details - Pile Cap Type 9 (3 of 12)
2423	Details - Pile Cap Type 9 (4 of 12)
2424	Details - Pile Cap Type 9 (5 of 12)
2425	Details - Pile Cap Type 9 (6 of 12)
2426	Details - Pile Cap Type 9 (7 of 12)
2427	Details - Pile Cap Type 9 (8 of 12)
2428	Details - Pile Cap Type 9 (9 of 12)
2429	Details - Pile Cap Type 9 (10 of 12)
2430	Details - Pile Cap Type 9 (11 of 12)
2431	Details - Pile Cap Type 9 (12 of 12)
~~A2420~~	~~Alternate Details - Pile Cap Type 9 (1 of 12)~~
~~A2421~~	~~Alternate Details - Pile Cap Type 9 (2 of 12)~~
~~A2422~~	~~Alternate Details - Pile Cap Type 9 (3 of 12)~~
~~A2423~~	~~Alternate Details - Pile Cap Type 9 (4 of 12)~~
~~A2424~~	~~Alternate Details - Pile Cap Type 9 (5 of 12)~~
~~A2425~~	~~Alternate Details - Pile Cap Type 9 (6 of 12)~~
~~A2426~~	~~Alternate Details - Pile Cap Type 9 (7 of 12)~~
~~A2427~~	~~Alternate Details - Pile Cap Type 9 (8 of 12)~~
~~A2428~~	~~Alternate Details - Pile Cap Type 9 (9 of 12)~~
~~A2429~~	~~Alternate Details - Pile Cap Type 9 (10 of 12)~~
~~A2430~~	~~Alternate Details - Pile Cap Type 9 (11 of 12)~~
~~A2431~~	~~Alternate Details - Pile Cap Type 9 (12 of 12)~~

DRAWN BY : S. G. STREDNAK DATE : -8/08
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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 2 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
INDEX OF DRAWINGS
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2000B.00
1	*	*	3			TOTAL SHEETS
2			4			

SHEET NO.	TITLE
2434	Dimensions - Bent Type 10
2435	Details - Pile Cap Type 10 (1 of 15)
2436	Details - Pile Cap Type 10 (2 of 15)
2437	Details - Pile Cap Type 10 (3 of 15)
2438	Details - Pile Cap Type 10 (4 of 15)
2439	Details - Pile Cap Type 10 (5 of 15)
2440	Details - Pile Cap Type 10 (6 of 15)
2441	Details - Pile Cap Type 10 (7 of 15)
2442	Details - Pile Cap Type 10 (8 of 15)
2443	Details - Pile Cap Type 10 (9 of 15)
2444	Details - Pile Cap Type 10 (10 of 15)
2445	Details - Pile Cap Type 10 (11 of 15)
2446	Details - Pile Cap Type 10 (12 of 15)
2447	Details - Pile Cap Type 10 (13 of 15)
2448	Details - Pile Cap Type 10 (14 of 15)
2449	Details - Pile Cap Type 10 (15 of 15)
A2435	Alternate Details - Pile Cap Type 10 (1 of 15)
A2436	Alternate Details - Pile Cap Type 10 (2 of 15)
A2437	Alternate Details - Pile Cap Type 10 (3 of 15)
A2438	Alternate Details - Pile Cap Type 10 (4 of 15)
A2439	Alternate Details - Pile Cap Type 10 (5 of 15)
A2440	Alternate Details - Pile Cap Type 10 (6 of 15)
A2441	Alternate Details - Pile Cap Type 10 (7 of 15)
A2442	Alternate Details - Pile Cap Type 10 (8 of 15)
A2443	Alternate Details - Pile Cap Type 10 (9 of 15)
A2444	Alternate Details - Pile Cap Type 10 (10 of 15)
A2445	Alternate Details - Pile Cap Type 10 (11 of 15)
A2446	Alternate Details - Pile Cap Type 10 (12 of 15)
A2447	Alternate Details - Pile Cap Type 10 (13 of 15)
A2448	Alternate Details - Pile Cap Type 10 (14 of 15)
A2449	Alternate Details - Pile Cap Type 10 (15 of 15)
2450	Dimensions - Bent Type 11
2451	Details - Pile Cap Type 11 (1 of 15)
2452	Details - Pile Cap Type 11 (2 of 15)
2453	Details - Pile Cap Type 11 (3 of 15)
2454	Details - Pile Cap Type 11 (4 of 15)
2455	Details - Pile Cap Type 11 (5 of 15)
2456	Details - Pile Cap Type 11 (6 of 15)
2457	Details - Pile Cap Type 11 (7 of 15)
2458	Details - Pile Cap Type 11 (8 of 15)
2459	Details - Pile Cap Type 11 (9 of 15)
2460	Details - Pile Cap Type 11 (10 of 15)
2461	Details - Pile Cap Type 11 (11 of 15)
2462	Details - Pile Cap Type 11 (12 of 15)
2463	Details - Pile Cap Type 11 (13 of 15)
2464	Details - Pile Cap Type 11 (14 of 15)
2465	Details - Pile Cap Type 11 (15 of 15)
A2451	Alternate Details - Pile Cap Type 11 (1 of 15)
A2452	Alternate Details - Pile Cap Type 11 (2 of 15)
A2453	Alternate Details - Pile Cap Type 11 (3 of 15)
A2454	Alternate Details - Pile Cap Type 11 (4 of 15)
A2455	Alternate Details - Pile Cap Type 11 (5 of 15)
A2456	Alternate Details - Pile Cap Type 11 (6 of 15)
A2457	Alternate Details - Pile Cap Type 11 (7 of 15)
A2458	Alternate Details - Pile Cap Type 11 (8 of 15)
A2459	Alternate Details - Pile Cap Type 11 (9 of 15)
A2460	Alternate Details - Pile Cap Type 11 (10 of 15)
A2461	Alternate Details - Pile Cap Type 11 (11 of 15)
A2462	Alternate Details - Pile Cap Type 11 (12 of 15)
A2463	Alternate Details - Pile Cap Type 11 (13 of 15)
A2464	Alternate Details - Pile Cap Type 11 (14 of 15)
A2465	Alternate Details - Pile Cap Type 11 (15 of 15)

SHEET NO.	TITLE
2466	Dimensions - Bent Type 12
2467	Details - Pile Cap Type 12 (1 of 15)
2468	Details - Pile Cap Type 12 (2 of 15)
2469	Details - Pile Cap Type 12 (3 of 15)
2470	Details - Pile Cap Type 12 (4 of 15)
2471	Details - Pile Cap Type 12 (5 of 15)
2472	Details - Pile Cap Type 12 (6 of 15)
2473	Details - Pile Cap Type 12 (7 of 15)
2474	Details - Pile Cap Type 12 (8 of 15)
2475	Details - Pile Cap Type 12 (9 of 15)
2476	Details - Pile Cap Type 12 (10 of 15)
2477	Details - Pile Cap Type 12 (11 of 15)
2478	Details - Pile Cap Type 12 (12 of 15)
2479	Details - Pile Cap Type 12 (13 of 15)
2480	Details - Pile Cap Type 12 (14 of 15)
2481	Details - Pile Cap Type 12 (15 of 15)
A2467	Alternate Details - Pile Cap Type 12 (1 of 15)
A2468	Alternate Details - Pile Cap Type 12 (2 of 15)
A2469	Alternate Details - Pile Cap Type 12 (3 of 15)
A2470	Alternate Details - Pile Cap Type 12 (4 of 15)
A2471	Alternate Details - Pile Cap Type 12 (5 of 15)
A2472	Alternate Details - Pile Cap Type 12 (6 of 15)
A2473	Alternate Details - Pile Cap Type 12 (7 of 15)
A2474	Alternate Details - Pile Cap Type 12 (8 of 15)
A2475	Alternate Details - Pile Cap Type 12 (9 of 15)
A2476	Alternate Details - Pile Cap Type 12 (10 of 15)
A2477	Alternate Details - Pile Cap Type 12 (11 of 15)
A2478	Alternate Details - Pile Cap Type 12 (12 of 15)
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2487	Details - Pile Cap Type 13 (5 of 15)
2488	Details - Pile Cap Type 13 (6 of 15)
2489	Details - Pile Cap Type 13 (7 of 15)
2490	Details - Pile Cap Type 13 (8 of 15)
2491	Details - Pile Cap Type 13 (9 of 15)
2492	Details - Pile Cap Type 13 (10 of 15)
2493	Details - Pile Cap Type 13 (11 of 15)
2494	Details - Pile Cap Type 13 (12 of 15)
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2496	Details - Pile Cap Type 13 (14 of 15)
2497	Details - Pile Cap Type 13 (15 of 15)
A2483	Alternate Details - Pile Cap Type 13 (1 of 15)
A2484	Alternate Details - Pile Cap Type 13 (2 of 15)
A2485	Alternate Details - Pile Cap Type 13 (3 of 15)
A2486	Alternate Details - Pile Cap Type 13 (4 of 15)
A2487	Alternate Details - Pile Cap Type 13 (5 of 15)
A2488	Alternate Details - Pile Cap Type 13 (6 of 15)
A2489	Alternate Details - Pile Cap Type 13 (7 of 15)
A2490	Alternate Details - Pile Cap Type 13 (8 of 15)
A2491	Alternate Details - Pile Cap Type 13 (9 of 15)
A2492	Alternate Details - Pile Cap Type 13 (10 of 15)
A2493	Alternate Details - Pile Cap Type 13 (11 of 15)
A2494	Alternate Details - Pile Cap Type 13 (12 of 15)
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A2497	Alternate Details - Pile Cap Type 13 (15 of 15)

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2502	Details - Pile Cap Type 14 (4 of 15)
2503	Details - Pile Cap Type 14 (5 of 15)
2504	Details - Pile Cap Type 14 (6 of 15)
2505	Details - Pile Cap Type 14 (7 of 15)
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2510	Details - Pile Cap Type 14 (12 of 15)
2511	Details - Pile Cap Type 14 (13 of 15)
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A2502	Alternate Details - Pile Cap Type 14 (4 of 15)
A2503	Alternate Details - Pile Cap Type 14 (5 of 15)
A2504	Alternate Details - Pile Cap Type 14 (6 of 15)
A2505	Alternate Details - Pile Cap Type 14 (7 of 15)
A2506	Alternate Details - Pile Cap Type 14 (8 of 15)
A2507	Alternate Details - Pile Cap Type 14 (9 of 15)
A2508	Alternate Details - Pile Cap Type 14 (10 of 15)
A2509	Alternate Details - Pile Cap Type 14 (11 of 15)
A2510	Alternate Details - Pile Cap Type 14 (12 of 15)
A2511	Alternate Details - Pile Cap Type 14 (13 of 15)
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2513D	Details - Pile Cap Type 14A (3 of 18)
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2513K	Details - Pile Cap Type 14A (10 of 18)
2513L	Details - Pile Cap Type 14A (11 of 18)
2513M	Details - Pile Cap Type 14A (12 of 18)
2513N	Details - Pile Cap Type 14A (13 of 18)
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A2513J	Alternate Details - Pile Cap Type 14A (9 of 18)
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A2513O	Alternate Details - Pile Cap Type 14A (14 of 18)
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A2513Q	Alternate Details - Pile Cap Type 14A (16 of 18)
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A2513S	Alternate Details - Pile Cap Type 14A (18 of 18)

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CHECKED BY : J. W. JORDAN DATE : -8/08

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PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 3 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
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OVER TAR RIVER

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2514R	Details - Pile Cap Type 14B (18 of 18)
~~A2514A~~	~~Alternate Details - Pile Cap Type 14B (1 of 18)~~
~~A2514B~~	~~Alternate Details - Pile Cap Type 14B (2 of 18)~~
~~A2514C~~	~~Alternate Details - Pile Cap Type 14B (3 of 18)~~
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~~A2514E~~	~~Alternate Details - Pile Cap Type 14B (5 of 18)~~
~~A2514F~~	~~Alternate Details - Pile Cap Type 14B (6 of 18)~~
~~A2514G~~	~~Alternate Details - Pile Cap Type 14B (7 of 18)~~
~~A2514H~~	~~Alternate Details - Pile Cap Type 14B (8 of 18)~~
~~A2514I~~	~~Alternate Details - Pile Cap Type 14B (9 of 18)~~
~~A2514J~~	~~Alternate Details - Pile Cap Type 14B (10 of 18)~~
~~A2514K~~	~~Alternate Details - Pile Cap Type 14B (11 of 18)~~
~~A2514L~~	~~Alternate Details - Pile Cap Type 14B (12 of 18)~~
~~A2514M~~	~~Alternate Details - Pile Cap Type 14B (13 of 18)~~
~~A2514N~~	~~Alternate Details - Pile Cap Type 14B (14 of 18)~~
~~A2514O~~	~~Alternate Details - Pile Cap Type 14B (15 of 18)~~
~~A2514P~~	~~Alternate Details - Pile Cap Type 14B (16 of 18)~~
~~A2514Q~~	~~Alternate Details - Pile Cap Type 14B (17 of 18)~~
~~A2514R~~	~~Alternate Details - Pile Cap Type 14B (18 of 18)~~
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2521	Details - Pile Cap Type 15 (6 of 9)
2522	Details - Pile Cap Type 15 (7 of 9)
2523	Details - Pile Cap Type 15 (8 of 9)
2524	Details - Pile Cap Type 15 (9 of 9)
~~A2516~~	~~Alternate Details - Pile Cap Type 15 (1 of 9)~~
~~A2517~~	~~Alternate Details - Pile Cap Type 15 (2 of 9)~~
~~A2518~~	~~Alternate Details - Pile Cap Type 15 (3 of 9)~~
~~A2519~~	~~Alternate Details - Pile Cap Type 15 (4 of 9)~~
~~A2520~~	~~Alternate Details - Pile Cap Type 15 (5 of 9)~~
~~A2521~~	~~Alternate Details - Pile Cap Type 15 (6 of 9)~~
~~A2522~~	~~Alternate Details - Pile Cap Type 15 (7 of 9)~~
~~A2523~~	~~Alternate Details - Pile Cap Type 15 (8 of 9)~~
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2532	Details - Pile Cap Type 16 (7 of 9)
2533	Details - Pile Cap Type 16 (8 of 9)
2534	Details - Pile Cap Type 16 (9 of 9)
~~A2526~~	~~Alternate Details - Pile Cap Type 16 (1 of 9)~~
~~A2527~~	~~Alternate Details - Pile Cap Type 16 (2 of 9)~~
~~A2528~~	~~Alternate Details - Pile Cap Type 16 (3 of 9)~~
~~A2529~~	~~Alternate Details - Pile Cap Type 16 (4 of 9)~~
~~A2530~~	~~Alternate Details - Pile Cap Type 16 (5 of 9)~~
~~A2531~~	~~Alternate Details - Pile Cap Type 16 (6 of 9)~~
~~A2532~~	~~Alternate Details - Pile Cap Type 16 (7 of 9)~~
~~A2533~~	~~Alternate Details - Pile Cap Type 16 (8 of 9)~~
~~A2534~~	~~Alternate Details - Pile Cap Type 16 (9 of 9)~~

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2543	Details - Pile Cap Type 17 (7 of 12)
2544	Details - Pile Cap Type 17 (8 of 12)
2545	Details - Pile Cap Type 17 (9 of 12)
2545A	Details - Pile Cap Type 17 (10 of 12)
2545B	Details - Pile Cap Type 17 (11 of 12)
2545C	Details - Pile Cap Type 17 (12 of 12)
~~A2537~~	~~Alternate Details - Pile Cap Type 17 (1 of 12)~~
~~A2538~~	~~Alternate Details - Pile Cap Type 17 (2 of 12)~~
~~A2539~~	~~Alternate Details - Pile Cap Type 17 (3 of 12)~~
~~A2540~~	~~Alternate Details - Pile Cap Type 17 (4 of 12)~~
~~A2541~~	~~Alternate Details - Pile Cap Type 17 (5 of 12)~~
~~A2542~~	~~Alternate Details - Pile Cap Type 17 (6 of 12)~~
~~A2543~~	~~Alternate Details - Pile Cap Type 17 (7 of 12)~~
~~A2544~~	~~Alternate Details - Pile Cap Type 17 (8 of 12)~~
~~A2545~~	~~Alternate Details - Pile Cap Type 17 (9 of 12)~~
~~A2545A~~	~~Alternate Details - Pile Cap Type 17 (10 of 12)~~
~~A2545B~~	~~Alternate Details - Pile Cap Type 17 (11 of 12)~~
~~A2545C~~	~~Alternate Details - Pile Cap Type 17 (12 of 12)~~
2546	Dimensions - Bent Type 18
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2554	Details - Pile Cap Type 18 (8 of 12)
2555	Details - Pile Cap Type 18 (9 of 12)
2556	Details - Pile Cap Type 18 (10 of 12)
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~~A2547~~	~~Alternate Details - Pile Cap Type 18 (1 of 12)~~
~~A2548~~	~~Alternate Details - Pile Cap Type 18 (2 of 12)~~
~~A2549~~	~~Alternate Details - Pile Cap Type 18 (3 of 12)~~
~~A2550~~	~~Alternate Details - Pile Cap Type 18 (4 of 12)~~
~~A2551~~	~~Alternate Details - Pile Cap Type 18 (5 of 12)~~
~~A2552~~	~~Alternate Details - Pile Cap Type 18 (6 of 12)~~
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~~A2554~~	~~Alternate Details - Pile Cap Type 18 (8 of 12)~~
~~A2555~~	~~Alternate Details - Pile Cap Type 18 (9 of 12)~~
~~A2556~~	~~Alternate Details - Pile Cap Type 18 (10 of 12)~~
~~A2557~~	~~Alternate Details - Pile Cap Type 18 (11 of 12)~~
~~A2558~~	~~Alternate Details - Pile Cap Type 18 (12 of 12)~~
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2562	Details - Pile Cap Type 19 (3 of 9)
2563	Details - Pile Cap Type 19 (4 of 9)
2564	Details - Pile Cap Type 19 (5 of 9)
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2566	Details - Pile Cap Type 19 (7 of 9)
2567	Details - Pile Cap Type 19 (8 of 9)
2568	Details - Pile Cap Type 19 (9 of 9)
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~~A2561~~	~~Alternate Details - Pile Cap Type 19 (2 of 9)~~
~~A2562~~	~~Alternate Details - Pile Cap Type 19 (3 of 9)~~
~~A2563~~	~~Alternate Details - Pile Cap Type 19 (4 of 9)~~
~~A2564~~	~~Alternate Details - Pile Cap Type 19 (5 of 9)~~
~~A2565~~	~~Alternate Details - Pile Cap Type 19 (6 of 9)~~
~~A2566~~	~~Alternate Details - Pile Cap Type 19 (7 of 9)~~
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~~A2568~~	~~Alternate Details - Pile Cap Type 19 (9 of 9)~~

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2575	Details - Pile Cap Type 20 (6 of 9)
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2578	Details - Pile Cap Type 20 (9 of 9)
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2651	Sign Support Structure Details (1 of 3)
2652	Sign Support Structure Details (2 of 3)
2653	Sign Support Structure Details (3 of 3)
⚠ 2655	Clearance Gauge Details
2669	Bridge Approach Slab (1 of 4)
2670	Bridge Approach Slab (2 of 4)
2671	Bridge Approach Slab (3 of 4)
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DRAWN BY : S. G. STREDNAK DATE : -8/08
CHECKED BY : J. W. JORDAN DATE : -8/08

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⚠ Removed Sheet 2611, Revised Sheets 2610 and 2612, and Added Sheets TD-1, TD-1A, TD-2, TD-3 and 2655

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
INDEX OF DRAWINGS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

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FLATIRON/UNITED
A JOINT VENTURE

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NOTES:

For other design data, and general notes, see Sheet SN.

This bridge has been designed in accordance with the following requirements:

Design Specifications:
AASHTO Standard Specifications for Highway Bridges (17th edition), 2002 (Strength Design Method).

AASHTO Standard Specifications for Seismic Design of Highway Bridges (Seismic Performance Category A).

Minimum Design Loads for Buildings and Other Structures ASCE/SEI 7-05.

North Carolina Department of Transportation Standard Specifications (2005 Edition), as modified by contract documents.

North Carolina Department of Transportation Structures Design Manual.

Design loads:
1. Dead loads
   - Unit weight of reinforced concrete: 150pcf
   - Traffic Railing Barrier:
     418 lb/ft - 32"Vertical Concrete Parapet
     425 lb/ft - Minnesota Combination Design #3 Rail
   - Traffic Railing Median Barrier: 414 lb/ft - NCDOT Double-faced Parapet
   - Utilities: 80 plf.
   - Future wearing surface: 20 psf
   - Stay-in-place metal forms: 16 psf.

2. Live loads
   - AASHTO HS 20-44 or alternate loading.

3. Wind loads
   - Per ASCE 7-05, the nominal 3-second gust wind speed of 110 mph at bridge site
   - Wind loads adjusted per AASHTO Section 3.15 for Group II and Group V loadings.

△1 4. Vessel Impact
   - The impact loads are determined in accordance with Method II of AASHTO Guide Specification and Commentary for Vessel Collision Design of Highway Bridges, Feb. 1991.

△2 Materials:
Concrete:
The Class AA concrete shall contain fly ash or ground granulated blast furnace slag at the substitution rate specified in Article 1024-1 and in accordance with Articles 1024-5 and 1024-6 of the Standard Specifications.

See Special Provisions for deck concrete, Class AA HE (High Early strength 4500 psi).

Class AA concrete shall be used in all cast-in-place columns, bent caps, pile caps, and footings, and shall contain calcium nitrite corrosion inhibitor for elevations within 15 feet of mean high tide. For Calcium Nitrite Corrosion Inhibitor, see Special Provisions.

△3 All concrete used for precast bent caps (5000 psi), pile infills (6000 psi), and precast strut shells (5000 psi) shall conform to NCDOT Standard Specification No. 1078.

△1 Post-tensioning steel:
Strands:
ASTM A416, Grade 270, low relaxation

Strand diameter	0.5 inch or 0.6 inch
Modulus of elasticity	28000 ksi
Maximum jacking stress	216 ksi (80% GUTS)
Maximum stress at internal location immediately after transfer	200 ksi (74% GUTS)
Maximum anchoring stress at anchor	189 ksi (70% GUTS)
Anchor set	3/8 inch
Friction coefficient	0.23
Wobble coefficient	0.0002 (1/ft)

Bars:
ASTM A722, Grade 150

Modulus of elasticity	29000 ksi
Maximum jacking stress	105 ksi (70% GUTS)
Maximum anchoring stress	105 ksi (70% GUTS)
Anchor set	0 inch
Friction coefficient	0.23
Wobble coefficient	0.0002 (1/ft)

Elastomeric Bearings:
Neoprene in all steel reinforced elastomeric bearing pads shall have a minimum Grade 50 durometer hardness.

Provisions have been made for jacking of the superstructure for future replacement of the bearings (not in contract). Jacking locations and loads are shown in the plans.

Utilities:
The utilities shown in the bridge plans are at approximate locations. For additional information, refer to the roadway plans.

All metallized surfaces shall receive a seal coating as specified in the Special Provision for Thermal Sprayed Coatings (Metallization).

For Cast-in-Place Concrete Deck Slab Bridges, see Special Provisions.

All falsework and forms for the cast-in-place deck slab continuous unit shall remain in place until the entire unit is cast and cured.

For Falsework and Forms Over or Adjacent to Traffic, see Special Provisions.

For concrete barrier rail, see Special Provisions.

This structure contains the necessary corrosion protection required for a corrosive site.

This structure has been designed in accordance with the Hydraulics and Scour Analysis Report dated October 23, 2006, prepared by Earth Tech, Inc. The scour critical elevation for each bent is listed on the plan sheet entitled Pile Data Table, for use by Maintenance to monitor possible scour problems during the life of the structure.

For Maintenance and Protection of Traffic beneath Proposed Structure, see Special Provisions.

For Securing of Vessels, see Special Provisions.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 8/21/07

△3 REMOVED BAR SUPPORTS NOTE.
△2 REVISION TO MATERIALS NOTES.
△1 REVISION TO NOTES.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GENERAL NOTES
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2001.03
1	MTB	8/07	3	SCS	8/07	TOTAL SHEETS
2	SCS	8/07				

NORTH CAROLINA PROFESSIONAL SEAL 030673 ENGINEER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 11/06
CHECKED BY : M. W. JORDAN DATE : 11/06

DATE: 8/21/2007
TIME: 12:56:17 PM
USER: estrednak
N:\Structures\Tar River Bridge\DESIGN\R2510B_SD_SSH_NOTES.dgn

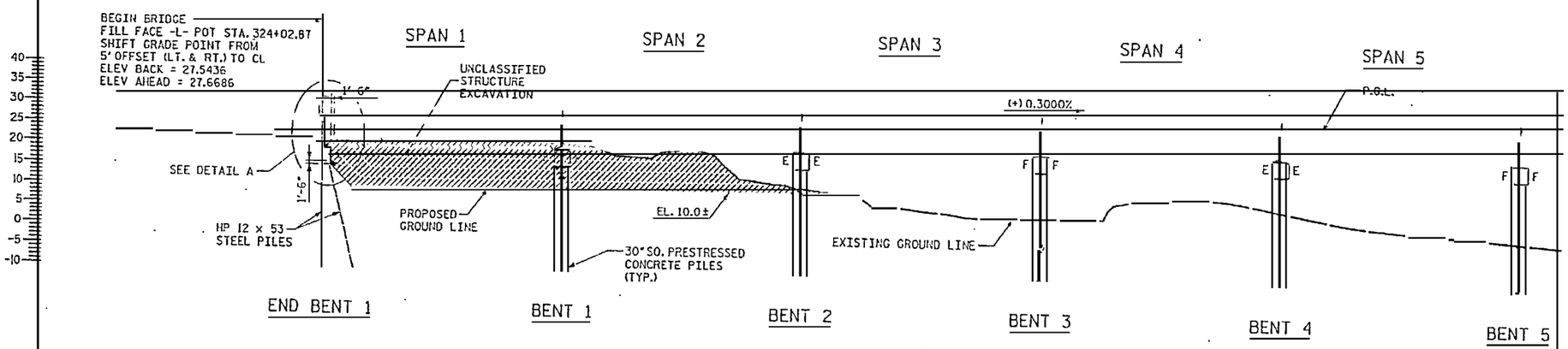
F.A. PROJECT: MAF-75-3(26)

325+00 330+00

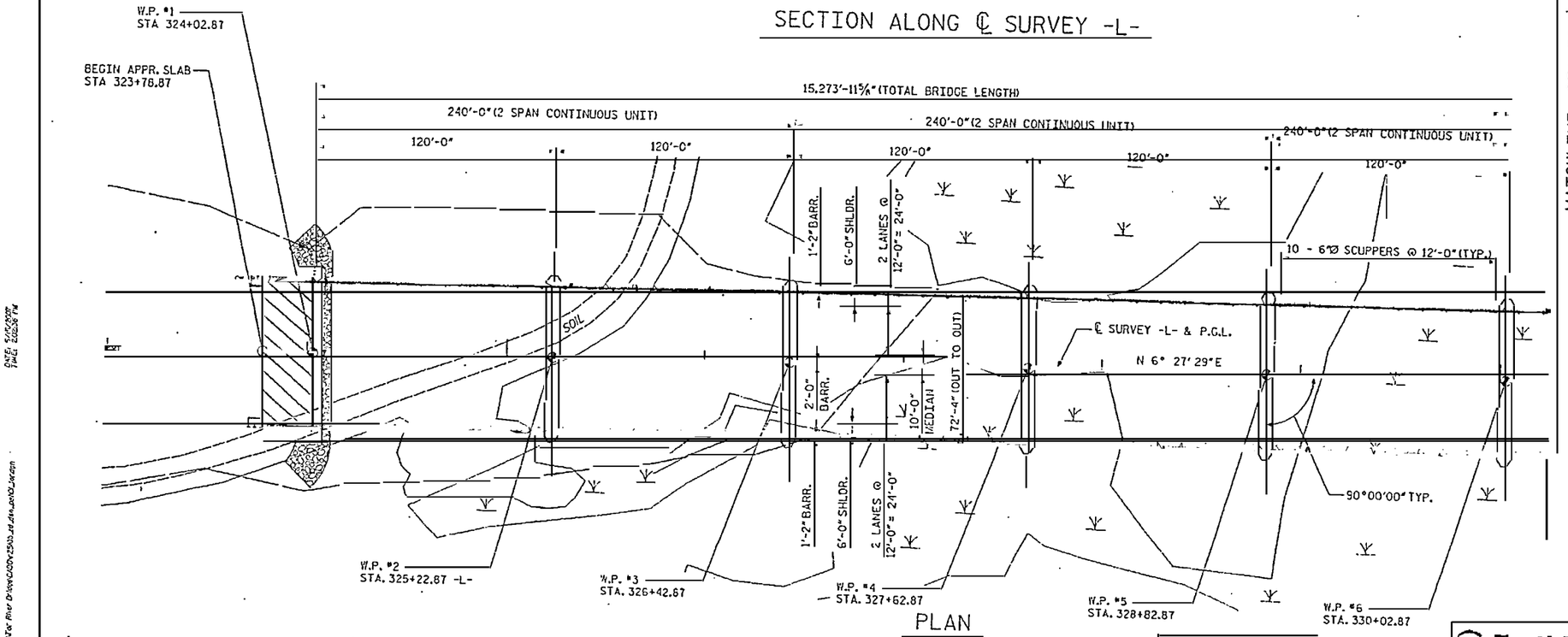
(-)0.4195% (+)0.3000%

PI = 322+25.00
EL = 27.01'
VC = 250'

GRADE DATA -L-

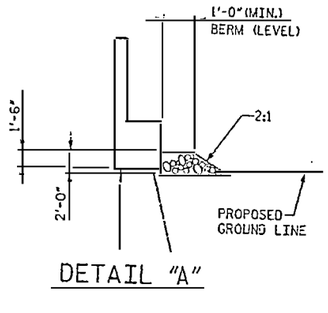


SECTION ALONG ℄ SURVEY -L-



PLAN

MATCHLINE STA. 330+25.00



DETAIL "A"

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 1 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2006.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/07 DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

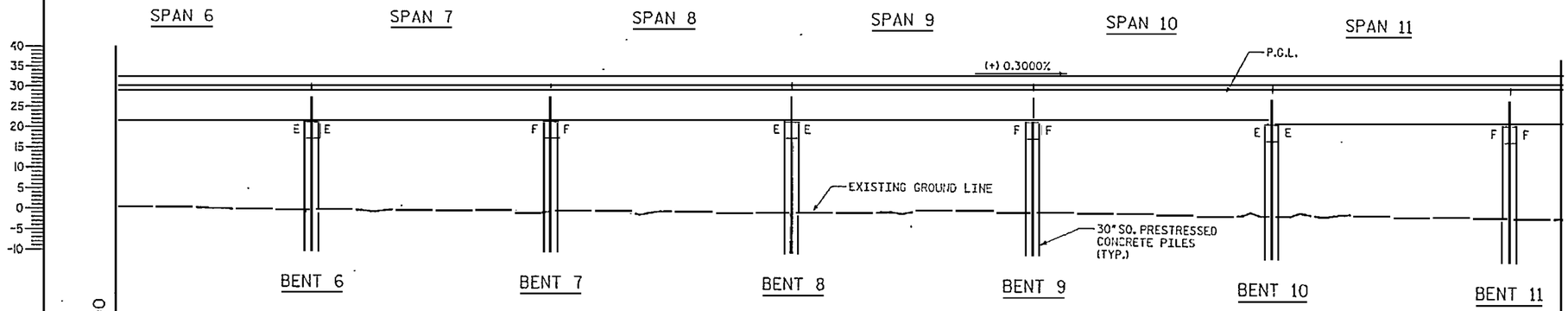
DRAWN BY : S. C. STEEDMAN DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

DATE: 5/15/2007
TIME: 2:06:58 PM

USER: mfullilove
N:\Structure\Tar River Crossing\0506-2510-20\Bridge\0506-2510-20_GENERAL.dgn

F.A. PROJECT: MAF-75-3(26)

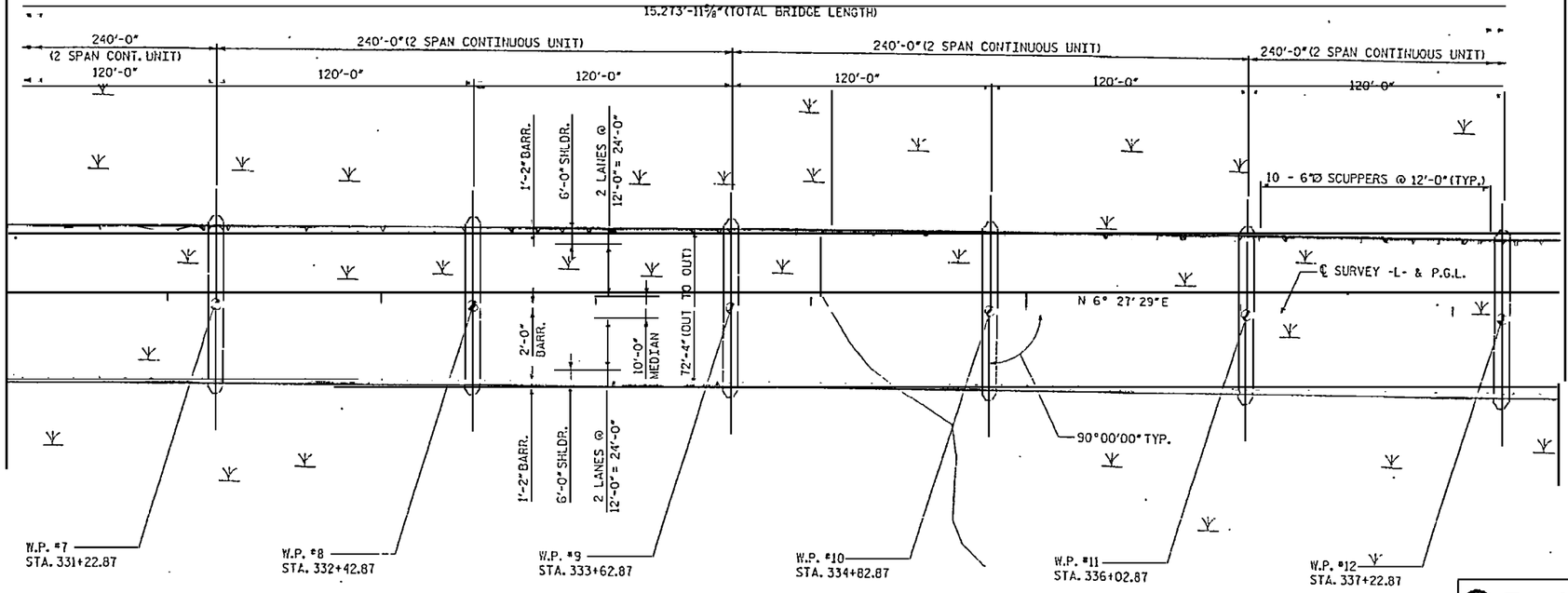
335+00



SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 330+25.00

MATCHLINE STA. 337+50.00



PLAN

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/16/06
DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

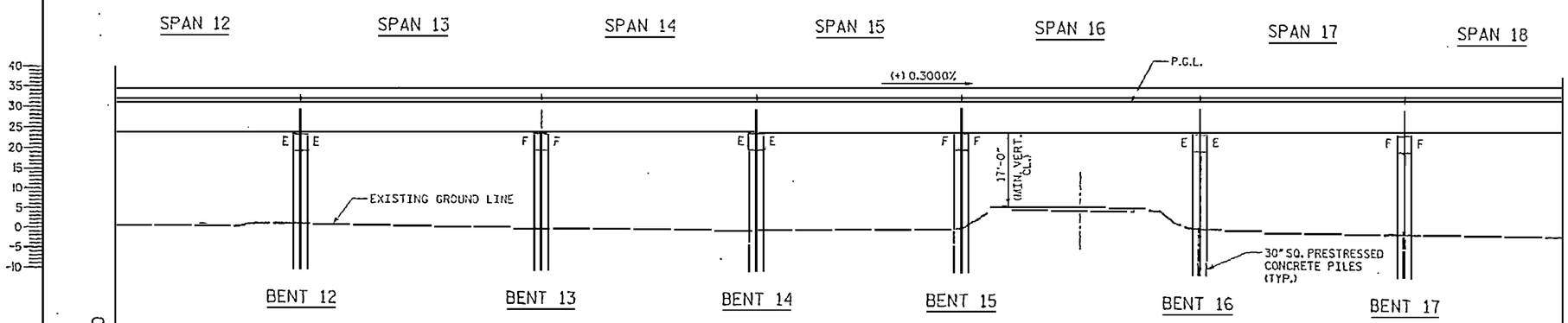
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2007.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

USER: mtbaity
DGN: R:\STRUCTURE\Tar River Bridge\R2510TarRiverBridge2.dgn
DATE: 5/16/2007
FILE: 2007.01 GEN PLAN

F.A. PROJECT: MAF-75-3(26)

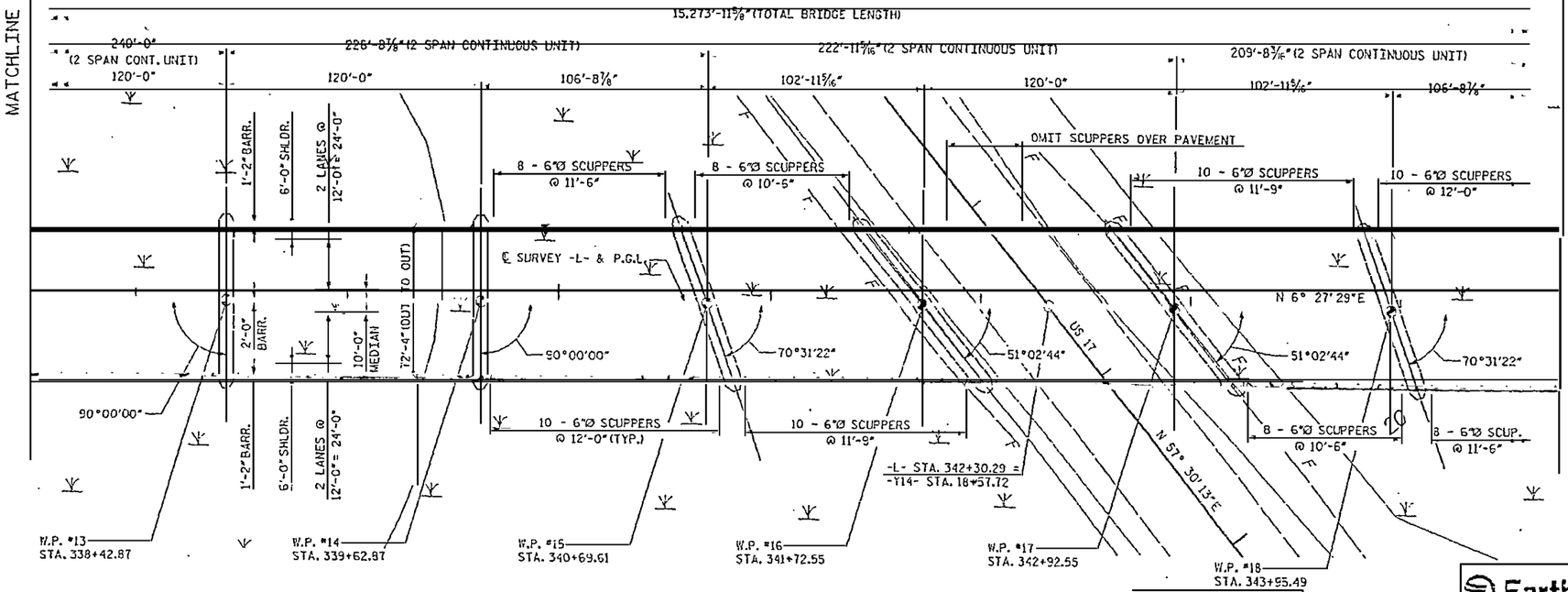
340+00



SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 337+50.00

MATCHLINE STA. 344+75.00



PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/06 DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STEERNAK DATE : 07/05
CHECKED BY : J. N. JORDAN DATE : 07/05

NORTH CAROLINA PROFESSIONAL SEAL 031976 ENGINEER JOHN NATHAN JORDAN

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2008.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

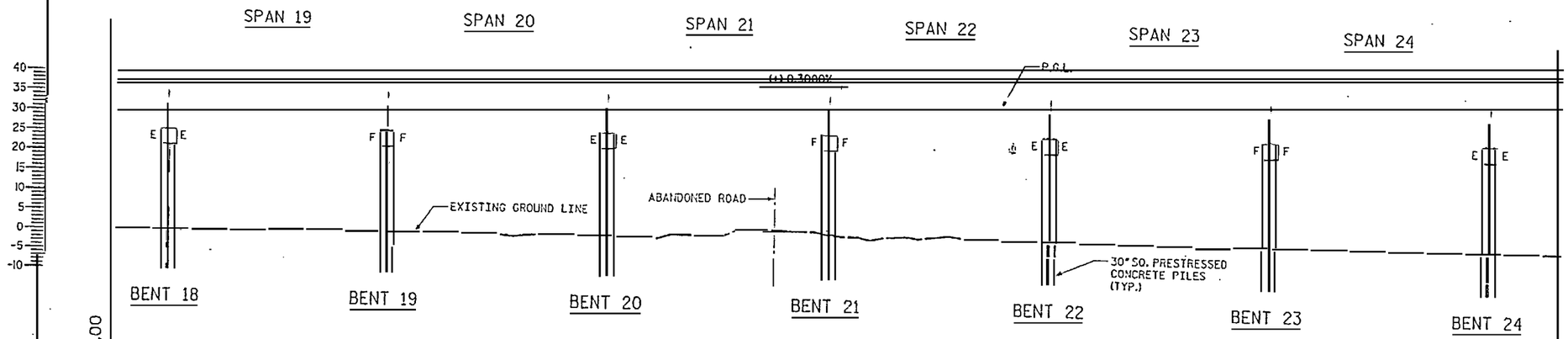
DATE: 5/24/2007
FILE: 2008.01

USER: mtbridge
DGN: N:\Structures\Tar River Bridge\2008\2008_01_Gen_Plan.dgn

F.A. PROJECT: MAF-75-3(26)

345+00

350+00



SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 344+75.00

MATCHLINE STA. 352+25.00

15,273'-11⅝" (TOTAL BRIDGE LENGTH)

228'-0¾" (2 SPAN CONTINUOUS UNIT)

228'-01/16" (2 SPAN CONTINUOUS UNIT)

228'-0⅝" (2 SPAN CONTINUOUS UNIT)

114'-0⅜" | 114'-0⅜" | 114'-0⅜" | 114'-0⅝" | 114'-0⅝" | 114'-0⅝"

SR 1171

ABANDONED

10 - 6"Ø SCUPPERS @ 11'-4" (TYP.)

N 6° 27' 29" E

-L- POT STA. 348+16.65 = -Y15- STA. 16+32.50

WASHINGTON PACKING RD.

3'-Y6' BARREL CULVERT

1'-2" BARR. | 6'-0" SHLDR. | 2 LANES @ 12'-0" = 24'-0"

2'-0" BARR. | 1'-2" BARR. | 6'-0" SHLDR. | 2 LANES @ 12'-0" = 24'-0" | 10'-0" MEDIAN | 12'-4" (OUT TO OUT)

℄ SURVEY -L- & P.G.L.

90°00'00" TYP.

W.P. #19 STA. 345+02.23

W.P. #20 STA. 346+16.26

W.P. #21 STA. 347+30.29

W.P. #22 STA. 348+44.32

W.P. #23 STA. 349+58.35

W.P. #24 STA. 350+72.39

W.P. #25 STA. 351+86.41

PLAN

DRAWN BY : S. G. STEEDNAK DATE : 07/06
CHECKED BY : J. H. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030026 JOHN H. JORDAN

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2009.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

F.A. PROJECT: MAF-75-3(26)

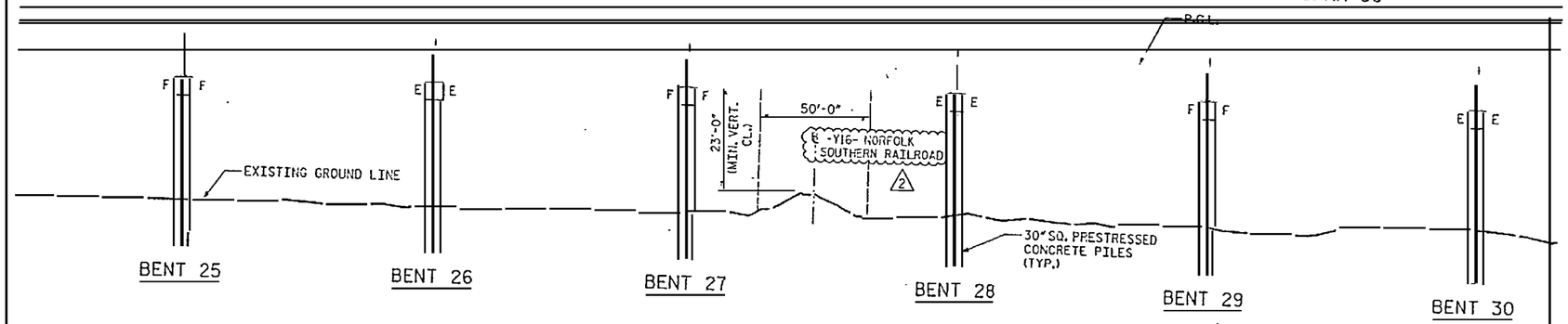
355+00

(+)0.3000% (+)0.0000%

PI = 354+75.00
EL = 36.885'
VC = 325'

GRADE DATA -L-

SPAN 25 SPAN 26 SPAN 27 SPAN 28 SPAN 29 SPAN 30

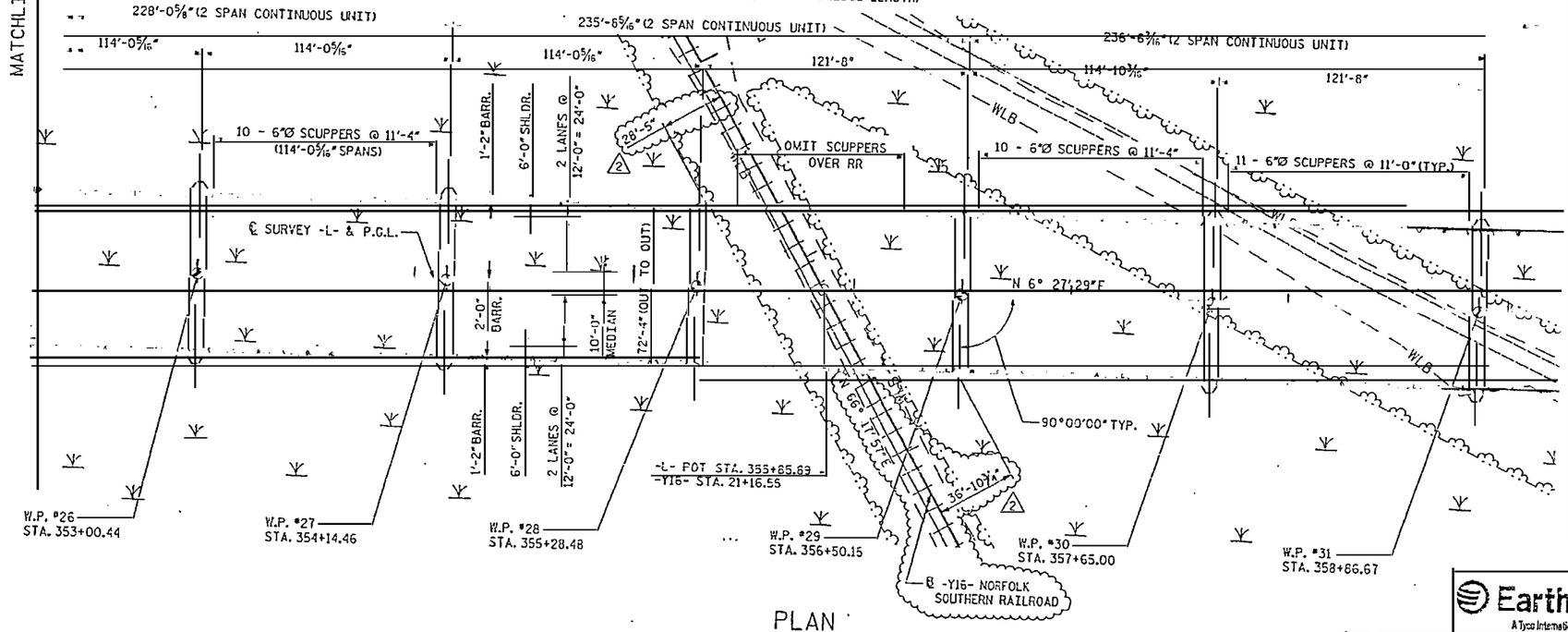


SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 352+00.00

MATCHLINE STA. 359+25.00

15,273'-11⅝" (TOTAL BRIDGE LENGTH)



PLAN

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. E. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/21/07 DATE

2 REVISED RAILROAD INFORMATION

1 REVISION TO BENT CAP SHAPE; REMOVED SCUPPERS OVER RR.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 5 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:	2010.02
1	MTB	5/07	3			TOTAL SHEETS
2	SGS	7/07	4			

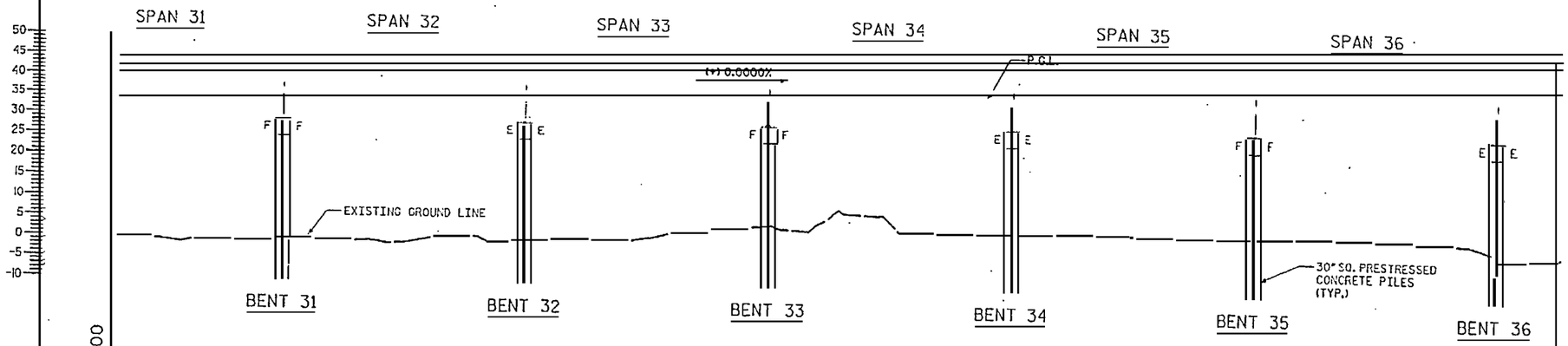
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

F.A. PROJECT: MAF-75-3(26)

360+00

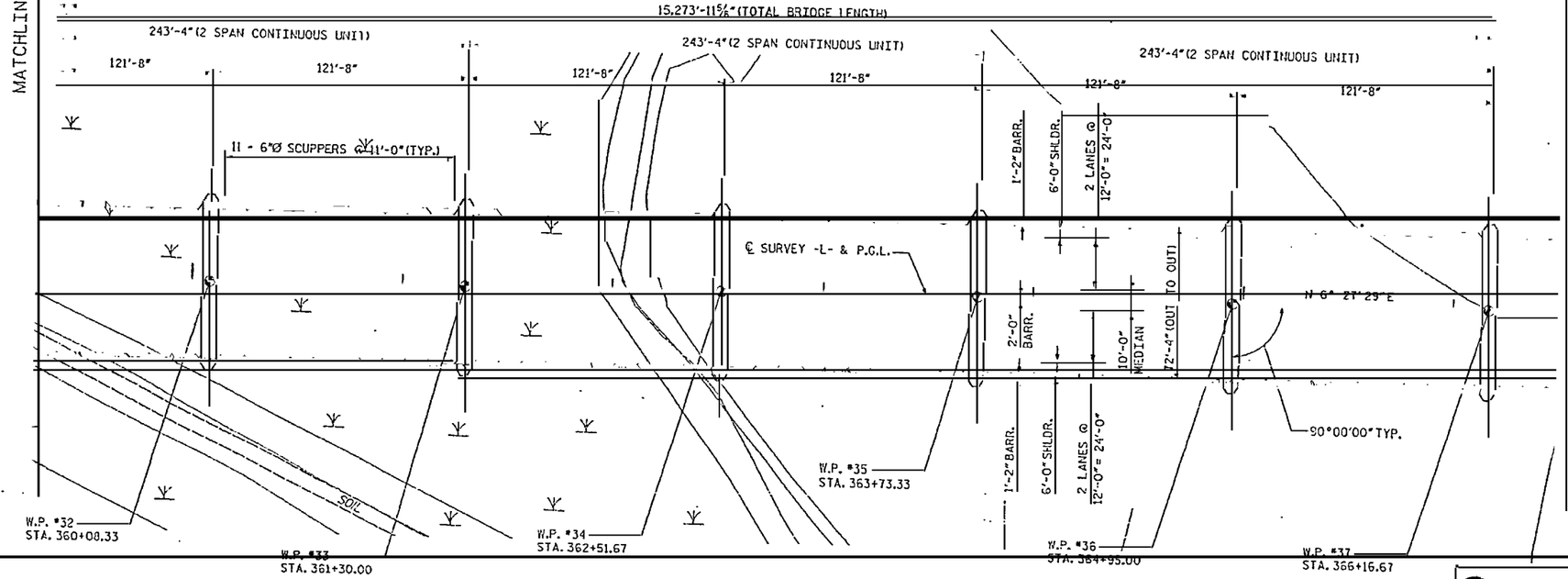
365+00



SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 359+25.00

MATCHLINE STA. 366+50.00



PLAN

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. M. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
Tom Shearin 6/12/07
TOM SHEARIN, PE /DATE

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027422 JOSEPH A. MCGRATH JR.

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 6 OF 22 BRIDGE NO. 353

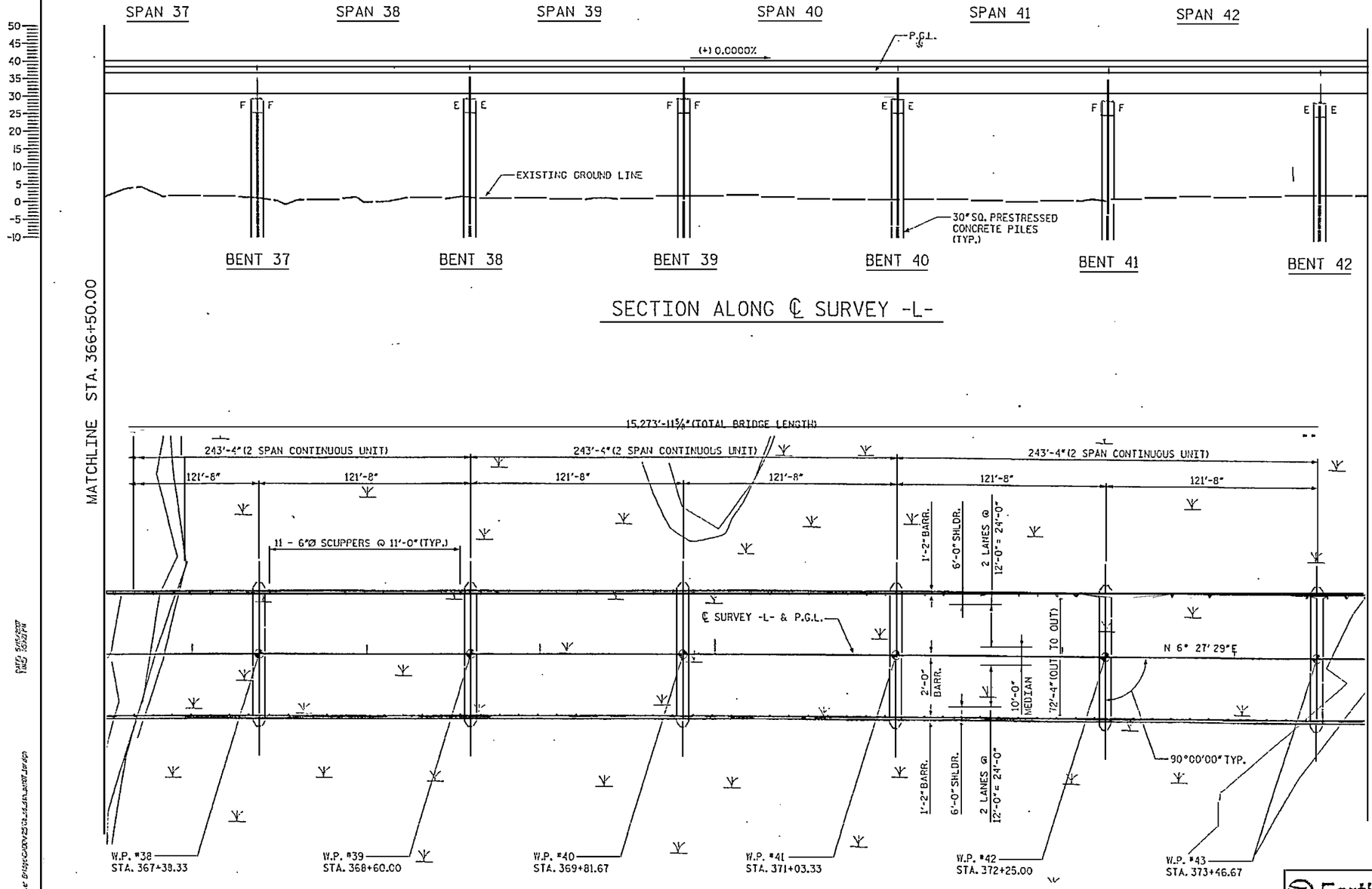
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 6 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:	2011.01
1	MTB	5/07				TOTAL SHEETS
2						

370+00

F.A. PROJECT: MAF-75-3(26)



DRAWN BY : S. G. STREDNAK DATE : 07/05
CHECKED BY : J. W. JORDAN DATE : 07/05

RELEASED FOR CONSTRUCTION
Tom Shearin 6/16/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 029161 ENGINEER J. W. JORDAN

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

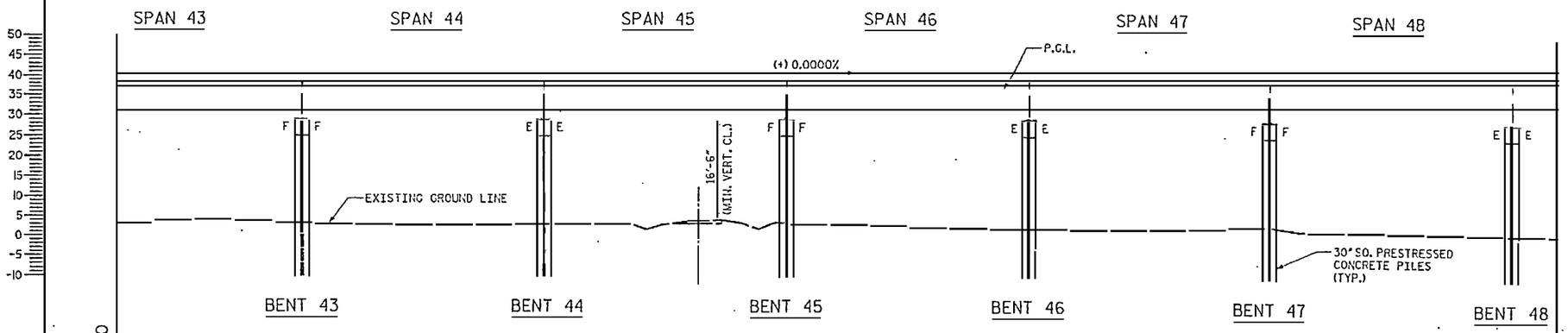
- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 7 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2012.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

F.A. PROJECT: MAF-75-3(26)

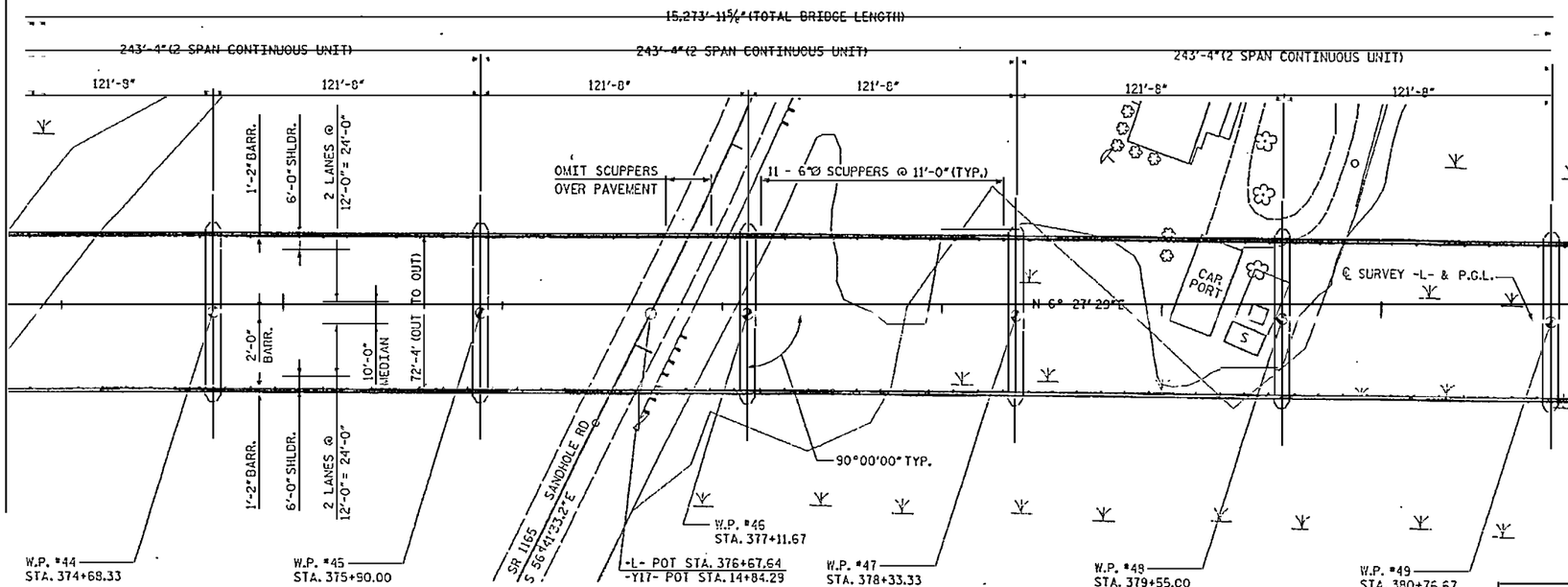
375+00 380+00



SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 373+75.00

MATCHLINE STA. 381+00.00



PLAN

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 8 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION & FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/07 DATE

Earth Tech
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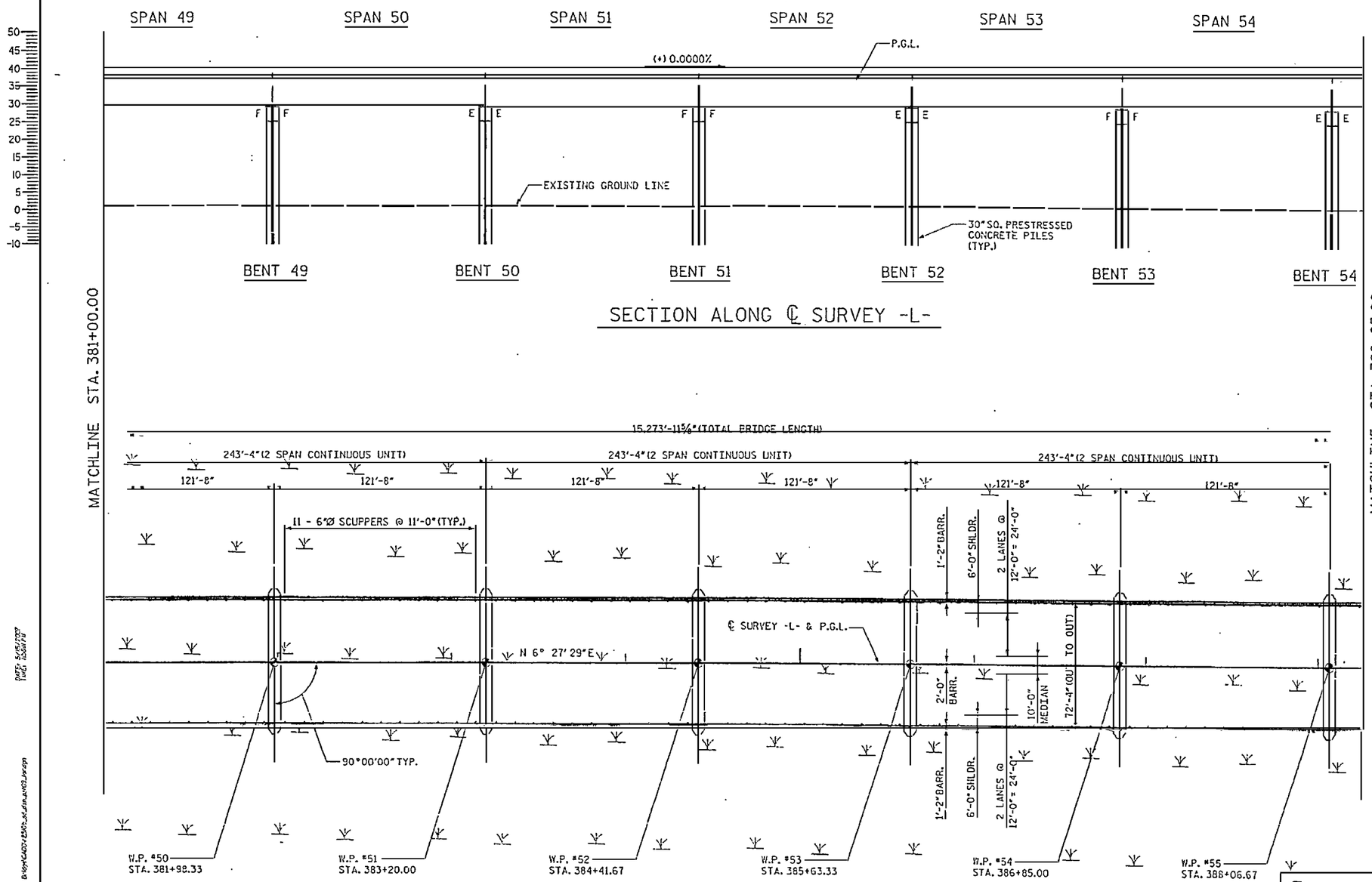
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2013.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

F.A. PROJECT: MAF-75-3(26)

385+00



DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030676 ENGINEER JOHN W. JORDAN

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

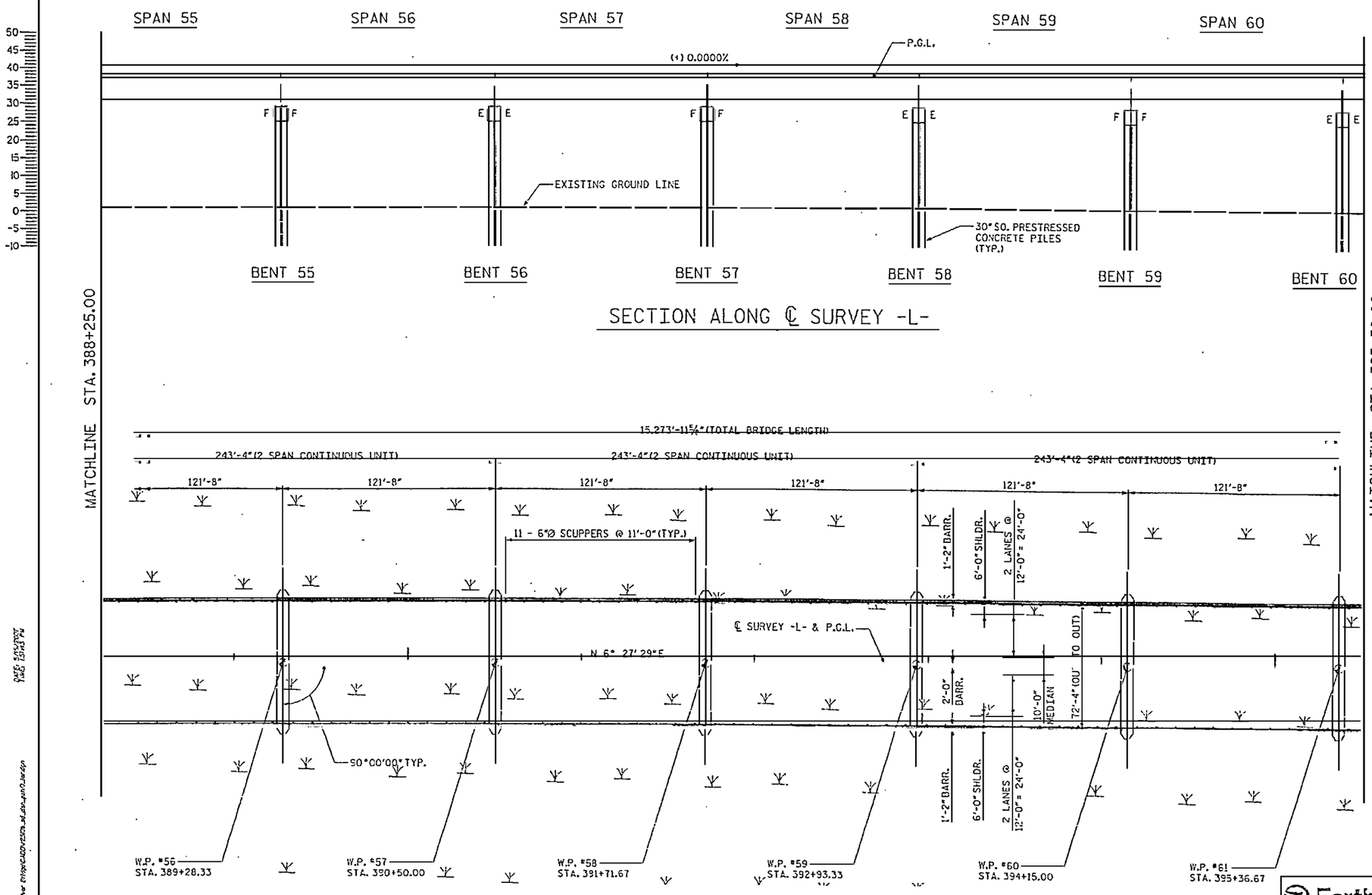
- BRIDGE No. 2 -
GENERAL PLAN AND ELEVATION 9 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2014.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

F.A. PROJECT: MAF-75-3(26)

390+00

395+00



SECTION ALONG ℄ SURVEY -L-

PLAN

DRAWN BY : S.C. STREDNAK DATE : 07/06
CHECKED BY : J.E. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 23987 ENGINEER JOHN M. JORDAN

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 10 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

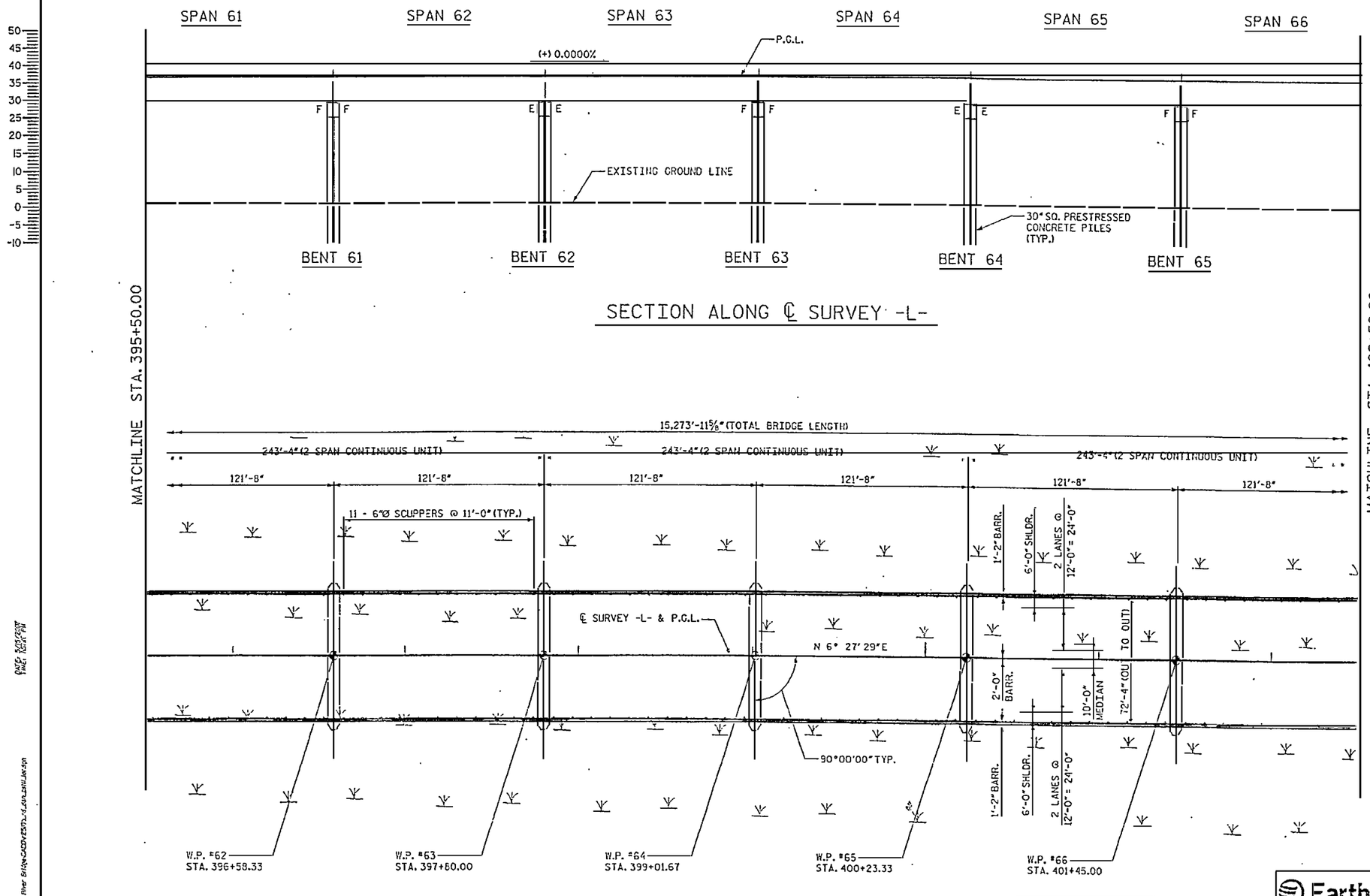
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2015.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

USER: rtibbetts
DGN: R2510B_Master River Bridge_CADD_GP_BR_2_Gen_Plan_Elev.dgn

DATE: 5/15/2007
TIME: 12:43:1 PM

F.A. PROJECT: MAF-75-3(26)

400+00



PLAN

DRAWN BY : S. C. STREDNAK DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 6/15/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030673 ENGINEER JOHN W. JORDAN III

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

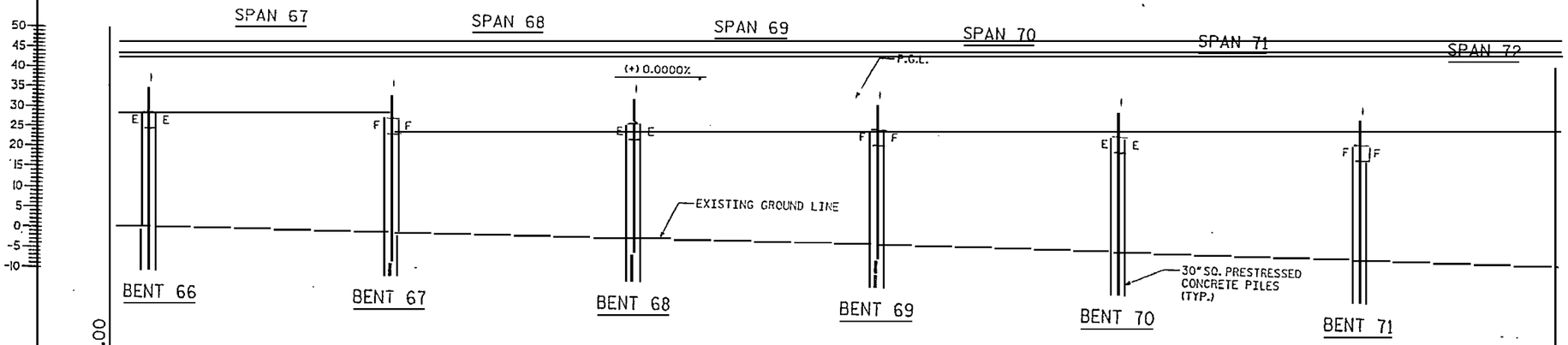
- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2016.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

F.A. PROJECT: MAF-75-3(26)

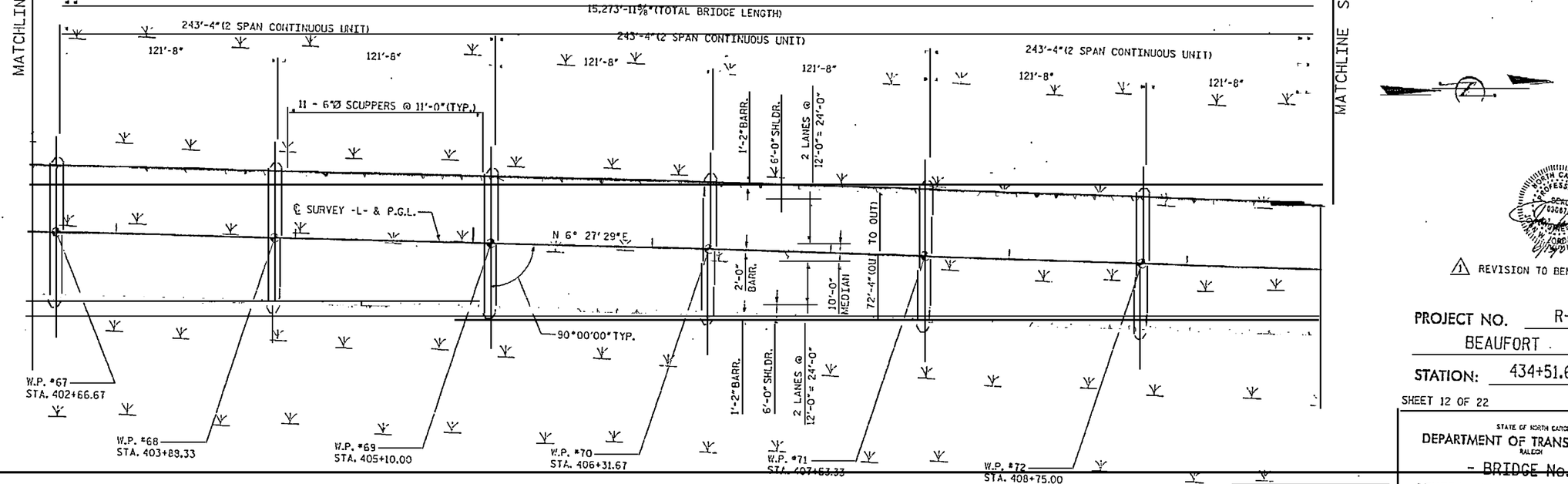
405+00



SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 402+50.00

MATCHLINE STA. 409+75.00



PLAN

DRAWN BY : S. G. STREDNAK DATE : 07/05
CHECKED BY : J. E. JORDAN DATE : 07/05

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

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FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030674 ENGINEER JOHN E. JORDAN

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 12 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

~~- BRIDGE No. 2 -~~

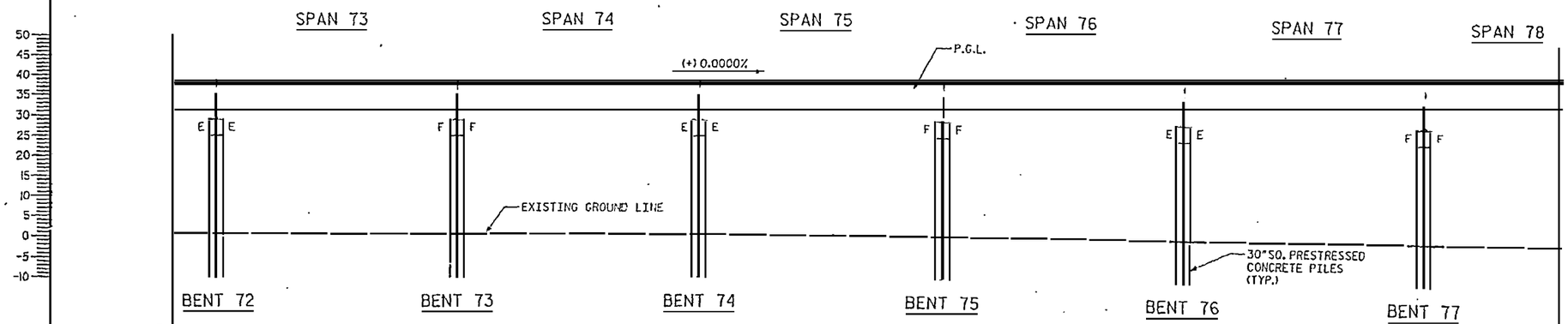
GENERAL PLAN AND ELEVATION 12 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2017.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

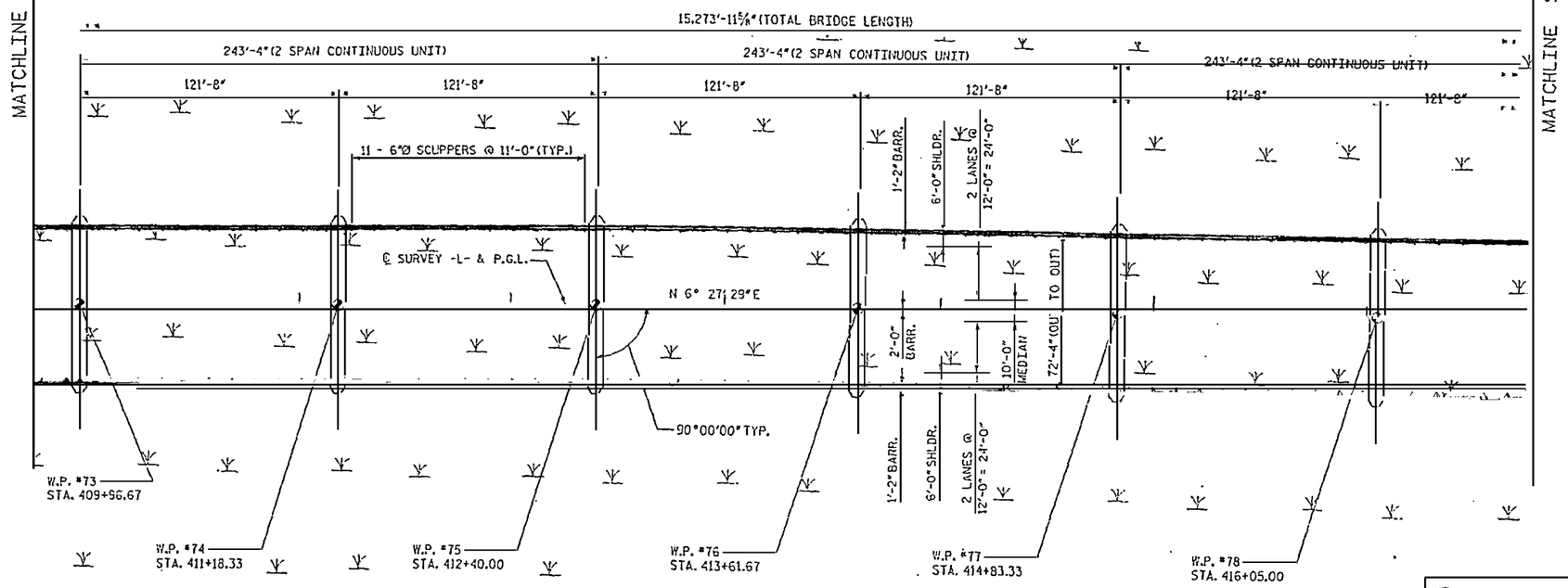
F.A. PROJECT: MAF-75-3(26)

410+00

415+00



SECTION ALONG ℄ SURVEY -L-



PLAN

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

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FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030625 ENGINEER JOSEPH W. JORDAN

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 13 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 13 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2018.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

F.A. PROJECT: MAF-75-3(26)

420+00

(+)0.0000% (+)1.6806%

PI = 419+50.00
EL = 36.885'
VC = 500'

GRADE DATA -L-

SPAN 79 SPAN 80 SPAN 81 SPAN 82 SPAN 83 SPAN 84

P.G.L.

EXISTING GROUND LINE

STRUTS

MEAN HIGH WATER
EL. 0.47 NAVD-88

30"SQ. PRESTRESSED CONCRETE PILES (TYP.)

BENT 78 BENT 79 BENT 80 BENT 81 BENT 82 BENT 83

SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 416+75.00

MATCHLINE STA. 423+75.00

15,273'-11⅝"(TOTAL BRIDGE LENGTH

243'-4"(2 SPAN CONTINUOUS UNIT)

221'-8"(2 SPAN CONTINUOUS UNIT)

240'-0"(2 SPAN CONTINUOUS UNIT)

121'-8" 121'-8" 121'-8" 100'-0" 120'-0" 120'-0"

11 - 6"Ø SCUPPERS @ 11'-0"(TYP.)

1'-2" BARR. 6'-0" SHLDR. 2 LANES @ 12'-0" = 24'-0"

OUTLET LOCATION CLOSED DECK DRAINAGE SYSTEM

10 - 6"Ø SCUPPERS @ 12'-0"

LOCATION OF DECK/ BARRIER WIDTH CHANGE

℄ SURVEY -L- & P.G.L.

N 6° 27' 29" E

2'-0" BARR. 10'-0" MEDIAN 72'-4"(OUT TO OUT)

1'-7½" BARR.

37'-3"(OUT TO OUT)

120°00'00" TYP.

90°00'00" TYP.

7 - 6"Ø SCUPPERS @ 11'-4"

10 - 6"Ø SCUPPERS @ 12'-0" (120'-0" SPANS)

OUTLET LOCATION CLOSED DECK DRAINAGE SYSTEM

TAR RIVER

W.P. #79 STA. 417+26.67

W.P. #80 STA. 418+48.33

W.P. #81 STA. 419+70.00

W.P. #82 STA. 420+91.67

W.P. #83 STA. 421+91.67

W.P. #84 STA. 423+11.67

PLAN

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. E. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

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A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 23082 ENGINEER JOHN E. JORDAN

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 14 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 14 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2019.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

DATE: 5/15/2007
TIME: 12:53:37 PM

USER: mtbolton
DGN: K:\Structure\Tar River Bridge\CADD\2510\02_GEN_PLAN\Tar.dgn

F.A. PROJECT: MAF-75-3(26)

425+00

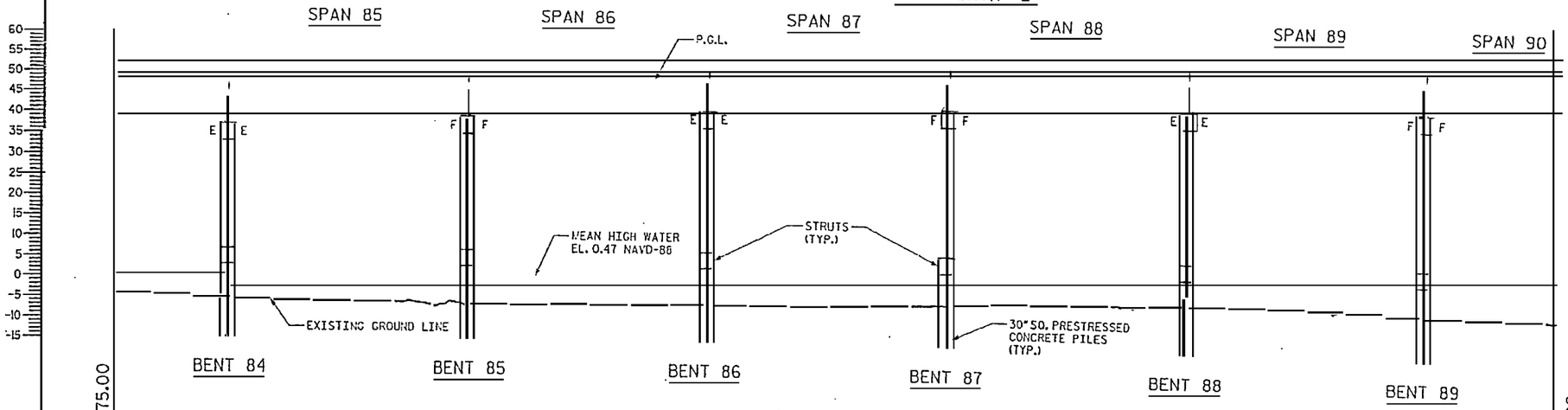
(+)1.6806%

(-)1.9108%

PI = 435+25.00
EL = 63.355'
VC = 2,000'

GRADE DATA -L-

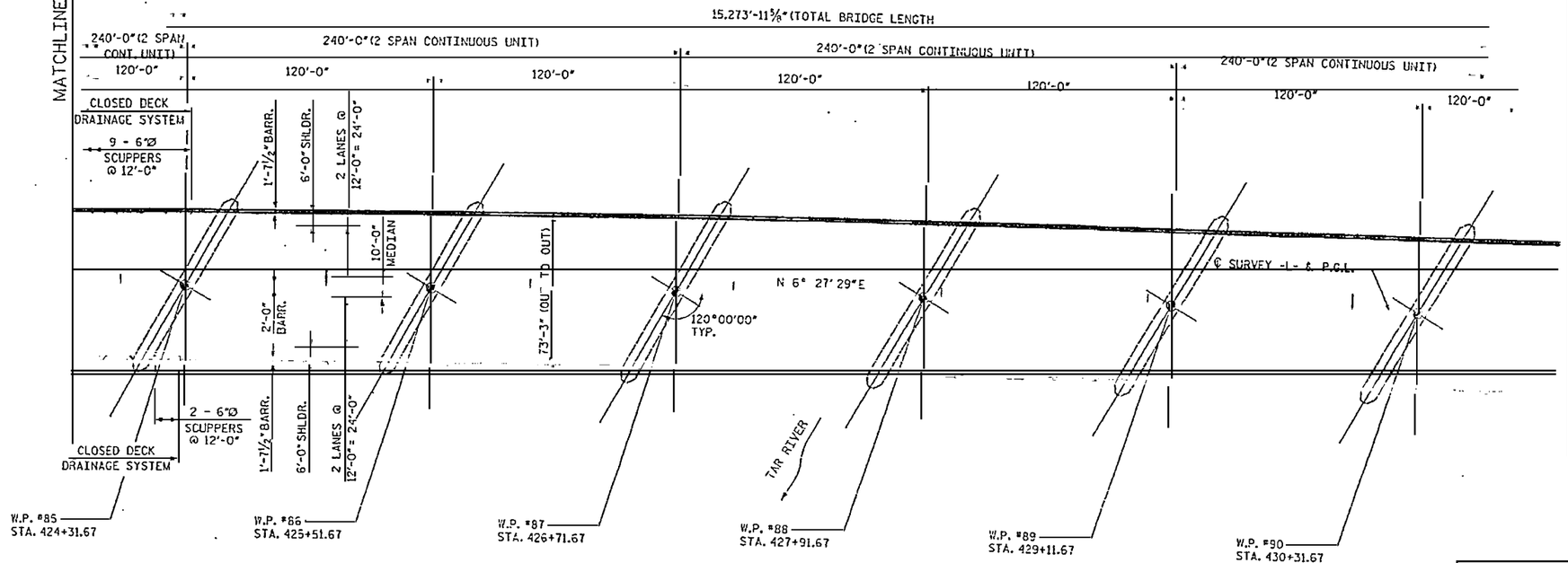
430+00



SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 423+75.00

MATCHLINE STA. 431+00.00



PLAN

DRAWN BY : S. C. STREDNAK DATE : 07/06
CHECKED BY : J. K. JORDAN DATE : 07/05

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

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FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA ENGINEERING SEAL 14989 ENGINEER JAMES K. JORDAN

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 15 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GENERAL PLAN AND ELEVATION 15
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2020.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

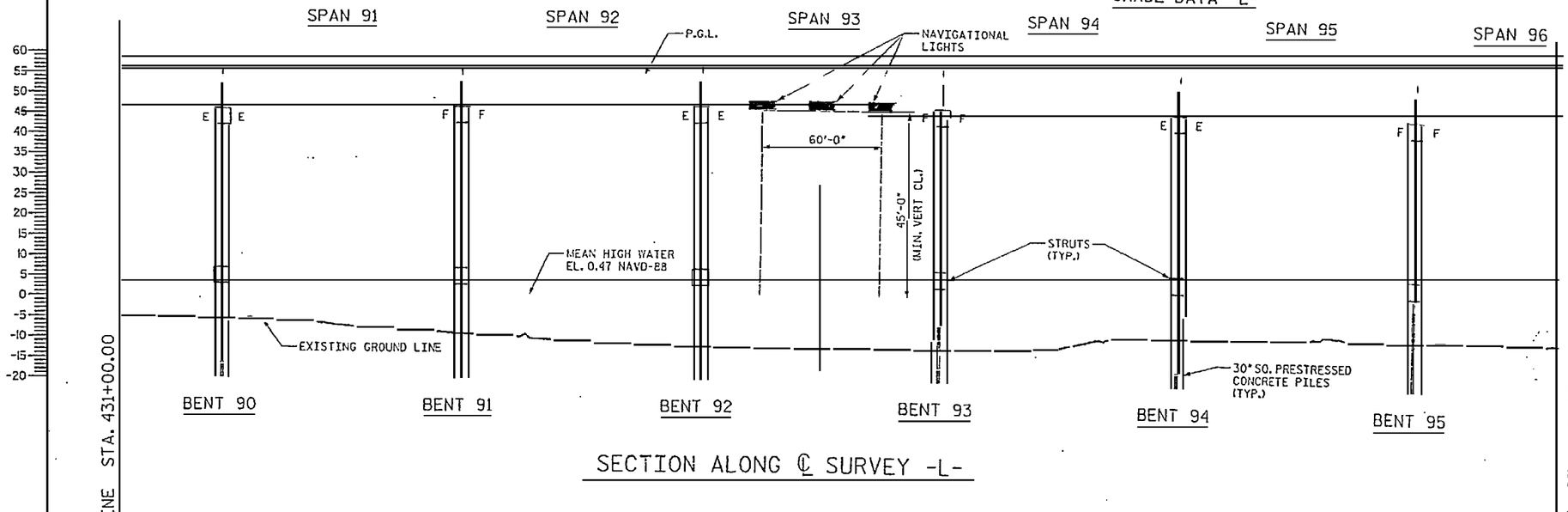
F.A. PROJECT: MAF-75-3(26)

435+00

(+)1.6806% (-)1.9108%

PI = 435+25.00
EL = 63.355'
VC = 2.000'

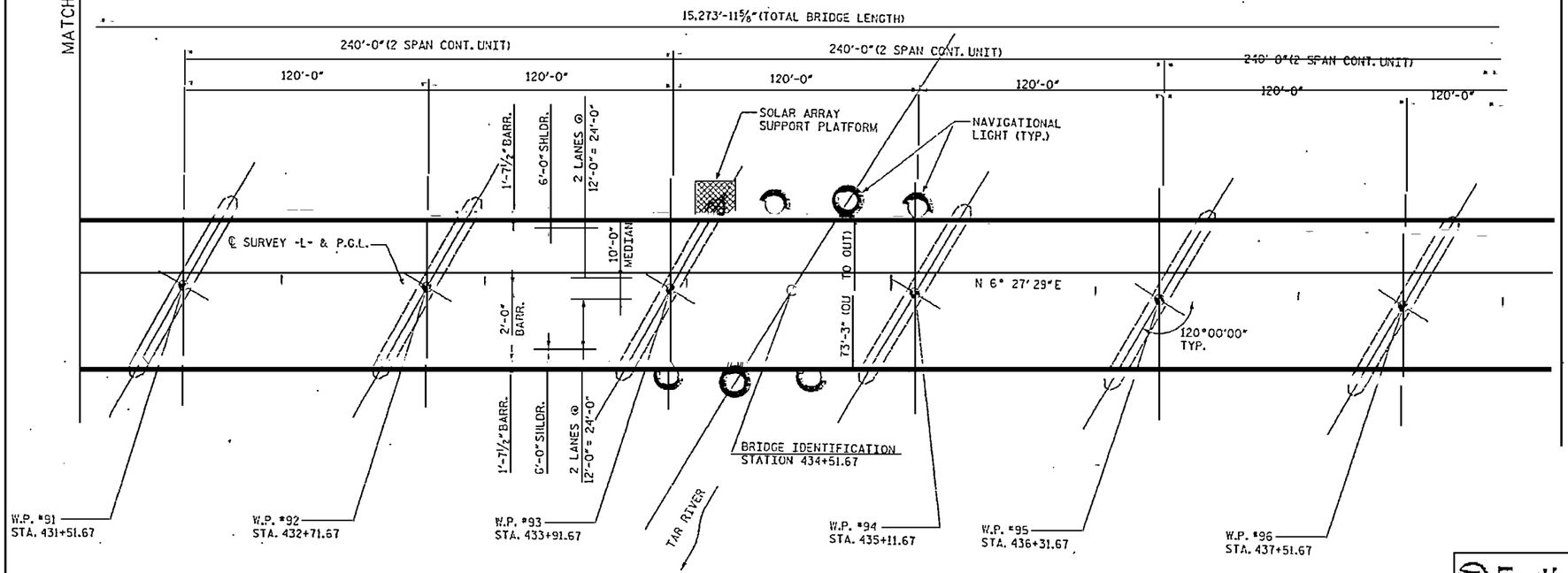
GRADE DATA -L-



SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 431+00.00

MATCHLINE STA. 438+25.00



PLAN

DRAWN BY : S. C. STREDNAK DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/07 DATE

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A JOINT VENTURE

⚠ REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 16 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 16
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2021.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

DATE 5/15/2007
TIME 11:58 PM

USER: mtbolin
DGN: N:\Structures\Tar River Bridge\02520\2510_sd_gen_ele_tar.dgn

F.A. PROJECT: MAF-75-3(26)

(+)1.6806% (-)1.9108%

PI = 435125.00
EL = 63.355'
VC = 2.000'

GRADE DATA -L-

440+00

445+00

SPAN 97 SPAN 98 SPAN 99 SPAN 100 SPAN 101 SPAN 102

P.G.L.

MEAN HIGH WATER
EL. 0.47 NAVD-88

STRUTS
(TYP.)

EXISTING GROUND LINE

30"SQ. PRESTRESSED
CONCRETE PILES
(TYP.)

BENT 96 BENT 97 BENT 98 BENT 99 BENT 100 BENT 101

SECTION ALONG ℄ SURVEY -L-

MATCHLINE STA. 438+25.00

MATCHLINE STA. 445+50.00

15,273'-11⅝"(TOTAL BRIDGE LENGTH)

240'-0"(2 SPAN CONTINUOUS UNIT) 220'-0"(2 SPAN CONTINUOUS UNIT) 240'-0"(2 SPAN CONT. UNIT)

120'-0" 120'-0" 120'-0" 100'-0" 120'-0" 120'-0"

1'-7½"BARR. 6'-0"SHLDR. 2 LANES @ 12'-0" = 24'-0" 10'-0" MEDIAN 2'-0" BARR. 1'-7½"BARR. 6'-0"SHLDR. 2 LANES @ 12'-0" = 24'-0"

71'-3" (OUT TO OUT)

120°00'00" TYP.

LOCATION OF DECK/
BARRIER WIDTH CHANGE

N 6° 27' 29" E

℄ SURVEY -L- & P.G.L.

CLOSED DECK DRAINAGE SYSTEM

10 - 6"Ø SCUPPERS
@ 12'-0"(TYP.)

4 - 6"Ø
SCUPPERS
@ 12'-0"

OUTLET
LOCATION

13 - 6"Ø SCUPPERS @ 12'-0"

STA. 444+96.00

1'-2" BARR.

72'-4" (OUT TO OUT)

90°00'00" TYP.

CLOSED DECK DRAINAGE SYSTEM

6"Ø SCUPPERS
@ 12'-0" TYP.

OUTLET
LOCATION

W.P. #97
STA. 438+71.67

TAR RIVER

W.P. #98
STA. 439+91.67

W.P. #99
STA. 441+11.67

W.P. #100
STA. 442+31.67

W.P. #101
STA. 443+31.67

W.P. #102
STA. 444+51.67

PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/6/07

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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STEDMAN DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 17 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2022.01
1	MTB	5/07	3			TOTAL SHEETS
2		-	4			

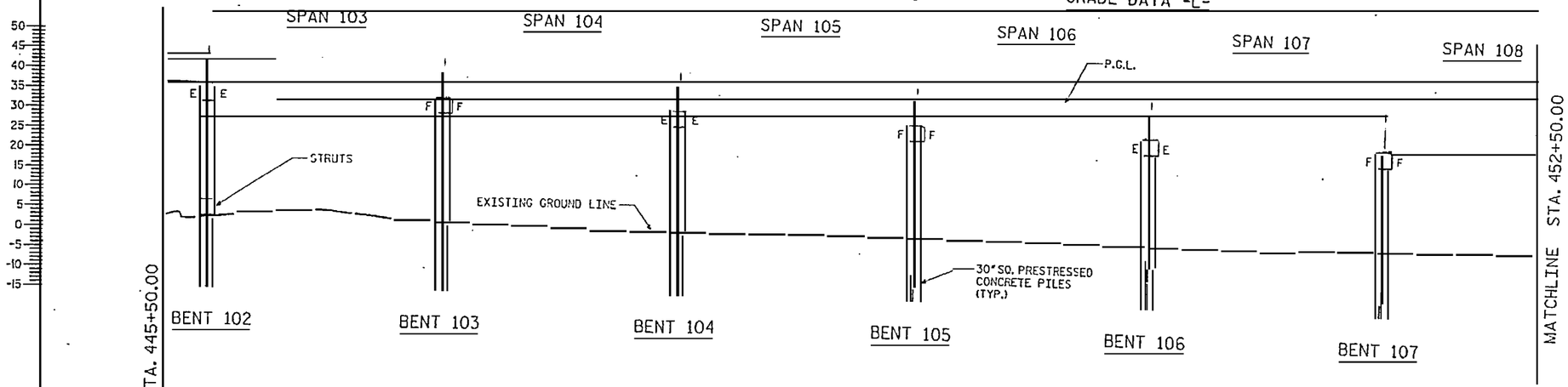
F.A. PROJECT: MAF-75-3(26)

450+00

(-)1.9108% (-)0.3000%

PI = 450+50.00
EL = 34.215'
VC = 500'

GRADE DATA -L-

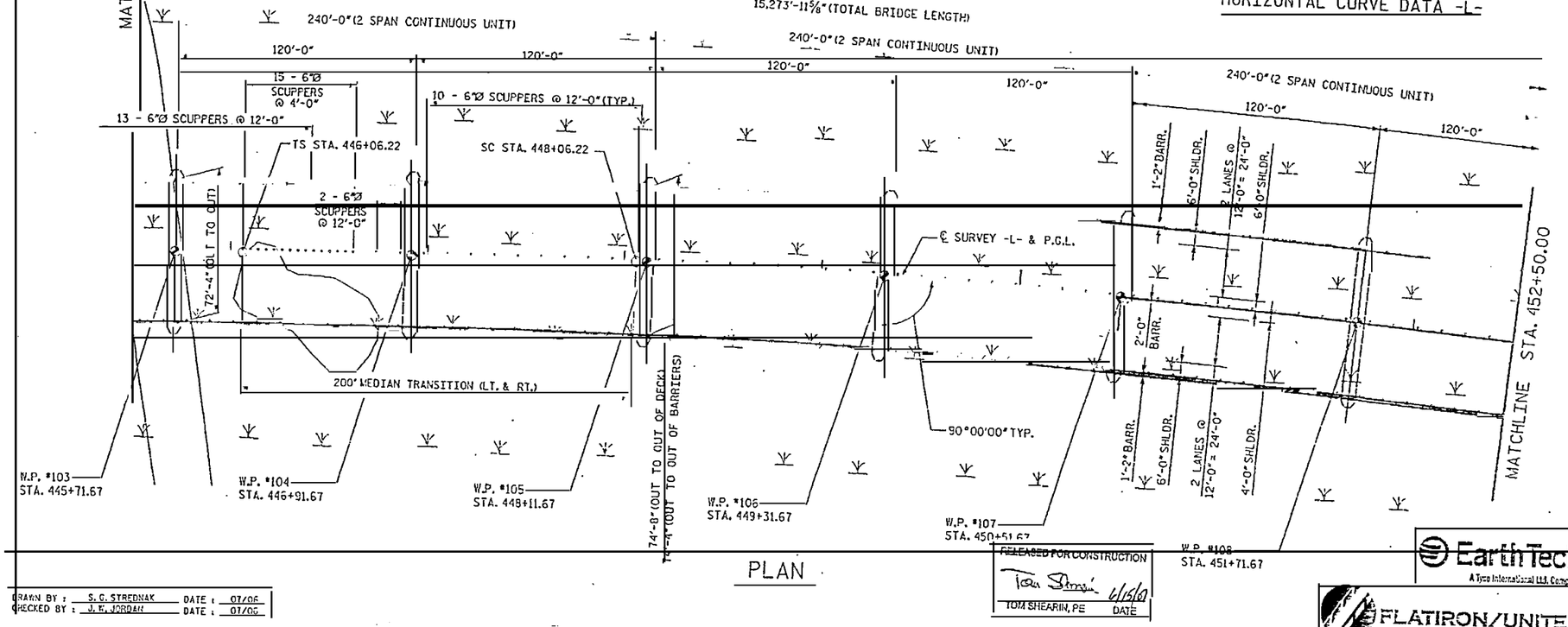


SECTION ALONG ℄ SURVEY -L-

PIs Sta 447+39.56
Θ_s = 1° 00' 00.0"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 463+60.53
Δ = 30° 21' 20.0" (RT)
D = 1° 00' 00.0"
L = 3,035.56'
T = 1,554.31'
R = 5,729.58'

HORIZONTAL CURVE DATA -L-



PLAN

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. K. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/07 DATE

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 022522 ENGINEER JOHN K. JORDAN

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1B OF 22 BRIDGE NO. 353

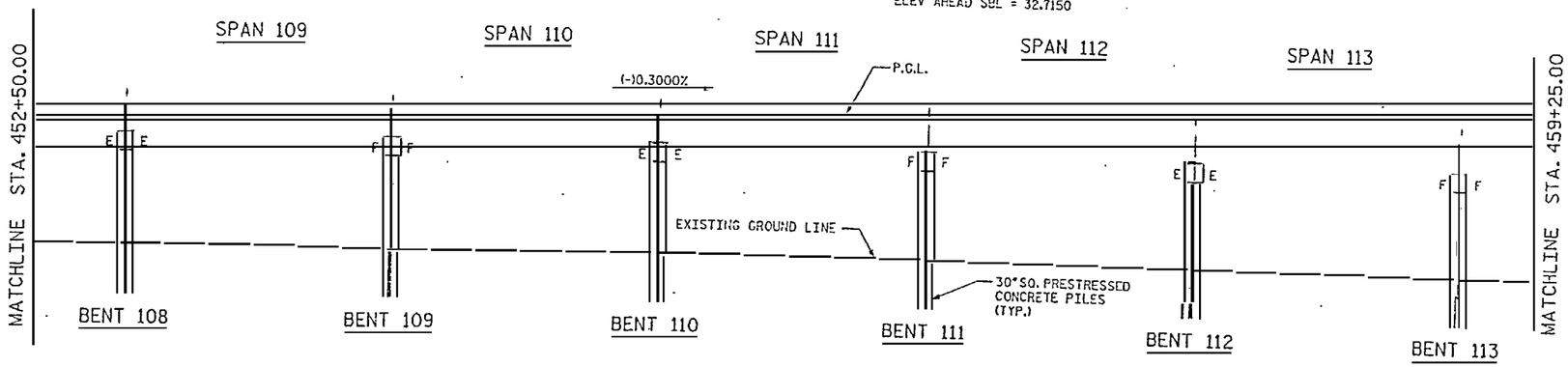
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GENERAL PLAN AND ELEVATION 1B FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2023.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

455+00

-L- POC STA. 456+30.00
SHIFT GRADE POINT FROM CL TO 6' OFFSET (LT. & RT.)
ELEV BACK = 32.4750
ELEV AHEAD NBL = 32.2350
ELEV AHEAD SBL = 32.7150



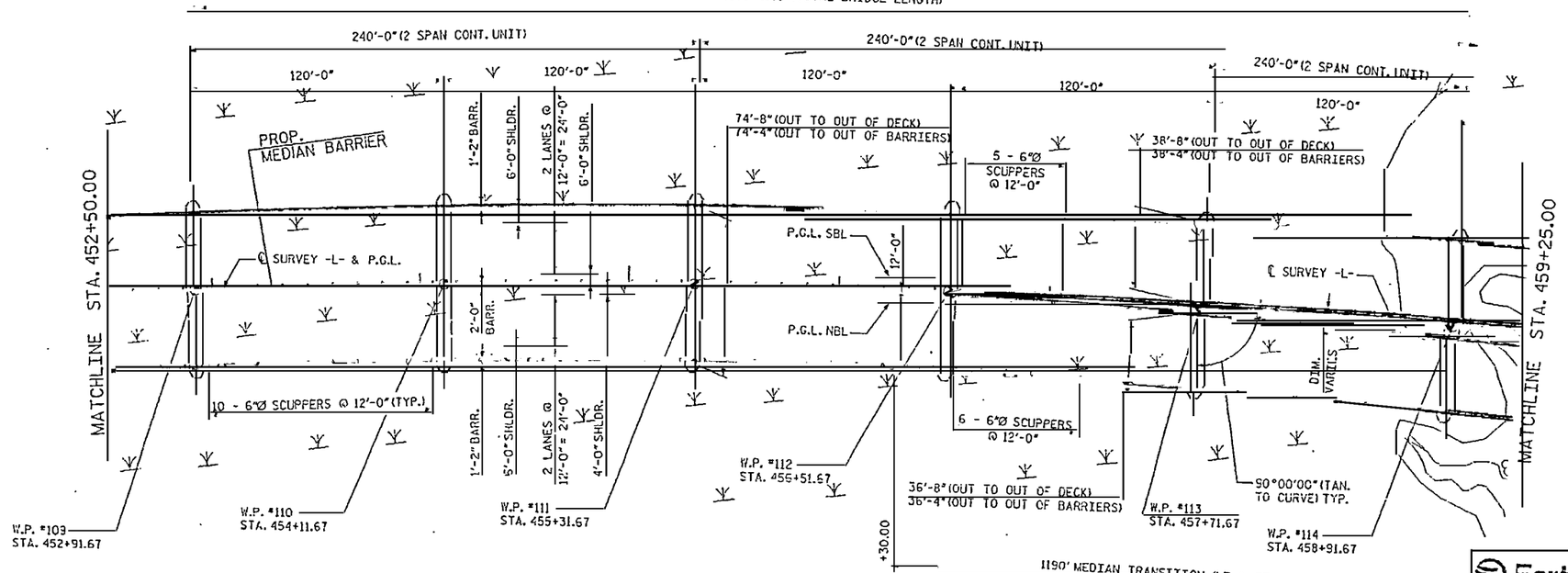
SECTION ALONG ℄ SURVEY -L-

PIs Sta 447+39.56
Gs = 1° 00' 00.0"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 463+60.53
Δ = 30° 21' 20.0" (RT)
D = 1° 00' 00.0"
L = 3,035.56'
T = 1,554.31'
R = 5,729.58'

HORIZONTAL CURVE DATA -L-

15,273'-11⅝" (TOTAL BRIDGE LENGTH)



PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/07 DATE

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

DATE: 5/31/2007
TIME: 13:12 PM

USER: rstredna
DGN: R:\STRUCTURE\New Bridge\02\DESIGN_st_dsn_sht19.dgn

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A JOINT VENTURE

⚠1 REVISION TO BENT CAP SHAPE.

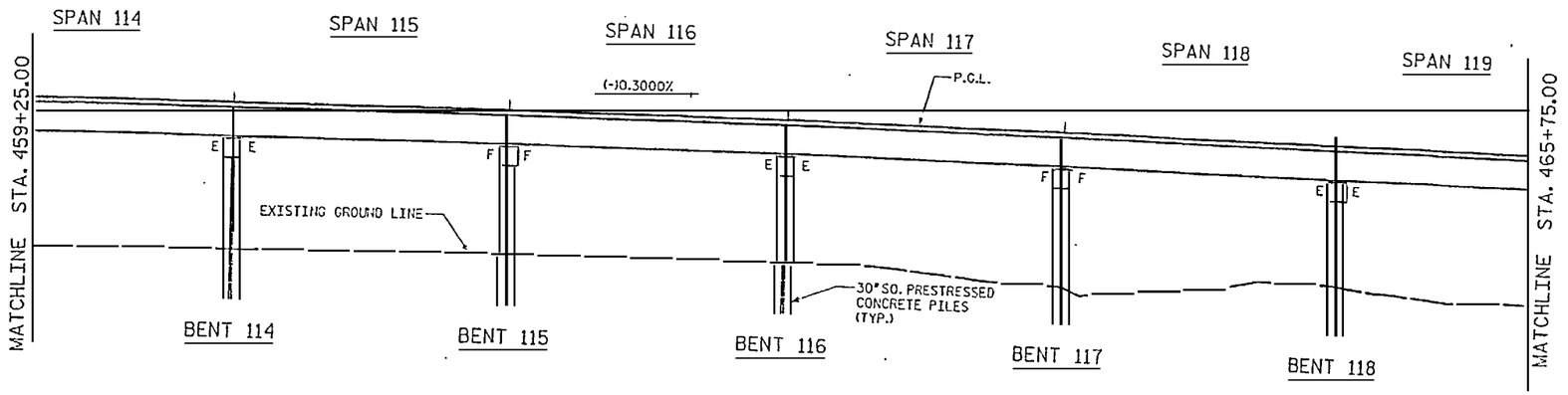
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 19 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 19 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2024.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

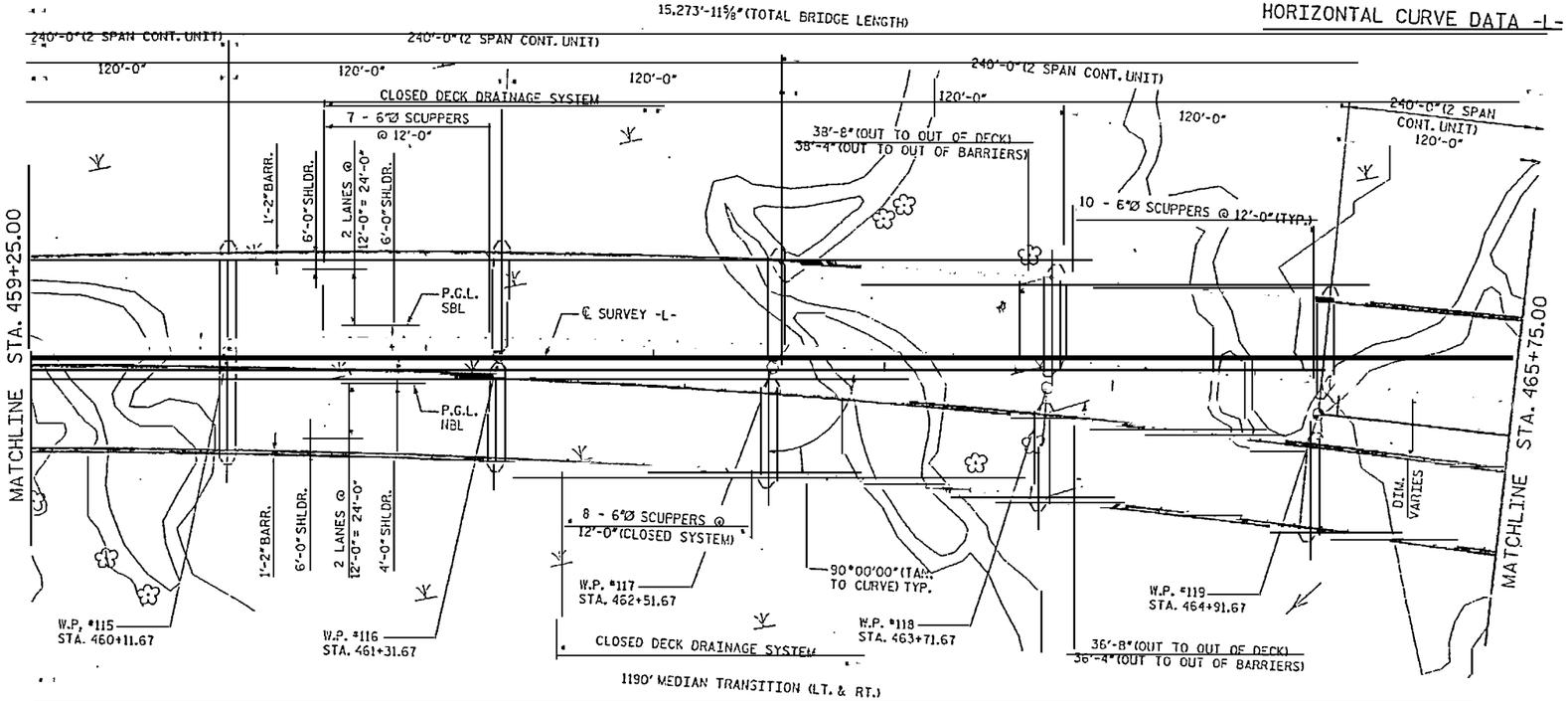


SECTION ALONG ℄ SURVEY -L-

PIs Sta 447+39.56
θs = 1° 00' 00.0"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 463+60.53
Δ = 30° 21' 20.0" (RT)
D = 1° 00' 00.0"
L = 3,035.56'
T = 1,554.31'
R = 5,729.58'

HORIZONTAL CURVE DATA -L-



PLAN

⚠1 REVISION TO BENT CAP SHAPE.

DRAWN BY : S. G. STRECNAK DATE : 07/06
CHECKED BY : J. K. JORDAN DATE : 07/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/5/07 DATE

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A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 20 OF 22 BRIDGE NO. 353

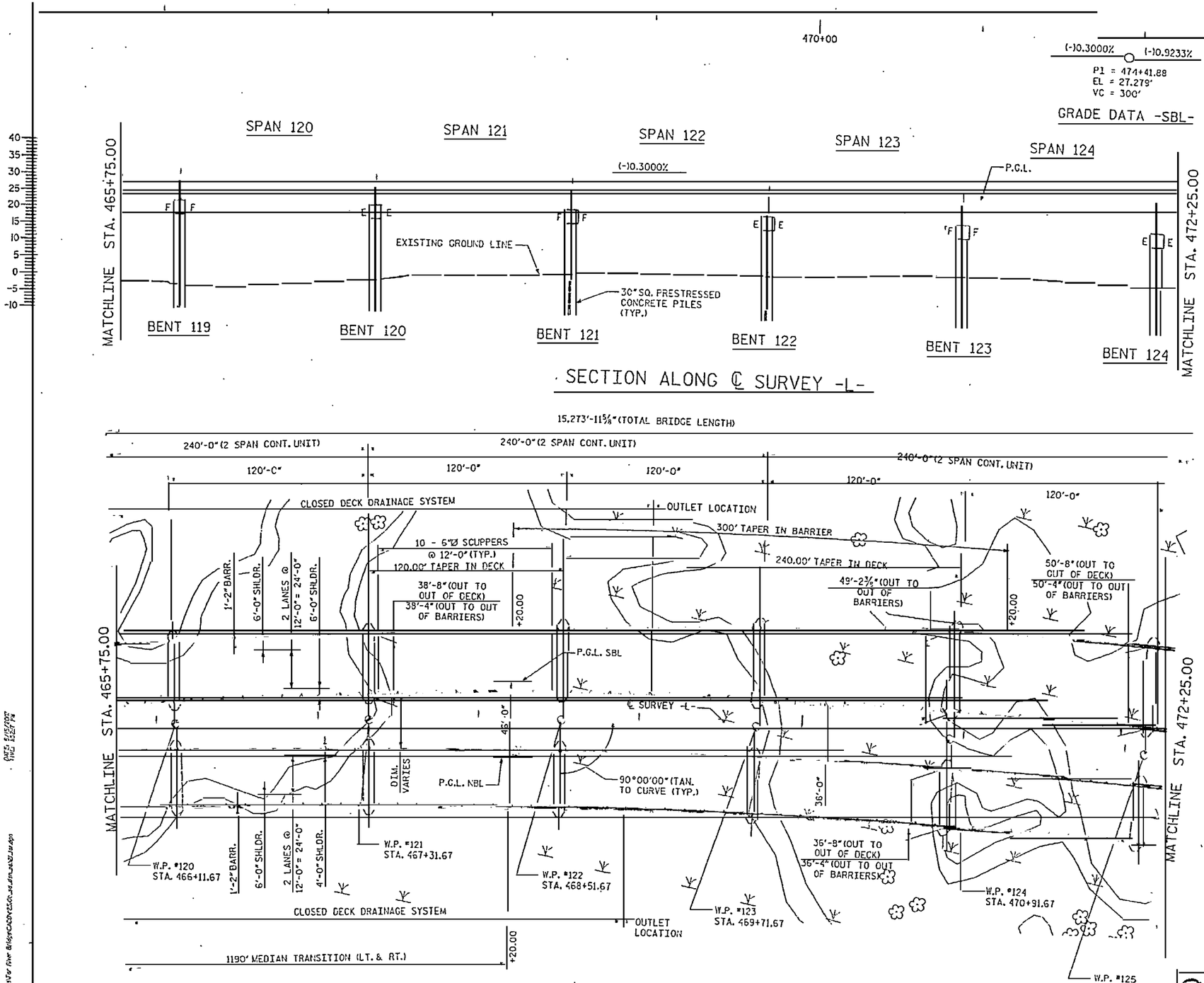
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 20 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2025.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

F.A. PROJECT: MAF-75-3(2)



SECTION ALONG ℄ SURVEY -L-

PLAN

PIs Sta 447+39.56
θs = 1° 00' 00.0"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 463+60.53
Δ = 39° 21' 20.0" (RT)
D = 1° 00' 00.0"
L = 3,035.56'
T = 1,554.31'
R = 5,729.58'

HORIZONTAL CURVE DATA -L-

⚠1 REVISION TO BENT CAP SHAPE.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

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A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 21 OF 22 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

GENERAL PLAN AND ELEVATION 21 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2026.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STEDNIAK DATE : 07/06
CHECKED BY : J. M. GORDAN DATE : 07/06

DATE: 5/15/2007
TIME: 1:27 PM

USER: stjohnston
DGN: R2510BGNDR2510B_GP_ELEVATION_21.dgn

F.A. PROJECT: MAF-75-3(26)

(-)0.3000% (-)0.9233%

PI = 474+41.88
EL = 27.279'
VC = 300'

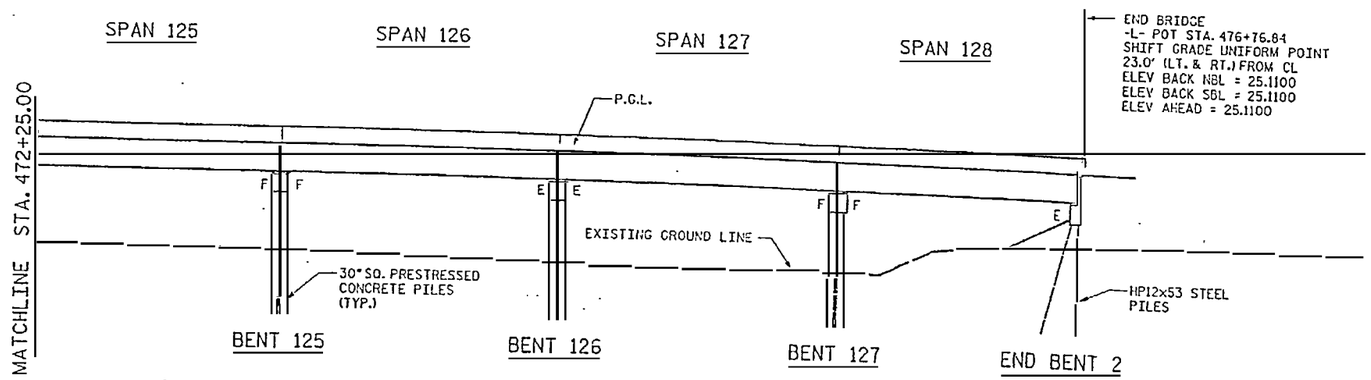
GRADE DATA -SBL-

(-)0.3000% (-)0.9233%

PI = 475+18.89
EL = 26.568'
VC = 300'

GRADE DATA -NBL-

475+00

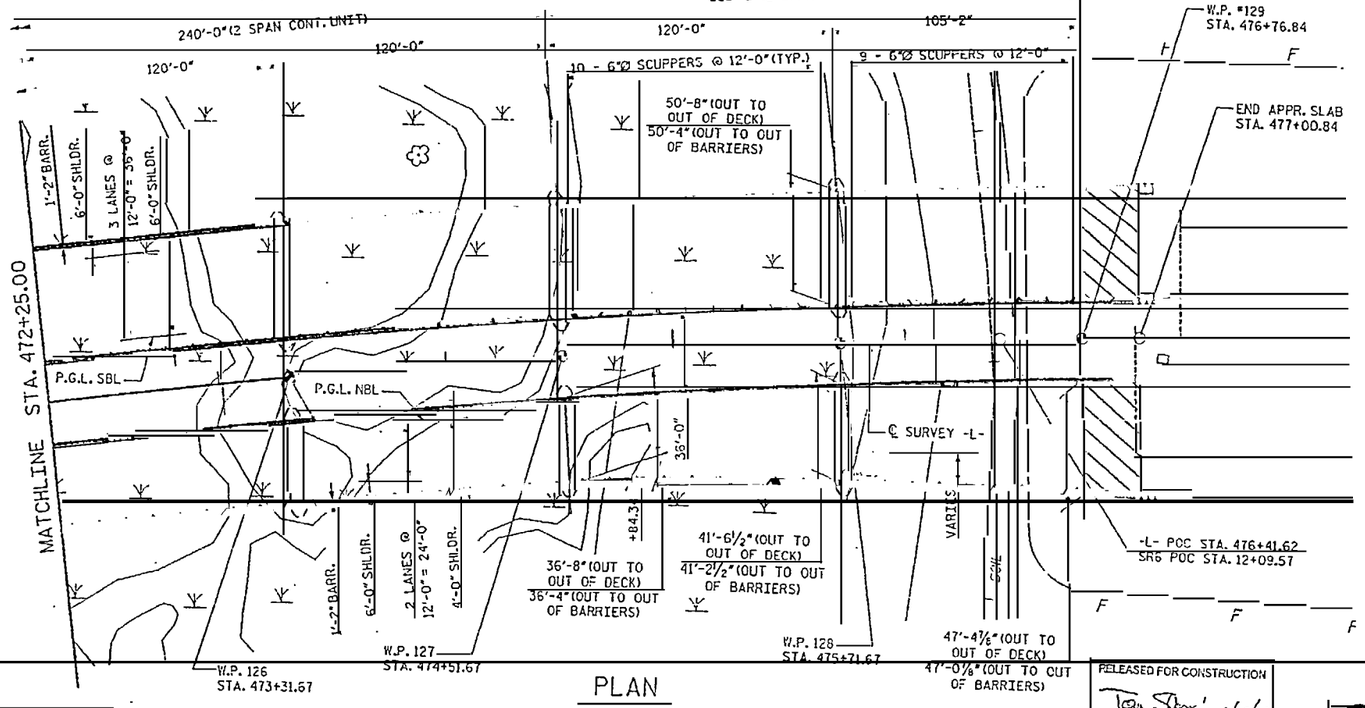


SECTION ALONG ℄ SURVEY -L-

PIs Sta 447+39.56
θs = 1° 00' 00.0"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 463+60.53
Δ = 30° 21' 20.0" (RT)
D = 1° 00' 00.0"
L = 3,035.56'
T = 1,554.31'
R = 5,729.58'

HORIZONTAL CURVE DATA -L-



PLAN

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

DRAWN BY : S. C. STREDNAY DATE : 07/05
CHECKED BY : J. W. JORDAN DATE : 07/05

USER: mtwilson
DGN: N:\STRUCTURES\Final Bridges\R2510B\Gen\R2510B_GEN_SHEET.dgn

DATE: 5/15/2007
FILE LENGTH:

NORTH CAROLINA PROFESSIONAL SEAL 027607 ENGINEER JOHN WILLIAM JORDAN 6/15/07

⚠ REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 22 OF 22 BRIDGE NO. 353

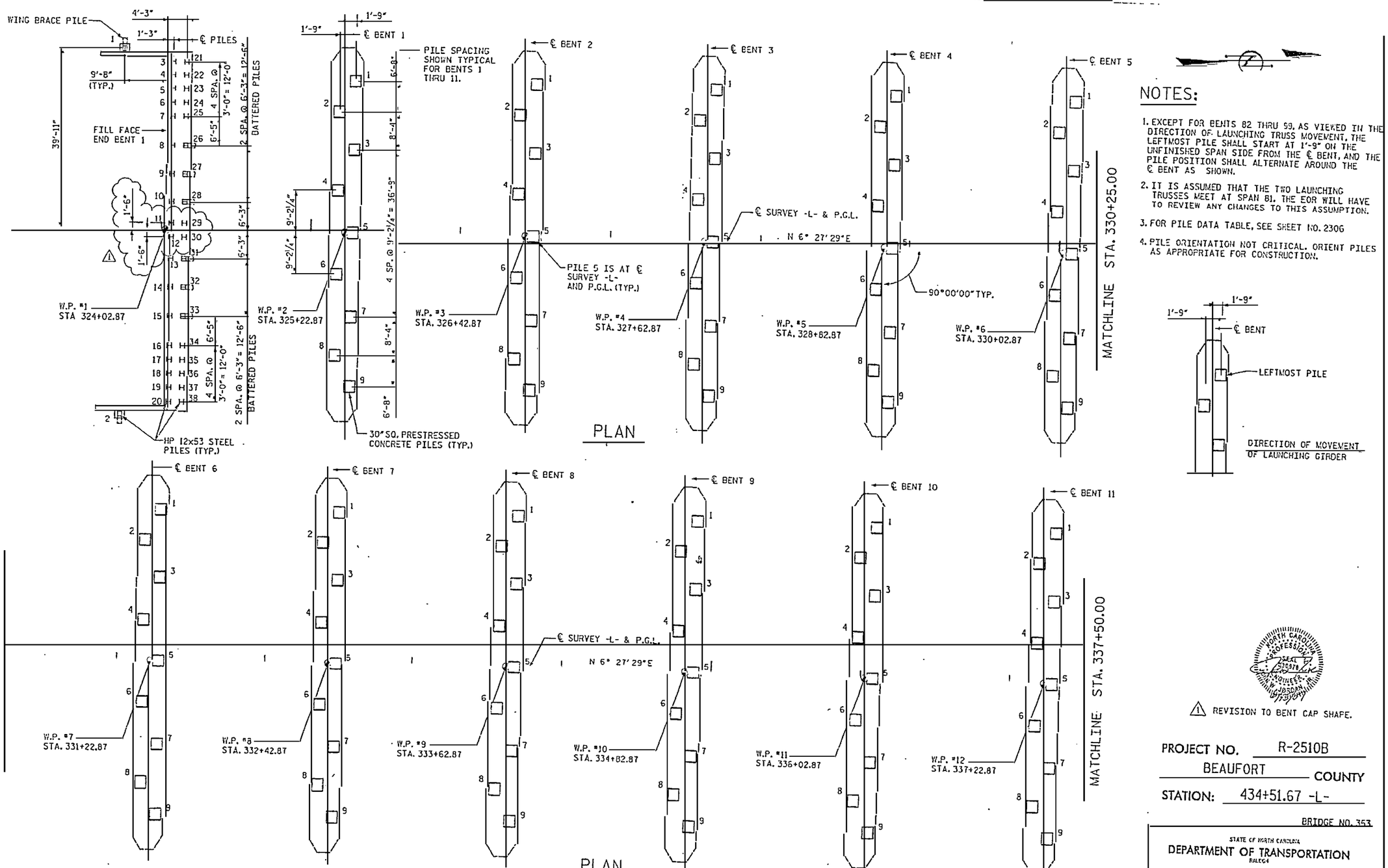
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GENERAL PLAN AND ELEVATION 22
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2027.01
1	MTB	5/07				TOTAL SHEETS



NOTES:

1. EXCEPT FOR BENTS 82 THRU 99, AS VIEWED IN THE DIRECTION OF LAUNCHING TRUSS MOVEMENT, THE LEFTMOST PILE SHALL START AT 1'-9" ON THE UNFINISHED SPAN SIDE FROM THE ℄ BENT, AND THE PILE POSITION SHALL ALTERNATE AROUND THE ℄ BENT AS SHOWN.
2. IT IS ASSUMED THAT THE TWO LAUNCHING TRUSSES MEET AT SPAN 81. THE EOR WILL HAVE TO REVIEW ANY CHANGES TO THIS ASSUMPTION.
3. FOR PILE DATA TABLE, SEE SHEET NO. 2306
4. PILE ORIENTATION NOT CRITICAL. ORIENT PILES AS APPROPRIATE FOR CONSTRUCTION.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035678 JOHN W. JORDAN

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FOUNDATION LAYOUT 1 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:	2031.01
1	CJW	05/07	3			TOTAL SHEETS
2			4			

DRAWN BY : J. W. JORDAN DATE : 10/06
CHECKED BY : S. G. STREDNEY DATE : 10/06

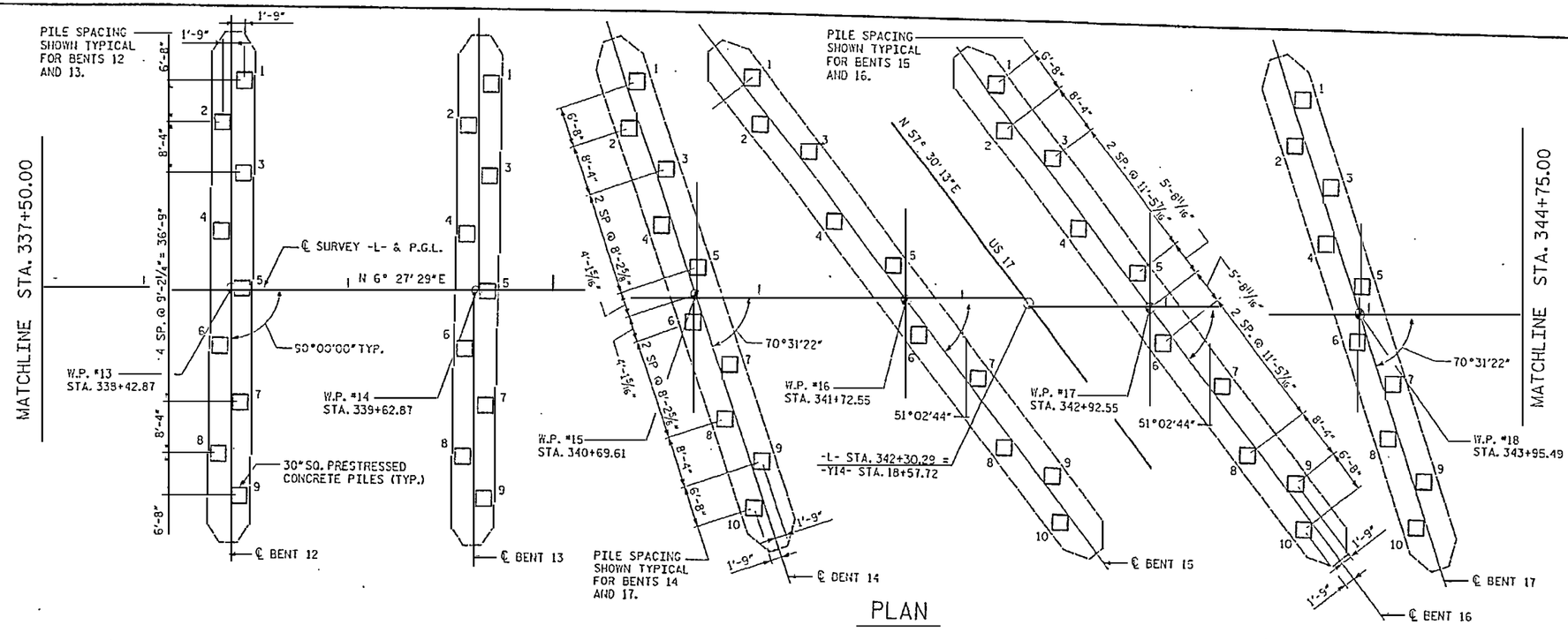
RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 6/15/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 5/15/2007
TIME: 12:52 PM

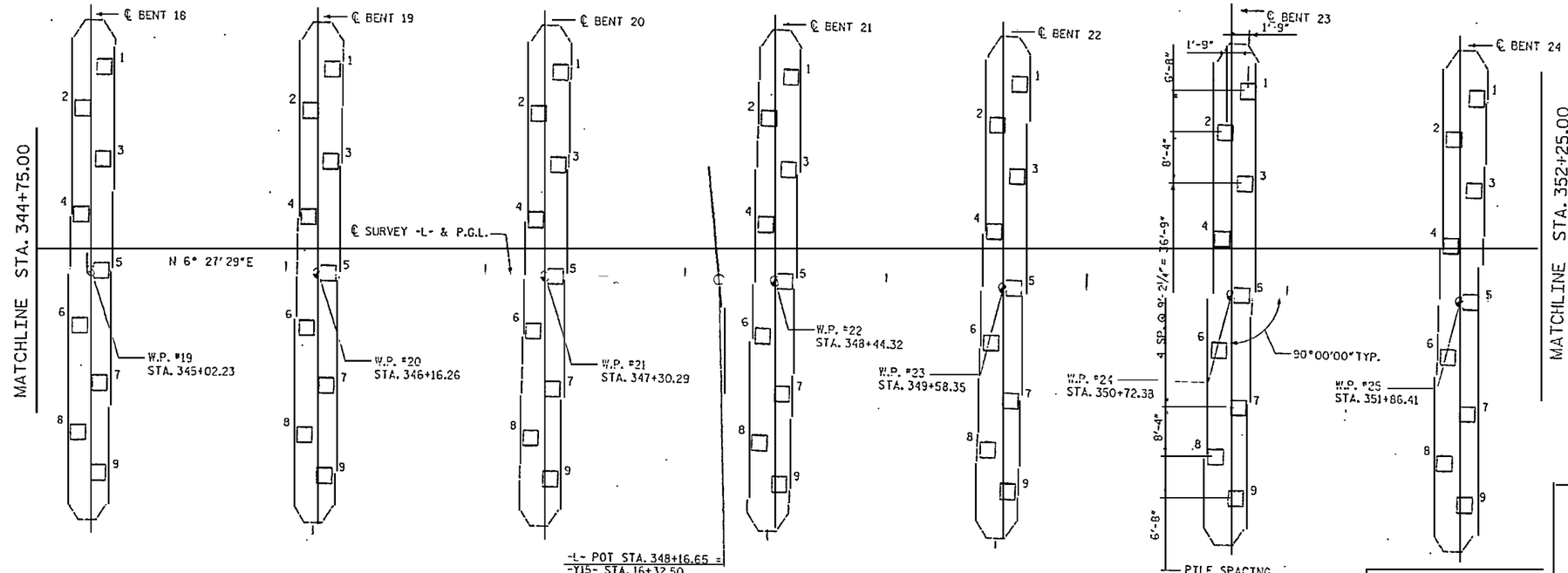
USER: mhobbs
DGN: N:\Structure\US17 Tar River Bridge\CADD\FED\Sht_Layouts\2031_Layout1.dgn



PLAN

NOTES:

1. EXCEPT FOR BENTS 14 THRU 17, PILE 5 IS AT ℄ SURVEY -L- AND P.G.L.



PLAN

DRAWN BY : S.G. STREDNAK DATE : 10/06
CHECKED BY : J.W. JORDAN DATE : 10/06

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 23931 ENGINEER JOHN WESLEY JORDAN

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

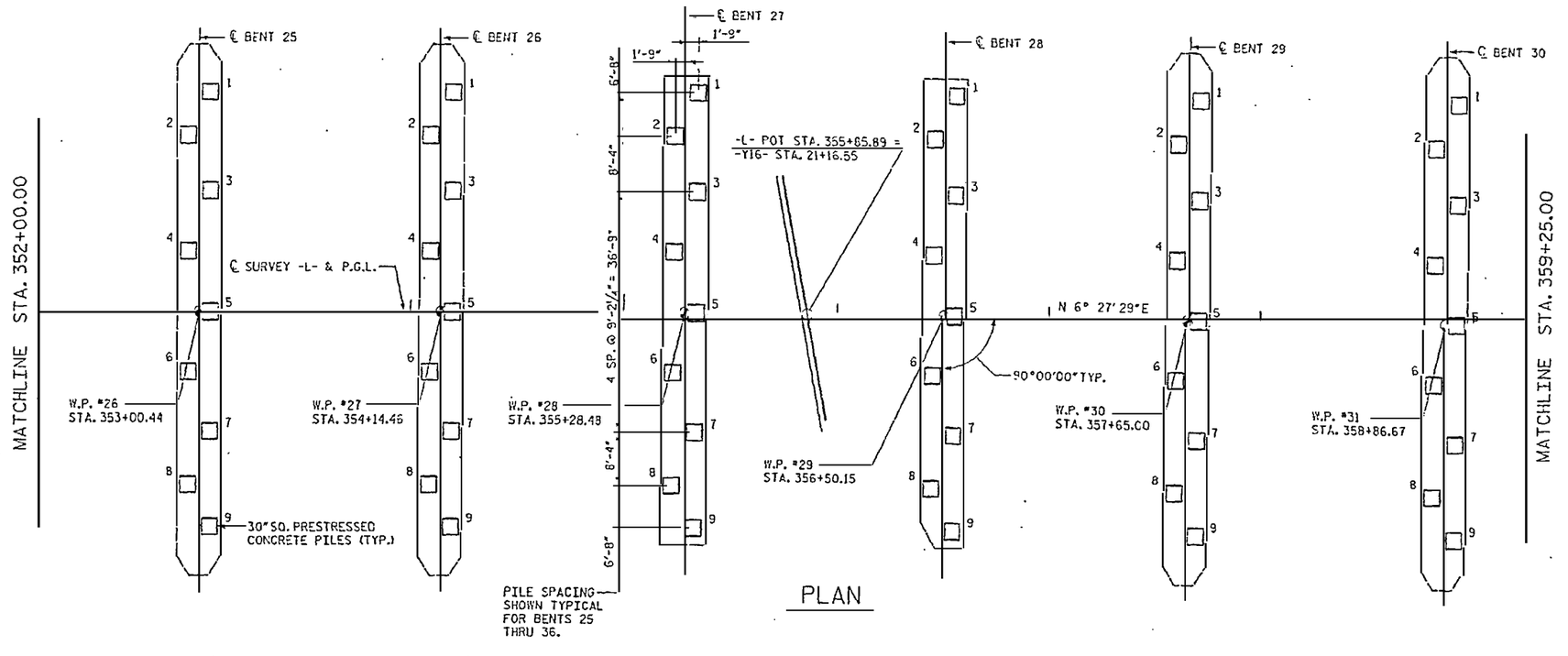
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FOUNDATION LAYOUT 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

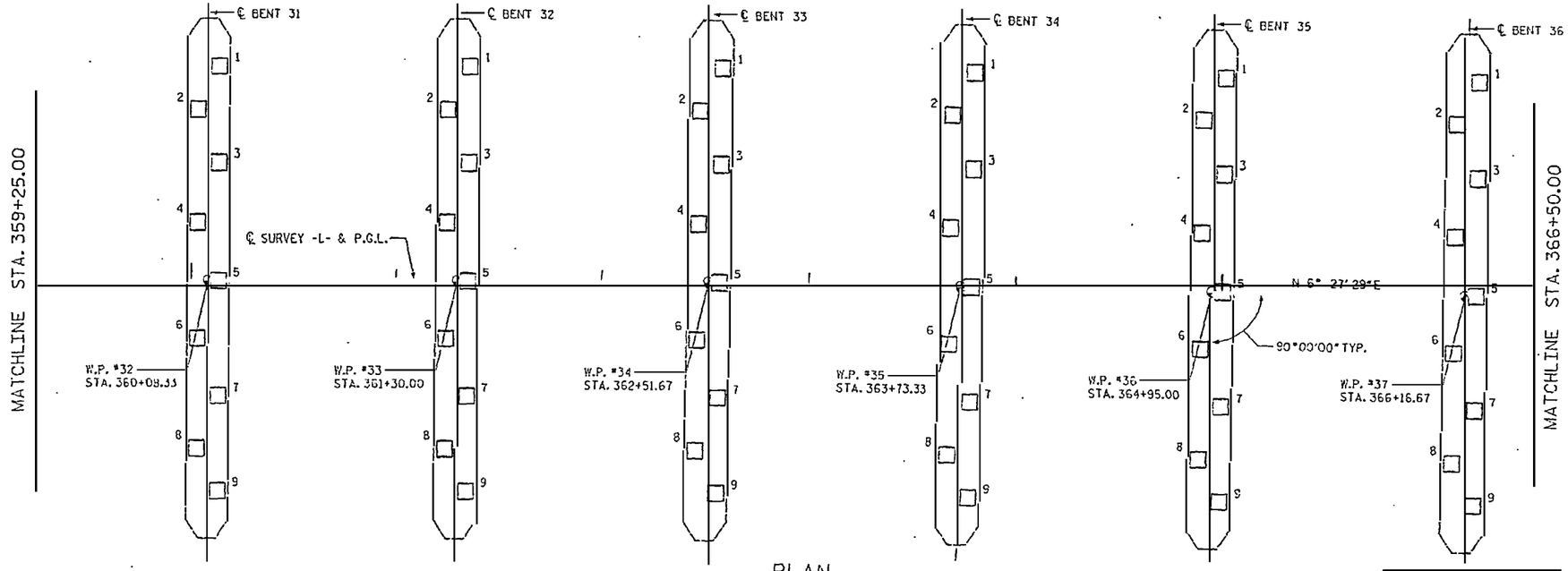
NO.	REVISIONS BY:	DATE:	NO.	BY:	DATE:
1	MTS	5/07	3		
2			4		

SHEET NO. 2032.01
TOTAL SHEETS

DATE PLOTTED: 6/15/2007
TIME PLOTTED: 10:55:28 AM
USER NAME = Owner
Owner Firm/Architect/Engineer
Bridge\CADD\2510b_pl_found2.dgn



PLAN



PLAN

NOTES:

1. PILE 5 IS AT ℄ SURVEY -L- AND P.G.L.

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FOUNDATION LAYOUT 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2033.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

RELEASED FOR CONSTRUCTION
Tom Shearin 6/12/07
TOM SHEARIN, PE DATE

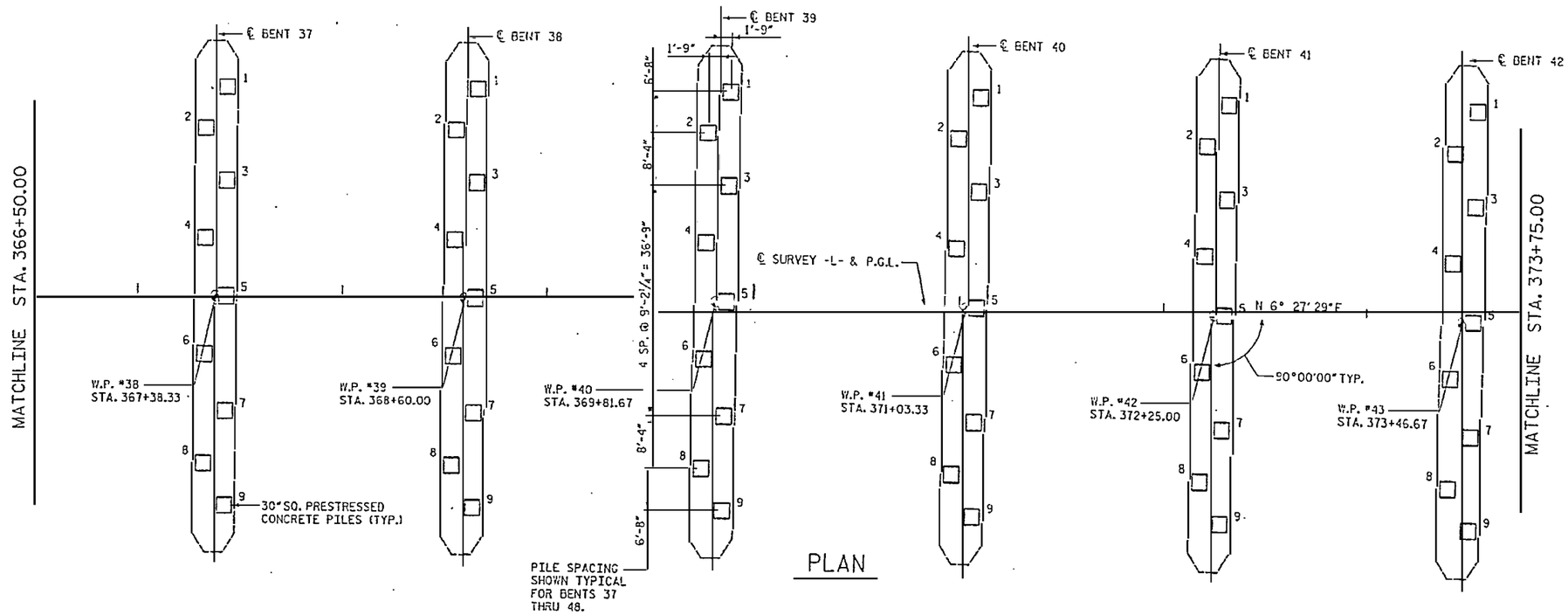
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

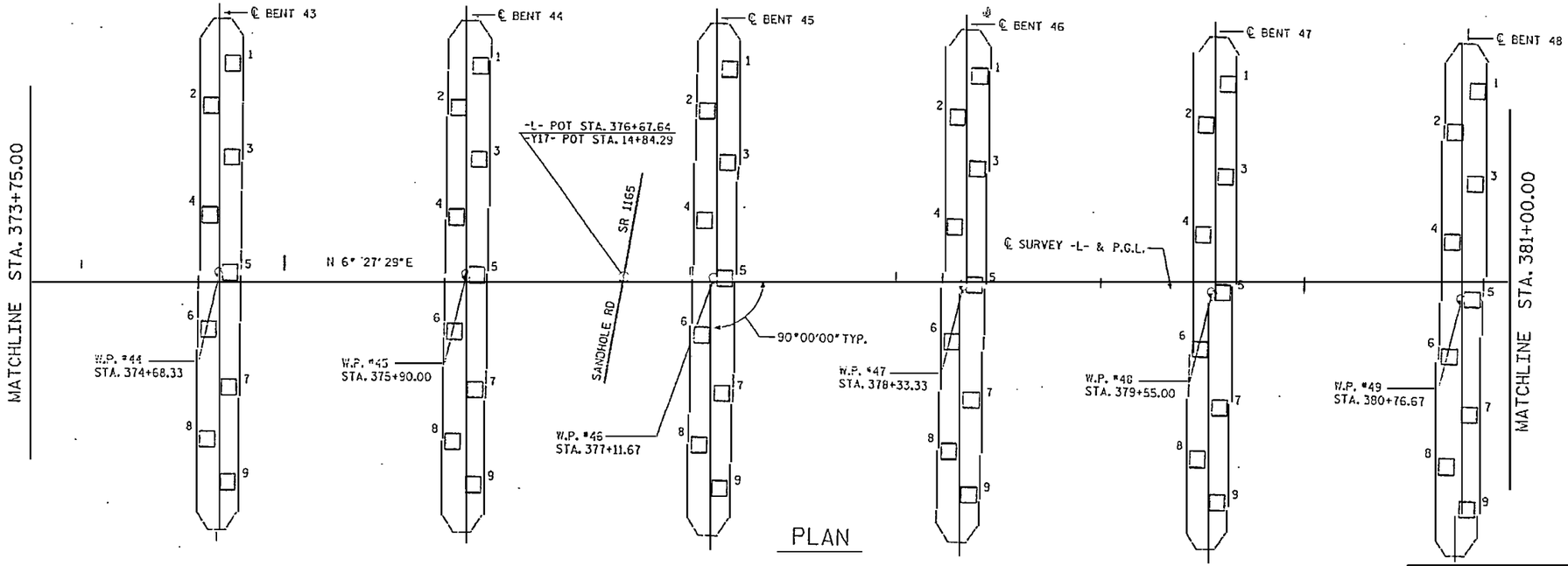
DRAWN BY : S. C. STREDNAY DATE : 10/06
CHECKED BY : J. K. JORDAN DATE : 10/06

DATE: 5/8/2007
TIME: 12:53:5 PM

USER: mtbrooks
DGN: R:\structure\Tar River Bridge\N\000\02\D_str\den\fnd03_be.dgn



PLAN



PLAN

NOTES:

1. PILE 5 IS AT ℄ SURVEY -L- AND P.G.L.

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FOUNDATION LAYOUT 4
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2034.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

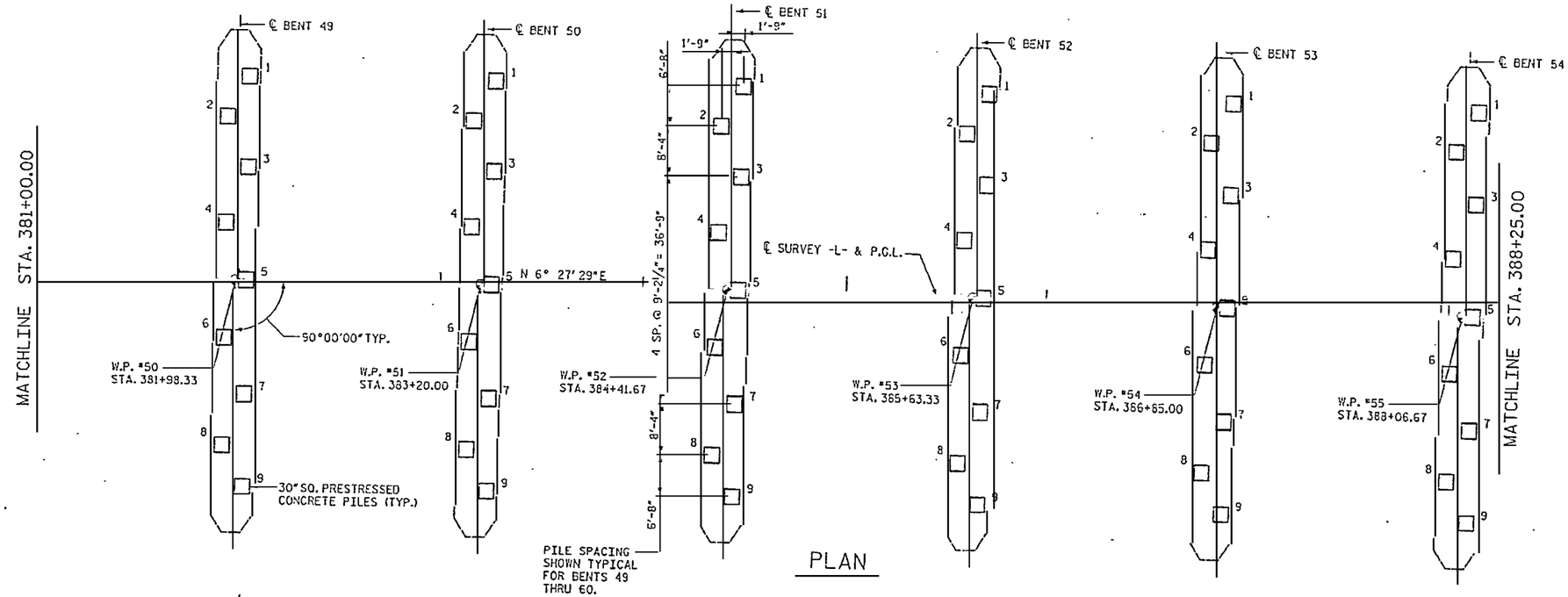
DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. W. JORDAN DATE : 10/06

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

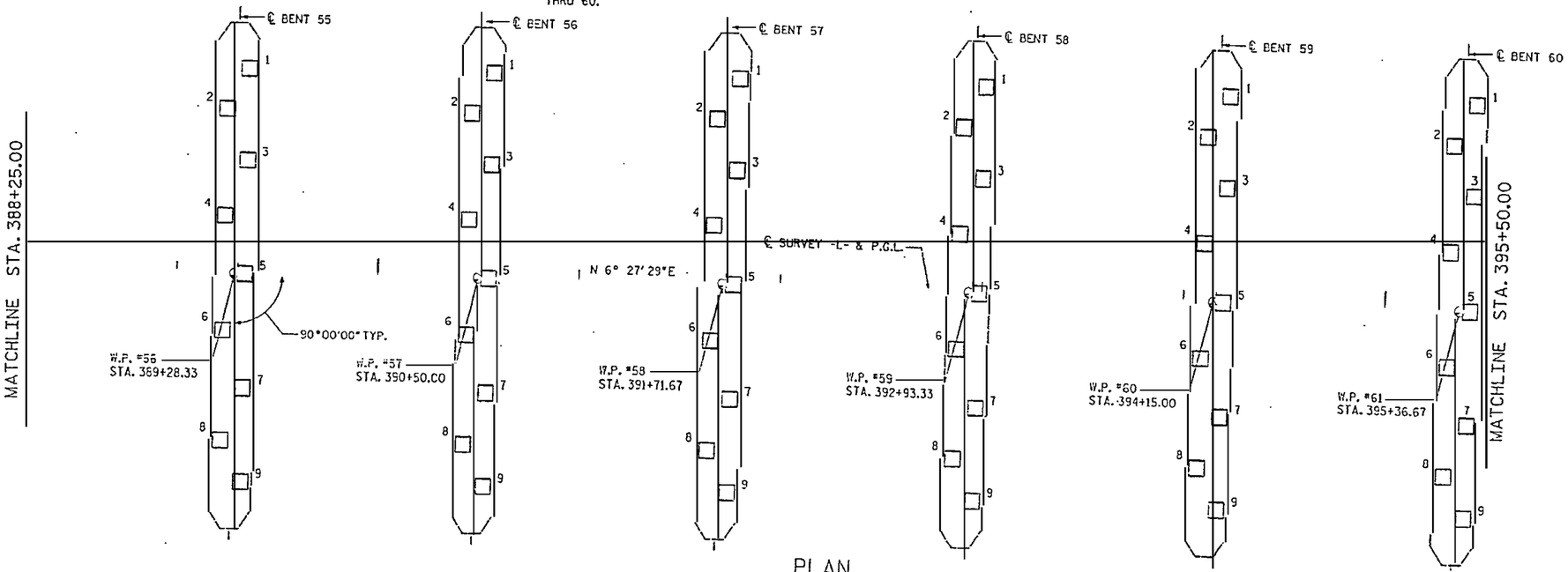
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

USER: nstanton
DGN: N:\Structures\Projects\2034.01_BRIDGE\DGN\2034_01_FDN_LAY_4.dgn
DATE: 5/15/2007
TIME: 10:33:59 AM



PLAN



PLAN

NOTES:

1. PILE 5 IS AT ℄ SURVEY -L- AND P.G.L.

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FOUNDATION LAYOUT 5
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	5/07			

SHEET NO. 2035.01 TOTAL SHEETS

DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. W. JORDAN DATE : 10/06

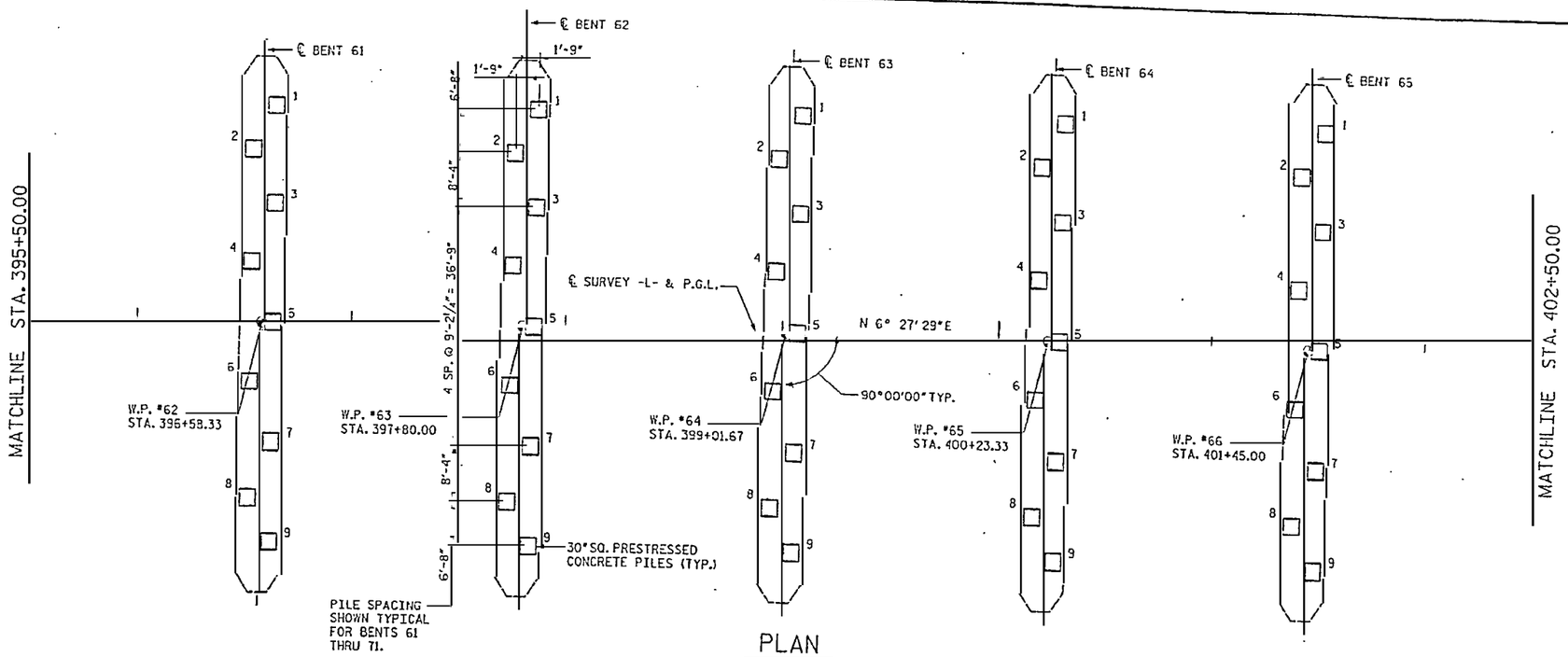
RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/16/07 DATE

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 13990 ENGINEER JOHN W. JORDAN

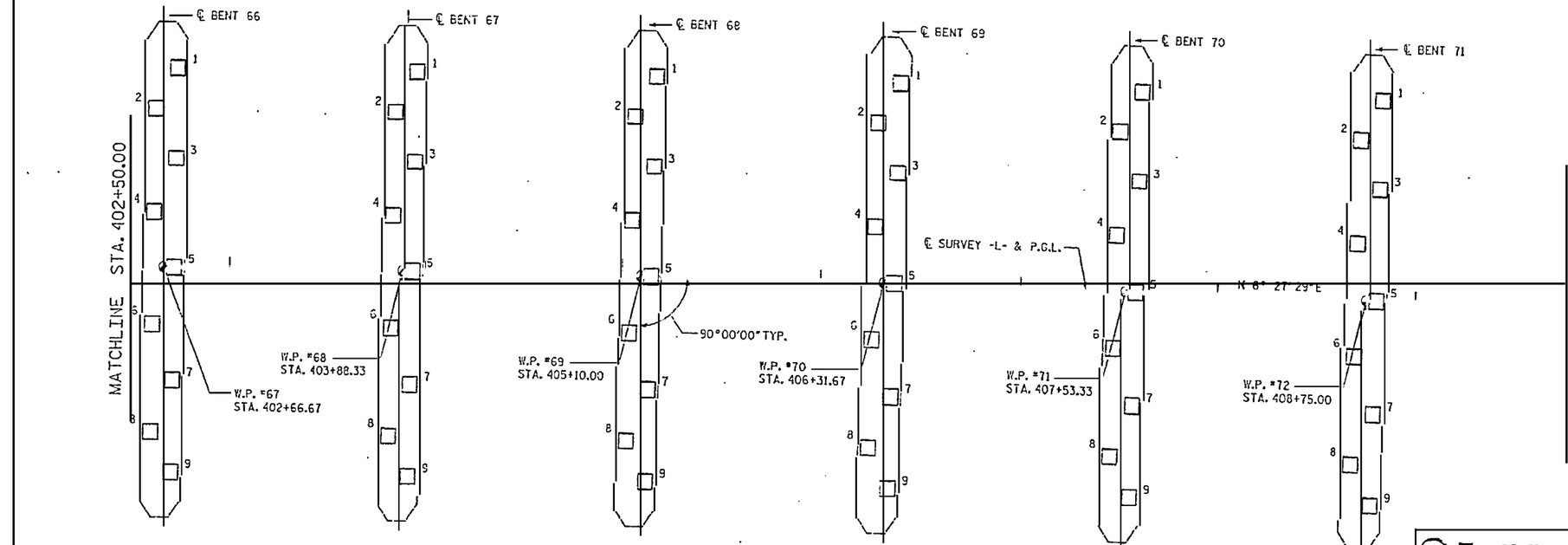
USER: rtuttle
DGN: ROUNDaverage Rnd 84sp/CIDV1250.dgn
DWG: 2035-01-FOUNDATION LAYOUT 5.dwg
TRANS:
LAST MODIFIED:



PLAN

NOTES:

1. PILE 5 IS AT ℄ SURVEY -L- AND P.G.L.



PLAN

DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. W. JORDAN DATE : 10/06

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030844 ENGINEER JOHN W. JORDAN

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO: R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

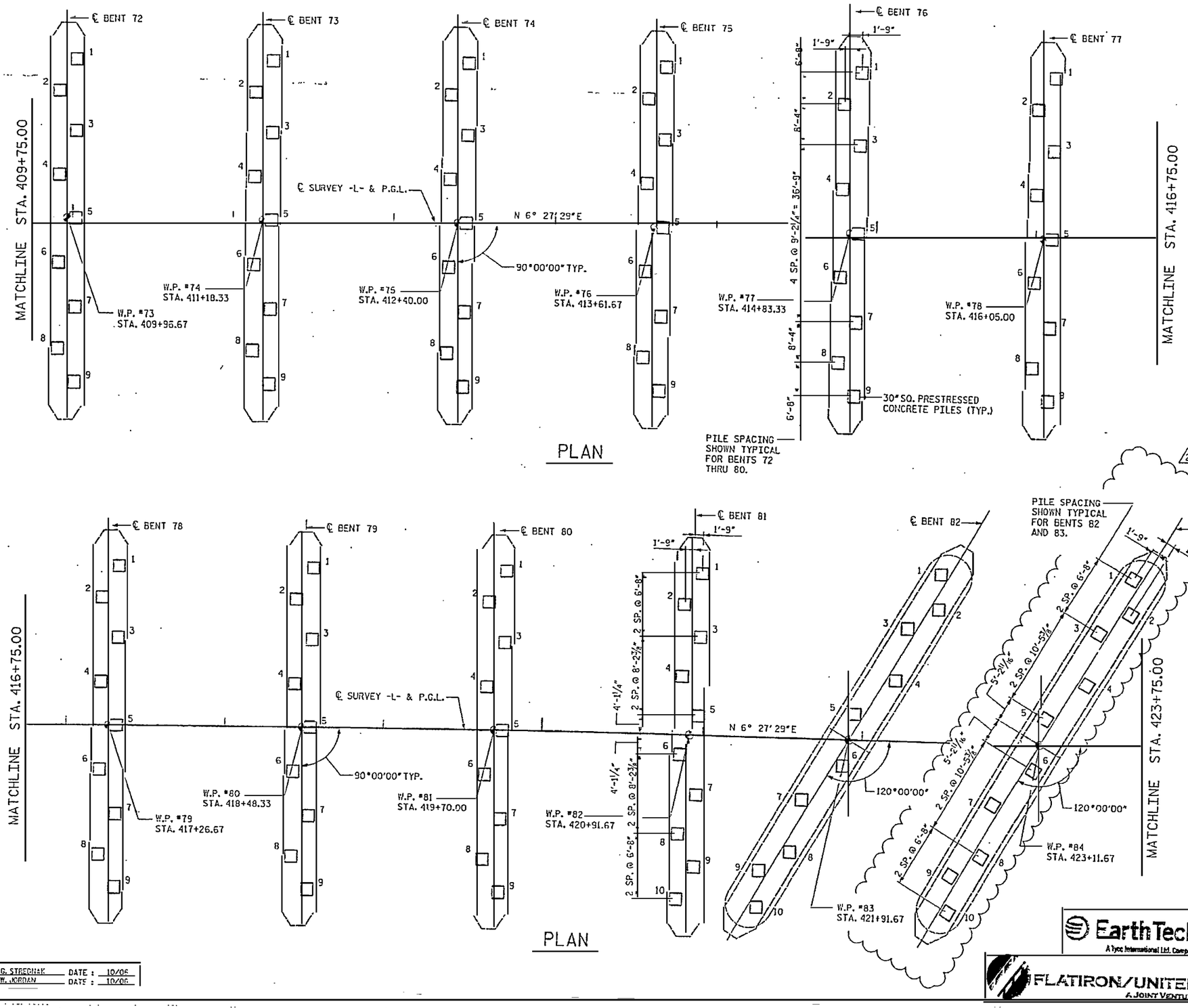
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FOUNDATION LAYOUT 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	5/07	3		
2			4		

SHEET NO. 2036.01
TOTAL SHEETS

USER: jjhankins
DATE: 5/15/2007 7:56:53 PM
FILE: N:\Projects\Tar River Bridge\CADD\Sheets\Br_Found_Layout.dgn



PLAN

PLAN

NOTES:

1. EXCEPT FOR BENTS 81 THRU 83, PILE 5 IS AT ℄ SURVEY -L- AND P.G.L.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/16/06 DATE

NORTH CAROLINA SEAL 030879 ENGINEER JOHN T. JORDAN

1 REVISION TO BENT CAP SHAPE.
2 PILES ROTATED AT BENT 83.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FOUNDATION LAYOUT 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

Earth Tech
A Tyco International Ltd. Company

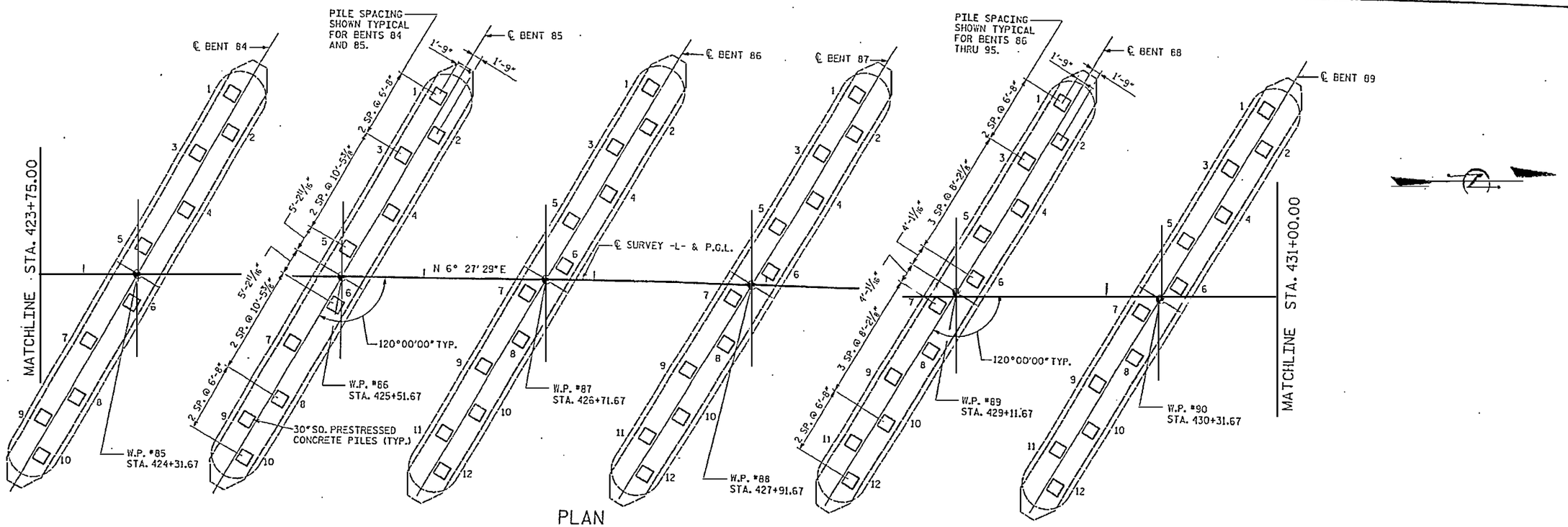
FLATIRON/UNITED
A JOINT VENTURE

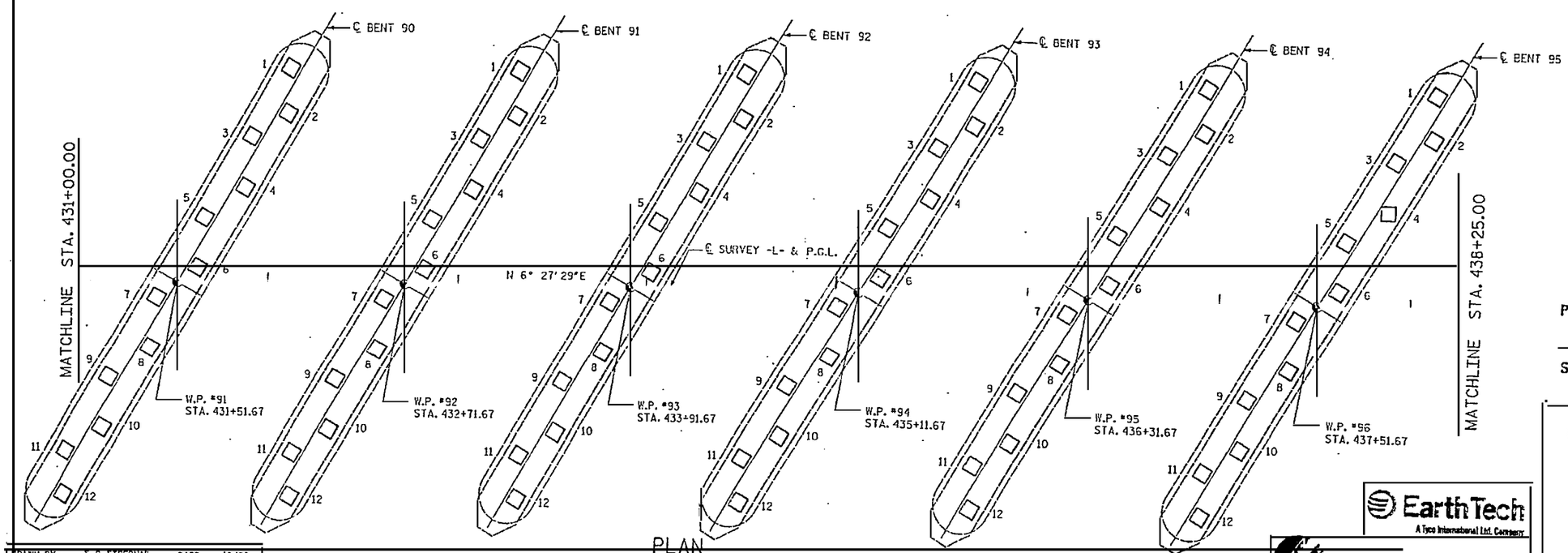
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2037.02
1	MTB	5/07				TOTAL SHEETS
2	MTB	2/14/08				

DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. W. JORDAN DATE : 10/06

DATE: 3/14/2008
TIME: 12:42:57 PM

USER: mtbetts
DGN: N:\Structure\Tar River Bridge\R2510\R2510_FLAYLIGHT_Jordan





RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 3/11/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030678 JOHN W. JORDAN

1 REVISION TO BENT CAP SHAPE.
2 PILES ROTATED AT ALL BENTS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FOUNDATION LAYOUT 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	5/07			
2	MTB	2/14/08			

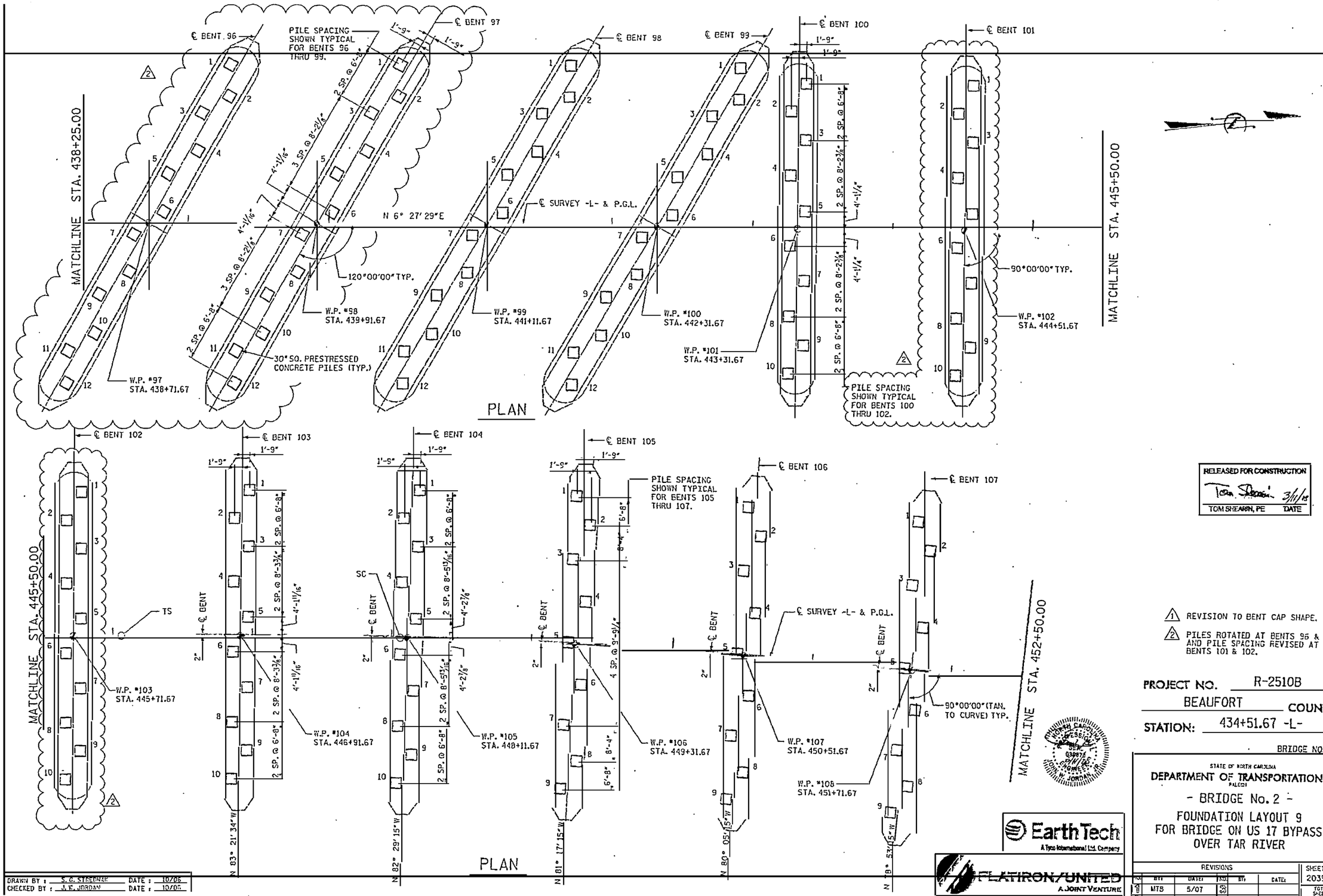
SHEET NO. 2038.02
TOTAL SHEETS

DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. W. JORDAN DATE : 10/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE 2/25/2008
TIME 12:48 PM
USER michelle
DGN R:\Structures\Tar River Bridges\Cadd\25103_Found8.dgn



RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

1 REVISION TO BENT CAP SHAPE.

2 PILES ROTATED AT BENTS 95 & 97 AND PILE SPACING REVISED AT BENTS 101 & 102.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

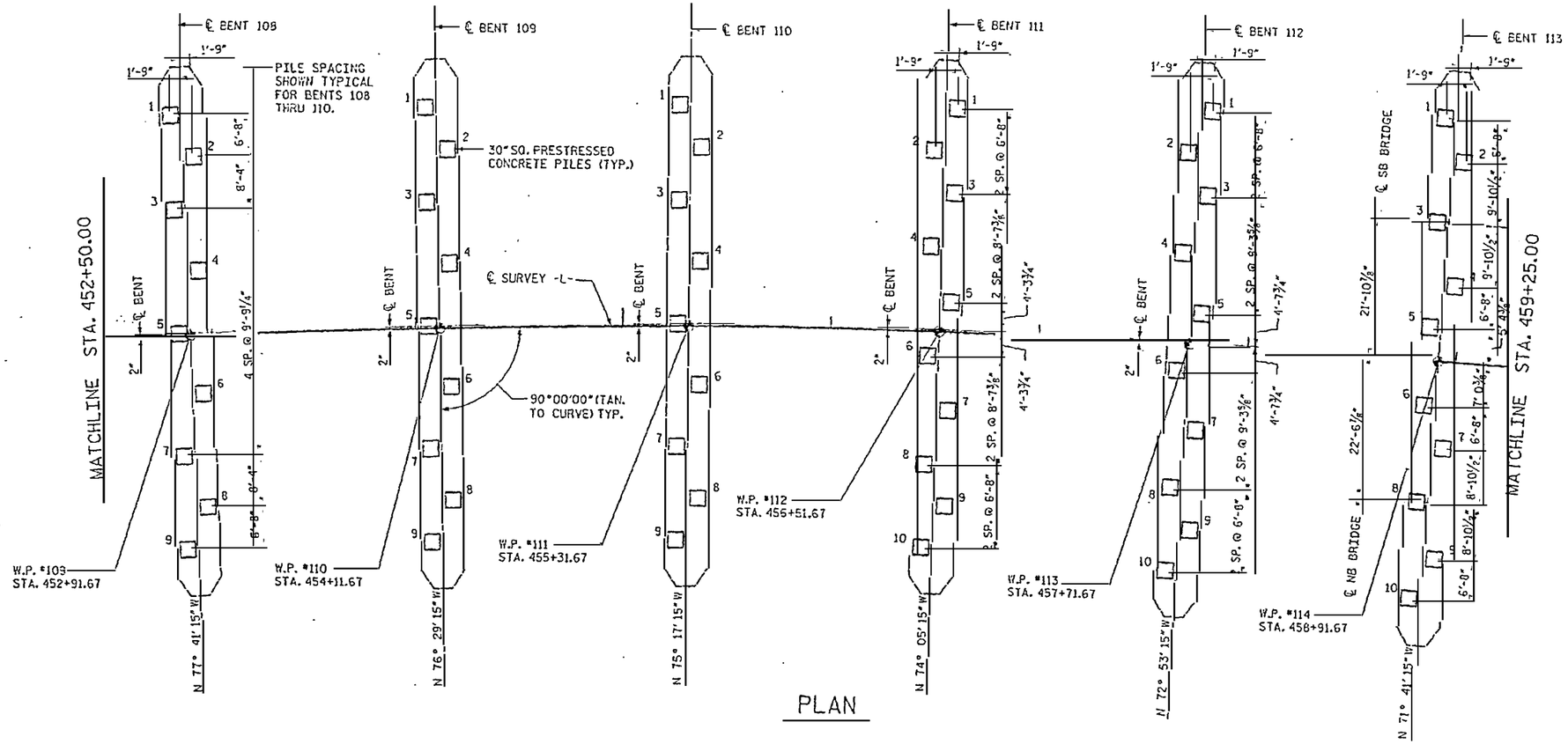
FOUNDATION LAYOUT 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

DRAWN BY : S. C. STREDNAK DATE : 10/06
CHECKED BY : J. K. JORDAN DATE : 10/06

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2039.02
1	MTB	5/07				TOTAL SHEETS
2	MTB	2/14/08				



PLAN

⚠1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

BRIDGE NO. 353

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FOUNDATION LAYOUT 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2040.01
1	MTB	5/07	3			TOTAL SHEETS
2			4			

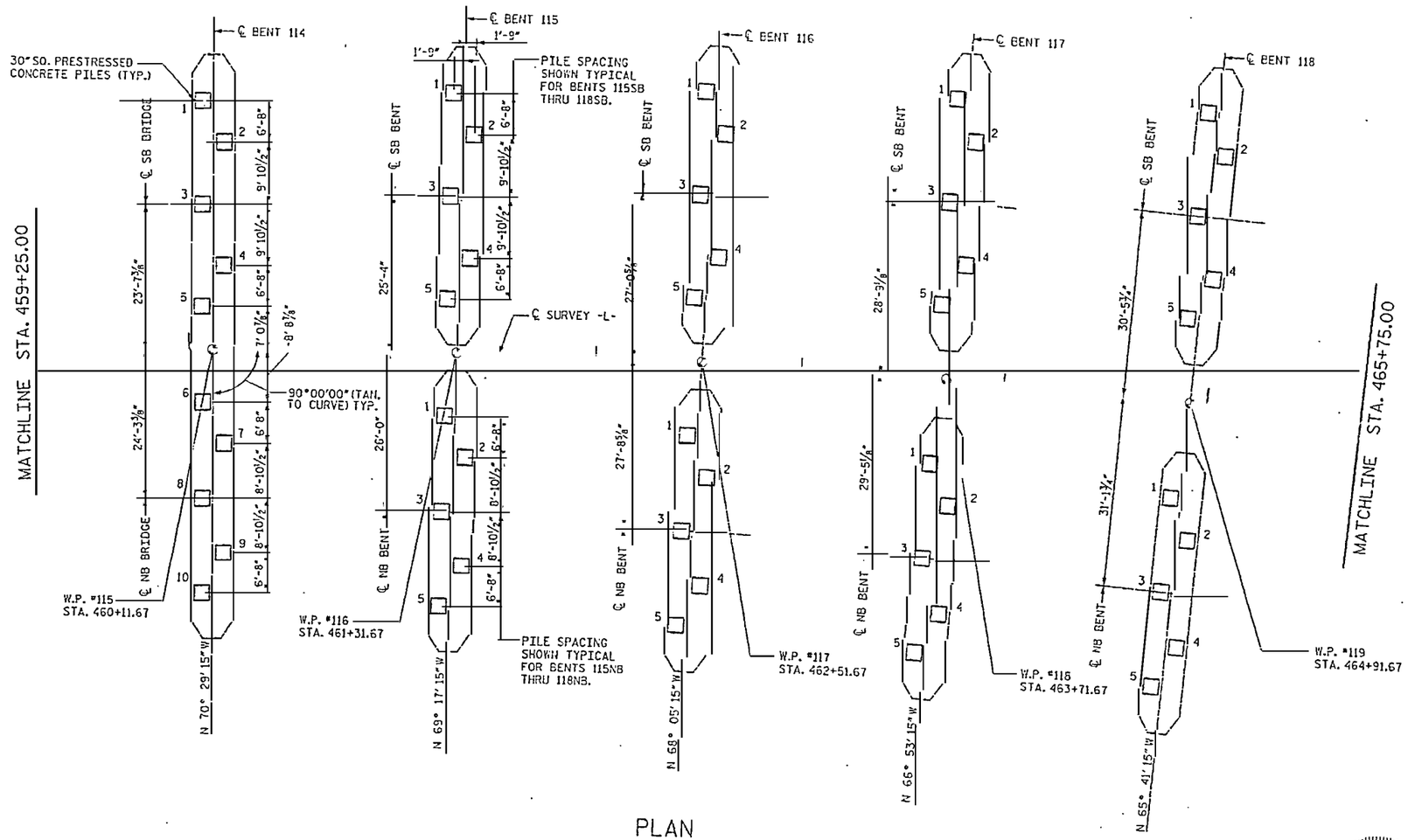
DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. W. JORDAN DATE : 10/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 7/23/2007
FILE: 9307A2 XW

USER: eastfront
DGN: C:\Microstation Projects\R2510B_st_Foundation.dgn



PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 1/30/07

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FOUNDATION LAYOUT 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTS	5/07			

SHEET NO. 2041.01
TOTAL SHEETS

DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. F. JORDAN DATE : 10/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 2/20/2007
TIME: 8:03:38 AM
USER: scottstredn
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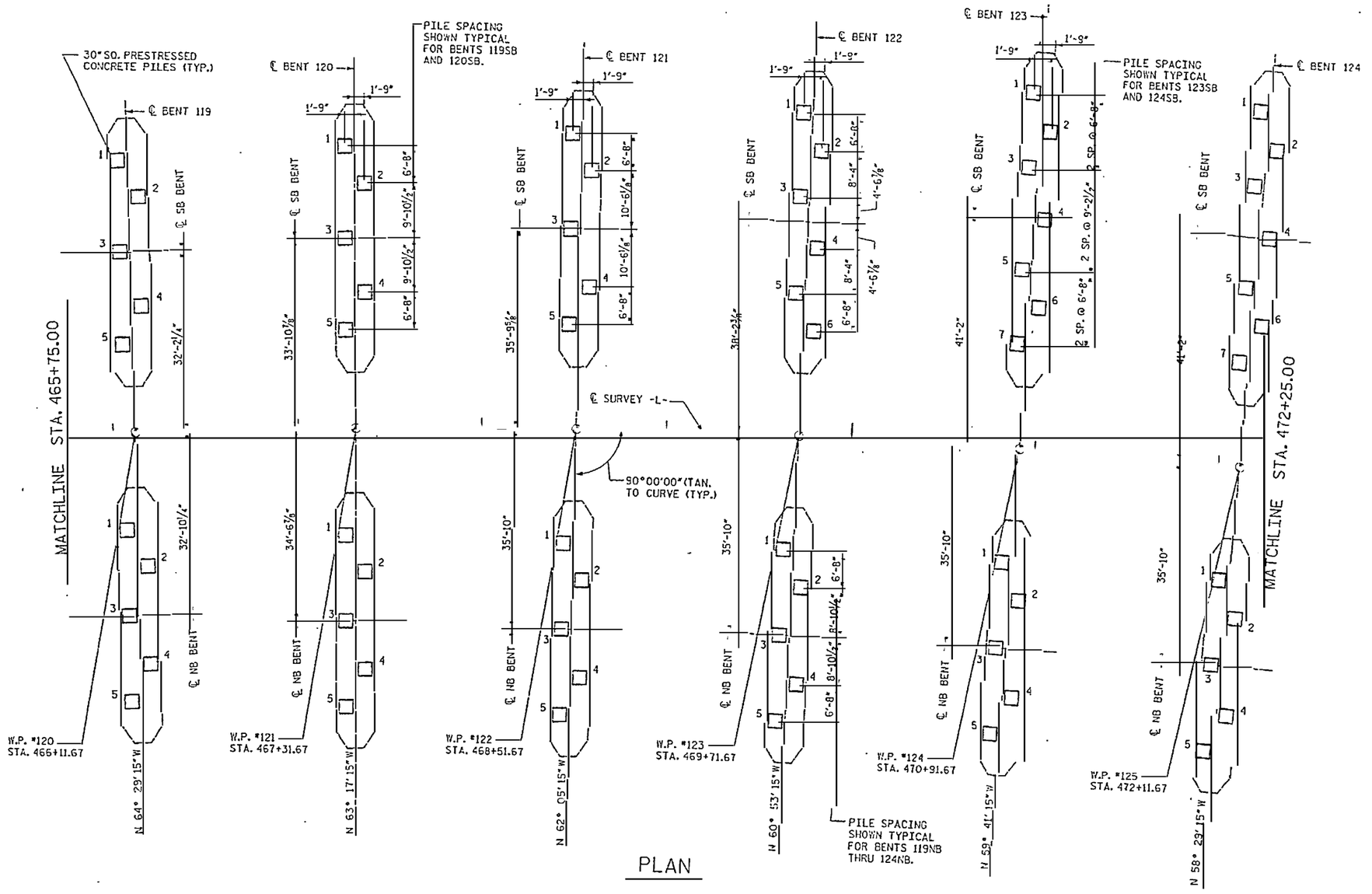


PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

1 REVISION TO BENT CAP SHAPE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FOUNDATION LAYOUT 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2042.01
1	MTB	5/07				TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL SEAL 030674 ENGINEER JOHN W. JORDAN

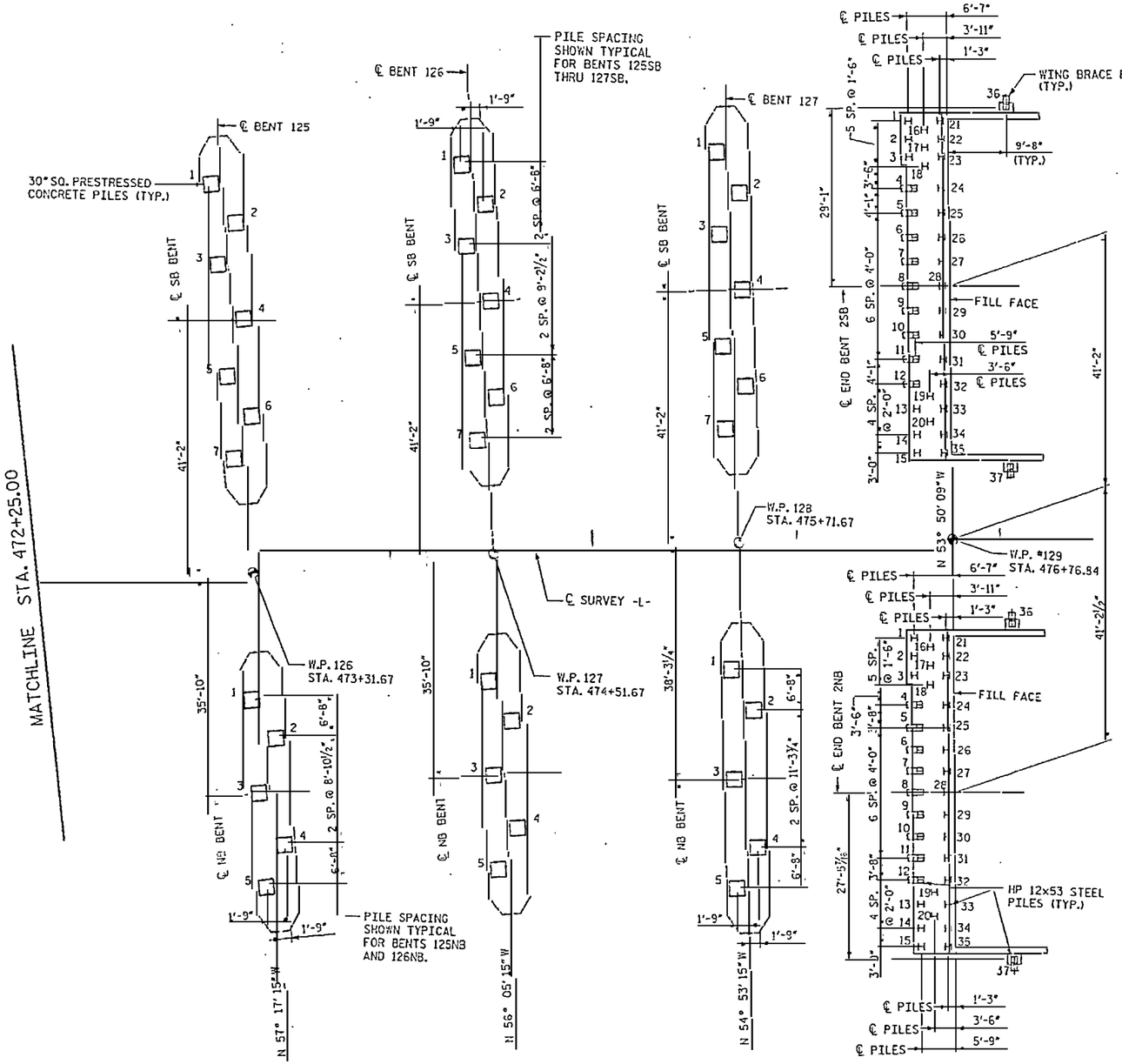
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STRECNAK DATE : 07/06
CHECKED BY : J. W. JORDAN DATE : 07/06

DATE: 7/30/2007
TIME: 10:28 AM

USER: cstrecnak
DGN: F:\STRUCTURE\TIP\R2510B\Bridge\2042\01_2042_Jordan



PLAN

DRAWN BY : S. C. STREDNAK DATE : 10/06
CHECKED BY : J. W. JORDAN DATE : 10/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 7/30/07 DATE

1 REVISIONS TO BENT CAPS SHAPE AND END BENTS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATE: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FOUNDATION LAYOUT 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030626 ENGINEER JOHN W. JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2043.01
1	CJW	5/07	3			TOTAL SHEETS
2			4			

DATE: 7/20/2007
TIME: 9:08:14 AM

USER: rjordanwar
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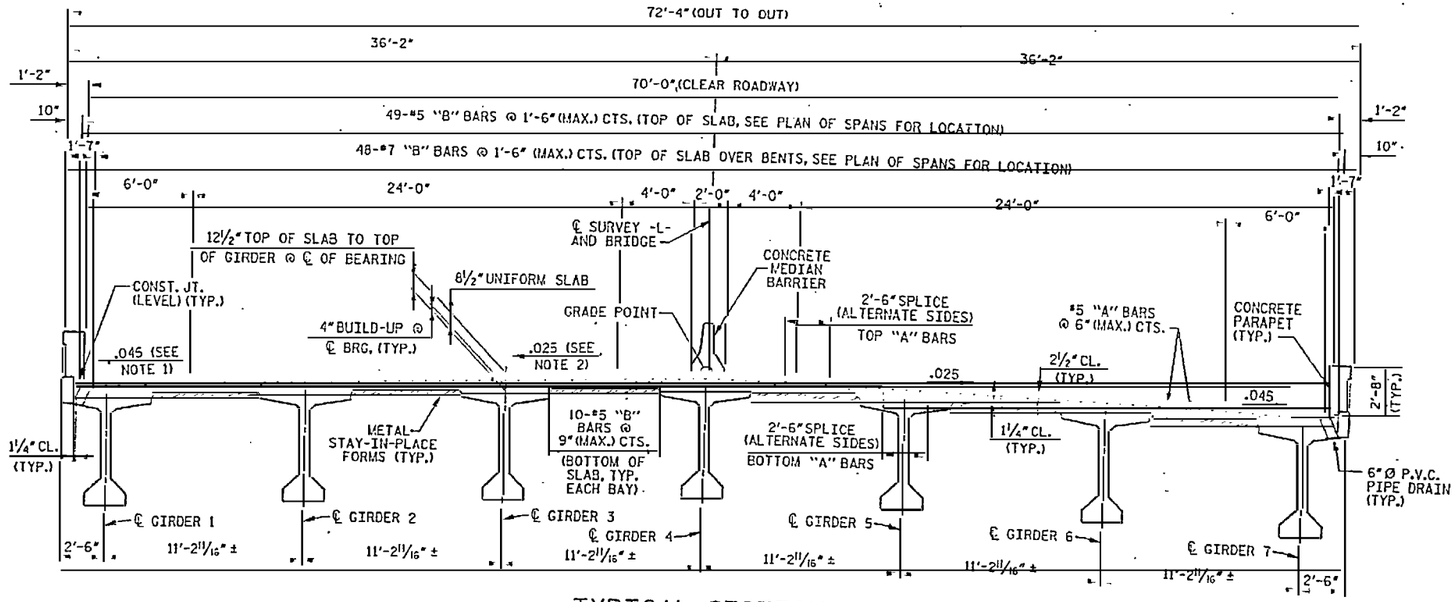
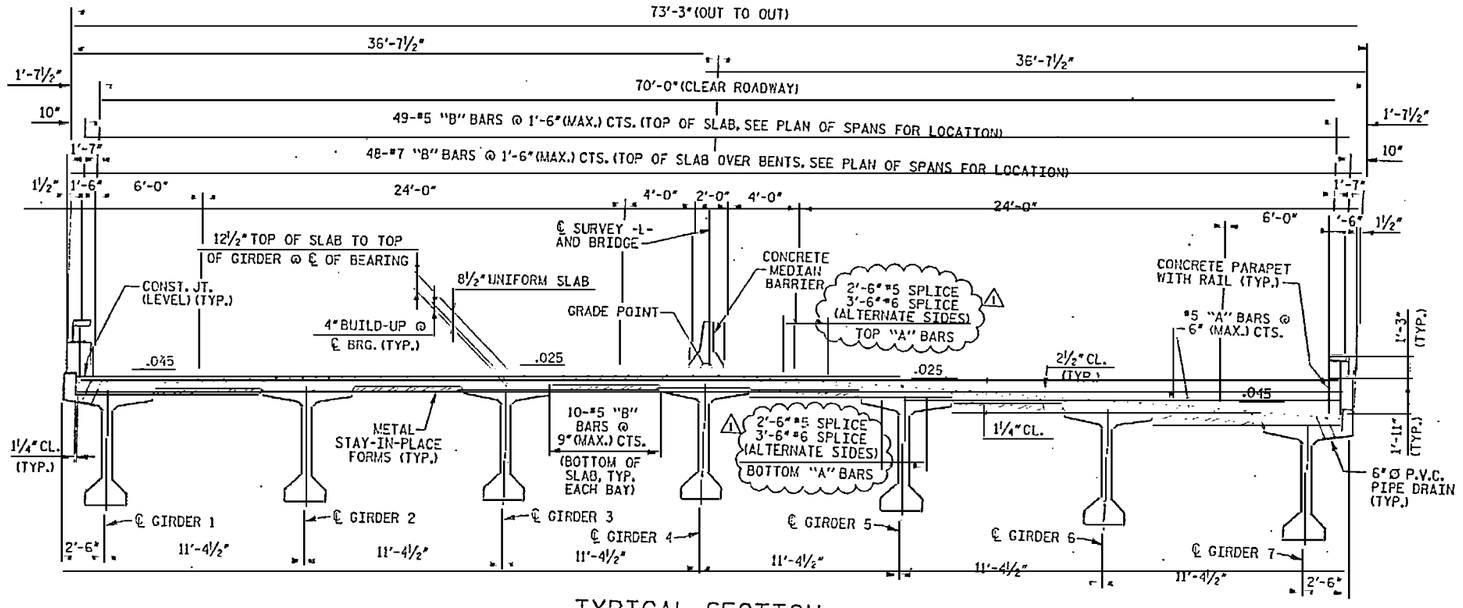


TYPICAL SECTION

SPANS 1 THRU 81, 101 AND 102



TYPICAL SECTION

SPANS 82 THRU 100

NOTES

1. IN SPAN 101, THIS SLOPE CHANGES FROM 0.045 (DOWN STATION END) TO 0.031 (UP STATION END). IN SPAN 102, THIS SLOPE CHANGES FROM 0.031 (DOWN STATION END) TO 0.020 (UP STATION END). SEE TABLE 'A' ON SHEET NO. 2052 FOR ADDITIONAL INFORMATION.
2. IN SPAN 102, THE SLOPE CHANGES FROM 0.025(DOWN STATION END) TO 0.007 (UP STATION END).
3. THE REBARS FOR MEDIAN AND BARRIERS ARE NOT SHOWN FOR CLARITY.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/10/09

⚠ GENERAL REVISION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 6 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

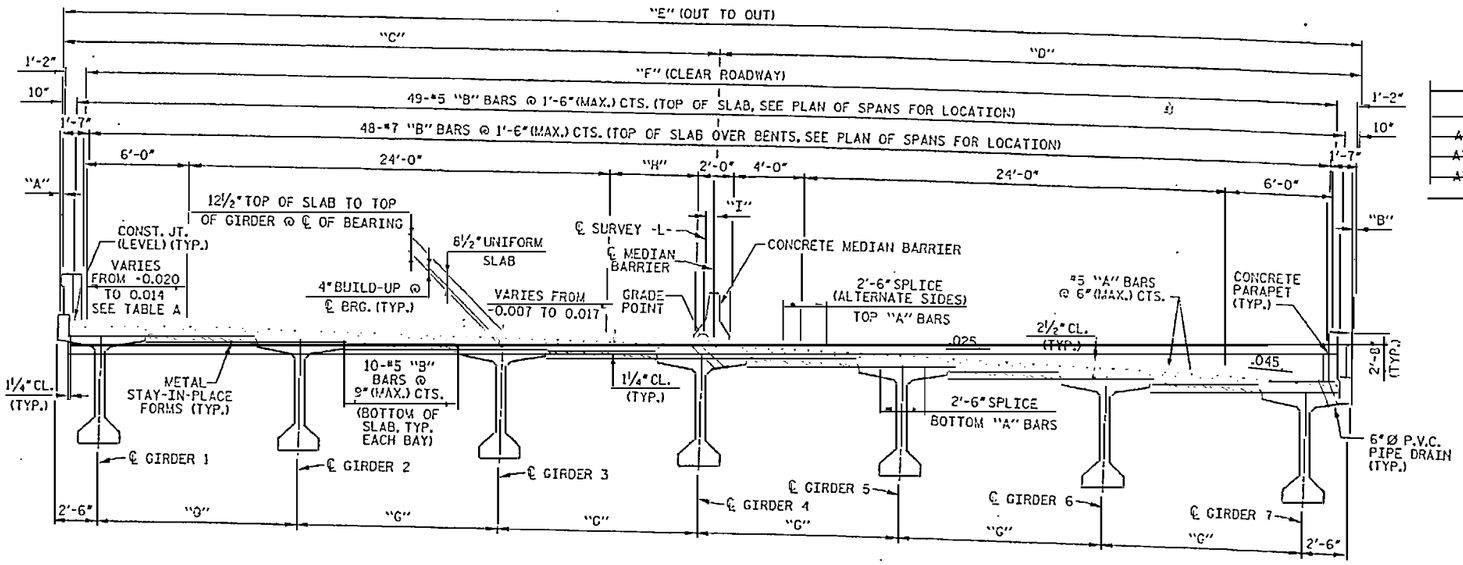
TYPICAL SECTIONS 1 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2051.01
1	SCS	1/28/09	3			TOTAL SHEETS
2			4			

DRAWN BY : LOFTON DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

EarthTech
FLATIRON/UNITED A JOINT VENTURE

DATE: 2/12/2009
TIME: 8:54:32 AM
USER: kcrawford
FILE: N:\Structure\Tar River Bridge\CADD\2510b_typ_sec.dgn



TYPICAL SECTION

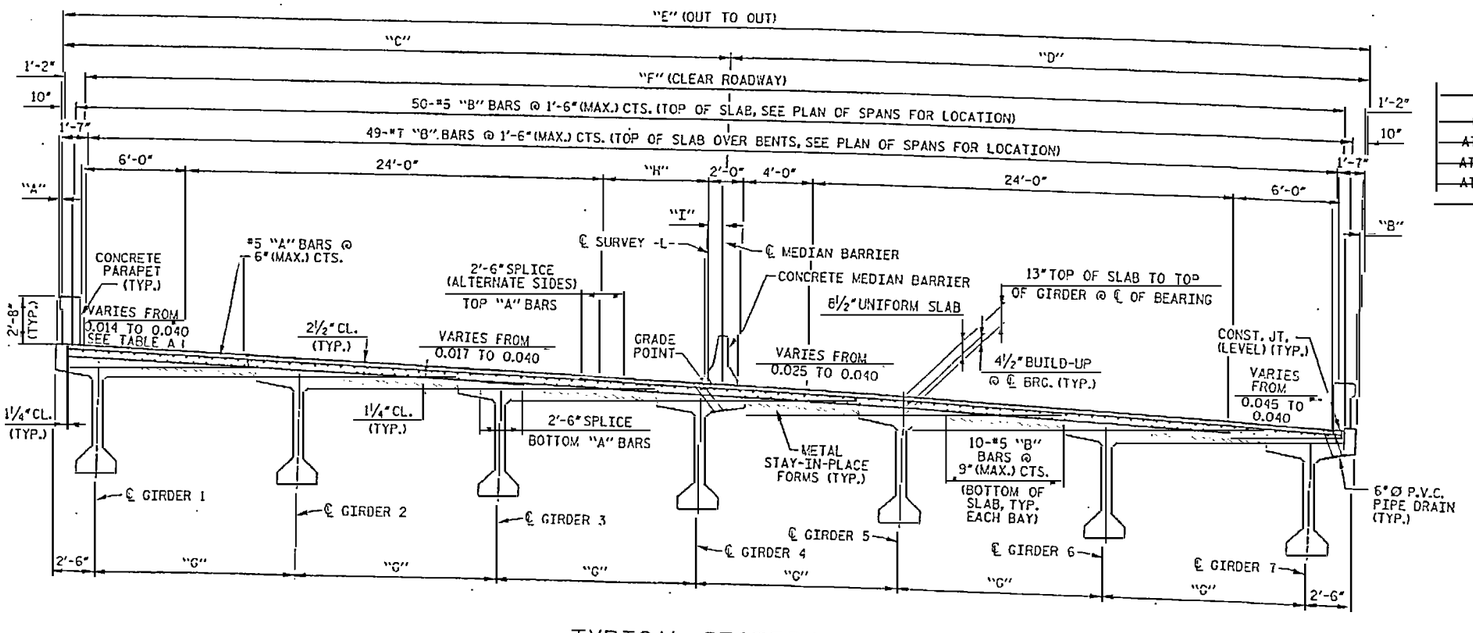
SPAN 103

NOTES:

1. THE REBARS FOR MEDIAN AND BARRIERS ARE NOT SHOWN FOR CLARITY.

SPAN 103									
~~LOCATION~~	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"
~~AT BENT 102~~	0"	0"	36'-2"	36'-2"	72'-4"	70'-0"	11'-2 11/16" ±	4'-0"	0"
~~AT MID-SPAN~~	2"	2"	36'-9"	36'-4"	73'-0"	70'-4"	11'-4"	4'-4"	3"
~~AT BENT 103~~	4"	0"	37'-6"	36'-2"	73'-8"	71'-0"	11'-5 5/16" ±	5'-0"	6"

TABLE A (SOUTHBOUND ROADWAY)		
STATION	OUTSIDE SHOULDER SLOPE	ROADWAY SLOPE
~~445+06.22 -L-~~	-0.02	-0.02
~~446+06.22 -L-~~	-0.02	0.00
~~446+56.22 -L-~~	0.00	0.01
~~447+06.22 -L-~~	0.02	0.02
~~447+56.22 -L-~~	0.03	0.03
448+06.22 -L-	0.04	0.04



TYPICAL SECTION

SPAN 104

SPAN 104									
~~LOCATION~~	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"
~~AT BENT 103~~	4"	0"	37'-6"	36'-2"	73'-8"	71'-0"	11'-5 5/16" ±	5'-0"	6"
~~AT MID-SPAN~~	0"	4"	37'-9"	36'-5"	74'-2"	71'-6"	11'-6 5/16" ±	5'-6"	9"
~~AT BENT 104~~	4"	0"	38'-6"	36'-2"	74'-8"	72'-0"	11'-7 5/16" ±	6'-0"	1'-0"

1 REVISED DIMENSION

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
7/26/07
DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 6 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

TYPICAL SECTIONS 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

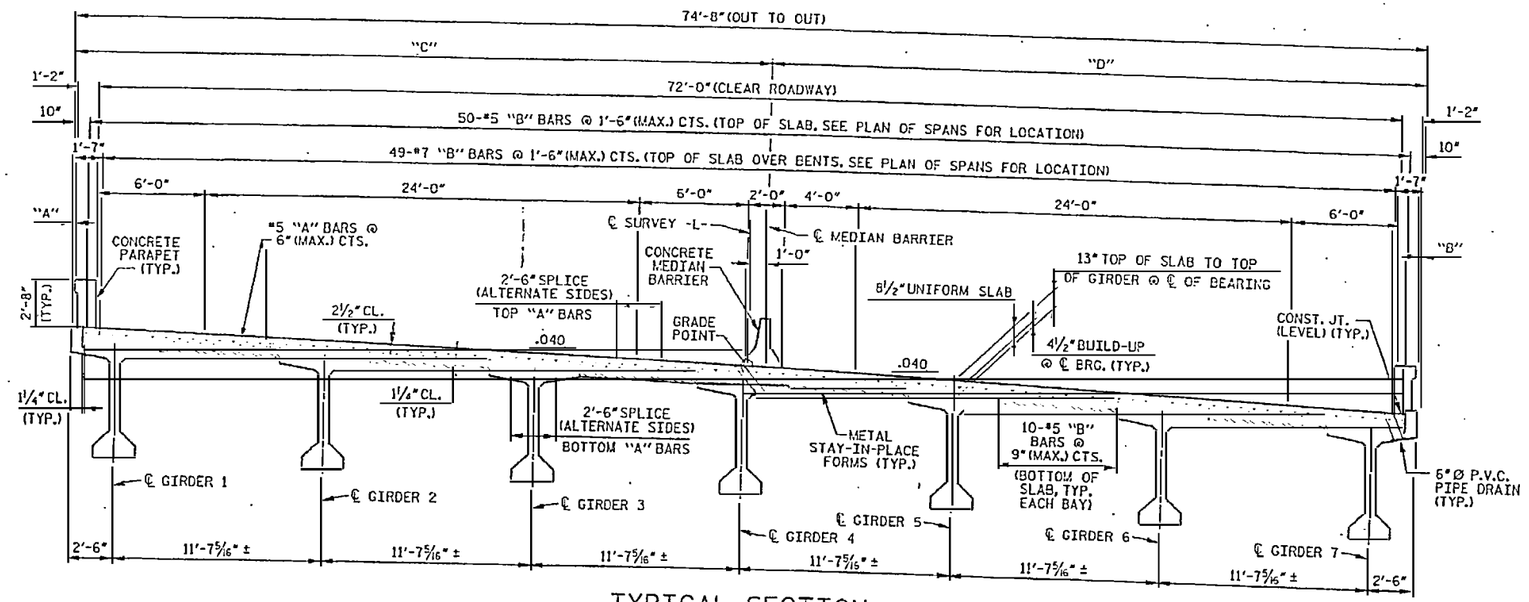
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2052.01
1	SCS	7/07	3			TOTAL SHEETS
2			4			

DRAWN BY : LOFTON DATE : 9/06
CHECKED BY : J. LEE DATE : 9/06

DGN: Roadway
USER: scottshaw
PLOT: 9:05:07 AM
PLOT SCALE: 1.0000 '/ IN



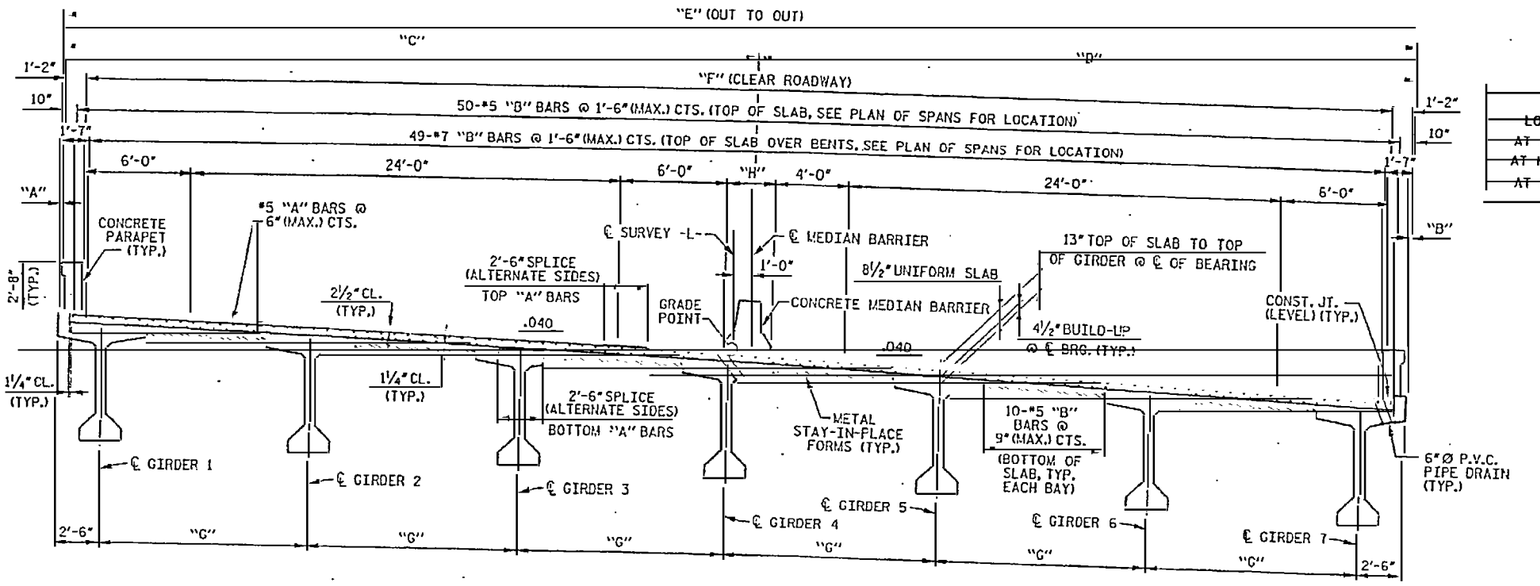
TYPICAL SECTION

SPANS 105 THRU 110

NOTES:

1. THE REBARS FOR MEDIAN AND BARRIERS ARE NOT SHOWN FOR CLARITY.

SPANS 105 THRU 110				
LOCATION	"A"	"B"	"C"	"D"
AT BENTS	4"	0"	38'-6"	36'-2"
AT MID-SPANS	0"	4"	38'-2"	36'-5"



TYPICAL SECTION

SPAN 111

SPAN 111								
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
AT BENT 110	4"	0"	38'-6"	36'-2"	74'-8"	72'-0"	11'-7 5/16" ±	2'-0"
AT MID-SPAN	0"	4"	38'-4"	36'-8"	75'-0"	72'-4"	11'-8"	2'-4"
AT BENT 111	4"	0"	38'-10"	36'-6"	75'-4"	72'-8"	11'-8 11/16" ±	2'-8"

2 REVISED DIMENSIONS

1 REVISED DIMENSIONS

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE 10/24/07 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031201 JOHN C. JORDAN III 10/24/07

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 6 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

TYPICAL SECTIONS 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2053.02
1	SGS	7/07				TOTAL SHEETS
2	MTB	10/24/07				

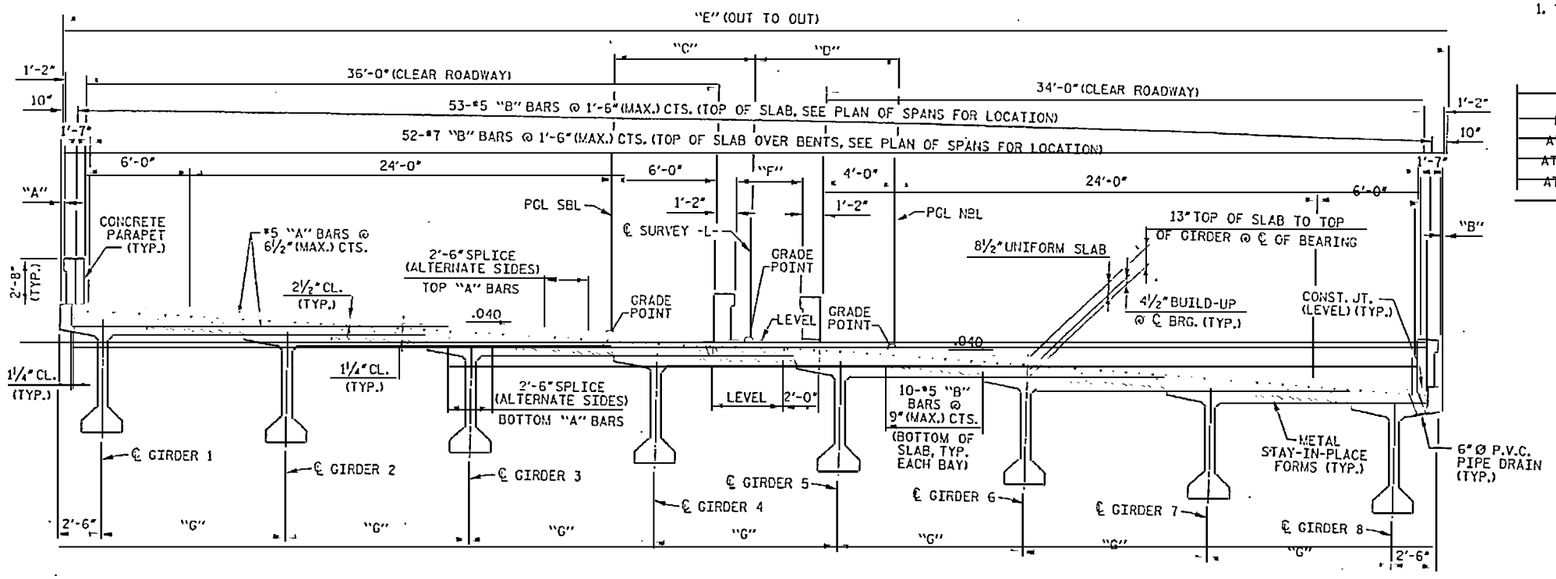
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : LOFTON DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE: 10/24/2007
TIME: 10:53:39 PM

USER: mtanton
DGN: K:\Projects\STIP Files\Bridge\ADV\2510b_rd_dsn_13.dgn



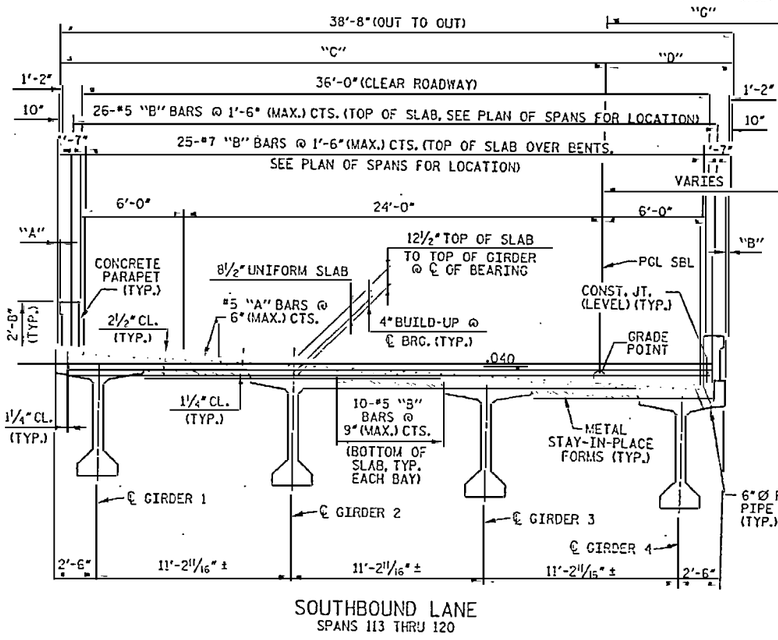
TYPICAL SECTION

SPAN 112

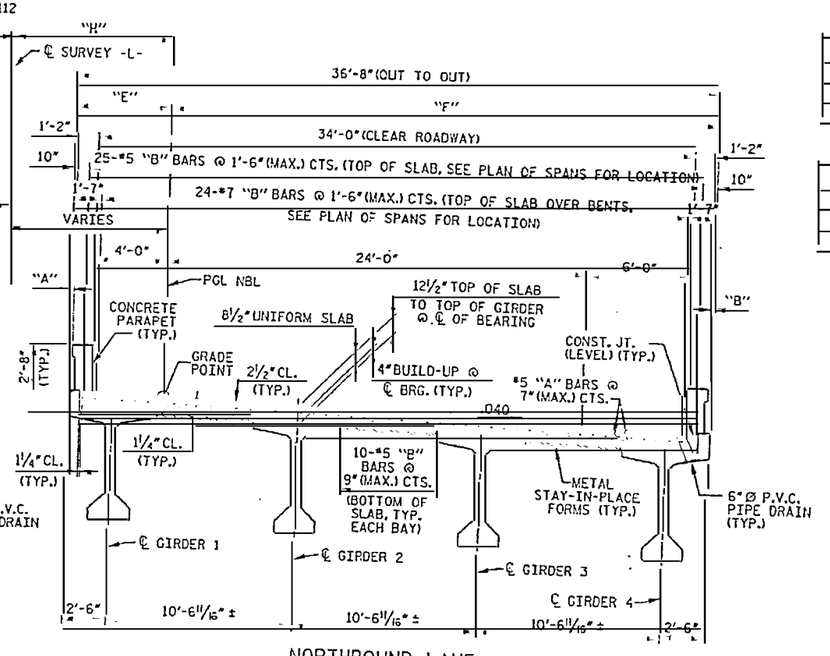
NOTES:

1. THE REBARS FOR BARRIER ARE NOT SHOWN FOR CLARITY.

SPAN 112							
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"
AT BENT 111	4"	0"	6'-4"	6'-4"	75'-4"	4"	10'-0 3/16" ±
AT MID-SPAN	0"	4"	7'-2 1/4"	7'-2 1/4"	77'-0 1/2"	2'-0 1/2"	10'-3 1/4"
AT BENT 112	4"	0"	8'-0 1/2"	8'-0 1/2"	78'-9"	3'-9"	10'-6 7/16" ±



SOUTHBOUND LANE
SPANS 113 THRU 120



NORTHBOUND LANE
SPANS 113 THRU 126

TYPICAL SECTION

SOUTHBOUND LANE - SPANS 113 THRU 120				
LOCATION	"A"	"B"	"C"	"D"
AT BENTS	4"	0"	31'-6"	7'-2"
AT MID-SPANS	0"	4"	31'-2"	7'-6"

NORTHBOUND LANE - SPANS 113 THRU 126				
LOCATION	"A"	"B"	"E"	"F"
AT BENTS	4"	0"	5'-6"	31'-2"
AT MID-SPANS	0"	4"	5'-2"	31'-6"

OFFSET FROM ℄ SURVEY -L-

BENT	"G"	"H"
113	9'-8 3/8"	9'-8 3/8"
114	11'-5 3/8"	11'-5 3/8"
115	13'-2"	13'-2"
116	14'-10 5/8"	14'-10 5/8"
117	16'-7 1/8"	16'-7 1/8"
118	18'-3 3/4"	18'-3 3/4"
119	20'-0 1/4"	20'-0 1/4"
120	21'-8 3/8"	21'-8 3/8"
121	23'-0"	23'-0"
122	23'-0"	23'-0"
123	23'-0"	23'-0"
124	23'-0"	23'-0"
125	23'-0"	23'-0"
126	23'-0"	23'-0"
127	23'-0"	23'-0"
128	23'-0"	23'-0"

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030078 MARVIN J. HORNE

1 REVISED DIMENSIONS

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 6 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

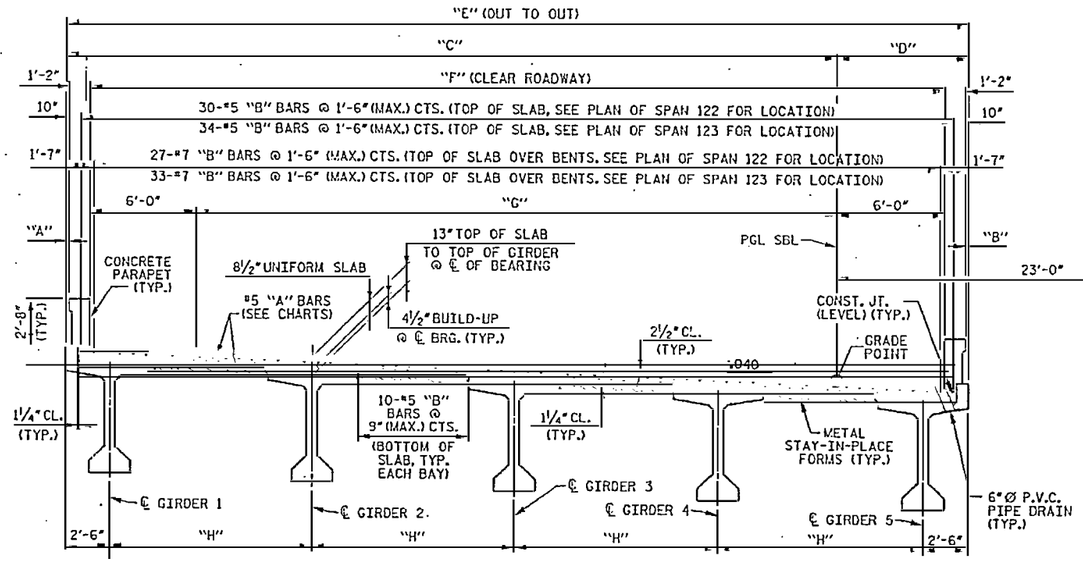
TYPICAL SECTIONS 4
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	7/07	3		
2			4		

SHEET NO. 2054.01
TOTAL SHEETS

DRAWN BY : LOFTON DATE : 9/06
CHECKED BY : J. LEI DATE : 9/06

USER: jsatterwhite
DGN: Preliminary.dgn
DATE: 7/20/2007
11:40:59 AM



SOUTHBOUND LANE
SPANS 122 AND 123

SOUTHBOUND LANE - SPAN 122								
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
AT BENT 121	4"	0"	32'-9¼"	7'-2"	39'-11¼"	37'-3¼"	25'-3¼"	8'-8 13/16" ±
AT MID-SPAN	0"	4"	34'-10"	7'-6"	42'-4"	39'-8"	27'-8"	9'-4"
AT BENT 122	4"	0"	37'-6¾"	7'-2"	44'-8¾"	42'-0¾"	30'-0¾"	9'-11 3/16"

NOTE: "A" BARS SPACING FOR THIS SPAN IS 7" (MAX.) CTS.

SOUTHBOUND LANE - SPAN 123								
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
AT BENT 122	4"	0"	37'-6¾"	7'-2"	44'-8¾"	42'-0¾"	30'-0¾"	9'-11 3/16"
AT MID-SPAN	7"	4"	40'-9⅜"	7'-6"	48'-3⅜"	45'-0⅜"	33'-0⅜"	10'-8⅛" ±
AT BENT 123	1'-5⅝"	0"	43'-6"	7'-2"	50'-8"	48'-10⅜"	34'-10⅜"	11'-5"

1

NOTE: "A" BARS SPACING FOR THIS SPAN IS 6" (MAX.) CTS.

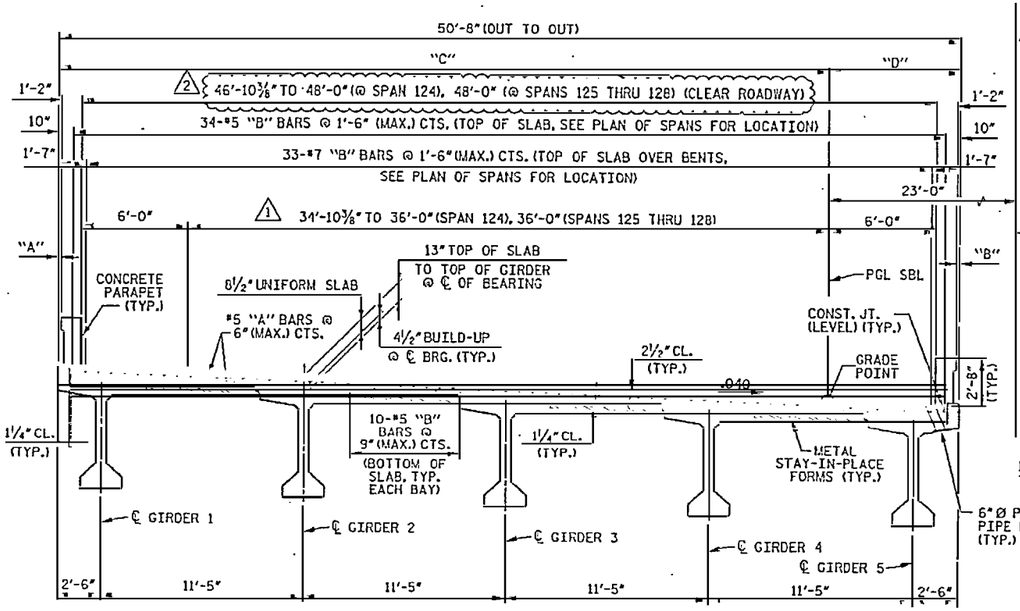
SOUTHBOUND LANE - SPANS 124 THRU 128				
LOCATION	"A"	"B"	"C"	"D"
AT BENTS	4"	0"	43'-6"	7'-2"
AT MID-SPANS	0"	4"	43'-2"	7'-6"

NOTE: EXCEPT AT BENT 123, "A" = 1'-5⅝" 2 1

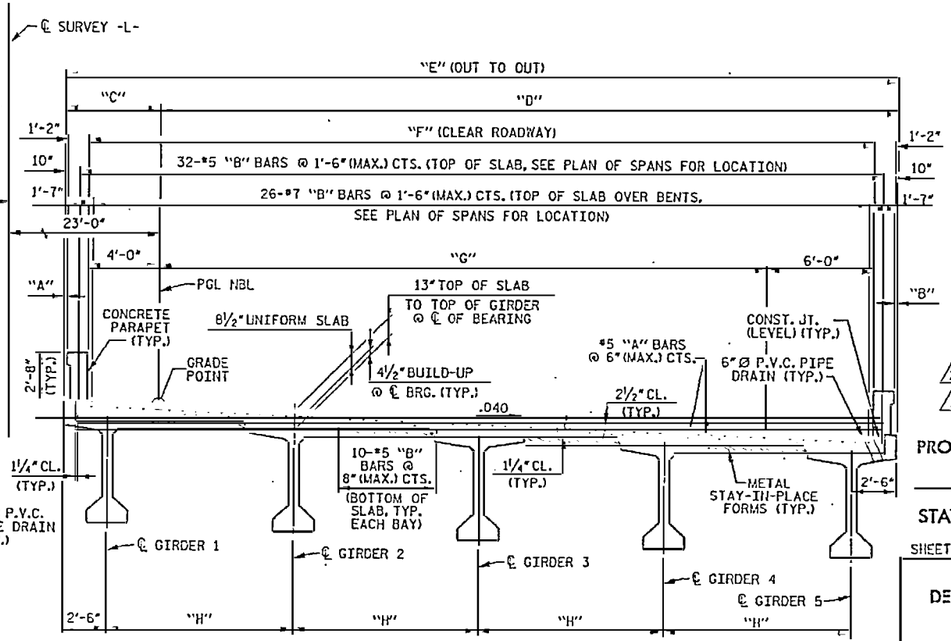
NORTHBOUND LANE - SPAN 128								
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
AT BENT 127	4"	0"	5'-6"	36'-0½"	41'-6½"	38'-10½"	28'-10½"	9'-1⅝"
AT MID-SPAN	0"	2⅛"	5'-2"	39'-3¾"	44'-5¾"	41'-9 11/16"	31'-9 11/16"	9'-10 7/16" ±
AT END BENT 2	4"	0"	5'-6"	41'-10⅞"	47'-4⅞"	44'-8⅛"	34'-8⅞"	10'-7¼" ±

1

NOTE: REBAR FOR BARRIER NOT SHOWN FOR CLARITY



SOUTHBOUND LANE
SPANS 124 THRU 128



NORTHBOUND LANE
SPAN 128

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/24/07

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 030178 JOHN W. JORDAN 10/24/07

2 REVISED DIMENSIONS
1 REVISED DIMENSIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 6 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

TYPICAL SECTIONS 5
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	7/07	3		
2	MTB	10/23/07	4		

SHEET NO. 2055.02
TOTAL SHEETS

TYPICAL SECTION

DRAWN BY : LOFTON DATE : 9/06
CHECKED BY : J. LRJ DATE : 03/07

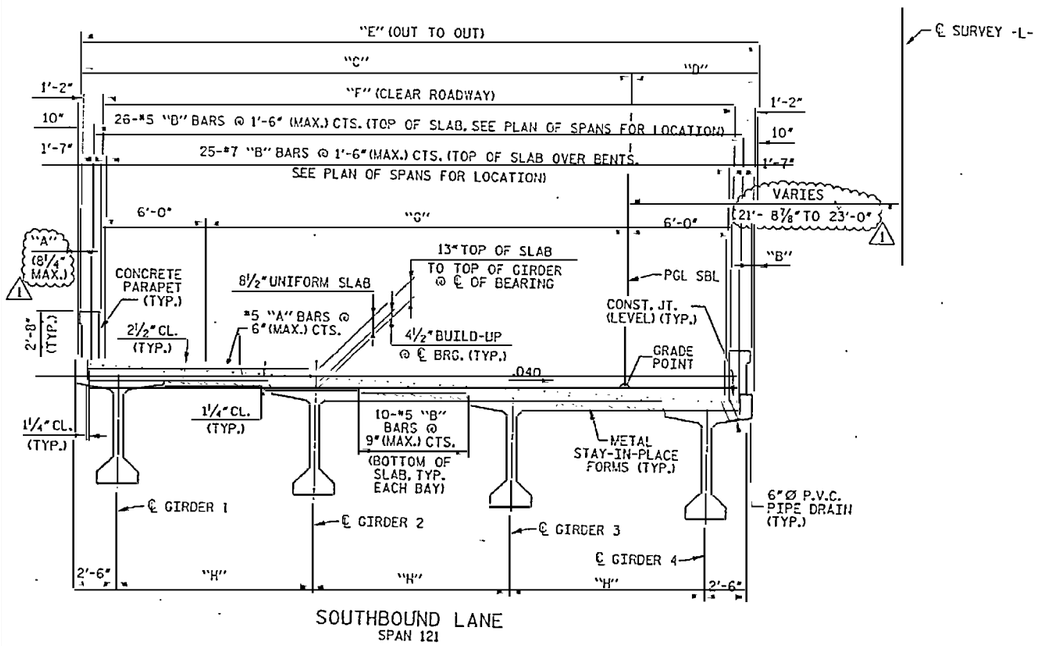
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PLOT: 10/23/2007
FILE: R2510_TS5

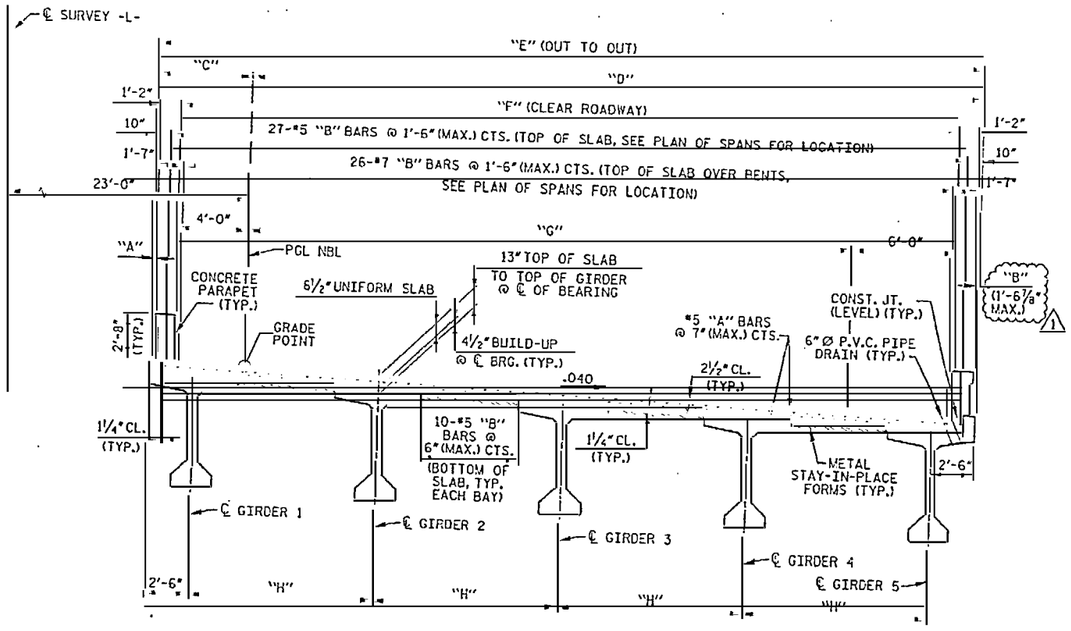
USER: mtbellamy
DGN: N:\STRUCTURAL\Tar River Bridge\CADD\ESH\ts5_rev4.dgn

SOUTHBOUND LANE - SPAN 121								
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
AT BENT 120	4"	0"	31'-6"	7'-2"	38'-8"	36'-0"	24'-0"	11'-2 11/16" ±
AT MID-SPAN	5 7/8"	6 1/2"	31'-7 1/8"	7'-8 1/2"	39'-3 3/4"	36'-0"	24'-0"	11'-5 3/16" ±
AT BENT 121	4"	0"	32'-9 1/4"	7'-2"	39'-11 1/4"	37'-3 1/4"	25'-3 1/4"	11'-7 3/4"



SOUTHBOUND LANE
SPAN 121

NORTHBOUND LANE - SPAN 127								
LOCATION	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
AT BENT 126	4"	0"	5'-6"	31'-2"	36'-0"	34'-0"	24'-0"	7'-11"
AT MID-SPAN	0"	1'-2 1/2"	5'-2"	33'-11 1/4"	39'-1 1/4"	35'-6 1/4"	25'-6 3/4"	8'-6 5/16"
AT BENT 127	4"	0"	5'-6"	36'-0 1/2"	41'-6 1/2"	38'-10 1/2"	28'-10 1/2"	9'-1 5/8"



NORTHBOUND LANE
SPAN 127

TYPICAL SECTION

NOTE: REBAR FOR BARRIER NOT SHOWN FOR CLARITY

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

⚠1 REVISED DIMENSIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 6 OF 6 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

TYPICAL SECTIONS 6
FOR BRIDGE ON US 17 BYPASS.
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2056.01
1	SGS	7/07	3			TOTAL SHEETS
2			4			

DRAWN BY : LOFTON DATE : 9/06
CHECKED BY : J. LRS DATE : 03/07

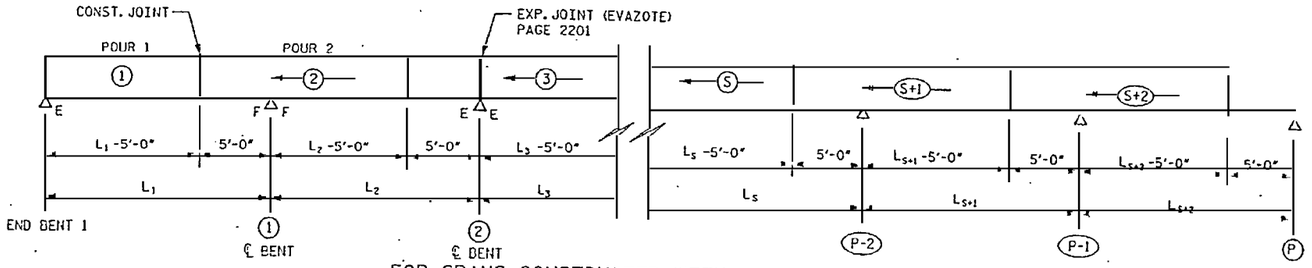
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

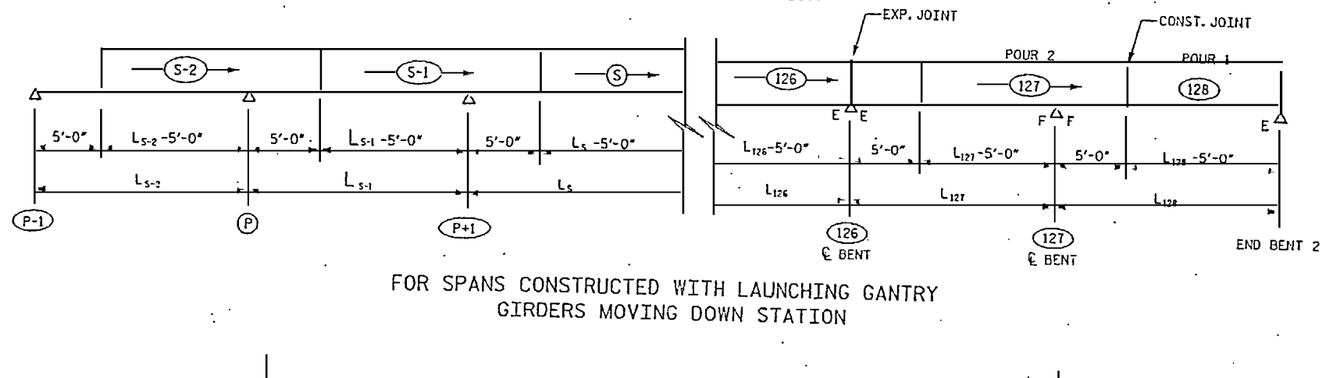
NORTH CAROLINA PROFESSIONAL SEAL 030676 ENGINEER JOHN R. SCHMIDT

DATE: 7/27/2007
FILE: V:\2056\DW

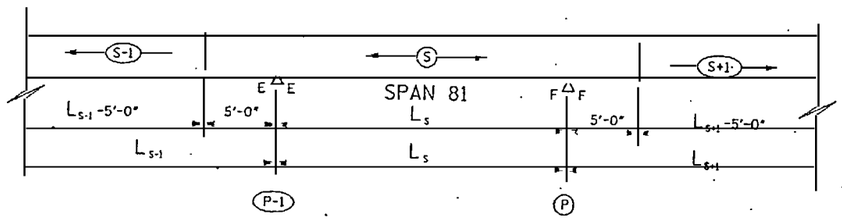
USER: eattwood
DGN: N:\Structures\Flow Diagrams\R-2510_st_tm_t6.dgn



FOR SPANS CONSTRUCTED WITH LAUNCHING GANTRY
GIRDERS MOVING UP STATION



FOR SPANS CONSTRUCTED WITH LAUNCHING GANTRY
GIRDERS MOVING DOWN STATION



FOR THE LAST SPAN WHERE THE TWO
LAUNCHING GIRDERS MEET.

—(#)— = INDICATES POUR NUMBER AND DIRECTION OF POUR
(S) = NUMBER OF SPAN
(P) = NUMBER OF BENT
L_1 = LENGTH OF SPAN "1"

DECK POURING SEQUENCE

NOTES:

1. THE TWO LAUNCHING GANTRYS ARE ASSUMED TO MEET AT SPAN 81. THE FINAL SPAN WILL NOT HAVE A TRANSVERSE CONSTRUCTION JOINT. IF THE FINAL SPAN NUMBER IS LOWER THAN 81, A TRANSVERSE CONSTRUCTION JOINT SHOULD BE LOCATED AT 5'-0" FROM THE CENTERLINE OF THE DOWN STATION BENT. IF THE FINAL MEETING SPAN NUMBER IS HIGHER THAN 81, A TRANSVERSE CONSTRUCTION JOINT SHOULD BE LOCATED AT 5'-0" FROM THE CENTERLINE OF THE UP STATION BENT.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/26/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DECK POURING SEQUENCE
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030675 ENGINEER JOHN W. KEEP JR.

EarthTech
A Tyco International Ltd. Company

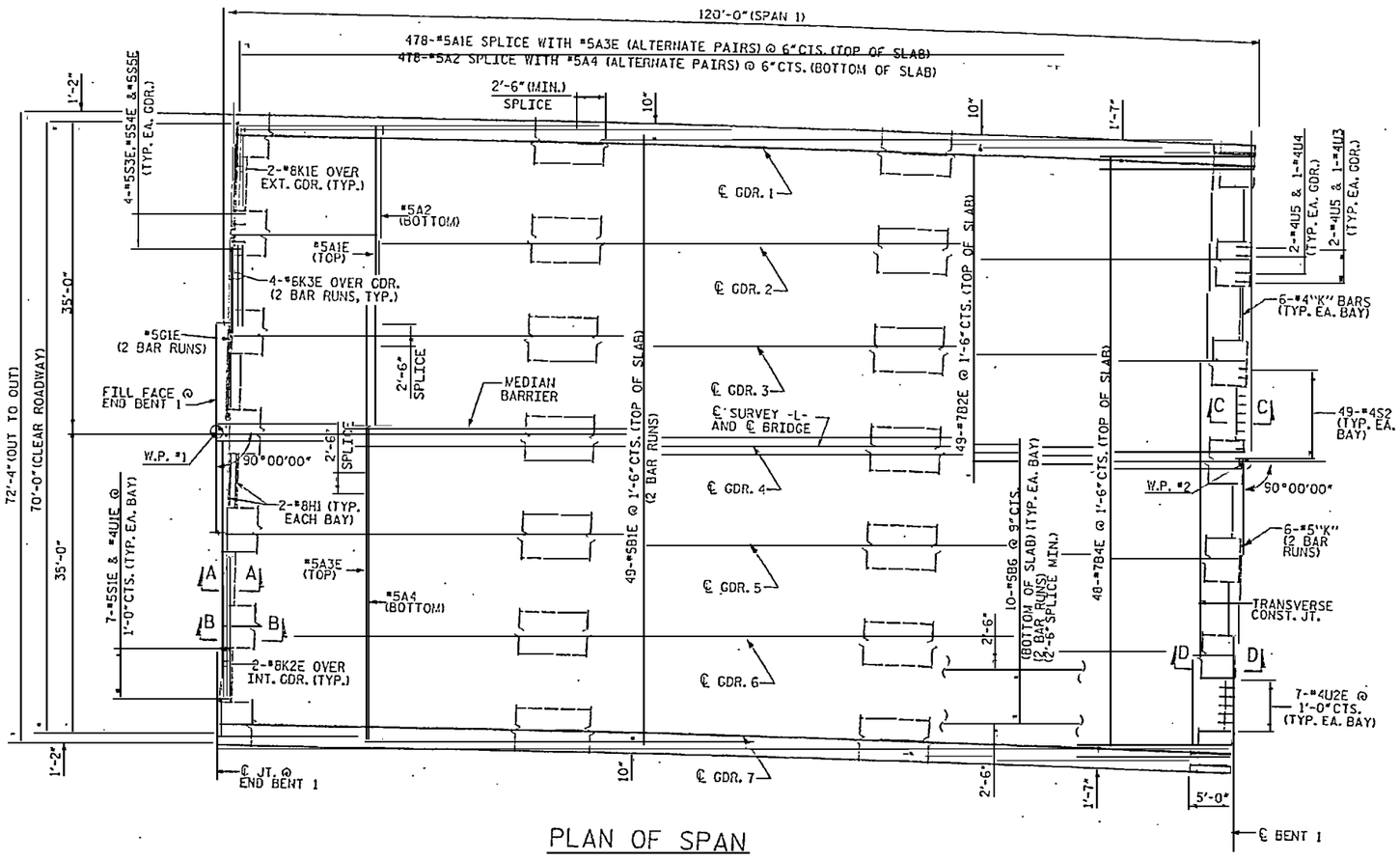
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2066.00
						TOTAL SHEETS

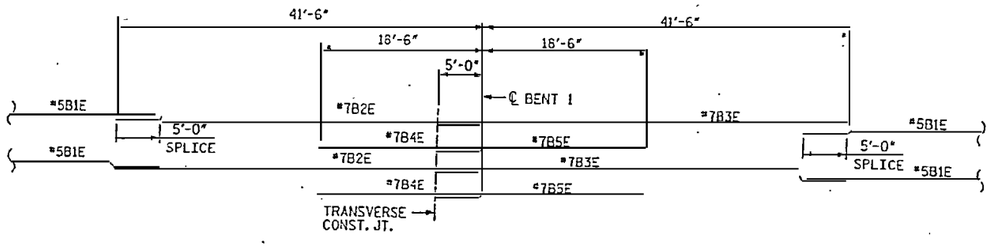
DRAWN BY : M.SH DATE : 10/06
CHECKED BY : J. LU DATE : 10/06

PLOT: 4/12/2007 11:43 53510 PM
USER: construction
DGN: Roll River Bridge.dgn

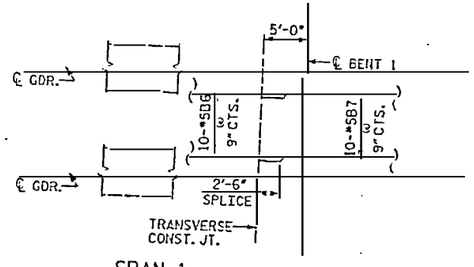
DIRECTION OF STATIONING



PLAN OF SPAN



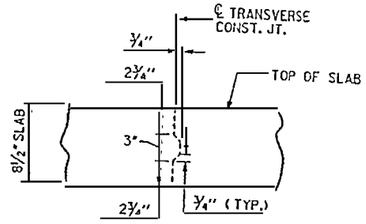
TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS A-A, B-B, C-C AND D-D, SEE SHEET NO. 2201.



TRANSVERSE CONSTRUCTION JOINT DETAIL

NOTE: REINFORCING STEEL IN SLAB NOT SHOWN. TRANSVERSE (WHEN CONSTRUCTION JOINT IS SKEWED) AND LONGITUDINAL REINFORCING STEEL SHALL BE CONTINUOUS THRU JOINT

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2071.00
TOTAL SHEETS

DRAWN BY : MJH DATE : 10/05
CHECKED BY : J. LIU DATE : 10/05

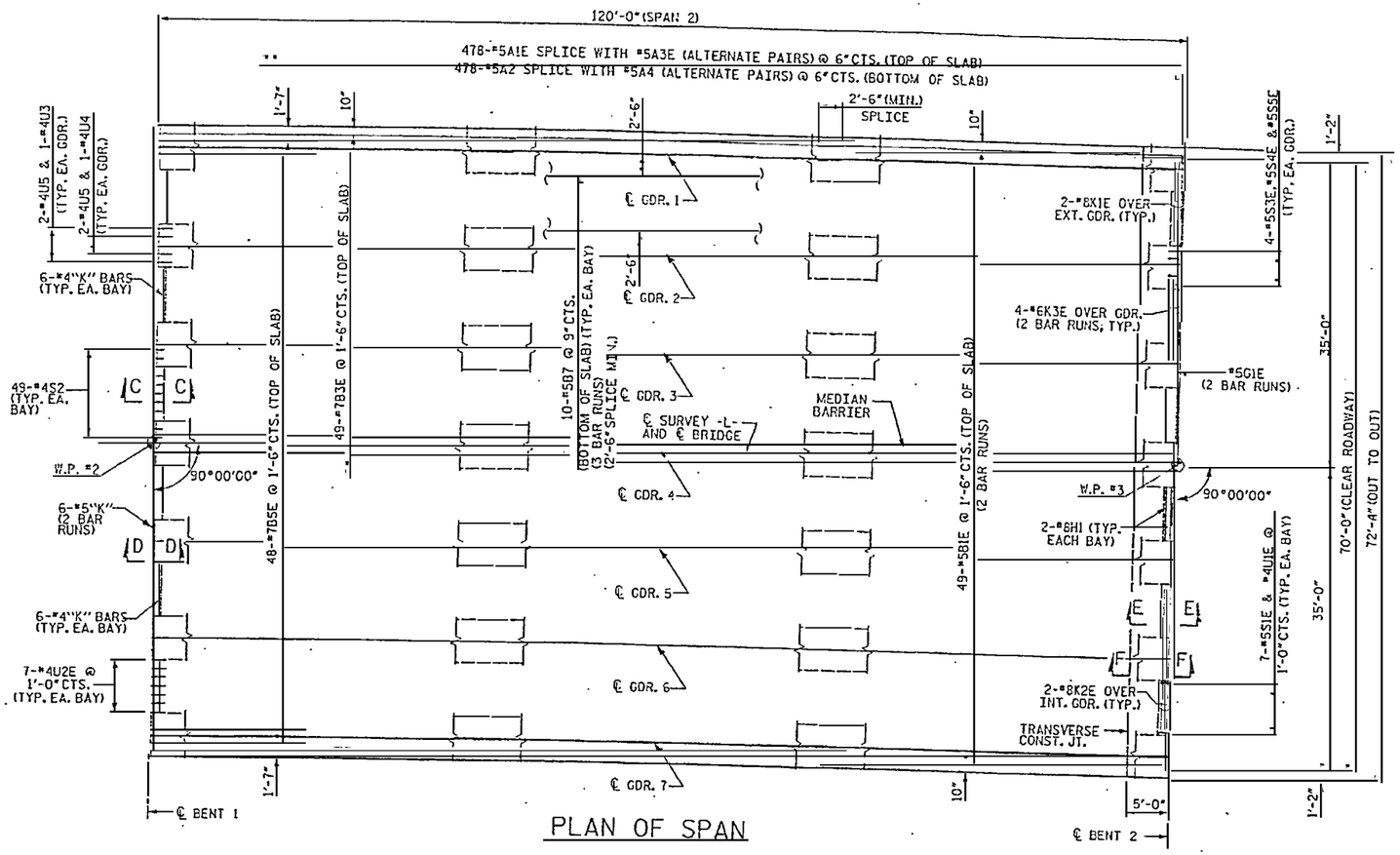
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

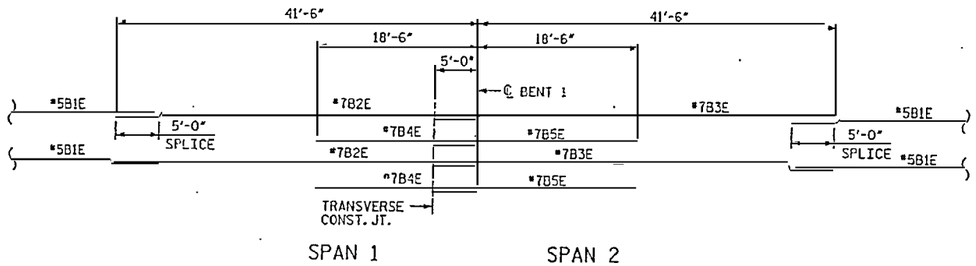
DATE: 4/2/2007
TIME: 8:53:33 PM

USER: matt.hinkle
DGN: h:\projects\tar river bridge\superstructure\top slab longitudinal bar schematic layout.dgn

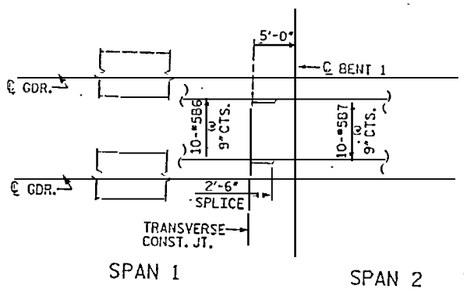
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS A-A, B-B, C-C AND D-D, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036964 JOSEPH E. JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2072.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. ERI DATE : 10/06

DATE: 4/2/2007
TIME: 2:43:30 PM
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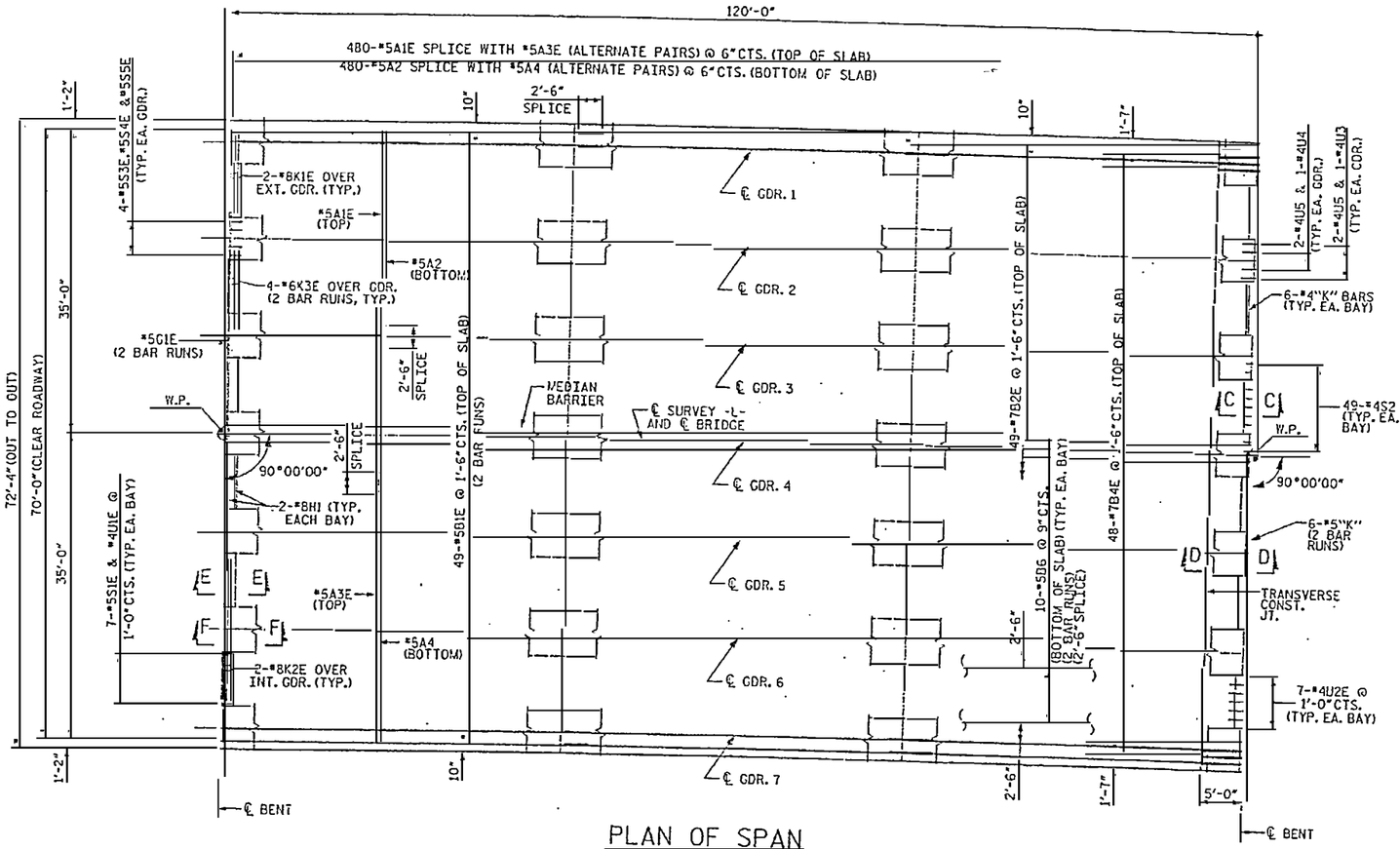
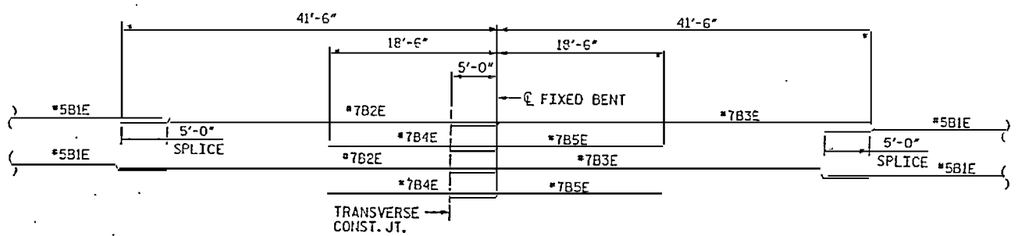
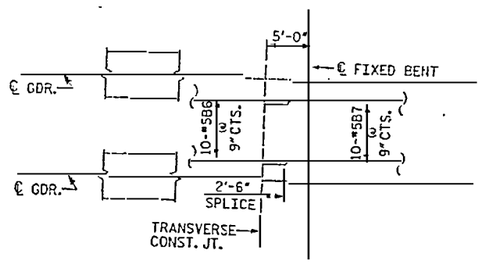
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

3	5	7	9	11

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037276 JOHN M. JORDAN 4/2/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2073.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LSJ DATE : 10/06

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DGN: TSTDSUPERSTR_SD_050_sa_type2.dgn
DATE: 4/2/2007
TIME: 2:45:57 PM

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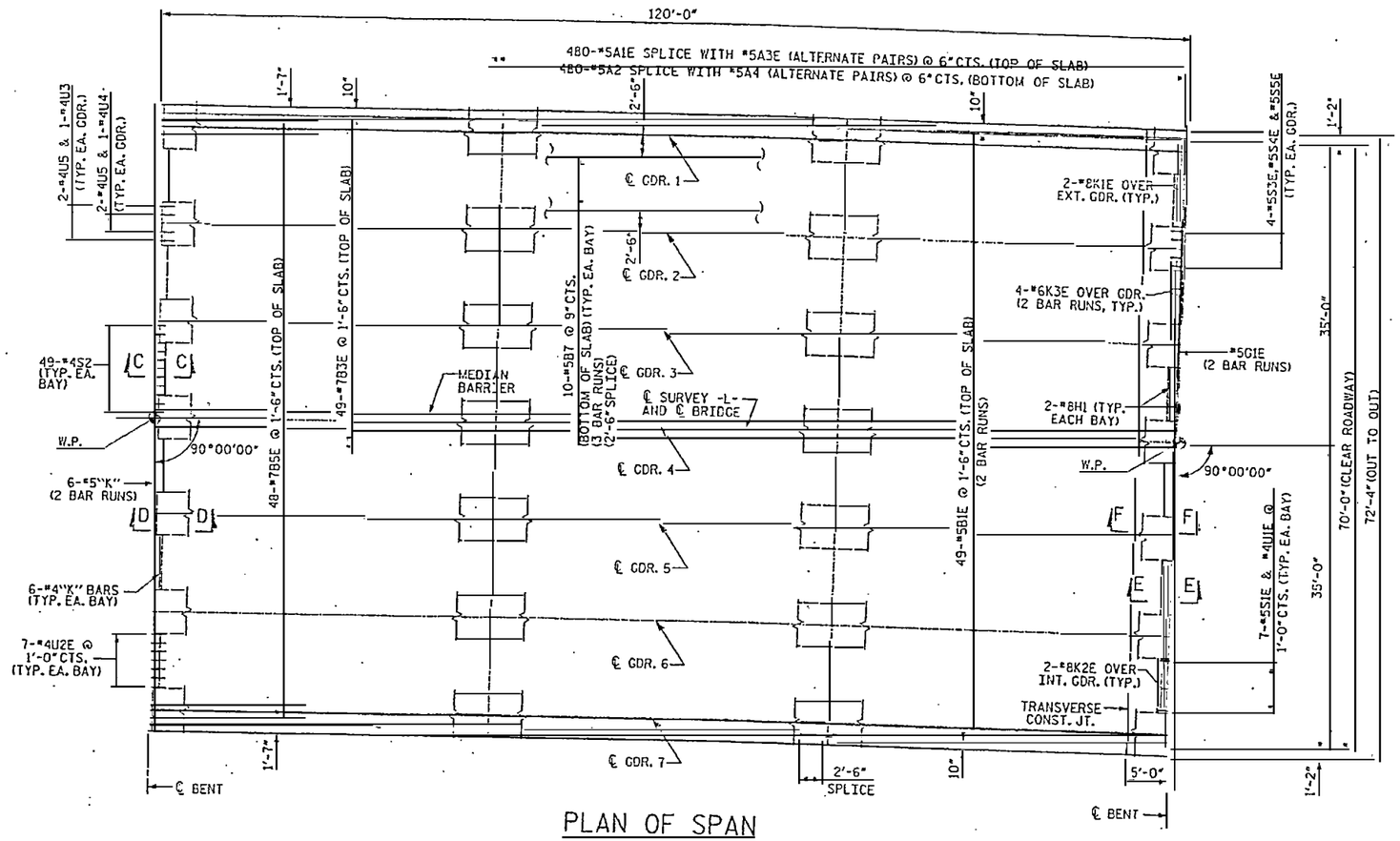
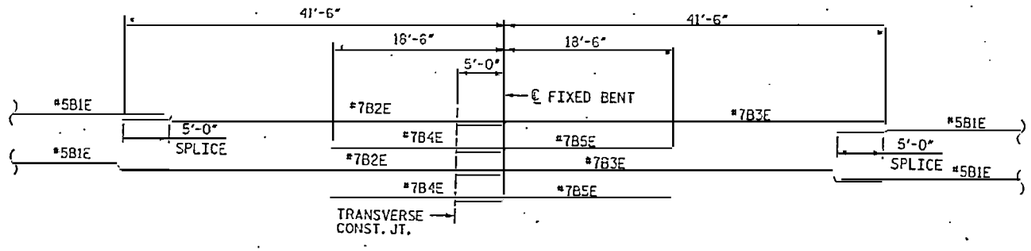
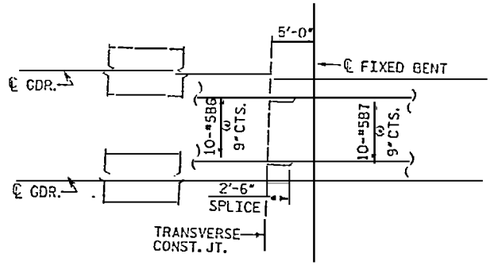


PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

4	6	8	10	12

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2074.00
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL SEAL 23967 ENGINEER N. JORDAN

Earth Tech
A Tyco International Ltd. Company

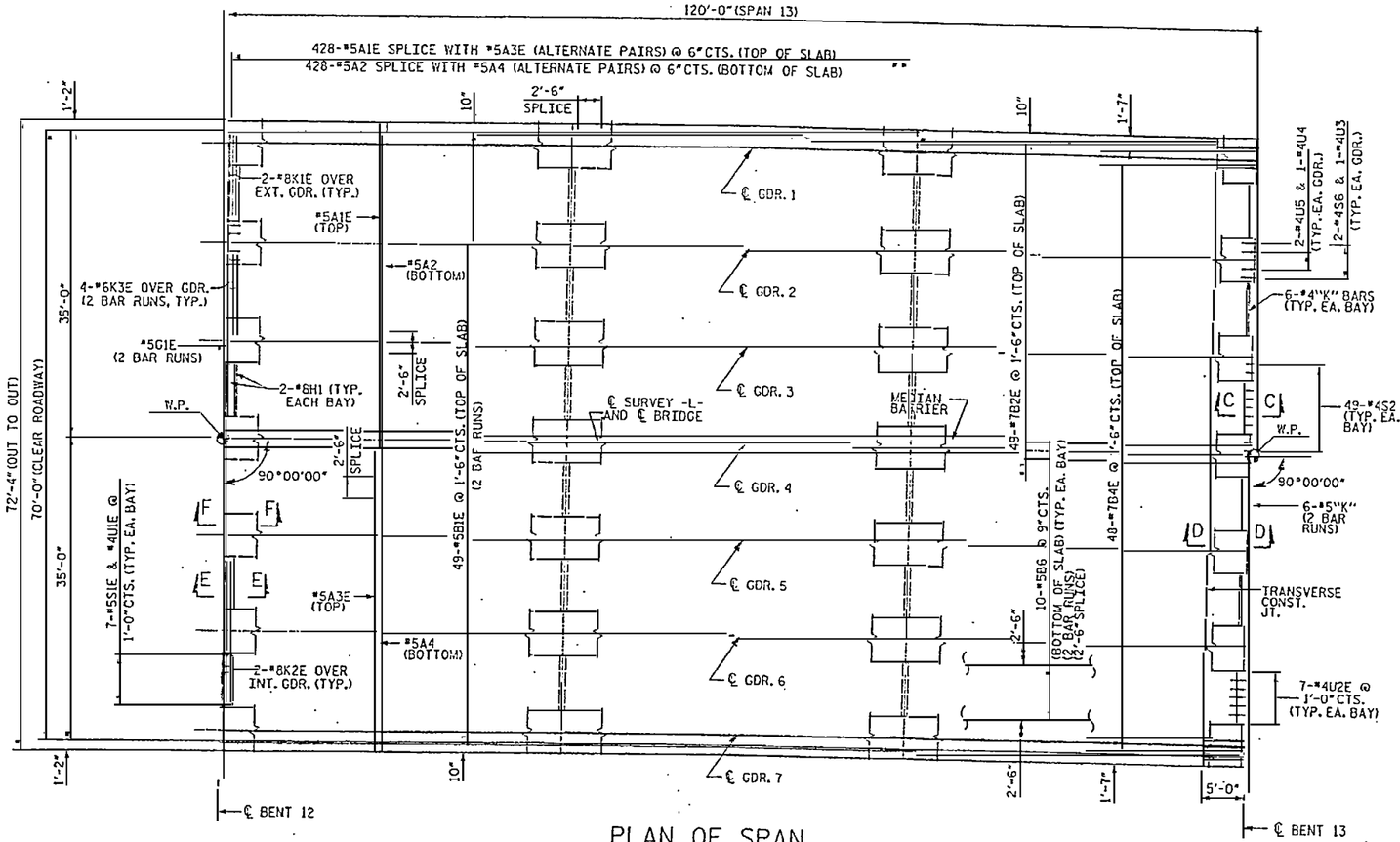
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LEI DATE : 10/06

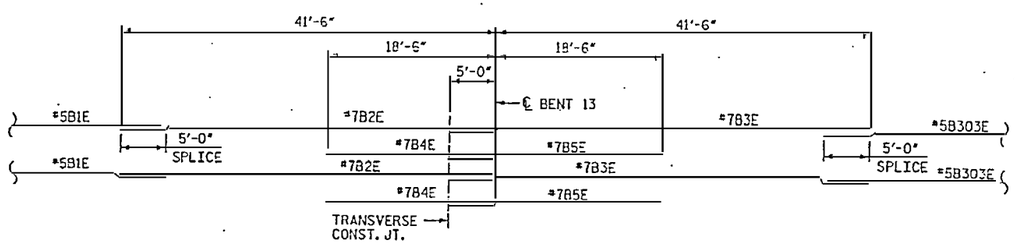
DGN: 10/06/07
TIME: 2:30:04 PM

USER: mjhamrick
DGN: Kimley-Horn and Associates, Inc. 2007

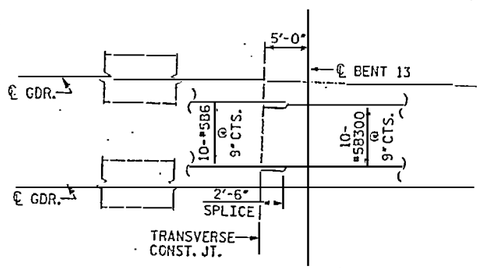
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 4/2/07
DATE

PROJECT NO: R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2075.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030676 ENGINEER JOHN W. LIU

DGN: bar-sheet.dgn
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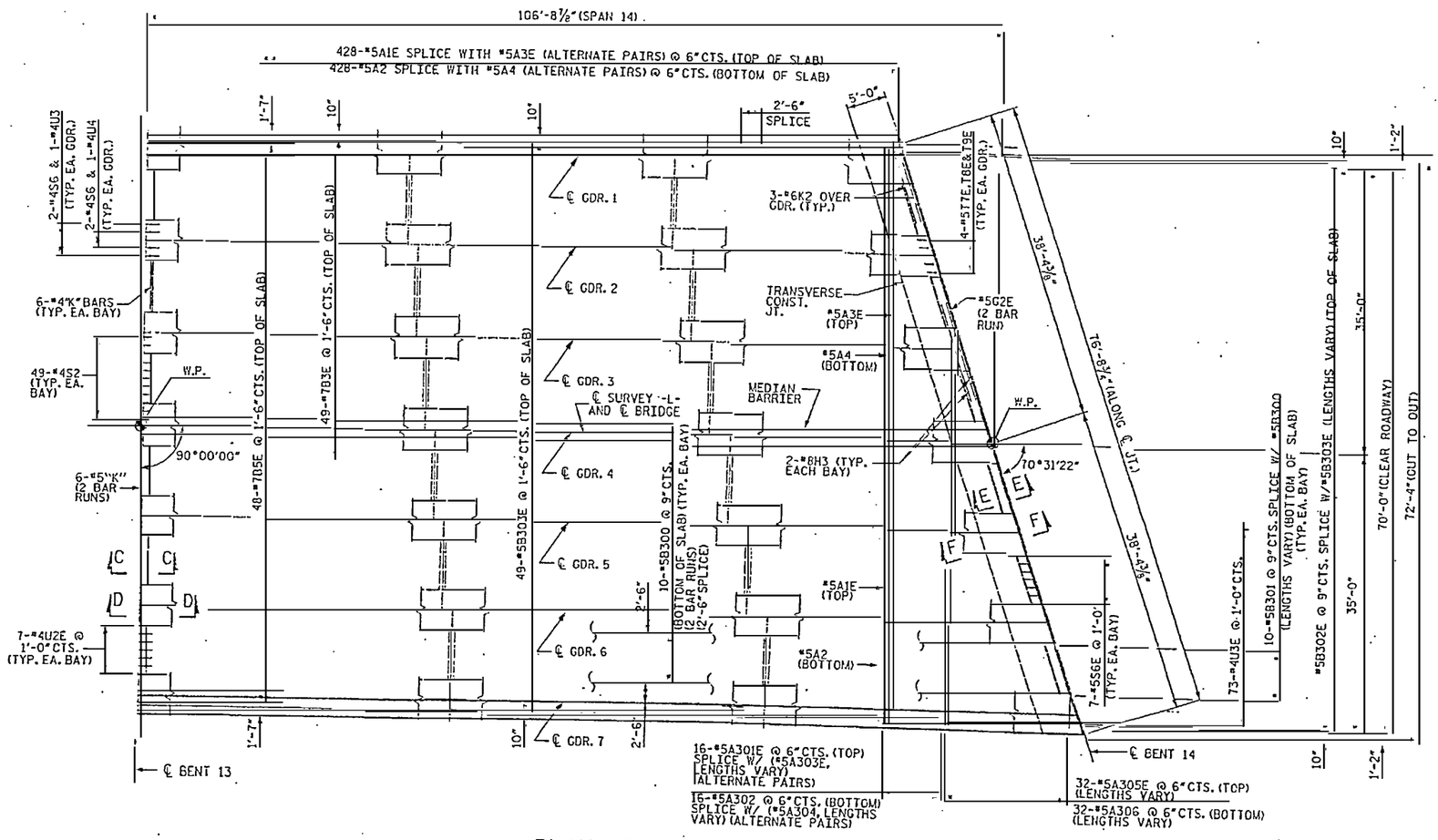
TIME: 8:03:53 PM
DATE: 4/2/2007

DIRECTION OF STATIONING



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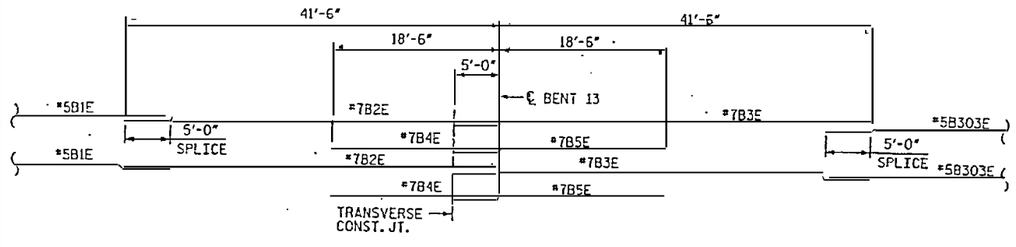
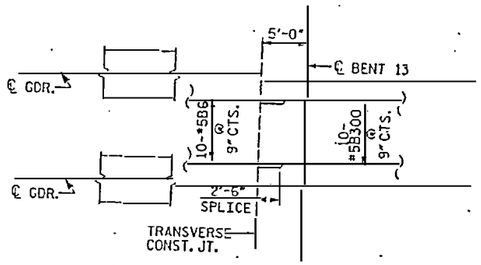


TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2076.00
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23067 JOSEPH A. JORDAN

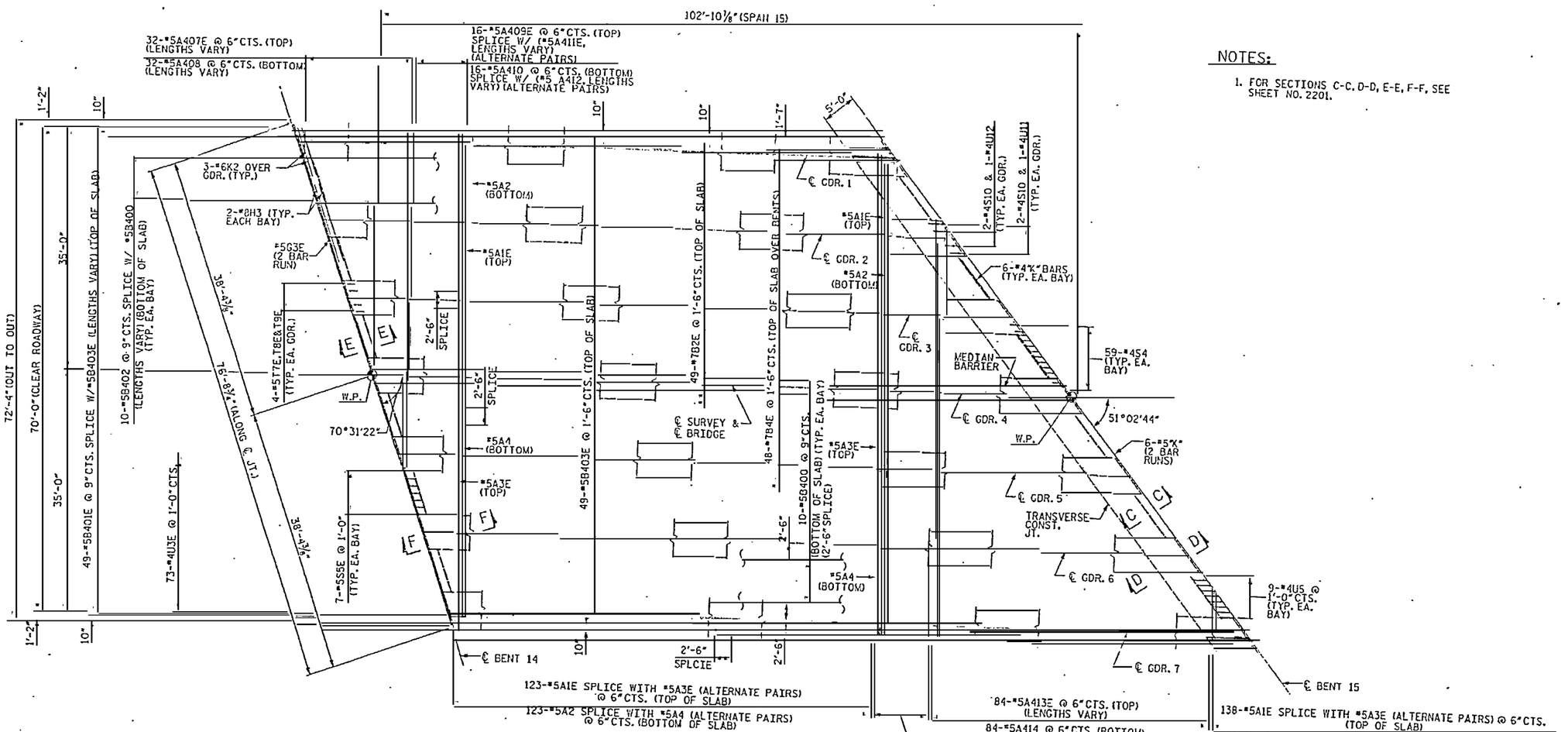
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J.J.H DATE : 10/06

USER: mstanford
DGN: rdsheet.dgn
DATE: 4/2/2007
PWD: 2d_RDWY

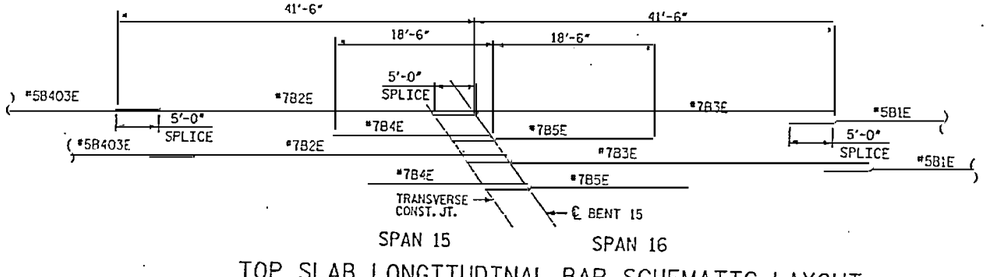
DIRECTION OF STATIONING



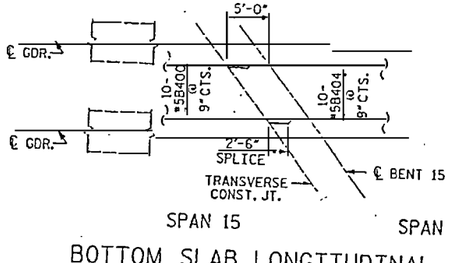
PLAN OF SPAN

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 4
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2077.00
TOTAL SHEETS

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LBJ DATE : 10/06

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

USER: wpatchett
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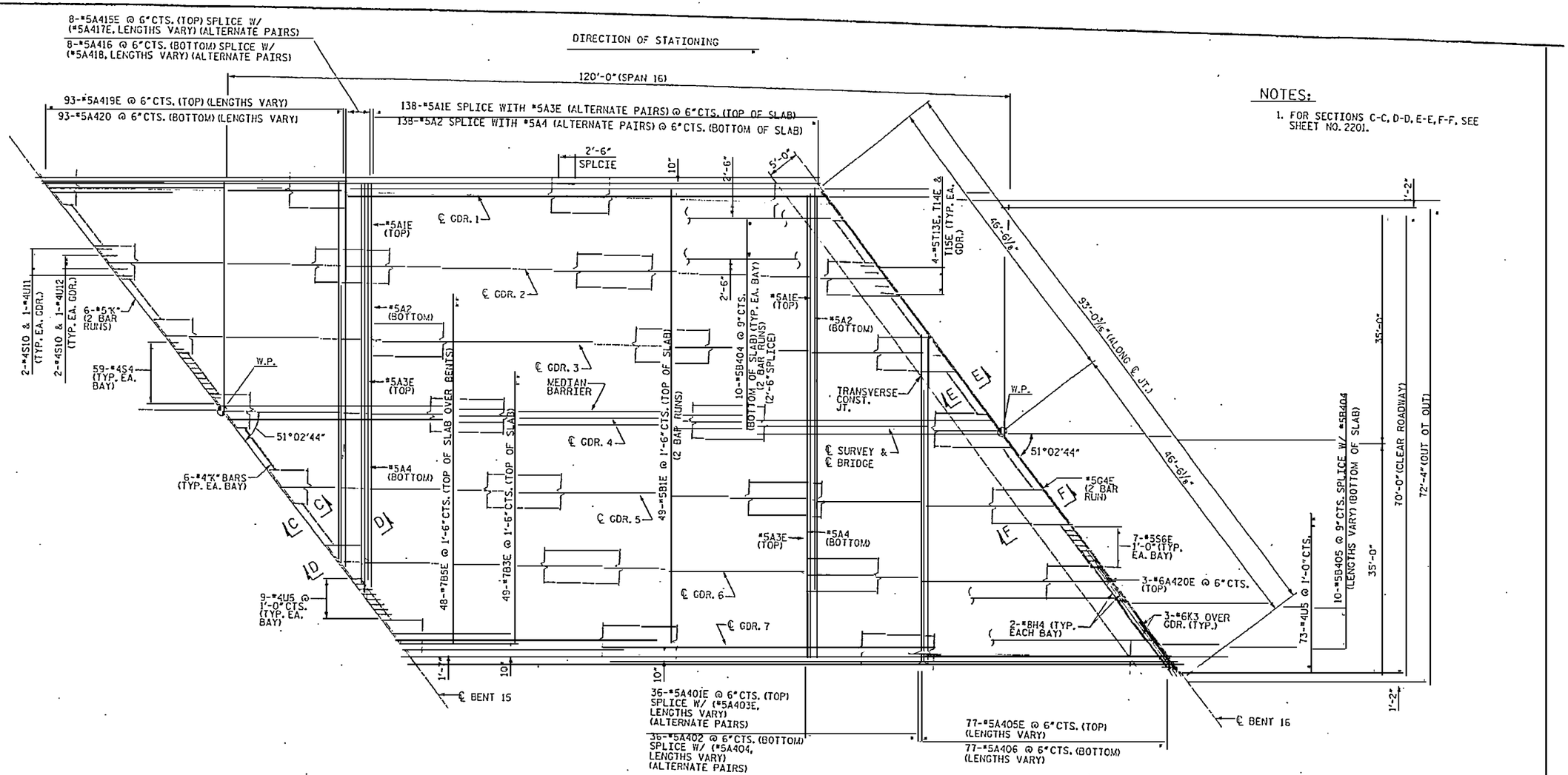

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NOTES:

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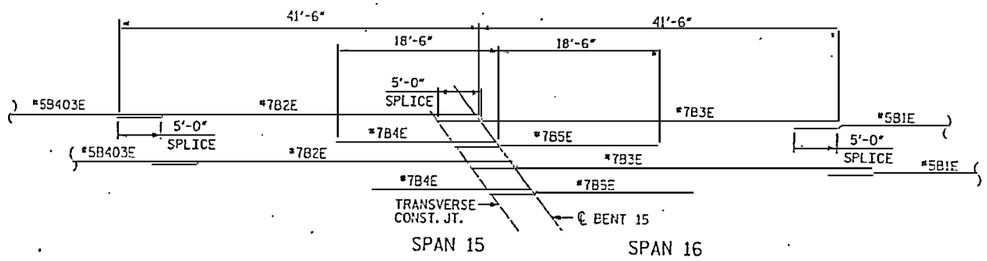
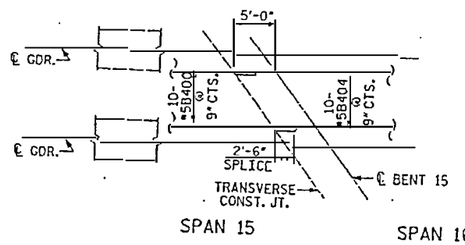


TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE NO. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 4
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030675

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2078.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.H DATE : 10/05
CHECKED BY : J. LEU DATE : 10/05

DATE: 1/5/2007
TIME: 2:23:53 PM
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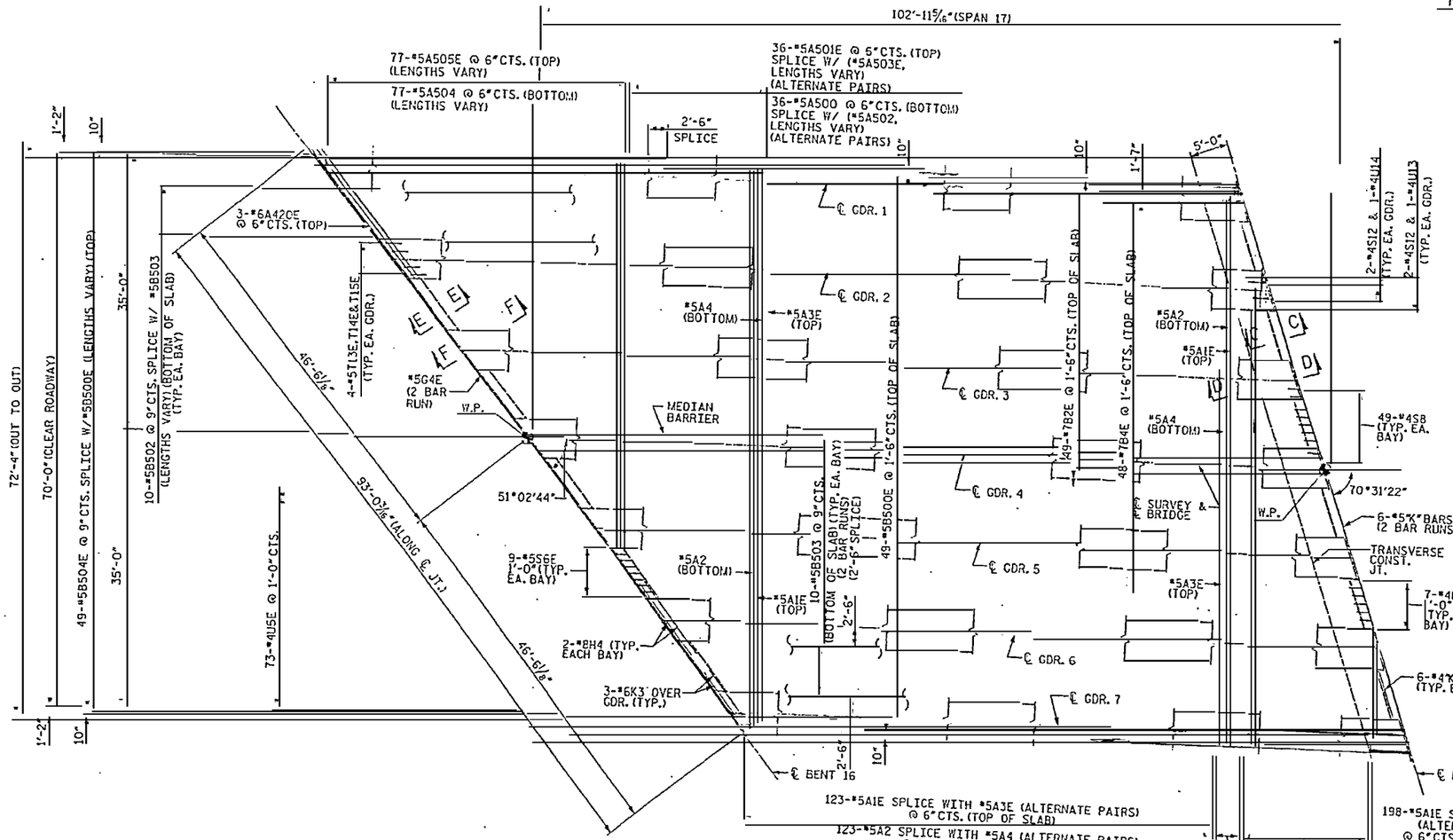
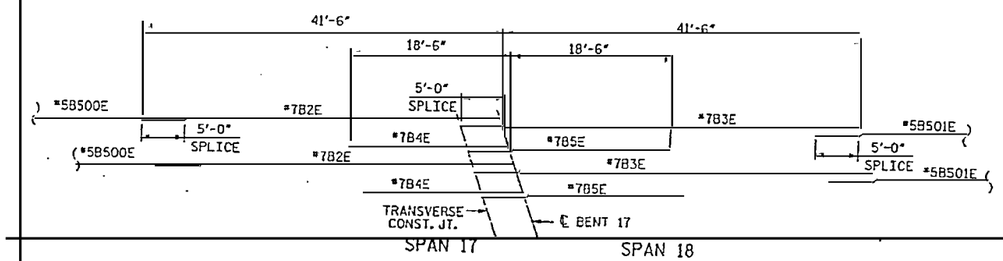
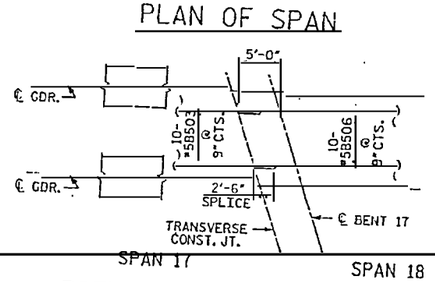
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026787 DANIEL W. JONES, JR. 10-31-07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 5
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
BY:	DATE:	NO.	BY:	DATE:	
		3			
		4			

SHEET NO. 2079.00
TOTAL SHEETS

DRAWN BY : M.M DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

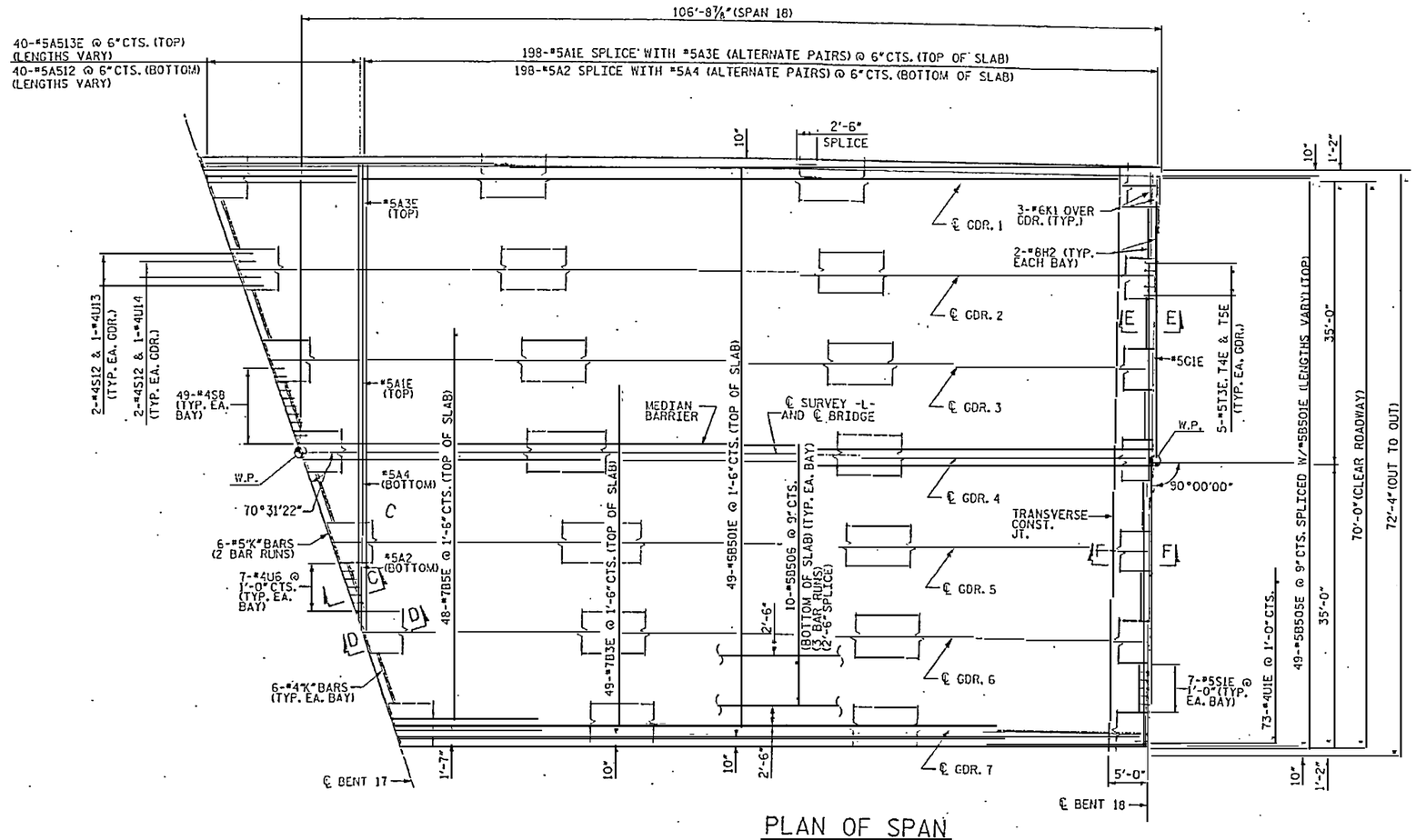
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 4/2/2007
TIME: 2:56:57 PM

USER: scott.tolar
DGN: Horizontal.dgn

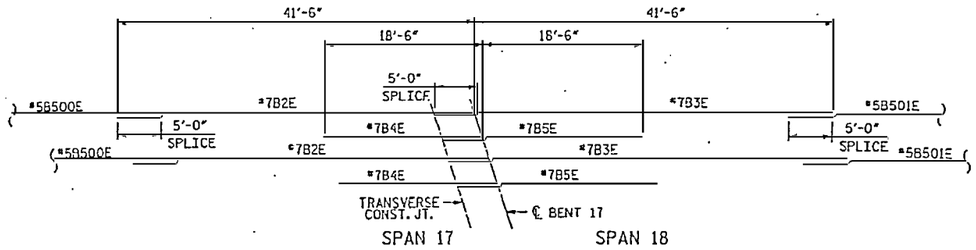
DIRECTION OF STATIONING



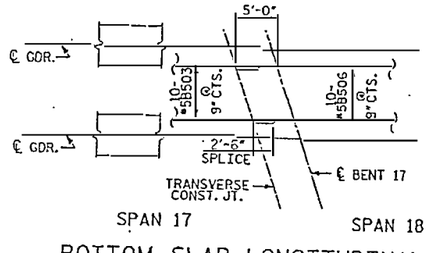
PLAN OF SPAN

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 4/2/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 5
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2080.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.H DATE : 10/06
CHECKED BY : J.LH DATE : 10/06

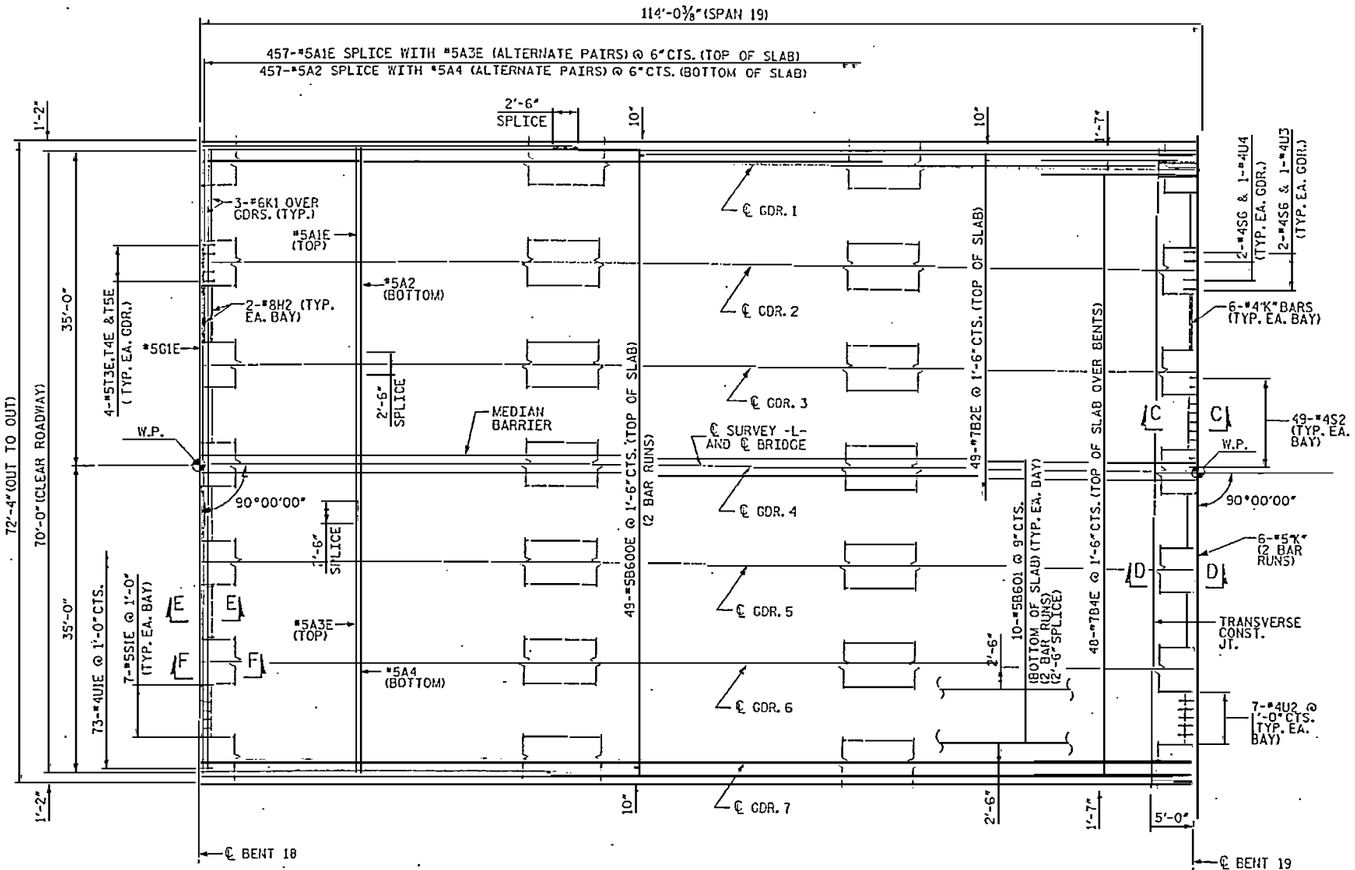
DATE: 4/2/2007
TIME: 2:56:00 PM

USER: evansdesign
DGN: Superstructure.dgn

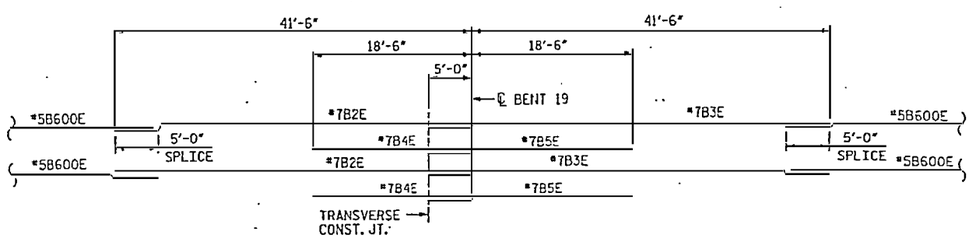
DIRECTION OF STATIONING

NOTES:

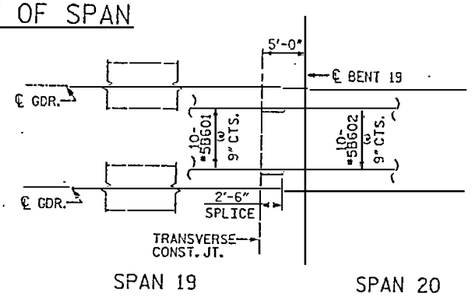
1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION

Tom Shearin 4/2/07

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030678 ENGINEER JOHN L. LIU

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

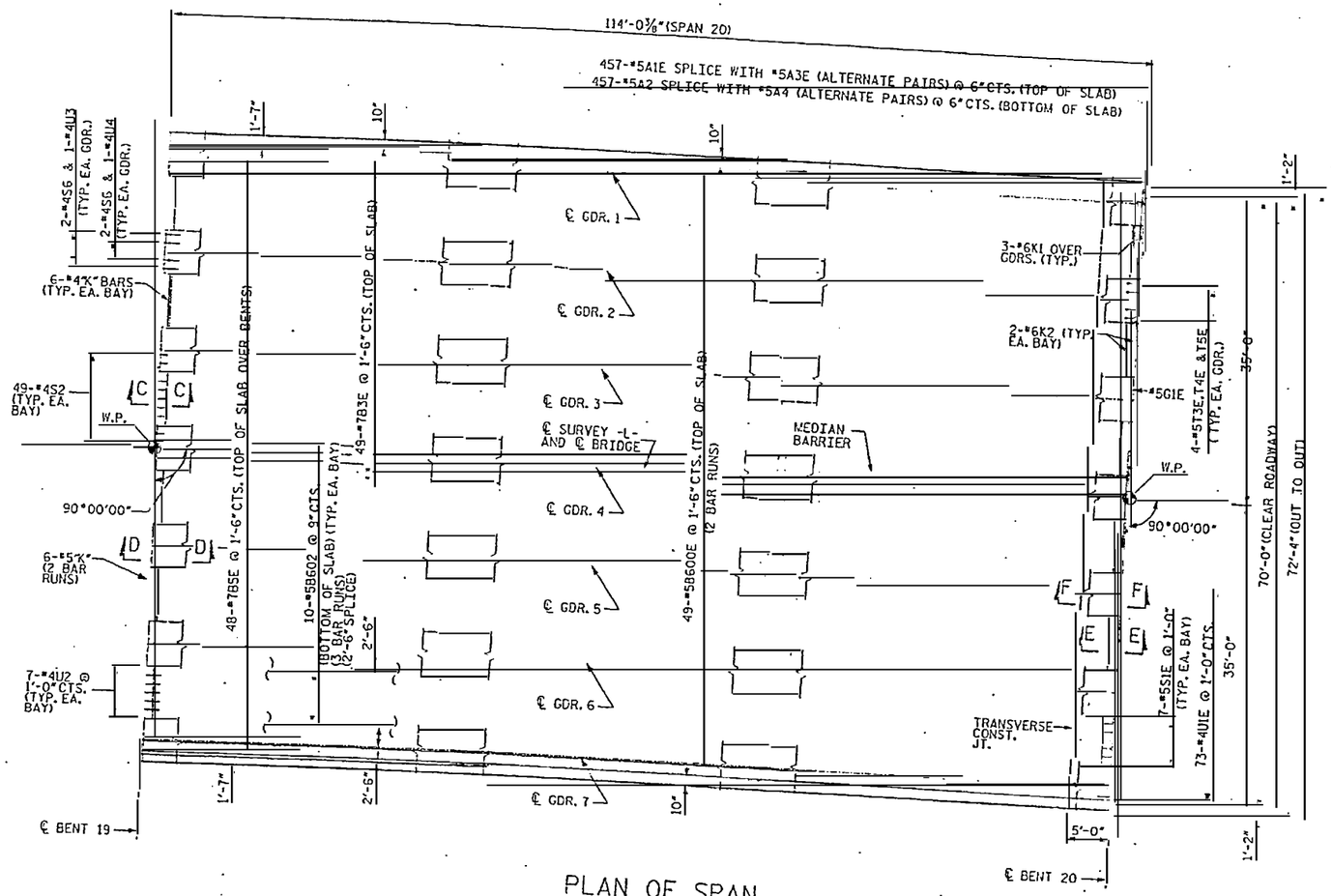
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2081.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.H DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

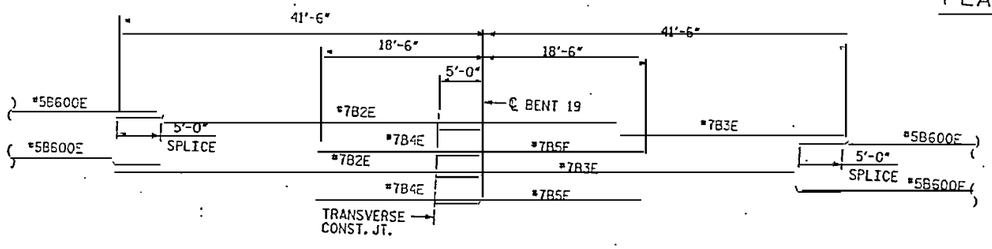
DATE: 4/2/2007
TIME: 2:58 PM

USER: jliu
C:\Documents and Settings\jliu\Desktop\R2510B_SD_DSN_sh_type6.dgn

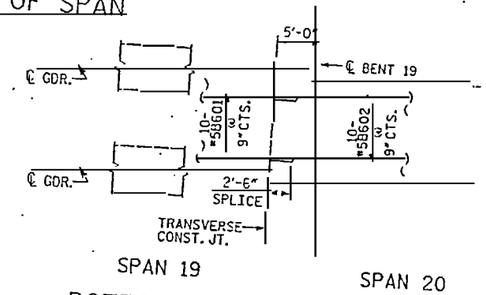
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 032578 ENGINEER JOHN W. JORDAN

Earth Tech
A Tyco International Ltd. Company

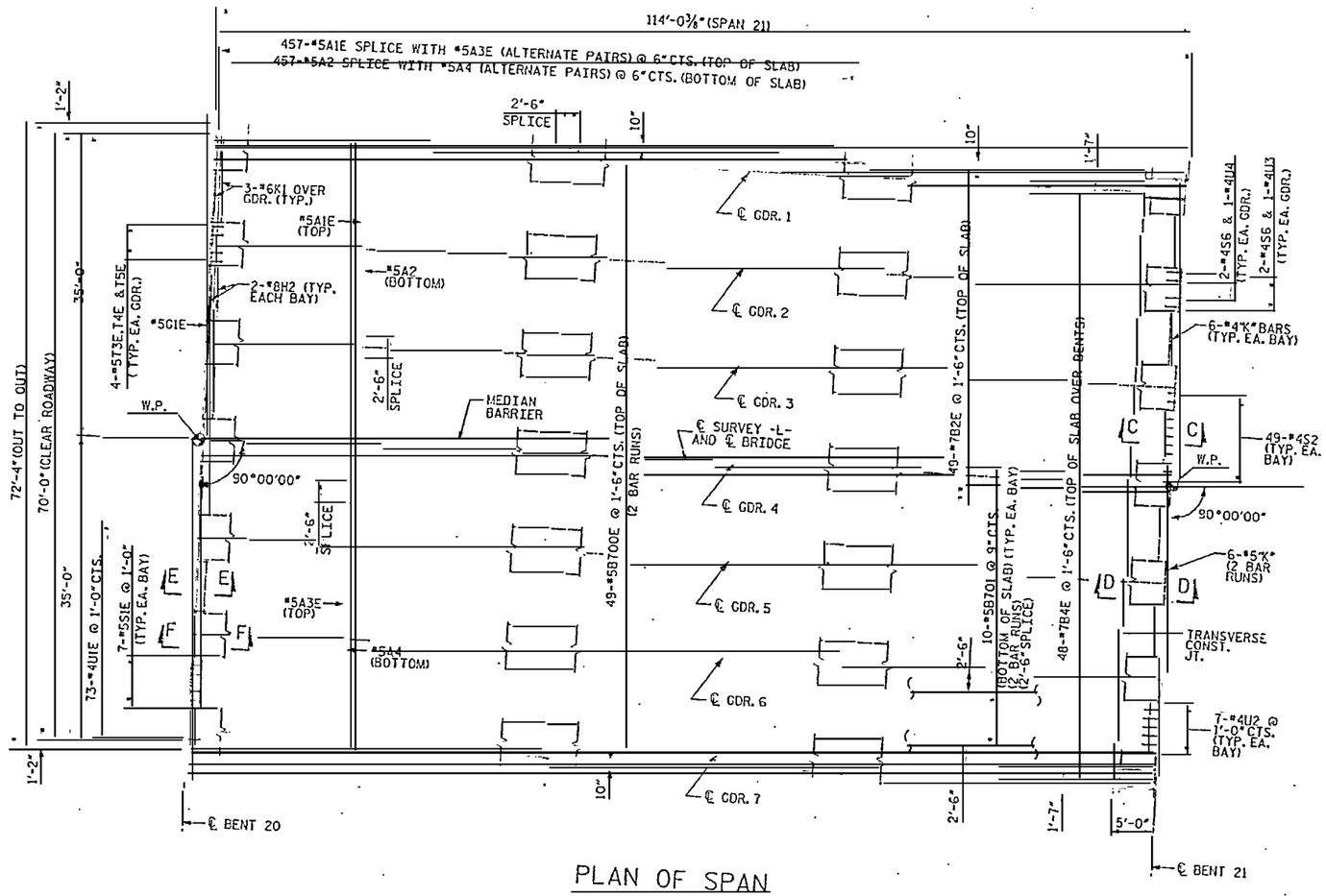
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2082.00
1			3			TOTAL SHEETS
2			4			

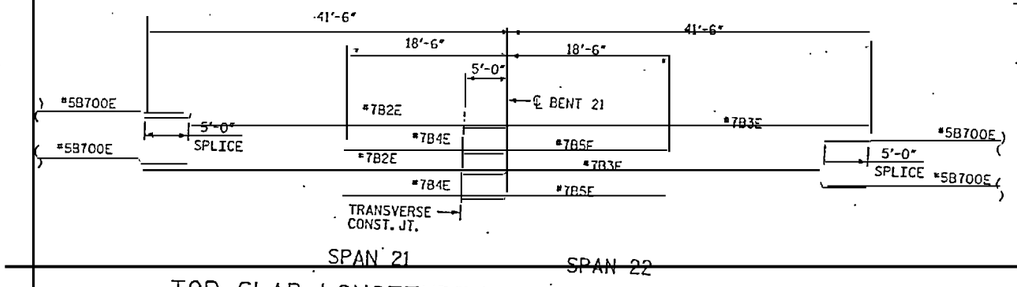
DRAWN BY : LUN DATE : 10/06
CHECKED BY : J. LEJ DATE : 10/06

USER: scottwilson
DGN: N:\Structures\Projects\R2510B_SD_ESK_Span.dgn
DATE: 12/27/06

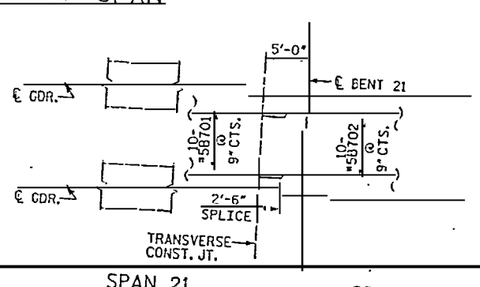
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
			3		
			4		

SHEET NO. 2083.00
TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030678 JOSEPH A. LEE

Earth Tech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.H DATE : 10/06
CHECKED BY : J. LEE DATE : 10/06

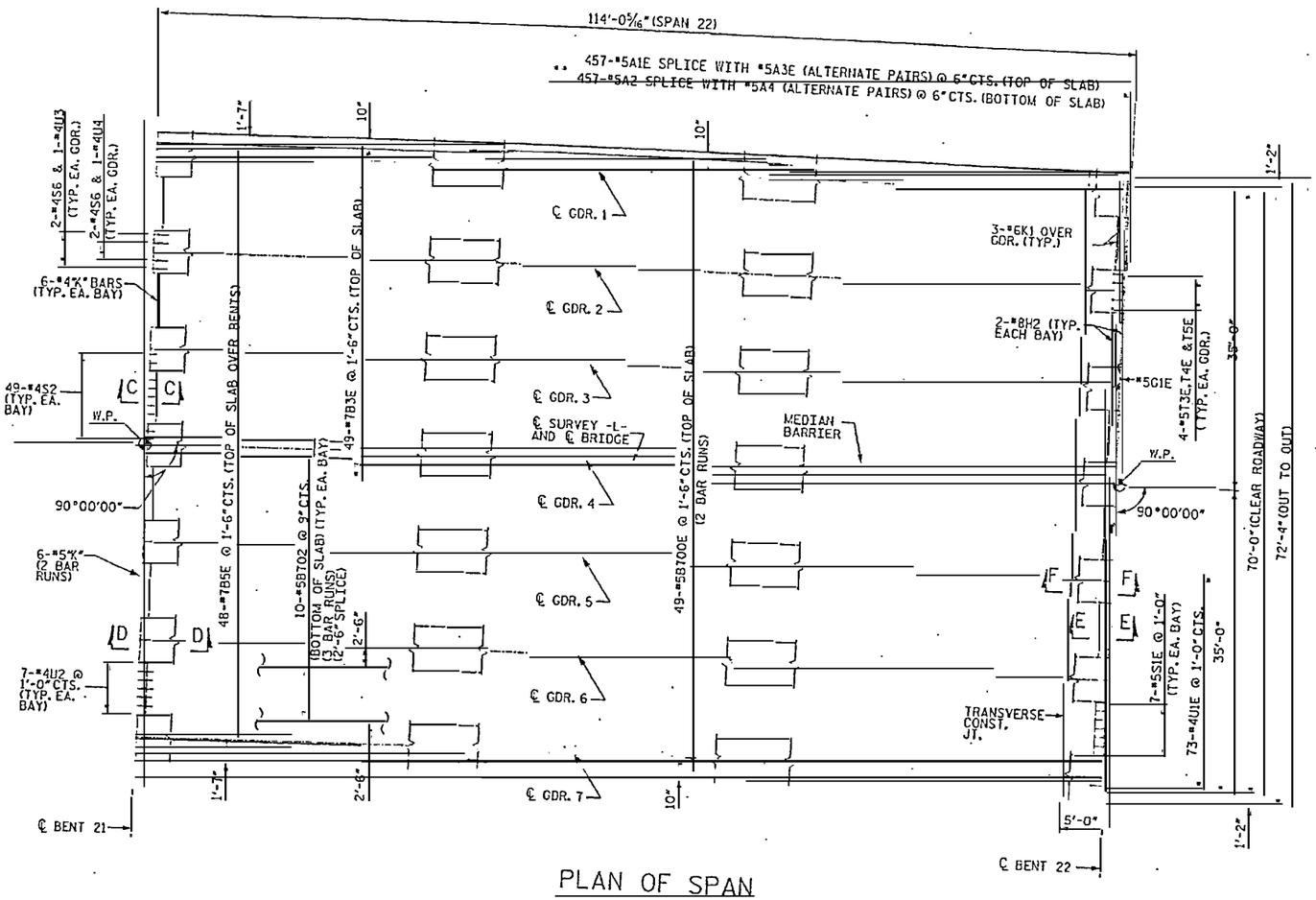
DATE: 4/2/2007
TIME: 2:03:33 PM

USER: contractor
DGN: c:\dgn\contractor river bridges\cc21x20_50_DS1_sh_bridge1.dgn

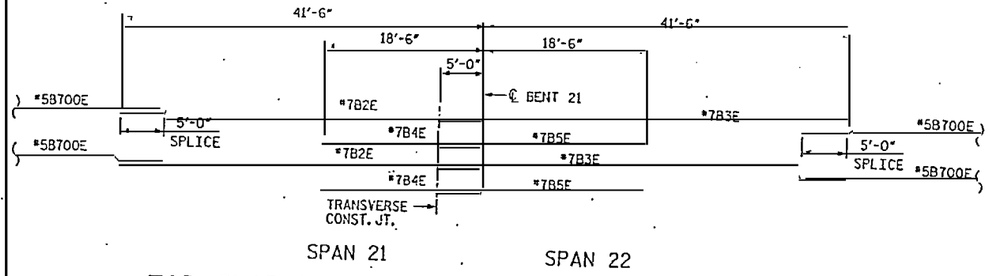
DIRECTION OF STATIONING

NOTES:

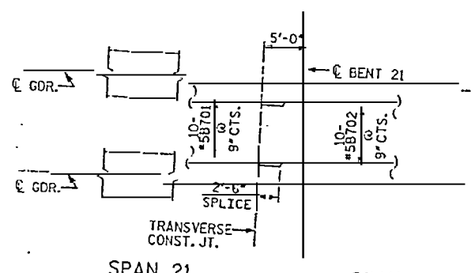
1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 036076 ENGINEER JOHN A. HUNT

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

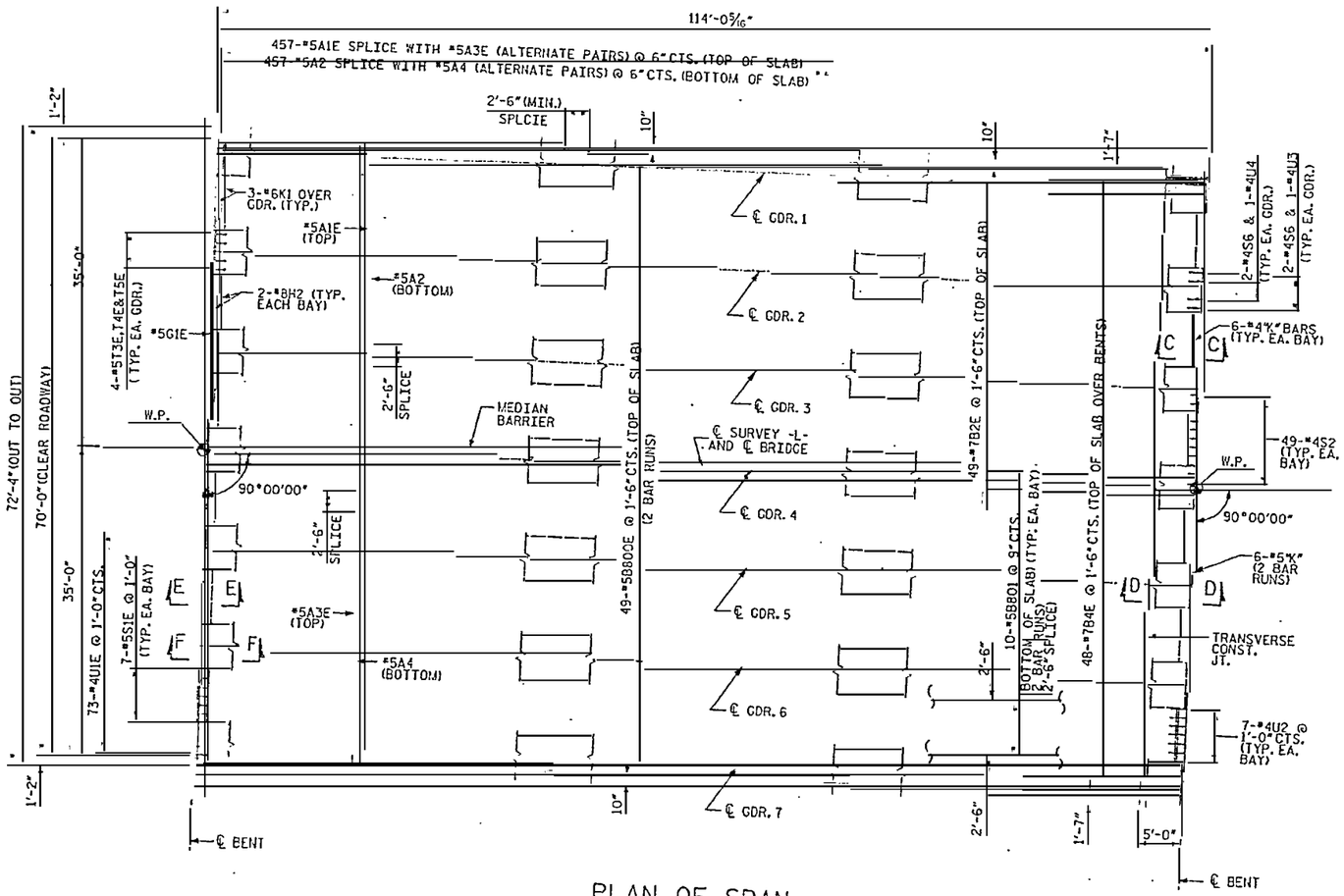
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2084.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LRU DATE : 10/06

DATE: 4/2/2007
TIME: 2:52:54 PM

USER: rsmithwick
DGN: rsmithwick\My Documents\R2510B_SD_DSII_on_Xpvt7.dgn

DIRECTION OF STATIONING



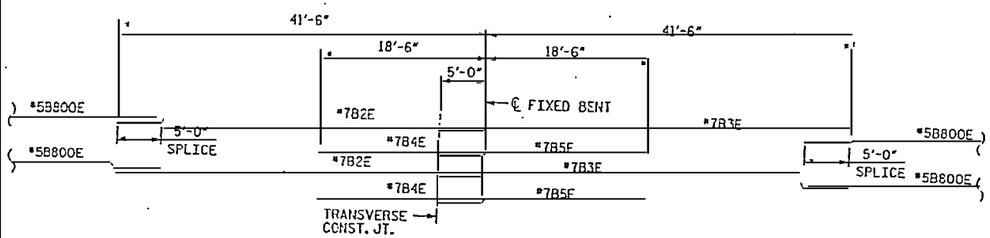
PLAN OF SPAN

NOTES:

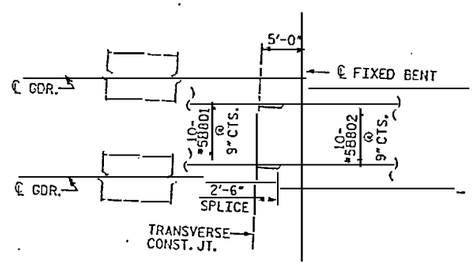
1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

23	25

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2085.00
TOTAL SHEETS

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LEE DATE : 10/06

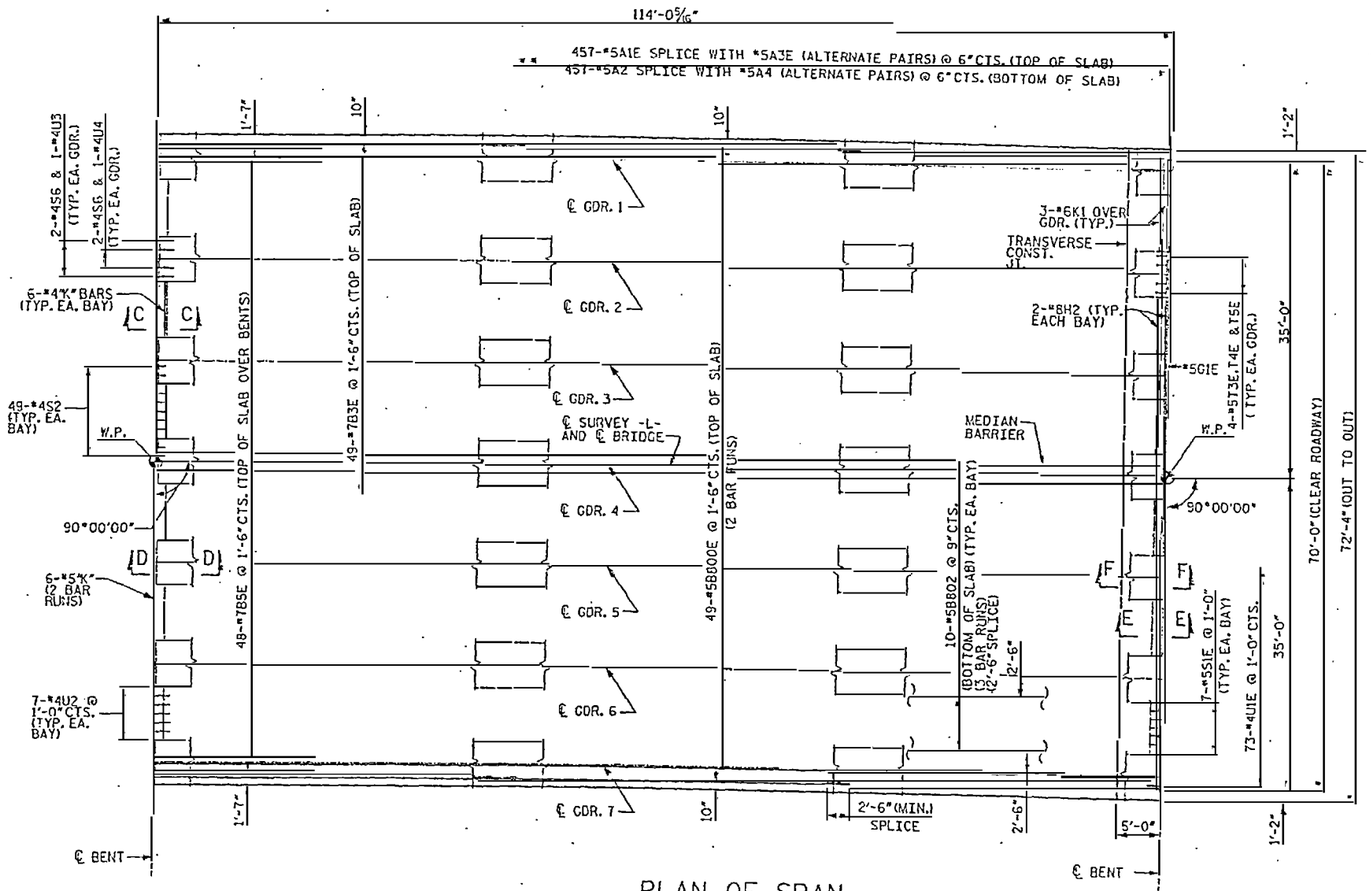
EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23827 JOHN WESLEY JORDAN

DATE: 1/3/2007
TIME: 2:09:15 PM

USER: cantarutti
DGN: Runcombinator River bridges\R2510B_SD_01A_sht_plan03.dgn

DIRECTION OF STATIONING



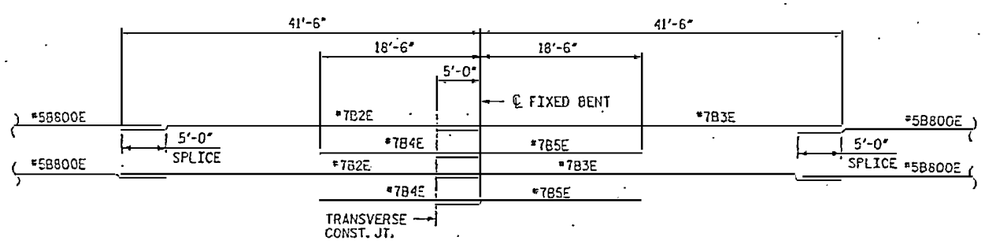
PLAN OF SPAN

NOTES:

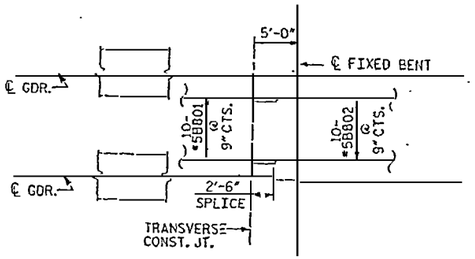
1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

24	26

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 032911 ENGINEER JOHN W. JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

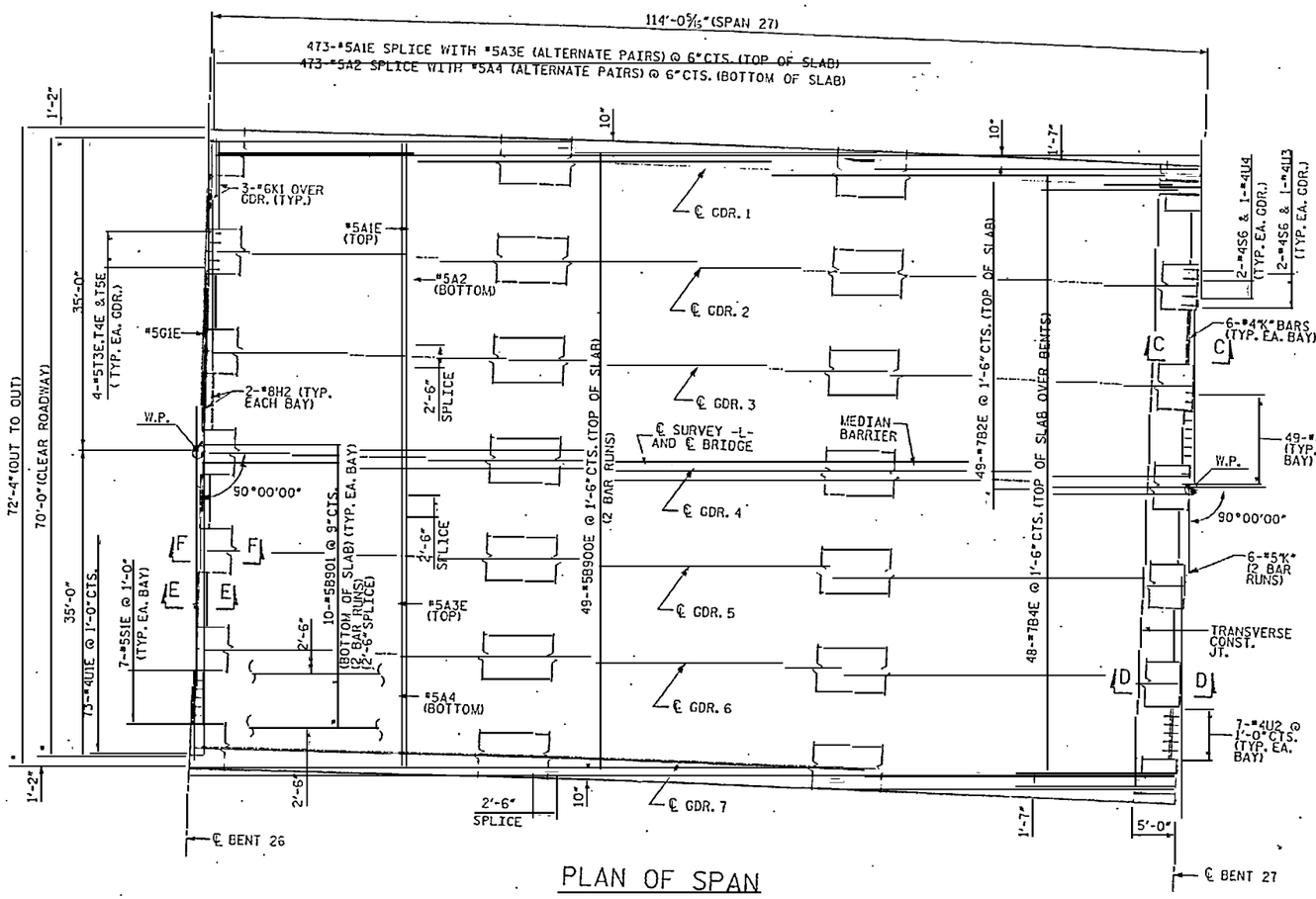
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2086.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

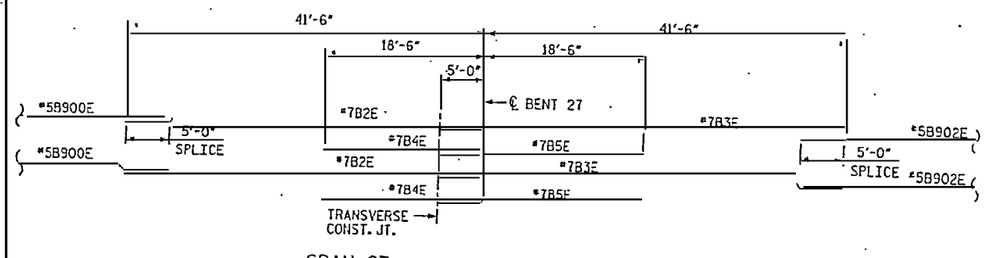
DATE: 4/2/2007
TIME: 12:07 PM

USER: ashuttlepal
DGN: Interchange over Intracoastal Canal on NC 24 Sheet 2.dgn

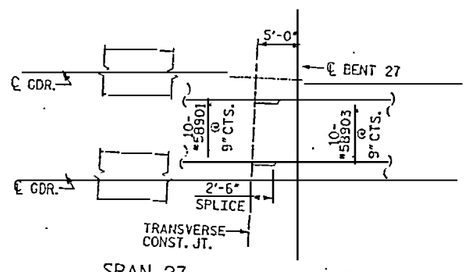
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2087.00
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019776 JOHN E. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

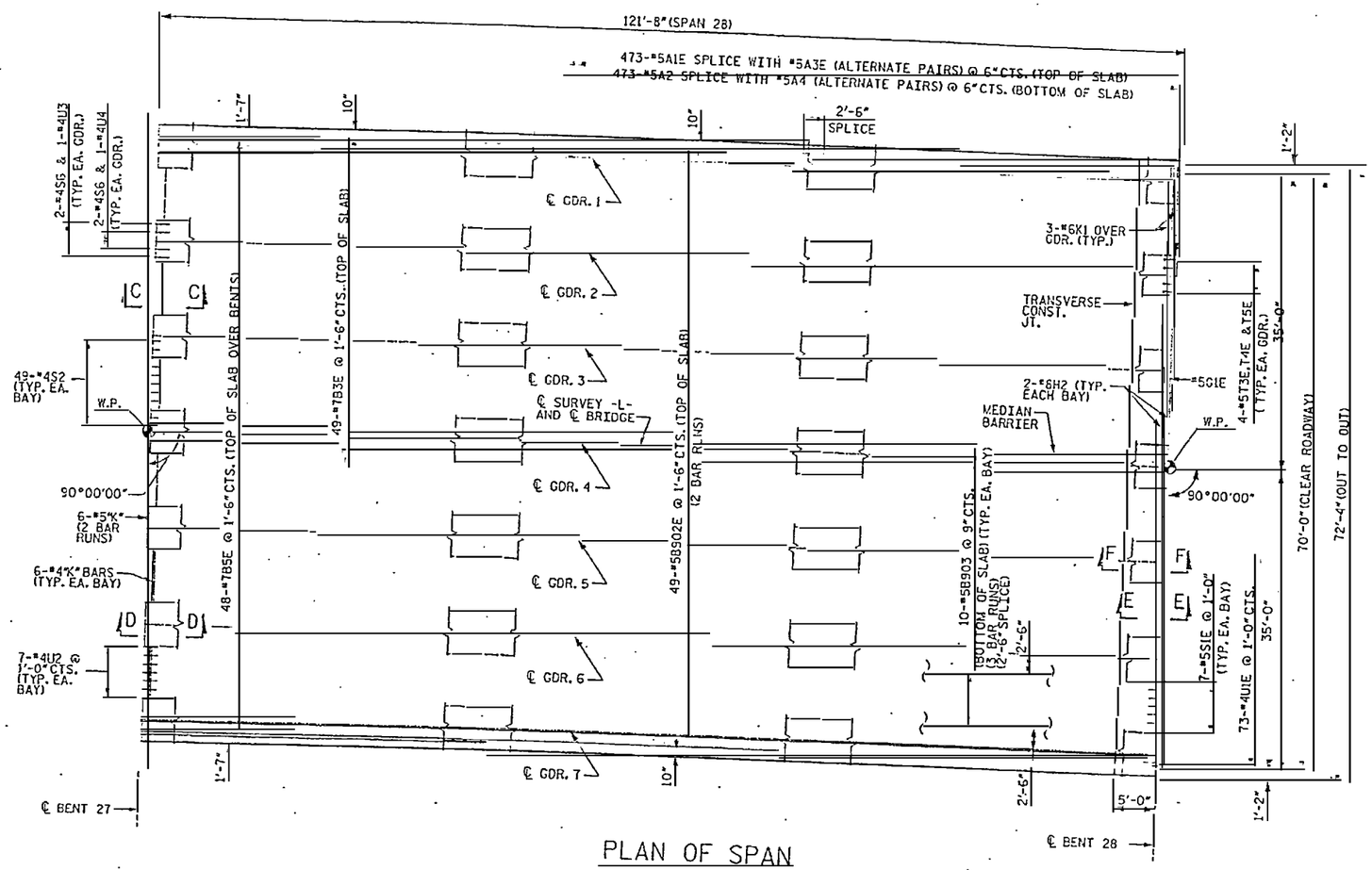
DRAWN BY : M.M DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

USER: scottmiller
DGN: Roadway\Bridge Plan Sheets\2087.00_sht_plan.dgn
DATE: 2/22/2007
TIME: 2:00:37 PM

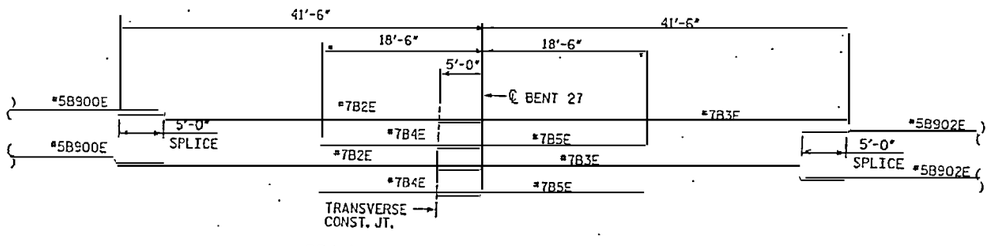
DIRECTION OF STATIONING

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

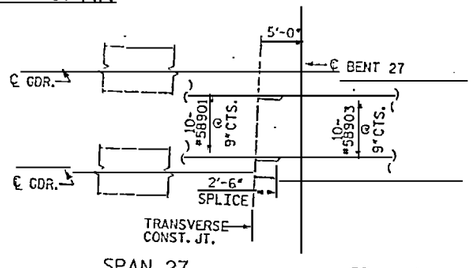


PLAN OF SPAN



SPAN 27 SPAN 28

TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



SPAN 27 SPAN 28

BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2088.00
TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL SEAL 030678 ENGINEER TIMOTHY E. JORDAN

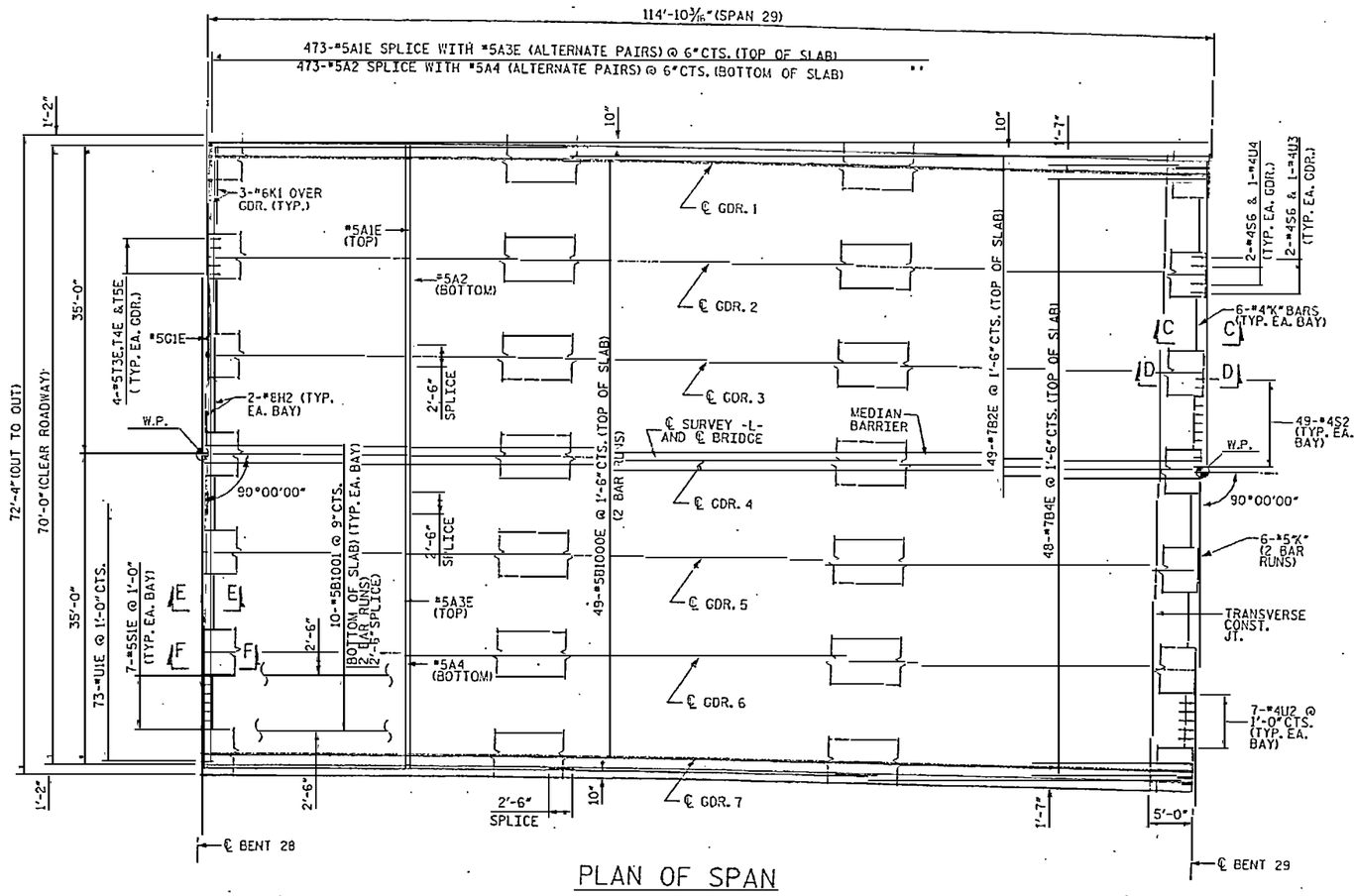
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. EU DATE : 10/06

USER: jeu
DGN: N:\STRUCTURE\Final Bridges\B-2510B\Sheets\B2510B_SS_PLN_SPAN9.dgn
DATE: 4/2/2007
TIME: 8:54:51 PM

DIRECTION OF STATIONING



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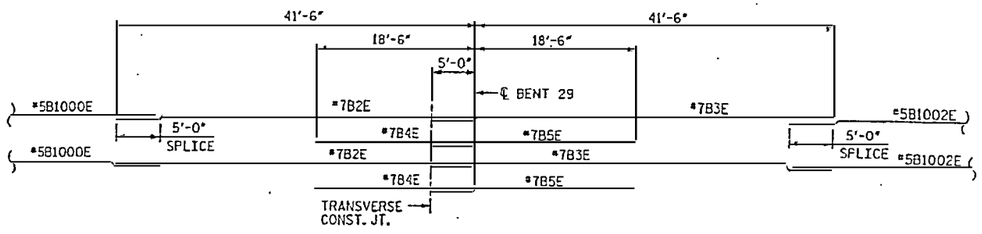
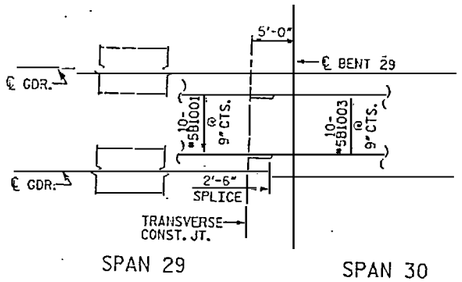


TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030578 ENGINEER JOHN L. LEU

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2089.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : MJH DATE : 10/05
CHECKED BY : J. LEU DATE : 10/05

DATE: 4/2/2007
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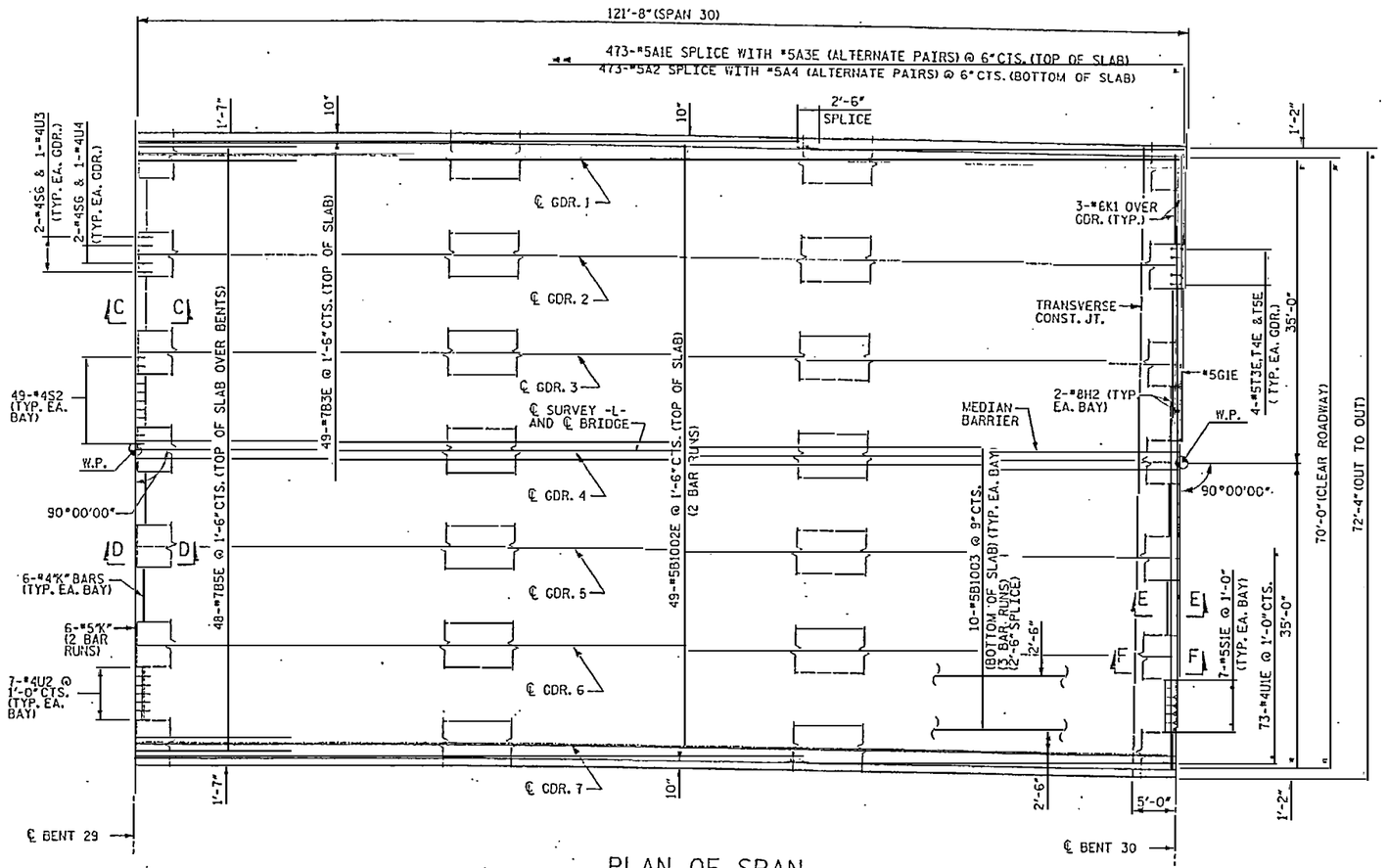
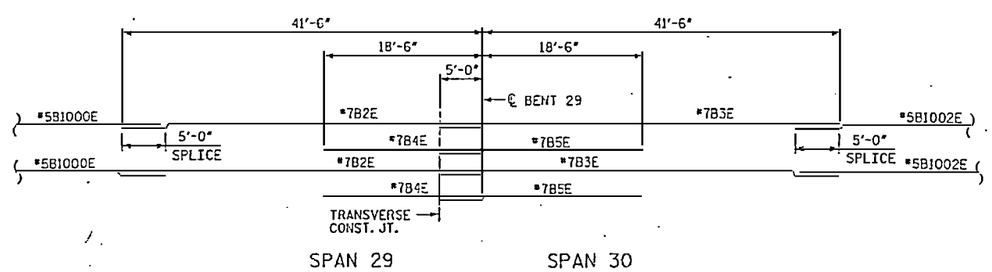
USER: mjhall

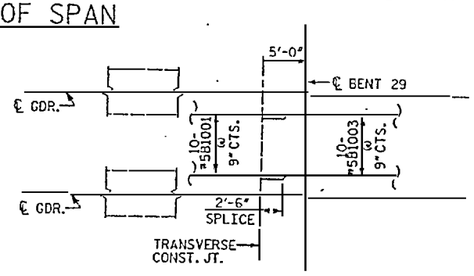
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 029187 ENGINEER JOHN W. JORDAN III

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2090.00
1			3			TOTAL SHEETS
2			4			

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CHECKED BY : J. LEJ DATE : 10/06

DATE: 4/2/2007
TIME: 2:33:32 PM
USER: cbarbour
DGN: Roadway\Structures\STDSH_str_type10.dgn

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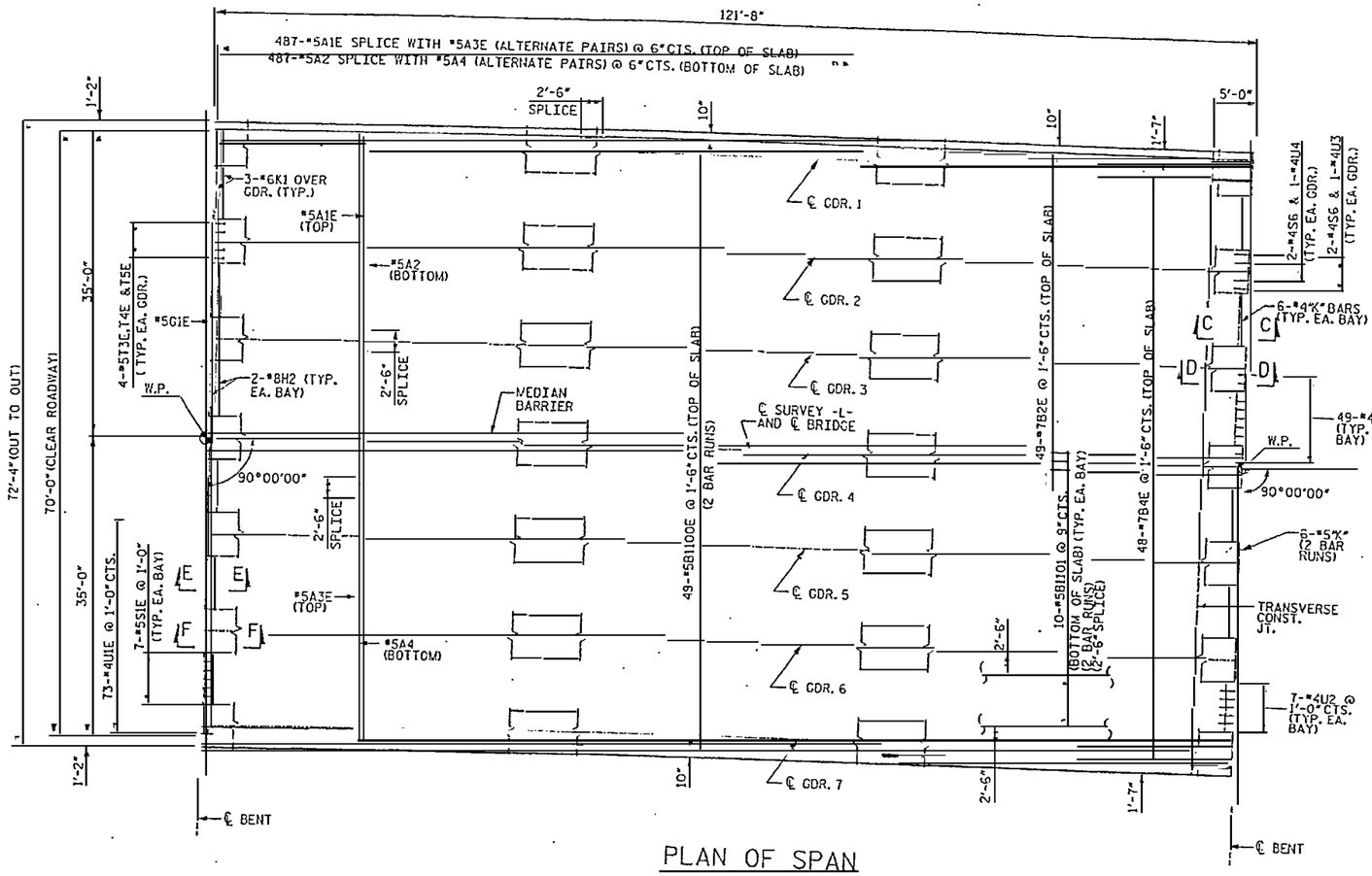


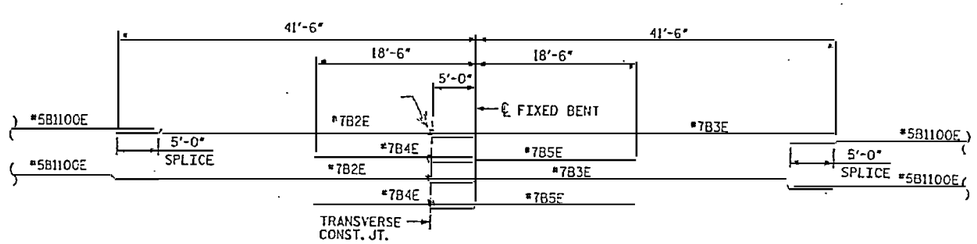
PLAN OF SPAN

NOTES:

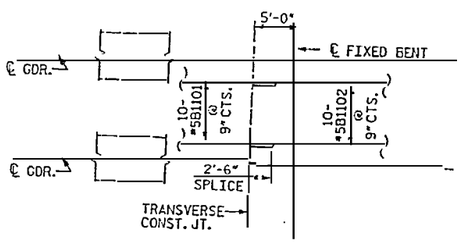
1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

31	33	35	37	39	41	43	45	47	49
51	53	55	57	59	61	63	65	67	69
71	73	75	77	79					

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 4/2/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030870 ENGINEER JOHN W. JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2091.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.R. DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 4/2/2007
TIME: 8:55:33 PM
USER: rattaforth
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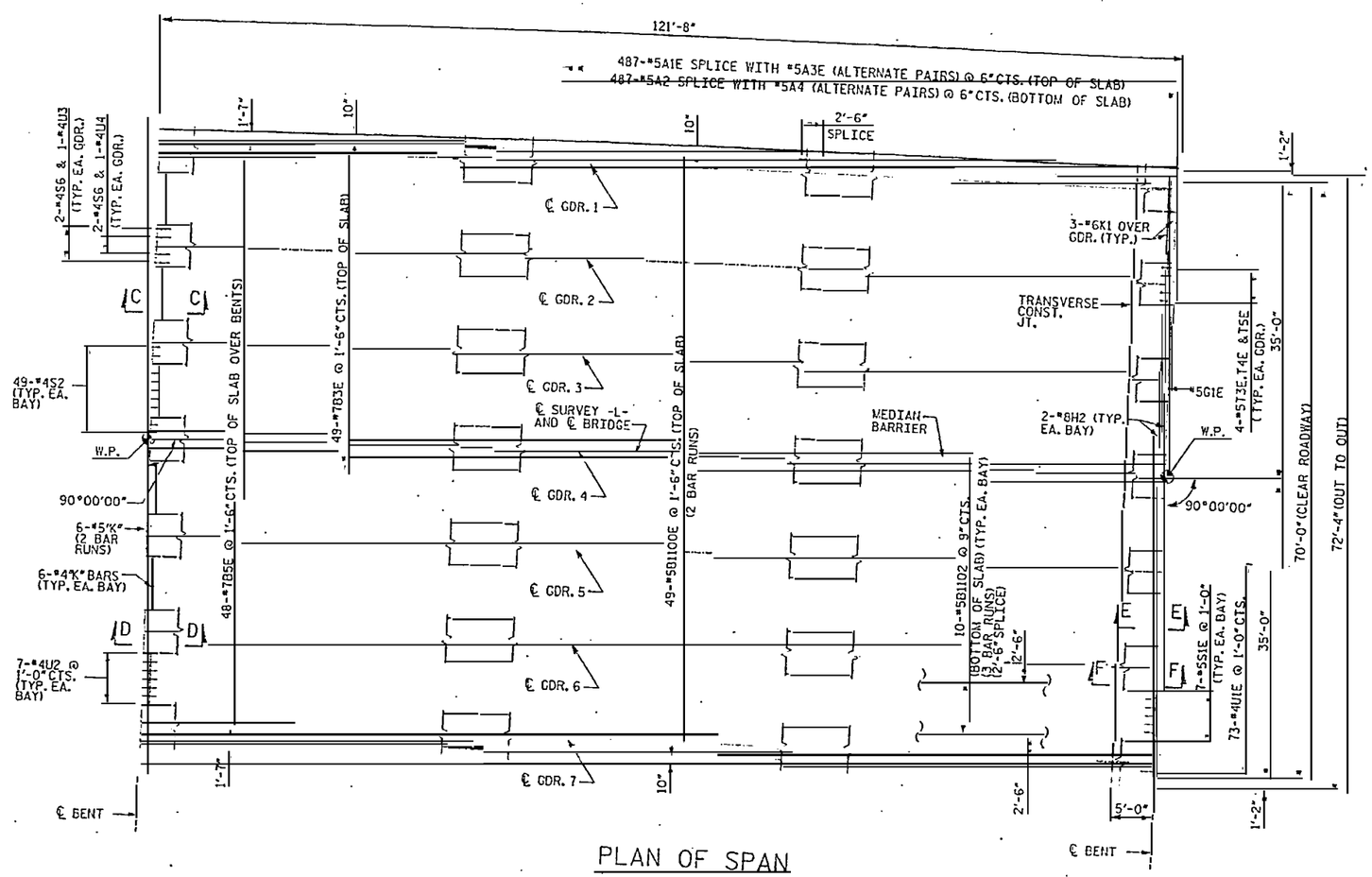


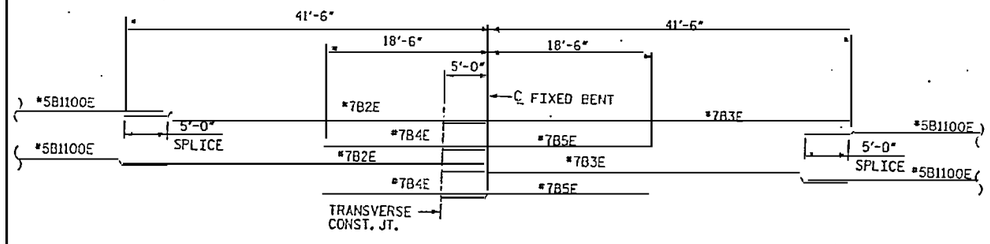
PLAN OF SPAN

NOTES:

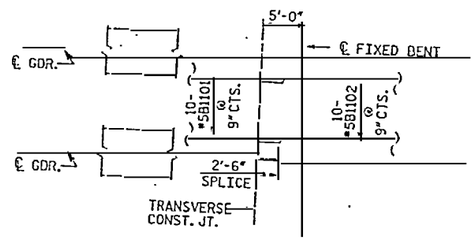
1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

32	34	36	38	40	42	44	46	48	50
52	54	56	58	60	62	64	66	68	70
72	74	76	78	80					

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030674 ENGINEER JAMES T. GORDON, JR.

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FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

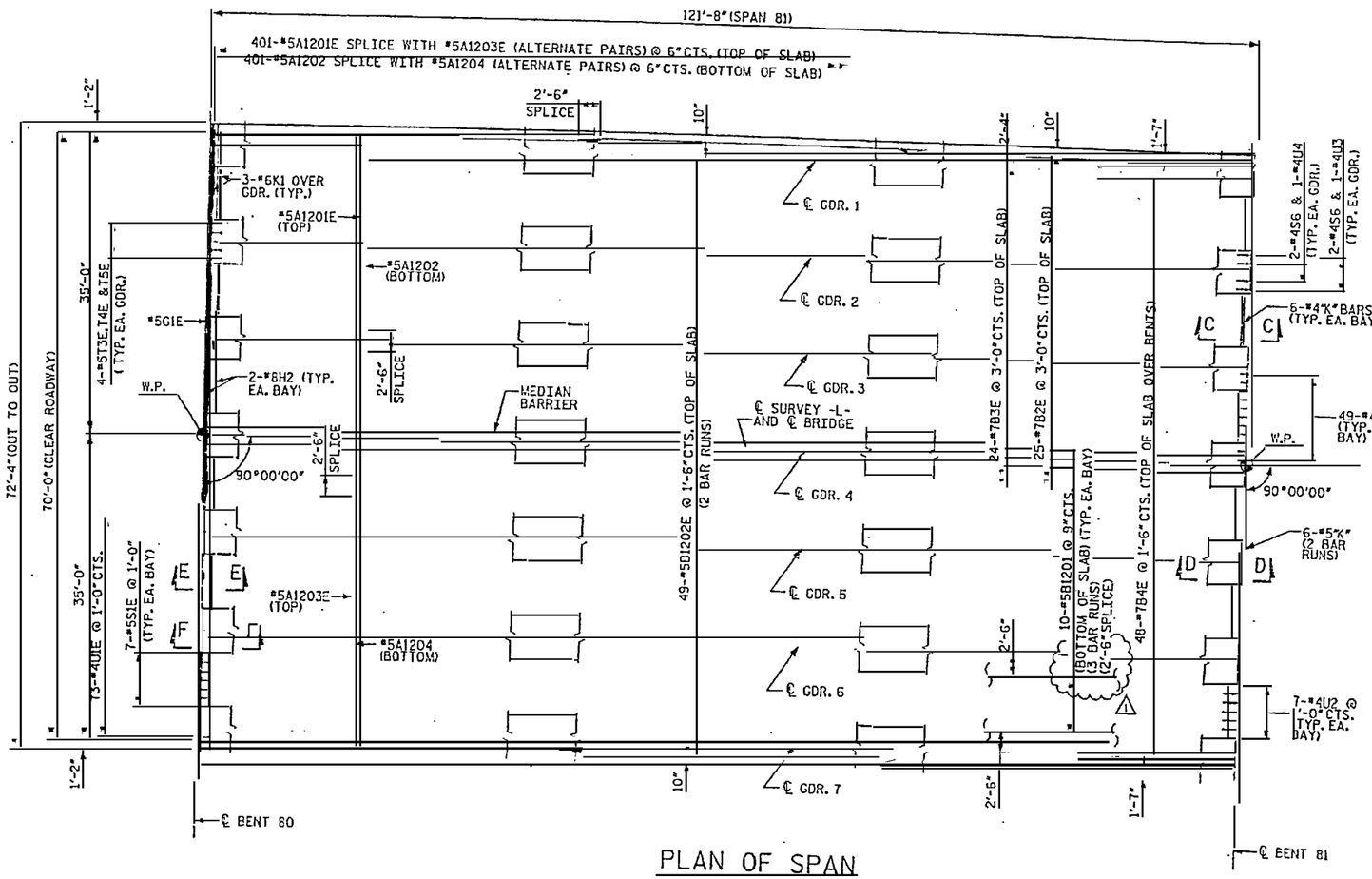
SHEET NO. 2092.00
TOTAL SHEETS

DRAWN BY : M.H DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 1/3/2007
TIME: 8:03:04 PM

USER: rcarlstrom
DGN: I:\projects\Bridge Files\R2510B\SUPER\2092_SD_SPAN_TYP11.dgn

DIRECTION OF STATIONING



PLAN OF SPAN

NOTES:

1. IT IS ASSUMED THAT THE TWO GANTRIES MEET AT SPAN 81 WHICH IS THE FINAL SPAN. THE FINAL SPAN DOES NOT HAVE A TRANSVERSE CONSTRUCTION JOINT. IF THE FINAL SPAN IS LOWER THAN 81, TRANSVERSE CONSTRUCTION JOINT SHOULD BE LOCATED AT 5'-0" FROM THE CENTERLINE OF DOWN STATION BENT. IF THE FINAL SPAN IS HIGHER THAN 81, TRANSVERSE CONSTRUCTION JOINT SHOULD BE LOCATED AT 5'-0" FROM THE CENTERLINE OF UP STATION BENT.

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 9/5/08

⚠ GENERAL REVISION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

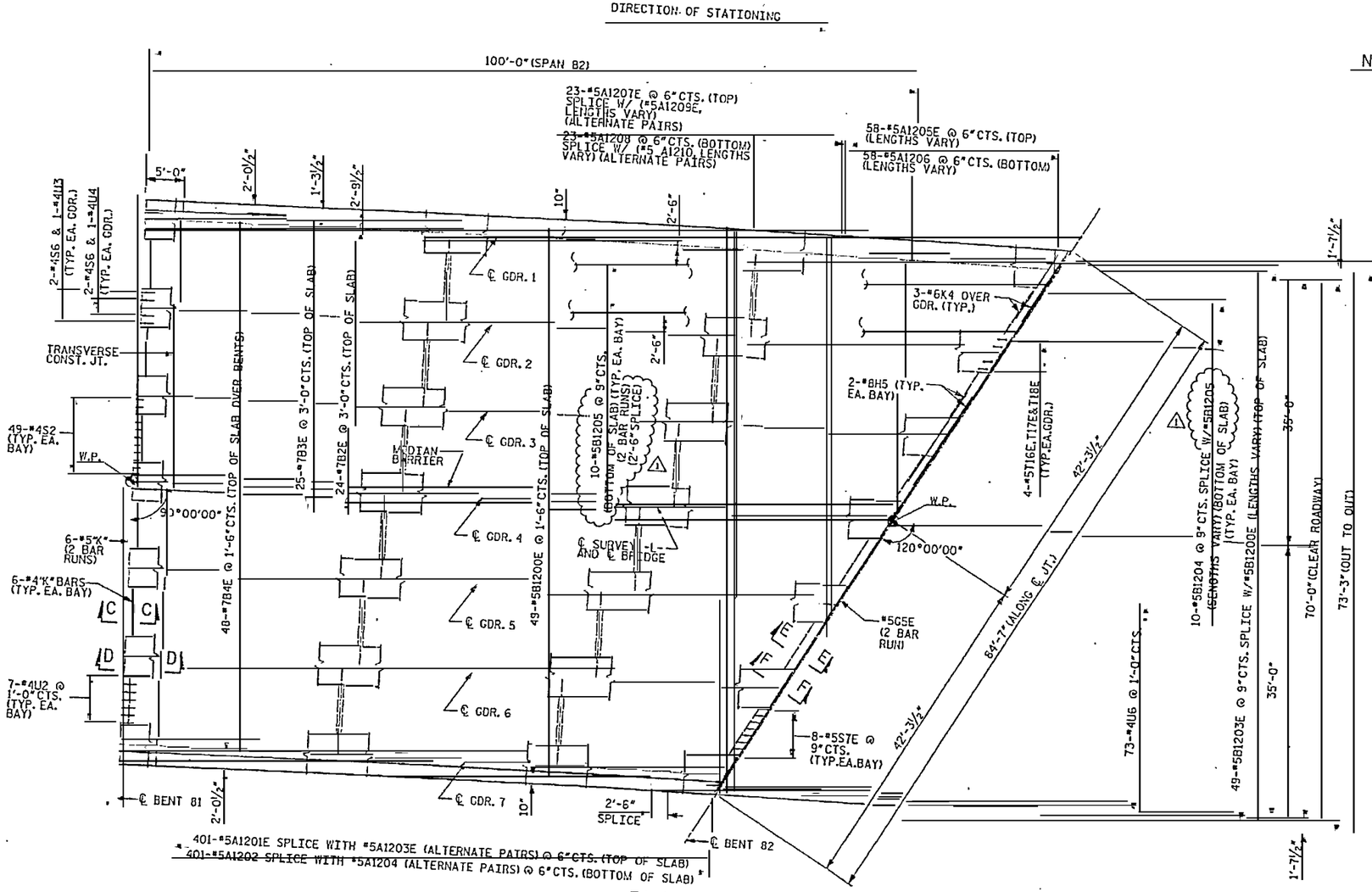
SUPERSTRUCTURE
PLAN OF SPAN TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SCS	9/05/08	3		
2			4		

SHEET NO. 2093.01
TOTAL SHEETS

Earth Tech
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : MJH DATE : 10/05
I CHECKED BY : J. LIU DATE : 10/05



PLAN OF SPAN

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

⚠ GENERAL REVISION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

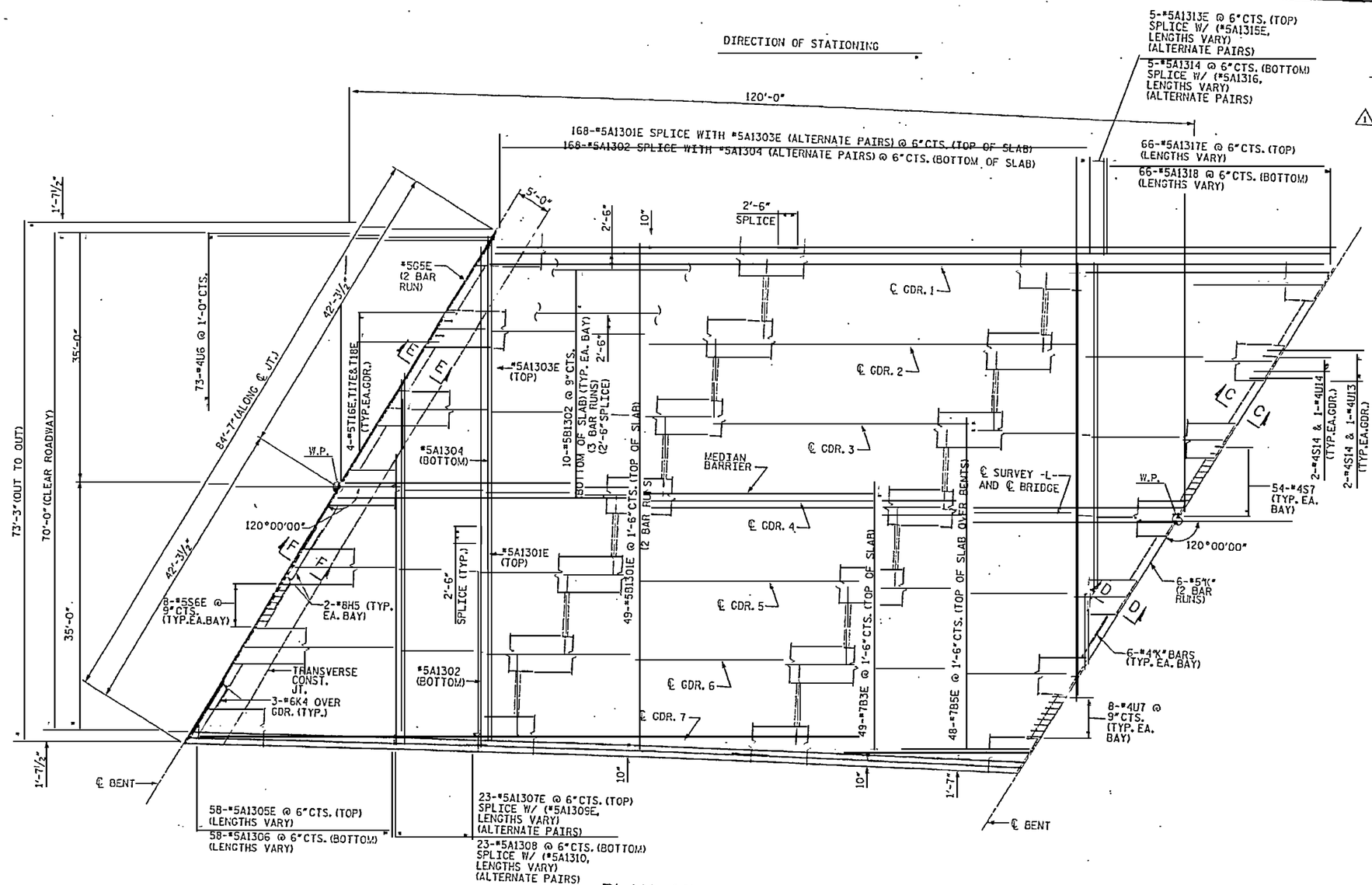
- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

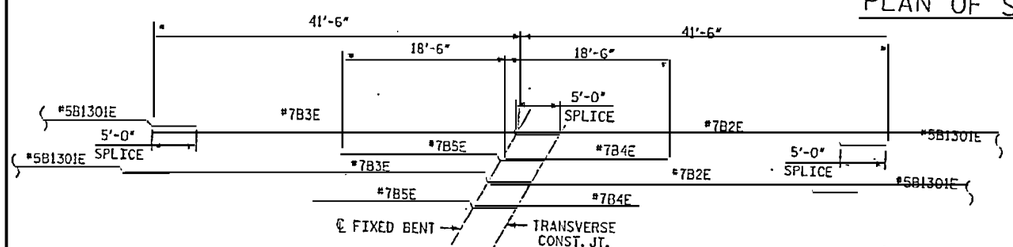
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2094.01
1	SGS	9/05/08	3			TOTAL SHEETS
2			4			

DRAWN BY : M.H DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

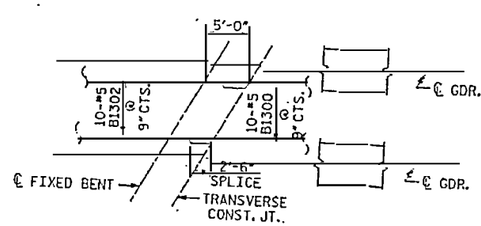
EarthTech
FLATIRON/UNITED
A JOINT VENTURE



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 2/26/09 DATE

1 REVISED NOTE 1

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2095.01
0	SGS	1/20/09	3			TOTAL SHEETS
2			4			

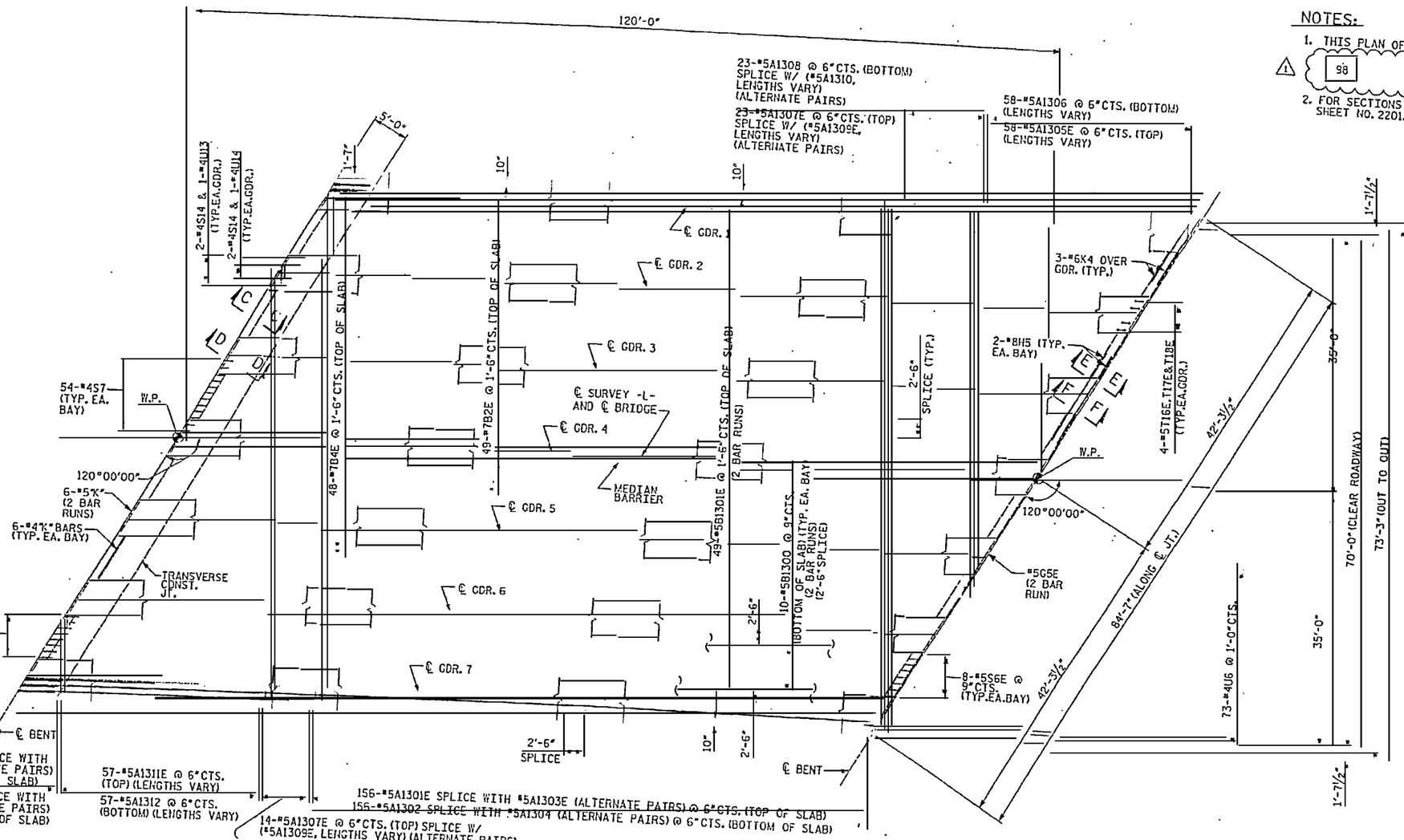
DRAWN BY : M.B.H. DATE : 10/06
CHECKED BY : J. L.W. DATE : 10/06

Earth Tech
FLATIRON/UNITED
A JOINT VENTURE

DATE: 2/12/2009
FILE: B2510_A1

USER: scottjones
DGN: N:\Structure\Tar River Bridges\R2510\B2510_SD_DSH_sht_type13.dgn

DIRECTION OF STATIONING

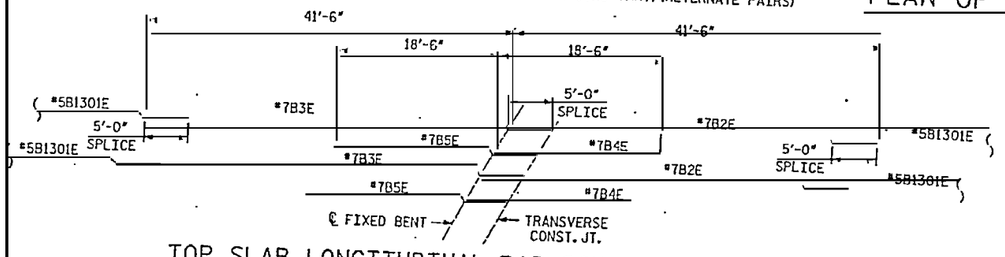


PLAN OF SPAN

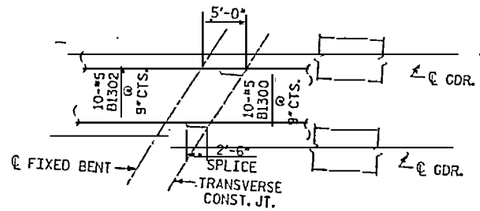
NOTES:

1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.
   △1 98
2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

△1 REVISED NOTE 1



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 7/16/09

DRAWN BY : M.H — DATE : 10/06
CHECKED BY : J. LH — DATE : 10/06

DATE: 8/12/2009
TIME: 8:08:08 AM

USER: mcdonnel
DGN: N:\Structure\WIP\er River Bridge\MCDR2510B_SD_DSN_44_Typ.dgn

Earth Tech

FLATIRON/UNITED
A JOINT VENTURE

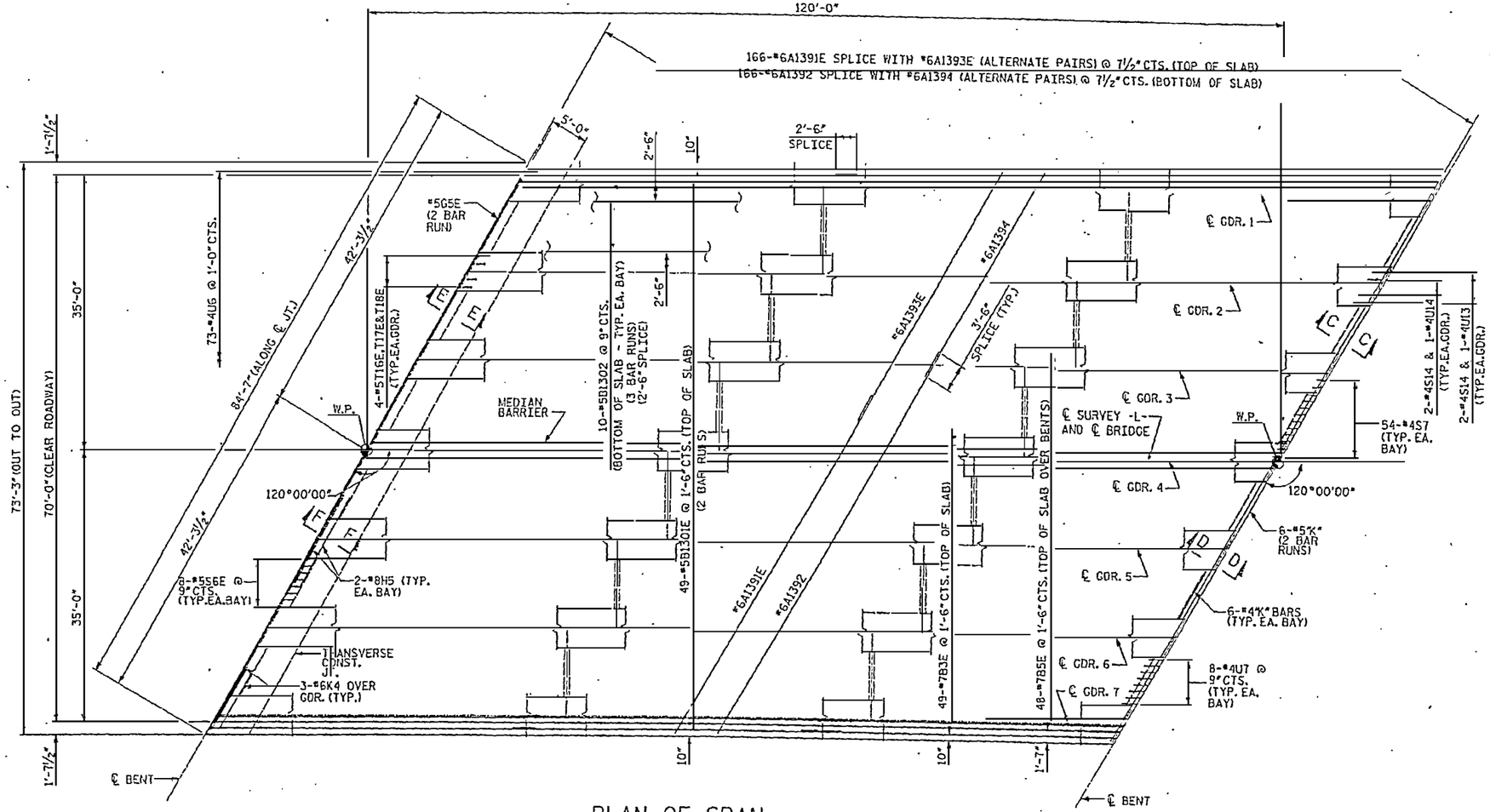
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
2 OF 2
BRIDGE NO. ~~353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2096.01
		11/28/08				

DIRECTION OF STATIONING



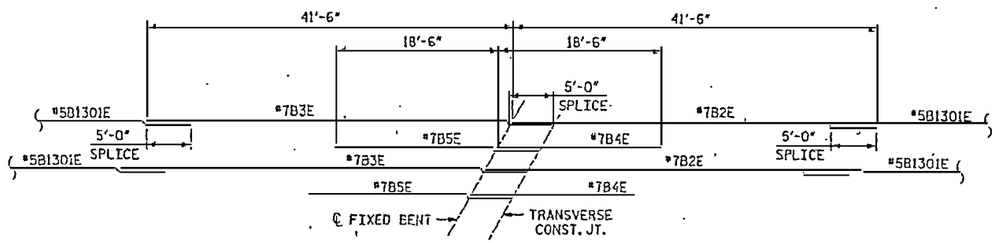
PLAN OF SPAN

NOTES:

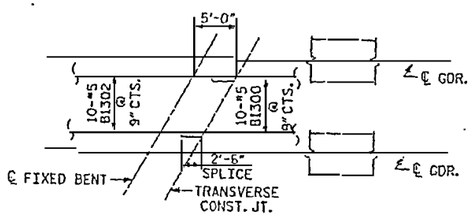
1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

83	85	87	89	91	93	95

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 'DATE'

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 13A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

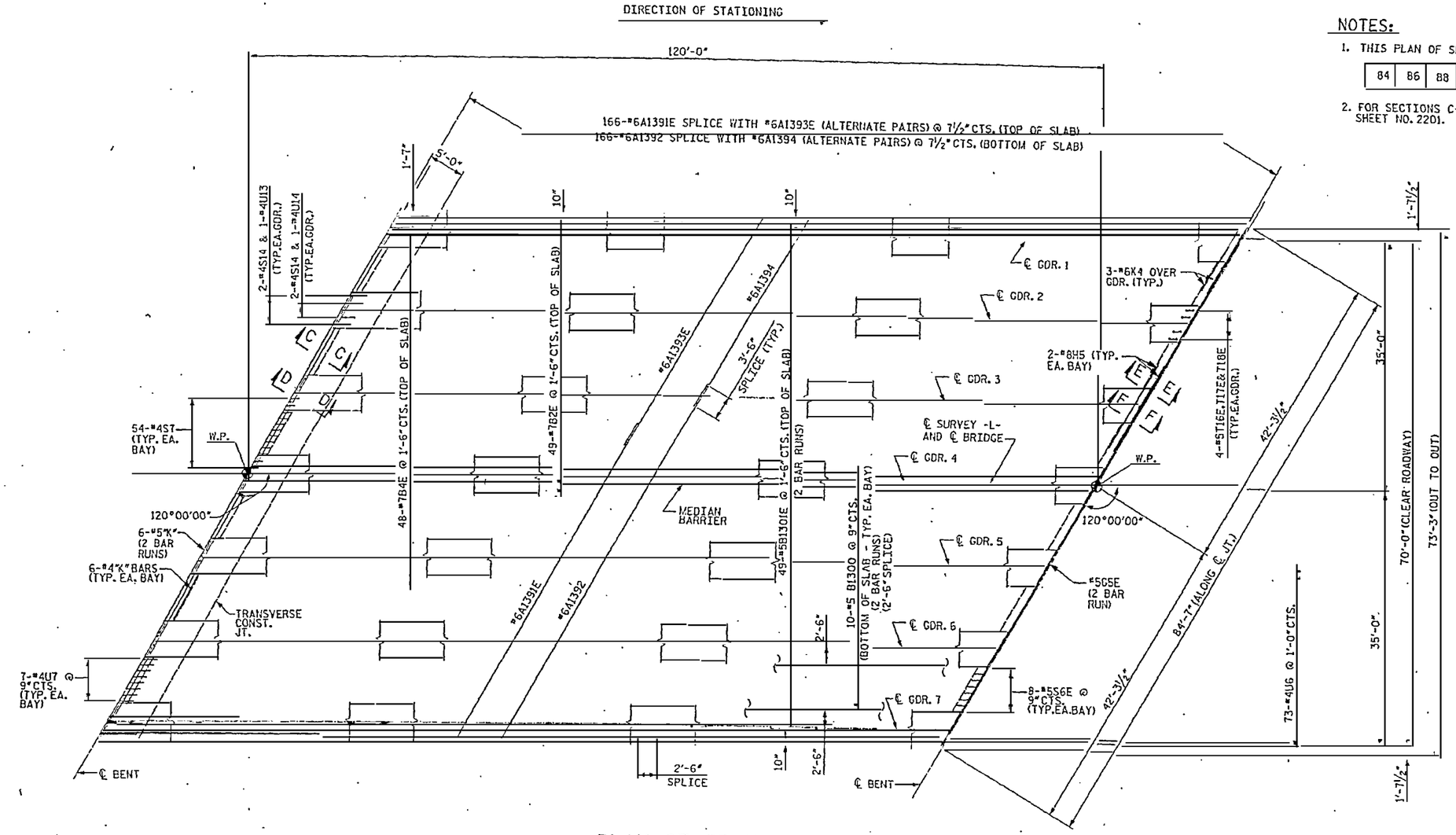
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2095A.00

DRAWN BY : S. G. STREDNAK DATE : 01/09
CHECKED BY : J. W. JORDAN DATE : 01/09

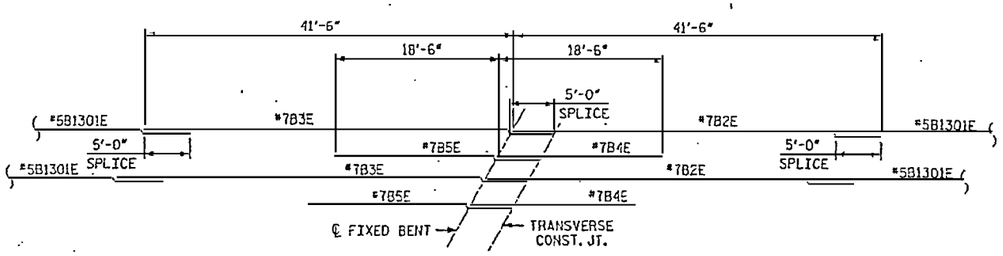
EarthTech
FLATIRON/UNITED

DATE: 8/25/2009
TIME: 8:51:21 AM
USER: scstredn
DGN: P:\Structures\Tar River Bridge\RAD\T13SB_SD_BSW_sa.dgn

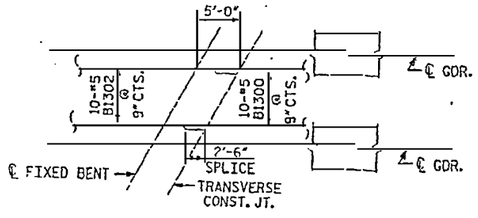
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

84	86	88	90	92	94	96

2. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 13A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2096A.00
1			2			TOTAL

DRAWN BY : S.G. STREDNAK DATE : 01/09
CHECKED BY : J.W. JORDAN DATE : 01/09

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

USER: scottstredna
DGN: K:\Structures\Tar River Bridge\2400\2400a00.sht.dgn
DATE: 2/23/2009 TIME: 8:55:59 AM

DIRECTION OF STATIONING

120'-0" (SPAN 99)

170-#5A1401E SPLICE WITH #5A1403E (ALTERNATE PAIRS) @ 6" CTS. (TOP OF SLAB)
170-#5A1402 SPLICE WITH #5A1404 (ALTERNATE PAIRS) @ 6" CTS. (BOTTOM OF SLAB)

11-#5A1311E @ 6" CTS. (TOP)
SPLICE W/ (#5A1313E, LENGTHS VARY)
(ALTERNATE PAIRS)

11-#5A1312 @ 6" CTS. (BOTTOM)
SPLICE W/ (#5A1314, LENGTHS VARY)
(ALTERNATE PAIRS)

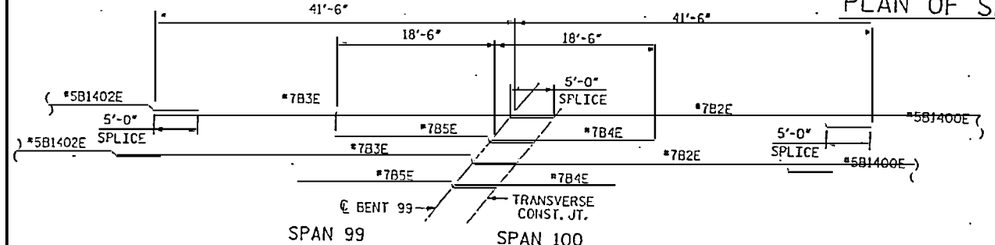
NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

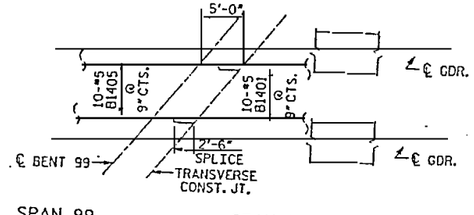
58-#5A1315E @ 6" CTS. (TOP) (LENGTHS VARY)
58-#5A1316 @ 6" CTS. (BOTTOM) (LENGTHS VARY)

73'-3" (OUT TO OUT)
70'-0" (CLEAR ROADWAY)
1'-7½"
35'-0"
42'-3½"
64'-7" (ALONG ℄ JT.)
5'-0"
2'-6"
10"
2'-6" SPLICE
#5G1400E (2 BAR RUN)
4-#5S1403E, S1404E & S1405E (TYP. EA. BAY)
#5A1403E (TOP)
10-#5B1405 @ 9" CTS. (BOTTOM OF SLAB) (TYP. EA. BAY) (3 BAR RUNS) (2'-6" SPLICE)
#5A1404 (BOTTOM)
W.P.
MEDIAN BARRIER
℄ GDR. 1
℄ GDR. 2
℄ GDR. 3
℄ GDR. 4
℄ GDR. 5
℄ GDR. 6
℄ GDR. 7
℄ SURVEY -L- AND ℄ BRIDGE
2-#4U1405 & #4U1404 (TYP. EA. BAY)
2-#4U1405 & 1-#4U1403 (TYP. EA. BAY)
54-#4S1402 (TYP. EA. BAY)
120°00'00"
8-#5S1401E @ 9" (TYP. EA. BAY)
2-#8H3 (TYP. EA. BAY)
TRANSVERSE CONST. JT.
3-#6K1400 OVER GDR. (TYP. 2 BAR RUN)
8-#4U1401E @ 9" (TYP. EA. BAY)
#5A1401E (TOP)
#5A1402 (BOTTOM)
49-#5B1402E @ 1'-6" CTS. (TOP OF SLAB) (2 BAR RUNS)
49-#7B3E @ 1'-6" CTS. (TOP OF SLAB OVER BENTS)
48-#7B5E @ 1'-6" CTS. (TOP OF SLAB OVER BENTS)
6-#5K1402 (2 BAR RUNS)
6-#4K1401 (TYP. EA. BAY)
8-#4U1402 @ 9" CTS. (TYP. EA. BAY)
℄ BENT 98
℄ BENT 99
58-#5A1405E @ 6" CTS. (TOP) (LENGTHS VARY)
58-#5A1406 @ 6" CTS. (BOTTOM) (LENGTHS VARY)
23-#5A1407E @ 6" CTS. (TOP) SPLICE W/ (#5A1409E, LENGTHS VARY) (ALTERNATE PAIRS)
23-#5A1408 @ 6" CTS. (BOTTOM) SPLICE W/ (#5A1410, LENGTHS VARY) (ALTERNATE PAIRS)

PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/09
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 14
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
			3		
			4		

SHEET NO. 2097.00
TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL SEAL 030537 ENGINEER JOHN C. BORDEN

EarthTech
A Quest Consultants LLC Company

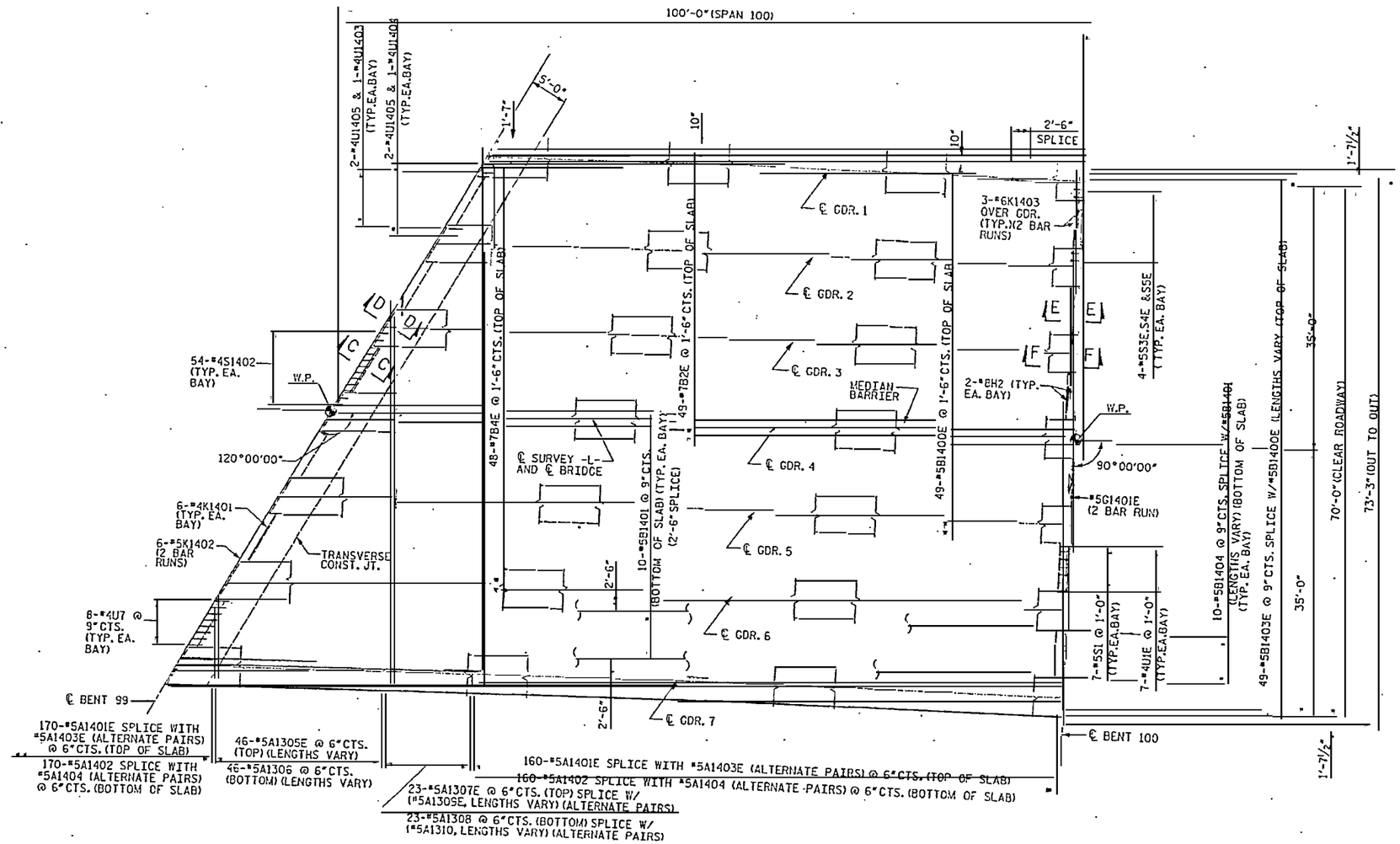
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

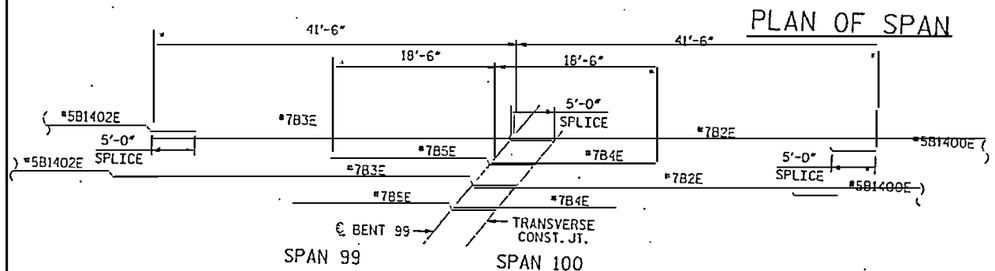
DATE: 4/2/2009
FILE: 0353_P14

USER: scott.sprouse
DGN: P:\ROADWAY\STRUCTURES\0353_P14.dgn

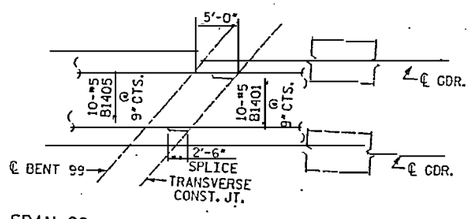
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 14
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

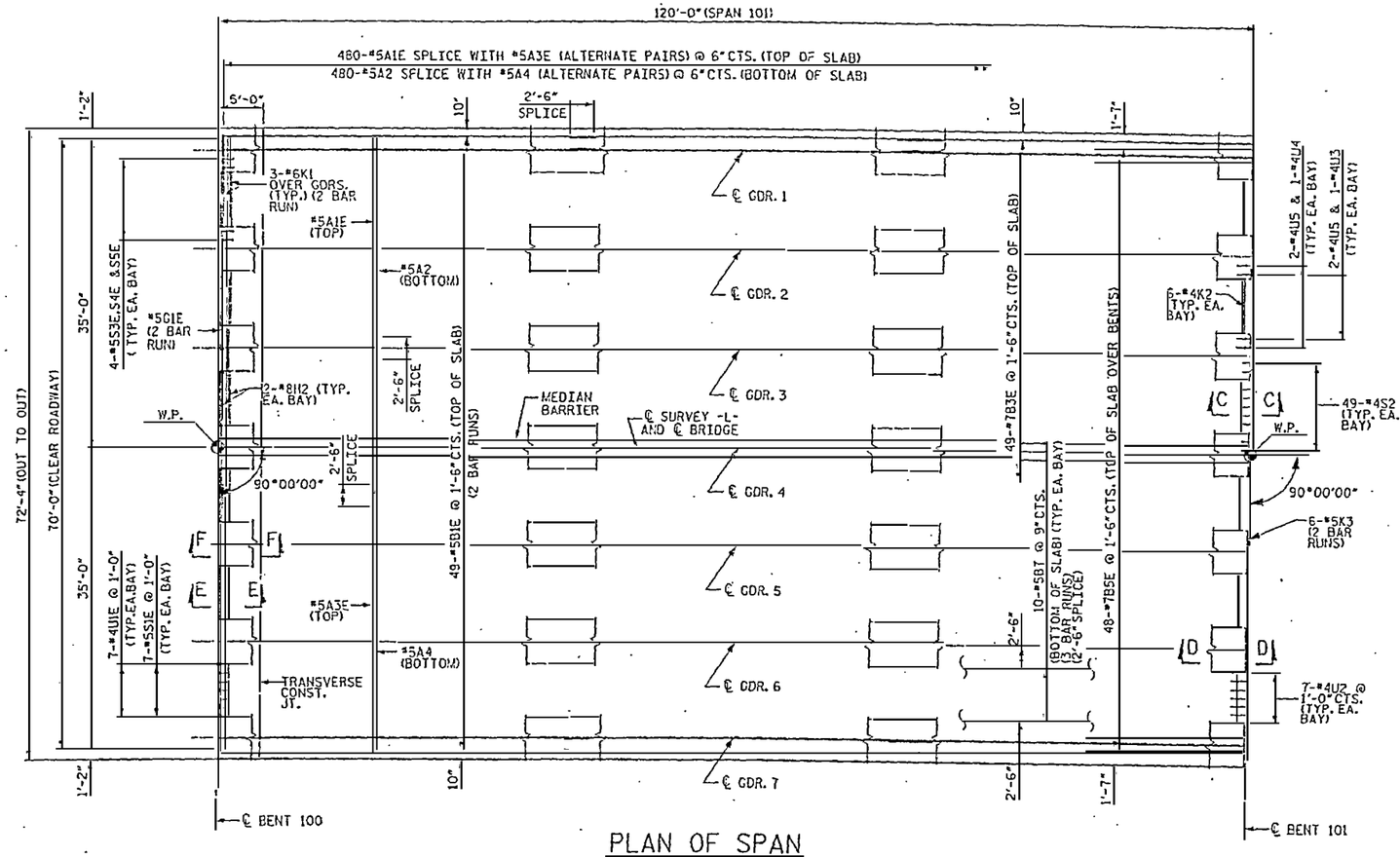
SHEET NO. 2098.00
TOTAL SHEETS

DRAWN BY : M.M DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

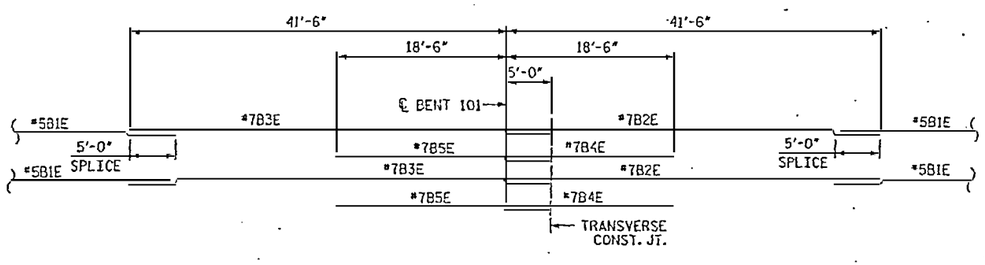
EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

USER: rcarraway
DGN: Instructions for Inspectors\R2510_SD_BGE_pln_type14_2.dgn
DATE: 4/2/2007
TIME: 10:33:17 AM

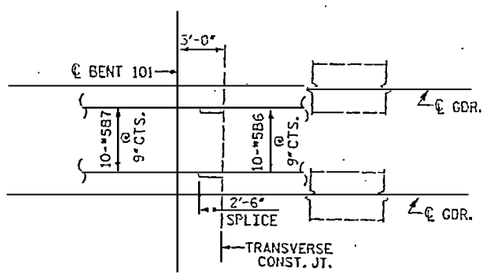
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 15
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2099.00
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL SEAL 026627 ENGINEER JOHN F. JORDAN

EarthTech
A Tyco International Ltd. Company

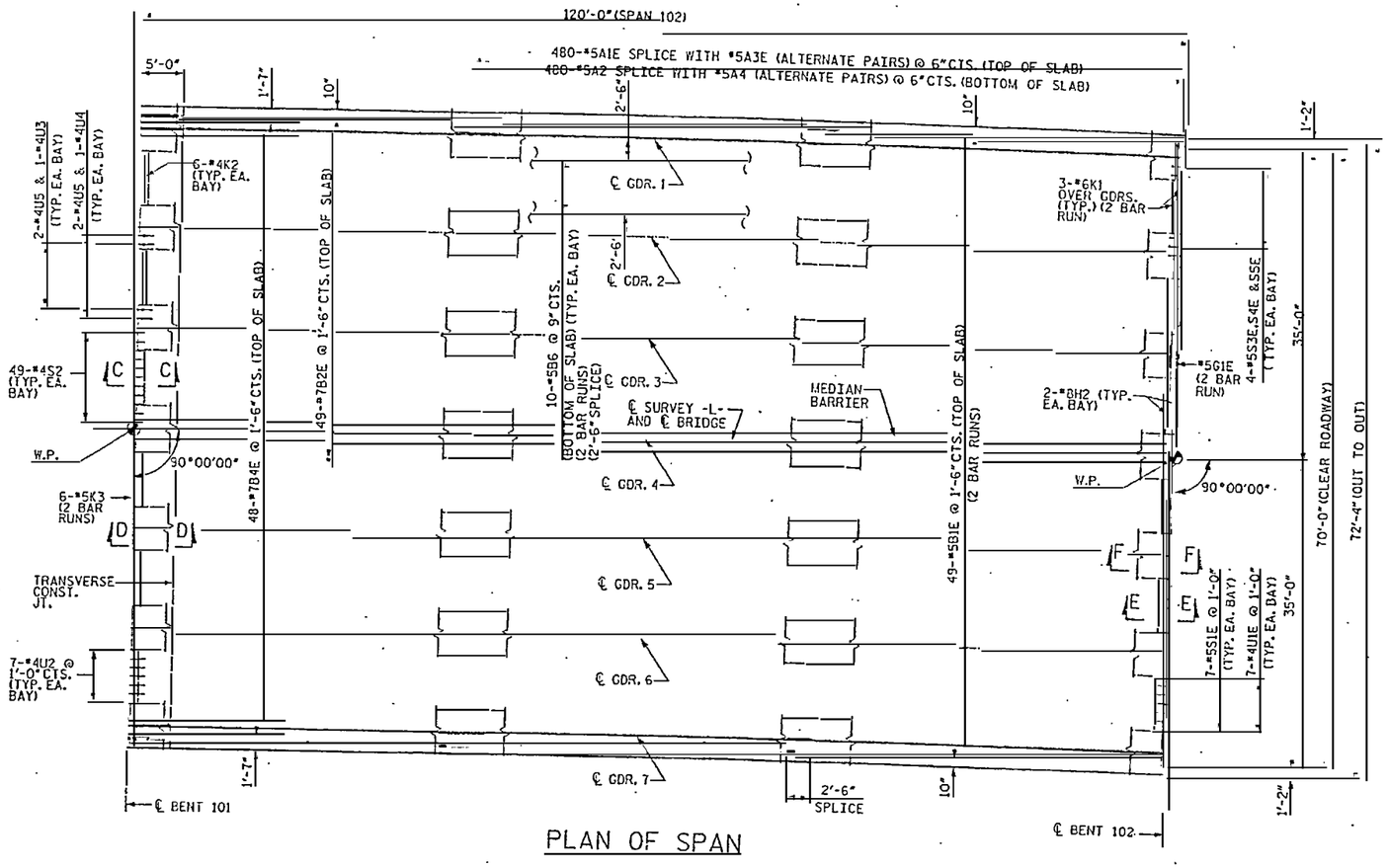
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : LJH DATE : 10/06
CHECKED BY : LJH DATE : 10/06

DATE: 4/2/2007
TIME: 8:55:47 AM

USER: pattmeyer
FILENAME: \\ehrfile\projects\R2510B_SOLDSH_sht_type15.dgn

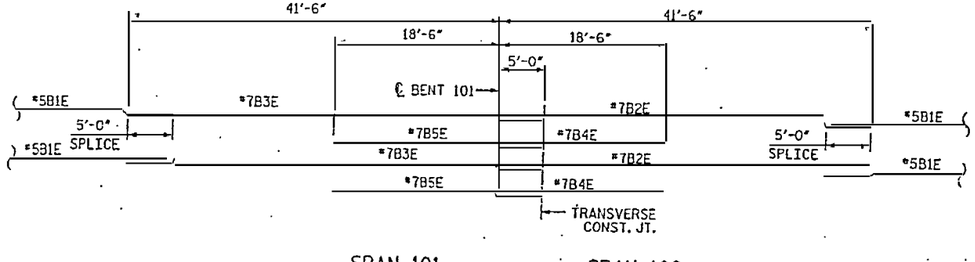
DIRECTION OF STATIONING



PLAN OF SPAN

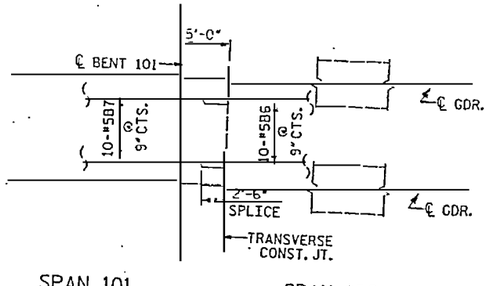
NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.



SPAN 101 SPAN 102

TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



SPAN 101 SPAN 102

BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Sheari 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 15
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:

SHEET NO. 2100.00
TOTAL SHEETS

NORTH CAROLINA SEAL 030876 ENGINEER 4/2/07

Earth Tech
A Tyco International Ltd. Company

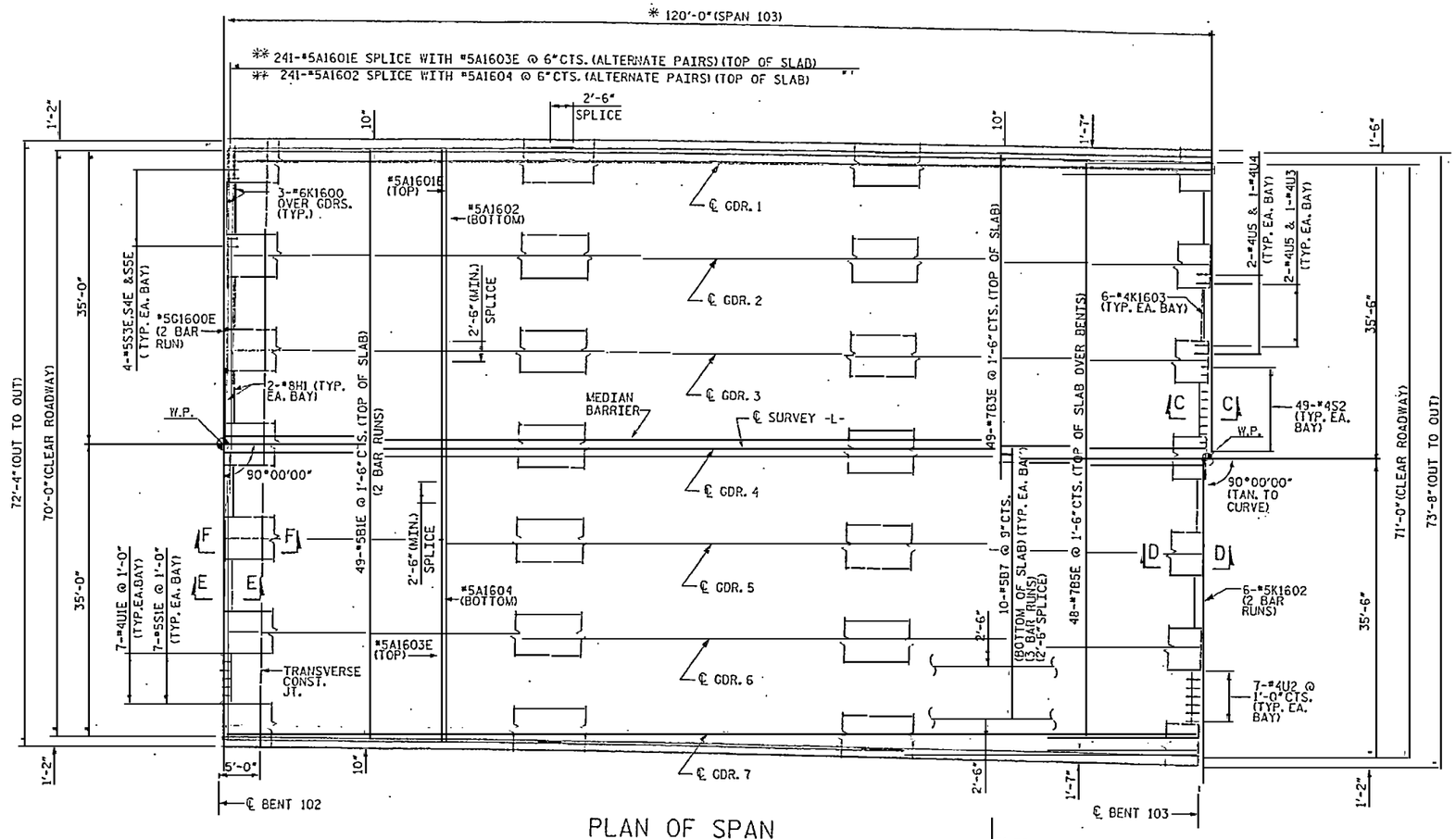
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.M DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

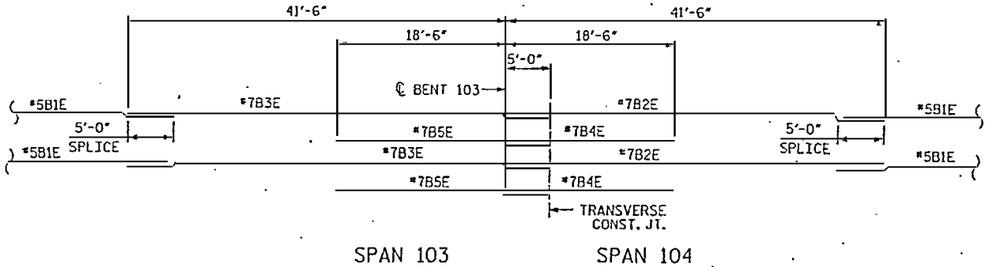
DATE: 4/2/2007
TIME: 10:26:5 PM

USER: mmathews
DGN: N:\structure\bar files\projects\R2510B_50_DSH_sht_typ15_2.dgn

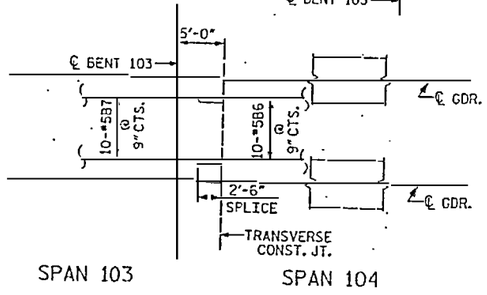
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 16
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL C30676 ENGINEER SCOTT A. SCHROCK

EarthTech
A Tyco International Ltd. Company

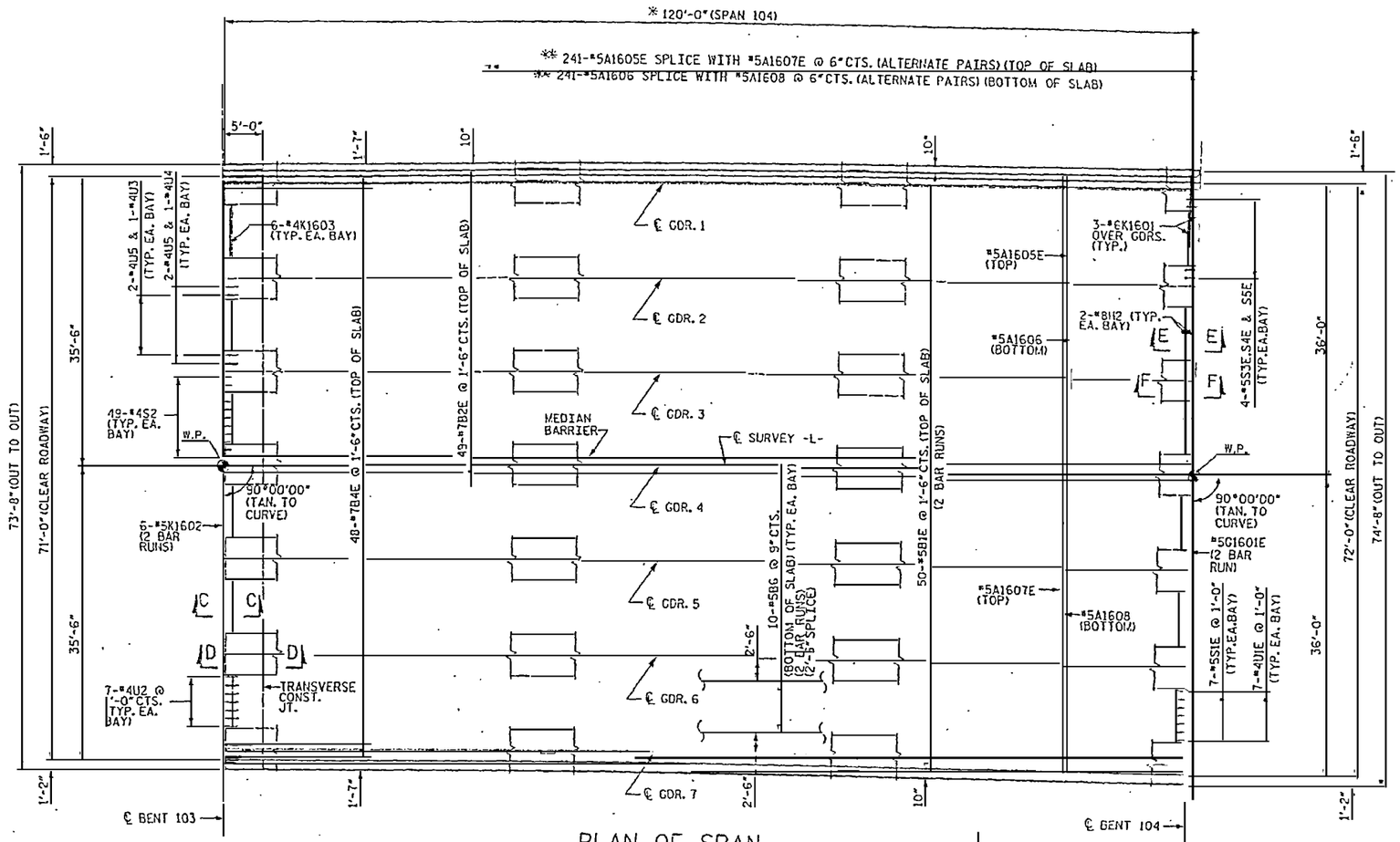
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2101.00
1			3			TOTAL SHEETS
2			4			

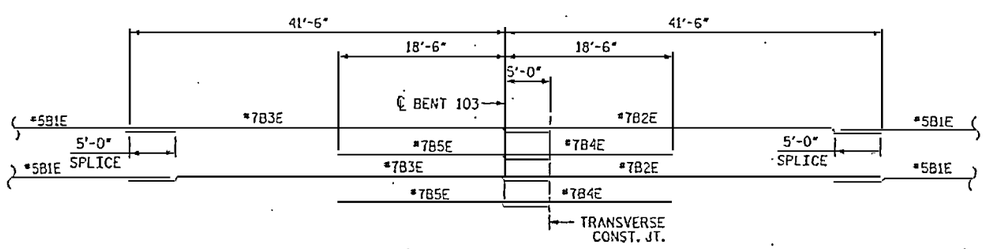
DRAWN BY : MJH DATE : 10/06
CHECKED BY : J.E.B. DATE : 10/06

DATE: 4/2/2007
TIME: 1:58:44 PM
USER: kmfletcher
LOC: N:\Projects\R-2510B\Roadway\Structures\Bridge\Sheets\R2510B_SD_DSN_Type16.dgn

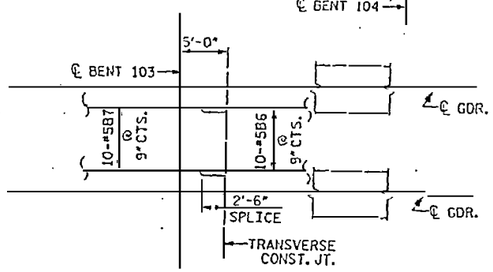
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT
(TYPICAL EA. BAY)

NOTES:

1. FOR SECTIONS C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 4/2/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 16
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2102.00
1			3			TOTAL SHEETS
2			4			

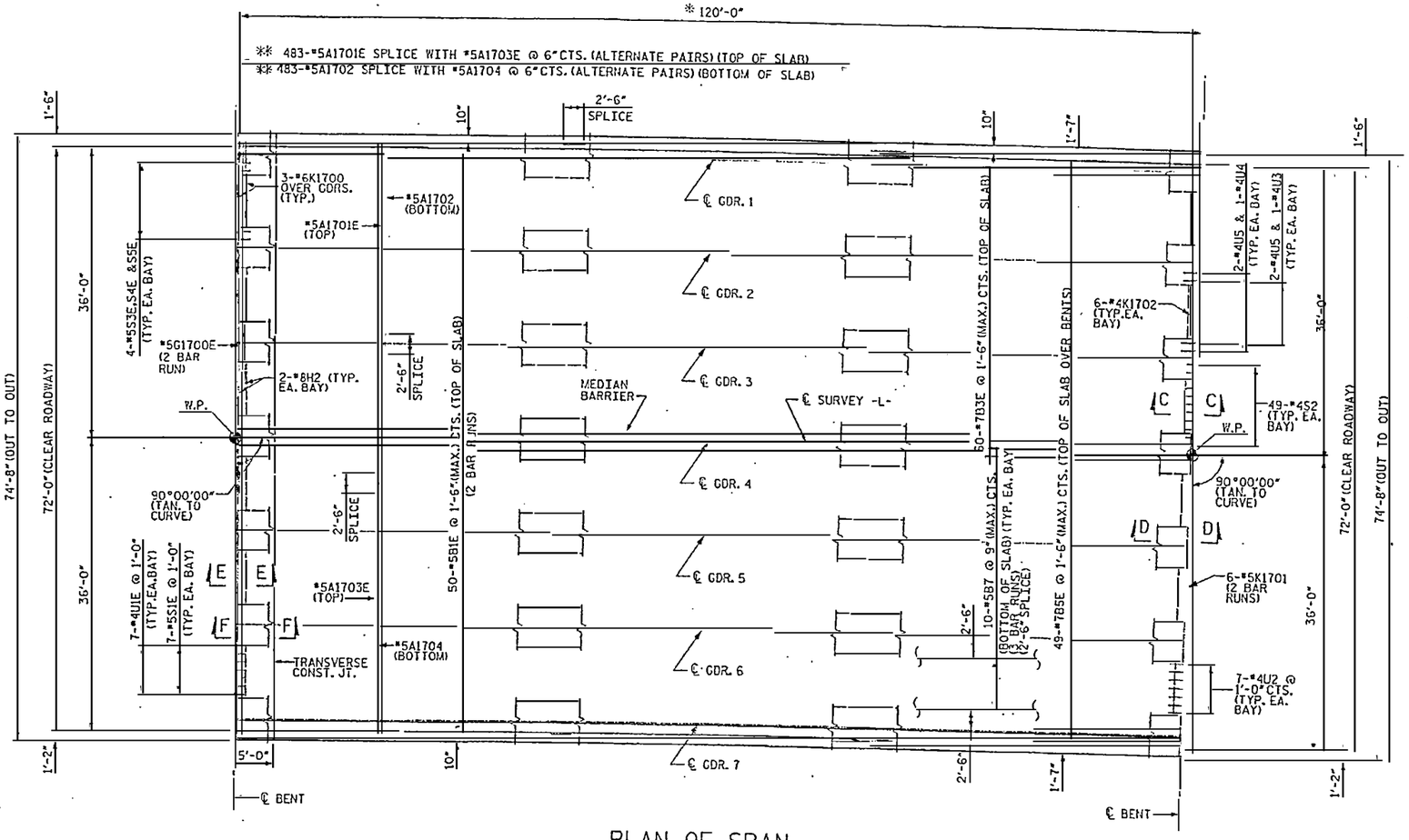
DRAWN BY : M.F.I. DATE : 10/06
CHECKED BY : J. L.K.J. DATE : 10/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

USER: estimated
PLOT SCALE = 1.000 '/ IN
PLOT DATE = 4/2/2007
FILE: n:\projects\structures\new bridges\beaufort\2500_SUPERSTRUCTURE\2500_SUPERSTRUCTURE_2.dgn

DIRECTION OF STATIONING



PLAN OF SPAN

NOTES:

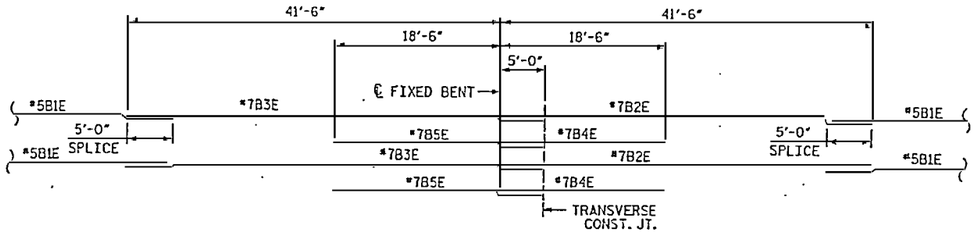
1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

105	107	109

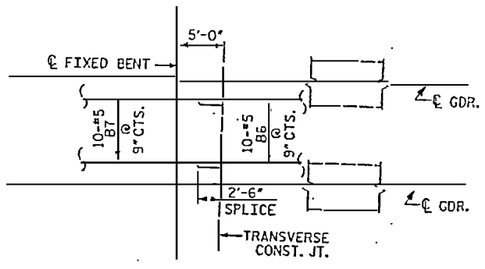
2. FOR SECTIONS C-C, D-D , E-E, AND F-F SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

DRAWN BY : M.N DATE : 10/06
CHECKED BY : L.B.J DATE : 10/06

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2103.00
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL SEAL 030876 ENGINEER THOMAS E. SHEARIN

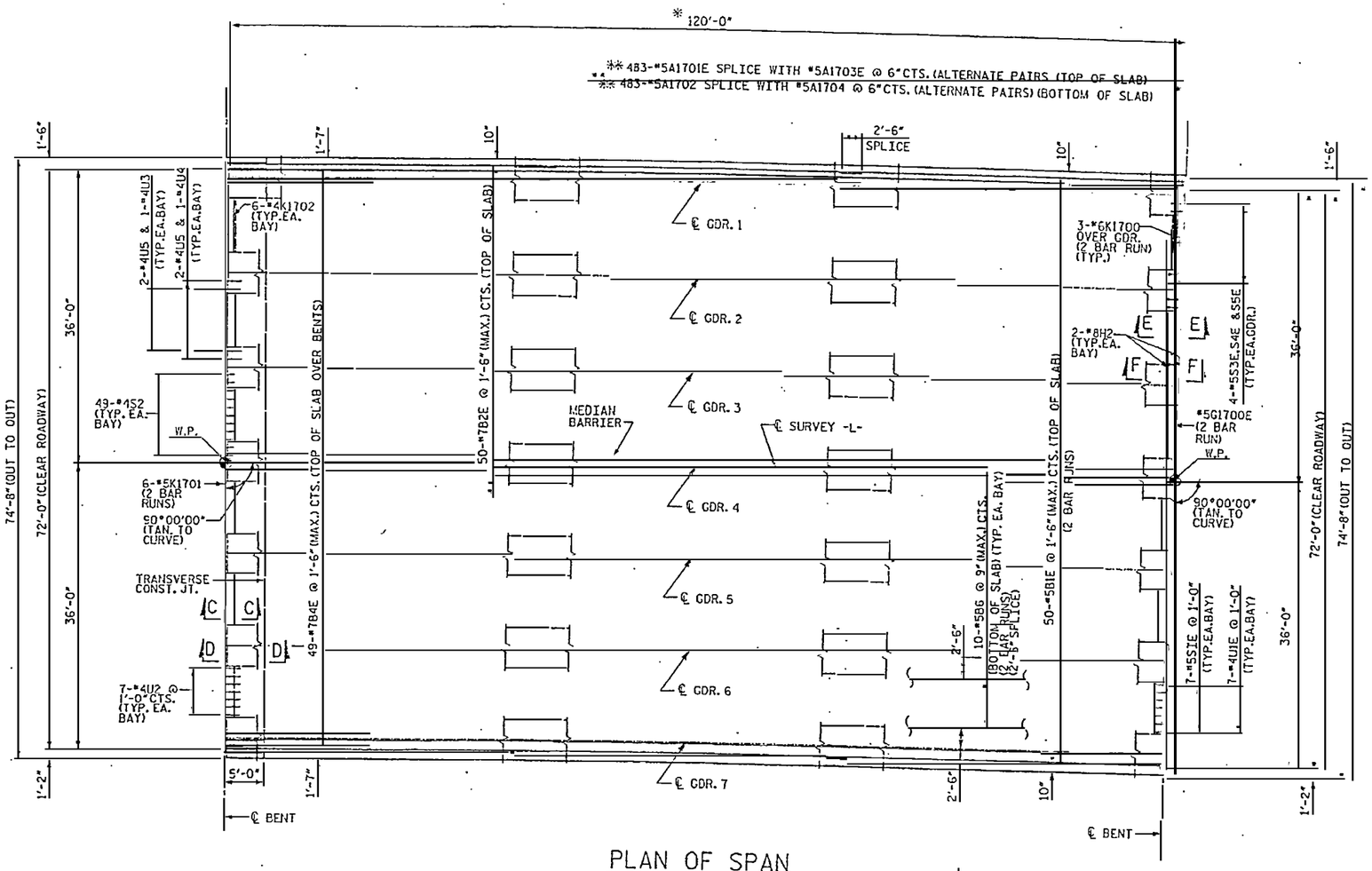
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

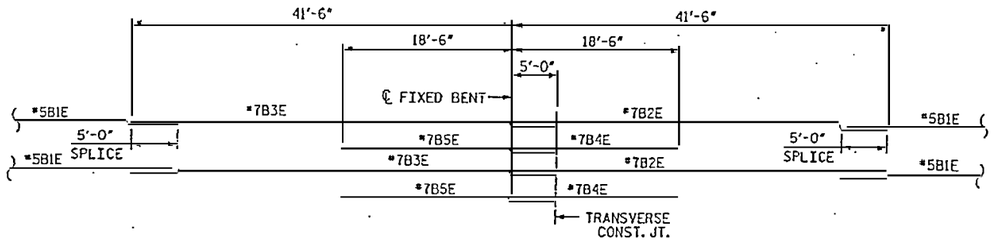
DATE: 4/2/2007
FILE: 2103.00

USER: mshearin
DGN: mshearin\Dot projects\R2510B SD_TS17_P.dgn

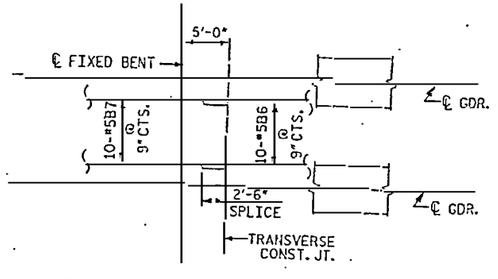
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

NOTES:

1. THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

106	108	110

2. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2104.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.H DATE : 10/06
CHECKED BY : J. LEU DATE : 10/06

EarthTech
A Tyco International Ltd. Company

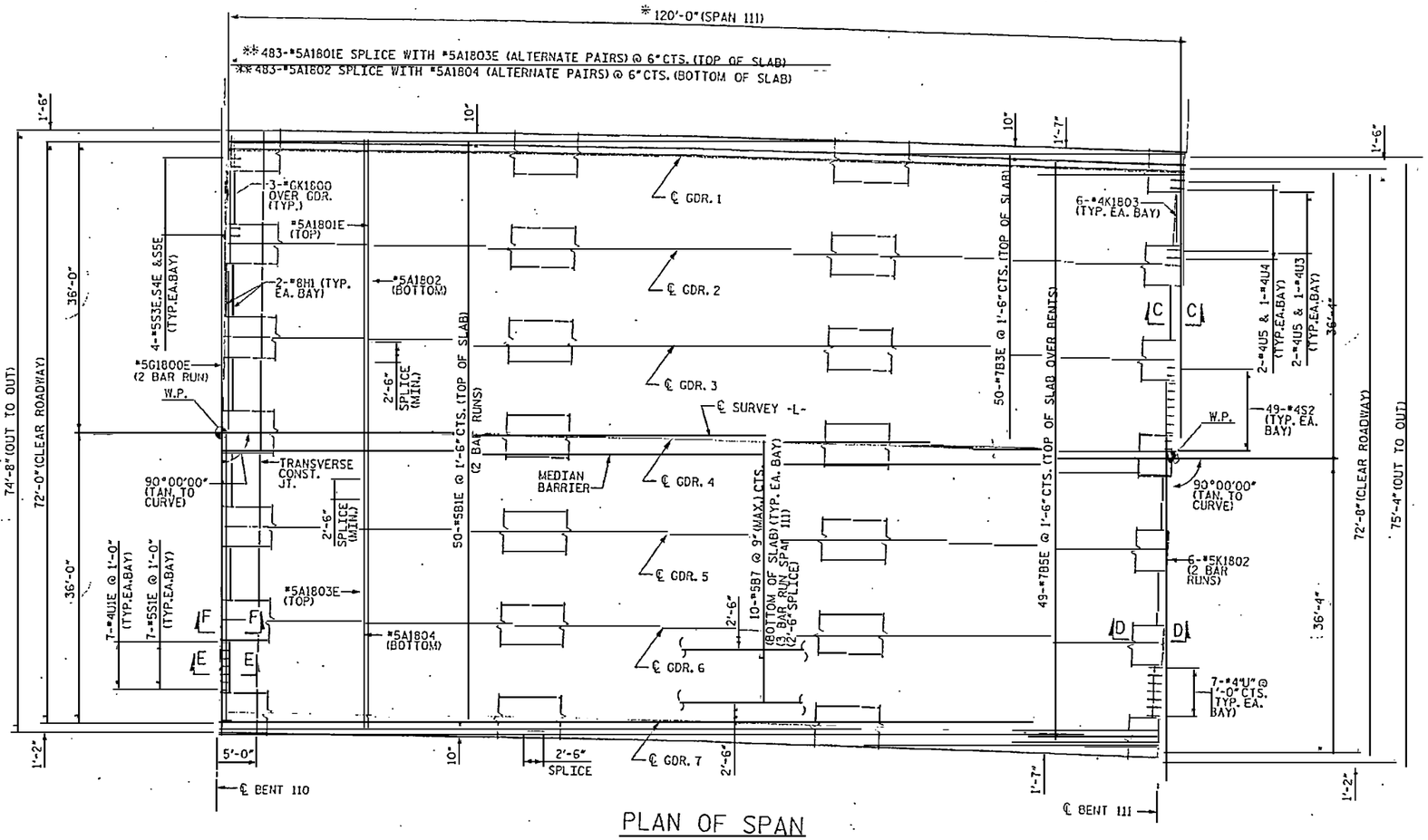
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 029463 ENGINEER JOHN W. JORDAN

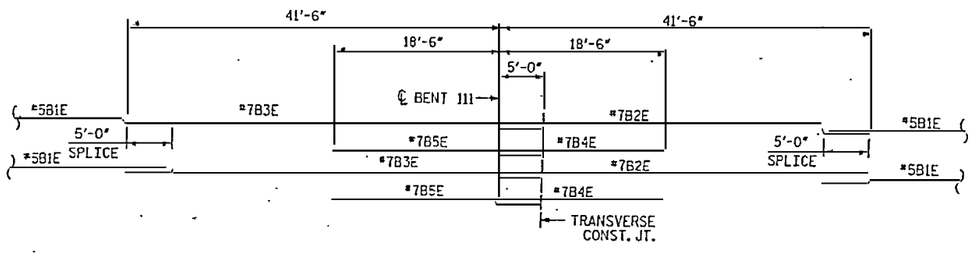
DATE: 4/3/2007
TIME: 12:58:58 PM

USER: rjohnson
DGN: N:\Structure\tar river bridges\us17\2510_50_05\Layout\T2.dgn

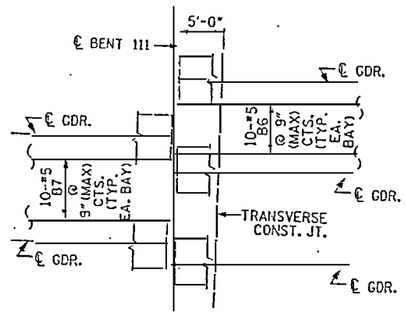
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN ARE MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 4/2/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 18
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2105.00
TOTAL SHEETS

Earth Tech
A Tyco International Ltd. Company

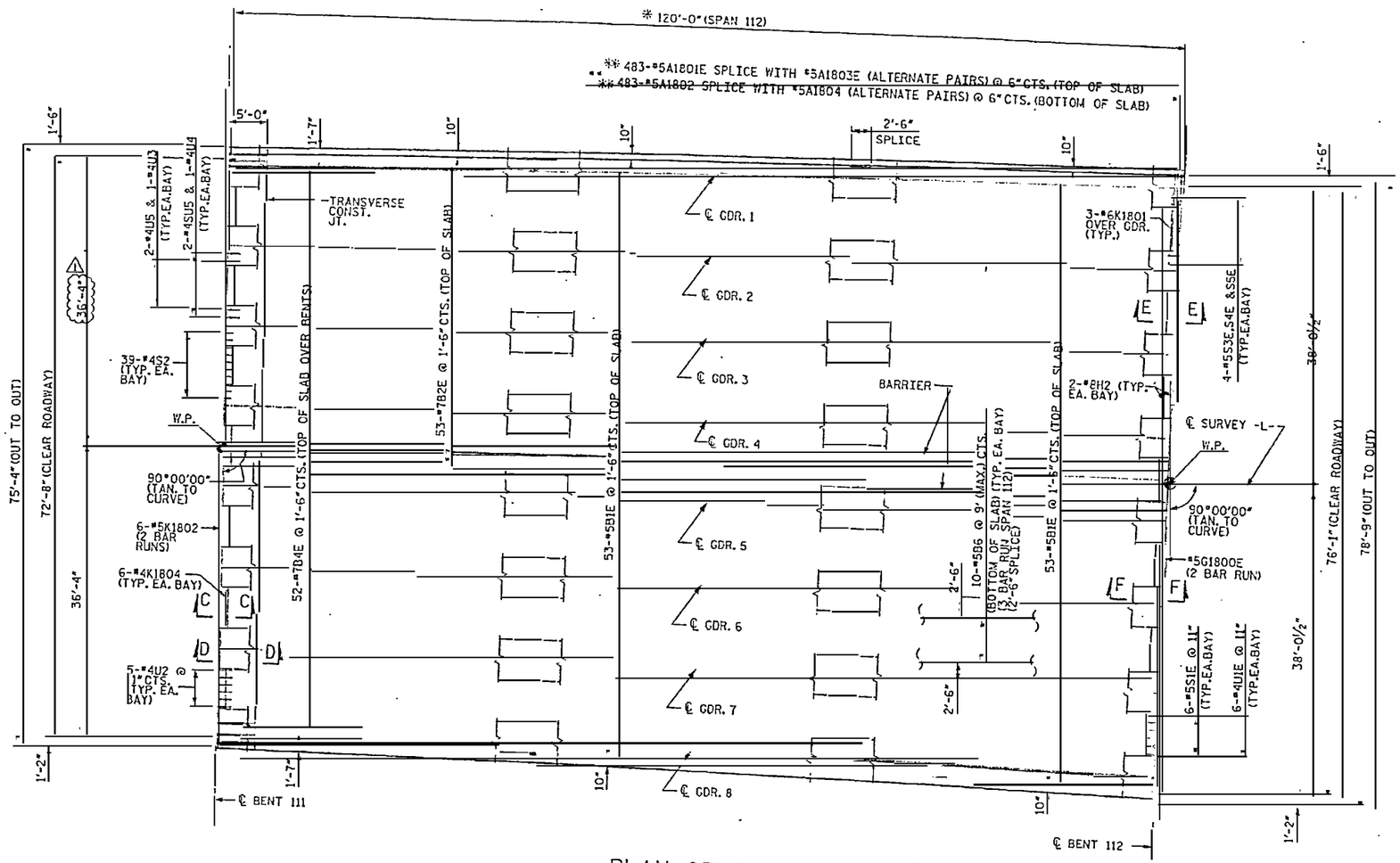
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : MFH DATE : 10/06
CHECKED BY : J. LRJ DATE : 10/06

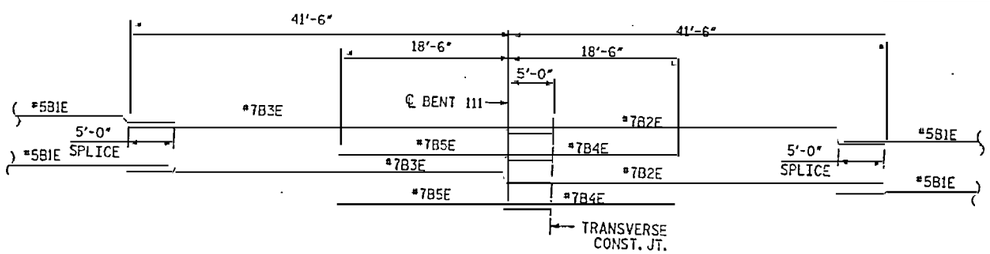
DATE: 4/2/2007
TIME: 1:53:39 PM

USER: scottstreet
DGN: N:\structure\tar river bridges\bridge\02510\02510_SSPLAN_sht_type18.dgn

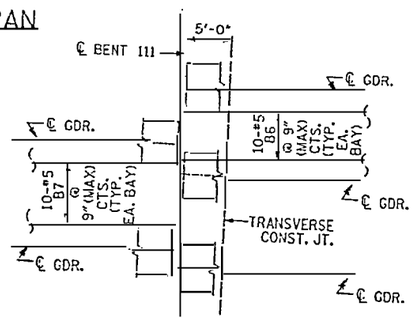
DIRECTION OF STATIONING



PLAN OF SPAN



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN ARE MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
Tom Shearin 7/30/07
TOM SHEARIN, PE DATE

⚠ REVISED DIMENSION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 18
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2106.01
1	SCS	7/07	3			TOTAL SHEETS
2			4			

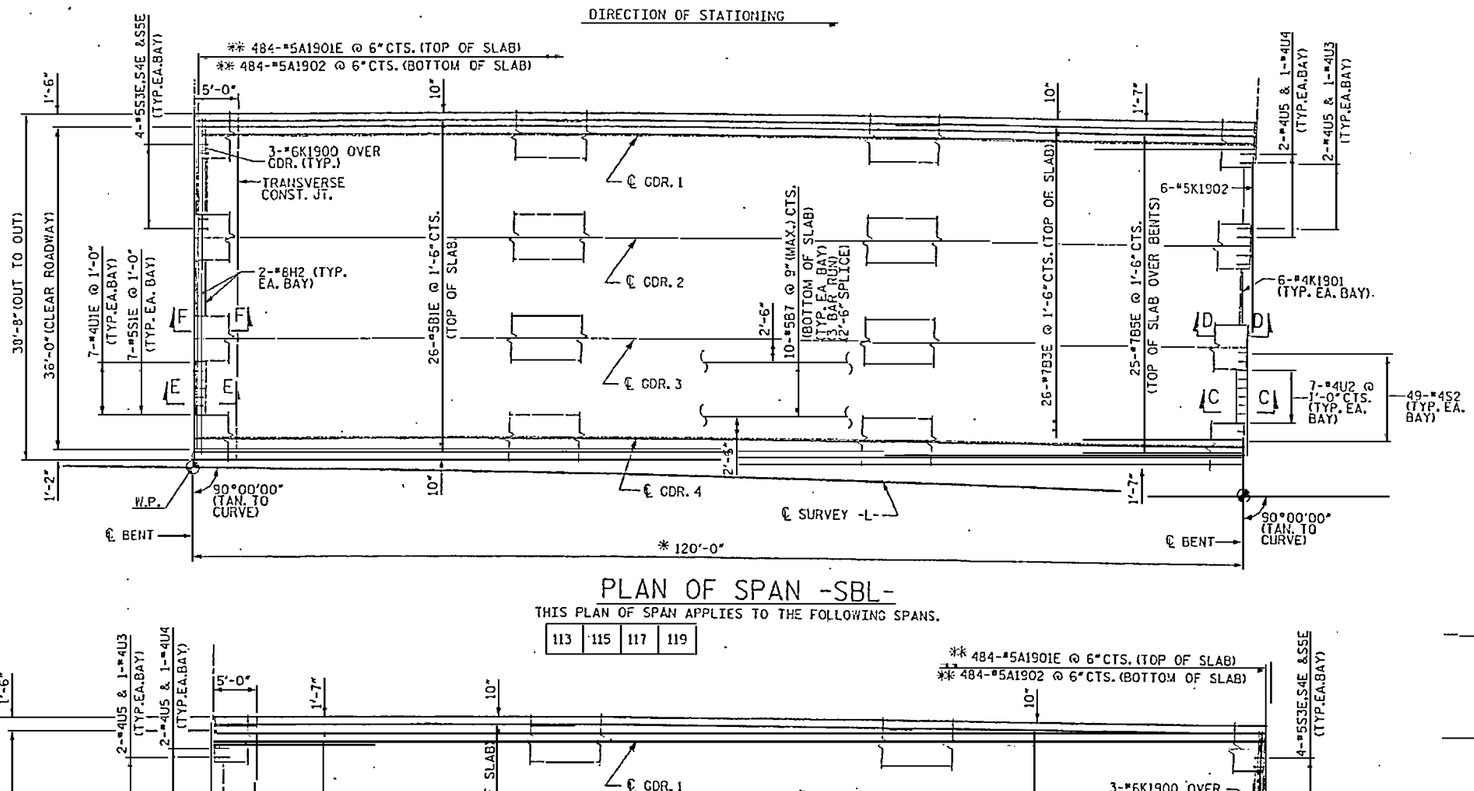
NORTH CAROLINA PROFESSIONAL SEAL 026666 ENGINEER WILLIAM C. ROSS

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.N. DATE : 10/06
CHECKED BY : J. LFJ DATE : 10/06

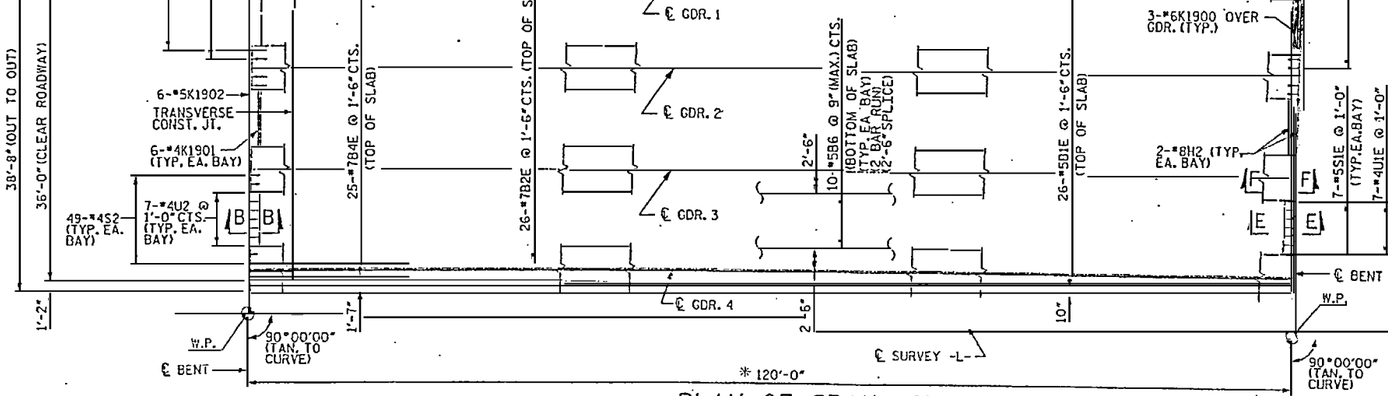
USER: jstratford
DGN: mrstructure.dgn
DATE: 7/30/2007
TIME: 9:06:18 AM



PLAN OF SPAN -SBL-

THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

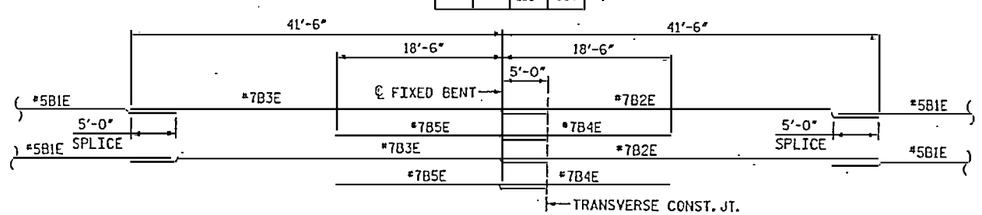
113	115	117	119



PLAN OF SPAN -SBL-

THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

114	116	118	120



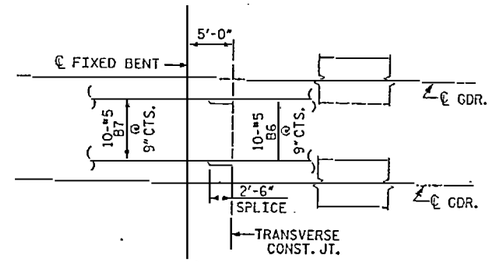
TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO.2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 19
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2107.00
1			3			TOTAL SHEETS
2			4			

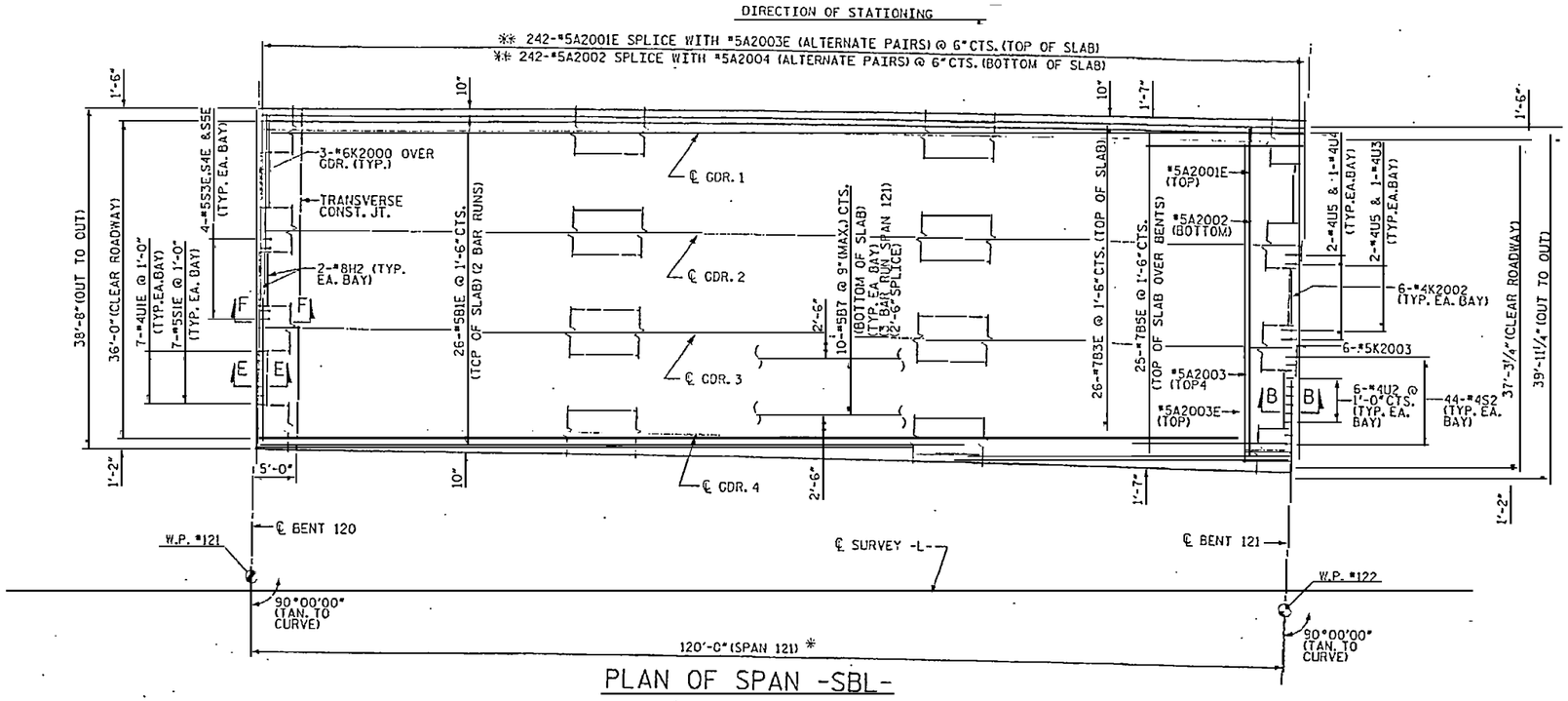
DRAWN BY : M.M DATE : 10/06
CHECKED BY : J. LRJ DATE : 10/06

Earth Tech
A Tyco International Ltd. Company

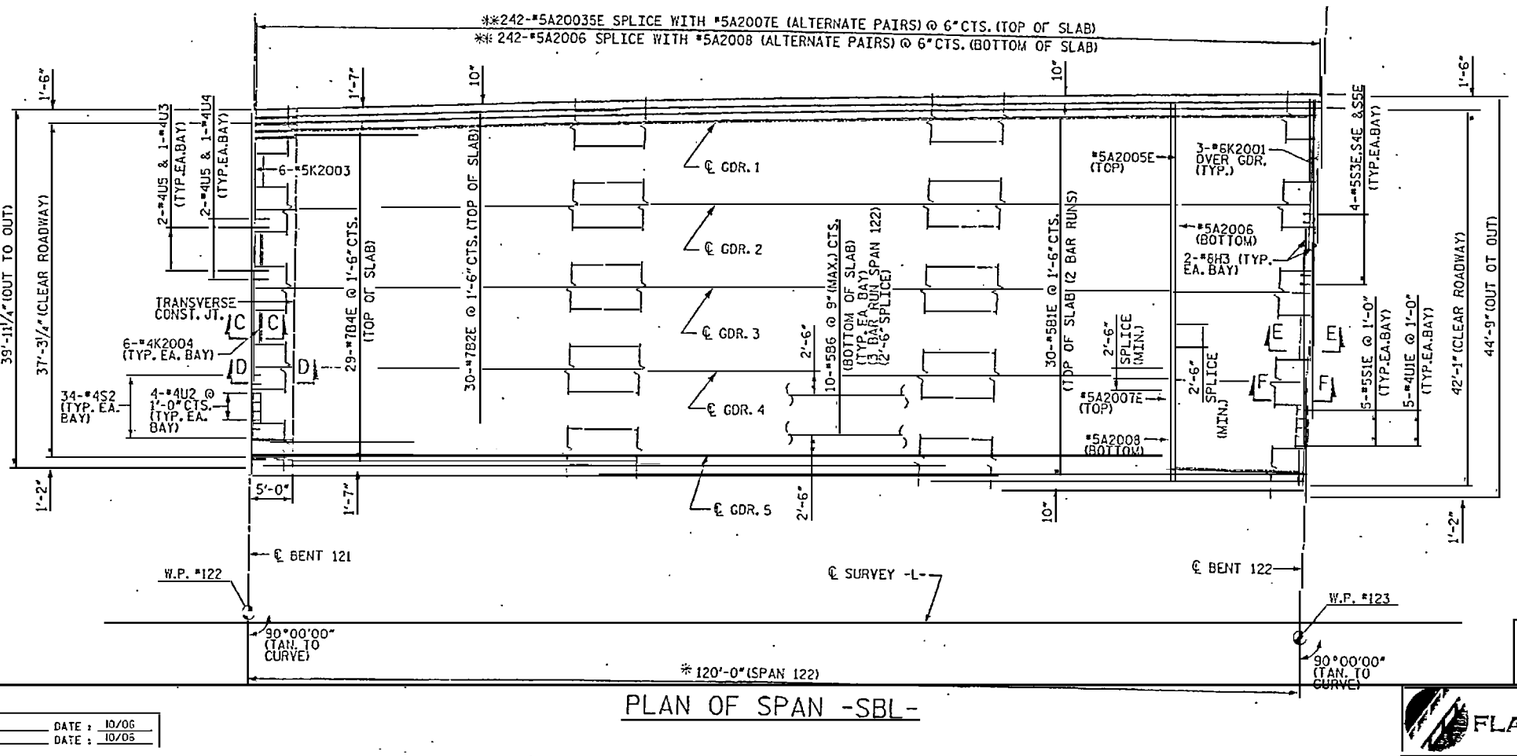
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23961 ENGINEER JAMES R. JORDAN, JR.

USER: sostanovich
DGN: Plan Sheet.dgn
DATE: 4/5/2007
TIME: 10:00:00 PM



PLAN OF SPAN -SBL-



PLAN OF SPAN -SBL-

NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/6/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2108.00
			3			TOTAL SHEETS
			4			

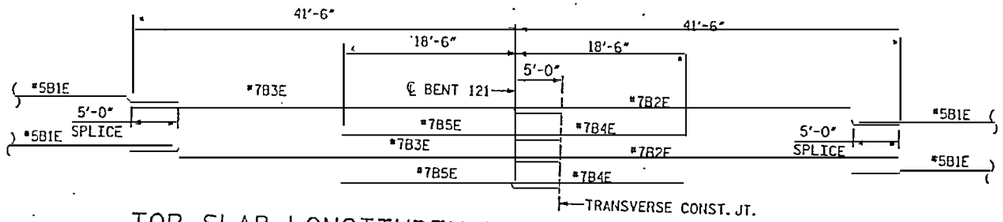
DRAWN BY : MJK DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

Earth Tech
A Tyco International Ltd. Company

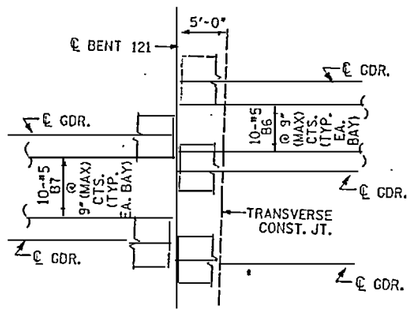
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030613 JOHN M. KOSKINEN

USER: scottstroud
DGN: truncweaver river bridges\bridge#2\SB_SUP_sht_type20.dgn
DATE: 4/2/2007
TIME: 10:59:59 PM



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

2 OF 2 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2108A.00
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL SEAL 030678 ENGINEER JOHN L. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 4/5/2007
TIME: 10:35:51 AM

USER: scottstreet
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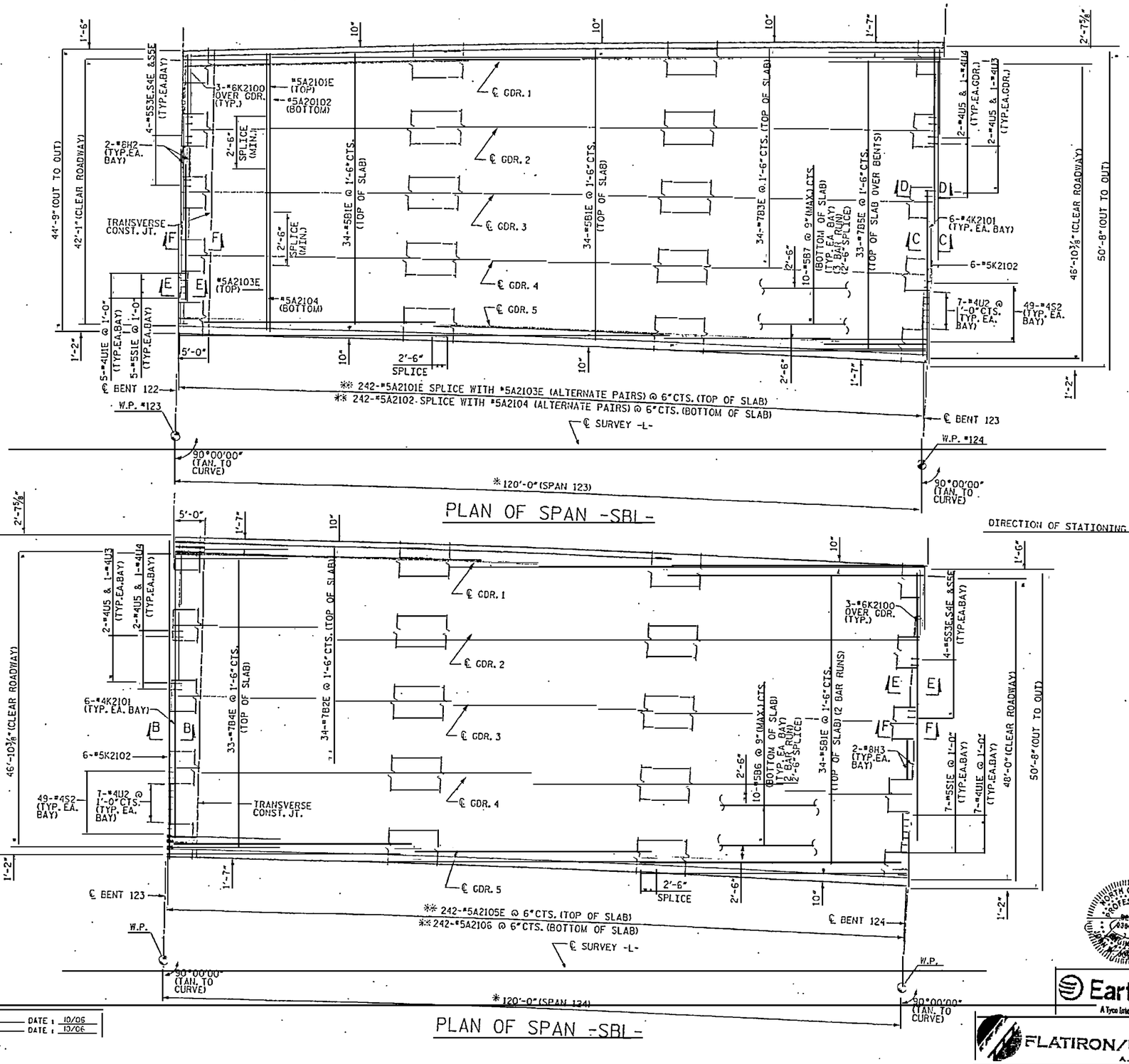


NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RAIDIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2109.00
						TOTAL SHEETS

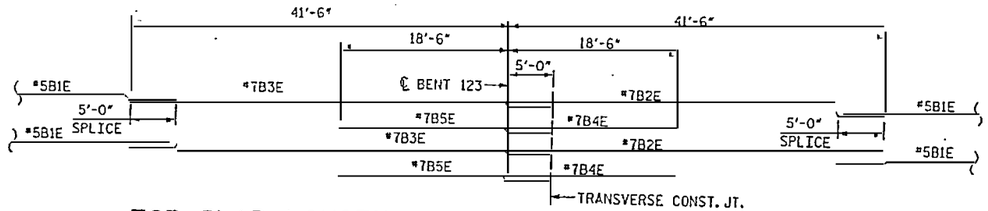
NORTH CAROLINA PROFESSIONAL SEAL 039676 ENGINEER JOHN W. SMITH

Earth Tech
A Tyco International Ltd. Company

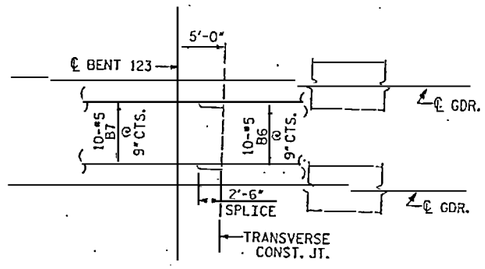
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.H DATE : 10/06
CHECKED BY : J. LU DATE : 10/06

USER NOTE: PRINTED BY THE HIGHWAY DESIGN ON 05/24/07 at 9:00:00
DATE: 4/2/2007
TIME: 1:54:31 PM



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION

Tom Shearin 4/2/07

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030570 ENGINEER JOHN W. JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2109A.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LU DATE : 10/06

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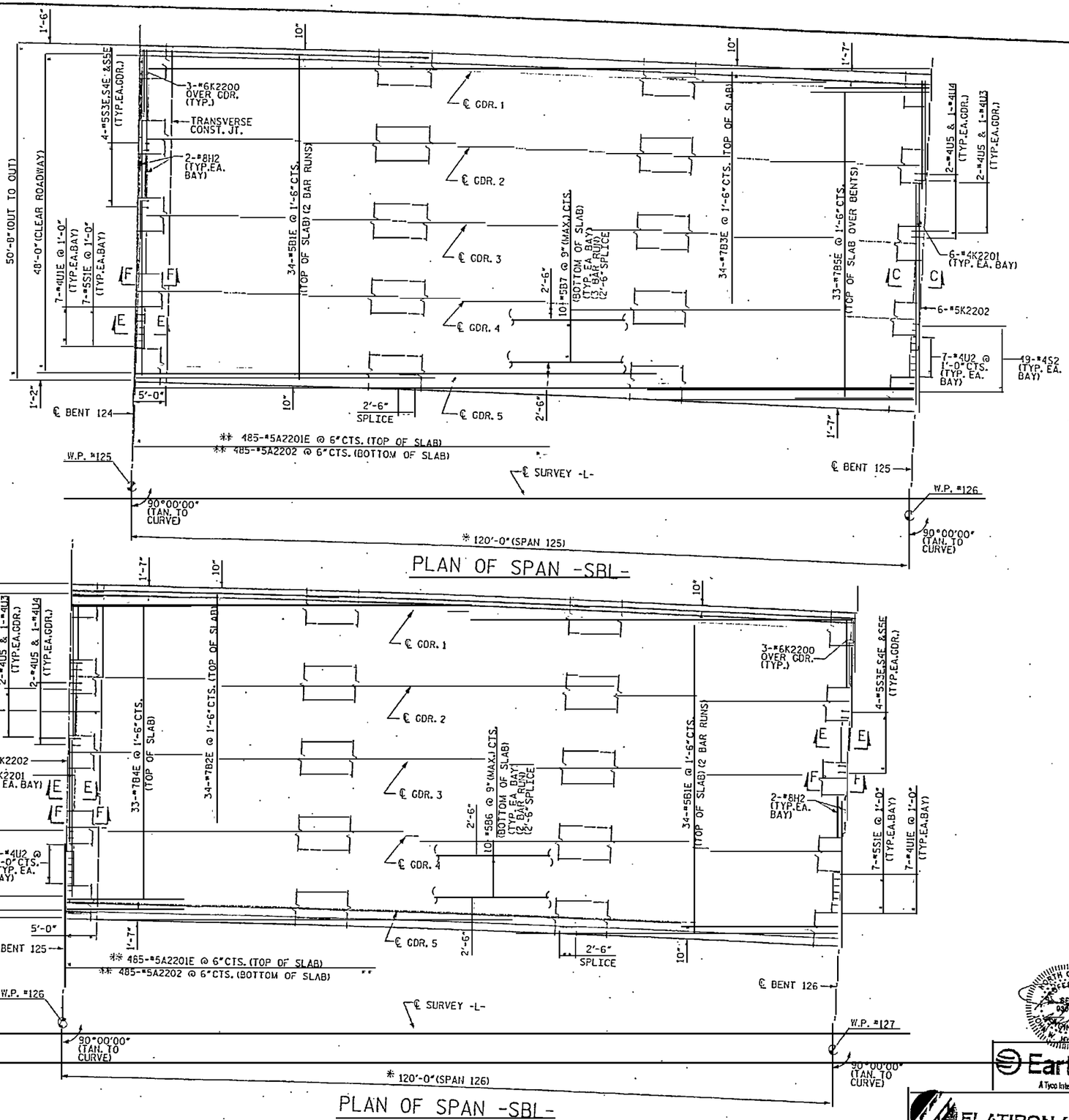
DATE: 4/2/2007
TIME: 10:24:24 AM



NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 9/2/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -

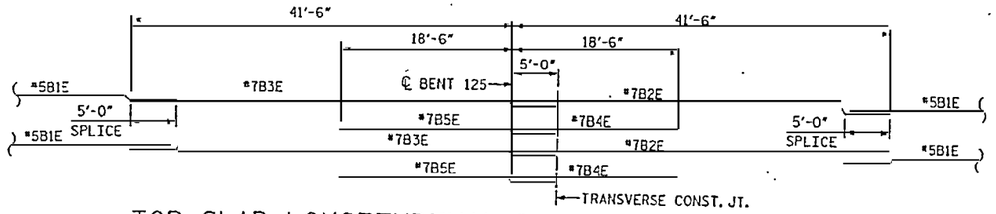
SUPERSTRUCTURE
PLAN OF SPAN TYPE 22
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2110.00
			3			TOTAL SHEETS
			4			

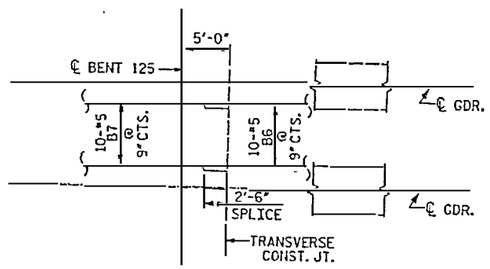
DRAWN BY : M.H DATE : 10/06
CHECKED BY : J. LRJ DATE : 10/06

Earth Tech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

PLOTTED: 4/2/2007
FILE: 1S5P4.dgn
USER: rsatterwhite
DGN: rsatterwhite new bridges\w0035\50_05\1s5p4.dgn



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION

Tom Shearin 4/2/07

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 22
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 029473 ENGINEER JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2110A.00
1			3			TOTAL SHEETS
2			4			

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CHECKED BY : J. LEO DATE : 10/06

DATE: 4/2/2007
TIME: 10:55:19 PM

USER: rumfordwt
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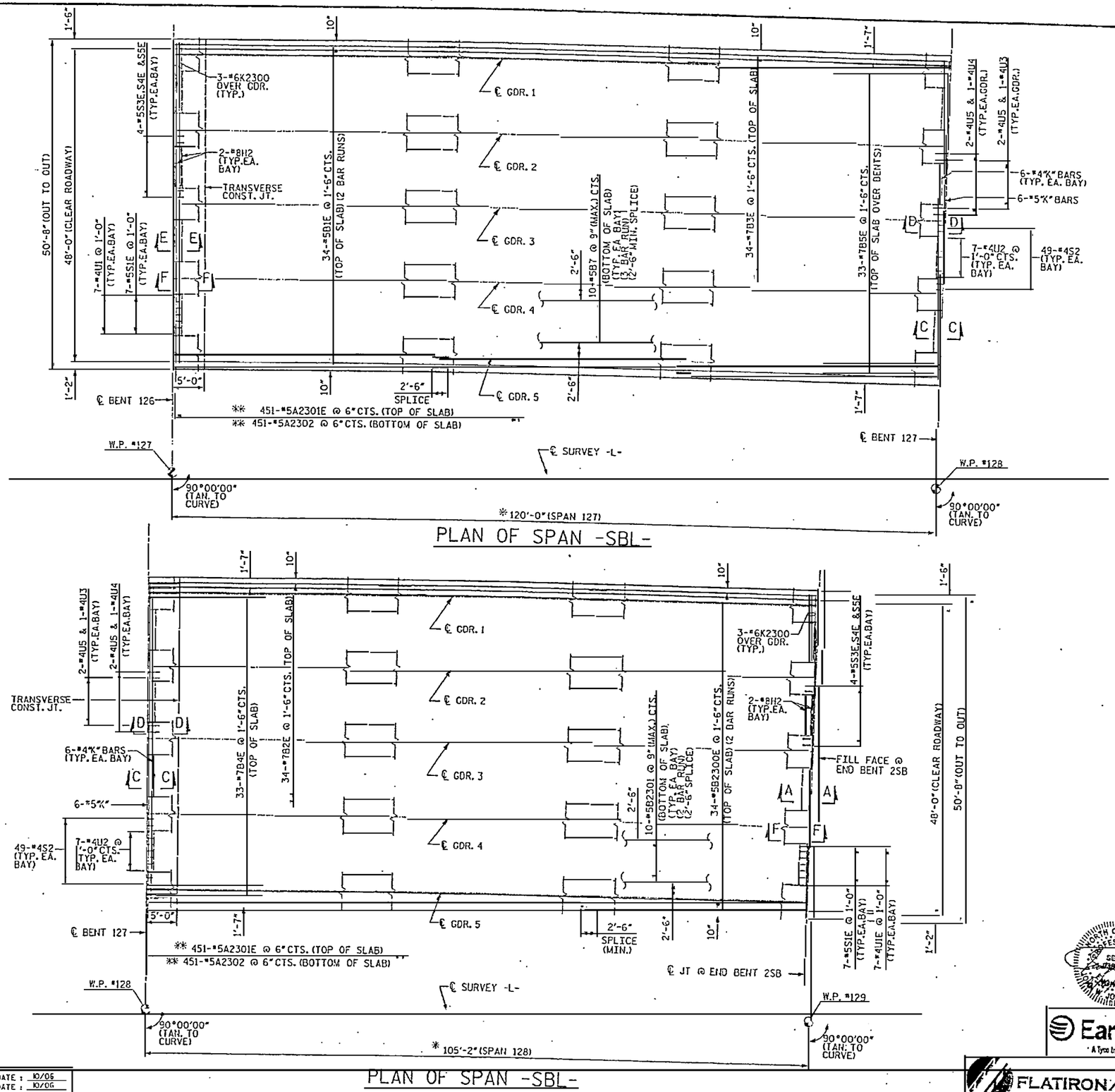


PLAN OF SPAN -SBL-

PLAN OF SPAN -SBL-

NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 23
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2111.00
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029878 JOHN C. O'CONNOR JR. TORCH

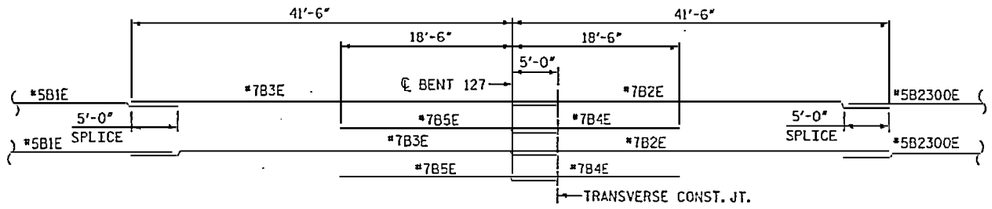
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

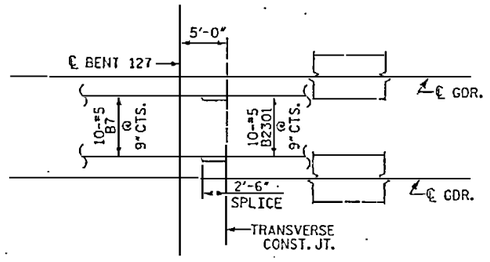
DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LBJ DATE : 10/06

DATE: 4/2/2007
TIME: 12:53:7 PM

USER: scott.sherbet
DGN: N:\Structures\Tar River Bridge\CADD\2510B_SD_05A_pt_tyre23.dgn



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 4/2/07

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 23
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2111A.00
1			3			TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL SEAL 030626 ENGINEER JAMES C. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

USER: mshelton
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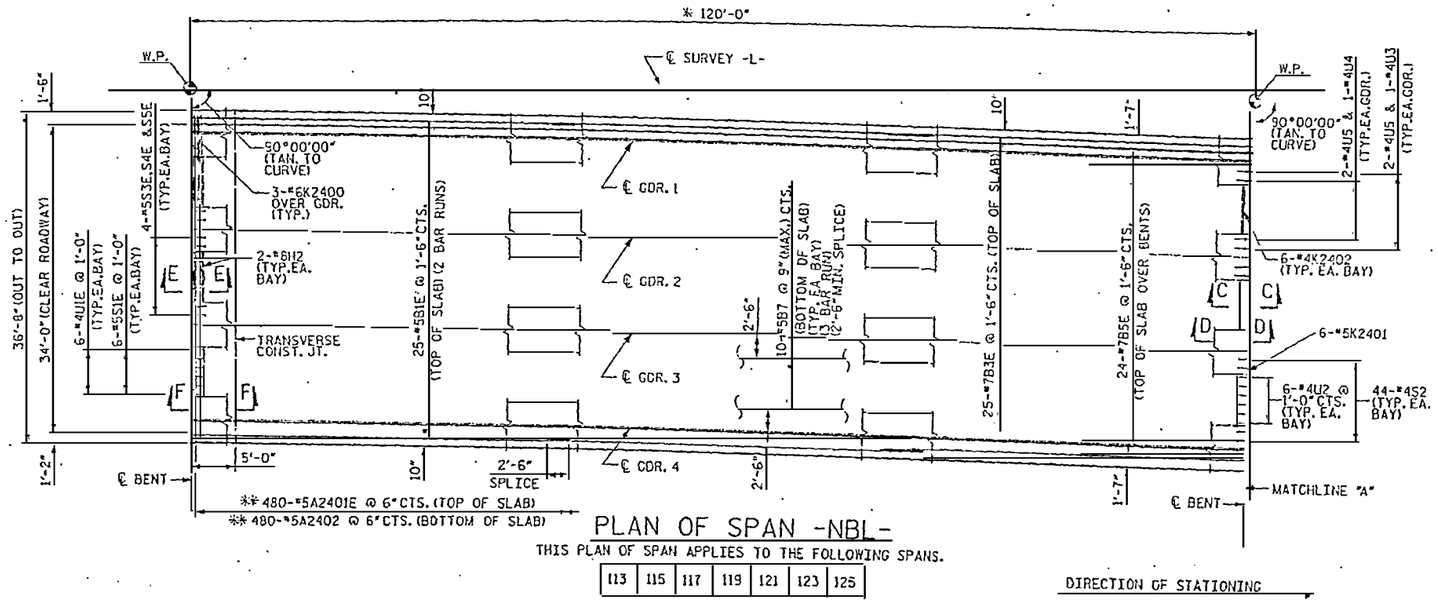
DATE: 4/2/2007
TIME: 12:54:17 PM

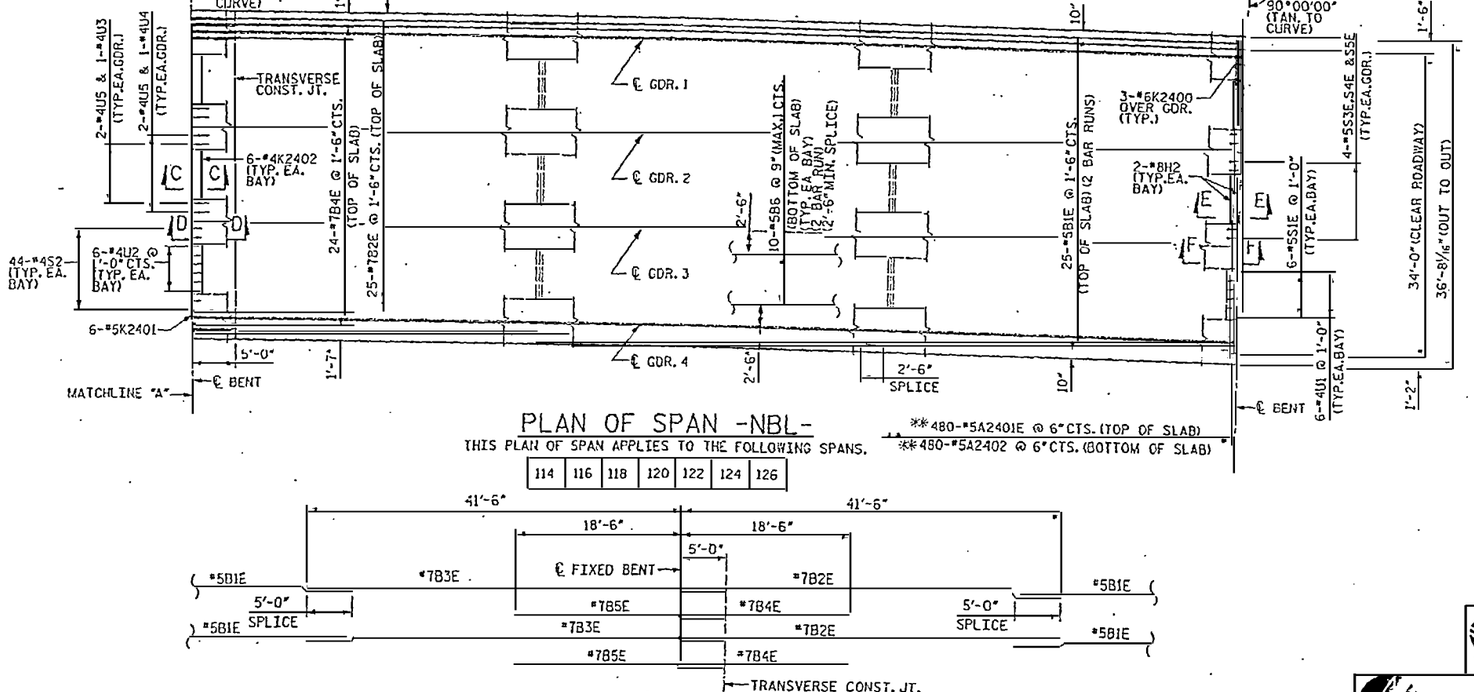


PLAN OF SPAN -NBL-

THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

113	115	117	119	121	123	125

DIRECTION OF STATIONING

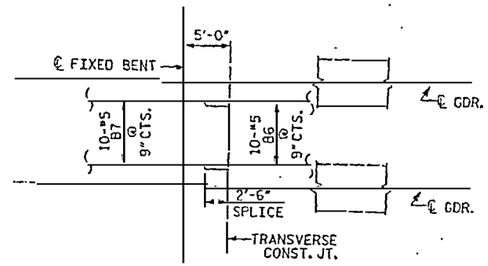


PLAN OF SPAN -NBL-

THIS PLAN OF SPAN APPLIES TO THE FOLLOWING SPANS.

114	116	118	120	122	124	126

TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

(TYPICAL EA. BAY)

NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201.

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
Tom Sherrin 4/4/07
TOM SHERRIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
SUPERSTRUCTURE
PLAN OF SPAN TYPE 24
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

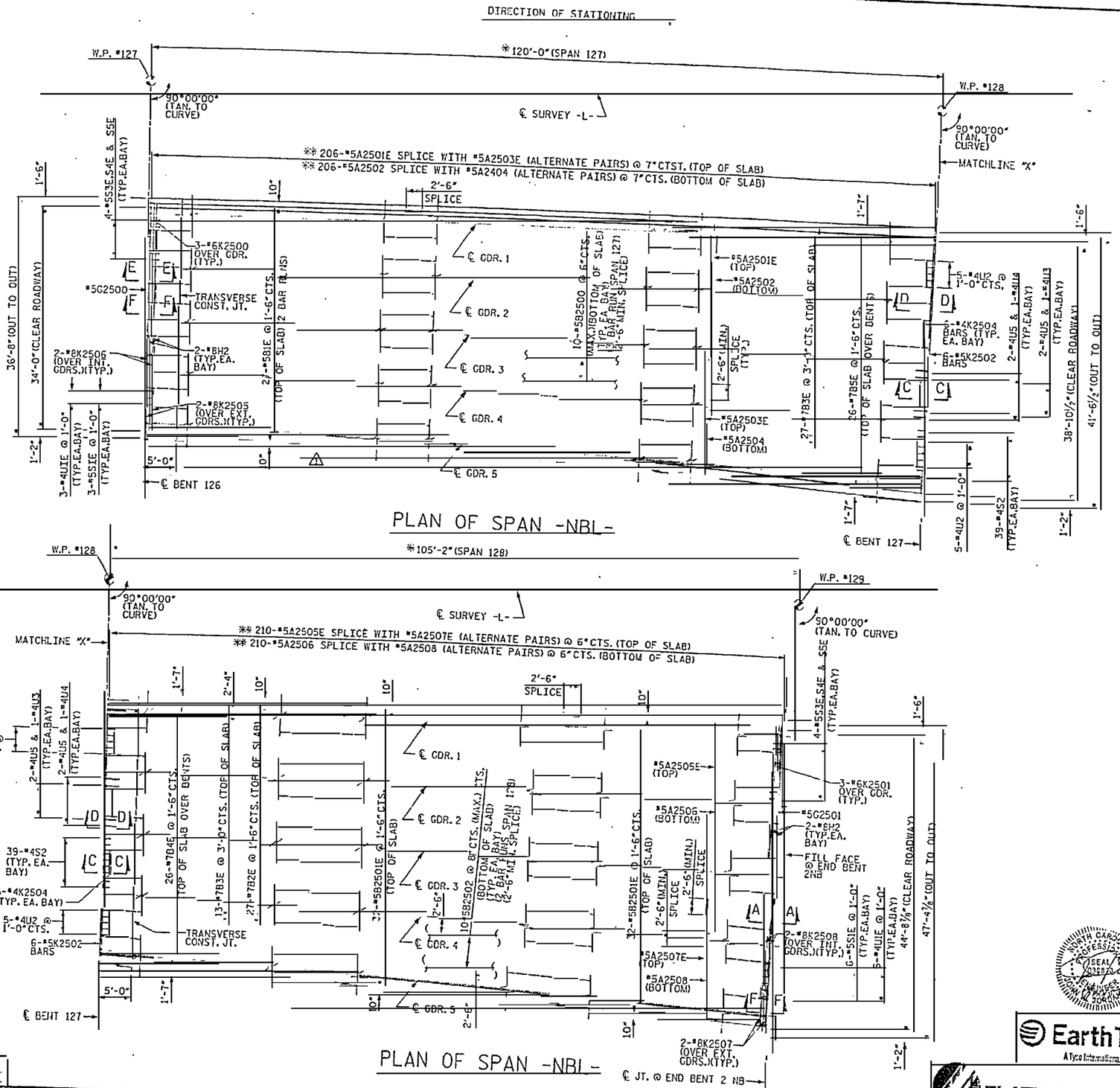
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2112.00
2			3			TOTAL SHEETS
1			4			

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J.CM DATE : 10/06

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 4/2/2007
TIME: 10:52:12 PM
USER: mahendrakar
DGN: Mahendrakar (NBI) bridgeboard\R2510B_SD_DSN_03_typ24.dgn



NOTES:

1. FOR SECTION C-C, D-D, E-E, F-F, SEE SHEET NO. 2201

* SPAN LENGTH SHOWN IS MEASURED ALONG THE SURVEY -L-.

** MEASURED RADIALLY ALONG THE OUTER EDGE AT TOP OF SLAB.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, P.E. 7/20/07 DME

⚠ REVISED BARRIER OUTLINE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

1 OF 2

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 25
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 033887 ENGINEER JOSEPH E. JORDAN

EarthTech
A Tyco International Ltd. Company

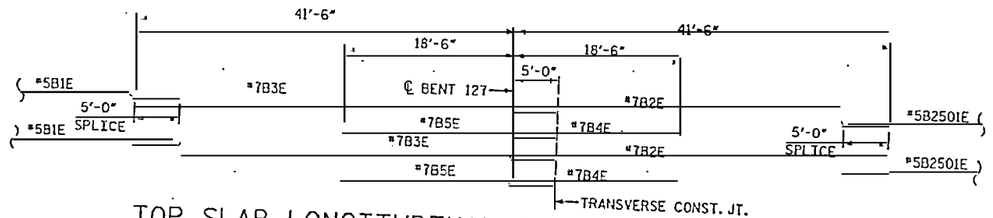
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SCS	7/07	3		
2			4		

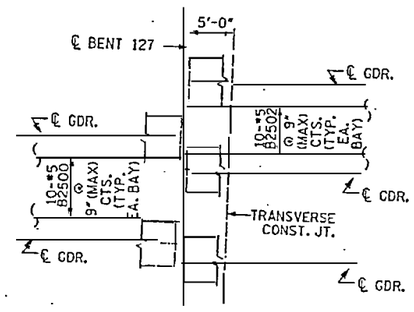
SHEET NO. 2113.01
TOTAL SHEETS

DRAWN BY : C.J.WHITFIELD DATE : 03/07
CHECKED BY : J. LIU DATE : 03/07

USER: gwhitfield
DGN: PLANSHEET.dgn
DATE: 7/20/2007
TIME: 9:06:02 AM



TOP SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT



BOTTOM SLAB LONGITUDINAL BAR SCHEMATIC LAYOUT

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -

SUPERSTRUCTURE
PLAN OF SPAN TYPE 25
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 038676 ENGINEER TOM SHEARIN

Earth Tech
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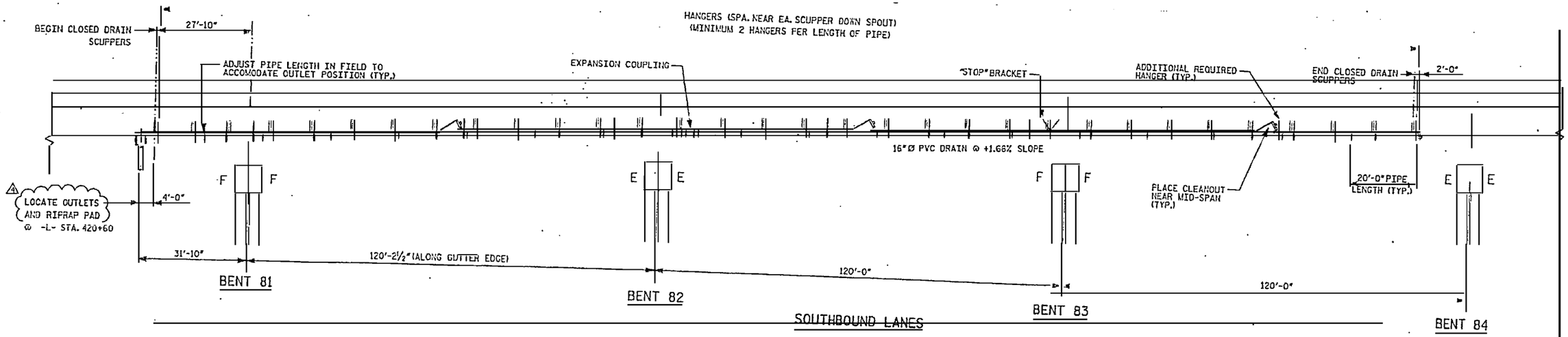
FLATIRON/UNITED
A JOINT VENTURE

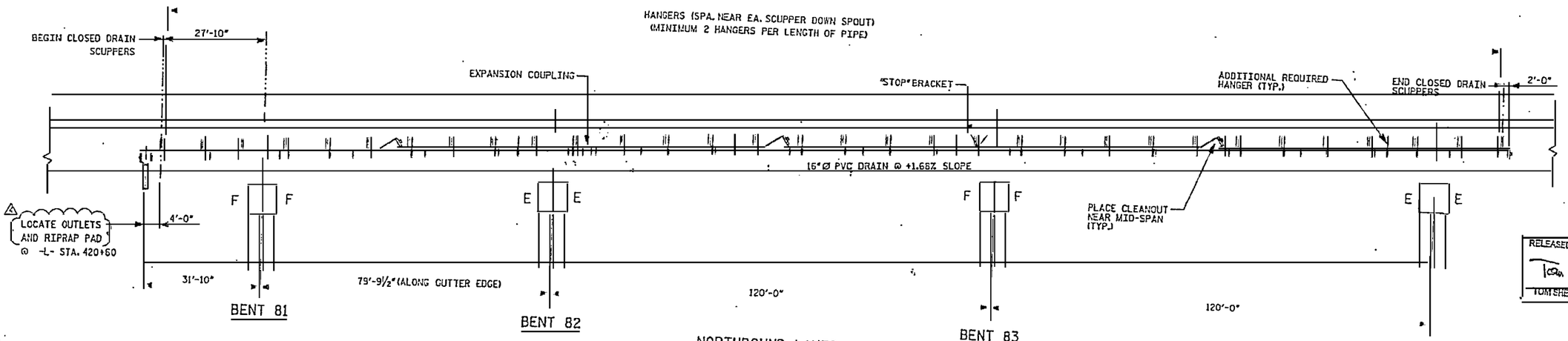
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
			3		
			4		

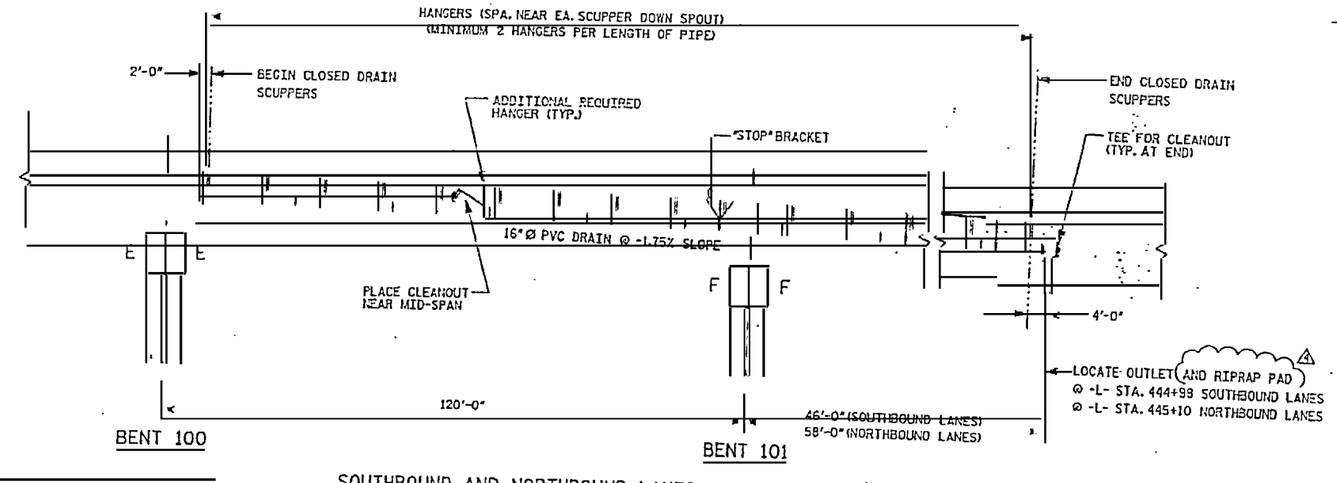
SHEET NO. 2113A.00
TOTAL SHEETS

DRAWN BY : MJH DATE : 10/06
CHECKED BY : J. LRJ DATE : 10/06

DATE: 4/6/2007
TIME: 12:42 PM
USER: scottmichal
DGN: N:\structure\Tar River Bridges\R2510B_SD_025F_sht_typ25_f.dgn







DRAWN BY : C. SWINSON DATE : 06/2008
CHECKED BY : J.W. JORDAN DATE : 06/2008

NOTES:

1. FIELD TESTING OF THE ¾"Ø THREADED ROD USED TO SECURE THE HANGER TO THE EXTERIOR FACE OF THE GIRDER IS REQUIRED.
2. FOR ADHESIVELY ANCHORED ANCHOR BOLTS AND DOWELS, SEE THE TECHNICAL SPECIAL PROVISIONS.
   A. FOR TESTING, APPLY AND HOLD BRIEFLY 50% OF THE YIELD LOAD OF THE ¾"Ø THREADED ROD USED TO SECURE THE HANGER TO THE FACE OF THE EXTERIOR GIRDER. TESTING TO 90% OF YIELD LOAD IS NOT REQUIRED.
   B. TESTING IS REQUIRED TO DEMONSTRATE PROPER INSTALLATION OF THE ANCHORS; I.E. CORRECT HOLE SIZE AND DEPTH, CLEANING OF THE HOLE, MIXING OF THE EPOXY, ETC. THE LEVEL OF TESTING SHOULD BE IN ACCORDANCE WITH LEVEL ONE FIELD TESTING OF THE CURRENT 2006 STANDARD SPECIFICATIONS.
   C. FOR ALL OTHER ADHESIVE ANCHOR BOLTS OR DOWELS USED IN CONJUNCTION WITH THE CLOSED DRAINAGE SYSTEM, FIELD TESTING IS NOT REQUIRED.

EarthTech

FLATIRON/UNITED
A JOINT VENTURE

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 6/13/09

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24992 THOMAS W. SHEARIN

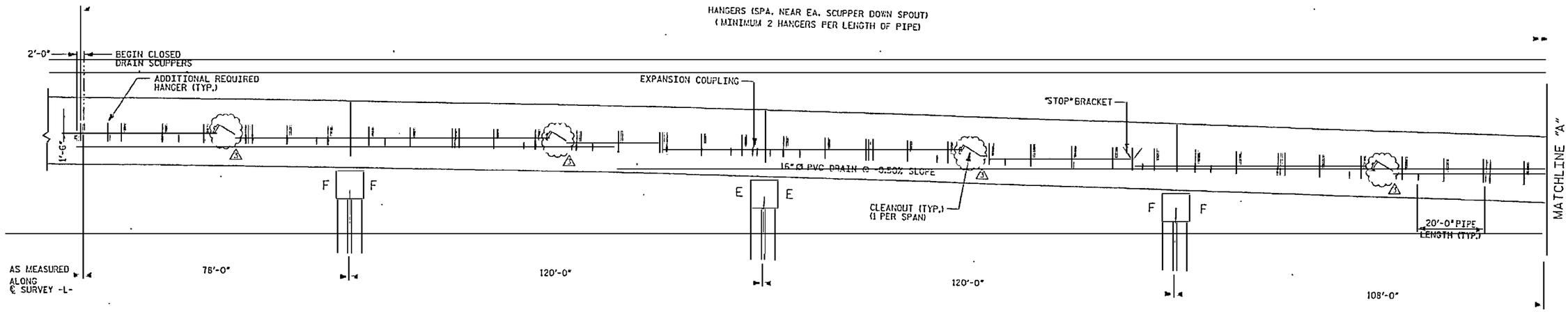
⚠1 GENERAL REVISION
⚠2 GENERAL REVISION
⚠3 REVISED DRAINAGE SYSTEM
⚠4 ADDED CLEANOUTS

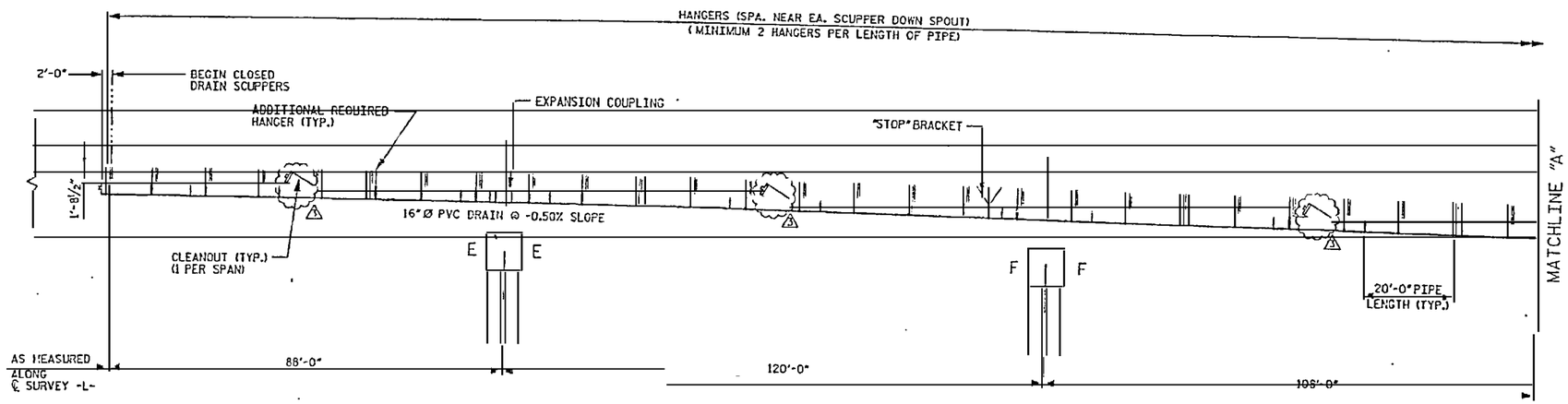
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: -L- 420+53 TO 424+30 LT. & RT.
-L- 443+40 TO 445+08 LT.
SHEET 1 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
CLOSED DRAINAGE SYSTEM FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2128.04
⚠3	SGS	9/04/08	⚠4	SGS	1/21/09	TOTAL SHEETS





RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/28/09 DATE

NORTH CAROLINA PROFESSIONAL SEAL 17362 ENGINEER JOHN W. JORDAN

⚠1 GENERAL REVISION
⚠2 REVISED DRAINAGE SYSTEM
⚠3 ADDED CLEANOUTS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: -L- 460+54 TO 464+80 SBL
-L- 461+64 TO 464+80 NBL
SHEET 2 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

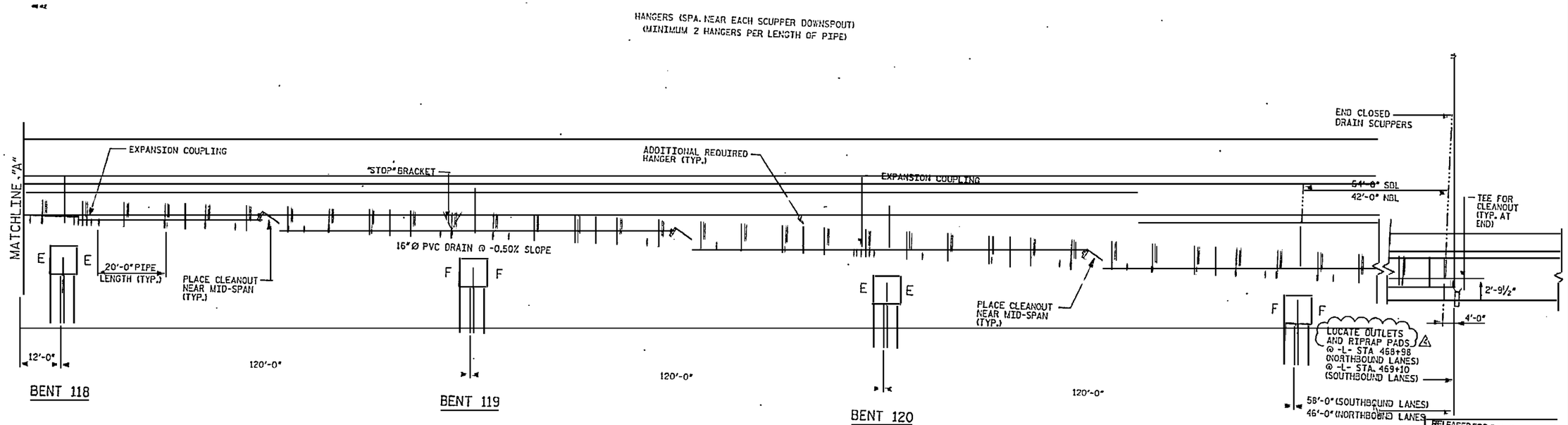
CLOSED DRAINAGE SYSTEM FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2129.03
1	SGS	9/04/08	2	SGS	1/21/09	TOTAL SHEETS

EarthTech
FLATIRON/UNITED A JOINT VENTURE

DRAWN BY : C. SWINSON DATE : 06/2008
CHECKED BY : J.W. JORDAN DATE : 06/2008

USER: rwilkerson
DGN: N:\Structure\Tar River ...\dgn\CADD\r2510_sht_bridge2.dgn
FILE: 353B2_4



SOUTHBOUND LANES - SHOWN
NORTHBOUND LANES - SIMILAR

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 8/5/09

⚠ GENERAL REVISION
⚠ GENERAL REVISION
⚠ REVISED DRAINAGE SYSTEM
⚠ ADDED CLEANOUTS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: -L- 464+80 TO 469+05
SBL & NBL
SHEET 3 OF 4
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

CLOSED DRAINAGE SYSTEM
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

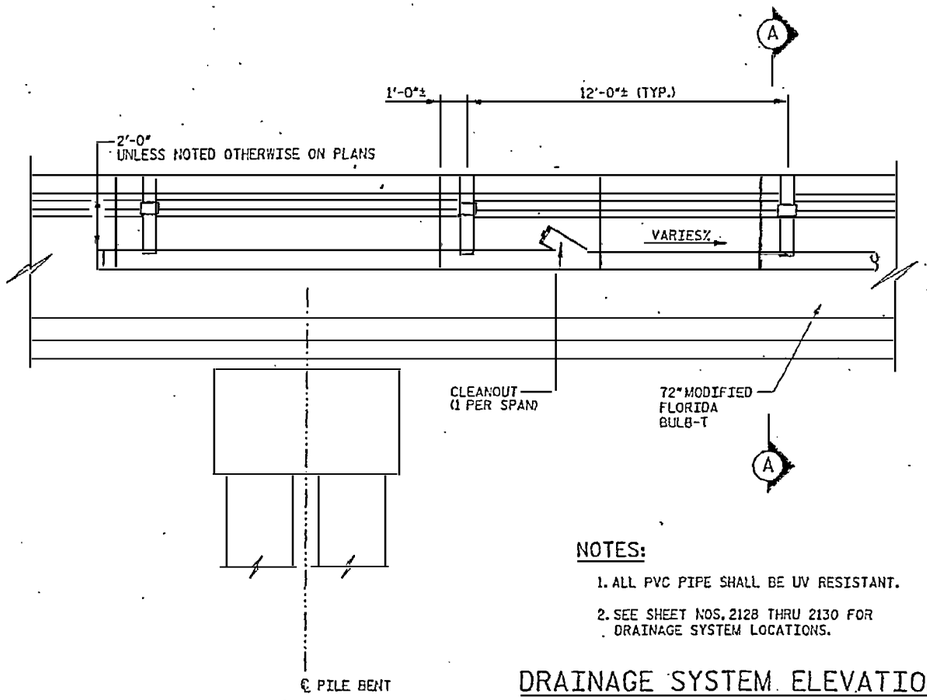
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2130.04
10	SDS	9/04/08	⚠	SGS	1/21/09	TOTAL SHEETS

DRAWN BY : C. SWINSON DATE : 05/2008
CHECKED BY : J.W. JORDAN DATE : 05/2008

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

DATE: 8/12/2009
FILE: 2130.04

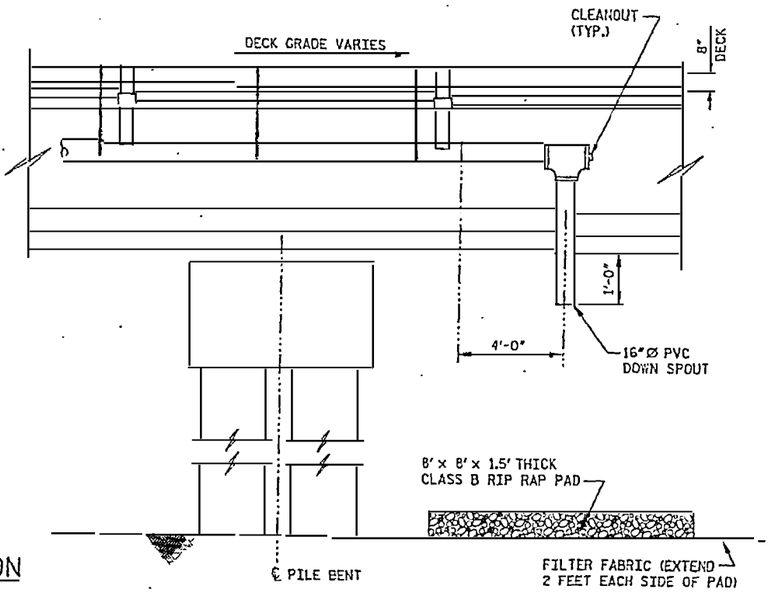
USER: mtwhite
DGN: 0502STRUCTURETEMPLATE.dgn

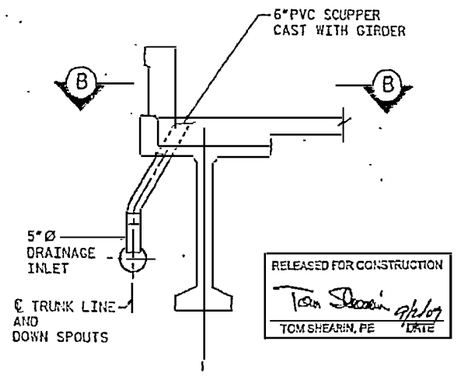


NOTES:

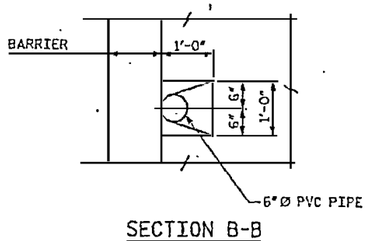
1. ALL PVC PIPE SHALL BE UV RESISTANT.
2. SEE SHEET NOS. 2128 THRU 2130 FOR DRAINAGE SYSTEM LOCATIONS.

DRAINAGE SYSTEM ELEVATION

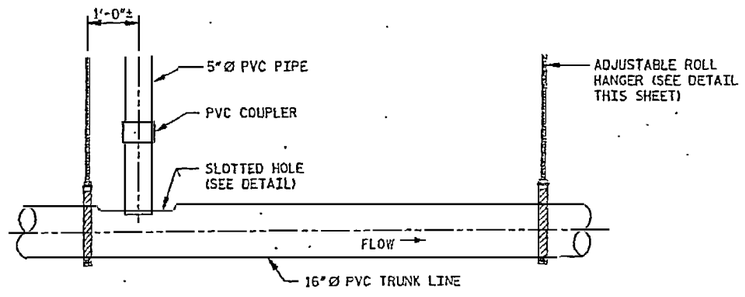




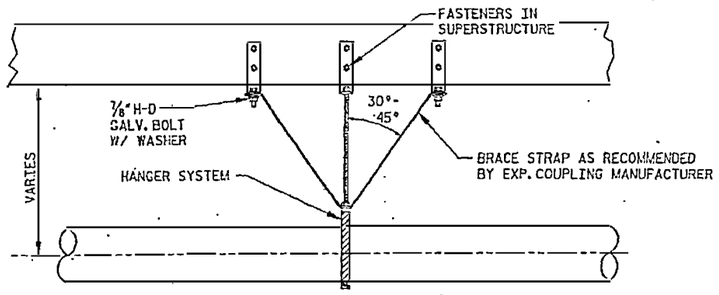
SECTION A-A



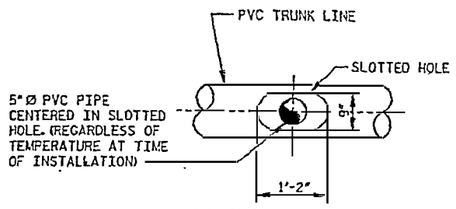
SECTION B-B



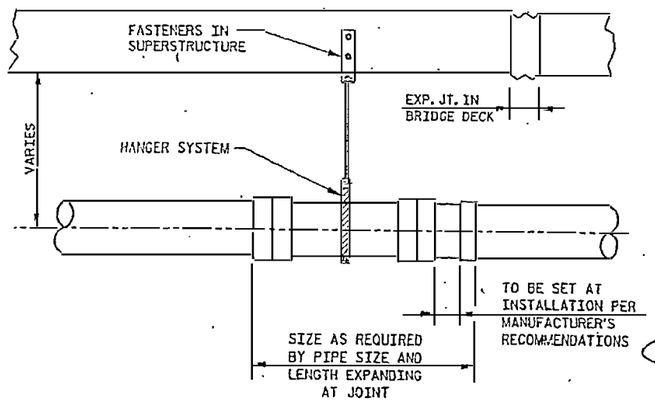
DRAIN INLET & PVC PIPE CONNECTION



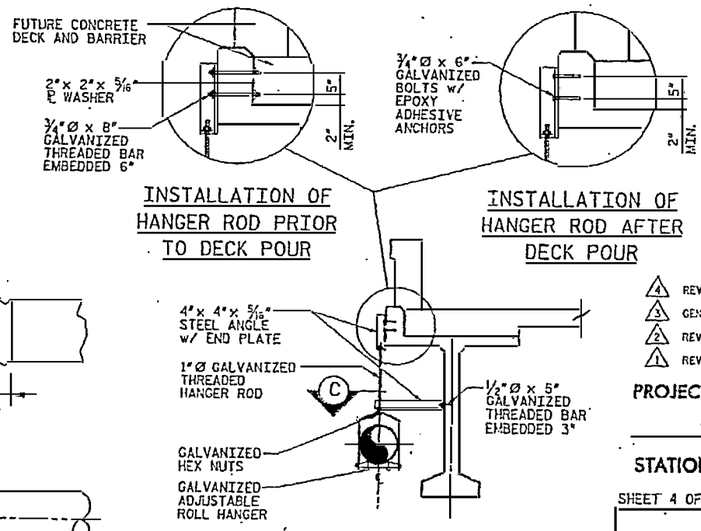
STOP DETAIL



SLOT DETAIL



PVC EXPANSION COUPLING DETAIL



INSTALLATION OF HANGER ROD PRIOR TO DECK POUR

INSTALLATION OF HANGER ROD AFTER DECK POUR

SECTION C-C

HANGER & STRUT DETAIL

4 REVISED HANGER AND DRAIN-INLET DETAILS
3 GENERAL REVISION
2 REVISED HANGER LOCATIONS & CONNECTIONS
1 REVISED HANGER DETAILS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 4 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

CLOSED DRAINAGE SYSTEM
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2131.04

DRAWN BY : S. G. STREDNAK DATE : 11/05
CHECKED BY : J. E. JORDAN DATE : 11/05

EarthTech
FLATIRON/UNITED

DATE 9/2/2009
PLOT TIME 9:57:10 AM

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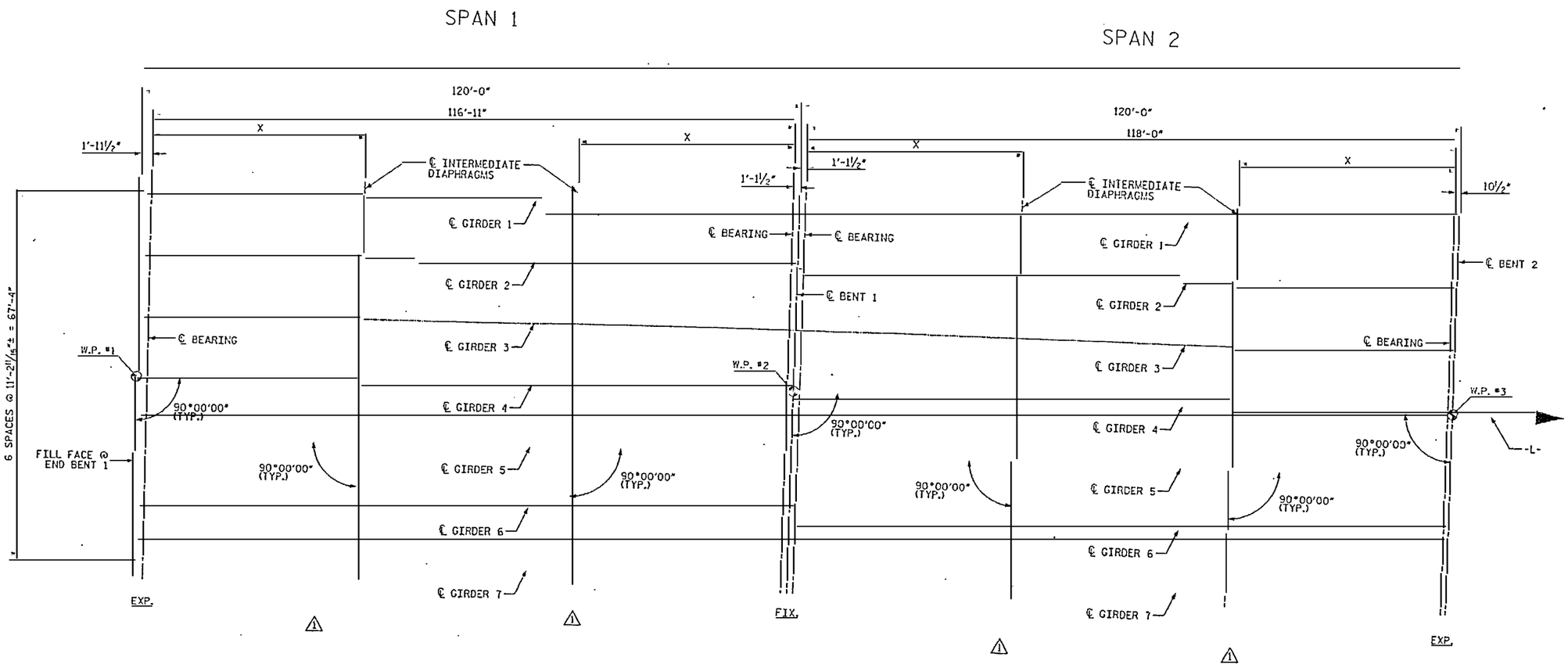


FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
Tom Shearin 11/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 26
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FRAMING PLAN TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2136.01
1	CJW	6/20/07	3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL SEAL 030672 ENGINEER THOMAS W. SHEARIN 11/27/07

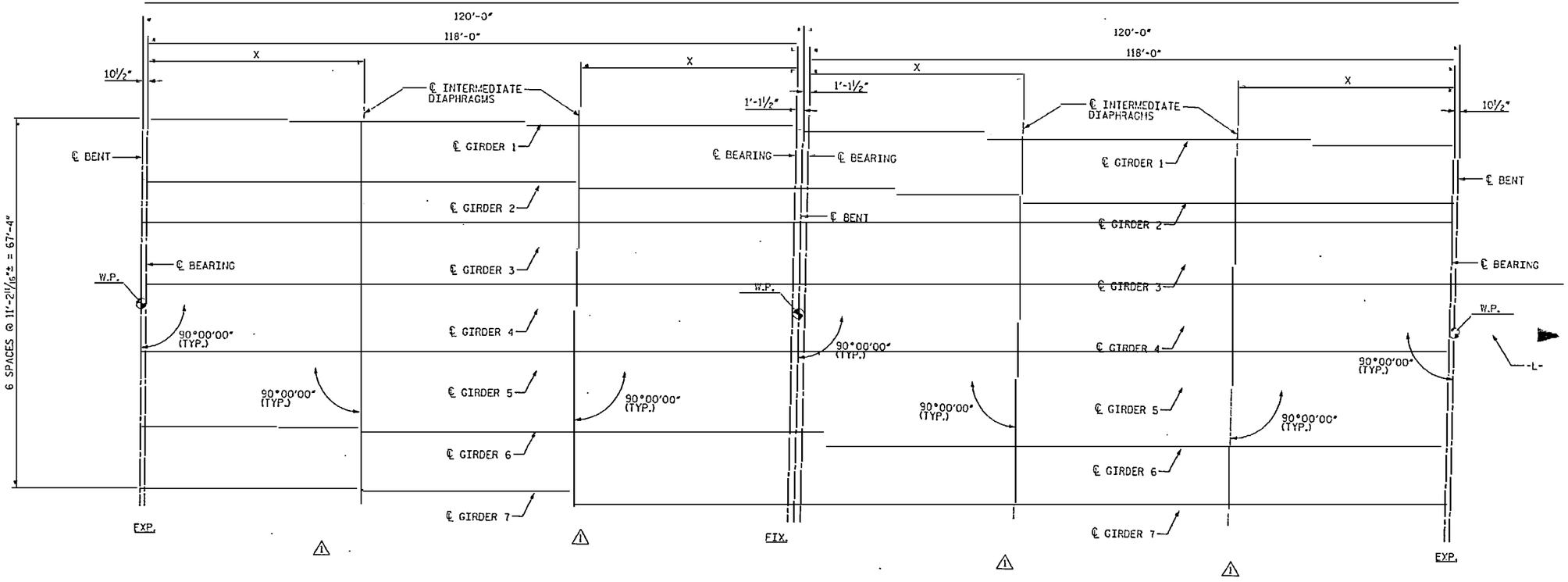
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

TELD DATE : 10/06
DATE : 10/06

APPLIES TO ODD SPANS 3 THRU 11

APPLIES TO EVEN SPANS 4 THRU 12



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
Tom Shearin 7/26/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030107 ENGINEER C. JOSEPH LIU

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	CJW	6/20/07			

SHEET NO. 2137.01
TOTAL SHEETS

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 7/17/2007
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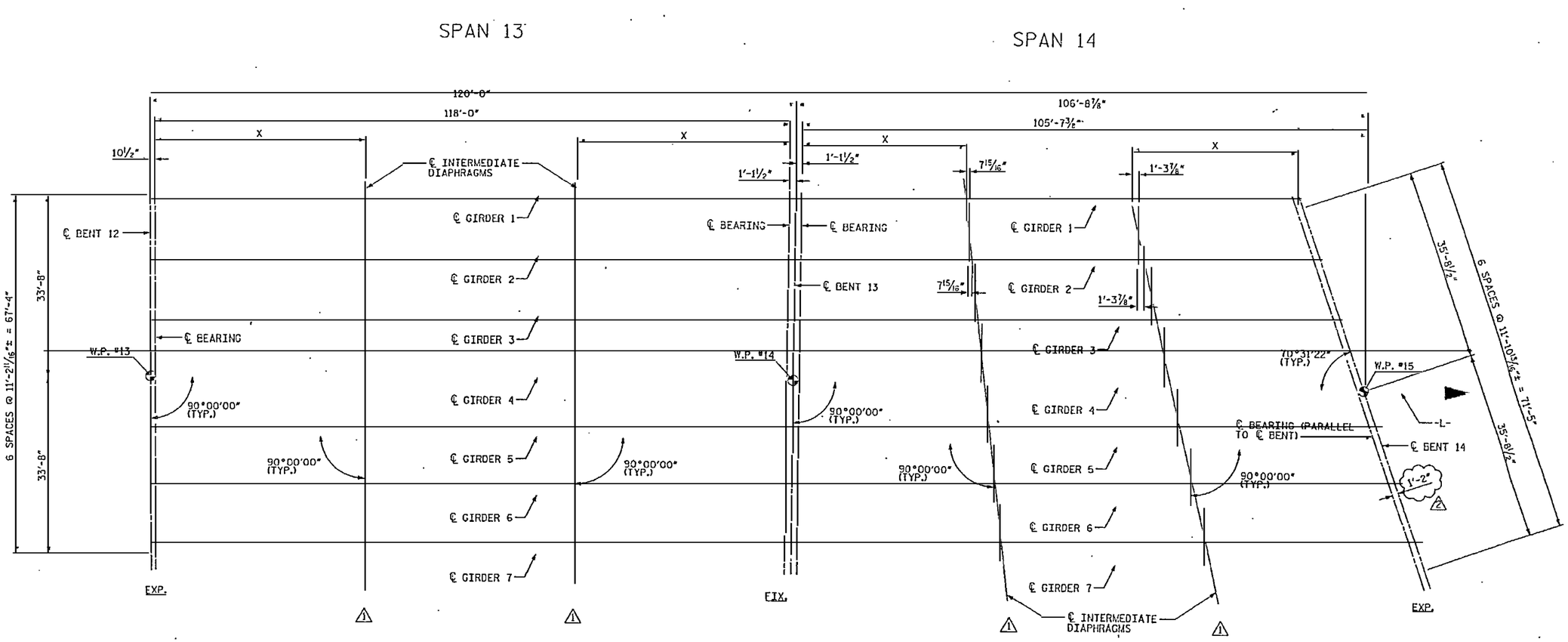
USER: cwhitfield
DGN: N:\structure\roadway\projects\R2510B_SD_SR\b2452.dgn



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

1 ADD INTERMEDIATE DIAPHRAGMS
2 REVISED DIMENSION.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/22/07

NORTH CAROLINA PROFESSIONAL SEAL 030875 ENGINEER JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 26 BRIDGE NO. 353

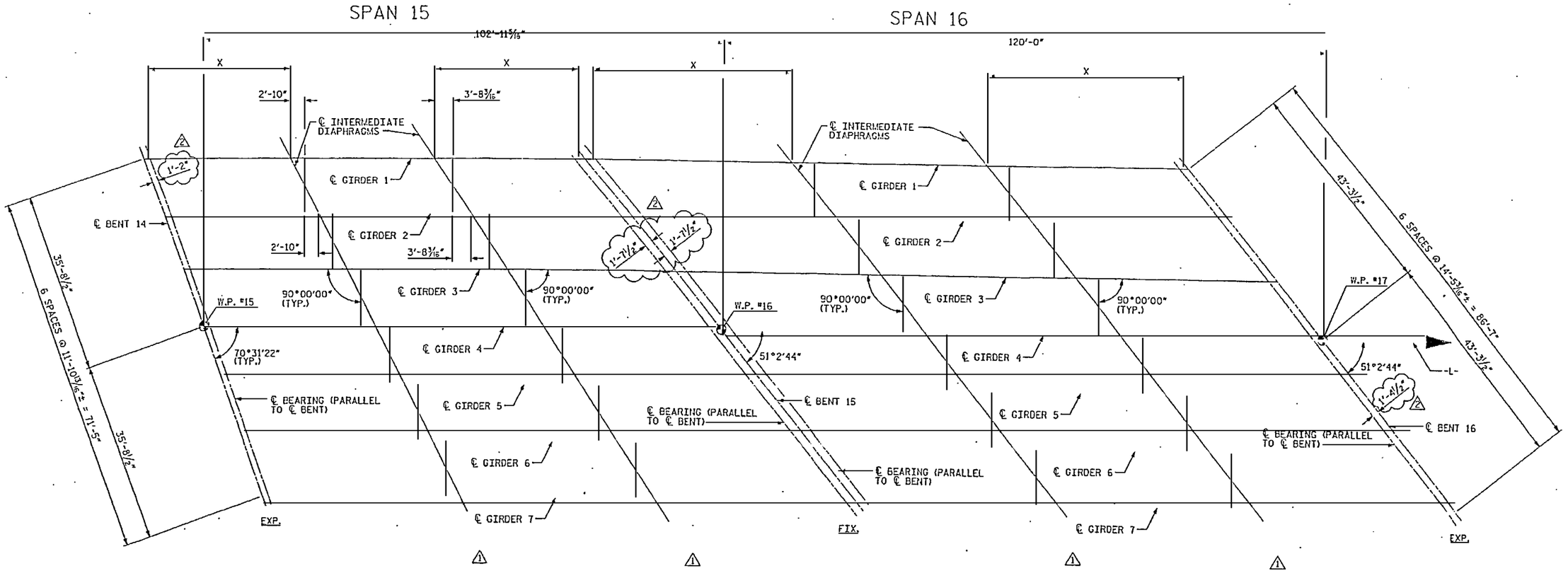
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FRAMING PLAN TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2138.02
1	CJW	6/20/07	3			TOTAL SHEETS
2	MTB	10/19/07	4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 10/22/2007
TIME: 11:23:53 AM
USER: mtbaldwin
FILE: R:\SIA\Waterbury River Bridge\CADD\R2503_SOLDSN_fr_bys03.dgn



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

1 ADD INTERMEDIATE DIAPHRAGMS
2 REVISED DIMENSIONS.

RELEASED FOR CONSTRUCTION
Tom Shearin 10/24/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17 038 02 10/24/07 JOHN W. JORDAN III

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 4
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

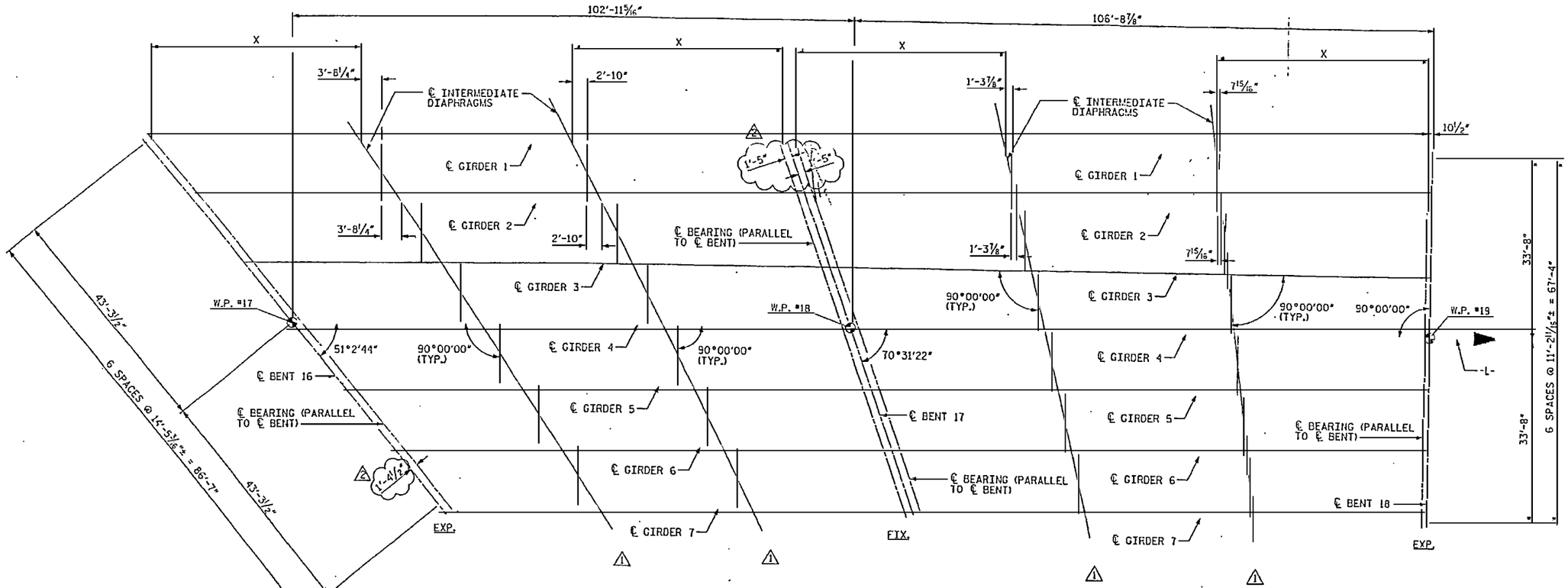
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2139.02
1	CJW	6/20/07	3			TOTAL SHEETS
2	MTB	10/19/07	4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

USER: mtb
DGN: Abridge.dgn
FILE: C:\Projects\Tar River Bridge\CADD\STRUCTS\2139_SO_DSN_Fr_Type4.dgn
PLOTTED: 10/24/2007
TIME: 11:23:56 AM



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

1 ADD INTERMEDIATE DIAPHRAGMS
2 REVISED DIMENSIONS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/24/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 26
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FRAMING PLAN TYPE 5
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2140.02
1	CJW	6/20/07	3			TOTAL SHEETS
2	MTB	10/19/07	4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. I TU DATE : 10/06

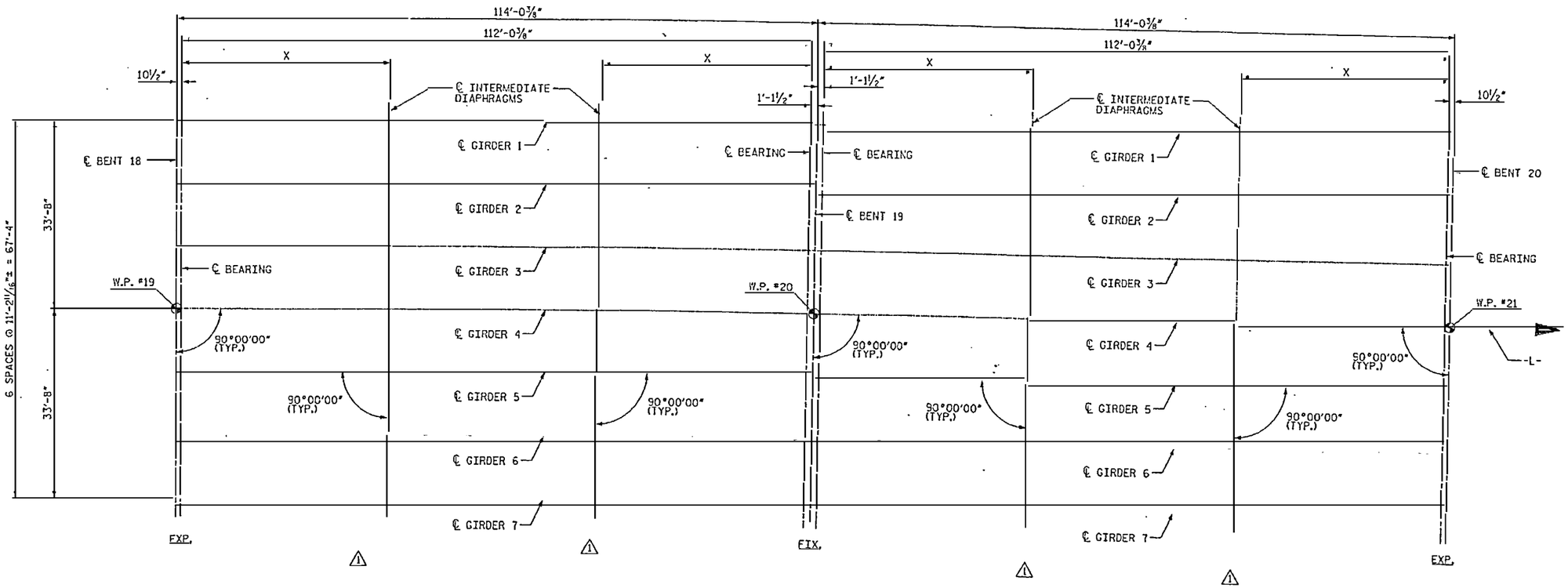
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

USER: mtbrooks
DGN: N:\Structure\Tar River Bridge\CADD\2140202_SOLDSN_FRAMING.dgn
10/19/2007 11:21:05 AM

SPAN 19

SPAN 20



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
Tom Shearin 7/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2141.01
1	CJW	6/20/07	3			TOTAL SHEETS
2			4			

DRAWN BY : C.J. WHITFIELD DATE : 10/06
CHECKED BY : J. LTU DATE : 10/06

EarthTech
A Tyco International Ltd. Company

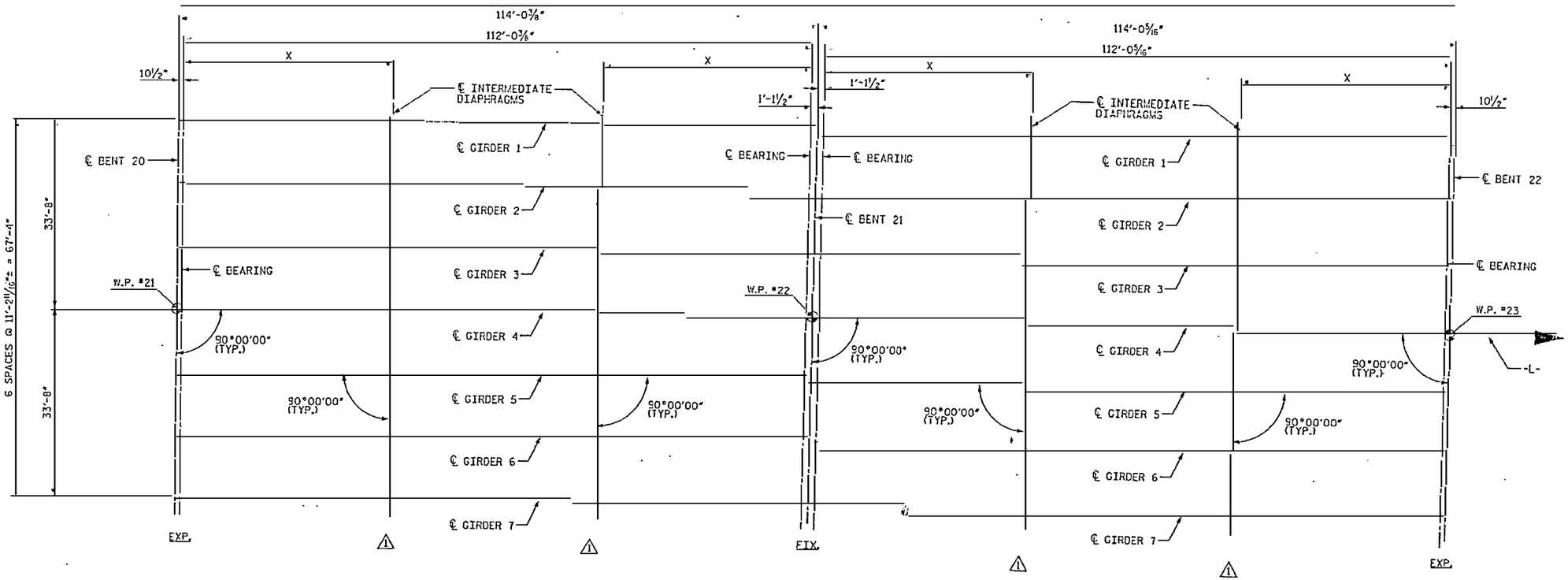
FLATIRON/UNITED
A JOINT VENTURE

DATE: 7/27/2007
TIME: 10:06:13 AM

USER: scottwilson
DGN: roadwaystandards.dgn

SPAN 21

SPAN 22



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 7/23/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 26 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2142.01
1	CJW	6/20/07	3			TOTAL SHEETS
2			4			

DRAWN BY : ~~C.J. WHITFIELD~~ DATE : ~~10/06~~
CHECKED BY : J. LOU DATE : 10/06

Earth Tech
A Tyco International Ltd. Company

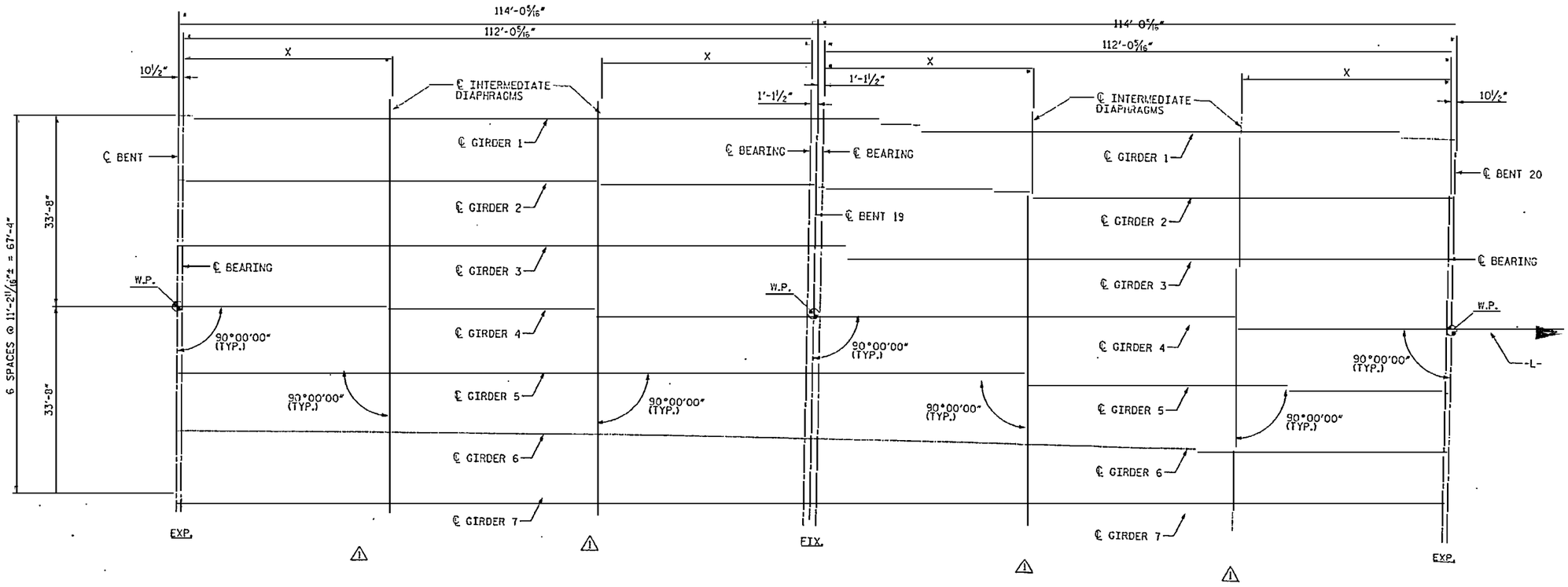
FLATIRON/UNITED
A JOINT VENTURE

DATE: 1/27/2007
TIME: 8:53:49 AM

USER: rpatterson
DGN: Instructions for Bridges\NEW\R-2510B_SD_353\Plans\R2510Bsht

APPLIES TO SPANS 23 AND 25

APPLIES TO SPANS 24 AND 26



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 7/27/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FRAMING PLAN TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030674 ENGINEER JOHN W. LIU

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

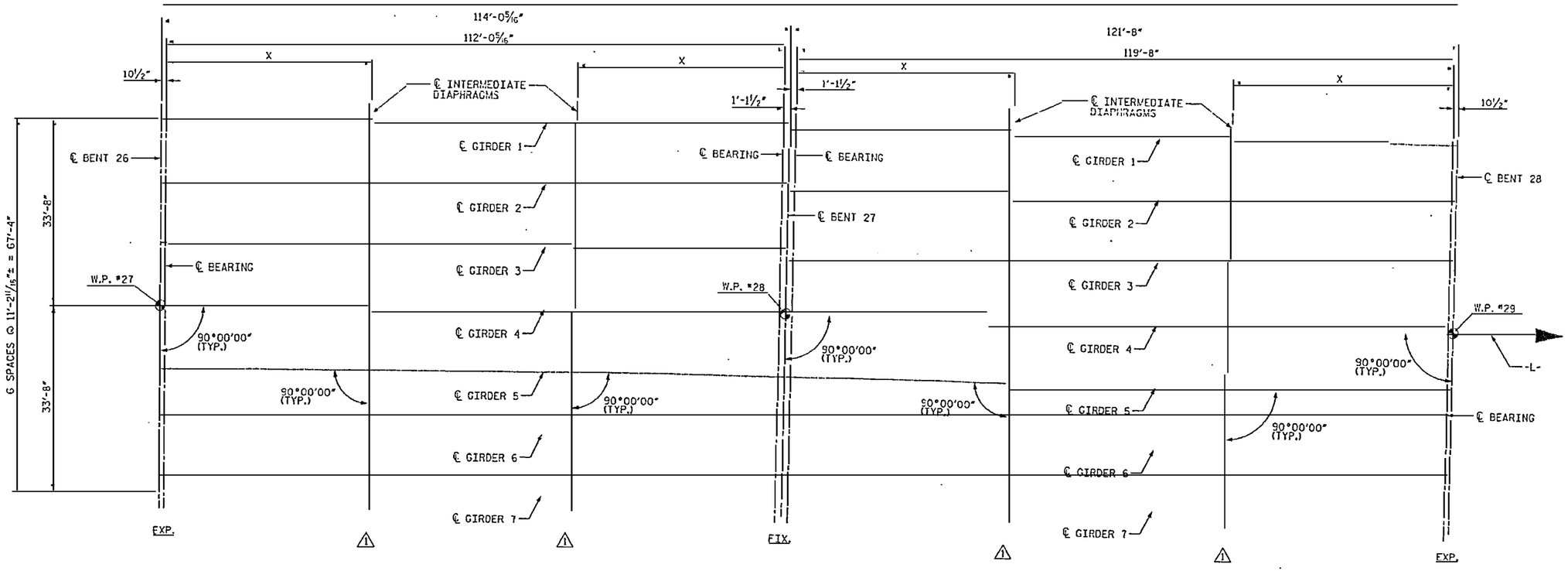
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2143.01
1	CJW	6/20/07	3			TOTAL SHEETS
2			4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

USERs contractor\
DGN: Nottreetwar.mer
DATE: 7/27/2007
TIME: 10:54:53 AM

SPAN 27

SPAN 28



FRAMING PLAN

NOTE:
FOR DISTANCE 'X'. SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
Tom Shearin 7/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030675 ENGINEER John W. Johnson

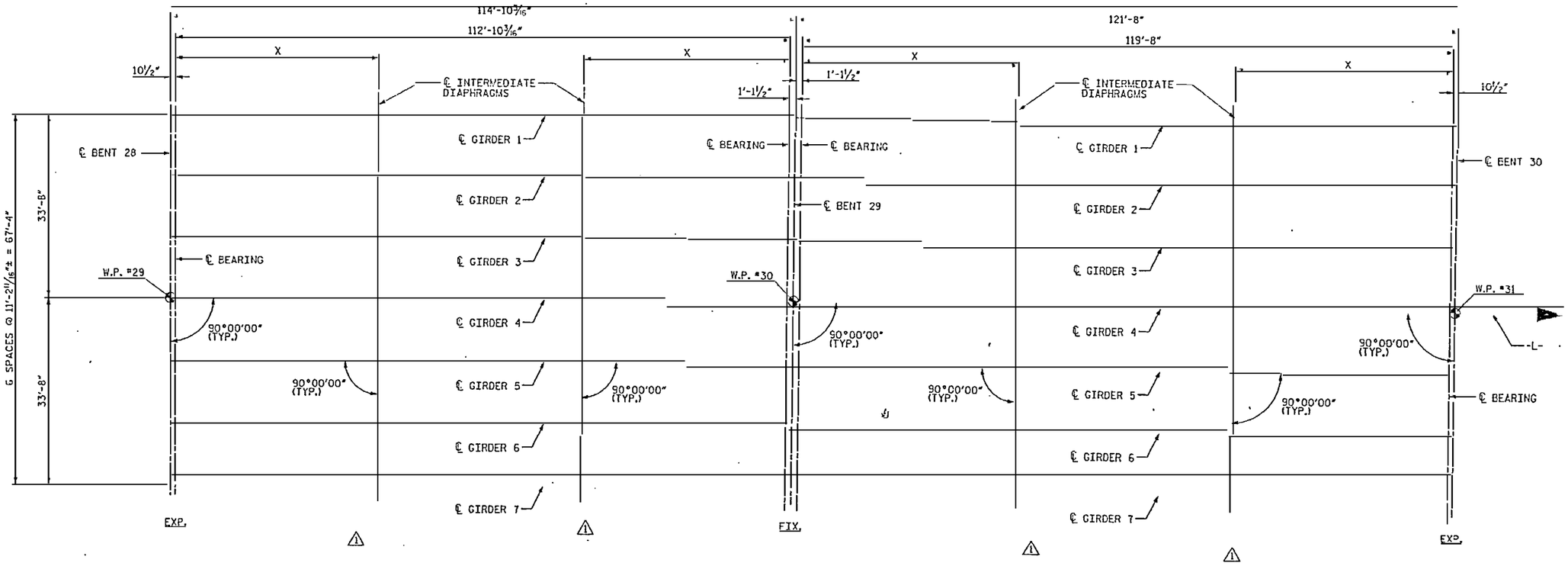
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2144.01
1	CJW	6/20/07				TOTAL SHEETS

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LEO DATE : 10/06

USER: rstallard
DGN: footbridge.dgn
DATE: 7/27/2007
LWL: 65465.dw



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠1 ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 7/27/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2145.01
1	CJW	6/20/07	3			TOTAL SHEETS
2			4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

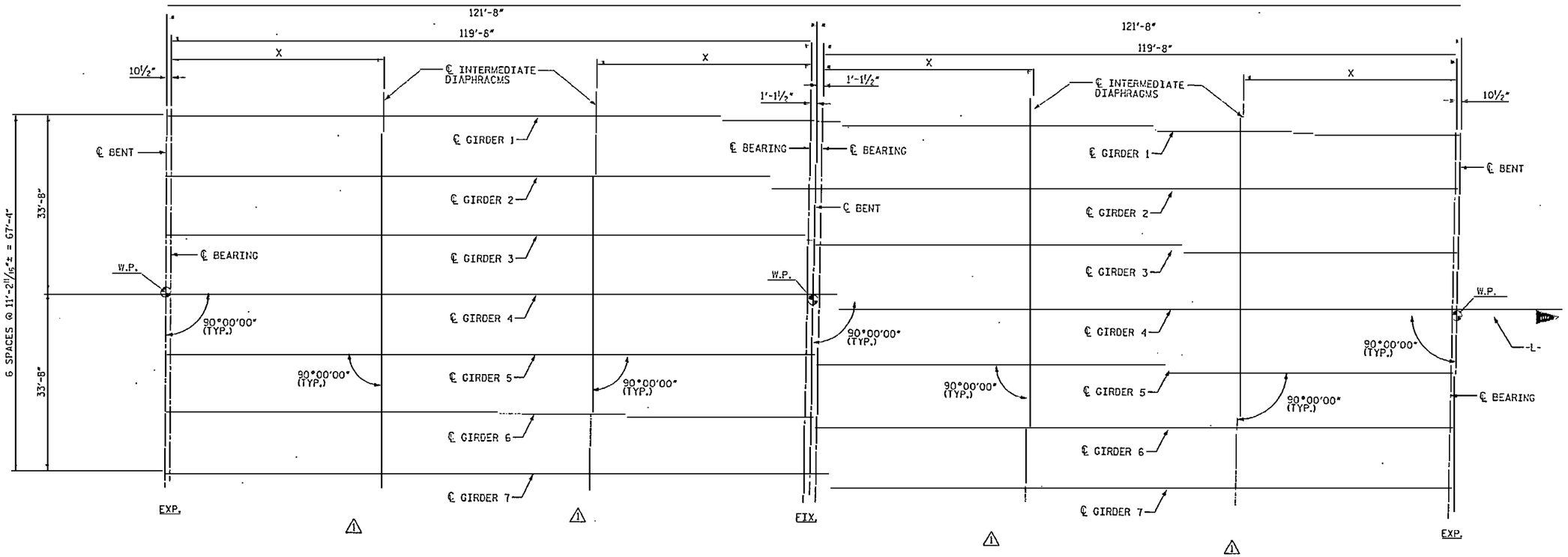
NORTH CAROLINA PROFESSIONAL SEAL 030675 ENGINEER JOHN F. JORDAN JR.

DATE: 7/27/2007
FILE: R2510_02.dgn

USER: scottjarrett
DGN: c:\structures\tar river bridge\roadway\R2510_02_DSN_J.dgn

APPLIES TO ODD SPANS 31 THRU 79

APPLIES TO EVEN SPANS 32 THRU 80



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 7/27/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 11 OF 26 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2146.01
1	CJW	6/20/07	3			TOTAL SHEETS

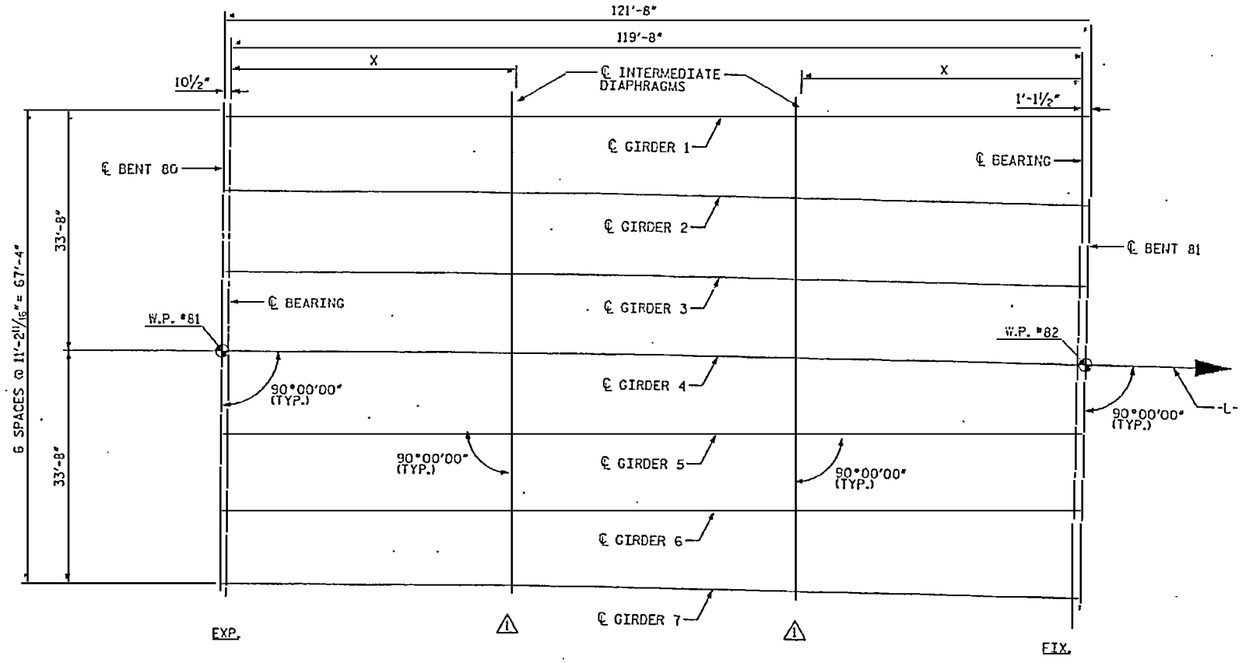
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

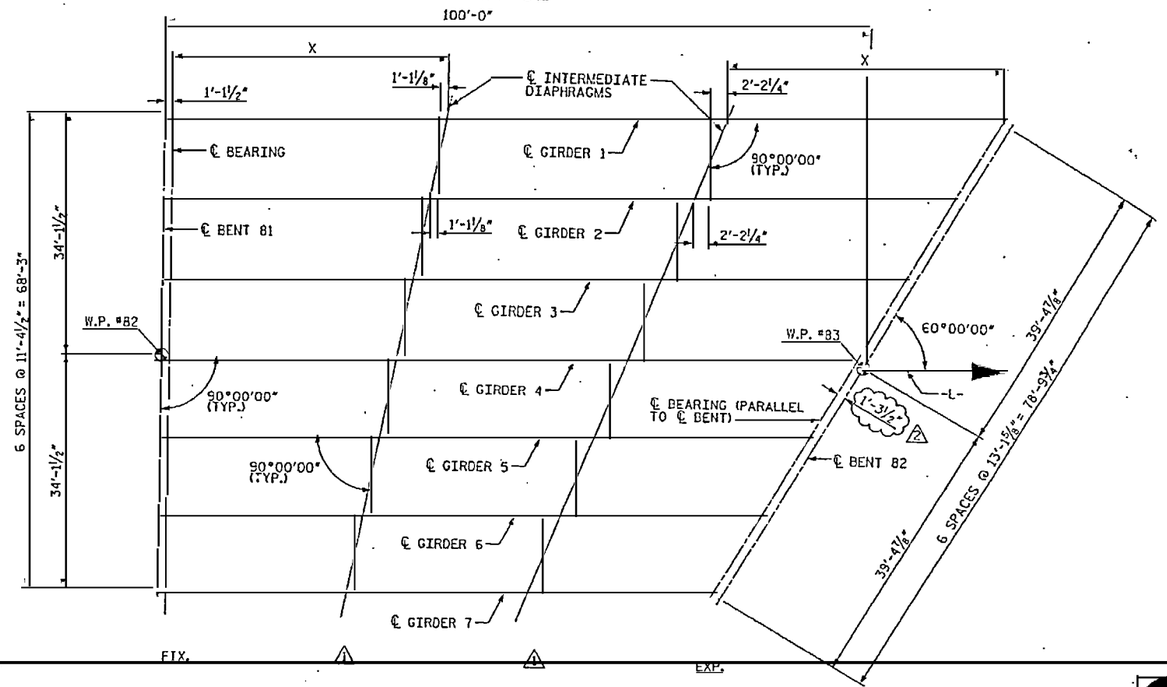
DRAWN BY : C. J. WHITFIELD DATE : 10/05
CHECKED BY : J. LIU DATE : 10/05

USER: scottwhitfield
DGN: N:\Structure\Projects\R2510B_SD_052\Framing\Bridge No 2 Framing Plan.dgn
DATE: 6/20/2007 7:54:14 AM

SPAN 81



SPAN 82



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

1 ADD INTERMEDIATE DIAPHRAGMS
2 REVISED DIMENSION.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/24/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030878 JOHN M. JORDAN

EarthTech — A Jacobs Engineering Group Company
FLATIRON/UNITED — A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 26
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FRAMING PLAN TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

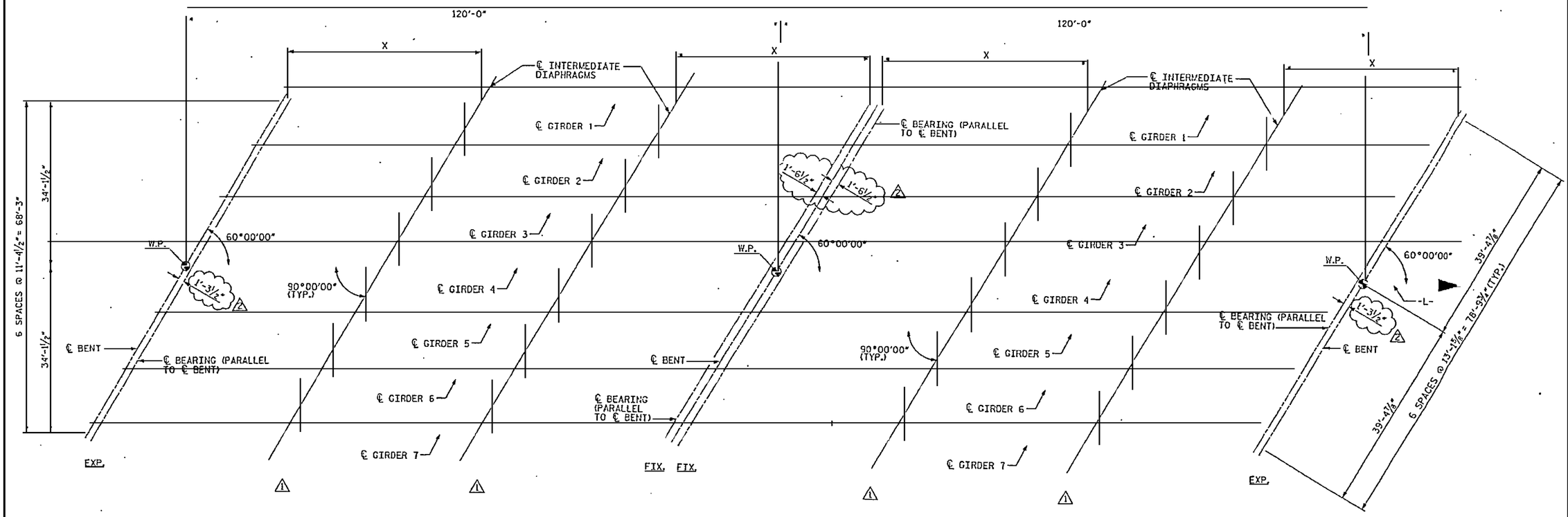
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2147.02
1	MTB	6/21/07	3			TOTAL SHEETS
2	MTB	10/19/07	4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

USER: kfowler
DGN: N:\Structures\Projects\R-2510B\Roadway\Bridges\400RESEC_SD_05R1.dgn
DATE: 10/29/2007
TIME: 11:28:44 AM

APPLIES TO SPANS 83 THRU 97

APPLIES TO SPANS 84 THRU 98



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

1 ADD INTERMEDIATE DIAPHRAGMS
2 REVISED & ADDED DIMENSIONS.

RELEASED FOR CONSTRUCTION
Tom Shearin 10/29/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 13 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

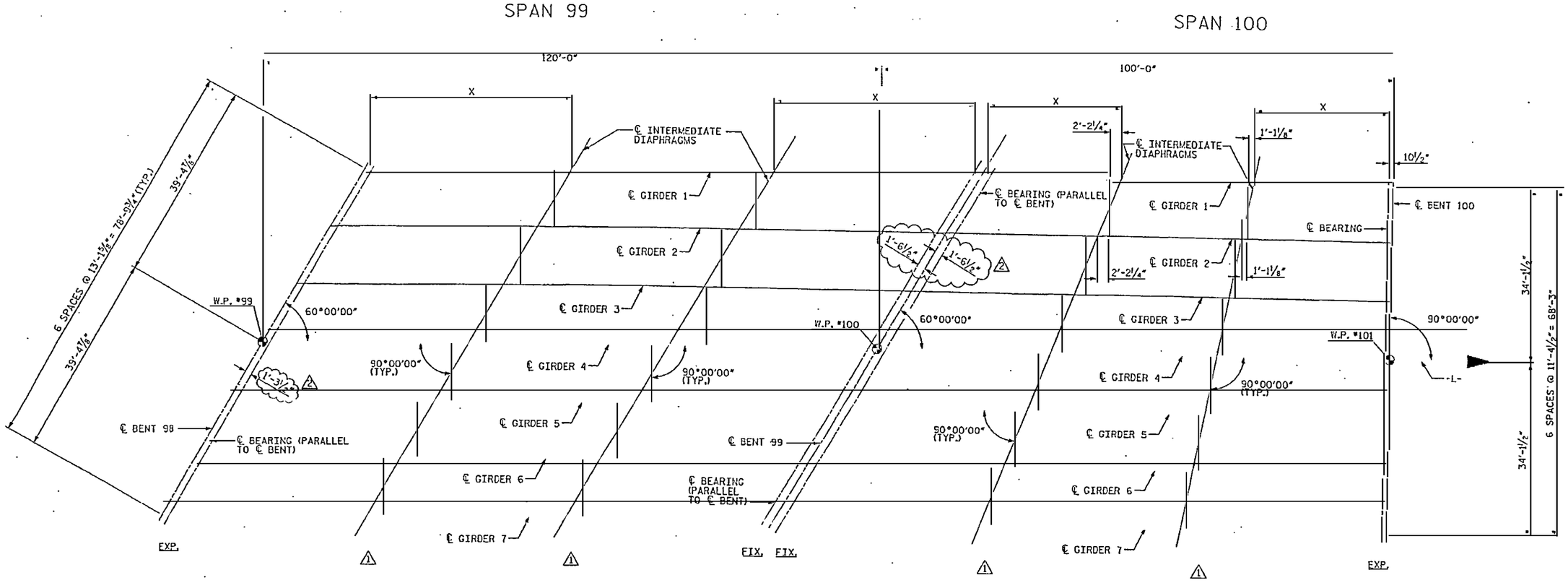
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2148.02
1	MTB	6/21/07	3			TOTAL SHEETS
2	MTB	10/19/07	4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 10/29/2007
TIME: 11:23:39 AM
USER: mtbolin
I:\Structures\Tar River Bridge\DGN\REV#03_SD_DESK_Proj#3.dgn



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

1 ADD INTERMEDIATE DIAPHRAGMS
2 REVISED & ADDED DIMENSIONS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/24/07

NORTH CAROLINA ENGINEER 038178 JOHN M. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 14 OF 26
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

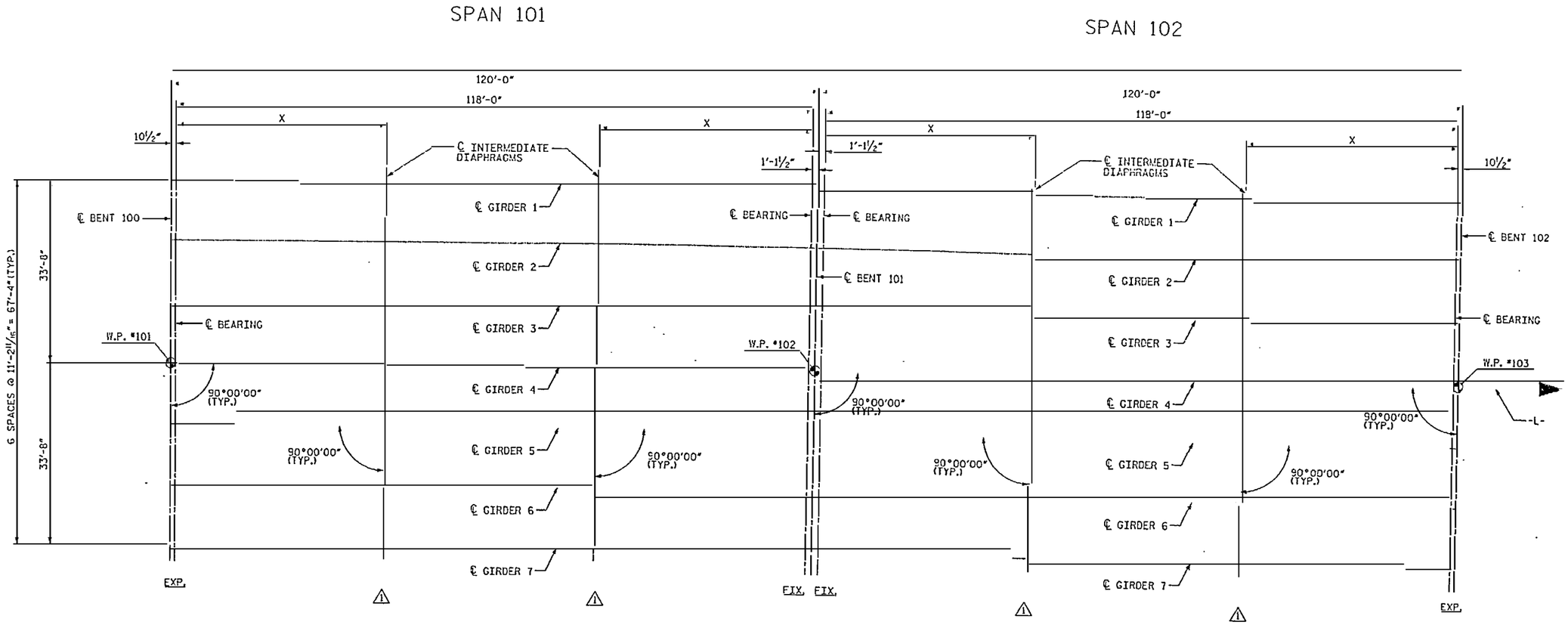
- BRIDGE No. 2 -

FRAMING PLAN TYPE 14
FOR BRIDGE ON US 17 BYPASS
OVER ~~TAR~~ RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2149.02
1	MTB	6/21/07	3			TOTAL SHEETS
2	MTB	10/19/07	4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

USER NAME = John
PLOT SCALE = 1.0000 '/ Inch
PLOT DATE = 10/23/2007
PLOT TIME = 8:53:54 AM



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
Tom Shearin 7/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 15 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 15
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 029672 ENGINEER JOHN C. COLEMAN

EarthTech
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FLATIRON/UNITED
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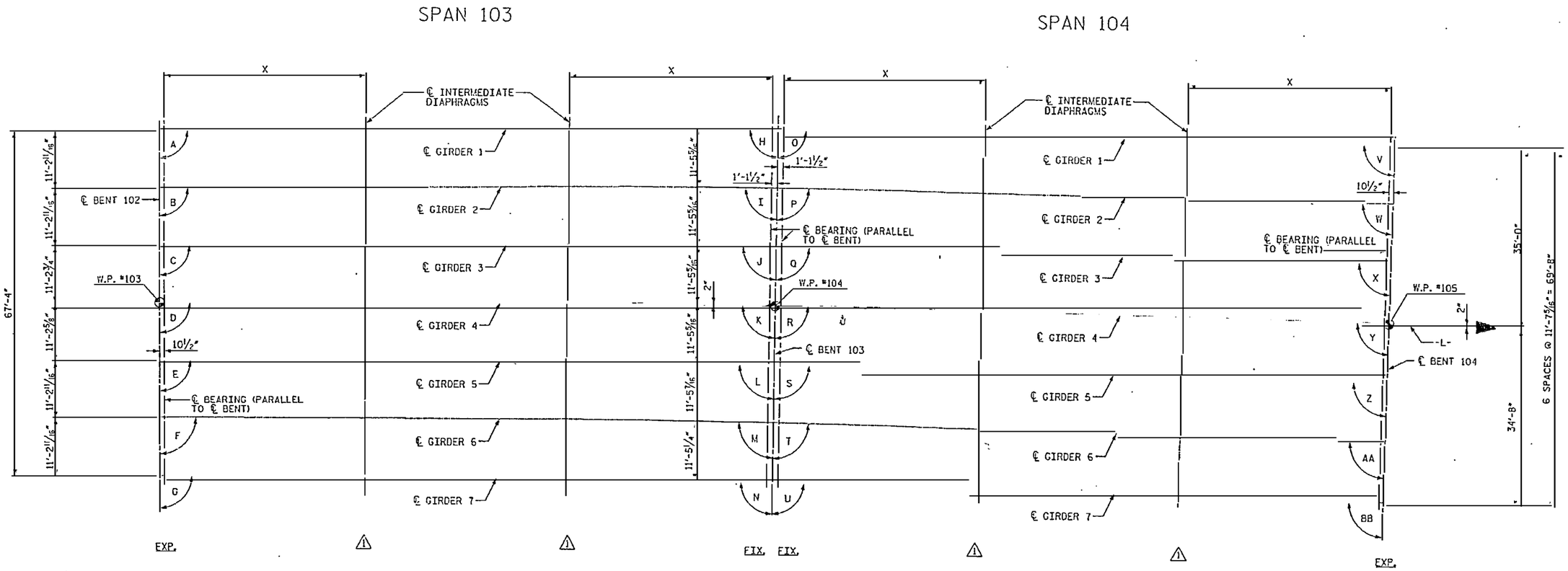
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2150.01
1	MTB	6/21/07	3			TOTAL SHEETS

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. C. COLEMAN DATE : 10/06

DATE: 7/27/2007
TIME: 8:53:29 AM

USER: cwhitfield
DGN: N:\Structure\new bridges\R2510B_SD_03A_fra_type15.dgn



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

	SPAN 103			SPAN 104		
LOCATION	ANGLE		BEARING	ANGLE		BEARING
GIRDER 1	A = 90°21'15"	H = 89°27'48"	N 06°06'14"E	O = 89°51'40"	V = 89°16'01"	N 06°46'46"E
GIRDER 2	B = 90°14'54"	I = 89°34'09"	N 06°12'35"E	P = 89°46'56"	W = 89°20'45"	N 06°51'30"E
GIRDER 3	C = 90°08'32"	J = 89°40'31"	N 06°18'57"E	Q = 89°42'11"	X = 89°25'30"	N 06°56'15"E
GIRDER 4	D = 90°02'19"	K = 89°46'43"	N 06°25'10"E	R = 89°37'25"	Y = 89°30'16"	N 07°01'01"E
GIRDER 5	E = 89°55'49"	L = 89°53'14"	N 06°31'40"E	S = 89°32'39"	Z = 89°35'02"	N 07°05'47"E
GIRDER 6	F = 89°49'14"	M = 89°59'48"	N 06°38'15"E	T = 89°28'04"	AA = 89°39'38"	N 07°10'23"E
GIRDER 7	G = 89°43'04"	N = 90°05'59"	N 06°44'25"E	U = 89°23'03"	BB = 89°44'38"	N 07°15'23"E

RELEASED FOR CONSTRUCTION
Tom Shearin 7/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 16 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 16
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO	BY:	DATE:	2151.01
1	MTB	6/21/07	3			TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL SEAL 030162 ENGINEER JOHN A. LORD

EarthTech
A Tyco International Ltd. Company

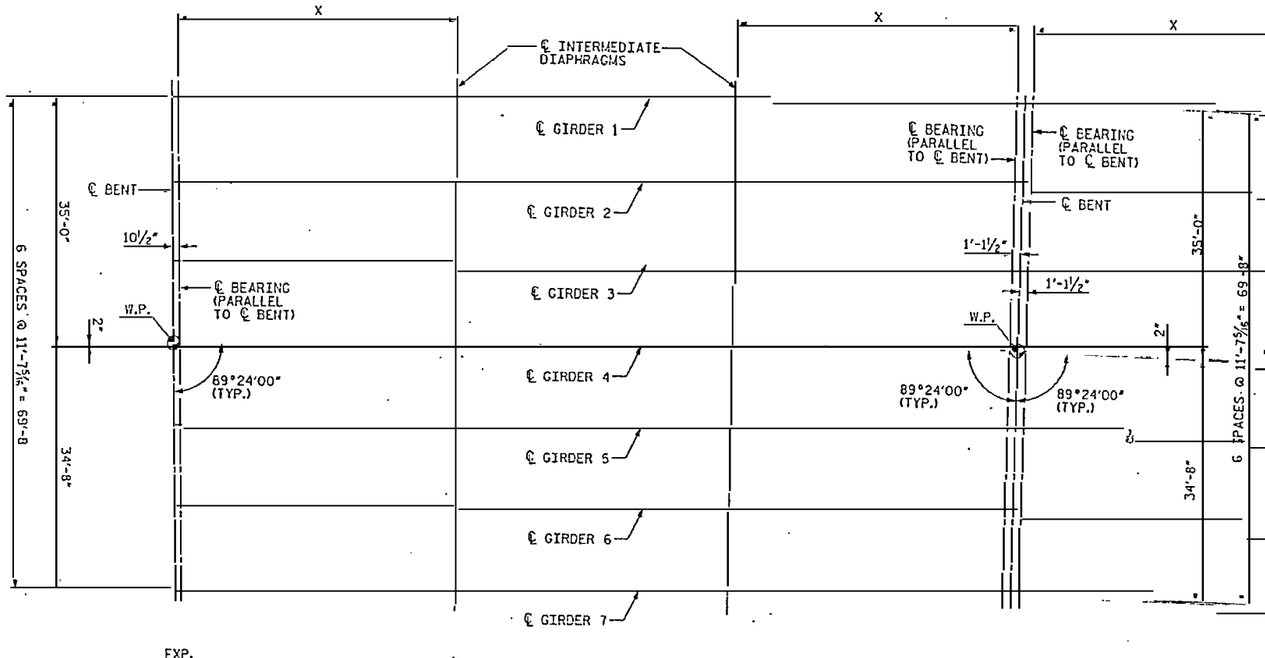
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LTU DATE : 10/06

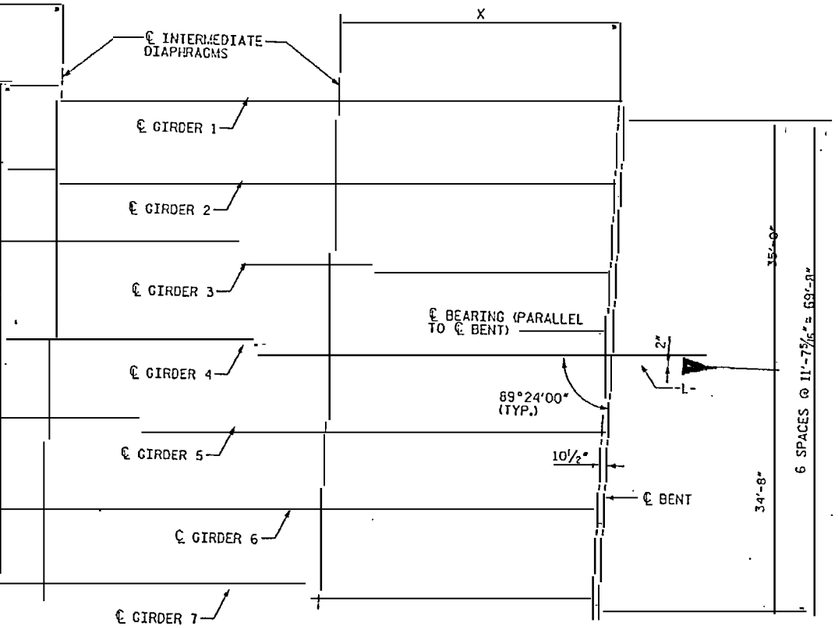
DATE: 7/27/2007
TIME: 7:53:20 AM

USER: scottwinfield
LDM: h:\projects\r-2510b_sr-0154_fw\bridge\r2510b_sr0154_fw_typ16.dgn

APPLIES TO ODD SPANS 105 THRU 109



APPLIES TO EVEN SPANS 106 THRU 110



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

LOCATION	BEARING					
	SPAN 105	SPAN 106	SPAN 107	SPAN 108	SPAN 109	SPAN 110
GIRDER 1	N 08°06'45"E	N 09°18'45"E	N 10°30'45"E	N 11°42'45"E	N 12°54'45"E	N 14°06'45"E
GIRDER 2	N 08°06'45"E	N 09°18'45"E	N 10°30'45"E	N 11°42'45"E	N 12°54'45"E	N 14°06'45"E
GIRDER 3	N 08°06'45"E	N 09°18'45"E	N 10°30'45"E	N 11°42'45"E	N 12°54'45"E	N 14°06'45"E
GIRDER 4	N 08°06'45"E	N 09°18'45"E	N 10°30'45"E	N 11°42'45"E	N 12°54'45"E	N 14°06'45"E
GIRDER 5	N 08°06'45"E	N 09°18'45"E	N 10°30'45"E	N 11°42'45"E	N 12°54'45"E	N 14°06'45"E
GIRDER 6	N 08°06'45"E	N 09°18'45"E	N 10°30'45"E	N 11°42'45"E	N 12°54'45"E	N 14°06'45"E
GIRDER 7	N 08°06'45"E	N 09°18'45"E	N 10°30'45"E	N 11°42'45"E	N 12°54'45"E	N 14°06'45"E

DRAWN BY : C. J. WHITFIELD DATE : 10/05
CHECKED BY : J. LIU DATE : 10/05

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 7/12/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 17 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

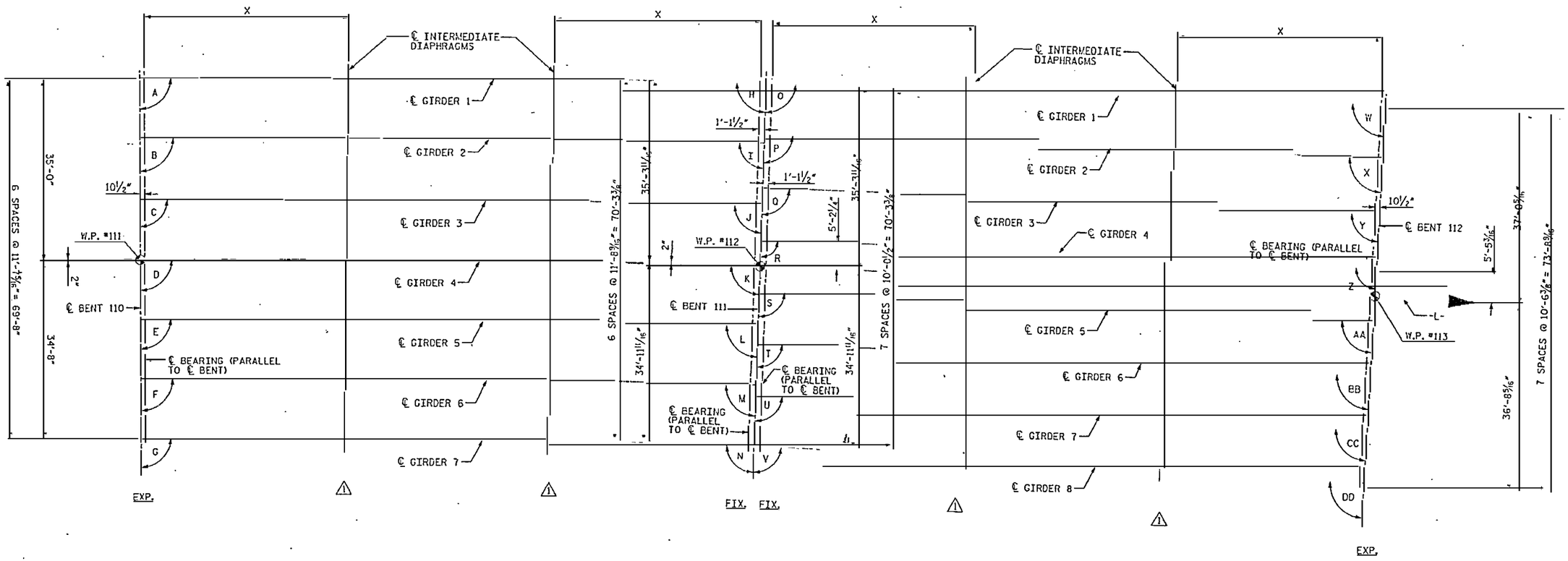
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030675 JOHN R. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2152.01
1	MTB	6/21/07	2			

USER: wattstreet
DGN: Roadway\Structures\BRIDGE\R2510B_FramePlan17.dgn
DATE: 7/27/2007
TIME: 10:59:5 AM



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠1 ADD INTERMEDIATE DIAPHRAGMS

LOCATION	SPAN 111 ANGLE		SPAN 111 BEARING	SPAN 112 ANGLE		SPAN 112 BEARING
GIRDER 1	A = 89°32'47"	H = 89°15'13"	N 15°09'58"E	O = 90°12'50"	W = 88°35'10"	N 15°41'55"E
GIRDER 2	B = 89°29'52"	I = 89°18'08"	N 15°12'53"E	P = 89°58'57"	X = 88°49'03"	N 15°55'48"E
GIRDER 3	C = 89°26'56"	J = 89°21'04"	N 15°15'49"E	Q = 89°45'00"	Y = 89°03'00"	N 16°09'45"E
GIRDER 4	D = 89°24'00"	K = 89°24'00"	N 15°18'45"E	R = 89°31'01"	Z = 89°16'59"	N 16°23'44"E
GIRDER 5	E = 89°21'03"	L = 89°26'57"	N 15°21'42"E	S = 89°16'58"	AA = 89°31'02"	N 16°37'47"E
GIRDER 6	F = 89°18'05"	M = 89°29'55"	N 15°24'40"E	T = 89°02'53"	BB = 89°45'07"	N 16°51'52"E
GIRDER 7	G = 89°15'07"	N = 89°32'53"	N 15°27'38"E	U = 88°48'44"	CC = 89°59'16"	N 17°06'01"E
GIRDER 8				V = 88°34'33"	DD = 90°13'27"	N 17°20'12"E

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 6/22/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 18 OF 26 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 18
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030627 ENGINEER JOHN T. LIU

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2153.01
1	MTB	6/21/07	3			TOTAL SHEETS
2			4			

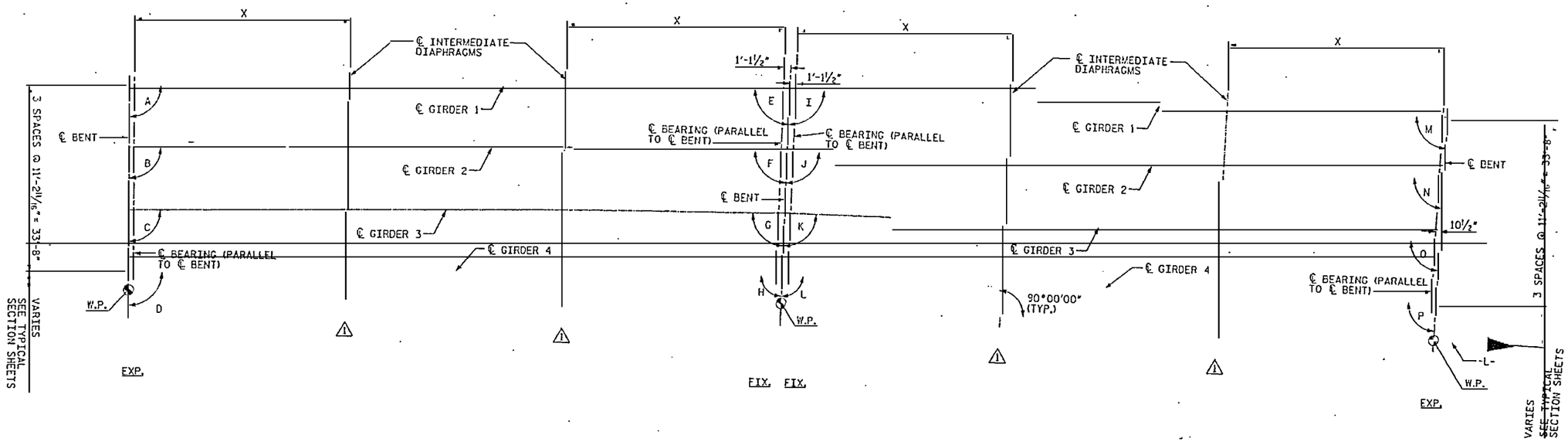
DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 7/27/2007
TIME: 10:09:08 AM

USER: scottmorris
DGN: N:\Structure\or New Projects\R2510B\25105_SD_DSF_FA_typ18.dgn

APPLIES TO ODD SPANS 113SB THRU 119SB

APPLIES TO EVEN SPANS 114SB THRU 120SB



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

LOCATION	SPAN 113SB ANGLE		BEARING	SPAN 114SB ANGLE		BEARING	SPAN 115SB ANGLE		BEARING	SPAN 116SB ANGLE		BEARING
GIRDER 1	A = 90°12'47"	E = 88°35'13"	N 16°53'58"E	I = 90°12'46"	M = 88°35'14"	N 18°05'59"E	A = 90°12'45"	E = 88°35'15"	N 19°18'00"E	I = 90°12'44"	M = 88°35'16"	N 20°30'01"E
GIRDER 2	B = 90°12'53"	F = 88°35'07"	N 16°53'52"E	J = 90°12'52"	N = 88°35'08"	N 18°05'53"E	B = 90°12'51"	F = 88°35'09"	N 19°17'54"E	J = 90°12'50"	N = 88°35'10"	N 20°29'55"E
GIRDER 3	C = 90°12'58"	G = 88°35'02"	N 16°53'47"E	K = 90°12'58"	O = 88°35'03"	N 18°05'48"E	C = 90°12'57"	G = 88°35'03"	N 19°17'48"E	K = 90°12'56"	O = 88°35'04"	N 20°29'49"E
GIRDER 4	D = 90°13'04"	H = 88°34'56"	N 16°53'41"E	L = 90°13'03"	P = 88°34'57"	N 18°05'42"E	D = 90°13'02"	H = 88°34'58"	N 19°17'43"E	L = 90°13'02"	P = 88°34'56"	N 20°29'44"E

LOCATION	SPAN 117SB ANGLE		BEARING	SPAN 118SB ANGLE		BEARING	SPAN 119SB ANGLE		BEARING	SPAN 120SB ANGLE		BEARING
GIRDER 1	A = 90°12'44"	E = 88°35'16"	N 21°42'02"E	I = 90°12'43"	M = 88°35'17"	N 22°54'02"E	A = 90°12'42"	E = 88°35'18"	N 24°06'03"E	I = 90°12'41"	M = 88°35'19"	N 25°18'04"E
GIRDER 2	B = 90°12'49"	F = 88°35'11"	N 21°41'56"E	J = 90°12'48"	N = 88°35'12"	N 22°53'57"E	B = 90°12'47"	F = 88°35'13"	N 24°05'58"E	J = 90°12'47"	N = 88°35'13"	N 25°17'58"E
GIRDER 3	C = 90°12'55"	G = 88°35'05"	N 21°41'50"E	K = 90°12'54"	O = 88°35'06"	N 22°53'51"E	C = 90°12'53"	G = 88°35'07"	N 24°05'52"E	K = 90°12'52"	O = 88°35'08"	N 25°17'53"E
GIRDER 4	D = 90°13'01"	H = 88°34'59"	N 21°41'44"E	L = 90°13'00"	P = 88°35'00"	N 22°53'45"E	D = 90°12'59"	H = 88°35'01"	N 24°05'46"E	L = 90°12'58"	P = 88°35'02"	N 25°17'47"E

LOCATION	GIRDER DISTANCE TO -L-
BENT 112	3'-4¼"
BENT 113 SB	5'-0⅞"
BENT 114 SB	6'-9⅜"
BENT 115 SB	8'-6"
BENT 116 SB	10'-2⅝"
BENT 117 SB	11'-11⅛"
BENT 118 SB	13'-7¾"
BENT 119 SB	15'-4¼"
BENT 120 SB	17'-0⅞"

⚠

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 19 OF 26 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

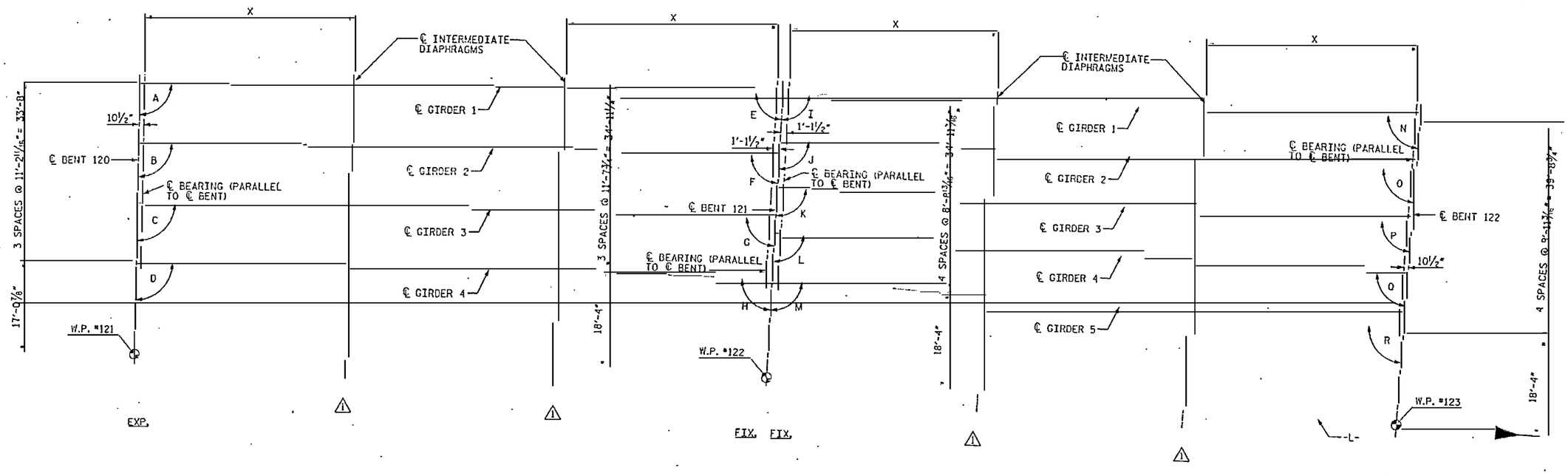
FRAMING PLAN TYPE 19
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2154.01
1	MTB	6/21/07	3			TOTAL SHEETS
2			4			

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

EarthTech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

USER: gwhitfield
DGN: N:\Structures\Projects\R2510B\Roadway\Bridges\R2510B_SUPER_19-Bridge2.dgn
DATE: 10/26/2006



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERVEDIATE DIAPHRAGMS

	SPAN 121SB			SPAN 122SB		
LOCATION	ANGLE		BEARING	ANGLE		BEARING
GIRDER 1	A = 90°35'46"	E = 88°12'14"	N 26°06'59"E	I = 91°40'07"	N = 87°07'53"	N 26°14'38"E
GIRDER 2.	B = 90°23'55"	F = 88°24'05"	N 26°18'50"E	J = 91°06'16"	O = 87°41'44"	N 26°48'29"E
GIRDER 3	C = 90°12'00"	G = 88°36'00"	N 26°30'45"E	K = 90°32'18"	P = 88°15'42"	N 27°22'27"E
GIRDER 4	D = 90°00'02"	H = 88°47'58"	N 26°42'43"E	L = 89°58'13"	Q = 88°49'47"	N 27°56'32"E
GIRDER 5				M = 89°24'00"	R = 89°24'00"	N 28°30'45"E

DATE: 7/27/2007
FILE: 6552-01.dgn

USER: authenticator
DGN: manufactured:/nc/projects/6552/01_50_DSN_01.dgn

RELEASED FOR CONSTRUCTION
Tom Shearin 7/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 20 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

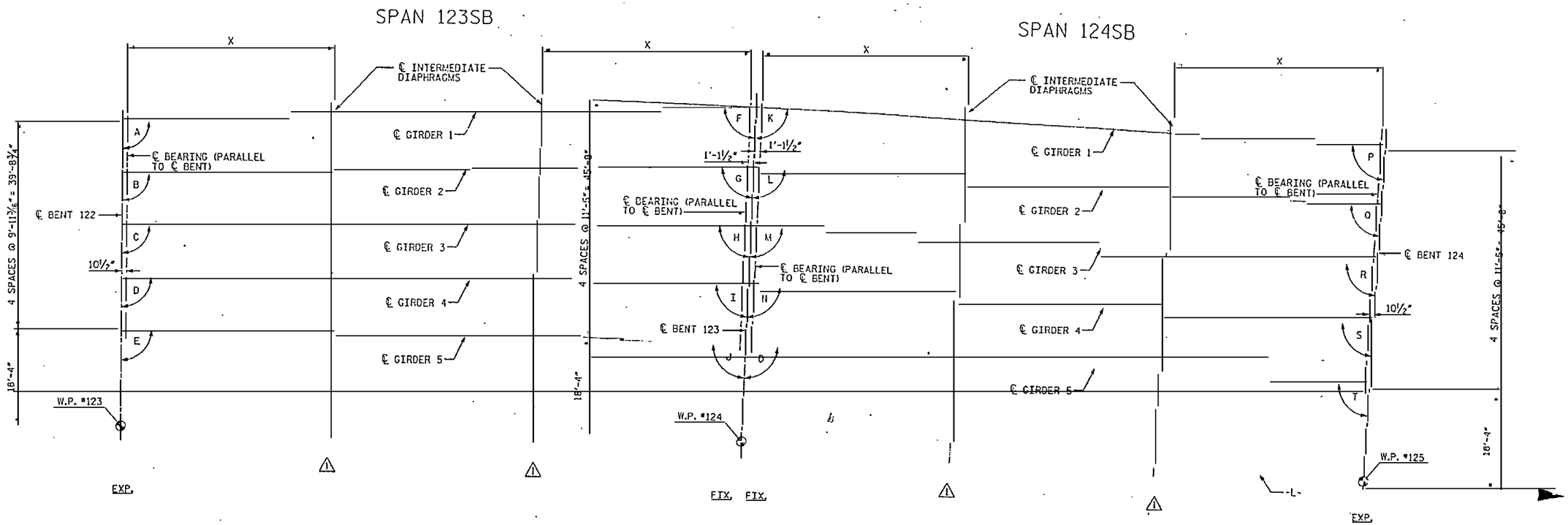
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2155.01
1	MTB	6/21/07	3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL SEAL 030678 ENGINEER JOHN W. HOWE, JR.

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

	SPAN 123SB			SPAN 124SB		
LOCATION	ANGLE		BEARING	ANGLE		BEARING
GIRDER 1	A = 92°12'03"	F = 86°35'57"	N 26°54'42"E	K = 89°24'00"	P = 89°24'00"	N 30°54'45"E
GIRDER 2	B = 91°30'19"	G = 87°17'41"	N 27°36'26"E	L = 89°24'00"	Q = 89°24'00"	N 30°54'45"E
GIRDER 3	C = 90°48'23"	H = 87°59'37"	N 28°18'22"E	M = 89°24'00"	R = 89°24'00"	N 30°54'45"E
GIRDER 4	D = 90°06'17"	I = 88°41'43"	N 29°00'28"E	N = 89°24'00"	S = 89°24'00"	N 30°54'45"E
GIRDER 5	E = 89°24'00"	J = 89°24'00"	N 29°42'45"E	O = 89°24'00"	T = 89°24'00"	N 30°54'45"E

DRAWN BY : C. J. WHITFIELD DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 21 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2156.01
1	MTB	6/21/07	3			TOTAL SHEETS
2			4			

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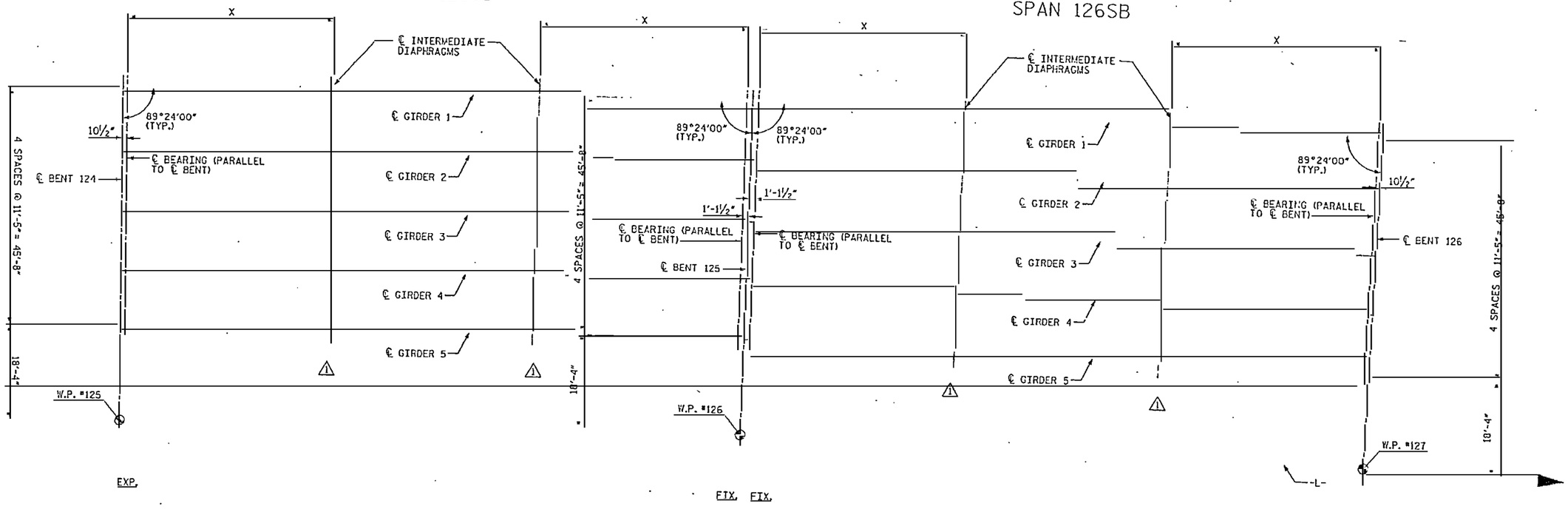
A JOINT VENTURE

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DATE PLOTTED: 21-JUN-2007
TIME PLOTTED: 13:53:41
USER NAME: mtb
PW: 2156_01_FRAMING_PLAN_TYPE_21_FOR_BRIDGE_ON_US17_BYPASS_OVER_TAR_RIVER.dgn



LOCATION	SPAN 125SB BEARING	SPAN 126SB BEARING
GIRDER 1	N 32°06'45"E	N 33°18'45"E
GIRDER 2	N 32°06'45"E	N 33°18'45"E
GIRDER 3	N 32°06'45"E	N 33°18'45"E
GIRDER 4	N 32°06'45"E	N 33°18'45"E
GIRDER 5	N 32°06'45"E	N 33°18'45"E

FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠1 ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 22 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
FRAMING PLAN TYPE 22
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

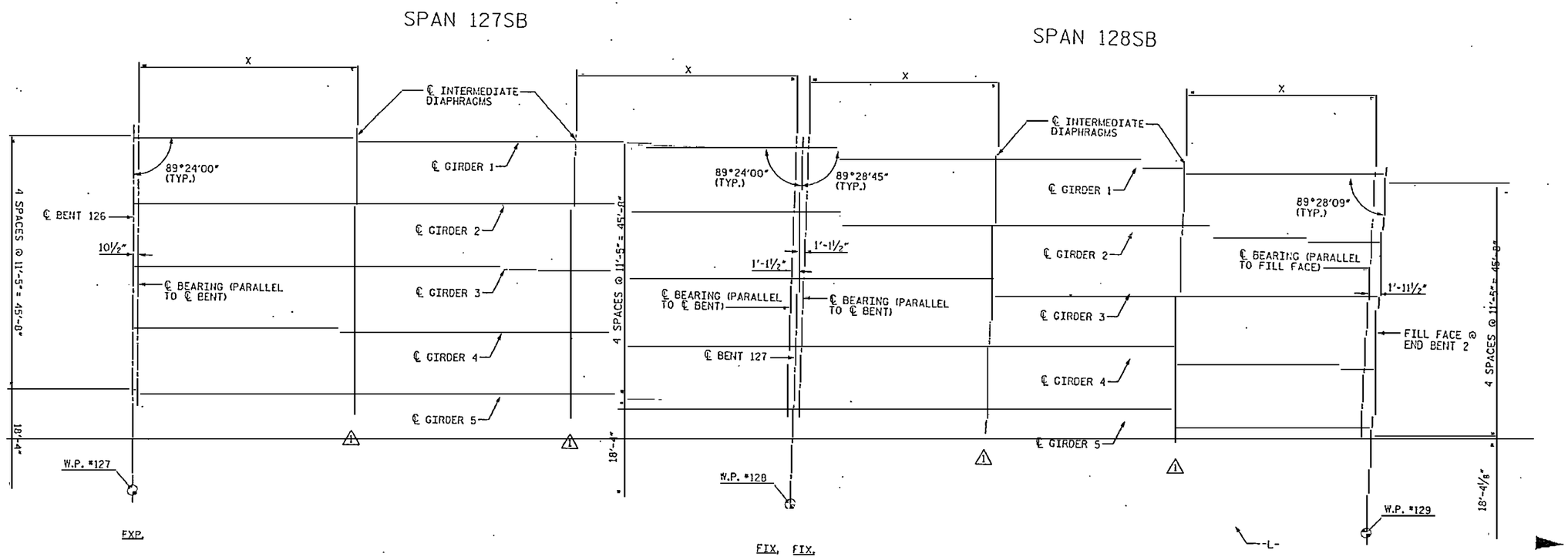
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	6/21/07	3		
2			4		

SHEET NO. 2157.01
TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : C. J. WHITFIELD DATE : 11/06
CHECKED BY : J. LTU DATE : 11/06

USER: rsmartinez
DGN: N:\Projects\R2510B_SUDS\Plans\R2510B_SUDS_FP_Type22.dgn
DATE: 7/27/2007
TIME: 8:55:59 AM



LOCATION	SPAN 125SB BEARING	SPAN 126SB BEARING
GIRDER 1	N 34°30'45"E	N 35°38'00"E
GIRDER 2	N 34°30'45"E	N 35°38'00"E
GIRDER 3	N 34°30'45"E	N 35°38'00"E
GIRDER 4	N 34°30'45"E	N 35°38'00"E
GIRDER 5	N 34°30'45"E	N 35°38'00"E

FRAMING PLAN

NOTE;
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠1 ADD INTERMEDIATE DIAPHRAGMS

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 7/27/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 23 OF 26
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 23
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	6/21/07	3		
2			4		

SHEET NO. 2158.01
TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

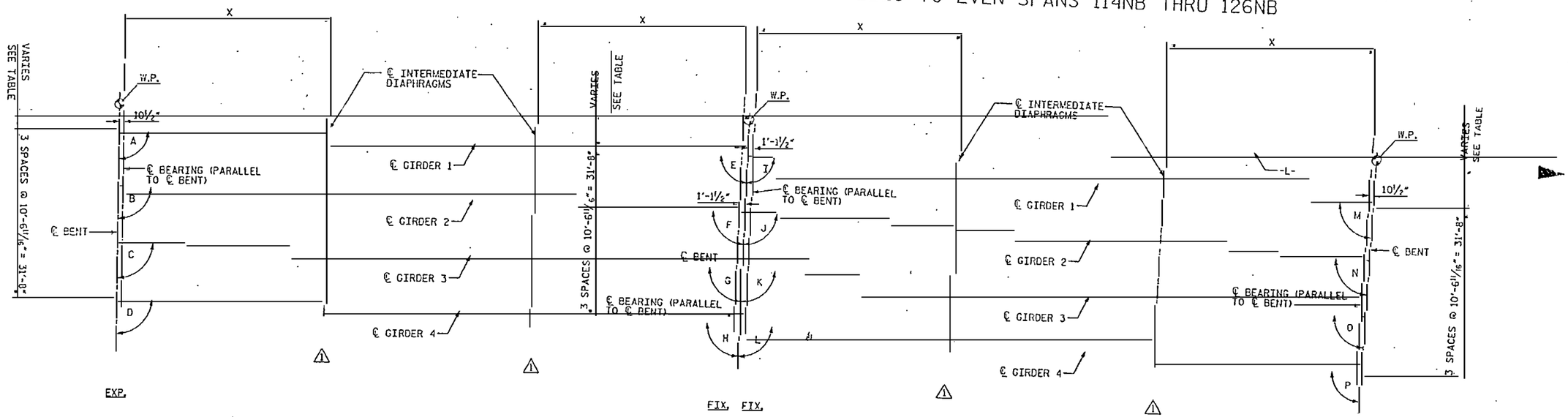
DRAWN BY : C. J. WHITFIELD DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

DATE: 7/27/2007
FILE: R2510B_M

USER: sstrickland
DGN: Construction Plan Bridges\R2510_20.DGN

APPLIES TO ODD SPANS 113NB THRU 125NB

APPLIES TO EVEN SPANS 114NB THRU 126NB



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ~~ADD INTERMEDIATE DIAPHRAGMS~~

~~LOCATION~~	SPAN 113NB ANGLE		BEARING
GIRDER 1	A = 88°34'51"	E = 90°13'09"	N 18°31'54"E
GIRDER 2	B = 88°34'45"	F = 90°13'15"	N 18°32'00"E
GIRDER 3	C = 88°34'39"	G = 90°13'21"	N 18°32'06"E
GIRDER 4	D = 88°34'33"	H = 90°13'27"	N 18°32'12"E

~~LOCATION~~	SPAN 114NB ANGLE		BEARING
GIRDER 1	I = 88°34'50"	M = 90°13'10"	N 19°43'55"E
GIRDER 2	J = 88°34'44"	N = 90°13'16"	N 19°44'01"E
GIRDER 3	K = 88°34'38"	O = 90°13'22"	N 19°44'07"E
GIRDER 4	L = 88°34'33"	P = 90°13'27"	N 19°44'12"E

~~LOCATION~~	SPAN 115NB ANGLE		BEARING
GIRDER 1	A = 88°34'49"	E = 90°13'11"	N 20°55'56"E
GIRDER 2	B = 88°34'44"	F = 90°13'16"	N 20°56'01"E
GIRDER 3	C = 88°34'39"	G = 90°13'21"	N 20°56'06"E
GIRDER 4	D = 88°34'34"	H = 90°13'26"	N 20°56'12"E

~~LOCATION~~	SPAN 116NB ANGLE		BEARING
GIRDER 1	I = 88°34'48"	M = 90°13'12"	N 22°07'57"E
GIRDER 2	J = 88°34'43"	N = 90°13'17"	N 22°08'02"E
GIRDER 3	K = 88°34'37"	O = 90°13'23"	N 22°08'08"E
GIRDER 4	L = 88°34'32"	P = 90°13'28"	N 22°08'13"E

~~LOCATION~~	SPAN 117NB ANGLE		BEARING
GIRDER 1	A = 88°34'47"	E = 90°13'13"	N 23°19'58"E
GIRDER 2	B = 88°34'41"	F = 90°13'19"	N 23°20'04"E
GIRDER 3	C = 88°34'35"	G = 90°13'25"	N 23°20'10"E
GIRDER 4	D = 88°34'29"	H = 90°13'31"	N 23°20'16"E

~~LOCATION~~	SPAN 118NB ANGLE		BEARING
GIRDER 1	I = 88°34'46"	M = 90°13'14"	N 24°31'59"E
GIRDER 2	J = 88°34'41"	N = 90°13'19"	N 24°32'04"E
GIRDER 3	K = 88°34'35"	O = 90°13'25"	N 24°32'10"E
GIRDER 4	L = 88°34'30"	P = 90°13'30"	N 24°32'15"E

~~LOCATION~~	SPAN 119NB ANGLE		BEARING
GIRDER 1	A = 88°34'45"	E = 90°13'15"	N 25°44'00"E
GIRDER 2	B = 88°34'40"	F = 90°13'20"	N 25°44'05"E
GIRDER 3	C = 88°34'36"	G = 90°13'24"	N 25°44'09"E
GIRDER 4	D = 88°34'31"	H = 90°13'29"	N 25°44'14"E

~~LOCATION~~	SPAN 120NB ANGLE		BEARING
GIRDER 1	I = 88°34'44"	M = 90°13'16"	N 25°56'01"E
GIRDER 2	J = 88°34'38"	N = 90°13'22"	N 26°56'07"E
GIRDER 3	K = 88°34'32"	O = 90°13'28"	N 26°56'13"E
GIRDER 4	L = 88°34'26"	P = 90°13'34"	N 26°56'19"E

~~LOCATION~~	SPAN 121NB ANGLE		BEARING
GIRDER 1	A = 88°47'44"	E = 90°00'16"	N 27°55'02"E
GIRDER 2	B = 88°47'40"	F = 90°00'20"	N 27°55'05"E
GIRDER 3	C = 88°47'37"	G = 90°00'23"	N 27°55'08"E
GIRDER 4	D = 88°47'34"	H = 90°00'26"	N 27°55'11"E

~~LOCATION~~	SPAN 122NB ANGLE		BEARING
GIRDER 1	I = 89°24'00"	M = 89°24'00"	N 28°30'45"E
GIRDER 2	J = 89°24'00"	N = 89°24'00"	N 28°30'45"E
GIRDER 3	K = 89°24'00"	O = 89°24'00"	N 28°30'45"E
GIRDER 4	L = 89°24'00"	P = 89°24'00"	N 28°30'45"E

~~LOCATION~~	SPAN 123NB ANGLE		BEARING
GIRDER 1	A = 89°24'00"	E = 89°24'00"	N 29°42'45"E
GIRDER 2	B = 89°24'00"	F = 89°24'00"	N 29°42'45"E
GIRDER 3	C = 89°24'00"	G = 89°24'00"	N 29°42'45"E
GIRDER 4	D = 89°24'00"	H = 89°24'00"	N 29°42'45"E

~~LOCATION~~	SPAN 124NB ANGLE		BEARING
GIRDER 1	I = 89°24'00"	M = 89°24'00"	N 30°54'45"E
GIRDER 2	J = 89°24'00"	N = 89°24'00"	N 30°54'45"E
GIRDER 3	K = 89°24'00"	O = 89°24'00"	N 30°54'45"E
GIRDER 4	L = 89°24'00"	P = 89°24'00"	N 30°54'45"E

~~LOCATION~~	SPAN 125NB ANGLE		BEARING
GIRDER 1	A = 89°24'00"	E = 89°24'00"	N 32°06'45"E
GIRDER 2	B = 89°24'00"	F = 89°24'00"	N 32°06'45"E
GIRDER 3	C = 89°24'00"	G = 89°24'00"	N 32°06'45"E
GIRDER 4	D = 89°24'00"	H = 89°24'00"	N 32°06'45"E

~~LOCATION~~	SPAN 126NB ANGLE		BEARING
GIRDER 1	I = 89°24'00"	M = 89°24'00"	N 33°18'45"E
GIRDER 2	J = 89°24'00"	N = 89°24'00"	N 33°18'45"E
GIRDER 3	K = 89°24'00"	O = 89°24'00"	N 33°18'45"E
GIRDER 4	L = 89°24'00"	P = 89°24'00"	N 33°18'45"E

LOCATION	GIRDER DISTANCE TO -L-
BENT 112	5'-0 1/4"
BENT 113 NB	6'-8 1/8"
BENT 114 NB	8'-5 3/8"
BENT 115 NB	10'-2"
BENT 116 NB	11'-10 5/8"
BENT 117 NB	13'-7 1/8"
BENT 118 NB	15'-3 3/4"
BENT 119 NB	17'-0 1/4"
BENT 120 NB	18'-8 1/8"
BENT 121 NB	20'-0"
BENT 122 NB	20'-0"
BENT 123 NB	20'-0"
BENT 124 NB	20'-0"
BENT 125 NB	20'-0"
BENT 126 NB	20'-0"

⚠

DRAWN BY : C. J. WHITFIELD DATE : 11/06
CHECKED BY : J. LTU DATE : 11/06

DATE: 7/27/2007
TIME: 8:53:53 AM
USER: sattarifard
DGN: Instructions\bar lines\R2510B_SOLDEN_FS_type24.dgn

RELEASED FOR CONSTRUCTION
Tom Shearin 7/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 24 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

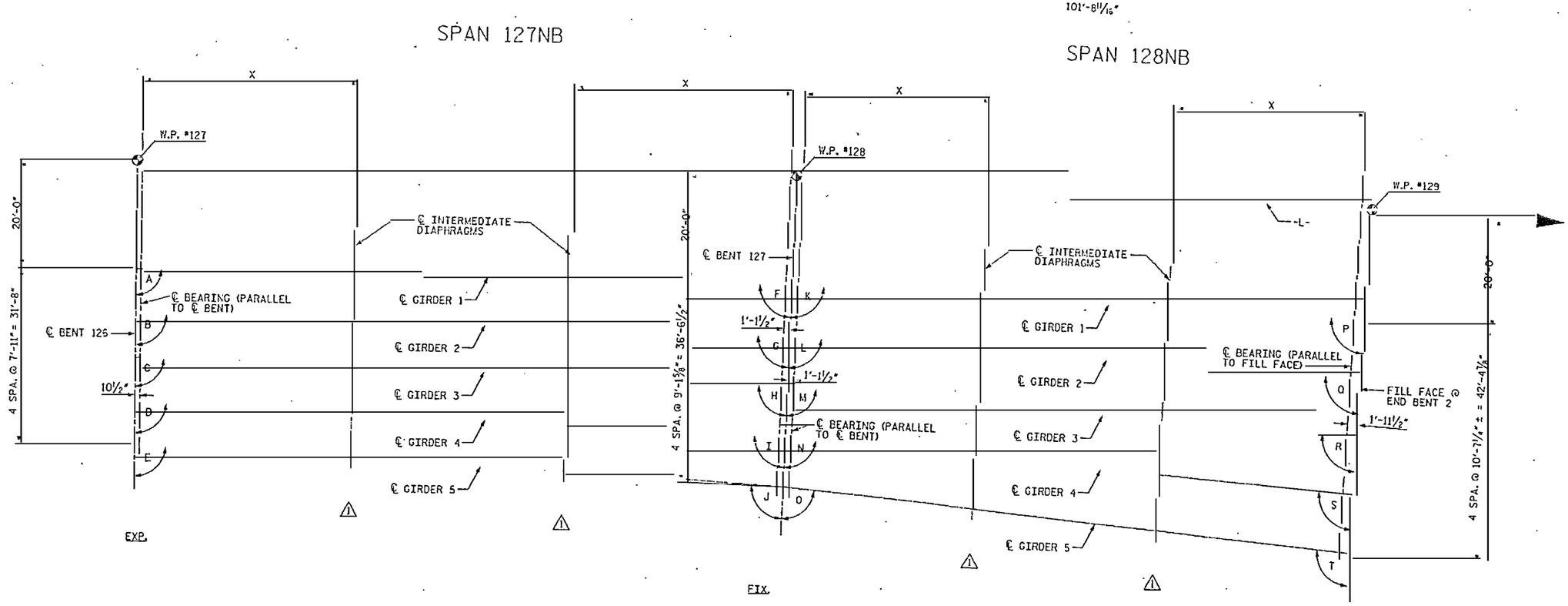
- BRIDGE No. 2 -

FRAMING PLAN TYPE 24
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2159.01
1	MTB	6/21/07	3			TOTAL SHEETS
2			4			



FRAMING PLAN

NOTE:
FOR DISTANCE 'X', SEE TABLE ON SHEET NO. 2161

⚠ ADD INTERMEDIATE DIAPHRAGMS

	SPAN 127NB			SPAN 128NB		
LOCATION	ANGLE		BEARING	ANGLE		BEARING
GIRDER 1	A = 89°24'00"	F = 89°24'00"	N 34°30'45"E	K = 89°28'45"	P = 89°28'09"	N 35°38'00"E
GIRDER 2	B = 88°48'54"	G = 89°59'06"	N 35°05'51"E	L = 88°40'32"	Q = 90°16'22"	N 36°26'13"E
GIRDER 3	C = 88°13'43"	H = 90°34'17"	N 35°41'02"E	M = 87°52'10"	R = 91°04'43"	N 37°14'35"E
GIRDER 4	D = 87°33'26"	I = 91°09'34"	N 36°16'19"E	N = 87°03'41"	S = 91°53'13"	N 38°03'04"E
GIRDER 5	E = 87°03'04"	J = 91°44'56"	N 36°51'41"E	O = 86°15'05"	T = 92°41'49"	N 38°51'40"E

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 7/27/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 25 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

FRAMING PLAN TYPE 25
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030578 ENGINEER JOHN T. BOWDEN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2160.01
1	MTB	6/21/07	3			TOTAL SHEETS
2			4			

DRAWN BY : C. J. WHITFIELD DATE : 03/07
CHECKED BY : J. LTU DATE : 03/07

USER: scottmichael
Date: N:\projects\R2510B\CAD\BRIDGE\FD_353\FD_Sht25.dgn
DATE: 7/27/2007
TIME: 7:42:53 AM

Location		Disatnce "X"	
Span No.	Beam No.	Measured from Center line of bearing (ft)	Measured from Beam end (ft)
1	All	38.972	39.681
2 thru 13	All	39.334	40.042
14	1	30.927	31.635
	2	32.250	32.958
	3	33.573	34.281
	4	34.896	35.604
	5	36.219	36.927
	6	37.542	38.250
	7	38.865	39.573
15	1	28.418	29.126
	2	30.119	30.828
	3	31.821	32.529
	4	33.522	34.230
	5	35.223	35.932
	6	36.924	37.633
	7	38.626	39.334
16	All	39.143	39.851
17	1	38.648	39.356
	2	36.947	37.655
	3	35.245	35.954
	4	33.544	34.252
	5	31.843	32.551
	6	30.141	30.850
	7	28.440	29.148
18	1	38.856	39.565
	2	37.533	38.242
	3	36.210	35.919
	4	34.887	35.596
	5	33.564	34.273
	6	32.241	32.950
	7	30.918	31.627
19 thru 21	All	37.344	38.052
22 thru 27	All	37.342	38.051
28	All	39.889	40.597
29	All	37.616	38.325
30 thru 79	All	39.889	40.597
80	All	39.890	40.598
81	All	39.891	40.600
82	1	39.193	39.902
	2	37.004	37.712
	3	34.815	35.523
	4	32.625	33.334
	5	30.436	31.144
	6	28.246	28.955
	7	26.057	26.765
83 thru 99	All	39.236	39.944
100	1	26.044	26.753
	2	28.234	28.942
	3	30.423	31.131
	4	32.612	33.321
	5	34.802	35.510
	6	36.991	37.699
	7	39.180	39.889
101, 102	All	39.339	40.047
103	1	39.379	40.087
	2	39.366	40.074
	3	39.353	40.062
	4	39.341	40.049
	5	39.329	40.037
	6	39.317	40.025
	7	39.305	40.013

Location		Disatnce "X"	
Span No.	Beam No.	Measured from Center line of bearing (ft)	Measured from Beam end (ft)
104	1	39.517	40.225
	2	39.458	40.167
	3	39.400	40.108
	4	39.341	40.049
	5	39.283	39.991
	6	39.224	39.932
	7	39.166	39.874
105	1	39.583	40.291
	2	39.502	40.210
	3	39.420	40.129
	4	39.339	40.048
	5	39.258	39.967
	6	39.177	39.886
	7	39.096	39.805
106	1	39.550	40.289
	2	39.499	40.203
	3	39.418	40.127
	4	39.337	40.045
	5	39.256	39.964
	6	39.175	39.883
	7	39.094	39.802
107	1	39.579	40.287
	2	39.498	40.206
	3	39.416	40.125
	4	39.335	40.044
	5	39.254	39.963
	6	39.173	39.882
	7	39.092	39.801
108 thru 110	1	39.577	40.286
	2	39.496	40.205
	3	39.415	40.124
	4	39.334	40.043
	5	39.253	39.962
	6	39.172	39.881
	7	39.091	39.799
111	1	39.577	40.285
	2	39.495	40.204
	3	39.414	40.122
	4	39.333	40.041
	5	39.251	39.960
	6	39.170	39.879
	7	39.089	39.797
112	1	39.589	40.298
	2	39.515	40.224
	3	39.442	40.151
	4	39.370	40.078
	5	39.298	40.006
	6	39.227	39.935
	7	39.156	39.865
	8	39.087	39.795
113SB	1	39.601	40.310
	2	39.523	40.231
	3	39.444	40.153
	4	39.366	40.074
114SB	1	39.613	40.321
	2	39.535	40.243
	3	39.456	40.165
	4	39.378	40.086
115SB	1	39.625	40.333
	2	39.547	40.255
	3	39.468	40.177

Location		Disatnce "X"	
Span No.	Beam No.	Measured from Center line of bearing (ft)	Measured from Beam end (ft)
116SB	1	39.637	40.345
	2	39.559	40.267
	3	39.480	40.189
	4	39.402	40.110
117SB	1	39.649	40.357
	2	39.571	40.279
	3	39.492	40.201
	4	39.414	40.122
118SB, 119SB	1	39.661	40.369
	2	39.583	40.291
	3	39.504	40.213
	4	39.426	40.134
120SB	1	39.685	40.393
	2	39.607	40.315
	3	39.528	40.237
	4	39.450	40.158
121SB	1	39.704	40.413
	2	39.622	40.330
	3	39.540	40.248
	4	39.458	40.167
122SB	1	39.753	40.461
	2	39.674	40.382
	3	39.599	40.307
	4	39.528	40.236
	5	39.461	40.169
123SB	1	39.806	40.515
	2	39.711	40.419
	3	39.622	40.330
	4	39.538	40.247
	5	39.461	40.169
124SB thru 126SB	1	39.780	40.488
	2	39.700	40.408
	3	39.620	40.329
	4	39.540	40.249
	5	39.461	40.169
127SB	1	39.780	40.489
	2	39.701	40.409
	3	39.621	40.329
	4	39.541	40.249
	5	39.461	40.170
128SB	1	34.416	35.125
	2	34.347	35.056
	3	34.278	34.986
	4	34.209	34.917
	5	34.140	34.848
113NB	1	39.296	40.004
	2	39.222	39.930
	3	39.148	39.857
	4	39.075	39.783
114NB	1	39.284	39.992
	2	39.210	39.918
	3	39.136	39.845
	4	39.063	39.771
115NB	1	39.272	39.980
	2	39.198	39.906
	3	39.124	39.833
	4	39.051	39.759
116NB	1	39.260	39.968
	2	39.186	39.894
	3	39.112	39.821
	4	39.039	39.747

Location		Disatnce "X"	
Span No.	Beam No.	Measured from Center line of bearing (ft)	Measured from Beam end (ft)
117NB	1	39.248	39.956
	2	39.174	39.882
	3	39.100	39.809
	4	39.027	39.735
118NB	1	39.235	39.944
	2	39.162	39.870
	3	39.088	39.797
	4	39.015	39.723
119NB	1	39.224	39.932
	2	39.150	39.859
	3	39.077	39.785
	4	39.003	39.711
120NB	1	39.212	39.920
	2	39.138	39.847
	3	39.065	39.773
	4	38.991	39.699
121NB	1	39.200	39.908
	2	39.126	39.834
	3	39.052	39.761
	4	38.979	39.687
122NB thru 126NB	1	39.193	39.901
	2	39.119	39.828
	3	39.046	39.754
	4	38.972	39.680
127NB	1	39.194	39.902
	2	39.136	39.845
	3	39.083	39.791
	4	39.034	39.742
	5	38.988	39.697
128NB	1	33.907	34.616
	2	33.851	34.559
	3	33.801	34.509
	4	33.758	34.466
	5	33.722	34.430

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/22/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 26 OF 26 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIAPHRAGM TABLE FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL A30576 ENGINEER JOHN C. LINE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2161.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : C. J. WHITFIELD DATE : 03/07
CHECKED BY : J. LIU DATE : 03/07

DATE: 1/22/2007
TIME: 10:58:17 AM

USER: swiftwood
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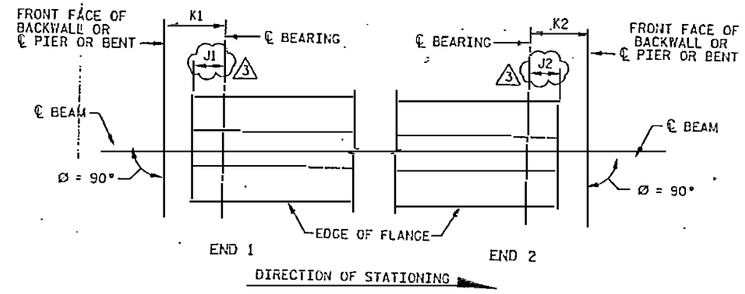
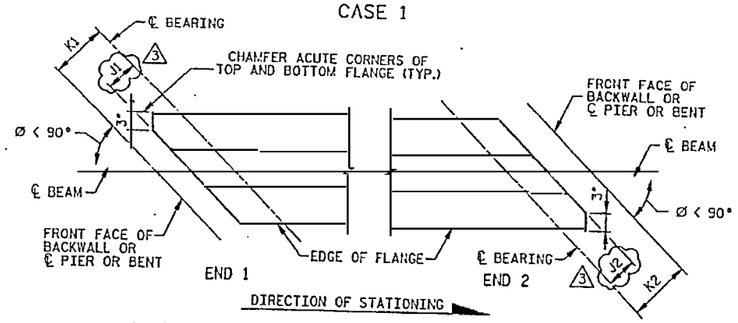
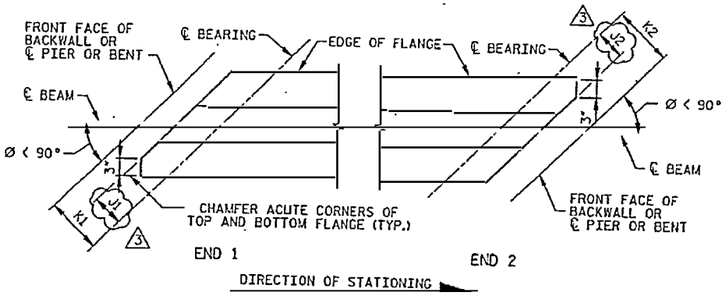


CASE 1

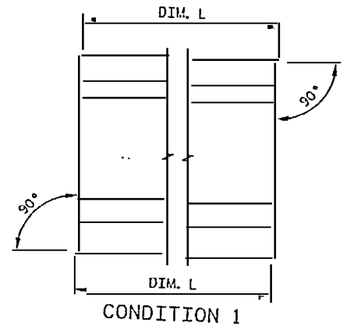


CASE 2

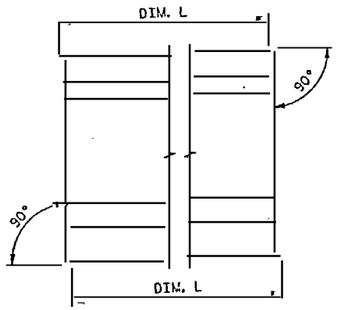


CASE 3

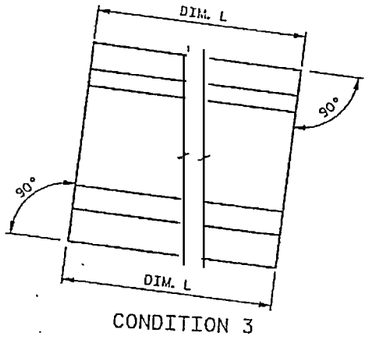
SCHEMATIC PLAN VIEWS AT BEAM ENDS



CONDITION 1



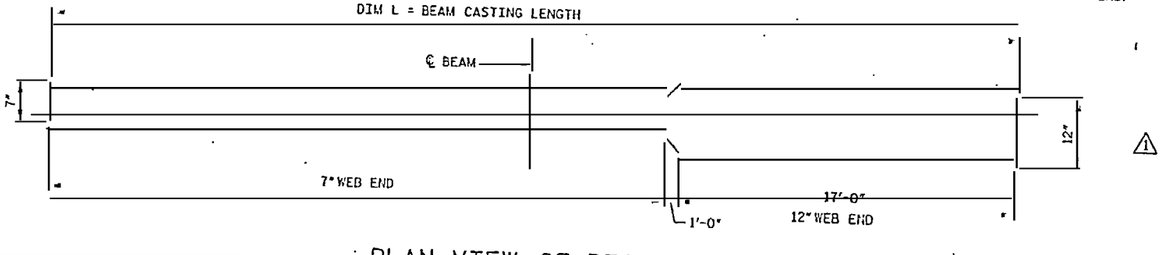
CONDITION 2



CONDITION 3

SCHEMATIC END ELEVATIONS OF BEAMS

(SHOWING VERTICAL BEVEL OF BEAM END)



PLAN VIEW OF BEAM WEB

BEAM NOTES

1. ~~ALL BAR DIMENSIONS ARE OUT-TO-OUT.~~
2. ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW-RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
3. ALL REINFORCING STEEL SHALL BE GRADE 60.
4. APPLY EPOXY PROTECTIVE COATING TO END OF GIRDER SURFACES INDICATED IN ELEVATION VIEW.
5. AT ENDS OF GIRDERS TO BE EMBEDDED IN CONCRETE DIAPHRAGMS OR END WALLS, PRESTRESSING STRANDS MAY EXTEND A MAXIMUM OF 2" BEYOND THE GIRDER ENDS. OTHERWISE, PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE GIRDER ENDS.
6. DEPENDING ON THE TYPE OF SYSTEM USED TO SUPPORT THE DECK SLAB FORMS, PRESET ANCHORS MAY BE NECESSARY IN THE PRESTRESSED CONCRETE GIRDER.
7. THE TOP SURFACE OF THE GIRDER, EXCLUDING THE OUTSIDE 4", SHALL BE RAKED TO A DEPTH OF ¼".
8. FOR CRACK REPAIR OF PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.
9. PLACE ONE (1) BAR 5K OR 6K OR 6Z OR 6JAT EACH LOCATION AS DETAILED ALTERNATING THE DIRECTION OF THE ENDS FOR EACH BAR (SEE "ELEVATION AT END OF BEAM", SHEET NOS. 2172 THRU 2174).
10. BARS 4L SHALL BE BENT PRIOR TO THE BEAM LEAVING THE PRESTRESSING YARD. BARS 4L SHALL BE BENT PARALLEL TO THE ENDS OF THE BEAMS.
11. CAUTION SHOULD BE USED WITH BARS 4L IN THE ENDS OF EXTERIOR BEAMS TO ASSURE THE BENT PORTION OF THE BAR IS PROPERLY ORIENTED SO THAT THE BAR WILL BE EMBEDDED IN THE DIAPHRAGM CONCRETE.
12. STRANDS N SHALL BE EITHER ASTM A416, GRADE 270, SEVEN-WIRE STRANDS ½"Ø OR LARGER, STRESSED TO 11,000 LBS. EACH.
13. UNLESS OTHERWISE NOTED, THE MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE 2".
14. INSTALL SAFETY SLEEVES 1'-10" FROM ENDS OF BEAM AND SPACED ON 8'-0" (MAX.) CENTERS. SHIFT BARS 5K OR 6K LOCALLY TO ALLOW PLACEMENT. SAFETY SLEEVES SHALL BE 2½" NPS × 5" SCHEDULE 40 PVC PIPE WITH CAP. HOLES SHALL BE FREE OF DEBRIS AND WATER PRIOR TO CASTING DECK.
15. FOR BEAMS WITH SKEWED END CONDITIONS, THE END REINFORCEMENT, DEFINED AS BARS 3D1, 3D2, 5K, 6K, 4M1, 4M2 AND 6Z OR 6J PLACED WITHIN THE LIMITS OF THE SPACING FOR BARS 3D (APPROXIMATELY 1.0 TIMES THE OVERALL BEAM DEPTH) IN "ELEVATION AT END OF BEAM", SHALL BE PLACED PARALLEL TO THE SKEWED END OF THE BEAM. BARS 5K, 6K OR 6J AND 4M3 LOCATED BEYOND THE LIMITS OF BARS 3D SHALL BE PLACED PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE BEAM. PLACEMENT OF BARS 3D1, 3D2, 4M1 AND 4M2 CORRESPOND TO END 1 AND END 2 RESPECTIVELY, AS SHOWN IN THE BEAM "ELEVATION". FOR BARS 3D1 AND 3D2, DIMENSION B AND THE OVERALL LENGTH SHALL BE ADJUSTED TO FIT THE WIDTH OF THE BOTTOM FLANGE MEASURED PARALLEL TO THE SKEW. FOR BARS 4M1 AND 4M2 THE OVERALL LENGTH SHALL BE ADJUSTED TO FIT THE WIDTH OF THE TOP FLANGE AS MEASURED PARALLEL TO THE SKEW. FAN BARS 4M1 AND 4M2 AS NEEDED TO MAINTAIN MINIMUM CLEARANCE (1½") BETWEEN THE BARS AT THE TRANSITION TO BARS 4M3 AND FIELD CUT TO LENGTH TO MAINTAIN MINIMUM COVER.
16. BARS 5K OR 6K AND 6Z OR 6J SHALL BE PLACED AND TIED TO THE FULLY BONDED STRANDS IN THE BOTTOM ROW (SEE "STRAND PATTERN").
17. AT THE CONTRACTOR'S OPTION BARS 3D1 AND 3D2 MAY BE FABRICATED AS A TWO-PIECE BAR WITH A 1'-2" LAP SPLICE OF THE BOTTOM LEGS.
18. FOR REFERENCED DIMENSIONS, ANGLES AND CASE NUMBERS SEE BULB-T 72 BEAM SCHEDULE SHEET NOS. 2186 THRU 2193A.
19. FOR LOCATIONS OF SCUPPERS, SEE GENERAL PLAN AND ELEVATION.
20. THE FORMED HOLES ARE AT THIRD POINTS OF BEAM. FOR THE HOLE LOCATION, SEE FRAMING PLAN DRAWINGS AND SHEET NO. 2175.

3 REVISIONS TO "SCHEMATIC PLAN VIEWS AT BEAM ENDS".
2 REVISION TO NOTE 20.
1 REVISION TO "PLAN VIEW OF BEAM WEB".

RELEASED FOR CONSTRUCTION
Tom Shearin 10/26/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 038676 ENGINEER JOHN M. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 15 BRIDGE NO. ~~353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM DETAILS 1 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2171.03
1	CJW	6/20/07	3	MTB	10/19/07	TOTAL SHEETS
2	MTB	8/9/07	4			

DRAWN BY : LOFTON DATE : 07/06
CHECKED BY : J. LEE DATE : 07/06

DATE PLOTTED: 10/26/2007
USER: mjordan
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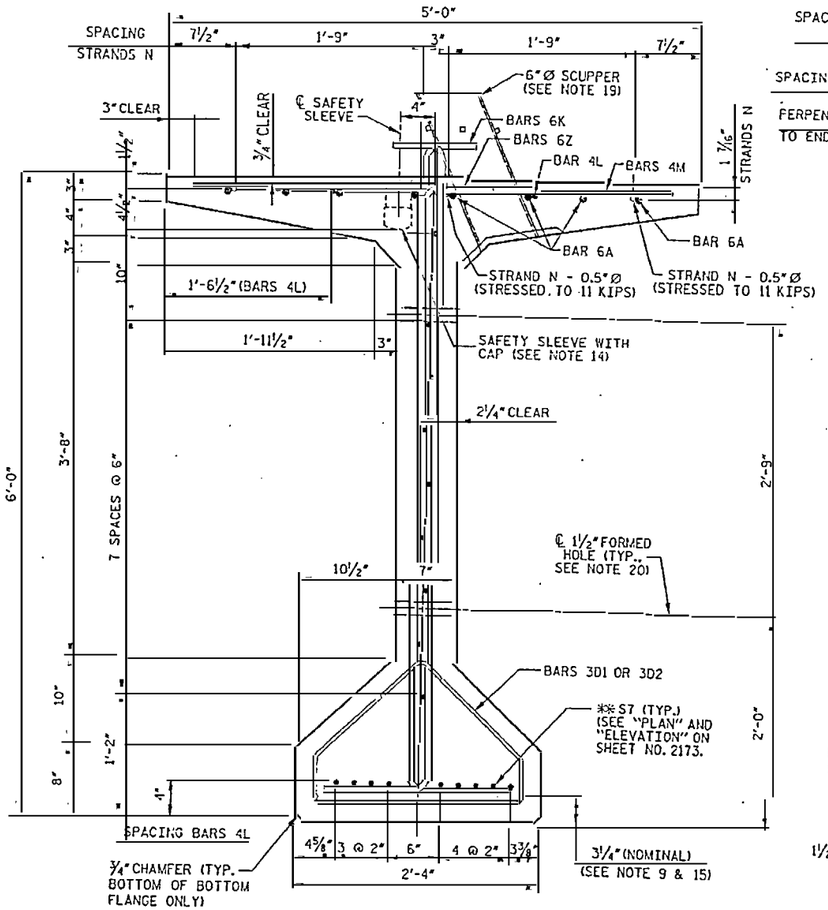
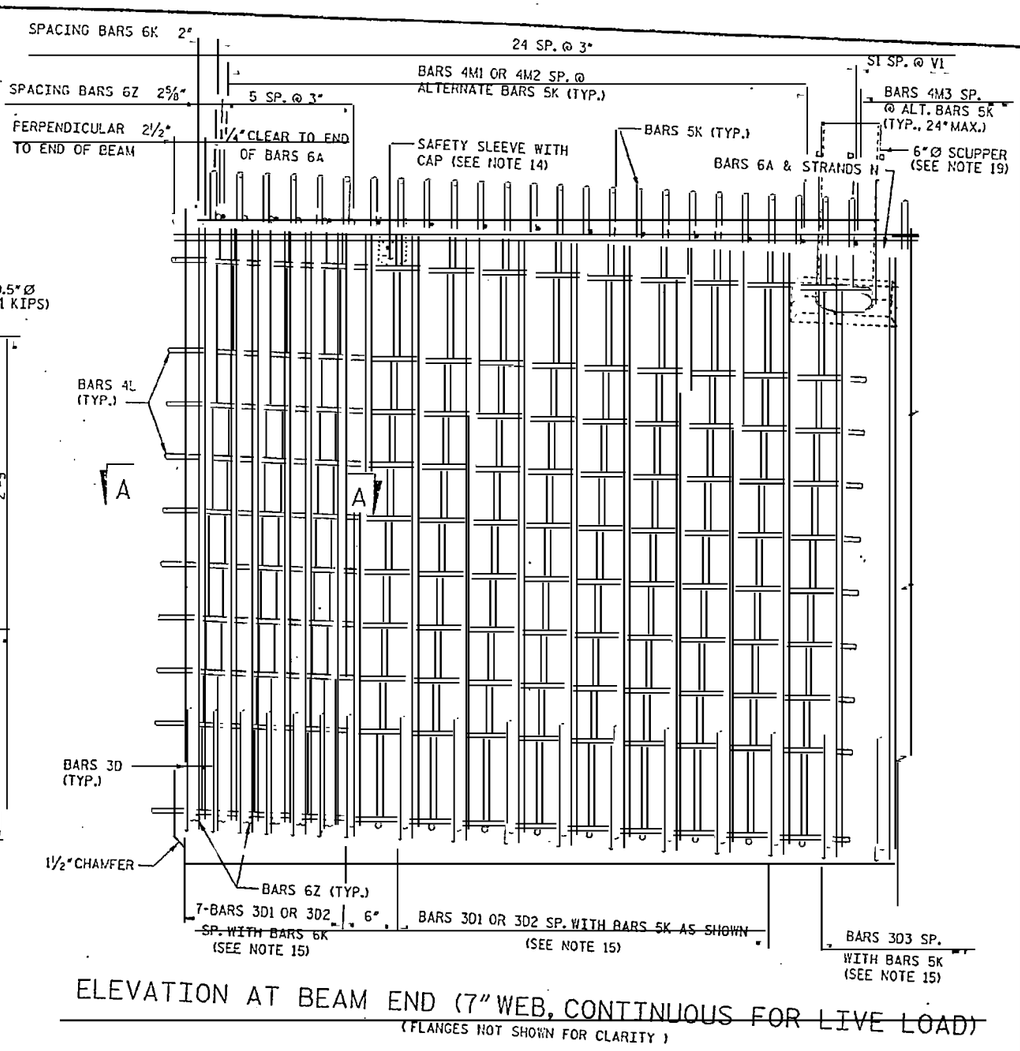


END VIEW OF INTERIOR BEAM



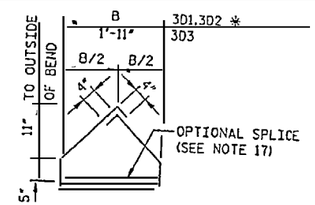
ELEVATION AT BEAM END (7"WEB, CONTINUOUS FOR LIVE LOAD)
(FLANGES NOT SHOWN FOR CLARITY)

BILL OF REINFORCING STEEL FOR ONE END

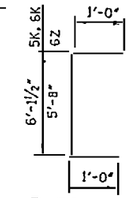
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	6	8	26'-0"
D1	15 & 17	3	15	*
D2	15 & 17	3	15	*
D3	15 & 17	3	*	6'-1"
K	9, 15 & 16	5	*	8'-2"
K	9, 15 & 16	6	6	8'-2"
L	10 & 11	4	11	7'-2"
M1	15	4	12	*
M2	15	4	12	*
M3	15	4	*	4'-6"
N	12	0.5"Ø STRAND	4	DIM L + 5"
**S7	—	5	9	3'-8"
Z	9, 15 & 16	6	6	7'-8"

**S7 BARS SHALL BE BENT BEFORE SHIPMENT HEAT BENDING SHALL NOT BE ALLOWED.

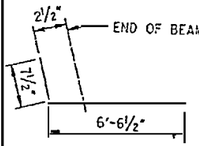
BENDING DIAGRAMS (SEE NOTE 1)



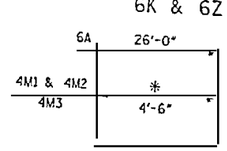
BARS 3D1, 3D2 & 3D3



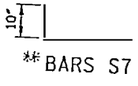
BARS 5K, 6K & 6Z



BARS 4L

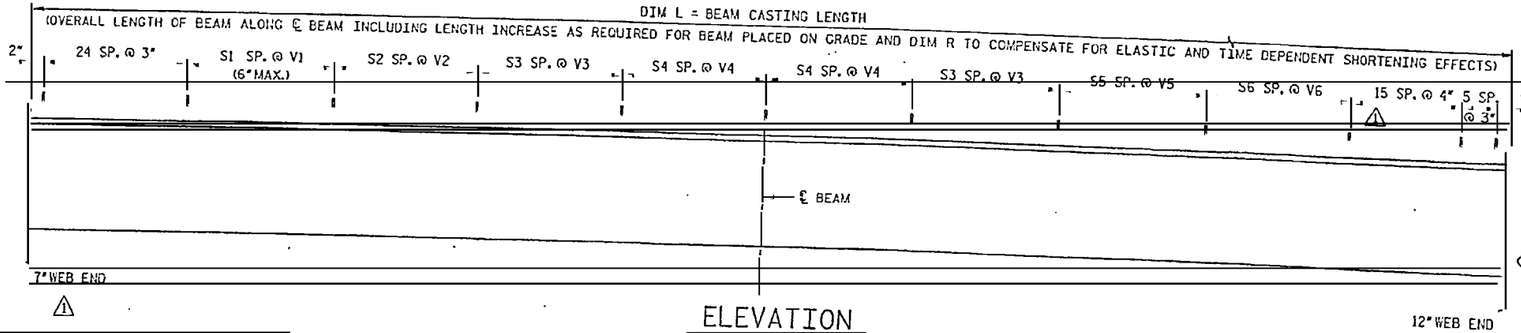


BARS 6A, 4M1, 4M2 & 4M3



** BARS S7

* SEE TABLE ON SHEET NOS. 2186 THRU 2193A.



ELEVATION

NOTES

1. FOR REFERENCED NOTES, SEE SHEET NO. 2171.
2. FOR SECTION A-A. SEE SHEET NO. 2173.
3. FOR DIMENSIONS L, R, V1 THRU V4 AND NUMBER OF SPACES S1 THRU S4, SEE BULB-T 72 BEAM SCHEDULE ON SHEET NOS. 2186 THRU 2193A.

⚠ REVISION TO ELEVATION VIEW.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 15
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM DETAILS 2 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2172.01
1	MTB	6/20/07	3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. W. JORDAN DATE : 7/06

USER: sstredna
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DATE: 7/12/2007
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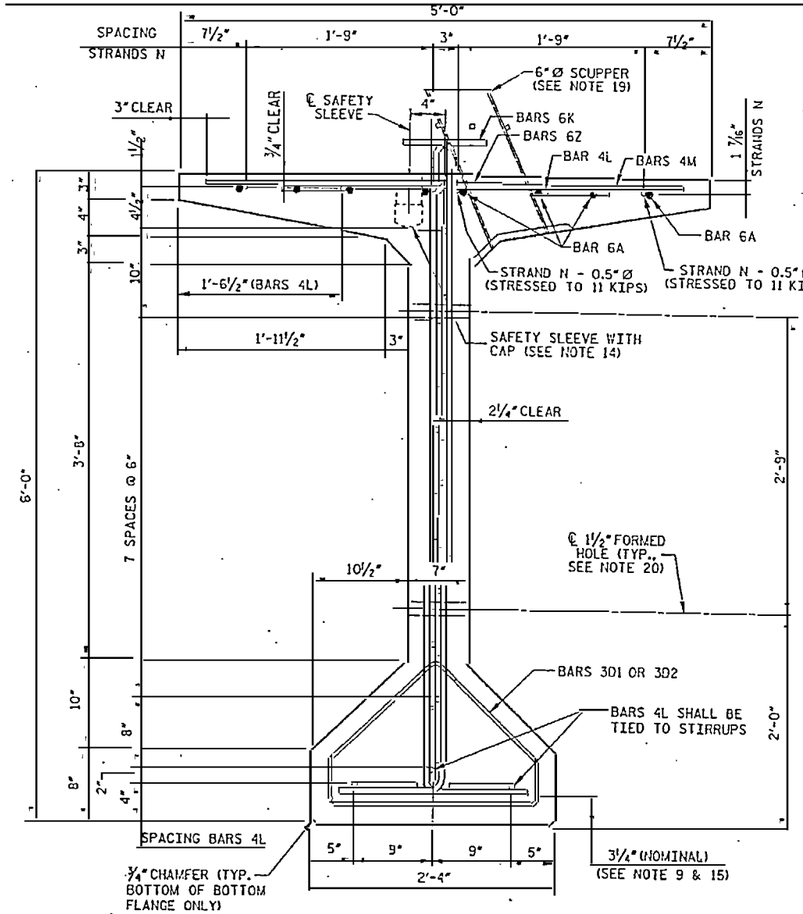
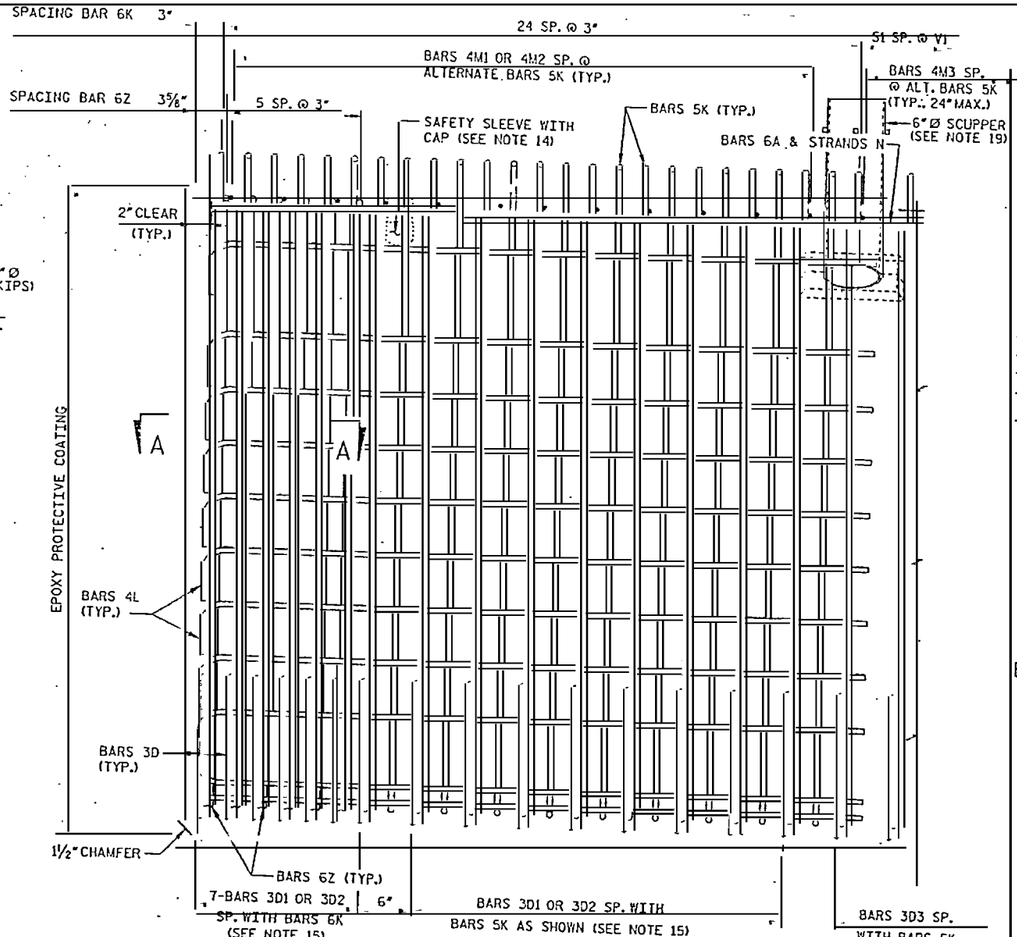


END VIEW OF INTERIOR BEAM

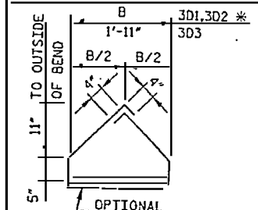


ELEVATION AT BEAM END (7" WEB, EXPANSION JT.)

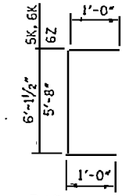
BILL OF REINFORCING STEEL FOR ONE END

MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	6	8	25'-0"
D1	15 & 17	3	15	*
D2	15 & 17	3	15	*
D3	15 & 17	3	*	6'-1"
K	9, 15 & 16	5	*	8'-2"
K	9, 15 & 16	6	6	8'-2"
L	10 & 11	4	14	7'-0"
M1	15	4	12	*
M2	15	4	12	*
M3	15	4	*	4'-6"
N	12	0.5"Ø STRAND	4	DIM L + 5"
Z	9, 15 & 16	6	6	7'-8"

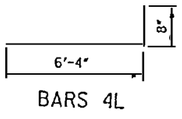
BENDING DIAGRAMS (SEE NOTE 1)



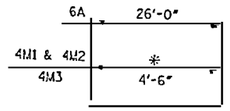
BARS 3D1, 3D2 & 3D3



BARS 5K, 6K & 6Z

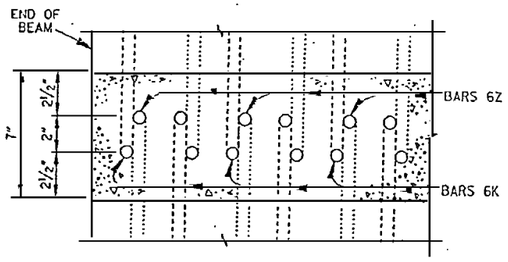


BARS 4L

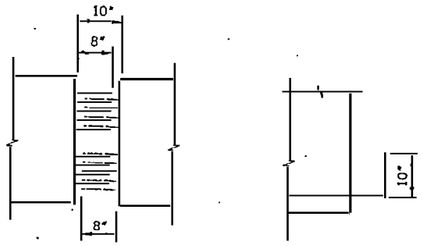


BARS 6A, 4M1, 4M2 & 4M3

* SEE TABLE ON SHEET NOS. 2186 THRU 2193A.



SECTION A-A
(SHOWING BARS 6K & 6Z ONLY)



PLAN ELEVATION

S7 TYPE BARS

NOTES

1. FOR REFERENCED NOTES, SEE SHEET NO. 2171.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 4/4/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 3 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM DETAILS 3 FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2173.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. W. JORDAN DATE : 7/06

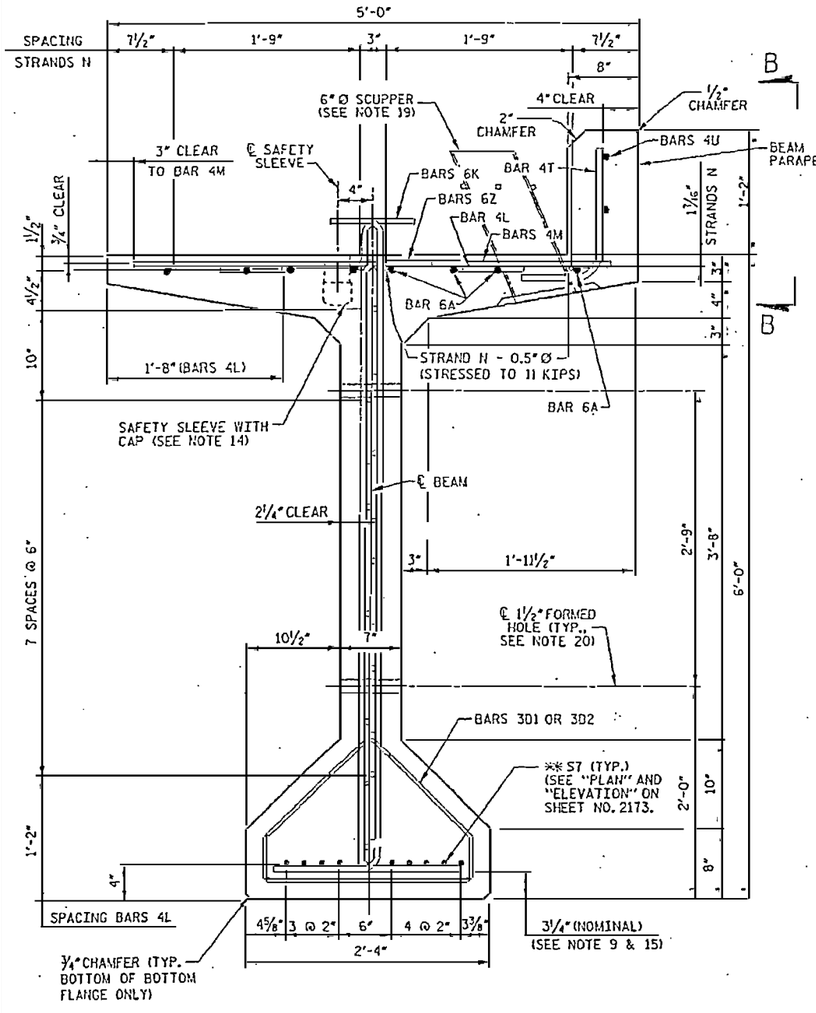
NORTH CAROLINA PROFESSIONAL SEAL 029435 ENGINEER JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

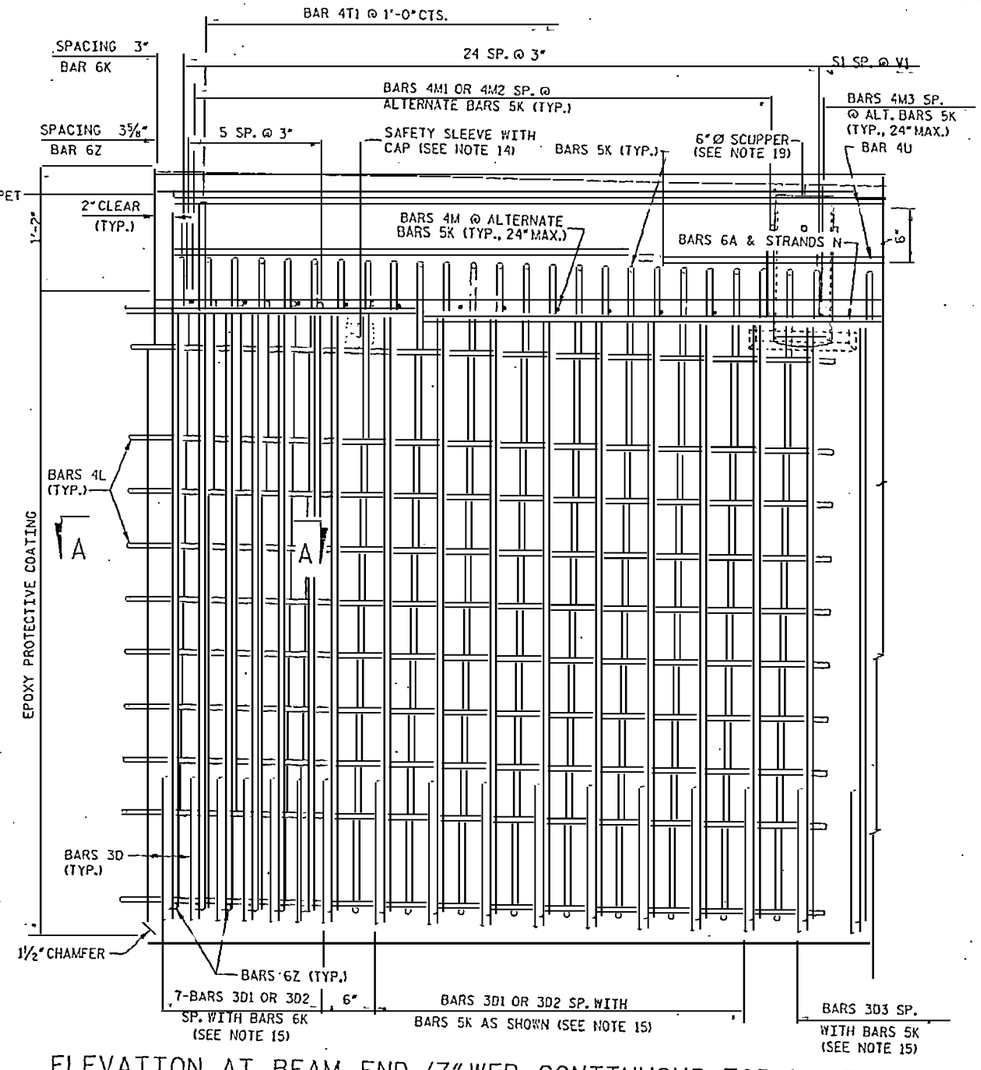
FLATIRON/UNITED
A JOINT VENTURE

USER: mjohnson
DGN: R2510BS7BARDET.dgn

DATE: 1/2/2007
TIME: 8:38:15 PM



END VIEW OF EXTERIOR BEAM



ELEVATION AT BEAM END (7" WEB, CONTINUOUS FOR LIVE LOAD)

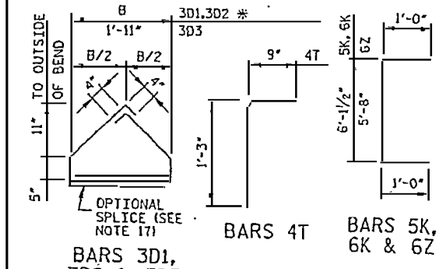
(FLANGES NOT SHOWN FOR CLARITY)

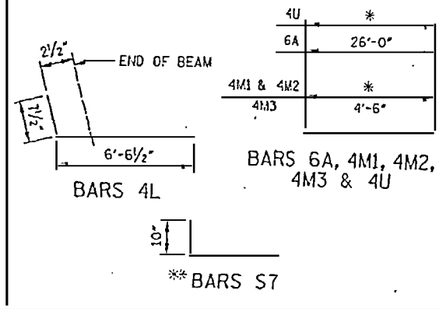
BILL OF REINFORCING STEEL FOR ONE END

MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	6	8	26'-0"
D1	15 & 17	3	15	*
D2	15 & 17	3	15	*
D3	15 & 17	3	*	6'-1"
K	9, 15 & 16	5	*	8'-2"
K	9, 15 & 16	6	6	8'-2"
L	10 & 11	4	11	7'-2"
M1	15	4	12	*
M2	15	4	12	*
M3	15	4	*	4'-6"
N	12	0.5"Ø STRAND	4	DIM L + 5'
**S7	—	5	9	3'-8"
T	—	4	**	2'-0"
U	—	4	**	**
Z	9, 15 & 16	6	6	7'-8"

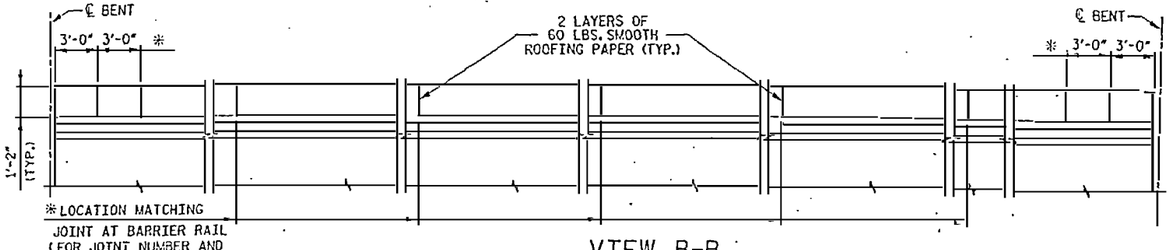
** S7 BARS SHALL BE BENT BEFORE SHIPMENT
HEAT BENDING SHALL NOT BE ALLOWED.

BENDING DIAGRAMS (SEE NOTE 1)





* SEE TABLE ON SHEET NOS. 2166 THRU 2193A.



VIEW B-B

* DIMENSIONS & LOCATIONS ARE GIVEN ALONG OUTSIDE FACE OF BEAM PARAPET. SEE "BULB-T 72 BEAM SCHEDULE 9" FOR TYPICAL PLAN.

NOTES

1. FOR REFERENCED NOTES, SEE SHEET NO. 2171.
2. FOR SECTION A-A, SEE SHEET NO. 2173.

** FOR DETAILS OF REBARS T & U, SEE SHEET NO. 2193A.

NORTH CAROLINA PROFESSIONAL SEAL 030870 ENGINEER JOHN W. JORDAN

RELEASED FOR CONSTRUCTION
Tom Shearin 4/4/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

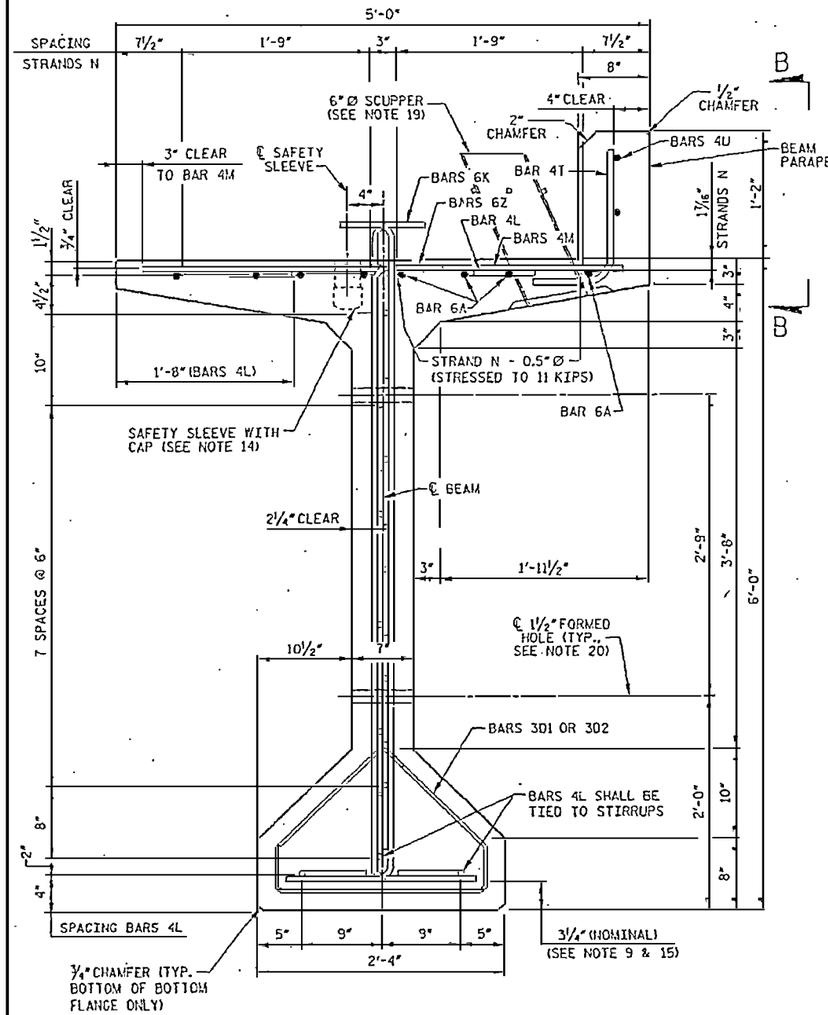
- BRIDGE No. 2 -
BULB-T 72 BEAM DETAILS 4 FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

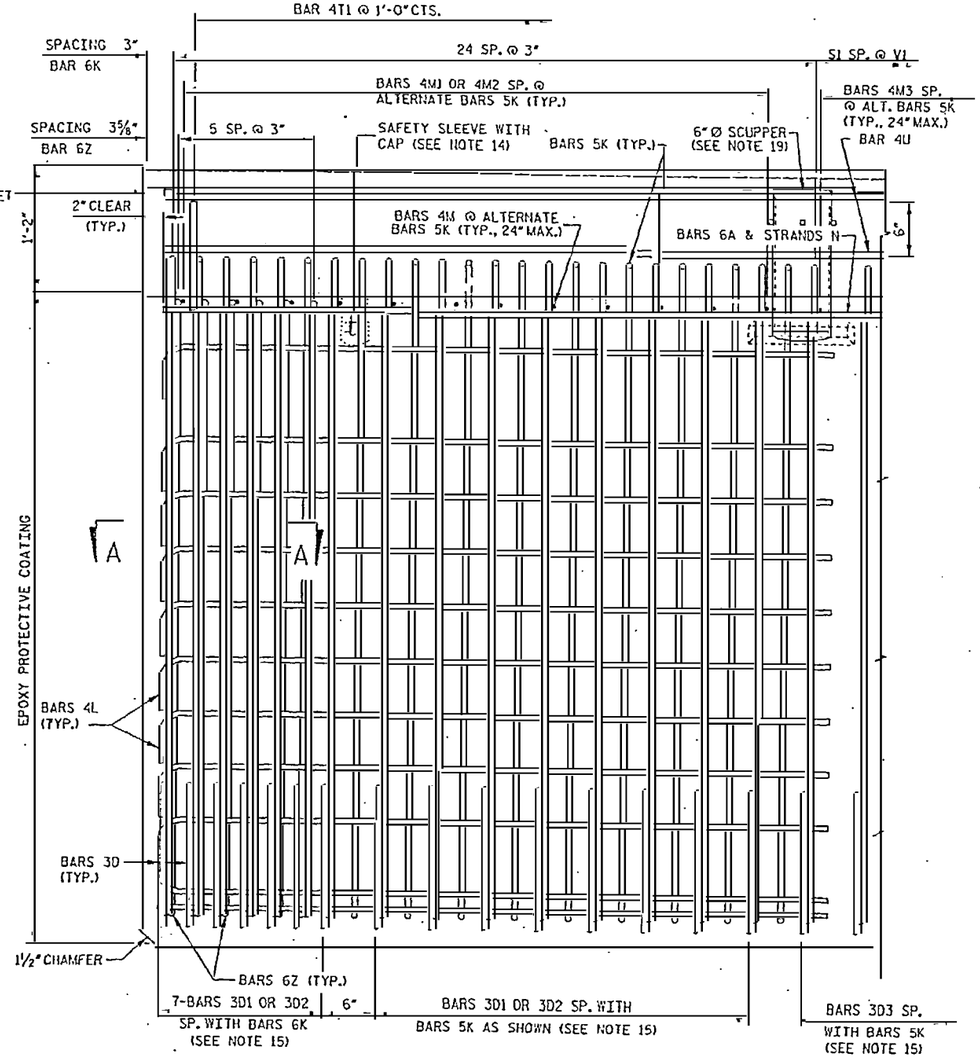
SHEET NO. 2173A.00
TOTAL SHEETS

DRAWN BY : S.G. STREDNAK DATE : 1/07
CHECKED BY : J. W. JORDAN DATE : 1/07

DATE: 4/4/2007
TIME: 8:34:52 PM
USER: mfleming
DGN: M:\Roadway\Structures\Bridge\Plans\2510B_R-2510B-D2-DESIGN_M-dsn_Pr-beam4.dgn



END VIEW OF EXTERIOR BEAM



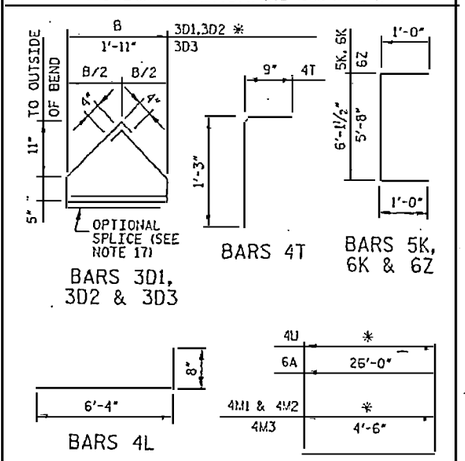
ELEVATION AT BEAM END (7" WEB, EXPANSION JT.)

(FLANGES NOT SHOWN FOR CLARITY)

BILL OF REINFORCING STEEL FOR ONE END

MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 11
A	—	6	8	25'-0"
D1	15 & 17	3	15	*
D2	15 & 17	3	15	*
D3	15 & 17	3	*	6'-1"
K	9, 15 & 16	5	*	8'-2"
K	9, 15 & 16	6	6	8'-2"
L	10 & 11	4	14	7'-0"
M1	15	4	12	*
M2	15	4	12	*
M3	15	4	*	4'-6"
N	12	0.5"Ø STRAND	4	DIM L + 5'
T	—	4	**	2'-0"
U	—	4	**	**
Z	9, 15 & 16	6	6	7'-8"

BENDING DIAGRAMS (SEE NOTE 1)



* SEE TABLE ON SHEET NOS. 2186 THRU 2193A.

NOTES

1. FOR REFERENCED NOTES, SEE SHEET NO. 2171.
2. FOR SECTION A-A, SEE SHEET NO. 2173.
3. FOR VIEW B-B, SEE SHEET NO. 2173A.

** FOR DETAILS OF REBARS T & U, SEE SHEET NO. 2193A.

NORTH CAROLINA SEAL 030703 ENGINEER JOHN W. JORDAN

RELEASED FOR CONSTRUCTION
Tom Shearin 4/6/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 5 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM DETAILS 5 FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2174.00
1			3			TOTAL SHEETS
2			4			

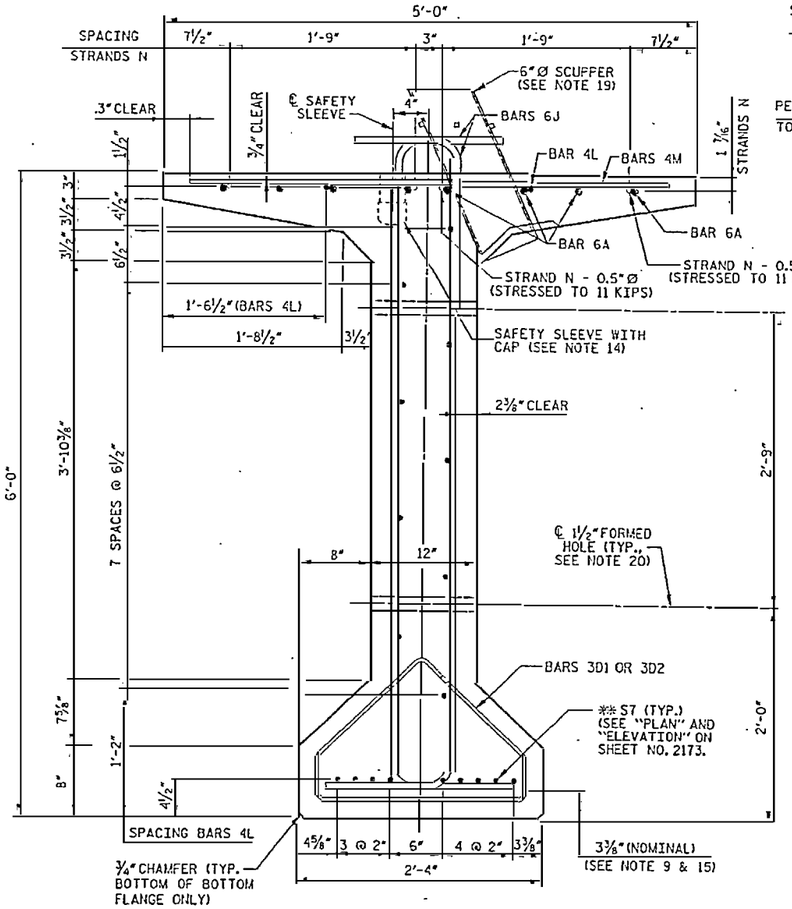
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

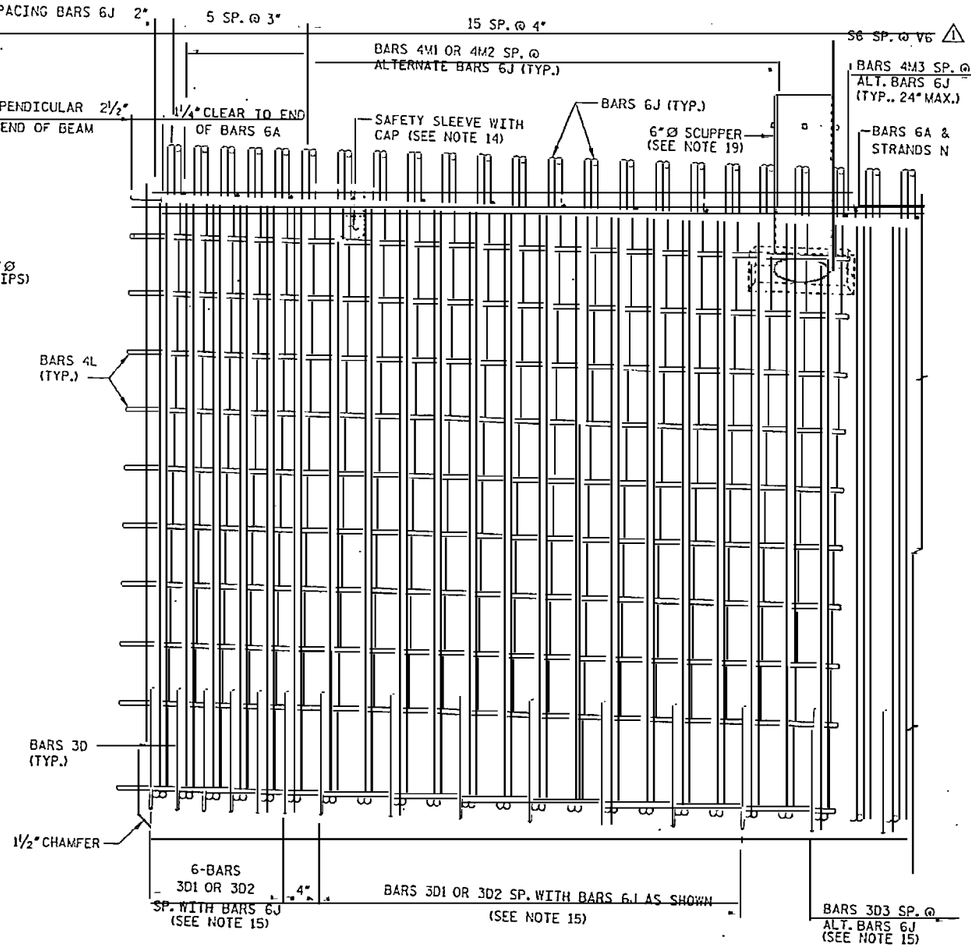
DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. W. JORDAN DATE : 7/06

DATE: 4/2/2007
FILE: S2K43.PW

USER: mhardin
DGN: H:\SIGNED\MAY\Bridge\NCDOT\2510_sht_BRIDGE.dgn



END VIEW OF INTERIOR BEAM



ELEVATION AT BEAM END (12" WEB, CONTINUOUS FOR LIVE LOAD)

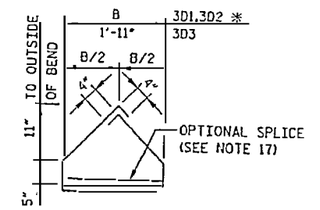
(FLANGES NOT SHOWN FOR CLARITY)

BILL OF REINFORCING STEEL FOR ONE END

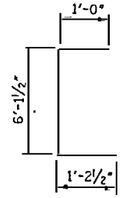
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	6	8	26'-0"
D1	15 & 17	3	14	*
D2	15 & 17	3	14	*
D3	15 & 17	3	*	6'-1"
J	9, 15 & 16	6	*	8'-4"
L	10 & 11	4	11	7'-2"
M1	15	4	10	*
M2	15	4	10	*
M3	15	4	*	4'-6"
N	12	0.5"Ø STRAND	4	DIM L + 5"
**S7	—	5	9	3'-8"

**S7 BARS SHALL BE BENT BEFORE SHIPMENT HEAT BENDING SHALL NOT BE ALLOWED.

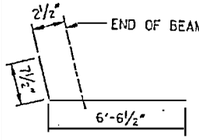
BENDING DIAGRAMS (SEE NOTE 1)



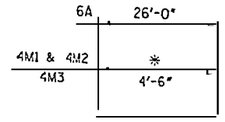
BARS 3D1, 3D2 & 3D3



BARS 6J



BARS 4L



BARS 6A, 4M1, 4M2 & 4M3

**BARS S7

* SEE TABLE ON SHEET NOS. 2186 THRU 2193A.

⚠ REVISION TO BAR MARKS.

NOTES

1. FOR REFERENCED NOTES, SEE SHEET NO. 2171.
2. FOR SECTION A-A, SEE SHEET NO. 2173.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 6 OF 15 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION

Tom Shearin 7/27/07

TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 029676 ENGINEER JOHN WAYNE JORDAN

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM DETAILS ⚠6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2174A.01
1	MTB	6/20/07	3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. W. JORDAN DATE : 7/06

USER: wstredna
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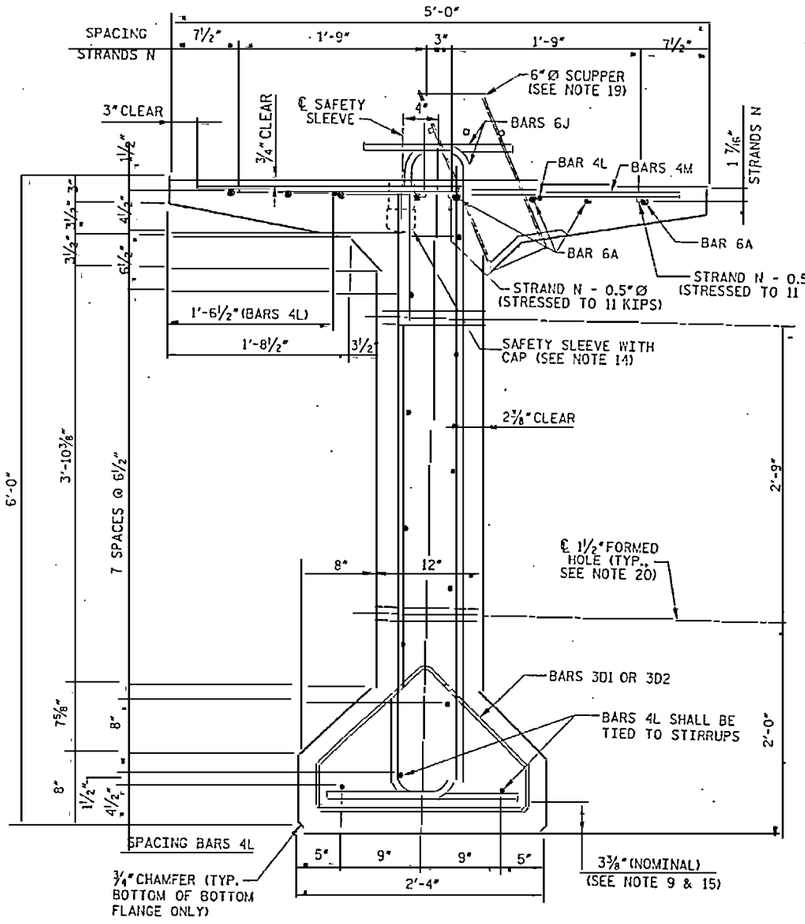
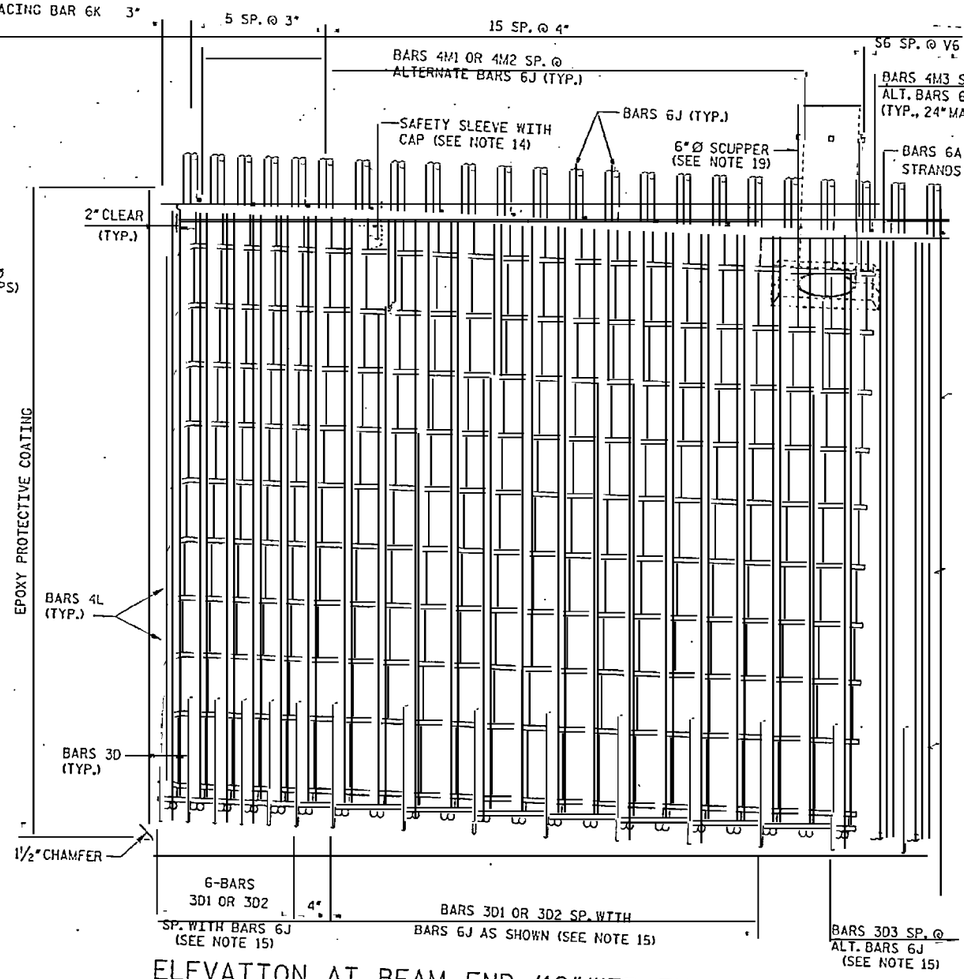
DATE: 7/25/2007 11:55:23 AM



END VIEW OF INTERIOR BEAM

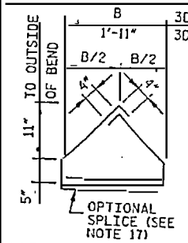


ELEVATION AT BEAM END (12" WEB, EXPANSION JT.)

BILL OF REINFORCING STEEL FOR ONE END

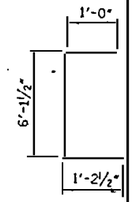
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	6	8	26'-0"
D1	15 & 17	3	14	*
D2	15 & 17	3	14	*
D3	15 & 17	3	*	6'-1"
J	9, 15 & 16	6	*	8'-4"
L	10 & 11	4	14	7'-0"
M1	15	4	10	*
M2	15	4	10	*
M3	15	4	*	4'-6"
N	12	0.5"Ø STRAND	4	DIM L + 5"

BENDING DIAGRAMS (SEE NOTE 1)

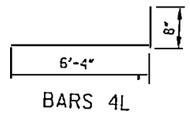


3D1,3D2 *
3D3

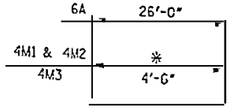
BARS 3D1, 3D2 & 3D3



BARS 6J



BARS 4L



BARS 6A, 4M1, 4M2 & 4M3

* SEE TABLE ON SHEET NOS. 2186 THRU 2193A.

NOTES

1. FOR REFERENCED NOTES, SEE SHEET NO. 2171.

⚠1 REVISION TO BAR MARKS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
7/27/07
DATE

NORTH CAROLINA PROFESSIONAL SEAL 039675 ENGINEER JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM DETAILS ⚠1 (7)
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2174B.01
1	MTB	6/20/07	3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. W. JORDAN DATE : 7/06

DATE: 7/27/2007
TIME: 10:59:19 AM

USER: scottstrednak
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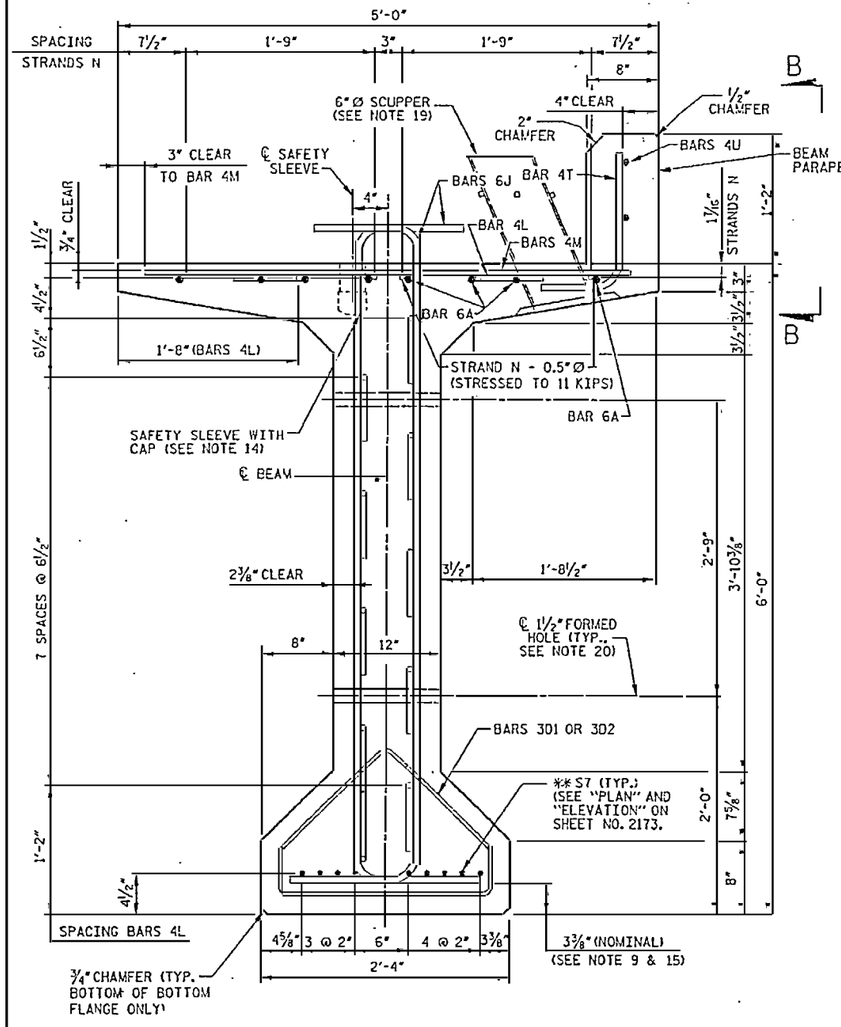
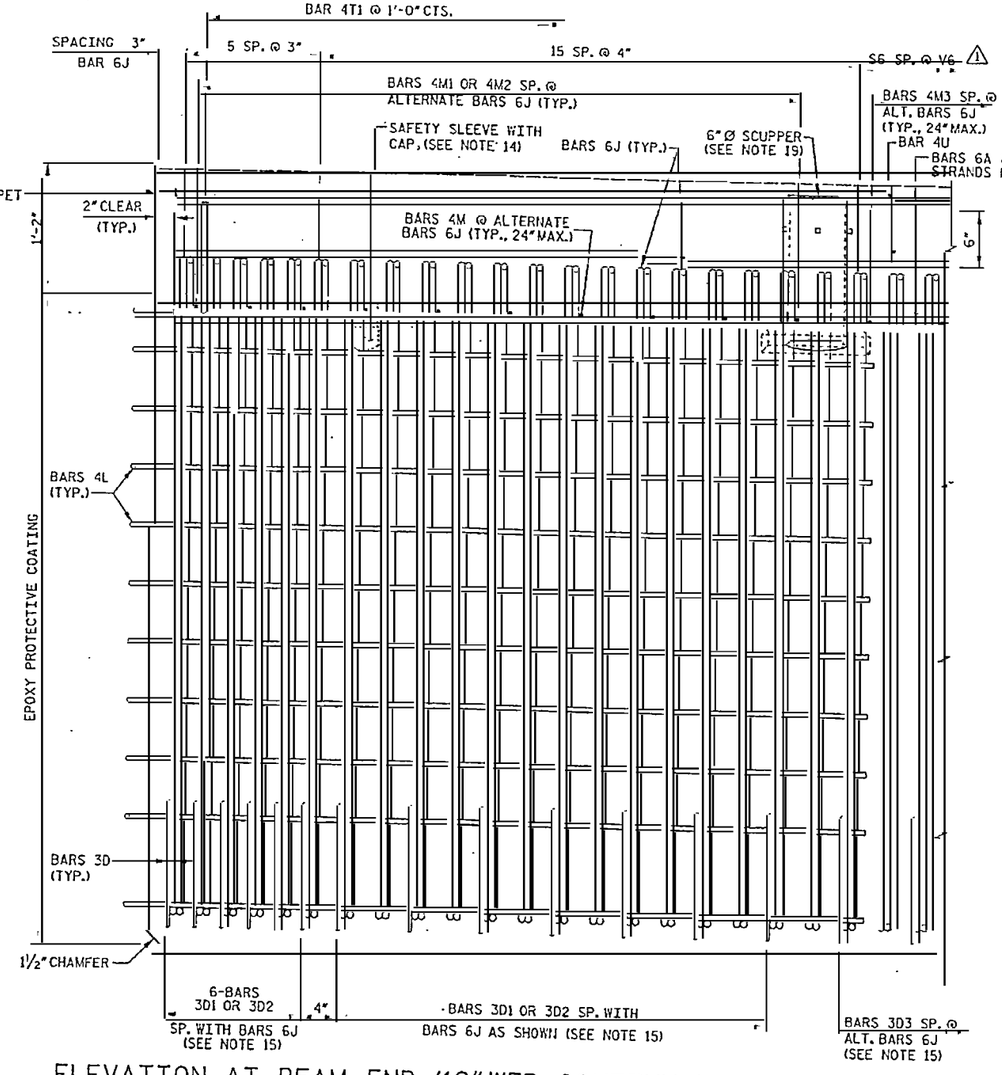


END VIEW OF EXTERIOR BEAM



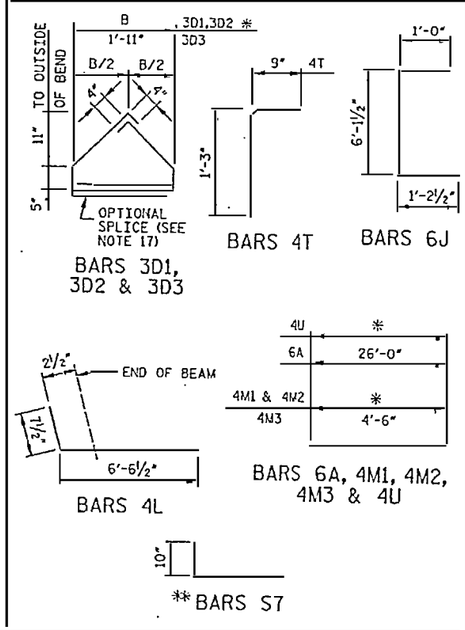
ELEVATION AT BEAM END (12" WEB, CONTINUOUS FOR LIVE LOAD)
(FLANGES NOT SHOWN FOR CLARITY)

BILL OF REINFORCING STEEL FOR ONE END

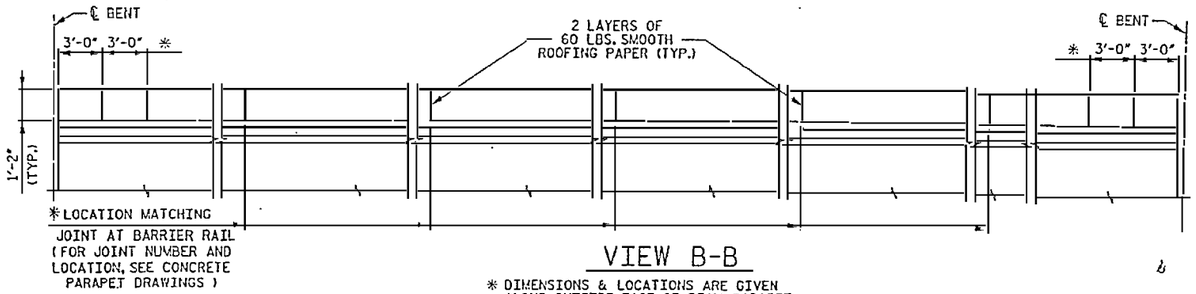
MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	6	6	26'-0"
D1	15 & 17	3	14	*
D2	15 & 17	3	14	*
D3	15 & 17	3	*	6'-1"
J	9, 15 & 16	6	*	8'-4"
L	10 & 11	4	11	7'-2"
M1	15	4	10	*
M2	15	4	10	*
M3	15	4	*	4'-6"
N	12	0.5"Ø STRAND	4	DIM L + 5'
**S7	—	5	9	3'-8"
T	—	4	**	2'-0"
U	—	4	**	**

** S7 BARS SHALL BE BENT BEFORE SHIPMENT HEAT BENDING SHALL NOT BE ALLOWED.

BENDING DIAGRAMS (SEE NOTE 1)



* SEE TABLE ON SHEET NOS. 2186 THRU 2193A.



VIEW B-B

* DIMENSIONS & LOCATIONS ARE GIVEN ALONG OUTSIDE FACE OF BEAM PARAPET, SEE "BULB-T 72 BEAM SCHEDULE 9" FOR TYPICAL PLAN.

NOTES

1. FOR REFERENCED NOTES, SEE SHEET NO. 2171.
2. FOR SECTION A-A, SEE SHEET NO. 2173.

** FOR DETAILS OF REBARS T & U, SEE SHEET NO. 2193A.

⚠1 REVISION TO BAR MARKS.
RELEASED FOR CONSTRUCTION
TODD STANLEY 7/27/07
DATE

PROFESSIONAL SEAL 024678 ENGINEER TODD STANLEY

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

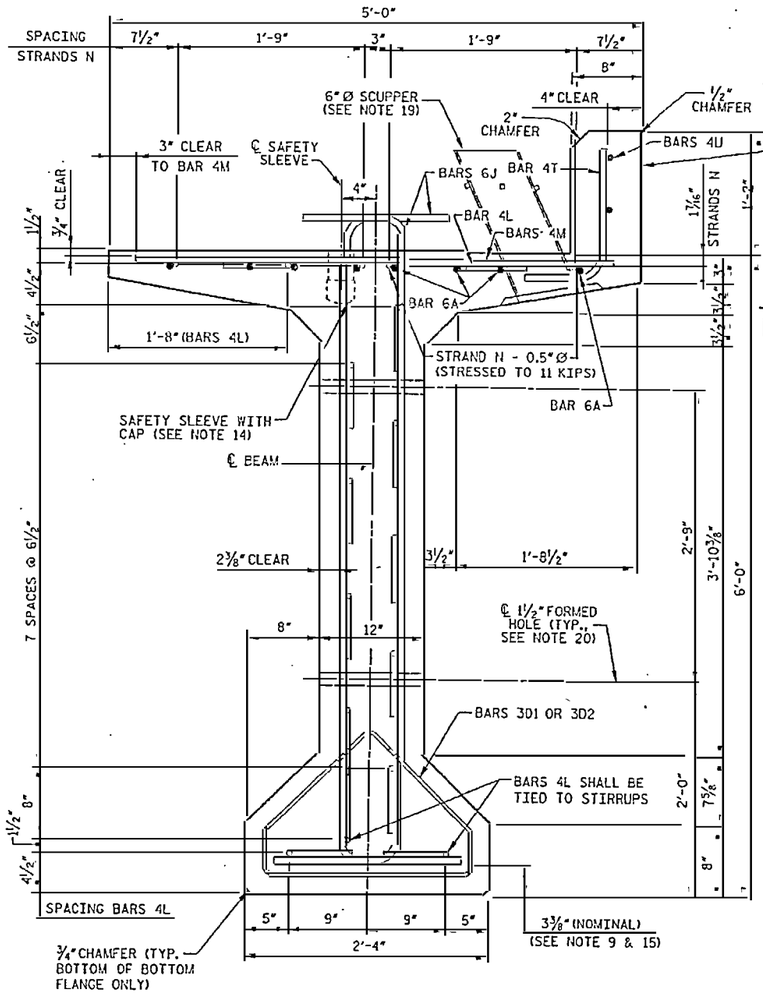
BULB-T 72 BEAM DETAILS ⚠1 (8)
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	6/20/07	3		
2			4		

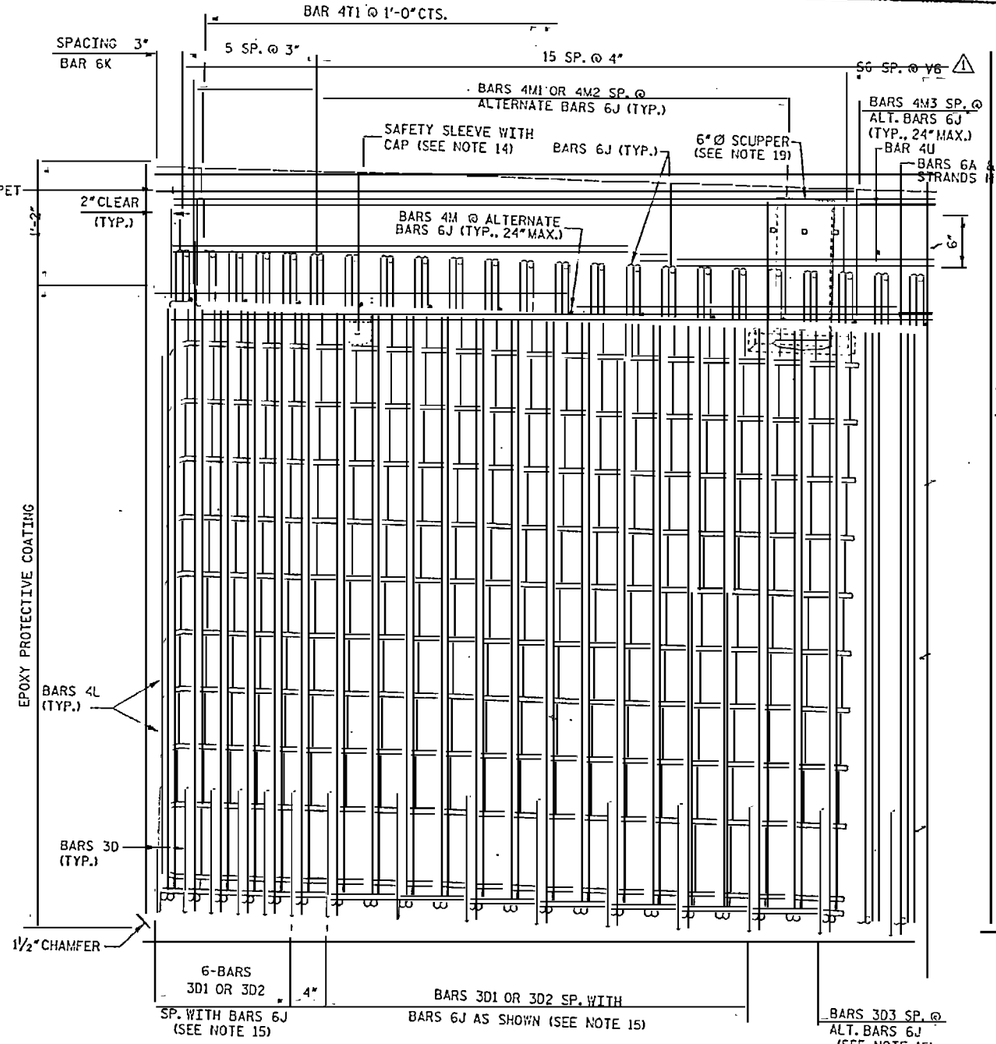
SHEET NO. 2174C.01
TOTAL SHEETS

DRAWN BY : S. G. STREDNAK DATE : 1/07
CHECKED BY : J. W. JORDAN DATE : 1/07

DATE: 7/27/2007
TIME: 12:56:17 PM
USER: gstrednak
DGN: R:\structure\Tar River Bridge\CADD\2510_st_bulb_t_beam2a.dgn



END VIEW OF EXTERIOR BEAM

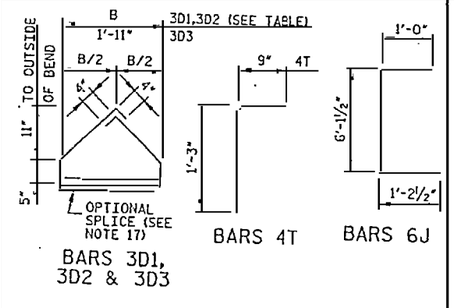


ELEVATION AT BEAM END (12" WEB, EXPANSION JT.)
(FLANGES NOT SHOWN FOR CLARITY)

BILL OF REINFORCING STEEL FOR ONE END

MARK	NOTE NUMBERS	SIZE	NUMBER REQUIRED	LENGTH (NOTE 1)
A	—	6	8	25'-0"
D1	15 & 17	3	14	*
D2	15 & 17	3	14	*
D3	15 & 17	3	*	6'-1"
J	9, 15 & 16	6	*	8'-4"
L	10 & 11	4	14	7'-0"
M1	15	4	10	*
M2	15	4	10	*
M3	15	4	*	4'-6"
N	12	0.5"Ø STRAND	4	DIM L + 4"
T	—	4	**	2'-0"
U	—	4	**	**

BENDING DIAGRAMS (SEE NOTE 1)



* SEE TABLE ON SHEET NOS. 2186 THRU 2193A.

⚠ REVISION TO BAR MARKS.

NOTES

1. FOR REFERENCED NOTES, SEE SHEET NO. 2171.
2. FOR SECTION A-A, SEE SHEET NO. 2173.
3. FOR VIEW B-B, SEE SHEET NO. 2173A.

** FOR DETAILS OF REBARS T & U, SEE SHEET NO. 2193A.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 7/17/07

NORTH CAROLINA PROFESSIONAL SEAL 24087 ENGINEER JOSEPH T. MAHONEY

EarthTech
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FLATIRON/UNITED
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PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 15 BRIDGE NO. 353

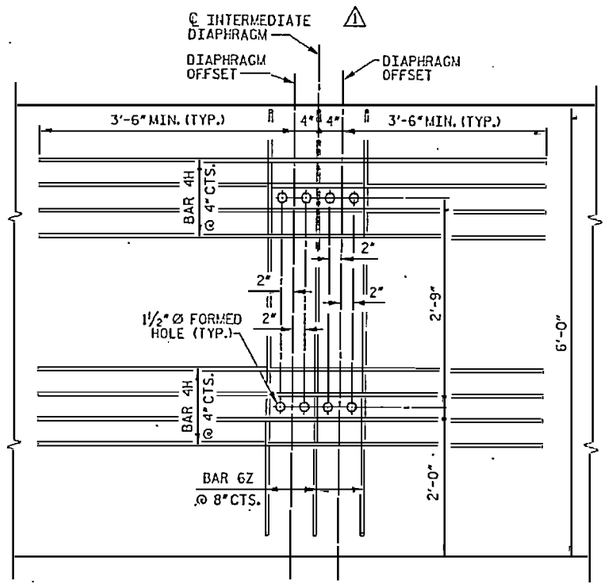
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
BULB-T 72 BEAM DETAILS (9) ⚠
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2174D.01
1	MTB	6/20/07	3			TOTAL SHEETS
2			4			

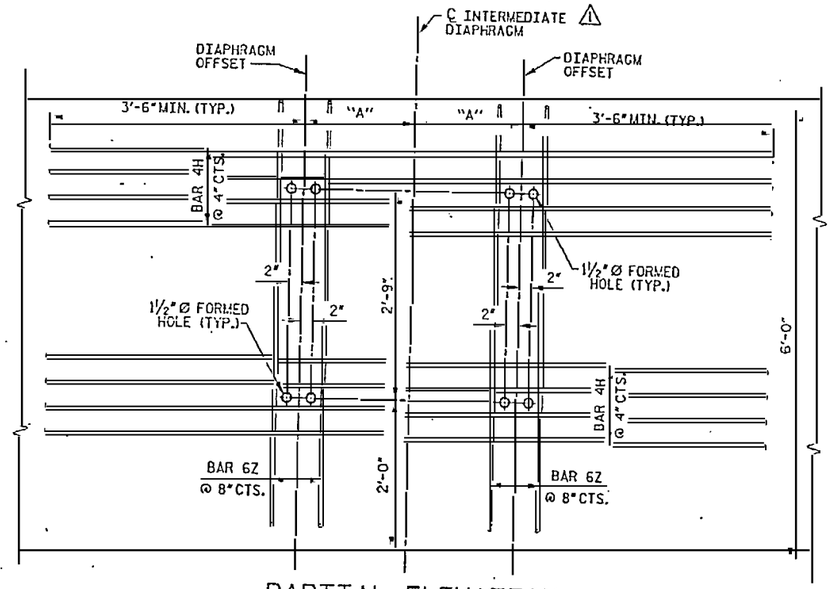
DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. N. JORDAN DATE : 7/06

USER: jnjordan
DGN: R:\Structures\Final Bridges\24087\E59_st_detail_beam2.dgn
DATE: 12/21/2006
TIME: 10:00:47 AM



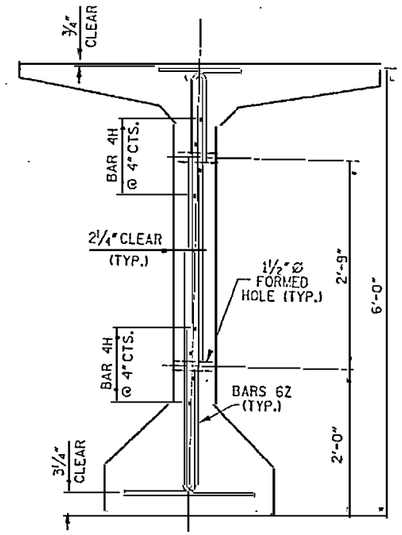
PARTIAL ELEVATION

INTERMEDIATE DIAPHRAGM REINFORCING STEEL FOR BEAMS IN SPANS 1 THRU 13, 19 THRU 81 AND 101 THRU 128



PARTIAL ELEVATION

INTERMEDIATE DIAPHRAGM REINFORCING STEEL FOR INTERIOR BEAMS IN SPANS 14 THRU 18 AND 82 THRU 100



SECTION THRU BEAM

(INTERIOR GIRDER SHOWN, EXTERIOR GIRDER SIMILAR)

DIRECTION OF STATIONING

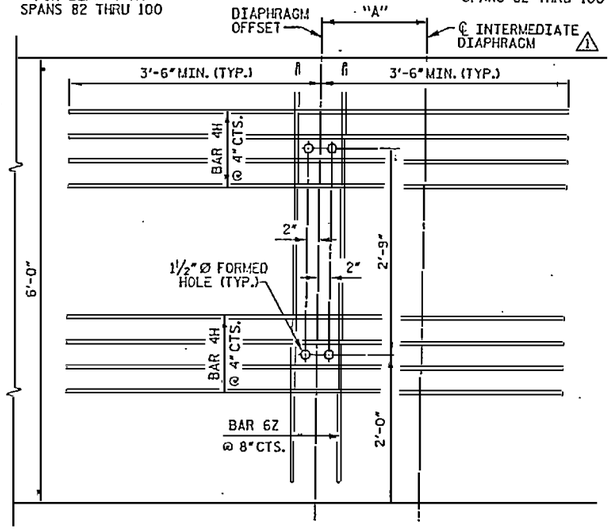
FOR BEAM 1 AT SPANS 14 THRU 18

FOR BEAM 7 AT SPANS 82 THRU 100

DIRECTION OF STATIONING

FOR BEAM 7 AT SPANS 14 THRU 18

FOR BEAM 1 AT SPANS 82 THRU 100



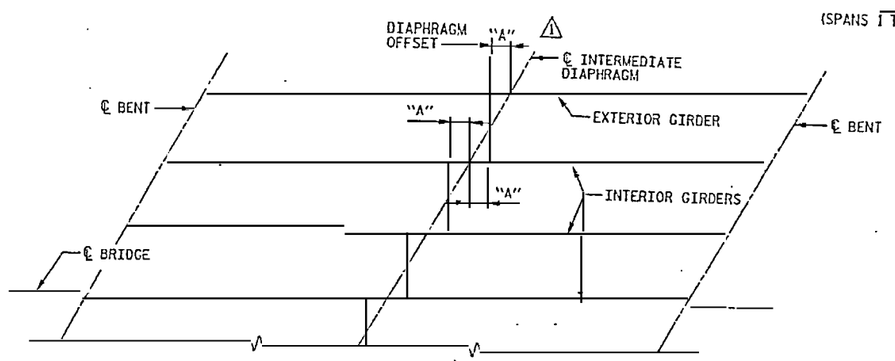
PARTIAL ELEVATION

INTERMEDIATE DIAPHRAGM REINFORCING STEEL FOR EXTERIOR BEAMS IN SPANS 14 THRU 18 AND 82 THRU 100

DIAPHRAGM OFFSETS	
LOCATIONS	"A"
SPAN 16	4'-6½"
SPANS 83 THRU 99	3'-3¾"

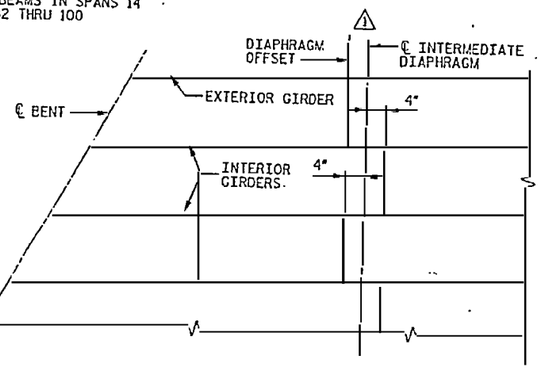
FOR DIMENSION "A" AT SPANS 14, 15, 17, 18, 82 AND 100, SEE FRAMING PLAN DRAWINGS. 1

2



PARTIAL PLAN

(SPANS 82 THRU 100 SHOWN, SPANS 14 THRU 17 SIMILAR)



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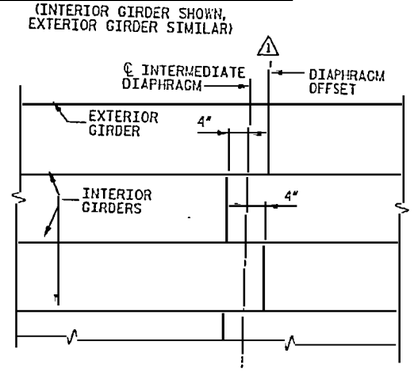


PARTIAL PLAN

(SPANS 1 THRU 13, 19 THRU 81, AND 101 THRU 128)

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 8/16/07

2 REVISION TO NOTE AT "DIAPHRAGM OFFSETS" TABLE.

1 GENERAL REVISIONS.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 10 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 - 1

BULB-T 72 BEAM DETAILS 10 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2175.02
1	MTB	6/20/07	3			TOTAL SHEETS
2	MTB	8/9/07	4			

DRAWN BY : S. G. STEDNAK DATE : 7/06

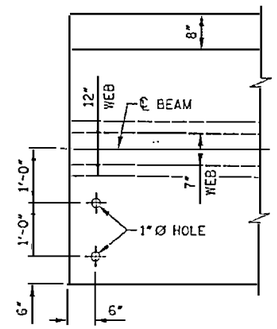
CHECKED BY : J. W. JORDAN DATE : 7/06

EarthTech
A Tyco International Ltd. Company

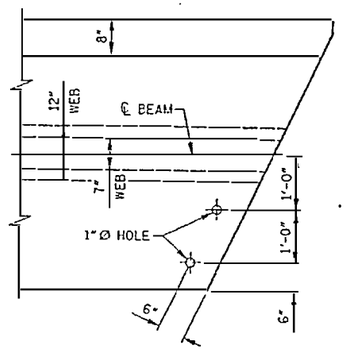
FLATIRON/UNITED
A JOINT VENTURE

PLOTTED: 8/9/2007 11:43:51 AM

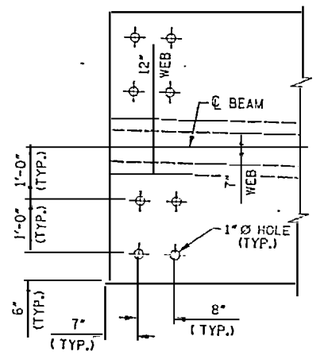
USER: mtbeaton
DGN: N:\Structural\Tar River Bridge\CADD\2510_M_BT72_10-beam2.dgn



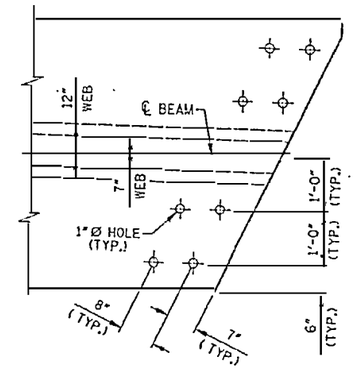
EXTERIOR BEAM END CONTINUOUS
FOR LIVE LOAD WITHOUT SKEW



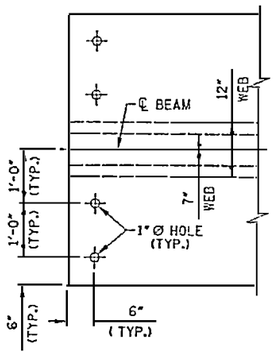
EXTERIOR BEAM END CONTINUOUS
FOR LIVE LOAD WITH SKEW



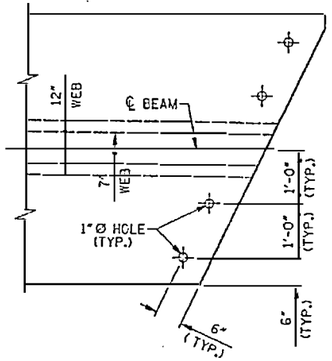
INTERIOR BEAM END AT
EXPANSION JOINT WITHOUT SKEW



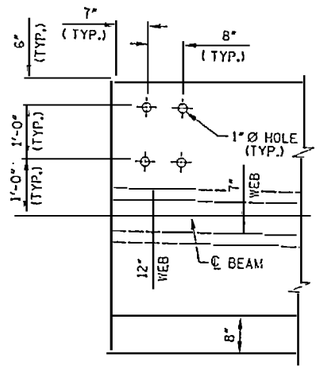
INTERIOR BEAM END AT
EXPANSION JOINT WITH SKEW



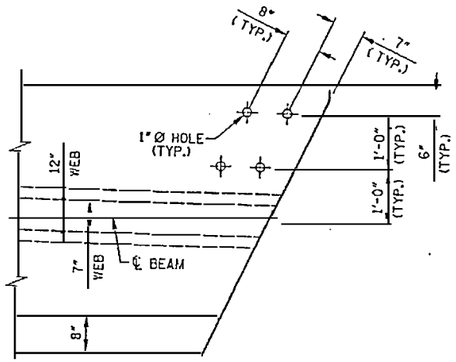
INTERIOR BEAM END CONTINUOUS
FOR LIVE LOAD WITHOUT SKEW



INTERIOR BEAM END CONTINUOUS
FOR LIVE LOAD WITH SKEW



EXTERIOR BEAM END AT
EXPANSION JOINT WITHOUT SKEW



EXTERIOR BEAM END AT
EXPANSION JOINT WITH SKEW

PLAN VIEWS AT END OF BEAMS

RELEASED FOR CONSTRUCTION
Tom Shearin 11/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 11 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
BULB-T 72 BEAM DETAILS (11)
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2176.01
1	SGS	7/07	3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL SEAL 030676 ENGINEER TOM SHEARIN

EarthTech
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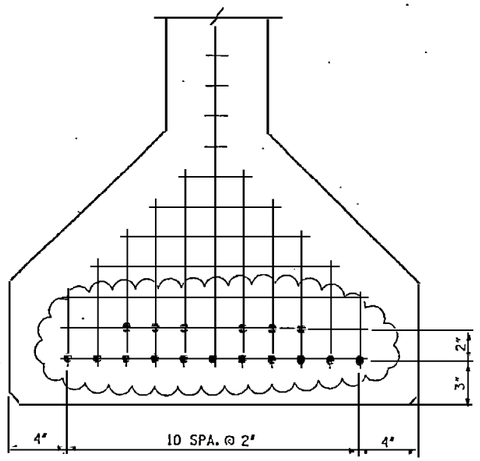
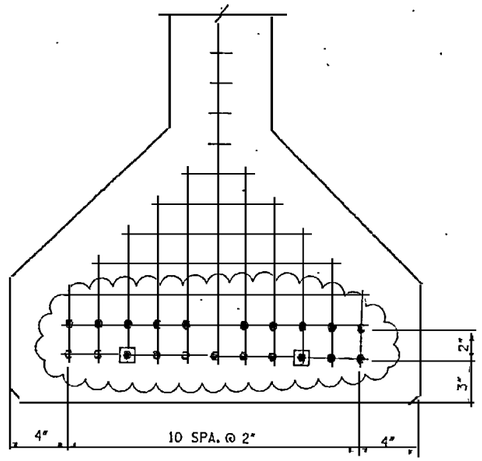
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : LOFTON DATE : 07/06
CHECKED BY : J. LIU DATE : 07/06

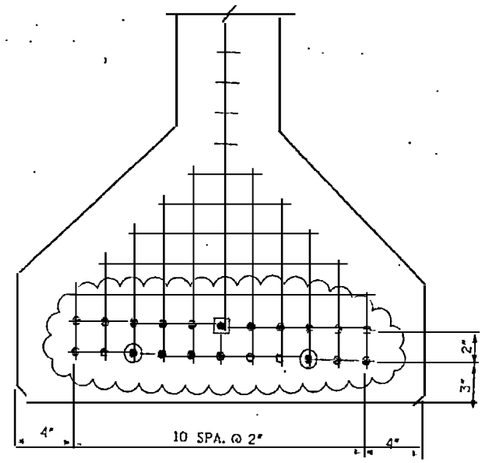
USER: smithdrake
DGN: N:\Structure\Tar River Bridge\CADD\r2510_s1_bm_01.dgn
DATE: 11/27/2007
TIME: 11:42:23 AM



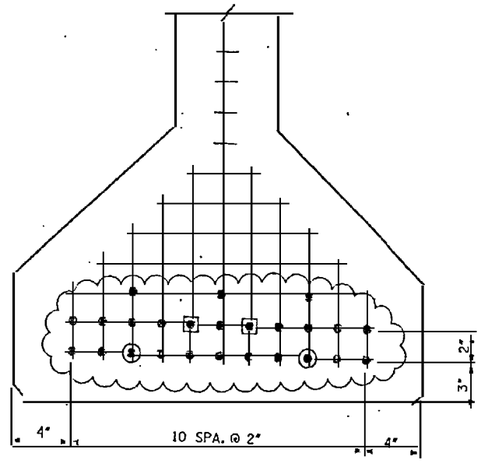
⚠ TYPE ① 17 STRANDS



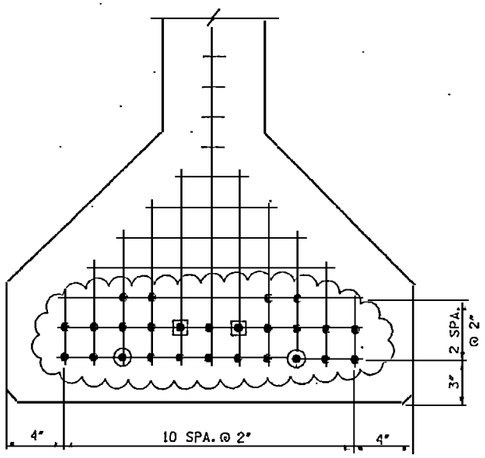
⚠ TYPE ② 21 STRANDS



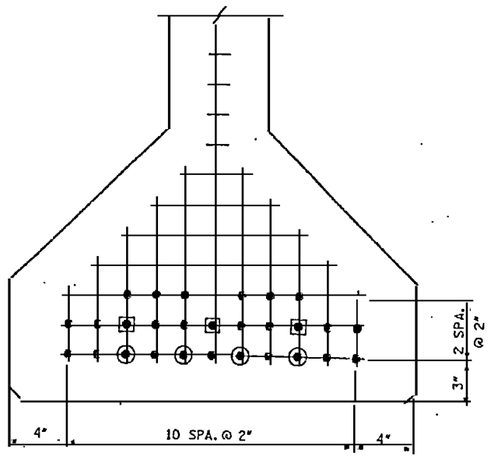
⚠ TYPE ③ 22 STRANDS



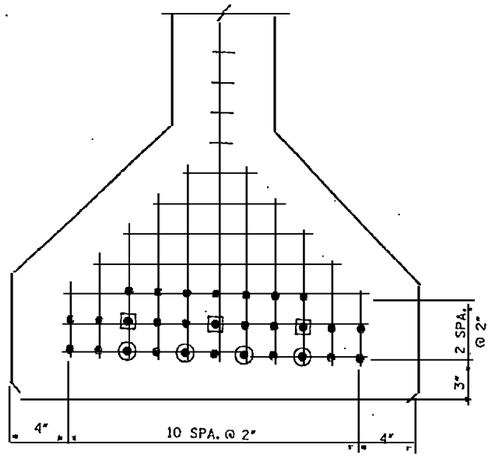
⚠ TYPE ④ 25 STRANDS



⚠ TYPE ⑤ 26 STRANDS



TYPE ⑥ 28 STRANDS



TYPE ⑦ 29 STRANDS

STRAND DESCRIPTION: USE 0.6"DIAMETER, GRADE 270, LOW-RELAXATION STRANDS STRESSED AT 44.0 KIPS EACH, AREA PER STRAND EQUALS 0.217 SQ. IN.

STRAND DEBONDING LEGEND

- ● - FULLY BONDED STRANDS.
- ▣ - STRANDS DEBONDED 10'-0" FROM END OF BEAM.
- ⓪ - STRANDS DEBONDED 20'-0" FROM END OF BEAM.
- ◬ - STRANDS DEBONDED 30'-0" FROM END OF BEAM.
- ◈ - STRANDS DEBONDED 40'-0" FROM END OF BEAM.

NOTE: ON BEAMS WITH SKEWED ENDS THE DEBONDED LENGTH SHALL BE MEASURED ALONG THE DEBONDED STRAND.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

⚠ REVISED STRAND PATTERNS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM DETAILS (12) ⚠1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY: DATE:	2177.01
1	SSS	7/07	3		TOTAL SHEETS
2			4		

DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. W. JORDAN DATE : 7/06

Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DATE: 6/1/2007
TIME: 02:54:00 PM
USER: RGRIFFITH
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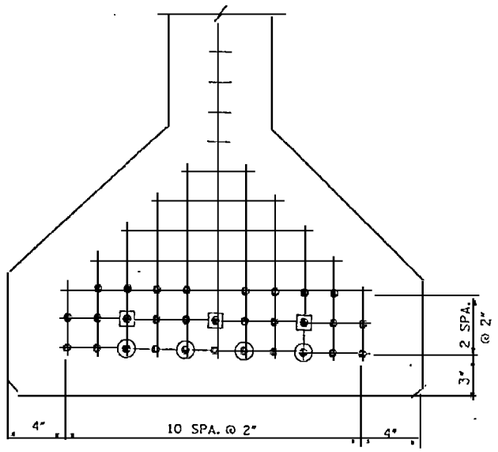
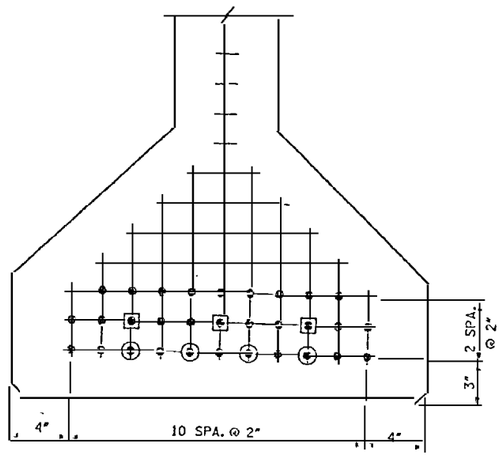
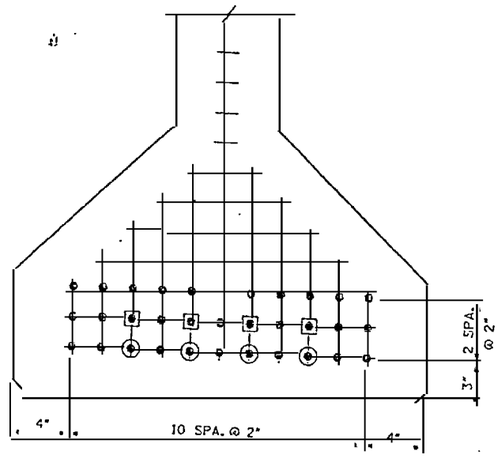


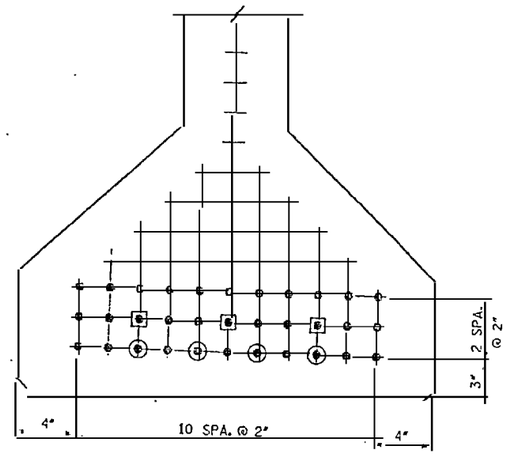
TYPE ⑧ 30 STRANDS



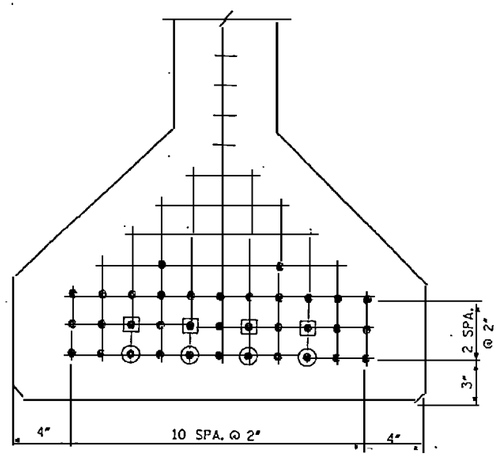
TYPE ⑨ 31 STRANDS



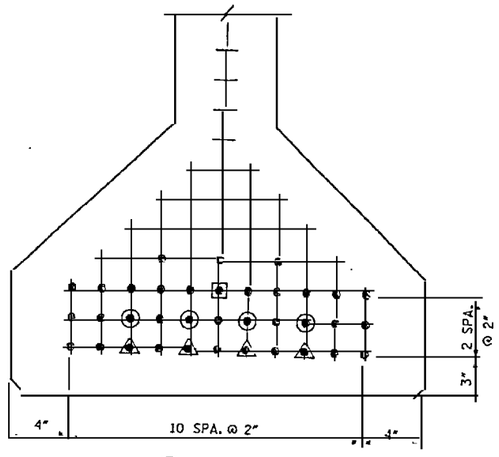
TYPE ⑩ 32 STRANDS



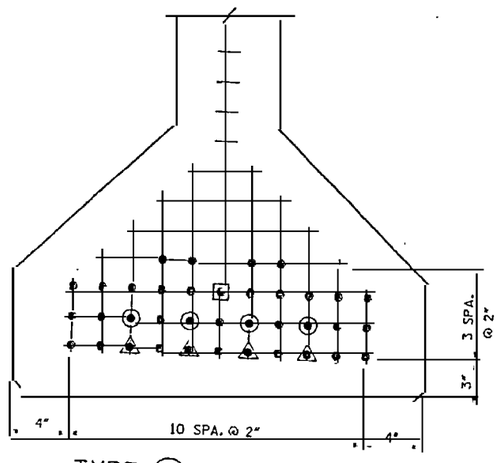
TYPE ⑪ 33 STRANDS



TYPE ⑫ 35 STRANDS



TYPE ⑬ 36 STRANDS



TYPE ⑭ 37 STRANDS

STRAND DESCRIPTION: USE 0.6"DIAMETER, GRADE 270, LOW-RELAXATION STRANDS STRESSED AT 44.0 KIPS EACH. AREA PER STRAND EQUALS 0.217 SQ. IN.

STRAND DEBONDING LEGEND

- ● - FULLY BONDED STRANDS.
- ▣ - STRANDS DEBONDED 10'-0" FROM END OF BEAM.
- ◉ - STRANDS DEBONDED 20'-0" FROM END OF BEAM.
- ◭ - STRANDS DEBONDED 30'-0" FROM END OF BEAM.
- ◈ - STRANDS DEBONDED 40'-0" FROM END OF BEAM.

NOTE: ON BEAMS WITH SKEWED ENDS THE DEBONDED LENGTH SHALL BE MEASURED ALONG THE DEBONDED STRAND.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 7/27/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 13 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
BULB-T 72 BEAM DETAILS (13)
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

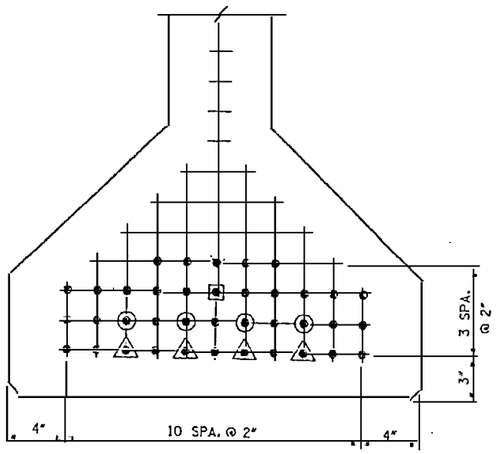
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2178.01
1	SGS	7/07	3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

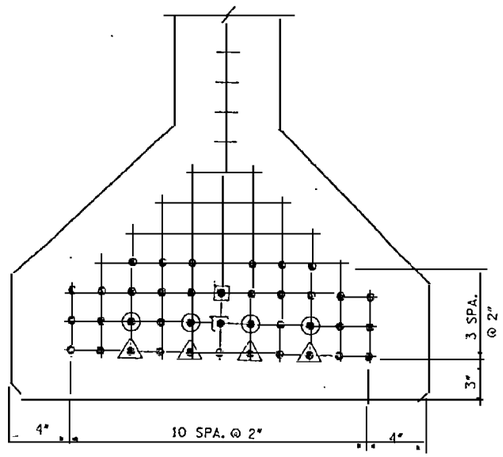
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. W. JORDAN DATE : 7/06

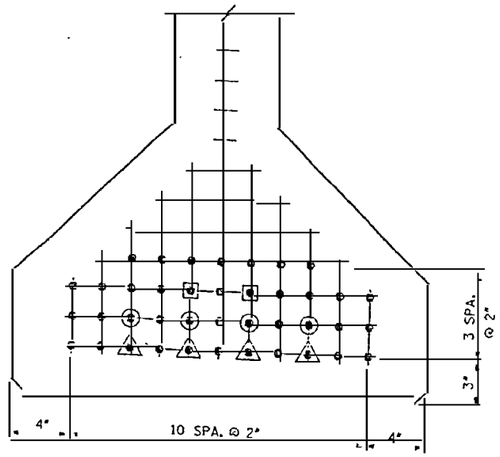
USER: scottstrednak
DGN: TxDOT_bulb_t72_beam_details.dgn



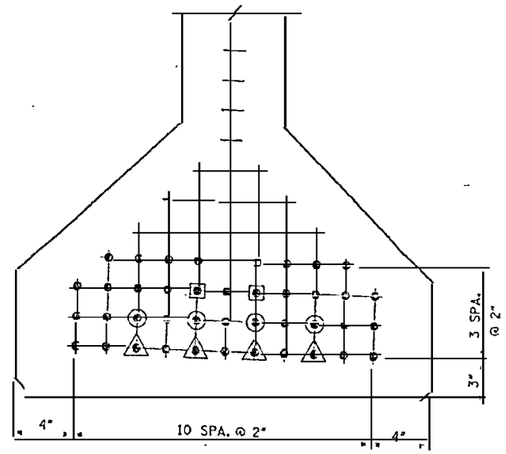
TYPE (15) 38 STRANDS



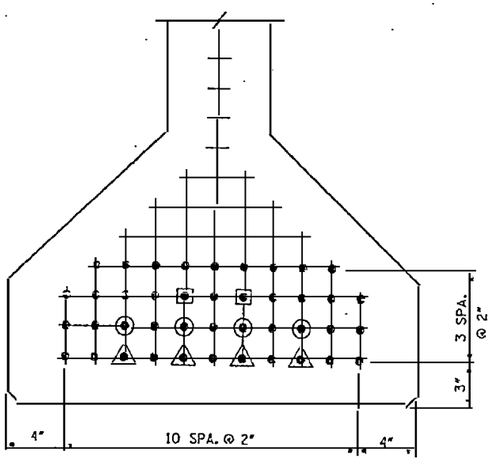
TYPE (16) 39 STRANDS



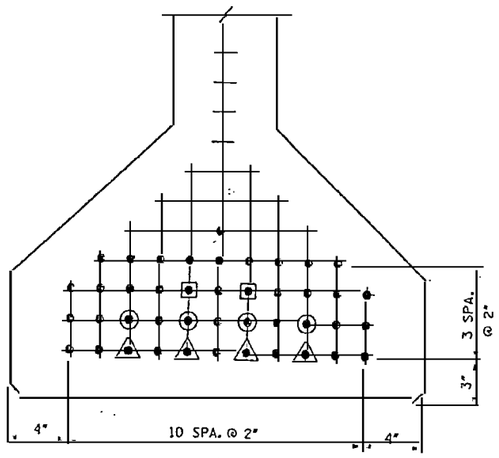
TYPE (17) 40 STRANDS



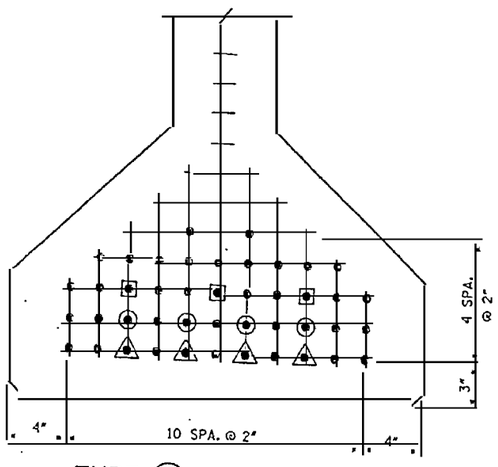
TYPE (18) 41 STRANDS



TYPE (19) 42 STRANDS



TYPE (20) 43 STRANDS



TYPE (21) 44 STRANDS

STRAND DESCRIPTION: USE 0.6"DIAMETER, GRADE 270, LOW-RELAXATION STRANDS STRESSED AT 44.0 KIPS EACH, AREA PER STRAND EQUALS 0.217 SQ. IN.

STRAND DEBONDING LEGEND

- ● - FULLY BONDED STRANDS.
- ▣ - STRANDS DEBONDED 10'-0"FROM END OF BEAM.
- ◉ - STRANDS DEBONDED 20'-0"FROM END OF BEAM.
- ▲ - STRANDS DEBONDED 30'-0"FROM END OF BEAM.
- ◈ - STRANDS DEBONDED 40'-0"FROM END OF BEAM.

NOTE: ON BEAMS WITH SKEWED ENDS THE DEBONDED LENGTH SHALL BE MEASURED ALONG THE DEBONDED STRAND.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 7/17/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 14 OF 15 BRIDGE NO 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
BULB-T 72 BEAM DETAILS (14) (1)
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SCS	7/07	3		
2			4		

SHEET NO. 2179.01
TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL SEAL 030676 ENGINEER JOHN W. JORDAN

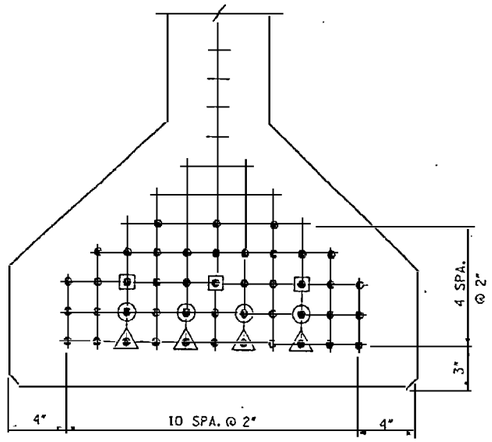
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

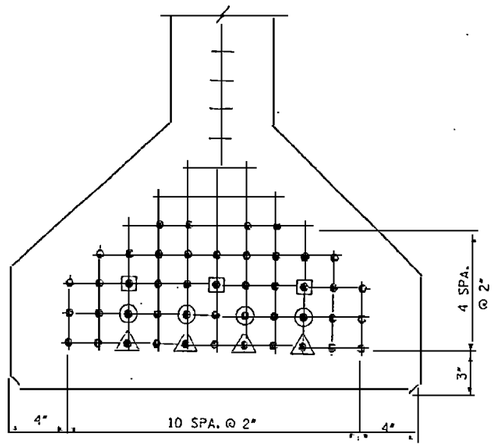
DRAWN BY : S. G. STREDNIK DATE : 7/05
CHECKED BY : J. W. JORDAN DATE : 7/05

DATE: 7/17/2007
TIME: 10:44 AM

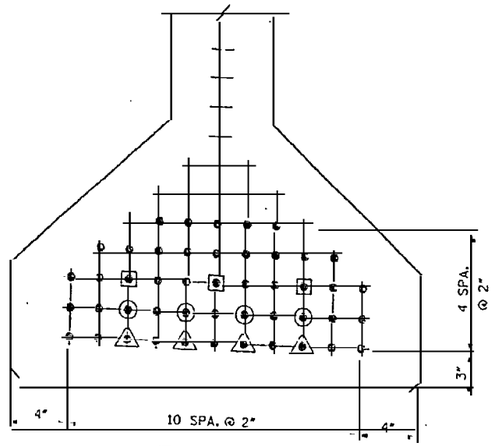
USER: scstredn
DGN: N:\structure\active projects\R2510B_SR_DSN_M-bent2.dgn



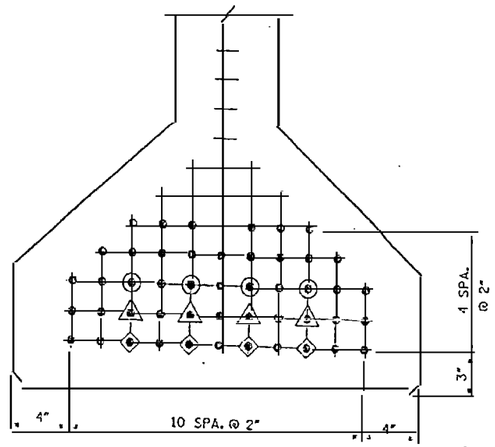
TYPE (22) 45 STRANDS



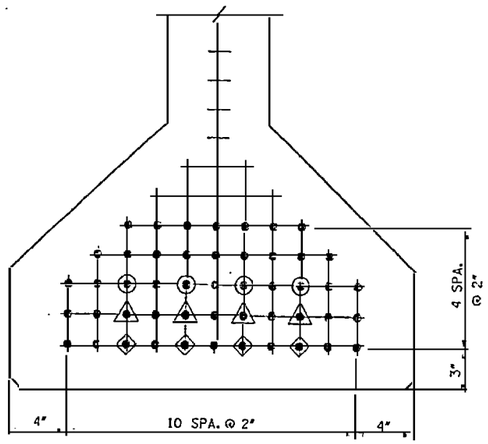
TYPE (23) 46 STRANDS



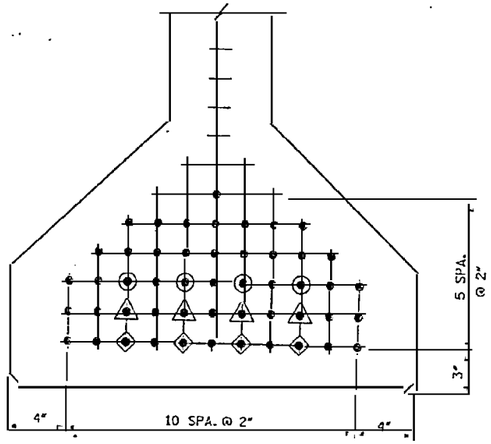
TYPE (24) 47 STRANDS



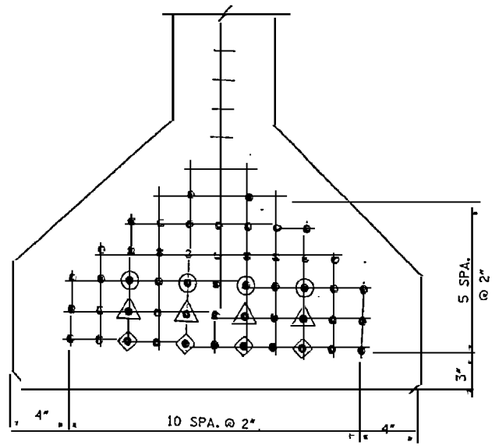
TYPE (25) 48 STRANDS



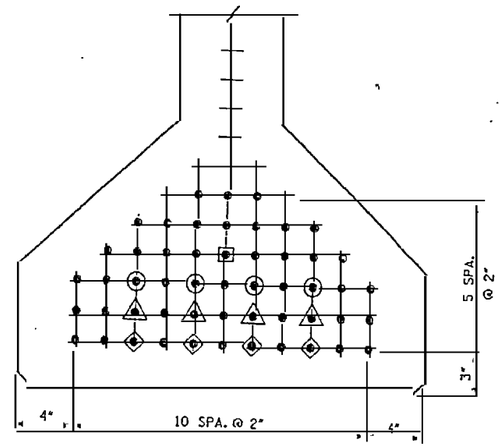
TYPE (26) 49 STRANDS



TYPE (27) 50 STRANDS



TYPE (28) 51 STRANDS



TYPE (29) 52 STRANDS

STRAND DESCRIPTION: USE 0.6"DIAMETER, GRADE 270, LOW-RELAXATION STRANDS STRESSED AT 44.0 KIPS EACH, AREA PER STRAND EQUALS 0.217 SQ. IN.

STRAND DEBONDING LEGEND

- ● - FULLY BONDED STRANDS.
- ▣ - STRANDS DEBONDED 10'-0" FROM END OF BEAM.
- ⊙ - STRANDS DEBONDED 20'-0" FROM END OF BEAM.
- ◬ - STRANDS DEBONDED 30'-0" FROM END OF BEAM.
- ◈ - STRANDS DEBONDED 40'-0" FROM END OF BEAM.

NOTE: ON BEAMS WITH SKEWED ENDS THE DEBONDED LENGTH SHALL BE MEASURED ALONG THE DEBONDED STRAND.

RELEASED FOR CONSTRUCTION
Tom Shearin 7/27/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 039679 ENGINEER JOHN WILLIAM JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 15 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM DETAILS (15) FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2180.01
1	SGS	7/07	3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 7/06
CHECKED BY : J. W. JORDAN DATE : 7/06

DATE: 7/27/2007
TIME: 12:43:59 PM

USER: sstredna
DGN: N:\structure\r-2510b\Bridge\CADD\R2510B_SCL001.dgn

| Location | | Concrete Properties | | | Strand | End | Plan View Case | | Beam End Type | | Beam End Web Thickness | | Brg. Plate | End of Beam & Bearing Dimensions ** | | |

| Location | | Concrete Properties | | | Strand | End | Plan View Case | | Beam End Type | | Beam End Web Thickness | | Brg. Plate Mark | | End of Beam & Bearing Dimensions ** | | | | | | Beam Dimensions * | | | | | |

| Location | | Concrete Properties | | Strand | End | Plan View Case | | Beam End Type | | Beam End Web Thickness | | Brg. Plate Mark | End of Beam & Bearing Dimensions ** Angle Ø | | | | | | Beam Dimensions ** | | | | | |

Location		Concrete Properties		Strand	End	Plan View Case		Beam End Type		Beam End Web Thickness		Brg. Plate Mark		End of Beam & Bearing Dimensions ** Angle ϕ		Dim J1	Dim J2	Dim K1	Dim K2	Beam Dimensions Dim L	Dim R	3D1	3D2	3D3	4M1	4M2	4M3	5K	No. of Spare Bars 5K	Reinforcing Steel Spacing Bars 5K (in)				6J	Bars 6J	
Span	Beam	Class	Strength (psi)	Pattern	Elev.																															
101	1, 7	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	2, 6	AA	8000	6500	26	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	3, 5	AA	8000	6500	25	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
102	1, 7	AA	8000	6500	21	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	2, 6	AA	8000	6500	26	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	3, 5	AA	8000	6500	25	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
103	2	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-8 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-8 1/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	5	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7 1/2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	6	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-6 5/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	1	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-5 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-5 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
104	3	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	120'-1 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	70	88	16	10	9	9	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	119'-11 1/2"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	70	88	16	10	9	9	7	6	12	24	24	12	106	33	4
	5	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	119'-9 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	6	AA	8000	6500	28	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	119'-4 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	1	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-3 1/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-0 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
105	3	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-3 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-1"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	5	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-9 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	6	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-7"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	1	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-1 3/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	118'-10 1/4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	120'-3 5/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	70	88	16	10	9	9	7	6	12	18	18	12	106	33	4
106	4	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	120'-1"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	5	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	119'-9 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	6	AA	8000	6500	28	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	119'-6 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Non-Exp.	Exp.	12-in	7-in	Plates	Plates	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	119'-6 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	1	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	119'-1 1/4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1'-1 1/2"	10 1/2"	118'-10 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-3 5/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	70	88	16	10	9	9	7	6	12	18	18	12	106	33	4
107	4	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-0 7/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	5	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-9 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	6	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-6 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-3 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	1	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-1 1/4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-10 1/8"	3/4"	1'-11"	6'-1"	1'-11"	6'-1"	87	4'-6"	4'-6"	70	88	16	10	9	9	7	6	12	24	24	12	106	33	4

4 UPDATED TABLE.
3 UPDATED TABLE.
2 UPDATED TABLE.
1 UPDATED TABLE.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 031878 ENGINEER JOSEPH C. LIU 3/11/08

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 4 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
BULB-T 72 BEAM SCHEDULE 4
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2189.04
1	MTB	8/8/07	3	SGS	1/17/08	TOTAL SHEETS
2	MTB	10/19/07	4	SGS	3/04/08	

DRAWN BY : S. G. STREDNAK DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

DATE: 3/4/2008
TIME: 10:58:01 AM

USER: mstrednak
DGN: C:\Projects\Bridge Files\R-2510B\Roadway\Structure\Bridge\R2510B_SD_SCH_BARSCHED.dgn

Location		Concrete Properties		Strand	End	Plan View Case		Beam End Type		Beam End Web Thickness		Brg. Plate Mark		End of Beam & Bearing Dimensions **						Beam Dimensions *		Reinforcing Steel																					
Span No.	Beam No.	Class	Strength (psi) 28 day	Strand Release	Pattern Type	Elev. Condition	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	Angle ϕ End 1	Angle ϕ End 2	Dim J1	Dim J2	Dim K1	Dim K2	Dim L	Dim R	3D1 B	3D1 Length	3D2 B	3D2 Length	3D3 No.	4M1 Length	4M2 Length	4M3 No.	5K No.	S1	S2	S3	S4	S5	V1	V2	V3	V4	V5	No.	S6	V6 (in)	Bars 6J
103	1	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-3 1/2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-0 7/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-9 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-6 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	5	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-3 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	6	AA	8000	6500	28	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-1 1/4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	118'-10"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
109	1	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-3 1/2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	120'-0 7/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-9 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-3 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	5	AA	8000	6500	27	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-0 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	6	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-1 1/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	118'-10"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
110	1	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-3 1/2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-0 7/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-9 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-6 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	5	AA	8000	6500	27	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-3 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	6	AA	8000	6500	26	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-1 1/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	118'-10"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
111	1	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	120'-3 1/2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	120'-0 7/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	118'-9 7/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-7"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	5	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	6	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-1 1/8"	2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	118'-10"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
112	1	AA	8000	6500	21	3	1	3	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 35' 10"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	2	AA	8000	6500	24	3	1	3	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 48' 03"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-1 1/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	24	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-10 5/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	24	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-8 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	5	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-5 1/2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	6	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	118'-2 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	7	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 48' 44"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-0 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	8	AA	8000	6500	19	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 33"	90° 00' 00"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	118'-9 5/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
113S3	1	AA	8000	6500	22	3	1	3	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 35' 13"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	120'-4 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	2	AA	8000	6500	27	3	1	3	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 36' 07"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	120'-1 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	27	3	1	3	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 35' 02"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-10 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	4	AA	8000	6500	21	3	1	3	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 34' 56"	8 1/2"	8 1/2"	10 1/2"	1-1 1/2"	119'-7 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
114S3	1	AA	8000	6500	22	3	1	3	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 35' 14"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-4 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	2	AA	8000	6500	27	3	1	3	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 35' 08"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	120'-2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	3	AA	8000	6500	27	3	1	3	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 35' 02"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-11 1/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	4	AA	8000	6500	21	3	1	3	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	88° 34' 57"	8 1/2"	8 1/2"	1-1 1/2"	10 1/2"	119'-8 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4

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4 UPDATED TABLE.
3 UPDATED TABLE.
2 UPDATED TABLE.
1 UPDATED TABLE.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM SCHEDULE 5 FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2190.04
1	MTB	8/8/07	3	SCS	1/17/08	TOTAL SHEETS
2	MTB	10/19/07	4	SCS	3/04/08	

DRAWN BY : S. G. STREDNAK DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 3/4/2008
TIME: 11:24:11 AM

USER: matthewsk
DGN: N:\structure\river bridges\WBS\2510B_SD_SCH_BM_SCH_01.dgn

| Location | | Concrete Properties | | | Strand | End | Plan View Case | | Beam End Type | | Beam End Web Thickness | | Brg. Plate Mark | | End of Beam & Bearing Dimensions ** | | | | | | Beam Dimensions | | | | | |

Location		Concrete Properties		Strand	End	Plan View Cast		Beam End Type		Beam End		Brg. Plate	End of Beam & Bearing Dimensions **						Beam Dimensions *		Reinforcing Steel																			
Span No.	Beam No.	Class	Strength (psi) 28 day	Strength (psi) Release	Pattern Type	Elev. Condition	End 1	End 2	End 1	End 2	Web Thickness End 1	Web Thickness End 2	Mark End 1	Mark End 2	Angle ϕ End 1	Angle ϕ End 2	Dim J1	Dim J2	Dim K1	Dim K2	Dim L	Dim R	3B1 Length	3B1 No.	3D2 B	3D2 Length	3D3 No.	3D3 Length	4M1 Length	4M2 Length	4M3 No.	5K No. of Spaces Bars 5K	Spacing Bars 5K (in) *						6J No.	6J Bars 6J Sb	6J Bars 6J V6 (in *
125SB	1	AA	8000	6500	22	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-10 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	72	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-8 1/4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	9	6	12	24	24	12	106	33	4
	3	AA	8000	6500	25	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-5 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	4	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-2 1/2"	2"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	5	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-11 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
126SB	1	AA	8000	6500	22	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-10 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-8 1/4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	25	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-5 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	4	AA	8000	6500	28	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-2 1/2"	2"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	5	AA	8000	6500	21	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-11 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
127SB	1	AA	8000	6500	22	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-10 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	29	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-8 1/4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	25	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-5 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	4	AA	8000	6500	28	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-2 1/2"	2"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	5	AA	8000	6500	21	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-11 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
128SB	1	AA	8000	6500	9	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-10 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	12	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-8 1/4"	2"	1'-11"	6'-1"	1'-11"	6'-1"	91	4'-6"	4'-6"	72	92	16	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	11	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-5 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	4	AA	8000	6500	12	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	120'-2 1/2"	2"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
	5	AA	8000	6500	9	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-11 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	103	4'-6"	4'-6"	71	104	20	10	12	11	9	6	12	18	18	12	106	33	4
113NB	1	AA	8000	6500	19	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	104'-0"	1"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	18	18	12	106	33	4
	2	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 51"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	104'-6 3/4"	1 1/4"	1'-11"	6'-1"	1'-11"	6'-1"	77	4'-6"	4'-6"	63	78	12	10	8	8	6	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 45"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	103'-11"	1"	1'-11"	6'-1"	1'-11"	6'-1"	89	4'-6"	4'-6"	63	90	16	8	11	10	6	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 39"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-5 1/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	75	4'-6"	4'-6"	61	76	12	10	8	7	5	6	12	18	18	12	106	33	4
	1	AA	8000	6500	19	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 33"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-2 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
114NB	2	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 36"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-0 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 42"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-11 5/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 33"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-10 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	1	AA	8000	6500	19	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 48"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-4 1/4"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
115NB	2	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 44"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-1 7/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 39"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-11 1/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 34"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-8 3/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	1	AA	8000	6500	19	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 45"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-3 7/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
116NB	2	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 41"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-3 3/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 37"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-1 1/2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 32"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-10 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	1	AA	8000	6500	19	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 47"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-7 7/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
117NB	2	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 41"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-4"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	18	18	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 35"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-10 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 34' 30"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-7"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
118NB	1	AA	8000	6500	19	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 29"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-10 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 41"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-3"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	18	16	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 35"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-0 5/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	24	24	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 30"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-7"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4

4 UPDATED TABLE.
3 UPDATED TABLE.
2 UPDATED TABLE.
1 UPDATED TABLE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM SCHEDULE 7 FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2192.04
1	MTB	8/8/07	3	SGS	1/17/08	TOTAL SHEETS
2	MTB	10/19/07	4	SGS	3/04/09	

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

DATE: 3/4/2009 3:56:53 PM
USER: sstrednak
FILE: N:\Structures\Projects\R2510B_BEAUFORT_BYPASS\Roadway\Sheets\R2510B_BEAUFORT_BYPASS_SCHEDULE7.dgn

Location		Concrete Properties			Strand	End	Plan View Case		Beam End Type		Beam End		End Plate		End of Beam & Bearing Dimensions **						Beam Dimensions		Reinforcing Steel																					
Span No.	Beam No.	Class	Strength (psi) 28 day	Strength (psi) Release	Pattern Type	Elev. Condition	End 1	End 2	End 1	End 2	Web Thickness End 1	Web Thickness End 2	Mark End 1	Mark End 2	Angle ϕ End 1	Angle ϕ End 2	Dim J1	Dim J2	Dim K1	Dim K2	Dim L	Dim B	3D1 B	3D1 Length	3D2 B	3D2 Length	3D3 No.	4M1 Length	4M2 Length	4M3 No.	5K No.	No. of Spaces Bars 5K S1	S2	S3	S4	S5	Spacing Bars 6K (in) * V1	V2	V3	V4	V5	6J No.	Bars 6J S6	V6 (in)
116NB	1	AA	8000	6500	19	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	86° 34' 40"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-2 5/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	86° 34' 40"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-0 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	86° 34' 36"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-9 1/2"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	10	4'-6"	4'-6"	7	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	86° 34' 31"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-8 5/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	10	4'-6"	4'-6"	7	102	20	8	12	12	7	6	12	18	18	12	106	33	4
120NB	1	AA	8000	6500	19	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 44"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-2 1/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 38"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-11 3/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 32"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-9 1/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	88° 34' 26"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-6 1/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
121NB	1	AA	8000	6500	19	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 47' 44"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-1 3/4"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 47' 40"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-11 1/4"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 47' 37"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-8 5/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 47' 36"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-5 3/4"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
122NB	1	AA	8000	6500	19	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	119'-1 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-11"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-8 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-5 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
123NB	1	AA	8000	6500	19	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	119'-1 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-11"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-8 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-5 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
124NB	1	AA	8000	6500	19	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	119'-1 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-11"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-8 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-5 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
125NB	1	AA	8000	6500	19	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	119'-1 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-11"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-8 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-5 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
126NB	1	AA	8000	6500	19	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	119'-1 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-11"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	86	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	23	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-8 3/8"	1 3/4"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	18	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	10 1/2"	118'-5 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	101	4'-6"	4'-6"	71	102	20	8	12	12	7	6	12	18	18	12	106	33	4
127NB	1	AA	8000	6500	16	3	1	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	119'-1 1/2"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	17	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 48' 54"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-11 3/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	3	AA	8000	6500	14	3	2	1	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	88° 13' 43"	90° 00' 00"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-9 1/4"	1 1/4"	1'-11"	6'-1"	1'-11"	6'-1"	97	4'-6"	4'-6"	69	86	12	12	12	12	7	6	12	18	18	12	106	33	4
	4	AA	8000	6500	17	3	2	2	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	87° 38' 26"	88° 50' 26"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-7 3/4"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	97	4'-6"	4'-6"	69	86	12	12	12	12	7	6	12	18	18	12	106	33	4
	5	AA	8000	6500	16	3	2	2	Exp.	Non-Exp.	12-in	7-in	N/A	N/A	87° 03' 04"	88° 15' 04"	8 1/2"	8 1/2"	10 1/2"	1'-1 1/2"	118'-6 1/8"	1 1/2"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	69	86	12	12	12	12	7	6	12	18	18	12	106	33	4
128NB	1	AA	8000	6500	7	3	1	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	90° 00' 00"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	11 1/2"	103'-2 5/8"	1"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6 1/8"	4'-6"	69	86	12	12	9	9	7	6	12	24	24	12	106	33	4
	2	AA	8000	6500	10	3	2	1	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	86° 40' 32"	90° 00' 00"	8 1/2"	8 1/2"	11 1/2"	11 1/2"	103'-0 7/8"	1 1/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	61	86	12	10	8	7	5	6	12	24	24	12	106	33	4
	3	AA	8000	6500	8	3	2	2	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	87° 32' 10"	88° 55' 17"	8 1/2"	8 1/2"	11 1/2"	11 1/2"	102'-10 7/8"	1"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	61	86	12	10	10	10	5	6	12	18	18	12	106	33	4
	4	AA	8000	6500	10	3	2	2	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	87° 03' 41"	88° 06' 47"	8 1/2"	8 1/2"	11 1/2"	11 1/2"	102'-9 1/2"	1 1/4"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6"	4'-6"	61	86	12	10	10	10	5	6	12	18	18	12	106	33	4
	5	AA	8000	6500	7	3	2	2	Non-Exp.	Exp.	12-in	7-in	N/A	N/A	86° 15' 05"	87° 18' 11"	8 1/2"	8 1/2"	11 1/2"	11 1/2"	102'-8"	1"	1'-11"	6'-1"	1'-11"	6'-1"	85	4'-6 1/8"	4'-6"	61	86	12	10	10	10	5	6	12	18	18	12	106	33	4

△4 △3 △2 △1 △1 △1 △2 △1

△4 UPDATED TABLE.
△3 UPDATED TABLE.
△2 UPDATED TABLE.
△1 UPDATED TABLE.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039878 JOHN W. JORDAN II 3/11/08

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A Joint Venture

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 8 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BULB-T 72 BEAM SCHEDULE 8
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

NO.	REVISIONS BY:	DATE:	NO.	BY:	DATE:
1	MTB	8/8/07	3	SGS	1/17/08
2	MTB	10/19/07	4	SGS	3/04/08

SHEET NO. 2193.04
TOTAL SHEETS

DRAWN BY : S. G. STREDNAK DATE : 11/05
CHECKED BY : J. LIU DATE : 11/05

REF: 1/4/2008
TMC 10:55:54 AM

USER: scottstredn
Date: 11/30/2007 10:55:54 AM
File: N:\Structure\Tar River Bridge\DGN\REVISED_BS-ESN_BASCHED.dgn

REINFORCING TABLE

SPAN 1 - LEFT		SPAN 1 - RIGHT		SPANS 2 THRU 13 LEFT		SPANS 2 THRU 13 RIGHT		SPAN 14 - LEFT		SPAN 14 - RIGHT		SPAN 15 - LEFT		SPAN 15 - RIGHT		SPAN 16 - LEFT		SPAN 16 - RIGHT		SPAN 17 - LEFT		SPAN 17 - RIGHT		SPAN 18 - LEFT		SPAN 18 - RIGHT		SPANS 19 THRU 27 LEFT		SPANS 19 THRU 27 RIGHT	
BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.
~~4T~~	~~113~~	~~4T~~	~~113~~	~~4T~~	~~120~~	~~4T~~	~~120~~	~~4T~~	~~95~~	~~4T~~	~~120~~	~~4T~~	~~80~~	~~4T~~	~~120~~	~~4T~~	~~120~~	~~4T~~	~~120~~	4T	120	4T	87	4T	120	4T	94	4T	115	4T	115
4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8
4U2	6	4U2	6	4U2	6	4U2	6	4U4	4	4U2	6	4U6	4	4U2	6	4U2	6	4U2	6	4U2	6	4U6	4	4U2	6	4U4	4	4U8	6	4U8	6
4U3	4	4U3	4	4U3	8	4U3	8	4U5	8	4U3	4	4U7	8	4U3	4	4U3	8	4U3	8	4U3	4	4U7	8	4U3	4	4U5	8	4U9	8	4U9	8
4U9	4	4U9	4							4U5	4			4U5	4					4U5	4			4U5	4						

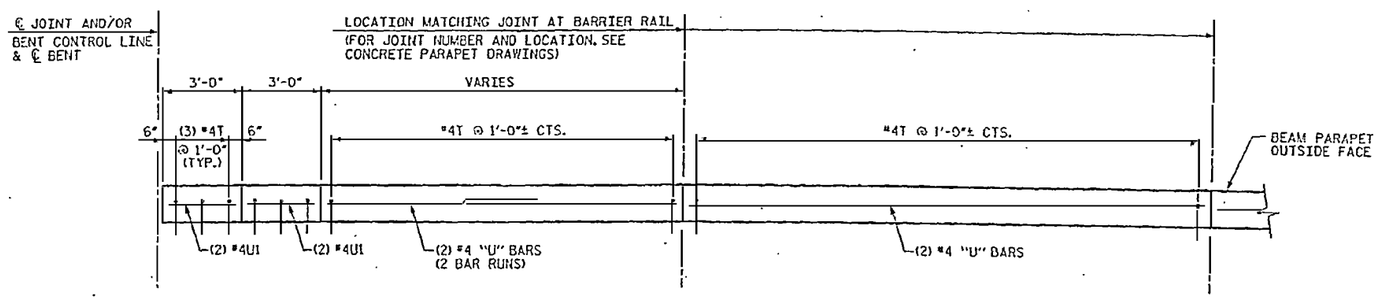
REINFORCING TABLE

SPAN 28 - LEFT		SPAN 28 - RIGHT		SPAN 29 - LEFT		SPAN 29 - RIGHT		SPANS 30 THRU 81 LEFT		SPANS 30 THRU 81 RIGHT		SPAN 82 - LEFT		SPAN 82 - RIGHT		SPANS 83 THRU 99 LEFT		SPANS 83 THRU 99 RIGHT		SPAN 100 - LEFT		SPAN 100 - RIGHT		SPANS 101 & 102 LEFT		SPANS 101 & 102 RIGHT		SPAN 103 - LEFT		SPAN 103 - RIGHT	
BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.
4T	123	4T	123	4T	115	4T	115	4T	~~123~~	~~4T~~	~~123~~	~~4T~~	~~121~~	~~4T~~	~~78~~	4T	120	4T	120	4T	~~79~~	4T	121	4T	120	4T	120	4T	120	4T	120
4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8
4U10	6	4U10	6	4U12	6	4U12	6	4U10	6	4U10	6	4U14	8	4U14	4	4U14	8	4U14	8	4U14	4	4U14	8	4U2	6	4U2	6	4U2	6	4U2	6
4U11	8	4U11	8	4U13	8	4U13	8	4U11	8	4U11	8	4U15	4	4U16	4	4U16	8	4U16	8	4U16	4	4U15	4	4U3	8	4U3	8	4U3	4	4U3	8
												4U16	4	4U17	4					4U17	4	4U16	4					4U11	4		

REINFORCING TABLE

SPAN 104 - LEFT		SPAN 104 - RIGHT		SPANS 105 THRU 112 LEFT		SPANS 105 THRU 112 RIGHT		SPANS 113 THRU 120 (SBL) - LEFT		SPANS 113 THRU 120 (SBL) - RIGHT		SPANS 121 & 122 (SBL) - LEFT		SPANS 121 & 122 (SBL) - RIGHT		SPANS 123 THRU 127 (SBL) - LEFT		SPANS 123 THRU 127 (SBL) - RIGHT		SPAN 128 (SBL) LEFT		SPAN 128 (SBL) RIGHT	
BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.
~~4T~~	~~121~~	~~4T~~	~~120~~	~~4T~~	~~121~~	~~4T~~	~~120~~	~~4T~~	~~121~~	~~4T~~	~~120~~	~~4T~~	~~121~~	~~4T~~	~~121~~	~~4T~~	~~122~~	4T	121	4T	105	4T	104
~~4U1~~	~~8~~	~~4U1~~	~~8~~	~~4U1~~	~~8~~	~~4U1~~	~~8~~	~~4U1~~	~~8~~	~~4U1~~	~~8~~	~~4U1~~	~~8~~	~~4U1~~	~~8~~	~~4U1~~	~~8~~	4U1	8	4U1	8	4U15	8	4U15	4
~~4U2~~	~~6~~	~~4U2~~	~~6~~	~~4U2~~	~~6~~	~~4U2~~	~~6~~	~~4U2~~	~~6~~	~~4U2~~	~~6~~	~~4U2~~	~~6~~	~~4U2~~	~~6~~	~~4U2~~	~~6~~	4U2	6	4U2	6	4U21	6	4U16	4
~~4U3~~	~~4~~	~~4U3~~	~~4~~	~~4U3~~	~~4~~	~~4U3~~	~~4~~	~~4U3~~	~~4~~	~~4U3~~	~~4~~	~~4U3~~	~~4~~	~~4U3~~	~~4~~	~~4U3~~	~~4~~	4U3	4					4U21	6
~~4U18~~	~~4~~	~~4U5~~	~~4~~	~~4U18~~	~~4~~	~~4U5~~	~~4~~	~~4U19~~	~~4~~	~~4U11~~	~~4~~	~~4U20~~	~~4~~	~~4U11~~	~~4~~	~~4U20~~	~~4~~	4U11	4						

SPANS 113 THRU 120 (NBL) - LEFT		SPANS 113 THRU 120 (NBL) - RIGHT		SPANS 121 THRU 126 (NBL) - LEFT		SPANS 121 THRU 126 (NBL) - RIGHT		SPAN 127 (NBL) LEFT		SPAN 127 (NBL) RIGHT		SPAN 128 (NBL) LEFT		SPAN 128 (NBL) RIGHT	
BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.	BAR	NO.
4T	120	4T	119	4T	120	4T	119	4T	120	4T	120	4T	104	4T	103
4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8	4U1	8
4U2	6	4U2	6	4U2	6	4U2	6	4U2	6	4U14	6	4U15	4	4U15	4
4U3	8	4U3	4	4U3	4	4U3	4	4U3	4	4U16	4	4U21	6	4U21	6
		4U13	4	4U5	4	4U9	4	4U5	4	4U17	4	4U23	4	4U23	4
										4U22	2				



TYPICAL BEAM PARAPET PLAN

REINFORCING TABLE

BEAM PARAPET

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
T	34538	#4	*	2'-0"	46143
U1	2304	#4	STR	2'-9"	4232
U2	690	#4	STR	23'-9"	10947
U3	616	#4	STR	10'-3"	4218
U4	8	#4	STR	23'-3"	124
U5	96	#4	STR	10'-1"	647
U6	8	#4	STR	21'-4"	114
U7	16	#4	STR	9'-1"	97
U8	108	#4	STR	22'-7"	1629
U9	176	#4	STR	9'-8"	1136
U10	636	#4	STR	24'-1"	10232
U11	912	#4	STR	10'-5"	6346
U12	12	#4	STR	22'-9"	182
U13	48	#4	STR	9'-10"	315
U14	302	#4	STR	19'-9"	3984
U15	28	#4	STR	8'-9"	164
U16	296	#4	STR	8'-4"	1648
U17	12	#4	STR	7'-9"	62
U18	36	#4	STR	10'-0"	257
U19	32	#4	STR	10'-10"	232
U20	28	#4	STR	11'-0"	206
U21	24	#4	STR	20'-9"	333
U22	2	#4	STR	20'-2"	27
U23	8	#4	STR	8'-0"	43
TOTAL REINFORCING STEEL (LBS.)					93318

*SEE "BULB-T 72 BEAM DETAILS 4", SHEET 4 OF 11.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024647 JOHN W. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 4/6/07

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 9 OF 9 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE NO. 2 -

BULB-T 72 BEAM SCHEDULE 9
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech
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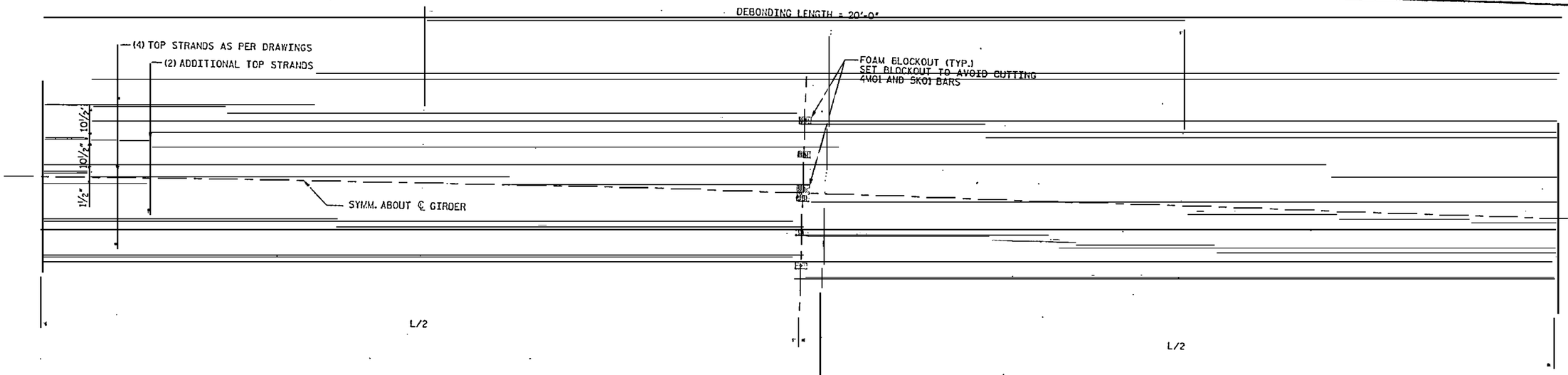
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2193A.00
1			3			TOTAL SHEETS
2			4			

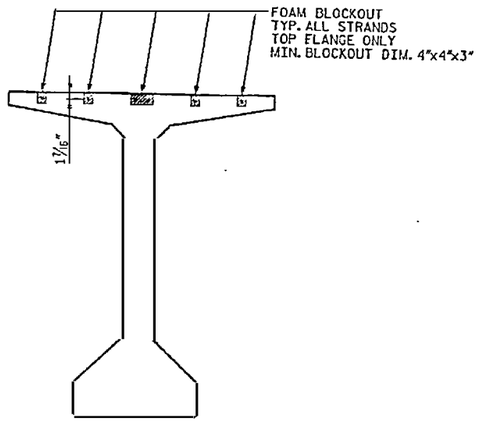
DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE: 4/23/2007
TIME: 2:22:14 PM

USER: scottmroot
DGN: Honeycutt/River new bridges/R2510B_SD_09_bulb_t_beam_schedule.dgn



PLAN VIEW



SECTION AT MIDSPAN

TENSIONING PROCEDURE CHANGES

1. ALL TOP STRANDS ARE 0.6" DIAMETER.
2. ALL TOP STRANDS ARE STRESSED TO 44 KIPS EACH.
3. DEBONDING AT MIDSPAN ONLY FOR TOP STRANDS, DEBONDING ON BOTTOM STRANDS PER APPROVED SHOP DRAWING.

DETENSIONING PROCEDURE

1. CURE GIRDERS IN ACCORDANCE WITH APPROVED DRAWINGS UNTIL THEY HAVE REACHED TRANSFER STRENGTH ON THE APPROVED SHOP DRAWING.
2. CUT ALL STRANDS IN THE TOP FLANGE AT MIDSPAN ONLY.
3. FOLLOW APPROVED DETENSIONING PROCEDURE ON APPROVED SHOP DRAWING.
4. COAT EXPOSED ENDS OF STRAND CUT AT MIDSPAN WITH APPROVED EPOXY.
5. FILL BLOCKOUT WITH NCDOT APPROVED NON-SHRINK GROUT.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35075 JOHN W. JORDAN

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A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

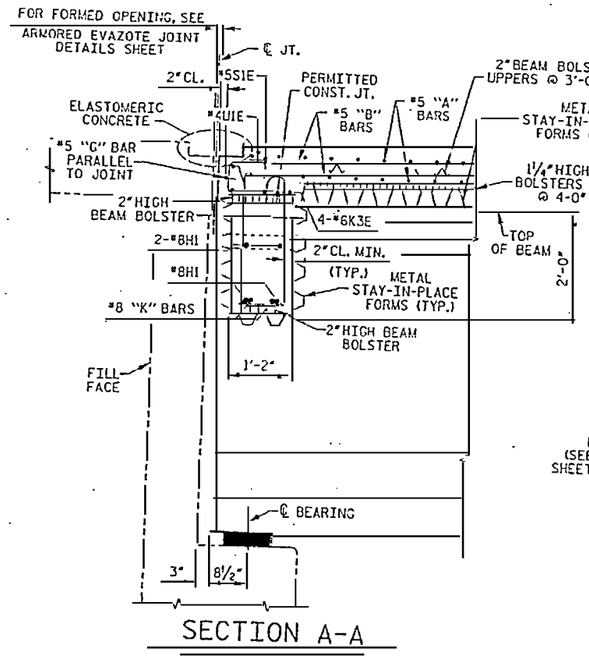
- BRIDGE No. 2 -

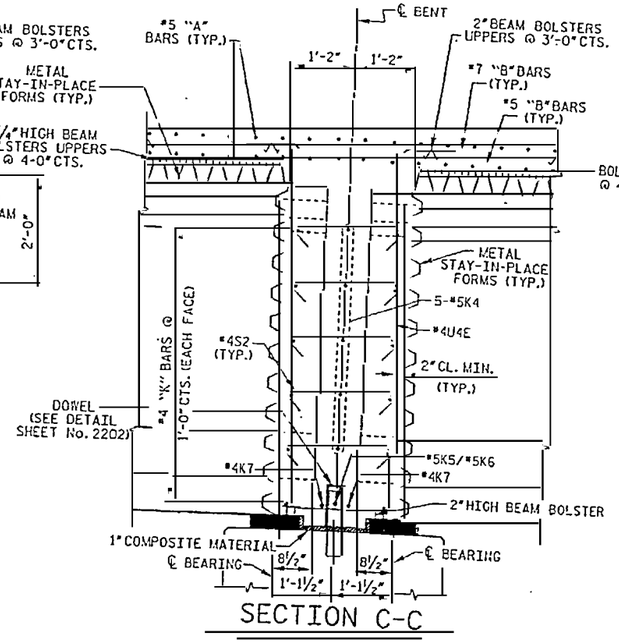
SUPPLEMENTAL TENSIONING DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

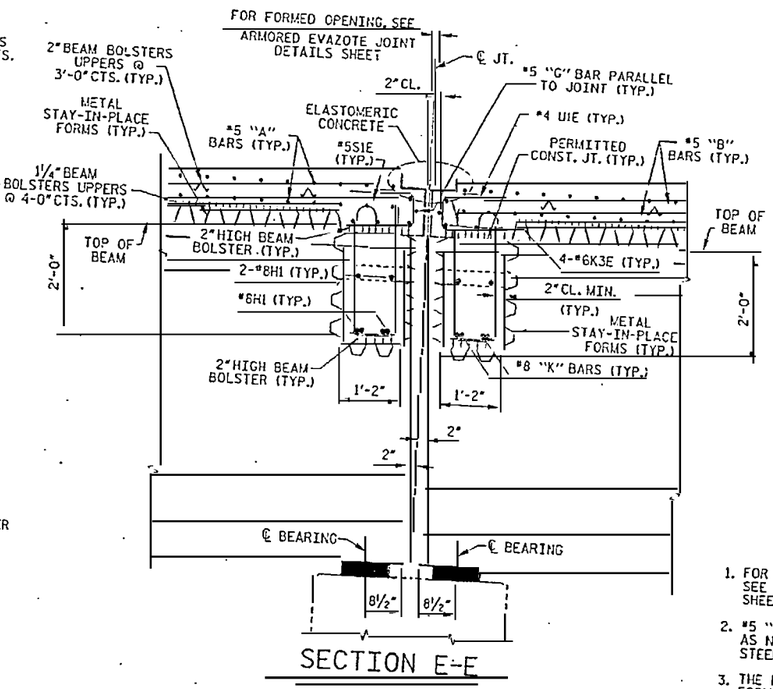
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2194.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNEY DATE : 02 /08
CHECKED BY : J. W. JORDAN DATE : 02 /08

DGN: enstrainu
DWN: NORTONWORK
CK: DATE: 8/02/2008 TIME: 8:50:44 AM

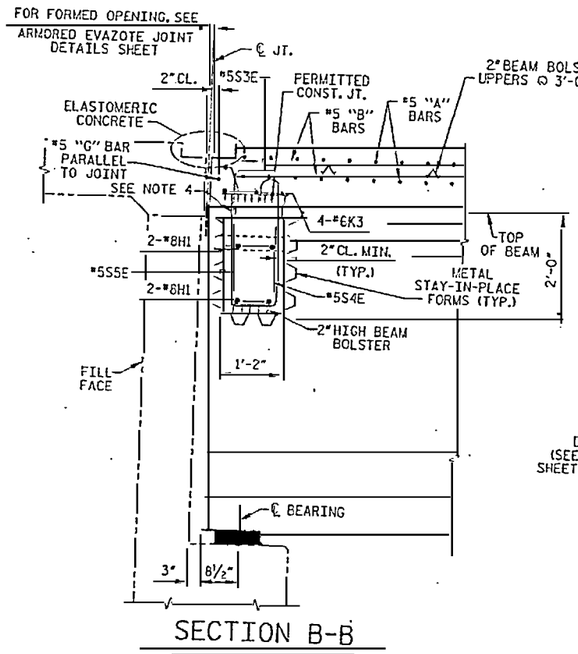


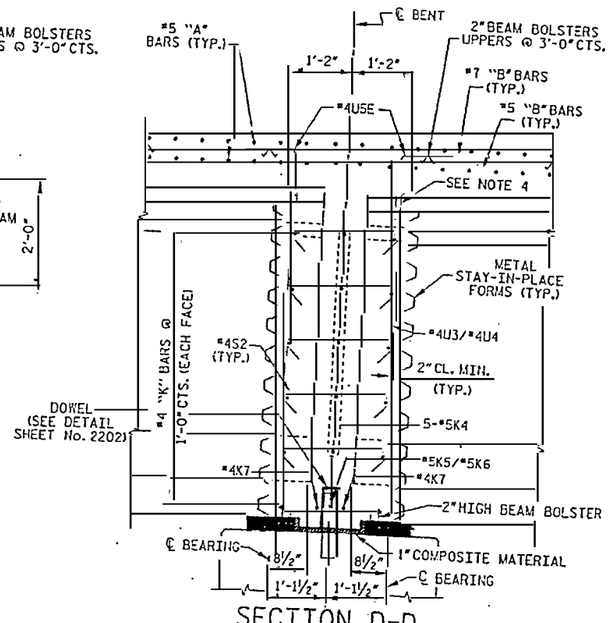


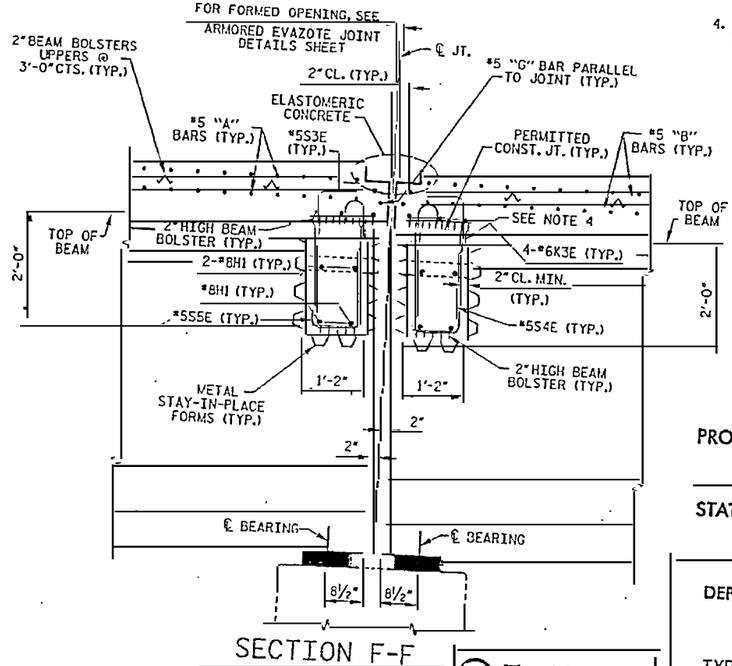


NOTES

1. FOR ARMORED EVAZOTE JOINT DETAILS, SEE "ARMORED EVAZOTE JOINT DETAILS" SHEET NO. 2266.
2. #5 "G" BAR MAY BE SHIFTED SLIGHTLY, AS NECESSARY, TO CLEAR REINFORCING STEEL AND STIRRUPS.
3. THE FLUTES IN DIAPHRAGM STAY-IN-PLACE FORMS MAY BE POSITIONED VERTICALLY.
4. FOR FORMED HOLES IN FLANGES OF PRECAST GIRDERS, SEE SHEET 2176, "BULB-T 72 BEAM DETAILS 7."







RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

TYPICAL DIAPHRAGM DETAILS 1 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2201.00
						TOTAL SHEETS

DRAWN BY : CJW DATE : 8/06
CHECKED BY : J. LIU DATE : 9/06

EarthTech
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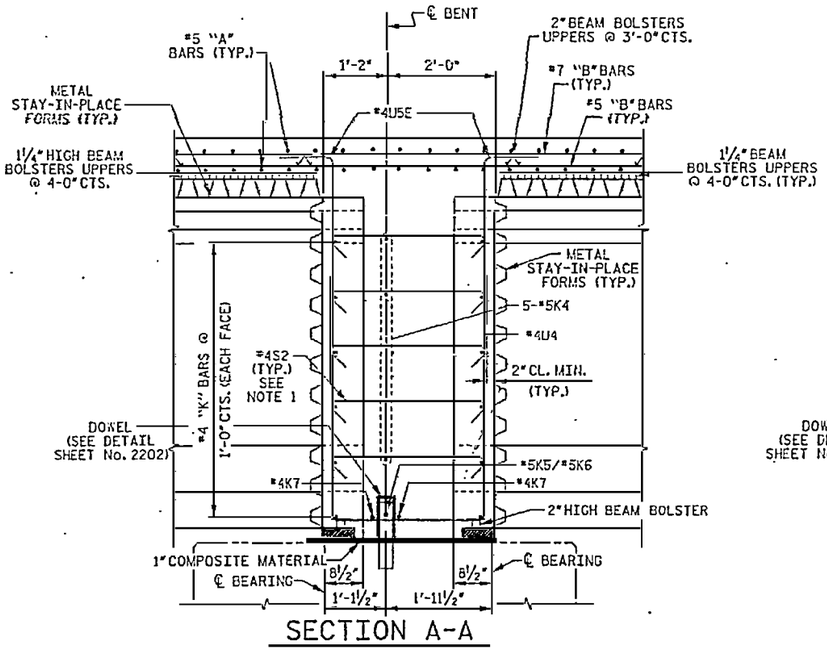
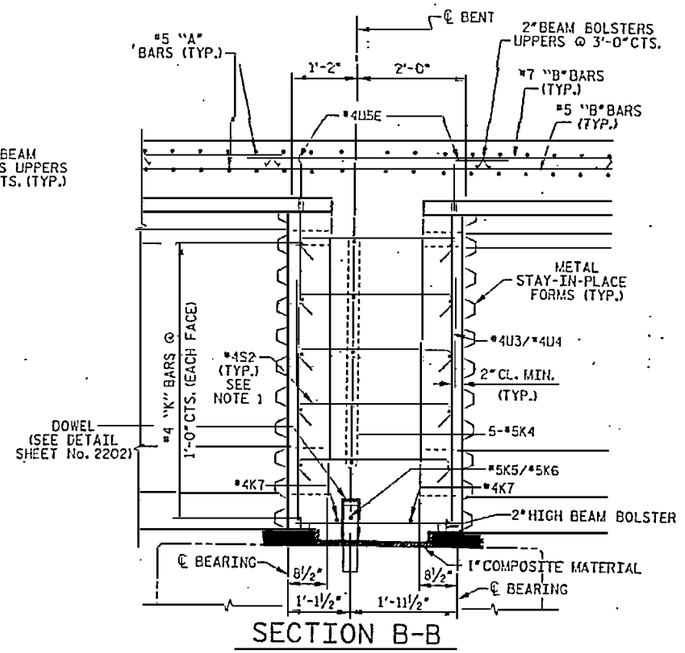
FLATIRON/UNITED
A JOINT VENTURE

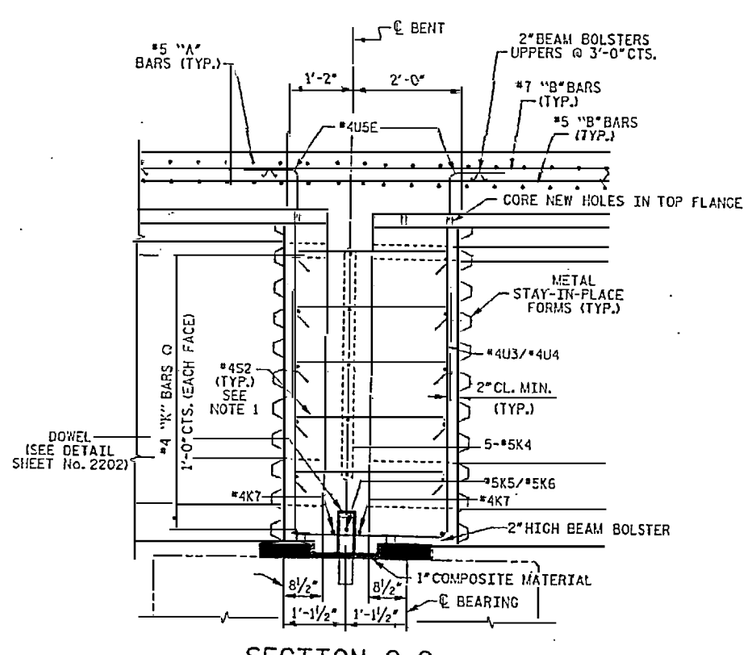
DATE: 4/2/2007
FILE: 2510B_SD_05M_2201.dgn
USER: cwarriner
Gain River Dr.



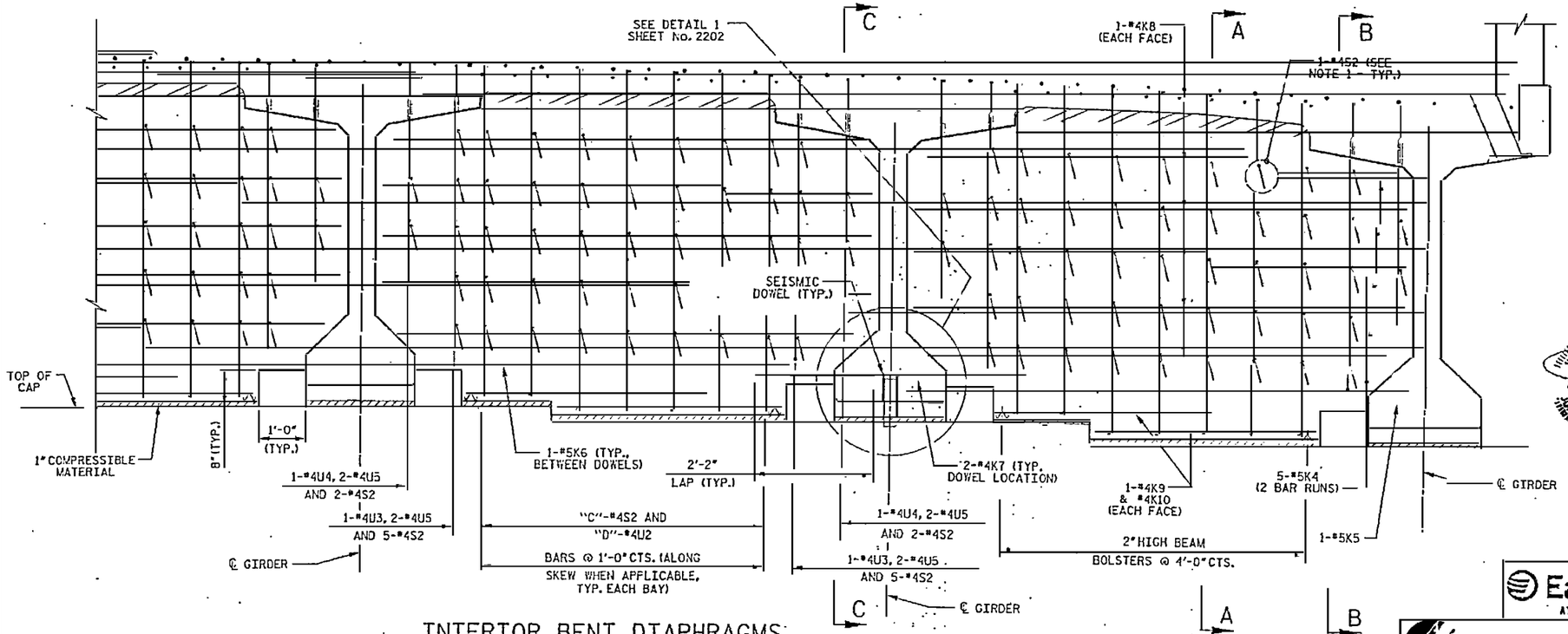
SECTION A-A



SECTION B-B
(@ GIRDER 1)



SECTION C-C
(@ GIRDER 2)



INTERIOR BENT DIAPHRAGMS

NOTES

MODIFICATIONS REQUIRED TO TYPICAL DIAPHRAGM INCLUDE:

1. LENGTHEN 4S2 BARS BY 10".
2. REPLACE #4U4E IN SECTION C-C (SHEET 2201) WITH 2-#4U5E AND EITHER A #4U3 OR #4U4. BOTTOM DIMENSION OF #4U3 AND #4U4 BARS SHALL BE LENGTHENED BY 10". #4U5E MAY BE FABRICATED BY CUTTING THE UPPER LEGS OF THE #4U4E.
3. CORE NEW HOLES IN TOP FLANGE OF GIRDER 2 TO ACCOMODATE PLACEMENT OF #4U5E BARS.

RELEASED FOR CONSTRUCTION
Tom Shearin 4/30/08
TOM SHEARIN, PE — DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030678 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SPAN 18 - BAY 1 DIAPHRAGM DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
						TOTAL SHEETS

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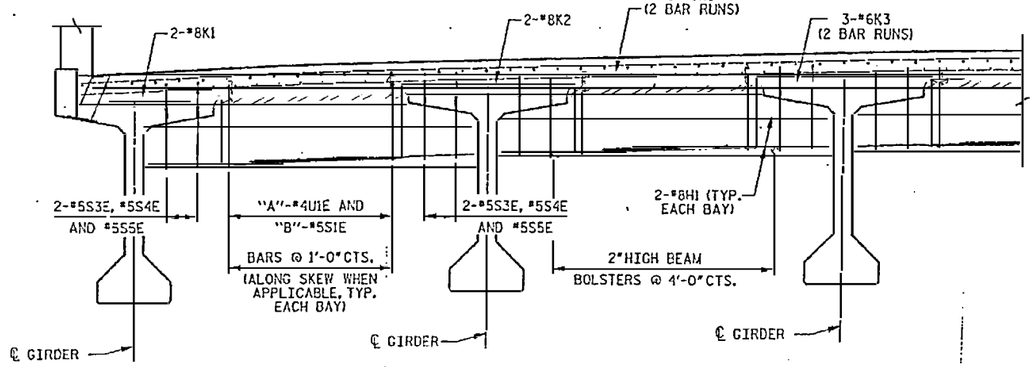
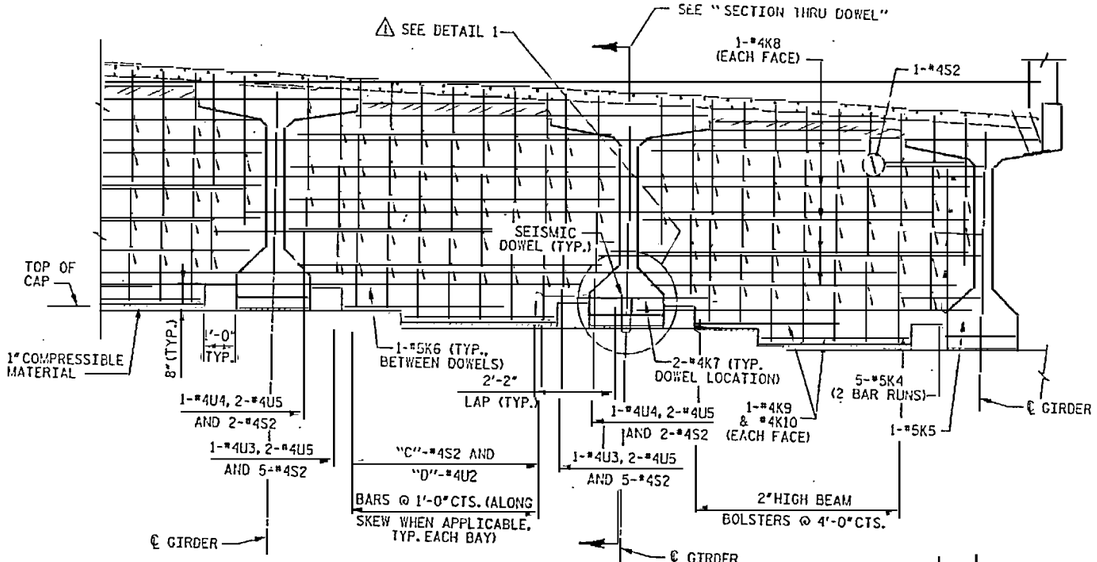
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNIK DATE : 4/08
CHECKED BY : J. W. JORDAN DATE : 4/08

DATE: 4/30/2008
TIME: 10:30 PM
USER: Instrument
DGN: R:\Structural\Tar River Bridges\DIAPHRAGMS\D2510_SD_DIA.dgn

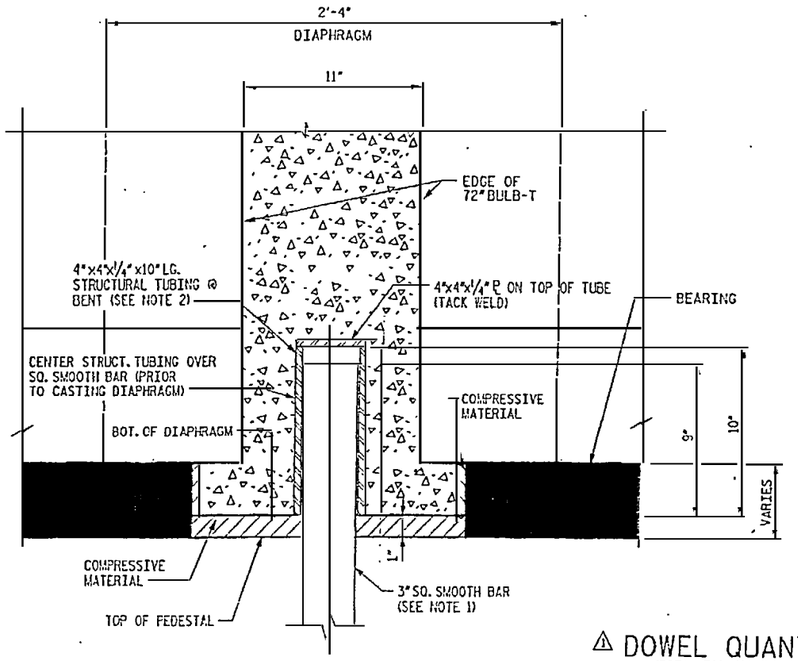


END DIAPHRAGMS



INTERIOR BENT DIAPHRAGMS

TYPICAL SECTION



⚠ SECTION THRU DOWEL

⚠ NOTES:

1. ⚠ 3"SQ. ASTM304 STAINLESS STEEL SMOOTH BAR, 2'-10"LONG, 2'-0"EMBEDMENT LENGTH. BAR SHALL BE PLUMB. BARS ONLY AT ODD-NUMBERED BENTS.
2. STRUCTURAL TUBES ARE A618 GRADE 50 GALVANIZED STEEL. STEEL PLATES ARE AASHTO M270 GRADE 50 GALVANIZED STEEL. SHEAR STUDS ARE TYPE B SHEAR STUDS DEFINED BY THE CURRENT EDITION OF THE ANSI/AWS/AASHTO BRIDGE WELDING CODE D1.5.
3. STRUCTURAL TUBING TO BE CENTERED AND SECURED IN POSITION PRIOR TO POURING CONCRETE.

⚠ DOWEL QUANTITIES

(TOTAL FOR ALL 200 LOCATIONS)

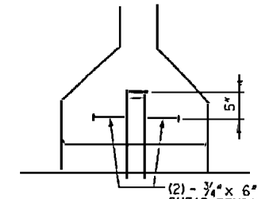
4"x4"x¼" STRUCTURAL TUBING	2035 LBS.
4"x4"x¼" STEEL PLATE	227 LBS.
3"SQ. SMOOTH BAR (200 PCS.)	17,354 LBS.
SHEAR STUDS	400 PCS.

END DIAPHRAGM REINFORCING STEEL

	LOCATION	BAYS	"A"	"B"
(EVEN BENTS ONLY)	END BENT 1	6	7	7
	BENTS 2 THRU 14; BENTS 18 THRU 80 AND BENTS 100 THRU 110	6	7	7
	BENT 16	6	9	9
	BENTS 82 THRU 98	6	8	8
	BENT 112 (BACK)	7	6	6
	SOUTHBOUND LANE			
	BENTS 112 (AHEAD) THRU 120	3	7	7
	BENT 122	4	5	5
	BENTS 124, 126 AND END BENT 2	4	7	7
	NORTHBOUND LANE			
	BENTS 112 (AHEAD) THRU 124	3	6	6
	BENT 126 AND END BENT 2	4	6	6

BENT DIAPHRAGM REINFORCING STEEL

	LOCATION	BAYS	"C"	"D"
(ODD BENTS ONLY)	BENTS 1 THRU 13; BENTS 17 THRU 81 AND BENTS 101 THRU 109	6	35	7
	BENT 15	6	45	9
	BENTS 83 THRU 99	6	40	8
	BENT 111	7	30	6
	SOUTHBOUND LANE			
	BENTS 113 THRU 121	3	35	7
	BENTS 123 THRU 127	4	35	7
	NORTHBOUND LANE			
	BENTS 113 THRU 125	3	30	6
	BENT 127	4	25	5



⚠ DETAIL 1

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
9/13/07
DATE

⚠ REVISED NOTE 1
⚠ REVISED DOWEL DETAILS AND NOTES

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

TYPICAL DIAPHRAGM DETAILS 2 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2202.02
1	SGS	7/07	3			TOTAL SHEETS
2	SGS	9/07	4			

LOFTON DATE: 9/06
J. LEJ DATE: 9/06

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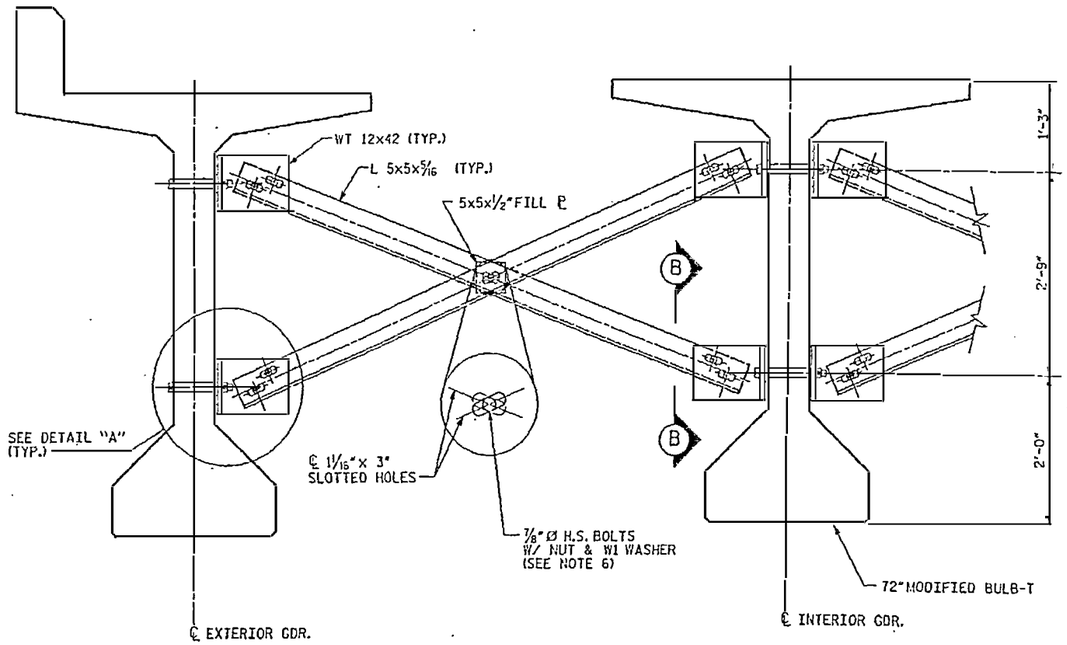
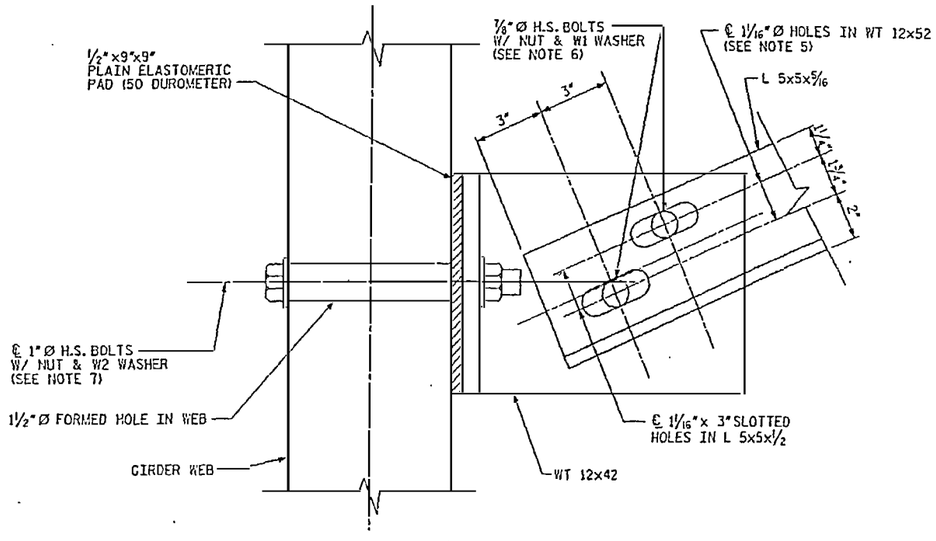
FLATIRON/UNITED
A JOINT VENTURE

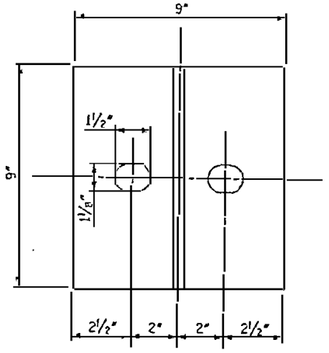
NORTH CAROLINA PROFESSIONAL SEAL 25504 ENGINEER JOHN C. LOFTON



TYPICAL INTERMEDIATE DIAPHRAGM



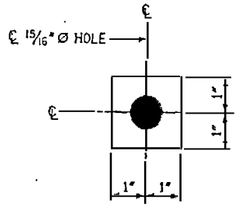
DETAIL "A"



SECTION B-B

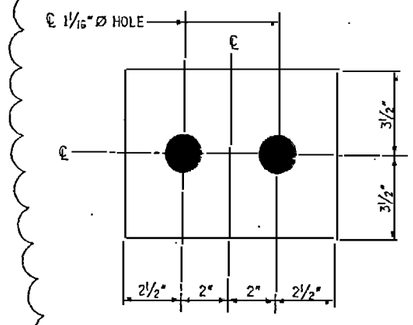
STRUCTURAL STEEL NOTES

1. ALL INTERMEDIATE DIAPHRAGM STEEL, CONNECTOR PLATES AND PLATE WASHERS SHALL BE AASHTO M270 GRADE 50 OR APPROVED EQUAL.
2. THE ANGLES, PLATE WASHERS, CONNECTOR PLATES, BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
3. USE A PLATE WASHER WITH STANDARD HOLES UNDER EACH BOLT HEAD AND NUT. THE PLATE WASHERS SHALL HAVE SUFFICIENT SIZE TO COVER THE HOLES AFTER INSTALLATION. DIRECT TENSION INDICATORS ARE TO BE USED IN CONJUNCTION WITH THE PLATE WASHERS.
4. PROVIDE SUFFICIENT LENGTH OF ALL BOLTS TO ACCOMODATE WASHERS, DIRECT TENSION INDICATORS, THE THICKNESS OF CONNECTING MEMBER PLUS AT LEAST 1/4" PROJECTION BEYOND THE NUT.
5. HOLES IN WT STEM SHALL BE FIELD DRILLED. HOLES EDGE SHALL THEN BE PAINTED WITH A ZINC RICH PAINT SYSTEM AS PER THE STANDARD SPECS. MAINTAIN MINIMUM EDGE DISTANCES.
6. BOLTS THROUGH WT AND ANGLE SHALL BE TIGHTENED PER THE STANDARD SPECS.
7. BOLTS THROUGH WT AND GIRDER WEB SHALL BE TIGHTENED SNUG TIGHT PLUS 1/4 TURN AND THEN THE BOLT THREADS SHALL BE BURRED WITH A SHARP POINTED TOOL. PROVIDE WASHERS UNDER BOLT HEADS AND NUTS.



W1
℄ 1/16"x 2"x 2"

USE WITH 7/8"Ø HEAVY HEX NUTS & DIRECT TENSION INDICATOR WASHERS AT DIAPHRAGM ANGLE TO CONNECTOR PLATE CONNECTIONS.



⚠1 W2
℄ 1/16"x 9"x 7"

USE WITH 1"Ø HEAVY HEX NUTS & DIRECT TENSION INDICATOR WASHERS AT CONNECTOR PLATE TO GIRDER CONNECTIONS.

WASHER DETAILS

STEEL WEIGHT (LBS.)		
NUMBER OF DIAPHRAGMS	PER DIAPHRAGM (11'-2 5/8" GIRDER SPACING)	TOTAL
1556	380	591,740 ⚠1

⚠1 REVISED W2 WASHER DETAILS

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 9/14/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

TYPICAL DIAPHRAGM DETAILS 3 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2203.01
1	SGS	9/14/07				TOTAL

DRAWN BY : S. G. STREDNAK DATE : 7/07
CHECKED BY : J. JORDAN DATE : 7/07

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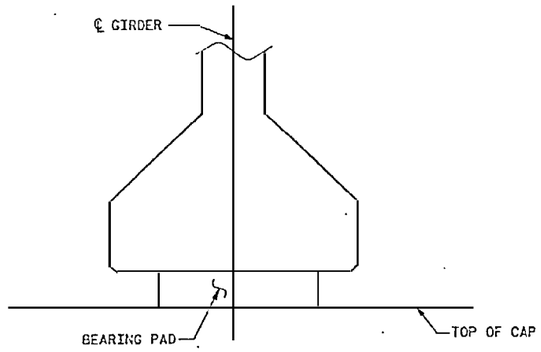
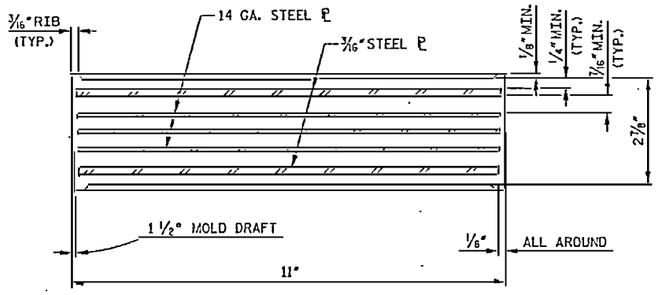
FLATIRON/UNITED A JOINT VENTURE

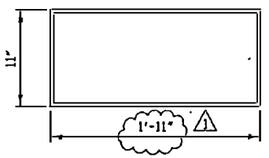
USER: kstephens
DGN: N:\ROADWAY\Tar River Bridges\Dwg\R2510B_SDSHT_INTDIAPH.dgn
DATE: 9/14/2007 7:55:13 AM



SECTION E-E

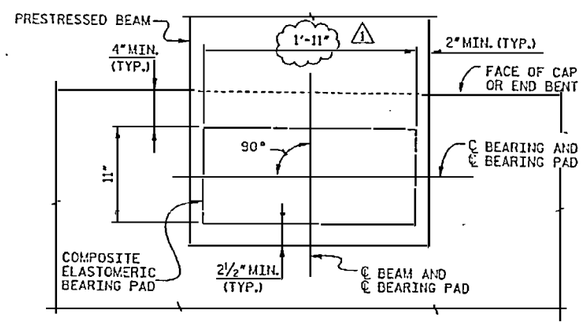


TYPICAL SECTION OF ELASTOMERIC BEARINGS

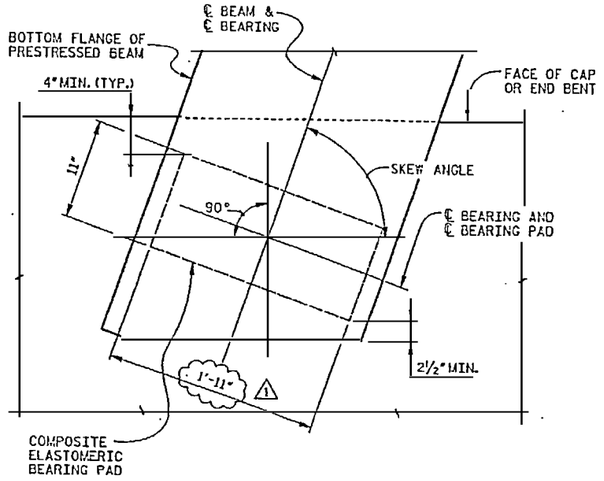


BEARING PAD (1844 REQ'D)

PLAN VIEW OF ELASTOMERIC BEARING



PARTIAL PLAN (WITHOUT SKEW)



PARTIAL PLAN (WITH SKEW)

BEARING PAD NOTES:

NEOPRENE IN ALL BEARING PADS SHALL HAVE GRADE 50 DUROMETER HARDNESS.

STEEL PLATES IN BEARING PADS SHALL COMFORM TO ASTM A1011 GRADE 36, TYPE 1.

VARIATIONS IN PAD DIMENSIONS WILL BE ALLOWED PROVIDED THE REVISED PADS MEET THE SPECIFICATIONS, MEET THE REQUIREMENTS OF THIS DRAWING, AND ARE APPROVED BY THE ENGINEER.

FOR BEAM GRADES LESS THAN OR EQUAL TO 1%, FINISH THE BEAM SEAT PARALLEL TO THE BOTTOM OF THE BEAM. FOR BEAM GRADES GREATER THAN 1%, FINISH THE BEAM SEAT LEVEL AND PROVIDE BEVELED BEARING PLATES.

BEARING CAPACITY	
MAX. DL + LL	230 KIPS
MAX. SHEAR DEFORMATION	1 1/8"
MAX ROTATION DUE TO LL (PLUS IMPACT)	0.0025 RAD

PRESTRESSED CONCRETE GIRDER SUPERSTRUCTURE

DRAWN BY : M.T. BELISLE DATE : 10/05
CHECKED BY : C. MORRISON DATE : 10/05

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 10/22/07 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030678 JOHN W. WHEELER JORDAN

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1 REVISED BEARING PAD DIMENSION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
ELASTOMERIC BEARING DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2208.01
1	SGS	10/19/07	3			TOTAL SHEETS
2			4			

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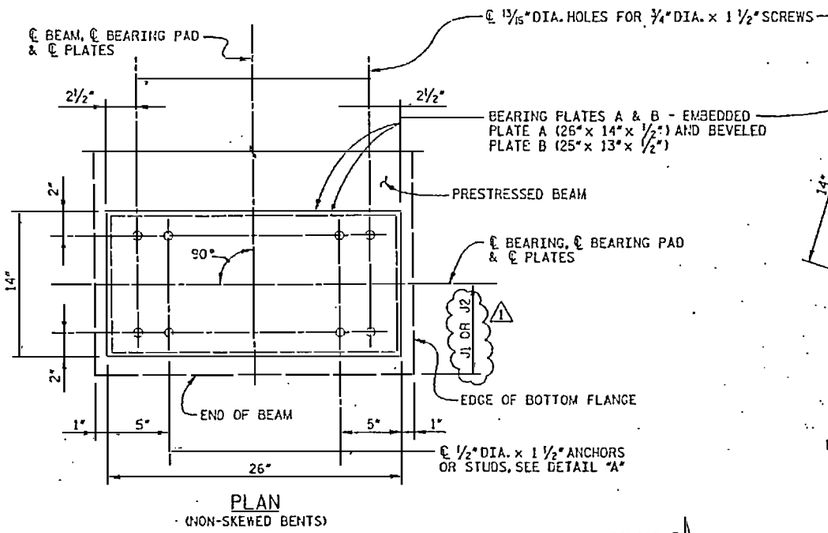
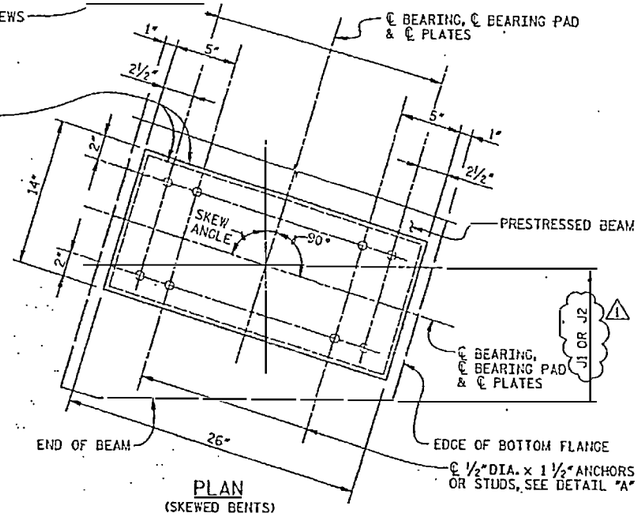
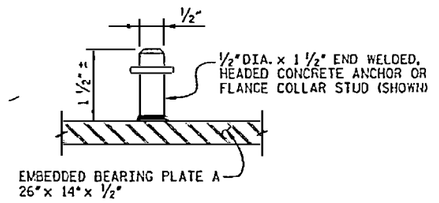


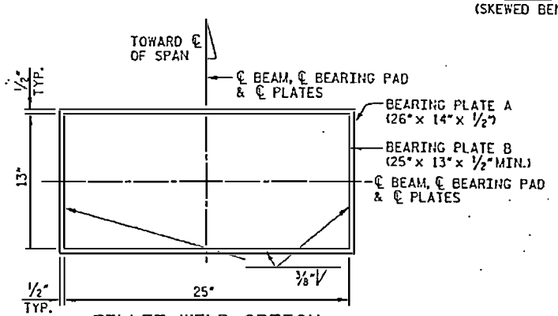
PLAN
(NON-SKEWED BENTS)



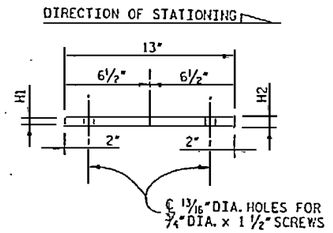
PLAN
(SKEWED BENTS)



DETAIL "A"



FILLET WELD OPTION
(3 SIDED FILLET WELD CONNECTION BETWEEN BEARING PLATES A & B)



NOTE: DIMENSIONS H1 & H2 MUST BE A MINIMUM OF 1/2".

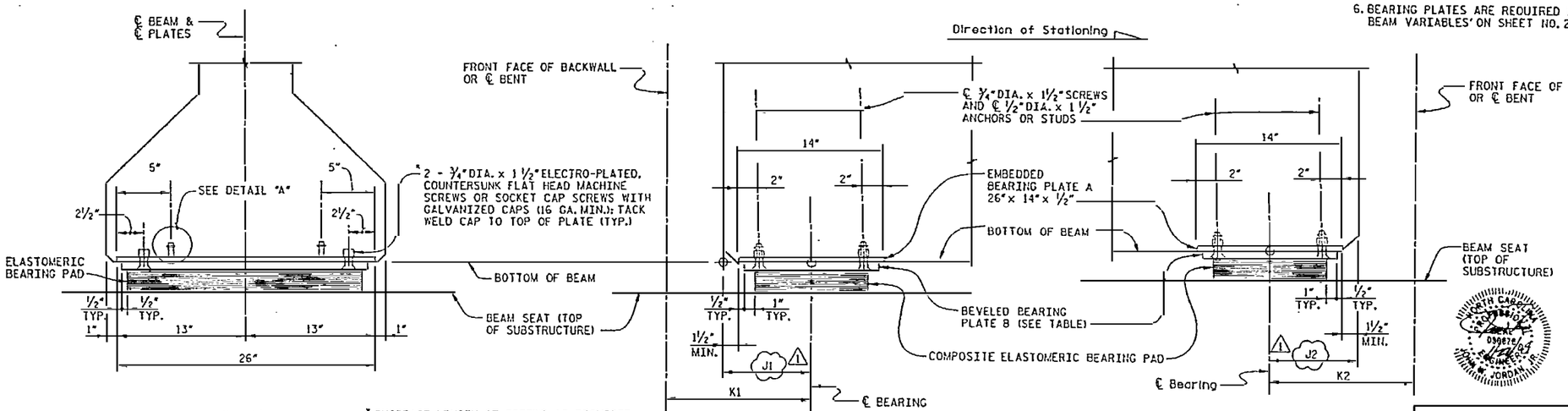
BEVELED BEARING PLATE B

BEVELED BEARING PLATE B DIMENSIONS

			Begin Span		End Span	
SPAN NO(s).	BEAM NO(s).	PLATE NO(s).	H1	H2	H1	H2
81	1 THRU 7	14	1/2"	5/8"	3/4"	7/8"
82	1 THRU 7	14	1 1/8"	1 1/4"	3/4"	7/8"
83	1 THRU 7	14	1 1/8"	1 1/4"	5/8"	7/8"
84	1 THRU 7	14	1 1/8"	1 3/8"	3/4"	7/8"
85	1 THRU 7	14	1 1/8"	1 1/4"	5/8"	7/8"
86	1 THRU 7	14	1 1/8"	1 3/8"	3/4"	1"
87	1 THRU 7	14	1 1/8"	1 1/4"	3/4"	7/8"
88	1 THRU 7	14	1 1/2"	1 1/4"	1/2"	5/8"
98	1 THRU 7	14	5/8"	1/2"	1 1/4"	1"
99	1 THRU 7	14	1"	3/4"	1 1/4"	1 1/8"
100	1 THRU 7	14	7/8"	3/4"	1 1/4"	1 1/8"
101	1 THRU 7	14	1"	3/4"	1 3/8"	1 1/8"
102	1 THRU 7	14	7/8"	5/8"	1 3/8"	1 1/8"
103	1 THRU 7	14	7/8"	5/8"	1 3/8"	1 1/8"
104	1 THRU 7	14	7/8"	5/8"	1 3/8"	1 1/8"
105	1 THRU 7	14	7/8"	3/4"	1 1/4"	1 1/8"
106	1 THRU 7	14	7/8"	3/4"	5/8"	1/2"

NOTES:

1. WORK THIS SHEET WITH THE FOLLOWING DRAWING: SHEET NO. 2208 - ELASTOMERIC BEARING DETAILS.
2. BEARING PLATES ARE REQUIRED FOR BEAMS ONLY AS SCHEDULED IN THE 'TABLE OF BEAM VARIABLES' ON SHEET NO. 2186 THRU 2193.
3. HOT-DIP GALVANIZE BEARING PLATES A & B AFTER FABRICATION. DRILL BEARING PLATES A & B AS AN ASSEMBLED UNIT. THREAD BEARING PLATE B ONLY. DRILL AND THREAD HOLES PRIOR TO PLATES BEING GALVANIZED (ASTM A 123).
4. PROVIDE ELECTRO-PLATED, COUNTERSUNK FLAT HEAD MACHINE SCREWS IN ACCORDANCE WITH ASTM A 449, TYPE I. PROVIDE SCREWS LONG ENOUGH TO MAINTAIN A 1" MINIMUM EMBEDMENT INTO EMBEDDED BEARING PLATE A AND GALVANIZED CAP.
5. ⚠1 FOR DIMENSIONS J1, J2, K1 AND K2, SEE 'TABLE OF BEAM VARIABLES' ON SHEETS NO. 2186 THRU 2193.
6. BEARING PLATES ARE REQUIRED FOR BEAMS ONLY AS SCHEDULED IN THE 'TABLE OF BEAM VARIABLES' ON SHEET NO. 2186 THRU 2193.



END ELEVATION

* INCREASE LENGTH OF SCREWS AS REQUIRED TO MAINTAIN A 1" MINIMUM EMBEDMENT INTO EMBEDDED BEARING PLATE A AND GALVANIZED CAP.

SIDE ELEVATION
(ALONG ℄ BEARING)

RELEASED FOR CONSTRUCTION
Tom Shearin 1/2/08
TOM SHEARIN, PE DATE

⚠1 REVISED VARIABLE DIMENSION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BEVELED BEARING PLATE DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2209.01
1	SGS	12/1/07	3			TOTAL SHEETS
2			4			

DRAWN BY : C. MORRISON DATE : 03/07
CHECKED BY : J. LIU DATE : 03/07

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FLATIRON/UNITED
A JOINT VENTURE

DGN: gen07standard
RVT: standard
USER: cmorrison
C:\Documents and Settings\cmorrison\Desktop\New folder\new bridge\cad\r2510b_sd_bvl_bearing_pl.dgn

DEAD LOAD DEFLECTION & CAMBER TABLE FOR GIRDERS

Girder Group 1	Girders 1 & 7	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.096	0.170	0.225	0.259	0.271	0.259	0.225	0.170	0.096	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.037	-0.072	-0.099	-0.117	-0.123	-0.117	-0.100	-0.072	-0.037	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 3/16"	1 1/2"	1 11/16"	1 3/4"	1 11/16"	1 1/2"	1 3/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.054	0.096	0.127	0.147	0.154	0.147	0.127	0.096	0.054	0.000
	Girders 2 & 6	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.101	0.181	0.241	0.281	0.295	0.281	0.241	0.181	0.101	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.046	-0.090	-0.124	-0.146	-0.154	-0.146	-0.124	-0.090	-0.046	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 3/8"	1 5/8"	1 11/16"	1 5/8"	1 3/8"	1 1/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.057	0.102	0.136	0.159	0.167	0.159	0.136	0.102	0.057	0.000
	Girders 3 ~ 5	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.110	0.194	0.257	0.296	0.310	0.296	0.257	0.194	0.110	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.046	-0.090	-0.124	-0.146	-0.154	-0.146	-0.124	-0.090	-0.046	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.052	0.110	0.145	0.167	0.175	0.167	0.145	0.110	0.052	0.000
Girder Group 2	Girders 1 & 7	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.100	0.177	0.234	0.270	0.283	0.270	0.234	0.177	0.100	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.038	-0.075	-0.103	-0.121	-0.128	-0.122	-0.103	-0.075	-0.038	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 3/4"	1 7/8"	1 3/4"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.056	0.100	0.133	0.153	0.160	0.153	0.133	0.100	0.056	0.000
	Girders 2 & 6	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.105	0.189	0.251	0.292	0.307	0.292	0.251	0.189	0.105	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.048	-0.093	-0.129	-0.152	-0.159	-0.152	-0.129	-0.093	-0.048	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 1/2"	1 11/16"	1 3/4"	1 11/16"	1 7/16"	1 1/8"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.060	0.107	0.142	0.165	0.174	0.165	0.142	0.107	0.060	0.000
	Girders 3 ~ 5	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.102	0.183	0.243	0.283	0.297	0.283	0.243	0.183	0.102	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.048	-0.093	-0.129	-0.152	-0.159	-0.152	-0.129	-0.093	-0.048	0.000
		Final camber (or deflection) ↑	0"	5/8"	1 1/16"	1 3/8"	1 9/16"	1 5/8"	1 9/16"	1 3/8"	1 1/16"	5/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.058	0.103	0.138	0.160	0.168	0.160	0.138	0.103	0.058	0.000
⚠1	Girder 1	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.036	0.064	0.085	0.098	0.103	0.098	0.085	0.064	0.036	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.014	-0.028	-0.039	-0.046	-0.049	-0.046	-0.039	-0.028	-0.014	0.000
		Final camber (or deflection) ↑	0"	1/4"	7/16"	9/16"	5/8"	11/16"	5/8"	9/16"	7/16"	1/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.020	0.036	0.048	0.056	0.059	0.056	0.048	0.036	0.020	0.000
	Girder 2	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.049	0.087	0.116	0.135	0.142	0.135	0.116	0.087	0.049	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.022	-0.043	-0.060	-0.070	-0.074	-0.070	-0.060	-0.043	-0.022	0.000
		Final camber (or deflection) ↑	0"	5/16"	9/16"	11/16"	3/4"	13/16"	3/4"	11/16"	1/2"	5/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.028	0.049	0.066	0.076	0.080	0.076	0.066	0.049	0.028	0.000
	Girder 3	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.059	0.103	0.134	0.155	0.162	0.155	0.134	0.103	0.059	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.025	-0.049	-0.068	-0.080	-0.084	-0.080	-0.068	-0.049	-0.025	0.000
		Final camber (or deflection) ↑	0"	7/16"	5/8"	13/16"	7/8"	15/16"	7/8"	13/16"	5/8"	3/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.033	0.058	0.076	0.087	0.092	0.087	0.076	0.058	0.033	0.000
Girder Group 3	Girder 4	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.070	0.122	0.159	0.184	0.193	0.184	0.159	0.122	0.070	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.029	-0.057	-0.079	-0.093	-0.098	-0.094	-0.080	-0.057	-0.029	0.000
		Final camber (or deflection) ↑	0"	1/2"	3/4"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	3/4"	1/2"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.040	0.069	0.090	0.104	0.109	0.104	0.090	0.069	0.040	0.000
	Girder 5	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.076	0.136	0.181	0.210	0.220	0.210	0.181	0.136	0.076	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.034	-0.065	-0.092	-0.108	-0.114	-0.108	-0.092	-0.067	-0.034	0.000
		Final camber (or deflection) ↑	0"	1/2"	13/16"	1 1/16"	1 3/16"	1 1/4"	1 3/16"	1 1/16"	13/16"	1/2"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.043	0.077	0.102	0.119	0.125	0.119	0.102	0.077	0.043	0.000
	Girder 6	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.096	0.170	0.225	0.260	0.273	0.260	0.225	0.170	0.096	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.079	-0.109	-0.128	-0.135	-0.129	-0.109	-0.079	-0.040	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/16"	1 3/8"	1 9/16"	1 5/8"	1 9/16"	1 3/8"	1 1/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.054	0.096	0.127	0.147	0.154	0.147	0.127	0.096	0.054	0.000
	Girder 7	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.096	0.169	0.224	0.259	0.271	0.259	0.224	0.169	0.096	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.036	-0.070	-0.097	-0.115	-0.121	-0.115	-0.098	-0.071	-0.036	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 3/16"	1 1/2"	1 3/4"	1 13/16"	1 3/4"	1 1/2"	1 3/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.054	0.096	0.127	0.147	0.154	0.147	0.127	0.096	0.054	0.000

⚠2

NOTES

1. * INCLUDES FUTURE WEARING SURFACE. (20 PSF)
2. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT FOR "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

Group Number	Location (at spans)
1	1
2	2-13, 101, 102
3	14, 18
4	15, 17
5	16
6	19-27
7	28, 30-81
8	29
9	82, 100
10	83-99
11	103-110
12	111
13	112
14	113SB-120SB
15	121SB
16	122SB-127SB
17	128SB
18	113NB-126NB
19	127NB
20	128NB

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

⚠2 REVISED TABLE
⚠1 REVISED TABLE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 1 OF 7 BRIDGE NO. 363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GIRDER DEFLECTION AND CAMBER SCHEDULE 1
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2211.02
1	SCS	7/07	3			TOTAL SHEETS
2	MTB	3/4/08	4			

DRAWN BY : S. G. STREDNAK DATE : 11/05
CHECKED BY : J. LIU DATE : 11/05

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 7/24/2008
FILE: R2510_sht

USER: rtaylor
DGN: R2510sht1a.dgn

DEAD LOAD DEFLECTION & CAMBER TABLE FOR GIRDERS

Girder Group		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
4	Girder 1	Camber (Girder alone in place at Erection) ↑	0.000	0.027	0.047	0.062	0.072	0.076	0.072	0.062	0.047	0.027	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.010	-0.020	-0.028	-0.033	-0.035	-0.033	-0.028	-0.020	-0.010	0.000
		Final camber (or deflection) ↑	0"	3/16"	5/16"	3/8"	7/16"	1/2"	7/16"	3/8"	5/16"	3/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.015	0.027	0.035	0.041	0.043	0.041	0.035	0.027	0.015	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 2	Camber (Girder alone in place at Erection) ↑	0.000	0.038	0.068	0.090	0.104	0.110	0.104	0.090	0.068	0.038	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.016	-0.033	-0.046	-0.054	-0.057	-0.054	-0.046	-0.033	-0.017	0.000
		Final camber (or deflection) ↑	0"	1/4"	7/16"	9/16"	5/8"	5/8"	5/8"	1/2"	7/16"	1/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.022	0.038	0.051	0.059	0.062	0.059	0.051	0.038	0.022	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 3	Camber (Girder alone in place at Erection) ↑	0.000	0.042	0.076	0.102	0.118	0.125	0.118	0.102	0.076	0.042	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.020	-0.040	-0.055	-0.065	-0.068	-0.065	-0.055	-0.040	-0.020	0.000
		Final camber (or deflection) ↑	0"	1/4"	7/16"	9/16"	5/8"	11/16"	5/8"	9/16"	7/16"	1/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.024	0.043	0.058	0.067	0.071	0.067	0.058	0.043	0.024	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 4	Camber (Girder alone in place at Erection) ↑	0.000	0.059	0.103	0.134	0.155	0.162	0.155	0.134	0.103	0.059	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.025	-0.049	-0.068	-0.080	-0.084	-0.080	-0.068	-0.049	-0.025	0.000
		Final camber (or deflection) ↑	0"	7/16"	5/8"	13/16"	7/8"	15/16"	7/8"	13/16"	5/8"	7/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.033	0.058	0.076	0.088	0.092	0.088	0.076	0.058	0.033	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 5	Camber (Girder alone in place at Erection) ↑	0.000	0.065	0.116	0.154	0.180	0.189	0.180	0.154	0.116	0.065	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.030	-0.059	-0.082	-0.097	-0.102	-0.097	-0.083	-0.060	-0.030	0.000
		Final camber (or deflection) ↑	0"	7/16"	11/16"	7/8"	1"	1 1/16"	1"	7/8"	11/16"	7/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.037	0.066	0.088	0.102	0.107	0.102	0.088	0.066	0.037	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 6	Camber (Girder alone in place at Erection) ↑	0.000	0.088	0.156	0.208	0.240	0.252	0.240	0.208	0.156	0.088	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.038	-0.074	-0.102	-0.120	-0.127	-0.121	-0.102	-0.074	-0.038	0.000
		Final camber (or deflection) ↑	0"	5/8"	1"	1 1/4"	1 7/16"	1 1/2"	1 7/16"	1 1/4"	1"	5/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.050	0.088	0.117	0.136	0.143	0.136	0.117	0.088	0.050	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 7	Camber (Girder alone in place at Erection) ↑	0.000	0.092	0.163	0.215	0.249	0.261	0.249	0.215	0.163	0.092	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.035	-0.069	-0.095	-0.112	-0.118	-0.112	-0.096	-0.069	-0.035	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 7/16"	1 5/8"	1 11/16"	1 5/8"	1 7/16"	1 1/8"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.052	0.092	0.122	0.141	0.148	0.141	0.122	0.092	0.052	0.000
Girder Group 5		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 1 & 7	Camber (Girder alone in place at Erection) ↑	0.000	0.096	0.171	0.226	0.260	0.273	0.260	0.226	0.171	0.096	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.037	-0.073	-0.101	-0.119	-0.125	-0.119	-0.101	-0.073	-0.037	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 3/16"	1 1/2"	1 11/16"	1 3/4"	1 11/16"	1 1/2"	1 3/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑											
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 2 & 6	Camber (Girder alone in place at Erection) ↑	0.000	0.106	0.189	0.251	0.292	0.307	0.292	0.251	0.189	0.106	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.046	-0.091	-0.126	-0.149	-0.155	-0.149	-0.126	-0.091	-0.046	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 3/16"	1 1/2"	1 3/4"	1 13/16"	1 11/16"	1 1/2"	1 3/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.060	0.107	0.142	0.165	0.174	0.165	0.142	0.107	0.060	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 3 ~ 5	Camber (Girder alone in place at Erection) ↑	0.000	0.102	0.182	0.243	0.283	0.297	0.283	0.243	0.182	0.102	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.046	-0.091	-0.126	-0.149	-0.156	-0.149	-0.126	-0.091	-0.046	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 3/8"	1 5/8"	1 11/16"	1 5/8"	1 3/8"	1 1/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.058	0.103	0.137	0.160	0.168	0.160	0.137	0.103	0.058	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 1 & 7	Camber (Girder alone in place at Erection) ↑	0.000	0.075	0.133	0.177	0.205	0.215	0.205	0.177	0.133	0.075	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.031	-0.061	-0.084	-0.099	-0.104	-0.099	-0.084	-0.061	-0.031	0.000
		Final camber (or deflection) ↑	0"	1/2"	7/8"	1 1/8"	1 1/4"	1 5/16"	1 1/4"	1 1/8"	7/8"	1/2"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.042	0.075	0.100	0.116	0.122	0.116	0.100	0.075	0.042	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
Girder Group 6	Girders 2 & 6	Camber (Girder alone in place at Erection) ↑	0.000	0.092	0.163	0.216	0.250	0.262	0.250	0.216	0.163	0.092	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.039	-0.076	-0.105	-0.123	-0.130	-0.124	-0.105	-0.076	-0.039	0.000
		Final camber (or deflection) ↑	0"	5/8"	1 1/16"	1 5/16"	1 1/2"	1 9/16"	1 1/2"	1 5/16"	1 1/16"	5/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.052	0.092	0.122	0.141	0.148	0.141	0.122	0.092	0.052	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 3 ~ 5	Camber (Girder alone in place at Erection) ↑	0.000	0.089	0.158	0.209	0.242	0.254	0.242	0.209	0.158	0.089	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.039	-0.076	-0.105	-0.123	-0.130	-0.124	-0.105	-0.076	-0.039	0.000
		Final camber (or deflection) ↑	0"	5/8"	1"	1 1/4"	1 7/16"	1 1/2"	1 7/16"	1 1/4"	1"	5/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.050	0.089	0.118	0.137	0.144	0.137	0.118	0.089	0.050	0.000

NOTES

1. * INCLUDES FUTURE WEARING SURFACE. (20 PSF)
2. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT FOR "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

2 REVISED TABLE
1 REVISED TABLE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 2 OF 7 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GIRDER DEFLECTION AND CAMBER SCHEDULE 2
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2212.02
1	SGS	7/07	3			TOTAL SHEETS
2	MTB	3/4/08	4			

DRAWN BY : S.G. STREDNAK DATE : 11/06
CHECKED BY : J.L.TU DATE : 11/06

EarthTech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

DATE: 3/4/2008
TIME: 10:03:37 AM
USER: MTaylor
DGN: RSDesignWater River Bridge\CADD\R2510B_SD_DSN_CAMBERSCHED2.dgn

DEAD LOAD DEFLECTION & CAMBER TABLE FOR GIRDERS

		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
Girder Group 7	Girders 1 & 7	Camber (Girder alone in place at Erection) ↑	0.000	0.108	0.192	0.253	0.292	0.305	0.292	0.253	0.192	0.108	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.079	-0.109	-0.128	-0.135	-0.129	-0.109	-0.079	-0.041	0.000
		Final camber (or deflection) ↑	0"	13/16"	1 3/8"	1 3/4"	1 15/16"	2 1/16"	1 15/16"	1 3/4"	1 3/8"	13/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.061	0.109	0.143	0.165	0.173	0.165	0.143	0.109	0.061	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 2 & 6	Camber (Girder alone in place at Erection) ↑	0.000	0.114	0.203	0.270	0.314	0.329	0.314	0.270	0.203	0.114	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.050	-0.098	-0.136	-0.160	-0.169	-0.161	-0.137	-0.099	-0.051	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 5/8"	1 13/16"	1 15/16"	1 13/16"	1 5/8"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.065	0.115	0.153	0.178	0.186	0.178	0.153	0.115	0.065	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 3 ~ 5	Camber (Girder alone in place at Erection) ↑	0.000	0.111	0.197	0.262	0.305	0.320	0.305	0.262	0.197	0.111	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.050	-0.098	-0.136	-0.160	-0.169	-0.161	-0.137	-0.099	-0.051	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 3/16"	1 1/2"	1 3/4"	1 13/16"	1 3/4"	1 1/2"	1 3/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.063	0.112	0.149	0.173	0.181	0.173	0.149	0.112	0.063	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 1 & 7	Camber (Girder alone in place at Erection) ↑	0.000	0.079	0.140	0.186	0.215	0.226	0.215	0.186	0.140	0.079	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.032	-0.062	-0.086	-0.102	-0.107	-0.102	-0.087	-0.063	-0.032	0.000
		Final camber (or deflection) ↑	0"	9/16"	15/16"	1 3/16"	1 3/8"	1 7/16"	1 3/8"	1 3/16"	15/16"	9/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.045	0.079	0.105	0.122	0.128	0.122	0.105	0.079	0.045	0.000
Girder Group 8		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 2 & 6	Camber (Girder alone in place at Erection) ↑	0.000	0.096	0.170	0.225	0.260	0.273	0.260	0.225	0.170	0.096	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.078	-0.108	-0.127	-0.134	-0.127	-0.108	-0.078	-0.040	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 7/16"	1 5/8"	1 11/16"	1 5/8"	1 7/16"	1 1/8"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.054	0.096	0.127	0.147	0.154	0.147	0.127	0.096	0.054	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 3 ~ 5	Camber (Girder alone in place at Erection) ↑	0.000	0.093	0.165	0.218	0.252	0.264	0.252	0.218	0.165	0.093	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.078	-0.108	-0.127	-0.134	-0.127	-0.108	-0.078	-0.040	0.000
		Final camber (or deflection) ↑	0"	5/8"	1 1/16"	1 5/16"	1 1/2"	1 9/16"	1 1/2"	1 5/16"	1 1/16"	5/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.052	0.093	0.123	0.143	0.150	0.143	0.123	0.093	0.052	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 1	Camber (Girder alone in place at Erection) ↑	0.000	0.100	0.177	0.233	0.269	0.282	0.269	0.233	0.177	0.100	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.037	-0.073	-0.101	-0.119	-0.125	-0.119	-0.102	-0.073	-0.038	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.056	0.100	0.132	0.152	0.160	0.152	0.132	0.100	0.056	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 2	Camber (Girder alone in place at Erection) ↑	0.000	0.091	0.162	0.215	0.249	0.261	0.249	0.215	0.162	0.091	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.038	-0.075	-0.104	-0.123	-0.129	-0.123	-0.104	-0.075	-0.039	0.000
		Final camber (or deflection) ↑	0"	5/8"	1 1/16"	1 5/16"	1 1/2"	1 9/16"	1 1/2"	1 5/16"	1 1/16"	5/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.052	0.092	0.122	0.141	0.147	0.141	0.122	0.092	0.052	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 3	Camber (Girder alone in place at Erection) ↑	0.000	0.064	0.115	0.153	0.178	0.187	0.178	0.153	0.115	0.064	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.029	-0.057	-0.079	-0.094	-0.099	-0.094	-0.080	-0.058	-0.029	0.000
		Final camber (or deflection) ↑	0"	7/16"	11/16"	7/8"	1"	1 1/16"	1"	7/8"	11/16"	7/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.036	0.065	0.087	0.101	0.106	0.101	0.087	0.065	0.036	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 4	Camber (Girder alone in place at Erection) ↑	0.000	0.049	0.088	0.117	0.136	0.143	0.136	0.117	0.088	0.049	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.022	-0.044	-0.061	-0.072	-0.076	-0.072	-0.062	-0.044	-0.023	0.000
		Final camber (or deflection) ↑	0"	5/16"	1/2"	11/16"	3/4"	13/16"	3/4"	11/16"	1/2"	5/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.028	0.050	0.066	0.077	0.081	0.077	0.066	0.050	0.028	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 5	Camber (Girder alone in place at Erection) ↑	0.000	0.038	0.068	0.090	0.105	0.110	0.105	0.090	0.068	0.038	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.017	-0.034	-0.047	-0.055	-0.058	-0.055	-0.047	-0.034	-0.017	0.000
		Final camber (or deflection) ↑	0"	1/4"	7/16"	1/2"	5/8"	5/8"	5/8"	1/2"	7/16"	1/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.022	0.039	0.051	0.059	0.062	0.059	0.051	0.039	0.022	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
⚠1	Girder 6	Camber (Girder alone in place at Erection) ↑	0.000	0.027	0.048	0.064	0.075	0.079	0.075	0.064	0.048	0.027	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.013	-0.026	-0.036	-0.042	-0.044	-0.042	-0.036	-0.026	-0.013	0.000
		Final camber (or deflection) ↑	0"	3/16"	1/4"	5/16"	3/8"	7/16"	3/8"	5/16"	1/4"	3/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.015	0.027	0.036	0.043	0.045	0.043	0.036	0.027	0.015	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
⚠1	Girder 7	Camber (Girder alone in place at Erection) ↑	0.000	0.017	0.030	0.040	0.047	0.049	0.047	0.040	0.030	0.017	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.007	-0.014	-0.020	-0.024	-0.025	-0.024	-0.020	-0.014	-0.007	0.000
		Final camber (or deflection) ↑	0"	1/8"	3/16"	1/4"	1/4"	5/16"	1/4"	1/4"	3/16"	1/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.010	0.017	0.023	0.027	0.028	0.027	0.023	0.017	0.010	0.000

NOTES

1. * INCLUDES FUTURE WEARING SURFACE. (20 PSF)
2. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT FOR "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

RELEASED FOR CONSTRUCTION
TCM SHEARIN, PE — DATE 3/11/08

⚠2 REVISED TABLE
⚠1 REVISED TABLE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 3 OF 7 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GIRDER DEFLECTION AND CAMBER SCHEDULE 3
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET No.
NO.	BY:	DATE:	NO.	BY:	DATE:	2213.02
1	SGS	7/07	3			TOTAL SHEETS
2	MTB	3/4/08	4			

DRAWN BY : S. G. STREDNAK DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

Earth Tech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

DATE: 3/4/2008
TIME: 9:46:59 AM

USER: mtbabb
DGN: R:\Structural\Tar River Bridges\DGN\RE3102_50_DSN_DMRDSCHED3.dgn

DEAD LOAD DEFLECTION & CAMBER TABLE FOR GIRDERS

		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
Girder Group 10	Girders 1 & 7	Camber (Girder alone in place at Erection) ↑	0.000	0.100	0.177	0.234	0.270	0.282	0.270	0.234	0.177	0.100	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.038	-0.074	-0.103	-0.121	-0.127	-0.121	-0.103	-0.074	-0.038	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.056	0.100	0.132	0.153	0.160	0.153	0.132	0.100	0.056	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 2 & 6	Camber (Girder alone in place at Erection) ↑	0.000	0.109	0.194	0.259	0.301	0.316	0.301	0.259	0.194	0.109	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.047	-0.093	-0.129	-0.152	-0.159	-0.152	-0.129	-0.093	-0.048	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 3/16"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 3/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.062	0.110	0.146	0.170	0.179	0.170	0.146	0.110	0.062	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 3 ~ 5	Camber (Girder alone in place at Erection) ↑	0.000	0.106	0.189	0.251	0.292	0.307	0.292	0.251	0.189	0.106	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.047	-0.093	-0.129	-0.152	-0.159	-0.152	-0.129	-0.093	-0.048	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 1/2"	1 11/16"	1 3/4"	1 11/16"	1 7/16"	1 1/8"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.060	0.107	0.142	0.165	0.174	0.165	0.142	0.107	0.060	0.000
Girder Group 11	Girder 1	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.108	0.191	0.252	0.290	0.304	0.290	0.252	0.191	0.108	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.077	-0.107	-0.126	-0.132	-0.126	-0.107	-0.076	-0.040	0.000
		Final camber (or deflection) ↑	0"	13/16"	1 3/8"	1 3/4"	2"	2 1/16"	2"	1 3/4"	1 3/8"	13/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.061	0.108	0.142	0.164	0.172	0.164	0.142	0.108	0.061	0.000
	Girder 2	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.116	0.207	0.275	0.319	0.335	0.319	0.275	0.207	0.116	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.051	-0.099	-0.137	-0.161	-0.170	-0.161	-0.137	-0.099	-0.051	0.000
		Final camber (or deflection) ↑	0"	13/16"	1 5/16"	1 5/8"	1 7/8"	2"	1 7/8"	1 5/8"	1 5/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.065	0.117	0.155	0.180	0.189	0.180	0.155	0.117	0.065	0.000
	Girders 3 ~ 5	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.109	0.195	0.259	0.302	0.317	0.302	0.259	0.195	0.109	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.049	-0.096	-0.132	-0.156	-0.164	-0.156	-0.133	-0.096	-0.049	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 3/16"	1 1/2"	1 3/4"	1 13/16"	1 3/4"	1 1/2"	1 3/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.062	0.110	0.147	0.171	0.179	0.171	0.147	0.110	0.062	0.000
	Girder 6	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.112	0.199	0.265	0.308	0.324	0.308	0.265	0.199	0.112	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.049	-0.096	-0.133	-0.156	-0.164	-0.156	-0.133	-0.096	-0.049	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 15/16"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.063	0.113	0.150	0.174	0.183	0.174	0.150	0.113	0.063	0.000
	Girder 7	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.099	0.176	0.233	0.268	0.281	0.268	0.233	0.176	0.099	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.038	-0.073	-0.102	-0.119	-0.126	-0.120	-0.102	-0.074	-0.038	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.056	0.100	0.132	0.152	0.159	0.152	0.132	0.100	0.056	0.000
Girder Group 12	Girder 1	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.108	0.191	0.252	0.290	0.304	0.290	0.252	0.191	0.108	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.077	-0.107	-0.126	-0.133	-0.126	-0.107	-0.076	-0.040	0.000
		Final camber (or deflection) ↑	0"	13/16"	1 3/8"	1 3/4"	1 15/16"	2 1/16"	1 15/16"	1 3/4"	1 3/8"	13/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.061	0.108	0.142	0.164	0.172	0.164	0.142	0.108	0.061	0.000
	Girder 2	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.116	0.207	0.275	0.319	0.335	0.319	0.275	0.207	0.116	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.051	-0.100	-0.138	-0.163	-0.171	-0.163	-0.138	-0.100	-0.051	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 5/8"	1 7/8"	1 15/16"	1 7/8"	1 5/8"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.065	0.117	0.155	0.180	0.189	0.180	0.155	0.117	0.065	0.000
	Girders 3 ~ 5	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.113	0.201	0.267	0.310	0.326	0.310	0.267	0.201	0.113	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.050	-0.098	-0.135	-0.159	-0.167	-0.159	-0.136	-0.098	-0.050	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.064	0.113	0.151	0.175	0.184	0.175	0.151	0.113	0.064	0.000
	Girder 6	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.112	0.199	0.265	0.308	0.324	0.308	0.265	0.199	0.112	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.050	-0.097	-0.134	-0.157	-0.165	-0.158	-0.134	-0.097	-0.050	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.063	0.113	0.150	0.174	0.183	0.174	0.150	0.113	0.063	0.000
	Girder 7	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.099	0.176	0.233	0.269	0.281	0.269	0.233	0.176	0.099	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.038	-0.074	-0.102	-0.120	-0.126	-0.120	-0.102	-0.074	-0.038	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 3/4"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.056	0.100	0.132	0.152	0.159	0.152	0.132	0.100	0.056	0.000

NOTES

1. * INCLUDES FUTURE WEARING SURFACE. (20 PSF)
2. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT FOR "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/16/09

1 REVISED TABLE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 4 OF 7 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GIRDER DEFLECTION AND CAMBER SCHEDULE 4
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	3/4/09	3		
2			4		

SHEET NO. 2214.01
TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030787 JOHN W. JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

DATE: 1/4/2008
FILE: M1600.dgn

USER: rbaskin
DGN: N:\ENGINEERING\BRIDGES\SOLIDS\GIRDERSCHED4.dgn

DEAD LOAD DEFLECTION & CAMBER TABLE FOR GIRDERS

Girder Group		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
13	Girder 1	Camber (Girder alone in place at Erection) ↑	0.000	0.100	0.178	0.235	0.271	0.284	0.271	0.235	0.178	0.100	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.038	-0.074	-0.102	-0.120	-0.126	-0.120	-0.102	-0.074	-0.038	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 5/8"	1 13/16"	1 7/8"	1 13/16"	1 5/8"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.057	0.101	0.133	0.154	0.161	0.154	0.133	0.101	0.057	0.000
	Girder 2	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.111	0.197	0.260	0.299	0.313	0.299	0.260	0.197	0.111	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.047	-0.092	-0.127	-0.150	-0.157	-0.150	-0.128	-0.092	-0.047	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.068	0.111	0.147	0.169	0.177	0.169	0.147	0.111	0.068	0.000
	Girders 3 & 4	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.111	0.196	0.259	0.299	0.313	0.299	0.259	0.196	0.111	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.047	-0.091	-0.126	-0.148	-0.155	-0.148	-0.126	-0.091	-0.047	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 5/8"	1 13/16"	1 7/8"	1 13/16"	1 5/8"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.063	0.111	0.147	0.169	0.177	0.169	0.147	0.111	0.063	0.000
	Girders 5 & 6	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.107	0.189	0.250	0.288	0.302	0.288	0.250	0.189	0.107	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.046	-0.089	-0.124	-0.146	-0.153	-0.146	-0.124	-0.090	-0.046	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 3/16"	1 1/2"	1 11/16"	1 13/16"	1 11/16"	1 1/2"	1 3/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.060	0.107	0.142	0.163	0.171	0.163	0.142	0.107	0.060	0.000
	Girder 7	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.107	0.189	0.250	0.288	0.301	0.288	0.250	0.189	0.107	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.045	-0.089	-0.123	-0.144	-0.152	-0.145	-0.123	-0.089	-0.046	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 3/16"	1 1/2"	1 11/16"	1 13/16"	1 11/16"	1 1/2"	1 3/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.060	0.107	0.141	0.163	0.170	0.163	0.141	0.107	0.060	0.000
	Girder 8	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.092	0.164	0.217	0.250	0.262	0.250	0.217	0.164	0.092	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.036	-0.070	-0.097	-0.114	-0.120	-0.114	-0.097	-0.070	-0.036	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 7/16"	1 5/8"	1 11/16"	1 5/8"	1 7/16"	1 1/8"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.052	0.093	0.123	0.142	0.149	0.142	0.123	0.093	0.052	0.000
Girder Group 14	Girder 1	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.104	0.185	0.244	0.281	0.294	0.281	0.244	0.185	0.104	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.039	-0.077	-0.106	-0.125	-0.132	-0.125	-0.107	-0.077	-0.039	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 5/16"	1 5/8"	1 7/8"	1 15/16"	1 7/8"	1 5/8"	1 5/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.059	0.105	0.138	0.159	0.167	0.159	0.138	0.105	0.059	0.000
	Girders 2 & 3	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.110	0.196	0.261	0.303	0.318	0.303	0.261	0.196	0.110	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.050	-0.098	-0.135	-0.159	-0.167	-0.159	-0.136	-0.098	-0.050	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 3/16"	1 1/2"	1 3/4"	1 13/16"	1 3/4"	1 1/2"	1 3/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.062	0.111	0.147	0.171	0.180	0.171	0.147	0.111	0.062	0.000
	Girder 4	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.100	0.177	0.234	0.270	0.283	0.270	0.234	0.177	0.100	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.038	-0.075	-0.104	-0.122	-0.129	-0.122	-0.104	-0.075	-0.039	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 3/4"	1 7/8"	1 3/4"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.057	0.100	0.133	0.153	0.160	0.153	0.133	0.100	0.057	0.000
Girder Group 15	Girder 1	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.108	0.191	0.252	0.291	0.304	0.291	0.252	0.191	0.108	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.078	-0.109	-0.128	-0.134	-0.128	-0.109	-0.079	-0.040	0.000
		Final camber (or deflection) ↑	0"	13/16"	1 3/8"	1 3/4"	1 15/16"	2 1/16"	1 15/16"	1 3/4"	1 3/8"	13/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.061	0.108	0.143	0.165	0.172	0.165	0.143	0.108	0.061	0.000
	Girders 2 & 3	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.116	0.207	0.276	0.320	0.336	0.320	0.276	0.207	0.116	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.052	-0.101	-0.140	-0.164	-0.173	-0.164	-0.140	-0.101	-0.052	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 5/8"	1 7/8"	1 15/16"	1 7/8"	1 5/8"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.066	0.117	0.156	0.181	0.190	0.181	0.156	0.117	0.066	0.000
	Girder 4	Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
		Camber (Girder alone in place at Erection) ↑	0.000	0.104	0.184	0.243	0.280	0.293	0.280	0.243	0.184	0.104	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.039	-0.077	-0.106	-0.125	-0.131	-0.125	-0.106	-0.077	-0.039	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 5/16"	1 5/8"	1 7/8"	1 15/16"	1 7/8"	1 5/8"	1 5/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.059	0.104	0.138	0.158	0.166	0.158	0.138	0.104	0.059	0.000

NOTES

1. * INCLUDES FUTURE WEARING SURFACE. (20 PSF)
2. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT FOR "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/1/08

⚠ REVISED TABLE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 7 — BRIDGE NO. ~~353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GIRDER DEFLECTION AND CAMBER SCHEDULE 5
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	3/4/08	3		
2			4		

SHEET NO. 2215.01
TOTAL SHEETS

Earth Tech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

DRAWN BY : S. C. STREDNAK DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

DATE: 3/4/2008
FILE: 10442 P4

User: mtabata
Dgn: Architecture\or Rnw Bridge\ADD-Intros_to_new_users\SCHED5.dgn

DEAD LOAD DEFLECTION & CAMBER TABLE FOR GIRDERS

		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
Girder Group 16	Girder 1	Camber (Girder alone in place at Erection) ↑	0.000	0.104	0.185	0.244	0.281	0.295	0.281	0.241	0.185	0.104	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.078	-0.108	-0.128	-0.134	-0.128	-0.109	-0.079	-0.040	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 5/16"	1 5/8"	1 7/8"	1 15/16"	1 7/8"	1 5/8"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.059	0.105	0.138	0.160	0.167	0.160	0.138	0.105	0.059	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 2	Camber (Girder alone in place at Erection) ↑	0.000	0.117	0.208	0.276	0.321	0.337	0.321	0.276	0.208	0.117	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.051	-0.100	-0.138	-0.163	-0.171	-0.163	-0.139	-0.100	-0.052	0.000
		Final camber (or deflection) ↑	0"	13/16"	1 5/16"	1 5/8"	1 7/8"	2"	1 7/8"	1 5/8"	1 5/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.066	0.117	0.156	0.181	0.190	0.181	0.156	0.117	0.066	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 3	Camber (Girder alone in place at Erection) ↑	0.000	0.103	0.184	0.245	0.285	0.299	0.285	0.245	0.184	0.103	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.047	-0.092	-0.128	-0.150	-0.158	-0.151	-0.128	-0.093	-0.048	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 3/8"	1 5/8"	1 11/16"	1 5/8"	1 3/8"	1 1/16"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.058	0.104	0.139	0.161	0.170	0.161	0.139	0.104	0.058	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 4	Camber (Girder alone in place at Erection) ↑	0.000	0.113	0.201	0.268	0.311	0.327	0.311	0.268	0.201	0.113	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.050	-0.098	-0.136	-0.160	-0.168	-0.160	-0.136	-0.099	-0.051	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 13/16"	1 7/8"	1 13/16"	1 9/16"	1 1/4"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.064	0.114	0.151	0.176	0.185	0.176	0.151	0.114	0.064	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 5	Camber (Girder alone in place at Erection) ↑	0.000	0.100	0.177	0.234	0.270	0.283	0.270	0.234	0.177	0.100	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.039	-0.076	-0.105	-0.123	-0.130	-0.123	-0.105	-0.076	-0.039	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 1/4"	1 9/16"	1 3/4"	1 13/16"	1 3/4"	1 9/16"	1 3/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.057	0.100	0.133	0.153	0.160	0.153	0.133	0.100	0.057	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 1	Camber (Girder alone in place at Erection) ↑	0.000	0.056	0.099	0.128	0.148	0.156	0.148	0.128	0.099	0.056	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.022	-0.044	-0.061	-0.072	-0.075	-0.072	-0.061	-0.044	-0.023	0.000
		Final camber (or deflection) ↑	0"	7/16"	11/16"	13/16"	15/16"	15/16"	15/16"	13/16"	5/8"	3/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.032	0.056	0.073	0.084	0.088	0.084	0.073	0.056	0.032	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 2	Camber (Girder alone in place at Erection) ↑	0.000	0.069	0.121	0.157	0.182	0.190	0.182	0.157	0.121	0.069	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.029	-0.056	-0.078	-0.091	-0.096	-0.092	-0.078	-0.056	-0.029	0.000
		Final camber (or deflection) ↑	0"	1/2"	3/4"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	3/4"	1/2"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.039	0.068	0.089	0.103	0.108	0.103	0.089	0.068	0.039	0.000
Girder Group 17		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 3	Camber (Girder alone in place at Erection) ↑	0.000	0.063	0.110	0.143	0.165	0.173	0.165	0.143	0.110	0.063	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.026	-0.052	-0.072	-0.085	-0.089	-0.085	-0.072	-0.052	-0.027	0.000
		Final camber (or deflection) ↑	0"	7/16"	11/16"	7/8"	15/16"	1"	15/16"	7/8"	11/16"	7/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.036	0.062	0.081	0.094	0.098	0.094	0.081	0.062	0.036	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 4	Camber (Girder alone in place at Erection) ↑	0.000	0.069	0.120	0.157	0.181	0.190	0.181	0.157	0.120	0.069	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.028	-0.055	-0.076	-0.090	-0.095	-0.090	-0.077	-0.055	-0.028	0.000
		Final camber (or deflection) ↑	0"	1/2"	13/16"	15/16"	1 1/16"	1 1/8"	1 1/16"	15/16"	13/16"	1/2"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.039	0.068	0.089	0.102	0.107	0.102	0.089	0.068	0.039	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 5	Camber (Girder alone in place at Erection) ↑	0.000	0.056	0.098	0.128	0.148	0.155	0.148	0.128	0.098	0.056	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.022	-0.042	-0.059	-0.069	-0.073	-0.069	-0.059	-0.043	-0.022	0.000
		Final camber (or deflection) ↑	0"	7/16"	11/16"	13/16"	15/16"	1"	15/16"	13/16"	11/16"	7/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.032	0.056	0.072	0.084	0.088	0.084	0.072	0.056	0.032	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 1	Camber (Girder alone in place at Erection) ↑	0.000	0.093	0.164	0.217	0.251	0.263	0.251	0.217	0.164	0.093	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.037	-0.072	-0.099	-0.117	-0.123	-0.117	-0.100	-0.072	-0.037	0.000
		Final camber (or deflection) ↑	0"	11/16"	1 1/8"	1 7/16"	1 5/8"	1 11/16"	1 5/8"	1 7/16"	1 1/8"	11/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.053	0.093	0.123	0.142	0.149	0.142	0.123	0.093	0.053	0.000
Girder Group 18		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girders 2 & 3	Camber (Girder alone in place at Erection) ↑	0.000	0.107	0.189	0.250	0.288	0.302	0.288	0.250	0.189	0.107	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.046	-0.090	-0.124	-0.146	-0.154	-0.146	-0.124	-0.090	-0.048	0.000
		Final camber (or deflection) ↑	0"	3/4"	1 3/16"	1 1/2"	1 11/16"	1 3/4"	1 11/16"	1 1/2"	1 3/16"	3/4"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.060	0.107	0.141	0.163	0.171	0.163	0.141	0.107	0.060	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 4	Camber (Girder alone in place at Erection) ↑	0.000	0.089	0.157	0.208	0.240	0.251	0.240	0.208	0.157	0.089	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.036	-0.070	-0.097	-0.114	-0.120	-0.114	-0.097	-0.070	-0.036	0.000
		Final camber (or deflection) ↑	0"	5/8"	1 1/16"	1 5/16"	1 1/2"	1 9/16"	1 1/2"	1 5/16"	1 1/16"	5/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.050	0.089	0.118	0.136	0.143	0.136	0.118	0.089	0.050	0.000

NOTES

1. * INCLUDES FUTURE WEARING SURFACE. (20 PSF)
2. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM). EXCEPT FOR "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

⚠1 REVISED TABLE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 6 OF 7 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GIRDER DEFLECTION AND CAMBER SCHEDULE 6
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2216.01
1	HTB	3/4/09	3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038678 THOMAS JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

DATE: 3/4/2009
FILE: W453.dgn

USER: mhobbs
DGN: H:\Projects\W-Tar River Bridge\CADD\W453_SD_DSK_LOWDESIGN.dgn

DEAD LOAD DEFLECTION & CAMBER TABLE FOR GIRDERS

Girder Group		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
19	Girder 1	Camber (Girder alone in place at Erection) ↑	0.000	0.081	0.144	0.190	0.220	0.231	0.220	0.190	0.144	0.081	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.034	-0.066	-0.092	-0.108	-0.114	-0.108	-0.092	-0.067	-0.034	0.000
		Final camber (or deflection) ↑	0"	9/16"	15/16"	1 3/16"	1 5/16"	1 3/8"	1 5/16"	1 3/16"	15/16"	9/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.046	0.082	0.108	0.125	0.131	0.125	0.108	0.082	0.046	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 2	Camber (Girder alone in place at Erection) ↑	0.000	0.085	0.150	0.199	0.230	0.241	0.230	0.199	0.150	0.085	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.041	-0.080	-0.110	-0.130	-0.136	-0.130	-0.110	-0.080	-0.041	0.000
		Final camber (or deflection) ↑	0"	1/2"	7/8"	1 1/16"	1 3/16"	1 1/4"	1 3/16"	1 1/16"	7/8"	1/2"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.048	0.085	0.113	0.131	0.137	0.131	0.113	0.085	0.048	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 3	Camber (Girder alone in place at Erection) ↑	0.000	0.073	0.130	0.172	0.199	0.209	0.199	0.172	0.130	0.073	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.037	-0.072	-0.100	-0.118	-0.124	-0.118	-0.100	-0.073	-0.037	0.000
		Final camber (or deflection) ↑	0"	7/16"	11/16"	7/8"	1"	1"	1"	7/8"	11/16"	7/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.042	0.074	0.098	0.113	0.119	0.113	0.098	0.074	0.042	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 4	Camber (Girder alone in place at Erection) ↑	0.000	0.085	0.150	0.199	0.229	0.241	0.229	0.199	0.150	0.085	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.040	-0.079	-0.109	-0.128	-0.135	-0.128	-0.109	-0.079	-0.040	0.000
		Final camber (or deflection) ↑	0"	9/16"	7/8"	1 1/16"	1 3/16"	1 1/4"	1 3/16"	1 1/16"	7/8"	1/2"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.048	0.085	0.113	0.130	0.137	0.130	0.113	0.085	0.048	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 5	Camber (Girder alone in place at Erection) ↑	0.000	0.077	0.137	0.181	0.209	0.219	0.209	0.181	0.137	0.077	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.033	-0.065	-0.090	-0.106	-0.112	-0.106	-0.090	-0.065	-0.034	0.000
		Final camber (or deflection) ↑	0"	1/2"	7/8"	1 1/16"	1 1/4"	1 5/16"	1 1/4"	1 1/16"	7/8"	1/2"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.044	0.078	0.103	0.119	0.125	0.119	0.103	0.078	0.044	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 1	Camber (Girder alone in place at Erection) ↑	0.000	0.049	0.087	0.113	0.131	0.137	0.131	0.113	0.087	0.049	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.020	-0.040	-0.055	-0.065	-0.069	-0.065	-0.056	-0.040	-0.020	0.000
		Final camber (or deflection) ↑	0"	3/8"	9/16"	11/16"	13/16"	13/16"	13/16"	11/16"	9/16"	5/16"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.028	0.050	0.064	0.074	0.078	0.074	0.064	0.050	0.028	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 2	Camber (Girder alone in place at Erection) ↑	0.000	0.059	0.103	0.134	0.155	0.163	0.155	0.134	0.103	0.059	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.025	-0.050	-0.069	-0.082	-0.086	-0.082	-0.069	-0.050	-0.026	0.000
		Final camber (or deflection) ↑	0"	3/8"	5/8"	3/4"	7/8"	15/16"	7/8"	3/4"	5/8"	3/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.033	0.058	0.076	0.088	0.092	0.088	0.076	0.058	0.033	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
Girder Group 20	Girder 3	Camber (Girder alone in place at Erection) ↑	0.000	0.052	0.092	0.120	0.138	0.145	0.138	0.120	0.092	0.052	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.023	-0.046	-0.064	-0.075	-0.079	-0.075	-0.064	-0.046	-0.024	0.000
		Final camber (or deflection) ↑	0"	3/8"	9/16"	11/16"	3/4"	13/16"	3/4"	11/16"	9/16"	3/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.030	0.052	0.068	0.079	0.083	0.079	0.068	0.052	0.030	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 4	Camber (Girder alone in place at Erection) ↑	0.000	0.059	0.103	0.134	0.155	0.163	0.155	0.134	0.103	0.059	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.025	-0.049	-0.069	-0.081	-0.085	-0.081	-0.069	-0.050	-0.025	0.000
		Final camber (or deflection) ↑	0"	7/16"	5/8"	13/16"	7/8"	15/16"	7/8"	13/16"	5/8"	3/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.033	0.058	0.076	0.088	0.092	0.088	0.076	0.058	0.033	0.000
		Tenth points	BRG.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	BRG.
	Girder 5	Camber (Girder alone in place at Erection) ↑	0.000	0.049	0.086	0.112	0.130	0.136	0.130	0.112	0.086	0.049	0.000
		* Deflection Due to superimposed dead load ↓	0.000	-0.020	-0.039	-0.054	-0.064	-0.067	-0.064	-0.054	-0.039	-0.020	0.000
		Final camber (or deflection) ↑	0"	3/8"	9/16"	11/16"	13/16"	13/16"	13/16"	11/16"	9/16"	3/8"	0"
		Camber (Girder alone in place at Release) ↑	0.000	0.028	0.049	0.064	0.074	0.077	0.074	0.064	0.049	0.028	0.000

⚠2 ⚠1 ⚠1 ⚠1 ⚠1 ⚠1 ⚠2

NOTES

1. * INCLUDES FUTURE WEARING SURFACE. (20 PSF)
2. ALL VALUES ARE SHOWN IN FEET (DECIMAL FORM), EXCEPT FOR "FINAL CAMBER", WHICH IS GIVEN IN INCHES (FRACTION FORM).

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE: 3/4/08

⚠2 REVISED TABLE.
⚠1 REVISION TO CAMBER.

DATE: 3/4/2008
TIME: 11:35:43 AM
USER: mbailey
DGN: N:\Structure\Tar River Bridge\CADD\2217a2_SD_DSN_CAMBERSHEET.dgn

DRAWN BY : S. C. STREDNAK DATE : 11/06
CHECKED BY : J. LIU DATE : 11/06

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 7 — BRIDGE NO. 363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
GIRDER DEFLECTION AND CAMBER SCHEDULE 7
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	6/20/07	3		
2	MTB	3/4/08	4		

SHEET NO. 2217.02
TOTAL SHEETS

EarthTech
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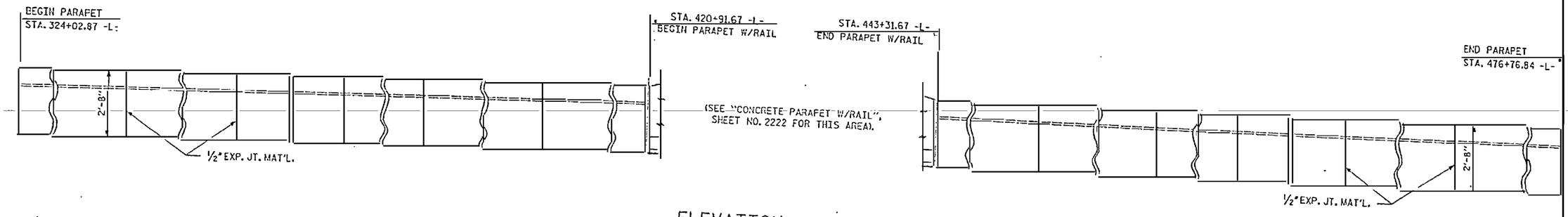
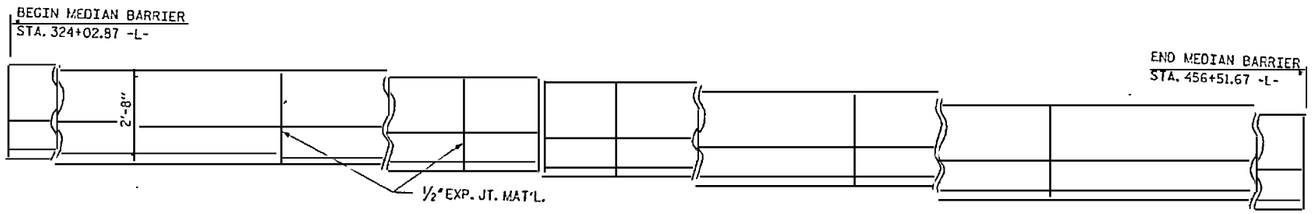
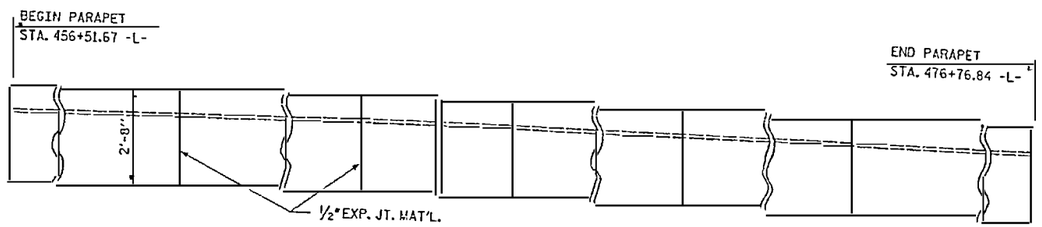
FLATIRON/UNITED
A JOINT VENTURE



ELEVATION - PARAPET



ELEVATION - MEDIAN BARRIER



ELEVATION - PARAPET
(INSIDE FACE SHOWN ALONG SOUTHBOUND LANE)
(INSIDE FACE ALONG NORTHBOUND LANE - SIMILAR)

NOTES:

1. FOR ADDITIONAL SECTIONS AND DETAILS, SEE "CONCRETE MEDIAN BARRIER DETAILS", SHEET NO. 2228 AND "CONCRETE PARAPET DETAILS", SHEET NO. 2248.
1. GROOVED CONTRACTION JOINTS ½" IN DEPTH SHALL BE TOOLED IN ALL EXPOSED FACES OF PARAPET IN ACCORDANCE WITH ARTICLE 825-10(b) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FEET TO 10 FEET BETWEEN EXPANSION JOINTS. NO CONTRACTION JOINTS WILL BE REQUIRED FOR SEGMENTS LESS THAN 10 FEET IN LENGTH.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

1 ADDED NOTE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET AND
CONCRETE MEDIAN BARRIER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SCS	7/07	3		
2			4		

SHEET NO. 2221.01
TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

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DATE: 7/30/2007
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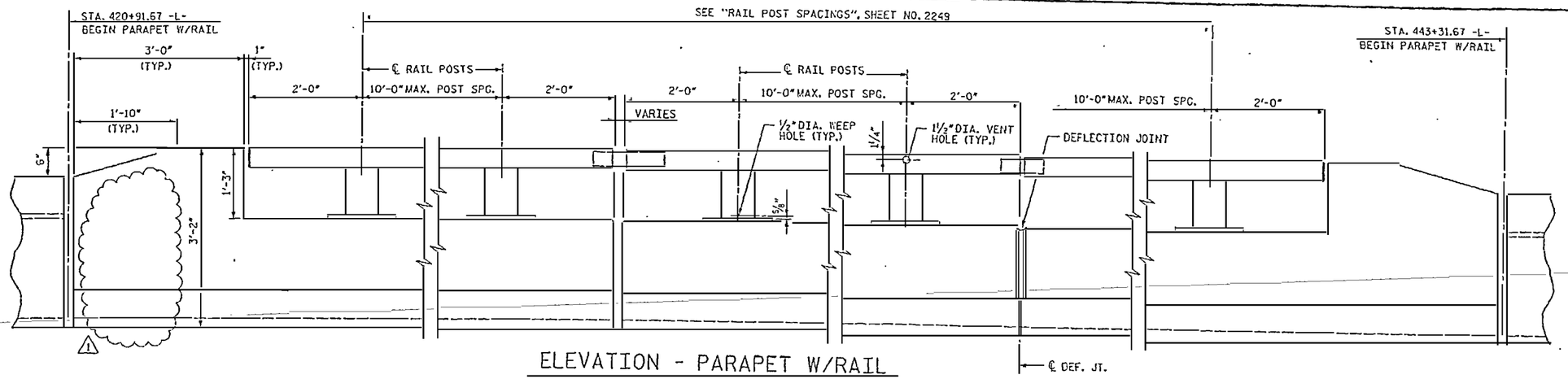
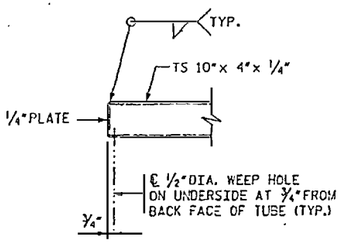
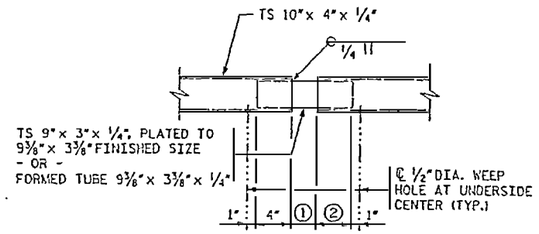


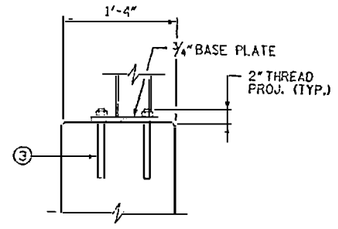
ELEVATION - PARAPET W/RAIL



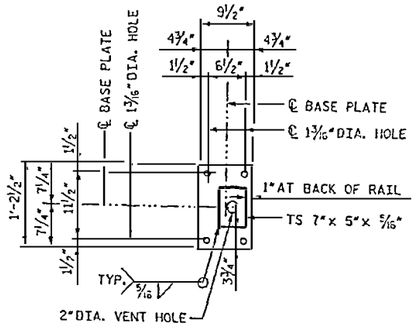
RAIL END DETAIL



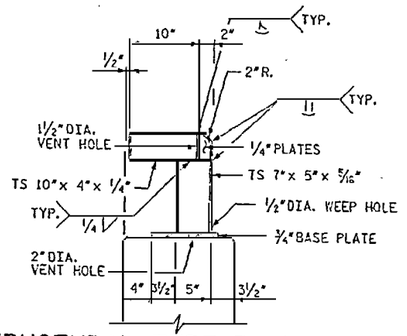
RAIL SLEEVE DETAIL



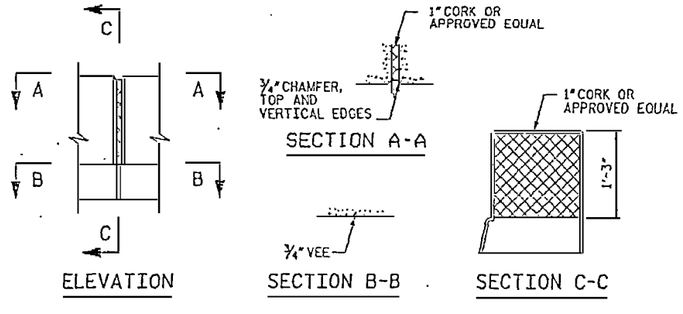
ANCHOR DETAIL



BASE PLATE



STRUCTURAL TUBE RAIL DETAIL



DEFLECTION JOINT DETAILS

① 1" AT DEFLECTION JOINTS AND VARIES AT EXPANSION JOINTS. (SHALL BE 1" LARGER THAN GAP IN BRIDGE EXPANSION JOINT.)

② 4" AT DEFLECTION JOINTS AND 8" AT EXPANSION JOINTS.

1 ③ ⅞" DIA. ADHESIVE ANCHOR BOLTS, WITH HEX NUTS AND WASHERS. MINIMUM ULTIMATE BOND STRENGTH SHALL BE 46,600 POUNDS, WITH A MINIMUM 9" EMBEDMENT LENGTH.

NOTES:

1. FOR ADDITIONAL SECTIONS AND DETAILS, SEE "CONCRETE PARAPET DETAILS", SHEET NO. 2248.

1 2. GROOVED CONTRACTION JOINTS ½" IN DEPTH SHALL BE TOOLED IN ALL EXPOSED FACES OF PARAPET IN ACCORDANCE WITH ARTICLE 825-10(b) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FEET TO 10 FEET BETWEEN EXPANSION JOINTS. NO CONTRACTION JOINTS WILL BE REQUIRED FOR SEGMENTS LESS THAN 10 FEET IN LENGTH.

3. MAXIMUM SPACING OF CONCRETE DEFLECTION JOINTS SHALL BE 20 FEET. SEE SUPERSTRUCTURE CONCRETE PARAPET SHEET FOR JOINT SPACING.

4. ANCHORAGES SHALL BE ACCURATELY PLACED AND SUPPORTED TO PROVIDE CORRECT ALIGNMENT OF RAILING NORMAL TO GRADE. SHIMS SHALL BE USED AS NECESSARY FOR POST ALIGNMENT.

5. STRUCTURAL STEEL SHALL BE ASTM A709, GRADE 50W. STRUCTURAL TUBES ARE ASTM A500, GRADE B.

6. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED EITHER BY THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153, OR BY THE MECHANICAL PROCESS IN ACCORDANCE WITH ASTM B695, CLASS 50, TYPE I. ALL OTHER STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.

NORTH CAROLINA PROFESSIONAL SEAL 030871 ENGINEER THOMAS JORDAN SHEARIN

RELEASED FOR CONSTRUCTION
Tom Shearin 7/26/07
TOM SHEARIN, PE DATE

1 REVISED NOTES, REMOVED GUARDRAIL CONNECTION DETAILS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET W/RAIL

EarthTech
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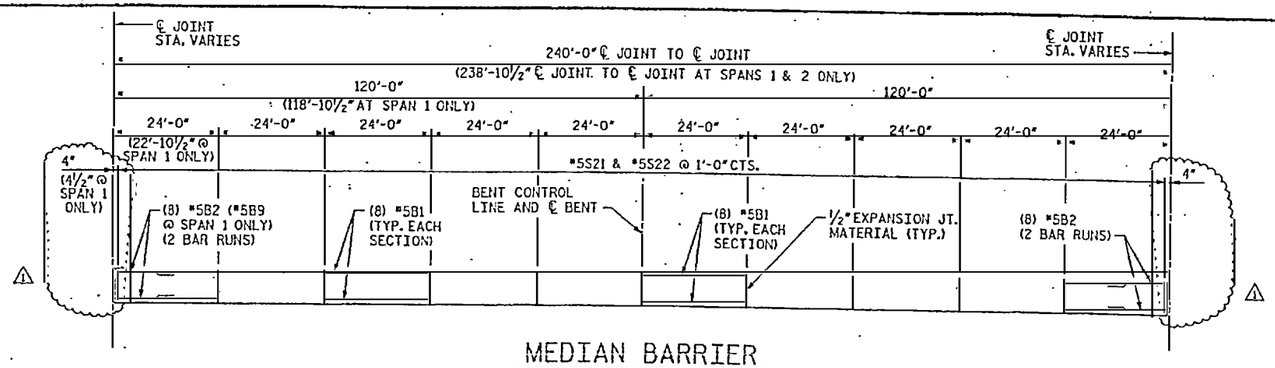
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2222.01
1	SGS	7/07	3			TOTAL SHEETS
2			4			

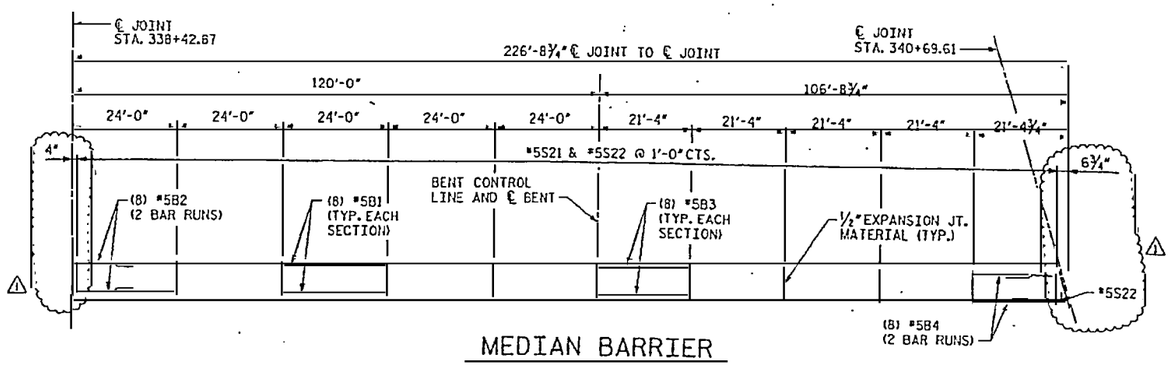
DRAWN BY : W.T. BELTSLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE: 7/25/2007
TIME: 2:52:58 PM
USER: swhitaker
FILE: N:\Projects\0012500_SD_DSN_STRUCTURE\



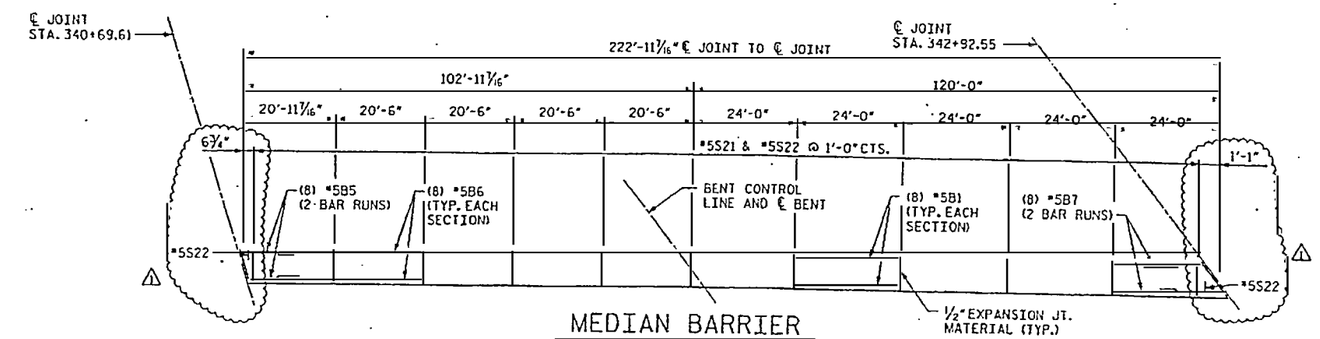
MEDIAN BARRIER

(TYPICAL AT SPANS 1 THRU 12)



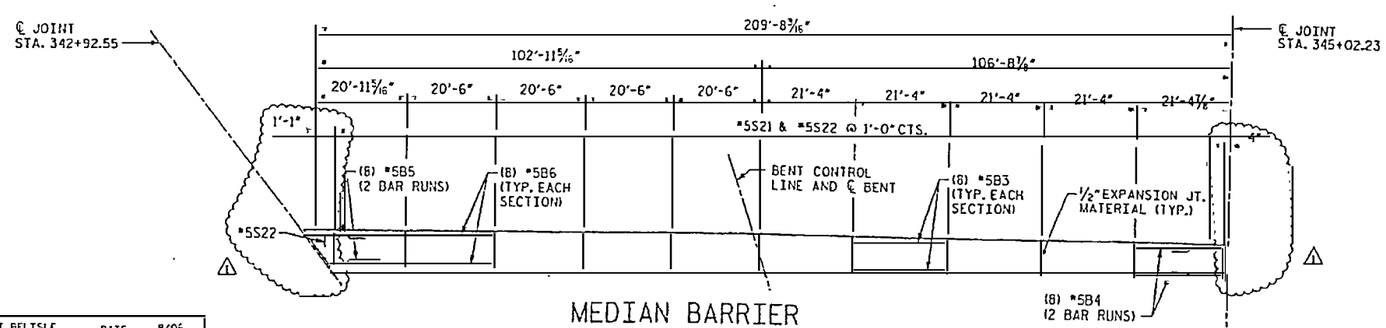
MEDIAN BARRIER

(AT SPANS 13 & 14)



MEDIAN BARRIER

(AT SPANS 15 & 16)



MEDIAN BARRIER

(AT SPANS 17 & 18)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG ℄ BARRIER, ℄ SURVEY -L- AND P.G.L.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/4/09 DATE

1 GENERAL REVISIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 6 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE MEDIAN BARRIER

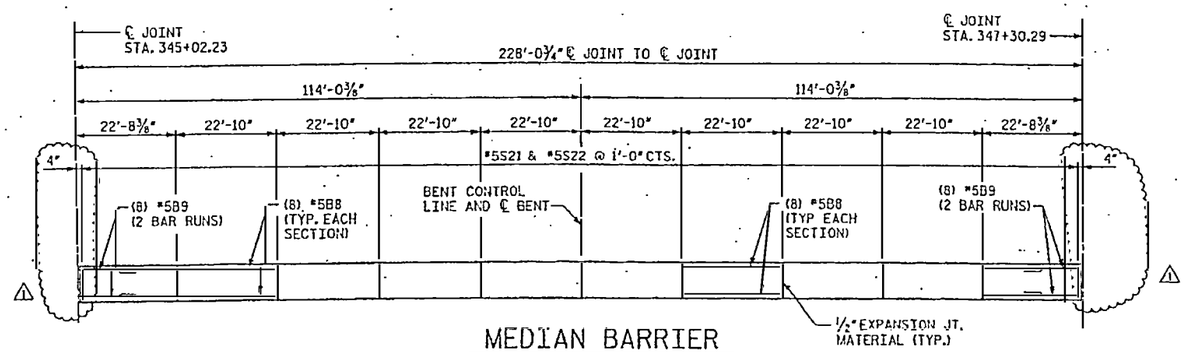
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	12/03/08	3		
2			4		

SHEET NO. 2223.01
TOTAL SHEETS

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

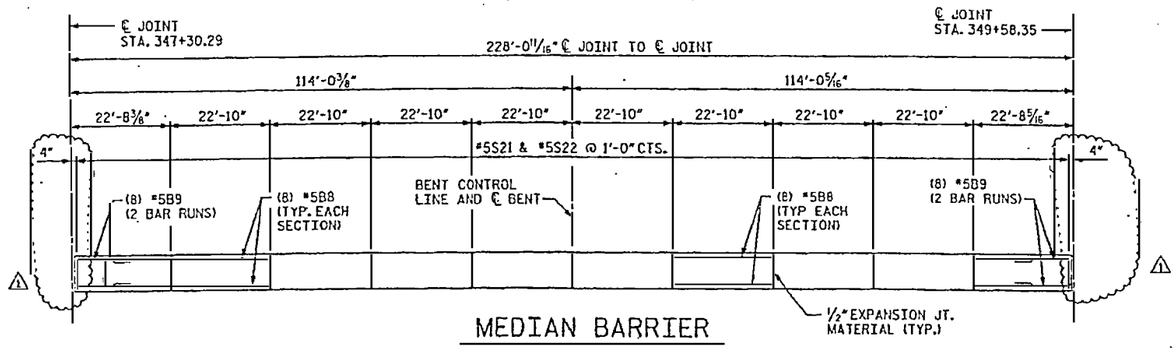
DRAWN BY : M.T. AFLISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DGN: ROT_ENGLISH
USER: mtaflisle
PLOT SCALE = 1.0000 '/ IN
PLOT: 12/3/2008 2:47:53 PM



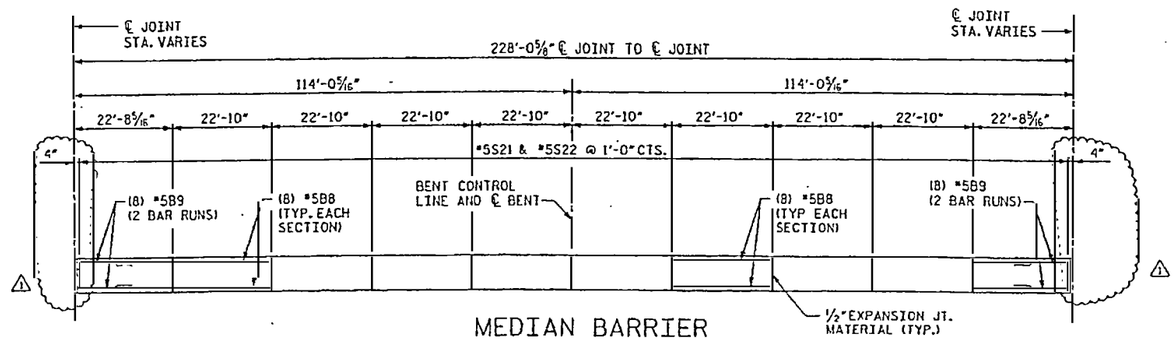
MEDIAN BARRIER

(AT SPANS 19 & 20)



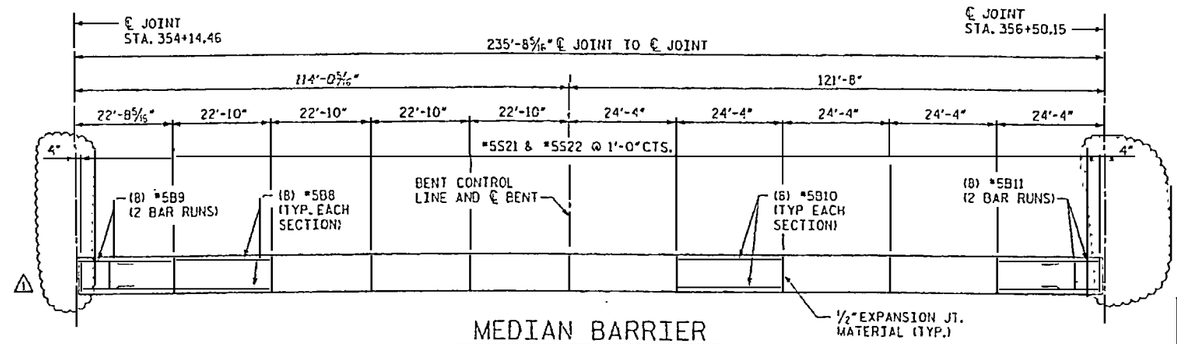
MEDIAN BARRIER

(AT SPANS 21 & 22)



MEDIAN BARRIER

(TYPICAL AT SPANS 23 THRU 26)



MEDIAN BARRIER

(AT SPANS 27 & 28)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG ℄ BARRIER, ℄ SURVEY -L- AND P.G.L.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/26/08

⚠ GENERAL REVISIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 6 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

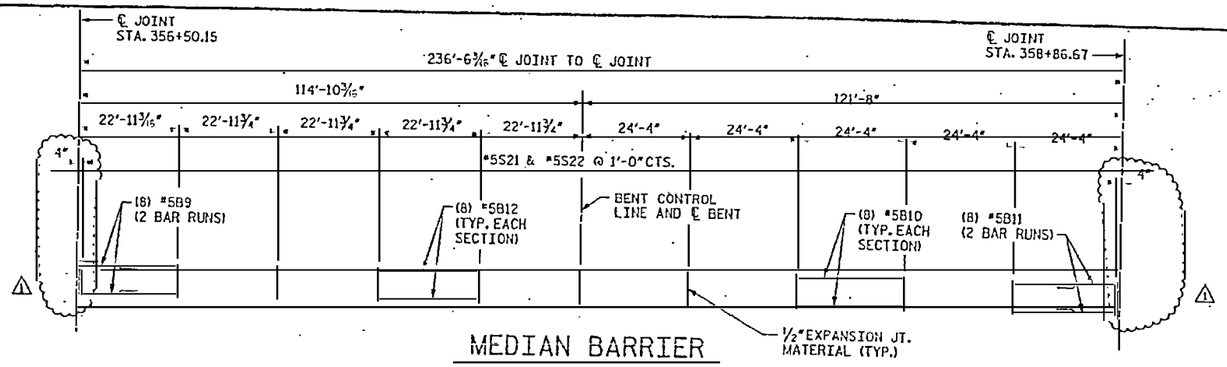
SUPERSTRUCTURE
CONCRETE MEDIAN BARRIER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2224.01
1	SCS	12/03/08	3			TOTAL SHEETS
2			4			

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

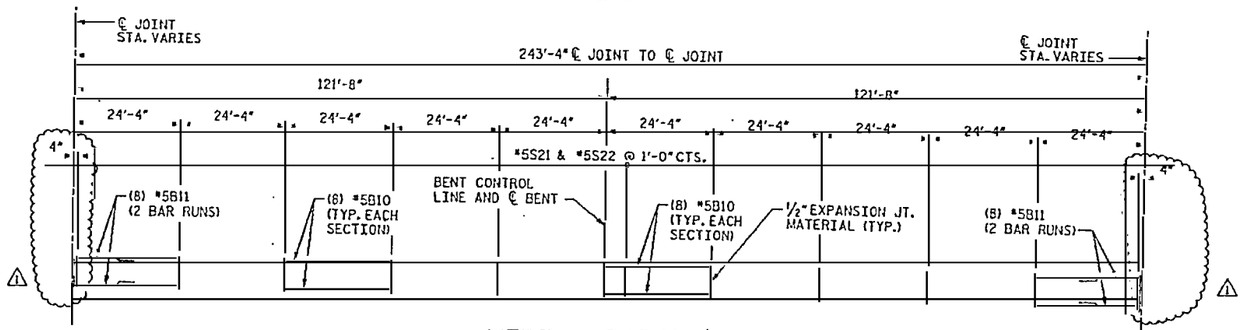
DRAWN BY : M.T. BELISLE DATE : 9/09

PLOT DATE: 12/3/2008
FILE NAME: C:\projects\2224.01\Structures\Bridge\Sheets\2224_01_SUP_MEDIAN_BARRIER.dgn



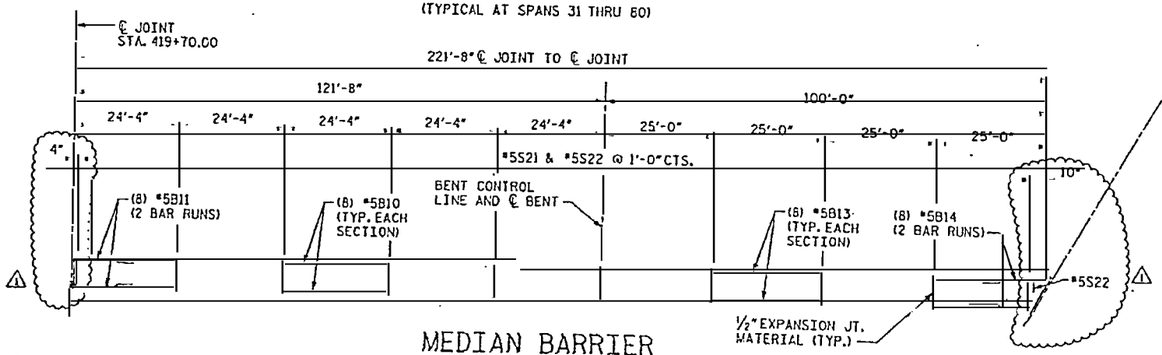
MEDIAN BARRIER

(AT SPANS 29 & 30)



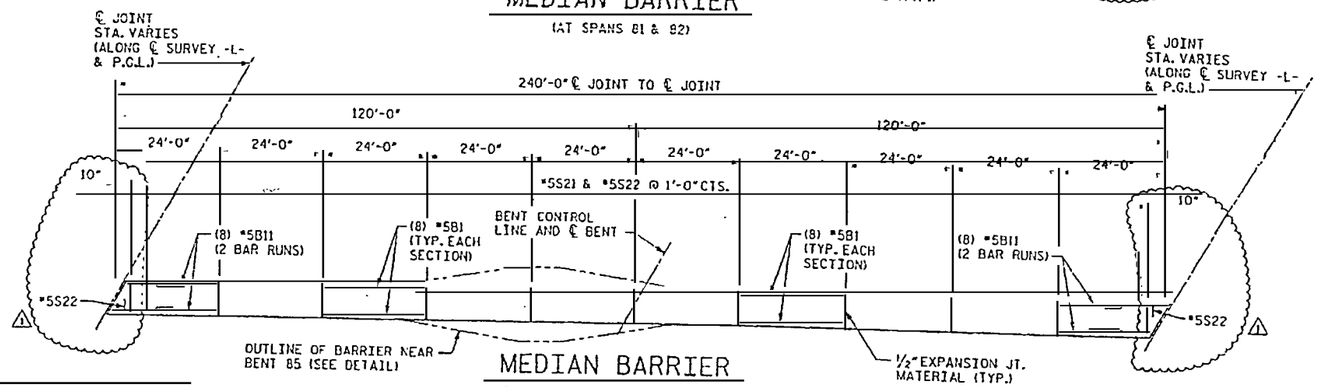
MEDIAN BARRIER

(TYPICAL AT SPANS 31 THRU 80)



MEDIAN BARRIER

(AT SPANS 81 & 82)

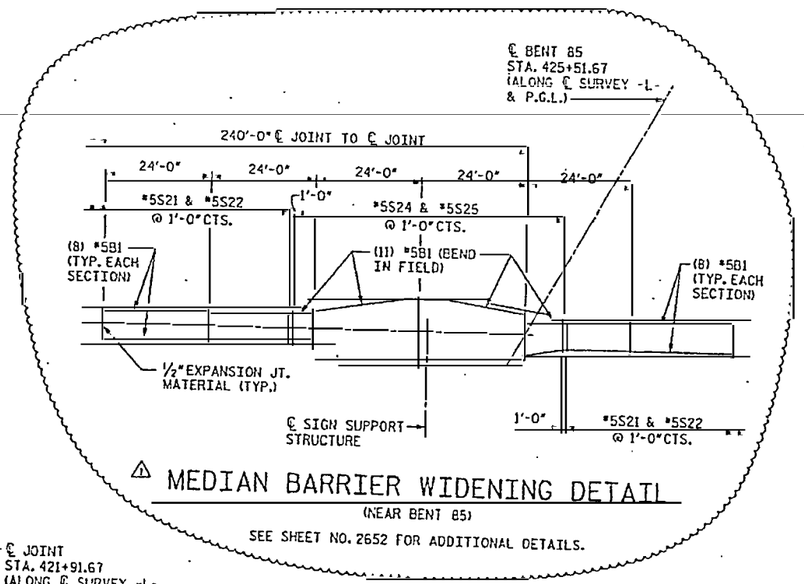


MEDIAN BARRIER

(TYPICAL AT SPANS 83 THRU 98)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG ℄ BARRIER, ℄ SURVEY -L- AND P.G.L.



⚠ MEDIAN BARRIER WIDENING DETAIL

(NEAR BENT 85)

SEE SHEET NO. 2652 FOR ADDITIONAL DETAILS.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 11/4/10

⚠ ADDED DETAIL, GENERAL REVISIONS

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 6 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE MEDIAN BARRIER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2225.01
1	SCS	12/03/08	3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. ECLISLE DATE : 9/05
CHECKED BY : J.LIU DATE : 9/06

Earth Tech

FLATIRON/UNITED
A JOINT VENTURE

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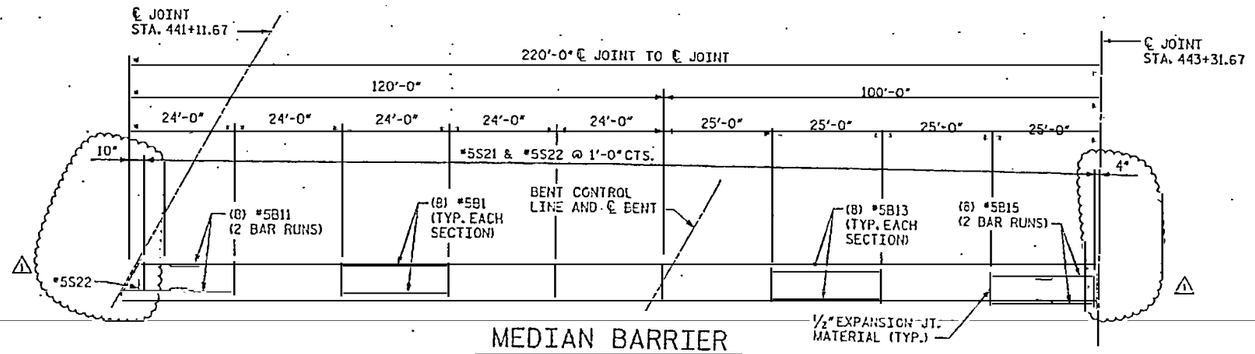
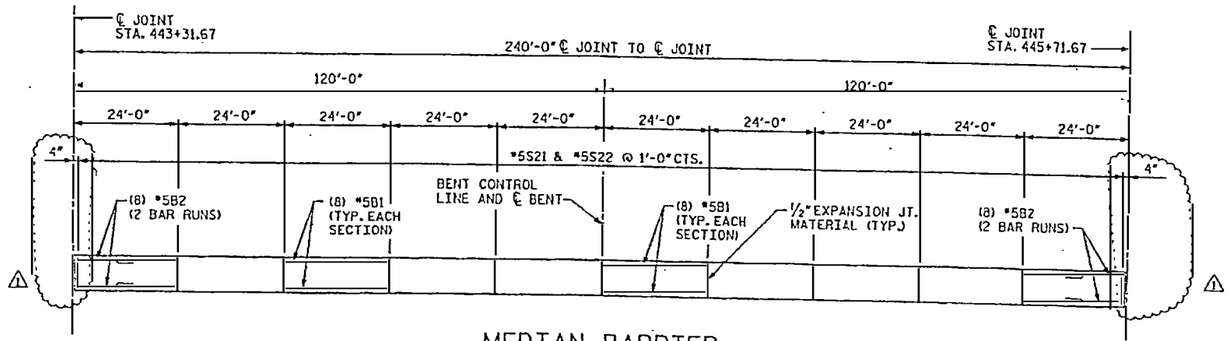


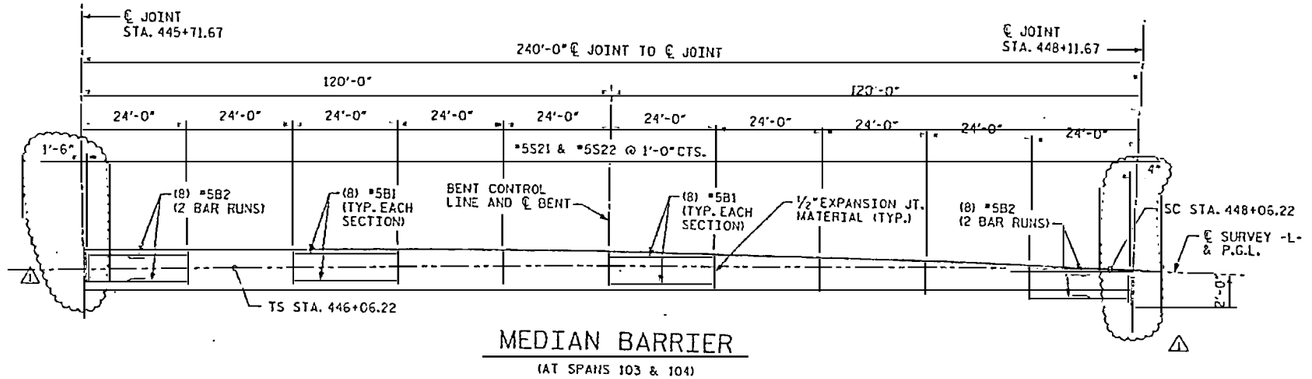
MEDIAN BARRIER

(AT SPANS 99 & 100)



MEDIAN BARRIER

AT SPANS 101 & 102)



MEDIAN BARRIER

(AT SPANS 103 & 104)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG ℄ BARRIER, ℄ SURVEY -L- AND P.G.L., EXCEPT AS NOTED.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE DATE

⚠1 GENERAL REVISIONS

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 6

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE MEDIAN BARRIER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	12/03/08	5		
2			6		

SHEET NO. 2226.01

TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

EarthTech

FLATIRON/UNITED
A JOINT VENTURE

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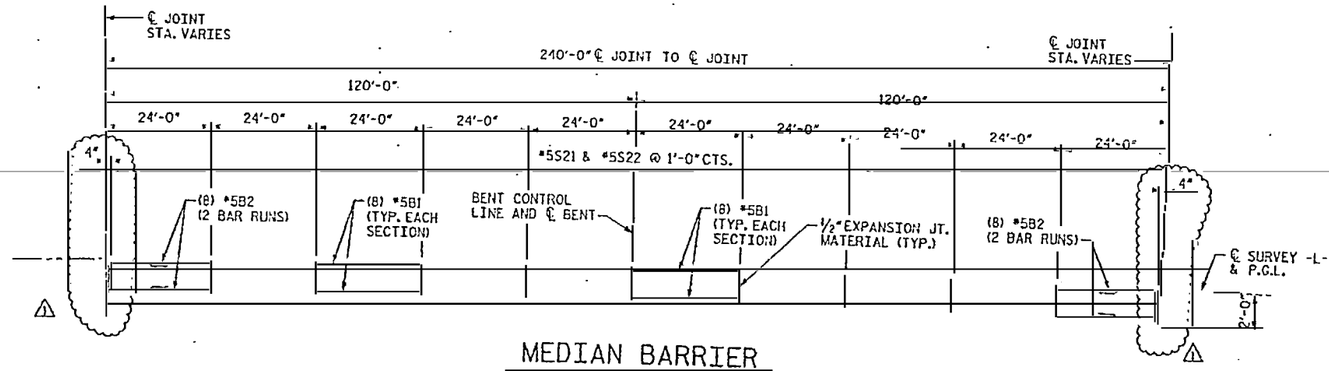
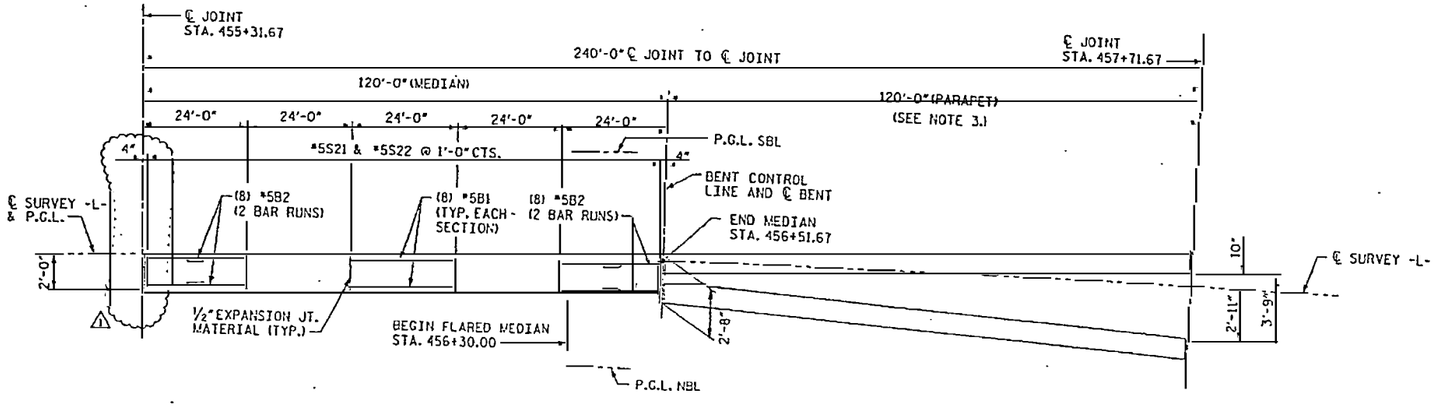
TIME: 09:27:48



MEDIAN BARRIER

(TYPICAL AT SPANS 105 THRU 110)



MEDIAN BARRIER

(AT SPAN 111)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG ℄ BARRIER, ℄ SURVEY -L- AND P.G.L., EXCEPT AS NOTED.
2. MEDIAN TRANSITION (LT. & RT.) BEGINS AT TS STA. 446+06.22 AND ENDS AT SC STA. 448+06.22.
3. SEE CONCRETE PARAPET AT SPANS 111 & 112, SHEET NO. 2239, FOR ADDITIONAL INFORMATION.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030111 JOHN W. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/04/09

⚠ GENERAL REVISIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 6
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

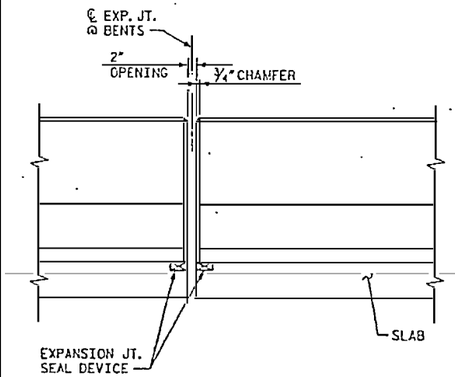
SUPERSTRUCTURE
CONCRETE MEDIAN BARRIER

DRAWN BY : M.T. BELTSLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

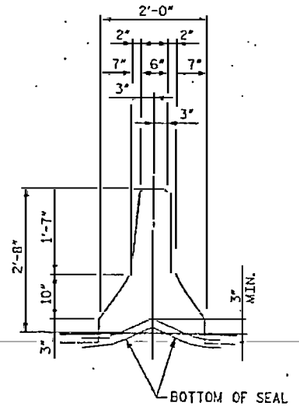
EarthTech
FLATIRON/UNITED
A JOINT VENTURE

NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	12/03/09			

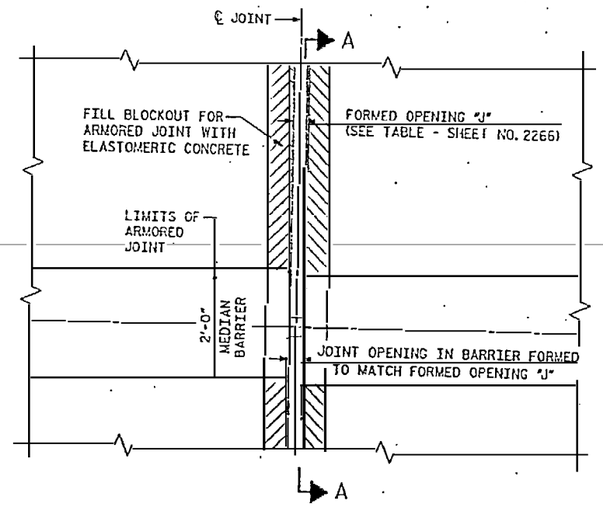
SHEET NO. 2227.01
TOTAL SHEETS



ELEVATION AT EXP. JOINT

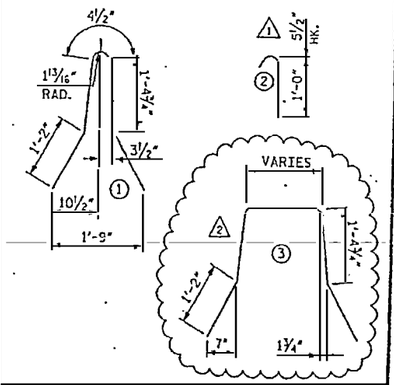


SECTION THRU MEDIAN
(AT EXPANSION JOINTS)



PLAN

BAR TYPES

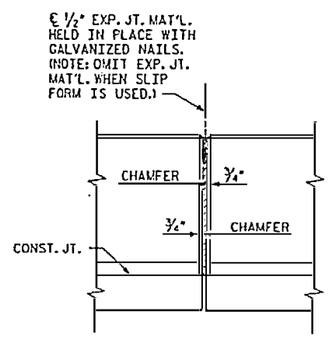


BILL OF MATERIAL

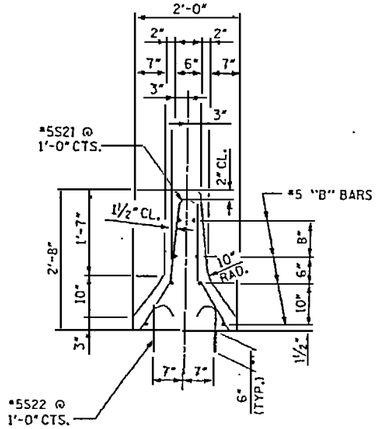
FOR CONCRETE MEDIAN ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	1348	#5	STR	23'-8"	33275
B2	384	#5	STR	13'-7"	5440
B3	64	#5	STR	21'-0"	1402
B4	32	#5	STR	12'-4"	412
B5	32	#5	STR	12'-2"	406
B6	64	#5	STR	20'-2"	1346
B7	16	#5	STR	13'-11"	232
B8	288	#5	STR	22'-6"	6759
B9	176	#5	STR	13'-0"	2386
B10	1696	#5	STR	24'-0"	42454
B11	1120	#5	STR	13'-9"	16062
B12	32	#5	STR	22'-8"	757
B13	48	#5	STR	24'-8"	1235
B14	16	#5	STR	14'-4"	239
B15	16	#5	STR	14'-2"	236
S21	13118	#5	1	5'-6"	75251
S22	25857	#5	2	1'-6"	40453
S24	126	#5	STR	2'-6"	329
S25	63	#5	3	6'-6"*	427

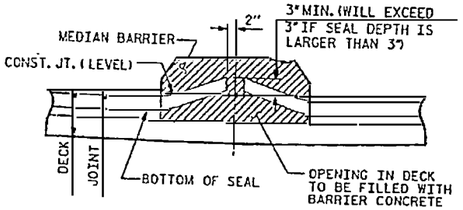
*DENOTES AVERAGE LENGTH OF VARIABLE BAR



ELEVATION AT MEDIAN EXP. JT.



SECTION THRU MEDIAN



SECTION A-A

DETAILS @ BENT

NOTE:

1. FOR ELEVATIONS, SEE "CONCRETE PARAPET AND CONCRETE MEDIAN BARRIER" SHEET NO. 2221.

2 REVISIONS DUE TO MEDIAN BARRIER WIDENING NEAR BENT B5.
1 REVISED JOINT DETAILS AND NOTES.

NORTH CAROLINA PROFESSIONAL SEAL 032966 ENGINEER JOHN W. JORDAN, JR.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 6
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE MEDIAN BARRIER DETAILS

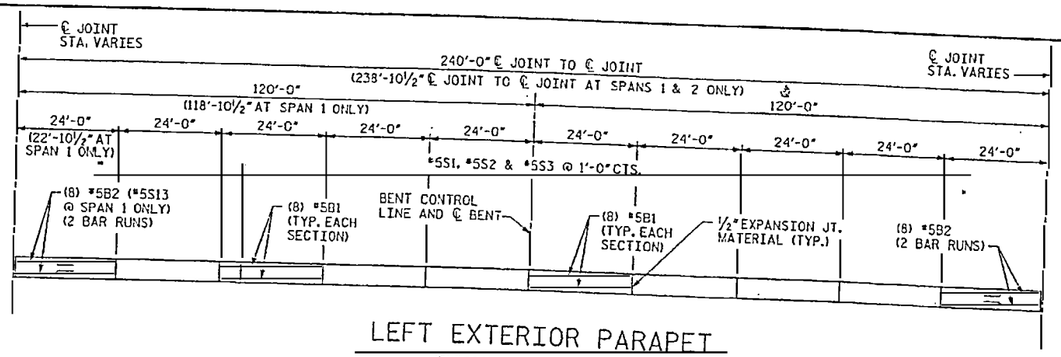
Earth Tech
FLATIRON/UNITED
A JOINT VENTURE

NO.	BY	DATE	NO.	BY	DATE
0	SGS	8/18/08			
1	SGS	12/8/08			

SHEET NO. 2228.02
TOTAL SHEETS

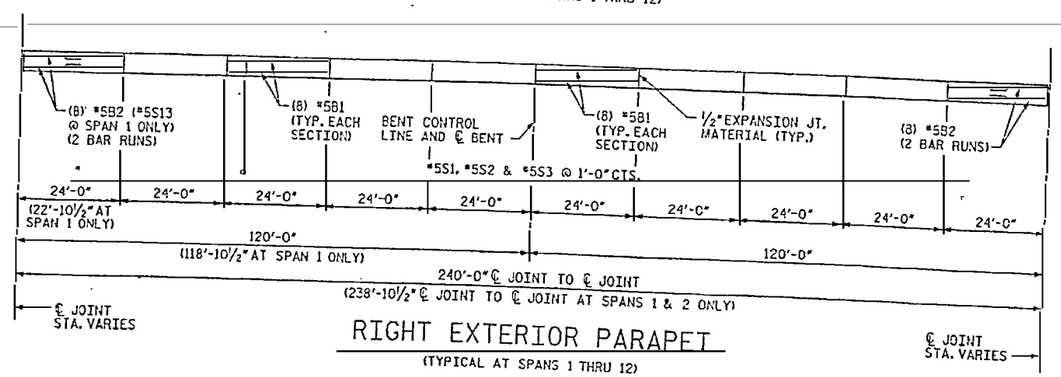
DRAWN BY : M.T. BEITSLE DATE : 9/06
CHECKED BY : J.C.D. DATE : 9/06

USER: mbeitsle
DGN: Mstation\w Proj Bridge\2008\2300_50_DEH_XSDMB+DET.dgn



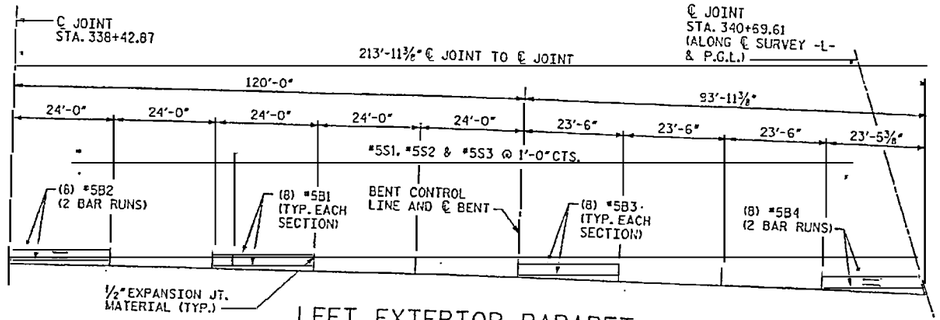
LEFT EXTERIOR PARAPET

(TYPICAL AT SPANS 1 THRU 12)



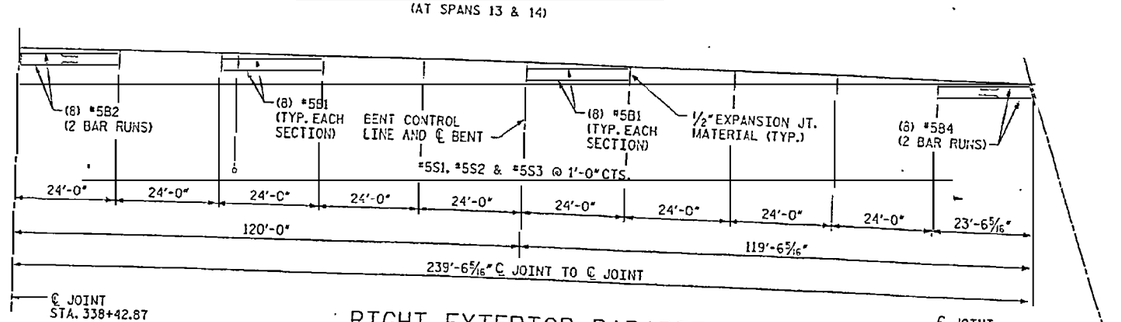
RIGHT EXTERIOR PARAPET

(TYPICAL AT SPANS 1 THRU 12)



LEFT EXTERIOR PARAPET

(AT SPANS 13 & 14)



RIGHT EXTERIOR PARAPET

(AT SPANS 13 & 14)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2231.00
1			3			TOTAL SHEETS
2			4			

USER: mtbelisle
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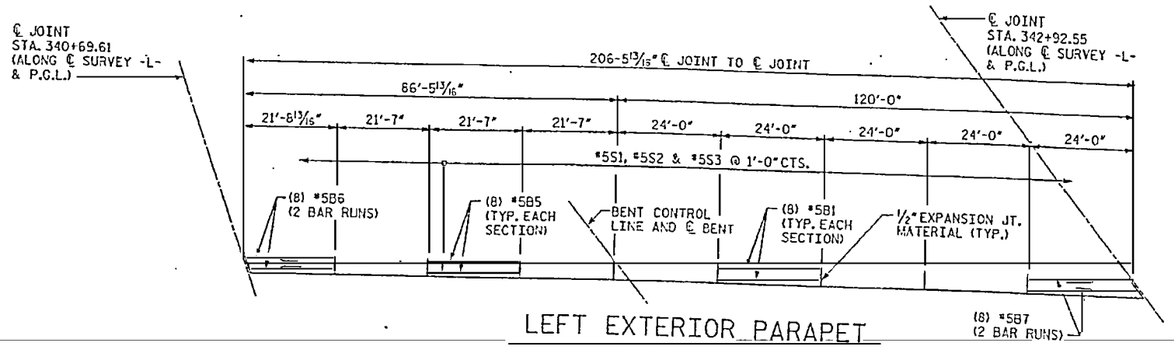
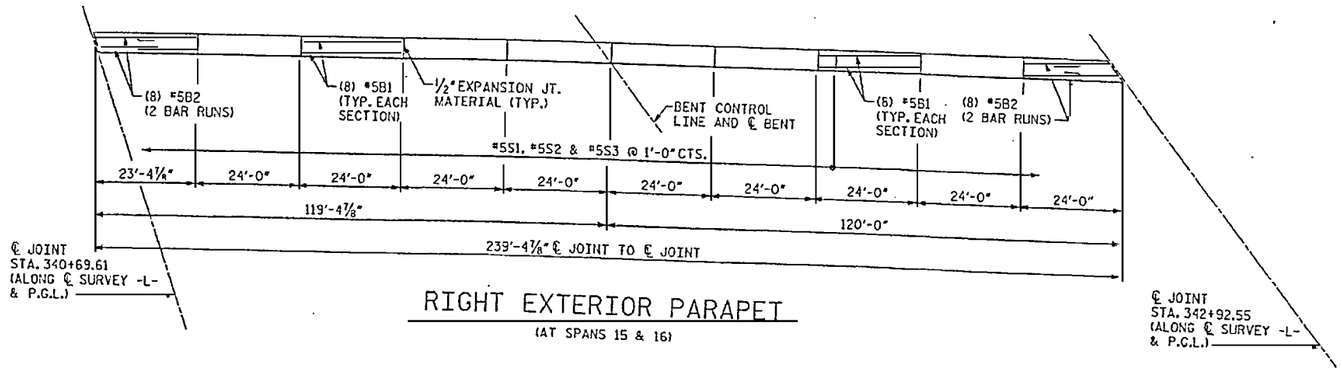
DATE: 5/15/2007
TIME: 10:58:24 PM



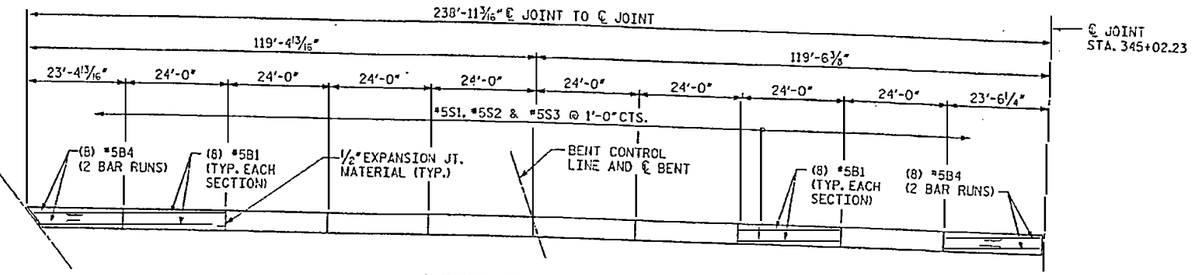
LEFT EXTERIOR PARAPET

(AT SPANS 15 & 16)



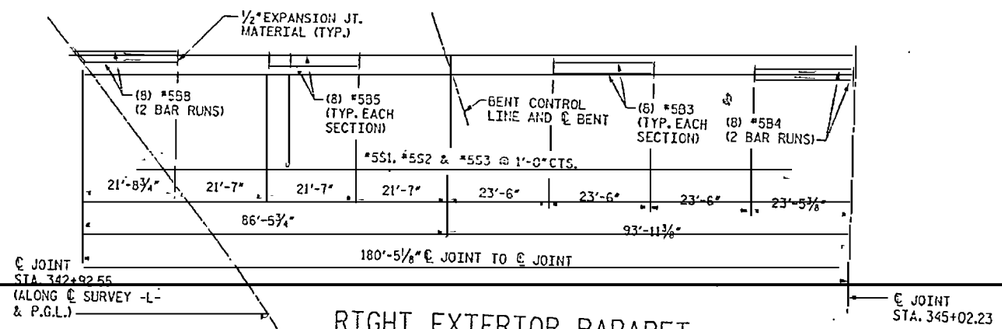
RIGHT EXTERIOR PARAPET

(AT SPANS 15 & 16)



LEFT EXTERIOR PARAPET

(AT SPANS 17 & 18)



RIGHT EXTERIOR PARAPET

(AT SPANS 17 & 18)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2232.00
1			3			TOTAL SHEETS
2			4			

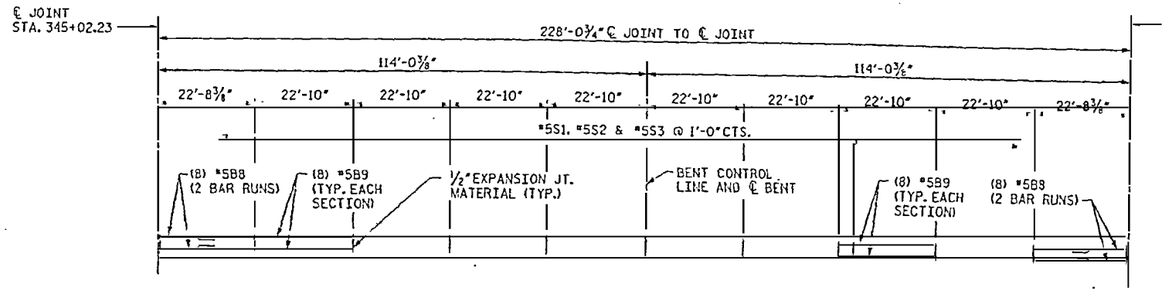
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030576 JOHN W. JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

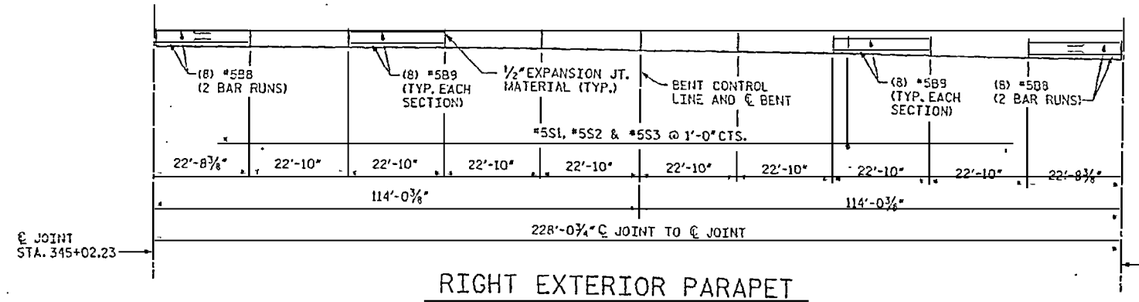
DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

USER: mtbelisle
DGN: N:\Structure\For River Bldg\CADD\R2510B_SD_DSK_PARAPET.dgn
DATE: 5/15/2007 11:42:22 PM



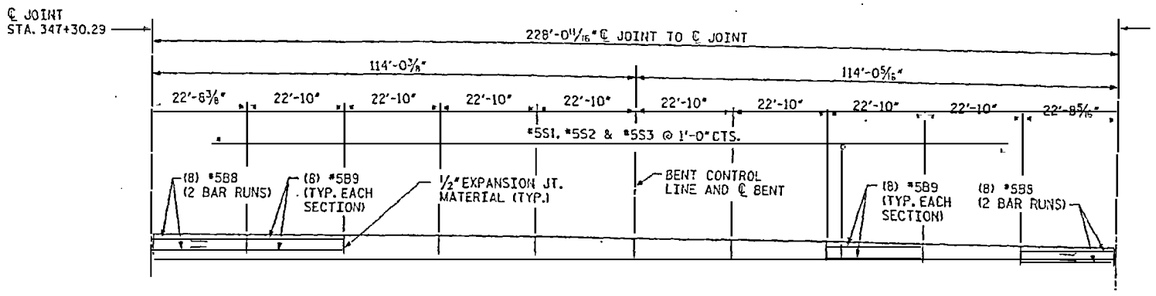
LEFT EXTERIOR PARAPET

(AT SPANS 19 & 20)



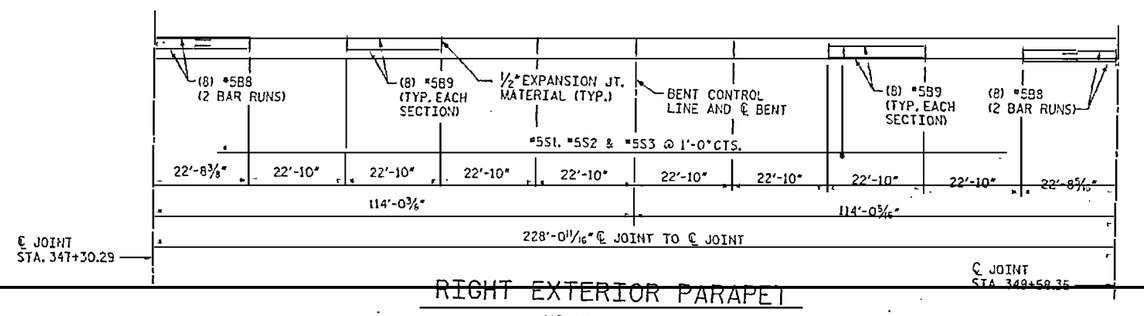
RIGHT EXTERIOR PARAPET

(AT SPANS 19 & 20)



LEFT EXTERIOR PARAPET

(AT SPANS 21 & 22)



RIGHT EXTERIOR PARAPET

(AT SPANS 21 & 22)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

NORTH CAROLINA PROFESSIONAL SEAL 030570 ENGINEER W. JORDAN 6/15/07

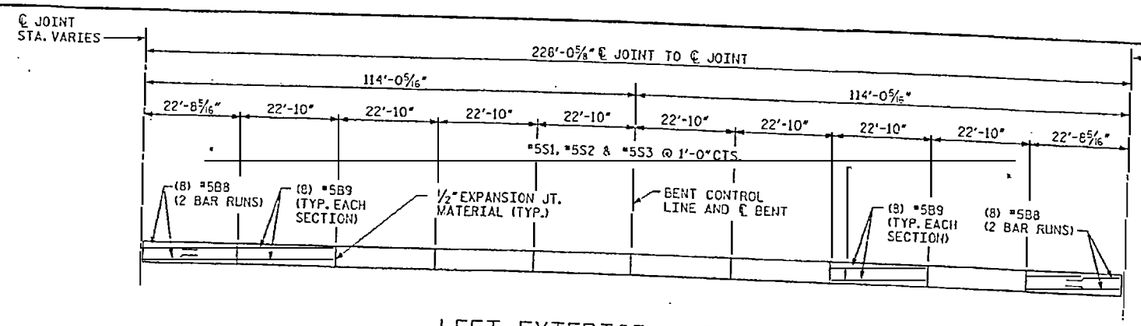
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2233.00
1			3			TOTAL SHEETS
2			4			

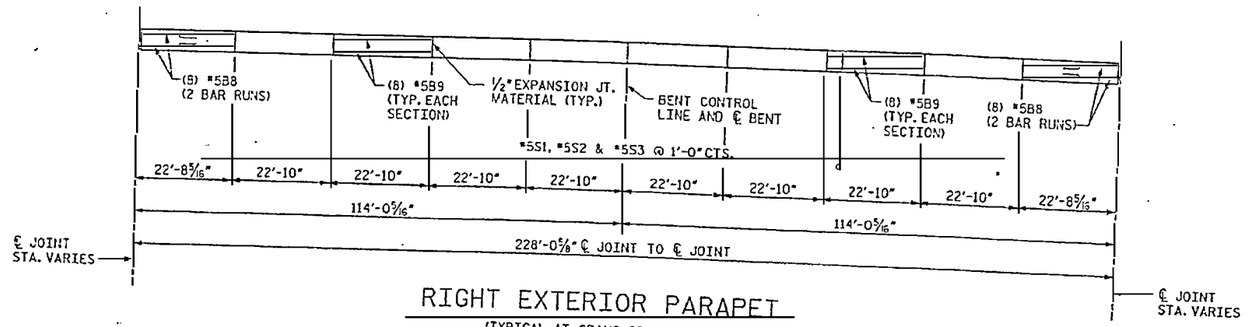
DRAWN BY : M.T. BEELISLE DATE : 9/06
CHECKED BY : J.LIU DATE : 9/06

DATE: 6/15/2007 TIME: 8:50:51 PM
USER: mbeelisle FILE: C:\Projects\R-2510B\SHEETS\R2510B_SUPER_PARAPETS.dgn



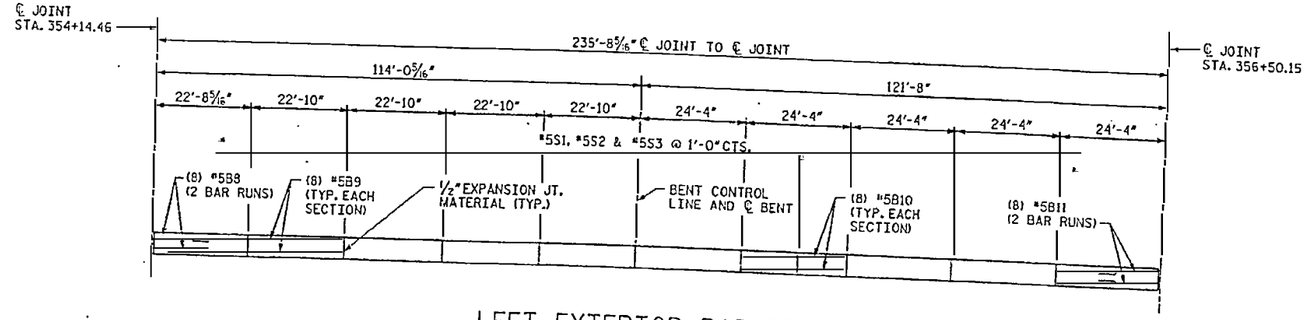
LEFT EXTERIOR PARAPET

(TYPICAL AT SPANS 23 THRU 26



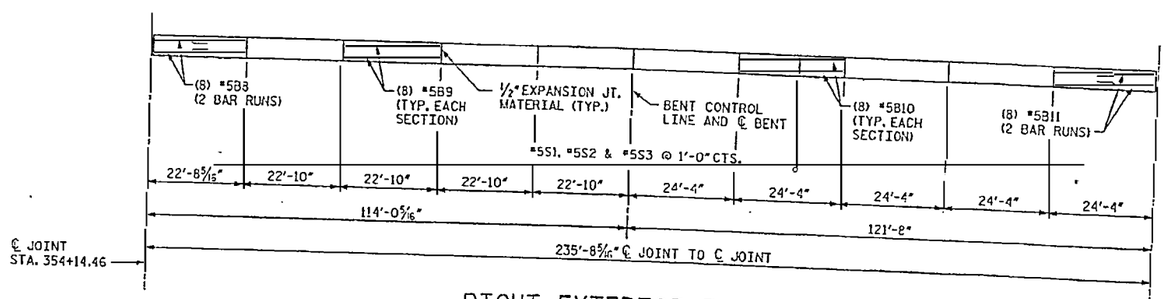
RIGHT EXTERIOR PARAPET

(TYPICAL AT SPANS 23 THRU 26)



LEFT EXTERIOR PARAPET

(AT SPANS 27 & 28)



RIGHT EXTERIOR PARAPET

(AT SPANS 27 & 28)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. *5S1, *5S2 AND *5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

NORTH CAROLINA PROFESSIONAL SEAL 029161 ENGINEER JOHN W. JORDAN III

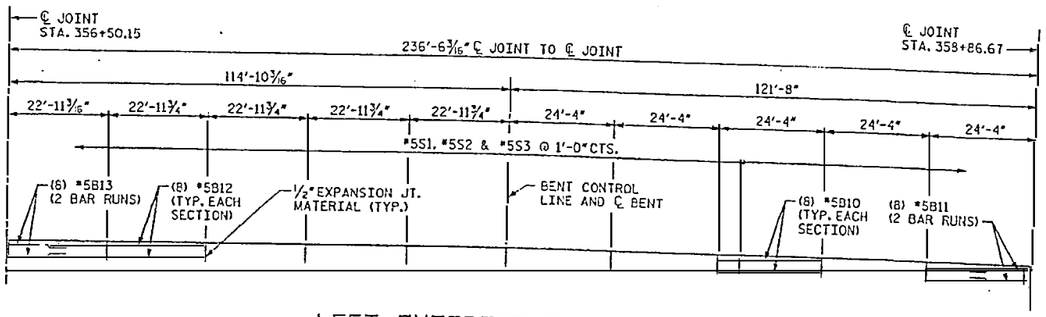
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2234.00
1			3			TOTAL SHEETS
2			4			

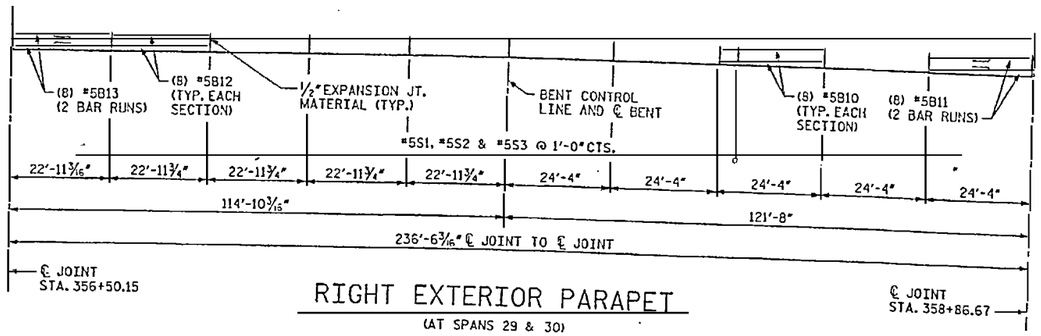
DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

USER: mbelisle
DGN: N:\Structures\Work Area\Bridges\02510B\sht\02510B_PARAPET.dgn
DATE: 5/15/2007
TIME: 03:23:29 PM



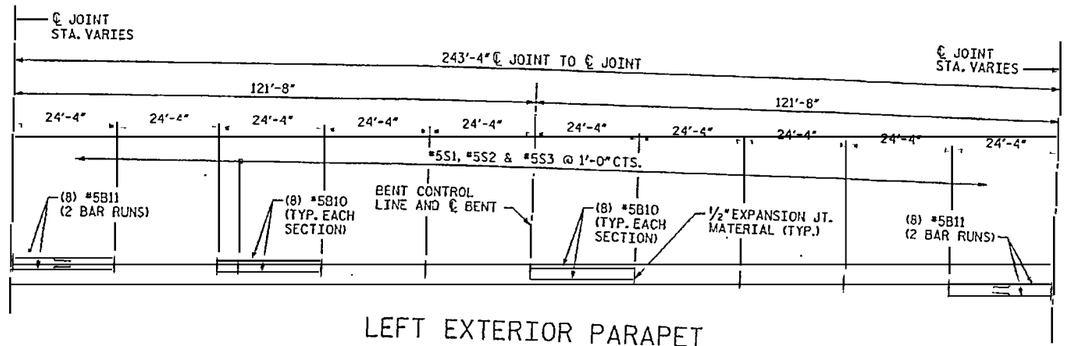
LEFT EXTERIOR PARAPET

(AT SPANS 29 & 30)



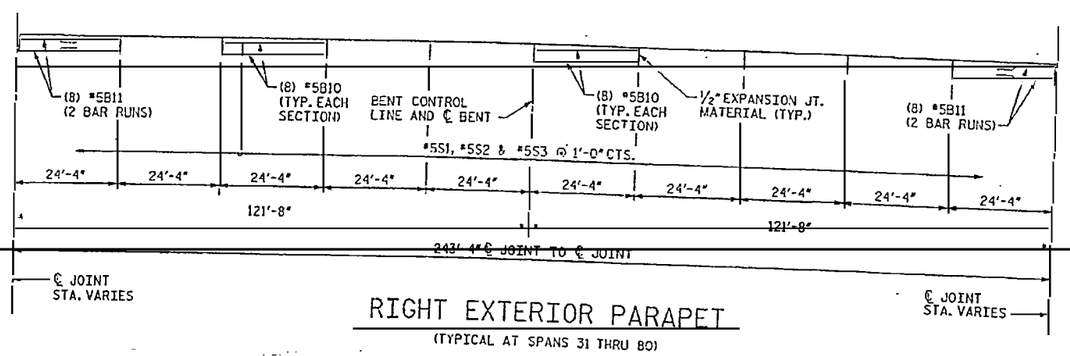
RIGHT EXTERIOR PARAPET

(AT SPANS 29 & 30)



LEFT EXTERIOR PARAPET

(TYPICAL AT SPANS 31 THRU 60)



RIGHT EXTERIOR PARAPET

(TYPICAL AT SPANS 31 THRU 60)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2235.00
						TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE: 5/11/2007
TIME: 12:33:51 PM

USER: mtbelisle
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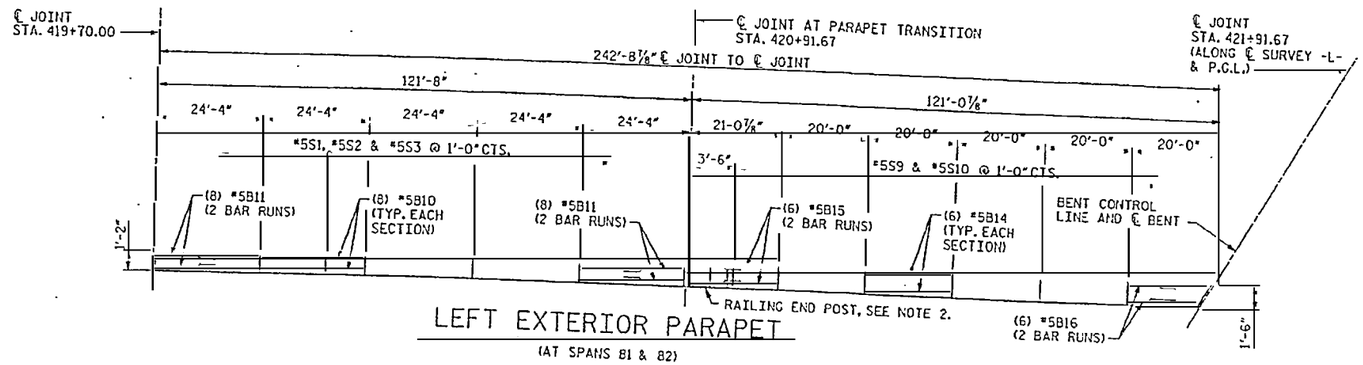
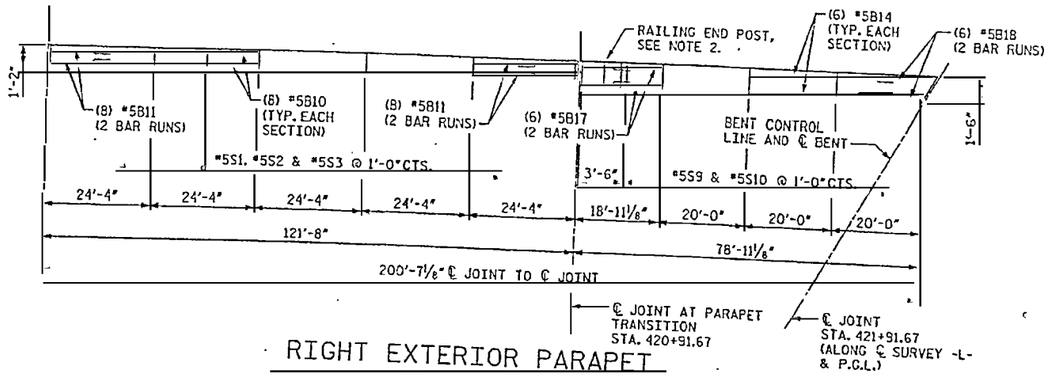


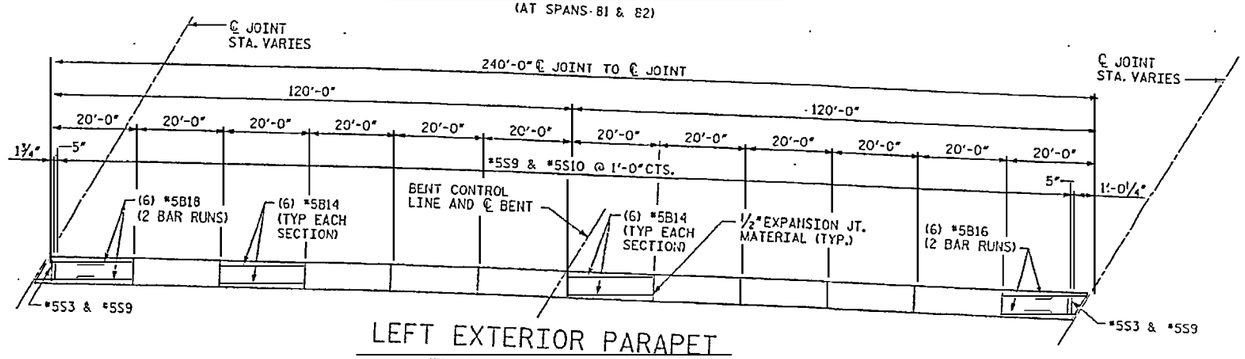
LEFT EXTERIOR PARAPET

(AT SPANS 81 & 82)



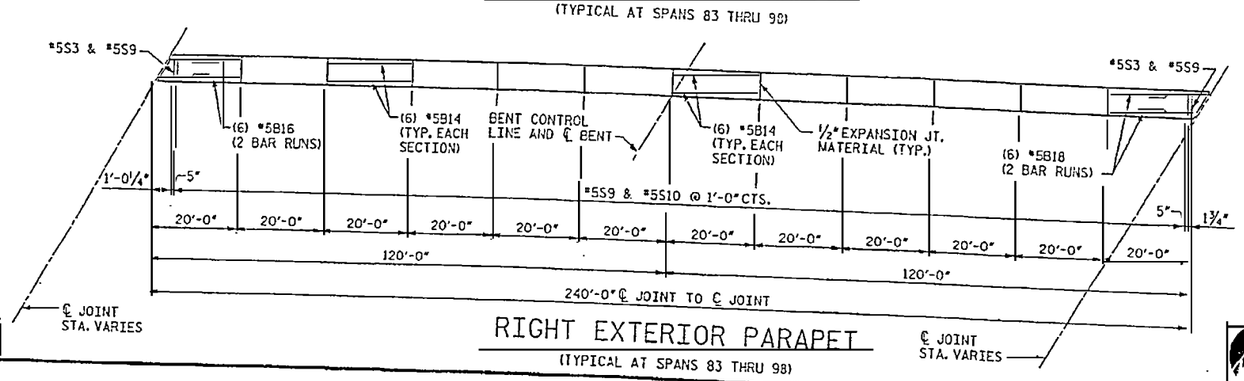
RIGHT EXTERIOR PARAPET

(AT SPANS 81 & 82)



LEFT EXTERIOR PARAPET

(TYPICAL AT SPANS 83 THRU 98)



RIGHT EXTERIOR PARAPET

(TYPICAL AT SPANS 83 THRU 98)

NOTES:

1. ALL DIMENSIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. FOR RAILING END POST DETAILS, SEE SHEET NO. 2248.
3. *5S1, *5S2, *5S3 AND *5S10 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2236.00
1			3			TOTAL SHEETS
2			4			

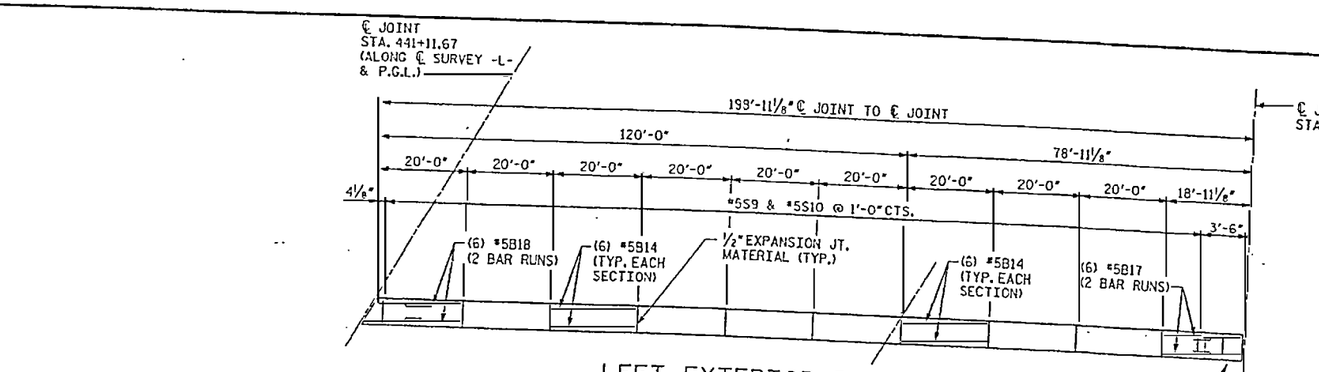
DRAWN BY : W.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE: 5/15/2007
TIME: 10:53:42 PM

USER: mtaylor
DGN: K:\Structures\Pier Bridge\CIDD\RESIG_SD_JOB_PARAPET.dgn

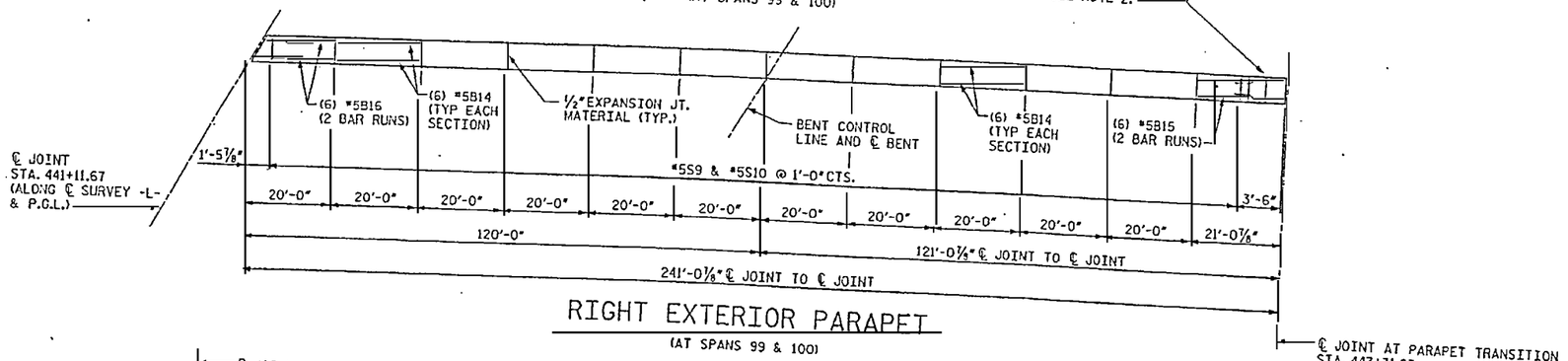
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE



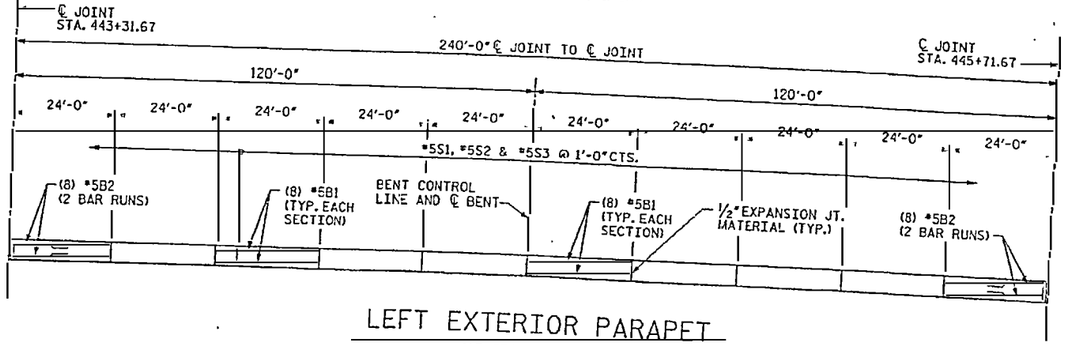
LEFT EXTERIOR PARAPET

(AT SPANS 99 & 100)



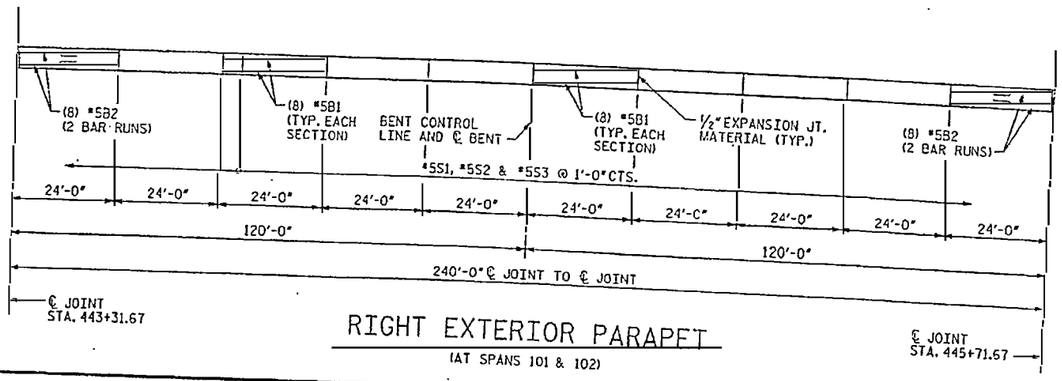
RIGHT EXTERIOR PARAPET

(AT SPANS 99 & 100)



LEFT EXTERIOR PARAPET

(AT SPANS 101 & 102)



RIGHT EXTERIOR PARAPET

(AT SPANS 101 & 102)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. FOR RAILING END POST DETAILS, SEE SHEET NO. 2248.
3. #5S1, #5S2, #5S3 AND #5S10 BARS SHALL BE PLACED WITH DECK REINFORCING.

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE: 5/15/2007
TIME: 12:39:50 PM

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019157 JOHN W. JORDAN III

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

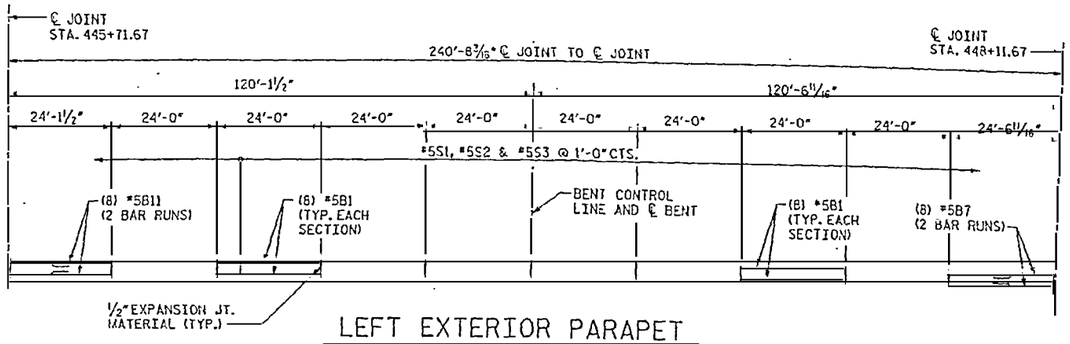
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 19
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

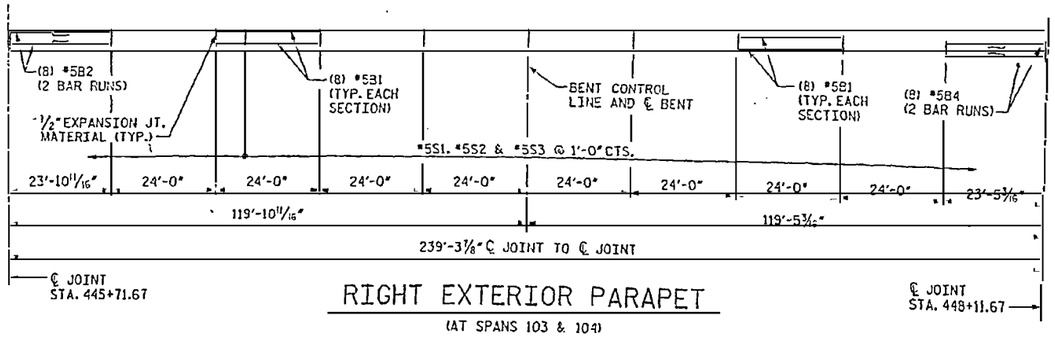
SUPERSTRUCTURE
CONCRETE PARAPET

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY.	DATE:	2237.00
1			3			TOTAL SHEETS
2			4			



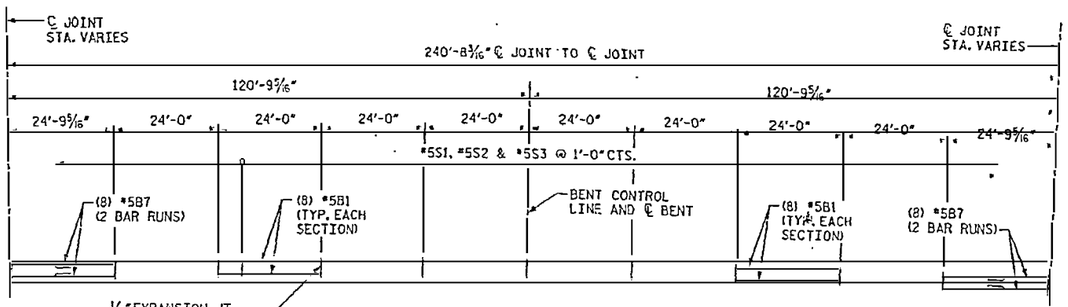
LEFT EXTERIOR PARAPET

(AT SPANS 103 & 104)



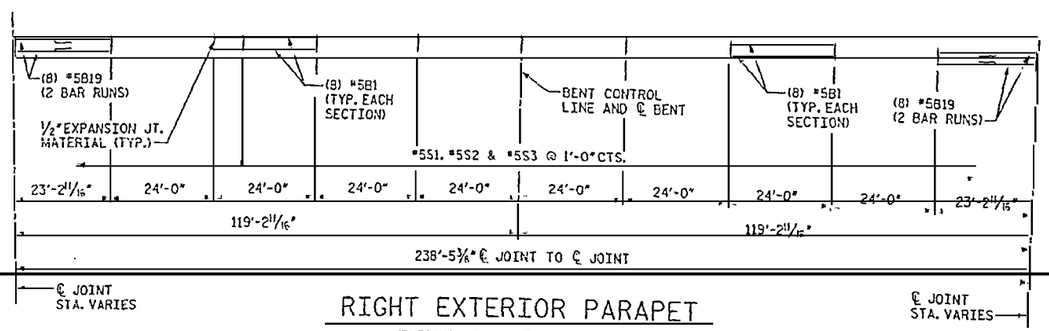
RIGHT EXTERIOR PARAPET

(AT SPANS 103 & 104)



LEFT EXTERIOR PARAPET

(TYPICAL AT SPANS 105 THRU 110)



RIGHT EXTERIOR PARAPET

(TYPICAL AT SPANS 105 THRU 110)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/5/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037476 JOHN W. JORDAN, JR.

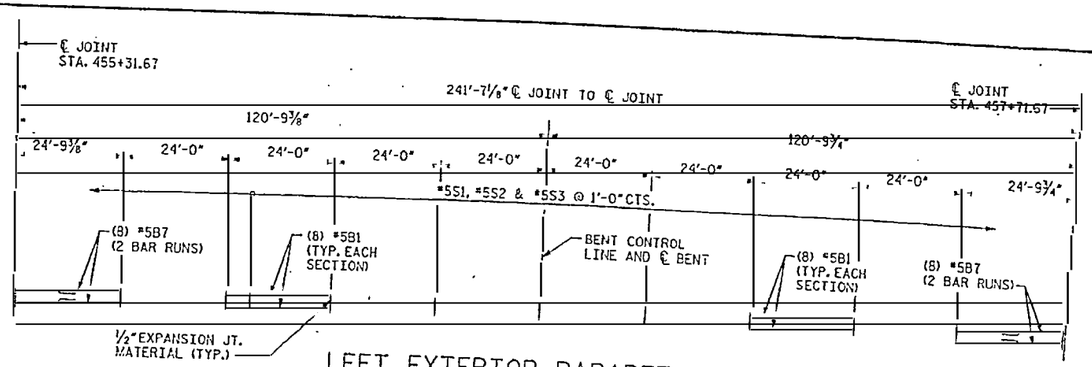
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2238.00
1			3			TOTAL SHEETS
2			4			

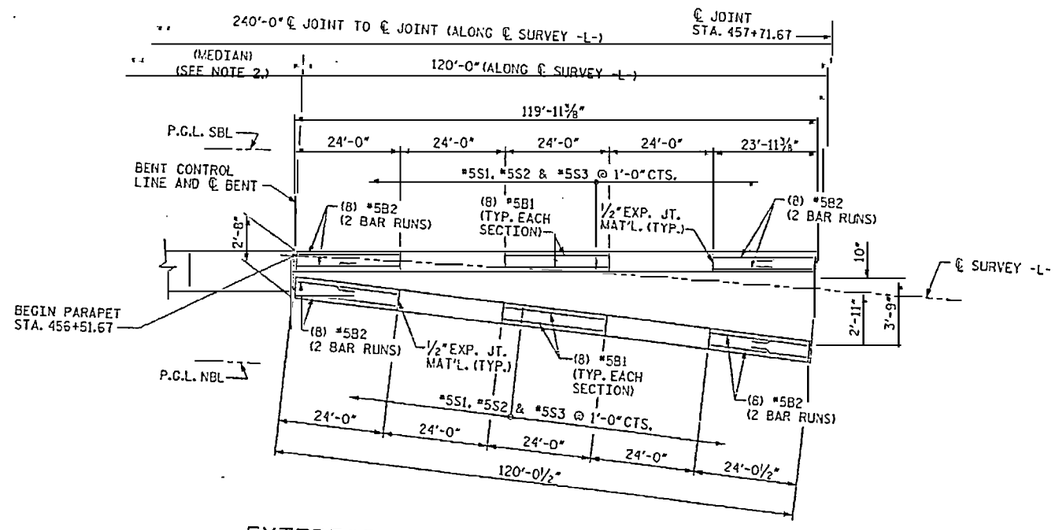
DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE PLOTTED: 5/25/2007
USER: mbelisle
DGN: M:\Structures\Bridge Files\R-2510B\SUPERSTRUCTURE\R2510B_SD_DSTL_PARAPET.dgn



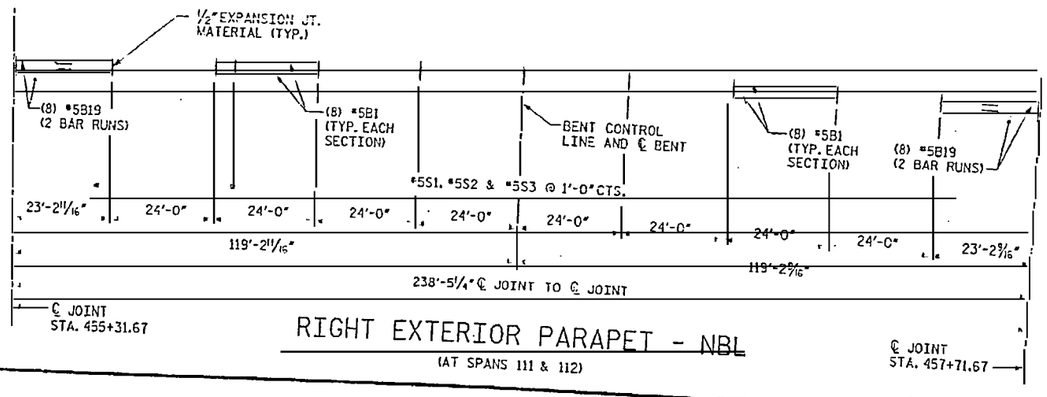
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 111 & 112)



EXTERIOR PARAPET - SBL & NBL

(AT SPAN 112)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 111 & 112)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG ARC AND OUTSIDE FACE OF PARAPET EXCEPT AS NOTED.
2. SEE CONCRETE MEDIAN AT SPAN 111, SHEET NO. 2227, FOR ADDITIONAL INFORMATION.
3. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/14/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2239.00
			3			TOTAL SHEETS
			4			

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE: 5/15/2007
TIME: 10:06:28 PM
USER: mbelisle
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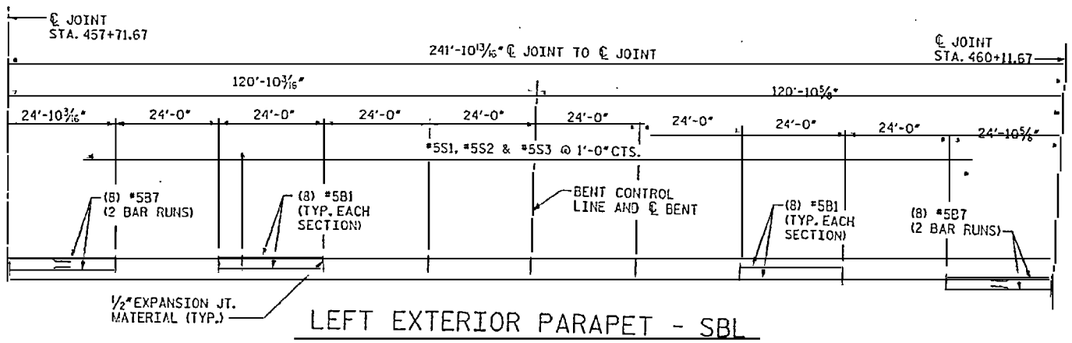
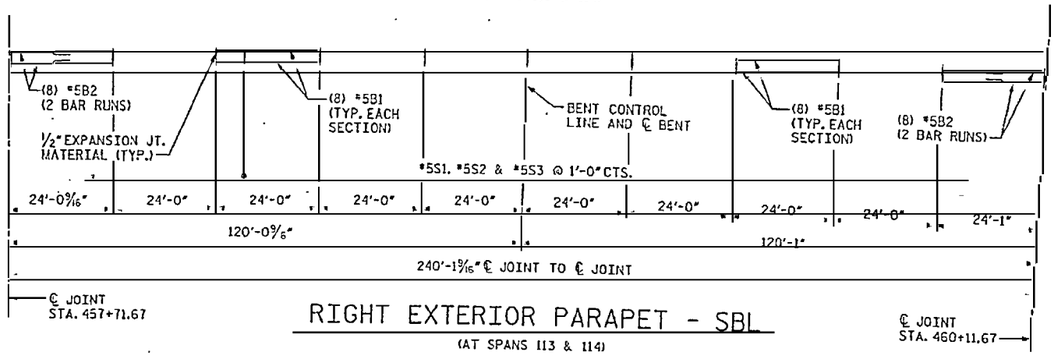


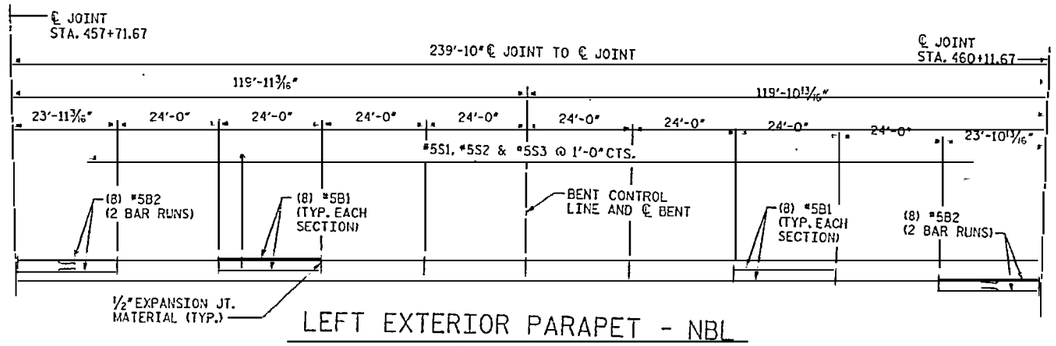
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 113 & 114)



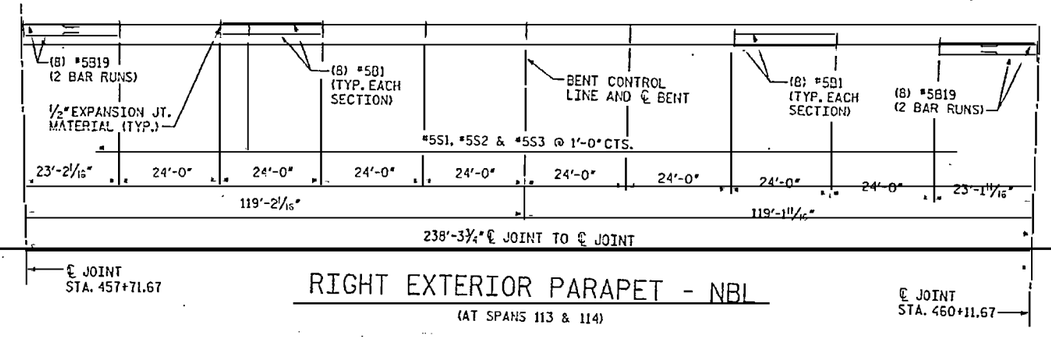
RIGHT EXTERIOR PARAPET - SBL

(AT SPANS 113 & 114)



LEFT EXTERIOR PARAPET - NBL

(AT SPANS 113 & 114)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 113 & 114)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2240.00
1			3			TOTAL SHEETS
2			4			

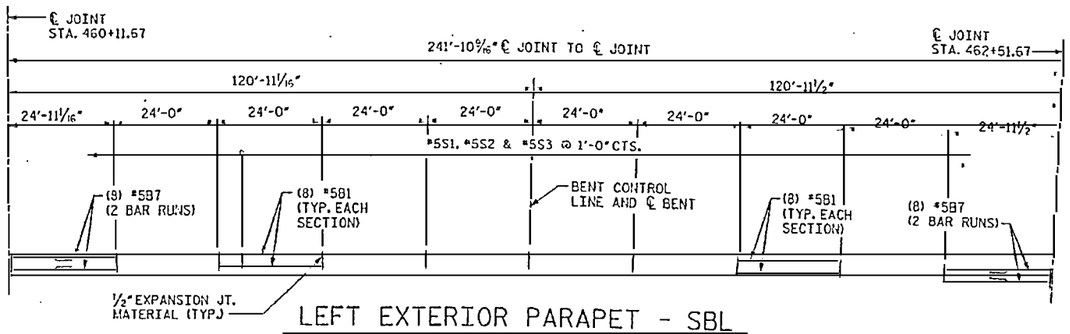
DRAWN BY : M.T. PELTSLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

FLATIRON/UNITED
A JOINT VENTURE

EarthTech
A Tyco International Ltd. Company

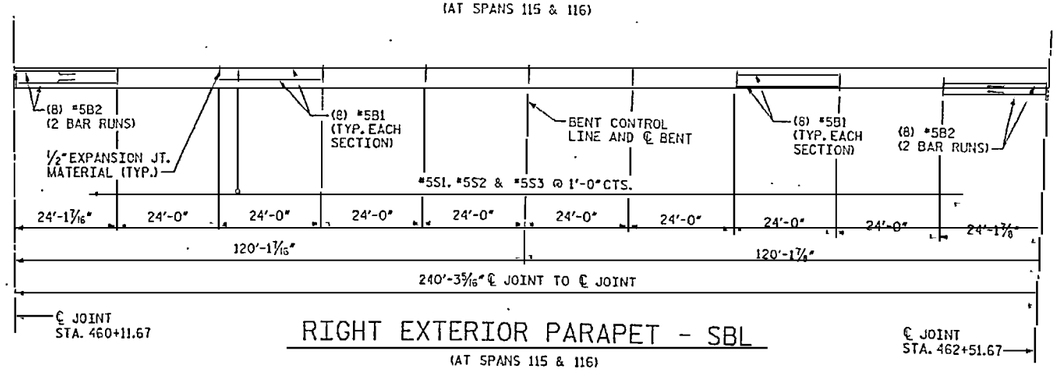
NORTH CAROLINA PROFESSIONAL SEAL 030271 ENGINEER JOHN W. NORMAN

USER: mtpeltsle
DGN: N:\Structures\Active Projects\R2510B_SLOSH_PARAPET.dgn
DATE: 6/15/2007 7:54:47 PM



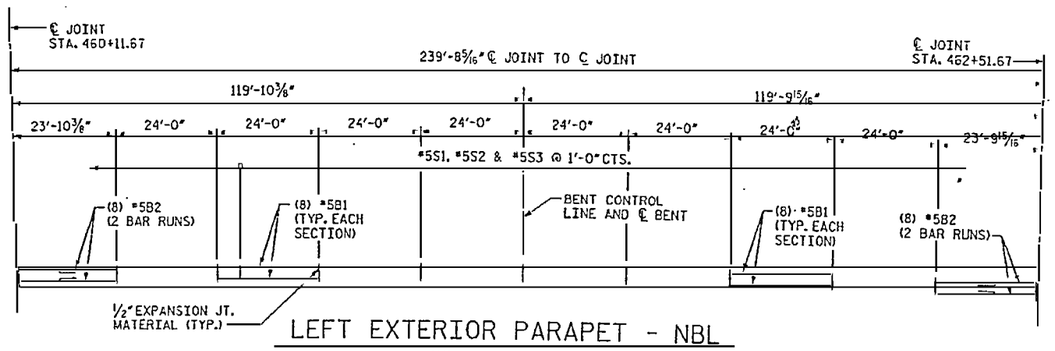
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 115 & 116)



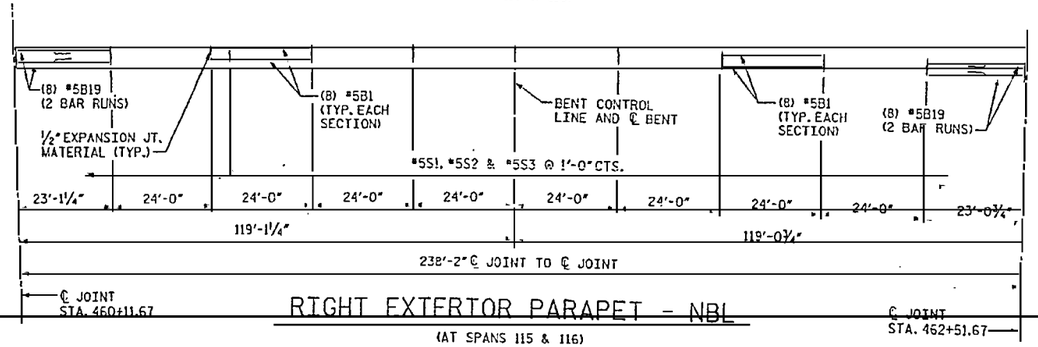
RIGHT EXTERIOR PARAPET - SBL

(AT SPANS 115 & 116)



LEFT EXTERIOR PARAPET - NBL

(AT SPANS 115 & 116)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 115 & 116)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2241.00
1			3			TOTAL SHEETS
2			4			

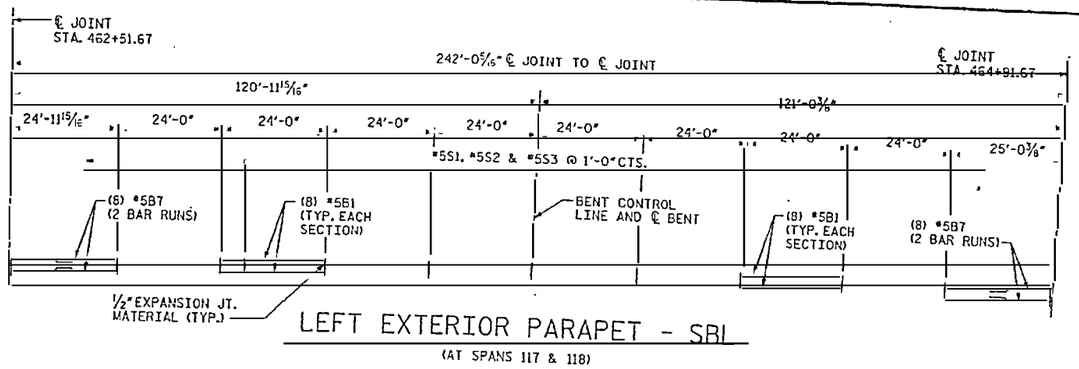
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BEITSLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

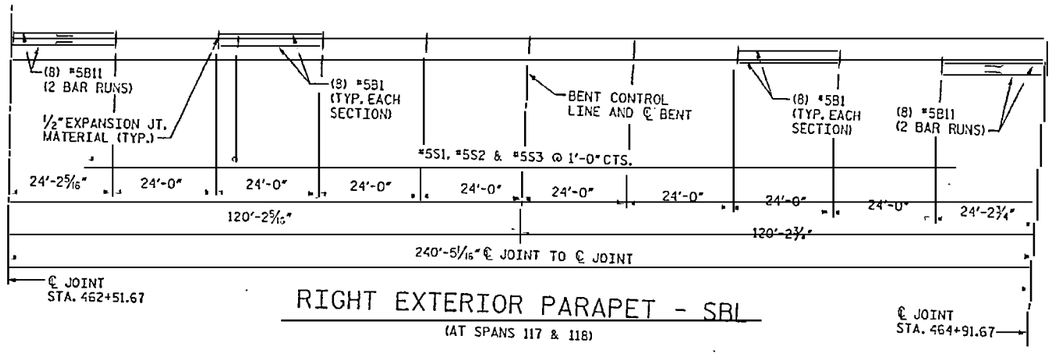
DATE: 8/31/2007
FILE: B2510B

USER: mbeitsle
DGN: N:\Structure\Bridge\CADD\Design_50_DSK_PARAPET.dgn



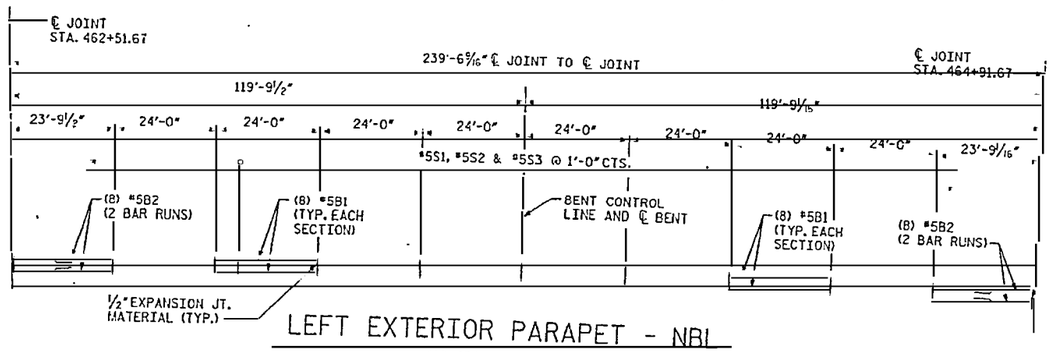
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 117 & 118)



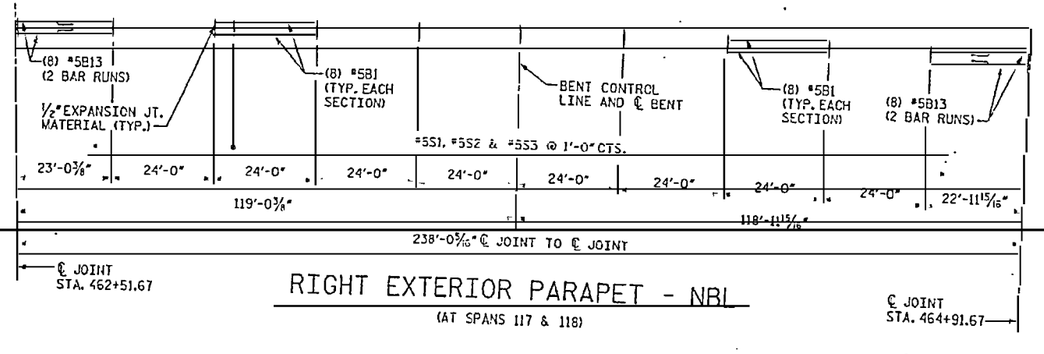
RIGHT EXTERIOR PARAPET - SBL

(AT SPANS 117 & 118)



LEFT EXTERIOR PARAPET - NBL

(AT SPANS 117 & 118)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 117 & 118)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. *5S1, *5S2 AND *5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/13/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -

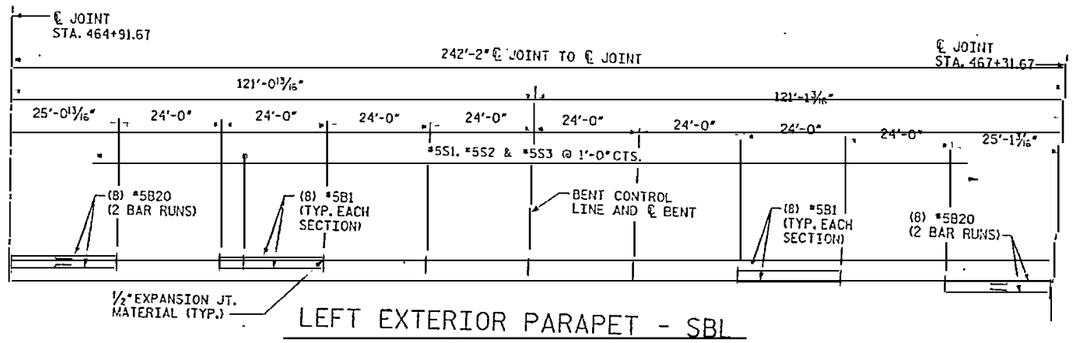
SUPERSTRUCTURE
CONCRETE PARAPET

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2242.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

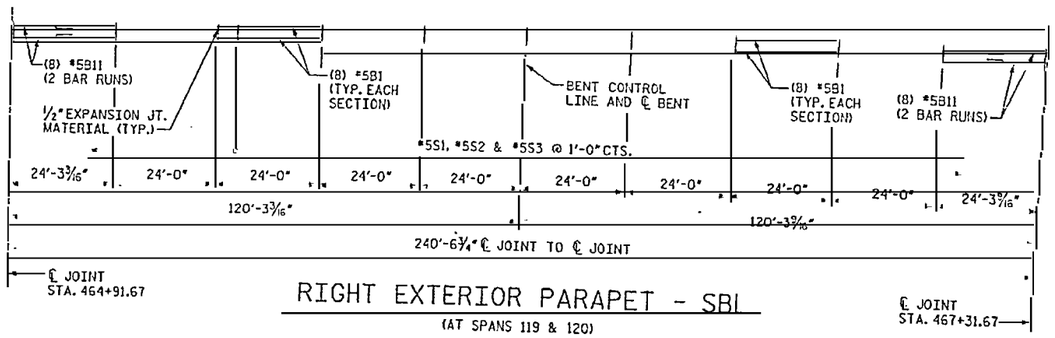
DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE: 5/25/2007
TIME: 12:25:58 PM
USER: RHAWKINS
DGN: N:\Structures\Div River Bridge\Beaufort\R2510B_SOLDIER_PARAPET.dgn



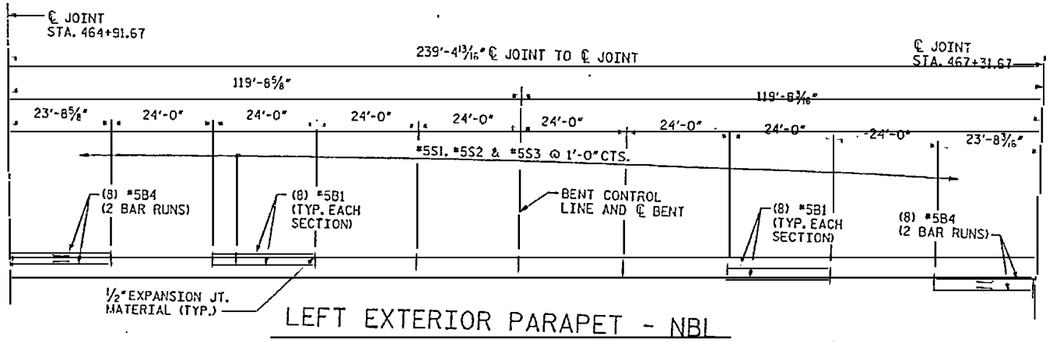
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 119 & 120)



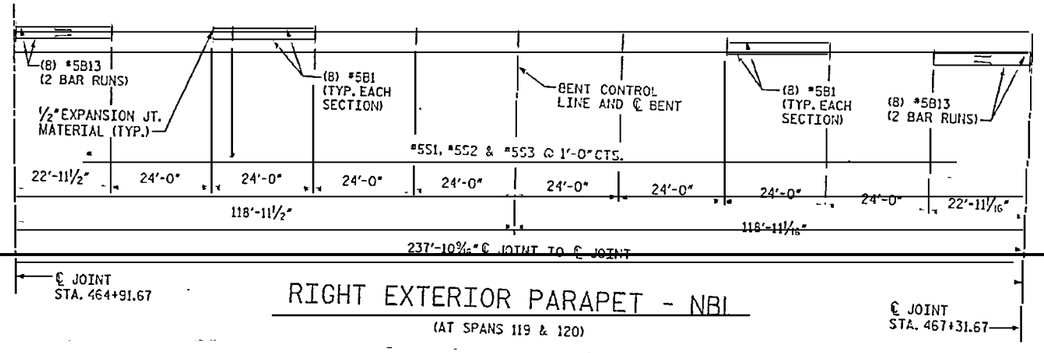
RIGHT EXTERIOR PARAPET - SBL

(AT SPANS 119 & 120)



LEFT EXTERIOR PARAPET - NBL

(AT SPANS 119 & 120)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 119 & 120)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/5/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 13 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2243.00
1			3			TOTAL SHEETS
2			4			

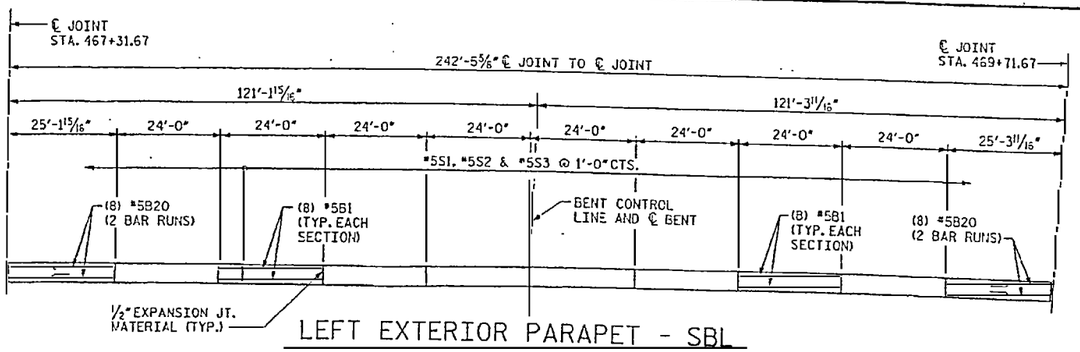
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 027162 JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

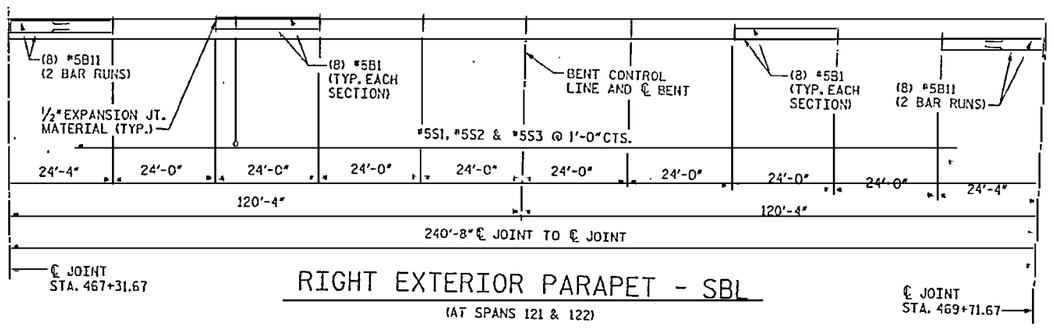
DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE PLOTTED: FRI, 25 MAY 2007 TIME PLOTTED: 12:58:28
USER: rmcginnis
DGN: R:\projects\Neuse River Bridges\ROD\RESID_SD_SERIES_PARAPET1.dgn



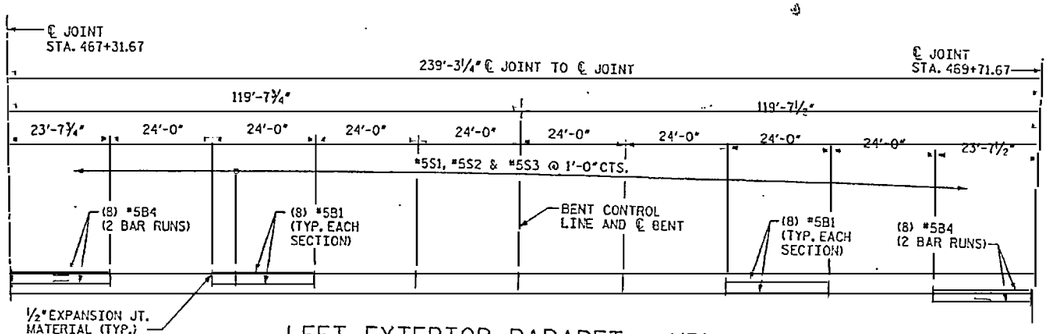
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 121 & 122)



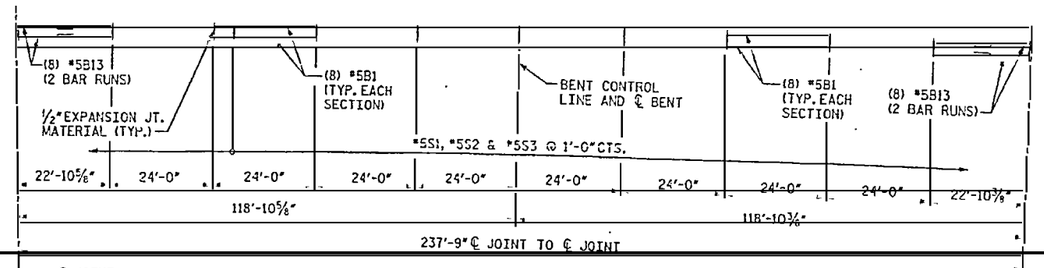
RIGHT EXTERIOR PARAPET - SBL

(AT SPANS 121 & 122)



LEFT EXTERIOR PARAPET - NBL

(AT SPANS 121 & 122)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 121 & 122)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/5/09
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 14 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

NORTH CAROLINA PROFESSIONAL SEAL 037572 ENGINEER JOHN W. JORDAN III

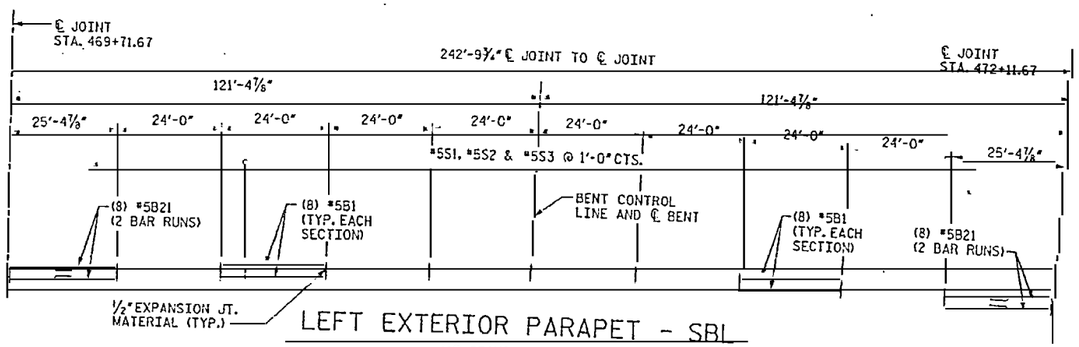
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2244.00
1			3			TOTAL SHEETS
2			4			

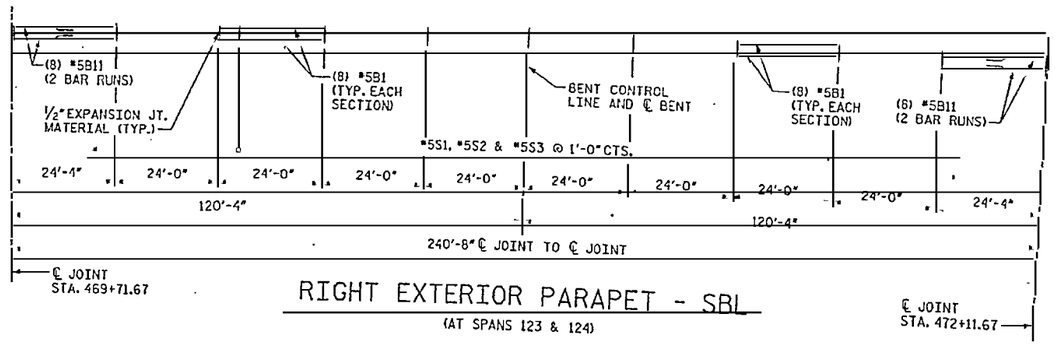
DRAWN BY : M.T. EELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

DATE PLOTTED: 6/5/2009 12:57:37 PM
USER: mteelisle
DGN: R:\Structures\Tier Drives\ADDITIONAL SHEETS\PARAPET1.dgn



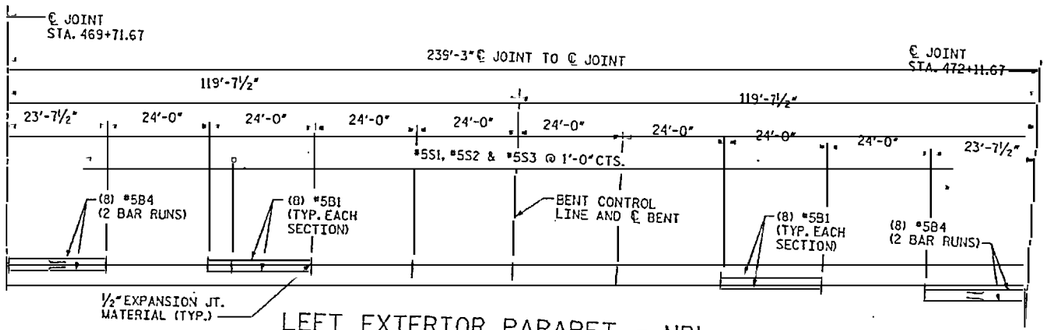
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 123 & 124)



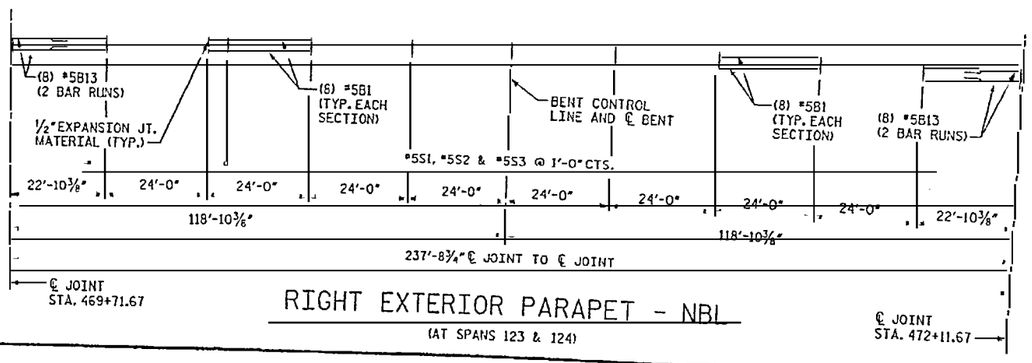
RIGHT EXTERIOR PARAPET - SBL

(AT SPANS 123 & 124)



LEFT EXTERIOR PARAPET - NBL

(AT SPANS 123 & 124)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 123 & 124)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 6/15/10

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 15 OF 19
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2245.00
1			3			TOTAL SHEETS
2			4			

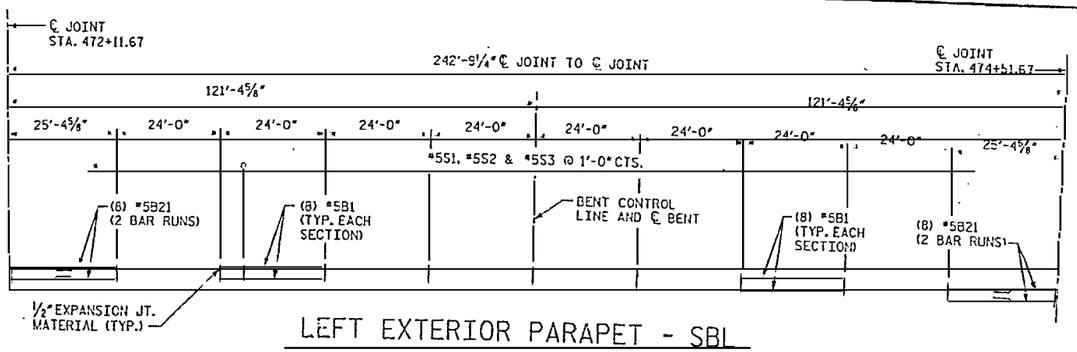
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030870 JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

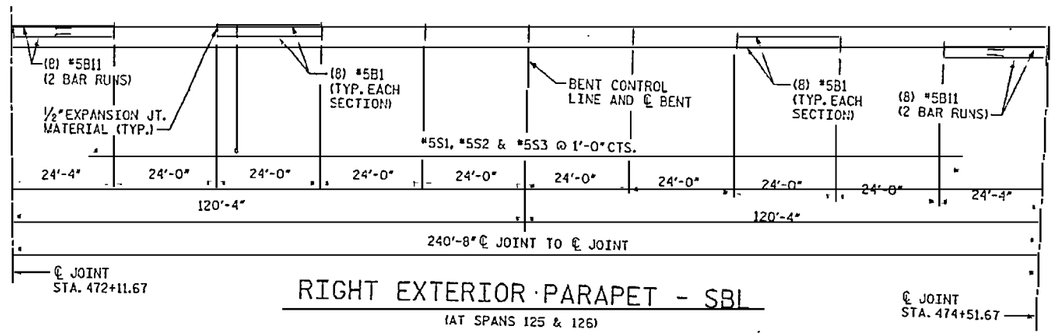
DRAWN BY : M.T. DELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

USER NAME = mdelisle
DGN: RDWAYSTR.dgn
DATE: 10/5/2009 9:44:37 AM



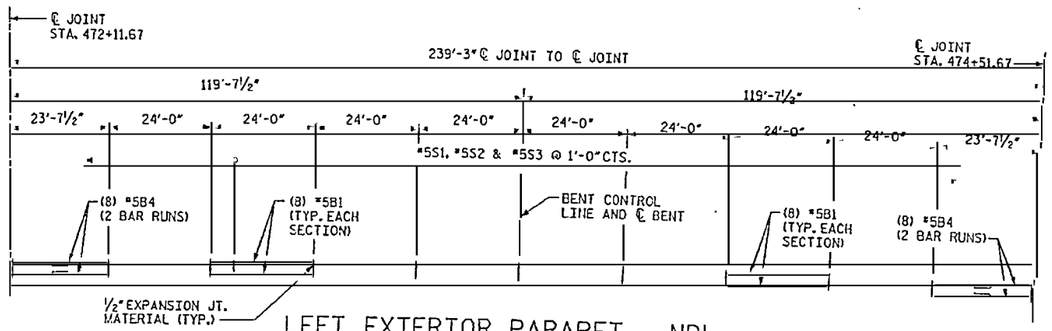
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 125 & 126)



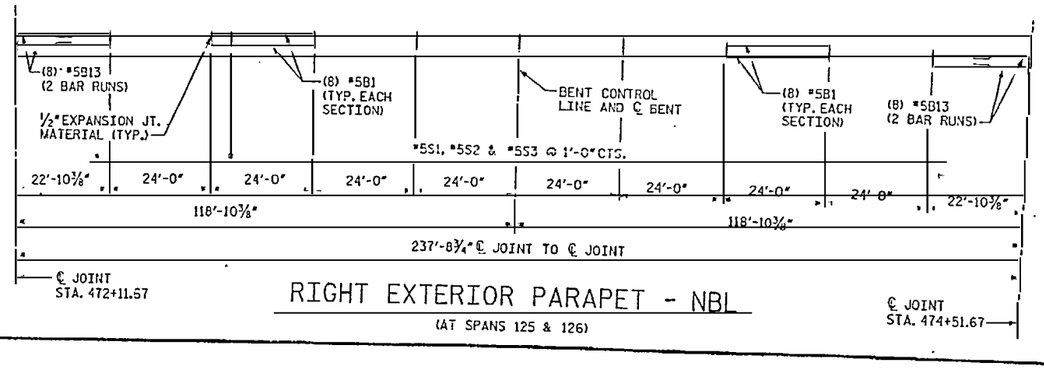
RIGHT EXTERIOR PARAPET - SBL

(AT SPANS 125 & 126)



LEFT EXTERIOR PARAPET - NBL

(AT SPANS 125 & 126)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 125 & 126)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/12/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 16 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

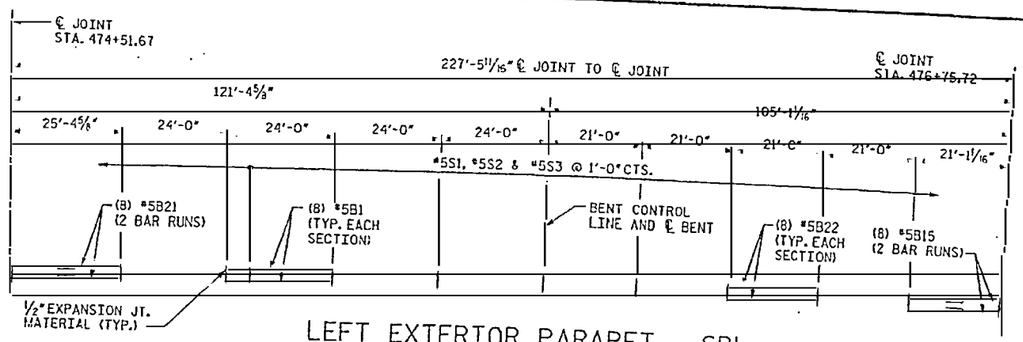
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2246.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

EarthTech
A Tyco International Ltd. Company

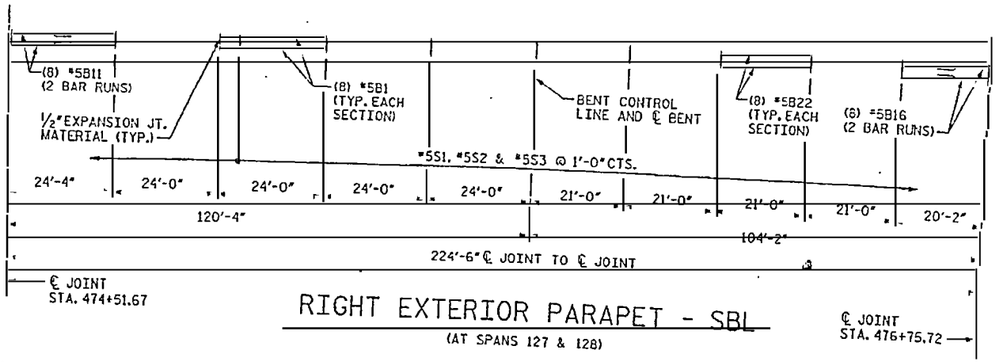
FLATIRON/UNITED
A JOINT VENTURE

USER: rcrawford
DGN: N:\Structures\Projects\2510B\Roadway\Sheets\2510B_SD_SUPERSTRUCTURE.dgn
DATE: 6/12/2007 1:14:22 PM



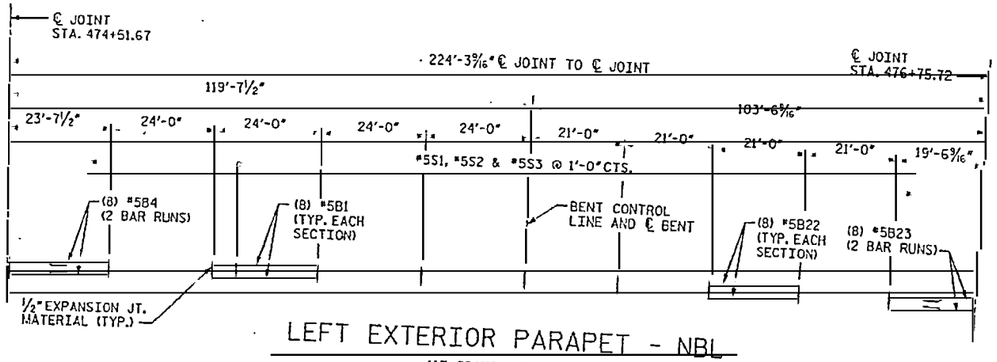
LEFT EXTERIOR PARAPET - SBL

(AT SPANS 127 & 128)



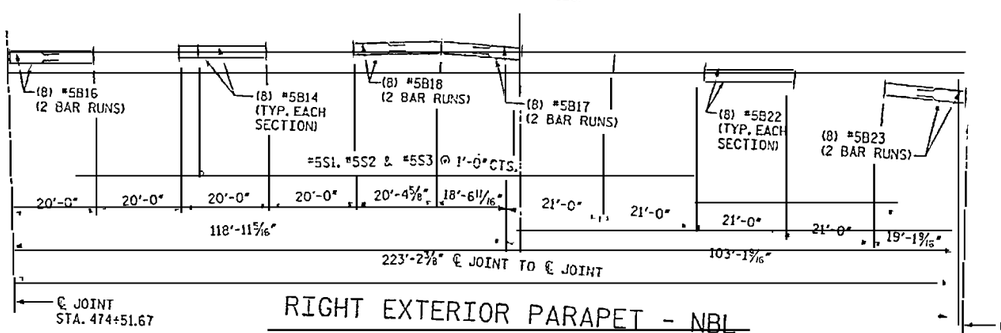
RIGHT EXTERIOR PARAPET - SBL

(AT SPANS 127 & 128)



LEFT EXTERIOR PARAPET - NBL

(AT SPANS 127 & 128)



RIGHT EXTERIOR PARAPET - NBL

(AT SPANS 127 & 128)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. #5S1, #5S2 AND #5S3 BARS SHALL BE PLACED WITH DECK REINFORCING.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 17 OF 19
BRIDGE NO. 363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RELEASED

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET

NORTH CAROLINA PROFESSIONAL SEAL 032367 ENGINEER KEVIN W. JORDAN

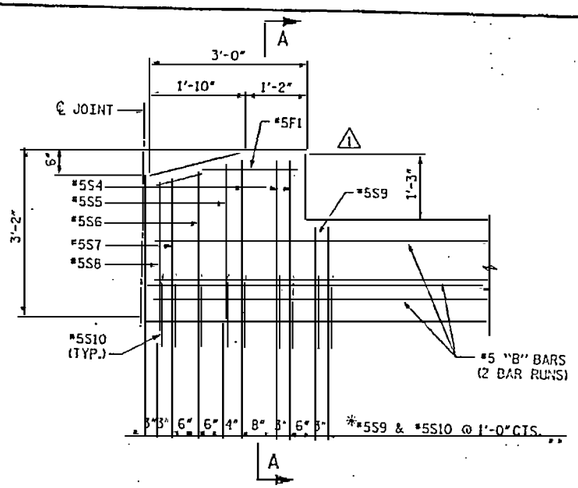
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2247.00
			3			TOTAL SHEETS
			4			

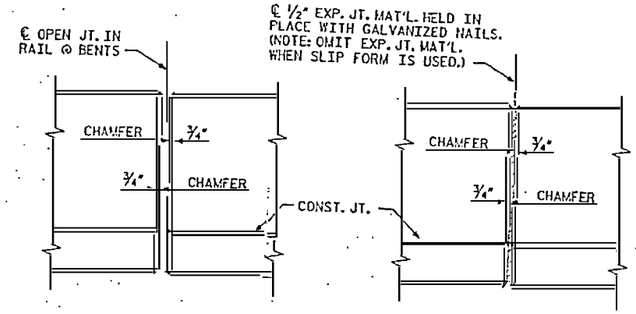
DRAWN BY : M.T. BELTSLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

USER: ttheline
DGN: K:\Structures\Active Proj Bridge\CADD\R2510B_SLOPE_PARAPET11.dgn
DATE: 5/15/2007
TIME: 12:32:12 PM

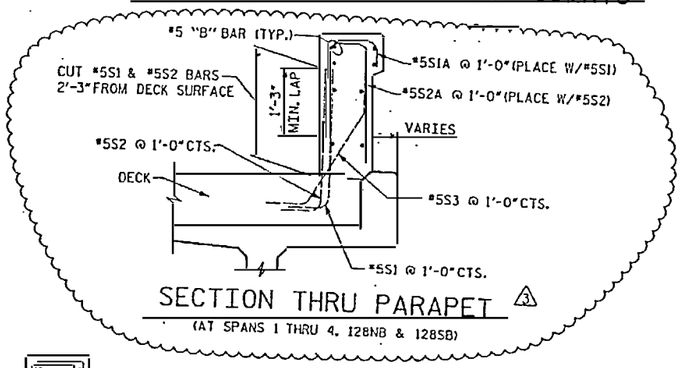


RAILING END POST ELEVATION

*SPACE #5S10 AT EACH #5S9.

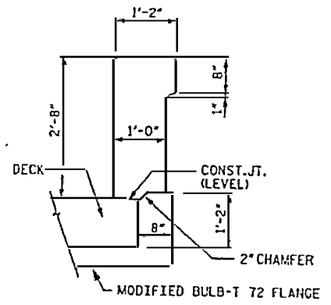


ELEVATION AT EXPANSION JOINTS

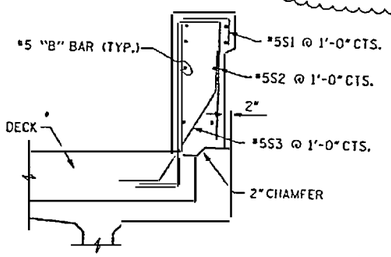


SECTION THRU PARAPET △3

(AT SPANS 1 THRU 4, 128NB & 128SB)

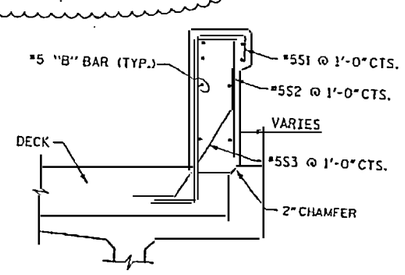


SECTION THRU PARAPET



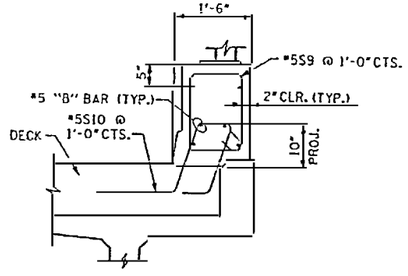
SECTION THRU PARAPET

(AT SPANS 1 THRU 81, 101 & 102)



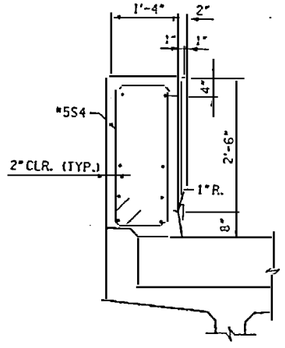
SECTION THRU PARAPET

(AT SPANS 103 THRU 126)

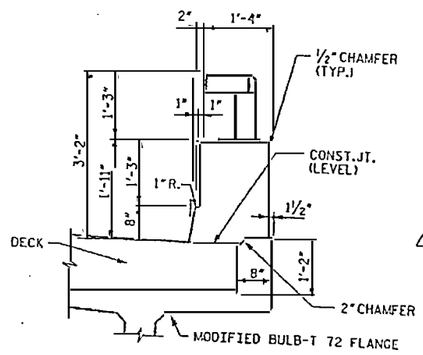


SECTION THRU PARAPET

(AT SPANS 82 THRU 100)



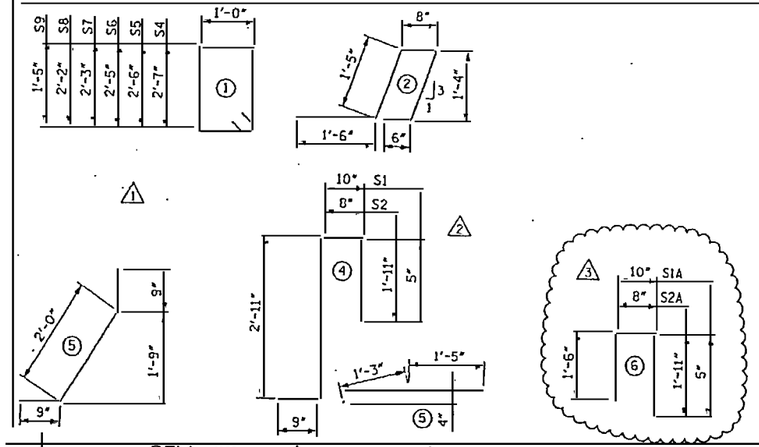
SECTION A-A



SECTION THRU PARAPET & RAIL

(AT SPANS 82 THRU 100)

BAR TYPES



BILL OF MATERIAL

FOR CONCRETE PARAPET AND END POSTS ONLY

	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
	B1	3728	#5	STR	23'-8"	92023
	B2	720	#5	STR	13'-7"	10201
	B3	48	#5	STR	23'-2"	1160
	B4	240	#5	STR	13'-4"	3338
	B5	48	#5	STR	21'-3"	1064
	B6	16	#5	STR	12'-5"	207
	B7	256	#5	STR	14'-0"	3738
	B8	304	#5	STR	12'-10"	4069
	B9	576	#5	STR	22'-6"	13517
	B10	3376	#5	STR	24'-0"	84508
	B11	1920	#5	STR	13'-9"	27535
	B12	64	#5	STR	22'-8"	1513
	B13	224	#5	STR	13'-0"	3037
	B14	1128	#5	STR	19'-8"	23138
	B15	40	#5	STR	12'-1"	504
	B16	248	#5	STR	11'-7"	2996
	B17	40	#5	STR	11'-0"	459
	B18	232	#5	STR	11'-11"	2884
	B19	192	#5	STR	13'-2"	2620
	B20	64	#5	STR	14'-2"	946
	B21	80	#5	STR	14'-4"	1196
	B22	128	#5	STR	20'-8"	2759
	B23	32	#5	STR	11'-4"	378
△1	F1	8	#5	5	2'-8"	22
△2	S1	30203	#5	4	4'-11"	154885
	S2	30203	#5	4	6'-3"	156686
	S3	30203	#5	5	3'-6"	110256
	S4	12	#5	1	8'-1"	101
	S5	4	#5	1	7'-11"	33
	S6	4	#5	1	7'-9"	32
	S7	4	#5	1	7'-5"	31
	S8	4	#5	1	7'-3"	30
	S9	4489	#5	1	5'-9"	26922
	S10	4517	#5	2	5'-7"	26304
△3	S1A	1378	#5	6	2'-9"	3952
	S2A	1378	#5	6	4'-1"	5869

NOTES:

1. FOR ELEVATIONS, SEE "CONCRETE PARAPET AND CONCRETE MEDIAN BARRIER", SHEET NO. 2221.
△1 2. REINFORCING STEEL FOR CONCRETE PARAPET AND END POSTS SHALL BE EPOXY COATED.
△3 3. BARS #5S1 AND #5S2 MAY BE SPACED ALTERNATELY, (i.e. 6" SPACING BETWEEN BARS.
△3 4. BARS #5S3 MUST BE SPACED WITH BARS #5S1.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/22/08 DATE

△3 ADDED DETAILS S1A AND S2A, BAR SHAPE 6, NODES 3 AND 4
△2 REVISED BARS S1 AND S2
△1 ADDED NOTE, REMOVED BAR F2

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 18 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SUPERSTRUCTURE
CONCRETE PARAPET DETAILS

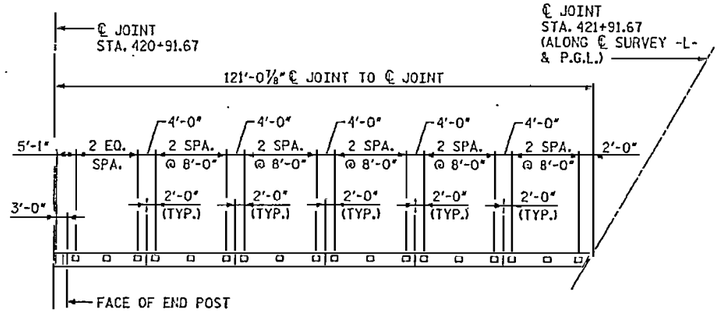
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2248.03
△1	SGS	7/07	△3	SGS	1/08	TOTAL SHEETS
△2	SGS	11/07	△4			

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

EarthTech
A Tyco International Ltd. Company

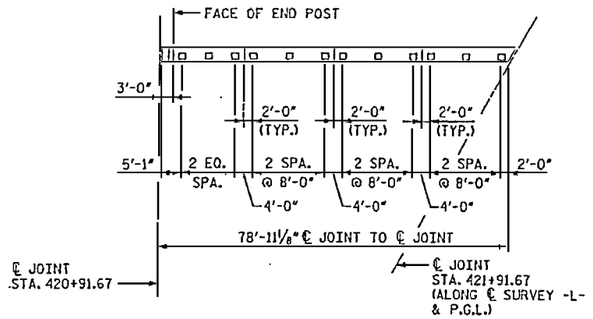
FLATIRON/UNITED
A JOINT VENTURE

DATE: 1/18/2008
TIME: 2:24:07 PM
USER: kcarmichael
DGN: Roadway Standards\2248_03_01.dgn



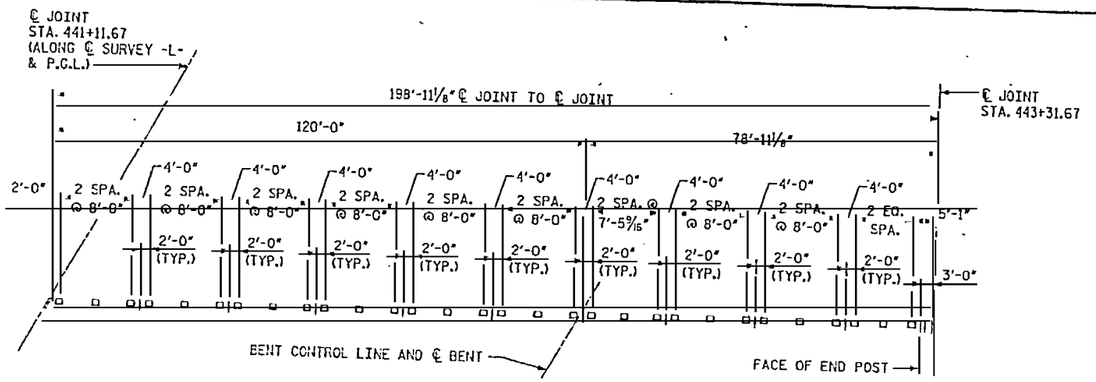
LEFT EXTERIOR RAIL POSTS

⚠ (AT SPAN 82)



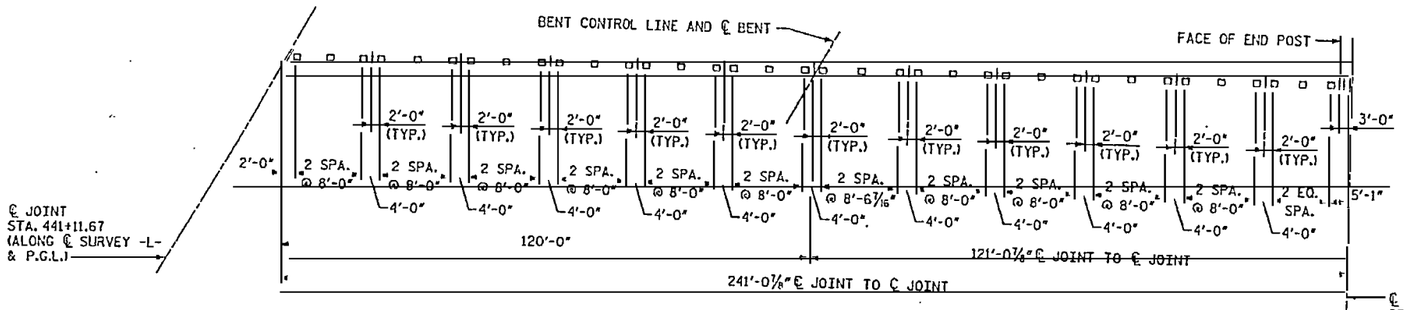
RIGHT EXTERIOR RAIL POSTS

(AT SPAN 82)



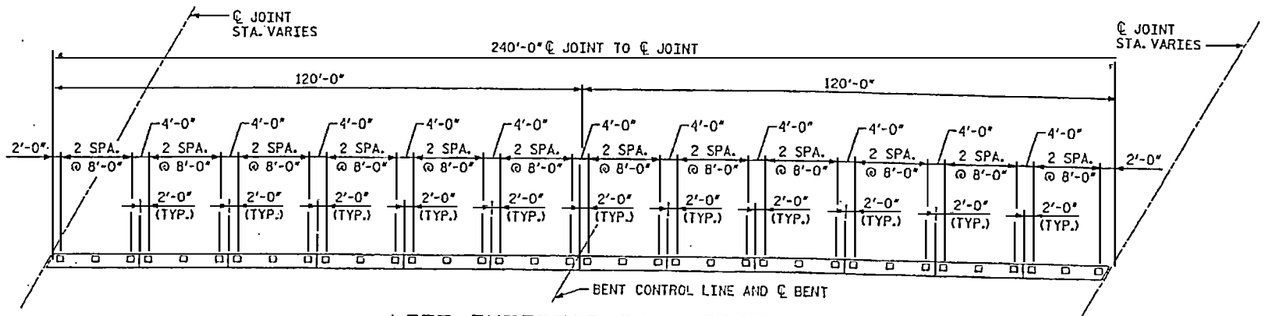
LEFT EXTERIOR RAIL POSTS

⚠ (AT SPANS 99 & 100)



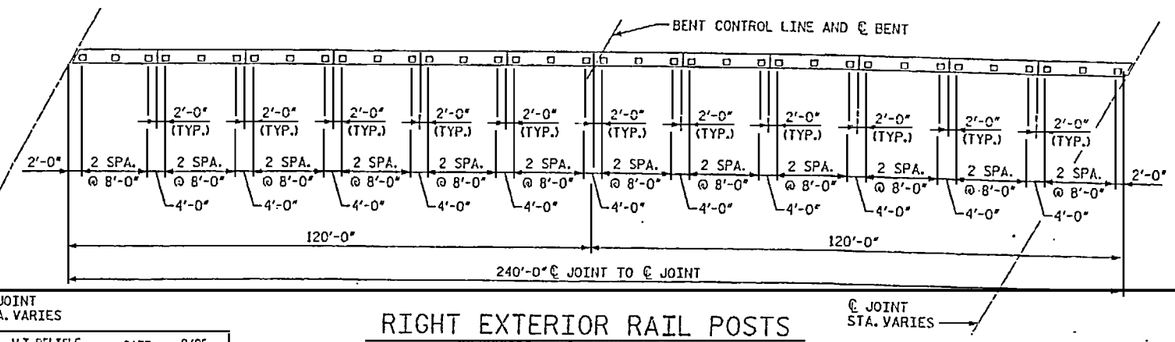
RIGHT EXTERIOR RAIL POSTS

⚠ (AT SPANS 99 & 100)



LEFT EXTERIOR RAIL POSTS

⚠ (TYPICAL AT SPANS 83 THRU 98)



RIGHT EXTERIOR RAIL POSTS

⚠ (TYPICAL AT SPANS 83 THRU 98)

NOTES:

1. ALL DIMESIONS ARE GIVEN ALONG OUTSIDE FACE OF PARAPET.
2. FOR END POST DETAILS, SEE "CONCRETE PARAPET DETAILS", SHEET NO. 2248.

⚠ GENERAL REVISION

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 12/11/09

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030016 JOHN W. JORDAN III

EarthTech

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 19 OF 19 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

RAIL POST SPACINGS

REVISIONS					
NO.	BY:	DATE:	NO	BY:	DATE:
1	MTB	12/11/09	3		
2			4		

SHEET NO: 2249.01
TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 9/06
CHECKED BY : J. LIU DATE : 9/06

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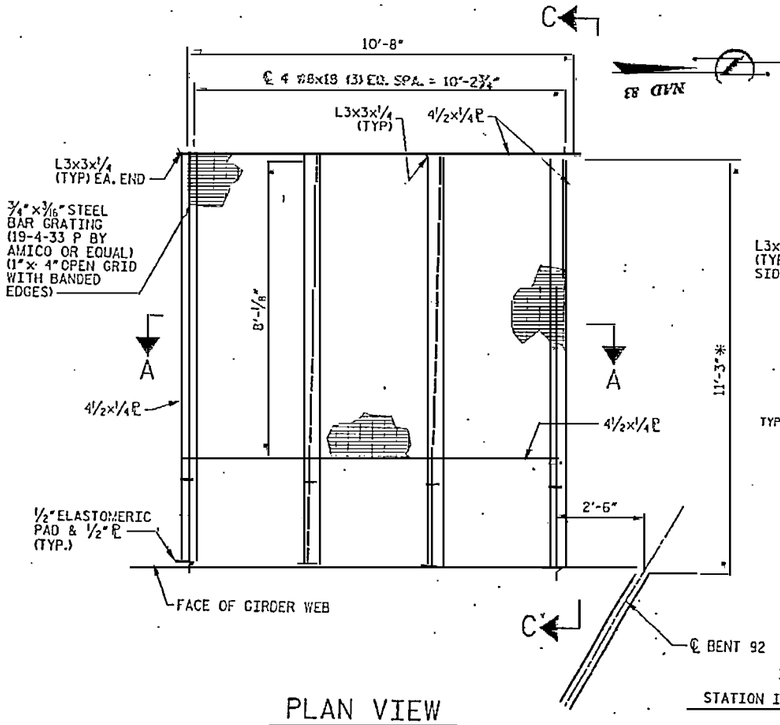
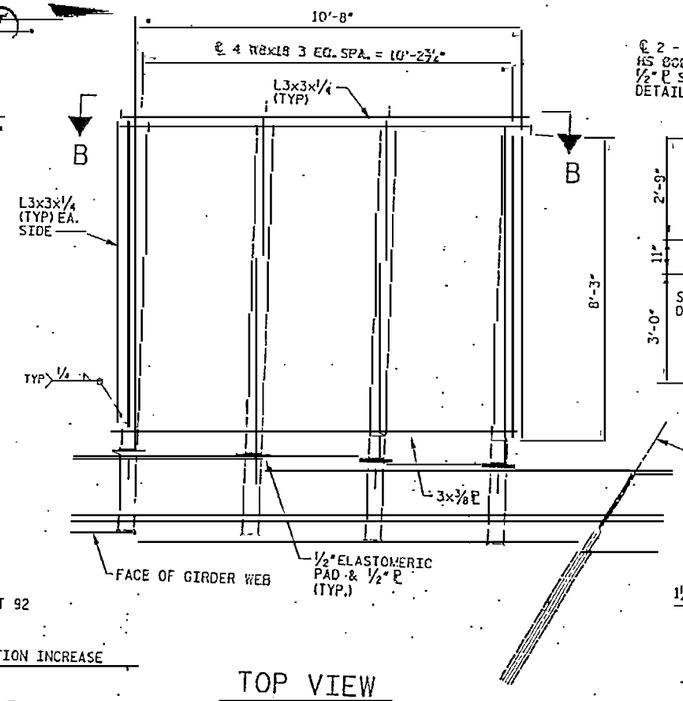
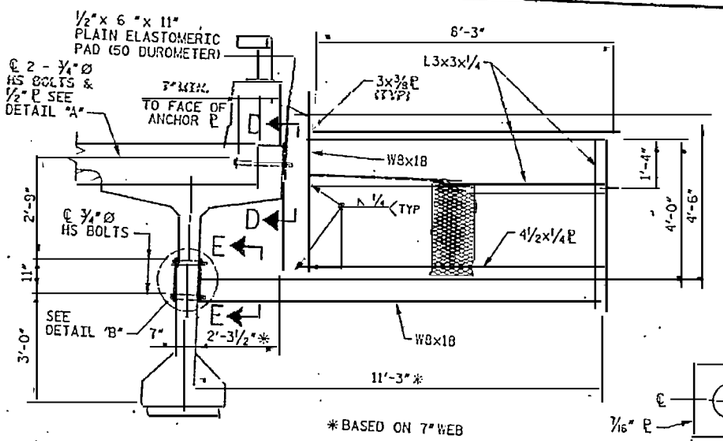


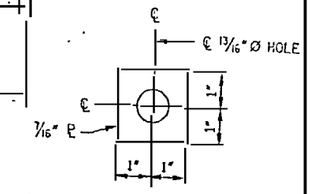
PLAN VIEW



TOP VIEW

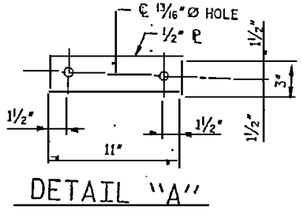


SECTION C-C

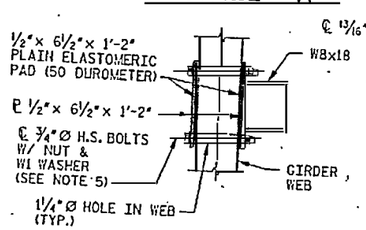


WI

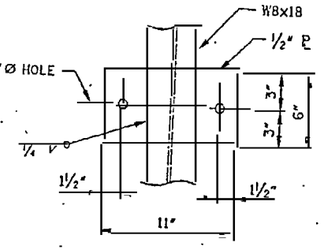
USE WITH ¾"Ø HEAVY HEX NUTS & DIRECT TENSION INDICATOR WASHERS.



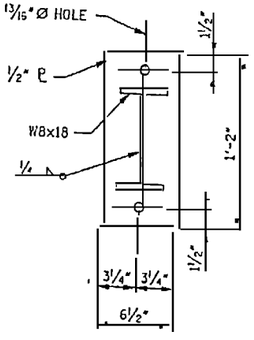
DETAIL "A"



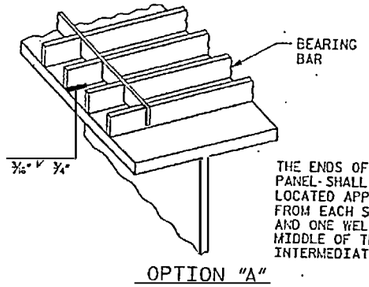
DETAIL "B"



SECTION D-D

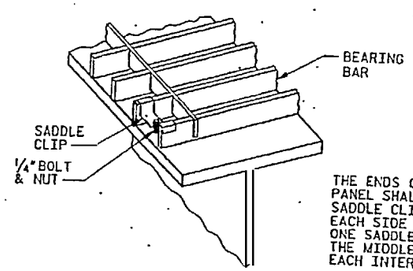


SECTION E-E



OPTION "A"

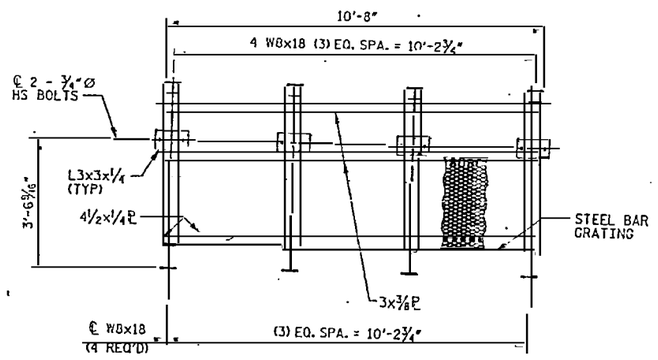
THE ENDS OF EACH GRATING PANEL SHALL HAVE TWO WELDS LOCATED APPROXIMATELY 6" FROM EACH SIDE OF THE PANEL AND ONE WELD LOCATED IN THE MIDDLE OF THE PANEL AT EACH INTERMEDIATE SUPPORT.



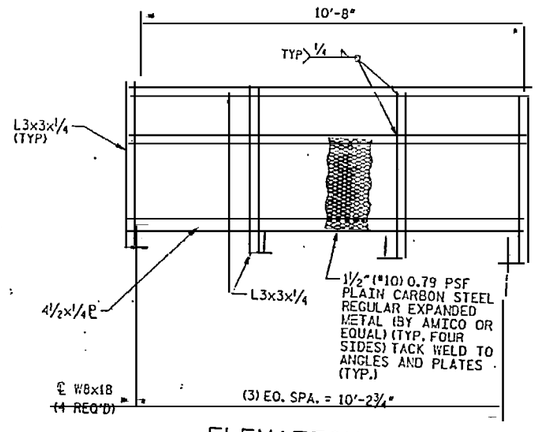
OPTION "B"

THE ENDS OF EACH GRATING PANEL SHALL HAVE TWO SADDLE CLIPS LOCATED NEAR EACH SIDE OF THE PANEL AND ONE SADDLE CLIP LOCATED IN THE MIDDLE OF THE PANEL AT EACH INTERMEDIATE SUPPORT.

BAR GRATING ATTACHMENT



SECTION A-A



ELEVATION B-B

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36.
2. APPLY AN 8 MIL THICK 1350 ALUMINUM (W-AL-1350) THERMAL SPRAYED COATING WITH A 0.5 MIL THICK SEAL COAT TO THE SOLAR ARRAY SUPPORT PLATFORM IN ACCORDANCE WITH THE THERMAL SPRAYED COATINGS (METALLIZATION) TECHNICAL SPECIAL PROVISIONS. SUBMIT FOR APPROVAL, AN ALUMINUM IMPRECHATED CAULKING COMPOUND TO BE USED ON ANY ALUMINUM SURFACE IN CONTACT WITH CONCRETE.
3. THE ANCHOR UNITS FOR THE SOLAR ARRAY PLATFORM SHALL BE IN PLACE PRIOR TO CASTING OF THE CONCRETE DECK SLAB. THE SOLAR ARRAY PLATFORM SHALL NOT BE INSTALLED UNTIL THE CONCRETE DECK SLAB HAS BEEN CAST AND HAS ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
4. REINFORCING STEEL IN THE CONCRETE DECK SLAB MAY BE SHIFTED AS NECESSARY TO CLEAR THE ANCHOR UNITS FOR THE SOLAR ARRAY PLATFORM.
5. BOLTS THROUGH ℄ AND GIRDER WEB SHALL BE TIGHTENED SNUG TIGHT PLUS ¼ TURN AND THEN THE BOLT THREADS SHALL BE BURRED WITH A SHARP POINTED TOOL. PROVIDE WASHERS UNDER BOLT HEADS AND NUTS.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/29/07
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
SOLAR ARRAY PLATFORM
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2261.01
TOTAL SHEETS

DRAWN BY : G. SWINSON DATE : 8/08
CHECKED BY : J. W. JORDAN DATE : 8/08

USER: gswinson
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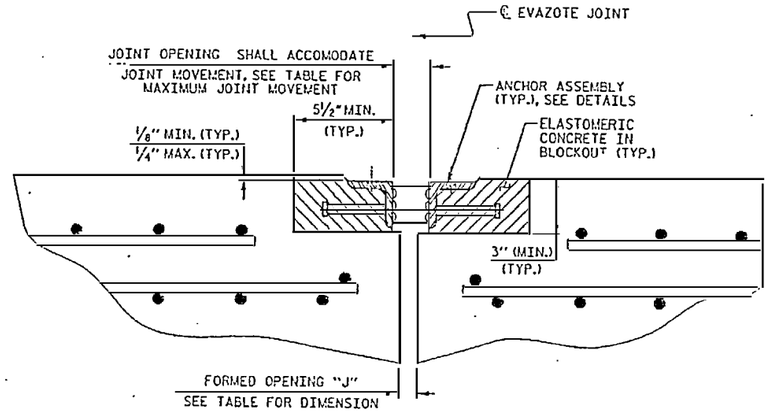
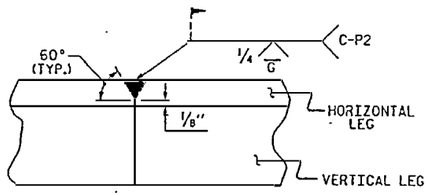
PLOT DATE = 3/29/2007
FILE: C:\projects\Structures\2261_w_Bridge\Solar Array Platform\2510_sd_str.dgn

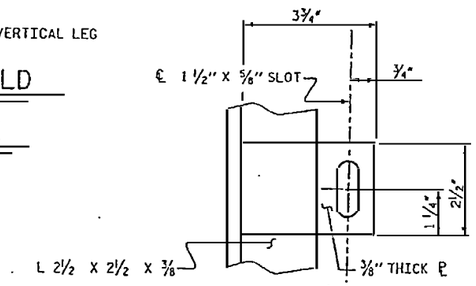


ARMORED JOINT DETAILS

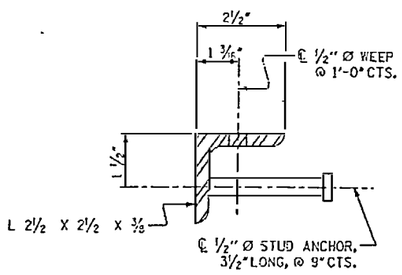
SECTION NORMAL TO JOINT AT BENT



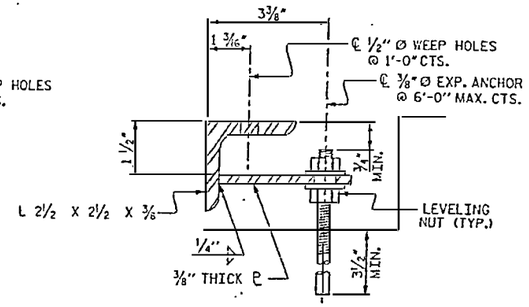
DETAIL- FIELD WELD SPLICE OF ANGLE



PLAN VIEW OF TAB



SECTION VIEW OF STUD



SECTION VIEW OF TAB

ARMORED JOINT ANCHOR ASSEMBLY DETAILS

NOTES

ANGLES SHALL CONFORM TO AASHTO M270 GRADE 36 STEEL OR APPROVED EQUAL. ALL STUD ANCHORS SHALL CONFORM TO AASHTO M169 GRADES 1010 THRU 1020 OR APPROVED EQUAL.

STUD ANCHORS SHALL BE SHOP WELDED AND ALL HOLES SHALL BE SHOP DRILLED AS SHOWN ON THE PLANS. STUD ANCHORS SHALL BE ELECTRIC ARC END WELDED WITH COMPLETE FUSION.

UPON COMPLETION OF SHOP FABRICATION, THE ENTIRE ANCHOR ASSEMBLY SHALL BE METALLIZED. THE ½" Ø STUD ANCHORS AND ANCHOR TABS NEED NOT BE METALLIZED. SEE SPECIAL PROVISION FOR THERMAL SPRAYED COATINGS (METALLIZATION).

ANCHOR ASSEMBLY SHALL BE MADE CONTINUOUS THE LENGTH OF THE JOINT FROM GUTTER TO GUTTER. FOR FIELD SPLICES AT ALL CROWN BREAK POINTS, THE ENDS OF THE STEEL ANGLES SHALL BE CUT PARALLEL TO THE BRIDGE CENTERLINE. FINISHED FIELD WELDS SHALL BE GROUND SMOOTH AND COATED WITH A MINIMUM THICKNESS OF 4 DRY MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR ASSEMBLY SEGMENTS SHALL NOT BE LESS THAN 12 FEET NOR MORE THAN 20 FEET IN LENGTH. SHORTER SEGMENTS MAY BE USED AT THE EDGE OF ROADWAY OR AT POINTS OF STAGED CONSTRUCTION.

THE ANCHOR ASSEMBLY SHALL BE SECURED AND LEVELED AS SHOWN IN THE "ARMORED JOINT ANCHOR ASSEMBLY DETAILS". NO SUBMITTALS ARE REQUIRED FOR ⅜" Ø EXPANSION ANCHORS, NUTS OR WASHERS. AN ALTERNATE METHOD OF ALIGNING AND LEVELING THE ANGLES MAY BE SUBMITTED FOR APPROVAL. THE ALTERNATE METHOD SHALL NOT INCLUDE ANY WELDING TO THE OUTSIDE FACE OF THE ANGLES.

AFTER THE ELASTOMERIC CONCRETE HAS BEEN CAST ON BOTH SIDES OF THE JOINT, REMOVE ANY EXCESS CONCRETE THAT COMES THROUGH THE WEEP HOLES AND THOROUGHLY CLEAN THE ANGLES. ANY DAMAGED STEEL SHALL BE COATED WITH A MINIMUM OF 4 MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

SEE SPECIAL PROVISIONS FOR EVAZOTE JOINT SEALS.

SEE SPECIAL PROVISIONS FOR ELASTOMERIC CONCRETE.

MOVEMENT AND SETTING JOINT AT EVAZOTE JOINT

	LOCATIONS	SKEW ANGLE	FORMED OPENING "J"	NOMINAL UNCOMPRESSED SEAL WIDTH	TOTAL MOVEMENT (ALONG ℄ ROADWAY)	PERPENDICULAR JOINT OPENING @ 45° F	PERPENDICULAR JOINT OPENING @ 60° F	PERPENDICULAR JOINT OPENING @ 90° F
(EVEN BENTS ONLY)	END BENT 1	90° 00' 00"	⅝"	2½"	1"	1¾"	1½"	1¼"
	BENTS 2 THRU 12	90° 00' 00"	1⅜"	3¾"	2"	2⅞"	2½"	1⅞"
	BENT 14	70° 31' 22"	1¼"	3"	1¾"	2⅜"	2⅛"	1½"
	BENT 16	51° 02' 44"	1⅛"	3"	1⅛"	2¼"	2"	1½"
	BENTS 18 THRU 26	90° 00' 00"	1⅜"	3¼"	1⅞"	2⅝"	2¼"	1⅝"
	BENTS 28 THRU 80	90° 00' 00"	1⅜"	3¾"	2"	2⅞"	2½"	1⅞"
	BENT 82	120° 00' 00"	1⅞"	3"	1⅞"	2¾"	2"	1½"
	BENTS 84 THRU 98	120° 00' 00"	1¼"	3"	2"	2⅜"	2⅛"	1½"
	BENT 100	90° 00' 00"	1⅜"	3¼"	1⅞"	2⅝"	2¼"	1⅝"
	BENTS 102 THRU 126	90° 00' 00"	1⅜"	3¾"	2"	2⅞"	2½"	1⅞"
	END BENT 2	90° 00' 00"	⅝"	2½"	⅞"	1⅝"	1½"	1⅛"

TOTAL MOVEMENT IS CALCULATED ALONG THE CENTERLINE OF ROADWAY.
JOINT OPENINGS ARE MEASURED PERPENDICULAR TO THE JOINT.

BILL OF MATERIAL (PER BENT)

	LOCATIONS	ELASTOMERIC CONCRETE * (CU. FT.)	TOTAL LENGTH OF ANGLE (FT.)
(EVEN BENTS ONLY)	END BENT 1	16.6	144.7
	BENTS 2 THRU 12	16.6	144.7
	BENT 14	17.6	153.4
	BENT 16	21.3	186.0
	BENTS 18 THRU 80	16.6	144.7
	BENTS 82 THRU 98	19.4	169.2
	BENT 100	16.8	146.5
	BENT 102	16.6	144.7
	BENTS 104 THRU 110	17.1	149.3
	BENT 112	17.3	150.7

	LOCATIONS	ELASTOMERIC CONCRETE * (CU. FT.)	TOTAL LENGTH OF ANGLE (FT.)
(EVEN BENTS ONLY)	BENTS 114 THRU 120 (SOUTHBOUND LANE)	8.9	77.3
	BENT 122 (SOUTHBOUND LANE)	10.3	89.5
	BENTS 124 AND 126 (SOUTHBOUND LANE)	11.6	101.3
	BENTS 114 THRU 126 (NORTHBOUND LANE)	8.4	73.3
	END BENT 2 (SOUTHBOUND LANE)	11.6	101.3
	END BENT 2 (NORTHBOUND LANE)	10.8	94.1

* BASED ON THE MINIMUM BLOCKOUT SHOWN.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026441 JOHN W. JORDAN, JR. 4/2/07

RELEASED FOR CONSTRUCTION
Tom Shearin 4/2/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

ARMORED EVAZOTE JOINT DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

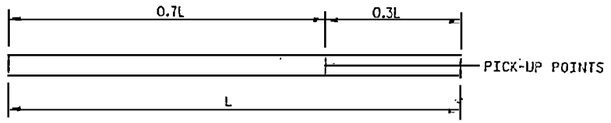
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2266.C0
1			3			TOTAL SHEETS
2			4			

DRAWN BY : J. TORTORELLA DATE : 10/05
CHECKED BY : J. I TU DATE : 10/05

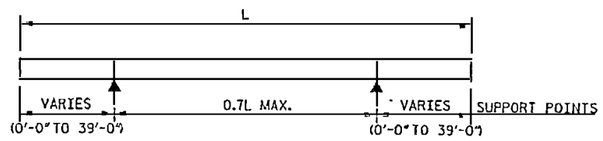
DATE: 4/2/2007
TIME: 3:25:55 PM

USER: chrisnichols
DGN: N:\Structure\Active Area\ARDOVER\2510B_SD_JOINT_DET.dgn

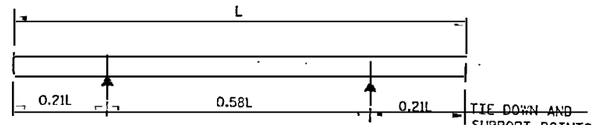


1-POINT PICK-UP

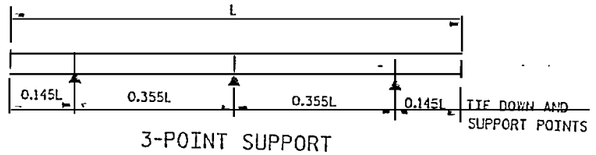
PILE PICK-UP AND STORAGE DETAILS



PILE LEAD SUPPORT DETAIL



2-POINT SUPPORT



3-POINT SUPPORT

TRANSPORTATION SUPPORT DETAILS

PRESTRESSED CONCRETE PILE NOTES

DESIGN PARAMETERS:
SQUARE PRESTRESSED CONCRETE SECTION: DESIGNED FOR 1,000 PSI UNIFORM COMPRESSION AFTER PRESTRESS LOSSES WITHOUT LOADS.

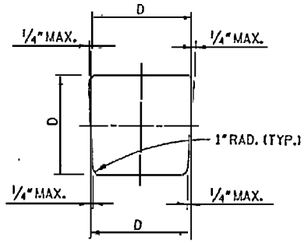
SPIRAL TIES:
EACH WRAP OF SPIRALS SHALL BE TIED TO AT LEAST TWO CORNER STRANDS. ONE TURN REQUIRED FOR SPIRAL SPLICES.

CONCRETE:
THE PILE CYLINDER STRENGTH SHALL BE 6,000 PSI MINIMUM AT 28 DAYS AND 4,000 PSI MINIMUM AT TIME OF TRANSFER OF THE PRESTRESSING FORCE. WATER/CEMENT RATIO SHALL NOT EXCEED 0.40

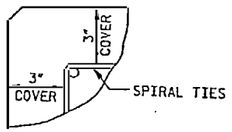
PICK-UP POINTS:
PILES SHALL BE MARKED AT THE PICK-UP POINTS TO INDICATE PROPER POINTS FOR ATTACHING HANDLING LINES.

REINFORCING STEEL:
ALL REINFORCING STEEL SHALL BE GRADE 60, EXCEPT THAT SPIRAL TIES SHALL BE MANUFACTURED FROM COLD-DRAWN STEEL WIRE MEETING THE REQUIREMENTS OF ASTM A82.

PRESTRESSING STEEL:
PRESTRESSING STEEL SHALL BE SEVEN-WIRE STRAND, GRADE 270
LRS = LOW-RELAXATION STRAND
SR = STRESS RELIEVED STRAND

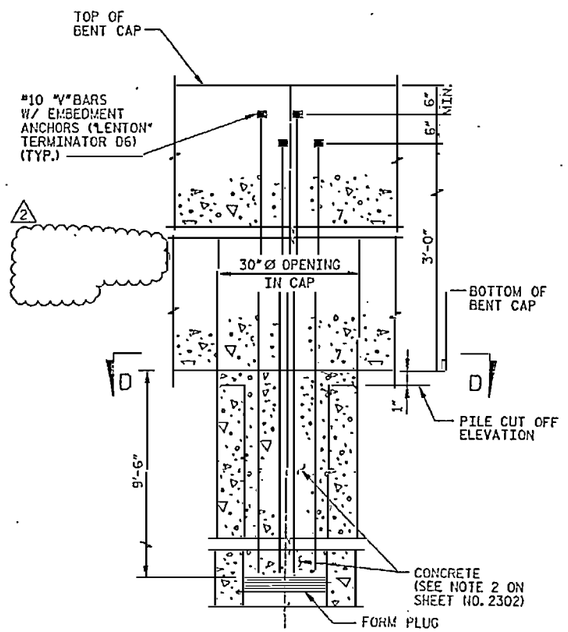


TYPICAL PILE SHAPE
FOR MOLD FORMS

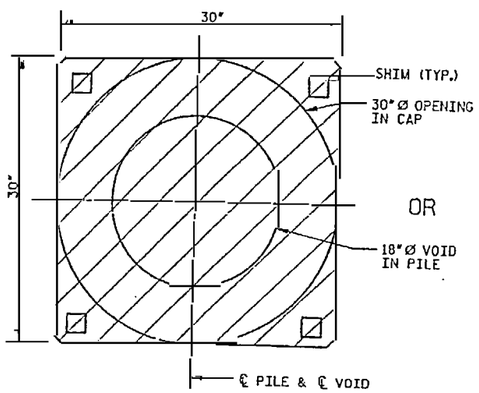


DETAIL SHOWING
TYPICAL COVER

NOTE:
1. WORK THIS SHEET WITH NO. 2302



SECTION THROUGH PILE AT PILE CAP



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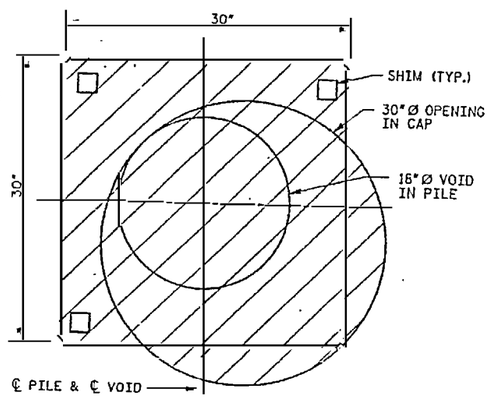

SECTION D-D

FILL WITH CONCRETE

BILL OF MATERIAL					
BAR LIST PER PILE					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
V1	6	#10	STR	13'-0"	336
V2	6	#10	STR	12'-6"	323

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

△2 REMOVED NOTE
△1 REVISED NOTE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
30" SQUARE PRESTRESSED CONCRETE PILE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2301.02
1	BDS	03/20/07	3			TOTAL SHEETS
2	SCS	10/05/07	4			

DRAWN BY : M. HOGAN DATE : 9/06
CHECKED BY : J. LU DATE : 9/06

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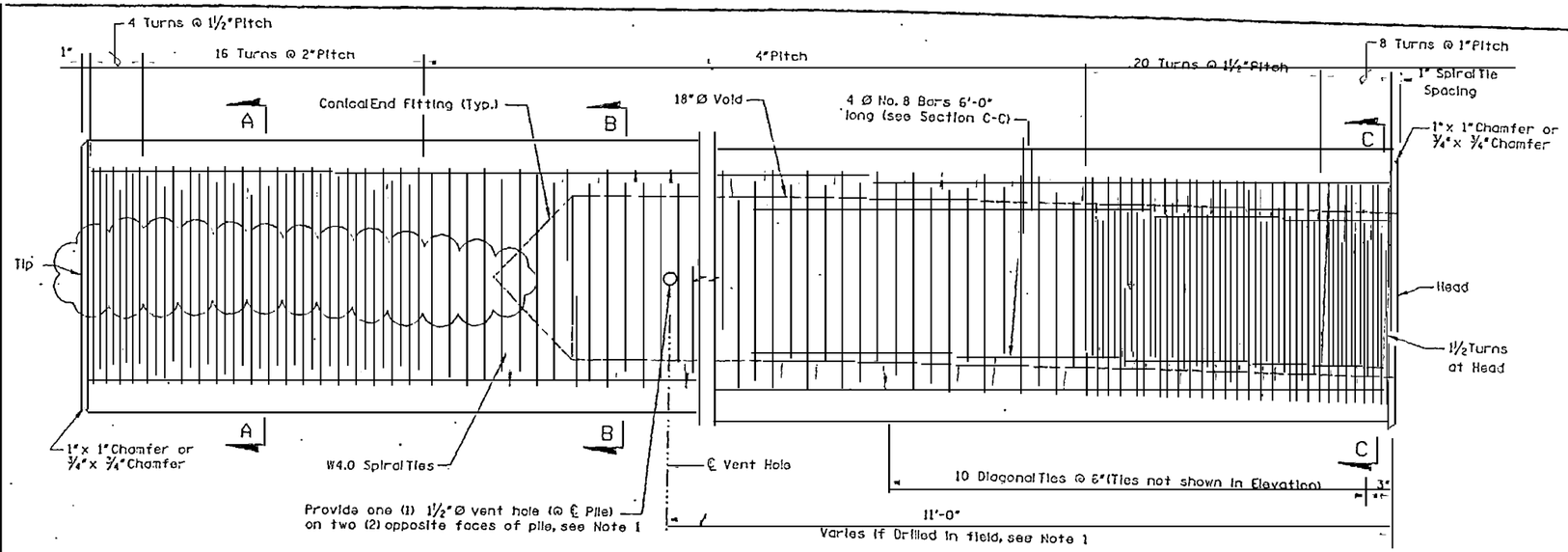
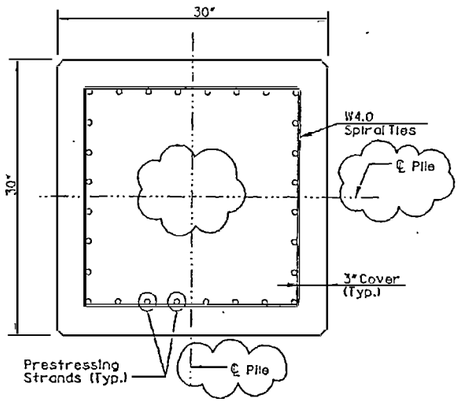
FLATIRON/UNITED
A JOINT VENTURE

DATE: 8/3/2007
TIME: 3:55:15 PM

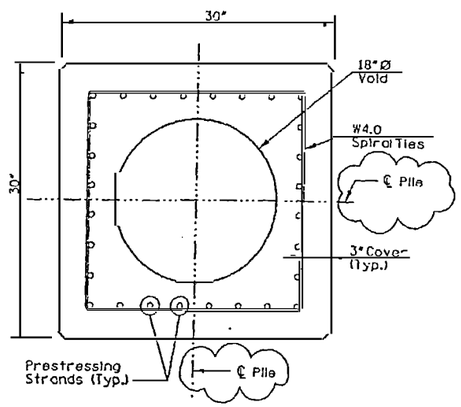
USER: scottsmith
DGN: N:\Structure\Tar River Bridge\CADD\Pile\pile_sq_STD_FILE.dgn



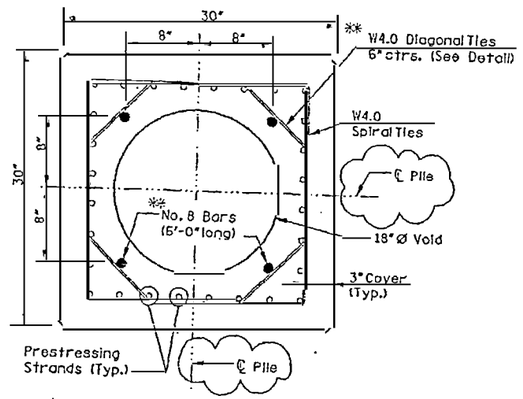
ELEVATION



SECTION A-A

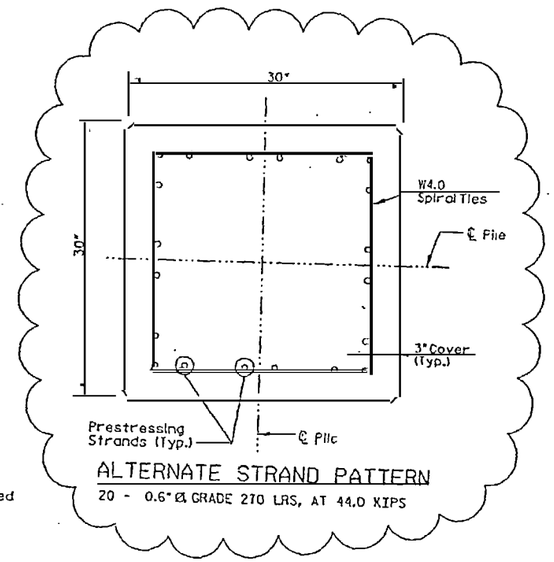


SECTION B-B



SECTION C-C

** Omit 4 Ø No. 8 Bars and Diagonal Ties in pre-planned mechanical splice.



ALTERNATE STRAND PATTERN

20 - 0.6"Ø GRADE 270 LRS, AT 44.0 KIPS

STRAND PATTERN

28 - ½"Ø GRADE 270 LRS, AT 29.0 KIPS
28 - ½"Ø GRADE 270 (SPECIAL) SR, AT 30.2 KIPS

NOTES:

1. The 18"Ø Void in the pile shall be positively vented to water or air after the final pile installation. If the 1½"Ø vents are included in the pile cut-off section, two (2) new holes, 1½"Ø shall be drilled on two (2) opposite faces of the pile below the bottom of substructure elevation. If the pile void can not be vented directly to water or air, then venting shall be provided by the use of a 1"Ø PVC conduit through a substructure cap or column. Voids between segments of spliced piles shall be connected by 2"Ø hole(s).

2. After the pile is driven and cut to grade, the top 9'-6" of the 18"Ø Void shall be filled with concrete. Prior to filling the top 9'-6" of the 18"Ø Void with concrete, strip the cardboard form material from the void. A stay-in-place corrugated thin wall galvanized pipe may be used to form the void in lieu of the cardboard form material. The concrete fill material shall be 5000 psi mix with ⅜" aggregates.

3. The strands shall be located as follows:
   Place one strand at each corner and place the remaining strands equally spaced between the corner strands. The total strand pattern shall be concentric with the nominal concrete section of the pile.

4. Work this sheet with sheet no. 2301.

DRAWN BY : C.J. WHITFIELD DATE : 1/07
CHECKED BY : J. LEE DATE : 1/07

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
30" SQUARE PRESTRESSED CONCRETE PILE 2
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	5/07	3		
2			4		

SHEET NO. 2302.01
TOTAL SHEETS

DATE: 5/15/2007
TIME: 4:26:57 PM
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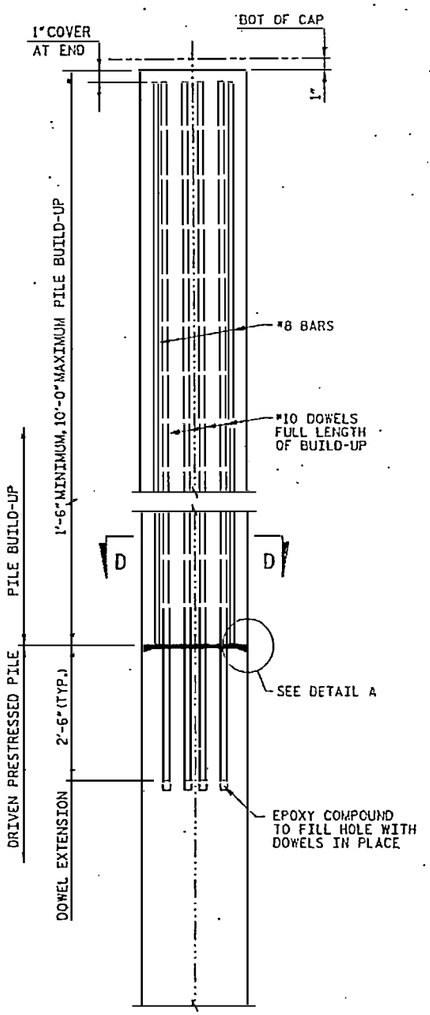
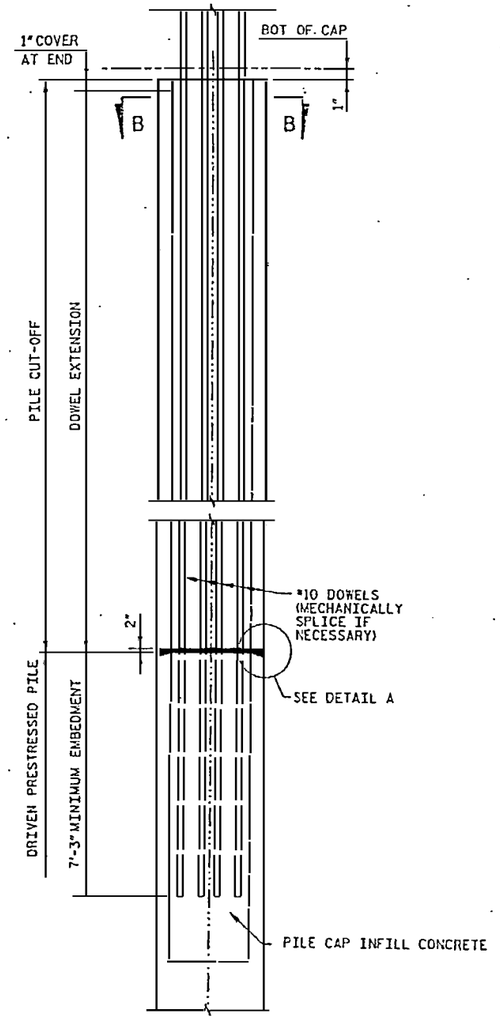
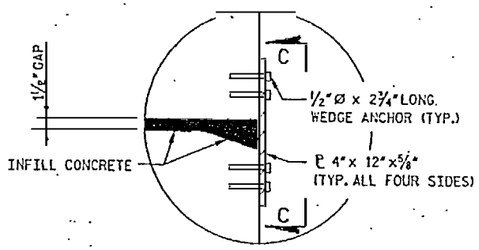


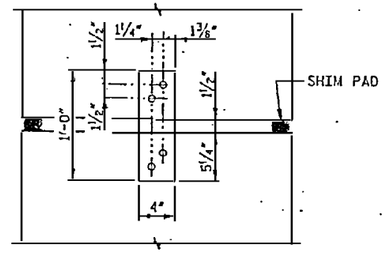
- PRECAST PILE -
CAST-IN-PLACE BUILD-UP DETAIL



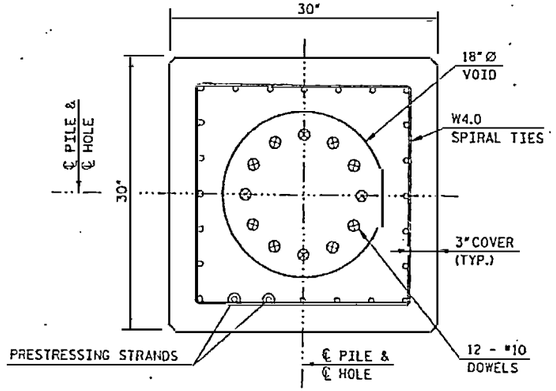
- PRECAST PILE -
BUILD-UP DETAIL USING PILE CUT-OFF



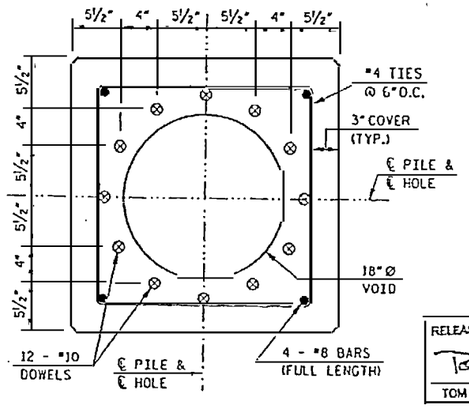
DETAIL A



VIEW C-C



SECTION B-B



SECTION D-D

NOTES:

1. PRIOR TO STRESSING THE BENT CAP POST-TENSIONING OR ADVANCING THE FRONT LEG OF THE LAUNCHING GIRDER, THE BUILDUP / BENT CAP INFILL CONCRETE MUST REACH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
2. THE REMAINING CONSTRUCTION ACTIVITIES MAY PROCEED ONCE THE INFILL STRENGTH HAS REACHED 5000 PSI.
3. UPON THE REMOVAL OF FORMWORK AND CONNECTION PLATES ANY REMAINING VOIDS BETWEEN THE PRECAST BUILDUP AND THE DRIVEN PILE SHOULD BE ADEQUATELY REPAIRED USING APPROVED EPOXY-INJECTION AND JOINT SEALING TECHNIQUES. SUPPORT PLATE BOLT HOLES SHOULD BE FILLED WITH AN NCDOT-APPROVED EPOXY COMPOUND.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/14/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
PILE BUILD-UP DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2303.00
1			3			TOTAL SHEETS
2			4			

DATE: 1/12/09
C. C. STEGONAR

Bent No.	Pile Type and Size	Minimum Tip Elevation (ft)	Recommended Tip Elevation (ft)	Ultimate Bearing Capacity		Pile Cut-off Elevation (ft)												Scour Elevation (ft)	
				1800 kip Pile Numbers	1650 kip Pile Numbers	Pile 1	Pile 2	Pile 3	Pile 4	Pile 5	Pile 6	Pile 7	Pile 8	Pile 9	Pile 10	Pile 11	Pile 12	100-year	500-year
1	30" square prestressed concrete pile	-80.000	-80.000	1, 5, 9	2 to 4, 6 to 8	15.729	15.729	15.729	16.383	16.383	16.383	15.729	15.729	15.729				16.090	16.090
2	30" square prestressed concrete pile	-80.000	-80.000	1, 5, 9	2 to 4, 6 to 8	16.089	16.089	16.089	16.743	16.743	16.743	16.089	16.089	16.089				6.510	6.510
3	30" square prestressed concrete pile	-80.000	-80.000	1, 5, 9	2 to 4, 6 to 8	16.449	16.449	16.449	17.103	17.103	17.103	16.449	16.449	16.449				-1.030	-1.030
4	30" square prestressed concrete pile	-85.000	-85.000	1, 5, 9	2 to 4, 6 to 8	16.809	16.809	16.809	17.463	17.463	17.463	16.809	16.809	16.809				-1.080	-1.080
5	30" square prestressed concrete pile	-85.000	-85.000	1, 5, 9	2 to 4, 6 to 8	17.169	17.169	17.169	17.823	17.823	17.823	17.169	17.169	17.169				-3.490	-3.490
6	30" square prestressed concrete pile	-70.000	-80.000	1, 5, 9	2 to 4, 6 to 8	17.529	17.529	17.529	18.183	18.183	18.183	17.529	17.529	17.529				-9.570	-12.570
7	30" square prestressed concrete pile	-70.000	-80.000	1, 5, 9	2 to 4, 6 to 8	17.889	17.889	17.889	18.543	18.543	18.543	17.889	17.889	17.889				-8.290	-11.290
8	30" square prestressed concrete pile	-85.000	-85.000	1, 5, 9	2 to 4, 6 to 8	18.249	18.249	18.249	18.903	18.903	18.903	18.249	18.249	18.249				-5.360	-8.360
9	30" square prestressed concrete pile	-80.000	-80.000	1, 5, 9	2 to 4, 6 to 8	18.609	18.609	18.609	19.263	19.263	19.263	18.609	18.609	18.609				-8.330	-8.330
10	30" square prestressed concrete pile	-65.000	-77.000	1, 5, 9	2 to 4, 6 to 8	18.969	18.969	18.969	19.623	19.623	19.623	18.969	18.969	18.969				-10.140	-11.140
11	30" square prestressed concrete pile	-70.000	-80.000	1, 5, 9	2 to 4, 6 to 8	19.329	19.329	19.329	19.983	19.983	19.983	19.329	19.329	19.329				-9.880	-11.880
12	30" square prestressed concrete pile	-70.000	-80.000	1, 5, 9	2 to 4, 6 to 8	19.689	19.689	19.689	20.343	20.343	20.343	19.689	19.689	19.689				-9.160	-13.160
13	30" square prestressed concrete pile	-65.000	-80.000	1, 5, 9	2 to 4, 6 to 8	20.049	20.049	20.049	20.703	20.703	20.703	20.049	20.049	20.049				-10.320	-13.320
14	30" square prestressed concrete pile	-60.000	-80.000	1, 2, 9, 10	3 to 8	20.334	20.334	20.719	20.719	21.012	21.012	20.767	20.767	20.405	20.405			-15.180	-18.180
15	30" square prestressed concrete pile	-70.000	-77.000	1, 2, 9, 10	3 to 8	20.596	20.596	20.998	20.998	21.305	21.305	21.106	21.106	20.760	20.760			-14.620	-20.620
16	30" square prestressed concrete pile	-70.000	-80.000	1, 2, 9, 10	3 to 8	20.996	20.996	21.358	21.358	21.665	21.665	21.466	21.466	21.120	21.120			-9.540	-18.540
17	30" square prestressed concrete pile	-60.000	-82.000	1, 2, 9, 10	3 to 8	21.311	21.311	21.697	21.697	21.989	21.989	21.745	21.745	21.383	21.383			-14.970	-20.970
18	30" square prestressed concrete pile	-65.000	-80.000	1, 5, 9	2 to 4, 6 to 8	21.667	21.667	21.667	22.322	22.322	22.322	21.667	21.667	21.667				-14.970	-20.970
19	30" square prestressed concrete pile	-70.000	-80.000	1, 5, 9	2 to 4, 6 to 8	22.009	22.009	22.009	22.664	22.664	22.664	22.009	22.009	22.009				-15.780	-20.780
20	30" square prestressed concrete pile	-70.000	-83.000	1, 5, 9	2 to 4, 6 to 8	22.351	22.351	22.351	23.006	23.006	23.006	22.351	22.351	22.351				-17.280	-21.280
21	30" square prestressed concrete pile	-70.000	-87.000	1, 5, 9	2 to 4, 6 to 8	22.693	22.693	22.693	23.348	23.348	23.348	22.693	22.693	22.693				-13.920	-17.920
22	30" square prestressed concrete pile	-75.000	-83.000	1, 5, 9	2 to 4, 6 to 8	23.035	23.035	23.035	23.690	23.690	23.690	23.035	23.035	23.035				-10.440	-13.440
23	30" square prestressed concrete pile	-75.000	-83.000	1, 5, 9	2 to 4, 6 to 8	23.378	23.378	23.378	24.032	24.032	24.032	23.378	23.378	23.378				-9.480	-13.480
24	30" square prestressed concrete pile	-75.000	-83.000	1, 5, 9	2 to 4, 6 to 8	23.720	23.720	23.720	24.374	24.374	24.374	23.720	23.720	23.720				-8.850	-13.850
25	30" square prestressed concrete pile	-75.000	-85.000	1, 5, 9	2 to 4, 6 to 8	24.062	24.062	24.062	24.716	24.716	24.716	24.062	24.062	24.062				-9.170	-14.170
26	30" square prestressed concrete pile	-80.000	-83.000	1, 5, 9	2 to 4, 6 to 8	24.356	24.356	24.356	25.010	25.010	25.010	24.356	24.356	24.356				-9.820	-14.820
27	30" square prestressed concrete pile	-80.000	-83.000	1, 5, 9	2 to 4, 6 to 8	24.531	24.531	24.531	25.185	25.185	25.185	24.531	24.531	24.531				-10.790	-14.790
28	30" square prestressed concrete pile	-80.000	-83.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-10.680	-14.680
29	30" square prestressed concrete pile	-80.000	-87.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-11.120	-15.120
30	30" square prestressed concrete pile	-80.000	-87.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-11.040	-16.040
31	30" square prestressed concrete pile	-80.000	-85.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-10.860	-14.860
32	30" square prestressed concrete pile	-80.000	-87.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-11.440	-15.440
33	30" square prestressed concrete pile	-80.000	-85.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.900	-10.900
34	30" square prestressed concrete pile	-80.000	-85.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.460	-12.460
35	30" square prestressed concrete pile	-80.000	-85.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-6.540	-10.540
36	30" square prestressed concrete pile	-80.000	-80.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-9.250	-14.250
37	30" square prestressed concrete pile	-80.000	-83.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.580	-13.580
38	30" square prestressed concrete pile	-80.000	-82.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-6.750	-13.750
39	30" square prestressed concrete pile	-80.000	-80.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.250	-13.250
40	30" square prestressed concrete pile	-80.000	-80.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.420	-13.420
41	30" square prestressed concrete pile	-80.000	-81.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.240	-12.240
42	30" square prestressed concrete pile	-80.000	-81.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-5.920	-10.920
43	30" square prestressed concrete pile	-80.000	-82.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-5.230	-9.230
44	30" square prestressed concrete pile	-80.000	-87.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-4.500	-8.500
45	30" square prestressed concrete pile	-80.000	-95.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-6.280	-10.280
46	30" square prestressed concrete pile	-80.000	-91.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.970	-12.970
47	30" square prestressed concrete pile	-80.000	-90.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-6.790	-10.790
48	30" square prestressed concrete pile	-80.000	-90.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.290	-12.290
49	30" square prestressed concrete pile	-80.000	-86.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.340	-12.340
50	30" square prestressed concrete pile	-80.000	-84.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.390	-12.390
51	30" square prestressed concrete pile	-79.000	-79.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-9.130	-12.130
52	30" square prestressed concrete pile	-77.000	-77.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-9.360	-12.360
53	30" square prestressed concrete pile	-79.000	-79.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.820	-11.820
54	30" square prestressed concrete pile	-77.000	-77.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-9.360	-12.360
55	30" square prestressed concrete pile	-76.000	-76.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.940	-11.940
56	30" square prestressed concrete pile	-78.000	-78.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.860	-11.860
57	30" square prestressed concrete pile	-78.000	-78.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.040	-12.040
58	30" square prestressed concrete pile	-77.000	-77.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.180	-11.180
59	30" square prestressed concrete pile	-74.000	-74.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.940	-10.940
60	30" square prestressed concrete pile	-77.000	-77.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.110	-11.110
61	30" square prestressed concrete pile	-77.000	-77.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-6.130	-11.130
62	30" square prestressed concrete pile	-76.000	-76.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-5.840	-10.840
63	30" square prestressed concrete pile	-78.000	-78.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-5.460	-11.460
64	30" square prestressed concrete pile	-79.000	-79.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-4.140	-11.140
⚠2 65	30" square prestressed concrete pile	-88.000	-88.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-4.940	-10.940

⚠2 REVISED TIP ELEV. AT BENT NO. 65
⚠1 UPDATED TABLE

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/13/09

NORTH CAROLINA PROFESSIONAL SEAL 24965 ENGINEER SEAN ANDREW JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 3 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
PILE DATA TABLE
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	7/10/07	3		
2	SGS	3/13/09	4		

SHEET NO. 2306.02
TOTAL SHEETS

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : C. J. WHITFIELD DATE : 1/07
CHECKED BY : J. LIU DATE : 1/07

User: sgallimore
Date: 3/13/2009
File: Instructs\rev mw bridges\R2510B_50_DSH_pile_tmplpn

Pile Data Table

Bent No.	Pile Type and Size	Minimum Tip Elevation (ft)	Recommended Tip Elevation (ft)	Ultimate Bearing Capacity 1800 kip Pile Numbers	Ultimate Bearing Capacity 1550 kip Pile Numbers	Pile Cut-off Elevation (ft) Pile 1	Pile 2	Pile 3	Pile 4	Pile 5	Pile 6	Pile 7	Pile 8	Pile 9	Pile 10	Pile 11	Pile 12	Scour Elevation (ft) 100-year	500-year
66	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-4.760	-10.760
67	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-5.760	-10.760
68	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-6.820	-10.820
69	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.380	-10.380
70	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.830	-10.830
71	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.660	-10.660
72	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.880	-10.880
73	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.820	-10.820
74	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.980	-10.980
75	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.760	-10.760
76	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-8.200	-10.200
77	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.585	24.585	24.585	25.240	25.240	25.240	24.585	24.585	24.585				-7.600	-9.600
78	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.507	24.507	24.507	25.252	25.252	25.252	24.597	24.597	24.597				-10.060	-10.060
79	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	24.955	24.955	24.955	25.610	25.610	25.610	24.955	24.955	24.955				-10.300	-10.300
80	30" square prestressed concrete pile	-68.000	-68.000	1, 5, 9	2 to 4, 6 to 8	25.811	25.811	25.811	26.465	26.465	26.465	25.811	25.811	25.811				-9.940	-9.940
81	30" square prestressed concrete pile	-68.000	-68.000	1, 2, 9, 10	3 to 8	27.060	27.060	27.060	27.446	27.446	27.446	27.446	27.060	27.060				-11.150	-11.150
82	30" square prestressed concrete pile	-68.000	-68.000	1, 2, 5, 6, 9, 10	3, 4, 7, 8	28.874	28.874	29.151	29.151	29.108	29.108	28.717	28.717	28.225	28.225			-9.400	-42.400
83	30" square prestressed concrete pile	-68.000	-68.000	1, 2, 5, 6, 9, 10	3, 4, 7, 8	30.891	30.891	31.167	31.167	31.121	31.121	30.726	30.726	30.229	30.229			-9.400	-42.400
84	30" square prestressed concrete pile	-71.000	-71.000	1, 2, 5, 6, 9, 10	3, 4, 7, 8	32.908	32.908	33.184	33.184	33.137	33.137	32.743	32.743	32.245	32.245			-9.400	-42.400
85	30" square prestressed concrete pile	-72.000	-72.000	1, 2, 5, 6, 9, 10	3, 4, 7, 8	34.905	34.905	35.187	35.187	35.151	35.151	34.758	34.758	34.262	34.262			-9.400	-42.400
86	30" square prestressed concrete pile	-70.000	-70.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	36.693	36.693	36.988	36.988	36.988	36.995	36.995	36.616	36.616	36.616	36.134	36.134	-39.400	-42.400
87	30" square prestressed concrete pile	-68.000	-68.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	38.222	38.222	38.531	38.531	38.531	38.580	38.580	38.216	38.216	38.216	37.748	37.748	-39.400	-42.400
88	30" square prestressed concrete pile	-72.000	-72.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	39.575	39.575	39.899	39.899	39.899	39.991	39.991	39.640	39.640	39.640	39.187	39.187	-39.400	-42.400
89	30" square prestressed concrete pile	-74.000	-74.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	40.587	40.587	40.925	40.925	40.925	41.059	41.059	40.723	40.723	40.723	40.283	40.283	-39.400	-42.400
90	30" square prestressed concrete pile	-72.000	-72.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	41.340	41.340	41.693	41.693	41.693	41.869	41.869	41.547	41.547	41.547	41.122	41.122	-39.400	-42.400
91	30" square prestressed concrete pile	-70.000	-70.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	41.835	41.835	42.201	42.201	42.201	42.420	42.420	42.112	42.112	42.112	41.701	41.701	-39.400	-42.400
92	30" square prestressed concrete pile	-72.000	-72.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	42.071	42.071	42.452	42.452	42.452	42.713	42.713	42.419	42.419	42.419	42.022	42.022	-39.400	-42.400
93	30" square prestressed concrete pile	-72.000	-72.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	42.048	42.048	42.443	42.443	42.443	42.735	42.735	42.467	42.467	42.467	42.084	42.084	-39.400	-42.400
94	30" square prestressed concrete pile	-73.000	-73.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	41.767	41.767	42.176	42.176	42.176	42.482	42.482	42.257	42.257	42.257	41.888	41.888	-39.400	-42.400
95	30" square prestressed concrete pile	-72.000	-72.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	41.228	41.228	41.651	41.651	41.651	41.971	41.971	41.788	41.788	41.788	41.436	41.435	-39.400	-42.400
96	30" square prestressed concrete pile	-75.000	-75.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	40.429	40.429	40.867	40.867	40.867	41.201	41.201	41.060	41.060	41.060	40.728	40.728	-39.400	-42.400
97	30" square prestressed concrete pile	-79.000	-79.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	39.572	39.572	39.824	39.824	39.824	40.172	40.172	40.074	40.074	40.074	39.748	39.748	-39.400	-42.400
98	30" square prestressed concrete pile	-75.000	-75.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	37.974	37.974	38.439	38.439	38.439	38.801	38.801	38.746	38.746	38.746	38.434	38.434	-39.400	-42.400
99	30" square prestressed concrete pile	-76.000	-76.000	1 ~ 3, 6, 7, 10 ~ 12	4, 5, 8, 9	36.400	36.400	36.879	36.879	36.879	37.256	37.256	37.243	37.243	37.243	36.945	36.945	-39.400	-42.400
100	30" square prestressed concrete pile	-65.000	-76.000	1, 2, 9, 10	3 to 8	35.202	35.202	35.202	35.589	35.589	35.589	35.589	35.202	35.202	35.202			-7.880	-8.880
101	30" square prestressed concrete pile	-65.000	-76.000	1, 2, 9, 10	3 to 8	33.282	33.282	33.282	33.591	33.591	33.591	33.591	33.217	33.217	33.217			-3.640	-6.640
102	30" square prestressed concrete pile	-65.000	-77.000	1, 2, 9, 10	3 to 8	31.611	31.611	31.611	31.346	31.346	31.346	31.346	30.972	30.972	30.972			-2.880	-2.880
103	30" square prestressed concrete pile	-65.000	-78.000	1, 2, 9, 10	3 to 8	30.006	30.006	30.006	29.617	29.045	29.045	29.045	28.659	28.659	28.659			-6.120	-13.120
104	30" square prestressed concrete pile	-65.000	-75.000	1, 2, 9, 10	3 to 8	28.259	28.259	28.259	27.330	26.401	26.401	26.401	25.937	25.937	25.937			-8.600	-15.600
105	30" square prestressed concrete pile	-70.000	-73.000	1, 5, 9	2 to 4, 6 to 8	26.243	26.243	26.243	25.314	24.385	24.385	24.385	23.921	23.921				-10.710	-15.710
106	30" square prestressed concrete pile	-70.000	-73.000	1, 5, 9	2 to 4, 6 to 8	24.691	24.691	24.691	23.762	22.833	22.833	22.833	22.369	22.369				-10.420	-15.420
107	30" square prestressed concrete pile	-70.000	-77.000	1, 5, 9	2 to 4, 6 to 8	23.686	23.686	23.686	22.757	21.828	21.828	21.828	21.364	21.364				-9.670	-14.670
108	30" square prestressed concrete pile	-65.000	-68.000	1, 5, 9	2 to 4, 6 to 8	23.062	23.062	23.062	22.133	21.204	21.204	21.204	20.740	20.740				-12.440	-17.440
109	30" square prestressed concrete pile	-65.000	-72.000	1, 5, 9	2 to 4, 6 to 8	22.701	22.701	22.701	21.772	20.843	20.843	20.843	20.379	20.379				-13.220	-17.220
110	30" square prestressed concrete pile	-66.000	-71.000	1, 5, 9	2 to 4, 6 to 8	22.341	22.341	22.341	21.412	20.483	20.483	20.483	20.019	20.019				-13.610	-17.610
111	30" square prestressed concrete pile	-65.000	-72.000	1, 2, 9, 10	3 to 8	21.763	21.763	21.763	20.929	20.461	20.461	20.461	19.659	19.659	19.659			-12.220	-16.220
112	30" square prestressed concrete pile	-65.000	-73.000	1, 2, 9, 10	3 to 8	21.398	21.398	21.398	20.564	20.142	20.142	20.142	19.299	19.299	19.299			-12.470	-17.470
113	30" square prestressed concrete pile	-70.000	-73.000	1, 2, 9, 10	3 to 8	21.277	21.277	20.379	20.205	20.205	19.783	19.783	19.783	18.936	18.936			-11.420	-15.420
114	30" square prestressed concrete pile	-70.000	-76.000	1, 2, 9, 10	3 to 8	20.917	20.917	20.019	19.845	19.845	19.423	19.423	19.423	18.579	18.579			-10.620	-14.620
115SB	30" square prestressed concrete pile	-70.000	-77.000	1, 5	2 ~ 4	20.557	20.557	19.659	19.659	19.659								-7.720	-12.720
116SB	30" square prestressed concrete pile	-70.000	-77.000	1, 5	2 ~ 4	20.197	20.197	19.299	19.299	19.299								-10.300	-14.300
117SB	30" square prestressed concrete pile	-70.000	-74.000	1, 5	2 ~ 4	19.837	19.837	18.939	18.939	18.939								-12.830	-15.830
118SB	30" square prestressed concrete pile	-70.000	-73.000	1, 5	2 ~ 4	19.477	19.477	18.579	18.579	18.579								-11.850	-14.850
119SB	30" square prestressed concrete pile	-65.000	-78.000	1, 5	2 ~ 4	19.117	19.117	18.219	18.219	18.219								-11.400	-15.400
120SB	30" square prestressed concrete pile	-65.000	-83.000	1, 5	2 ~ 4	18.757	18.757	17.859	17.859	17.859								-9.740	-12.740
121SB	30" square prestressed concrete pile	-70.000	-81.000	1, 5	2 ~ 4	18.430	18.430	17.499	17.499	17.499								-4.630	-7.680
122SB	30" square prestressed concrete pile	-70.000	-81.000	1, 2, 5, 6	3, 4	18.331	18.331	17.536	17.139	17.139								-2.120	-5.120
123SB	30" square prestressed concrete pile	-70.000	-81.000	1, 7	2 ~ 6	17.692	17.692	17.692	17.235	17.235	16.779	16.779						-1.490	-4.490
124SB	30" square prestressed concrete pile	-70.000	-79.000	1, 7	2 ~ 6	17.332	17.332	17.332	16.875	16.875	16.419	16.419						-2.530	-5.530
125SB	30" square prestressed concrete pile	-70.000	-83.000	1, 7	2 ~ 6	16.956	16.956	16.956	16.499	16.499	16.042	16.042						-2.450	-5.450
126SB	30" square prestressed concrete pile	-70.000	-82.000	1, 7	2 ~ 6	16.347	16.347	16.347	15.860	15.860	15.434	15.434						-3.380	-7.380
127SB	30" square prestressed concrete pile	-70.000	-83.000	1, 7	2 ~ 6	15.439	15.439	15.439	14.962	14.962	14.526	14.526						-3.120	-7.120
115NB	30" square prestressed concrete pile	-70.000	-77.000	1, 5	2 ~ 4	19.063	19.063	18.219	18.219	18.219								-7.720	-12.720
116NB	30" square prestressed concrete pile	-70.000	-77.000	1, 5	2 ~ 4	18.703	18.703	17.859	17.859	17.859								-10.300	-14.300
117NB	30" square prestressed concrete pile	-70.000	-74.000	1, 5	2 ~ 4	18.343	18.343	17.499	17.499	17.499								-12.830	-15.830

△4 REVISED TIP ELEVS. AT BENTS 66 THRU 83
△3 REVISED CUT-OFF ELEVS. AT BENTS 111 & 112
△2 UPDATED TABLE

RELEASED FOR CONSTRUCTION
Tom Shearin 3/18/09
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030576 JOHN W. JORDAN 3/18/09

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 3 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
PILE DATA TABLE
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2307.03
1	SGS	7/10/07	3	SGS	3/13/09	TOTAL SHEETS
2	SGS	9/30/08	4			

DRAWN BY : C. J. WHITFIELD DATE : 1/07
CHECKED BY : J. LIU DATE : 1/07

EarthTech
FLATIRON/UNITED A JOINT VENTURE

DATE: 3/18/2009
FILE: 2307303.dgn

USER: jordanwj
DGN: Instructions for Use: Bridge\DGN\BRSB53_DSH_pile_tip_table.dgn

Pile Data Table

Bent No.	Pile Type and Size	Minimum Tip Elevation (ft)	Recommended Tip Elevation (ft)	Ultimate Bearing Capacity 1060 kip Pile Numbers	Ultimate Bearing Capacity 1650 kip Pile Numbers	Pile Cut-off Elevation (ft) Pile 1	Pile 2	Pile 3	Pile 4	Pile 5	Pile 6	Pile 7	Pile 8	Pile 9	Pile 10	Pile 11	Pile 12	Scour Elevation (ft) 100-year	Scour Elevation (ft) 500-year
118NB	30" square prestressed concrete pile	-70.000	-73.000	1, 5	2 ~ 4	17.963	17.963	17.139	17.139	17.139								-11.850	-14.850
119NB	30" square prestressed concrete pile	-65.000	-76.000	1, 5	2 ~ 4	17.623	17.623	16.779	16.779	16.779								-11.400	-15.400
120NB	30" square prestressed concrete pile	-65.000	-83.000	1, 5	2 ~ 4	17.263	17.263	16.419	16.419	16.419								-9.740	-12.740
121NB	30" square prestressed concrete pile	-70.000	-81.000	1, 5	2 ~ 4	16.903	16.903	16.059	16.059	16.059								-4.630	-7.630
122NB	30" square prestressed concrete pile	-70.000	-81.000	1, 5	2 ~ 4	16.543	16.543	15.699	15.699	15.699								-2.120	-5.120
123NB	30" square prestressed concrete pile	-70.000	-81.000	1, 5	2 ~ 4	16.183	16.183	15.339	15.339	15.339								-1.490	-4.490
124NB	30" square prestressed concrete pile	-70.000	-79.000	1, 5	2 ~ 4	15.823	15.823	14.979	14.979	14.979								-2.530	-5.530
125NB	30" square prestressed concrete pile	-70.000	-83.000	1, 5	2 ~ 4	15.463	15.463	14.619	14.619	14.619								-2.450	-5.450
126NB	30" square prestressed concrete pile	-70.000	-82.000	1, 2, 4, 5	3	14.818	14.818	14.188	14.188	14.188								-3.380	-7.360
127NB	30" square prestressed concrete pile	-70.000	-83.000	1, 2, 4, 5	3	14.007	14.007	13.277	13.277	13.277								-3.120	-7.120

1

DRAWN BY : S. G. STREDNAK DATE : 7/07
CHECKED BY : J. LEU DATE : 7/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 030879 ENGINEER JOHN W. JORDAN

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FLATIRON/UNITED
A JOINT VENTURE

1 REVISED ELEVATIONS FOR PILES 1 & 2

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 3 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
PILE DATA TABLE
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO	BY:	DATE:	2308.01
1	SGS	10/18/07	3			TOTAL SHEETS
2			4			

DATE: 10/18/2007
TIME: 3:07:57 PM

USER: jwilliams
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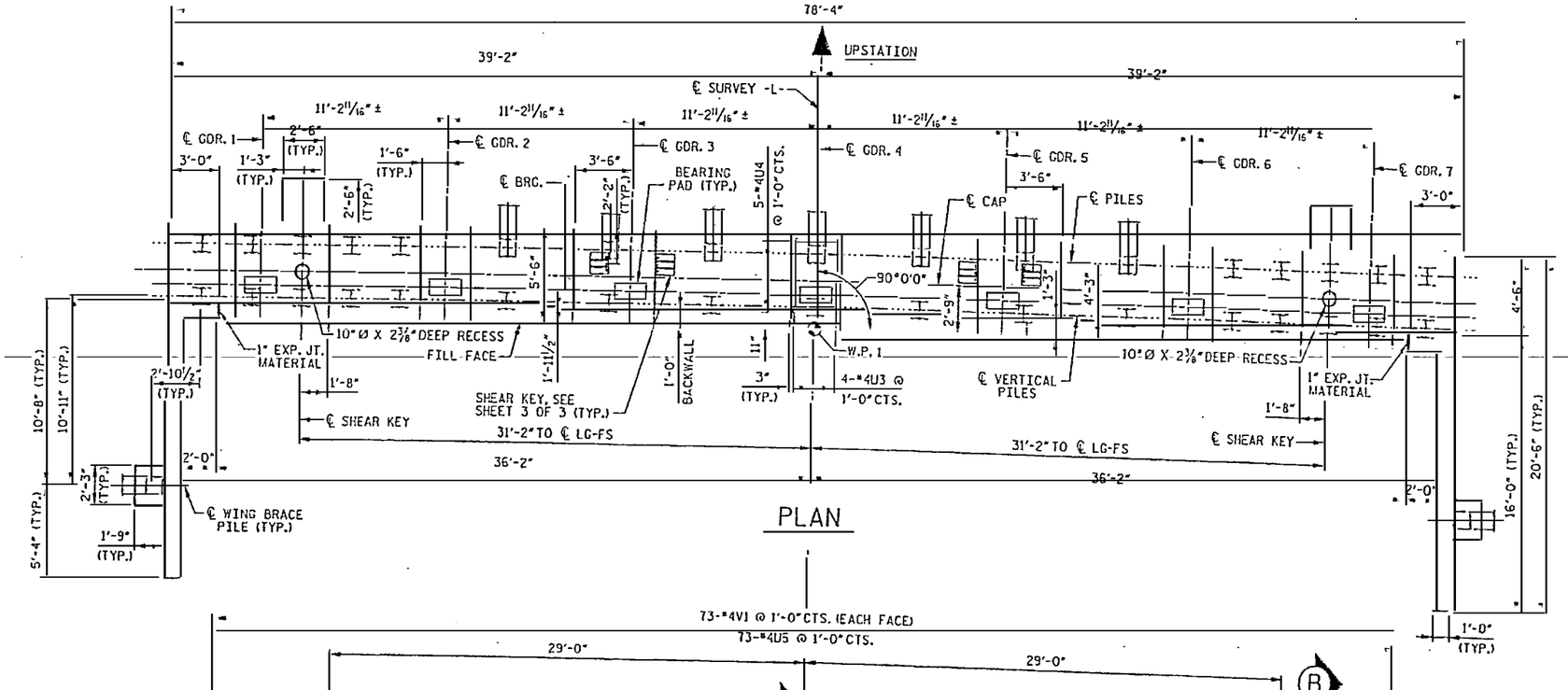
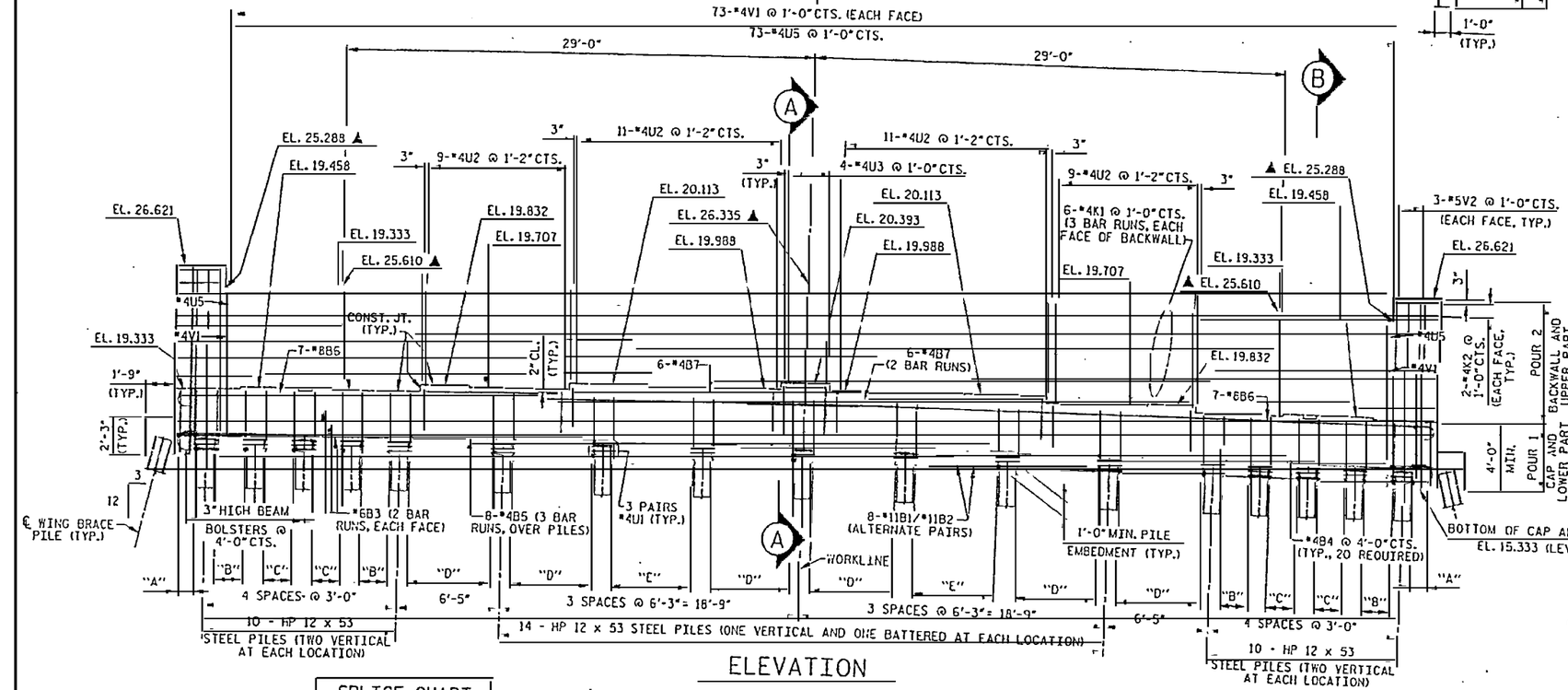


PLAN



ELEVATION

SPLICE CHART		
BAR	SIZE	LENGTH
B6	8	6'-11"
B5,B7,K1	4	2'-5"
B3	6	3'-10"
B1/B2	11	9'-9"

STIRRUPS SPACING					
"A"	2-#6S1 AND #6S2 DOUBLE STIRRUPS @ 1'-0" CTS.	"C"	4-#6S1 AND #6S2 TRIPLE STIRRUPS @ 6" CTS.	"E"	10-#6S1 AND #6S2 TRIPLE STIRRUPS @ 6" CTS.
"B"	4-#6S1 AND #6S2 DOUBLE STIRRUPS @ 6" CTS.	"D"	11-#6S1 AND #6S2 DOUBLE STIRRUPS @ 6" CTS.		

NOTES

FOR ELASTOMERIC BEARING DETAILS, SEE "ELASTOMERIC BEARING DETAILS" SHEET.

THE TOP SURFACE OF THE END BENT CAP SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THAT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

THE TOP SURFACE AREA OF THE END BENT CAP EXCEPT THE BRIDGE SEAT BUILD-UPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE FRONT FACE AT THE RATE OF 2%.

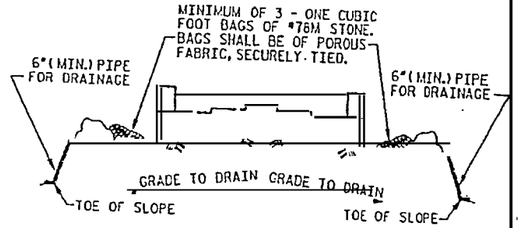
FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

▲ THIS ELEVATION IS TAKEN AT FILL FACE OF BACKWALL.

FOR SECTION A-A, SEE SHEET 2 OF 2.

TIE DOWNS / LEGS PER THE DEAL LAUNCHING GANTRY DRAWINGS PROVIDED BY OTHERS.



BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

TEMPORARY DRAINAGE AT END BENT

RELEASED FOR CONSTRUCTION
Tom Shearin 3/21/07
TOM SHEARIN, PE DATE

Record Set 3/21/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 3 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
END BENT 1
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036161 TOM SHEARIN

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A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2311.00
						TOTAL SHEETS

DRAWN BY : LOFTON DATE : 1/07

DATE: 3/21/2007
TIME: 10:53:53 AM
USER: rlofton
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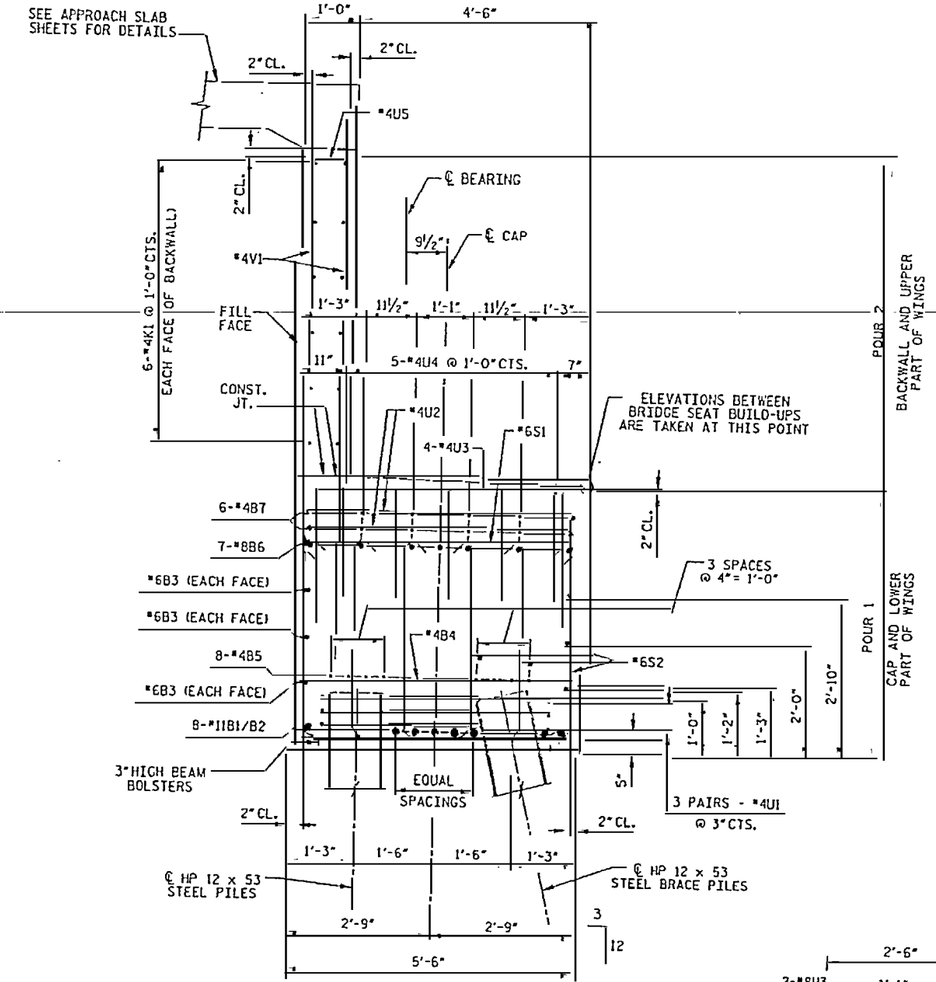
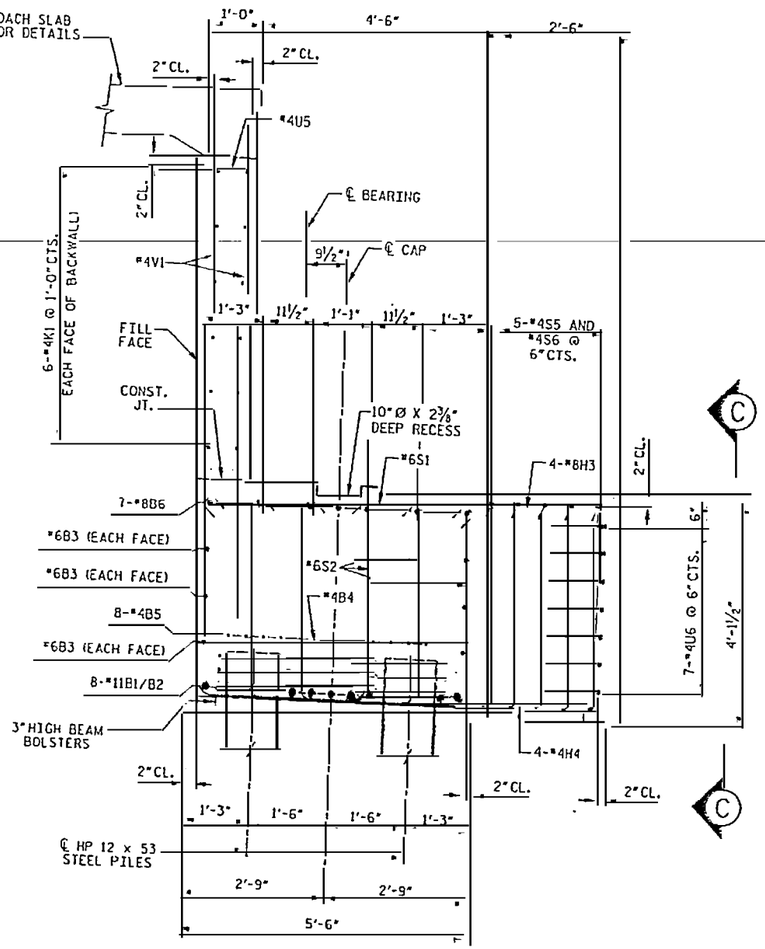
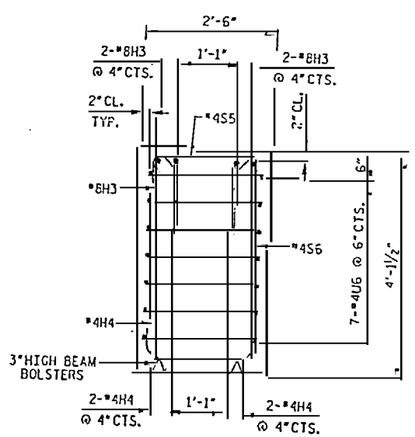


SECTION A-A



SECTION B-B



SECTION C-C

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CHECKED BY : CJW DATE : 1/07

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DATE: 3/21/2007
TIME: 10:06:59 AM

RELEASED FOR CONSTRUCTION
Tom Shearin 3/21/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 3 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
END BENT 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA ENGINEERING SEAL 030158 JOSEPH W. JORDAN

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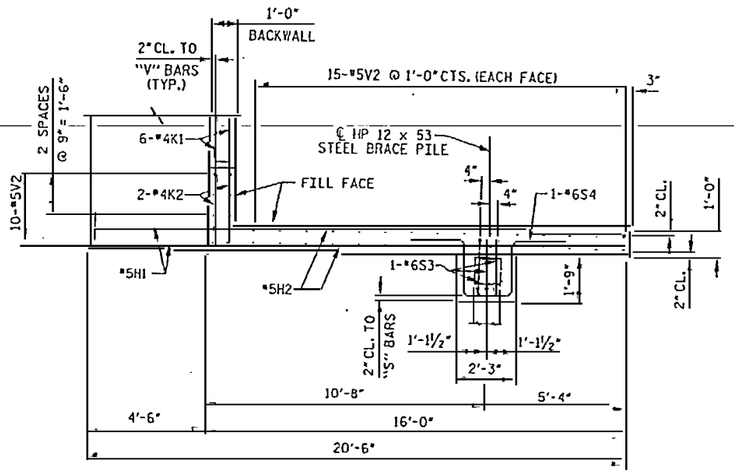
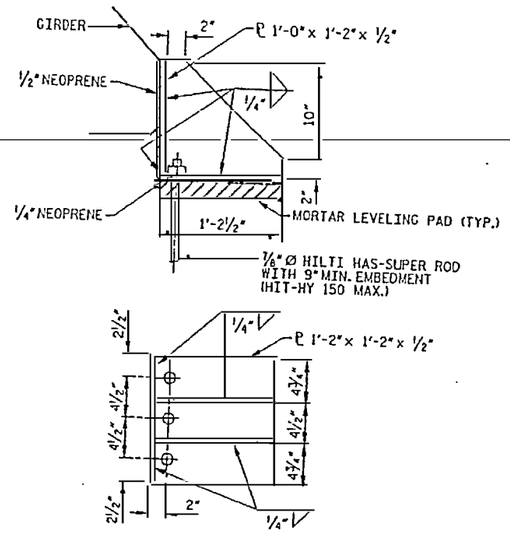
REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO. 2312.00
1			3			TOTAL SHEETS
2			4			

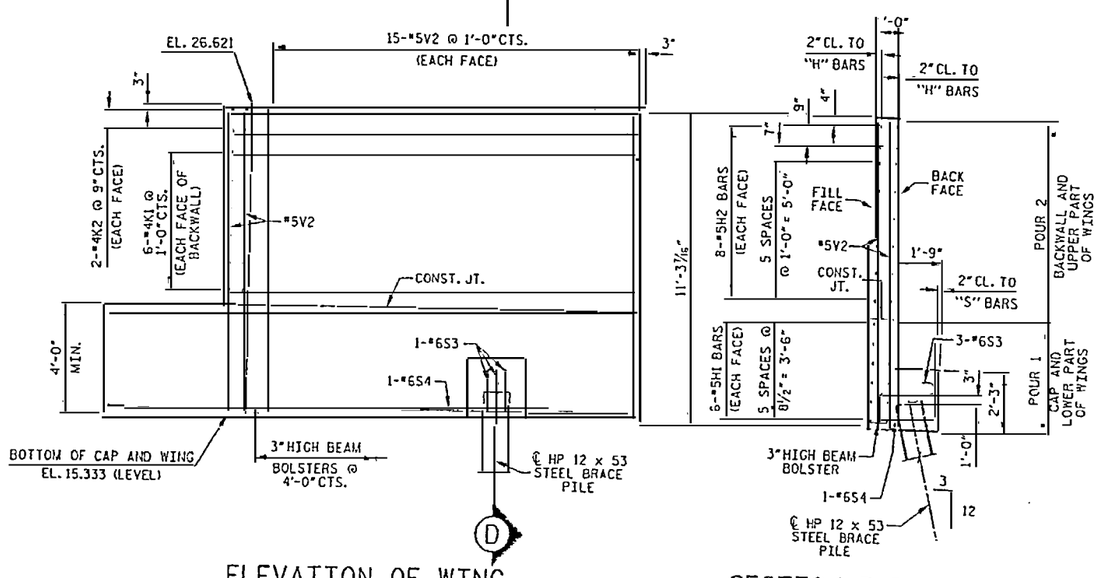


PLAN OF WING



SHEAR KEY

(ALL ℄ METALIZED - A572 GRADE 50)



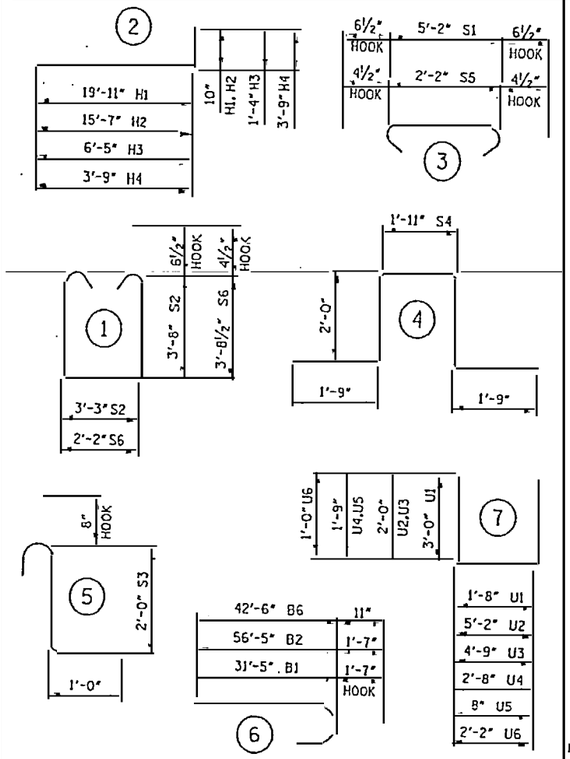
ELEVATION OF WING

SECTION D-D

DRAWN BY : LOFTON DATE : 1/07

BILL OF MATERIAL

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

END BENT 1

BAR	No.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#11	6	33'- 0"	1401
B2	8	#11	6	58'- 0"	2463
B3	12	#6	STR	41'- 0"	738
B4	20	#4	STR	5'- 2"	69
B5	24	#4	STR	27'- 8"	444
B6	14	#8	6	43'- 5"	1623
B7	18	#4	STR	25'- 0"	301
H1	24	#5	2	20'- 9"	519
H2	32	#5	2	16'- 5"	548
H3	8	#8	2	7'- 9"	166
H4	8	#4	2	7'- 6"	40
K1	36	#4	STR	27'- 8"	665
K2	8	#4	STR	2'- 8"	14
S1	122	#6	3	6'- 3"	1145
S2	280	#6	1	11'- 8"	4907
S3	6	#6	5	3'- 8"	33
S4	2	#6	4	9'- 5"	28
S5	10	#4	3	2'- 11"	19
S6	10	#4	1	10'- 4"	69
U1	102	#4	7	7'- 8"	522
U2	40	#4	7	9'- 2"	245
U3	4	#4	7	8'- 8"	23
U4	5	#4	7	6'- 2"	21
U5	73	#4	7	4'- 2"	203
U6	14	#4	7	4'- 2"	39
V1	146	#4	STR	9'- 7"	935
V2	80	#5	STR	10'- 11"	911

REINFORCING STEEL 18,096 LBS.

CLASS "A" CONCRETE

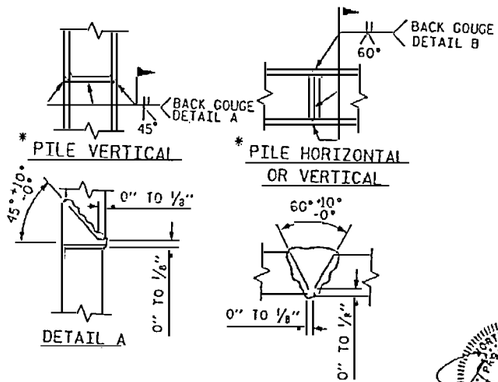
POUR 1 CAP AND LOWER PART OF WING 75.7 CU. YDS.

POUR 2 BACKWALL AND UPPER PART OF WING 26.2 CU. YDS.

TOTAL 102.0 CU. YDS.

HP 12 x 53 STEEL PILES

36 REQUIRED 3,396 LIN. FT.



* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

NOTE:

A PREMADE SPLICE MAY BE USED AS AN ALTERNATE WITH THE APPROVAL OF THE EOE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/21/07
DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 3 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

END BENT 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2313.00
			3			TOTAL SHEETS

Earth Tech
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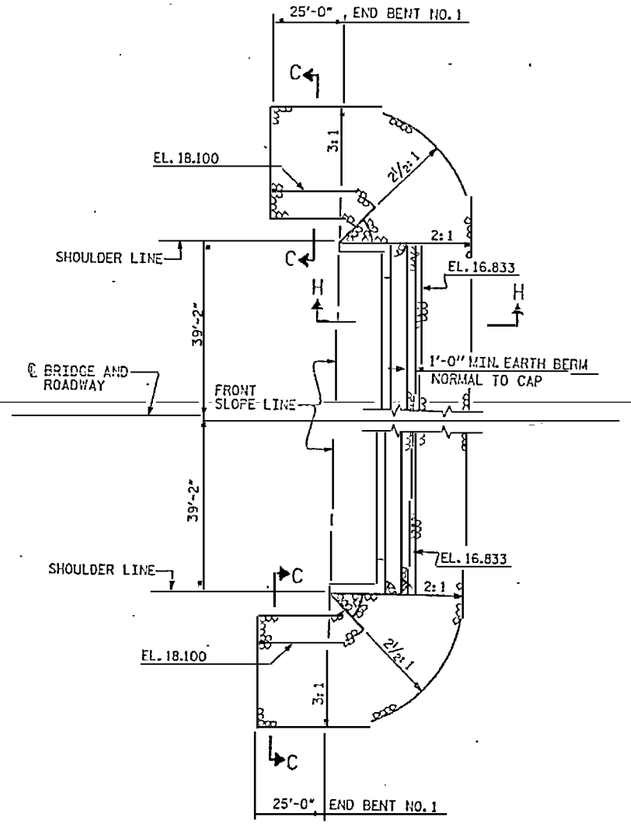
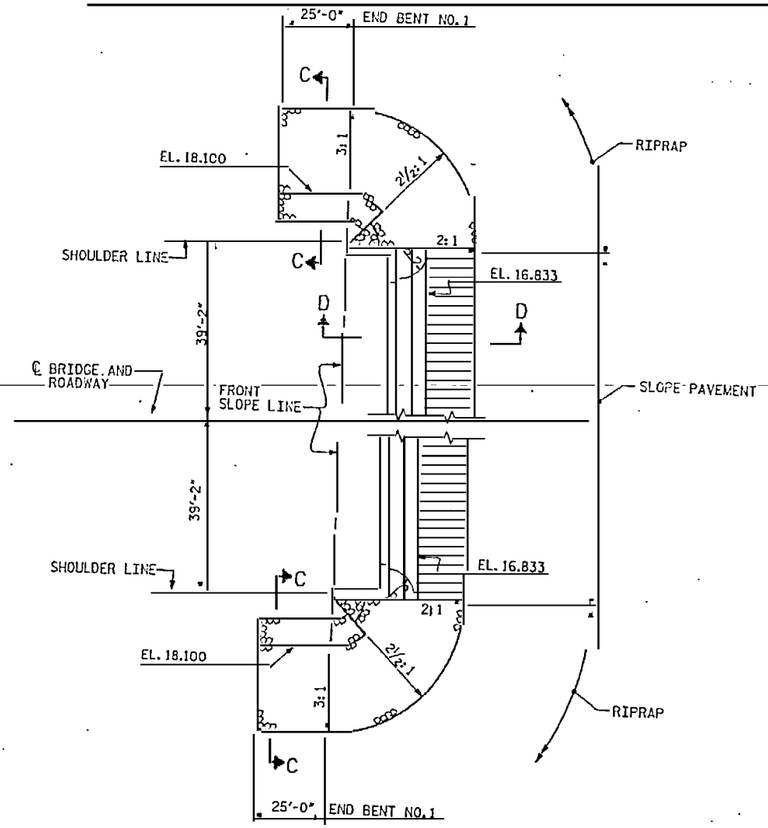
FLATIRON/UNITED
A JOINT VENTURE



SHOULDER RIP RAP IS HIGHER THAN BERM RIP RAP

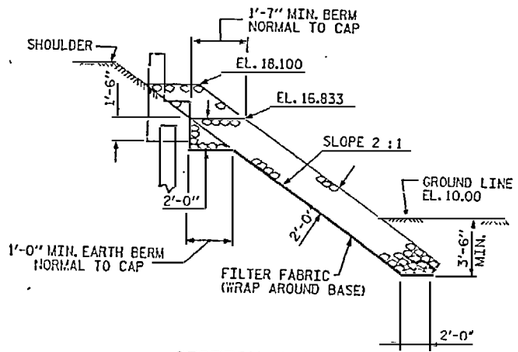


ALTERNATE DETAIL SHOWING SLOPE PAVEMENT UNDER BRIDGE

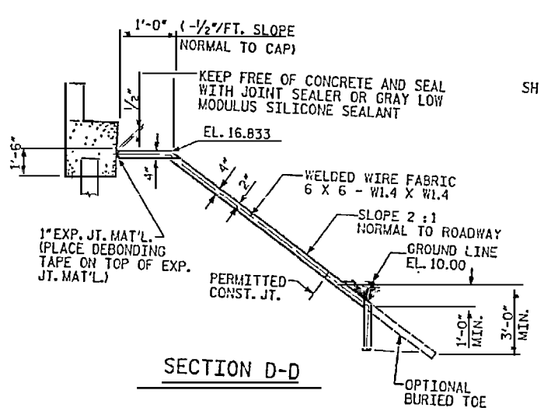
ESTIMATED QUANTITIES (END BENT 1)	
PLAIN RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
TONS	SQUARE YARDS
570	640

ESTIMATED QUANTITIES (END BENT 1 - SLOPE PAVEMENT ALTERNATE)			
4" INCH SLOPE PROTECTION	* WELDED WIRE FABRIC 60 INCHES WIDE	PLAIN RIP RAP CLASS II	FILTER FABRIC FOR DRAINAGE
~~SQUARE YARDS~~ 290	APPROX. L.F. 360	TONS 370	~~SQUARE YARDS~~ 415

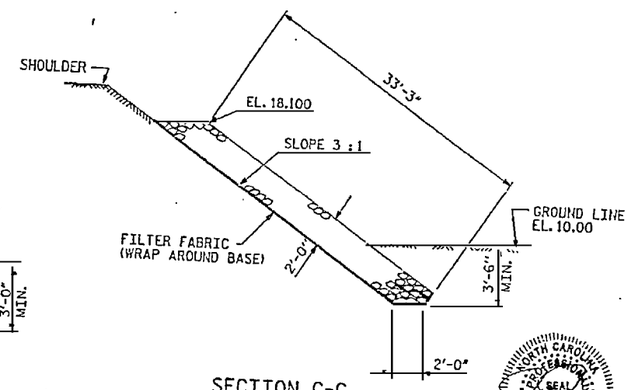
* QUANTITY SHOWN IS BASED ON 5' POURS.



SECTION H-H



SECTION D-D



SECTION C-C

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 1 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
RIP RAP DETAILS
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2314.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 4/07
CHECKED BY : K. LIU DATE : 4/07

Earth Tech
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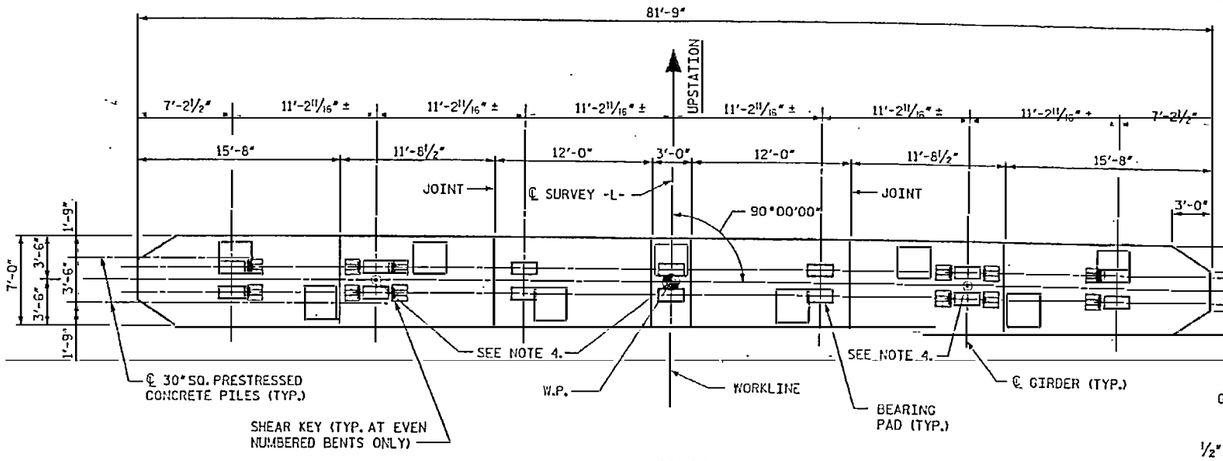
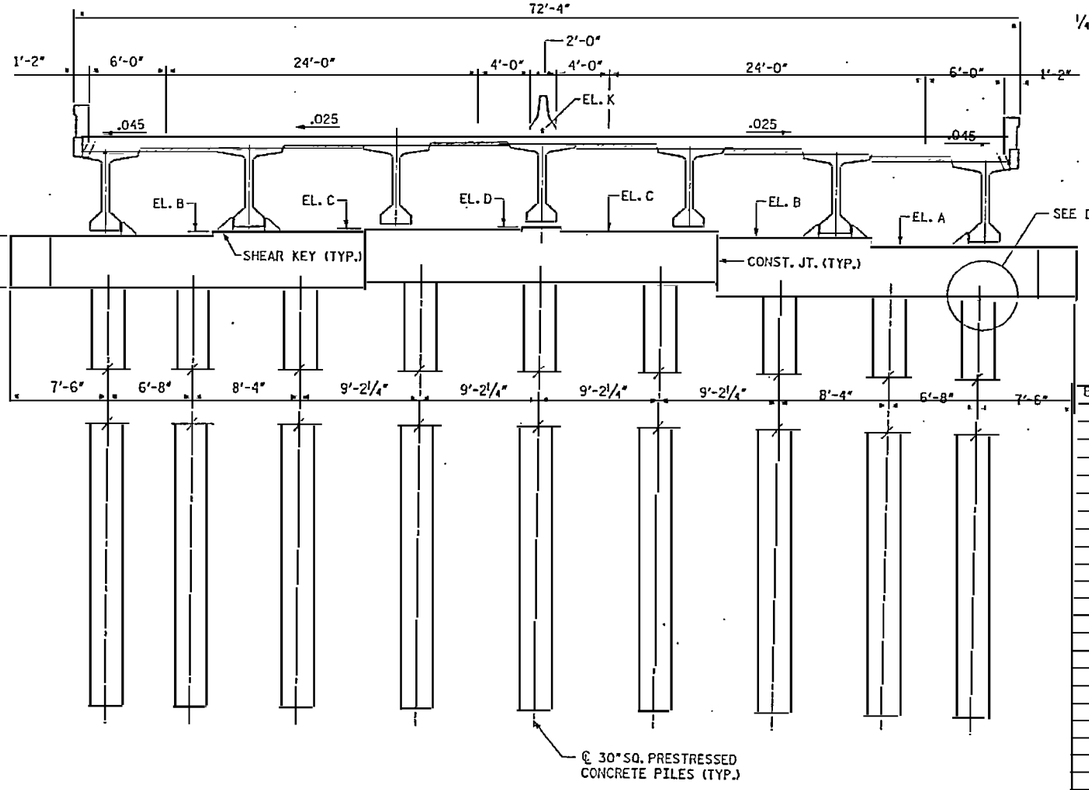
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030127 ENGINEER JOHN C. JORDAN

USER: gstamphor
DGN: N:\structure\Projects\R-2510B\Bridge\CADD\Roadway\sht\R2510B_RIPRAP.dgn
DATE: 4/23/2007
TIME: 11:44:22 AM

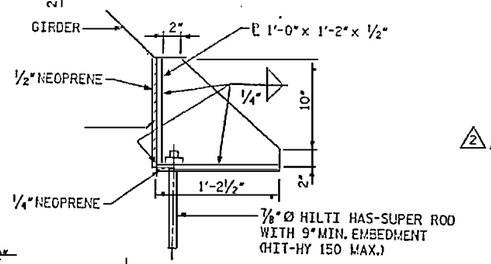


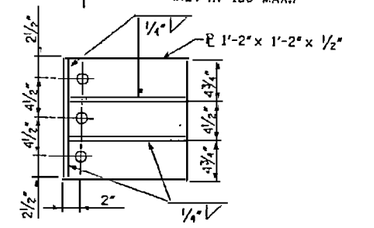
PLAN



ELEVATION

(BENTS 1 THRU 13, 18 THRU 26 AND 29 THRU 80)



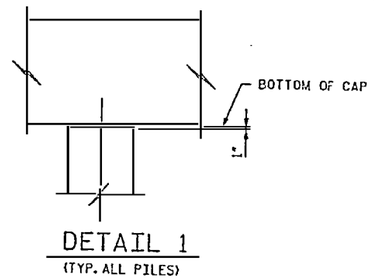


SHEAR KEY

(AT EVEN-NUMBERED BENTS, SEE PLAN VIEW FOR LOCATION)

(ALL ℄ METALIZED - A572 GRADE 50)

BENT NO.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. K (ft)
1	19.812	20.186	20.467	20.747	28.029
2	20.172	20.546	20.827	21.107	28.389
3	20.532	20.906	21.187	21.467	28.749
4	20.892	21.266	21.547	21.827	29.109
5	21.252	21.626	21.907	22.187	29.469
6	21.612	21.986	22.267	22.547	29.829
7	21.972	22.346	22.627	22.907	30.189
8	22.332	22.706	22.987	23.267	30.549
9	22.692	23.066	23.347	23.627	30.909
10	23.052	23.426	23.707	23.987	31.269
11	23.412	23.786	24.067	24.347	31.629
12	23.772	24.146	24.427	24.707	31.989
13	24.132	24.506	24.787	25.067	32.349
18	25.750	26.124	26.405	26.665	33.967
19	26.093	26.466	26.747	27.028	34.309
20	26.435	26.809	27.089	27.370	34.651
21	26.777	27.151	27.431	27.712	34.993
22	27.119	27.493	27.773	28.054	35.335
23	27.461	27.835	28.115	28.396	35.677
24	27.803	28.177	28.457	28.738	36.019
25	28.145	28.519	28.799	29.080	36.361
26	28.439	28.813	29.094	29.374	36.655
~~29 - 77~~	~~28.669~~	~~29.043~~	~~29.323~~	~~29.604~~	~~36.885~~
78	28.681	29.055	29.335	29.616	36.897
79	29.039	29.412	29.693	29.974	37.255
80	29.894	30.268	30.548	30.829	38.110

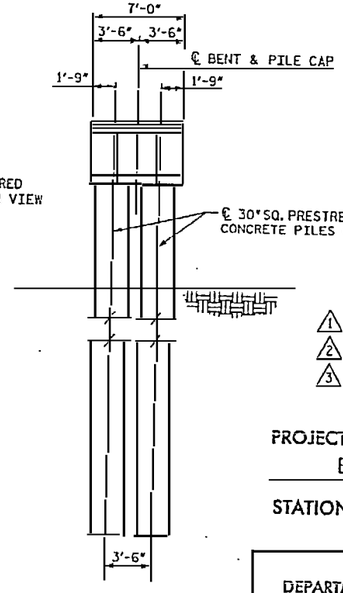


DETAIL 1

(TYP. ALL PILES)

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB. BARS ONLY AT ODD-NUMBERED BENTS. (2) (3)
5. FOR REINFORCEMENT, SEE DETAILS-PILE CAP TYPE 1, SHEET NOS. 2317 THRU 2325.
6. PROVIDE AN EPOXY PROTECTIVE COATING ON ALL EVEN-NUMBERED BENT CAPS (EXPANSION). SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.



END ELEVATION

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/24/07

(1) REVISION TO BENT CAP SHAPE.
(2) REVISION TO NOTE NO. 4.
(3) REVISION TO NOTE NO. 4.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 1
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2316.03
1	SGS	5/07	3	MTB	10/16/07	TOTAL SHEETS
2	MTB	7/2/07	4			

DRAWN BY : S. G. STREDNAK DATE : 07/06
CHECKED BY : J. LIU DATE : 07/06

DATE: 10/17/2007
TIME: 3:07:12 PM

USER: mattmarchant
DGN: Instructions\Bridge Files\Bridge#353\SGS_SD_DSN_BENT_TYP1.dgn

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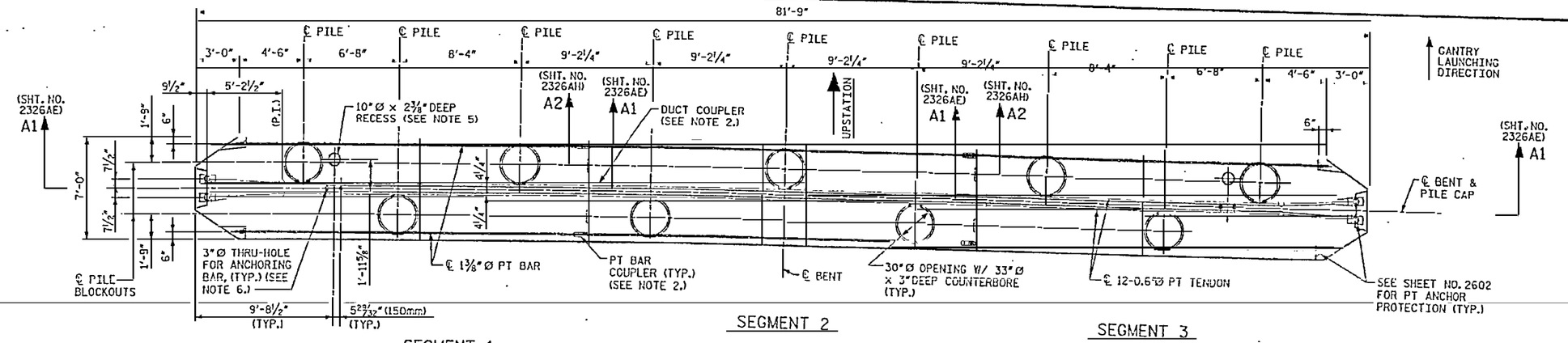
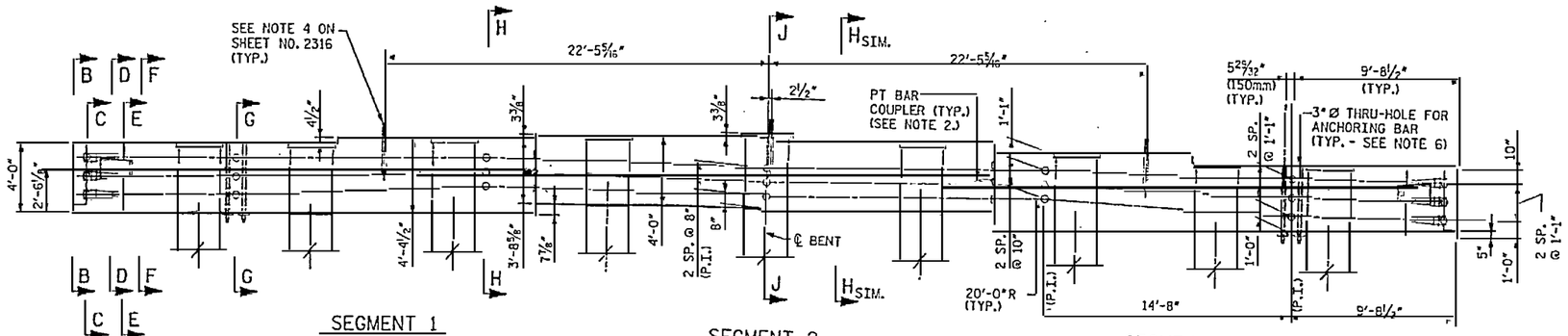
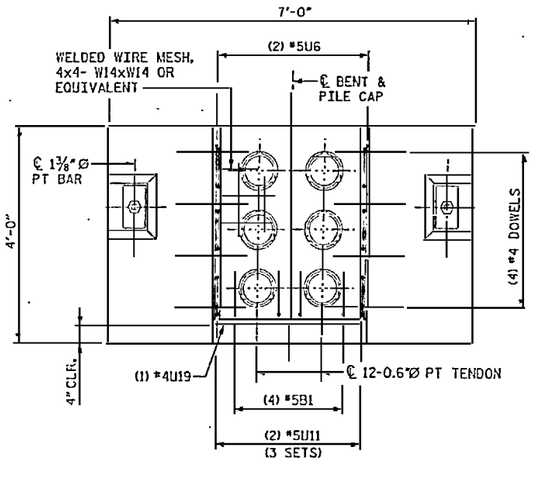
A JOINT VENTURE



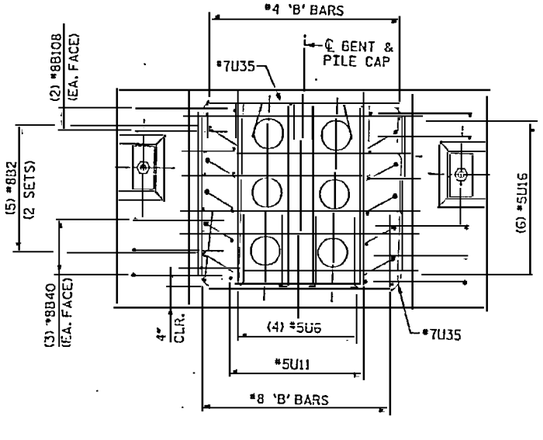
OVERALL PLAN



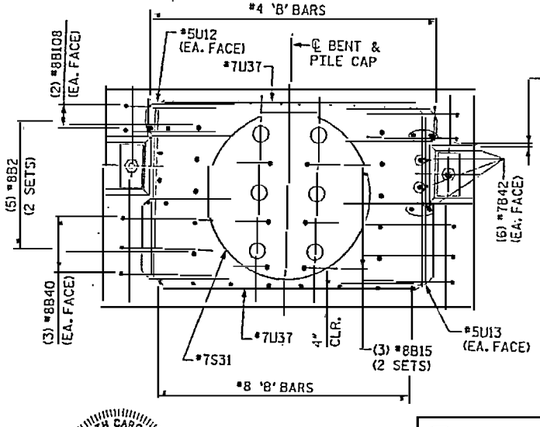
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 1 IS USED AT BENT NOS. 1 THRU 13, 18 THRU 26 AND 29 THRU 80.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. 2326AB. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 1 OF 9 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2326AA.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 9/07
CHECKED BY : J. LIU DATE : 9/07

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FLATIRON/UNITED — A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL — ENGINEER — JOHN W. JORDAN

USER: mstevenson
DGN: N:\Structure\Projects\R-2510B\Roadway\PILECAP\PILECAP_SEGMENTED_SC_DSN_STR-DETAILS.dgn
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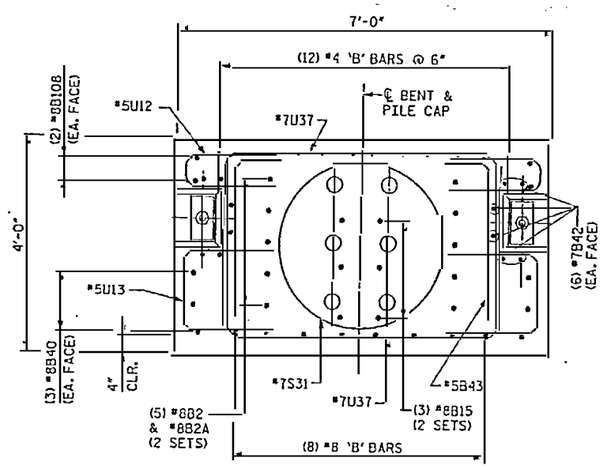
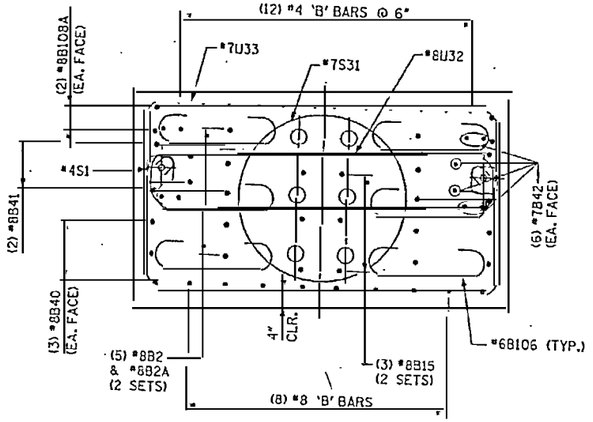
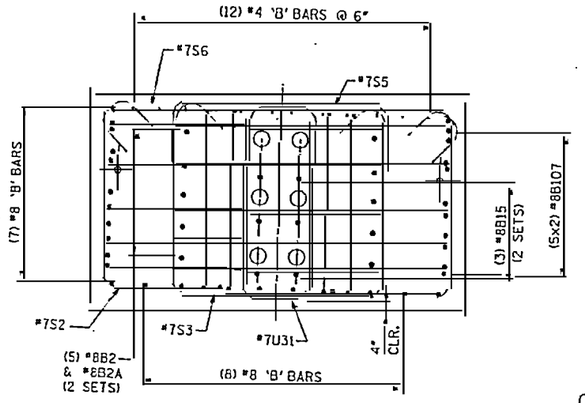


SECTION E-E

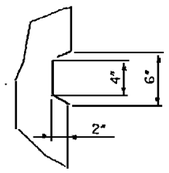


SECTION F-F

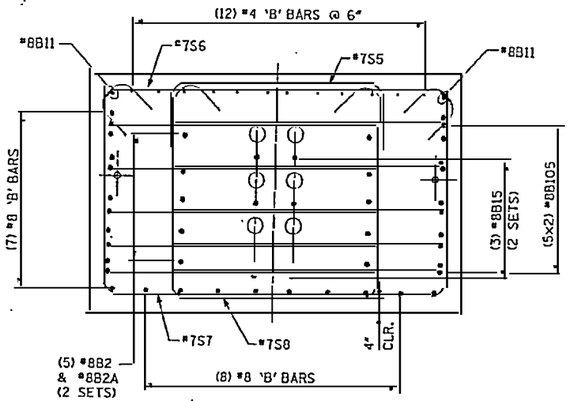


SECTION G-G

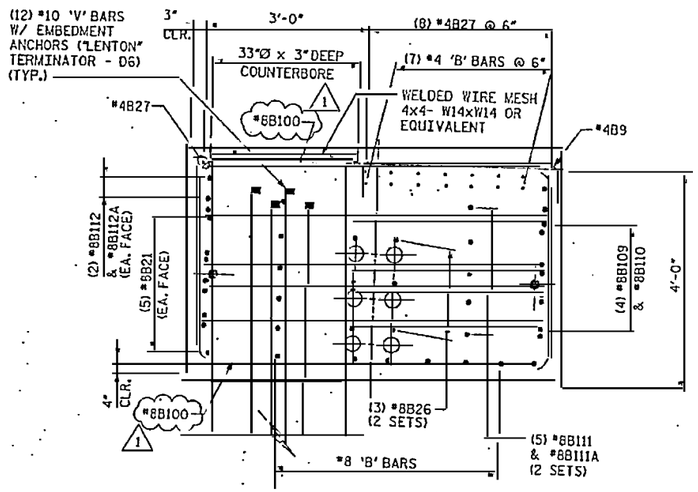
(ANCHORING BARS NOT SHOWN FOR CLARITY)



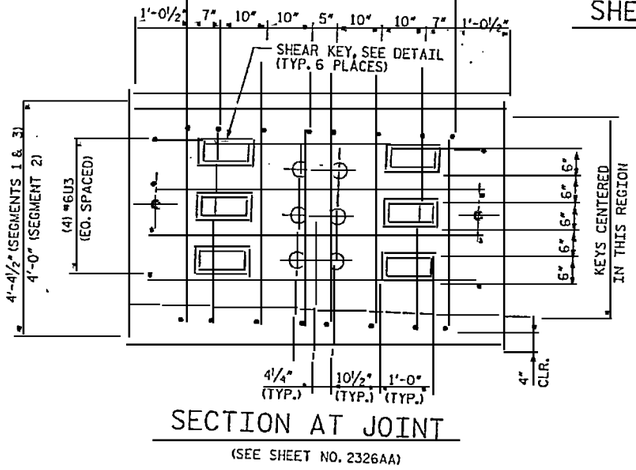
SHEAR KEY



SECTION H-H

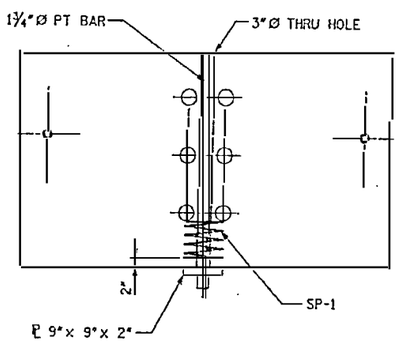


SECTION J-J



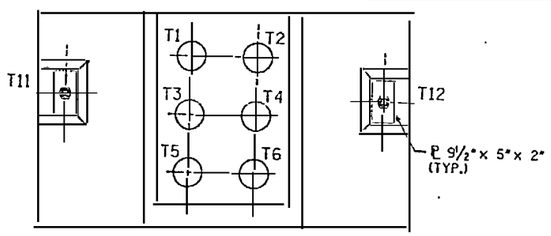
SECTION AT JOINT

(SEE SHEET NO. 2326AA)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
2/13/08 DATE

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030676 ENGINEER JOHN W. JORDAN 9/21/06

1 GENERAL REVISIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSFORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2326BB.01
1	SCS	2/13/08	3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 9/07
CHECKED BY : J. LIU DATE : 9/07

DATE: 2/13/2008
TIME: 12:54:54 PM

USER: jwatkinson
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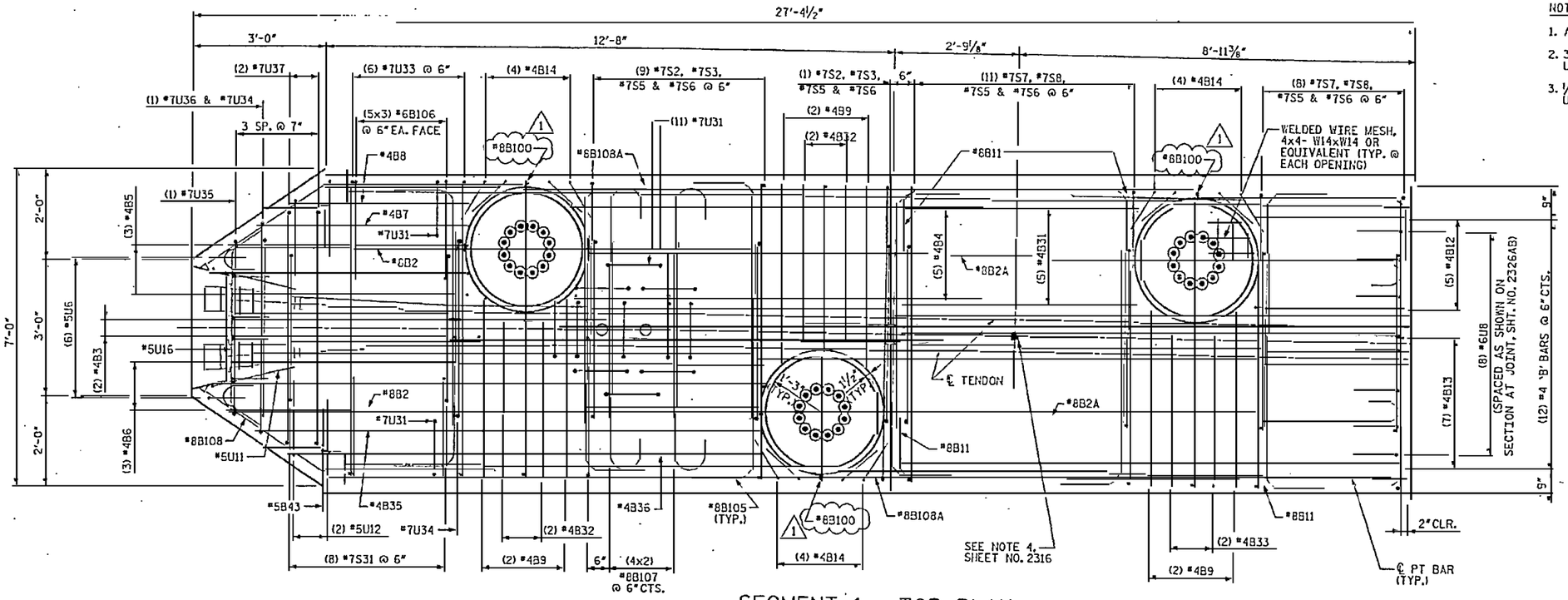
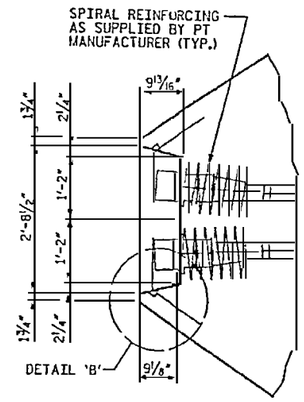


SEGMENT 1 - TOP PLAN

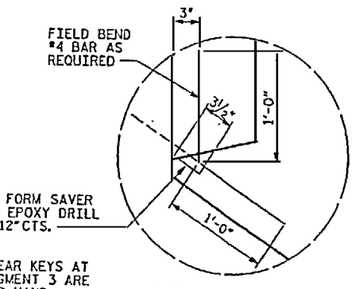
(SEGMENT 3, OPP. HAND)

NOTES:

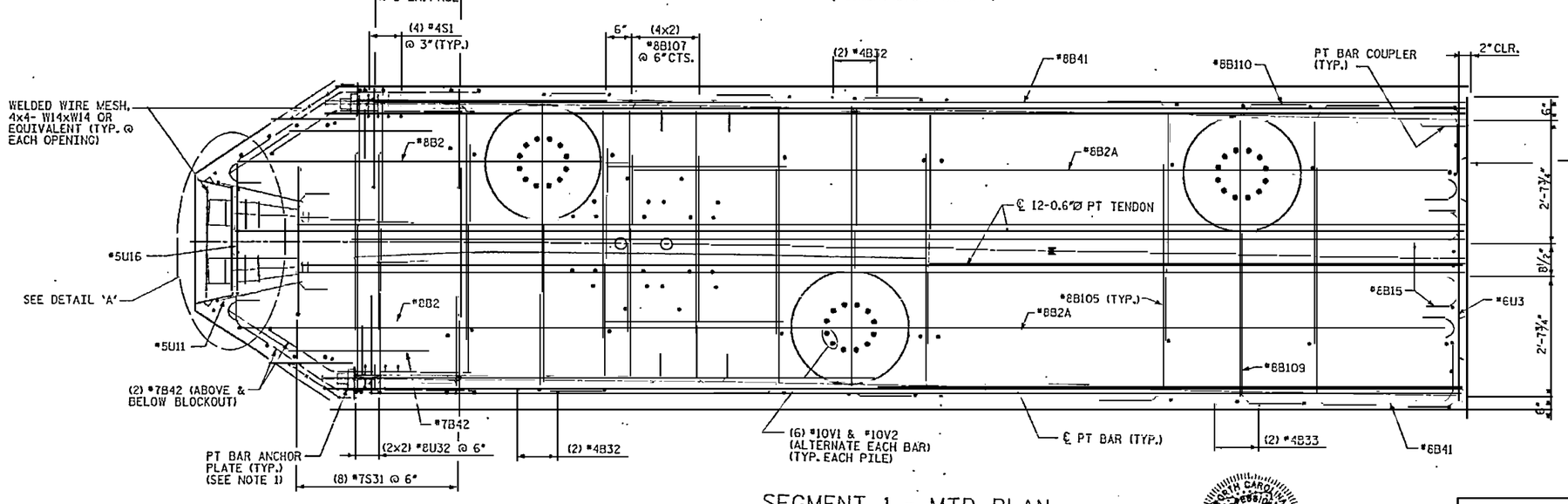
1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'



SEGMENT 1 - MID PLAN

(SEGMENT 3, OPP. HAND)

1 GENERAL REVISIONS

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

RELEASED FOR CONSTRUCTION
Tom Shearin 1/15/09
TOM SHEARIN, PE DATE

DRAWN BY : S. G. STREDNAK DATE : 9/07
CHECKED BY : J.LIU DATE : 9/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2326AC.01
1	SGS	2/13/08	4			TOTAL SHEETS
2			5			
3			6			

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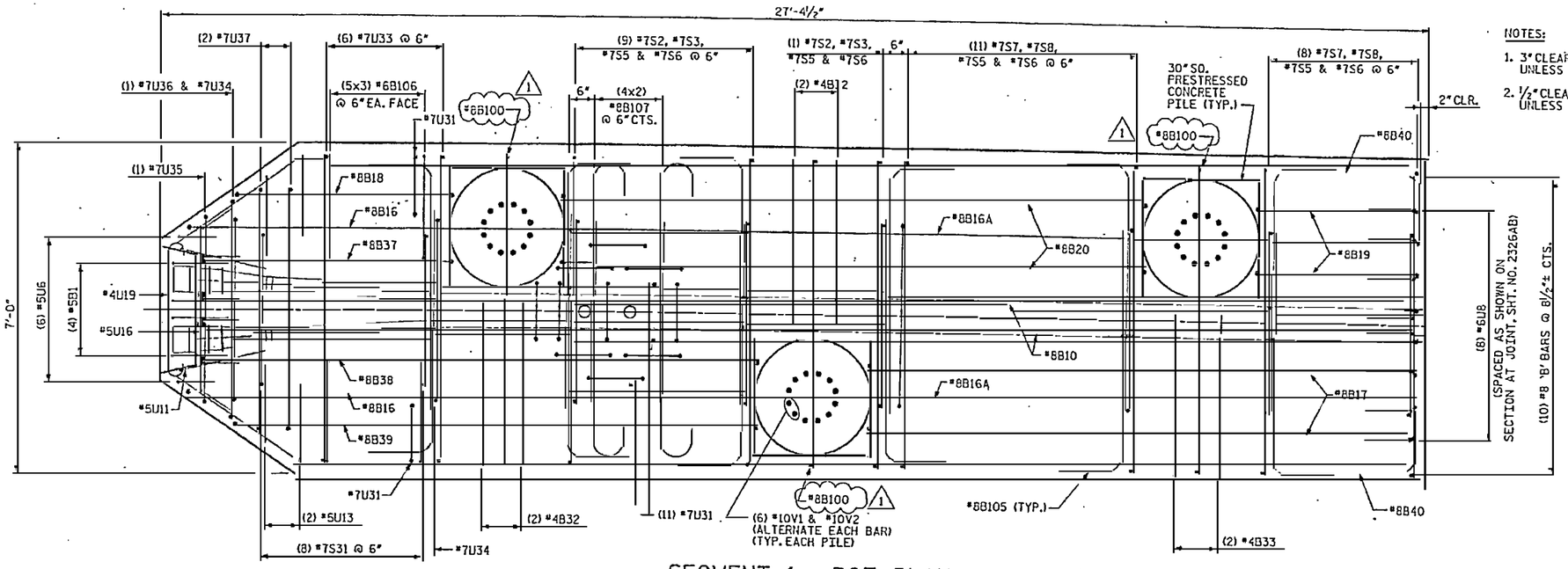
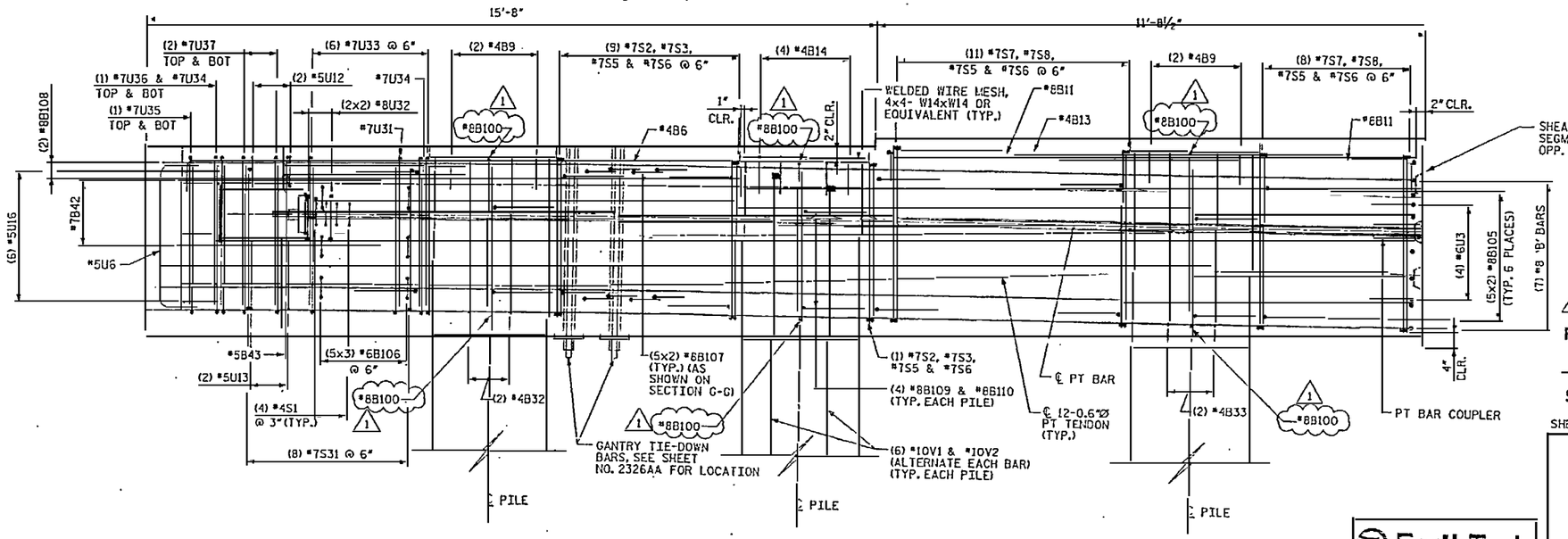


NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

SEGMENT 1 - BOT PLAN

(SEGMENT 3, OPP. HAND)



SEGMENT 1 - ELEVATION

(SEGMENT 3, OPP. HAND)

RELEASED FOR CONSTRUCTION
Tom Shearin 2/25/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 029872 ENGINEER JOHN W. JORDAN

1 GENERAL REVISIONS

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	2/13/08			
2					

SHEET NO. 2326A0.01
TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 9/07
CHECKED BY : J. LIU DATE : 9/07

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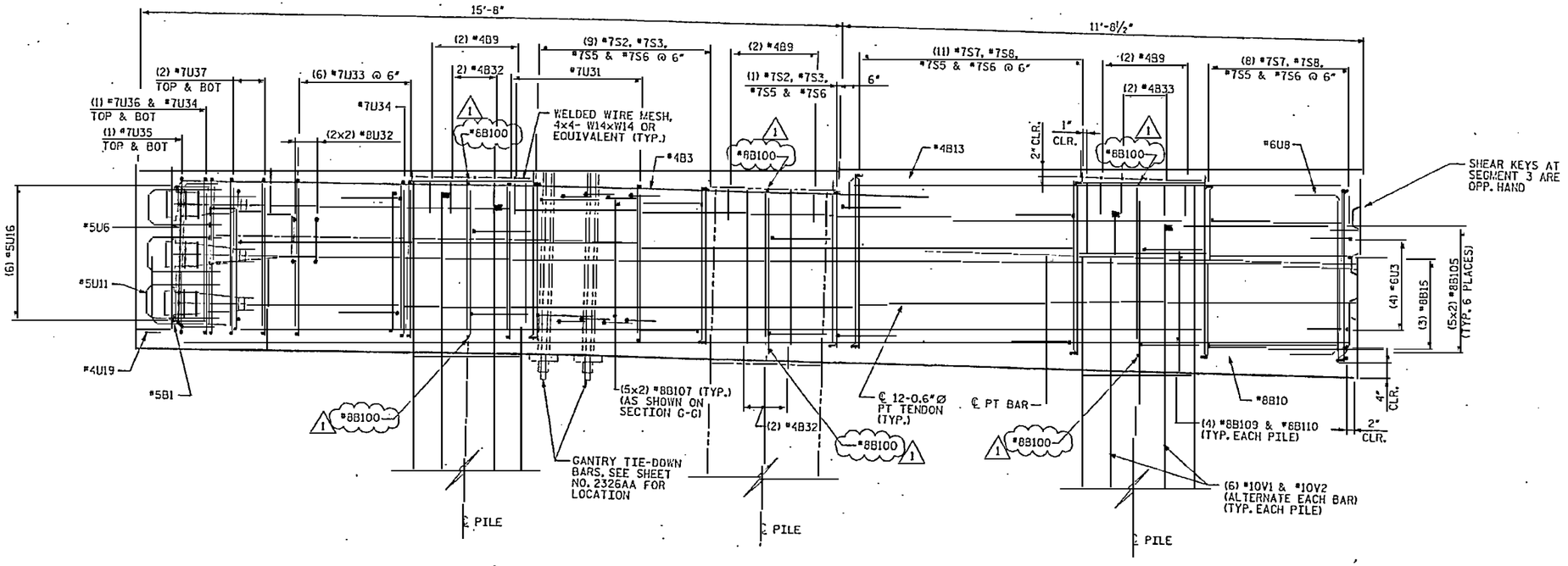

SEGMENT 1 - SECTION A1

(SEGMENT 3, OPP. HAND)
(SEE SHEET NO. 2326AA)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 2/13/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030477 JOHN R. JORDAN, JR.

1 GENERAL REVISIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
~~PILE CAP TYPE 1~~
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET/NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2326AE.01
1	SGS	2/13/08	3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S.G. STREDNAK DATE : 9/07
CHECKED BY : J. LIU DATE : 9/07

DATE: 2/13/2008
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USER: jmartindale
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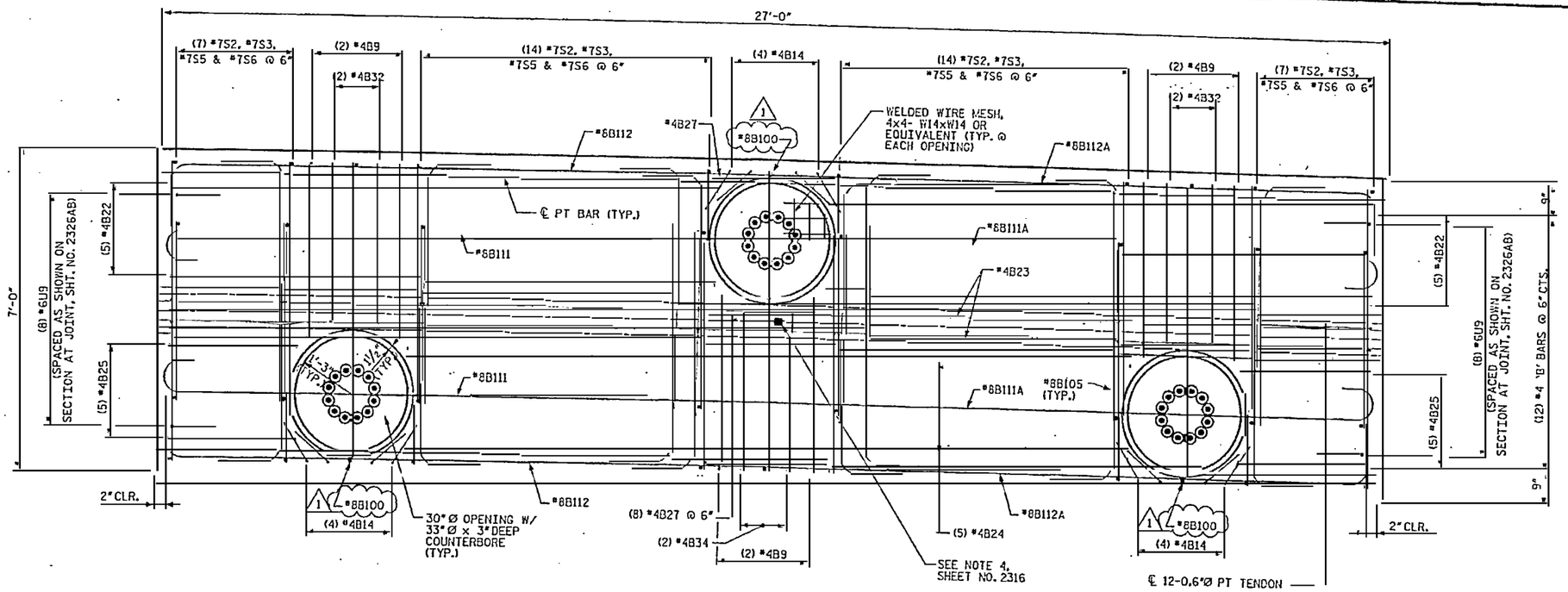
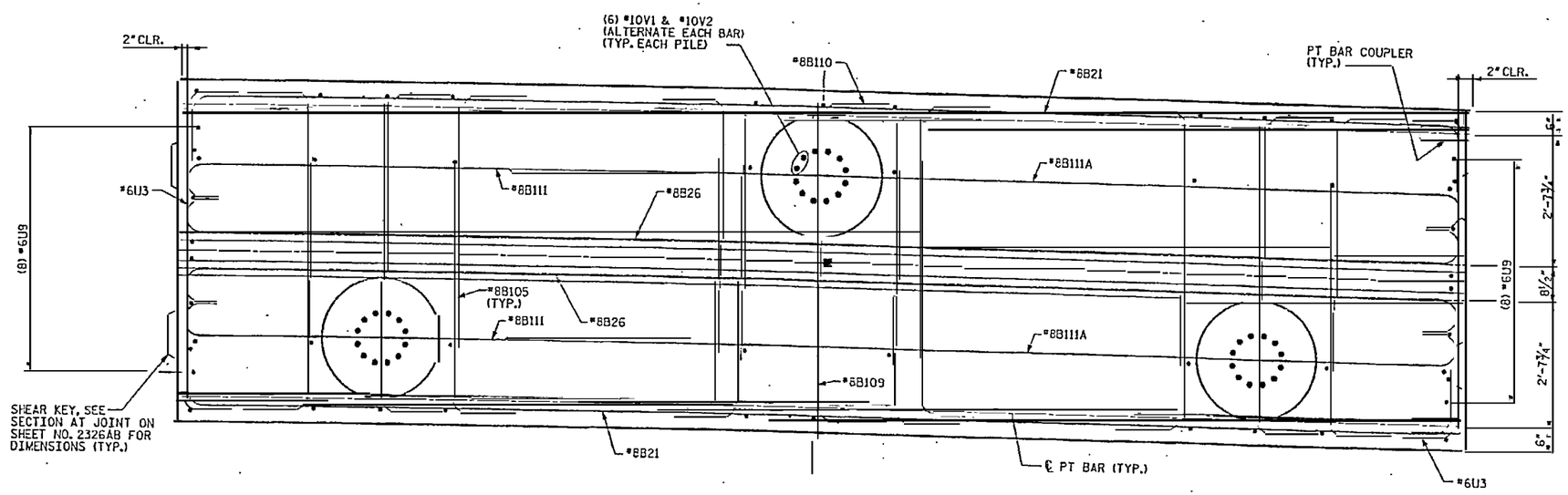


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/25/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030476 2/27/08 REGISTERED TOM SHEARIN JORDAN

1 GENERAL REVISIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

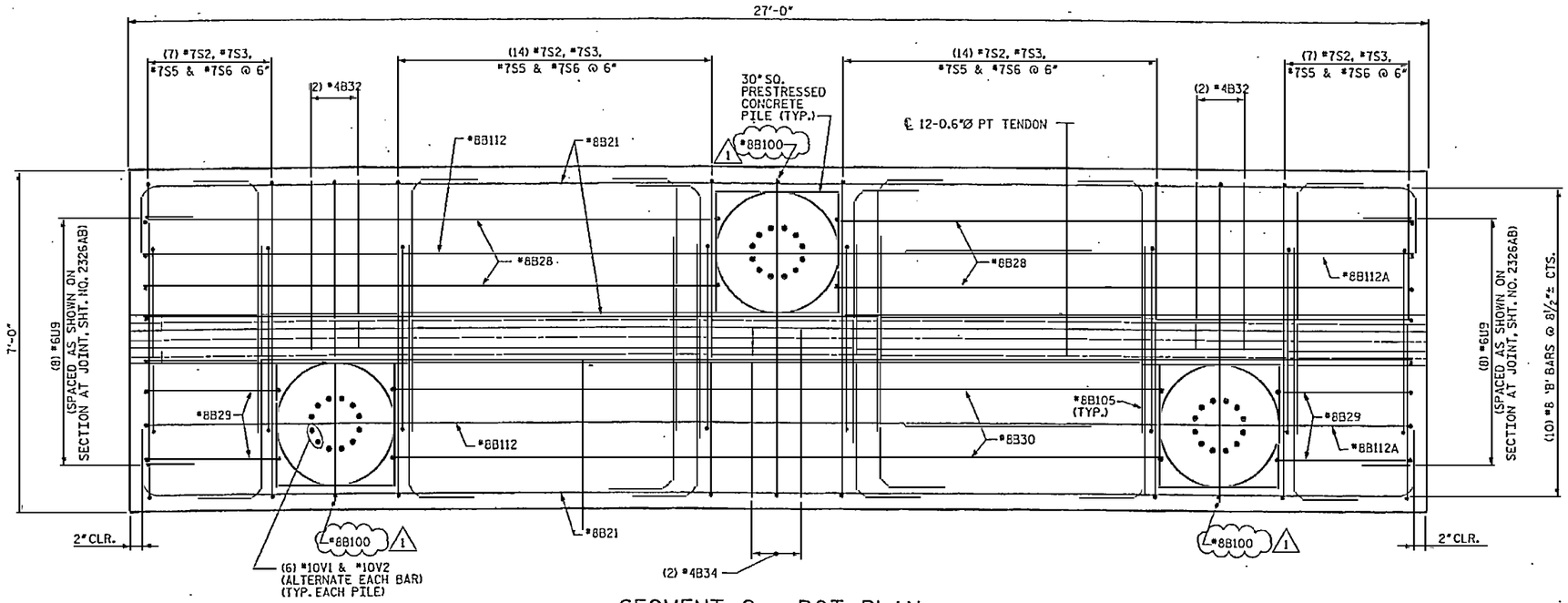
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2326AF.01
1	SGS	2/13/08				TOTAL SHEETS
2						

Earth Tech
A Tyco International Ltd. Company

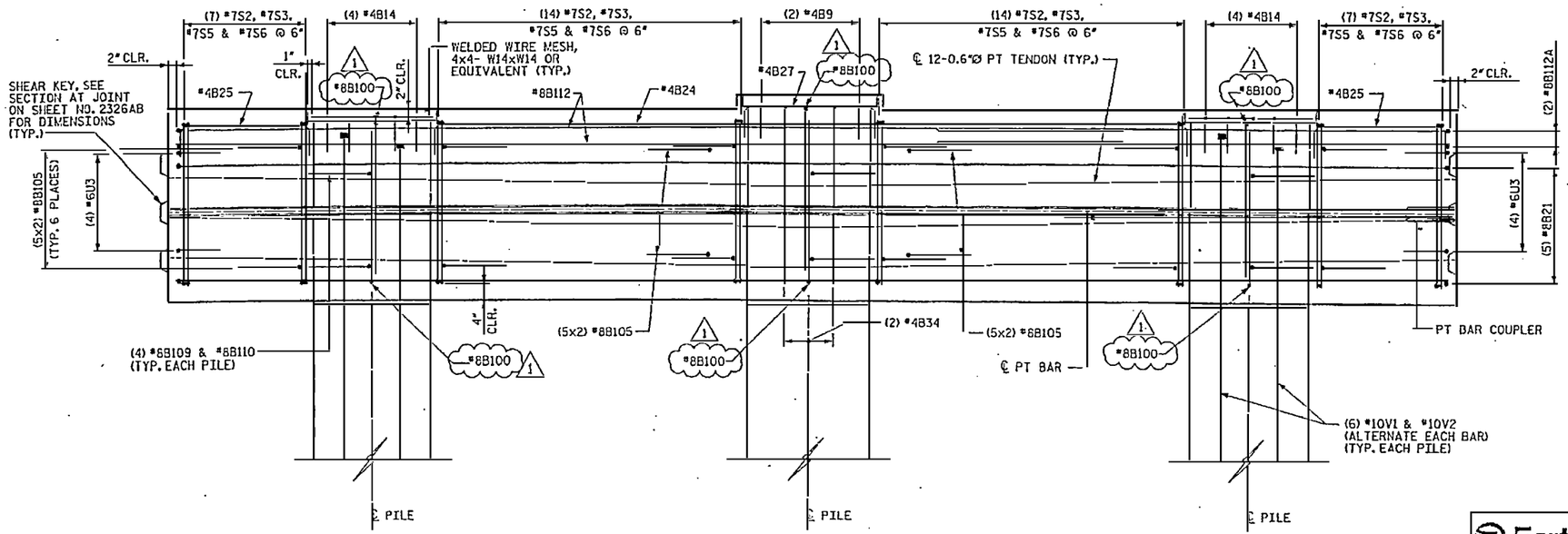
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 9/07
CHECKED BY : J. LIU DATE : 9/07

DATE: 2/27/2008
TIME: 10:47:47 PM
USER: scott.strednak
DGN: n:\structure\r-2510b_bridge\dgn\2326af_sht_01.dgn



SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 4/25/08

NORTH CAROLINA PROFESSIONAL SEAL 030176 ENGINEER JOHN M. JORDAN — 4/25/08

1 GENERAL REVISIONS

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 9 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET/NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2326AG.01
1	SGS.	2/13/08	5			TOTAL SHEETS
2			6			

DRAWN BY : S.G. STREDNAK DATE : 9/07
CHECKED BY : J. LIU DATE : 9/07

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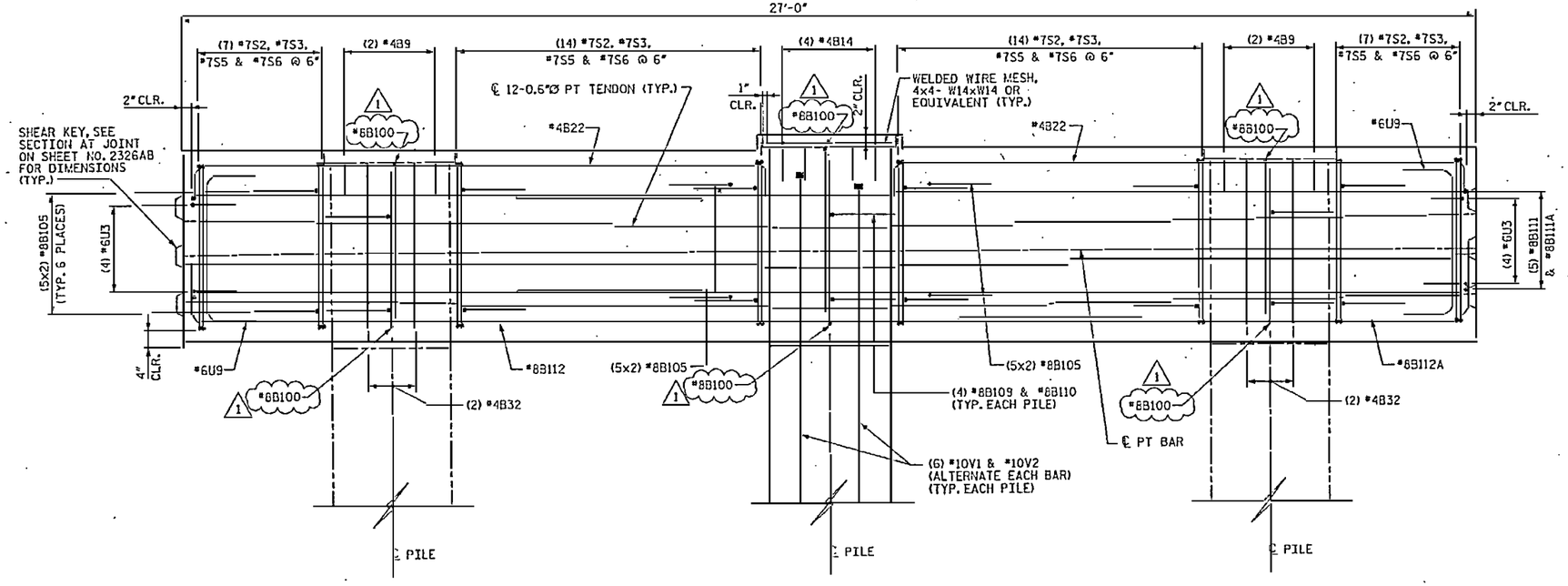
FLATIRON/UNITED — A JOINT VENTURE

DATE: 2/7/2008
FILE: 1GH39.PM

USER: jwhitehurst
DGN: N:\PROJECTS\R2510B_SD_DGN_SHT\GETTING.dgn



SEGMENT 2 - SECTION A2

(SEE SHEET NO. 2326AA)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/25/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030676 2/25/08 JOHN W. JORDAN

1 GENERAL REVISIONS

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 8 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

Earth Tech
A Tyco International Ltd. Company

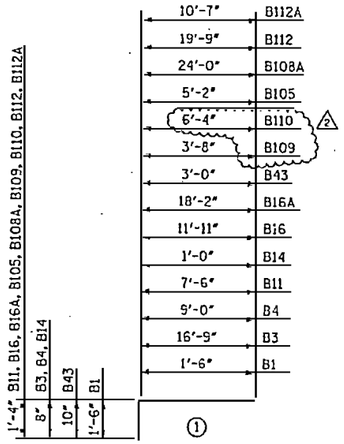
FLATIRON/UNITED
A JOINT VENTURE

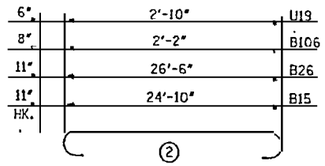
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2326AH.01
1	SGS	2/13/08	3			TOTAL SHEETS
2			4			

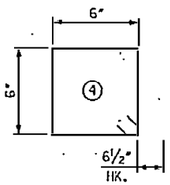
DRAWN BY : S. G. STREDNAK DATE : 9/07
CHECKED BY : J. LTU DATE : 9/07

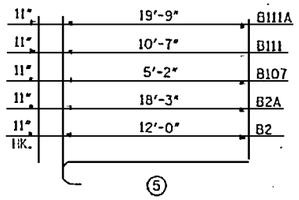
USER: mstrednak
DGN: ...\structures\bridges\R2510\R2510_SUPER_LIFT-DETAILS.dgn
DATE: 2/13/2008
TIME: 12:14:31 PM

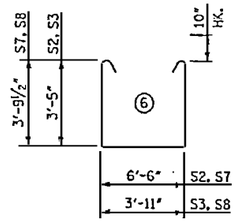
BAR TYPES

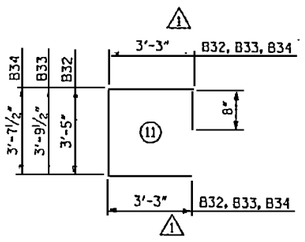


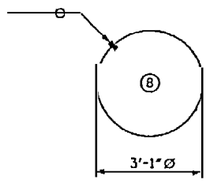


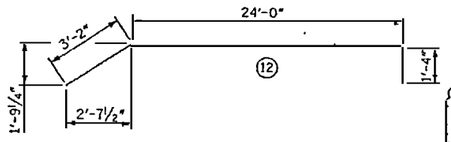


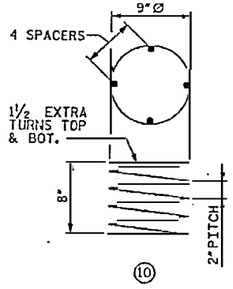


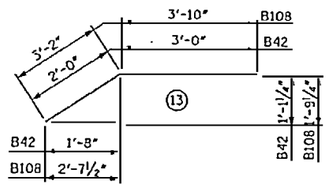


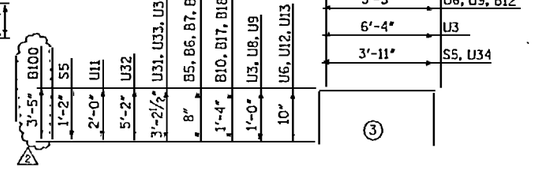


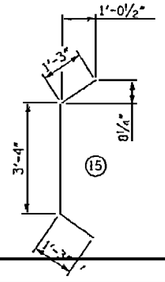












B41	23'-5"
B37	5'-4"
B36	10'-6"
B35	11'-3"
B31	5'-2"
B27	2'-6"
B25, B29	2'-8"
B24, B30	15'-10"
B38	12'-0"
B21, B23	26'-6"
B20	12'-8"
B19	3'-5"
B18	4'-5"
B17	11'-9"
B39	11'-1"
B13	11'-0"
B10	26'-2"
B9	3'-11"
B8	4'-0"
B7	4'-8"
B6, B22, B28	11'-11"
B5	5'-3"
U37	5'-0"
U36	4'-7"
U35	3'-9"
U33, B100 (2)	6'-6"
U32	1'-0"
U31	1'-2½"
U13	1'-4"
U12	8"
U11	10"
U8	3'-7"
U6, U9, B12	3'-3"
U3	6'-4"
S5, U34	3'-11"

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	5	(1)	3'-0"	25
B2	20	8	(5)	12'-11"	690
B2A	20	8	(5)	19'-2"	1024
B3	4	4	(1)	17'-5"	47
B4	10	4	(1)	9'-8"	65
B5	6	4	(3)	6'-7"	26
B6	6	4	(3)	13'-3"	53
B7	2	4	(3)	6'-0"	8
B8	2	4	(3)	5'-4"	7
B9	18	4	(3)	5'-3"	63
B10	4	8	(3)	28'-10"	308
B11	8	8	(1)	8'-10"	189
B12	10	4	(3)	4'-7"	31
B13	14	4	(3)	12'-4"	115
B14	36	4	(1)	1'-8"	40
B15	12	8	(2)	26'-8"	854
B16	4	8	(1)	13'-3"	142
B16A	4	8	(1)	19'-6"	208
B17	4	8	(3)	14'-5"	154
B18	2	8	(3)	7'-1"	38
B19	4	8	(3)	6'-1"	65
B20	4	8	(3)	15'-4"	164
B21	12	8	(3)	29'-2"	935
B22	10	4	(3)	13'-3"	89
B23	2	4	(3)	27'-10"	37
B24	5	4	(3)	17'-2"	57
B25	10	4	(3)	4'-0"	27
B26	6	8	(2)	28'-4"	454
B27	9	4	(3)	3'-10"	23
B28	4	8	(3)	14'-7"	156
B29	4	8	(3)	5'-4"	57
B30	2	8	(3)	18'-6"	99
B31	10	4	(3)	6'-6"	43
B32	12	4	(11)	10'-7"	85
B33	4	4	(11)	11'-0"	29
B34	2	4	(11)	10'-10"	14
B35	2	4	(3)	12'-7"	17
B36	2	4	(3)	11'-10"	16
B37	2	8	(3)	8'-0"	43
B38	2	8	(3)	14'-8"	78
B39	2	8	(3)	13'-9"	73
B40	12	8	(12)	28'-6"	913
B41	8	8	(3)	26'-1"	557
B42	24	7	(13)	5'-0"	245
B43	4	5	(1)	3'-10"	16
B100 (2)	18	8	(3)	13'-4"	641
B105	200	8	(1)	6'-6"	3471
B106	60	6	(2)	3'-6"	315
B107	80	8	(5)	6'-1"	1299
B108	8	8	(13)	7'-0"	150
B108A	8	8	(1)	25'-4"	541
B109	36	8	(1)	5'-0"	481
B110 (2)	36	8	(1)	7'-8"	737
B111	10	8	(5)	11'-6"	307
B111A	10	8	(5)	20'-8"	552
B112	6	8	(1)	21'-1"	338
B112A	6	8	(1)	11'-11"	191

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	4	(4)	3'-3"	35
S2	62	7	(6)	15'-0"	1901
S3	62	7	(6)	12'-5"	1574
S5	100	7	(3)	6'-3"	1278
S6	100	7	(7)	8'-2"	1669
S7	38	7	(6)	15'-9"	1223
S8	38	7	(6)	13'-2"	1023
S31	16	7	(8)	9'-5"	308
U3	16	6	(3)	8'-4"	200
U6	12	5	(3)	4'-11"	62
U8	16	6	(3)	5'-7"	134
U9	16	6	(3)	5'-3"	126
U11	12	5	(3)	4'-10"	60
U12	8	5	(3)	2'-4"	19
U13	8	5	(3)	3'-0"	25
U16	12	5	(15)	5'-10"	73
U19	2	4	(2)	3'-10"	5
U31	52	7	(3)	7'-8"	815
U32	8	8	(3)	11'-4"	242
U33	24	7	(3)	12'-11"	634
U34	8	7	(3)	10'-4"	169
U35	4	7	(3)	10'-2"	83
U36	4	7	(3)	11'-0"	90
U37	8	7	(3)	11'-5"	187
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

(2) REMOVED BARS B101, B102, B103, B104; ADDED BAR B100; REVISED BAR B110
(1) REVISED TYPE 11 BARS

RELEASED FOR CONSTRUCTION
Tom Shearin 2/13/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 17112 ENGINEER THOMAS WILLIAM SHEARIN JR. NORTH CARLINA

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 9 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

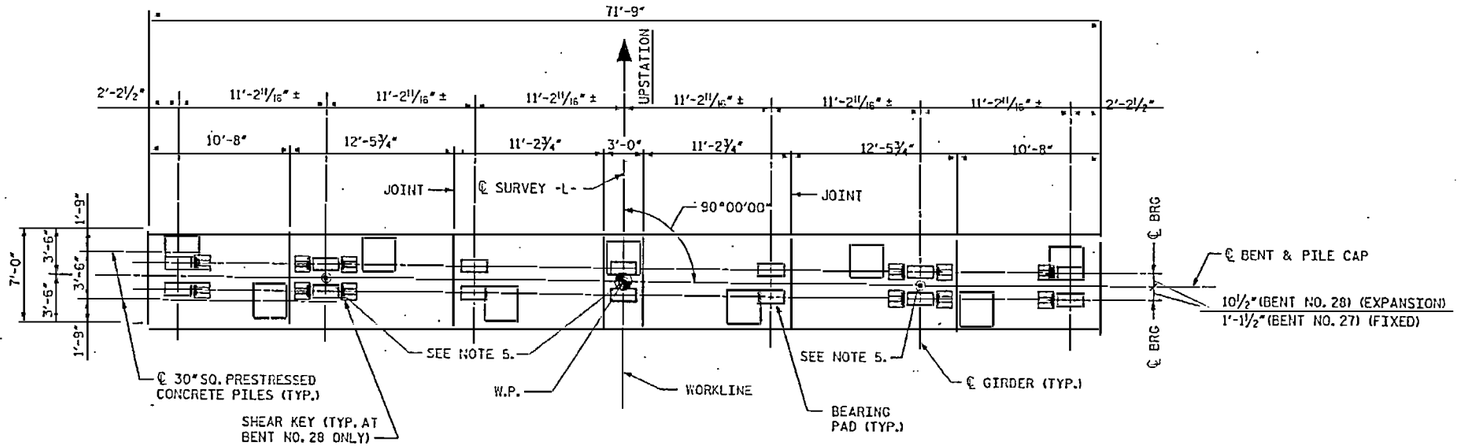
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2326AJ.02
1	SGS	12/7/07	3			TOTAL SHEETS
2	SGS	2/13/08	4			

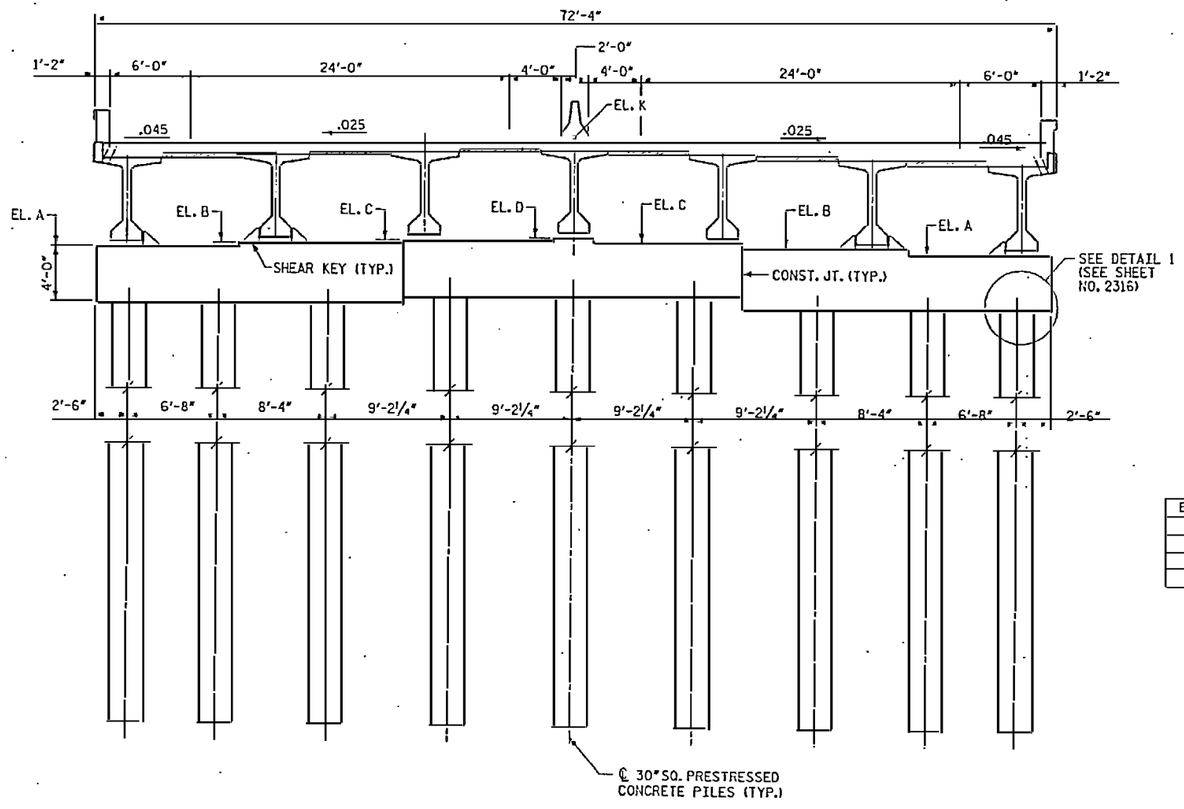
ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : S. G. STREDNAK DATE : 9/07
CHECKED BY : J. LIU DATE : 9/07

DATE: 2/13/2008
TIME: 12:47:00 PM
USER: scottstrednak
DGN: N:\structure\tar river bridge\sheets\25102326_SD_DETAILS-DETAIL01.dgn

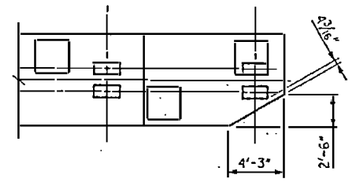


PLAN
(BENT NO. 27 SHOWN)



ELEVATION
(BENTS 27 AND 28)

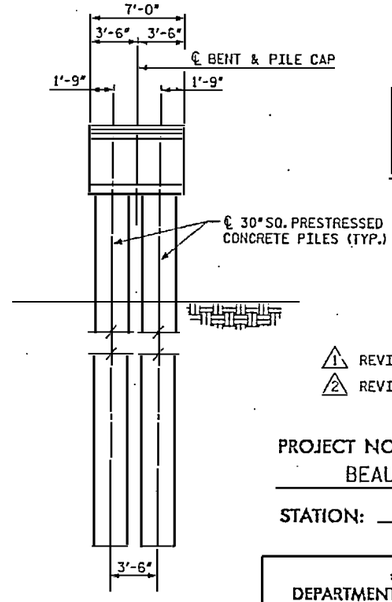
BENT NO.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. K (ft)
27	28.614	28.988	29.268	29.549	36.830
28	28.669	29.043	29.323	29.604	36.885



PARTIAL PLAN - BENT 28

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB, BARS ONLY AT BENT 27. (1) (2)
6. FOR REINFORCEMENT, SEE DETAILS - PILE CAP TYPE 1A, SHEET NOS. 2327A THRU 2327M. FOR BENT 28, SEE ADDITIONAL DETAILS ON SHEET NOS. 2327B, 23127E, 2327G & 2327M.
7. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT CAP 28 (EXPANSION). SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.



END ELEVATION

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

(1) REVISION TO NOTE NO. 5.
(2) REVISION TO NOTE NO. 5.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 1A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

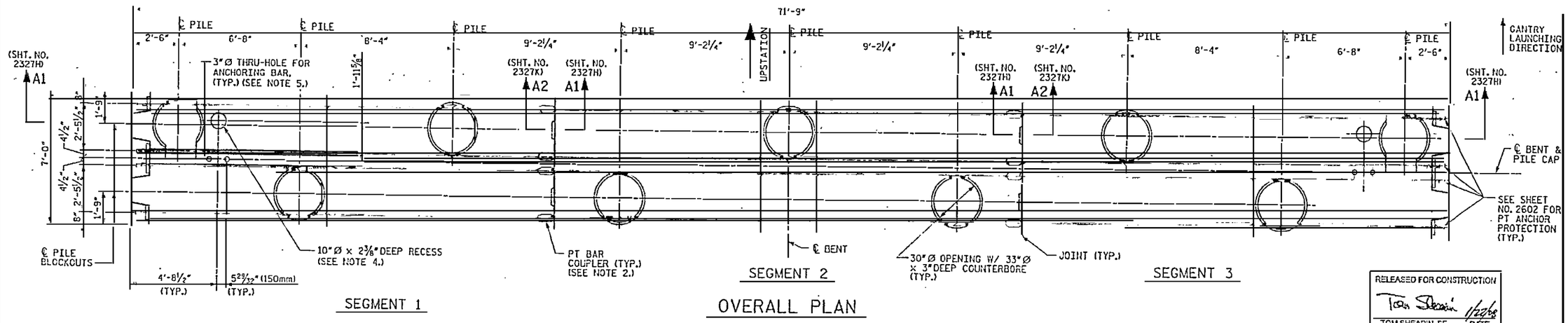
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327.02
1	MTB	7/2/07	3			TOTAL SHEETS
2	MTB	10/16/07	4			

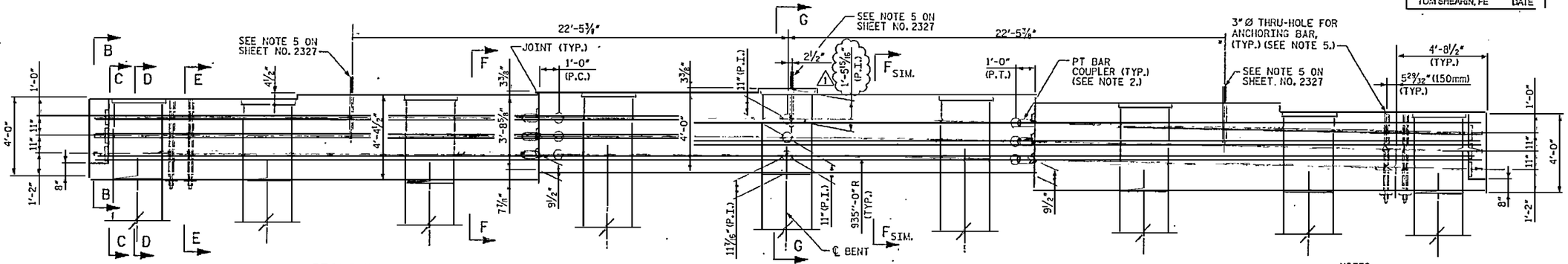
DRAWN BY : S. G. STREDNAK DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

USER: pattishall
DGN: N:\structure\rdwy inter\work\2510b_SD_DSH_BENT_TYPE1A.dgn
DATE: 10/16/2007
FILE SIGNATURE



OVERALL PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/22/08 DATE

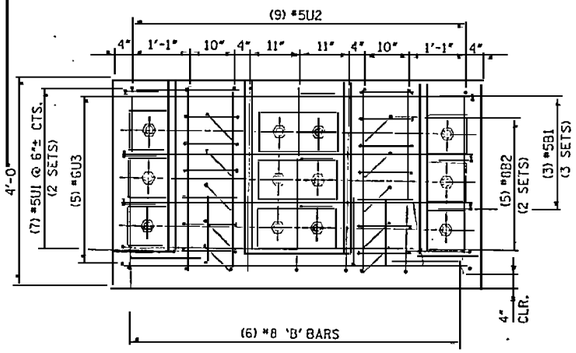


OVERALL ELEVATION

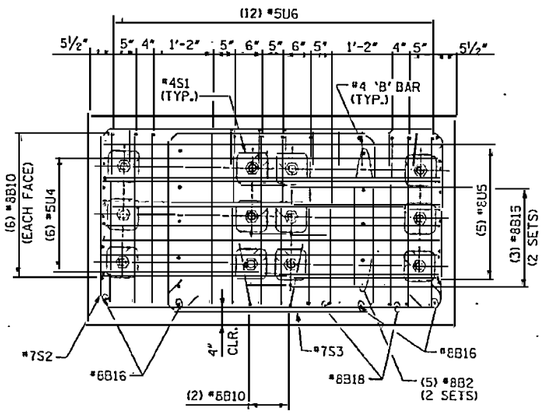
NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES AND ½" CLEARANCE FOR ALL BARS AT BLOCKOUTS, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
5. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. 2327C. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

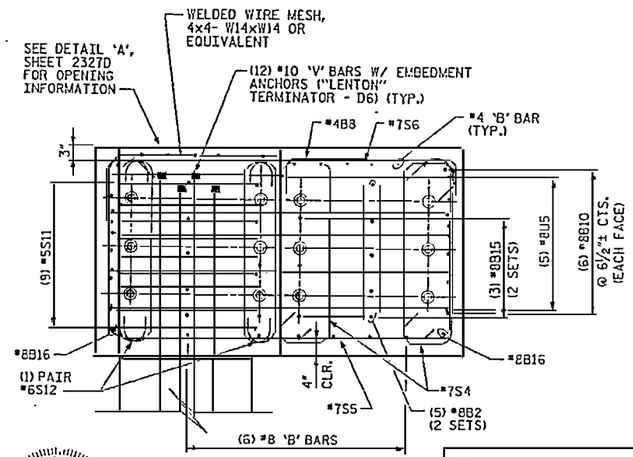
⚠ REVISED DIMENSION



SECTION B-B



SECTION C-C



SECTION D-D

NOTE: THIS PILE CAP USED AT BENT NO. 27 ONLY.

DRAWN BY : M.T. BEILSLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 13 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327A.01
1	SGS	12/7/07	3			TOTAL SHEETS
2			4			

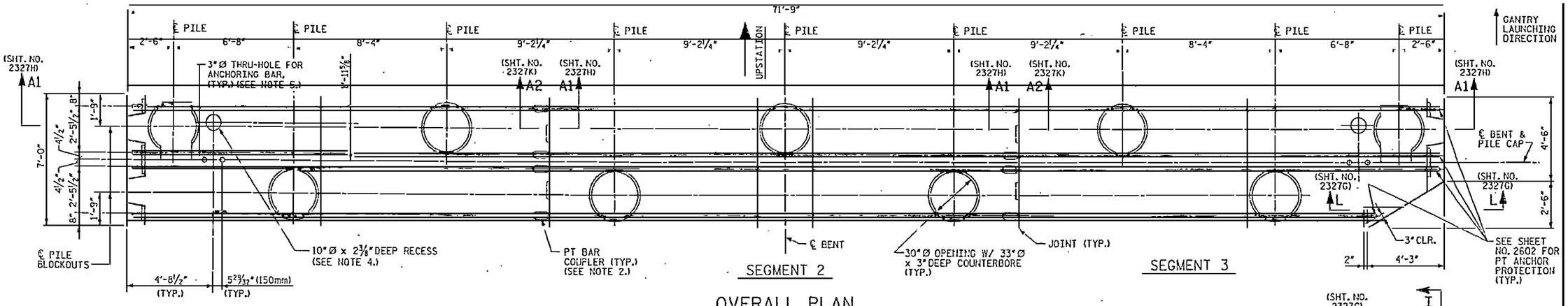
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

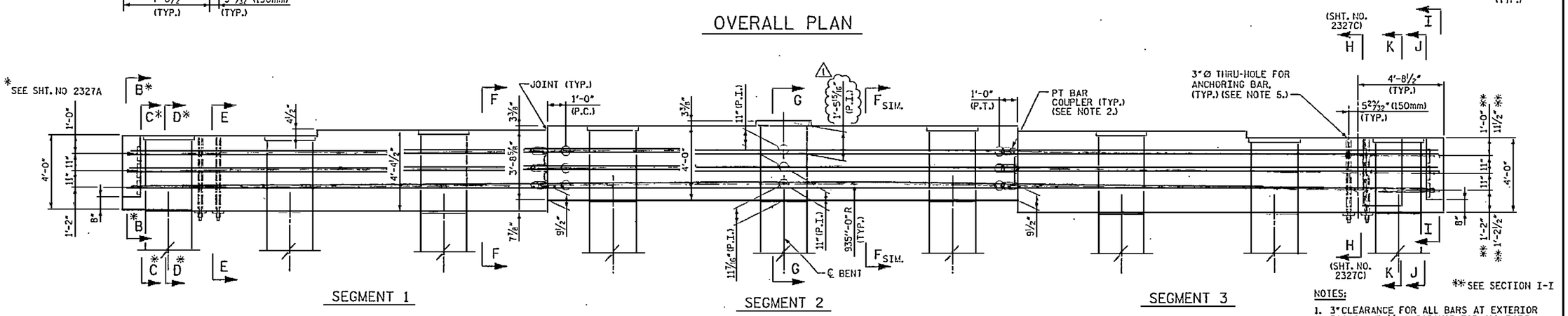
NORTH CAROLINA PROFESSIONAL SEAL 29618 ENGINEER JOHN W. JORDAN III 2/22/08

DATE PLOTTED
FILE LOCATION

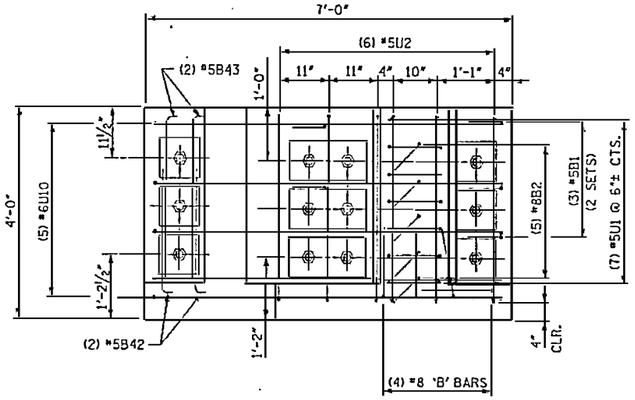
USER: scottwhitehurst
COM: Microstation for Windows V8 2004 (07.01.01.43)



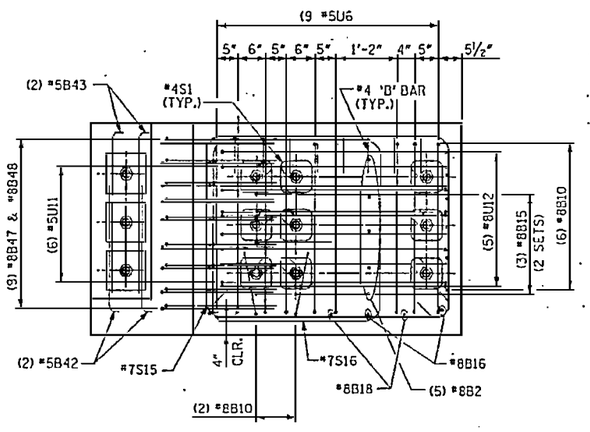
OVERALL PLAN



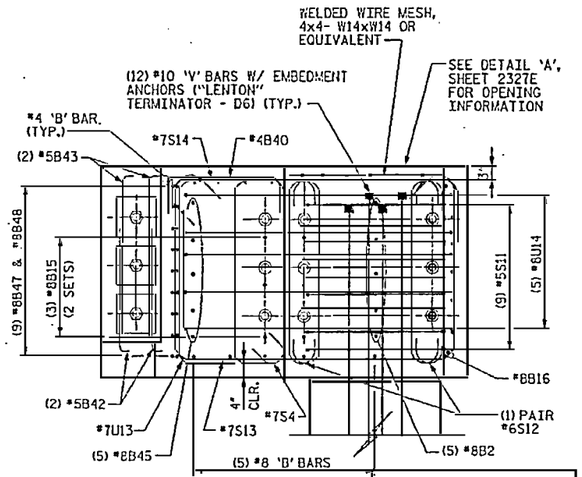
OVERALL ELEVATION



SECTION I-I



SECTION J-J



SECTION K-K

NOTE: THIS PILE CAP USED AT BENT NO. 28 ONLY.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
11/22/06
DATE

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES AND ½" CLEARANCE FOR ALL BARS AT BLOCKOUTS, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
5. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. 2327C. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

⚠1 REVISED DIMENSION

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 13 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

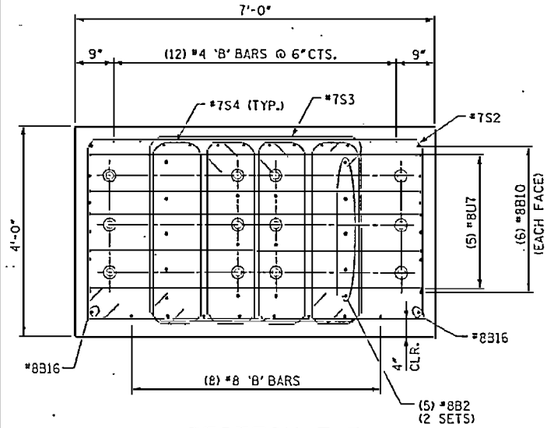
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327B.01
1	SGS	12/7/07	3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. PELTSLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

EarthTech
A Tyco International Ltd. Company

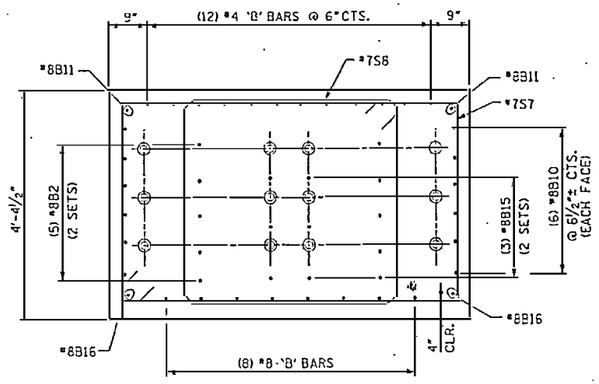
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA SEAL 030678 ENGINEER

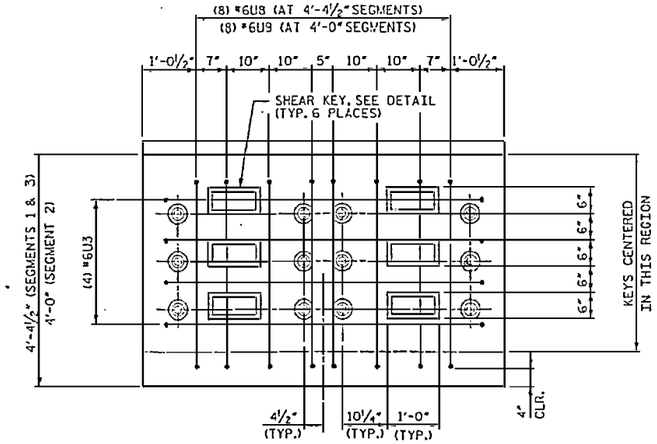


SECTION E-E

(ANCHORING BARS NOT SHOWN FOR CLARITY)

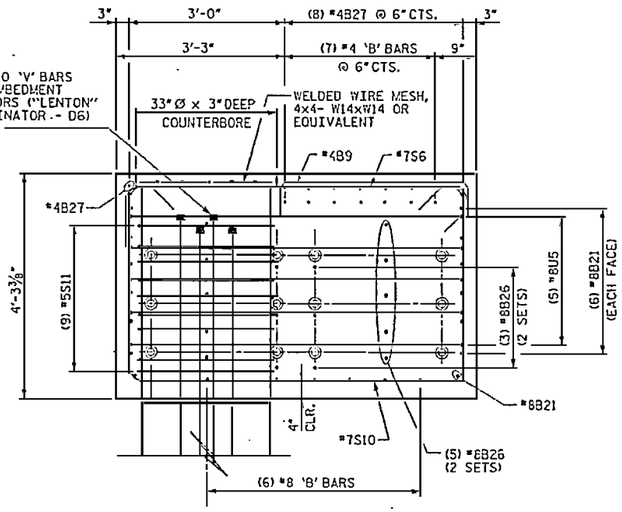


SECTION F-F

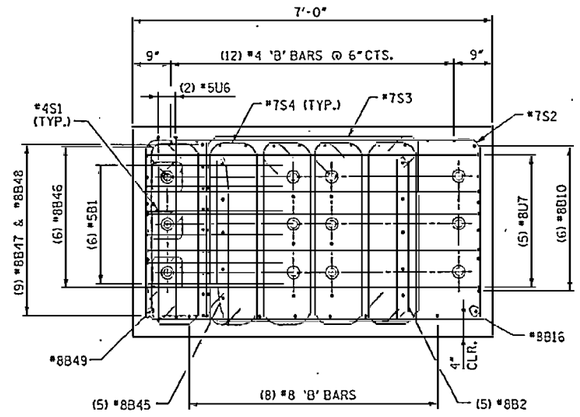


SECTION AT JOINT

(SEE SHEET NOS. 2327A & 2327B)

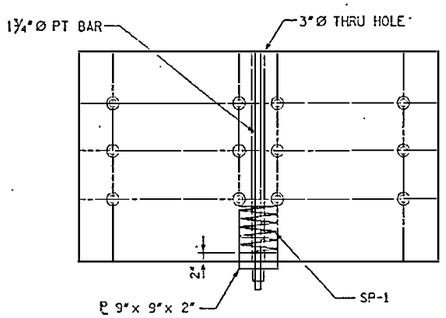


SECTION G-G



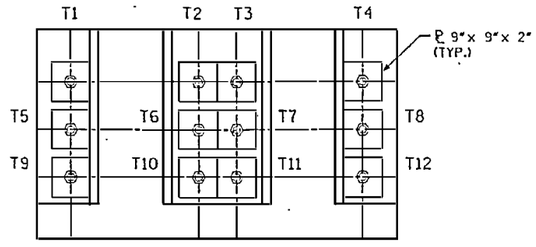
SECTION H-H

(ANCHORING BARS NOT SHOWN FOR CLARITY)
(THIS SECTION USED AT BENT 28 ONLY)



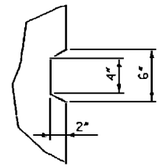
DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. ALL TENDONS SHALL BE 1¾" Ø PT BARS AND STRESSED TO 280 kips.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE: T6, T7, T8, T5. T2, T11, T10, T3, T4, T9, T1, T12.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY PT TENDONS.



SHEAR KEY

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE — DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030078 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 13 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

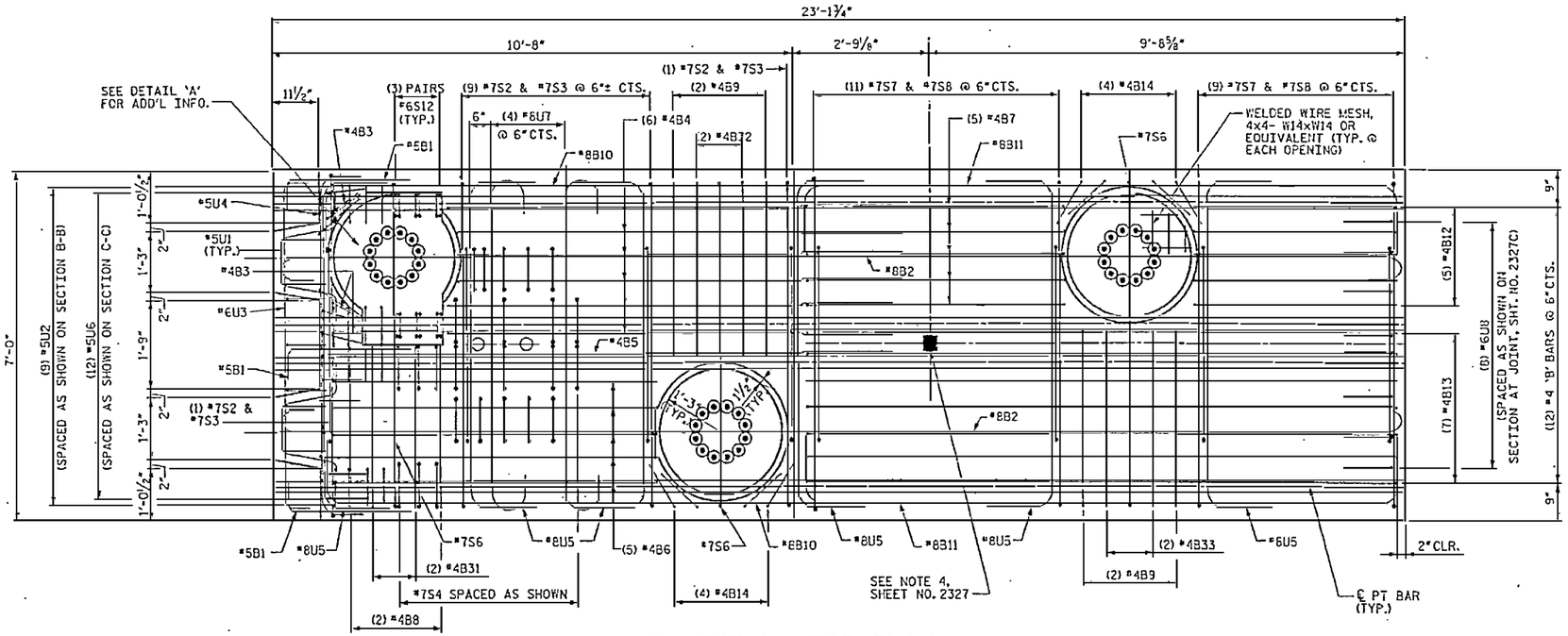
DETAILS - PILE CAP TYPE 1A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327C 00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

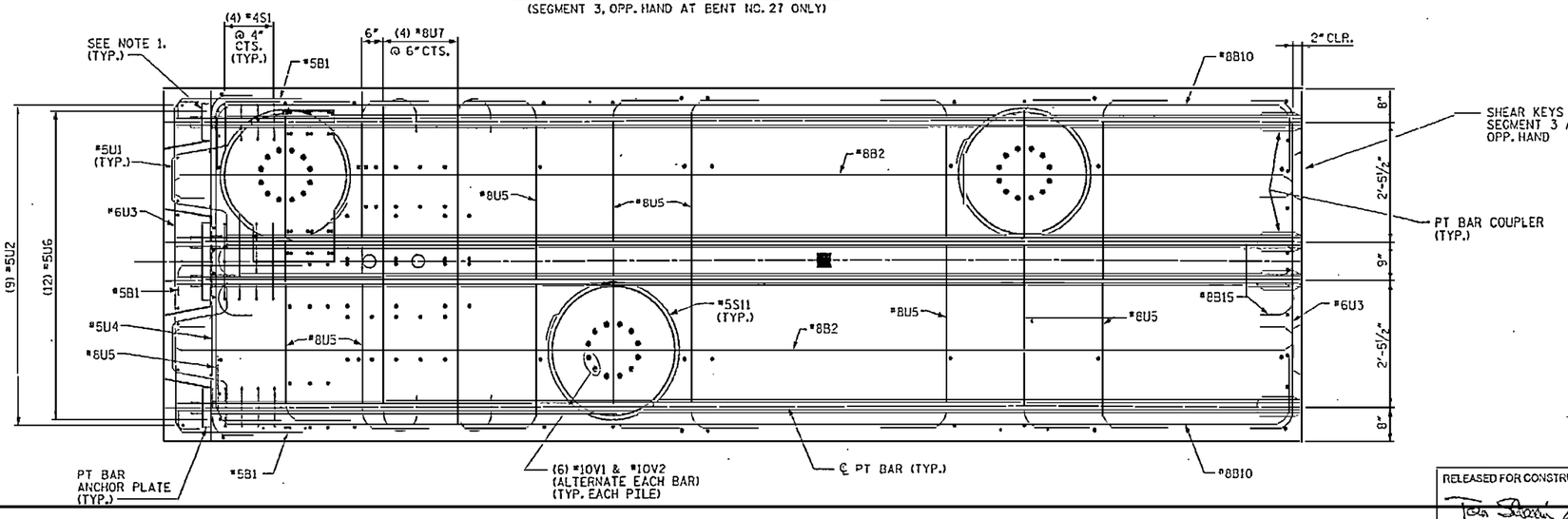
DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

DATE: 6/15/2007
10:02:10 AM
USER: mtbelisle
DGN: N:\Structure\Tar River Bridges\DGN\R2510B_SD_DTL_BT1A.dgn



SEGMENT 1 - TOP PLAN

(SEGMENT 3, OPP. HAND AT BENT NO. 27 ONLY)

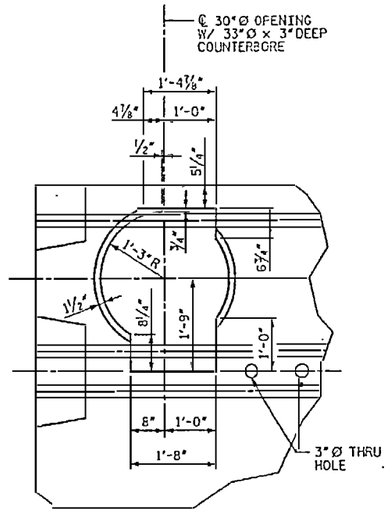


SEGMENT 1 - MID PLAN

(SEGMENT 3, OPP. HAND AT BENT NO. 27 ONLY)

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL 'A'

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 13 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE / DATE 6/15/07

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	23270.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELTSLE DATE : 5/07
CHECKED BY : J.LTU DATE : 5/07

DATE: 6/14/2007
TIME: 4:04:3 PM

USER: mbeltsle
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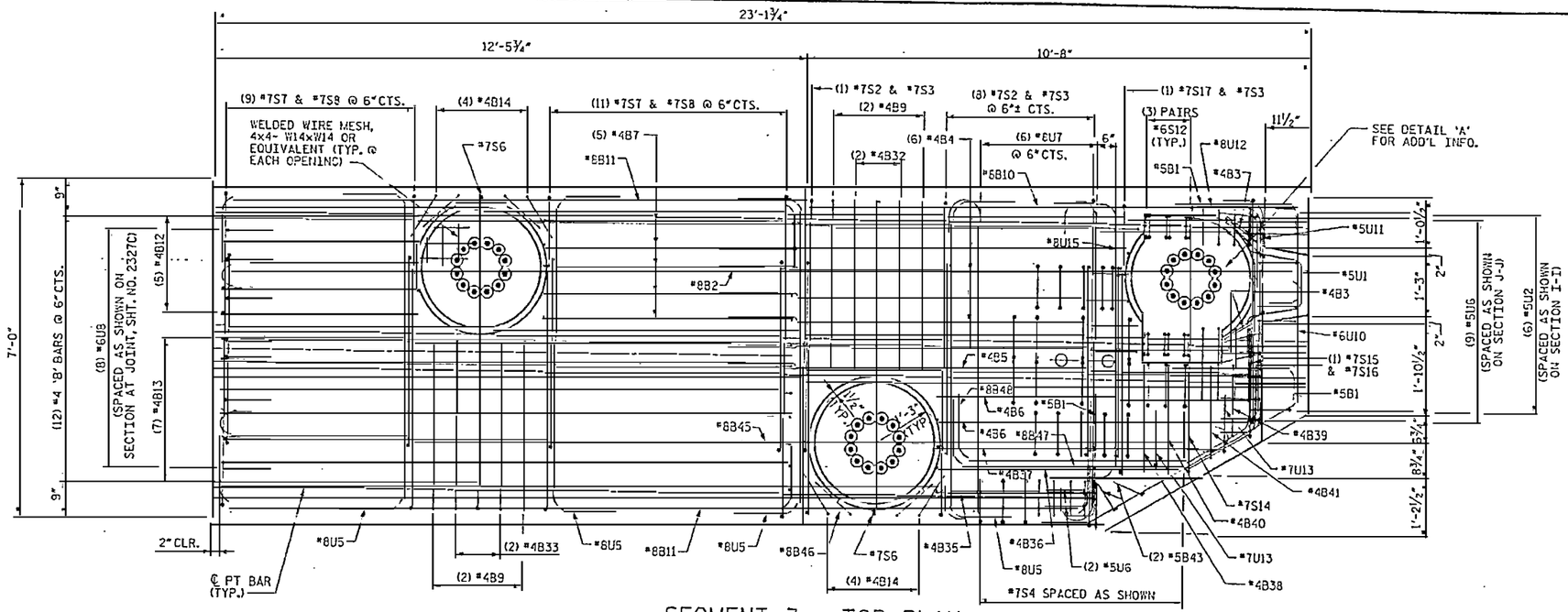
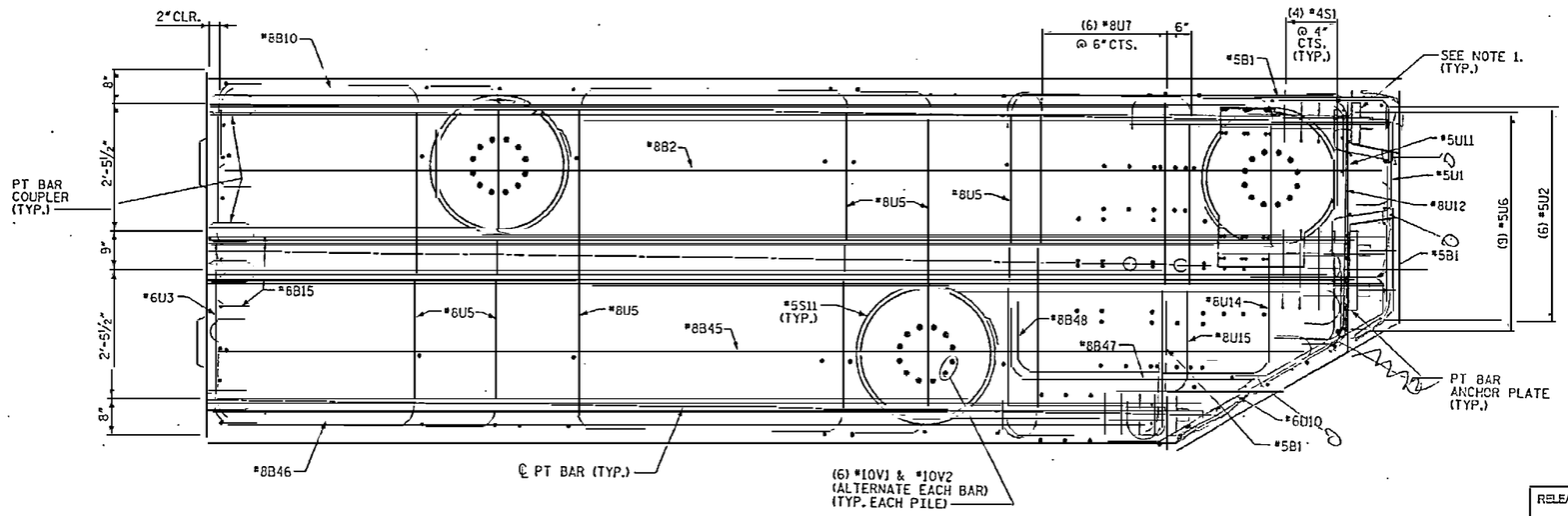


SEGMENT 3 - TOP PLAN

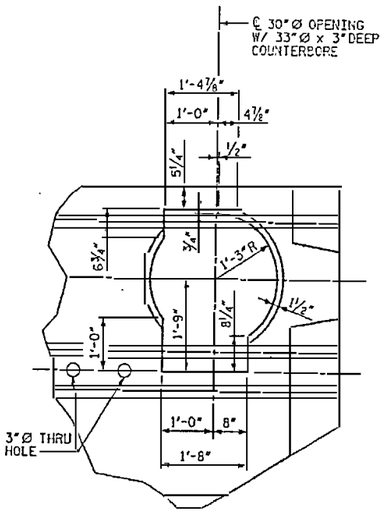


SEGMENT 3 - MID PLAN

NOTE: THIS SEGMENT USED AT BENT NO. 28 ONLY.

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL 'A'

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 13 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

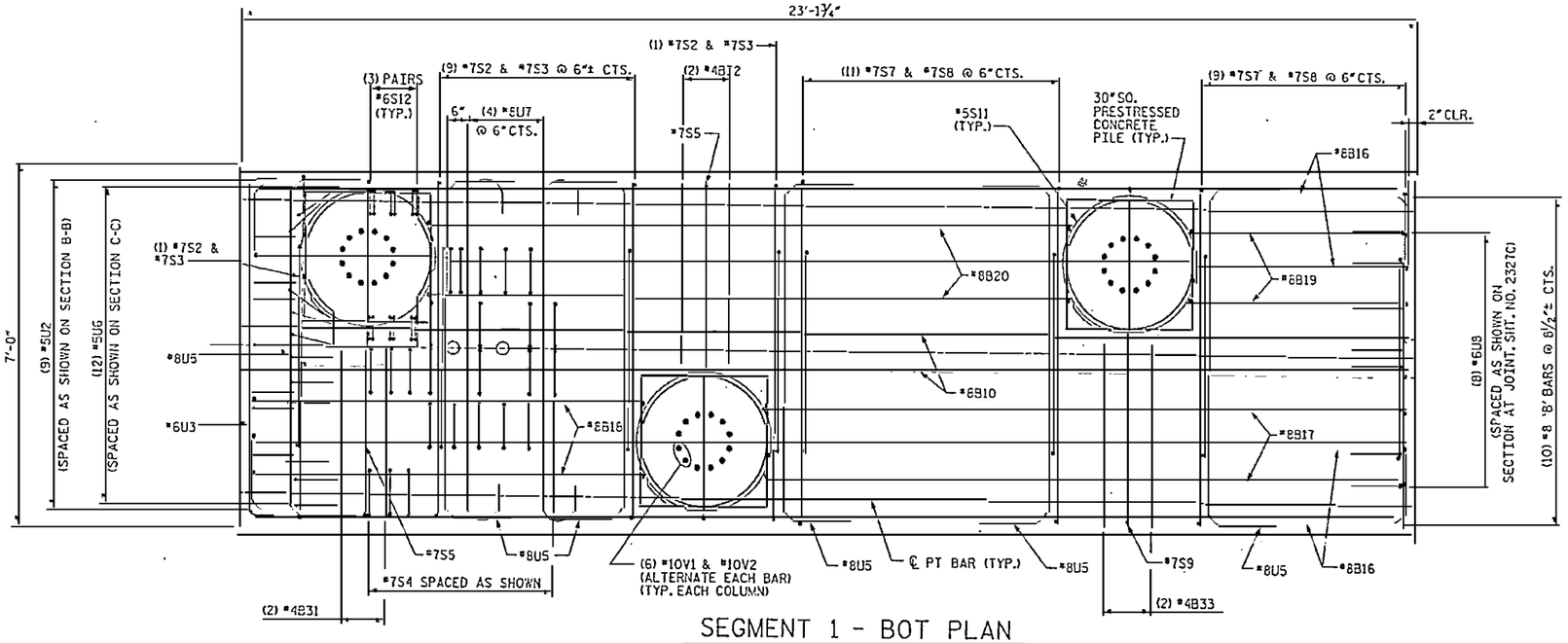
- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327E.00
1			3			TOTAL SHEETS
2			4			

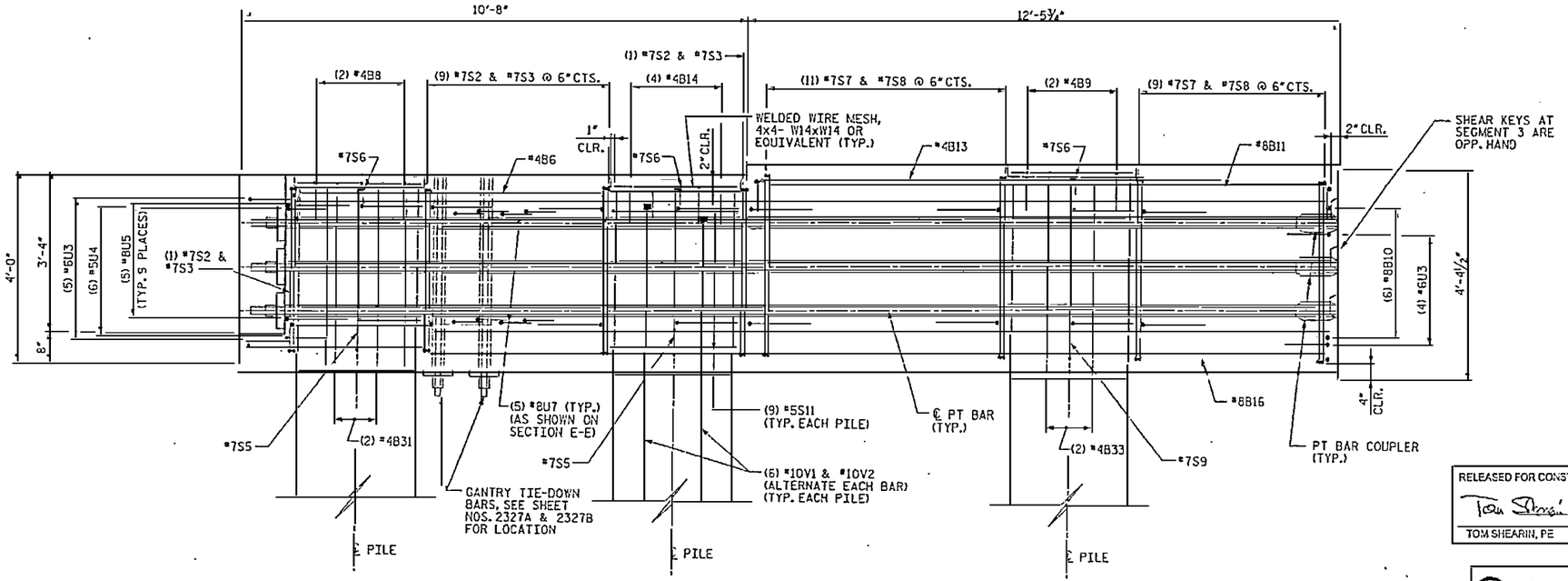
DRAWN BY : M.T. BEISLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

DATE PLOTTED: 14-JUN-2007
USER: rtmorris
DGN: RIVERMARK\Tar River Bridge\CAD\R2509_SD_DSN_STR-DETSE.dgn



SEGMENT 1 - BOT PLAN

(SEGMENT 3, OPP. HAND AT BENT NO. 27 ONLY)



SEGMENT 1 - ELEVATION

(SEGMENT 3, OPP. HAND AT BENT NO. 27 ONLY)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL SEAL 029276 ENGINEER JOHN W. JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 6 OF 13 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327F.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

DATE: 6/15/2007
FILE: 40169 PW

USER: mbelisle
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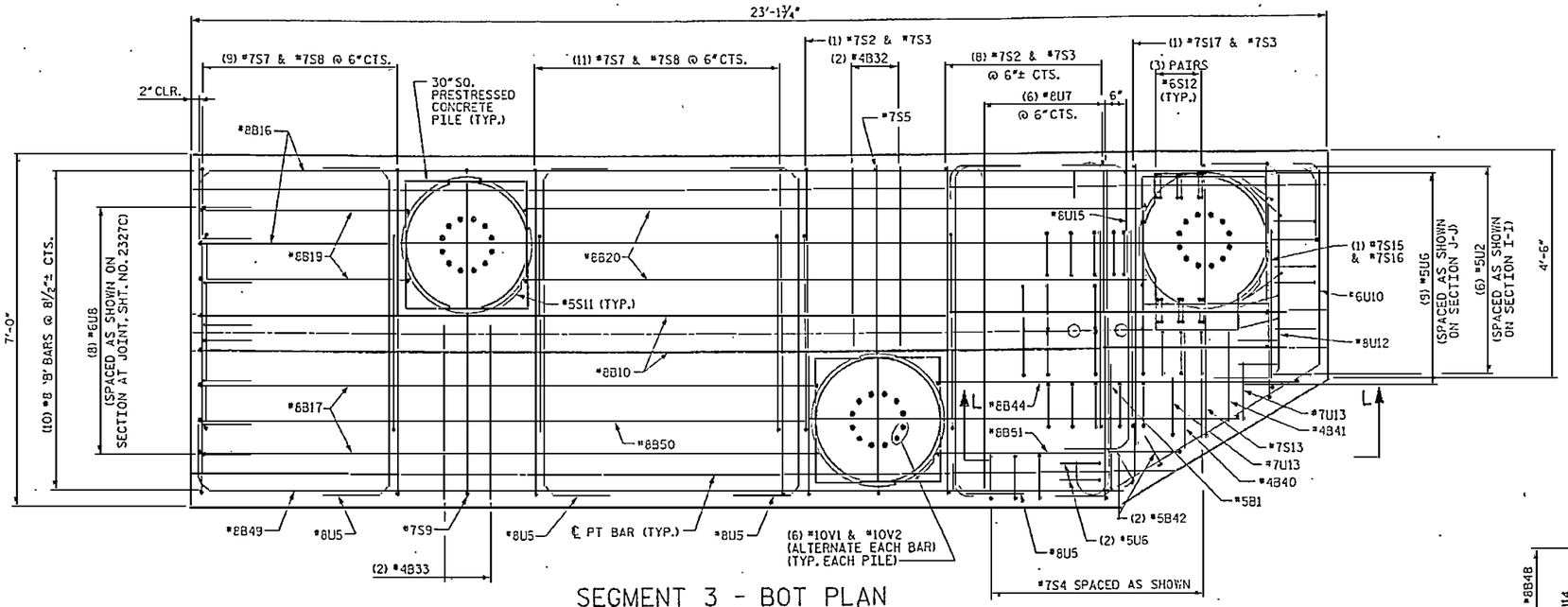
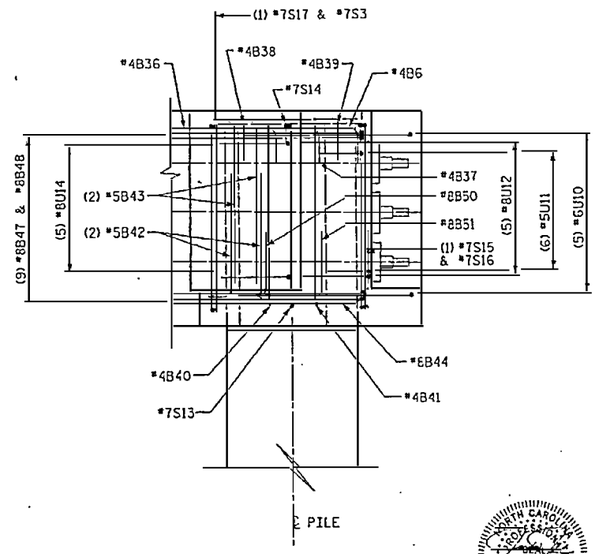
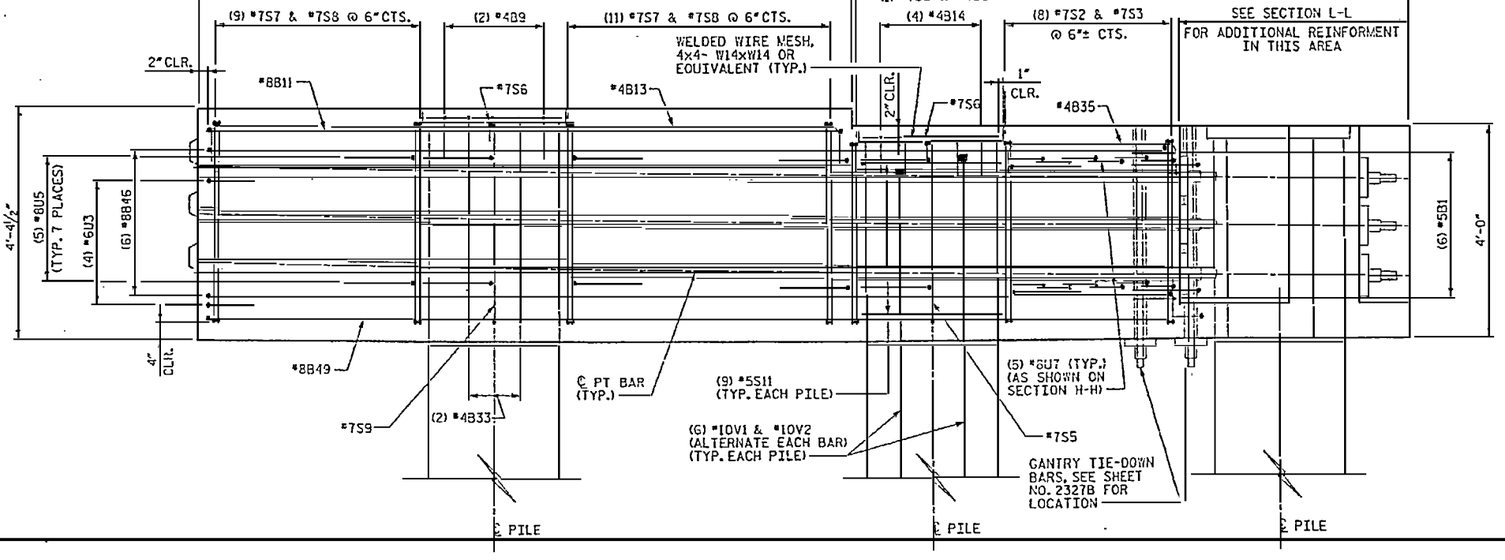


SEGMENT 3 - BOT PLAN



SECTION L-L



SEGMENT 3 - ELEVATION

NOTE: THIS SEGMENT USED AT BENT NO. 28 ONLY.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035826 JOHN W. JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 7 OF 13 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION

Tom Shearin 4/3/07

TOM SHEARIN, PE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327C.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

DATE: 6/14/2007
TIME: 10:25:3 PM

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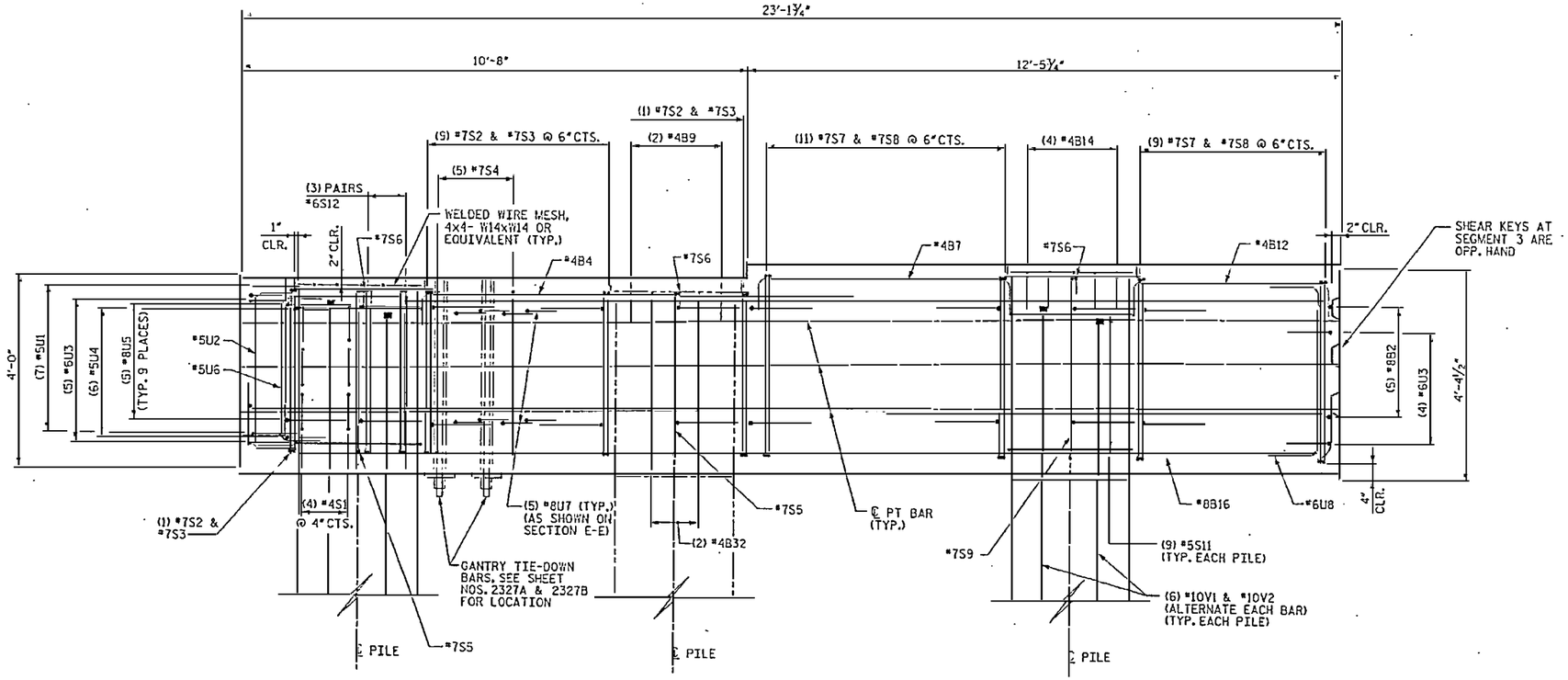

SEGMENT 1 - SECTION A1

(SEGMENT 3, OPP. HAND AT BENT NO. 27)
(SEGMENT 3, OPP. HAND & SIM. AT BENT NO. 28)
(SEE SHEET NOS. 2327A & 2327B)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039624 JOHN E. JORDAN JR.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 8 OF 13 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:	2327HL00
1			3			TOTAL SHEETS
2			4			

RELEASED FOR CONSTRUCTION
Tom Shearin 6/5/07
TOM SHEARIN, PE / DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

DATE: 6/4/2007
FILE: 4222.FM

USER: mtbelisle
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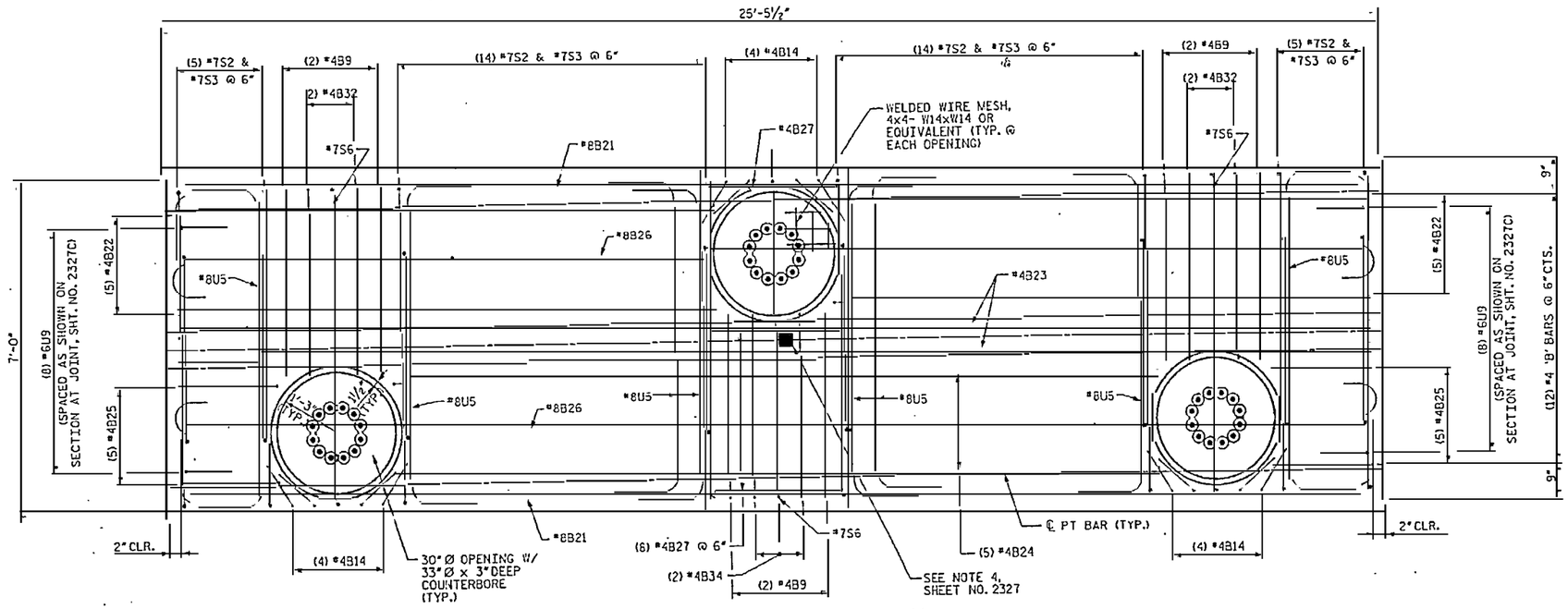
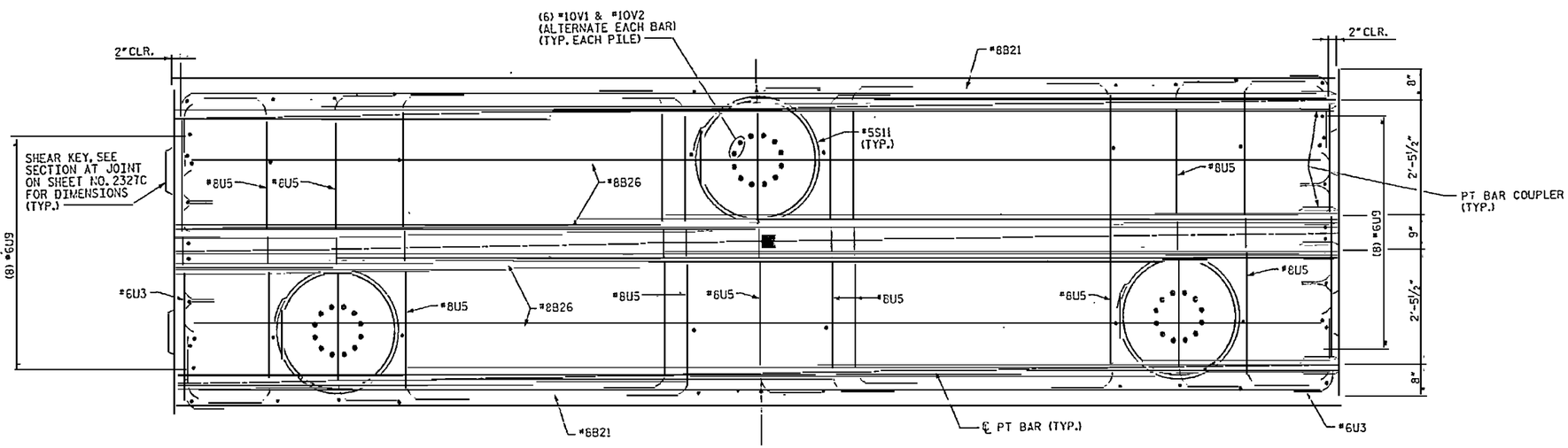


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 6/1/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030678 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 13 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO	BY:	DATE:	2327I.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J.I.TU DATE : 5/07

DATE: 6/4/2007
TIME: 10:57 AM
USER NAME: jwjordan
USER INITIALS: JWJ
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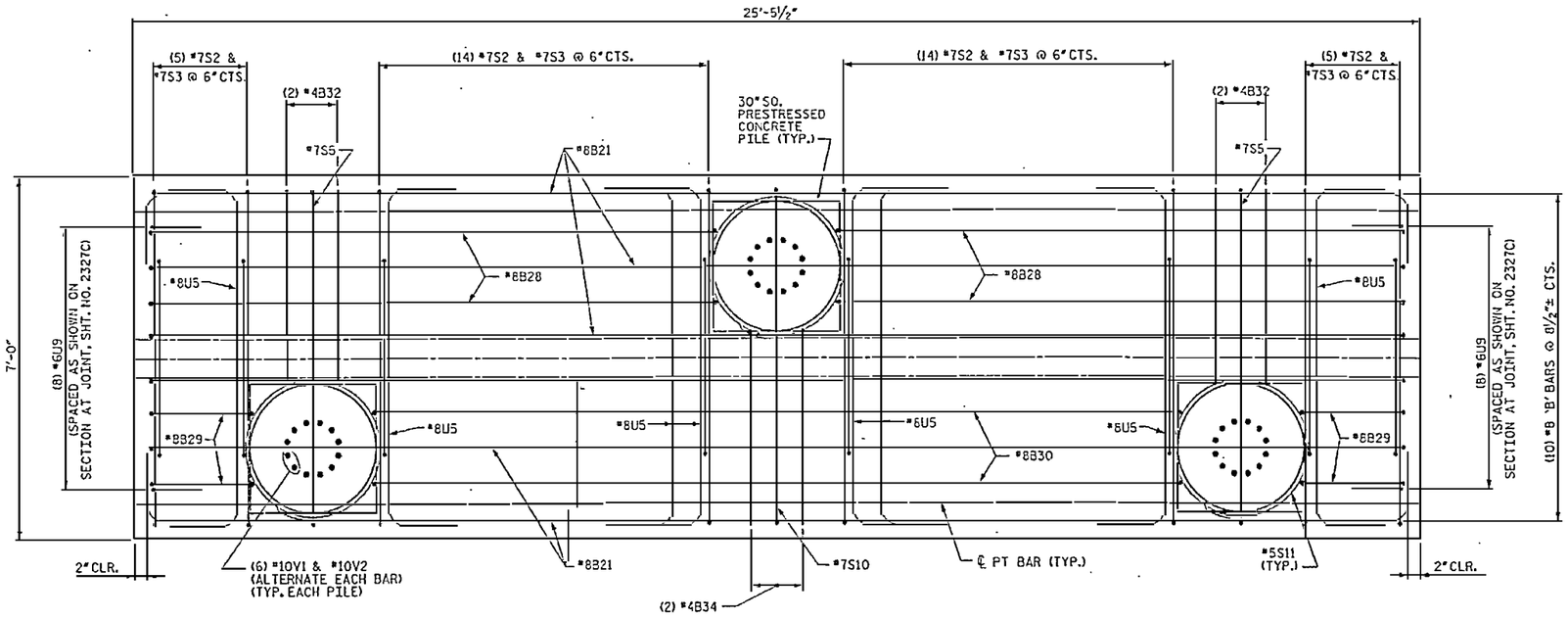
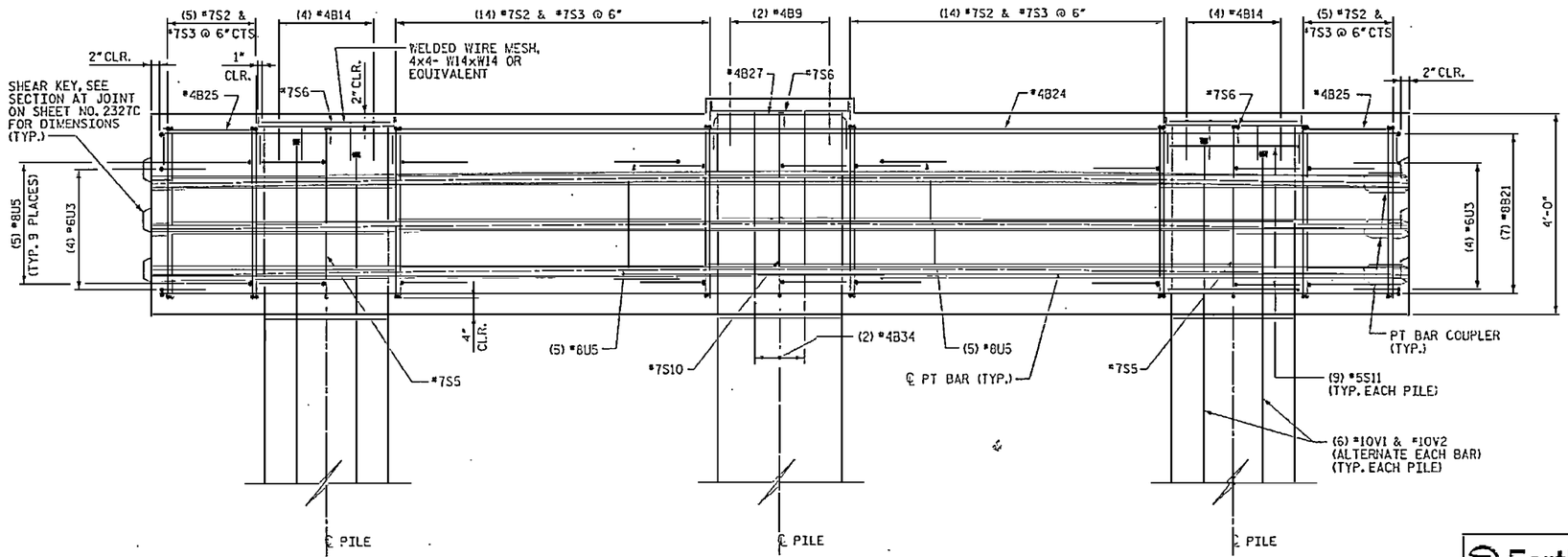


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

DRAWN BY : M.T. BELTSLE — DATE : 5/07
CHECKED BY : J. LIU — DATE : 5/07

EarthTech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 13 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327J.00
1			3			TOTAL SHEETS
2			4			

DATE: 6/24/2007
TIME: 4:26:16 PM
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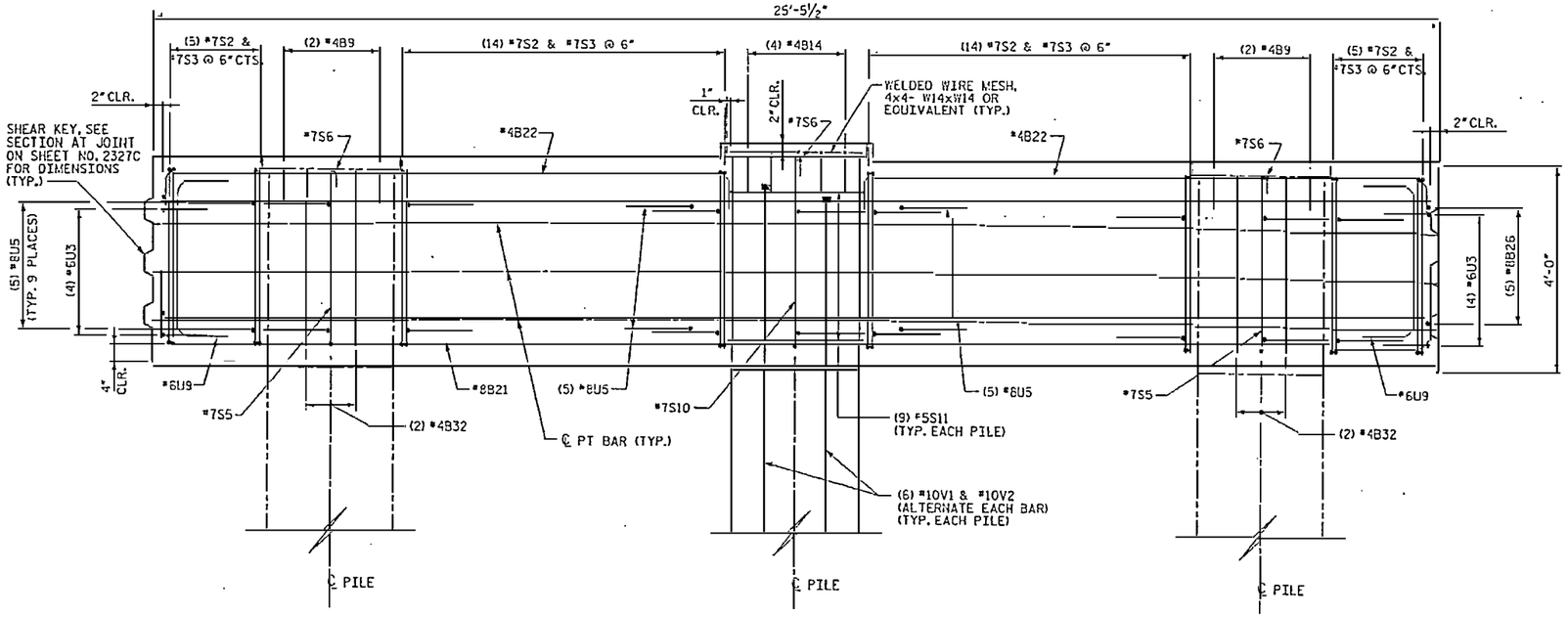

SEGMENT 2 - SECTION A2

(SEE SHEET NOS. 2327A & 2327B)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M.T. BELTSLE DATE : 5/07
CHECKED BY : J.L.TU DATE : 5/07

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/10
TOM SHEARIN, PE DATE

EarthTech
AECOM International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 13 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327K.00
1			3			TOTAL SHEETS
2			4			

DATE: 6/14/2010
TIME: 4:28:51 PM
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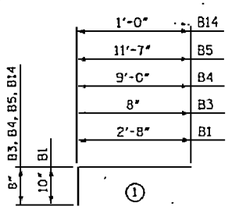
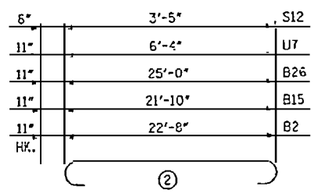
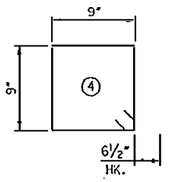
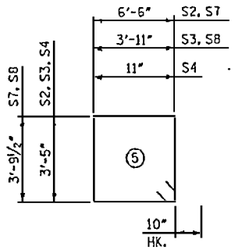
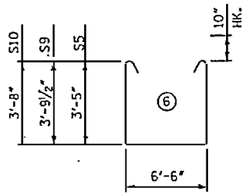
BAR TYPES

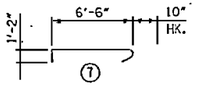


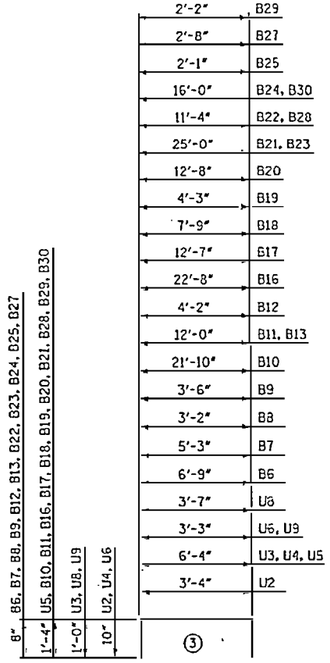


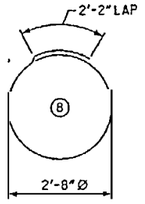


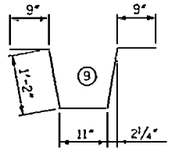


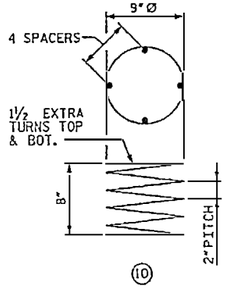


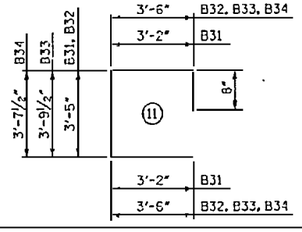












ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	18	#5	(1)	3'-6"	66
B2	20	#8	(2)	24'-6"	1308
B3	6	#4	(1)	1'-4"	5
B4	12	#4	(1)	9'-8"	77
B5	2	#4	(1)	12'-3"	16
B6	10	#4	(3)	8'-1"	54
B7	10	#4	(3)	6'-7"	44
B8	4	#4	(3)	4'-6"	12
B9	14	#4	(3)	4'-10"	45
B10	28	#8	(3)	24'-6"	1832
B11	4	#8	(3)	14'-8"	157
B12	10	#4	(3)	5'-6"	37
B13	14	#4	(3)	13'-4"	125
B14	28	#4	(1)	1'-8"	31
B15	12	#8	(2)	23'-8"	758
B16	8	#8	(3)	25'-4"	541
B17	4	#8	(3)	15'-3"	163
B18	4	#8	(3)	10'-5"	111
B19	4	#8	(3)	6'-11"	74
B20	4	#8	(3)	15'-4"	164
B21	18	#8	(3)	27'-8"	1330
B22	10	#4	(3)	12'-8"	85
B23	2	#4	(3)	26'-4"	35
B24	5	#4	(3)	17'-4"	58
B25	10	#4	(3)	3'-5"	23
B26	16	#8	(2)	26'-10"	1146
B27	9	#4	(3)	4'-0"	24
B28	4	#8	(3)	14'-0"	150
B29	4	#8	(3)	4'-10"	52
B30	2	#8	(3)	18'-8"	100
B31	4	#4	(11)	10'-5"	28
B32	8	#4	(11)	11'-1"	59
B33	4	#4	(11)	11'-6"	31
B34	2	#4	(11)	11'-4"	15
S1	96	#4	(4)	4'-1"	262
S2	60	#7	(5)	21'-6"	2637
S3	60	#7	(5)	16'-4"	2003
S4	48	#7	(5)	10'-4"	1014
S5	6	#7	(6)	15'-0"	184
S6	9	#7	(7)	8'-6"	156
S7	40	#7	(5)	22'-3"	1819
S8	40	#7	(5)	17'-1"	1397
S9	2	#7	(6)	15'-9"	64
S10	1	#7	(6)	15'-6"	32
S11	81	#5	(8)	10'-7"	894
S12	24	#6	(2)	4'-9"	171
U1	28	#5	(9)	4'-9"	139
U2	18	#5	(3)	5'-0"	94
U3	26	#6	(3)	8'-4"	325
U4	12	#5	(3)	8'-0"	100
U5	145	#8	(3)	9'-0"	3484
U6	24	#5	(3)	4'-11"	123
U7	40	#8	(2)	8'-2"	872
U8	16	#6	(3)	5'-7"	134
U9	16	#6	(3)	5'-3"	126
		#4			
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

NOTE: THIS BAR LIST USED AT BENT NO. 27 ONLY.

RELEASED FOR CONSTRUCTION
TOM SHEARIN PE — DATE 6/15/07

DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 13 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2327L.00
1			3			TOTAL SHEETS
2			4			

DATE: 5/24/2007
TIME: 4:00:05 PM
USER NAME: jliu
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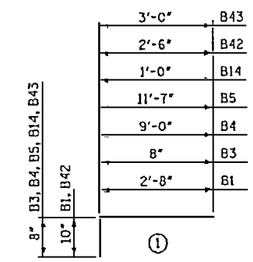
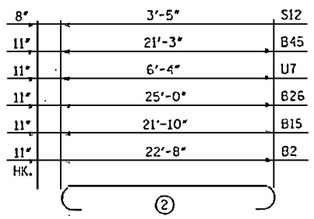
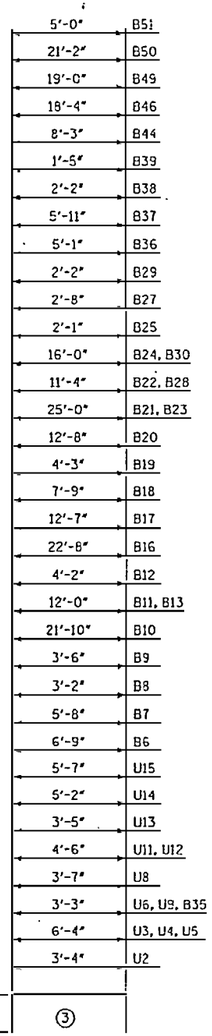
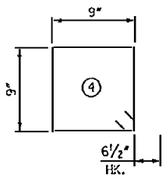
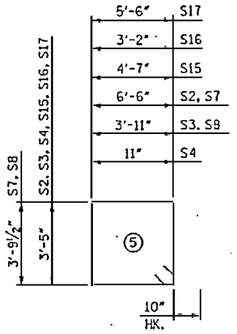
BAR TYPES

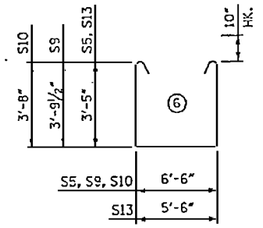


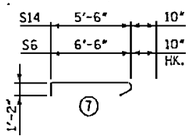


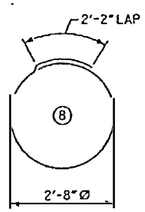


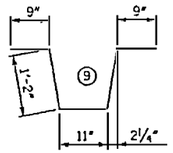


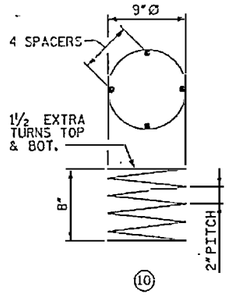


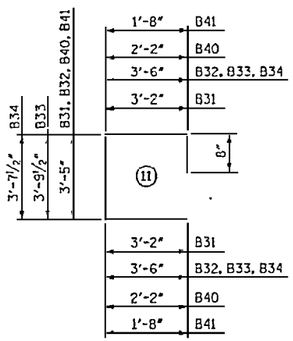


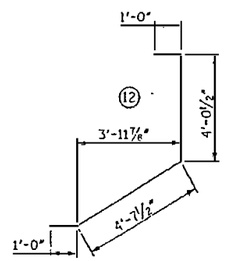


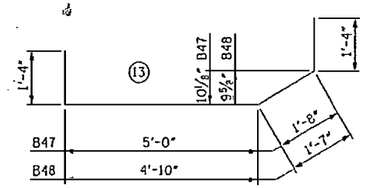












ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	21	#5	(1)	3'-6"	77
B2	15	#8	(2)	24'-6"	981
B3	6	#4	(1)	1'-4"	5
B4	12	#4	(1)	9'-8"	77
B5	2	#4	(1)	12'-3"	16
B6	7	#4	(3)	8'-1"	38
B7	10	#4	(3)	6'-7"	44
B8	2	#4	(3)	4'-6"	6
B9	14	#4	(3)	4'-10"	45
B10	22	#8	(3)	24'-6"	1439
B11	4	#8	(3)	14'-8"	157
B12	10	#4	(3)	5'-6"	37
B13	14	#4	(3)	13'-4"	125
B14	28	#4	(1)	1'-8"	31
B15	12	#8	(2)	23'-8"	758
B16	6	#8	(3)	25'-4"	406
B17	4	#8	(3)	15'-3"	163
B18	2	#8	(3)	10'-5"	56
B19	4	#8	(3)	6'-11"	74
B20	4	#8	(3)	15'-4"	164
B21	18	#8	(3)	27'-8"	1330
B22	10	#4	(3)	12'-8"	85
B23	2	#4	(3)	26'-4"	35
B24	5	#4	(3)	17'-4"	58
B25	10	#4	(3)	3'-5"	23
B26	16	#8	(2)	26'-10"	1146
B27	9	#4	(3)	4'-0"	24
B28	4	#8	(3)	14'-0"	150
B29	4	#8	(3)	4'-10"	52
B30	2	#8	(3)	18'-8"	100
B31	2	#4	(11)	10'-5"	14
B32	8	#4	(11)	11'-1"	59
B33	4	#4	(11)	11'-6"	31
B34	2	#4	(11)	11'-4"	15
B35	1	#4	(3)	4'-7"	3
B36	1	#4	(3)	6'-5"	4
B37	1	#4	(3)	7'-3"	5
B38	1	#4	(3)	3'-6"	2
B39	1	#4	(3)	2'-9	2
B40	1	#4	(11)	8'-5"	6
B41	1	#4	(11)	7'-5"	5
B42	2	#5	(1)	3'-4"	7
B43	2	#5	(1)	3'-8"	8
B44	1	#8	(3)	10'-11"	29
B45	5	#8	(2)	23'-2"	309
B46	6	#8	(3)	21'-0"	336
B47	9	#8	(13)	9'-4"	224
B48	9	#8	(13)	9'-1"	218
B49	1	#8	(3)	21'-8"	58
B50	1	#8	(3)	23'-10"	64
B51	1	#0	(3)	7'-8"	20

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	96	#4	(4)	4'-1"	262
S2	58	#7	(5)	21'-6"	2549
S3	59	#7	(5)	16'-4"	1970
S4	48	#7	(5)	10'-4"	1014
S5	5	#7	(6)	15'-0"	153
S6	8	#7	(7)	8'-6"	139
S7	40	#7	(5)	22'-3"	1819
S8	40	#7	(5)	17'-1"	1397
S9	2	#7	(6)	15'-9"	64
S10	1	#7	(6)	15'-6"	32
S11	81	#5	(8)	10'-7"	894
S12	24	#6	(2)	4'-9"	171
S13	1	#7	(6)	14'-0"	29
S14	1	#7	(7)	7'-6"	15
S15	1	#7	(5)	17'-8"	36
S16	1	#7	(5)	14'-10"	30
S17	1	#7	(5)	19'-6"	40
U1	21	#5	(9)	4'-9"	104
U2	15	#5	(3)	5'-0"	78
U3	21	#6	(3)	8'-4"	263
U4	6	#5	(3)	8'-0"	50
U5	130	#8	(3)	9'-0"	3124
U6	23	#5	(3)	4'-11"	118
U7	40	#8	(2)	8'-2"	872
U8	16	#6	(3)	5'-7"	134
U9	16	#6	(3)	5'-3"	126
U10	5	#6	(12)	10'-8"	80
U11	6	#5	(3)	6'-2"	39
U12	5	#8	(3)	7'-2"	96
U13	2	#7	(3)	5'-9"	24
U14	5	#8	(3)	7'-10"	105
U15	5	#8	(3)	8'-3"	110
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

NOTE: THIS BAR LIST USED AT BENT NO. 28 ONLY.

NORTH CAROLINA PROFESSIONAL SEAL 23278 ENGINEER JOHN W. JORDAN III

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 13 OF 13 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 1A FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

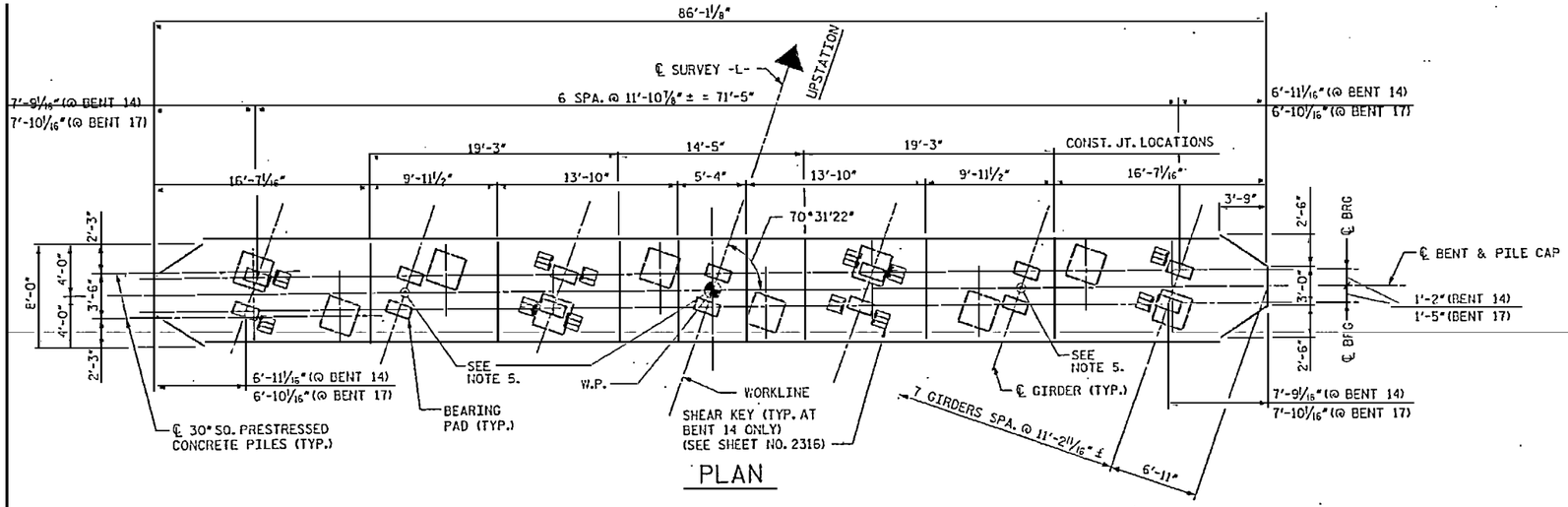
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2327M.00
TOTAL SHEETS

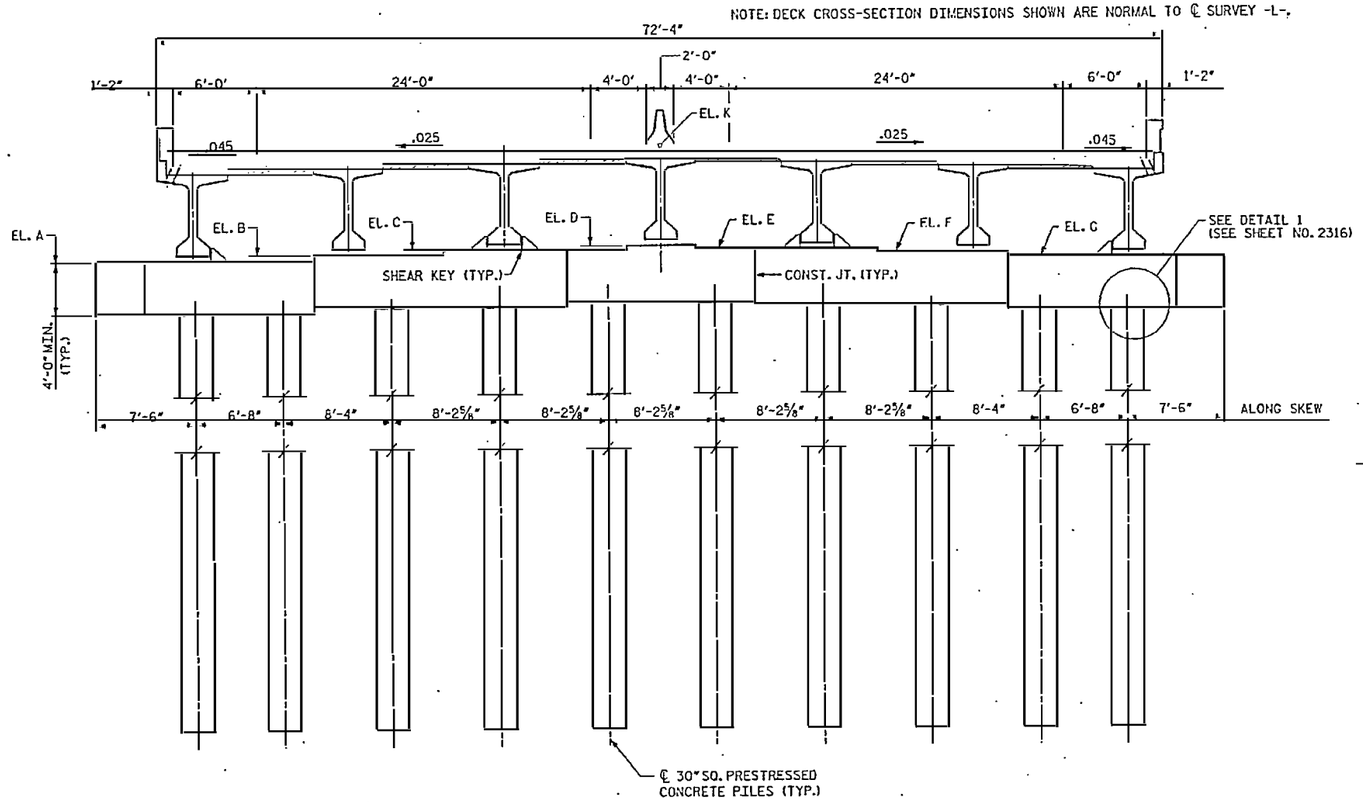
DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

DATE: 6/14/2007
TIME: 3:56:39 PM
USER: mtbelisle
DGN: N:\Structures\or River Bridge\CADD\Sheets\50_BSH_01-DET2B.dgn

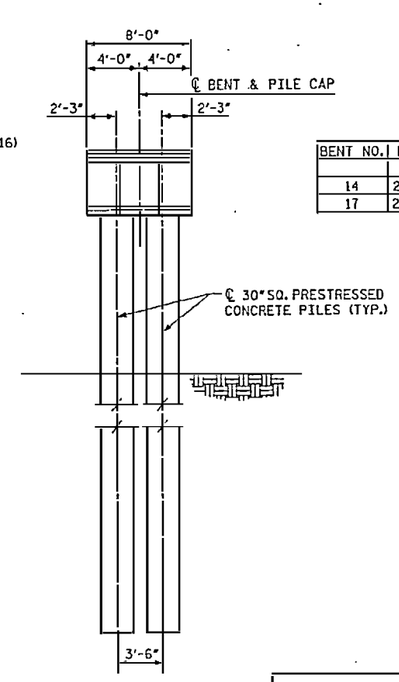


PLAN

NOTE: DECK CROSS-SECTION DIMENSIONS SHOWN ARE NORMAL TO ℄ SURVEY -L-.



ELEVATION
(BENTS 14 AND 17)



END ELEVATION

BENT NO.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. E (ft)	EL. F (ft)	EL. G (ft)	EL. K (ft)
14	24.417	24.803	25.095	25.388	25.119	24.850	24.488	32.669
17	25.395	25.780	26.073	26.365	26.097	25.828	25.466	33.646

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG. 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB. BARS ONLY AT BENT 17. (2) (3)
6. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT 14 PILE CAP. SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

RELEASED FOR CONSTRUCTION
Tom Shearin 10/26/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034676 10/24/07 JOHN W. JORDAN, IV

(1) REVISION TO BENT CAP SHAPE.
(2) REVISION TO NOTE NO. 5.
(3) REVISION TO NOTE NO. 5.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2328.03
1	MTD	5/07	3	MTB	10/5/07	TOTAL SHEETS
2	MTB	7/2/07	4			

DRAWN BY : S. G. STREDNAK DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

USER: scstrednak
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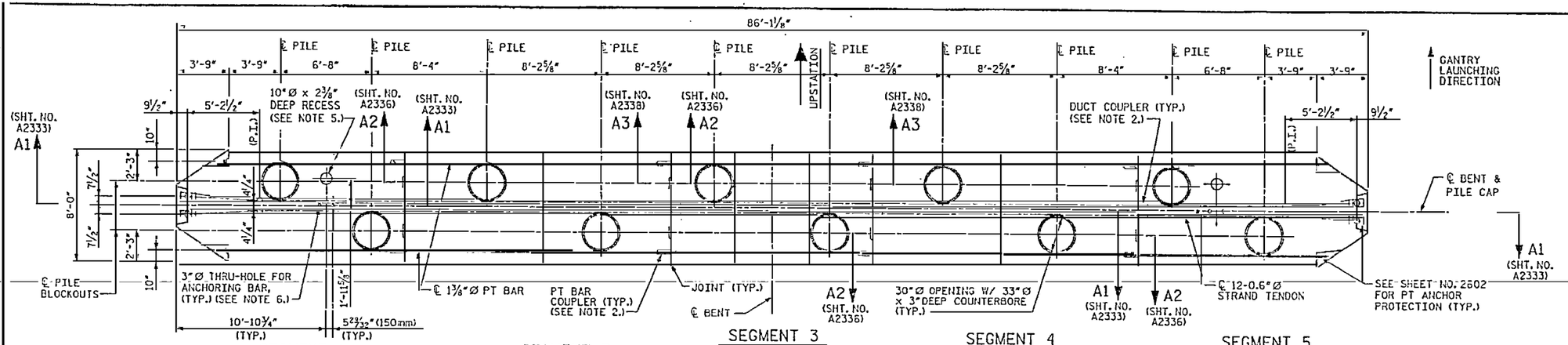
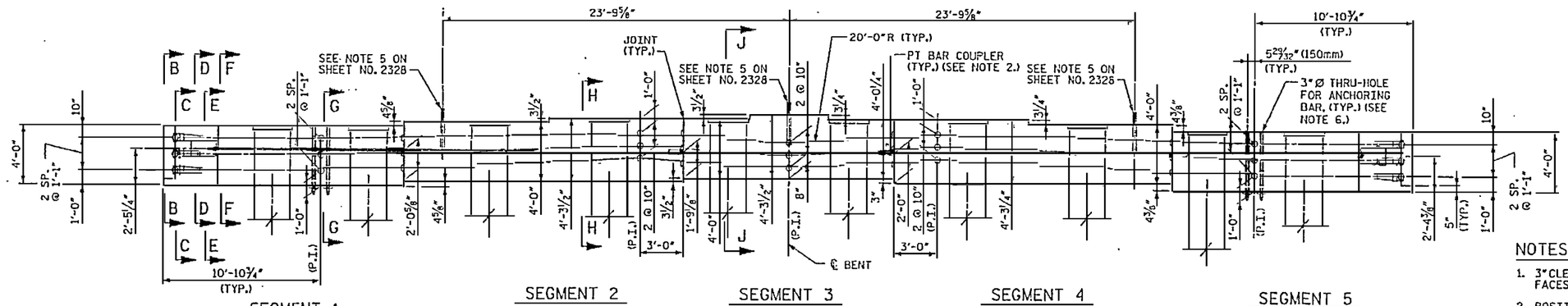
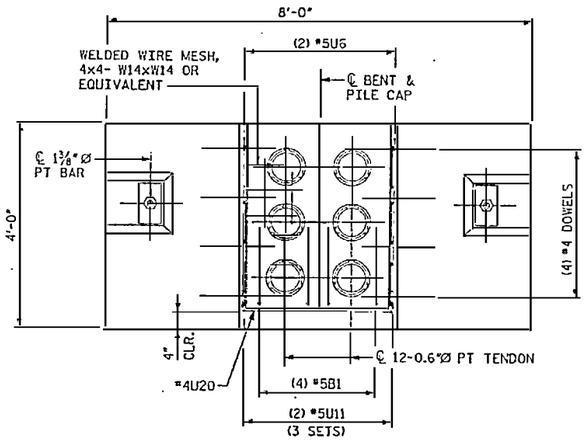
DATE: 10/5/2007
TIME: 3:46:07 PM



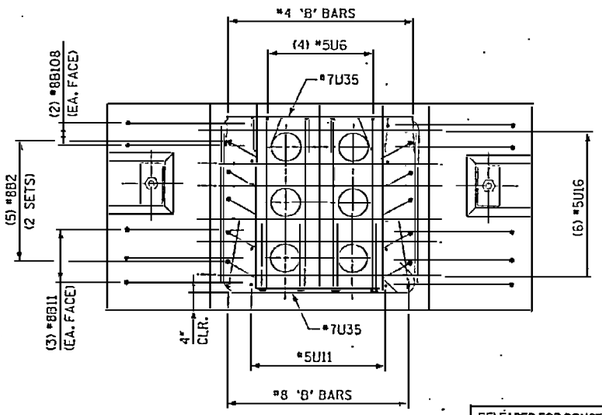
OVERALL PLAN



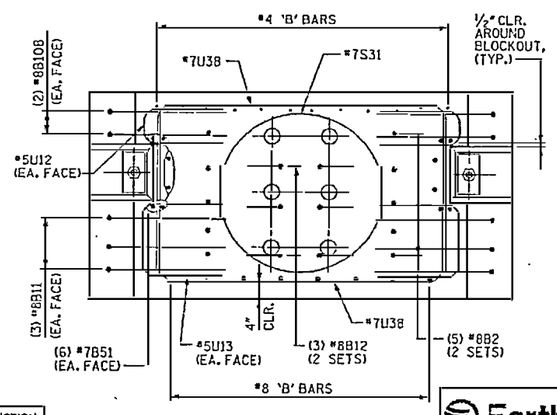
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 2 IS USED AT BENT NOS. 14 & 17.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2330. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 11 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

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FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2329.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE: 1/4/2008
TIME: 3:46:3 PM
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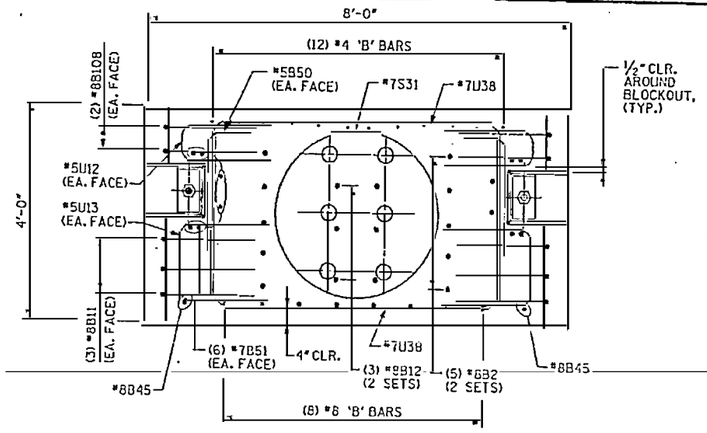
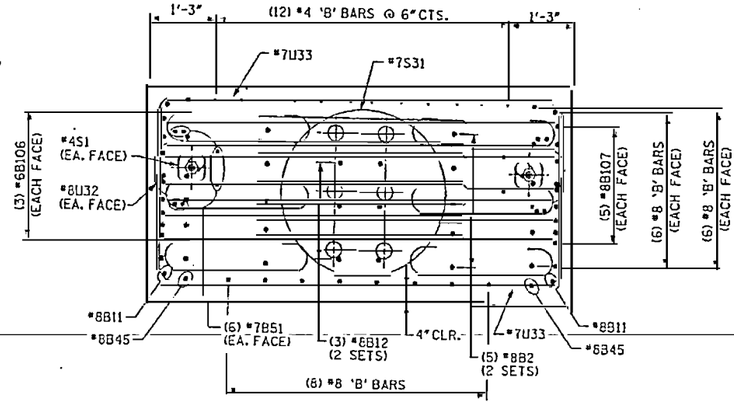
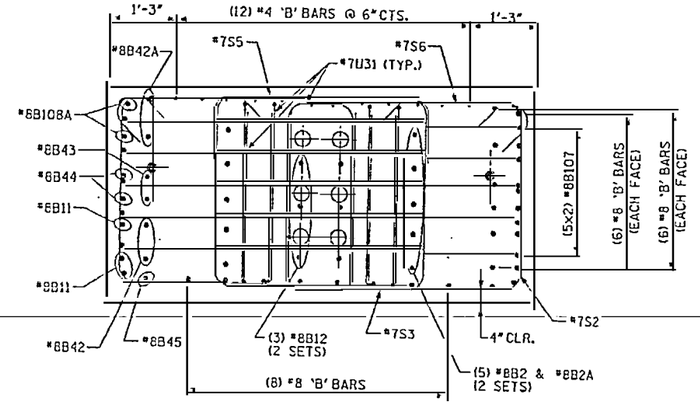


SECTION E-E

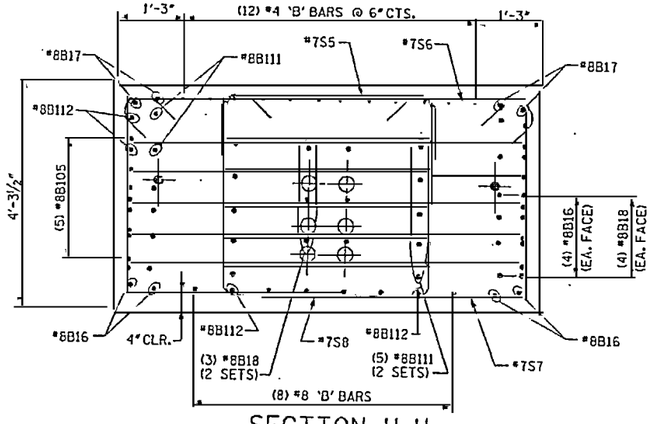


SECTION F-F

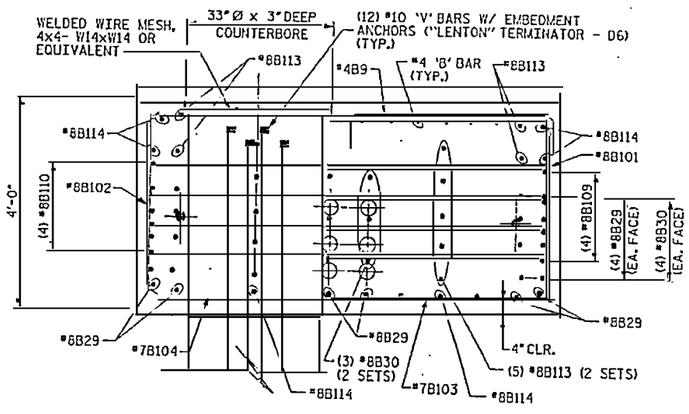


SECTION G-G

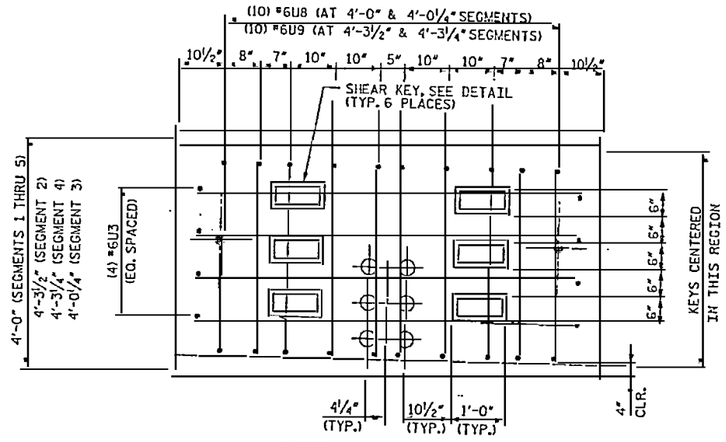
(ANCHORING BARS NOT SHOWN FOR CLARITY)



SECTION H-H

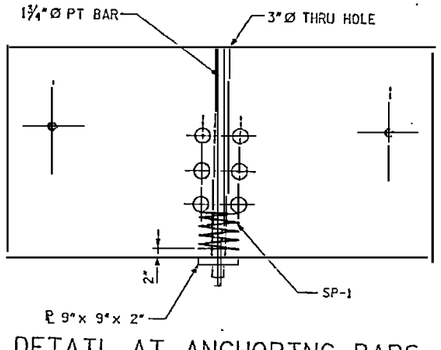


SECTION J-J



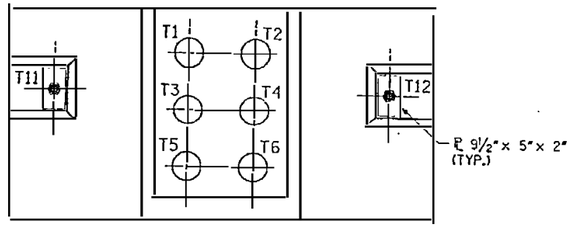
SECTION AT JOINT

(SEE SHEET NO. A2329)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



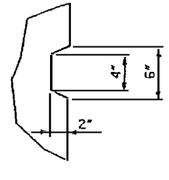
TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/26/07

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SHEAR KEY

EarthTech
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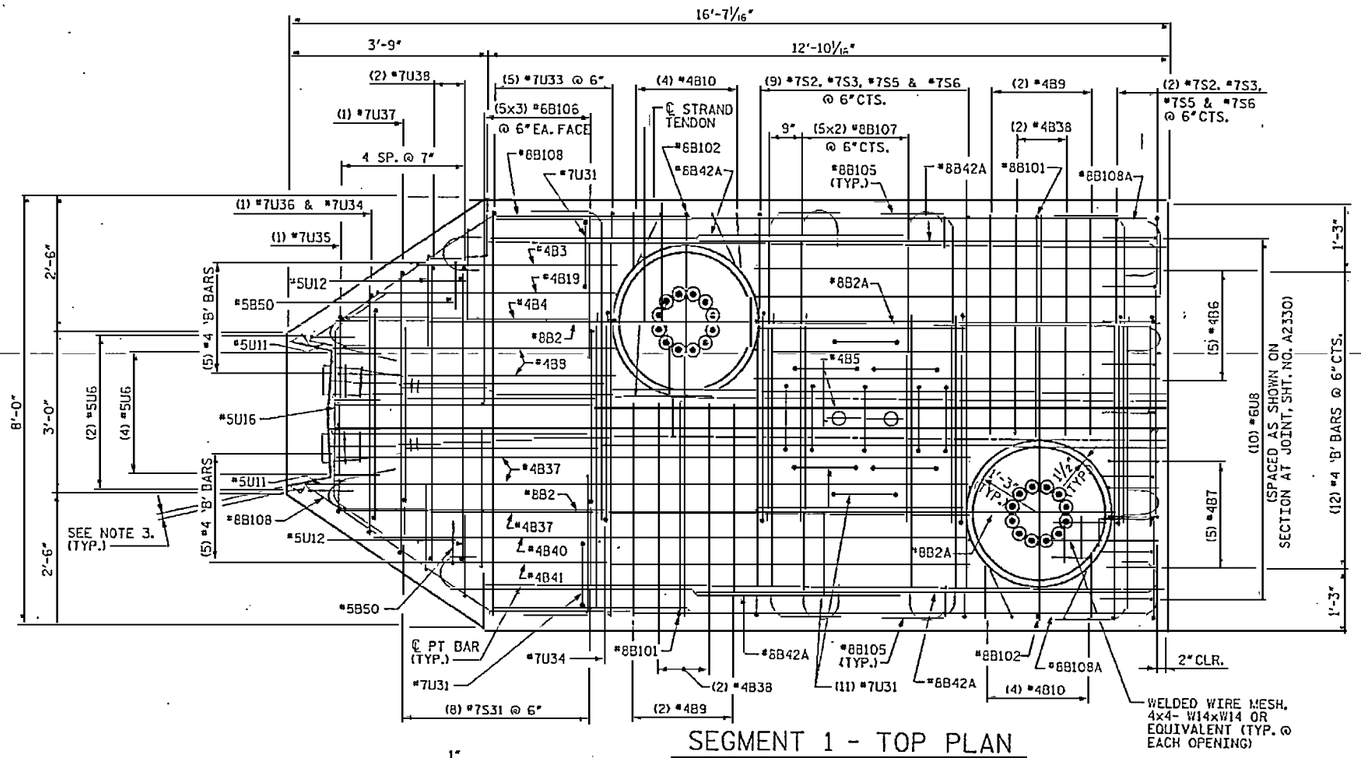
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 11 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

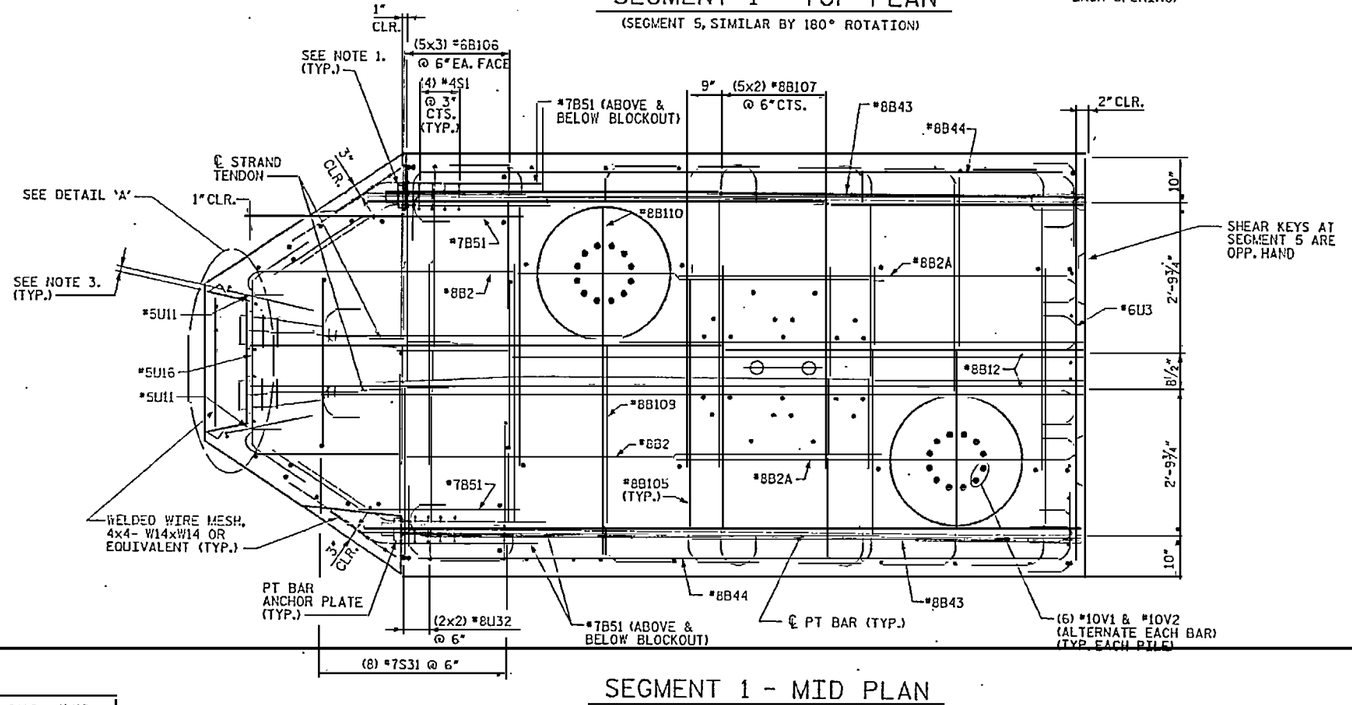
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2330.00
						TOTAL SHEETS

DRAWN BY : M.T. GELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07



SEGMENT 1 - TOP PLAN

(SEGMENT 5, SIMILAR BY 180° ROTATION)

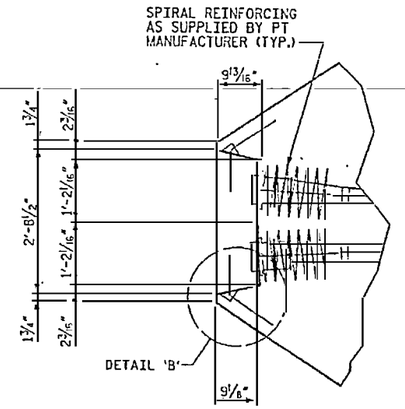


SEGMENT 1 - MID PLAN

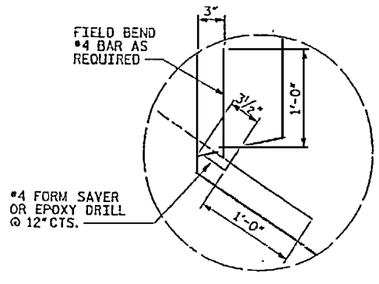
(SEGMENT 5, SIMILAR BY 180° ROTATION)

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL 'A'



DETAIL 'B'

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/16/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 11 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2331.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

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FLATIRON/UNITED — A JOINT VENTURE

DATE: 11/8/2007
FILE: R2510_A4

USER: rhughes
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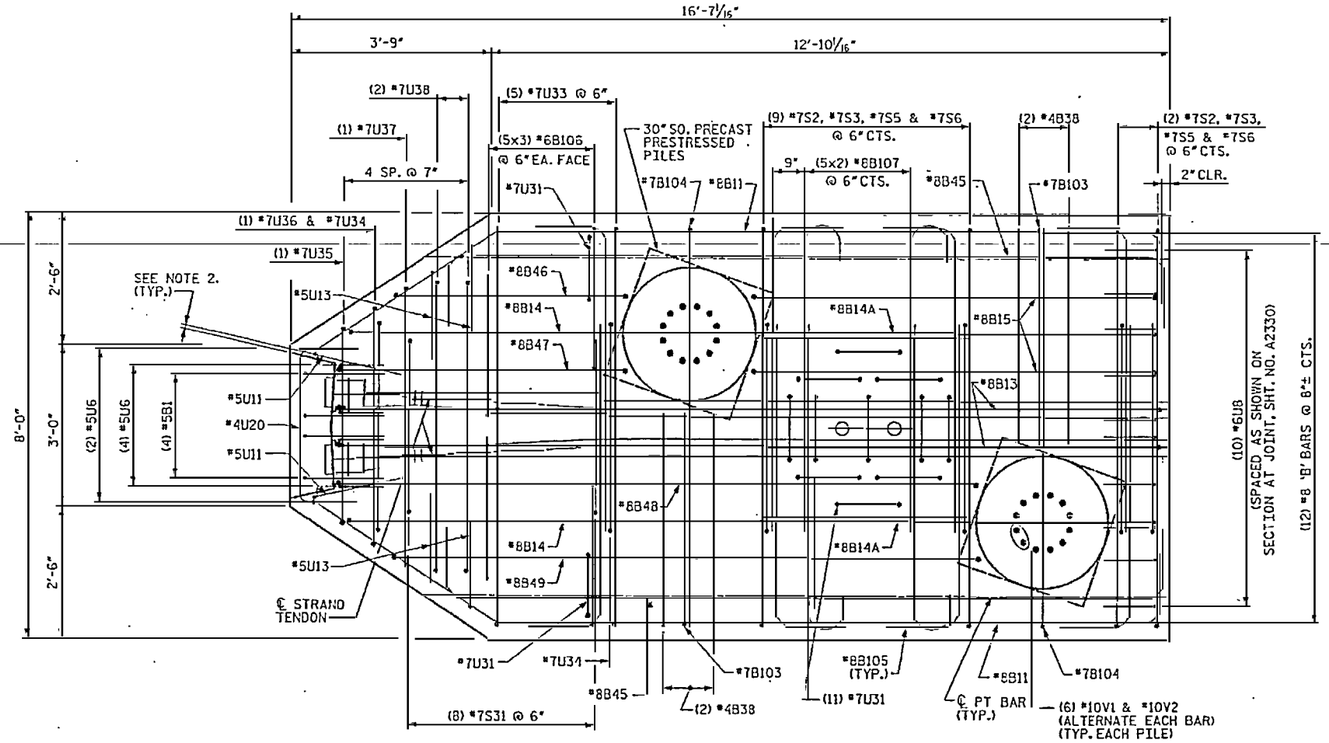

SEGMENT 1 - BOT PLAN

(SEGMENT 5, SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/20/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036672 JOHN W. JORDAN, JR.

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 11 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~- ALTERNATE -~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2332.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELTSLE DATE : 11/07
CHECKED BY : J. I IU DATE : 11/07

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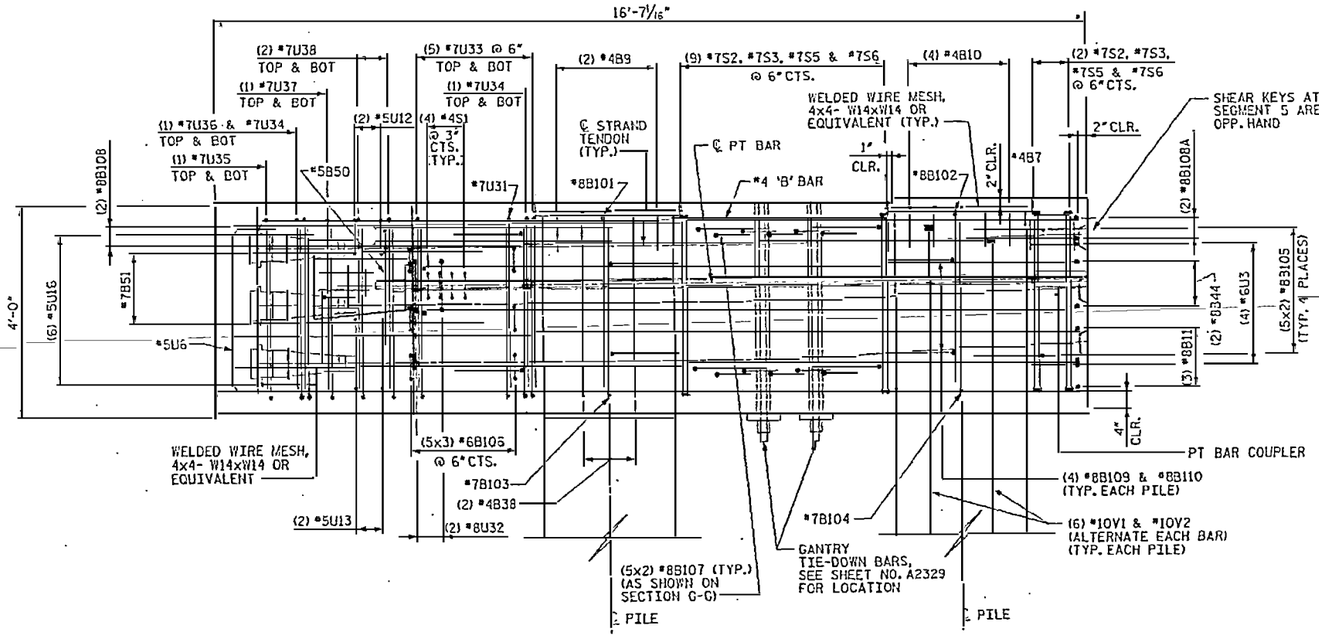
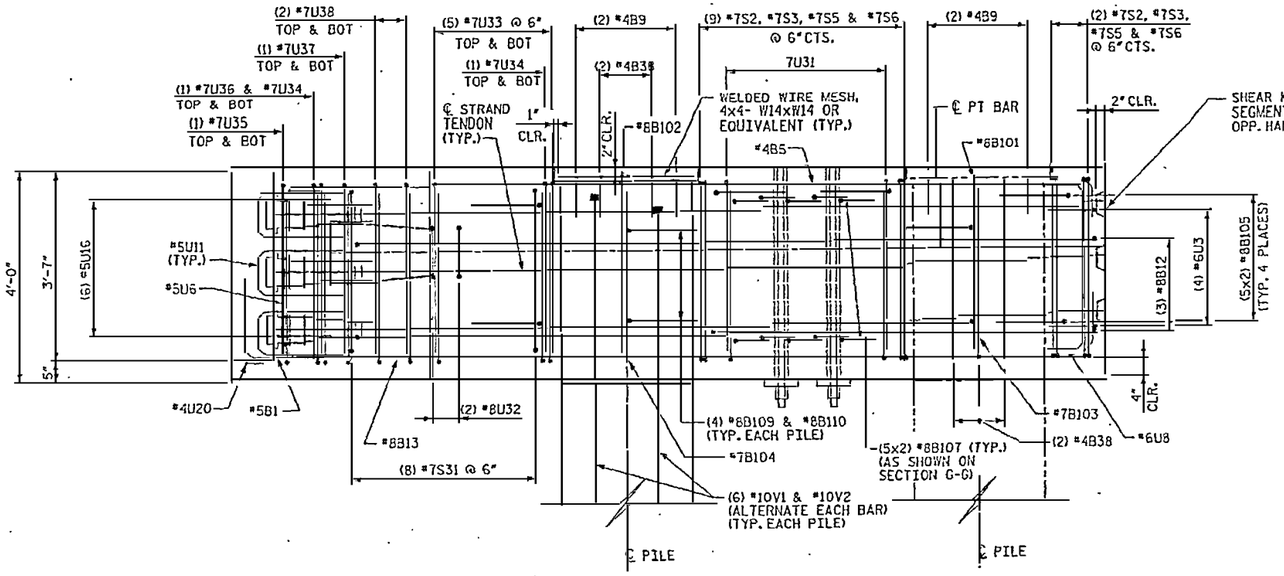


SEGMENT 1 - ELEVATION

(SEGMENT 5, OPP. HAND)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - SECTION A1

(SEGMENT 5, OPP. HAND)
(SEE SHEET NO. A2329)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/16/09

NORTH CAROLINA ENGINEERING SEAL 030678 JOHN W. JORDAN

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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 11 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2333.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. REITSLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE PLOTTED: 11/13/09 AM
USER: mtreitsle
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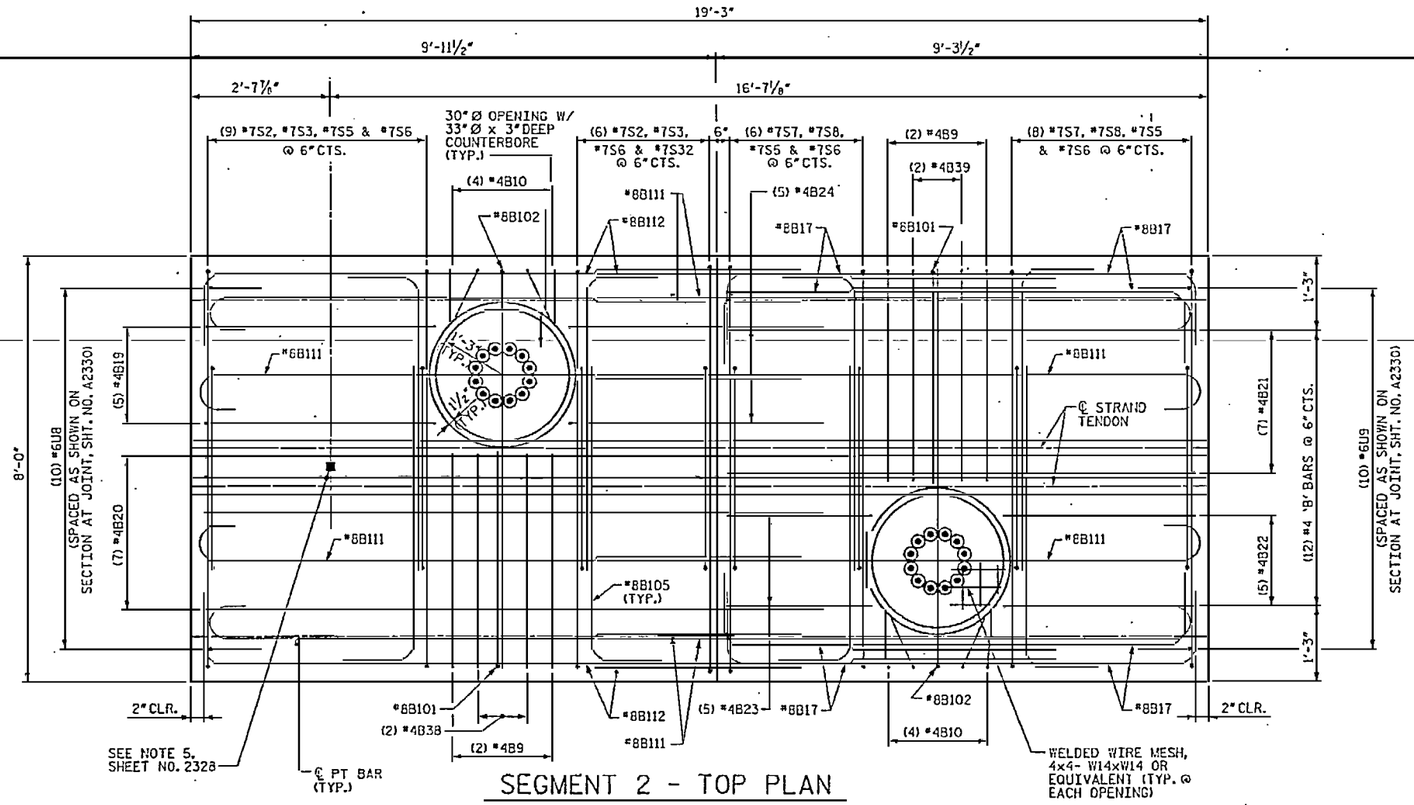
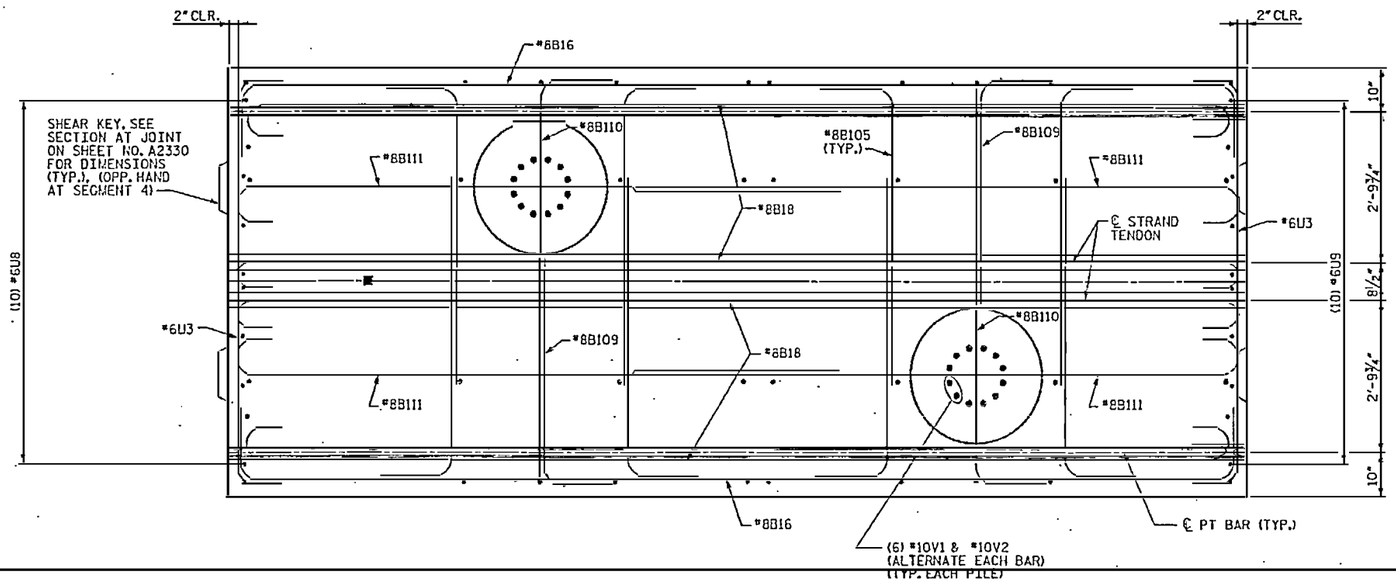


SEGMENT 2 - TOP PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)



SEGMENT 2 - MID PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/14/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039577 JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 11 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2334.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE PLOTTED: 11/8/2007
TIME PLOTTED: 11:23:03 AM

USER: mbelisle
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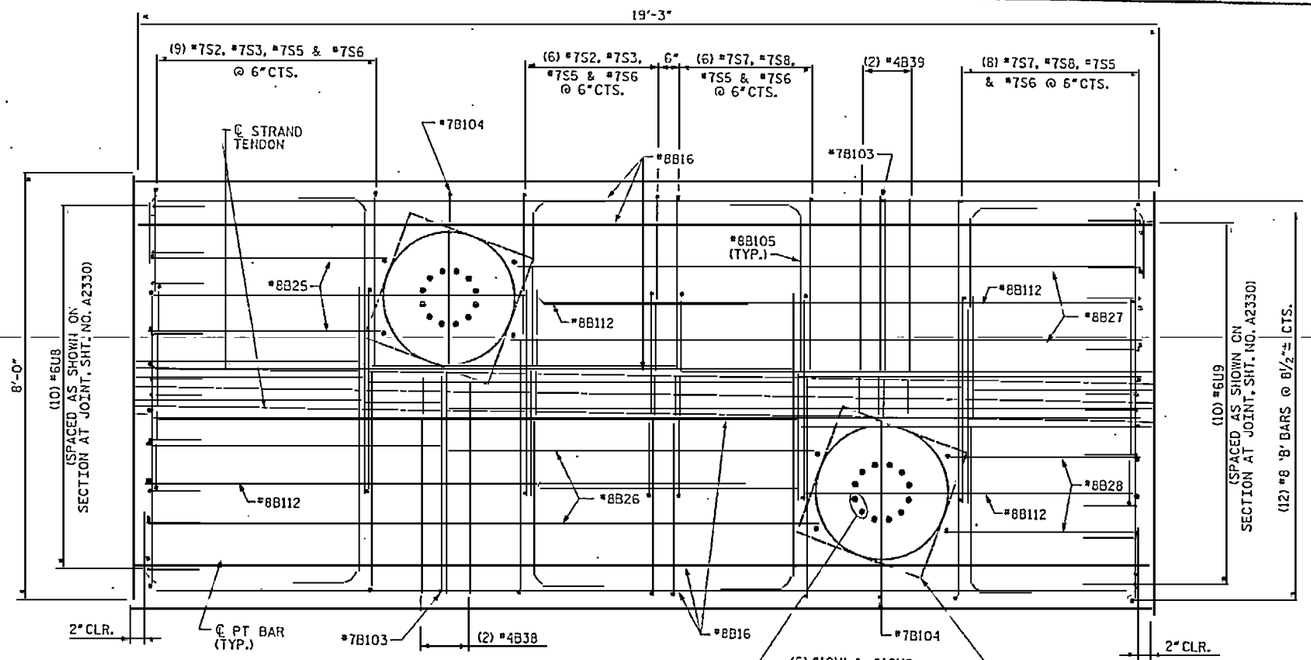
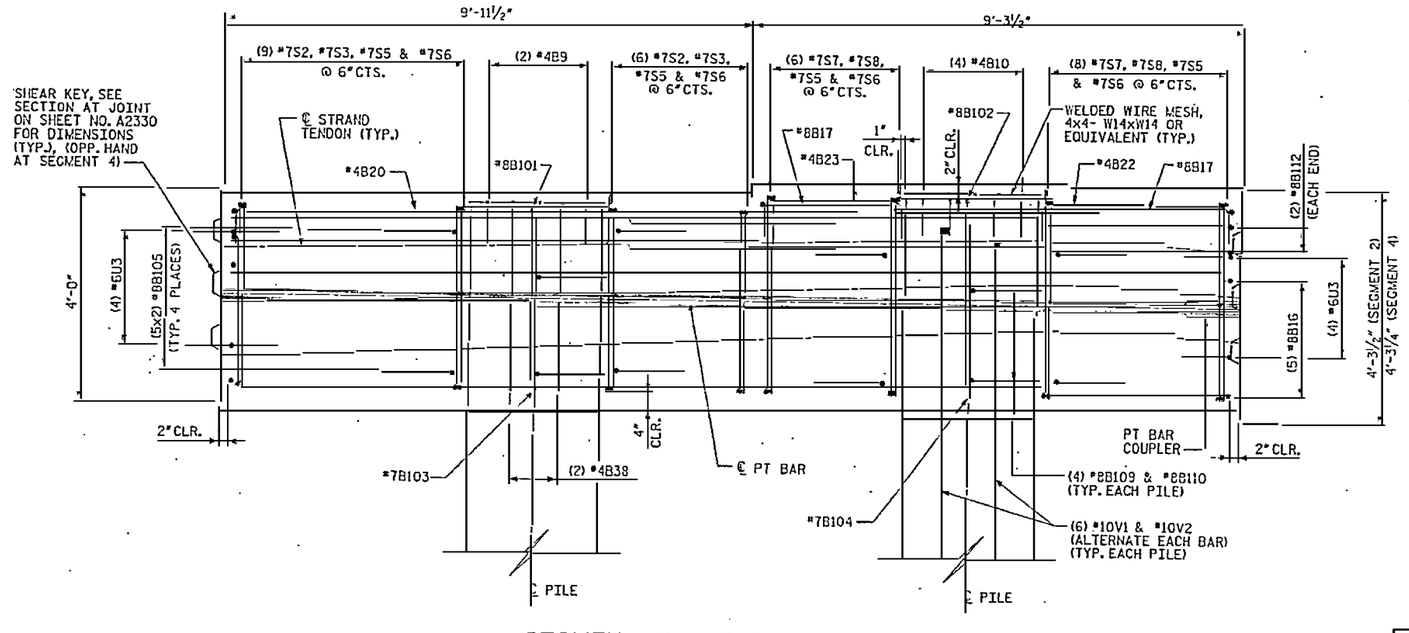


SEGMENT 2 - BOT PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - ELEVATION

(SEGMENT 4, SIMILAR)

RELEASED FOR CONSTRUCTION

Tom Shearin 11/2/07

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 7 OF 11 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2335.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

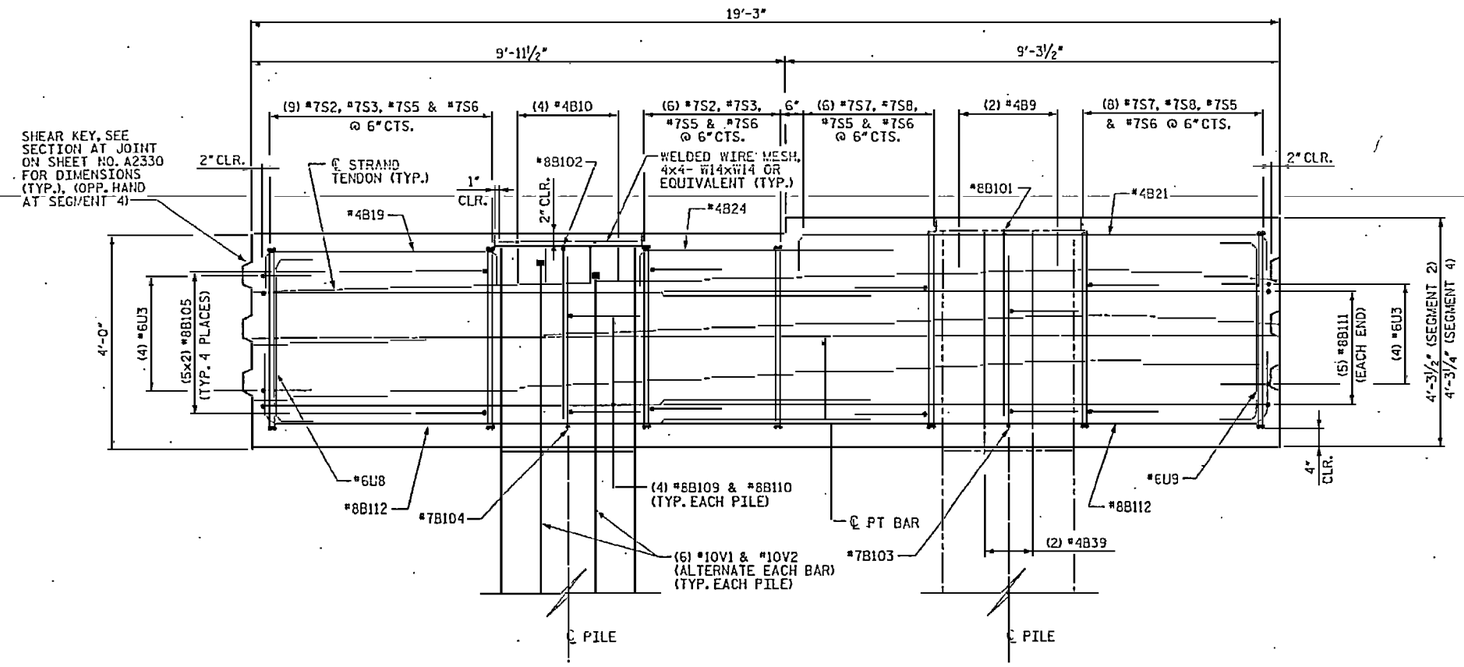
DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE 11/2/2007
TIME 8:25:34 AM

USER: mbelisle
DGN: R:\Structure\Tar River Bridge\CADD\R2510_SD_05A_ST2-CTP1.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEGMENT 4, SIMILAR)
(SEE SHEET NO. A2329)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/12/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 11 BRIDGE NO. 353

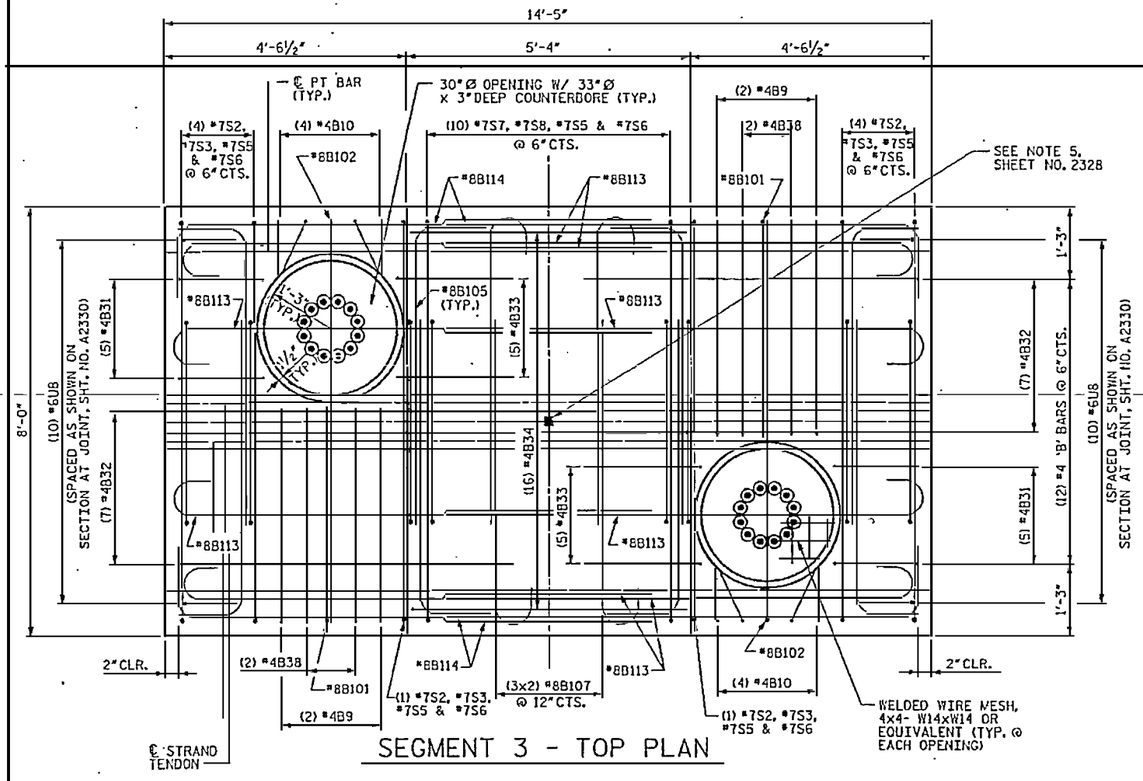
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

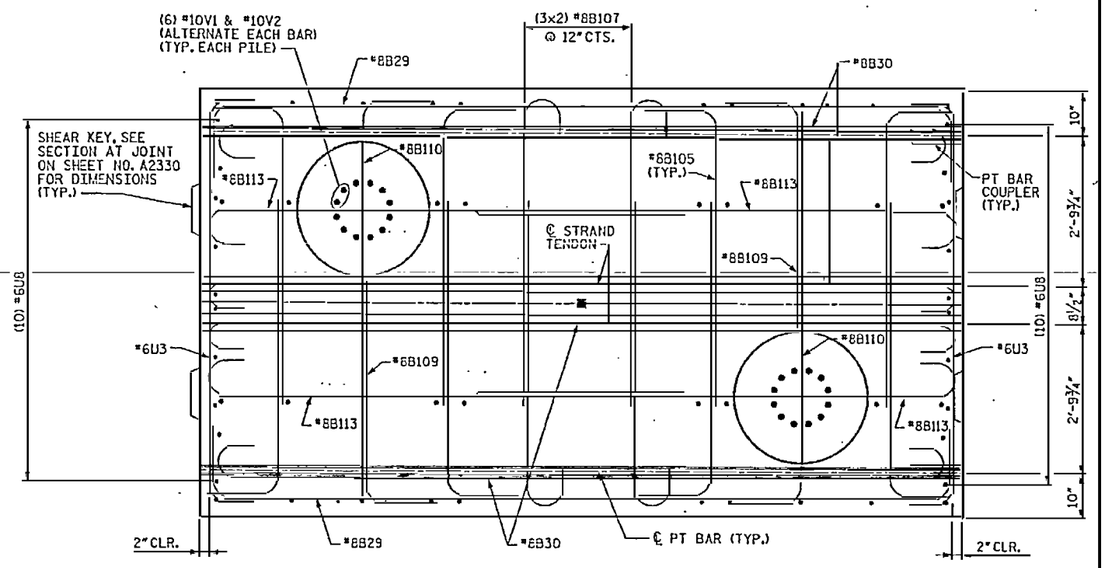
EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	~~A2330.00~~
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07



SEGMENT 3 - TOP PLAN



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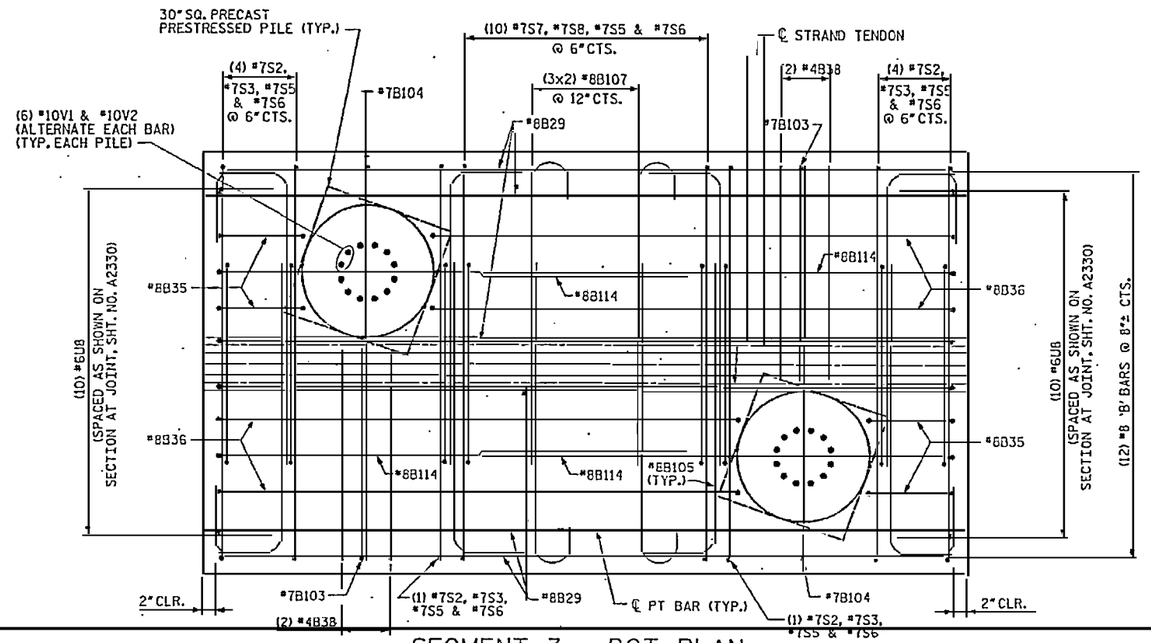

SEGMENT 3 - BOT PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/2/17
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 9 OF 11 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE-~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech
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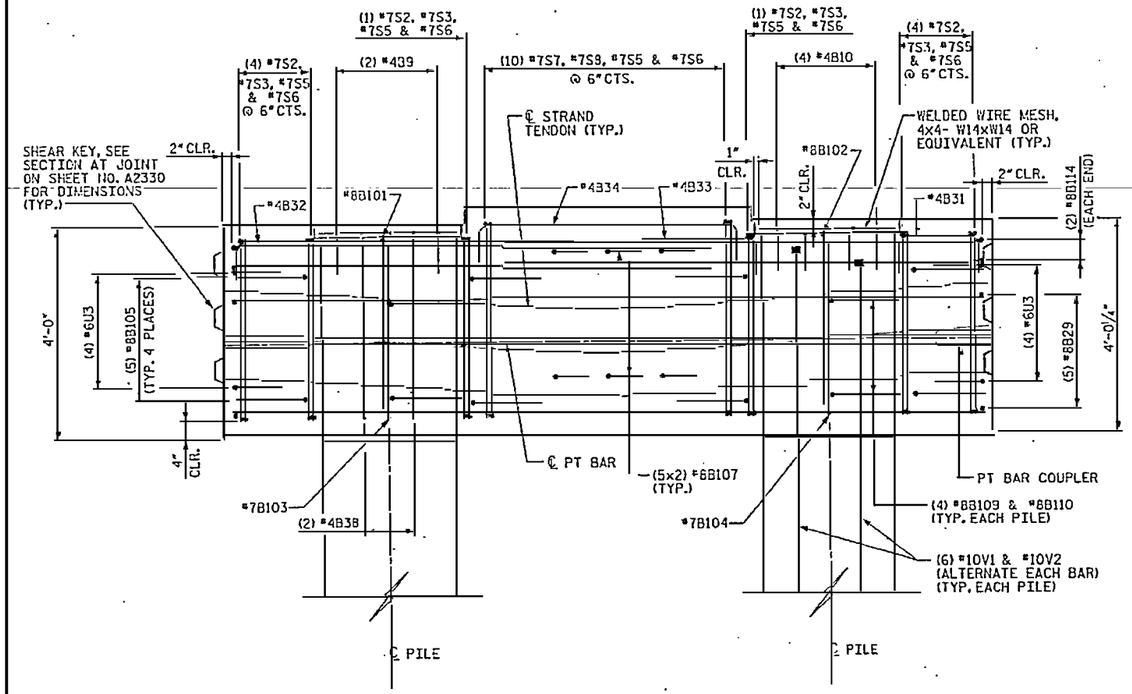
FLATIRON/UNITED
A JOINT VENTURE

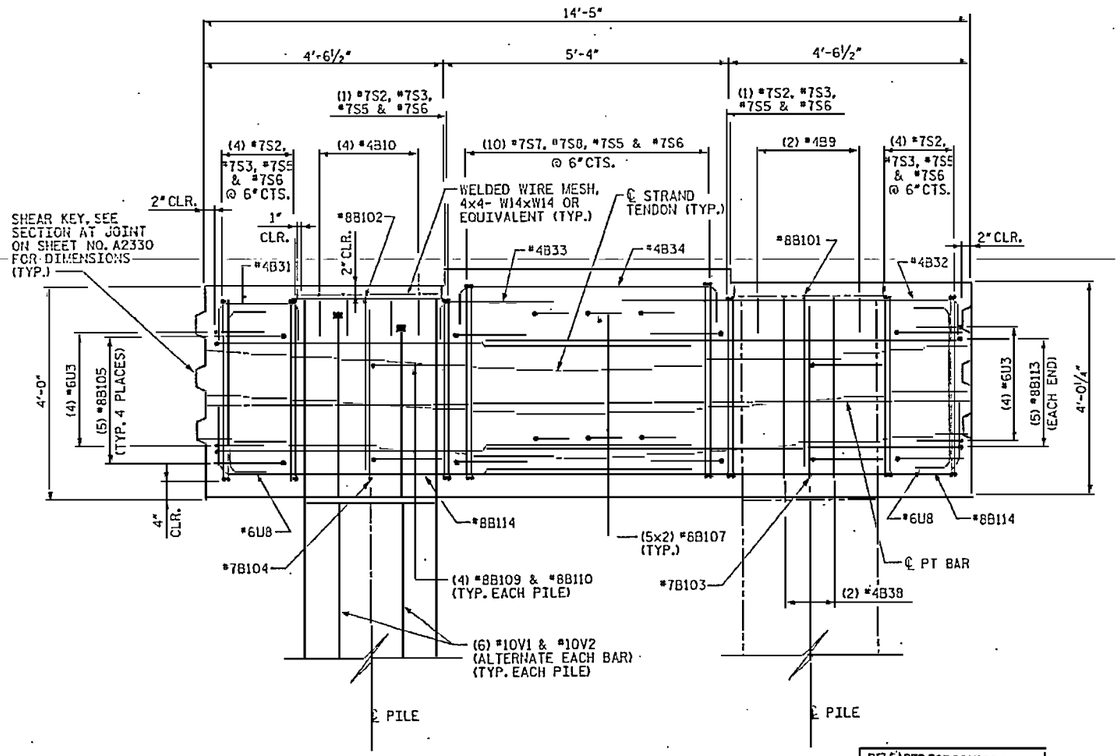
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2337.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE: 11/2/2017
TIME: 10:53:00 AM
USER: mthalin
John K:\Projects\R-2510B\PLANS\B-SD_DSK_01\2-B2T3edit.dgn



SEGMENT 3 - ELEVATION



SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2329)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/2/07 DATE

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 10 OF 11 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE-~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2338.00
1			3			TOTAL SHEETS
2			4			

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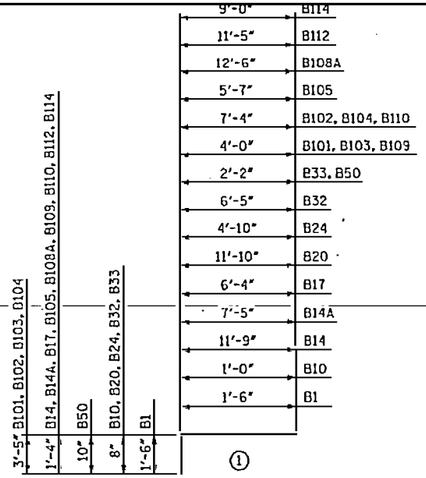
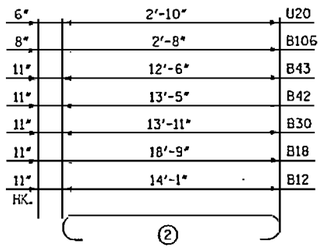
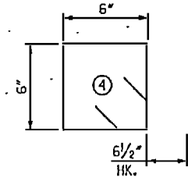
DRAWN BY : M. T. BEITSLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

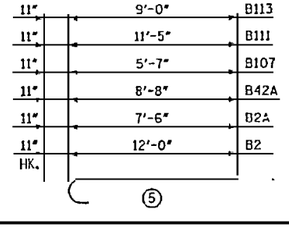
DATE: 11/6/2007
USER: mbeitsle
DGN: P:\ROADWAY\Tar River Bridge\CADD\SS2B_SOLIDS_BT2-CCT001.dgn

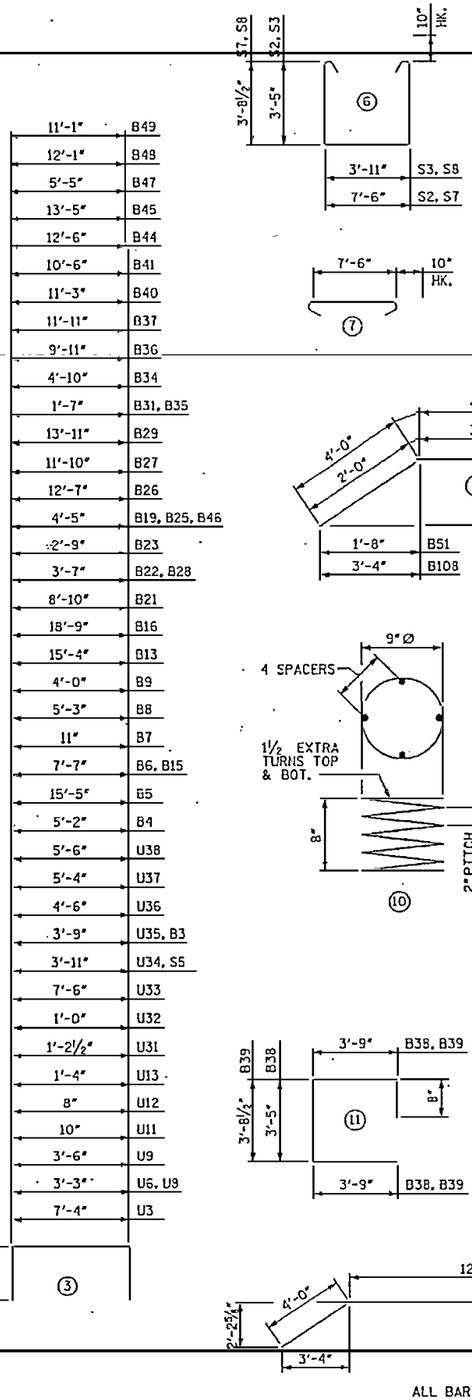
BAR TYPES

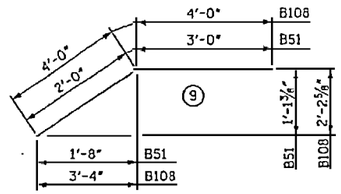


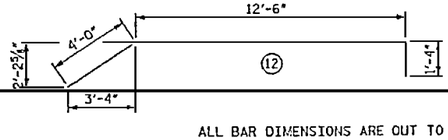


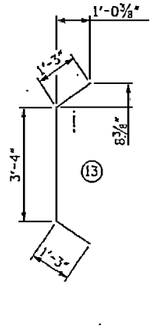












ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : M.T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	20	#8	(5)	12'-11"	690
B2A	20	#8	(5)	8'-5"	449
B3	2	#4	(3)	5'-1"	7
B4	2	#4	(3)	6'-6"	9
B5	4	#4	(3)	16'-9"	45
B6	10	#4	(3)	8'-11"	60
B7	10	#4	(3)	2'-3"	15
B8	4	#4	(3)	6'-7"	18
B9	20	#4	(3)	5'-4"	71
B10	40	#4	(1)	1'-8"	45
B11	12	#8	(12)	17'-10"	571
B12	12	#8	(2)	15'-11"	510
B13	4	#8	(3)	18'-0"	192
B14	4	#8	(1)	13'-1"	140
B14A	4	#6	(1)	8'-9"	93
B15	4	#8	(3)	10'-3"	109
B16	29	#8	(3)	21'-5"	1601
B17	16	#8	(1)	7'-8"	328
B18	28	#8	(2)	20'-7"	1539
B19	12	#4	(3)	5'-9"	46
B20	14	#4	(1)	12'-6"	117
B21	14	#4	(3)	10'-2"	95
B22	10	#4	(3)	4'-11"	33
B23	10	#4	(3)	4'-1"	27
B24	10	#4	(1)	5'-6"	37
B25	4	#8	(3)	7'-1"	76
B26	4	#8	(3)	15'-3"	163
B27	4	#8	(3)	14'-6"	155
B28	4	#8	(3)	6'-3"	67
B29	14	#8	(3)	16'-7"	620
B30	14	#8	(2)	15'-9"	589
B31	10	#4	(3)	2'-11"	19
B32	14	#4	(1)	7'-1"	66
B33	10	#4	(1)	2'-10"	19
B34	16	#4	(3)	6'-2"	66
B35	4	#8	(3)	4'-3"	45
B36	4	#8	(3)	12'-6"	134
B37	6	#4	(3)	13'-3"	53
B38	16	#4	(11)	11'-7"	124
B39	4	#4	(11)	11'-11"	32
B40	2	#4	(3)	12'-7"	17
B41	2	#4	(3)	11'-10"	16
B42	8	#8	(2)	15'-3"	326
B42A	16	#8	(5)	9'-7"	409
B43	8	#8	(2)	14'-4"	306
B44	8	#8	(3)	15'-2"	324
B45	4	#8	(3)	16'-1"	172
B46	2	#8	(3)	7'-1"	38
B47	2	#8	(3)	8'-1"	43
B48	2	#8	(3)	14'-9"	79
B49	2	#8	(3)	13'-9"	73
B50	4	#5	(1)	3'-0"	13
B51	24	#7	(9)	5'-0"	245
B101	10	#8	(1)	7'-5"	198
B102	10	#8	(1)	10'-9"	287
B103	10	#7	(1)	7'-5"	152
B104	10	#7	(1)	10'-9"	220
B105	200	#8	(1)	6'-11"	3693
B106	60	#6	(2)	4'-0"	360
B107	130	#8	(5)	6'-6"	2256
B108	8	#8	(9)	8'-0"	171
B108A	8	#8	(1)	13'-10"	295
B109	40	#8	(1)	5'-4"	570
B110	40	#8	(1)	8'-8"	926
B111	56	#8	(5)	12'-4"	1844
B112	24	#8	(1)	12'-9"	817
B113	28	#8	(5)	9'-11"	741
B114	12	#8	(1)	10'-4"	331

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	#4	(4)	3'-3"	35
S2	62	#7	(6)	16'-0"	2028
S3	62	#7	(6)	12'-5"	1574
S5	100	#7	(3)	6'-3"	1278
S6	100	#7	(7)	9'-2"	1874
S7	38	#7	(6)	16'-7"	1288
S8	38	#7	(6)	13'-0"	1010
S31	16	#7	(8)	9'-5"	308
U3	32	#6	(3)	9'-4"	449
U6	12	#5	(3)	4'-11"	62
U8	60	#6	(3)	5'-3"	473
U9	20	#6	(3)	5'-6"	165
U11	12	#5	(3)	4'-10"	60
U12	8	#5	(3)	4'-0"	33
U13	8	#5	(3)	4'-8"	39
U16	12	#5	(13)	5'-10"	73
U20	2	#4	(2)	3'-10"	5
U31	52	#7	(3)	7'-8"	815
U32	8	#8	(3)	12'-4"	263
U33	20	#7	(3)	13'-11"	569
U34	8	#7	(3)	10'-4"	84
U35	4	#7	(3)	10'-2"	83
U36	4	#7	(3)	10'-11"	89
U37	4	#7	(3)	11'-9"	96
U38	8	#7	(3)	11'-11"	195
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/12/07 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER 030078 JOHN E. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 11 OF 11 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2339.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

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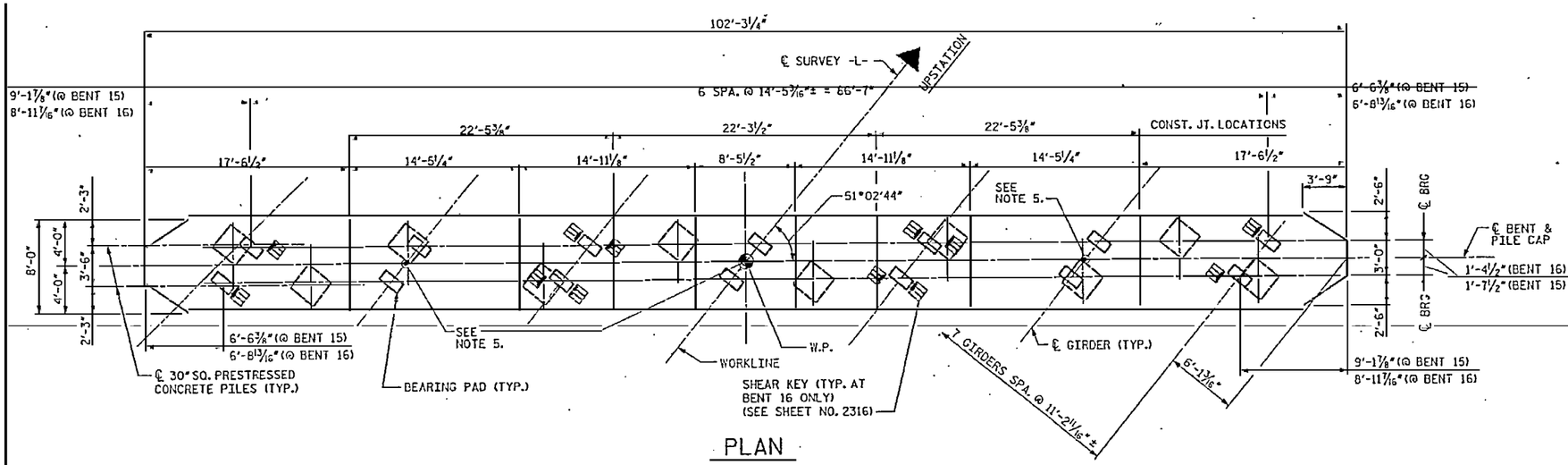
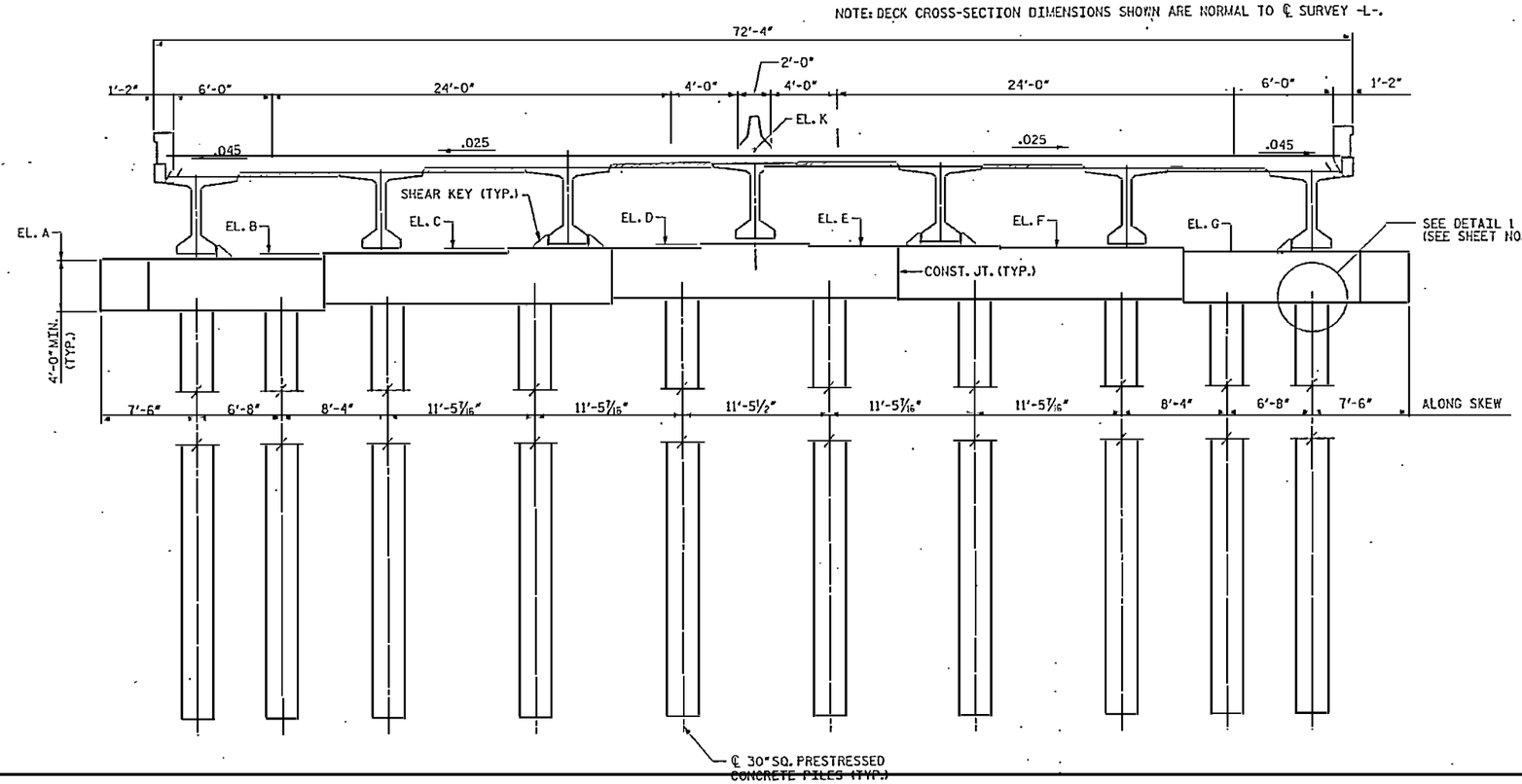
USER: rjohnson
DGN: RJOHNSON.dgn



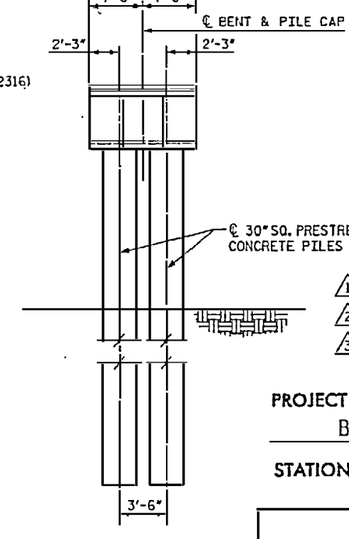
PLAN

NOTE: DECK CROSS-SECTION DIMENSIONS SHOWN ARE NORMAL TO ℄ SURVEY -L-.



ELEVATION
(BENTS 15 AND 16)

BENT NO.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. E (ft)	EL. F (ft)	EL. G (ft)	EL. K (ft)
15	24.660	25.081	25.389	25.696	25.443	25.190	24.843	32.978
16	25.040	25.441	25.749	26.056	25.803	25.550	25.203	33.338



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. 3"SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG. 2'-0" EMBEDMENT LENGTH. BAR SHALL BE PLUMB. BARS ONLY AT BENT 15. (3) (2)
6. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT 16 PILE CAP. SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

RELEASED FOR CONSTRUCTION
Tom Shearin 10/24/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034644 JOHN M. JORDAN

1 REVISION TO BENT CAP SHAPE.
2 REVISION TO NOTE NO. 5.
3 REVISION TO NOTE NO. 5.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DIMENSIONS - BENT TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2343.03
1	MTB	5/07	3	MTB	10/5/07	TOTAL SHEETS
2	MTB	7/2/07	4			

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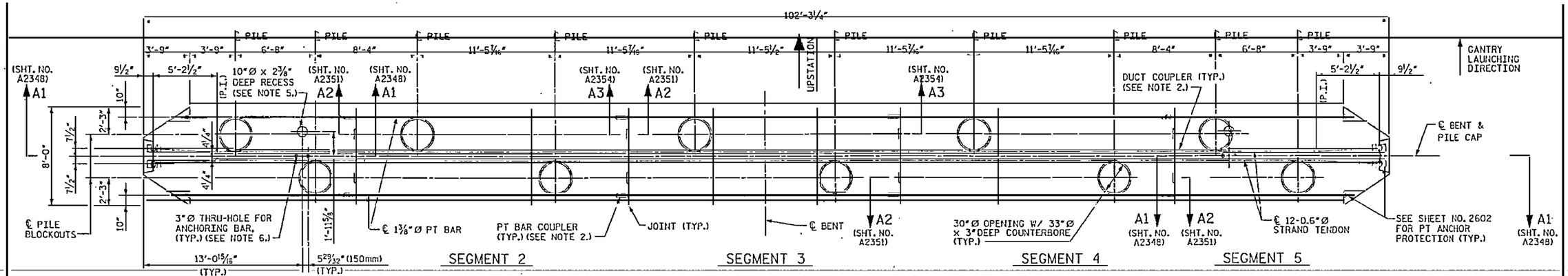
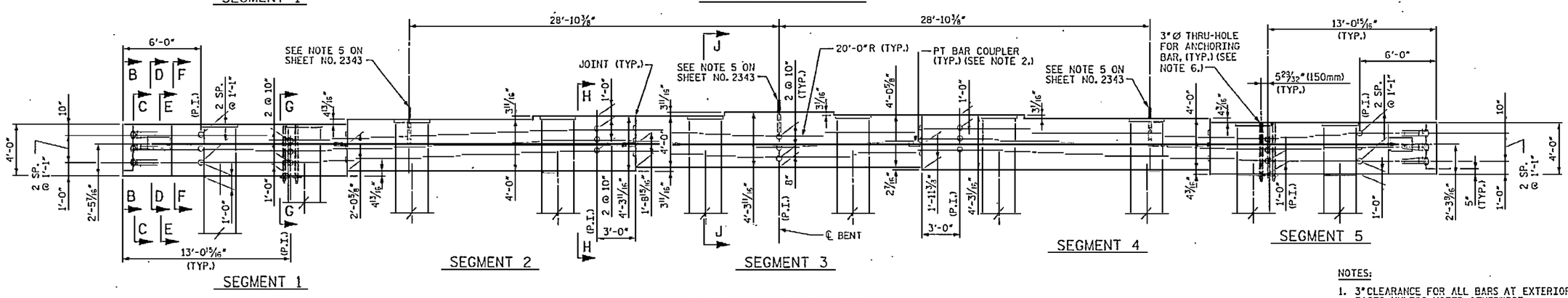
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

USER: contractor
DGN: Restoration\bridge\new bridges\R2510B_02_DIM_BENT_TYPE3.dgn
DATE: 10/24/2007
TIME: 3:56:47 PM



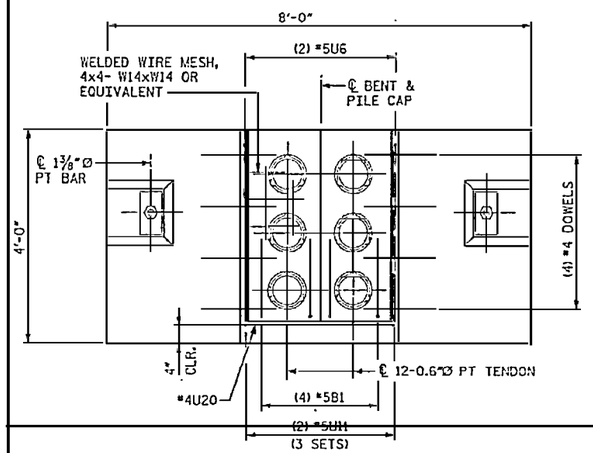
OVERALL PLAN



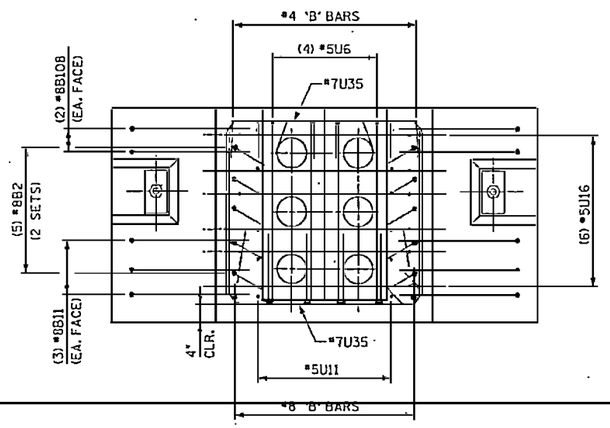
OVERALL ELEVATION

NOTES:

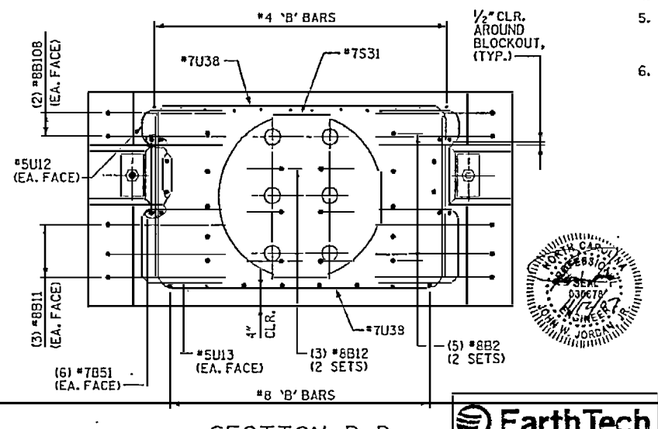
1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 3 IS USED AT BENT NOS. 15 & 16.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2345. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.



SECTION B-B



SECTION C-C



SECTION D-D

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/12/07 DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BEITSLE DATE : 11/07
CHECKED BY : J. T. H DATE : 11/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

SHEET NO. A2344.00
TOTAL SHEETS

DATE: 9/27/2007
TIME: 3:39:12 PM
USER: rhendrix
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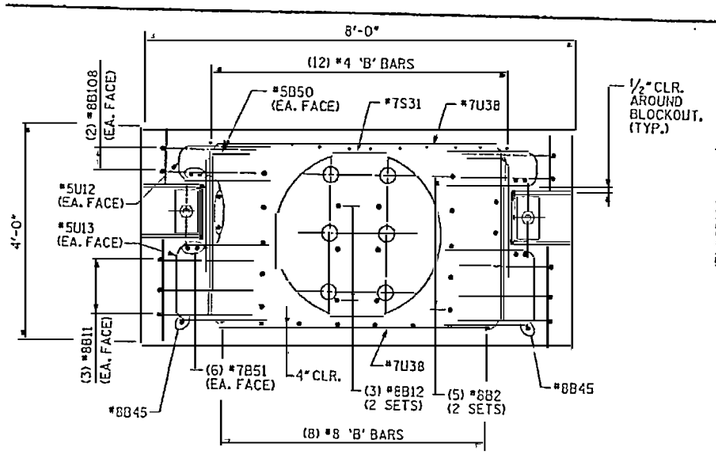
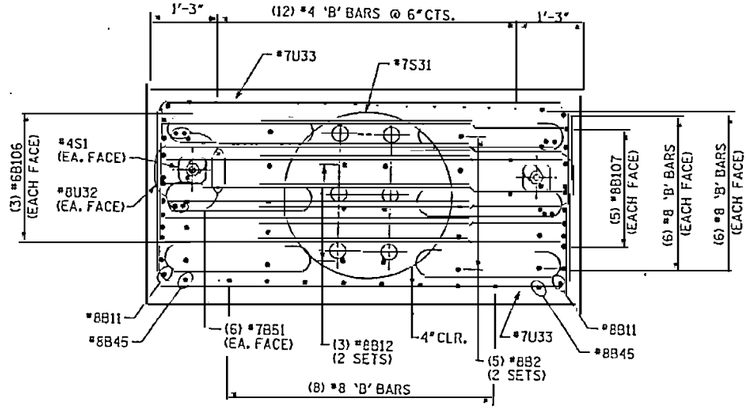
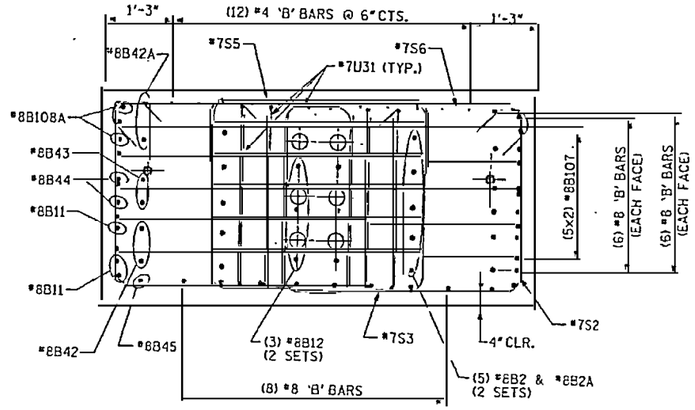


SECTION E-E

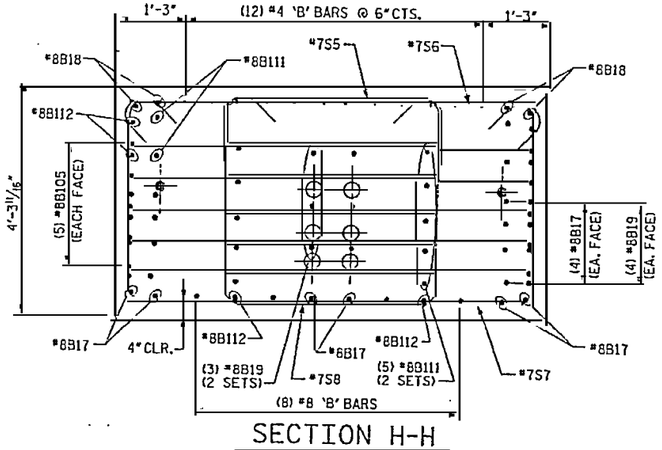


SECTION F-F

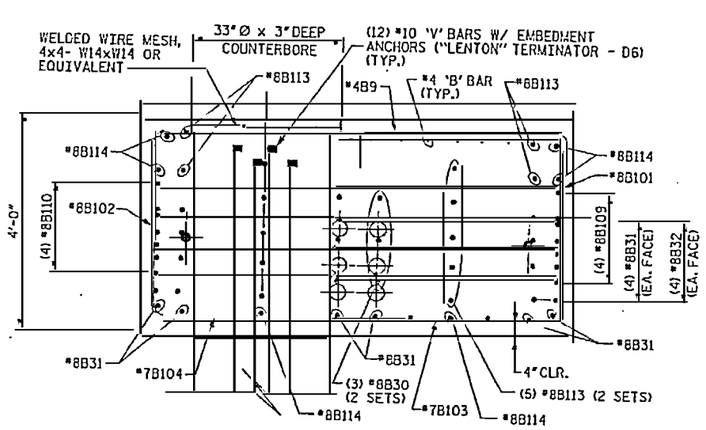


SECTION G-G

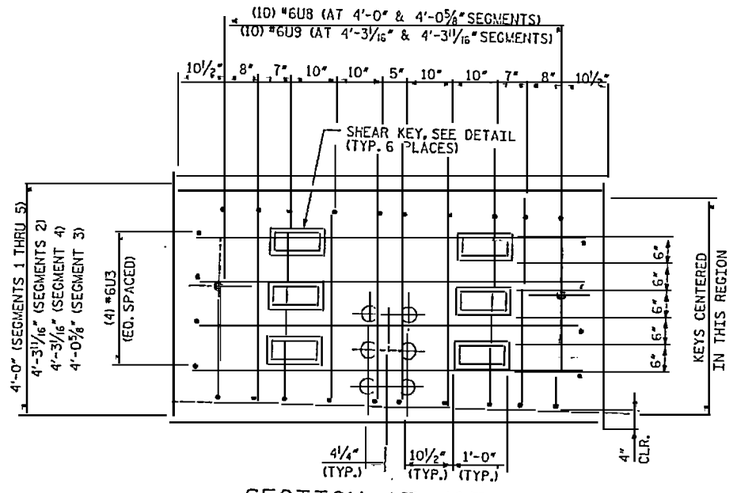
(ANCHORING BARS NOT SHOWN FOR CLARITY)



SECTION H-H

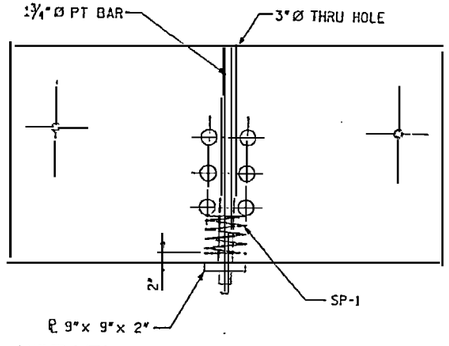


SECTION J-J



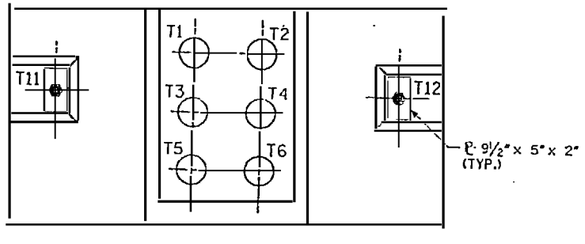
SECTION AT JOINT

(SEE SHEET NO. A2344)



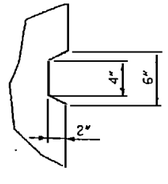
DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.



SHEAR KEY

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/12/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030578 JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 12 BRIDGE NO. 353

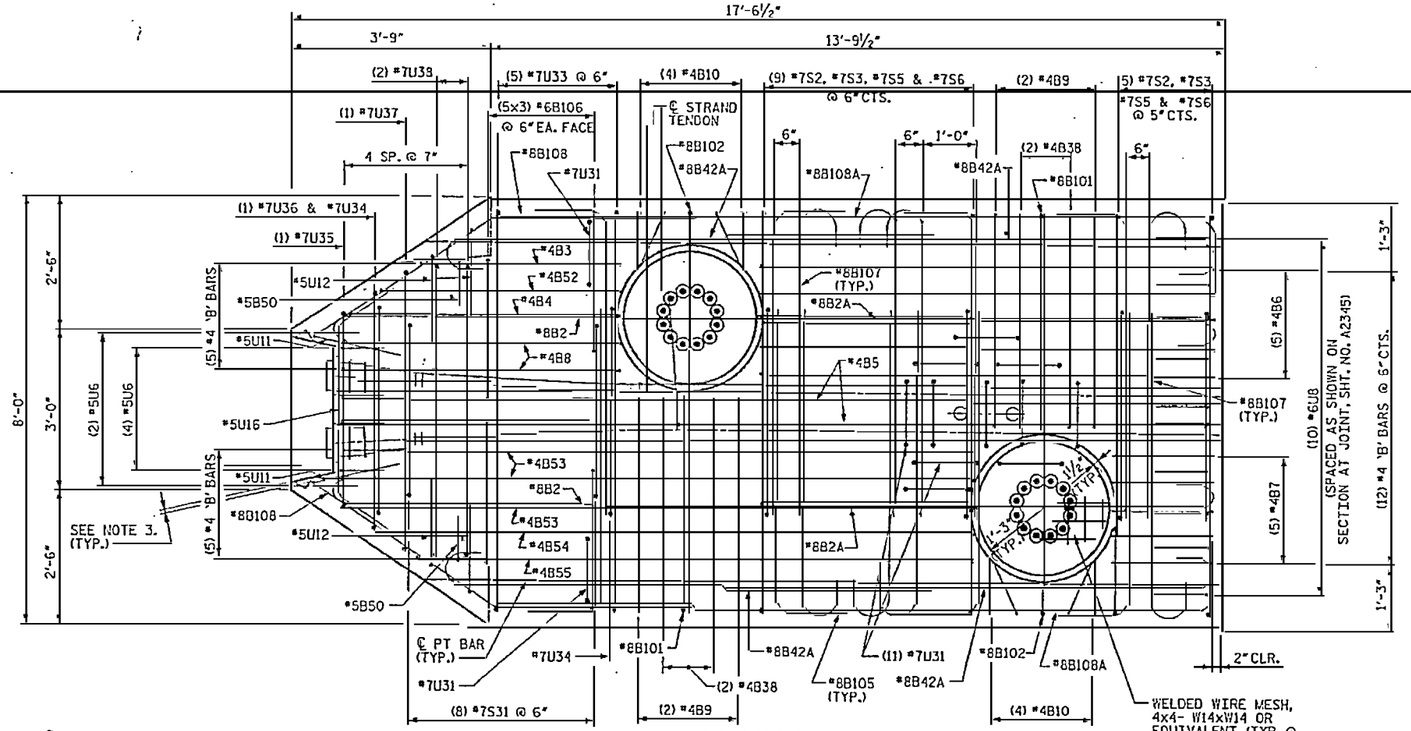
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE-~~ DETAILS
PILE CAP TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2345.00
			3			TOTAL SHEETS
			4			

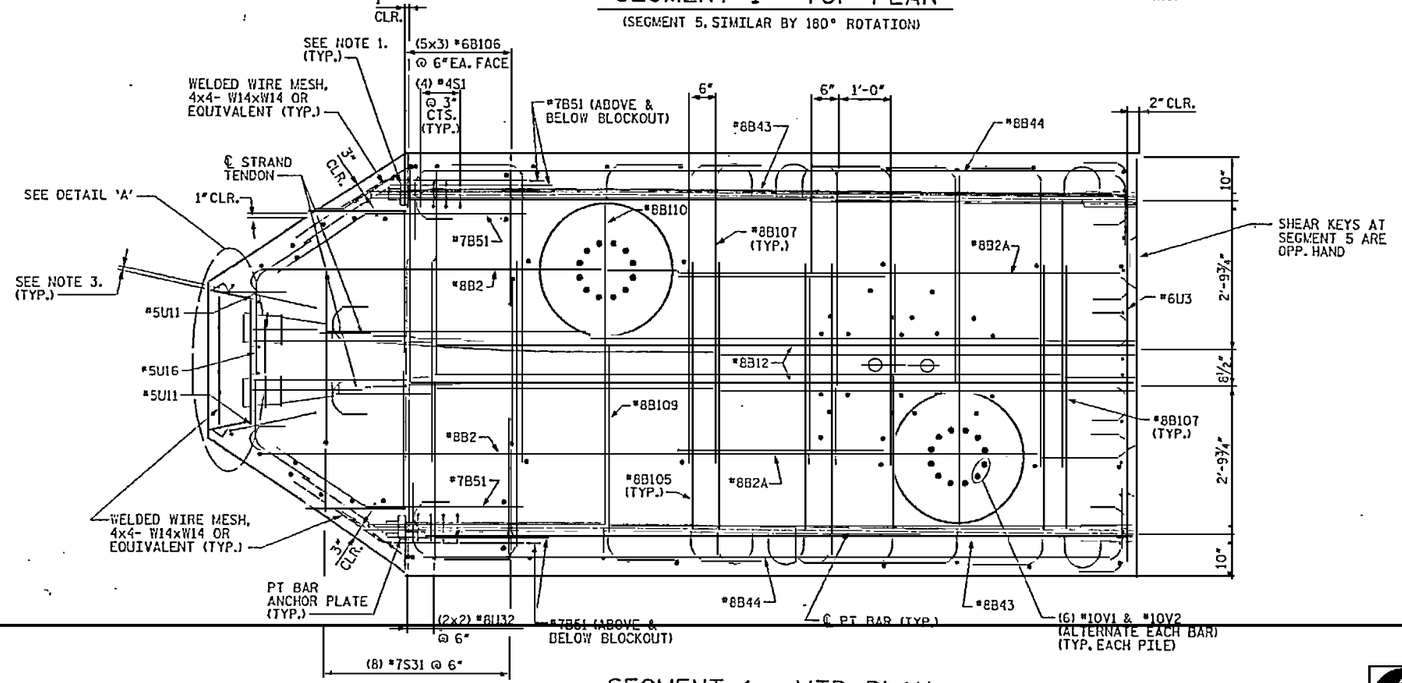
DRAWN BY : M.T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE: 6/4/2008
FILE: A2345.DGN
USER: rbelisle
DGN: N:\ENGINEERING\BRIDGE\DESIGN\STRUCTURE\A2345.DGN



SEGMENT 1 - TOP PLAN

(SEGMENT 5, SIMILAR BY 180° ROTATION)

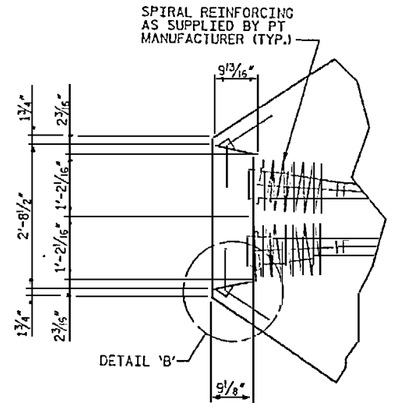


SEGMENT 1 - MID PLAN

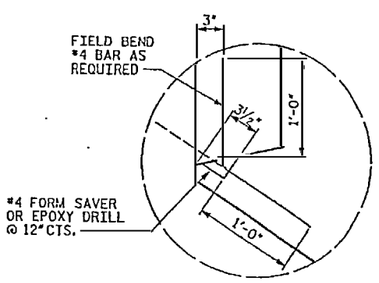
(SEGMENT 5, SIMILAR BY 180° ROTATION)

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL 'A'



DETAIL 'B'

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/2/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2346.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED — A JOINT VENTURE

DRAWN BY : M. T. PETISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE PLOTTED: 11/2/2007 7:42:53 PM
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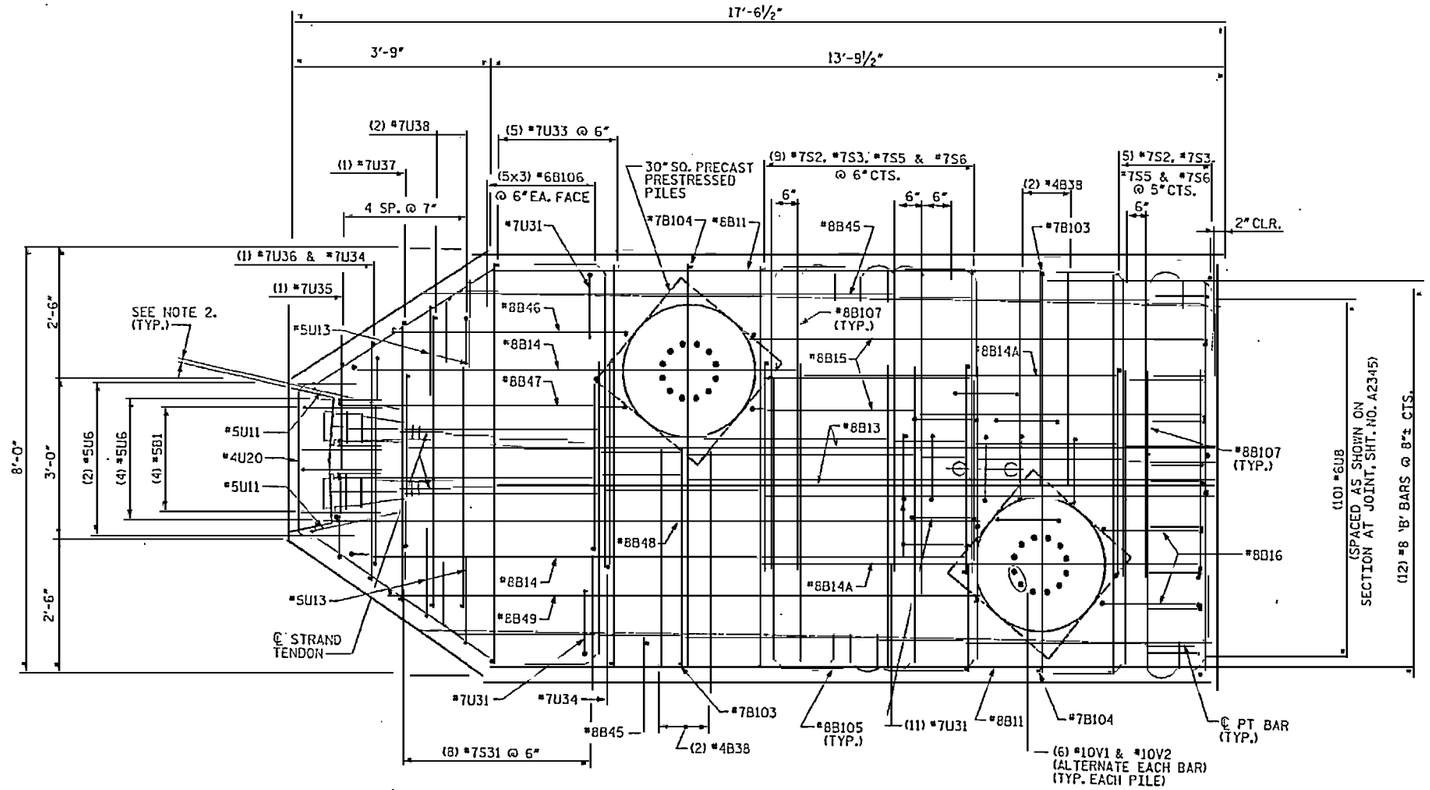

SEGMENT 1 - BOT PLAN

(SEGMENT 5, SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DATE: 11/8/2007
TIME: 3:51:23 PM

USER: mthelisle
DGN: N:\Structure\Projects\Bridges\353\Design\Sheets\B-2347-00-A2320

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. L. TU DATE : 11/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/8/07

NORTH CAROLINA PROFESSIONAL SEAL 030071 ENGINEER JOHN W. JORDAN, III

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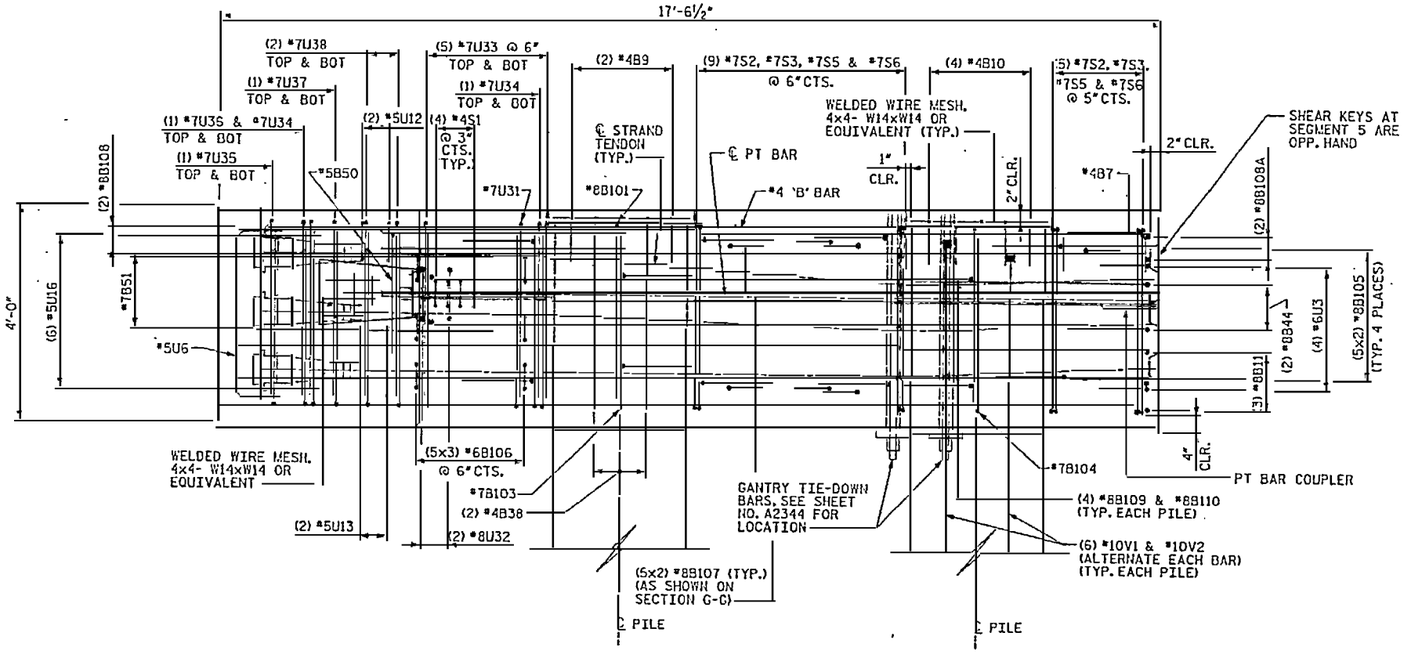
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	B-2347-00
1			3			TOTAL SHEETS
2			4			

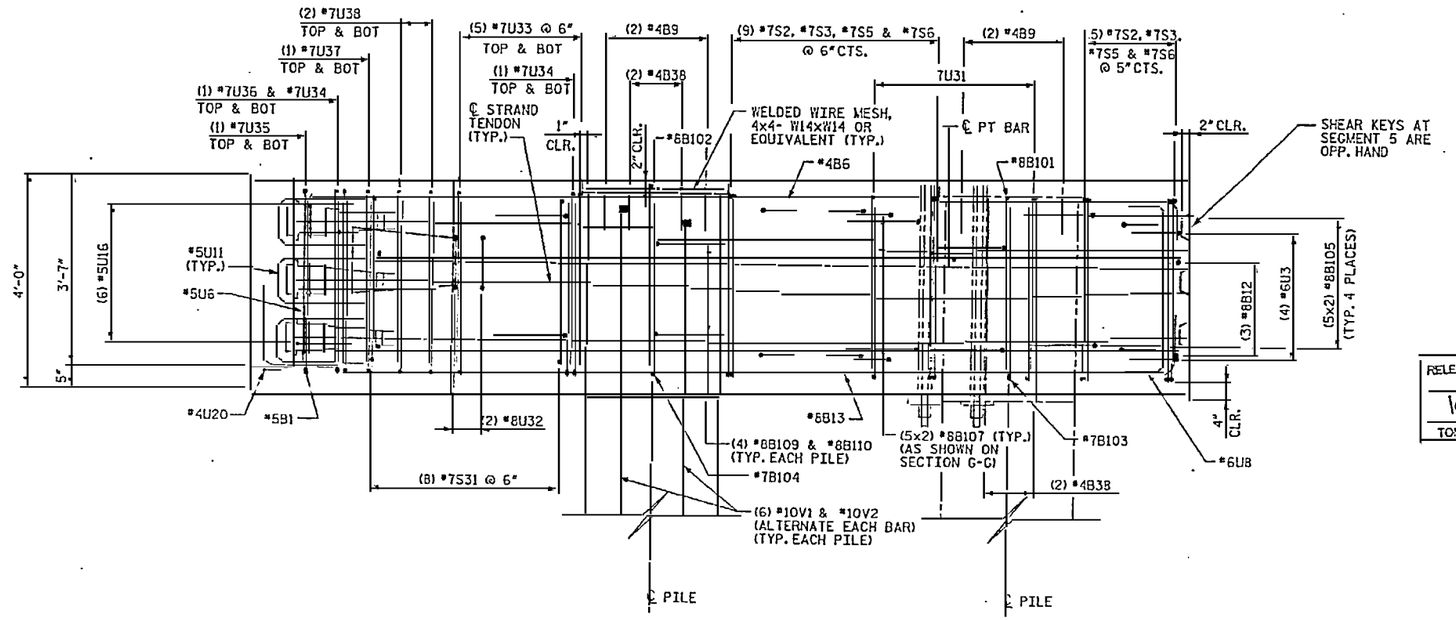


SEGMENT 1 - ELEVATION

(SEGMENT 5, OPP. HAND)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - SECTION A1

(SEGMENT 5, OPP. HAND)
(SEE SHEET NO. 2344)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019742 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2348.00
1			3			TOTAL SHEETS
2			4			

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BEITSLE DATE : 11/07
CHECKED BY : J. LTH DATE : 11/07

DATE: 8/8/2007
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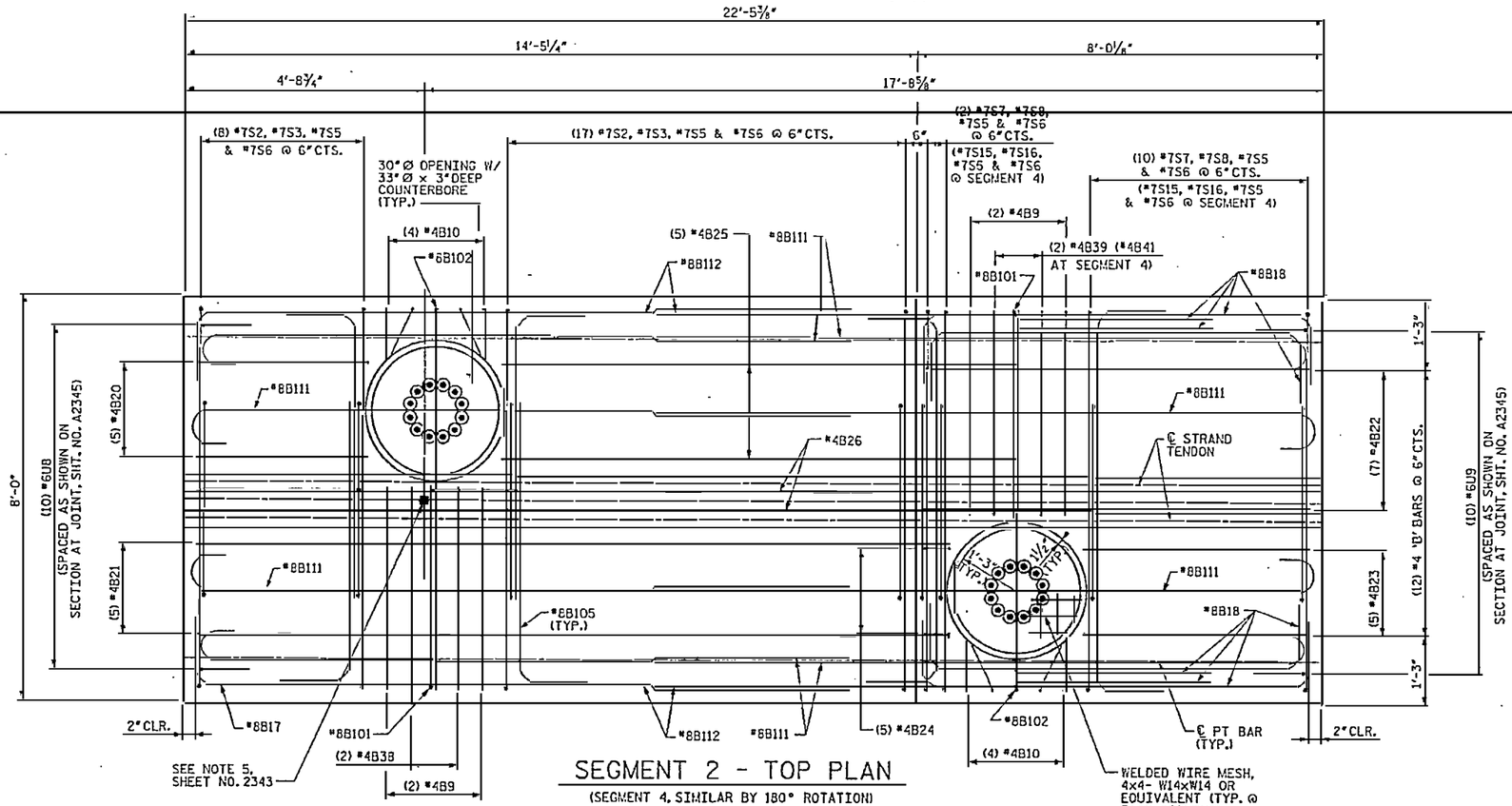
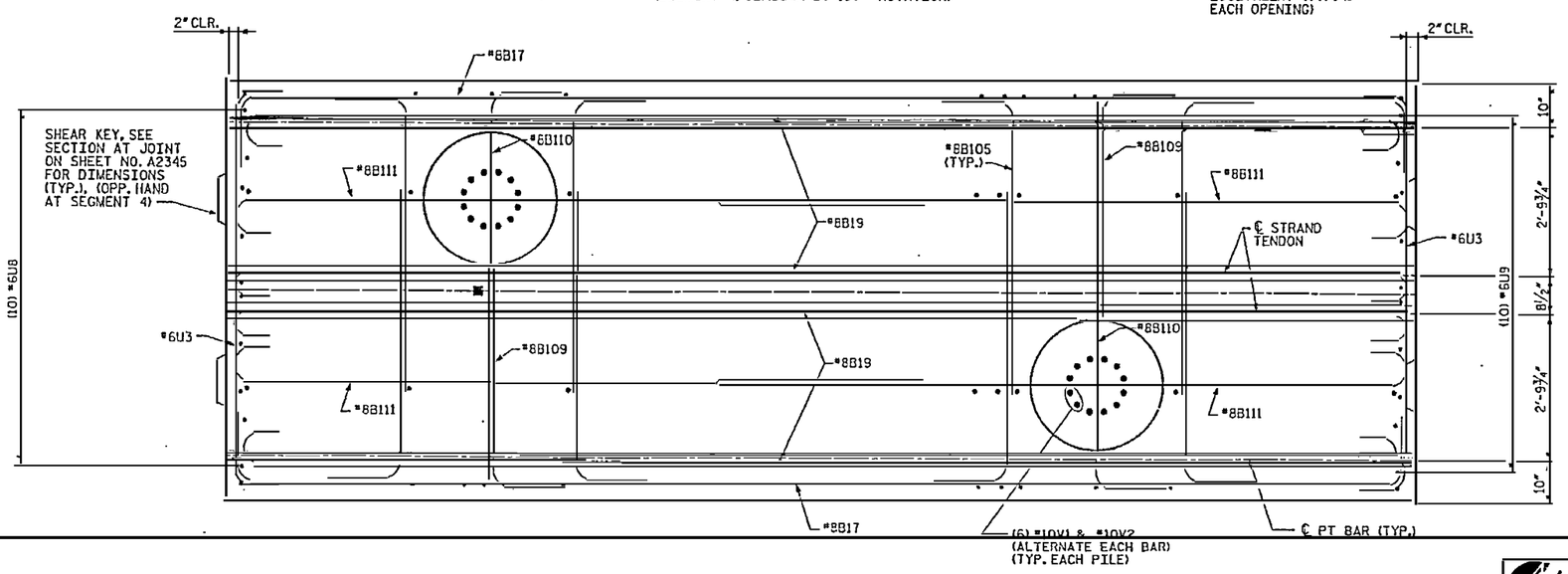


SEGMENT 2 - TOP PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)



SEGMENT 2 - MID PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/7/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026478 JOHN W. JORDAN

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2349.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE: 11/8/2007
FILE: 3378674

USER: mjbelisle
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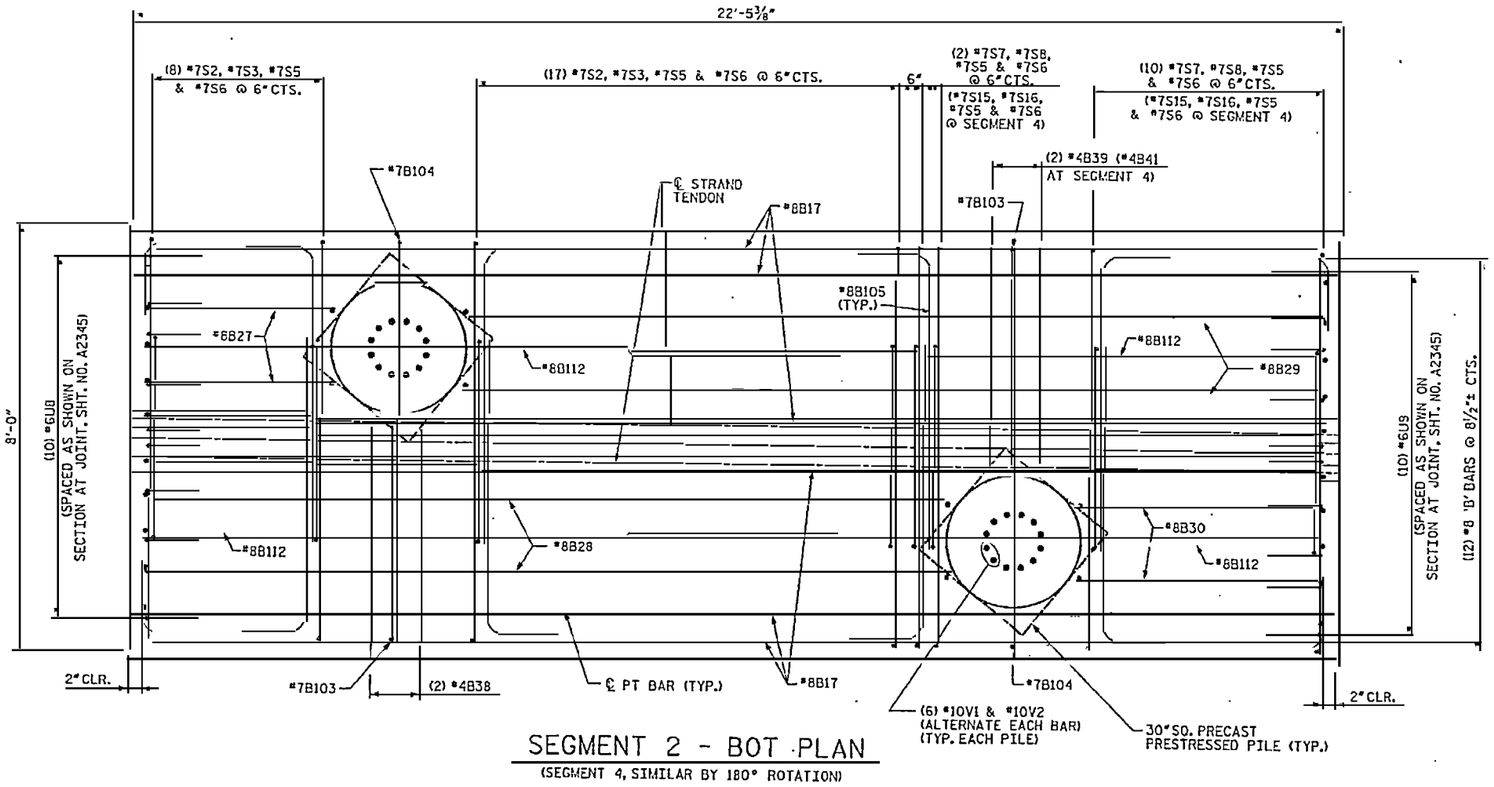
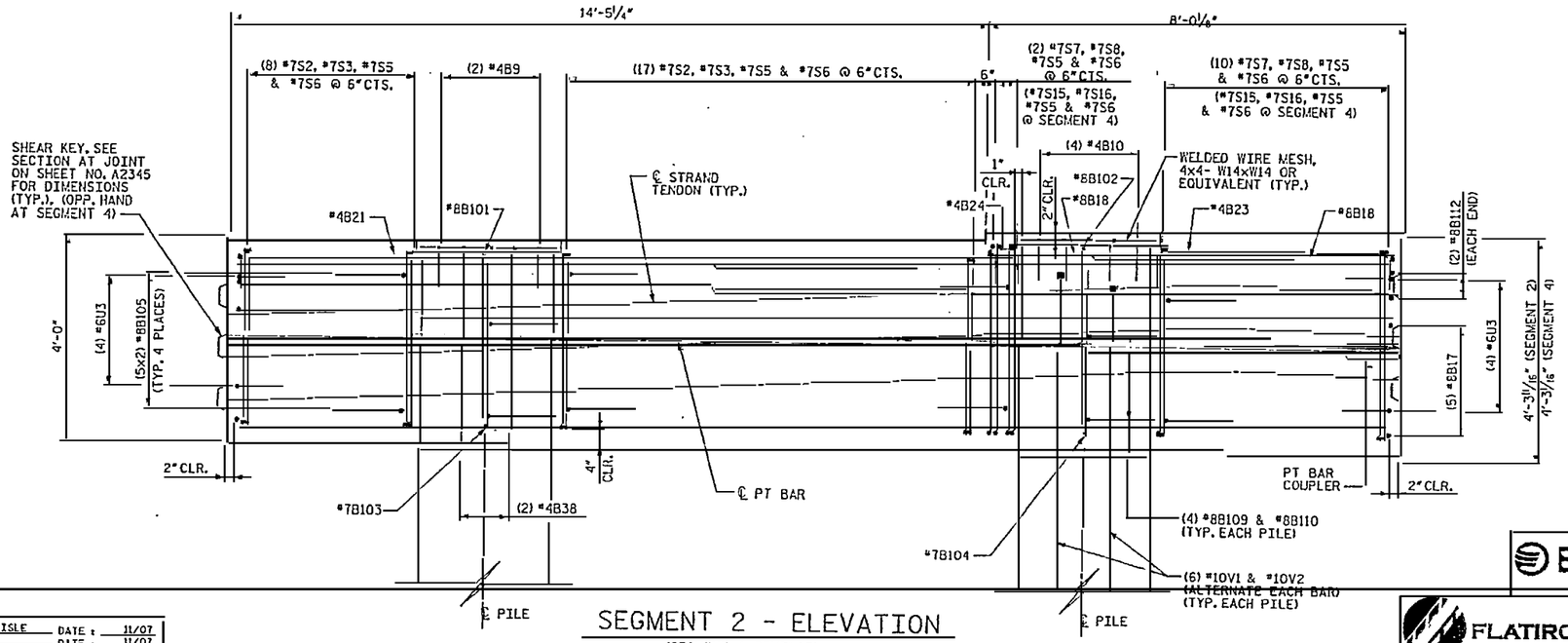


SEGMENT 2 - BOT PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)



SEGMENT 2 - ELEVATION

(SEGMENT 4, SIMILAR)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/16/07

NORTH CAROLINA PROFESSIONAL SEAL 030887 ENGINEER JOHN W. JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 7 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2350.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

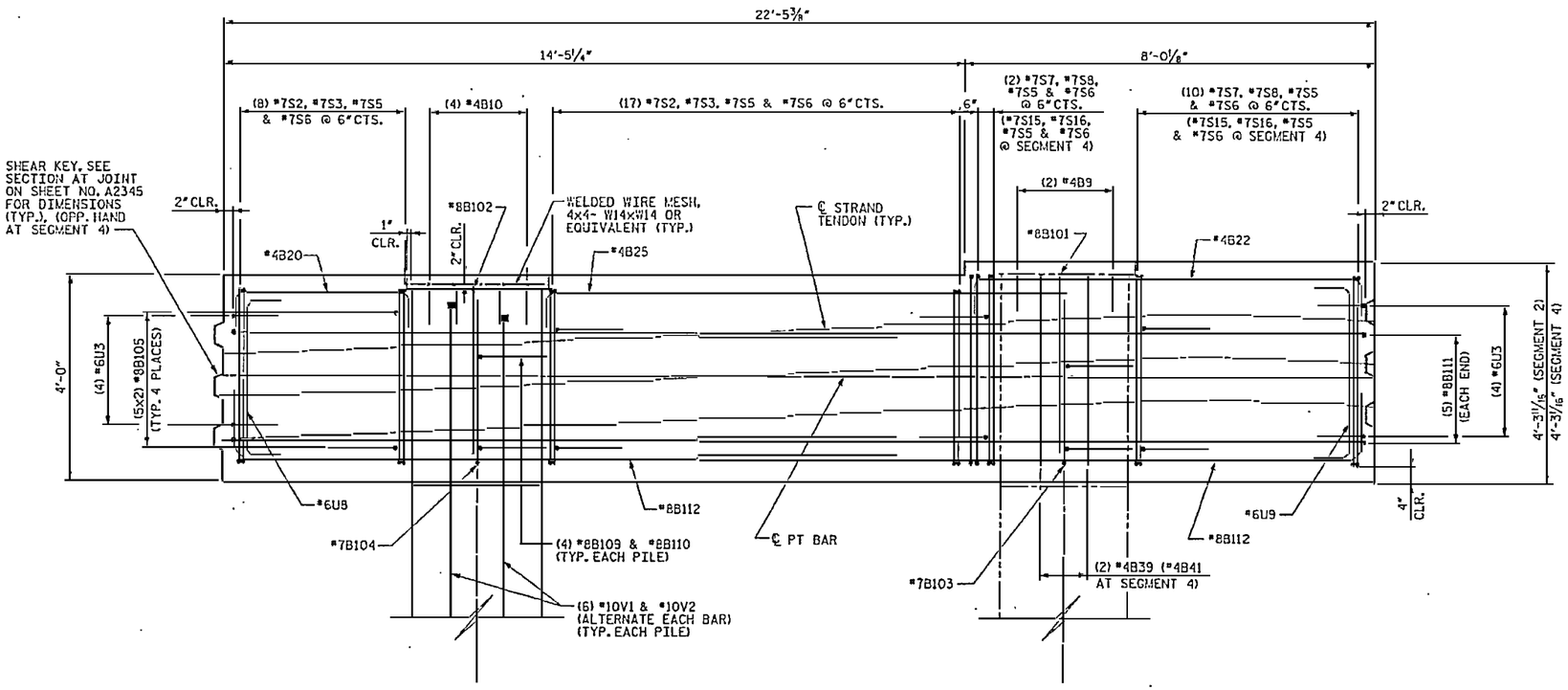
DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE: 8/8/2007
TIME: 1:36:40 PM

USER: Michelle Belisle
N:\Structures\Tar River Bridges\ACADD\R2510B_SD_DSN_ET3-CLT\dsn\p

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEGMENT 4, SIMILAR)
(SEE SHEET NO. A2344)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/16/07 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 40272 TOM W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2351.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

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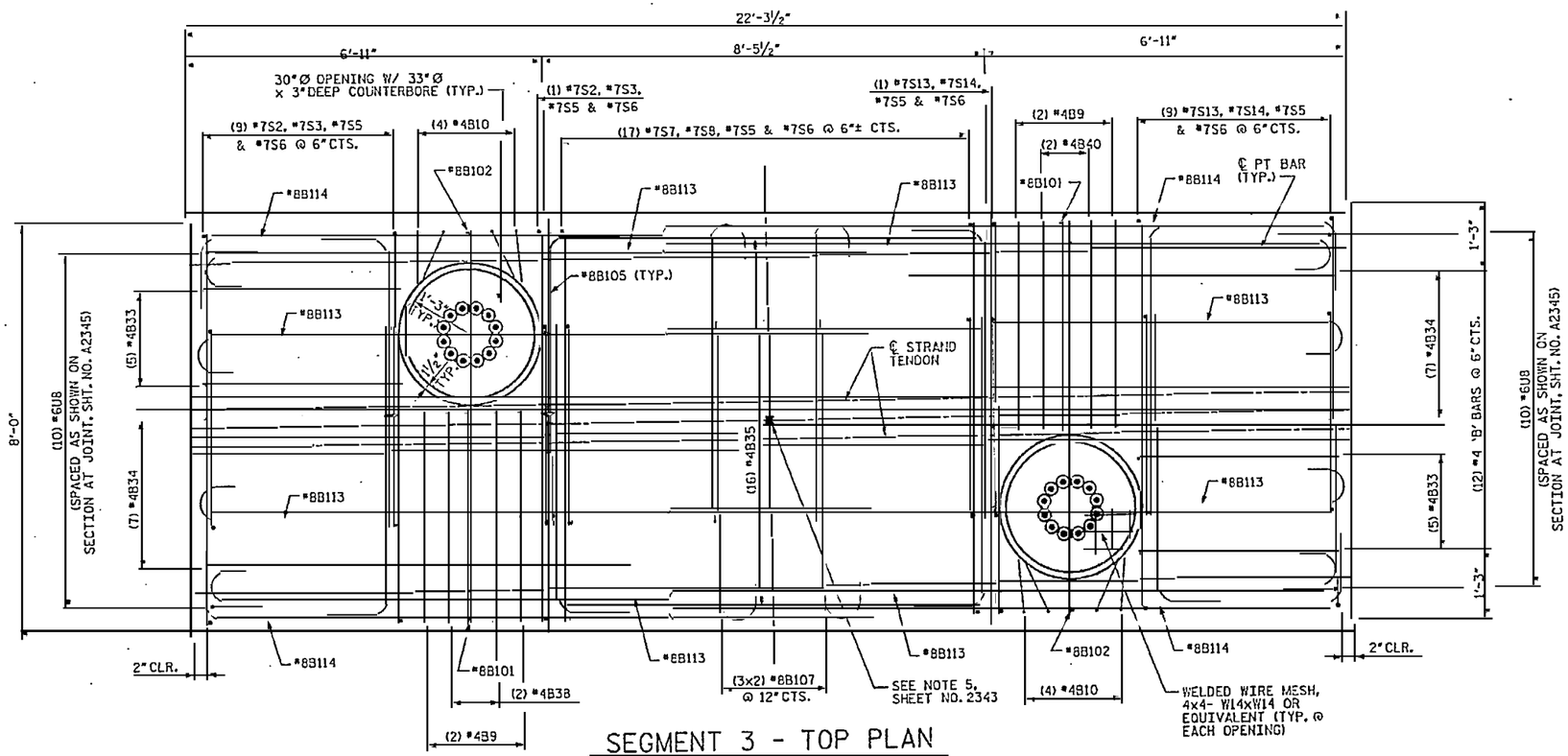
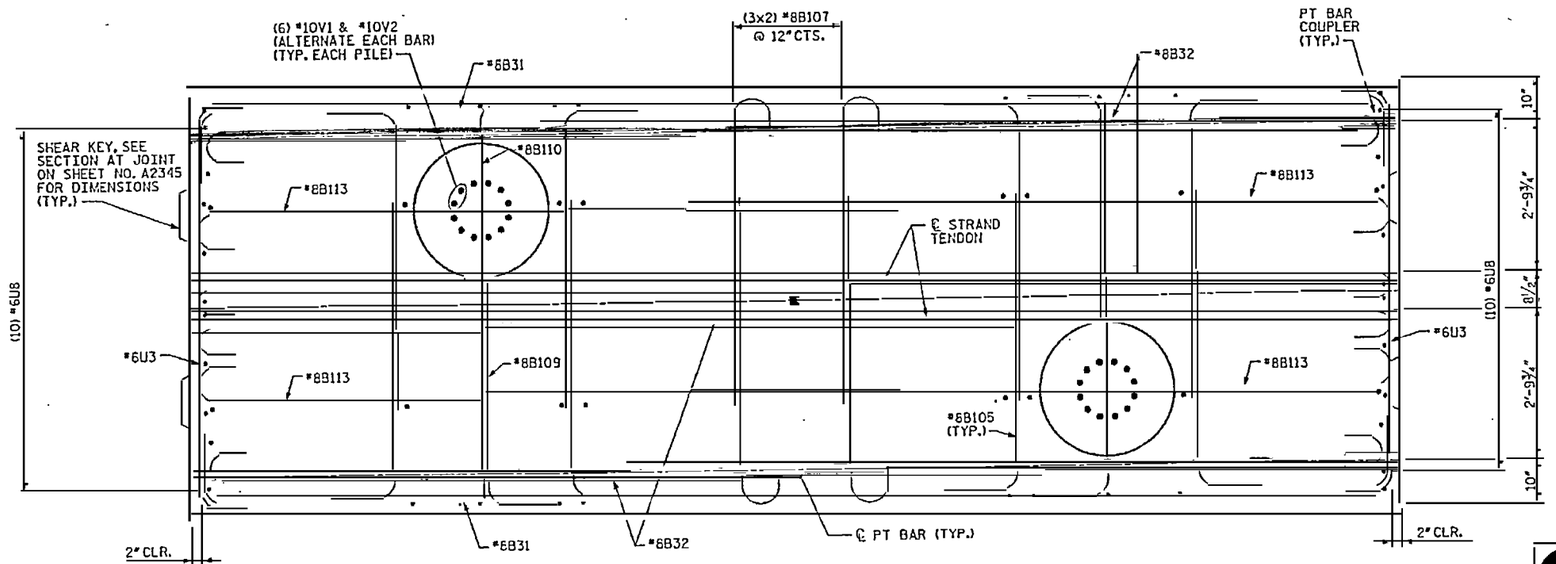


SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/15/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	12352.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE 11/15/2007
TIME 10:54:46 PM

USER: mtbelisle
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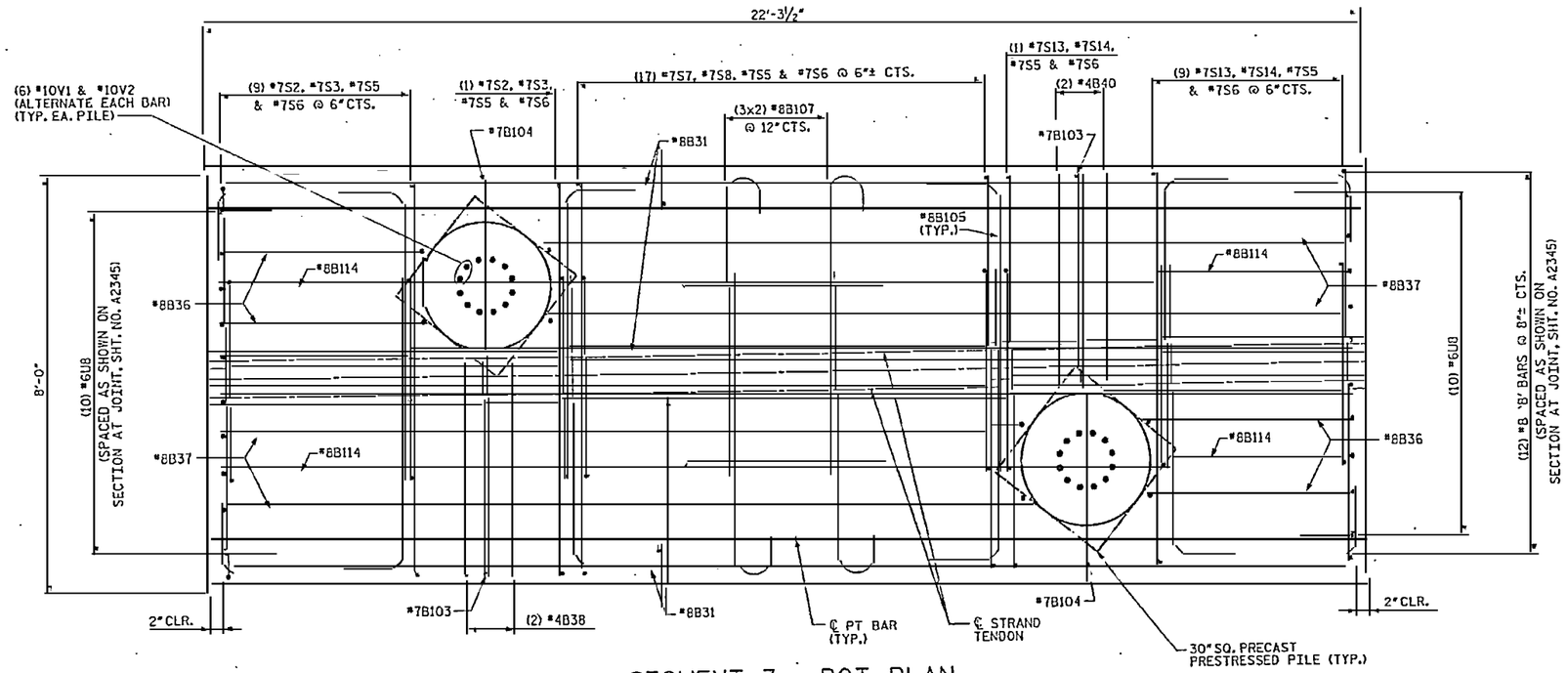
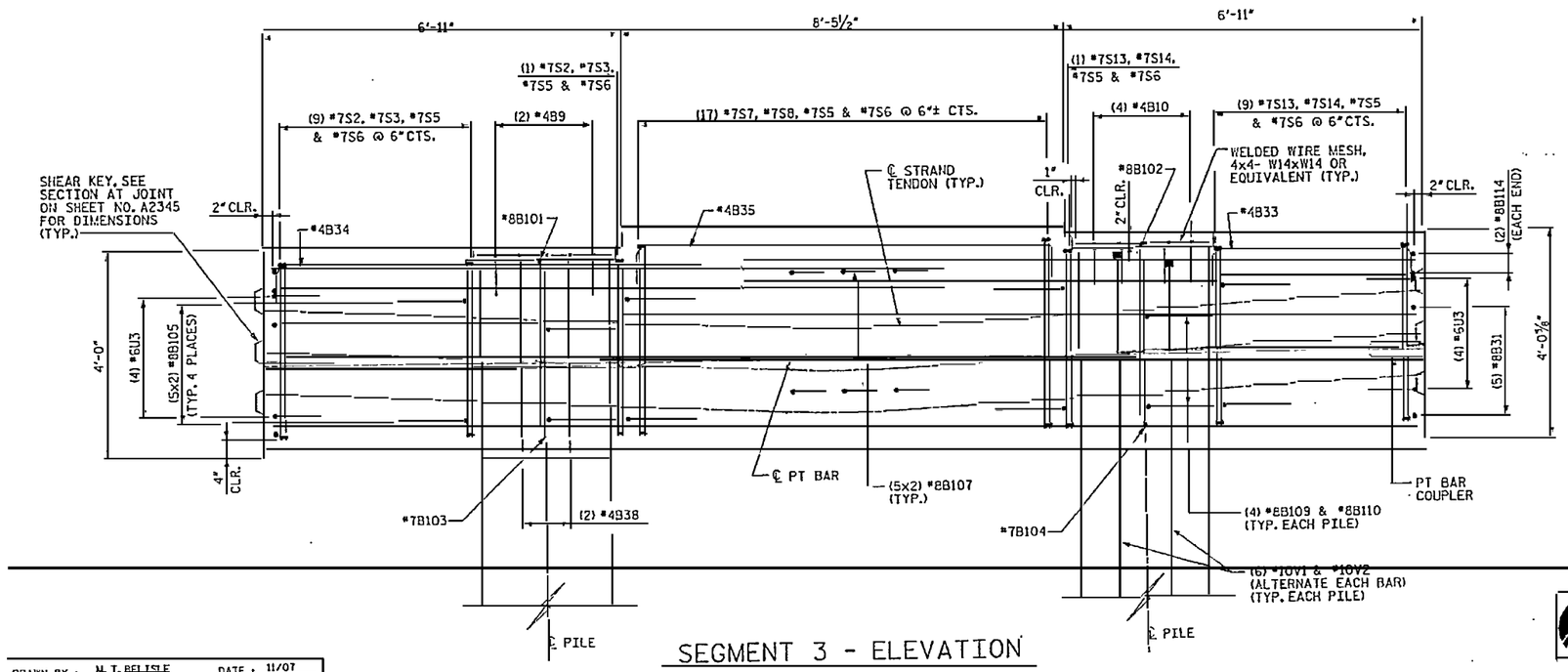


SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/12/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 030648 ENGINEER JOHN W. JORDAN IV

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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2353.00
1			3			TOTAL SHEETS
2			4			

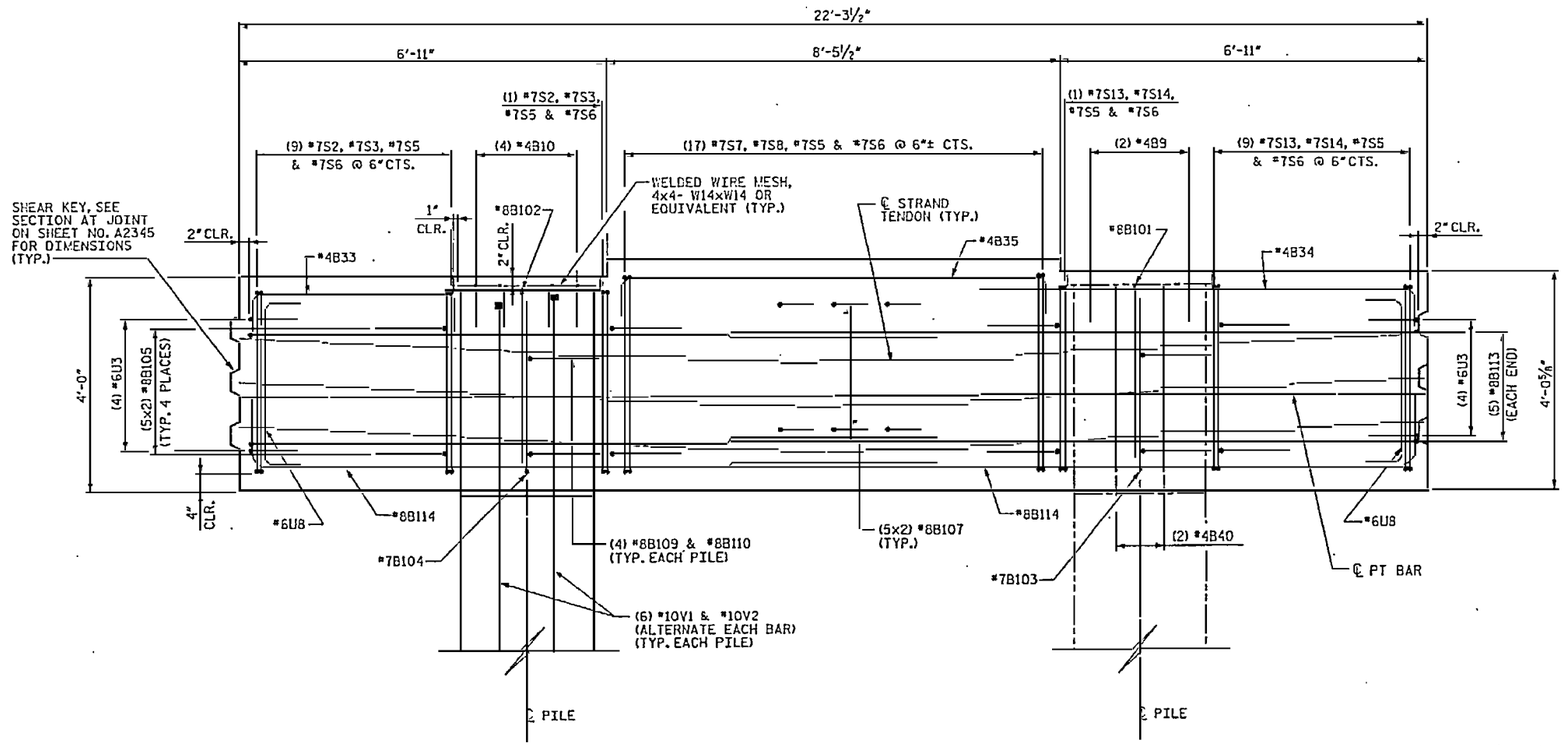
DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

PLOT DATE: 11/8/2007
TIME: 3:53:56 PM

USER: mtbelisle
DGN: N:\Structure\Tar River Bridge\CADD\B353B_SLAB_BT3-DETAILS.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2344)

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 11 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2354.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
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FLATIRON/UNITED
A JOINT VENTURE

USER: mcbaile
DGN: ...\Structures\Tar River Bridges\ADDV\2510B_S3_DCK_BP3-DETAILS.dgn
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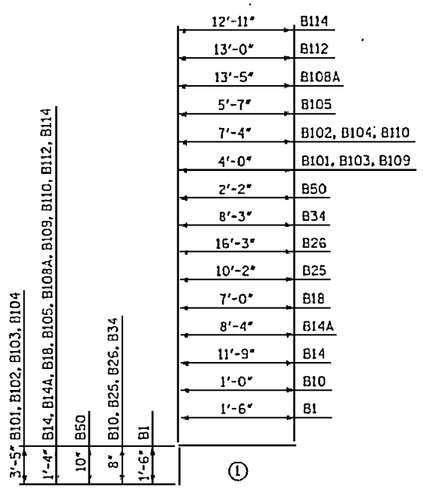
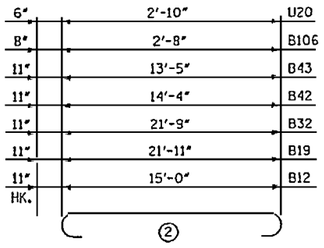
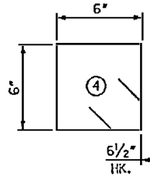
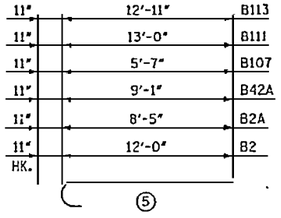
TIME: 10:46:28 AM

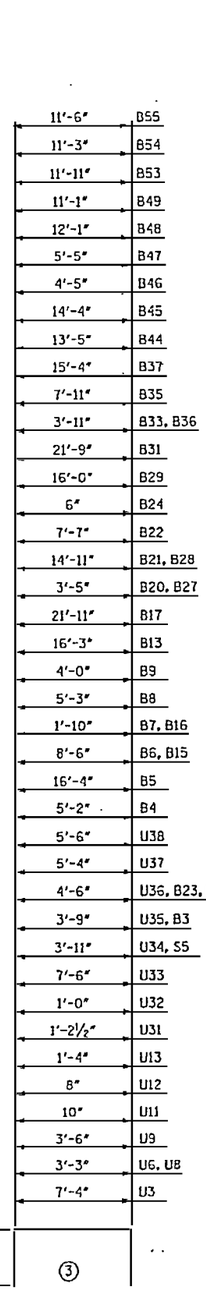
BAR TYPES

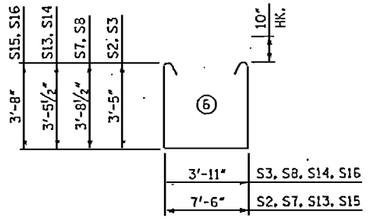


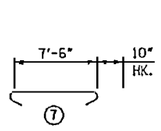


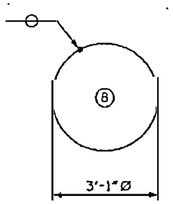


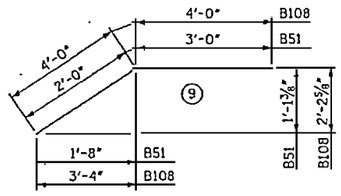


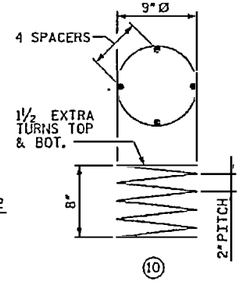


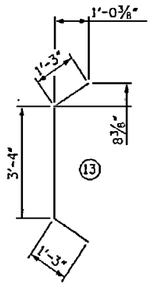


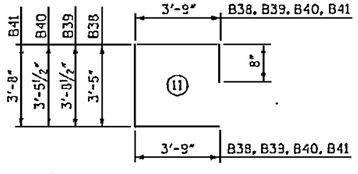


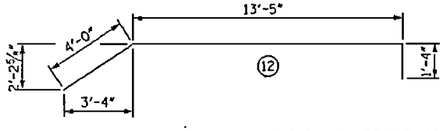












ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : M.T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	20	#8	(5)	12'-11"	690
B2A	20	#8	(5)	9'-4"	498
B3	2	#4	(3)	5'-1"	7
B4	2	#4	(3)	6'-6"	9
B5	4	#4	(3)	17'-8"	47
B6	10	#4	(3)	9'-10"	66
B7	10	#4	(3)	3'-2"	21
B8	4	#4	(3)	6'-7"	18
B9	20	#4	(3)	5'-4"	71
B10	40	#4	(1)	1'-8"	45
B11	12	#8	(12)	18'-9"	601
B12	12	#8	(2)	16'-10"	539
B13	4	#8	(3)	18'-11"	202
B14	4	#8	(1)	13'-1"	140
B14A	4	#8	(1)	9'-8"	103
B15	4	#8	(3)	11'-2"	119
B16	4	#8	(3)	4'-6"	48
B17	28	#8	(3)	24'-7"	1838
B18	16	#8	(1)	8'-4"	356
B19	28	#8	(2)	23'-9"	1776
B20	10	#4	(3)	4'-9"	32
B21	10	#4	(3)	16'-3"	106
B22	14	#4	(3)	8'-11"	83
B23	10	#4	(3)	5'-10"	39
B24	10	#4	(3)	1'-10"	12
B25	10	#4	(1)	10'-10"	72
B26	4	#4	(1)	16'-11"	45
B27	4	#8	(3)	6'-1"	65
B28	4	#8	(3)	17'-7"	188
B29	4	#8	(3)	18'-8"	199
B30	4	#6	(3)	7'-2"	77
B31	14	#8	(3)	24'-5"	913
B32	14	#8	(2)	23'-7"	882
B33	10	#4	(3)	5'-3"	35
B34	14	#4	(1)	8'-11"	83
B35	16	#4	(3)	9'-3"	99
B36	4	#8	(3)	6'-7"	70
B37	4	#8	(3)	18'-0"	192
B38	14	#4	(11)	11'-7"	108
B39	2	#4	(11)	11'-11"	16
B40	2	#4	(11)	11'-8"	16
B41	2	#4	(11)	11'-10"	16
B42	8	#8	(2)	16'-2"	345
B42A	16	#8	(5)	10'-0"	427
B43	8	#8	(2)	15'-3"	326
B44	8	#8	(3)	16'-1"	344
B45	4	#8	(3)	17'-0"	182
B46	2	#8	(3)	7'-1"	38
B47	2	#8	(3)	8'-1"	43
B48	2	#8	(3)	14'-9"	79
B49	2	#8	(3)	13'-9"	73
B50	4	#5	(1)	3'-0"	13
B51	24	#7	(9)	5'-0"	245
B52	2	#4	(3)	5'-10"	8
B53	6	#4	(3)	13'-3"	53
B54	2	#4	(3)	12'-7"	17
B55	2	#4	(3)	11'-10"	16
B101	10	#8	(1)	7'-5"	198
B102	10	#8	(1)	10'-9"	287
B103	10	#7	(1)	7'-5"	152
B104	10	#7	(1)	10'-9"	220
B105	200	#8	(1)	6'-11"	3693
B106	60	#6	(2)	4'-0"	360
B107	110	#8	(5)	6'-6"	1909
B108	8	#8	(9)	8'-0"	171
B108A	8	#8	(1)	14'-9"	315
B109	40	#8	(1)	5'-4"	570
B110	40	#8	(1)	8'-8"	926

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B111	56	#8	(5)	13'-11"	2081
B112	24	#8	(1)	14'-4"	918
B113	28	#8	(5)	13'-10"	1034
B114	12	#8	(1)	14'-3"	457
S1	16	#4	(4)	3'-3"	35
S2	88	#7	(6)	16'-0"	2878
S3	88	#7	(6)	12'-5"	2233
S5	139	#7	(3)	6'-3"	1776
S6	139	#7	(7)	9'-2"	2604
S7	29	#7	(6)	16'-7"	983
S8	29	#7	(6)	13'-0"	771
S13	10	#7	(6)	16'-1"	329
S14	10	#7	(6)	12'-6"	256
S15	12	#7	(6)	16'-6"	405
S16	12	#7	(6)	12'-11"	317
S31	16	#7	(8)	9'-5"	308
U3	32	#6	(3)	9'-4"	449
U6	12	#5	(3)	4'-11"	62
U8	60	#6	(3)	5'-3"	473
U9	20	#6	(3)	5'-6"	165
U11	12	#5	(3)	4'-10"	60
U12	8	#5	(3)	4'-0"	33
U13	8	#5	(3)	4'-8"	39
U16	12	#5	(13)	5'-10"	73
U20	2	#4	(2)	3'-10"	5
U31	52	#7	(3)	7'-8"	815
U32	8	#8	(3)	12'-4"	263
U33	20	#7	(3)	13'-11"	569
U34	8	#7	(3)	10'-4"	84
U35	4	#7	(3)	10'-2"	83
U36	4	#7	(3)	10'-11"	89
U37	4	#7	(3)	11'-9"	96
U38	8	#7	(3)	11'-11"	195
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

RELEASED FOR CONSTRUCTION
Tom Shearin 11/21/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 029863 ENGINEER JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2355.00
						TOTAL SHEETS

DATE PLOTTED: 11/21/2007
TIME PLOTTED: 3:12:57 PM
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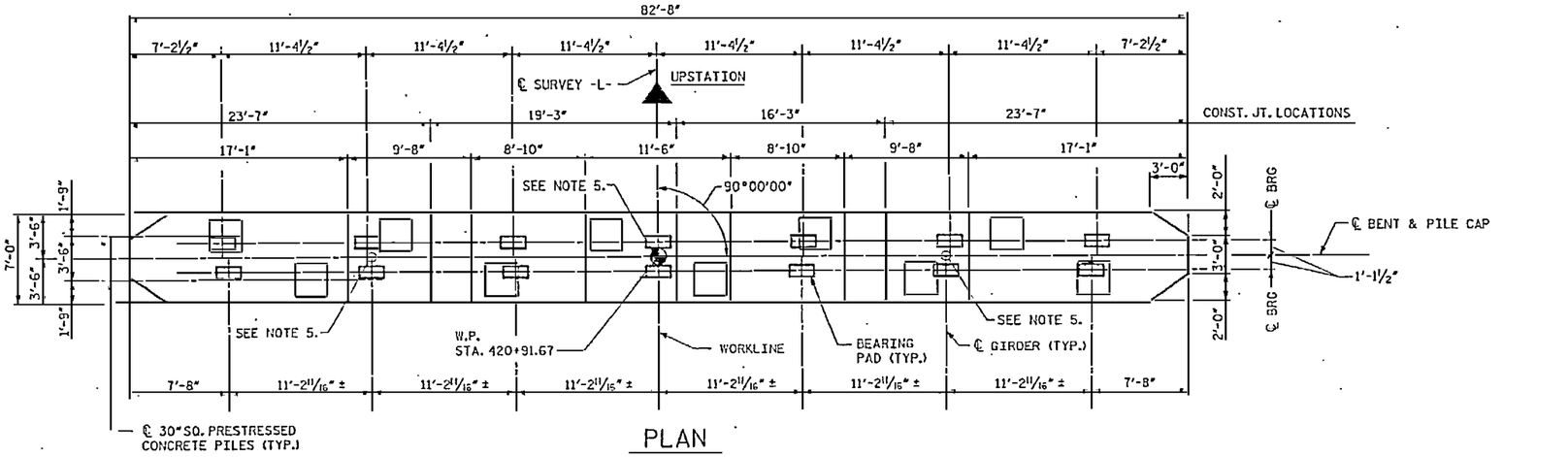
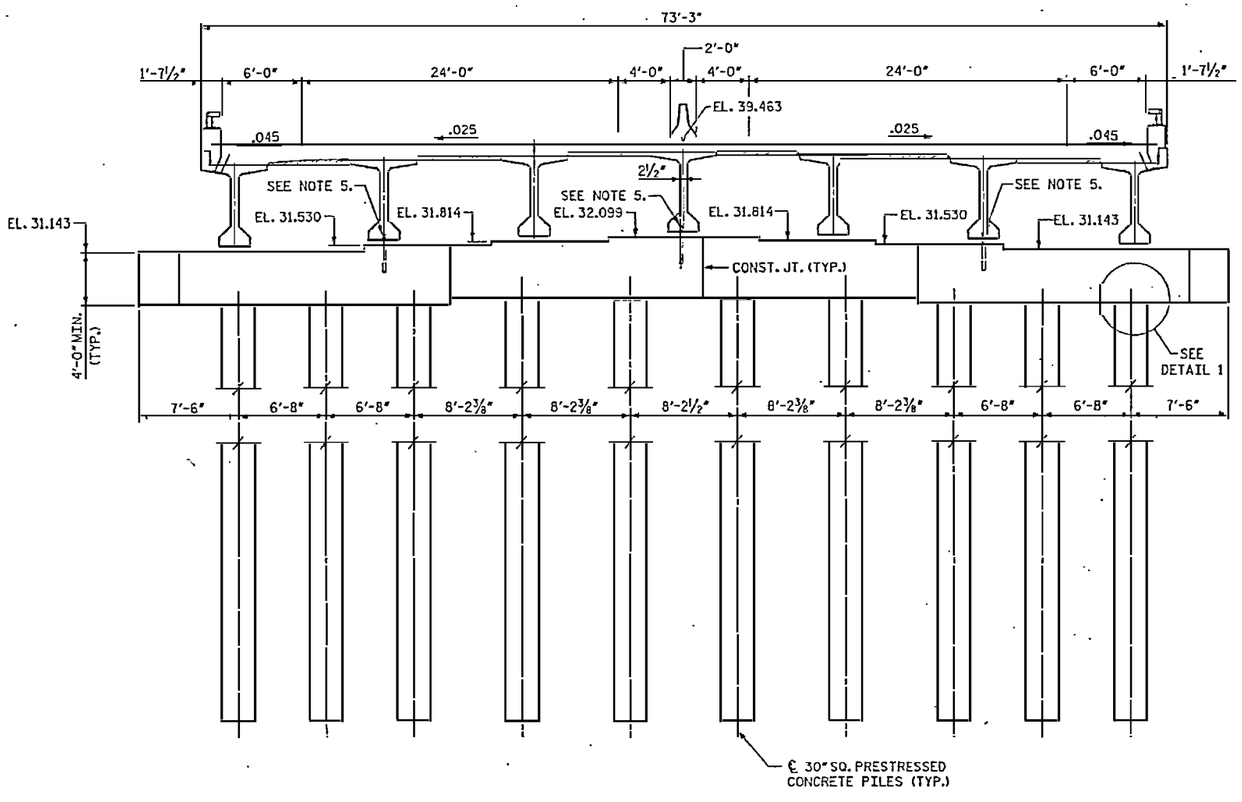
DGN: R:\Structures\Master Plan Bridges\DESIGNED\BR3-0273\bar.dgn

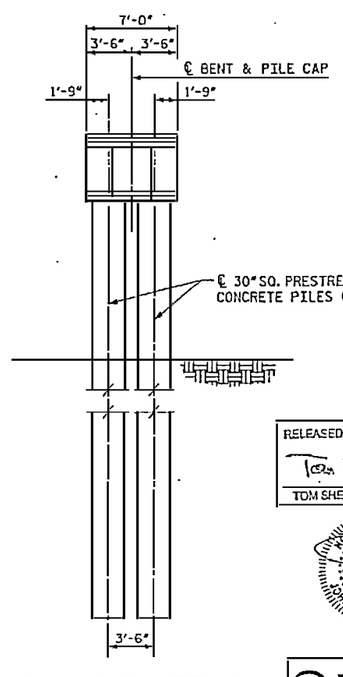


PLAN



ELEVATION

(BENT #1)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1.
5. 3"SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB. (2) (3)

(1) REVISION TO BENT CAP SHAPE.
(2) REVISION TO NOTE NO. 5.
(3) REVISION TO NOTE NO. 5.

RELEASED FOR CONSTRUCTION
Tom Shearin 10/24/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 13881 JOHN W. JORDAN, III

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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 4
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2358.03
1	MTB	6/07	3	MTB	10/16/07	TOTAL SHEETS
2	MTB	7/2/07	4			

DRAWN BY : S. G. STREDNAK DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

DATE: 10/24/2007
TIME: 3:53:41 PM

USER: wstidnak
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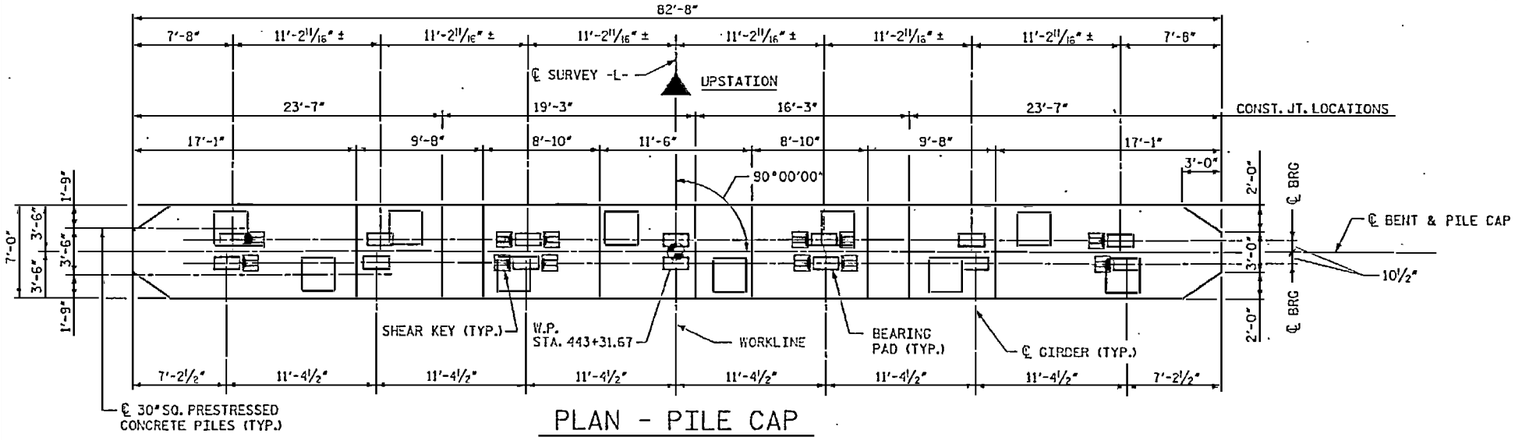
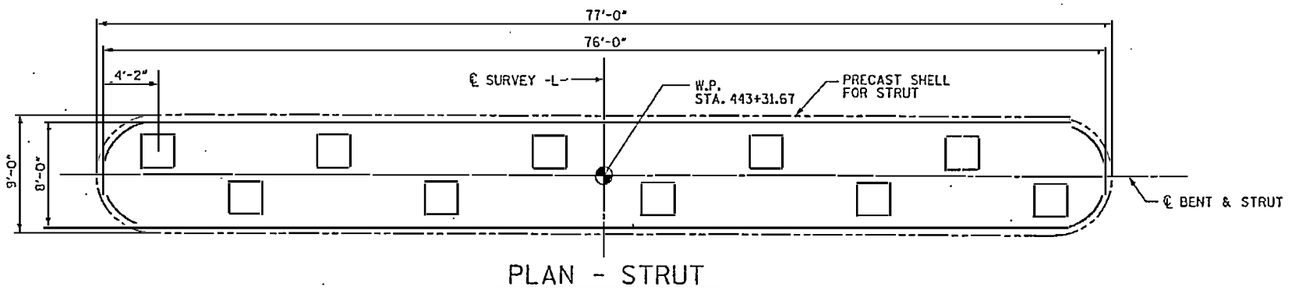
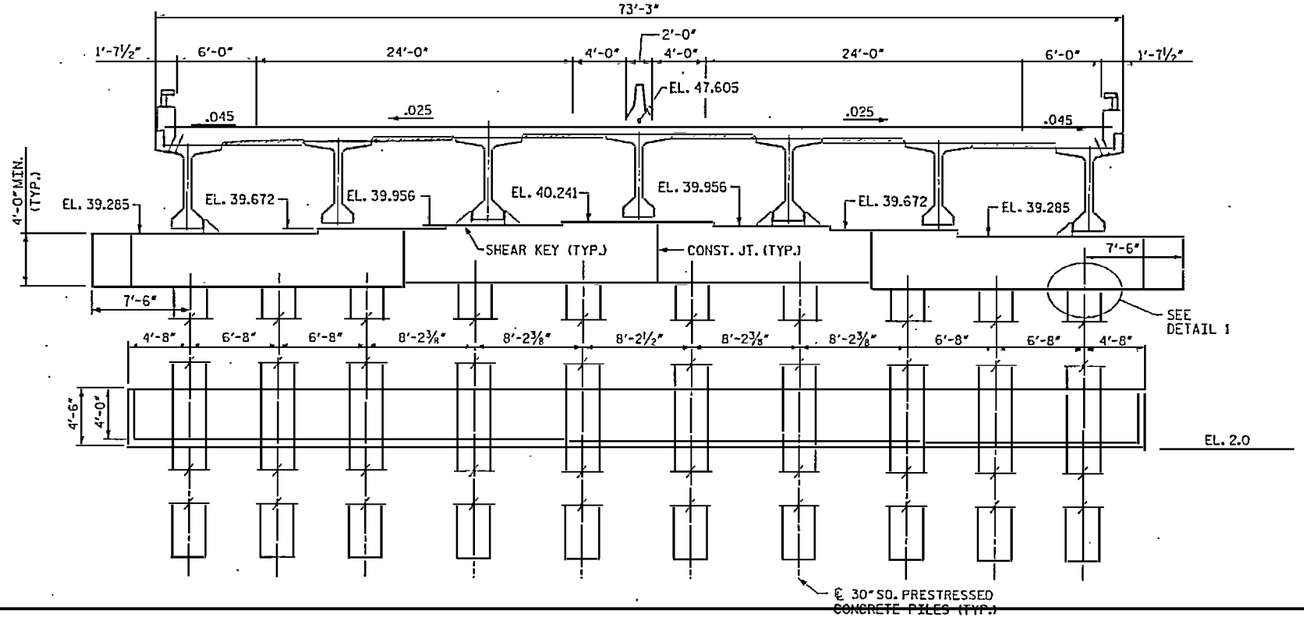


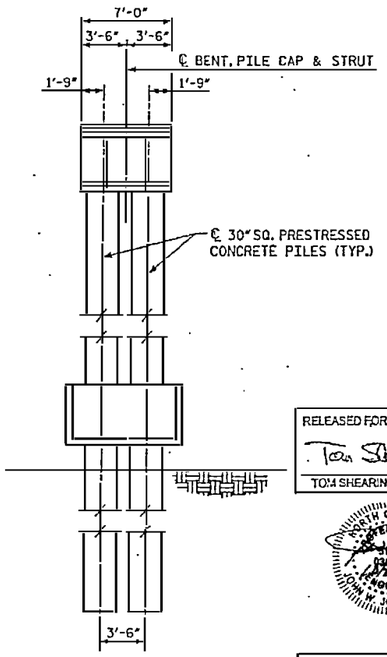
PLAN - PILE CAP



PLAN - STRUT



ELEVATION
(BENT 100)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. FILL VOIDS INSIDE PILES TO EL. 12.00 WITH FLOWABLE FILL BEFORE CORING THROUGH THE PILES FOR STRUT REINFORCEMENT.
6. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT CAP. SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.
7. FOR STRUT REINFORCEMENT, SEE STRUT TYPE 3 ON SHEET NOS. 2626 THRU 2630. FOR PRECAST SHELL REINFORCEMENT, SEE PRECAST SHELL FOR STRUT TYPE 3 ON SHEET NOS. 2610 THRU 2612.
2. 8. THE CONSTRUCTION OF BOTH STRUT AND CAP SHALL BE COMPLETE BEFORE LAUNCHING TRUSS MOVES ON THE PIER.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/24/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032978 JOHN W. JORDAN, JR.

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1 REVISION TO BENT CAP SHAPE.
2 ADDED NOTE NO. 8.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

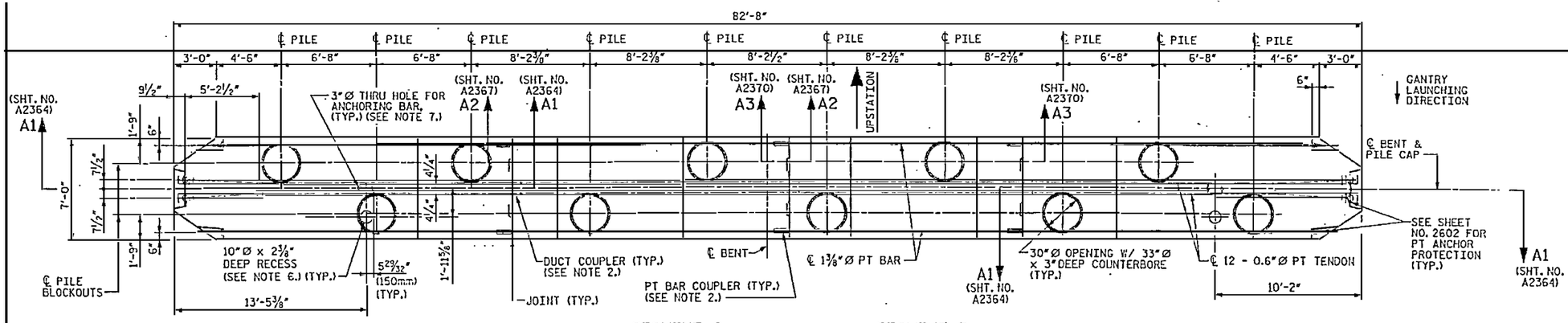
- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

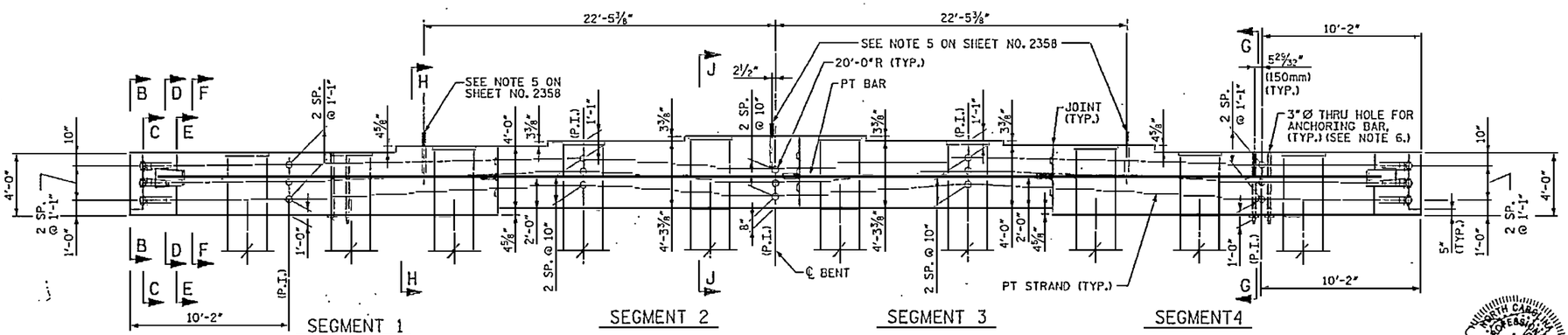
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2359.01
1	MTB	6/07	3			TOTAL SHEETS
2	MTB	10/5/07	4			

DRAWN BY : S. C. STREDNAK DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

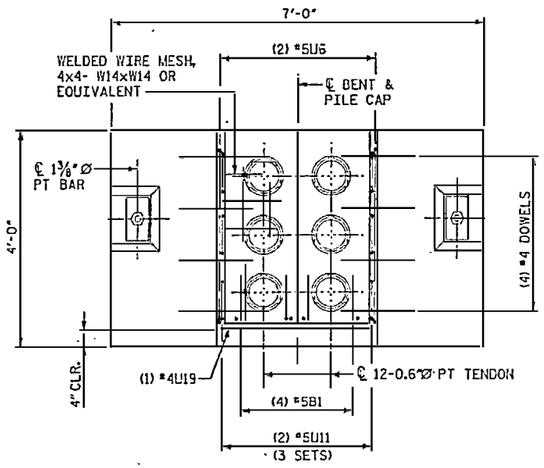
USER: pgerbrandt
DGN: N:\Structures\Projects\R2510B_SD_DSN_BENT_TYPE7.dgn



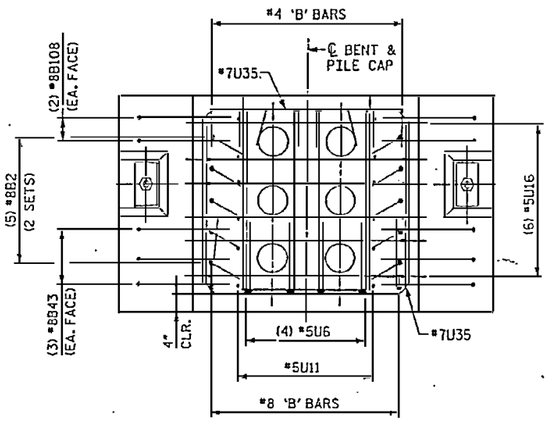
OVERALL PLAN



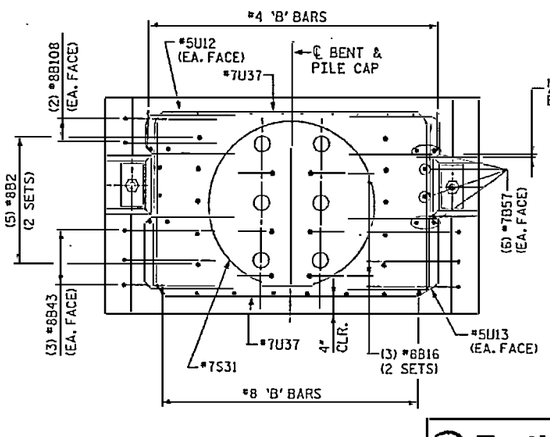
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 4 IS USED AT BENT NO. 81.
5. PILE CAP TYPE 7 IS USED AT BENT NO. 100. BENT ALSO INCLUDES STRUT TYPE 3.
6. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE. THE RECESS LOCATION BASES ON THE TWO LAUNCHING TRUSSES MEETING AT SPAN 81. OTHERWISE, THE RECESS RELOCATES TO THE OPPOSITE SIDE OF THE CENTERLINE OF BENT.
7. SEE "DETAIL AT ANCHORING BARS" ON SHEET A2361. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPES 4 & 7
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2360.00
1			3			TOTAL SHEETS
2			4			

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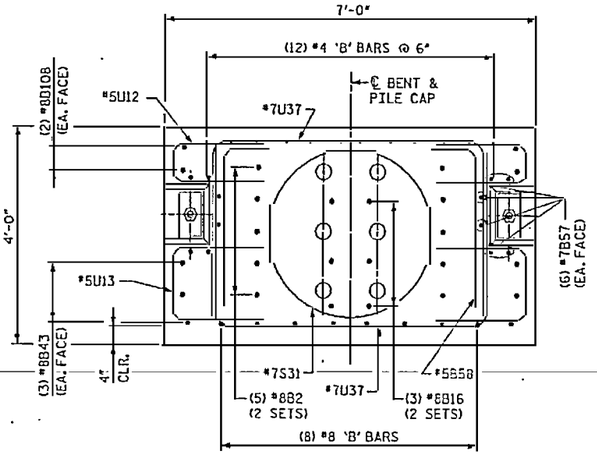
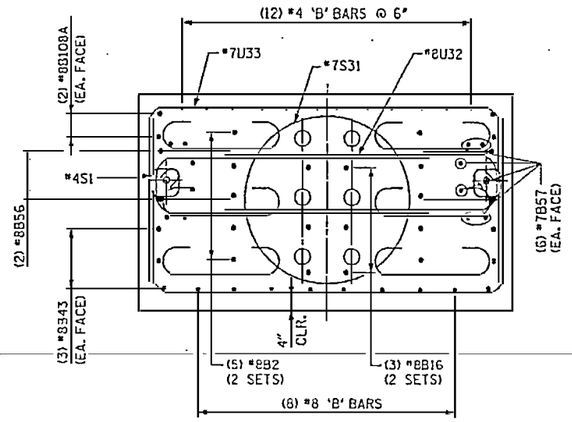
DRAWN BY : S.G. STREDNAK DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

DATE: 1/11/2008
FILE: R2510_AM

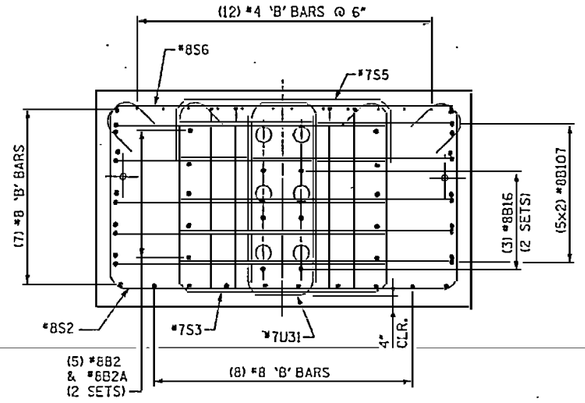
USER: rkhamilton
DGN: RichmondCADD\R2510_SD_DSK_BTR-DETail.dgn



SECTION E-E

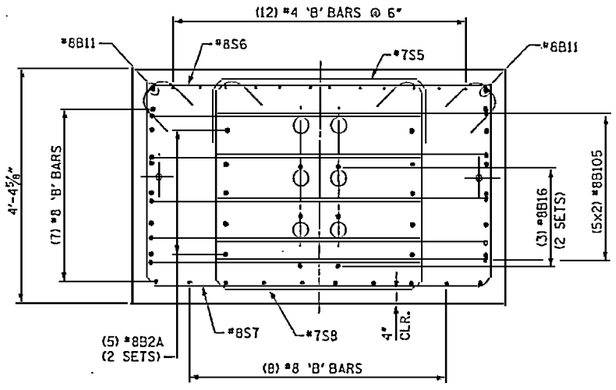


SECTION F-F

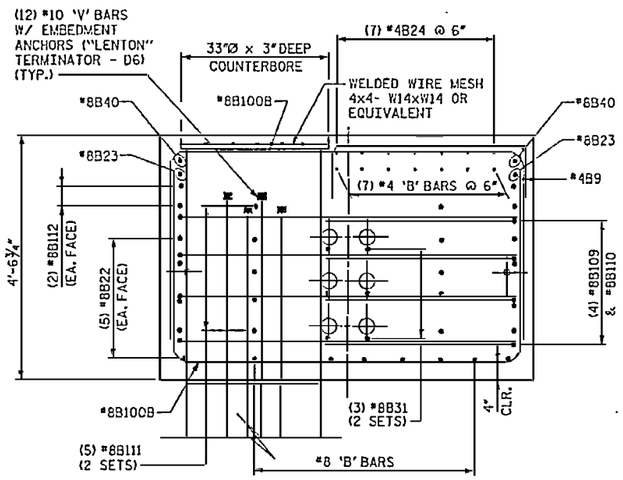


SECTION G-G

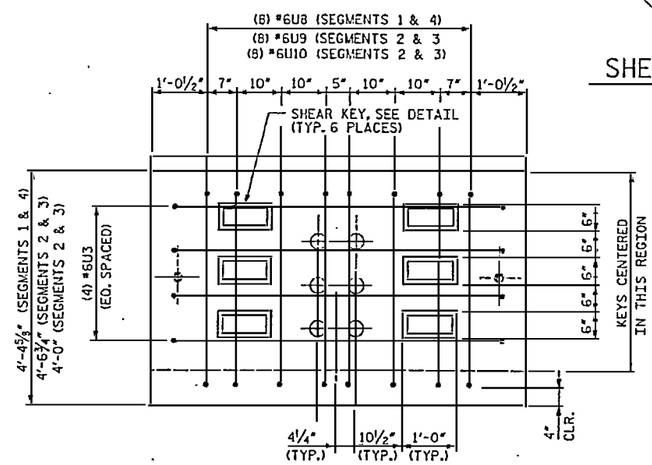
(ANCHORING BARS NOT SHOWN FOR CLARITY)



SECTION H-H

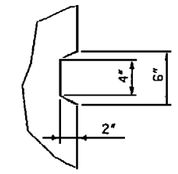


SECTION J-J

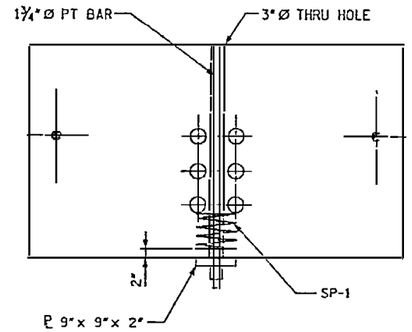


SECTION AT JOINT

(SEE SHEET NO. A2360)

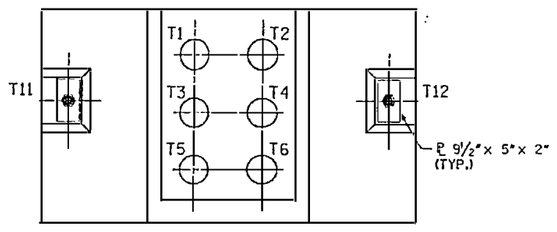


SHEAR KEY



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 1/22/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030878 JOHN W. JORDAN 1/22/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 2 OF 12 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAPS TYPE 4 & 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2361.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED — A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J.LIU DATE : 12/07

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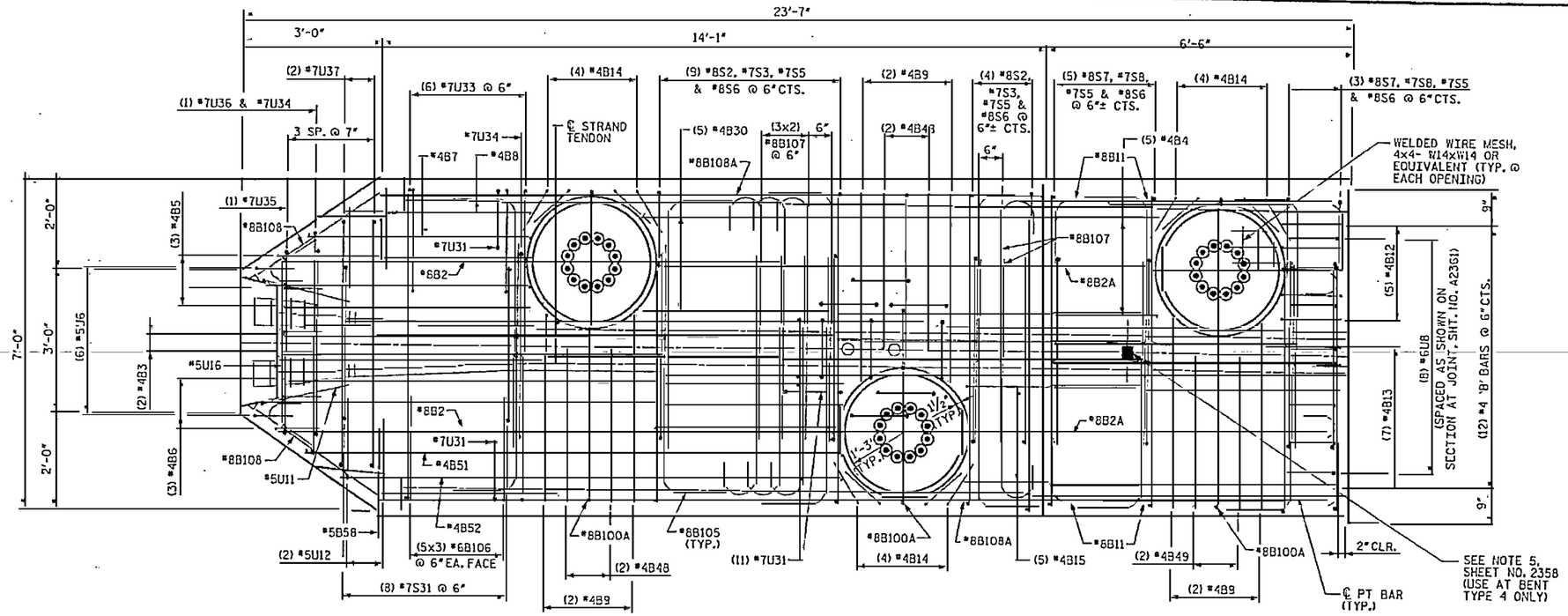
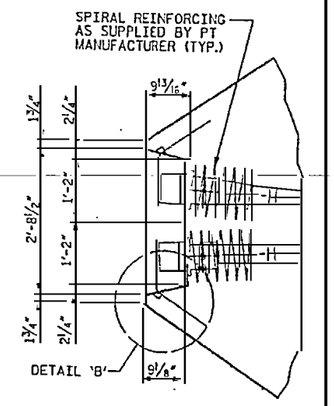


SEGMENT 1 - TOP PLAN

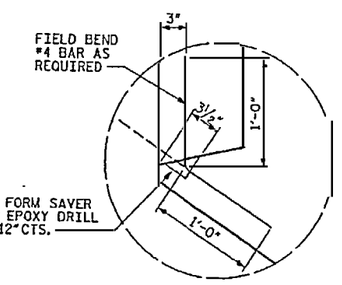
(SEGMENT 4, SIMILAR BY 180° ROTATION, ALSO SEE DETAIL 2 ON SHT. A2364 FOR PLACEMENT OF #8B107 & (11) #7U31 BARS AT PT ANCHORING BARS.)

NOTES:

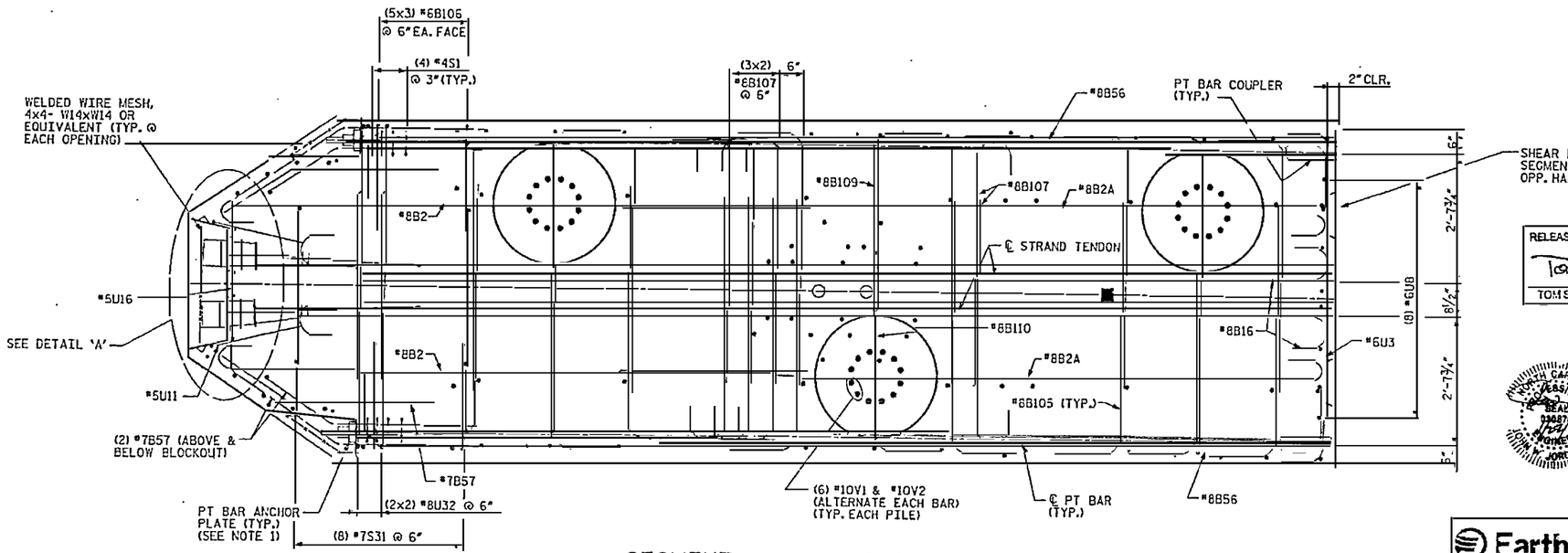
1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'



SEGMENT 1 - MID PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 1/27/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPES 4 & 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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FLATIRON/UNITED — A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2362.00
1			3			TOTAL SHEETS
2			4			

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CHECKED BY : J. LIU DATE : 12/07

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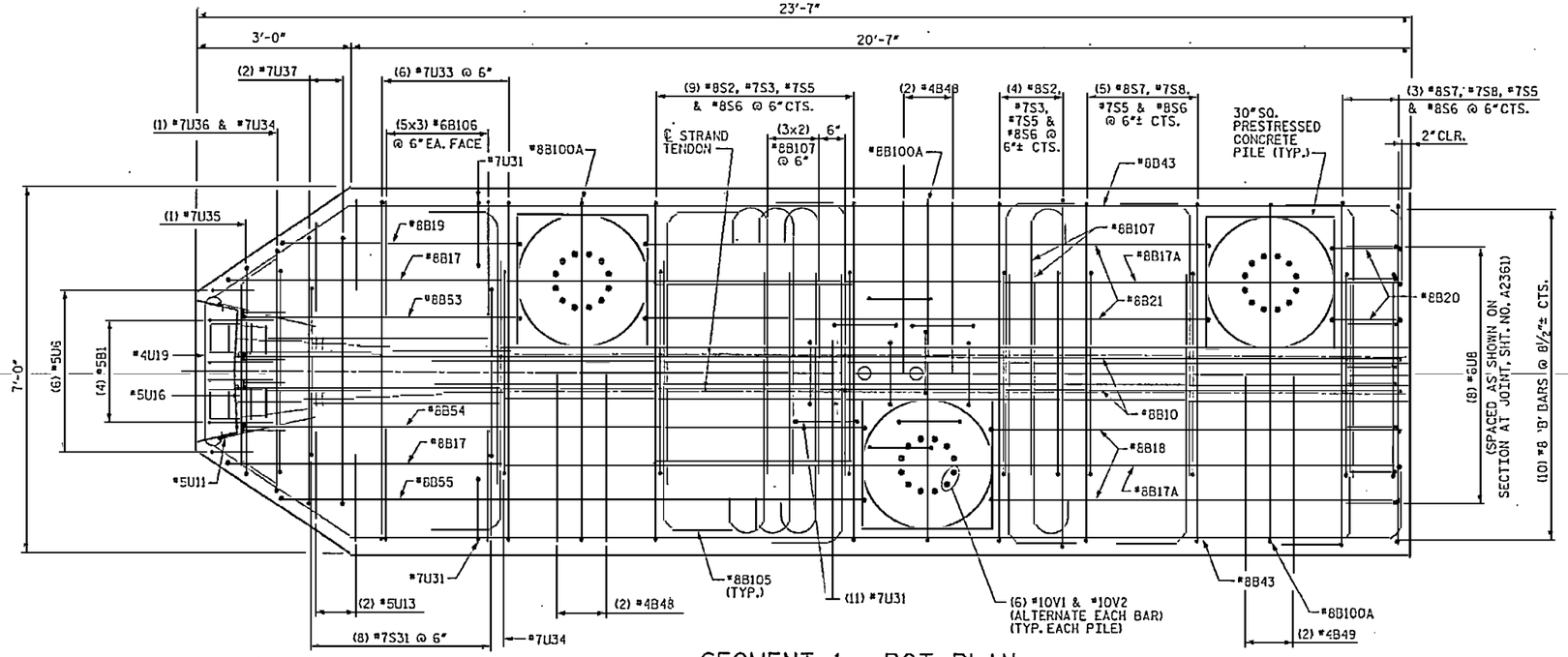
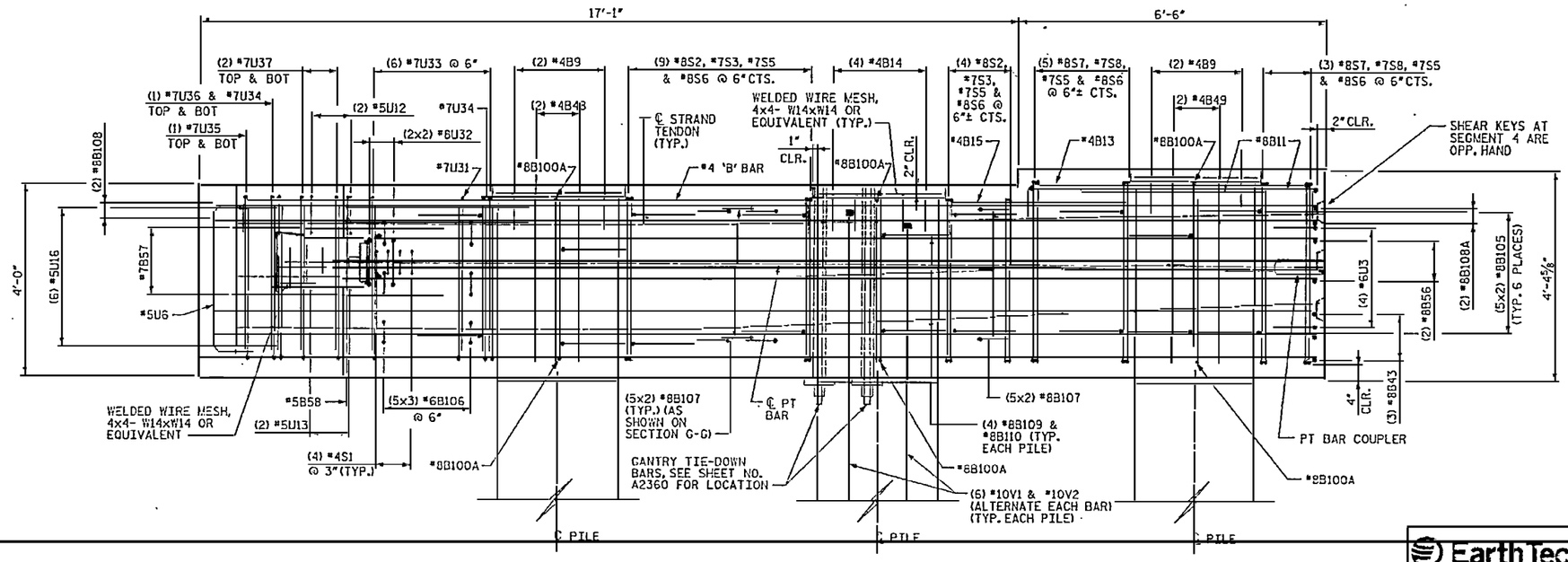


SEGMENT 1 - BOT PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)



SEGMENT 1 - ELEVATION

(SEGMENT 4, OPP. HAND)

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL SEAL #30878 ENGINEER TOM SHEARIN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE:

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
~~PILE CAP TYPES 4 & 7~~
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
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A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2363.00
1			3			TOTAL SHEETS
2			4			

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CHECKED BY : J.I.TU DATE : 12/07

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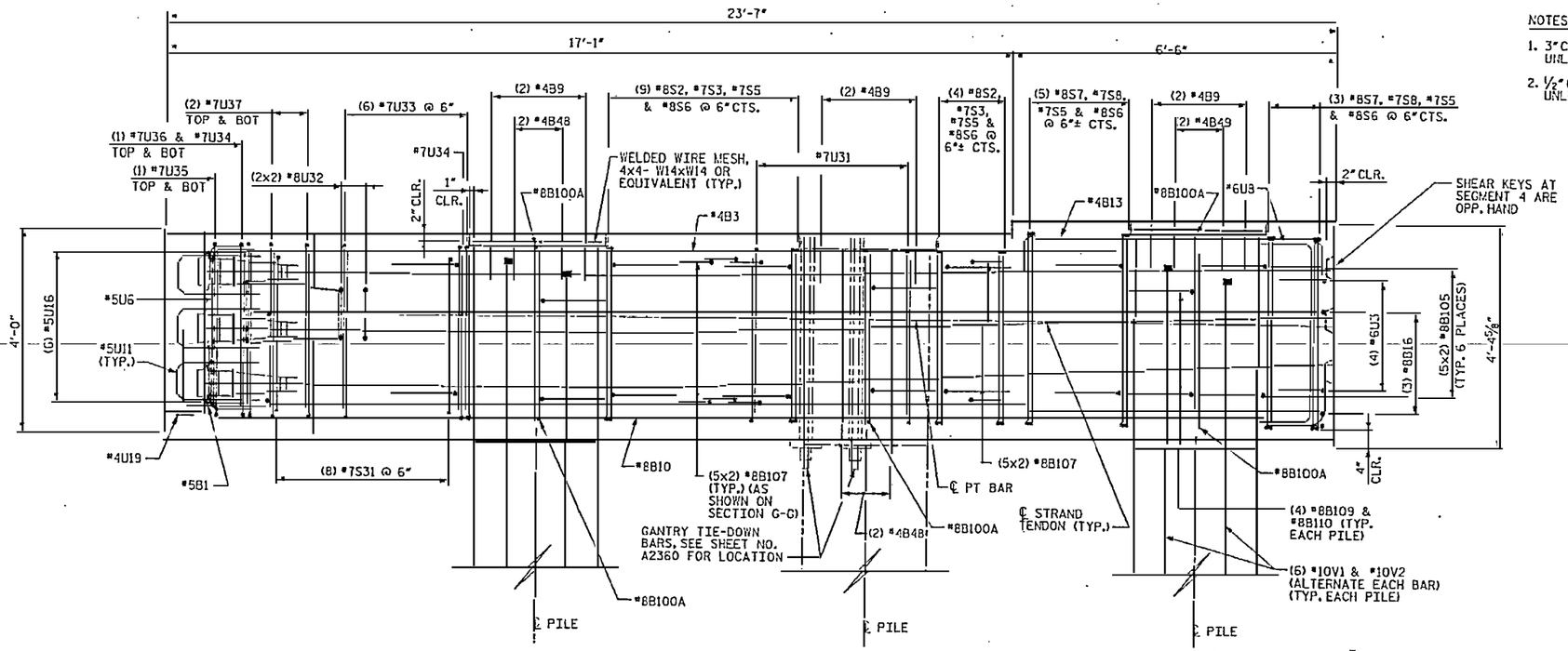
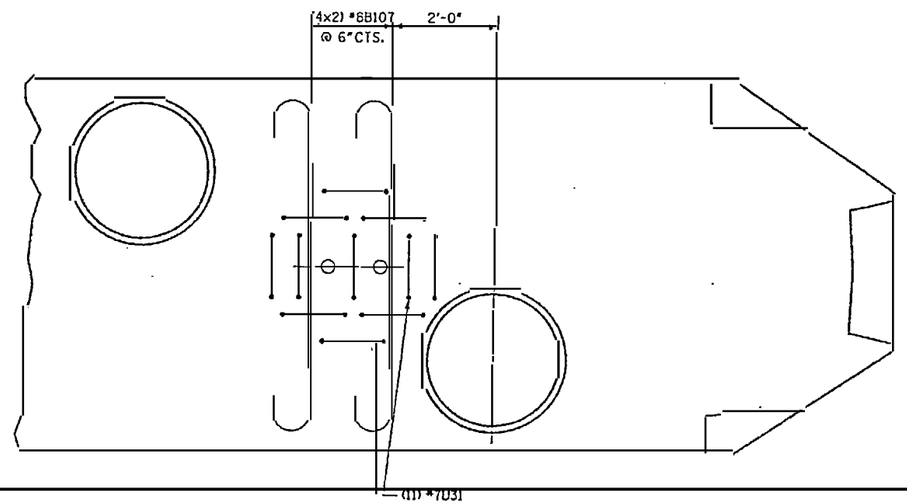


SEGMENT 1 - SECTION A1

(SEGMENT 4, SIMILAR)
(SEE SHEET NO. A2360)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL 2

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J. LTU DATE : 12/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 1/22/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE-~~ DETAILS
~~PILE CAP TYPES 4 & 7~~
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2364.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030676 JOHN W. JORDAN

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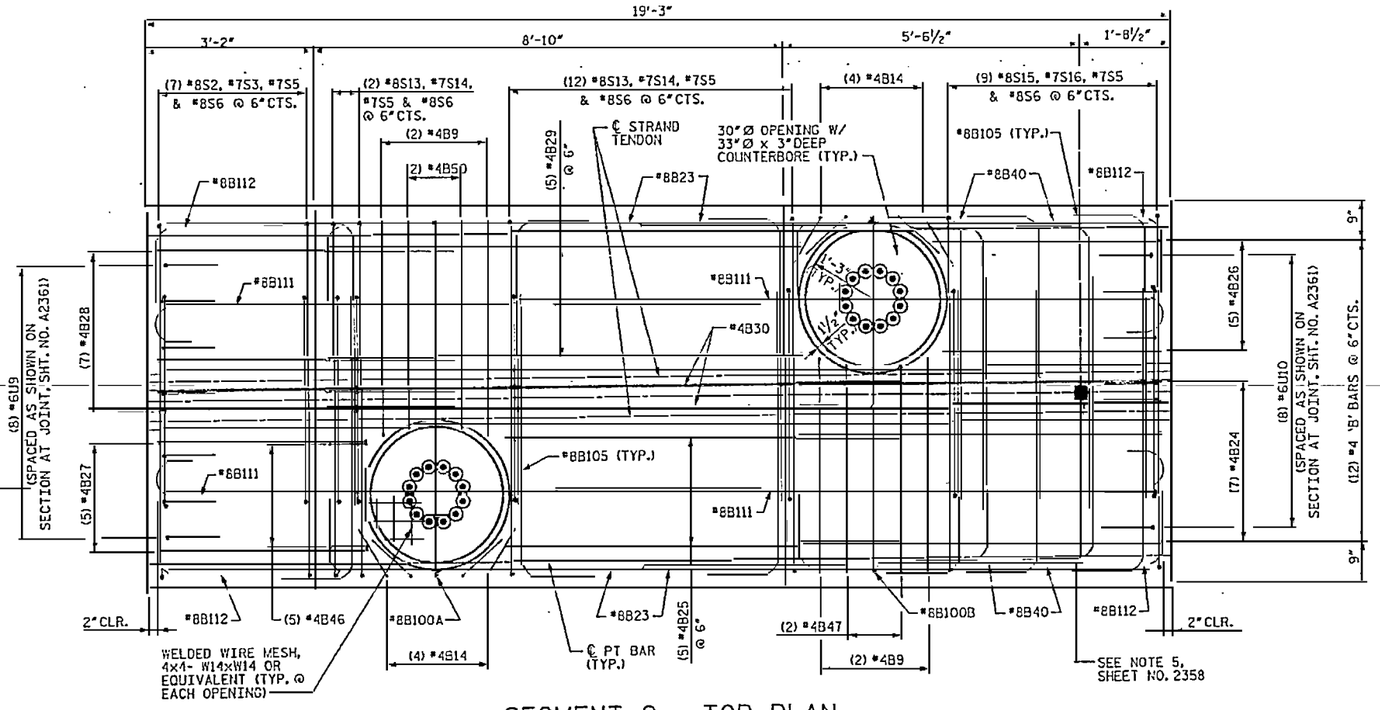
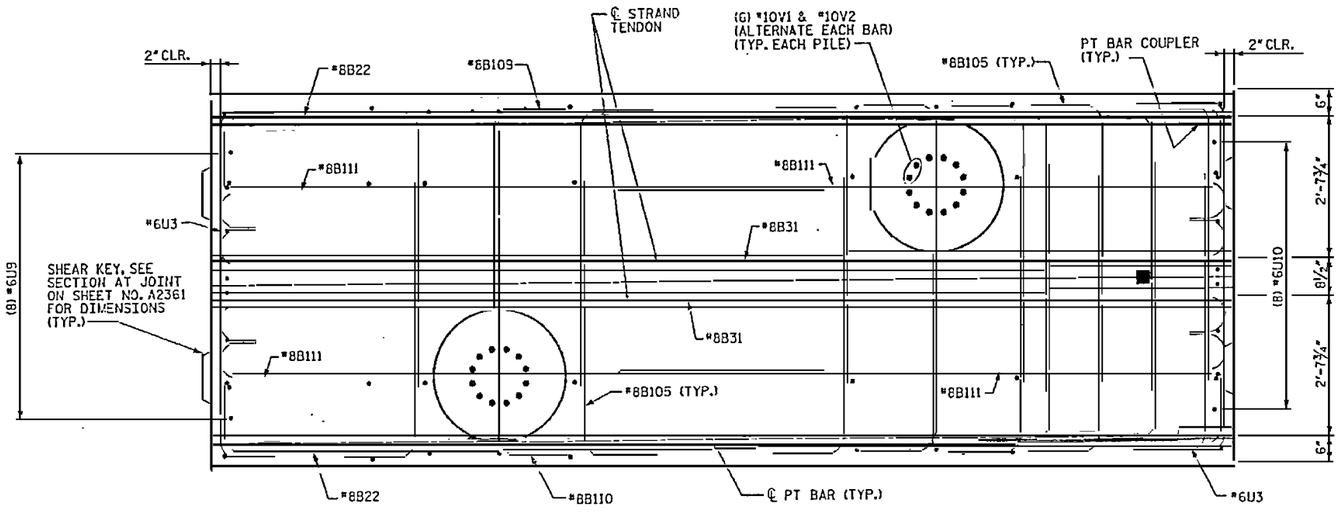


SEGMENT 2 - TOP PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - MID PLAN

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 6 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPES 4 & 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2365.00
1			3			TOTAL SHEETS
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FLATIRON/UNITED
A JOINT VENTURE

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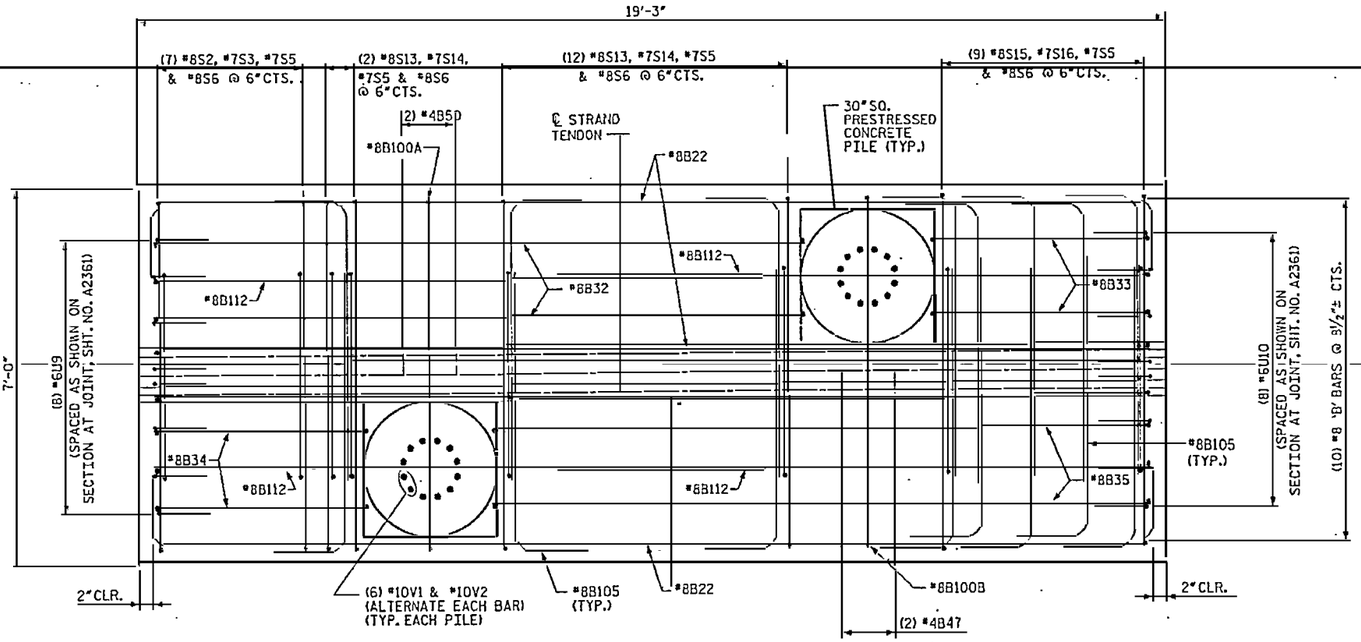
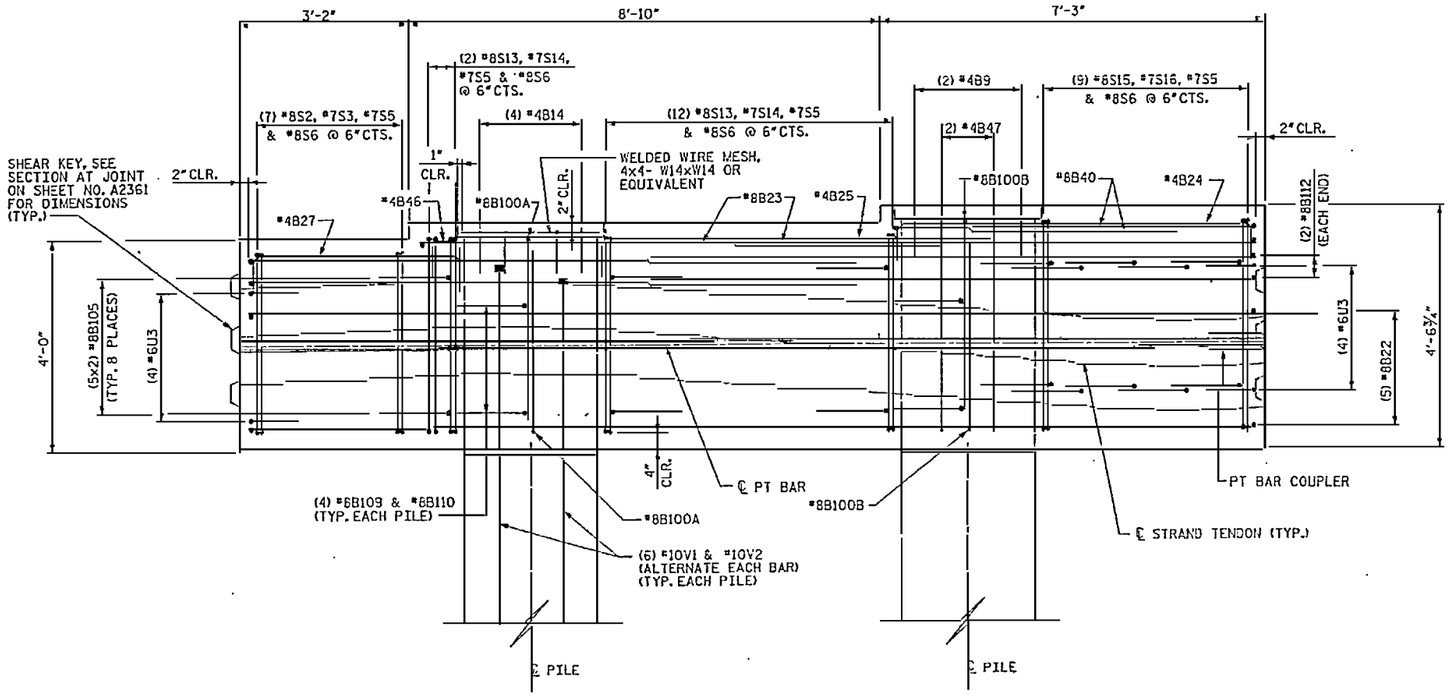


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. ~~3"CLEARANCE FOR ALL BARS AT EXTERIOR~~ FACES UNLESS OTHERWISE NOTED.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 12 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPES 4 & 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2366.00
1			3			TOTAL SHEETS
2			4			

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CHECKED BY : J.LIU DATE : 12/07

DATE 1/4/2008
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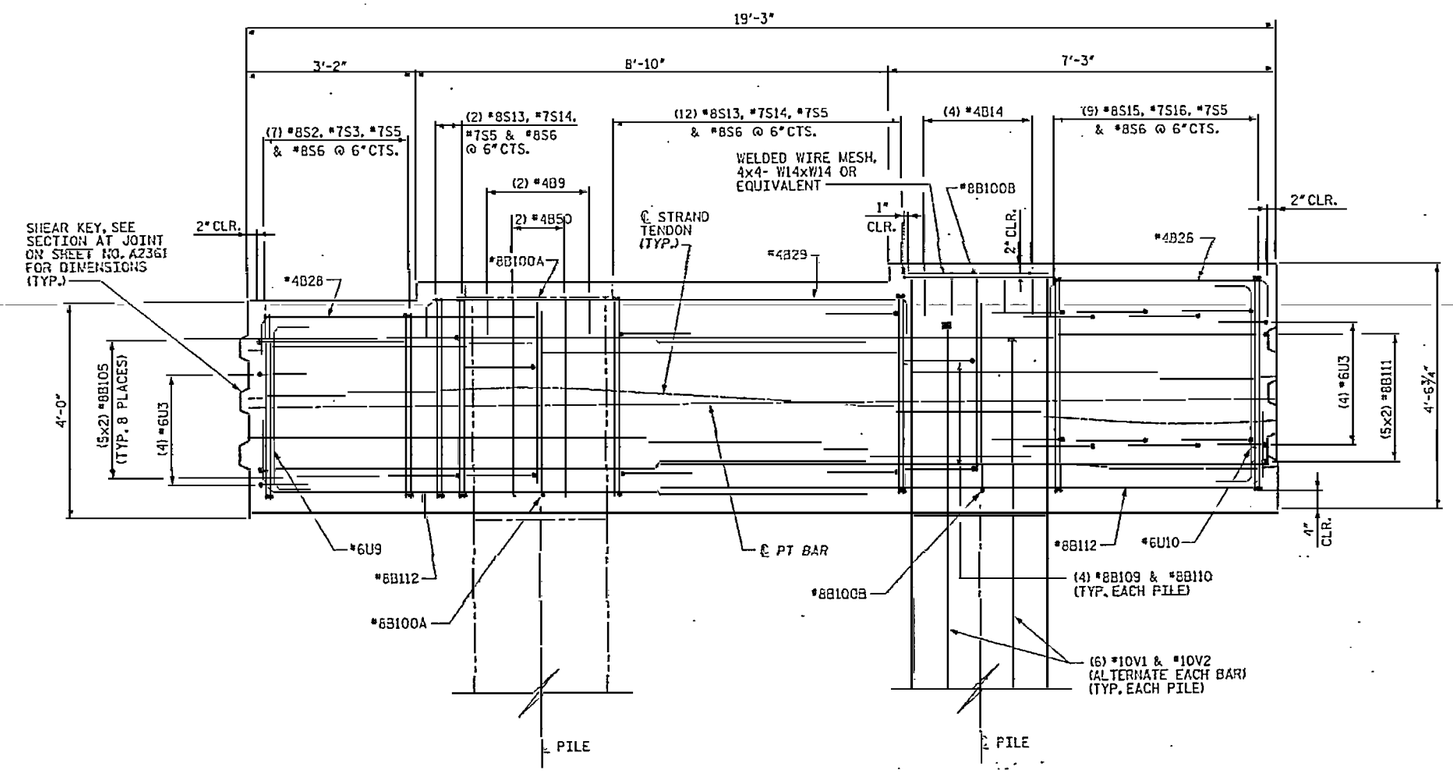

SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2360)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARN, PE — DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 8 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- *BRIDGE No. 2* -
~~ALTERNATE~~ DETAILS

PILE CAP TYPES 4 & 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2367.00
1			3			TOTAL SHEETS
2			4			

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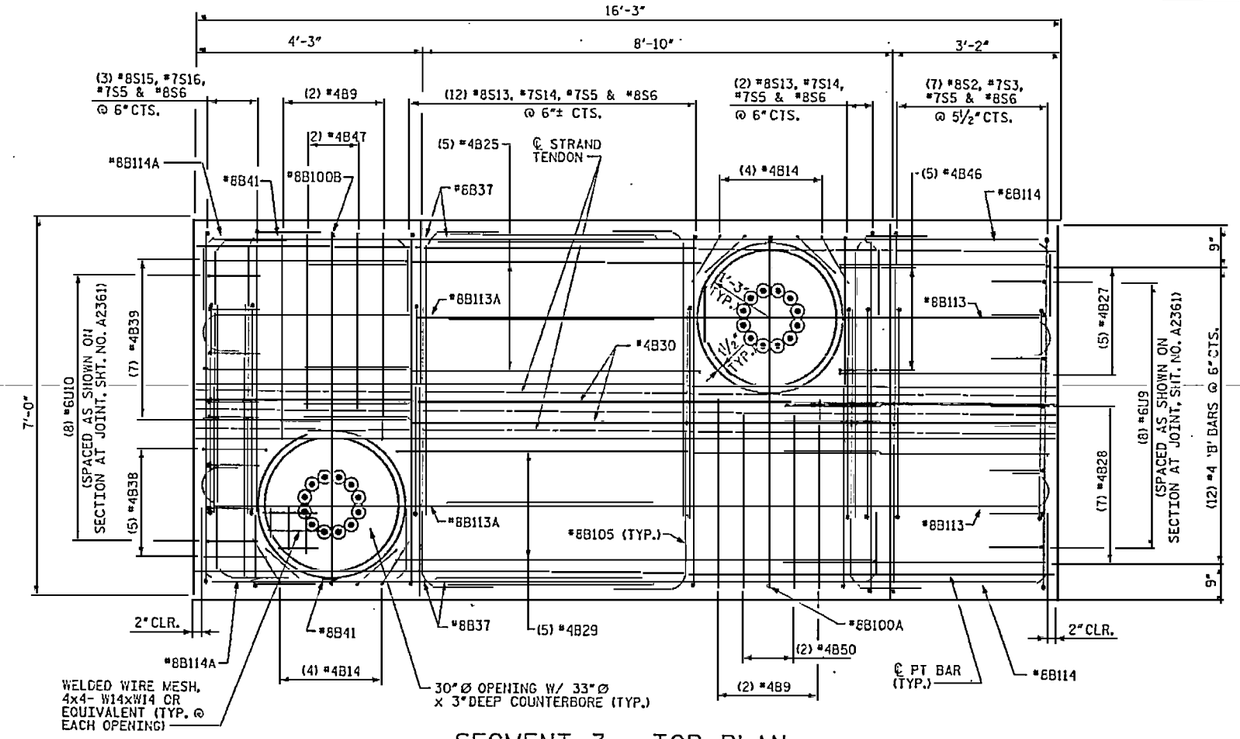

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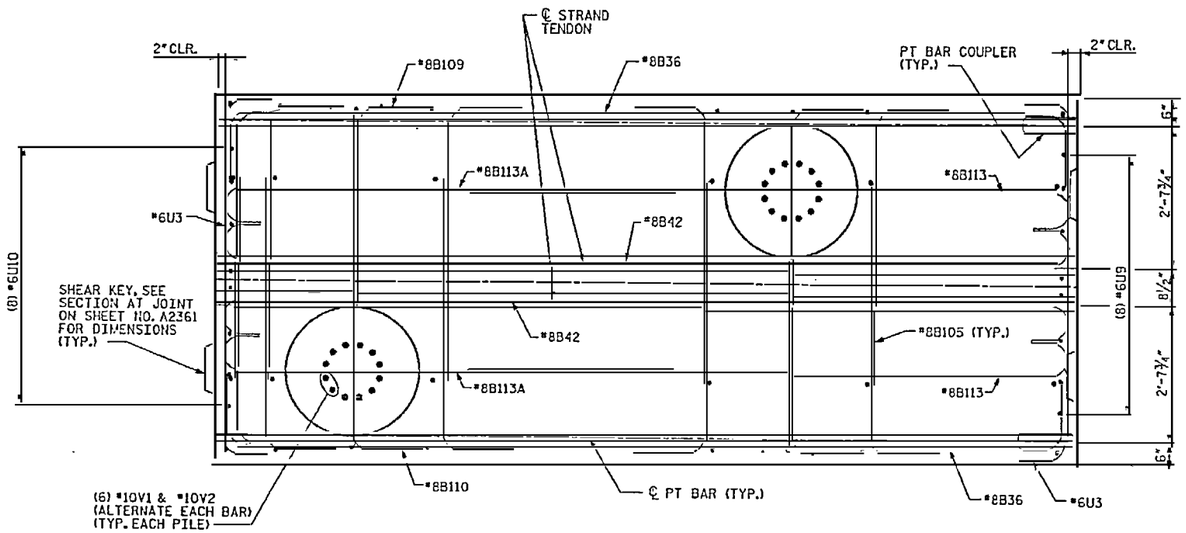

SEGMENT 3 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
~~PILE CAP TYPES 4 & 7~~
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2368.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BEITSLE DATE : 12/07
CHECKED BY : J. TH DATE : 12/07

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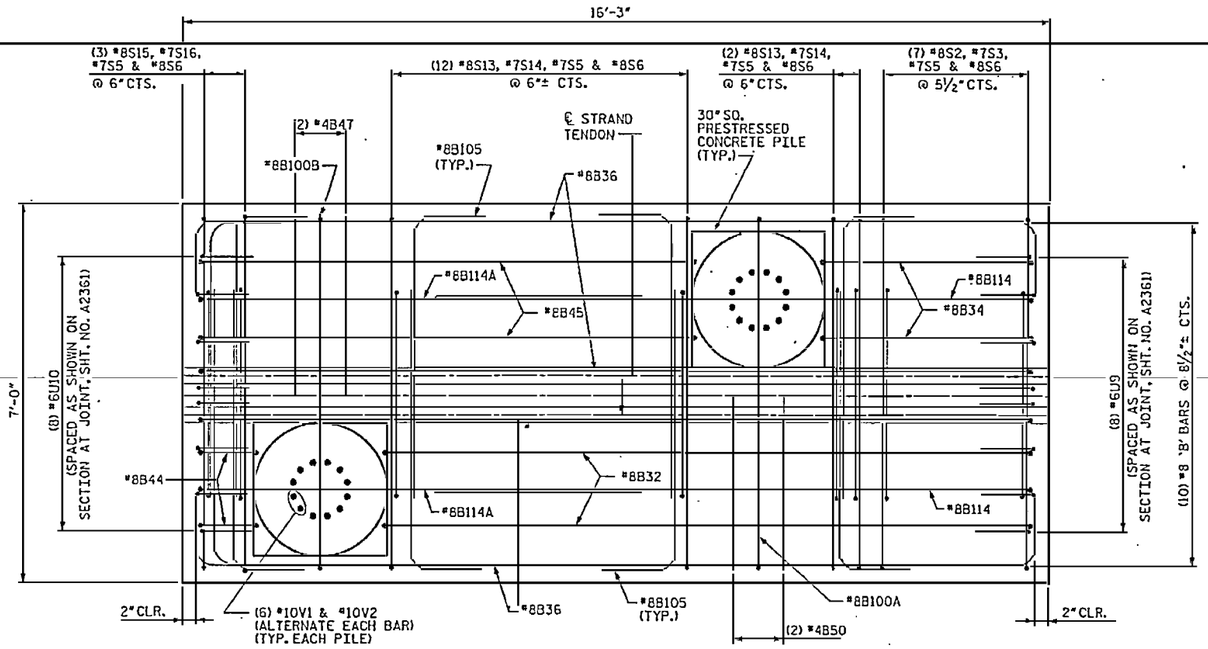
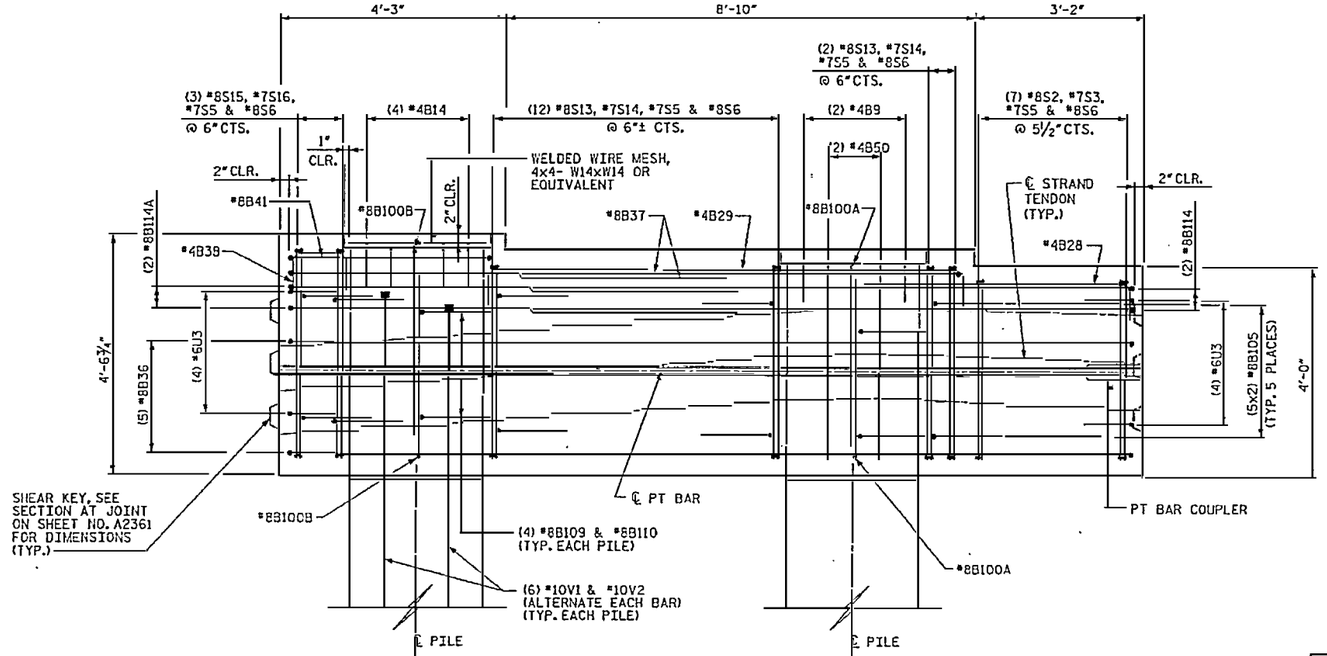


SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPES 4 & 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2369.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

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CHECKED BY : J. LITT DATE : 12/07

DATE: 1/4/2008
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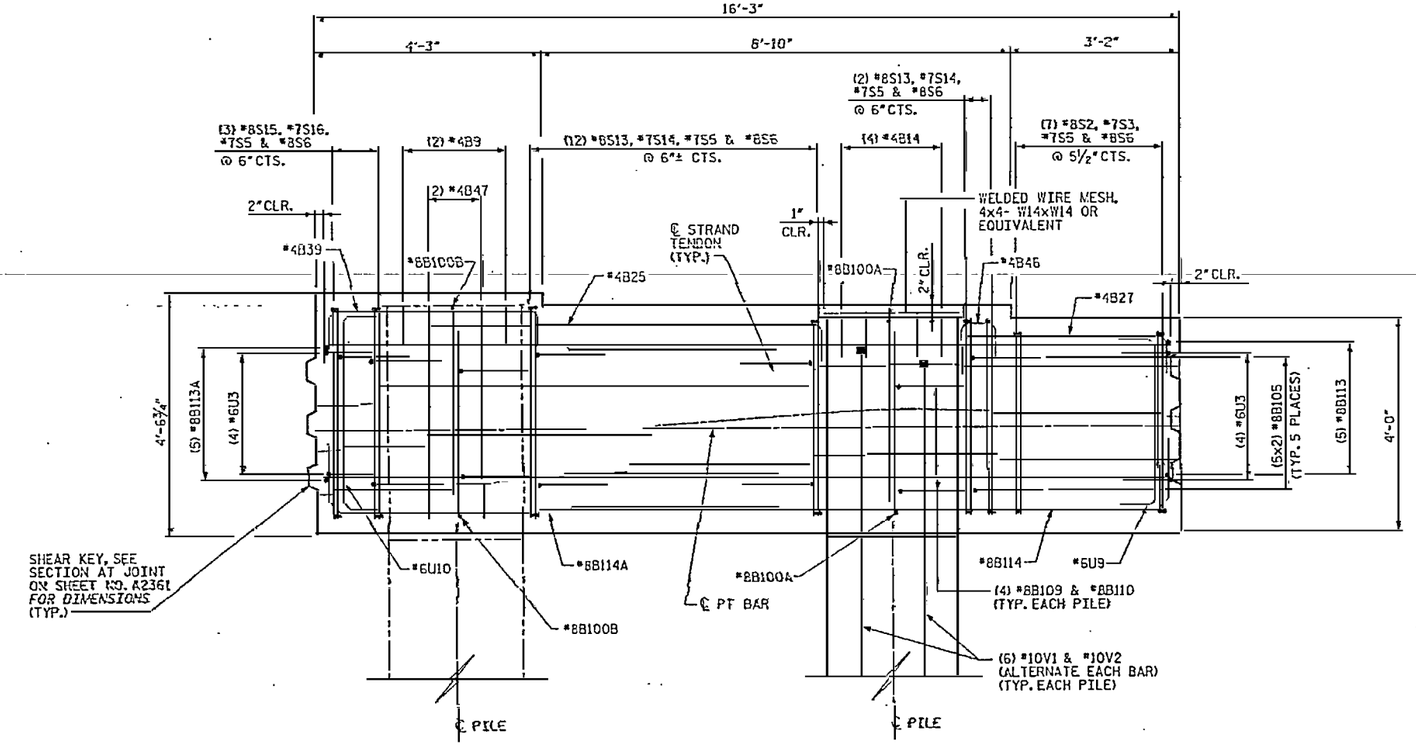

SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2360)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 11 OF 12 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPES 4 & 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2370.00
1						TOTAL SHEETS
2						

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J.LIU DATE : 12/07

DATE: 2/27/2007
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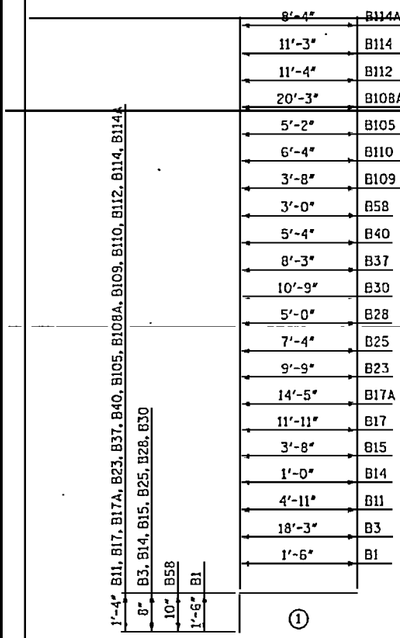
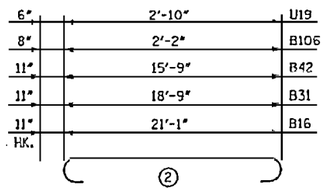
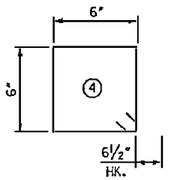
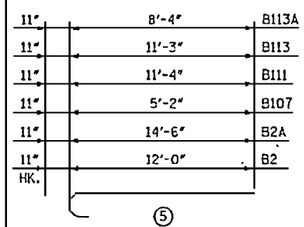
Utility information is shown for the convenience of the bidder and is not guaranteed to be complete or correct. Bidder is responsible for determining the existence and location of all utilities prior to bidding and construction.

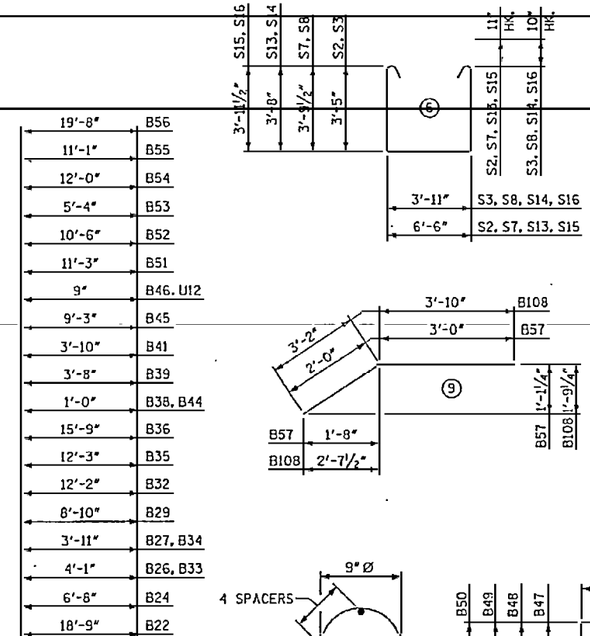
BAR TYPES

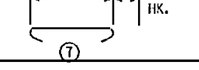


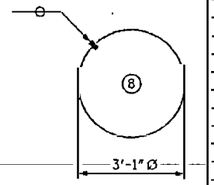


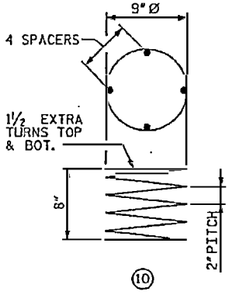


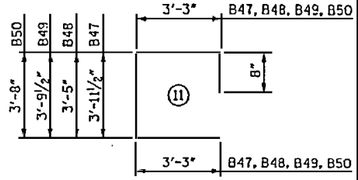


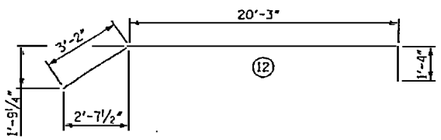


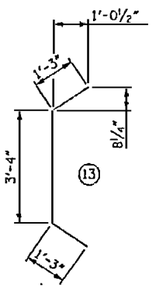












NOTES:

1. BARS USED AT PILES WHERE CAP DEPTH IS 4'-0", 4'-3⅜" OR 4'-4⅝".
2. BARS USED AT PILES WHERE CAP DEPTH IS 4'-6¾".

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	20	#8	(5)	12'-11"	690
B2A	20	#8	(5)	15'-5"	823
B3	4	#4	(1)	18'-11"	51
B4	10	#4	(3)	3'-5"	23
B5	6	#4	(3)	6'-7"	26
B6	6	#4	(3)	13'-3"	53
B7	2	#4	(3)	6'-0"	8
B8	2	#4	(3)	5'-4"	7
B9	20	#4	(3)	5'-3"	70
B10	4	#8	(3)	25'-1"	268
B11	8	#8	(1)	6'-3"	134
B12	10	#4	(3)	2'-7"	17
B13	14	#4	(3)	7'-3"	68
B14	40	#4	(1)	1'-8"	45
B15	10	#4	(1)	4'-4"	29
B16	12	#8	(2)	22'-11"	734
B17	4	#8	(1)	13'-3"	142
B17A	4	#8	(1)	15'-9"	168
B18	4	#8	(3)	10'-7"	113
B19	2	#8	(3)	7'-1"	38
B20	4	#8	(3)	3'-11"	42
B21	4	#8	(3)	13'-8"	146
B22	12	#8	(3)	21'-5"	686
B23	4	#8	(1)	11'-1"	118
B24	7	#4	(3)	8'-0"	37
B25	10	#4	(1)	8'-0"	53
B26	5	#4	(3)	5'-5"	18
B27	10	#4	(3)	5'-3"	35
B28	14	#4	(1)	5'-8"	53
B29	10	#4	(3)	10'-2"	68
B30	14	#4	(1)	11'-5"	107
B31	6	#8	(2)	20'-7"	330
B32	4	#8	(3)	14'-10"	158
B33	2	#8	(3)	6'-9"	36
B34	4	#8	(3)	6'-7"	70
B35	2	#8	(3)	14'-11"	80
B36	12	#8	(3)	17'-7"	563
B37	4	#8	(1)	9'-7"	102
B38	5	#4	(3)	2'-5"	8
B39	7	#4	(3)	5'-0"	23
B40	4	#8	(1)	6'-8"	71
B41	2	#8	(3)	6'-6"	35
B42	6	#8	(2)	17'-7"	282
B43	12	#8	(12)	24'-9"	793
B44	2	#8	(3)	3'-9"	20
B45	2	#8	(3)	11'-11"	64
B46	10	#4	(3)	2'-1"	14
B47	4	#4	(11)	11'-2"	30
B48	8	#4	(11)	10'-7"	57
B49	4	#4	(11)	11'-0"	29
B50	4	#4	(11)	10'-10"	29
B51	2	#4	(3)	12'-7"	17
B52	2	#4	(3)	11'-11"	16
B53	2	#8	(3)	8'-0"	43
B54	2	#8	(3)	14'-8"	78
B55	2	#8	(3)	13'-9"	73
B56	8	#8	(3)	22'-4"	477
B57	24	#7	(9)	5'-0"	245
B58	4	#5	(1)	3'-10"	16

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
[1] B100A	16	#8	(3)	13'-4"	570
[2] B100B	4	#8	(3)	13'-6"	144
B105	250	#8	(1)	6'-6"	4339
B106	60	#6	(2)	3'-6"	315
B107	80	#8	(5)	6'-1"	1299
B108	8	#8	(9)	7'-0"	150
B108A	8	#8	(1)	21'-7"	461
B109	40	#8	(1)	5'-0"	534
B110	40	#8	(1)	7'-8"	819
B111	20	#8	(5)	12'-3"	654
B112	12	#8	(1)	12'-8"	406
B113	10	#8	(5)	12'-2"	325
B113A	10	#8	(5)	9'-3"	247
B114	6	#8	(1)	12'-7"	202
B114A	6	#8	(1)	9'-8"	155
S1	16	#4	(4)	3'-3"	35
S2	40	#8	(6)	15'-2"	1620
S3	40	#7	(6)	12'-5"	1015
S5	96	#7	(3)	6'-3"	1226
S6	96	#8	(7)	8'-4"	2136
S7	16	#8	(6)	15'-11"	680
S8	16	#7	(6)	13'-2"	431
S13	28	#8	(6)	15'-8"	1171
S14	28	#7	(6)	12'-11"	739
S15	12	#8	(6)	16'-3"	521
S16	12	#7	(6)	13'-6"	331
S31	16	#7	(8)	9'-5"	308
U3	24	#6	(3)	8'-4"	300
U6	12	#5	(3)	4'-11"	62
U8	16	#6	(3)	5'-7"	134
U9	16	#6	(3)	5'-3"	126
U10	16	#6	(3)	5'-9"	138
U11	12	#5	(3)	4'-10"	60
U12	8	#5	(3)	4'-0"	33
U13	8	#5	(3)	4'-8"	39
U16	12	#5	(13)	5'-10"	73
U19	2	#4	(2)	3'-10"	5
U31	52	#7	(3)	7'-8"	815
U32	8	#8	(3)	11'-4"	242
U33	24	#7	(3)	12'-11"	634
U34	8	#7	(3)	10'-4"	169
U35	4	#7	(3)	10'-2"	83
U36	4	#7	(3)	11'-0"	90
U37	8	#7	(3)	11'-5"	187
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 12 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPES 4 & 7
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2371.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : ACT; PEC/SCE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

DATE 1/17/2008
TIME 2:48:03 PM

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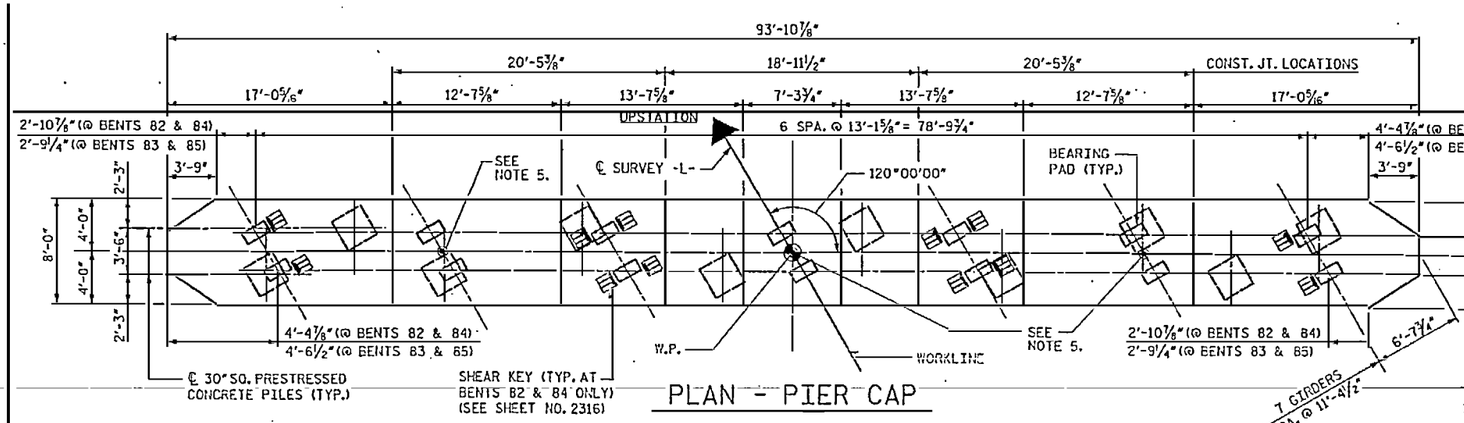
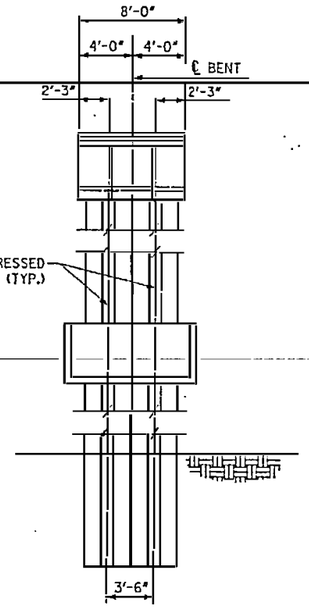
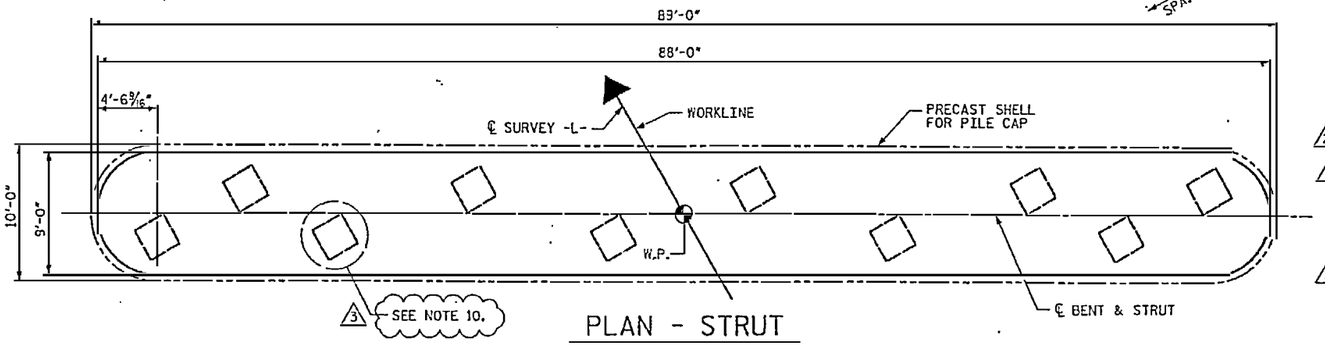


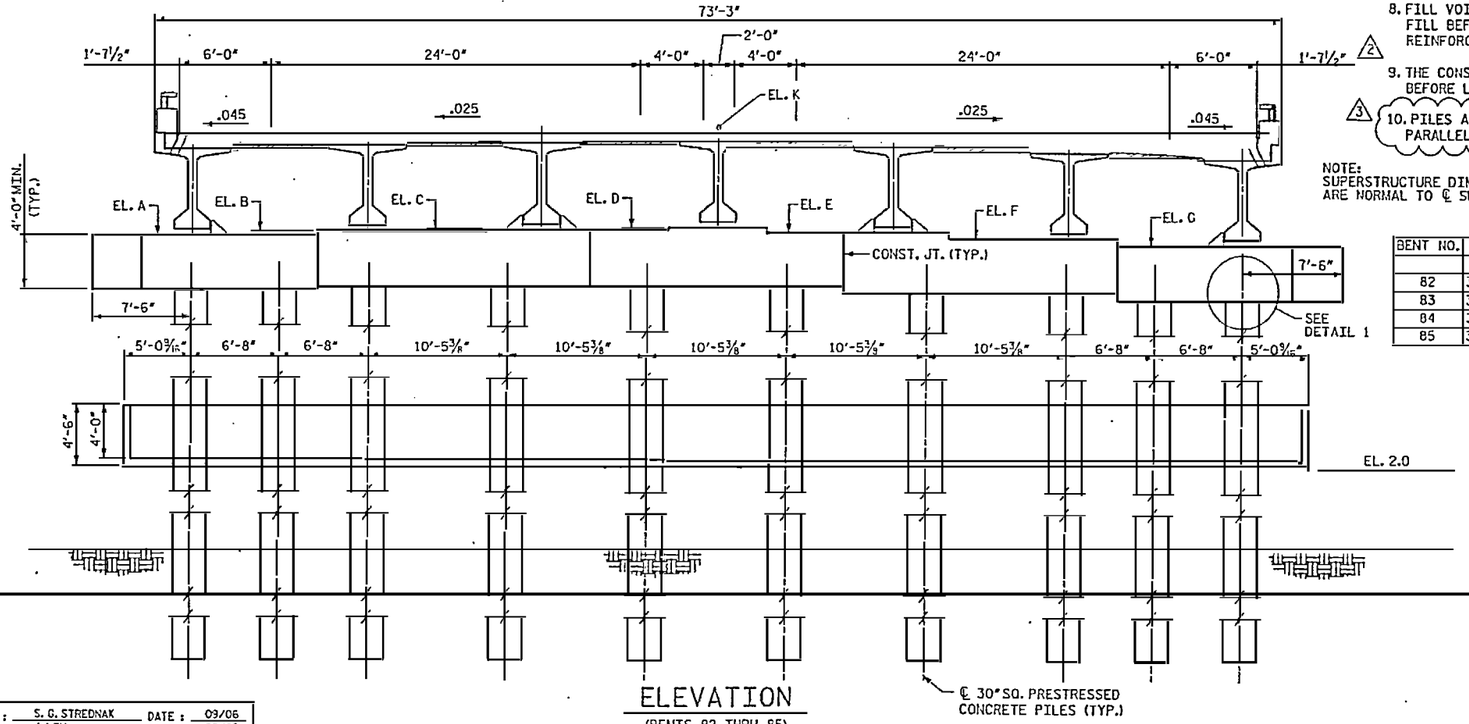
PLAN - PIER CAP



END ELEVATION



PLAN - STRUT



ELEVATION
(BENTS 82 THRU 85)

NOTE:
SUPERSTRUCTURE DIMENSIONS SHOWN ARE NORMAL TO ℄ SURVEY -L-.

BENT NO.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. E (ft)	EL. F (ft)	EL. G (ft)	EL. K (ft)
82	32.957	33.234	33.408	33.583	33.191	32.800	32.308	40.948
83	34.974	35.251	35.425	35.599	35.204	34.809	34.312	42.963
84	36.991	37.277	37.441	37.615	37.221	36.826	36.329	44.980
85	38.988	39.270	39.448	39.626	39.234	38.841	38.345	46.990

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
2 1 5. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB, BARS ONLY AT BENT NO. 83 & 85.
6. PROVIDE AN EPOXY PROTECTIVE COATING ON BENTS 82 & 84 PILE CAP. SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.
3 7. FOR STRUT REINFORCEMENT AT BENT 82, SEE STRUT TYPE 1 ON SHEET NOS. 2616 THRU 2620 AND AT BENTS 83 THRU 85, SEE STRUT TYPE 1A ON SHEET NOS. 2616A THRU 2620A. FOR PRECAST SHELL REINFORCEMENT FOR TYPE 1, SEE SHEET NOS. 2606 & 2607 AND FOR TYPE 1A, SEE SHEET NOS. 2606A & 2607A.
8. FILL VOIDS INSIDE PILES TO EL. 12.00 WITH FLOWABLE FILL BEFORE CORING THROUGH THE PILES FOR STRUT REINFORCEMENT.
9. THE CONSTRUCTION OF BOTH STRUT AND CAP SHALL BE COMPLETE BEFORE LAUNCHING TRUSS MOVES ON THE PIER.
3 10. PILES AS SHOWN ARE AT BENT 82 ONLY. PILES ARE ROTATED PARALLEL TO ℄ BENT AT BENTS 83 THRU 85.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

1 REVISION TO BENT CAP SHAPE, AND NOTE NO. 5.
2 REVISION TO NOTE NO. 5, AND ADDED NOTE NO. 9.
3 REVISION TO NOTE NO. 7, AND ADDED NOTE NO. 10.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 5
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	7/6/07	3	MTB	3/3/08
2	MTB	10/5/07	4		

SHEET NO. 2373.03
TOTAL SHEETS

DRAWN BY : S. G. STREDNAK DATE : 09/06
CHECKED BY : J. LIU DATE : 09/06

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FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL 030678 ENGINEER JOHN W. JORDAN

DATE: 3/3/2008
FILE: A1560 PM

USER: mtbenton
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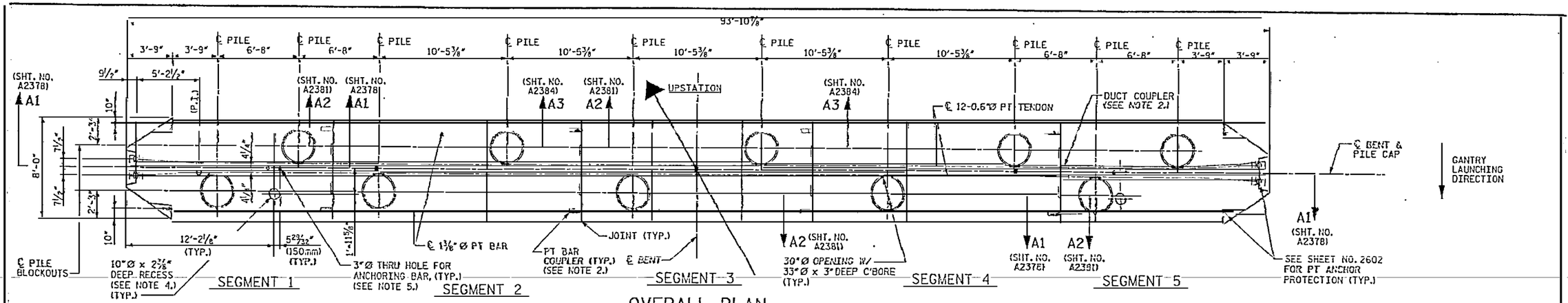
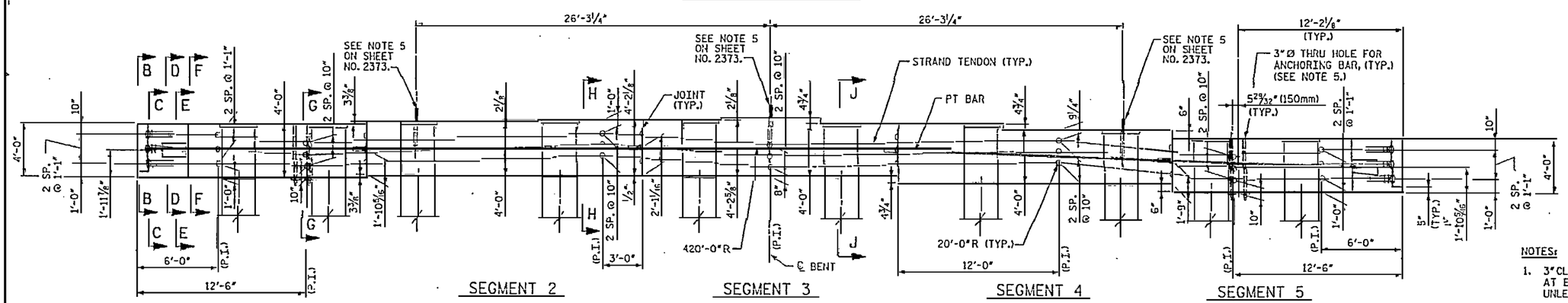
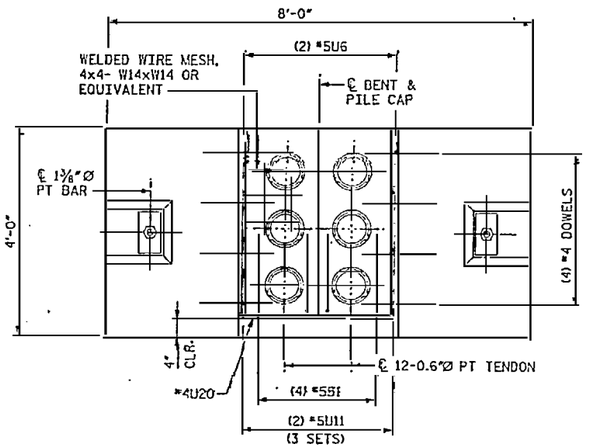


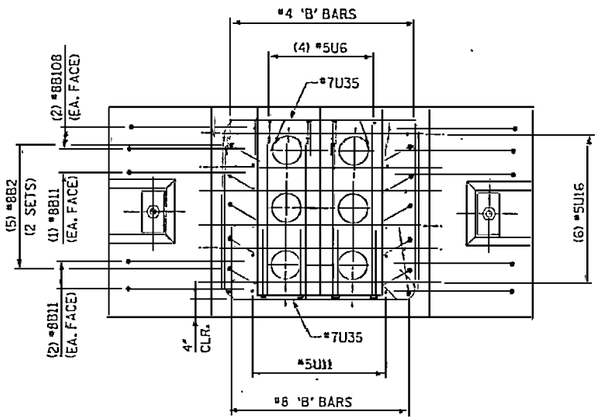
OVERALL PLAN



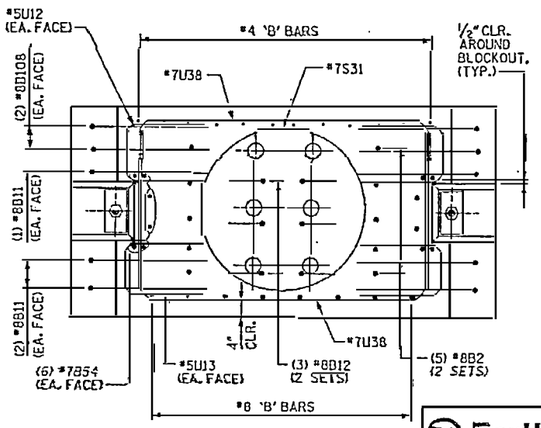
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/16
TOM SHEARIN, PE DATE

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. RECESS TO GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
5. SEE DETAIL AT ANCHORING BAR ON SHEET A2375. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.

NORTH CAROLINA ENGINEER SEAL 036871 JOHN F. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2374.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.I.TU DATE : 01/09

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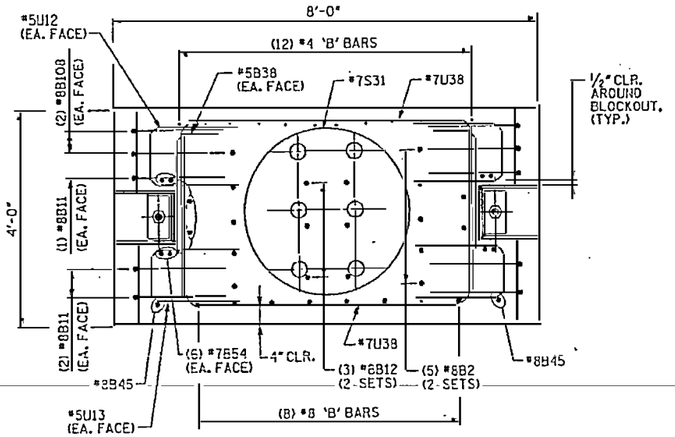
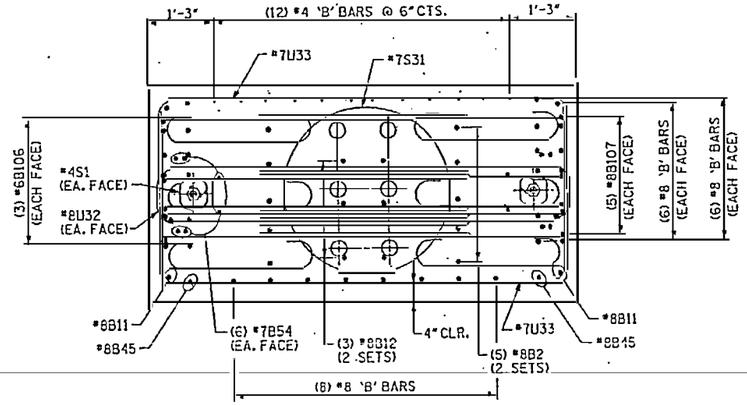
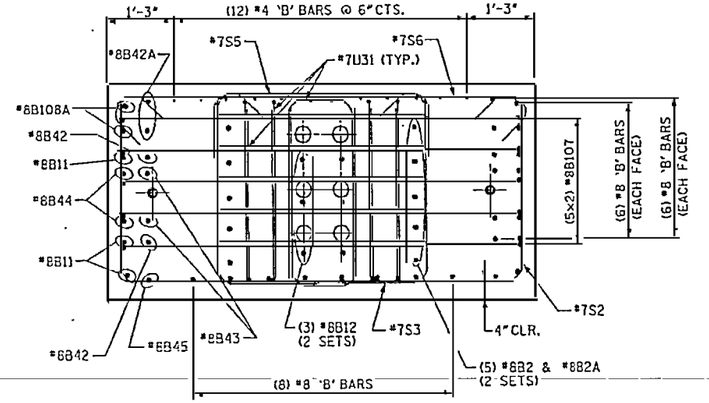


SECTION E-E

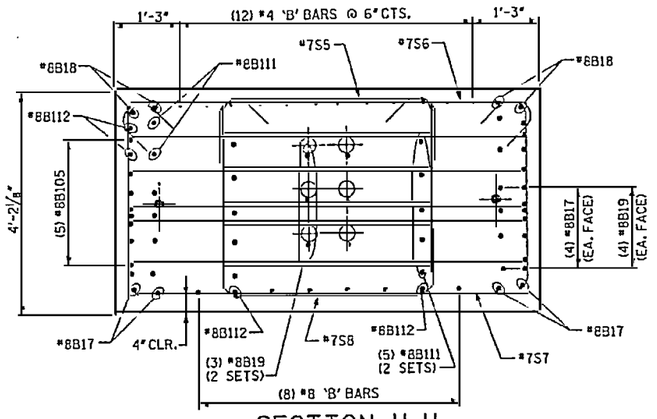


SECTION F-F

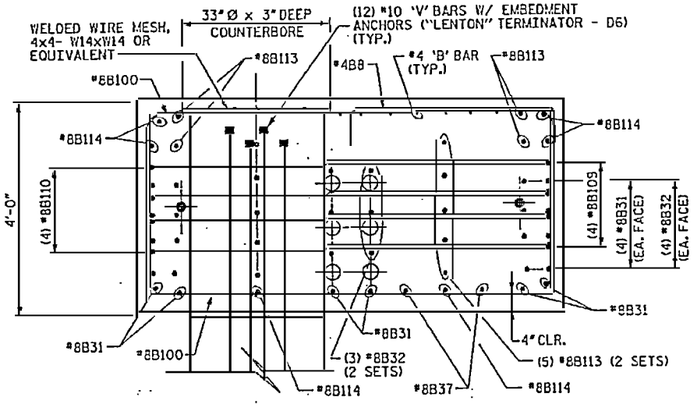


SECTION G-G

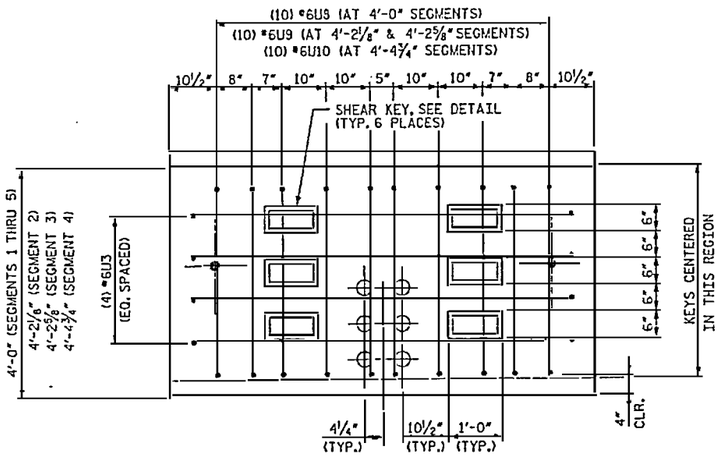
(ANCHORING BARS NOT SHOWN FOR CLARITY)



SECTION H-H



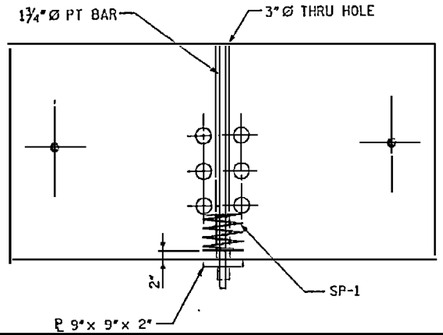
SECTION J-J



SECTION AT JOINT

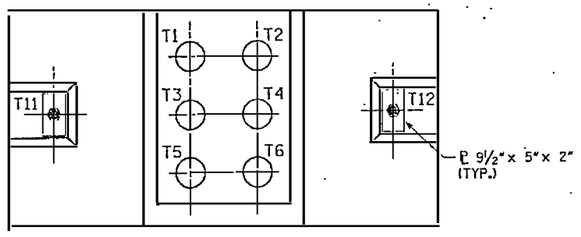
(SEE SHEET NO. A2374)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)

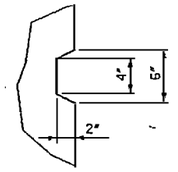


TENDON LAYOUT

1. T11 AND T12 SHALL BE 1 3/4"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS, FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1/2" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SHEAR KEY

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE DETAILS~~
PILE CAP TYPE 5
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

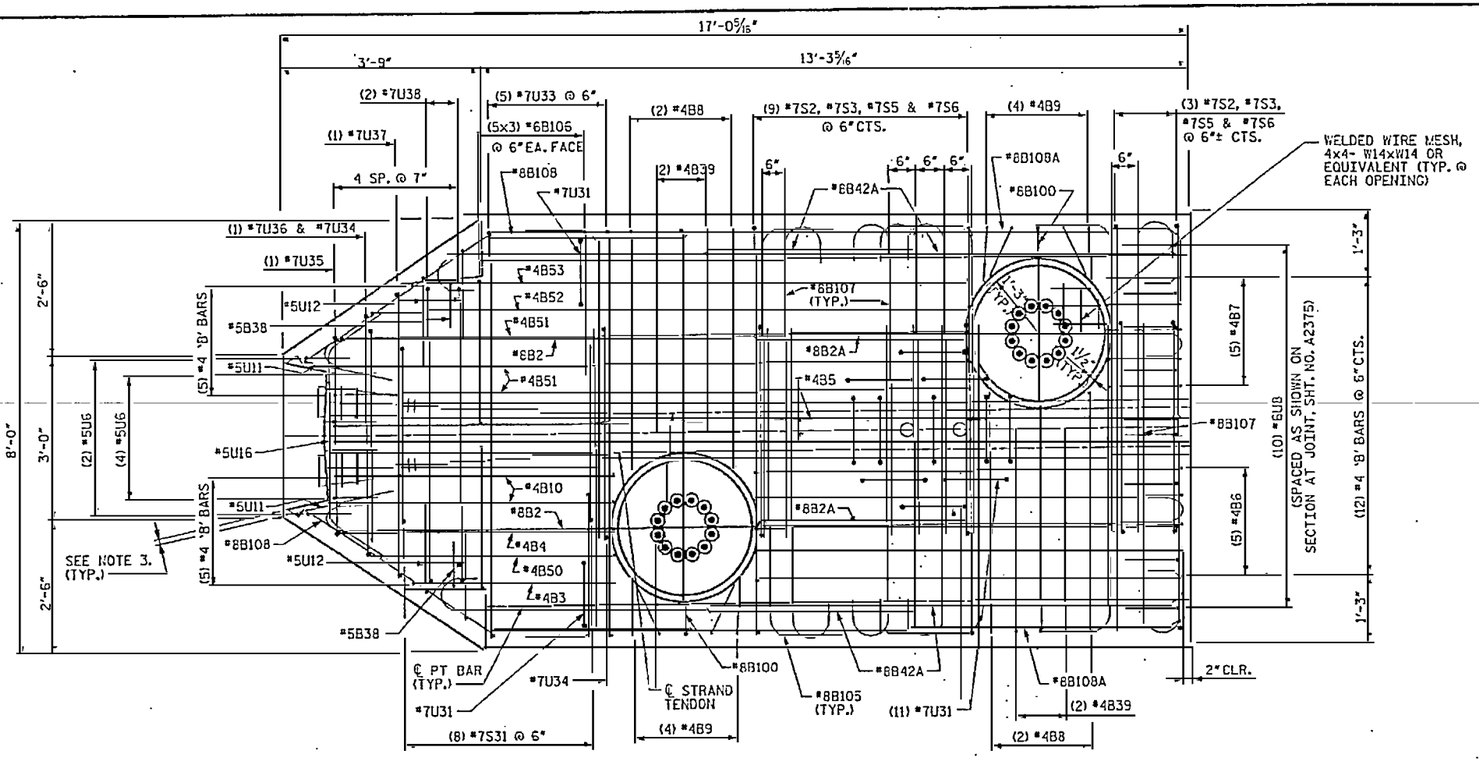
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2375.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/09

Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

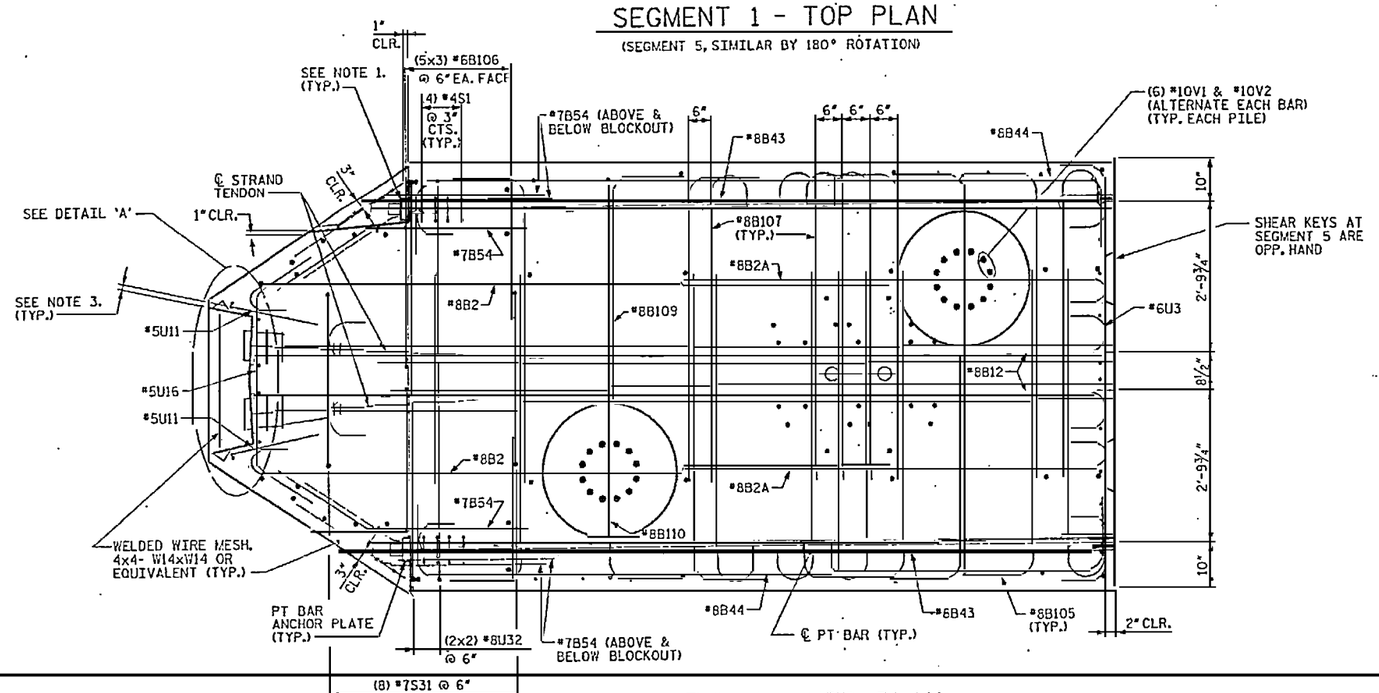
DATE: 10/4/2008
FILE: t2s433 a4

USER: pthacker
DGN: t:\Structure\Tar River Bridge\CADD\t2s433_SD_PILE_DETAILS.dgn



SEGMENT 1 - TOP PLAN

(SEGMENT 5, SIMILAR BY 180° ROTATION)

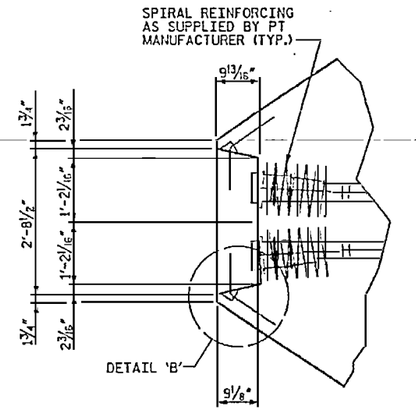


SEGMENT 1 - MID PLAN

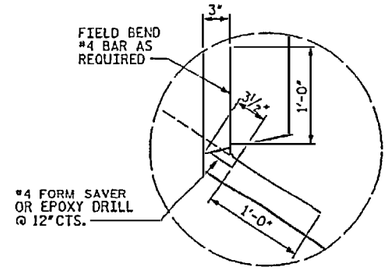
(SEGMENT 5, SIMILAR BY 180° ROTATION)

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL 'A'



DETAIL 'B'

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 12 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE DATE 1/22/08

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

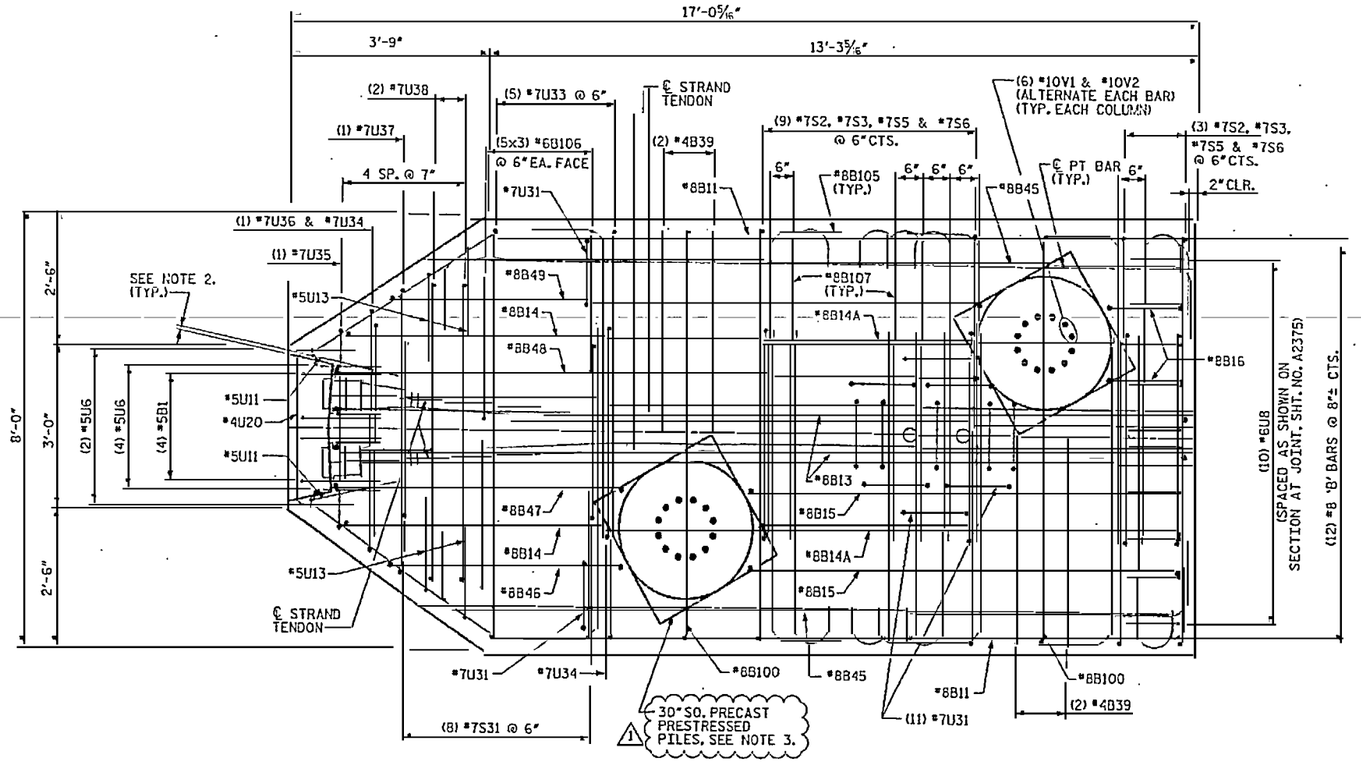
SHEET NO. A2376.00

TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DATE: 1/22/2008
TIME: 10:51:11 AM

USER: mbelisle
DGN: N:\Structure\Projects\R-2510B\Roadway\Structures\Bridge #2\Sheets\R2510B_SD_BSH_ST5-DETSheet.dgn



SEGMENT 1 - BOT PLAN

(SEGMENT 5, SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.
3. ⚠1 PILES AS SHOWN ARE AT BENT 82 ONLY. PILES ARE ROTATED PARALLEL TO ℄ BENT AT BENTS 83 THRU 85.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

⚠1 ADDED NOTE 3.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 4 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2377.01
1	MTB	3/3/08	3			TOTAL SHEETS
			4			

EarthTech
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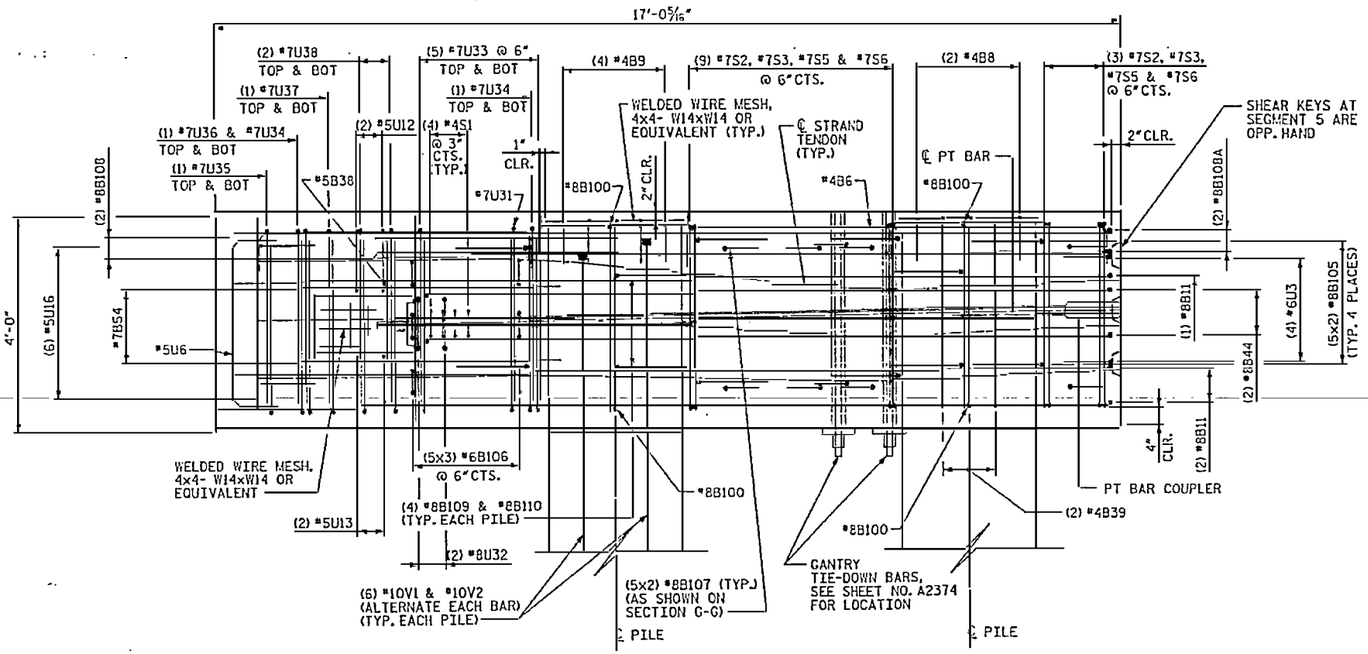
FLATIRON/UNITED
A JOINT VENTURE

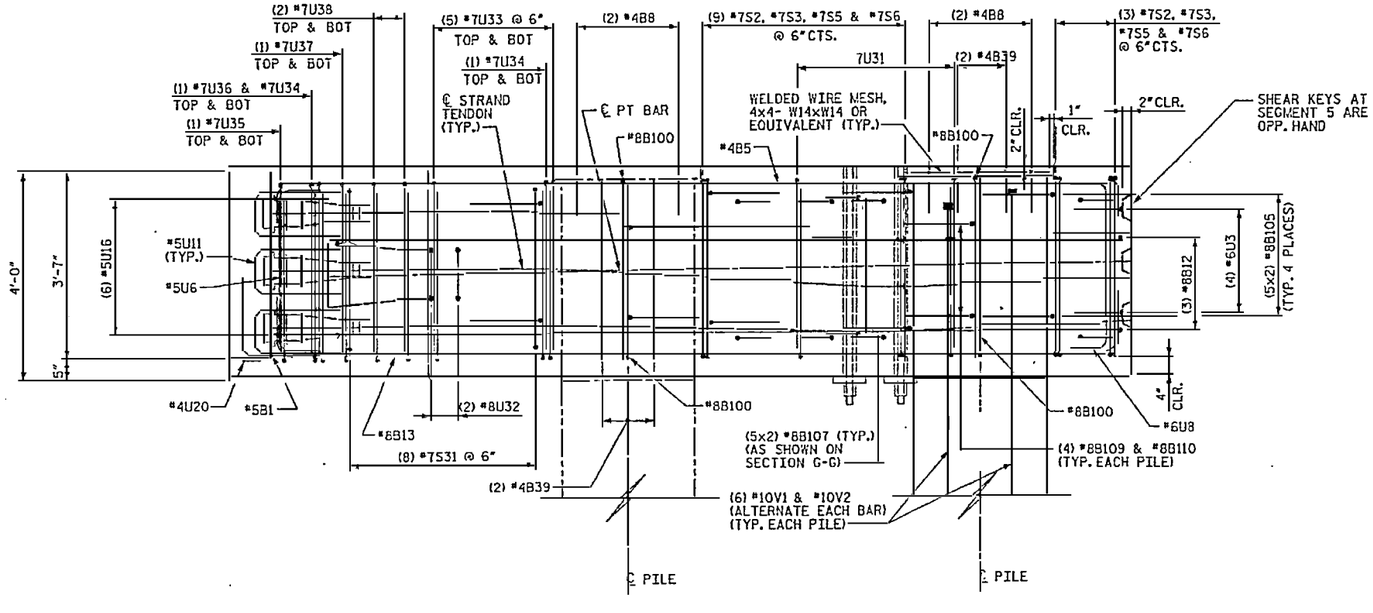
DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DATE: 3/3/2008
TIME: 10:23 PM
USER: mbelisle
DGN: N:\Structure\Yr Tar River Bridge\CADD\ESIGN\SD_SOLIDS_LIFTS-DET.dgn



SEGMENT 1 - ELEVATION

(SEGMENT 5, OPP. HAND)



SEGMENT 1 - SECTION A1

(SEGMENT 5, SIMILAR)
(SEE SHEET NO. A2374)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030878 JOHN W. JORDAN, JR.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2376.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BEITSLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

USER: mtbeitsle
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DATE: 1/22/2008
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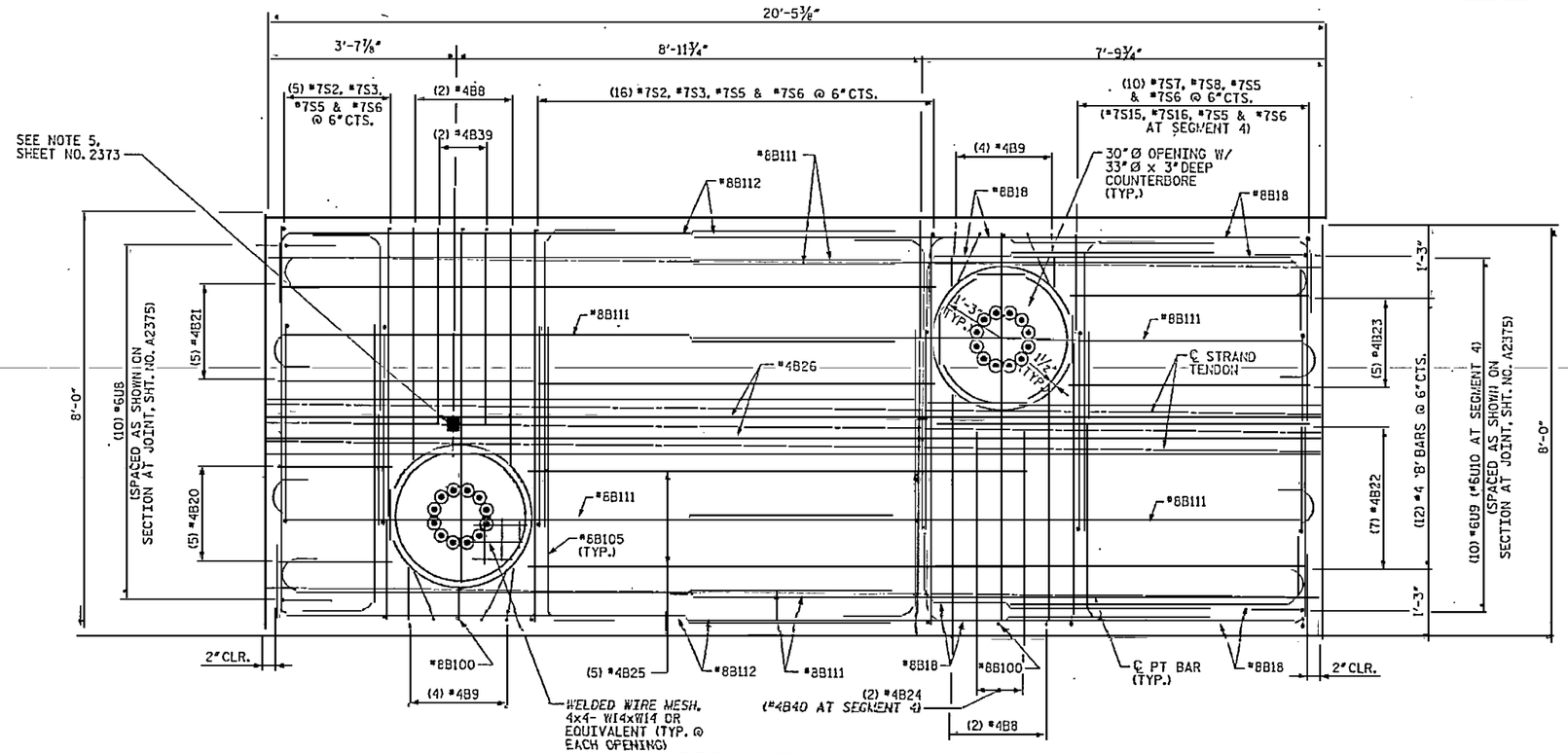
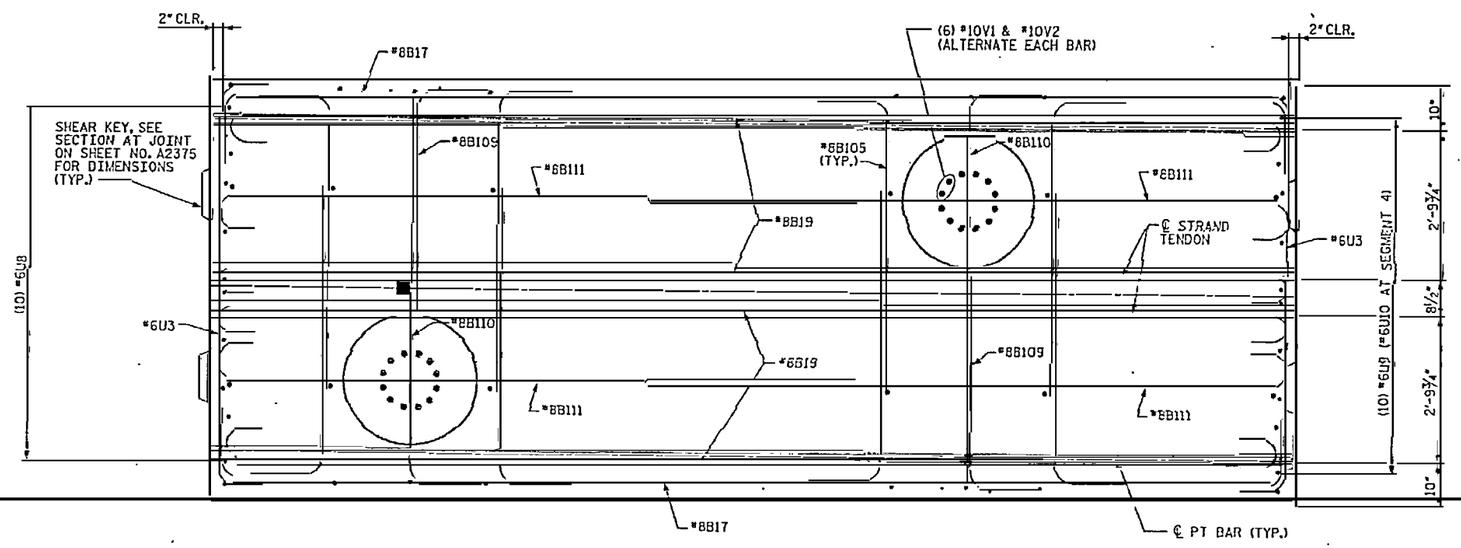


SEGMENT 2 - TOP PLAN

(SEGMENT 4 - TOP PLAN, SIMILAR BY 180° ROTATION)



SEGMENT 2 - MID PLAN

(SEGMENT 4 - MID PLAN, SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

DRAWN BY : M. T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

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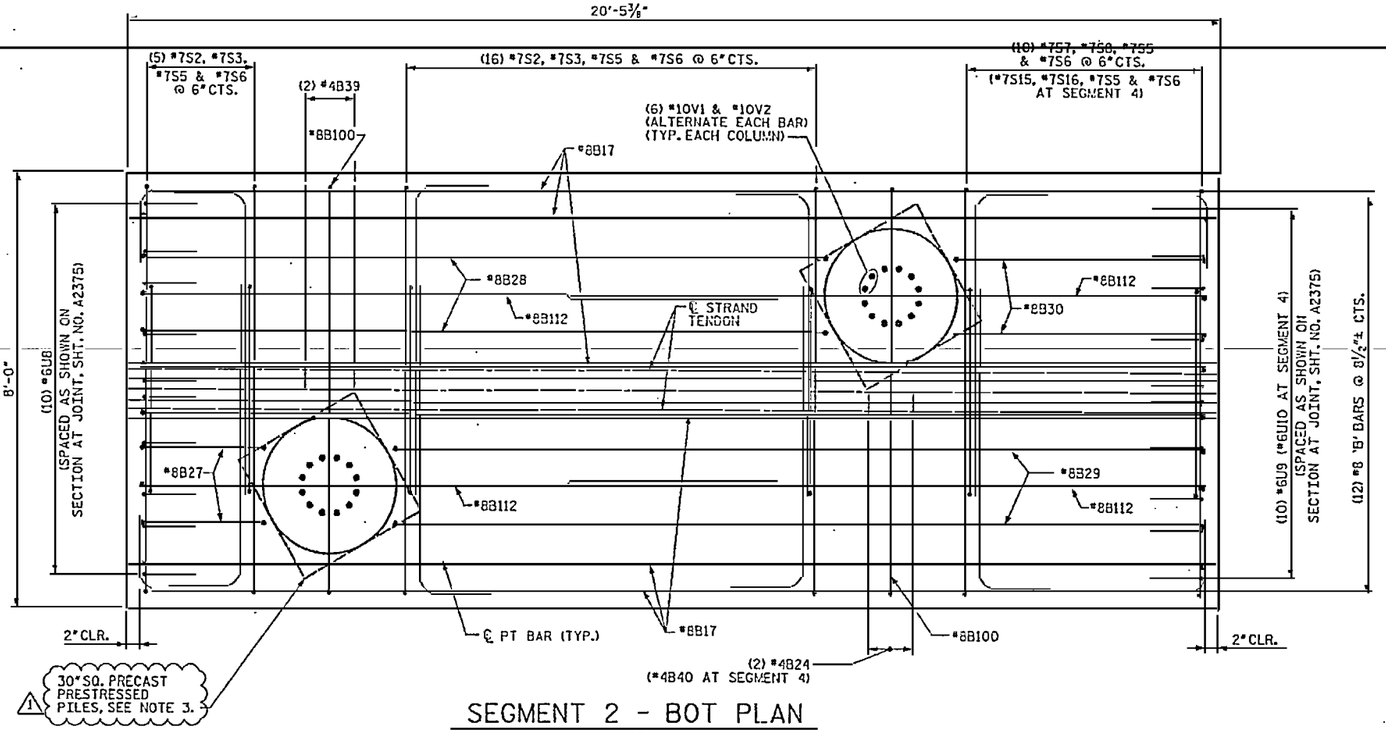
FLATIRON/UNITED — A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

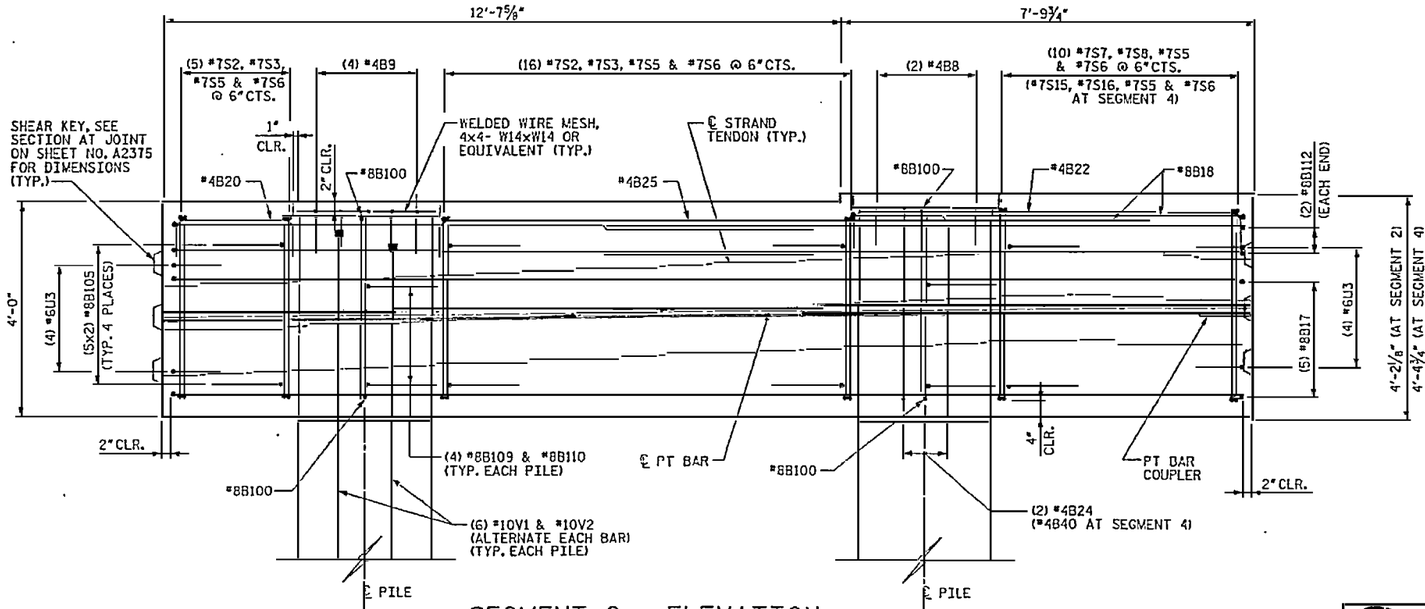
- BRIDGE No. 2 -
~~ALTERNATE DETAILS~~
PILE CAP TYPE 5
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2379.00
1			3			TOTAL SHEETS
2			4			



SEGMENT 2 - BOT PLAN

(SEGMENT 4 - BOT PLAN, SIMILAR BY 180° ROTATION)



SEGMENT 2 - ELEVATION

(SEGMENT 4 ELEVATION SIMILAR)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.
3. 1 PILES AS SHOWN ARE AT BENT 82 ONLY. PILES ARE ROTATED PARALLEL TO ℄ BENT AT BENTS 83 THRU 85.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/09
TOM SHEARIN, PE DATE

1 ADDED NOTE 3.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:	A2380.01
1	MTB	3/3/09	3			TOTAL SHEETS
2			4			

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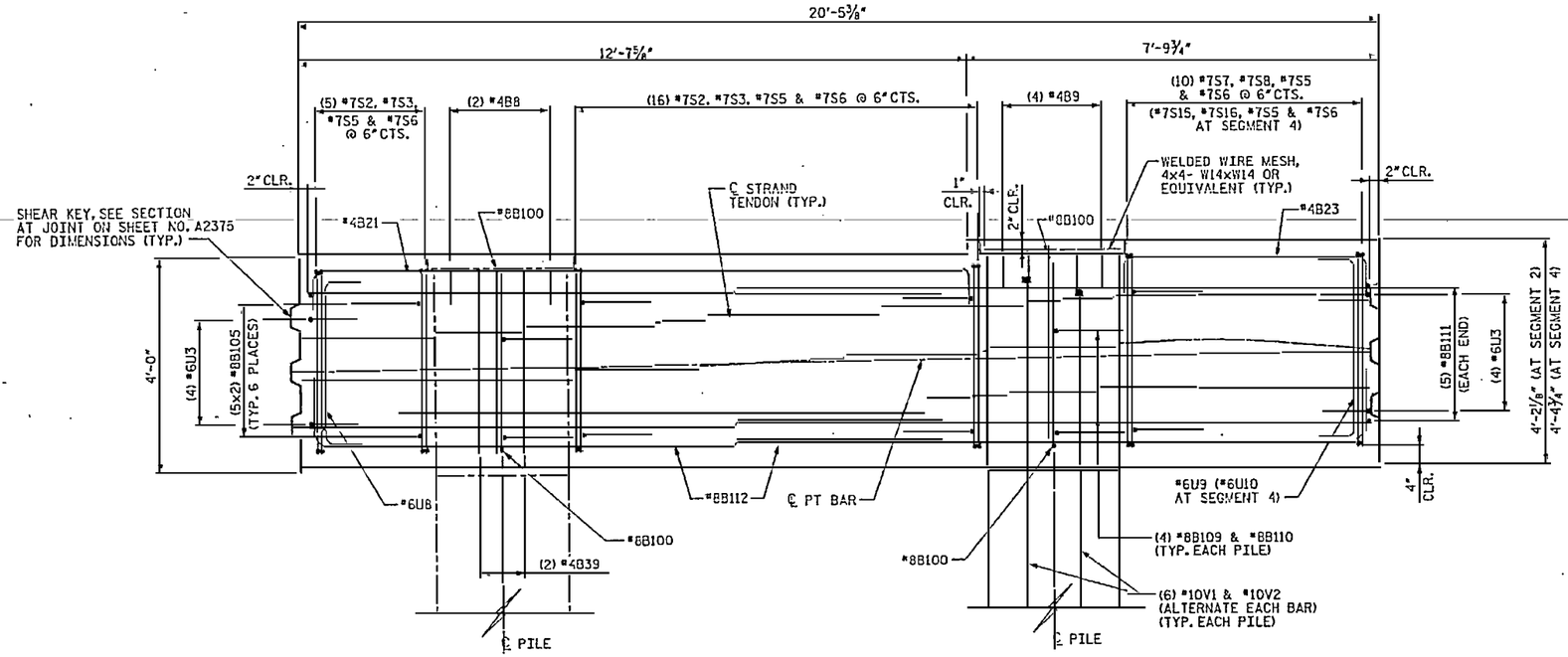
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DATE: 3/3/2009
TIME: 1:20:13 PM
USER: mtbelisle
DGN: R:\Structure\Tar River Bridge\CADD\RESTAD_50_DSN_BT5-CETT.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEGMENT 4 SIMILAR)
(SEE SHEET NO. A2374)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 1/27/15

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2381.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. DELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

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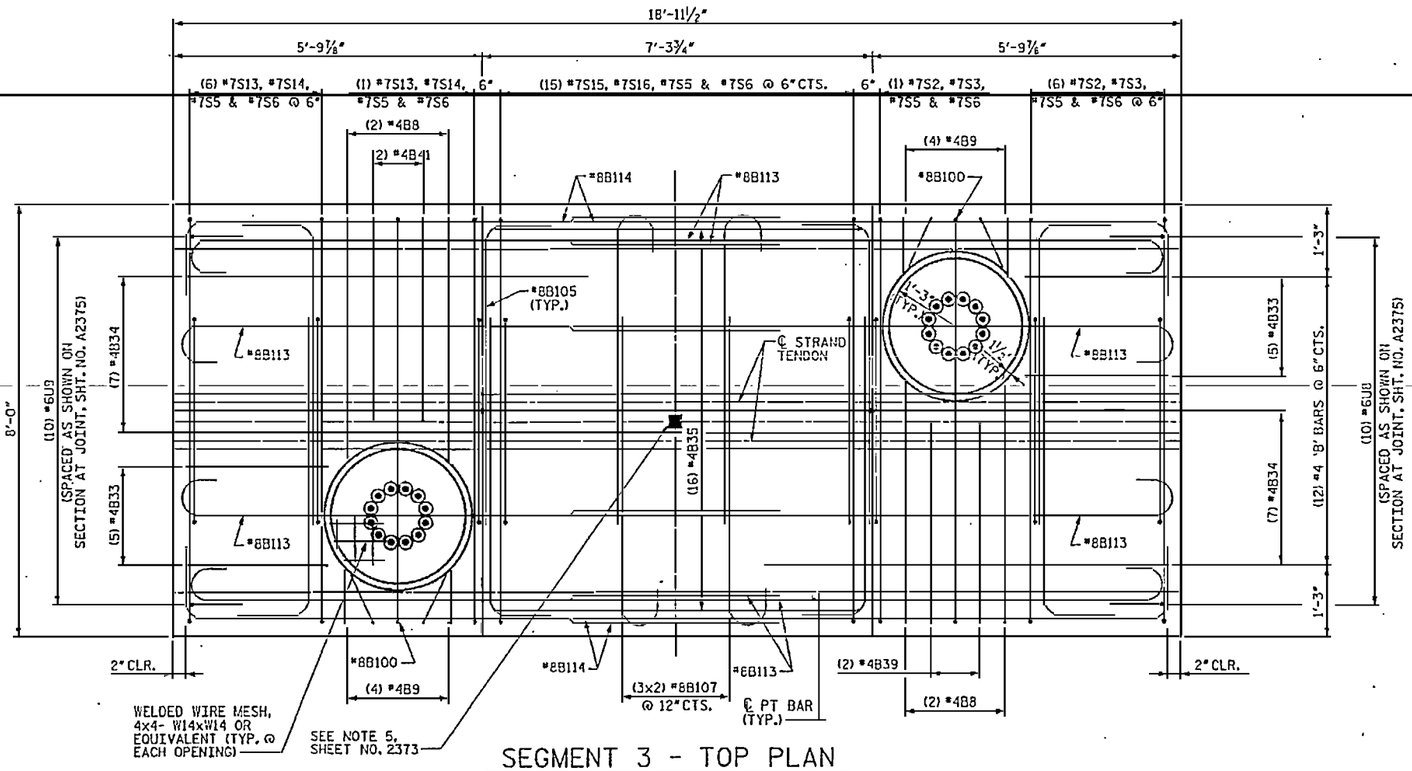
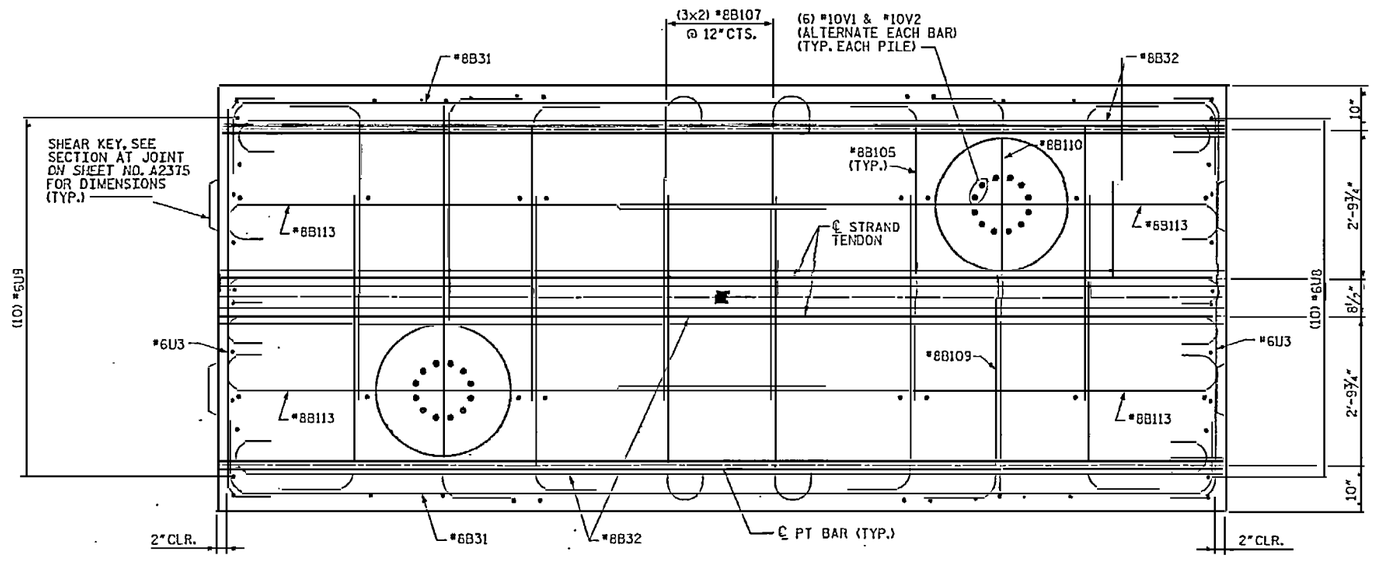
TIME: 8:56:13 AM



SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2362.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DATE: 1/8/2008
FILE: B2B8.dgn

USER: rtcheung
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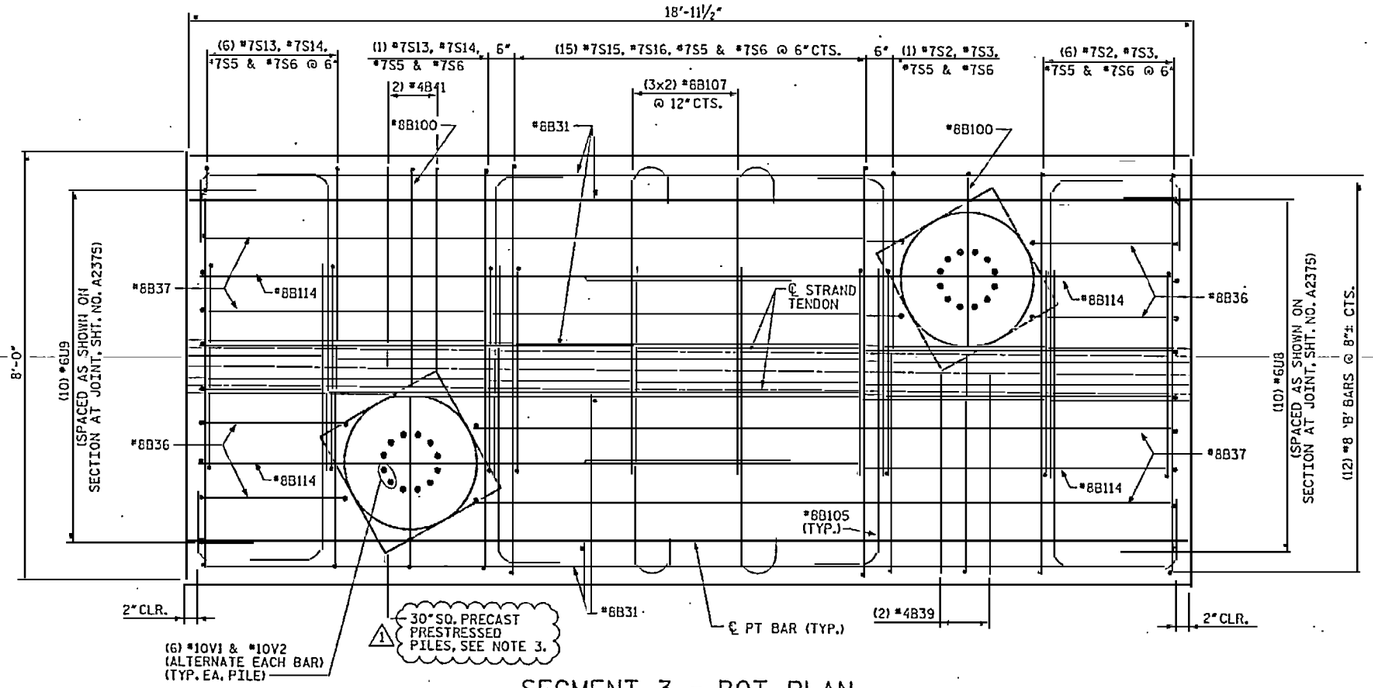
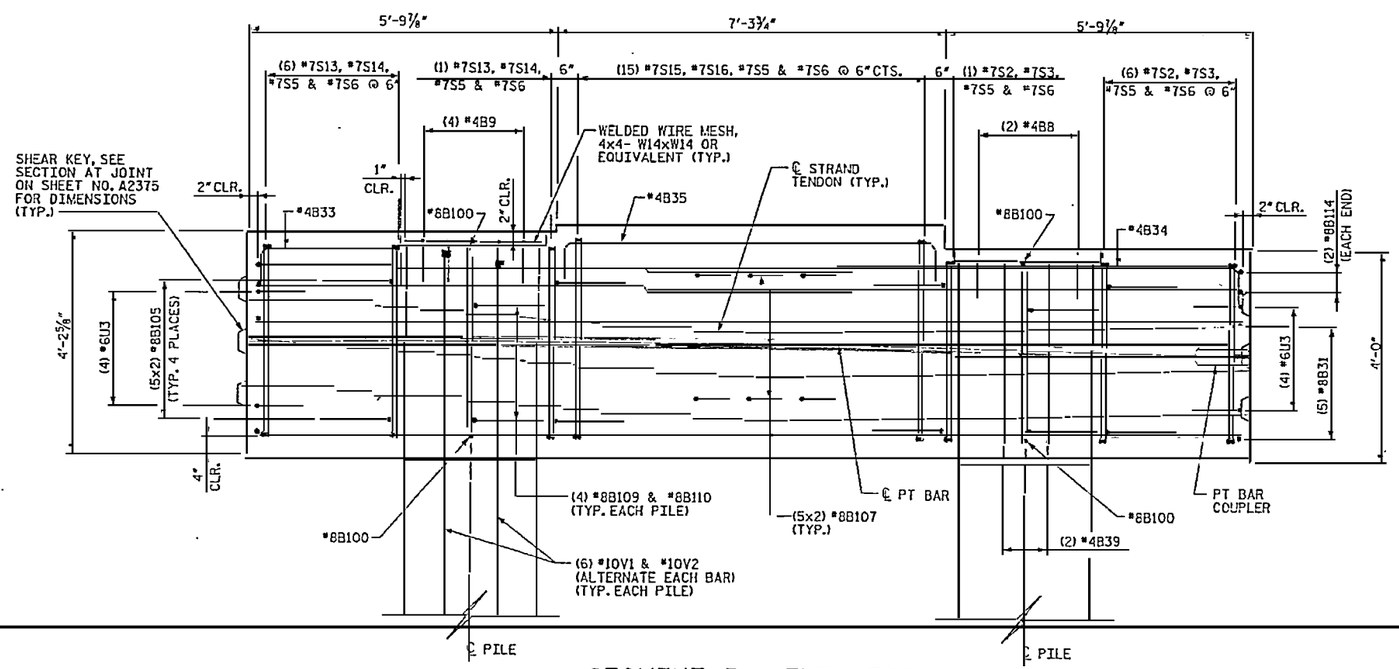


SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.
1. 3. PILES AS SHOWN ARE AT BENT 82 ONLY. PILES ARE ROTATED PARALLEL TO ℄ BENT AT BENTS 83 THRU 85.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

1 ADDED NOTE 3.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
~~FOR BRIDGE ON US17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2383.01
1	MTB	3/3/08	3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DATE PLOTTED: 3/4/2008 10:47 AM
USER: ritchielin
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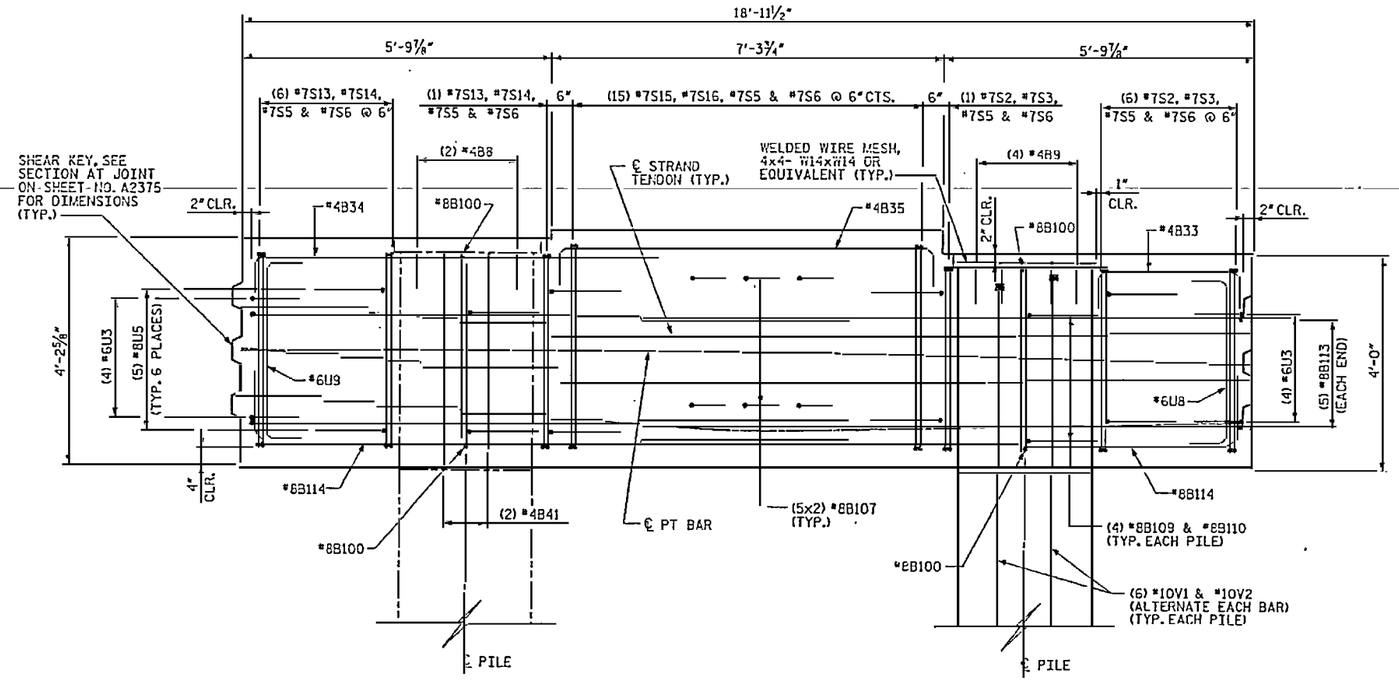
NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 3 - SECTION A

(SEE SHEET NO. A2374)

RELEASED FOR CONSTRUCTION

Tom Shearin 10/2/08

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 11 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2384.00
1			3			TOT. SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

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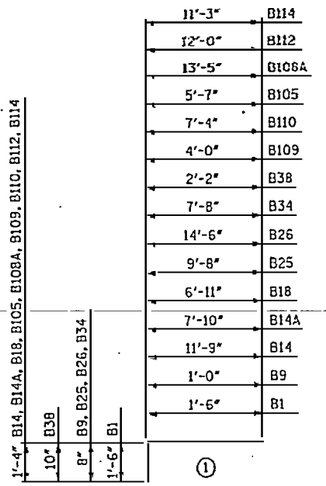
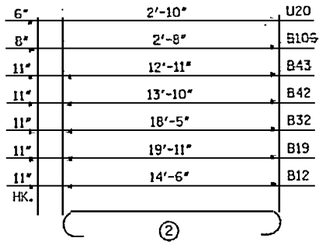
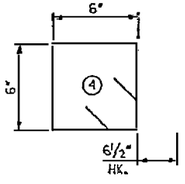
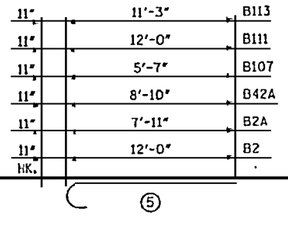
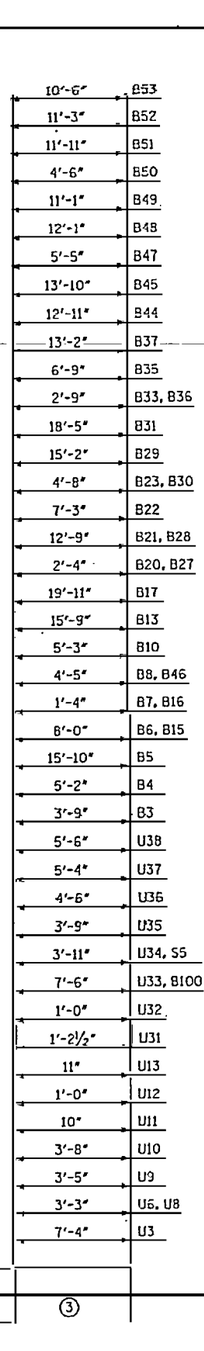
BAR TYPES

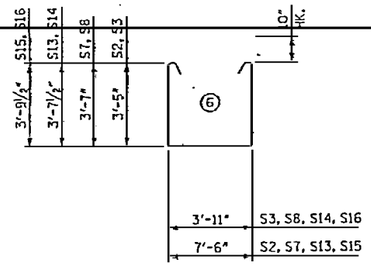


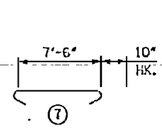


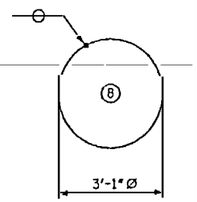


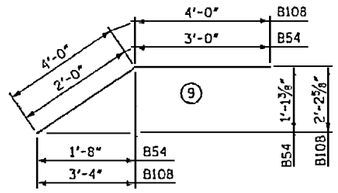


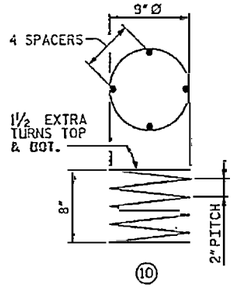


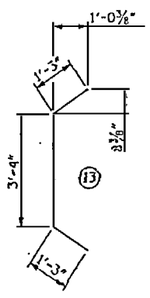


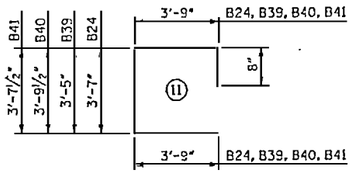


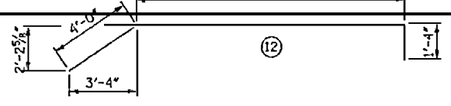












ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : M.T. BELTSLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	20	#8	(5)	12'-11"	690
B2A	20	#8	(5)	8'-10"	472
B3	2	#4	(3)	5'-1"	7
B4	2	#4	(3)	6'-6"	9
B5	4	#4	(3)	17'-2"	46
B6	10	#4	(3)	9'-4"	62
B7	10	#4	(3)	2'-8"	18
B8	20	#4	(3)	5'-9"	77
B9	40	#4	(1)	1'-8"	45
B10	4	#4	(3)	6'-7"	18
B11	12	#8	(12)	18'-3"	585
B12	12	#8	(2)	16'-4"	523
B13	4	#8	(3)	18'-5"	197
B14	4	#8	(1)	13'-1"	140
B14A	4	#8	(1)	9'-2"	98
B15	4	#8	(3)	10'-8"	114
B16	4	#8	(3)	4'-0"	43
B17	28	#8	(3)	22'-7"	1688
B18	16	#8	(1)	8'-3"	352
B19	28	#8	(2)	21'-9"	1626
B20	10	#4	(3)	3'-8"	25
B21	10	#4	(3)	14'-1"	94
B22	14	#4	(3)	8'-7"	80
B23	10	#4	(3)	6'-0"	40
B24	2	#4	(11)	11'-9"	16
B25	10	#4	(1)	10'-4"	69
B26	4	#4	(1)	15'-2"	41
B27	4	#8	(3)	5'-0"	53
B28	4	#8	(3)	15'-5"	165
B29	4	#8	(3)	17'-10"	190
B30	4	#8	(3)	7'-4"	78
B31	14	#8	(3)	21'-1"	788
B32	14	#8	(2)	20'-3"	757
B33	10	#4	(3)	4'-1"	27
B34	14	#4	(1)	8'-4"	78
B35	16	#4	(3)	8'-1"	86
B36	4	#8	(3)	5'-5"	58
B37	4	#8	(3)	15'-10"	169
B38	4	#5	(1)	3'-0"	13
B39	14	#4	(11)	11'-7"	108
B40	2	#4	(11)	12'-0"	16
B41	2	#4	(11)	11'-10"	16
B42	8	#8	(2)	15'-8"	335
B42A	16	#8	(5)	9'-9"	417
B43	8	#8	(2)	14'-9"	315
B44	8	#8	(3)	15'-7"	333
B45	4	#8	(3)	16'-6"	176
B46	2	#8	(3)	7'-1"	38
B47	2	#8	(3)	8'-1"	43
B48	2	#8	(3)	14'-9"	79
B49	2	#8	(3)	13'-9"	73
B50	2	#4	(3)	5'-10"	31
B51	6	#4	(3)	13'-3"	53
B52	2	#4	(3)	12'-7"	17
B53	2	#4	(3)	11'-10"	16
B54	24	#7	(9)	5'-0"	245
B100	20	#8	(3)	14'-4"	765
B105	200	#8	(1)	6'-11"	3693
B106	60	#6	(2)	4'-0"	360
B107	130	#8	(5)	6'-6"	2256
B108	8	#8	(9)	8'-0"	171
B108A	8	#8	(1)	14'-3"	304
B109	40	#8	(1)	5'-4"	570
B110	40	#8	(1)	8'-8"	926

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B111	56	#8	(5)	12'-11"	1931
B112	24	#8	(1)	13'-4"	854
B113	28	#8	(5)	12'-2"	910
B114	12	#8	(1)	12'-7"	403
S1	16	#4	(4)	3'-3"	35
S2	73	#7	(6)	16'-0"	2387
S3	73	#7	(6)	12'-5"	1853
S5	115	#7	(3)	6'-3"	1469
S6	115	#7	(7)	9'-2"	2155
S7	10	#7	(6)	16'-4"	334
S8	10	#7	(6)	12'-9"	261
S13	7	#7	(6)	16'-5"	235
S14	7	#7	(6)	12'-10"	184
S15	25	#7	(6)	16'-9"	856
S16	25	#7	(6)	13'-2"	673
S31	16	#7	(8)	9'-5"	308
U3	32	#6	(3)	9'-4"	449
U6	12	#5	(3)	4'-11"	62
U8	60	#6	(3)	5'-3"	473
U9	20	#6	(3)	5'-6"	165
U11	12	#5	(3)	4'-10"	60
U12	8	#5	(3)	4'-4"	36
U13	8	#5	(3)	4'-3"	35
U16	12	#5	(13)	5'-10"	73
U20	2	#4	(2)	3'-10"	5
U31	52	#7	(3)	7'-8"	815
U32	8	#8	(3)	12'-4"	263
U33	20	#7	(3)	13'-11"	569
U34	8	#7	(3)	10'-4"	84
U35	4	#7	(3)	10'-2"	83
U36	4	#7	(3)	10'-11"	89
U37	4	#7	(3)	11'-9"	96
U38	8	#7	(3)	11'-11"	195
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 5
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

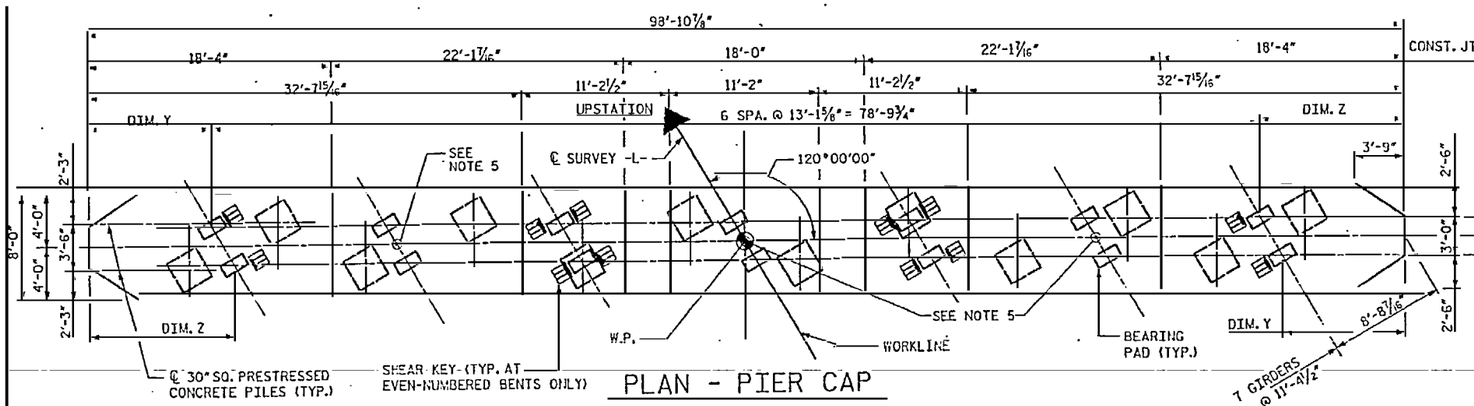
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2385.00
TOTAL SHEETS

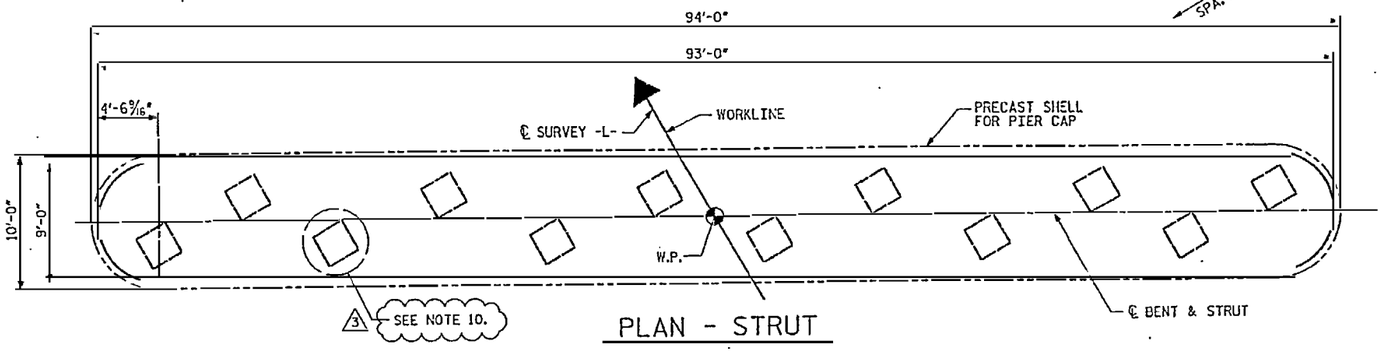
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

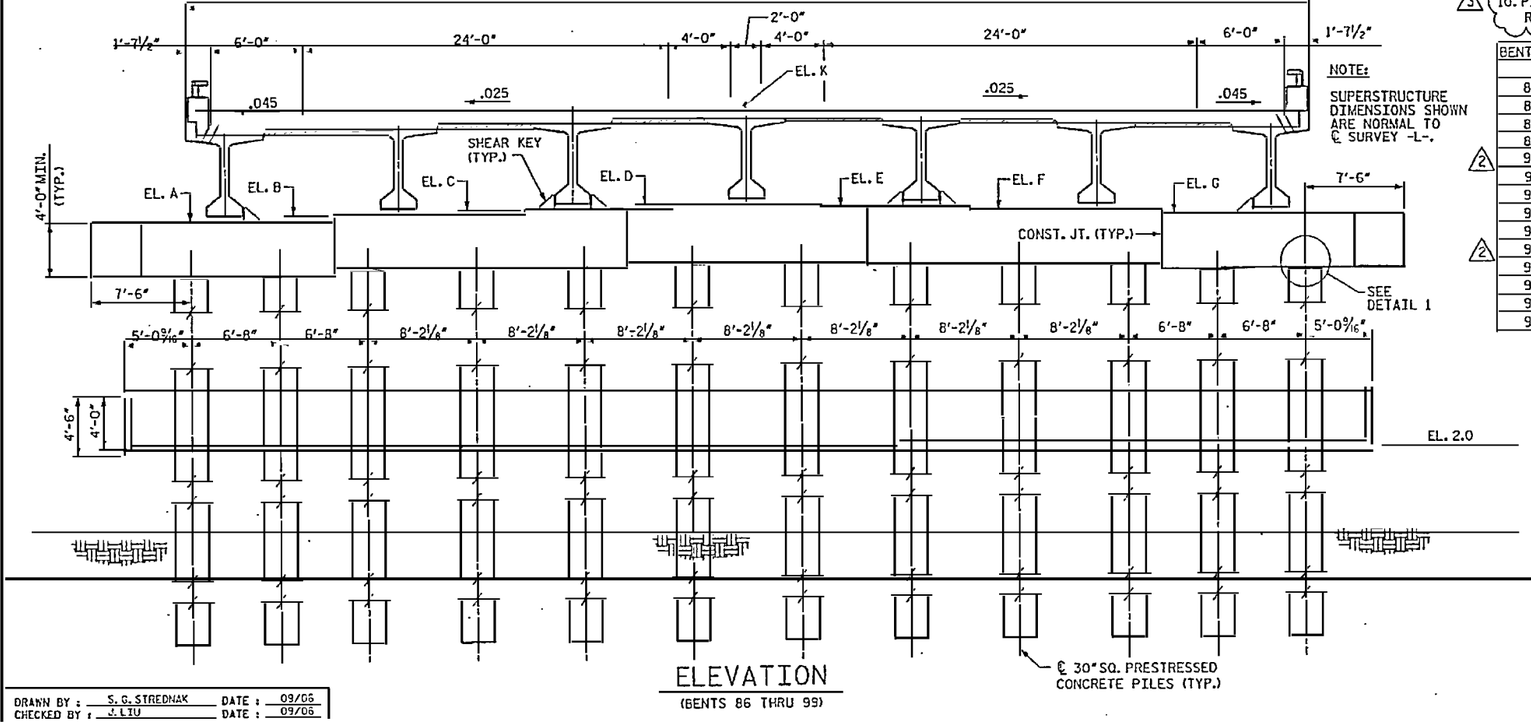
USER: mlbeltsle
Date: 1/3/2008
File: V:\2385\...



PLAN - PIER CAP

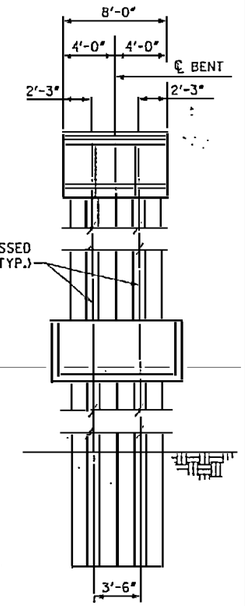


PLAN - STRUT



ELEVATION
(BENTS 86 THRU 99)

BENT NO.	Y	Z
86, 88, 90, 92, 94, 96, 98	9'-3⅝"	10'-9½"
87, 89, 91, 93, 95, 97, 99	9'-1⅞"	10'-11¼"



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
1. 5. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH. BAR SHALL BE PLUMB. BARS ONLY AT ODD-NUMBERED BENTS.
6. PROVIDE AN EPOXY PROTECTIVE COATING ON PILE CAPS OF EVEN-NUMBERED BENTS. SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.
3. 7. FOR STRUT REINFORCEMENT AT BENTS 98 & 99, SEE STRUT TYPE 2 ON SHEET NOS. 2621 THRU 2625 AND AT BENTS 86 THRU 97, SEE STRUT TYPE 2A ON SHEET NOS. 2621A THRU 2625A. FOR PRECAST SHELL REINFORCEMENT FOR TYPE 2, SEE SHEET NOS. 2608 & 2609 AND FOR TYPE 2A, SEE SHEET NOS. 2608A & 2609A.
8. FILL VOIDS INSIDE PILES TO EL. 12.00 WITH FLOWABLE FILL BEFORE CORING THROUGH THE PILES FOR STRUT REINFORCEMENT.
1. 9. THE CONSTRUCTION OF BOTH STRUT AND CAP SHALL BE COMPLETE BEFORE LAUNCHING TRUSS MOVES ON THE PIER.
3. 10. PILES AS SHOWN ARE AT BENTS 98 & 99 ONLY. PILES ARE ROTATED PARALLEL TO ℄ AT BENTS 86 THRU 97.

BENT NO.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. E (ft)	EL. F (ft)	EL. G (ft)	EL. K (ft)
86	40.776	41.072	41.264	41.456	41.078	40.699	40.218	48.820
87	42.305	42.615	42.821	43.027	42.664	42.299	41.831	50.392
88	43.659	43.983	44.203	44.423	44.074	43.724	43.270	51.705
89	44.670	45.009	45.244	45.478	45.142	44.806	44.367	52.759
2. 90	45.424	45.776	46.025	46.273	45.952	45.630	45.205	53.555
91	45.918	46.285	46.548	46.810	46.503	46.196	45.784	54.092
92	46.154	46.535	46.812	47.089	46.796	46.502	46.105	54.370
93	46.132	46.527	46.818	47.109	46.830	46.551	46.168	54.390
94	45.851	46.260	46.565	46.870	46.606	46.340	45.971	54.151
2. 95	45.311	45.734	46.054	46.373	46.122	45.871	45.517	53.654
96	44.513	44.950	45.284	45.617	45.381	45.144	44.803	52.898
97	43.456	43.907	44.255	44.603	44.380	44.158	43.831	51.884
98	42.057	42.523	42.885	43.246	43.030	42.830	42.517	50.611
99	40.483	40.963	41.339	41.715	41.521	41.326	41.028	49.079

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

1. REVISED NOTE NO. 5 ADDED NOTE NO. 9.
2. REVISED EL. C AT BENTS 90 & 95.
3. REVISED NOTE NO. 7, AND ADDED NOTE NO. 10.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

NORTH CAROLINA PROFESSIONAL ENGINEER 030876 JOHN W. JORDAN

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DIMENSIONS - BENT TYPE 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2388.03
1	MTB	10/5/07	3	MTB	3/3/08	TOTAL SHEETS
2	MTB	1/11/08	4			

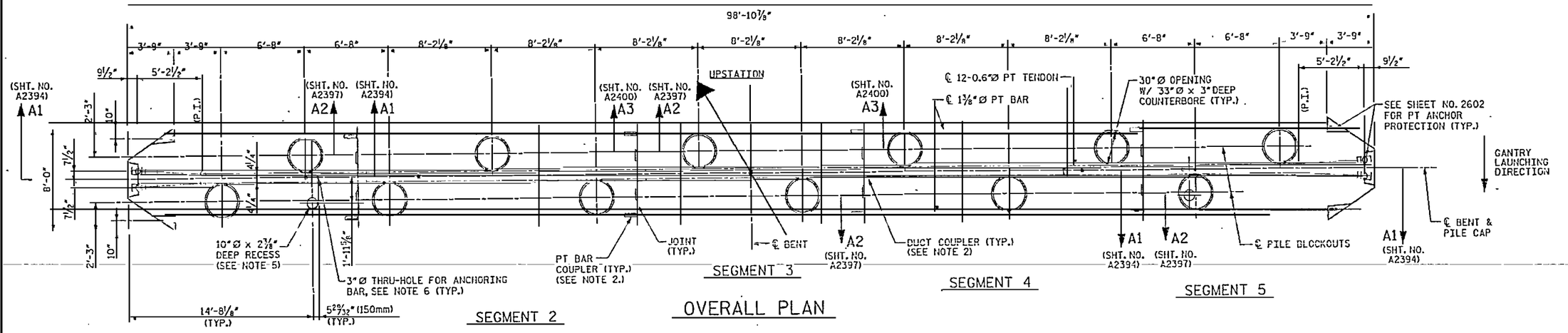
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

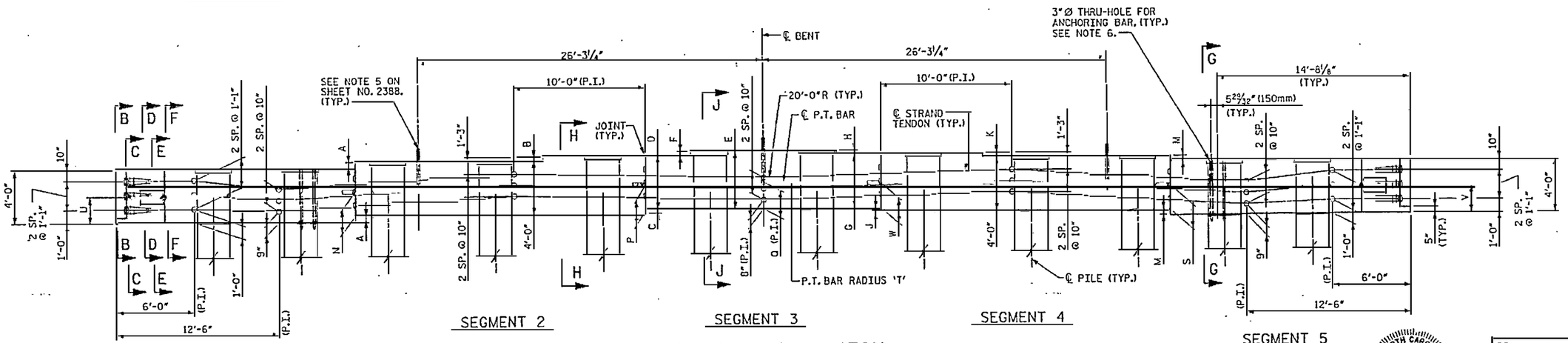
DRAWN BY : S. G. STREDNAK DATE : 09/06
CHECKED BY : J. LIU DATE : 09/06

DATE: 1/23/2008
FILE: bridge2_typ6.dgn

USER: mtbabb
DGN: N:\Structure\MTB\Bridge Projects\R-2510B_Beaufort_Co\Bridge2_Typ6.dgn



OVERALL PLAN



OVERALL ELEVATION

BENT NO.	DIMENSION																		
	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	S	T	U	V	W
86	3¾"	2⅝"	1⅛"	4'-2¼"	4'-4⅝"	2⅝"	4'-0"	4⅝"	4⅛"	4⅛"	5⅜"	1'-10¼"	2'-1⅛"	2'-2⅝"	1'-9⅞"	430'-0"	1'-11½"	1'-10⅝"	1'-11½"
87	3¾"	2½"	⅝"	4'-1⅞"	4'-4⅜"	2½"	4'-0"	4⅜"	4⅜"	4⅜"	5⅝"	1'-10⅛"	2'-0⁵⁄₁₆"	2'-2⅝"	1'-9⅞"	420'-0"	1'-11⅝"	1'-10⅜"	1'-11⅞"
88	3¼"	2⅝"	1⅛"	4'-1⅝"	4'-4⅜"	2⅝"	4'-0"	4⅜"	4⅜"	4⅜"	5⅜"	1'-10¹⁵⁄₁₆"	2'-0¾"	2'-2⅝"	1'-9¼"	410'-0"	1'-11⅛"	1'-10⅜"	1'-11⅜"
89	4¼"	2¹³⁄₁₆"	1⅝"	4'-1⅝"	4'-4"	2¹³⁄₁₆"	4'-0"	4"	4⅛"	4⅛"	5¼"	1'-10"	2'-0⅝"	2'-2⅝"	1'-9⅜"	400'-0"	1'-11¼"	1'-10⅛"	1'-11¾"
90	4¼"	3"	2⅛"	4'-0⅞"	4'-3⅞"	3"	4'-0"	3⅞"	3⅞"	3⅞"	5⅛"	1'-9⅞"	2'-0⅛"	2'-2⅝"	1'-9⅛"	395'-0"	1'-11⅛"	1'-10⅛"	1'-11⁵⁄₁₆"
91	4⅜"	3⅜"	2⅝"	4'-0⅝"	4'-3¹¹⁄₁₆"	3⅛"	4'-0"	3¹¹⁄₁₆"	3¹¹⁄₁₆"	3¹¹⁄₁₆"	4¹⁵⁄₁₆"	1'-9¹³⁄₁₆"	2'-0¼"	2'-2⅝"	1'-9⅝"	385'-0"	1'-10⅞"	1'-10½"	1'-11⅞"
92	4⅜"	3⅝"	3⅛"	4'-0⅜"	4'-3½"	3⅝"	4'-0"	3½"	3½"	3½"	4¼"	1'-9¹¹⁄₁₆"	2'-0⅛"	2'-2⅝"	1'-9⅝"	375'-0"	1'-10⅝"	1'-10½"	1'-11⁵⁄₁₆"
93	4¾"	3½"	3½"	4'-0"	4'-3½"	3½"	4'-0⅛"	3⅜"	3¼"	3⅜"	4⅝"	1'-9⅝"	2'-0"	2'-2⅜"	1'-9¹⁷⁄₁₆"	375'-0"	1'-10½"	1'-10⅜"	2'-0⅛"
94	4¹⁵⁄₁₆"	3¹¹⁄₁₆"	3¹¹⁄₁₆"	4'-0"	4'-3¹¹⁄₁₆"	3¹¹⁄₁₆"	4'-0½"	3⅜"	2¹¹⁄₁₆"	3⅜"	4⅛"	1'-9⅝"	2'-0"	2'-2½"	1'-9¹³⁄₁₆"	375'-0"	1'-10⅛"	1'-10¾"	2'-0⅜"
95	5¼"	3¹³⁄₁₆"	3¹³⁄₁₆"	4'-0"	4'-3¹³⁄₁₆"	3¹³⁄₁₆"	4'-0¹³⁄₁₆"	3"	2⅜"	3"	4¼"	1'-9⅞"	2'-0"	2'-2⅝"	1'-9⅞"	380'-0"	1'-10⅛"	1'-10⅞"	2'-0⅜"
96	5¼"	4"	4"	4'-0"	4'-4"	4"	4'-1⅜"	2¹³⁄₁₆"	1¹¹⁄₁₆"	2⅞"	4⅛"	1'-9⅜"	2'-0"	2'-2¹¹⁄₁₆"	1'-9¹⁵⁄₁₆"	380'-0"	1'-10¼"	1'-11⅛"	2'-0¹³⁄₁₆"
97	5⅞"	4³⁄₁₆"	4³⁄₁₆"	4'-0"	4'-4³⁄₁₆"	4³⁄₁₆"	4'-1½"	2¹¹⁄₁₆"	1³⁄₁₆"	2¹¹⁄₁₆"	3¹⁵⁄₁₆"	1'-9⁵⁄₁₆"	2'-0"	2'-2¹³⁄₁₆"	1'-10⅛"	385'-0"	1'-10⅜"	1'-11⅜"	2'-1⅛"
98	5⅝"	4⅜"	4⅜"	4'-0"	4'-4⅝"	4⅝"	4'-1¹³⁄₁₆"	2½"	1¹⁄₁₆"	2½"	3¾"	1'-9⅞"	2'-0"	2'-2⅞"	1'-10⅛"	390'-0"	1'-10⅛"	1'-11⅜"	2'-1⅝"
99	5¾"	4½"	4½"	4'-0"	4'-4½"	4½"	4'-2⅛"	2⅝"	⅛"	2⅝"	3⅝"	1'-9⅞"	2'-0"	2'-3"	1'-10³⁄₁₆"	390'-0"	1'-10"	1'-11⅞"	2'-1⅝"

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 6 IS USED AT BENT NOS. (14 & 17.) 86 THRU 99.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET A2391. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2389.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

USER: rshelvin
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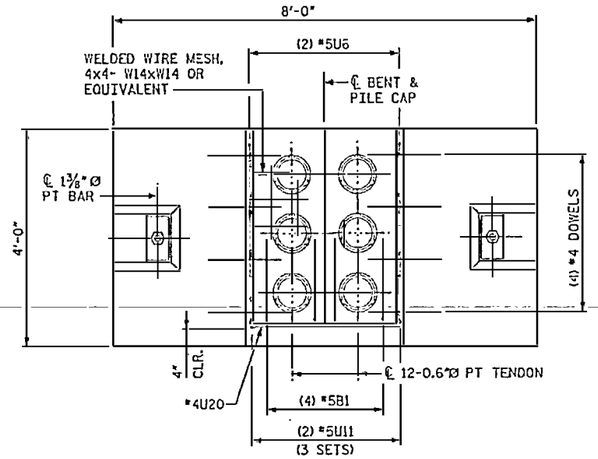
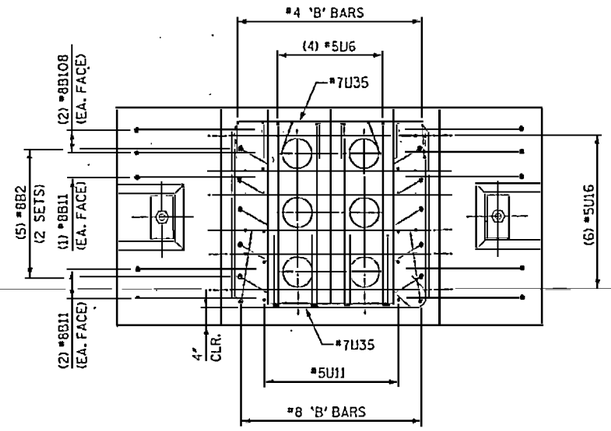
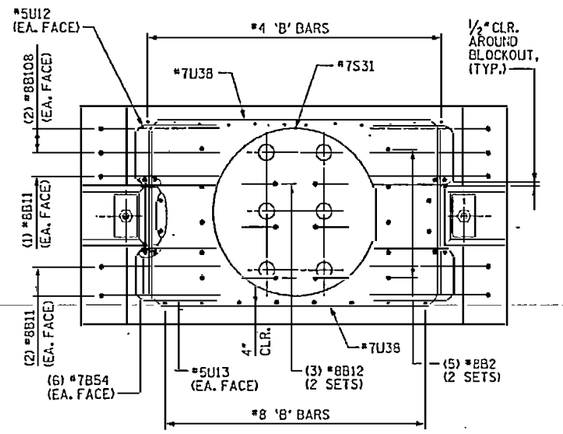
DATE: 1/16/2008
TIME: 10:55:12 AM



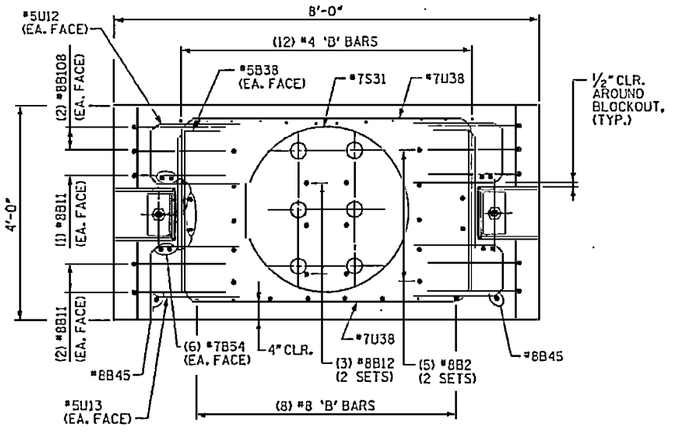
SECTION B-B



SECTION C-C



SECTION D-D



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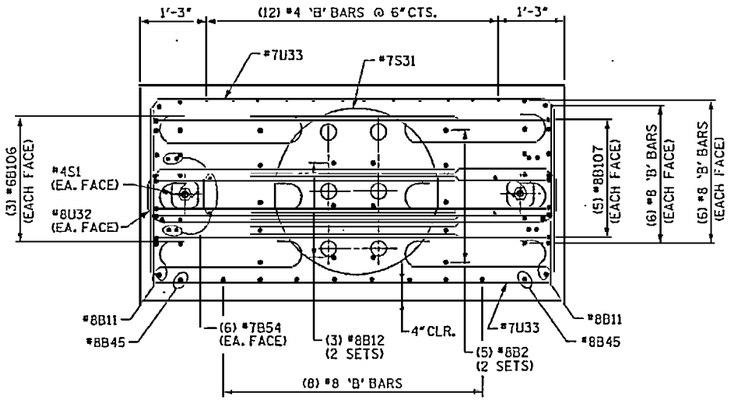
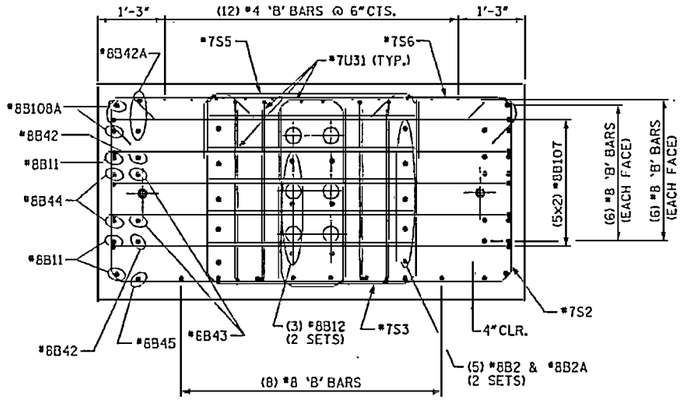


SECTION F-F



SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 1/22/09

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO. A2390.00
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			
2			4			

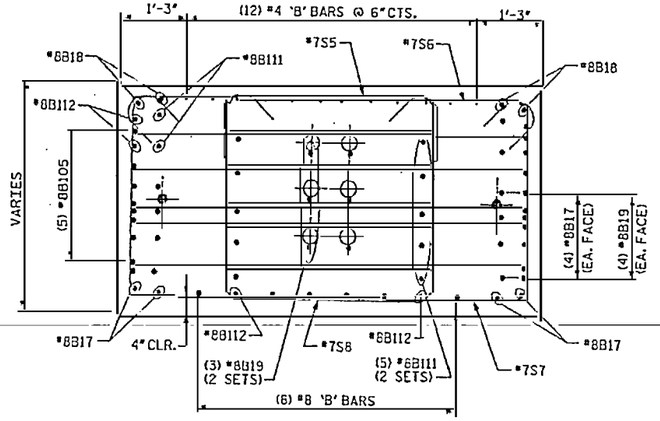
DRAWN BY : M.T. BEITSLE DATE : 01/08
CHECKED BY : J. LITI DATE : 01/09

Earth Tech — A Tyco International Ltd. Company

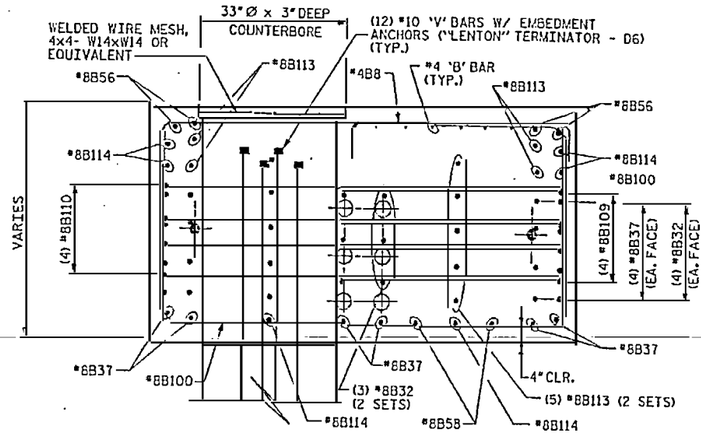
FLATIRON/UNITED — A JOINT VENTURE

DATE: 1/22/2009
TIME: 8:00:00 AM

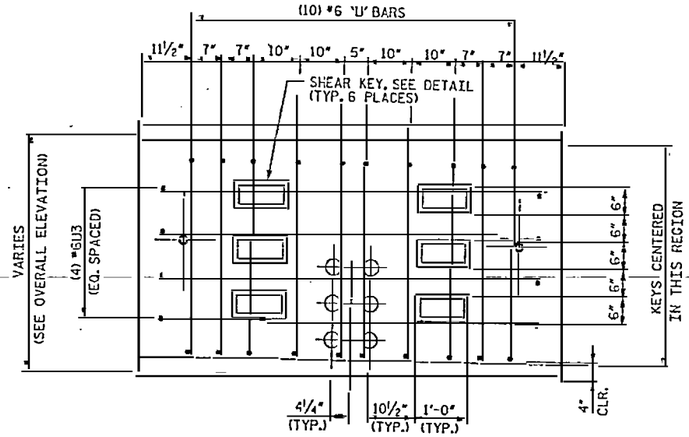
USER: mbeitsle
DGN: I:\Structure\Tar River Bridge\CADD\Section_02_DSN_BTG-NCT2.dgn



SECTION H-H

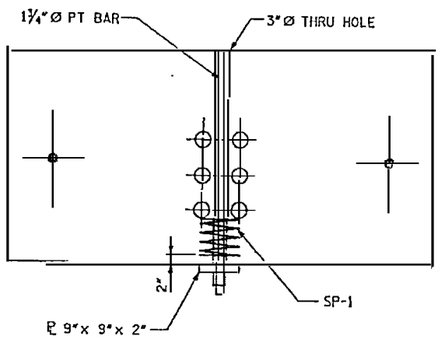


SECTION J-J



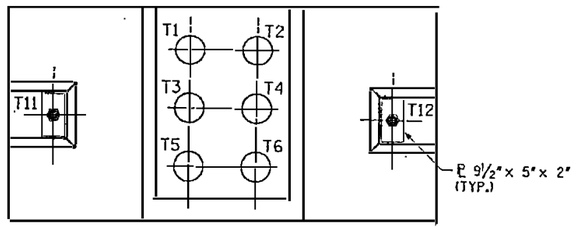
SECTION AT JOINT

(SEE SHEET NO. A2389)



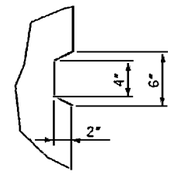
DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.



SHEAR KEY

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

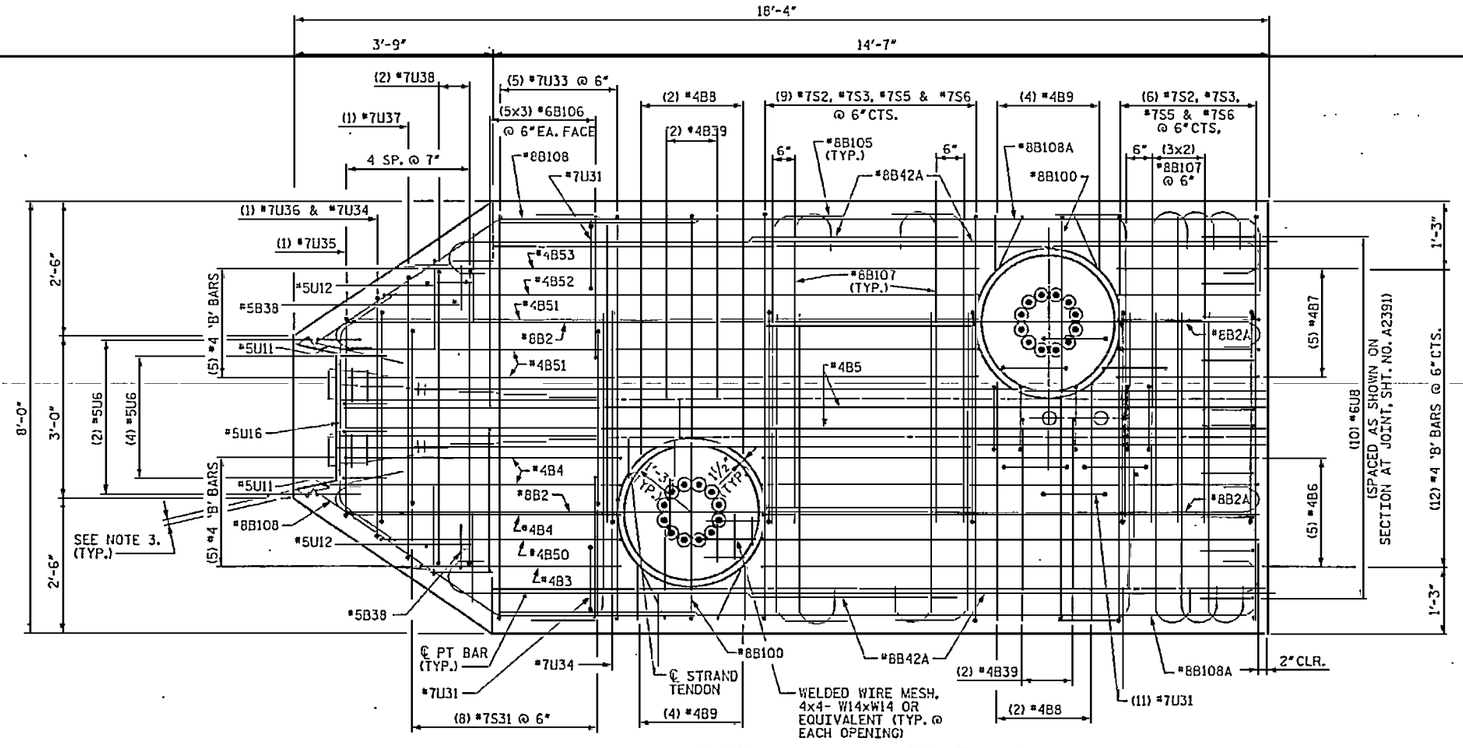
- BRIDGE No. 2 -
~~-ALTERNATE-~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2391.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. DELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/09

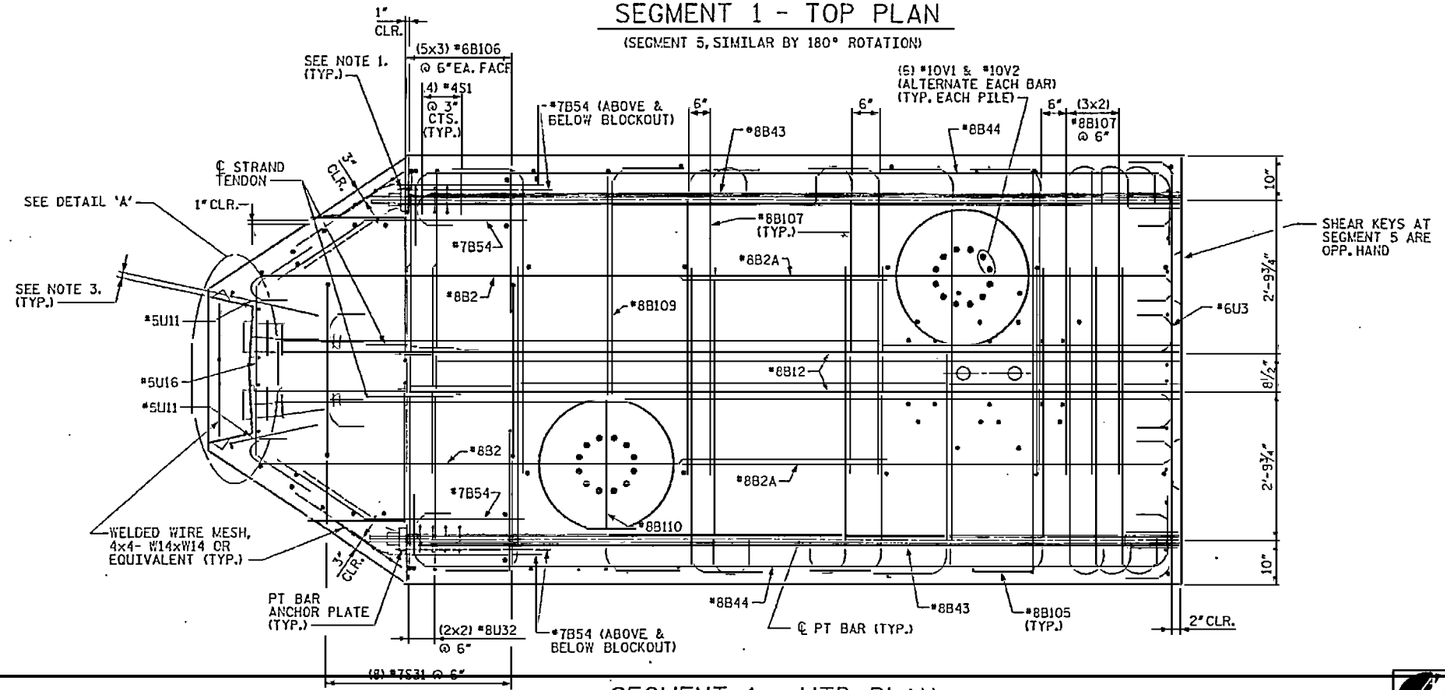
DATE 1/2/2008
TIME 10:03:30 AM

USER: mtdelisle
I:\Structures\Tar River Bridge\ACD\R2510B_SD_DSK_BYE-DET.dgn



SEGMENT 1 - TOP PLAN

(SEGMENT 5, SIMILAR BY 180° ROTATION)

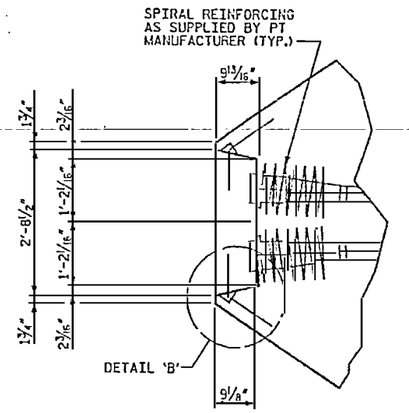


SEGMENT 1 - MID PLAN

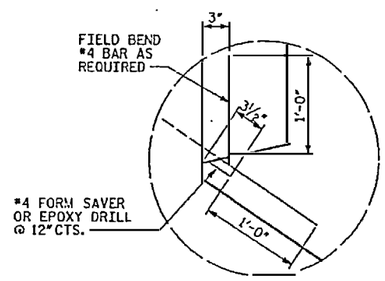
(SEGMENT 5, SIMILAR BY 180° ROTATION)

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL 'A'



DETAIL 'B'

DATE LAYOUT: 1/16/2003 9:00:00 AM

USER: mtbeisle
DGN: R:\structures\Tar River Bridge\000\PLANS\SOLIDM_BT6-DET.dgn

DRAWN BY : M.T. BEITSLE DATE : 01/03
CHECKED BY : J. LIU DATE : 01/03

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/03
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

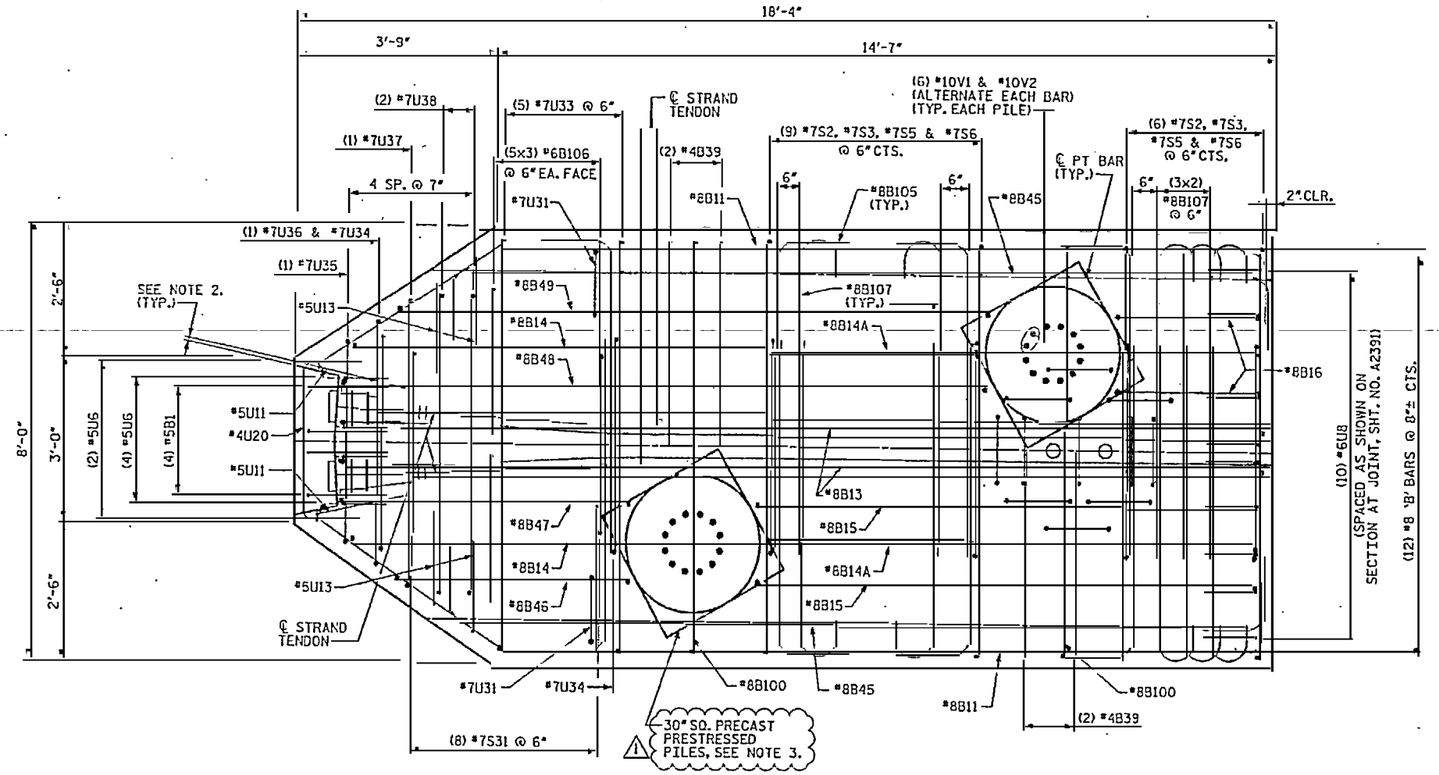
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 4 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	12392.00
1			3			TOTAL SHEETS
2			4			



SEGMENT 1 - BOT PLAN

(SEGMENT 5, SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.
3. PILES AS SHOWN ARE AT BENT 98 & 99 ONLY. PILES ARE ROTATED PARALLEL TO ℄ BENT AT BENTS 86 THRU 97.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

⚠1 ADDED NOTE 3.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 14 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2393.01
1	MTB	3/3/08	3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BEITSLE DATE : 01/08
CHECKED BY : J.LTU DATE : 01/08

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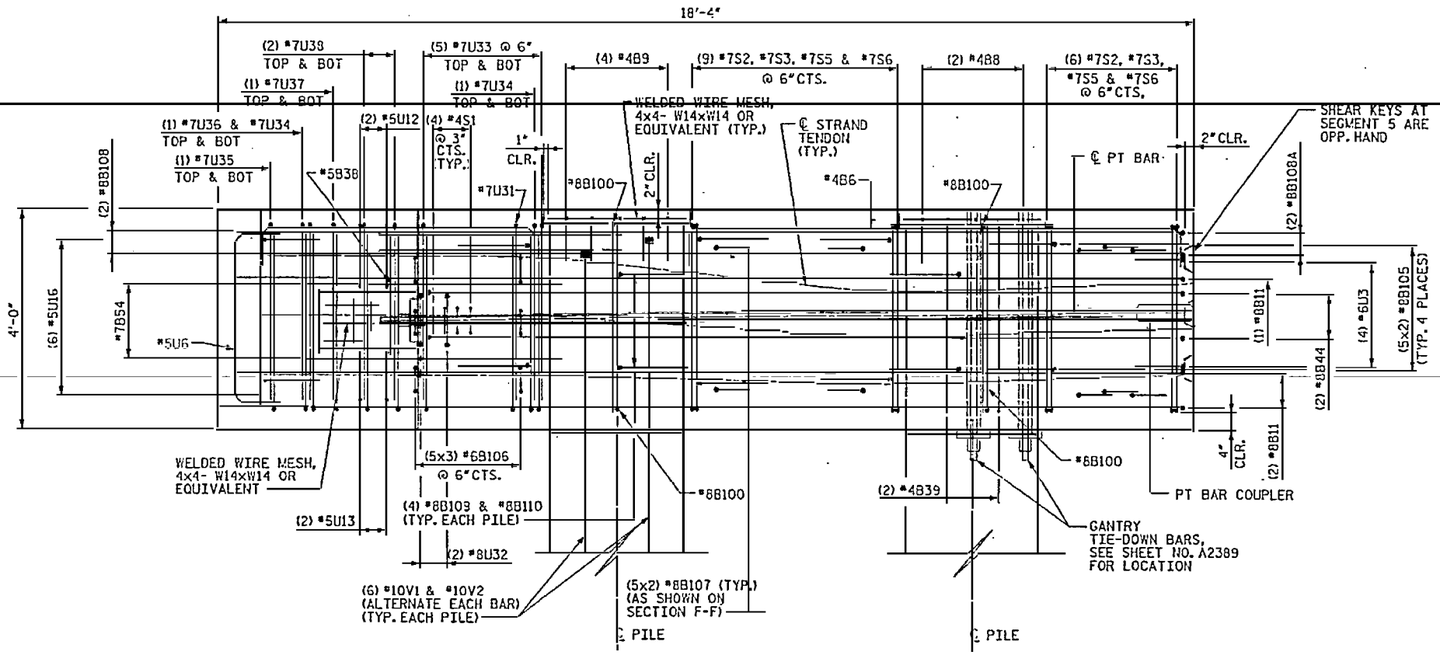
FLATIRON/UNITED
A JOINT VENTURE

USER: mbeitsle
DGN: N:\Structures\Tar River Bridge\R2510B_SD_DSN_BT6-DET3of4.dgn

DATE: 3/4/2008
TIME: 8:06:18 PM

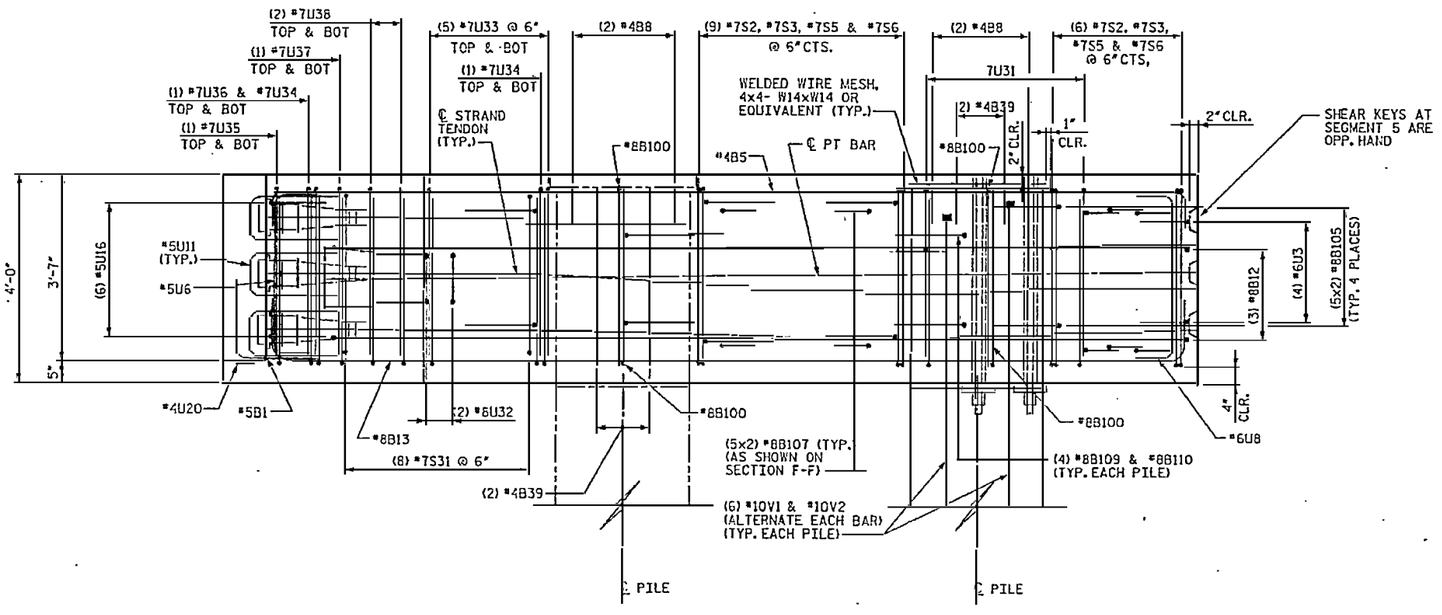


SEGMENT 1 - ELEVATION

(SEGMENT 5, OPP. HAND)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - SECTION A1

(SEGMENT 5, SIMILAR)
(SEE SHEET NO. A2389)

RELEASED FOR CONSTRUCTION
Tom Shearin 1/31/08
TOM SHEARIN, PE DATE

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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
~~FOR BRIDGE ON US17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2394.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.J.TU DATE : 01/08

DATE: 1/4/2008
TIME: 8:22:08 AM
USER: mbelisle
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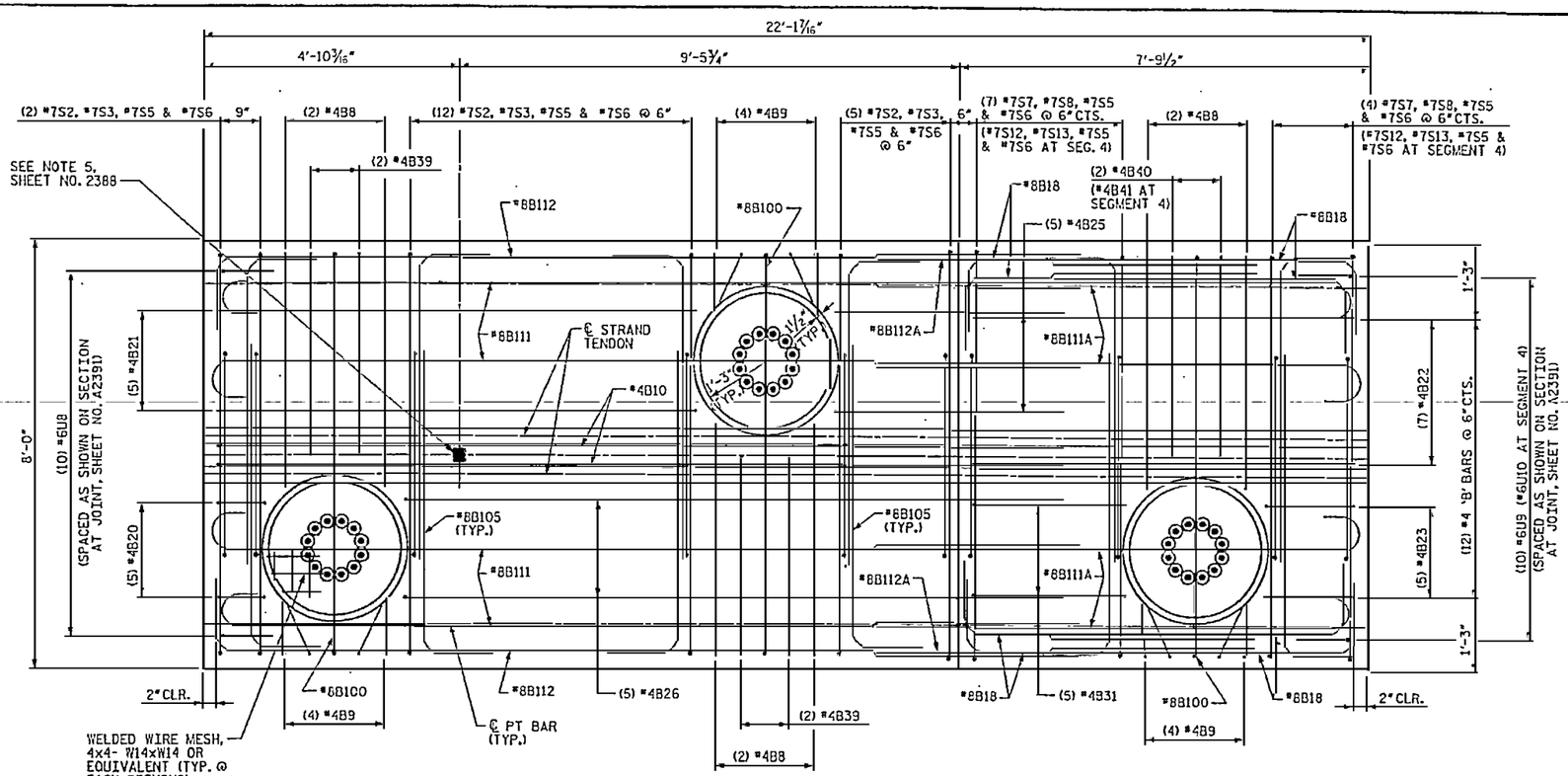
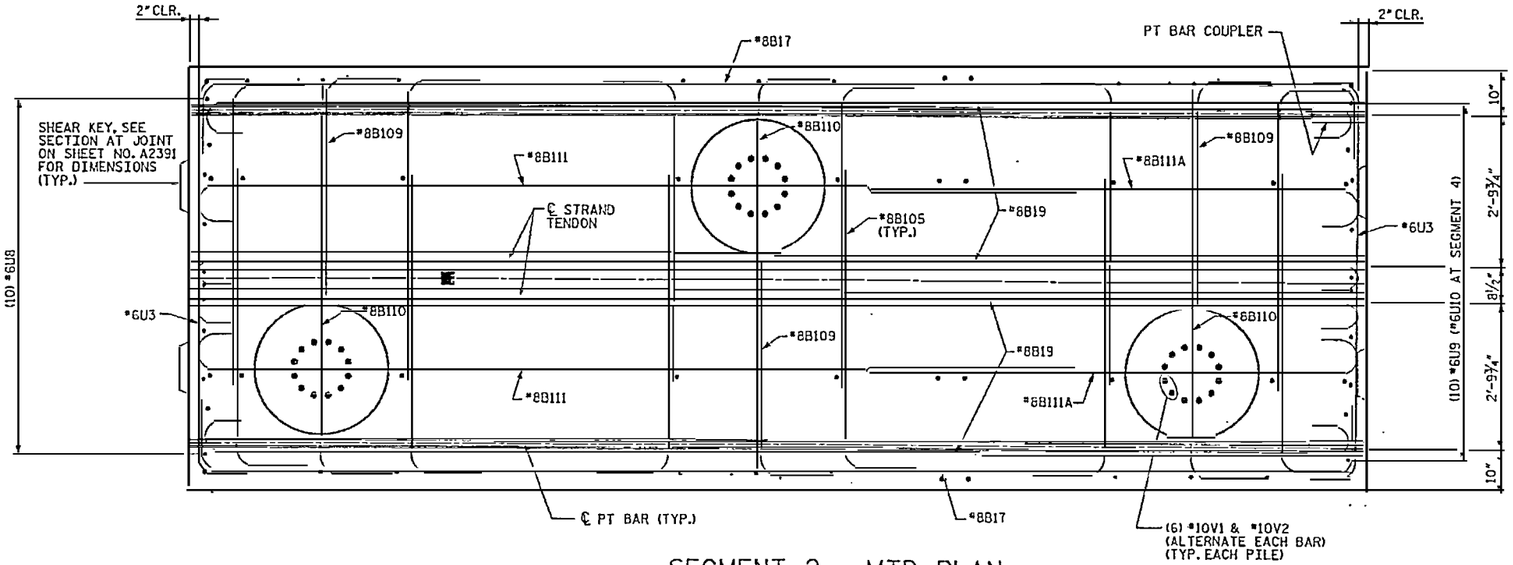


SEGMENT 2 - TOP PLAN

(SEGMENT 4 - TOP PLAN, SIMILAR BY 180° ROTATION)



SEGMENT 2 - MID PLAN

(SEGMENT 4 - MID PLAN, SIMILAR BY 160° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DATE: 1/16/2008
TIME: 1:55:31 PM

USER: mfitzkelle
DGN: R:\Structures\Bridge\PROJECTS\R2510B_SD_DSN_BT6_DETAILS.dgn

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

NORTH CAROLINA PROFESSIONAL SEAL 030686 ENGINEER JOHN C. LIU

RELEASED FOR CONSTRUCTION
TOM SPEARIN, PE DATE

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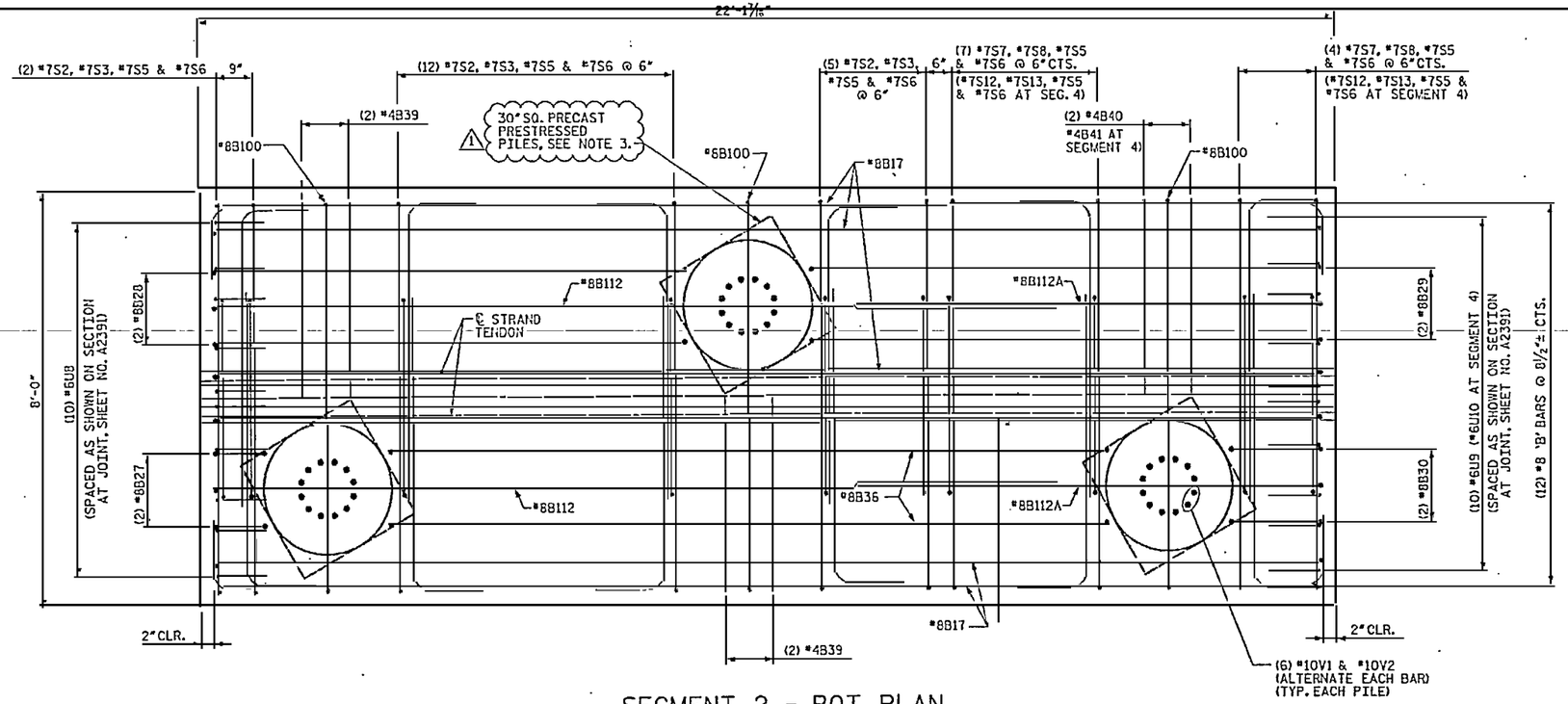
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

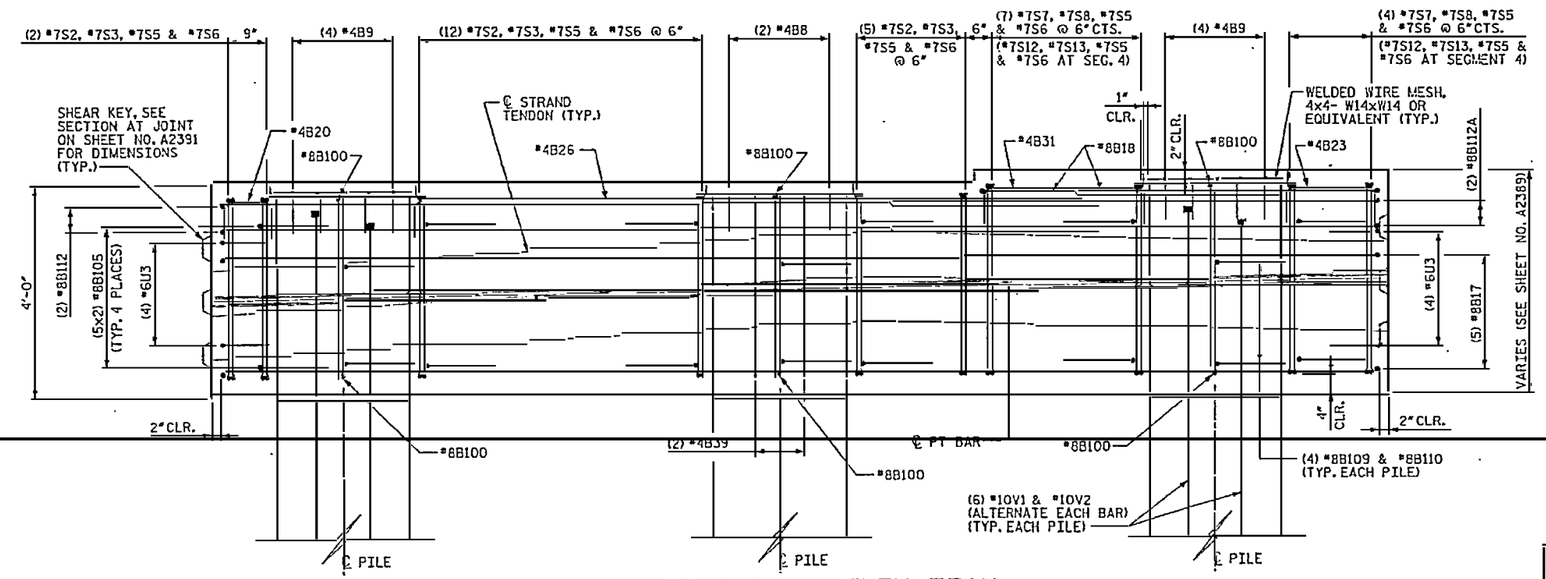
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2395.00
1			3			TOTAL SHEETS
2			4			



SEGMENT 2 - BOT PLAN

(SEGMENT 4 - BOT PLAN, SIMILAR BY 180° ROTATION)



SEGMENT 2 - ELEVATION

(SEGMENT 4 ELEVATION SIMILAR)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.
1. 3. PILES AS SHOWN ARE AT BENT 98 & 99 ONLY. PILES ARE ROTATED PARALLEL TO ℄ BENT AT BENTS 86 THRU 97.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/11/08 DATE

1 ADDED NOTE 3.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE NO. 2 -
~~-ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2396.01
1	MTB	3/3/08	3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

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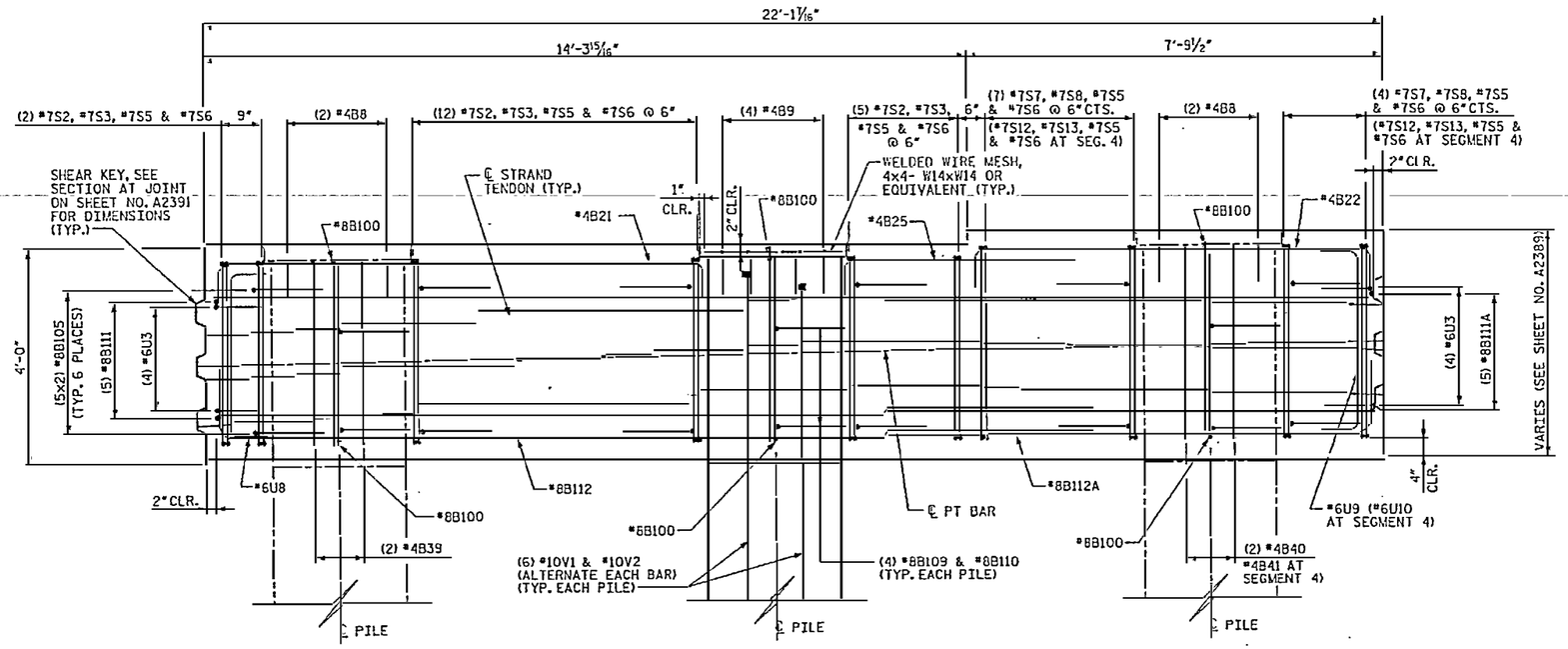
FLATIRON/UNITED
A JOINT VENTURE

USER: mtbelisle
DGN: N:\ROADWAY\Structures\Bridge\CADD\R2510B_SD_DSN_B15-DETail.dgn
DATE: 3/3/2008
TIME: 10:22:29 PM

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEGMENT 4 SIMILAR)
(SEE SHEET NO. A2389)

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2397.00
1			3			TOTAL SHEETS
2			4			

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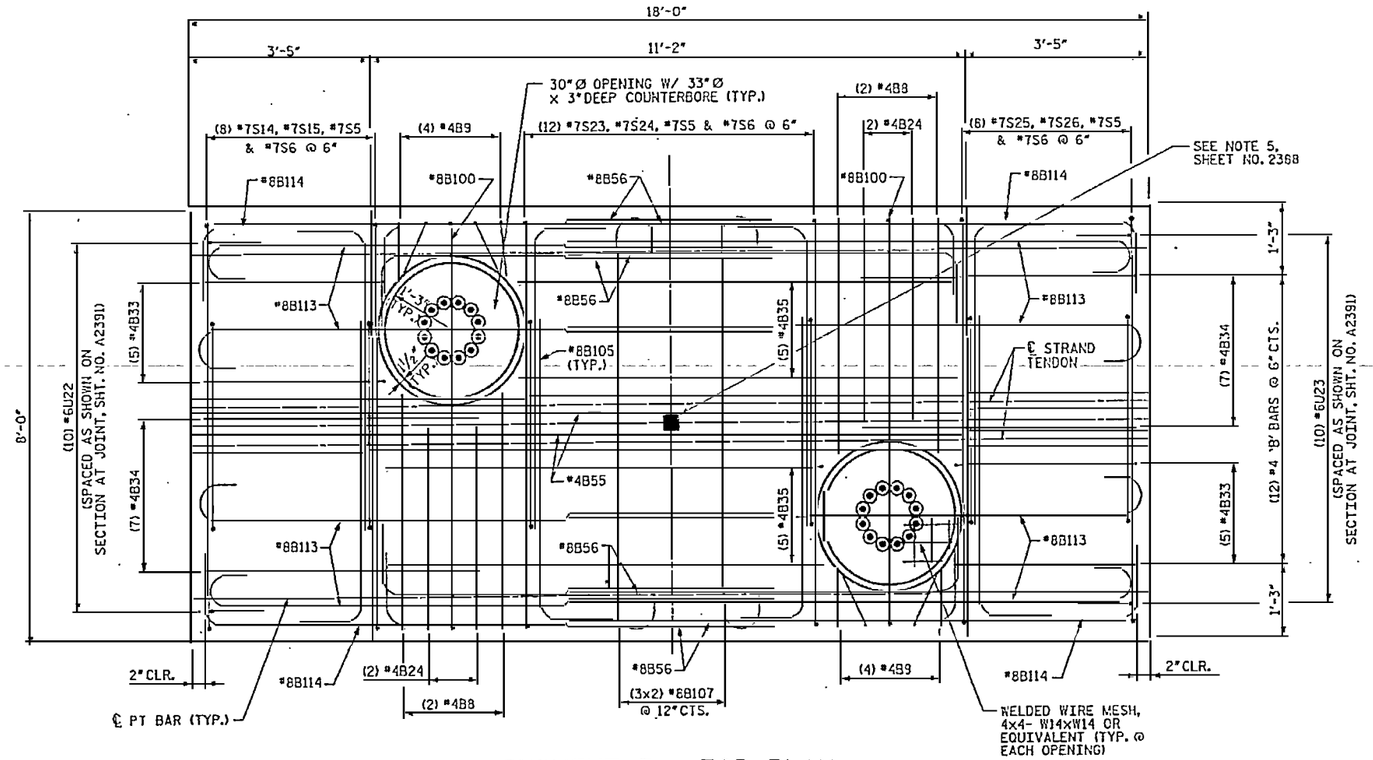
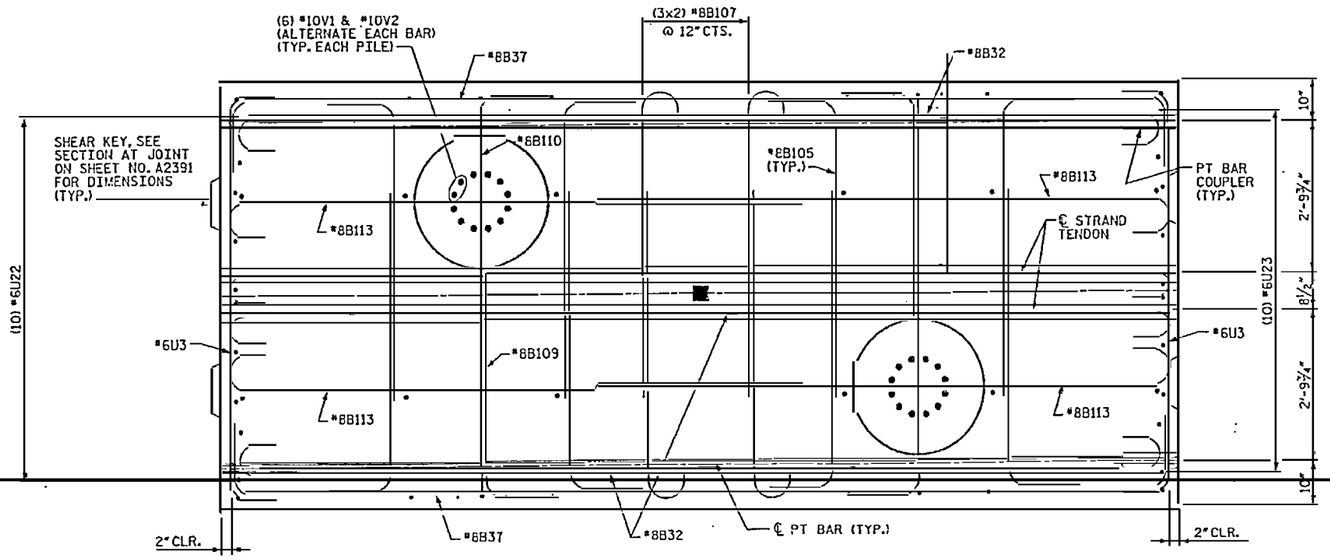
TIME: 12:33:33 PM



SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M.T. BELTSLE DATE : 01/09
CHECKED BY : J. LIU DATE : 01/09

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 1/22/09

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech
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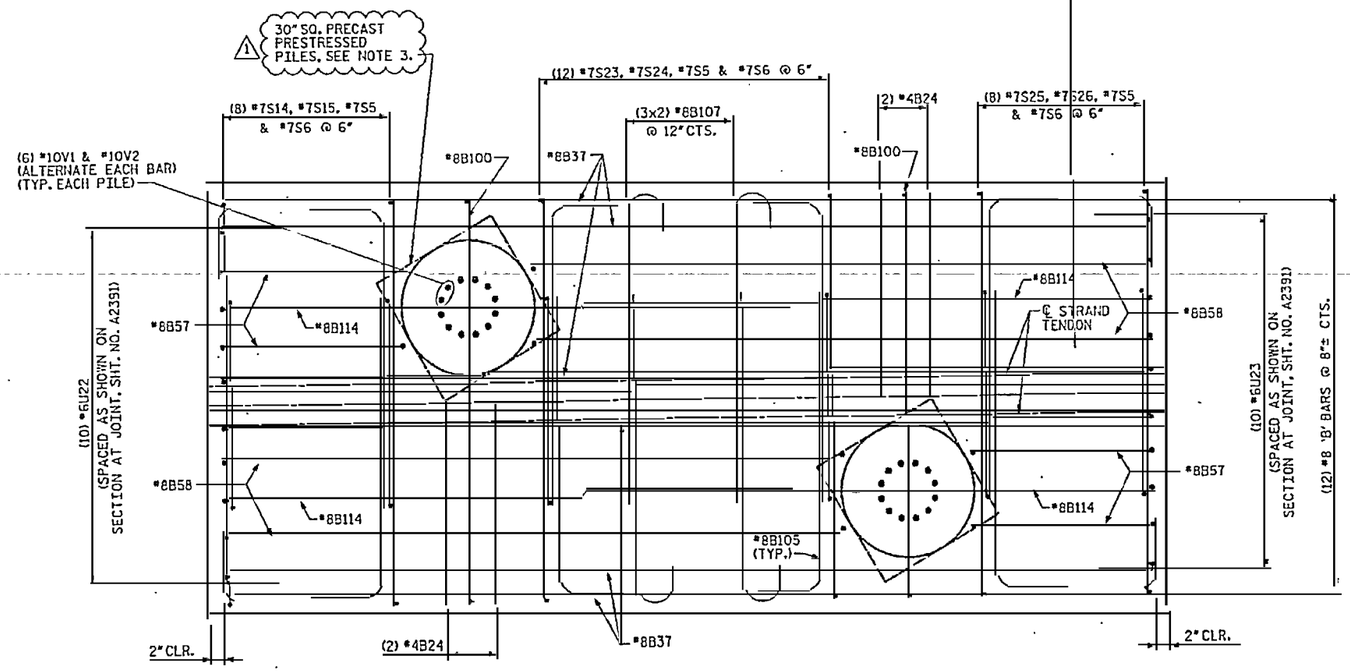
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO	BY:	DATE:	A2398.00
1			3			TOTAL SHEETS
2			4			

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.
3. PILES AS SHOWN ARE AT BENT 98 & 99 ONLY. PILES ARE ROTATED PARALLEL TO ℄ BENT AT BENTS 86 THRU 97.



SEGMENT 3 - BOT PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

1 ADDED NOTE 3.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 11 OF 14 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

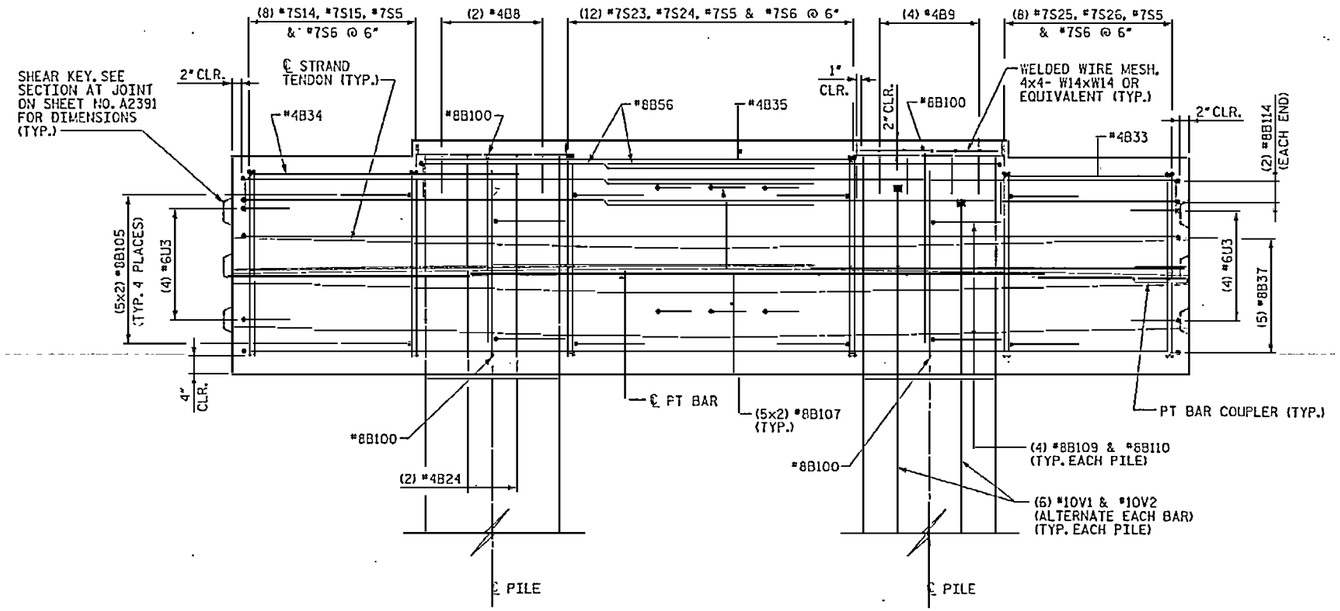
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2399.01
1	MTB	3/3/08	3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

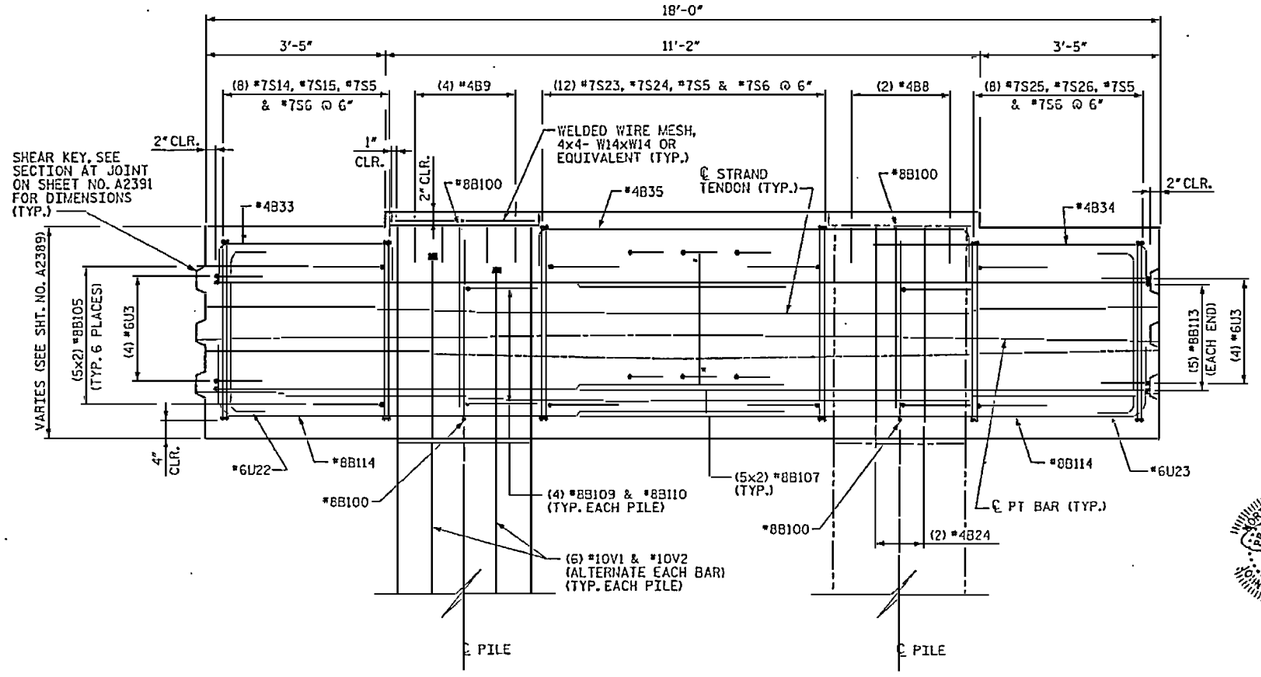
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

USER: mbelisle
DGN: RUSHmbelisle\Tar River Bridge\MCDOR2510B_S3_DTL_BTC-DETAILS.dgn
DATE: 3/3/2008
TIME: 10:05:25 PM



SEGMENT 3 - ELEVATION



SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2389)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

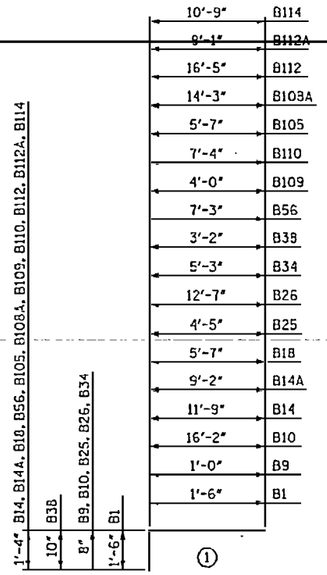
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 14 BRIDGE NO. 353

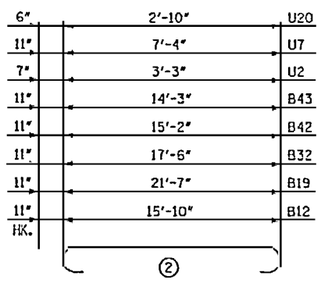
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

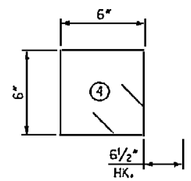
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

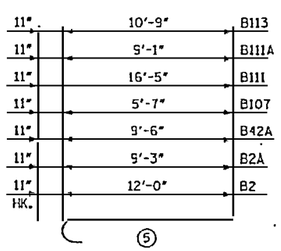
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2400.00
1			3			TOTAL SHEETS
2			4			

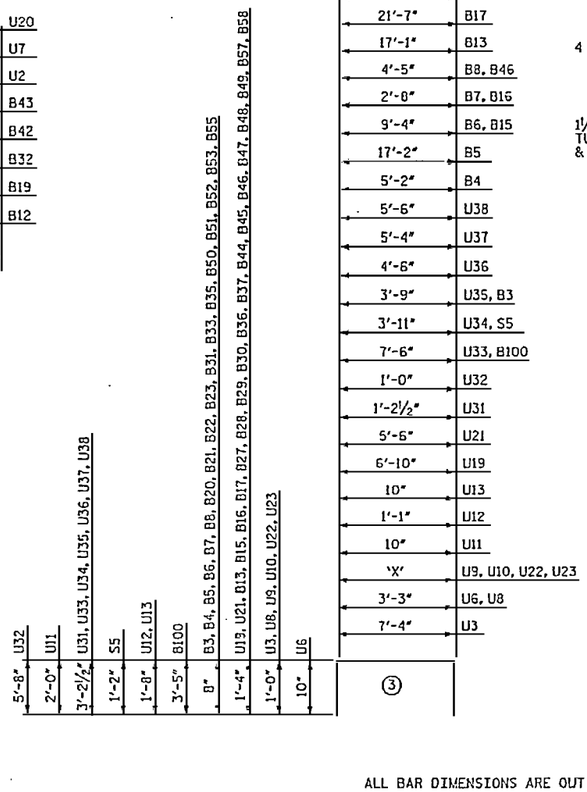
BAR TYPES

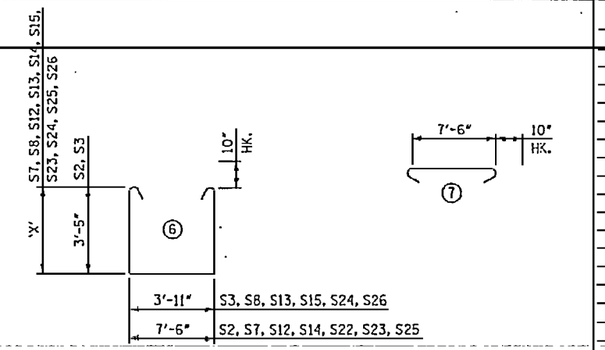


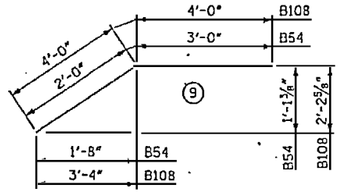


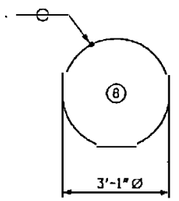


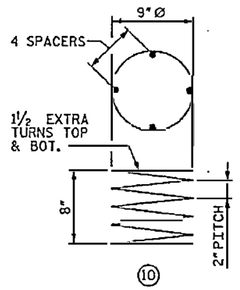


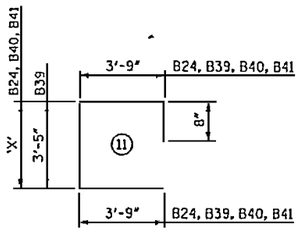


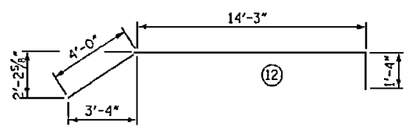


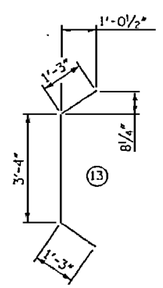












NOTES:

1. BARS INCLUDED IN THE BILL OF MATERIALS ON THIS SHEET ARE TYPICAL FOR PILE CAPS AT BENT NOS. B6 THRU 99.
2. BARS WITH THE VARIABLE DIMENSION 'X' ARE LISTED ON SHEET NO. A2402, AND ARE IN ADDITION TO THE BARS ON THIS SHEET.

ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : M.T. BELISLE DATE : 01/09
CHECKED BY : J. LIU DATE : 01/09

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	20	#8	(5)	12'-11"	690
B2A	20	#8	(5)	10'-2"	543
B3	2	#4	(3)	5'-1"	7
B4	6	#4	(3)	6'-6"	26
B5	4	#4	(3)	18'-6"	49
B6	10	#4	(3)	10'-8"	71
B7	10	#4	(3)	4'-0"	27
B8	24	#4	(3)	5'-9"	92
B9	48	#4	(1)	1'-8"	53
B10	4	#4	(1)	16'-10"	45
B11	12	#8	(12)	19'-7"	627
B12	12	#8	(2)	17'-8"	566
B13	4	#8	(3)	19'-9"	211
B14	4	#8	(1)	13'-1"	140
B14A	4	#8	(1)	10'-6"	112
B15	4	#8	(3)	12'-0"	128
B16	4	#8	(3)	5'-4"	57
B17	28	#8	(3)	24'-3"	1813
B18	16	#8	(1)	6'-11"	295
B19	28	#8	(2)	23'-5"	1751
B20	10	#4	(3)	2'-4"	16
B21	10	#4	(3)	10'-6"	70
B22	14	#4	(3)	8'-6"	79
B23	10	#4	(3)	3'-1"	21
B25	10	#4	(1)	5'-1"	34
B26	10	#4	(1)	13'-3"	89
B27	4	#8	(3)	3'-8"	39
B28	4	#8	(3)	11'-10"	126
B29	4	#8	(3)	12'-7"	134
B30	4	#8	(3)	4'-5"	47
B31	10	#4	(3)	4'-3"	28
B32	14	#8	(2)	19'-4"	723
B33	10	#4	(3)	4'-9"	32
B34	14	#4.	(1)	5'-11"	55
B35	10	#4	(3)	9'-5"	63
B36	4	#8	(3)	16'-6"	176
B37	14	#8	(3)	20'-2"	754
B38	4	#5	(1)	4'-0"	17
B39	16	#4	(11)	11'-7"	124
B42	8	#8	(2)	17'-0"	363
B42A	16	#8	(2)	10'-5"	445
B43	8	#8	(2)	16'-1"	344
B44	8	#8	(3)	16'-11"	361
B45	4	#8	(3)	17'-10"	190
B46	2	#8	(3)	7'-1"	38
B47	2	#8	(3)	8'-1"	43
B48	2	#8	(3)	14'-9"	79
B49	2	#8	(3)	13'-9"	73
B50	2	#4	(3)	5'-10"	8
B51	6	#4	(3)	13'-3"	53
B52	2	#4	(3)	12'-7"	17
B53	2	#4	(3)	11'-10"	16
B54	24	#7	(9)	5'-0"	245
B55	2	#4	(3)	12'-0"	16
B56	8	#8	(1)	8'-7"	183
B57	4	#8	(3)	6'-1"	65
B58	4	#8	(3)	14'-3"	152
B100	24	#8	(3)	14'-4"	918

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B105	240	#8	(1)	6'-11"	4432
B106	60	#6	(2)	4'-0"	360
B107	130	#8	(5)	6'-6"	2256
B108	8	#8	(9)	8'-0"	171
B108A	8	#8	(1)	15'-7"	333
B109	48	#8	(1)	5'-4"	684
B110	48	#8	(1)	8'-8"	1111
B111	28	#8	(5)	17'-4"	1296
B111A	28	#8	(5)	10'-0"	748
B112	12	#8	(1)	17'-9"	569
B112A	12	#8	(1)	10'-5"	334
B113	28	#8	(5)	11'-8"	872
B114	12	#8	(1)	12'-1"	387
S1	16	#4	(4)	3'-3"	35
S2	68	#7	(6)	16'-0"	2224
S3	68	#7	(6)	12'-5"	1726
S5	118	#7	(3)	6'-3"	1507
S6	118	#7	(7)	9'-2"	2211
S31	16	#7	(8)	9'-5"	308
U3	32	#6	(3)	9'-4"	449
U6	12	#5	(3)	4'-11"	62
U7	105	#8	(2)	9'-2"	2570
U8	40	#6	(3)	5'-3"	315
U11	12	#5	(3)	4'-10"	60
U12	8	#5	(3)	4'-5"	37
U13	8	#5	(3)	4'-2"	35
U16	12	#5	(13)	5'-10"	73
U19	8	#8	(3)	9'-6"	203
U20	2	#4	(2)	3'-10"	5
U21	4	#8	(3)	8'-2"	87
U31	52	#7	(3)	7'-8"	815
U32	8	#8	(3)	12'-4"	263
U33	20	#7	(3)	13'-11"	569
U34	8	#7	(3)	10'-4"	84
U35	4	#7	(3)	10'-2"	83
U36	4	#7	(3)	10'-11"	89
U37	4	#7	(3)	11'-9"	96
U38	8	#7	(3)	11'-11"	195
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 13 OF 14 BRIDGE NO. 353

NORTH CAROLINA PROFESSIONAL SEAL C30878 ENGINEER JON W. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/22/09 DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2401.00
1			3			TOTAL SHEETS
2			4			

USER: rhilderbrand
DGN: N:\Structure\Tar River Bridge\ADD\R2510B_SD_DSN_BPE-DET1.dgn
DATE: 1/15/2009
TIME: 12:53:04 PM

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	BENT NO. 86		BENT NO. 87		BENT NO. 88		BENT NO. 89		BENT NO. 90		BENT NO. 91		BENT NO. 92		BENT NO. 93		BENT NO. 94		BENT NO. 95		BENT NO. 96		BENT NO. 97		BENT NO. 98		BENT NO. 99	
				LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B24	4	#4	(11)	12'-2"	33	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-1"	32	12'-2"	33
B40	2	#4	(11)	11'-11"	16	12'-0"	16	12'-0"	16	12'-0"	16	12'-0"	16	12'-0"	16	12'-0"	16	12'-0"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-2"	16
B41	2	#4	(11)	12'-2"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-1"	16	12'-0"	16	12'-0"	16	12'-0"	16	12'-0"	16	12'-0"	16	12'-0"	16	11'-11"	16
S7	11	#7	(6)	16'-4"	367	16'-5"	369	16'-5"	369	16'-5"	369	16'-6"	371	16'-6"	371	16'-6"	371	16'-7"	373	16'-7"	373	16'-7"	373	16'-8"	375	16'-8"	375	16'-8"	375	16'-9"	377
S8	11	#7	(6)	12'-9"	287	12'-10"	289	12'-10"	289	12'-10"	289	12'-11"	290	12'-11"	290	12'-11"	290	13'-0"	292	13'-0"	292	13'-0"	292	13'-1"	294	13'-1"	294	13'-1"	294	13'-2"	296
S12	11	#7	(6)	16'-9"	377	16'-8"	375	16'-8"	375	16'-8"	375	16'-7"	373	16'-7"	373	16'-7"	373	16'-6"	371	16'-6"	371	16'-6"	371	16'-5"	369	16'-5"	369	16'-5"	369	16'-4"	367
S13	11	#7	(6)	13'-2"	296	13'-1"	294	13'-1"	294	13'-1"	294	13'-0"	292	13'-0"	292	13'-0"	292	12'-11"	290	12'-11"	290	12'-11"	290	12'-10"	289	12'-10"	289	12'-10"	289	12'-9"	287
S14	8	#7	(6)	16'-4"	267	16'-3"	266	16'-3"	266	16'-2"	264	16'-1"	263	16'-1"	263	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262
S15	8	#7	(6)	12'-9"	208	12'-8"	207	12'-8"	207	12'-7"	206	12'-6"	204	12'-6"	204	12'-5"	203	12'-5"	203	12'-5"	203	12'-5"	203	12'-5"	203	12'-5"	203	12'-5"	203	12'-5"	203
S23	12	#7	(6)	16'-9"	411	16'-8"	408	16'-8"	408	16'-8"	411	16'-7"	407	16'-7"	407	16'-7"	407	16'-7"	407	16'-7"	407	16'-7"	407	16'-8"	409	16'-8"	409	16'-8"	409	16'-9"	411
S24	12	#7	(6)	13'-2"	323	13'-1"	321	13'-1"	321	13'-1"	321	13'-0"	319	13'-0"	319	13'-0"	319	13'-0"	319	13'-0"	319	13'-0"	319	13'-1"	321	13'-1"	321	13'-1"	321	13'-2"	323
S25	8	#7	(6)	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-0"	262	16'-1"	262	16'-1"	262	16'-2"	264	16'-3"	266	16'-3"	266	16'-4"	267
S26	8	#7	(6)	12'-8"	203	12'-8"	203	12'-8"	203	12'-8"	203	12'-8"	203	12'-8"	203	12'-8"	203	12'-8"	203	12'-8"	203	12'-8"	203	12'-8"	204	12'-8"	204	12'-8"	207	12'-8"	207	12'-9"	208
U9	10	#6	(3)	5'-5"	81	5'-6"	83	5'-6"	83	5'-6"	83	5'-6"	83	5'-6"	83	5'-6"	83	5'-7"	84	5'-7"	84	5'-7"	84	5'-7"	84	5'-7"	84	5'-7"	84	5'-7"	84	5'-8"	85
U10	10	#6	(3)	5'-8"	85	5'-7"	84	5'-7"	84	5'-7"	84	5'-7"	84	5'-7"	84	5'-7"	84	5'-6"	83	5'-6"	83	5'-6"	83	5'-6"	83	5'-6"	83	5'-6"	83	5'-6"	83	5'-5"	81
U22	10	#6	(3)	5'-5"	81	5'-5"	81	5'-5"	81	5'-4"	80	5'-4"	80	5'-4"	80	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79		
U23	10	#6	(3)	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-3"	79	5'-4"	80	5'-4"	80	5'-4"	80	5'-4"	80	5'-5"	81	5'-5"	81

DIMENSION 'X'														
	BENT NO.													
BAR	86	87	88	89	90	91	92	93	94	95	96	97	98	99
7S7	3'-7"	3'-7 1/2"	3'-7 1/2"	3'-7 1/2"	3'-6"	3'-6"	3'-8"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-9"	3'-9"	3'-9"	3'-9 1/2"
7S8	3'-7"	3'-7 1/2"	3'-7 1/2"	3'-7 1/2"	3'-8"	3'-6"	3'-8"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-9"	3'-9"	3'-9"	3'-9 1/2"
7S12	3'-9 1/2"	3'-9"	3'-9"	3'-9"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8"	3'-8"	3'-8"	3'-7 1/2"	3'-7 1/2"	3'-7 1/2"	3'-7"
7S13	3'-9 1/2"	3'-9"	3'-9"	3'-9"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8"	3'-8"	3'-8"	3'-7 1/2"	3'-7 1/2"	3'-7 1/2"	3'-7"
7S14	3'-7"	3'-6 1/2"	3'-6 1/2"	3'-6"	3'-5 1/2"	3'-5 1/2"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"
7S15	3'-7"	3'-6 1/2"	3'-6 1/2"	3'-6"	3'-5 1/2"	3'-5 1/2"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"
7S23	3'-9 1/2"	3'-9"	3'-9"	3'-9"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-9"	3'-9"	3'-9"	3'-9 1/2"
7S24	3'-9 1/2"	3'-9"	3'-9"	3'-9"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-9"	3'-9"	3'-9"	3'-9 1/2"
7S25	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5 1/2"	3'-5 1/2"	3'-6"	3'-6 1/2"	3'-6 1/2"	3'-7"
7S26	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5"	3'-5 1/2"	3'-5 1/2"	3'-6"	3'-6 1/2"	3'-6 1/2"	3'-7"
4B24	3'-9 1/2"	3'-9"	3'-9"	3'-9"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-9"	3'-9"	3'-9"	3'-9 1/2"
4B40	3'-7"	3'-7 1/2"	3'-7 1/2"	3'-7 1/2"	3'-8"	3'-8"	3'-8"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-9"	3'-9"	3'-9"	3'-9 1/2"
4B41	3'-9 1/2"	3'-9"	3'-9"	3'-9"	3'-8 1/2"	3'-8 1/2"	3'-8 1/2"	3'-8"	3'-8"	3'-8"	3'-7 1/2"	3'-7 1/2"	3'-7 1/2"	3'-7"
6U9	3'-5"	3'-5 1/2"	3'-5 1/2"	3'-5 1/2"	3'-6"	3'-6"	3'-6"	3'-6 1/2"	3'-6 1/2"	3'-6 1/2"	3'-7"	3'-7"	3'-7"	3'-7 1/2"
6U10	3'-7 1/2"	3'-7"	3'-7"	3'-7"	3'-6 1/2"	3'-6 1/2"	3'-6 1/2"	3'-6"	3'-6"	3'-6"	3'-5 1/2"	3'-5 1/2"	3'-5 1/2"	3'-5"
6U22	3'-5"	3'-4 1/2"	3'-4 1/2"	3'-4"	3'-3 1/2"	3'-3 1/2"	3'-3"	3'-3"	3'-3"	3'-3"	3'-3"	3'-3"	3'-3"	3'-3"
6U23	3'-3"	3'-3"	3'-3"	3'-3"	3'-3"	3'-3"	3'-3"	3'-3"	3'-3 1/2"	3'-3 1/2"	3'-4"	3'-4 1/2"	3'-4 1/2"	3'-5"

NOTES:

1. BARS INCLUDED IN THE BILL OF MATERIALS ON THIS SHEET ARE IN ADDITION TO THE BARS ON SHEET NO. A2401.
2. DIMENSION 'X' LENGTHS ARE TO BE USED IN CONJUNCTION WITH BAR TYPES SHOWN ON SHEET NO. A2401.

NORTH CAROLINA PROFESSIONAL SEAL 026871 ENGINEER JOHN W. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/22/08 DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 14 OF 14 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 6
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2402.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELTSLE DATE : 01/08
CHECKED BY : J.L.T.II DATE : 01/08

PLOTTED: 1/21/2008 11:42:42 AM
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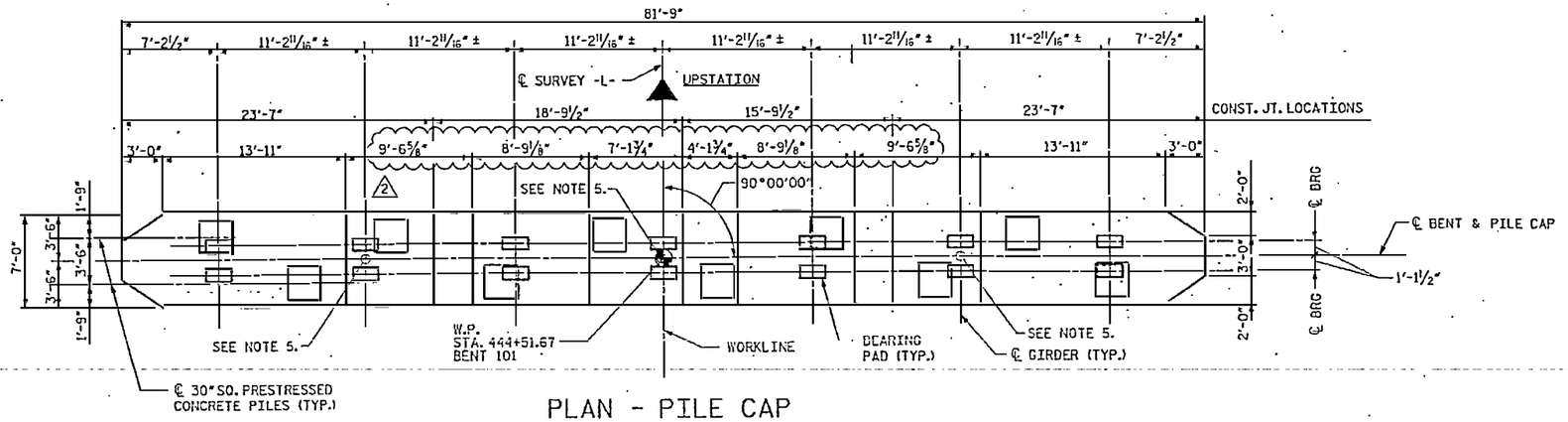
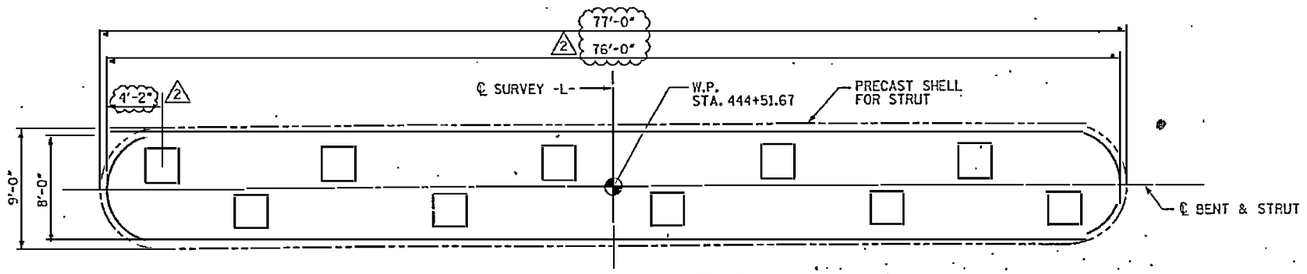
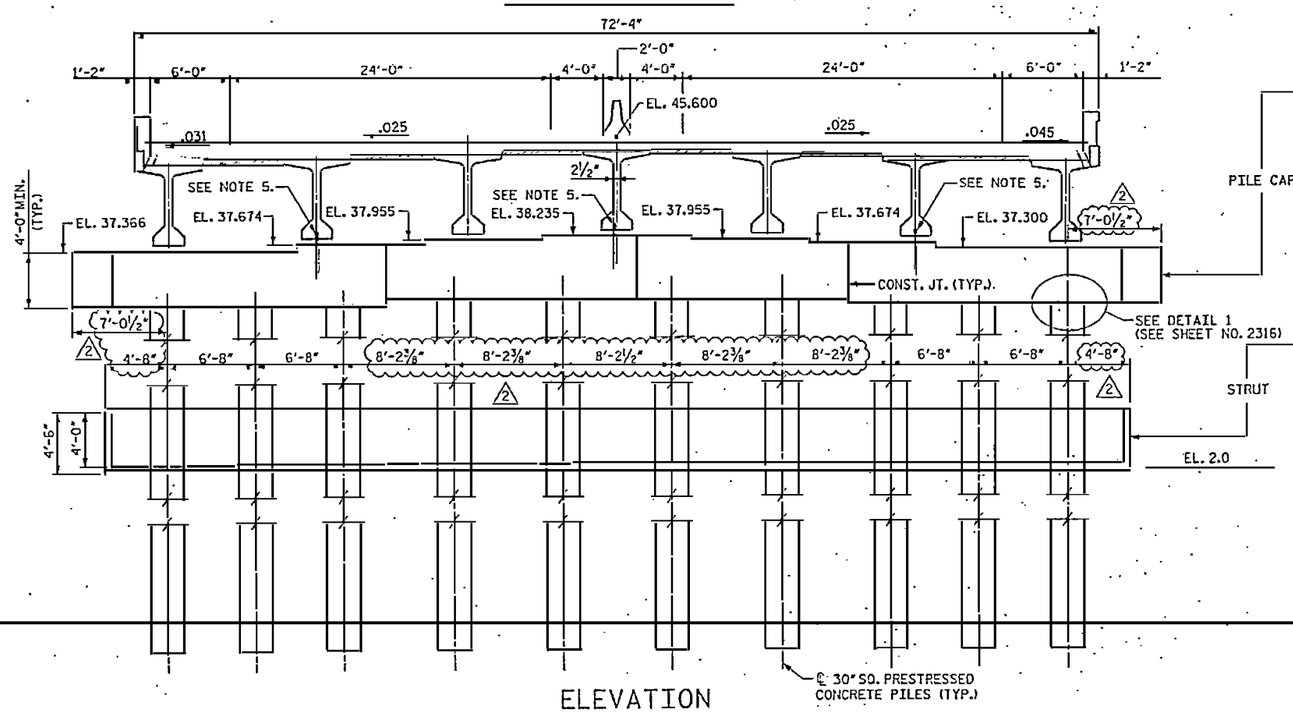


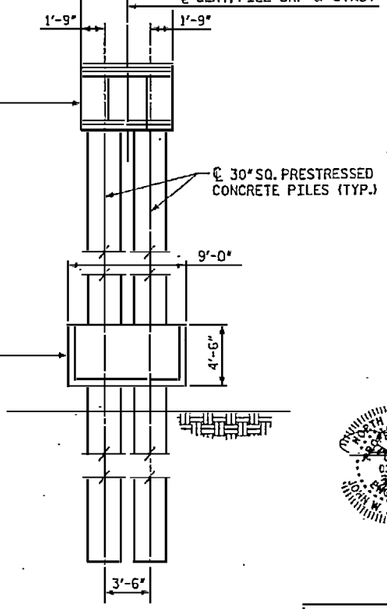
PLAN - PILE CAP



PLAN - STRUT



ELEVATION
(BENT 101)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAP AND STRUT SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1.
1. 5. 3"SQ. ASTM 304 STAINLESS SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB.
6. FILL VOIDS INSIDE PILES TO EL. 12.00 WITH FLOWABLE FILL BEFORE CORING THROUGH THE PILES FOR STRUT REINFORCEMENT.
2. 7. FOR STRUT REINFORCEMENT, SEE STRUT TYPE 3 ON SHEET NOS. 2626 THRU 2630. FOR PRECAST SHELL REINFORCEMENT, SEE PRECAST SHELL FOR STRUT TYPE 3 ON SHEET NOS. 2610 & 2612.
1. 8. THE CONSTRUCTION AT BOTH STRUT AND CAP SHALL BE COMPLETE BEFORE LAUNCHING TRUSS MOVES ON THE PIER.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

2 REVISED PILE SPACING, STRUT LENGTH AND NOTE NO. 7.
1 REVISION TO NOTE NO. 5 AND ADDED NOTE NO. 8.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DIMENSIONS - BENT TYPE 8
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2404.02
1	MTB	10/11/07	3			TOTAL SHEETS
2	MTB	3/7/08	4			

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DRAWN BY : S. G. STREDNAK DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

USER NAME = Dan Hildebrandt
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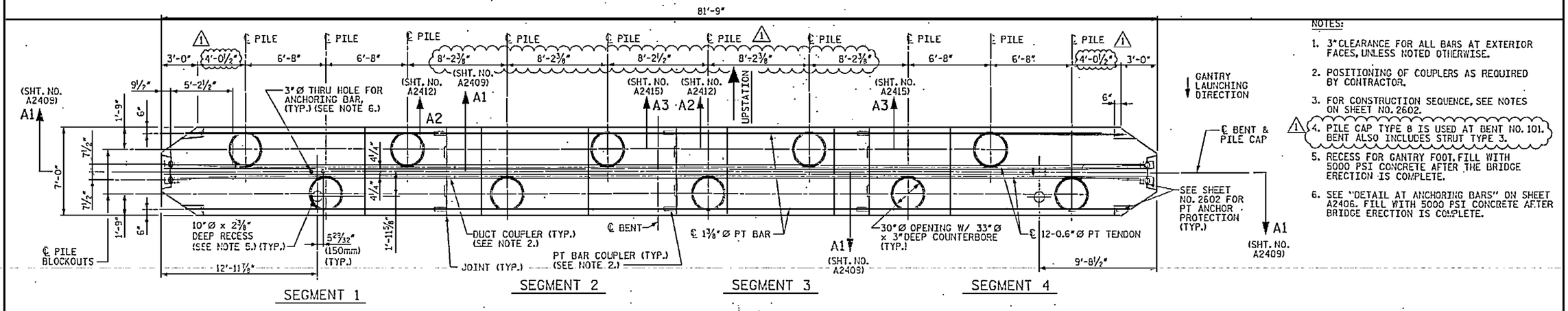
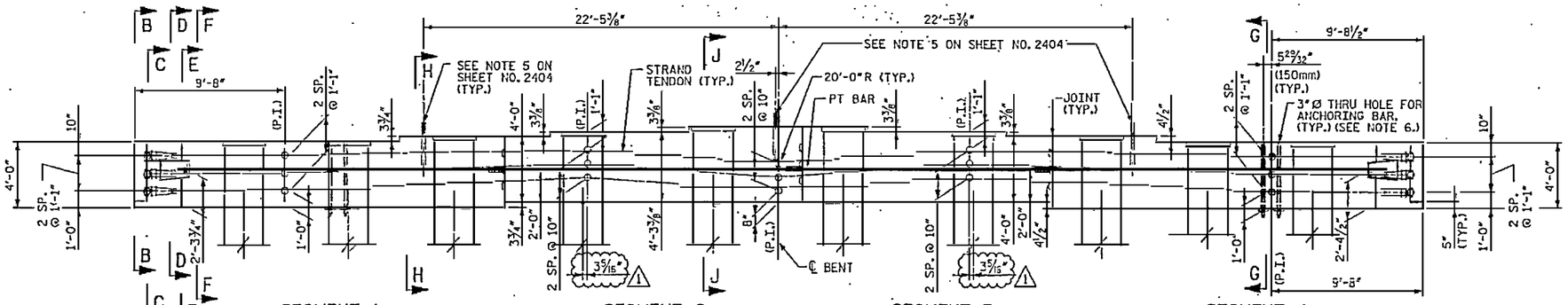


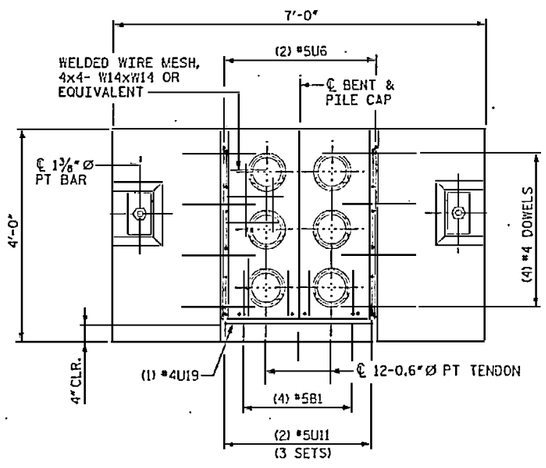
NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 8 IS USED AT BENT NO. 101. BENT ALSO INCLUDES STRUT TYPE 3.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET A2406. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

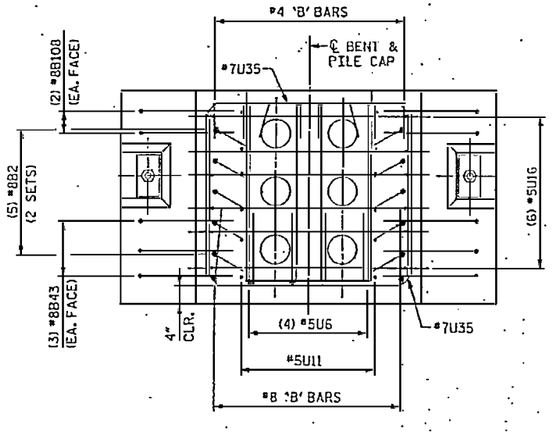
OVERALL PLAN



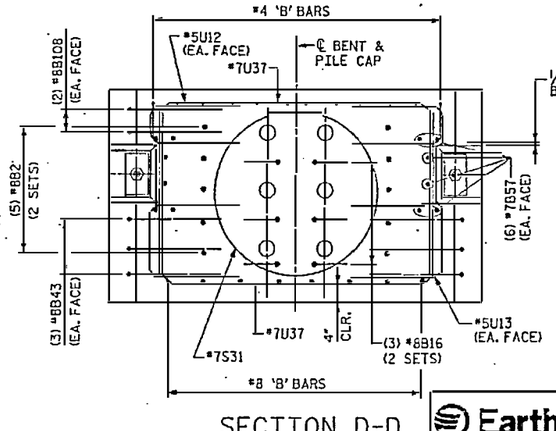
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 2/11/08

⚠1 REVISED PILE SPACING AND NOTE NO. 4.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2405.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

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USER: mtbelisle
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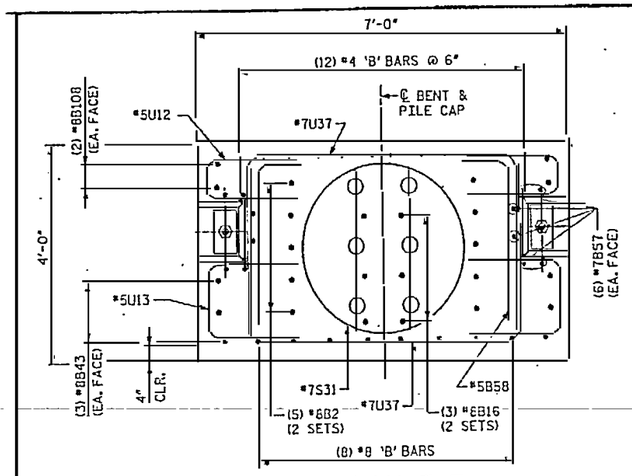
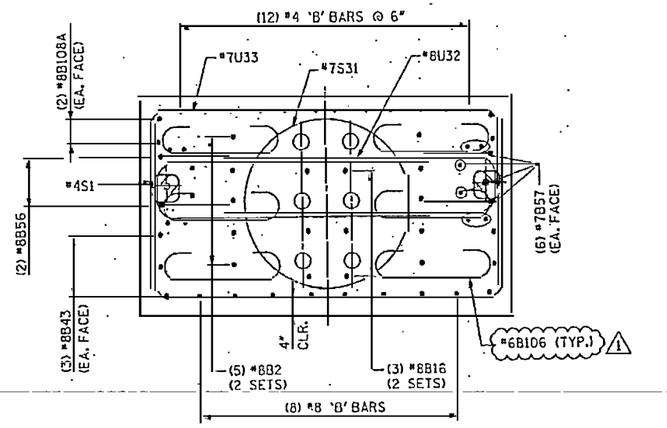
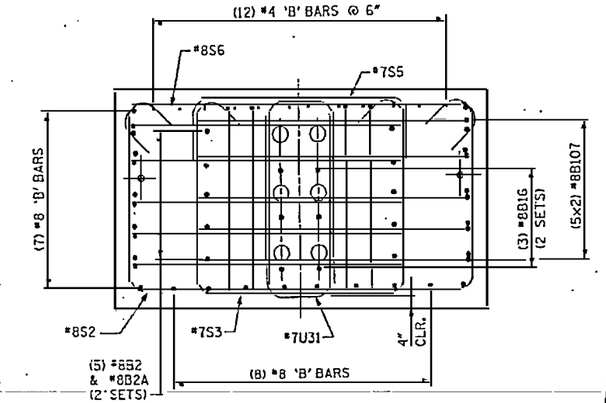


SECTION E-E

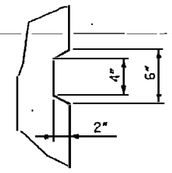


SECTION F-F



SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



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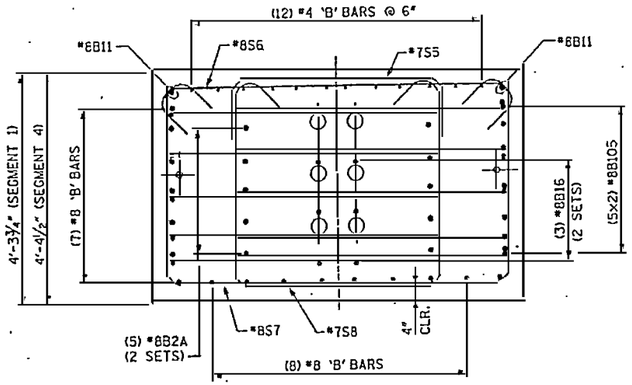
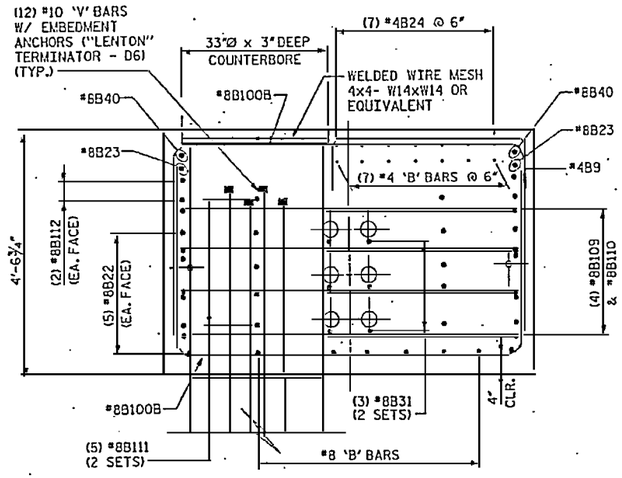
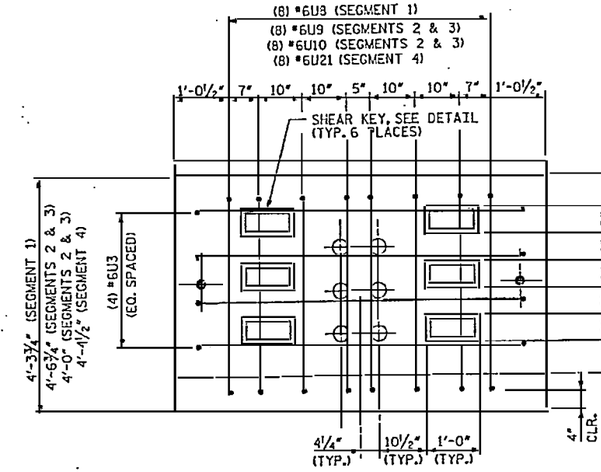


SECTION H-H

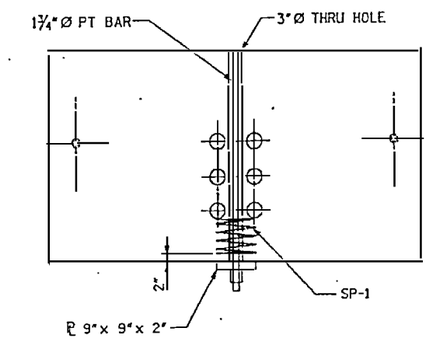


SECTION J-J



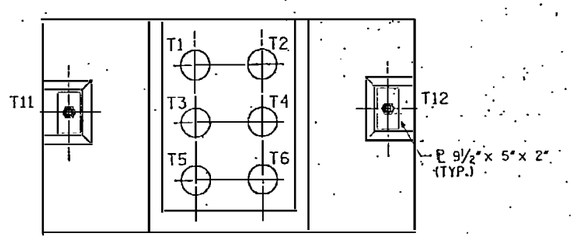
SECTION AT JOINT

(SEE SHEET NO. A2405)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS.
   T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS.
   FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1, T11.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/11/08 DATE

1 GENERAL REVISIONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
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A JOINT VENTURE

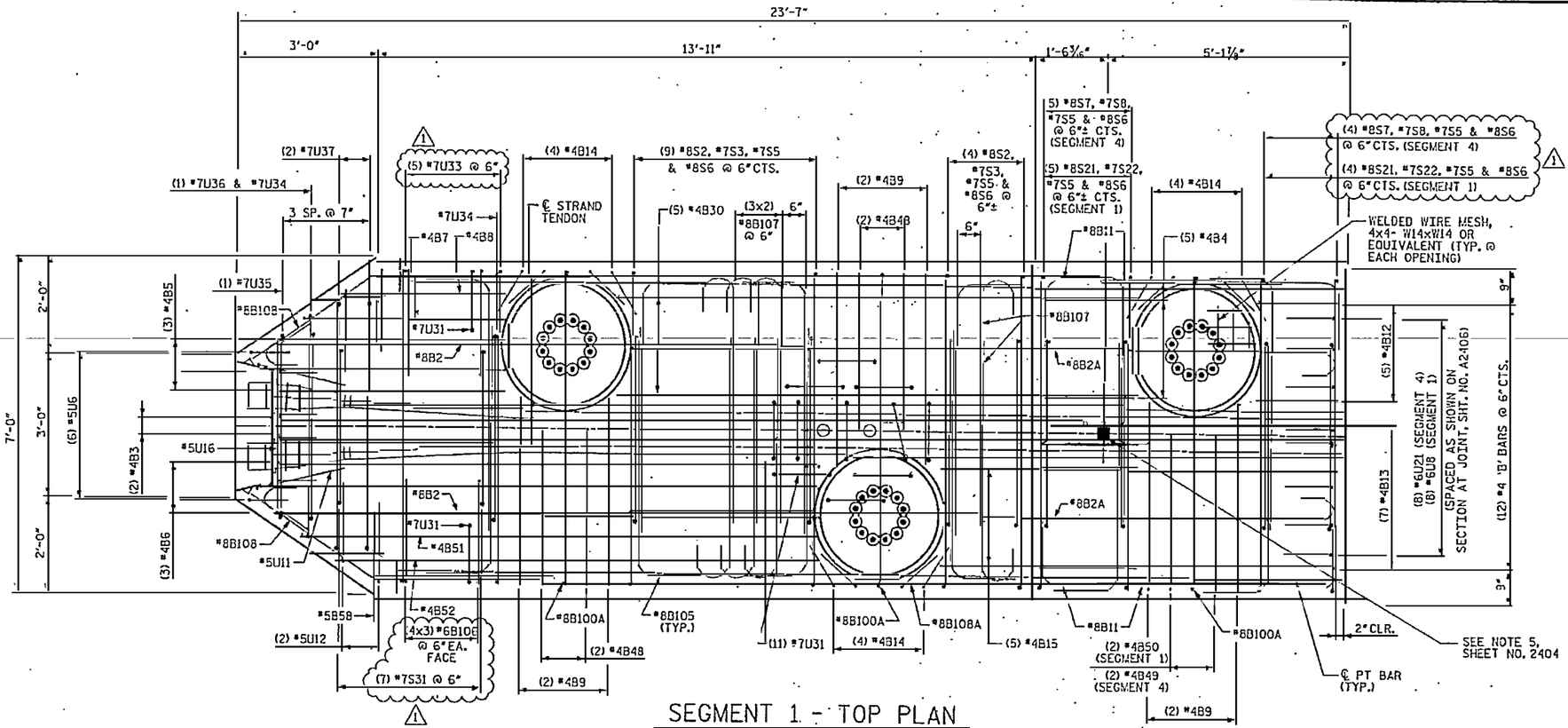
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2406.01
1	MTB	3/11/08				TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.J.TU DATE : 01/08

USER: rfenwick
DGN: N:\Structure\Projects\Bridge\ADDINS\SD_STD_SSH_BTB-DETS.dgn
DATE: 3/6/2008
11:48:58 AM

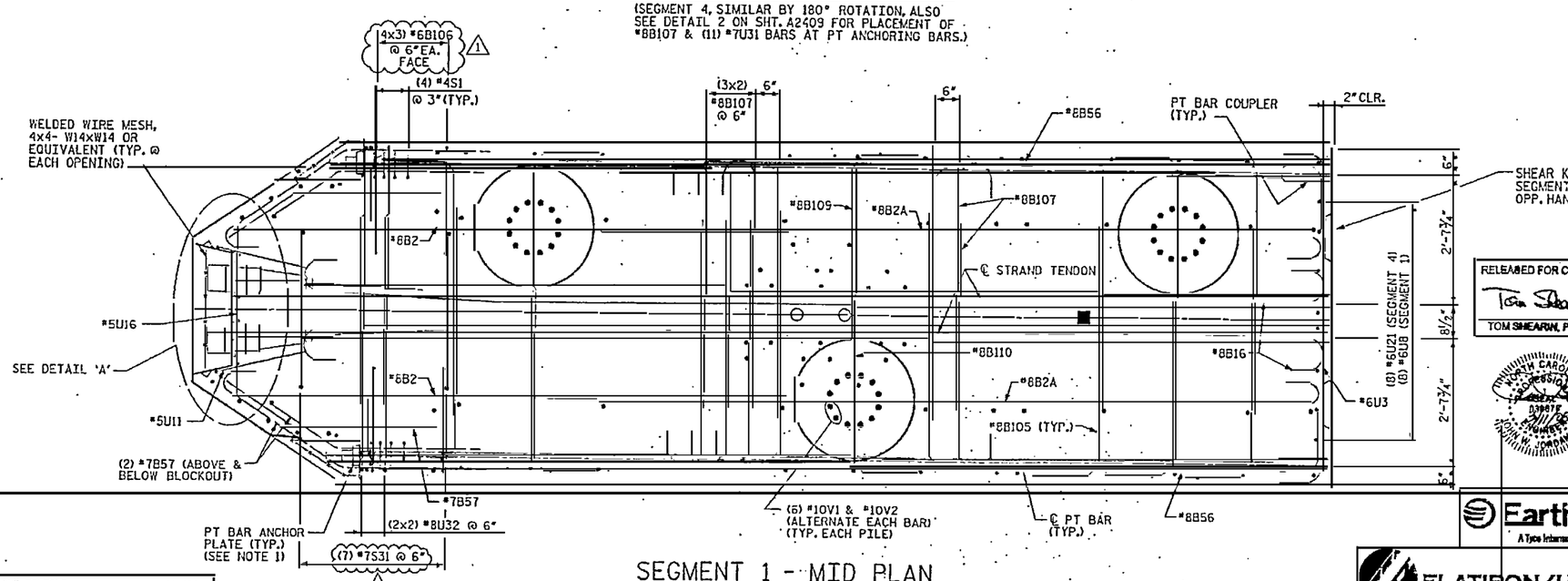
NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



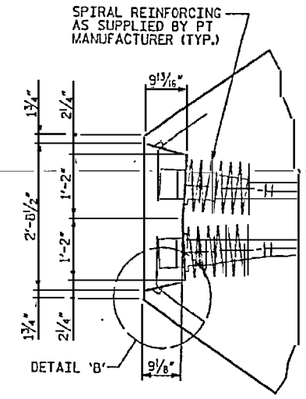
SEGMENT 1 - TOP PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION, ALSO SEE DETAIL 2 ON SHT. A2409 FOR PLACEMENT OF #8B107 & (1) #7U31 BARS AT PT ANCHORING BARS.)

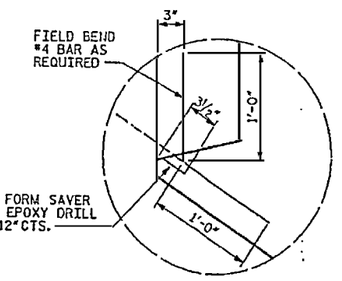


SEGMENT 1 - MID PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)



DETAIL A



DETAIL 'B'

⚠1 GENERAL REVISIONS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 8/11/23

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039078 JOHN W. JORDAN SHEET 3 OF 12

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PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
ALTERNATE DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	3/7/08	3		
2			4		

SHEET NO. 2407.01 TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.L.T.H. DATE : 01/08

DATE: 3/7/2008
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USER: mtbelisle
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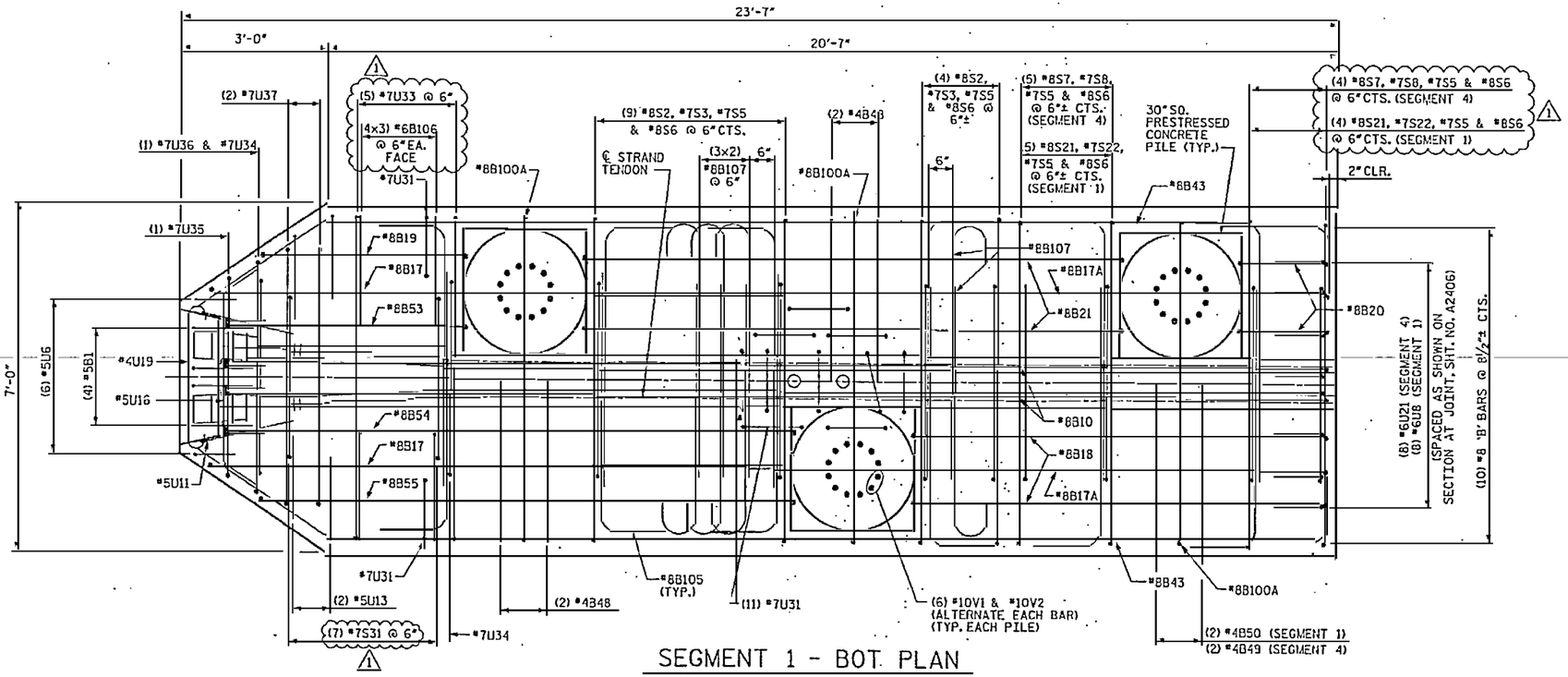
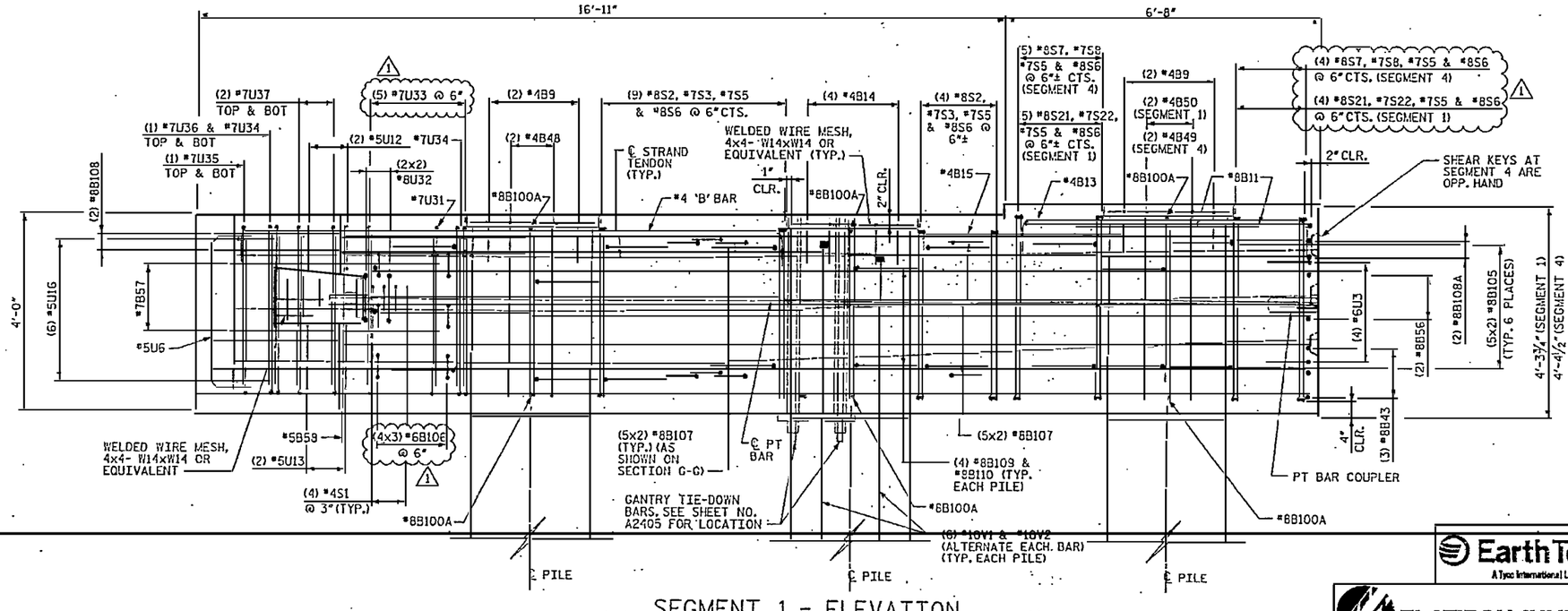


SEGMENT 1 - BOT. PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)



SEGMENT 1 - ELEVATION

(SEGMENT 4 - SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/6/08 DATE

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2408.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

DRAWN BY : W.T. BELISLE DATE : 01/08
CHECKED BY : J.L.T.H. DATE : 01/08

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USER: mtbaldw
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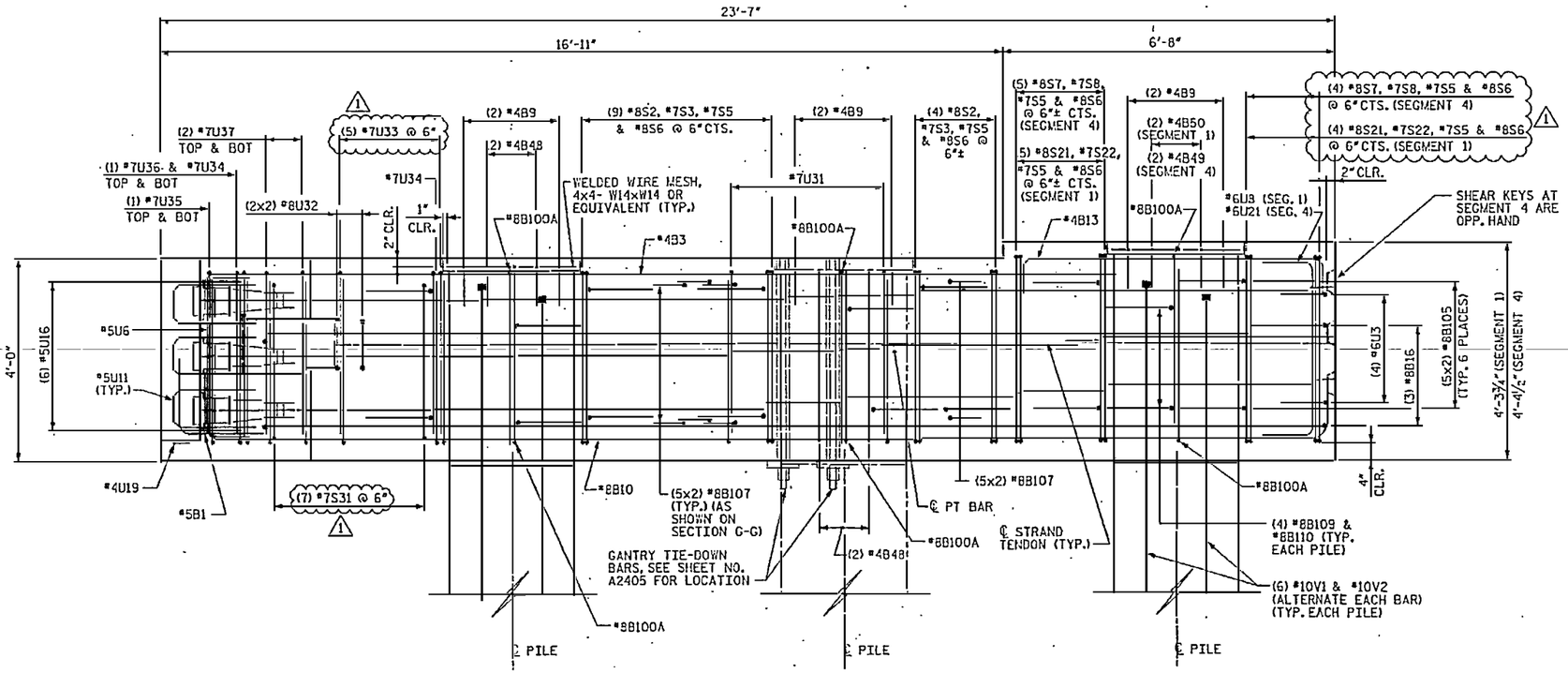
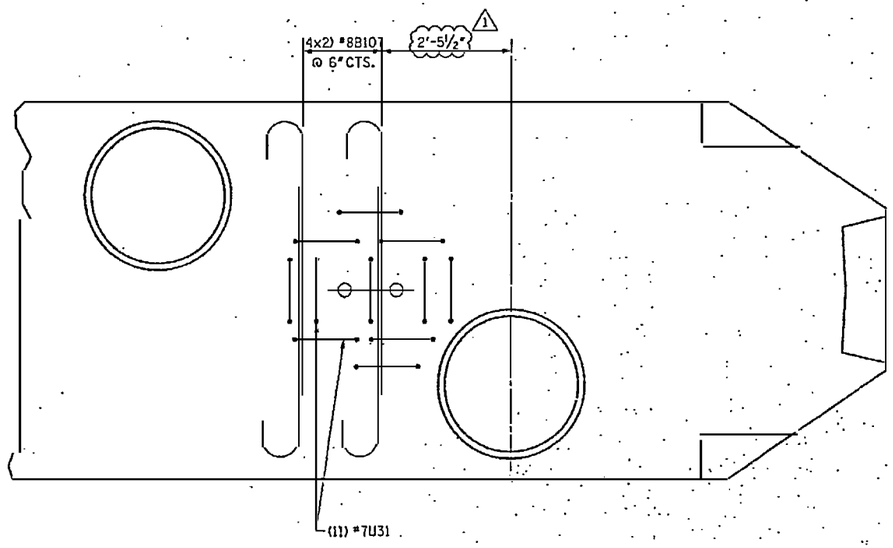


SEGMENT 1 - SECTION A1

(SEGMENT 4 - SIMILAR BY 180° ROTATION).
(SEE SHEET NO. A2405)



DETAIL 2

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/11/08 DATE

1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2409.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

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DRAWN BY : M.T. EELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

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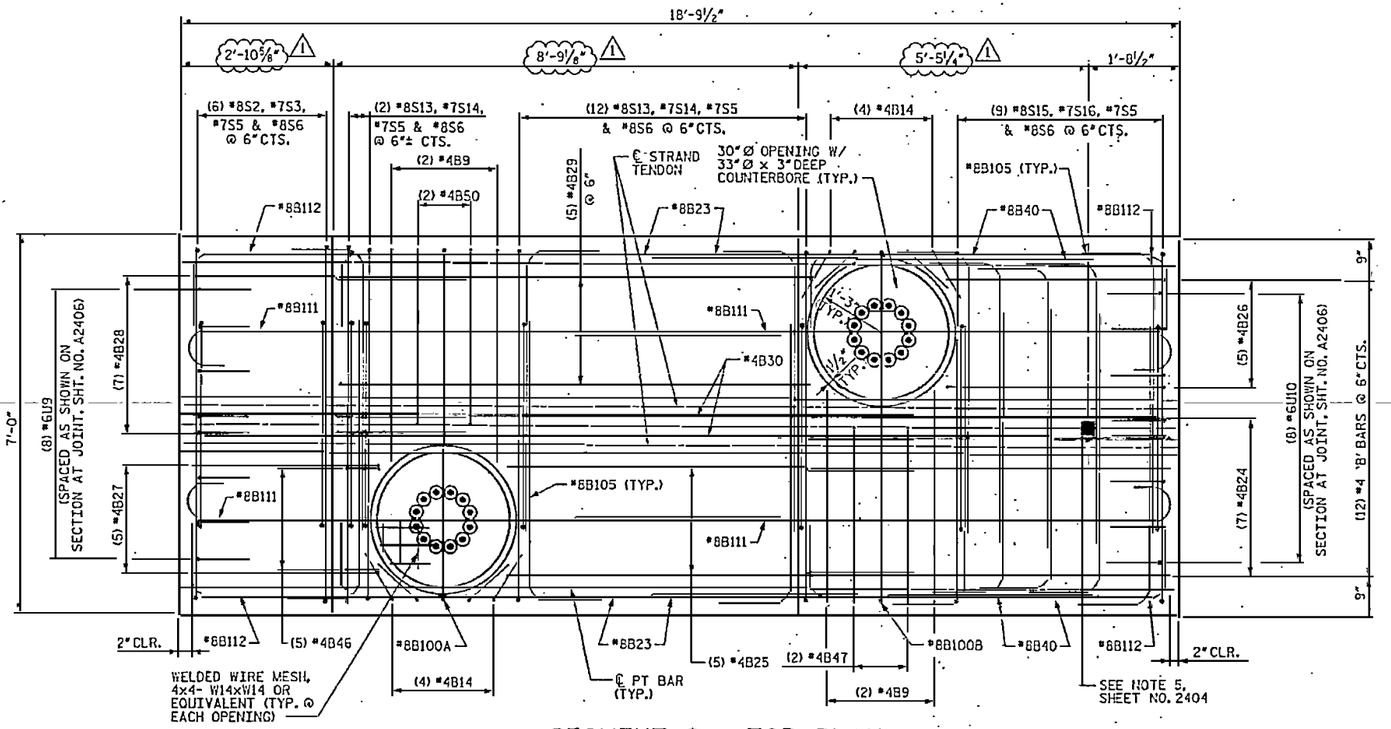
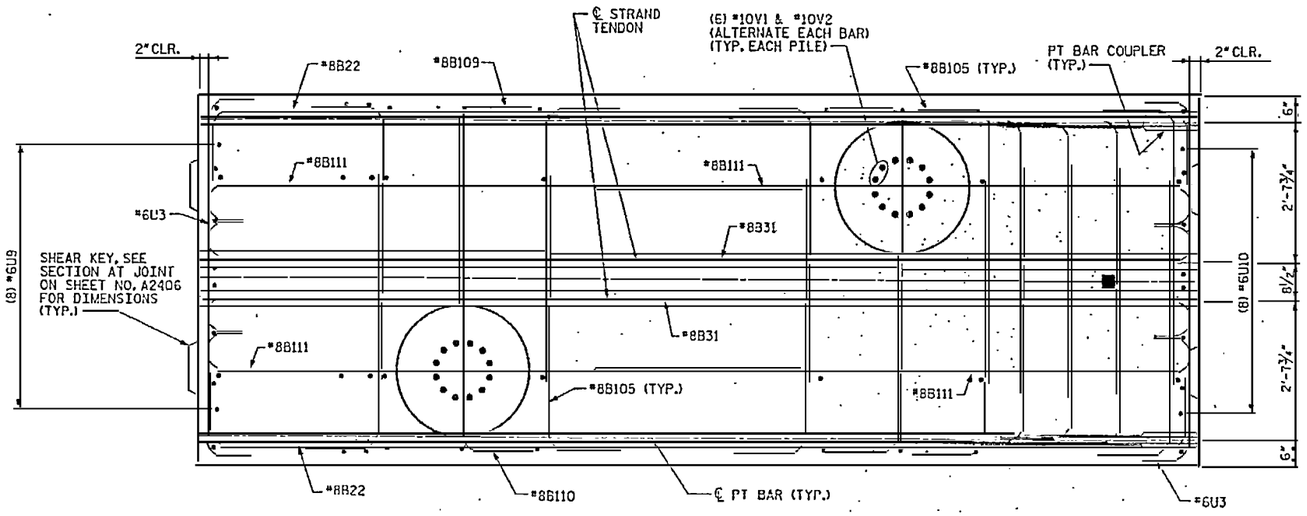


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/11/08 DATE

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

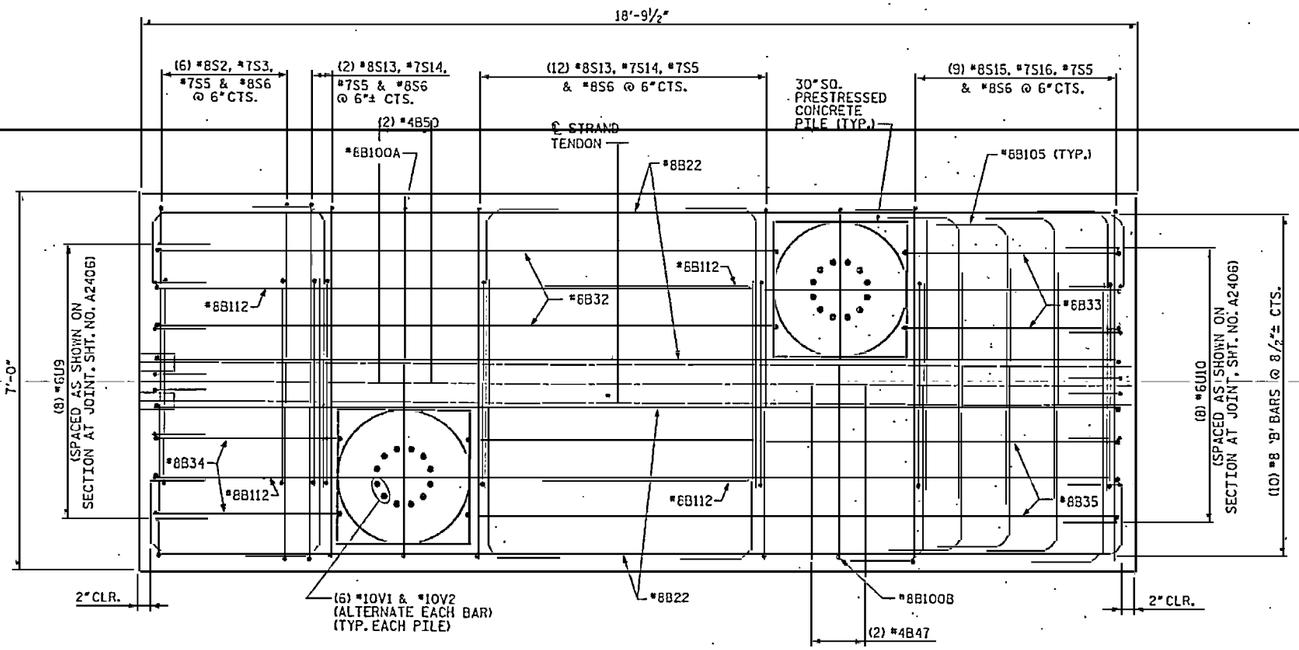
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2410.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

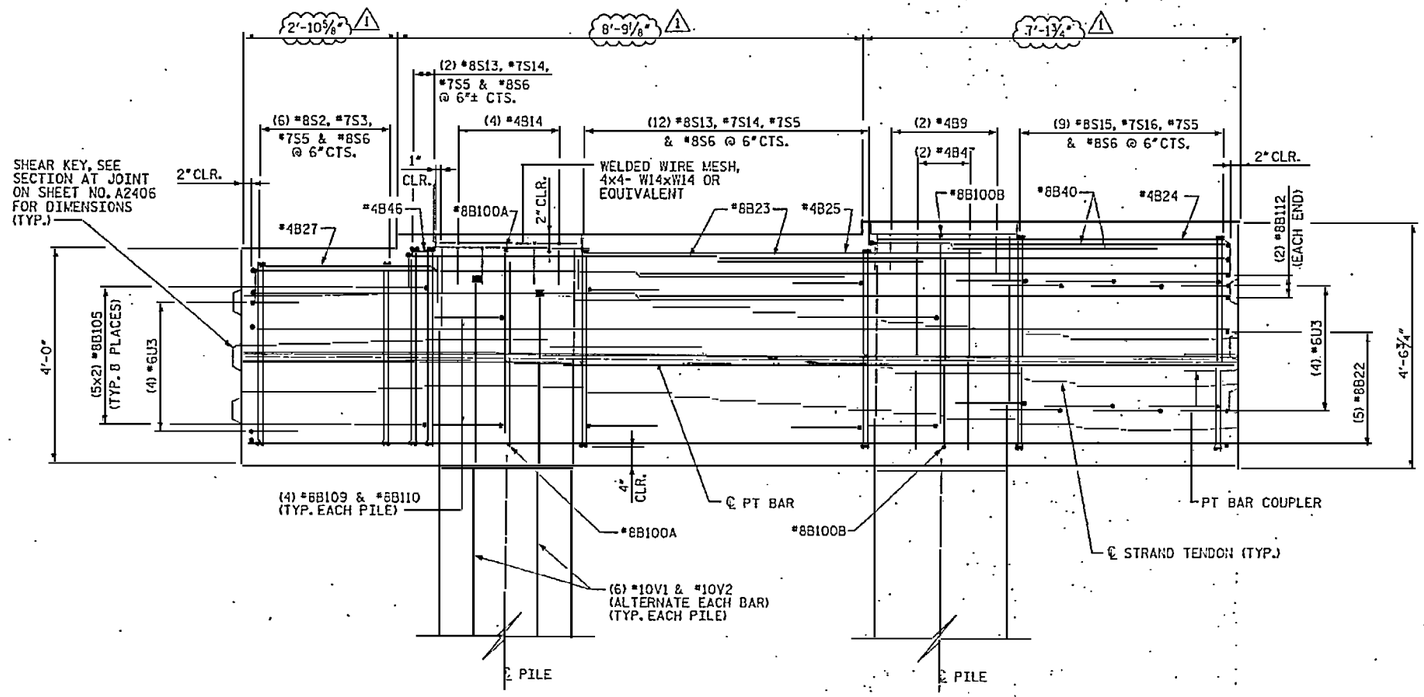
EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. DELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/09

USER: mtdelisle
DGN: N:\Structure\Tar River Bridge\A0D\R2510_SD_DSN_BTP-8_DETAILS.dgn
DATE: 3/7/2008
TIME: 2:56:11 PM



SEGMENT 2 - BOT. PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	3/7/08			

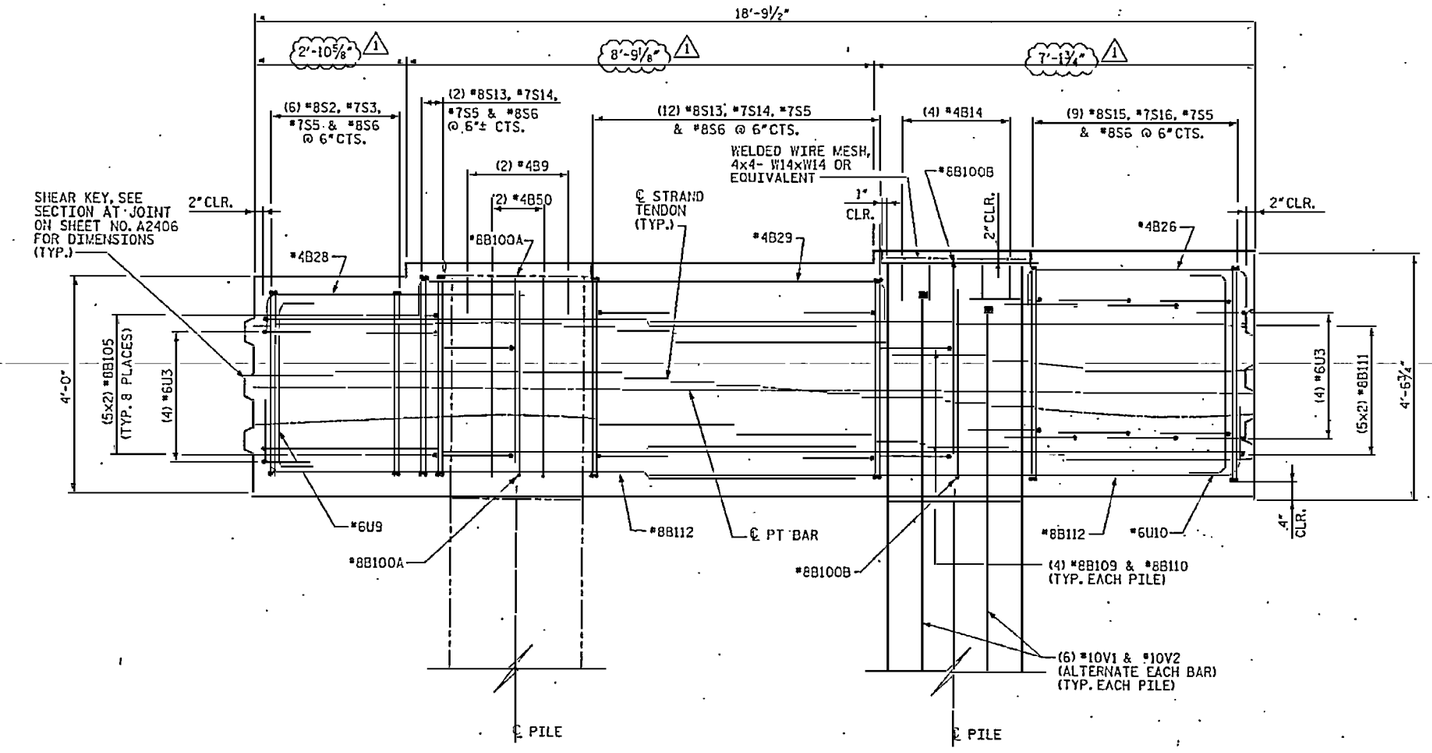
SHEET NO. 12411.01
TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. PELTSLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

PLOTTED: 3/7/2008 TIME: 2:45:43 PM
USER: mtpeltsle
DGN: N:\Structure\Tar River Bridge\ACADV\2510_ST_DSN_BTE-DETTel.dgn



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2405)

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 8 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2412.01
1	MTB	3/7/08	3			# TOTAL SHEETS
2			4			

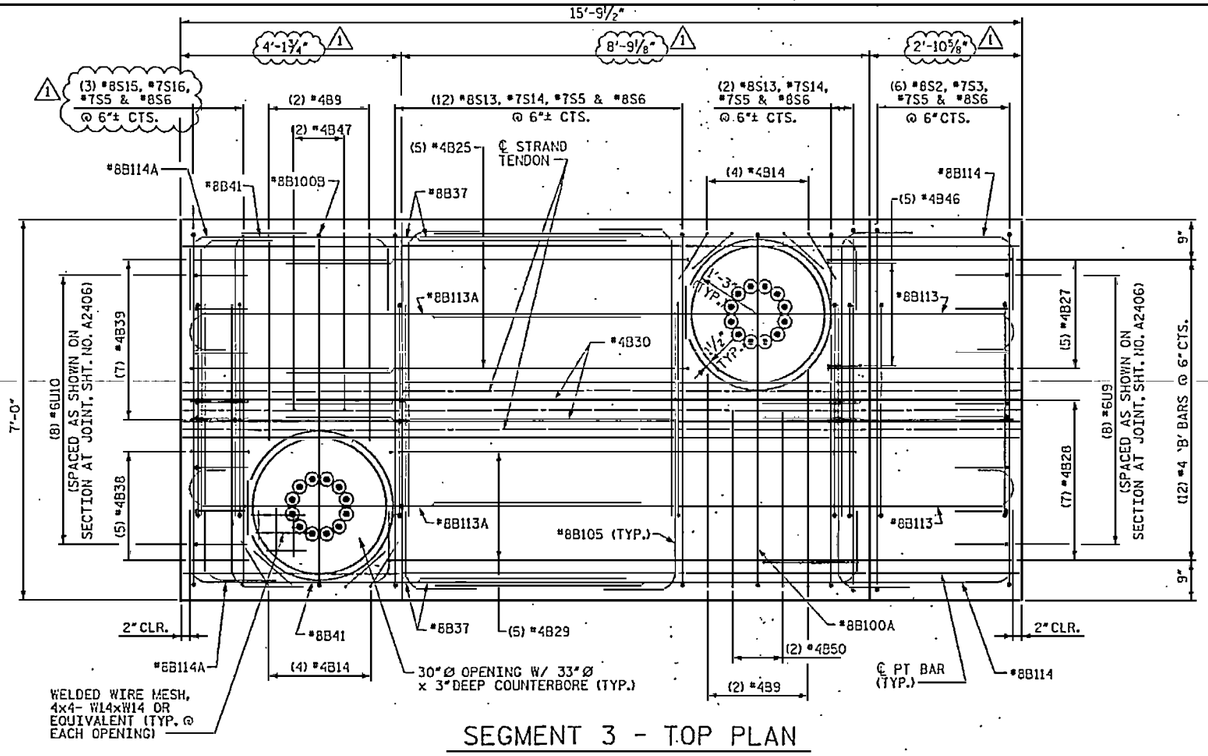
NORTH CAROLINA PROFESSIONAL SEAL 030875 ENGINEER JOHN W. JORDAN

Earth Tech
A Tyco International Ltd. Company

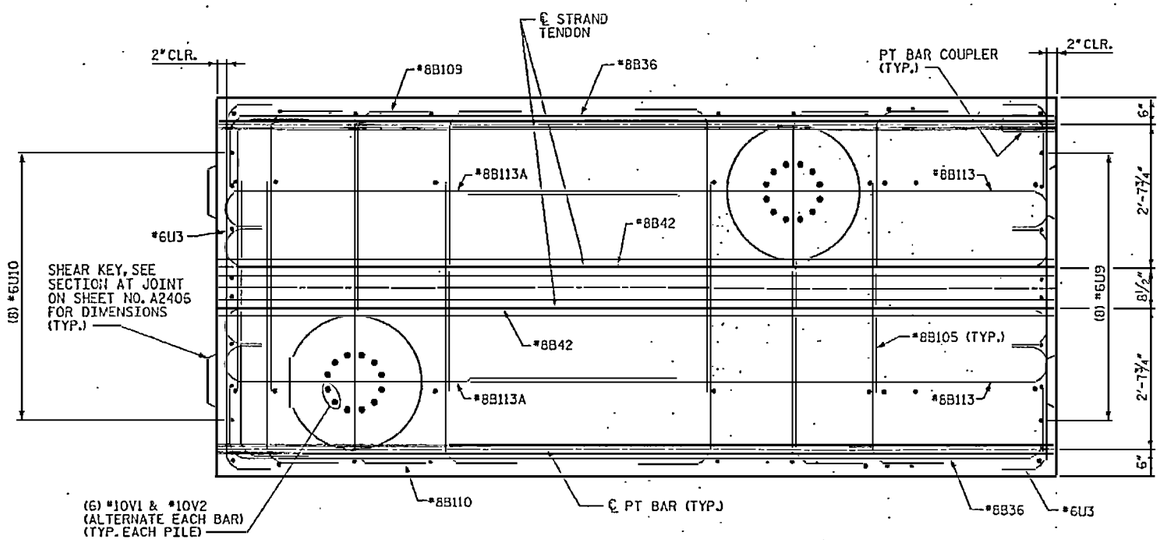
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

USER: mbelisle
DGN: ...\dgn\CADD\R2510E_SOLFOR_LITR-DETAILS.dgn
DATE: 3/7/2008



SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/11/08 DATE

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE-~~ DETAILS
PILE CAP TYPE B
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2413.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. PELTSLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DATE: 3/7/2008
TIME: 2:41:58 PM
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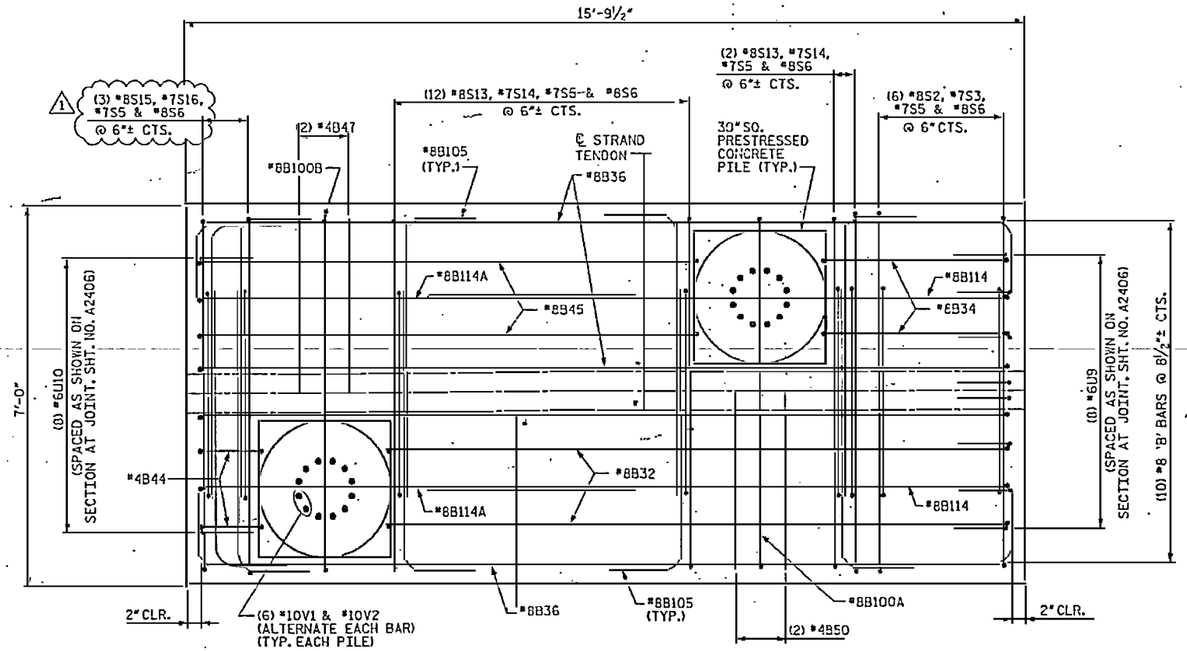
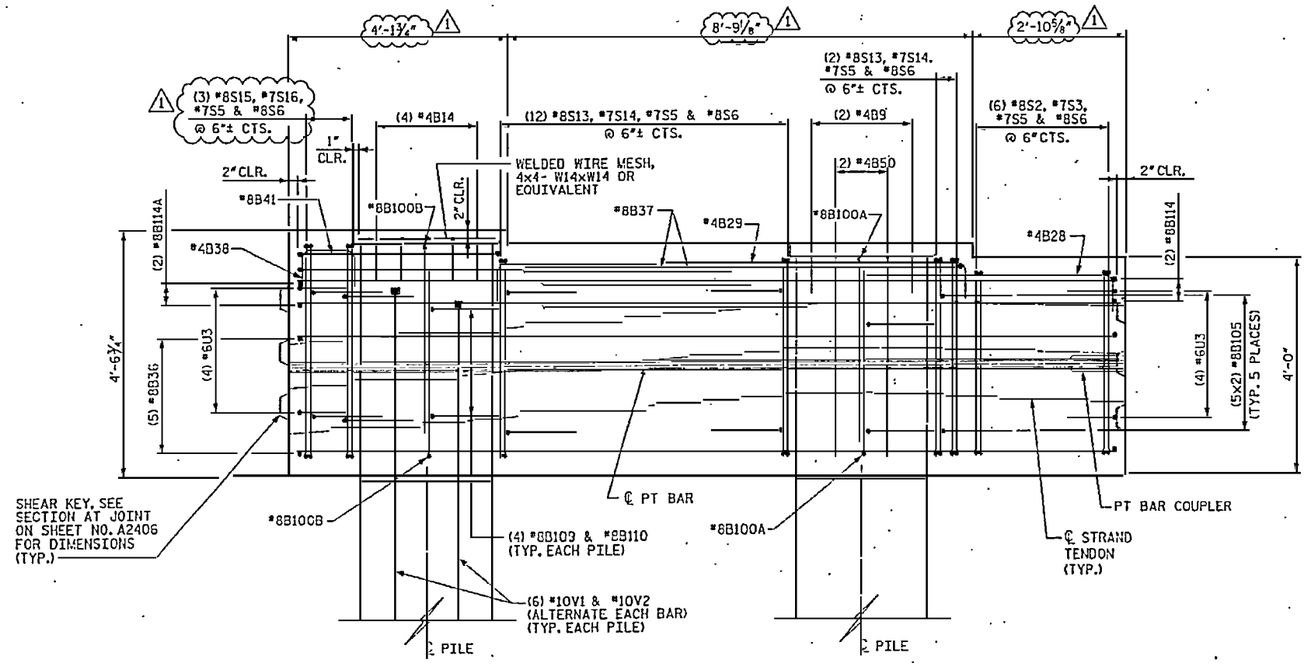


SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 3/11/08

1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 10 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

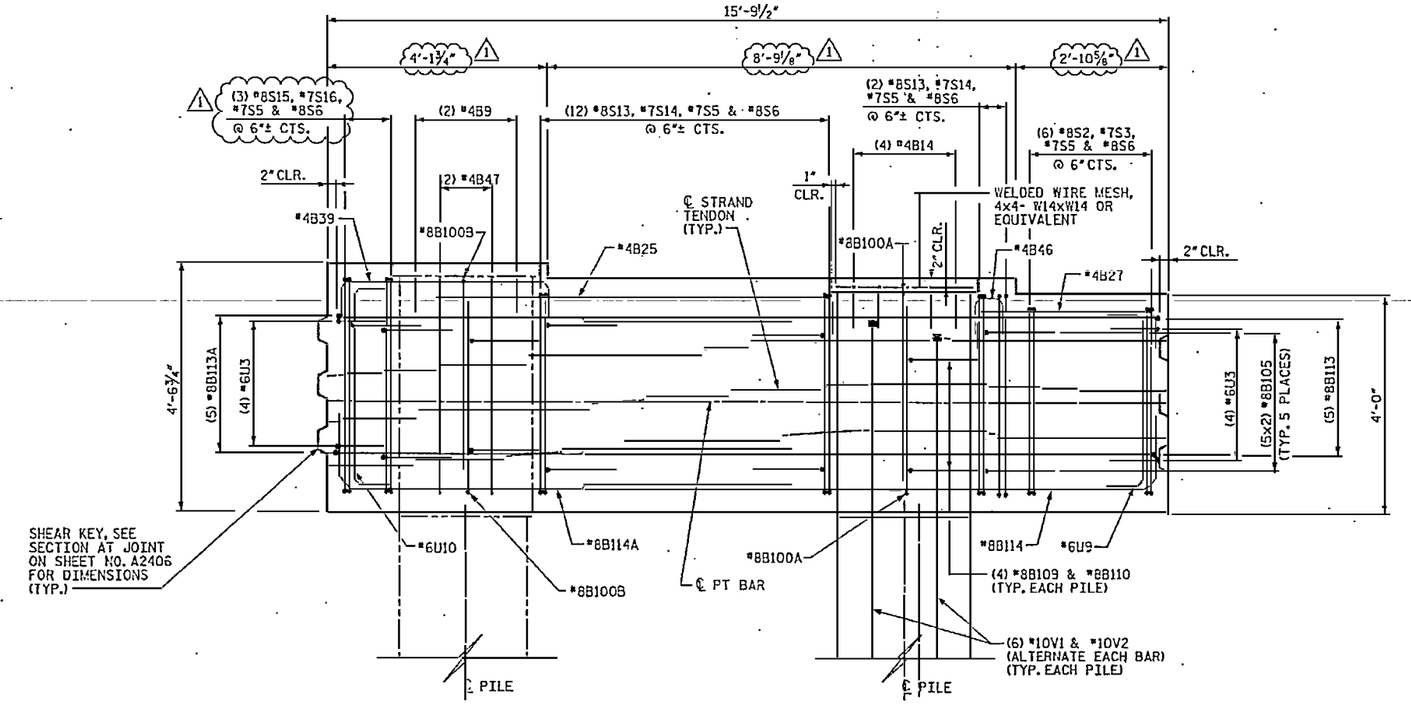
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2414.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.L.TH DATE : 01/08

DATE: 3/7/2008
USER: rlbaldwin
Dgn: RIVbridge#2a10'or River 8-4dgnQ4ADMESSS_10_DSA_BTB-CCT1004.dgn



SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2405)

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 11 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

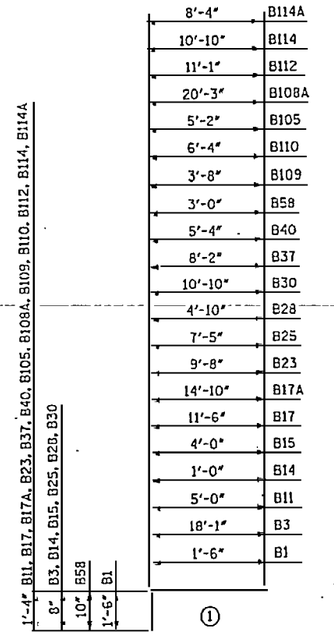
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2415.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

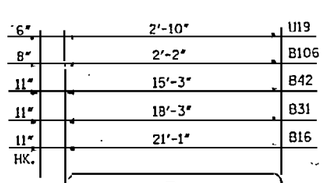
EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

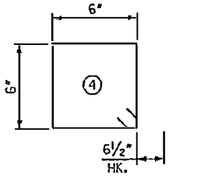
DRAWN BY : M.T. PELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

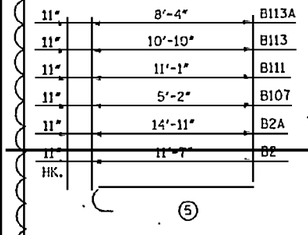
USER: mtwhite
DGN: RIGHTBRIDGE\Tar River Bridge\CADD\R2510_sht_sht_BTB-DETAILS.dgn
DATE: 3/10/2008
TIME: 2:40:07 PM

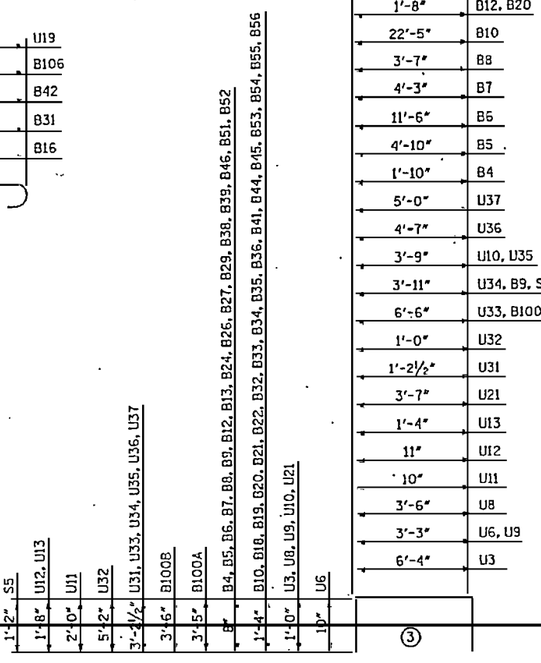
BAR TYPES

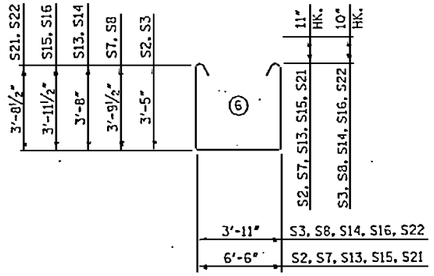


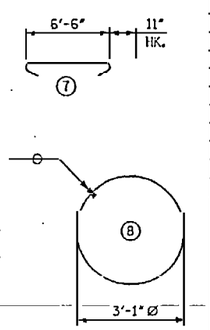


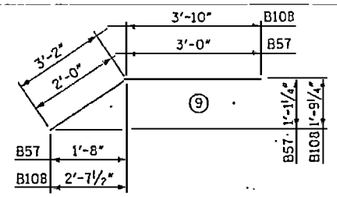


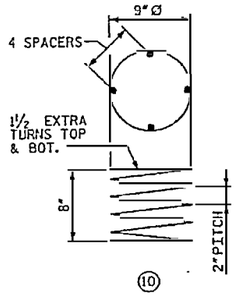


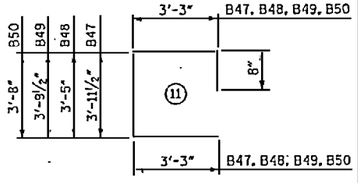


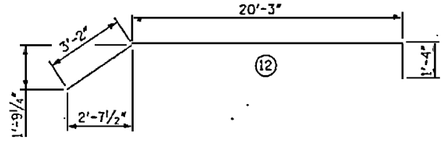


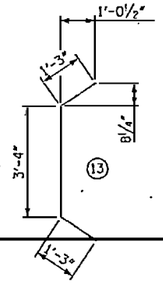












NOTES:

1. ~~BARS USED AT PILES WHERE CAP DEPTH~~ IS 4'-0", 4'-3⅜", 4'-3¾" OR 4'-4½".
2. BARS USED AT PILES WHERE CAP DEPTH IS 4'-6¾".

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	20	#8	(5)	12'-6"	668
B2A	20	#8	(5)	15'-10"	845
B3	4	#4	(1)	18'-9"	50
B4	10	#4	(3)	3'-2"	21
B5	6	#4	(3)	6'-2"	25
B6	6	#4	(3)	12'-10"	51
B7	2	#4	(3)	5'-7"	7
B8	2	#4	(3)	4'-11"	7
B9	20	#4	(3)	5'-3"	70
B10	4	#8	(3)	25'-1"	268
B11	8	#8	(1)	6'-4"	135
B12	10	#4	(3)	3'-0"	20
B13	14	#4	(3)	7'-5"	69
B14	40	#4	(1)	1'-8"	45
B15	10	#4	(1)	4'-8"	31
B16	12	#8	(2)	22'-11"	734
B17	4	#8	(1)	12'-10"	137
B17A	4	#8	(1)	16'-2"	173
B18	4	#8	(3)	11'-0"	117
B19	2	#8	(3)	6'-8"	36
B20	4	#8	(3)	4'-4"	46
B21	4	#8	(3)	13'-8"	146
B22	12	#8	(3)	20'-11"	670
B23	4	#8	(1)	11'-0"	117
B24	7	#4	(3)	7'-11"	37
B25	10	#4	(1)	8'-1"	54
B26	5	#4	(3)	5'-5"	18
B27	10	#4	(3)	4'-10"	32
B28	14	#4	(1)	5'-6"	51
B29	10	#4	(3)	10'-0"	67
B30	14	#4	(1)	11'-6"	108
B31	6	#8	(2)	20'-1"	322
B32	4	#8	(3)	14'-5"	154
B33	2	#8	(3)	6'-9"	36
B34	4	#8	(3)	6'-2"	66
B35	2	#8	(3)	14'-11"	80
B36	12	#8	(3)	17'-11"	574
B37	4	#8	(1)	9'-6"	101
B38	5	#4	(3)	2'-5"	8
B39	7	#4	(3)	4'-10"	23
B40	4	#8	(1)	6'-8"	71
B41	2	#8	(3)	6'-4"	34
B42	6	#8	(2)	17'-1"	274
B43	12	#8	(12)	24'-9"	793
B44	2	#8	(3)	3'-9"	20
B45	2	#8	(3)	11'-11"	64
B46	10	#4	(3)	1'-11"	13
B47	4	#4	(11)	11'-2"	30
B48	8	#4	(11)	10'-7"	57
B49	2	#4	(11)	11'-0"	15
B50	6	#4	(11)	10'-10"	43
B51	2	#4	(3)	12'-2"	16
B52	2	#4	(3)	11'-5"	15
B53	2	#8	(3)	7'-7"	40
B54	2	#8	(3)	14'-3"	76
B55	2	#8	(3)	13'-4"	71
B56	8	#8	(3)	22'-4"	477
B57	24	#7	(9)	5'-0"	245
B58	4	#5	(1)	3'-10"	16

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
[1] B100A	16	#8	(3)	13'-4"	570
[2] B100B	4	#8	(3)	13'-6"	144
B105	250	#8	(1)	6'-6"	4339
B106	48	#6	(2)	3'-6"	252
B107	80	#8	(5)	6'-1"	1299
B108	8	#8	(9)	7'-0"	150
B108A	8	#8	(1)	21'-7"	461
B109	40	#8	(1)	5'-0"	534
B110	40	#8	(1)	7'-8"	819
B111	20	#8	(5)	12'-0"	641
B112	12	#8	(1)	12'-5"	398
B113	10	#8	(5)	11'-9"	314
B113A	10	#8	(5)	9'-3"	247
B114	6	#8	(1)	12'-2"	195
B114A	6	#8	(1)	9'-8"	155
S1	16	#4	(4)	3'-3"	35
S2	38	#8	(6)	15'-2"	1539
S3	38	#7	(6)	12'-5"	964
S5	96	#7	(3)	6'-3"	1226
S6	96	#8	(7)	8'-4"	2136
S7	9	#8	(6)	15'-11"	382
S8	9	#7	(6)	13'-2"	242
S13	28	#8	(6)	15'-8"	1171
S14	28	#7	(6)	12'-11"	739
S15	12	#8	(6)	16'-3"	521
S16	12	#7	(6)	13'-6"	331
S21	9	#8	(6)	15'-9"	378
S22	9	#7	(6)	13'-0"	239
S31	14	#7	(8)	9'-5"	269
U3	24	#6	(3)	8'-4"	300
U6	12	#5	(3)	4'-11"	62
U8	8	#6	(3)	5'-6"	66
U9	16	#6	(3)	5'-3"	126
U10	16	#6	(3)	5'-9"	138
U11	12	#5	(3)	4'-10"	60
U12	8	#5	(3)	4'-3"	35
U13	8	#5	(3)	4'-8"	39
U16	12	#5	(13)	5'-10"	73
U19	2	#4	(2)	3'-10"	5
U21	8	#6	(3)	5'-7"	67
U31	52	#7	(3)	7'-8"	815
U32	8	#8	(3)	11'-4"	242
U33	20	#7	(3)	12'-11"	528
U34	8	#7	(3)	10'-4"	169
U35	4	#7	(3)	10'-2"	83
U36	4	#7	(3)	11'-0"	90
U37	8	#7	(3)	11'-5"	187
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2301				
V2	SEE SHEET NO. 2301				

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

NORTH CAROLINA 16936 ENGINEER JOHN W. JORDAN, III 3/11/08

[1] UPDATED BILL OF MATERIAL.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 8
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	3/7/08	3		
2			4		

SHEET NO. 12416.01
TOTAL SHEETS

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. DELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

USER: mtdelisle
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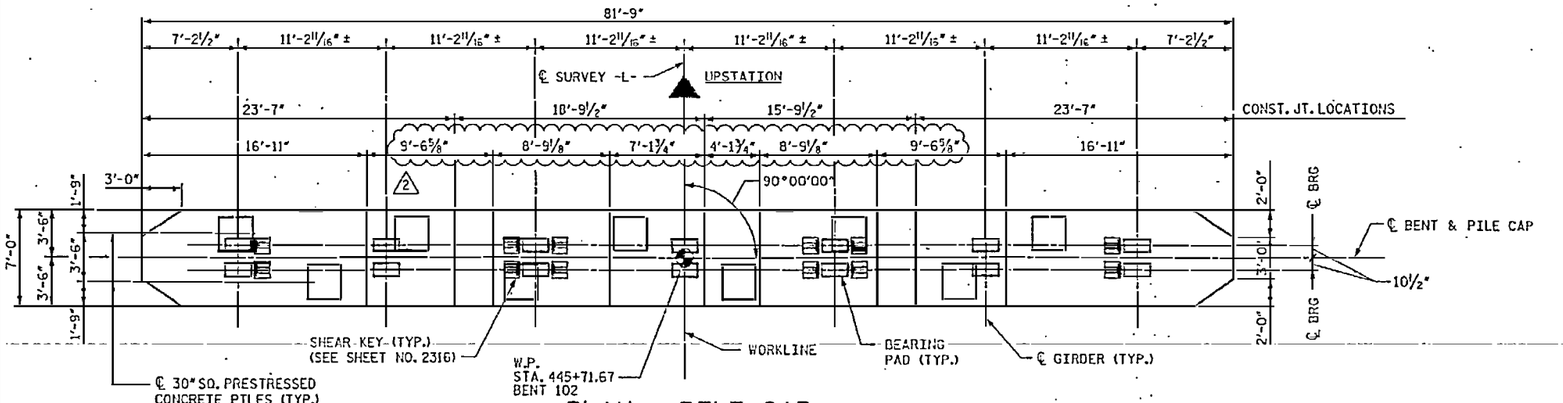
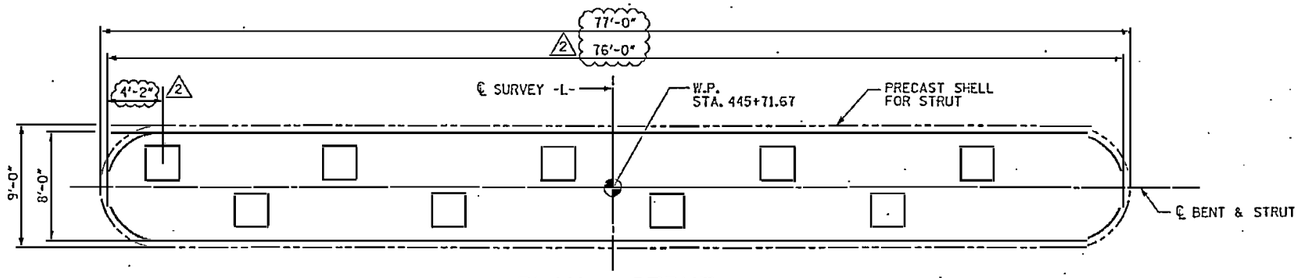
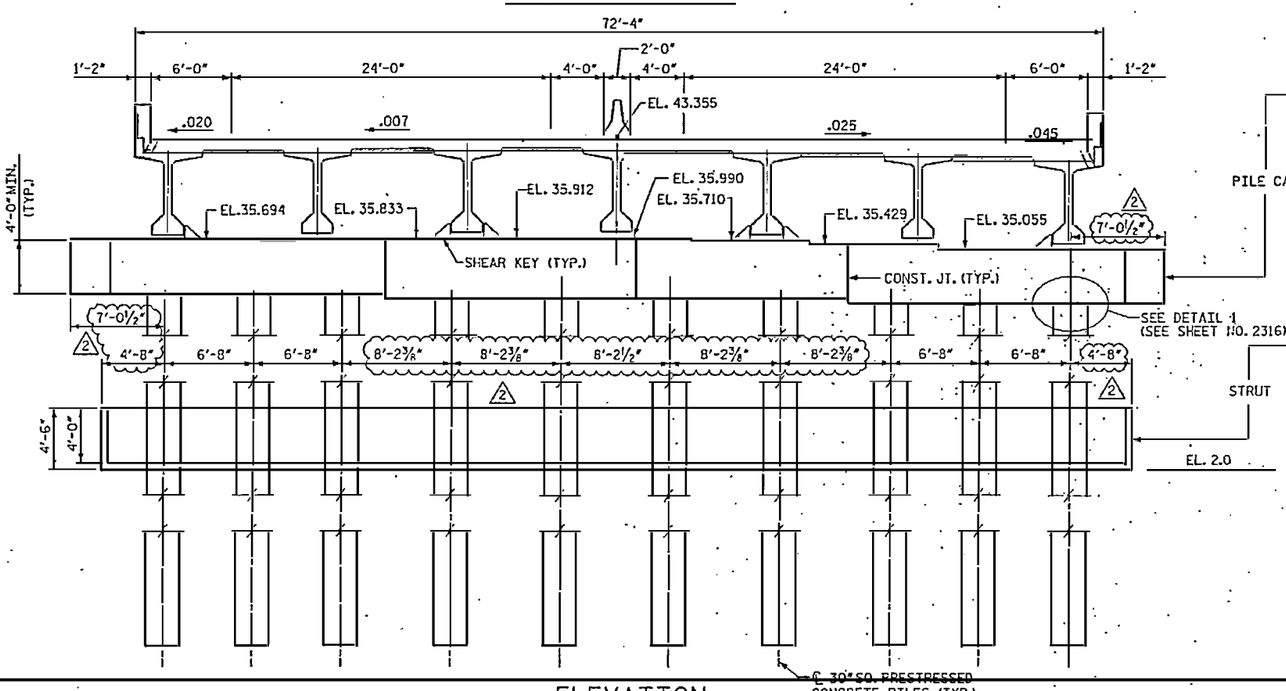
DATE: 3/7/2008
FILE: DETAILS



PLAN - PILE CAP

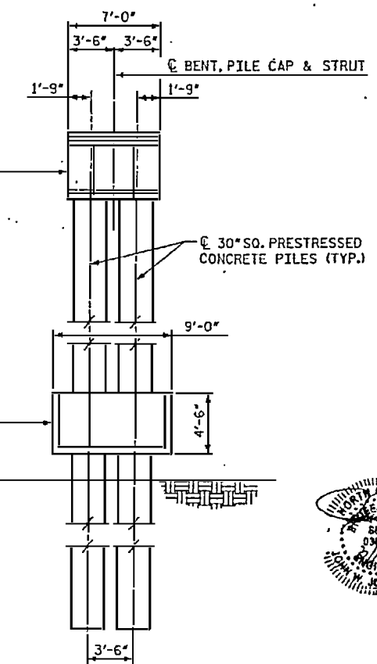


PLAN - STRUT



ELEVATION

(BENT 102)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAP AND STRUT SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. FILL VOIDS INSIDE PILES TO EL. 12.00 WITH FLOWABLE FILL BEFORE CORING THROUGH THE PILES FOR STRUT REINFORCEMENT.
2. 6. FOR STRUT REINFORCEMENT, SEE STRUT TYPE 3 ON SHEET NOS. 2626 THRU 2630. FOR PRECAST SHELL REINFORCEMENT, SEE PRECAST SHELL FOR STRUT TYPE 3 ON SHEET NOS. 2610 & 2612.
7. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT CAP. SEE TECHNICAL PROVISIONS FOR DETAILS.
1. 8. THE CONSTRUCTION AT BOTH STRUT AND CAP SHALL BE COMPLETE BEFORE LAUNCHING TRUSS MOVES ON THE PIER.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

2. REVISED PILE SPACING, STRUT LENGTH AND NOTE NO. 6.
1. REVISION TO NOTE NO. 5 AND ADDED NOTE NO. 8.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO	BY:	DATE:	2419.02
1	MTB	10/16/07	3			TOTAL SHEETS
2	MTB	3/7/08	4			

DRAWN BY : S. C. STRECHAK DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

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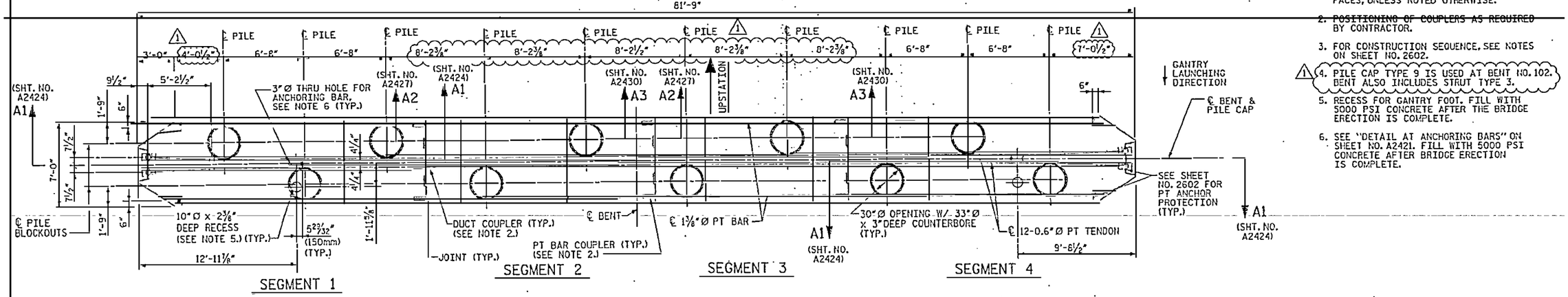
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

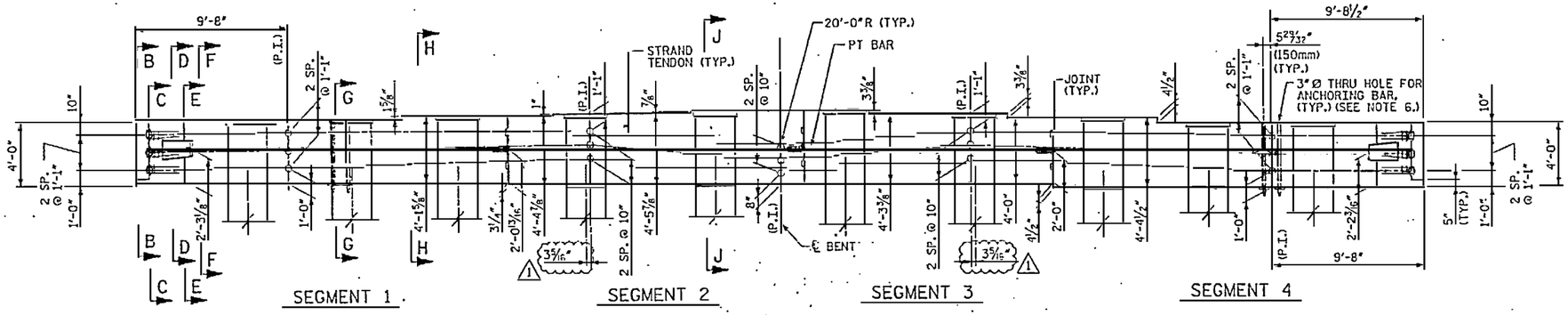
USER: mtaylor
DGN: K:\Structures\Tar River Bridge\CADD\2568_SD_DSN_BENT_TYPE9.dgn
DATE: 3/7/2008 2:42:17 PM

NOTES:

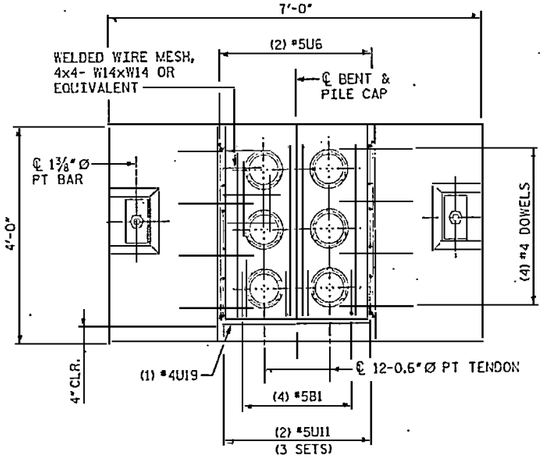
1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. ~~POSITIONING OF COUPLERS AS REQUIRED~~ BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 9 IS USED AT BENT NO. 102. BENT ALSO INCLUDES STRUT TYPE 3.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2421. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.



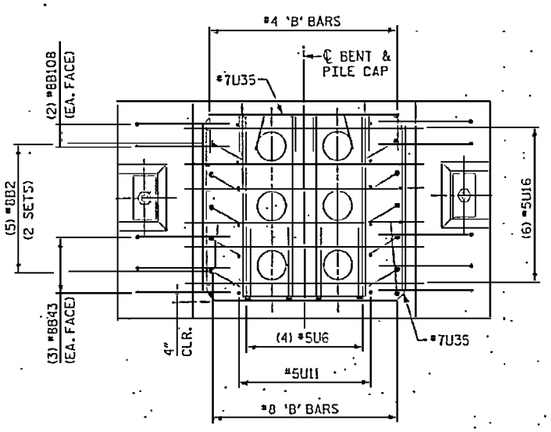
OVERALL PLAN



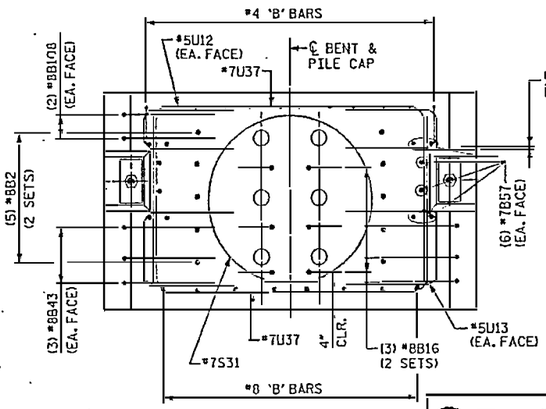
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

⚠1 REVISED PILE SPACING AND NOTE NO. 4.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 12 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2420.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

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DRAWN BY : M.T. BELTSLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

USER: kchisholm
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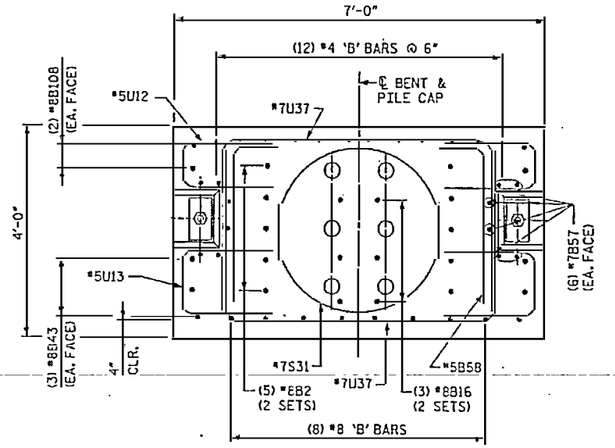
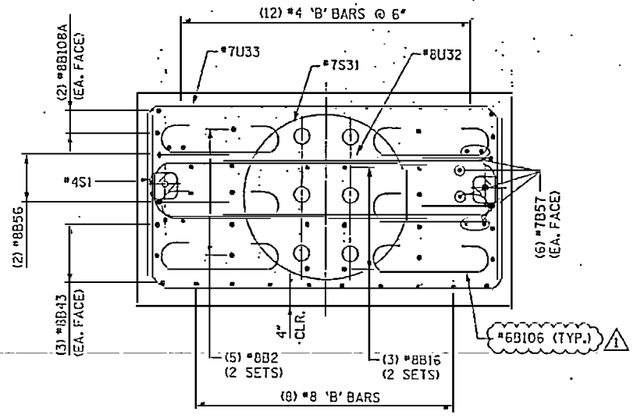
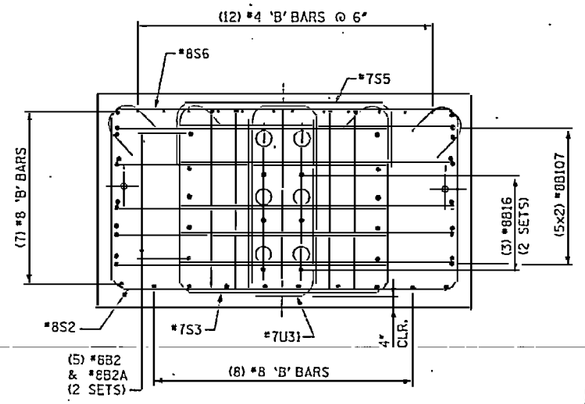
DATE: 3/11/2008
TIME: 2:18:57 PM



SECTION E-E

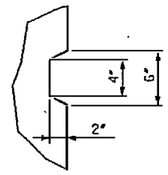


SECTION F-F



SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



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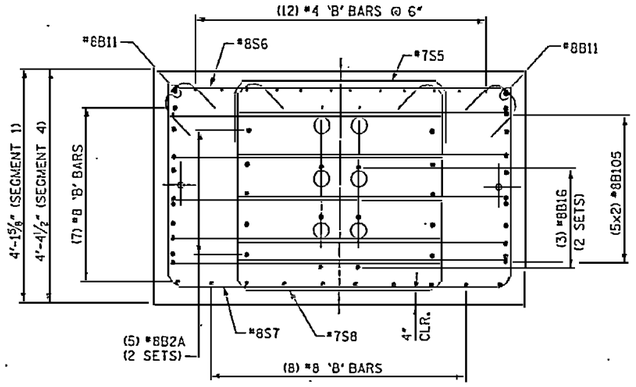
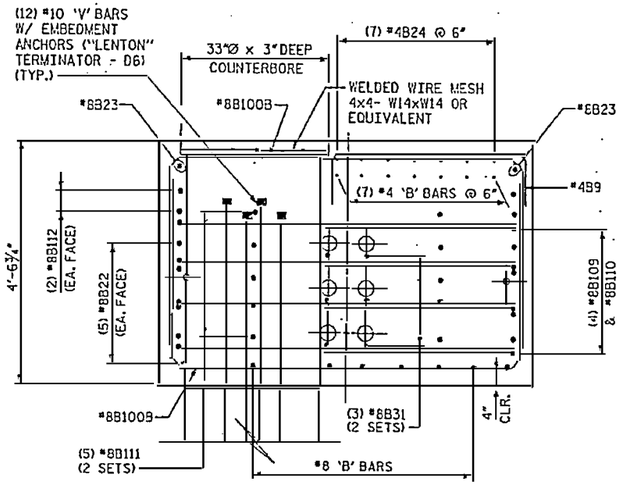
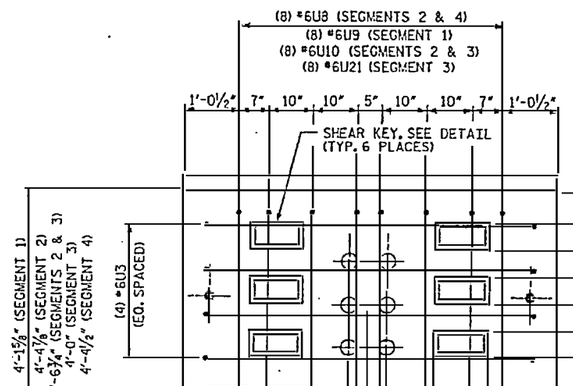


SECTION H-H

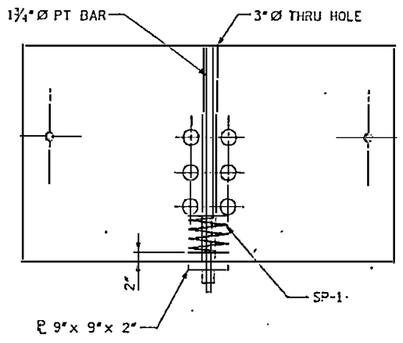


SECTION J-J



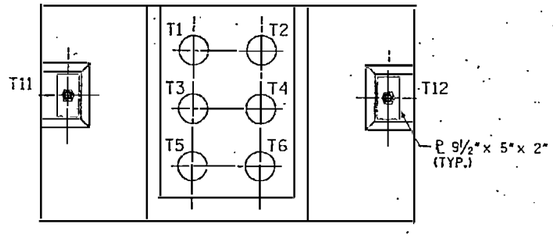
SECTION AT JOINT

(SEE SHEET NO. A2420)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS.
   T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS.
   FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/11/08 DATE

1 GENERAL REVISIONS.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030678 TIMOTHY JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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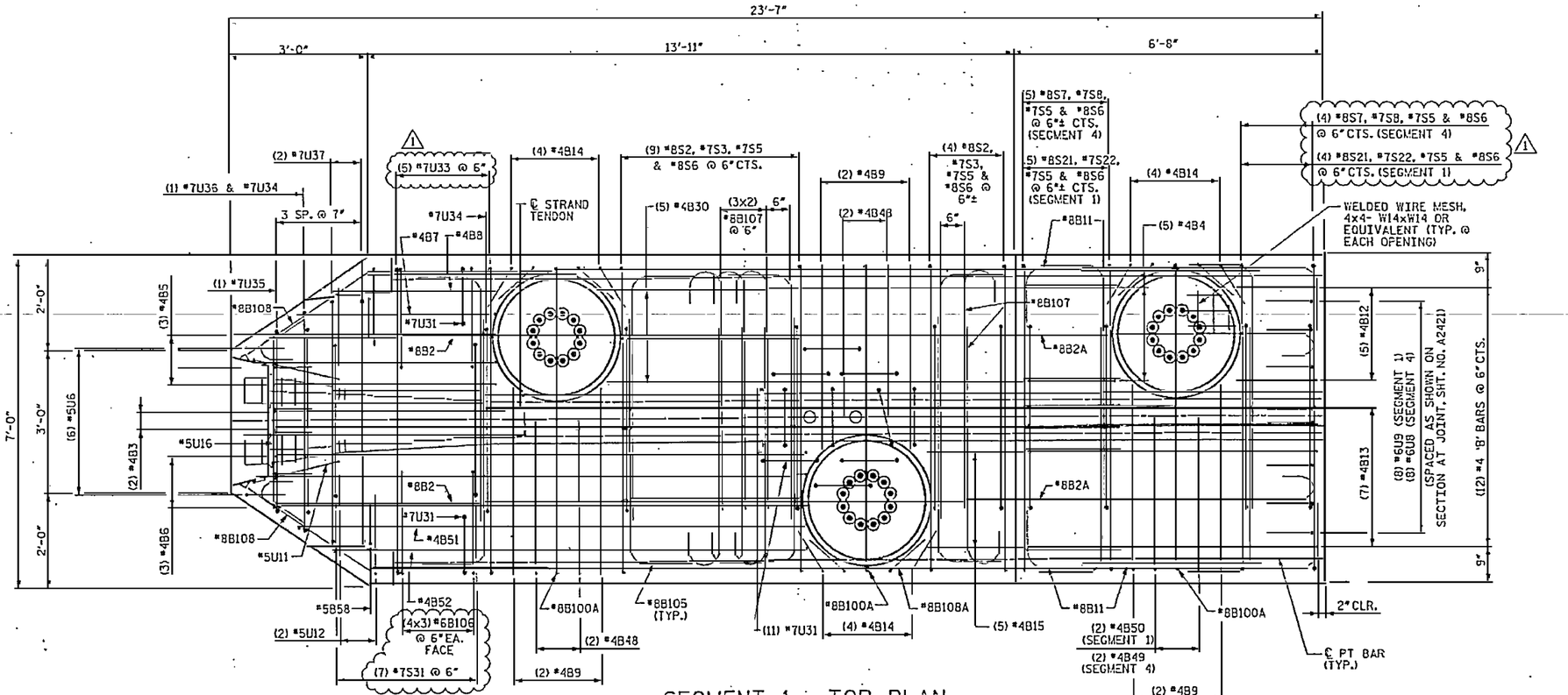
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2421.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

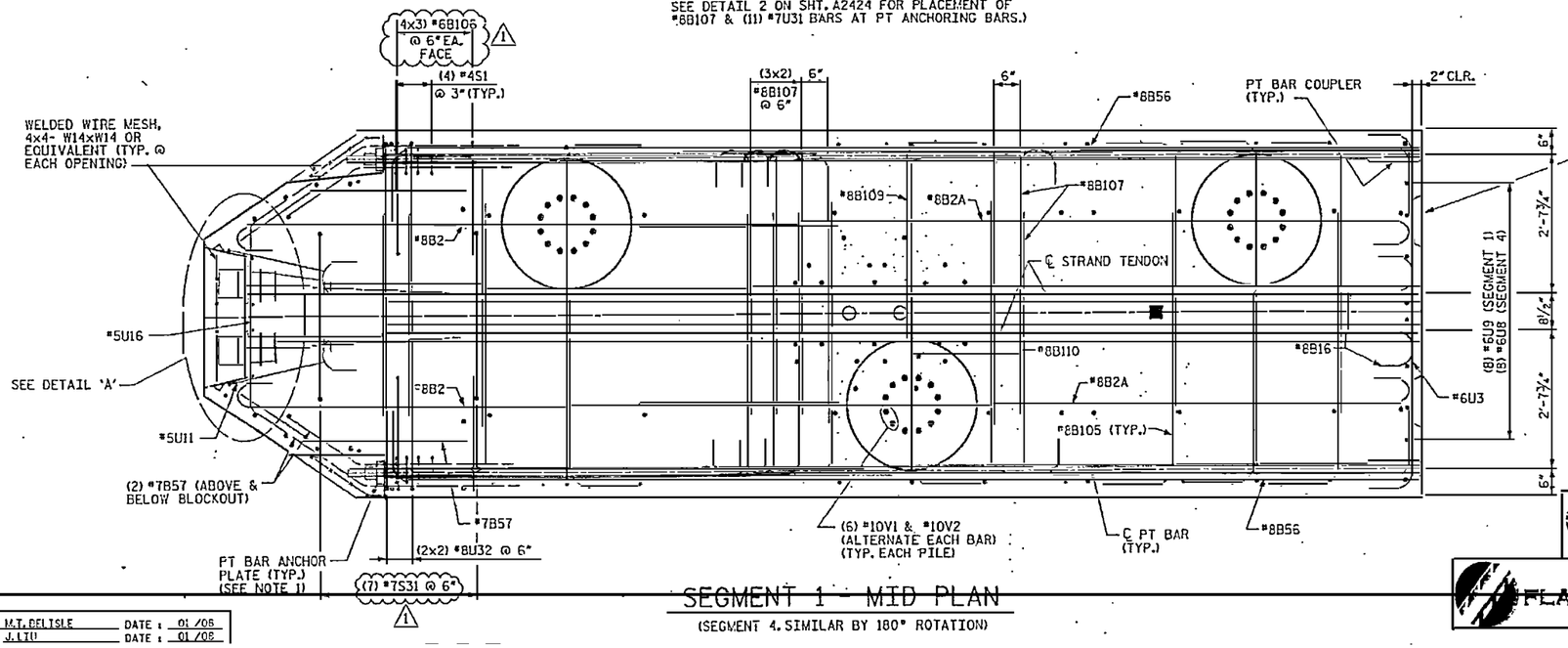
DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

USER NAME = mbelisle
DGN: R2510B_BRG_DETAILS.DGN
DATE: 3/7/2008 2:21:42 PM



SEGMENT 1 - TOP PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION, ALSO SEE DETAIL 2 ON SHT. A2424 FOR PLACEMENT OF #8B107 & (11) #7U31 BARS AT PT ANCHORING BARS.)

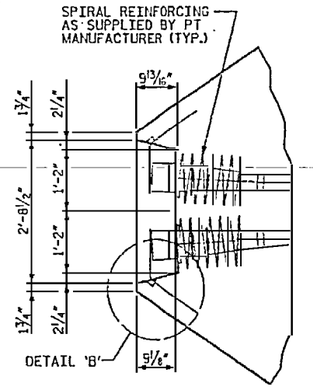


SEGMENT 1 - MID PLAN

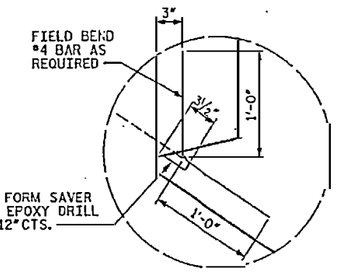
(SEGMENT 4, SIMILAR BY 180° ROTATION)

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'

⚠1 GENERAL REVISIONS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030078 JOHN W. JORDAN, JR.

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FLATIRON/UNITED — A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2422.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

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CHECKED BY : J. LIU DATE : 01/08

DATE: 3/7/2008
TIME: 8:37:14 PM

USER: mtdelisle
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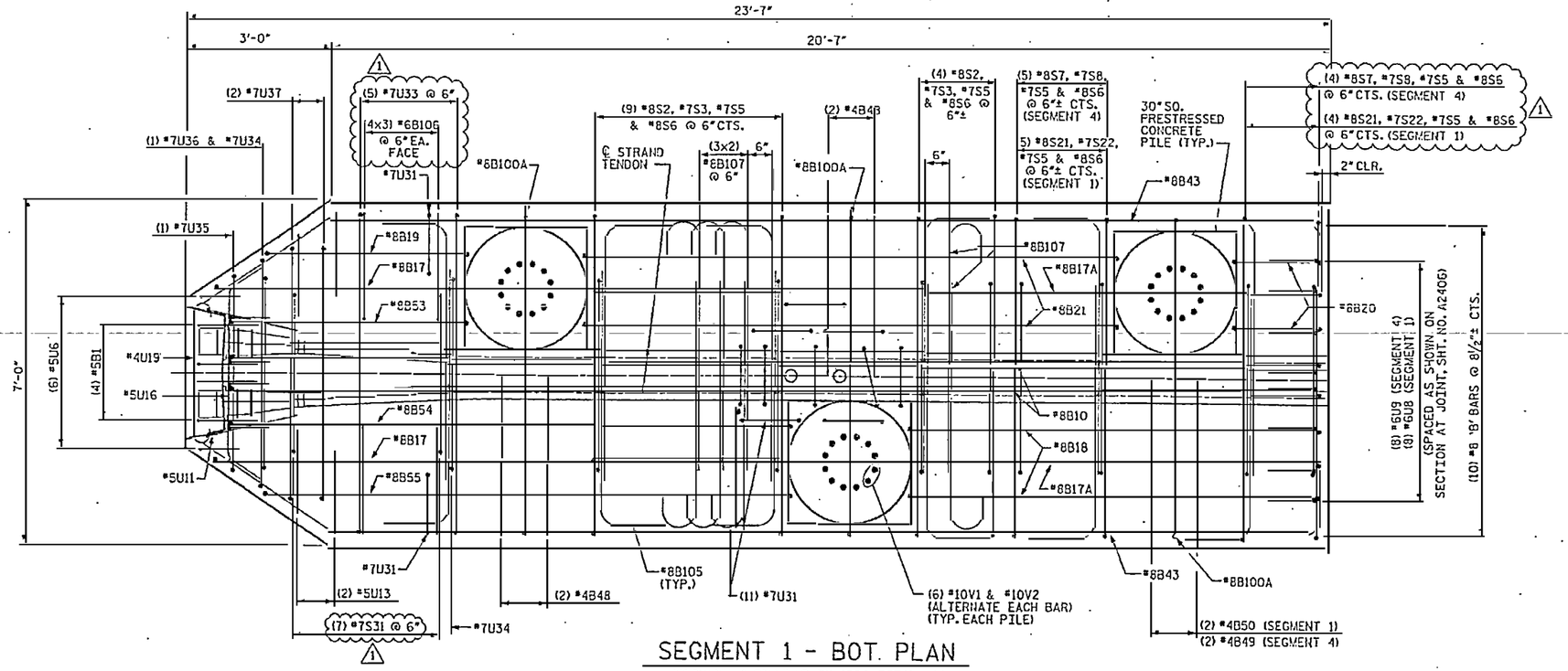
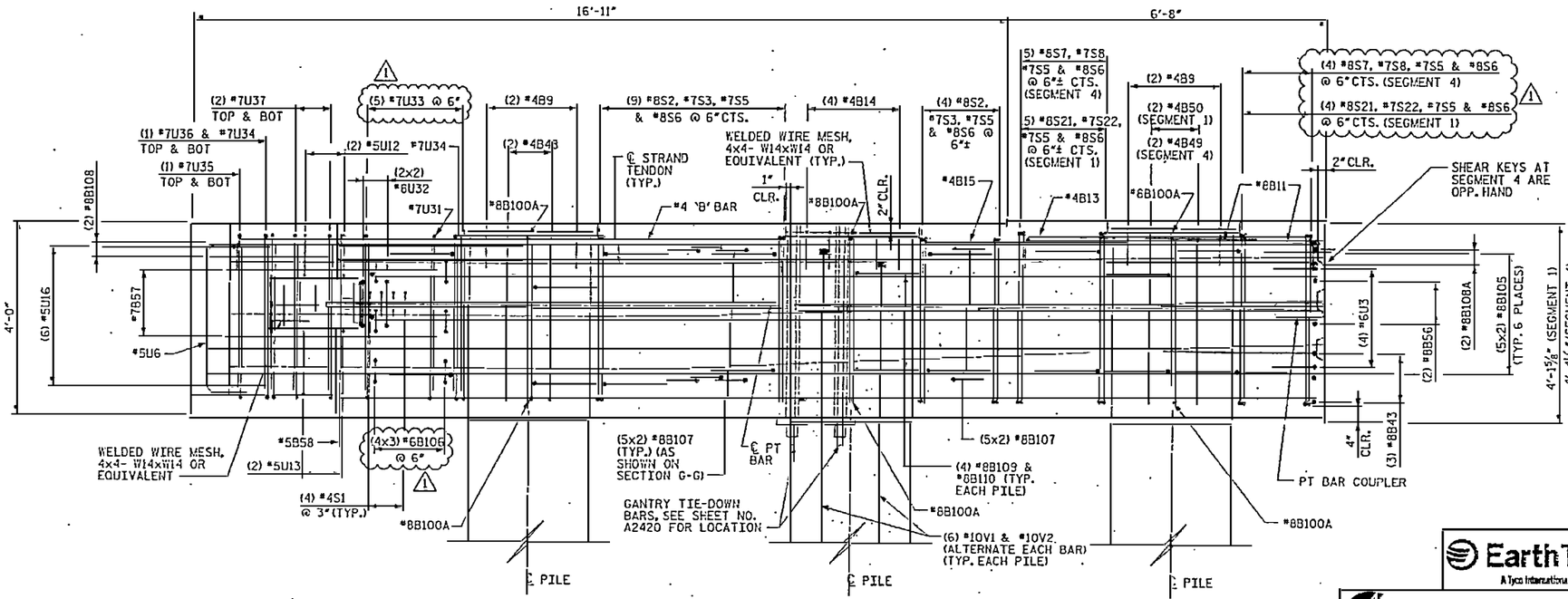


SEGMENT 1 - BOT. PLAN

(SEGMENT 4, SIMILAR BY 180° ROTATION)



SEGMENT 1 - ELEVATION

(SEGMENT 4 - SIMILAR BY 180° ROTATION)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 3/11/08 DATE

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2423.01
1	MTB	3/7/08	3			* TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LEE DATE : 01/08

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FLATIRON/UNITED
A JOINT VENTURE

DATE: 3/7/2008
FILE: 2510bs1a

USER: mbelisle
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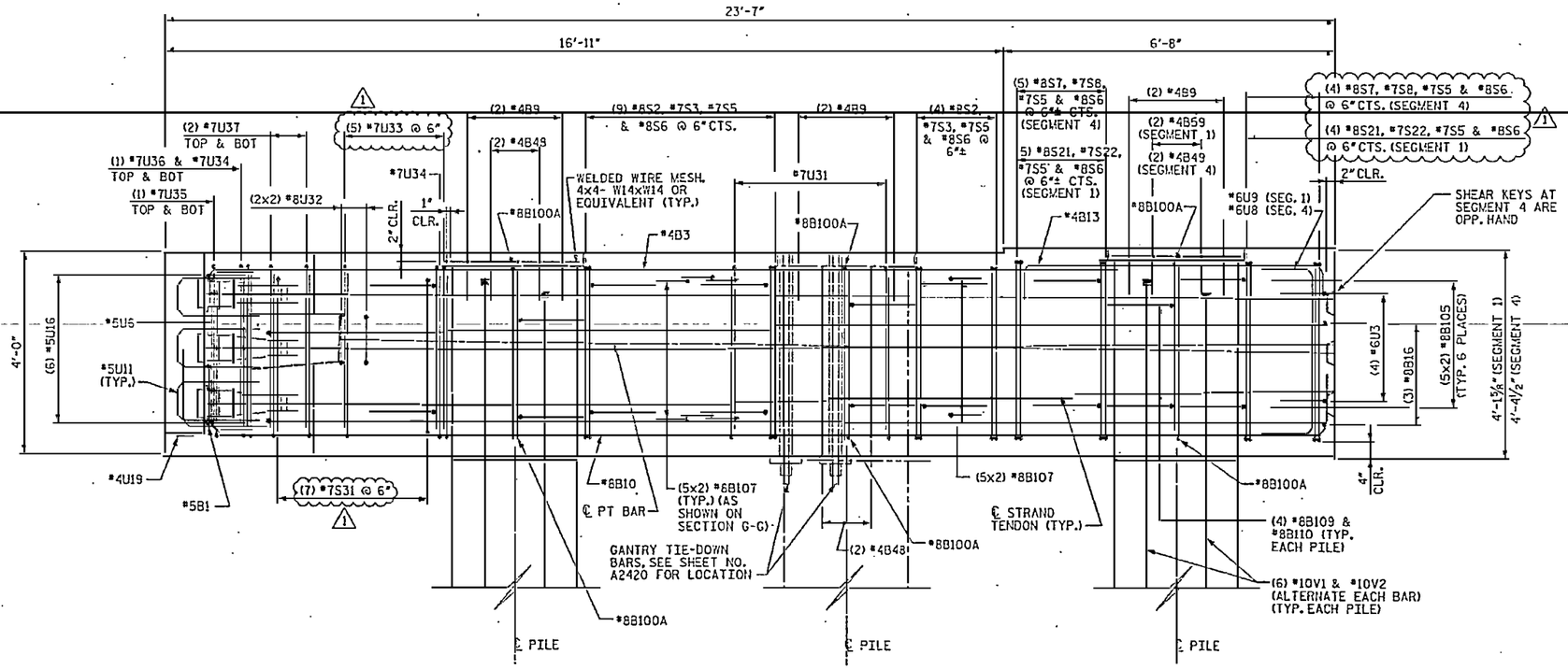
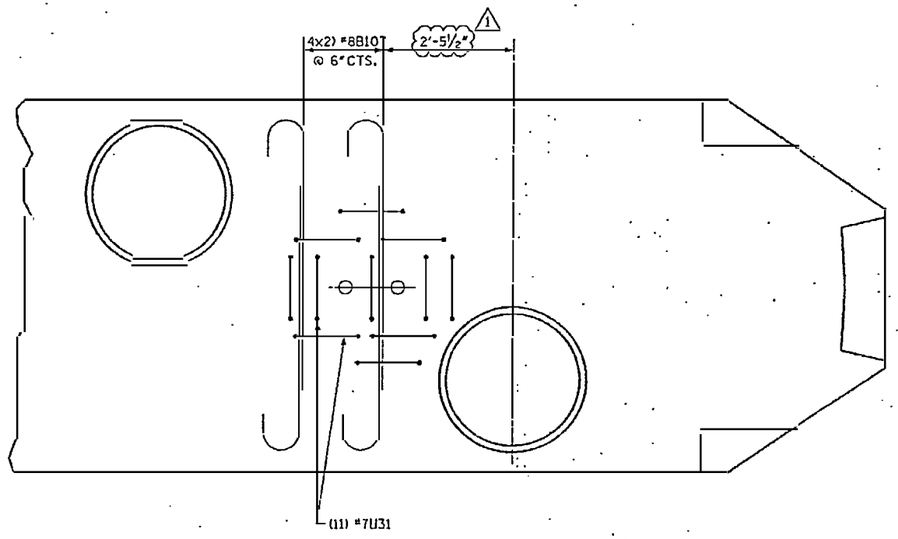


SEGMENT 1 - SECTION A1

(SEGMENT 4 - SIMILAR BY 180° ROTATION)
(SEE SHEET NO. A2420)



DETAIL 2

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2424.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

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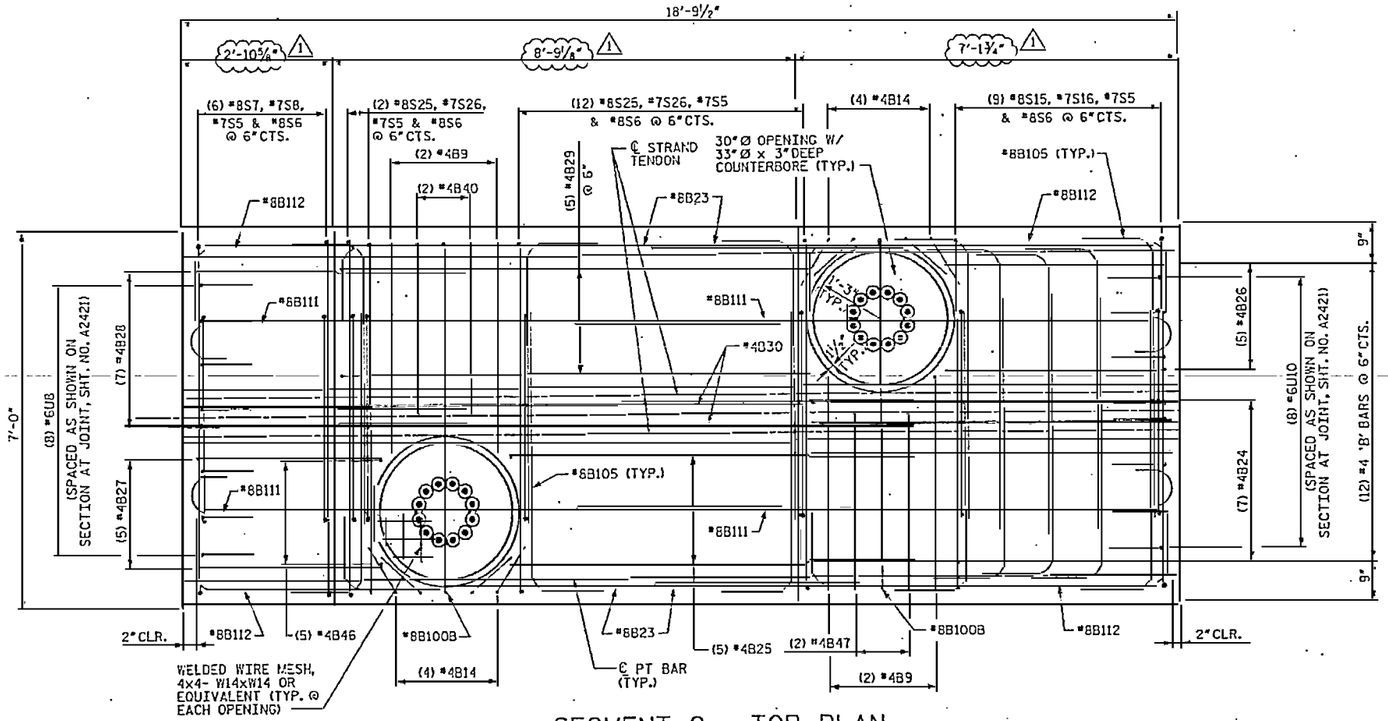
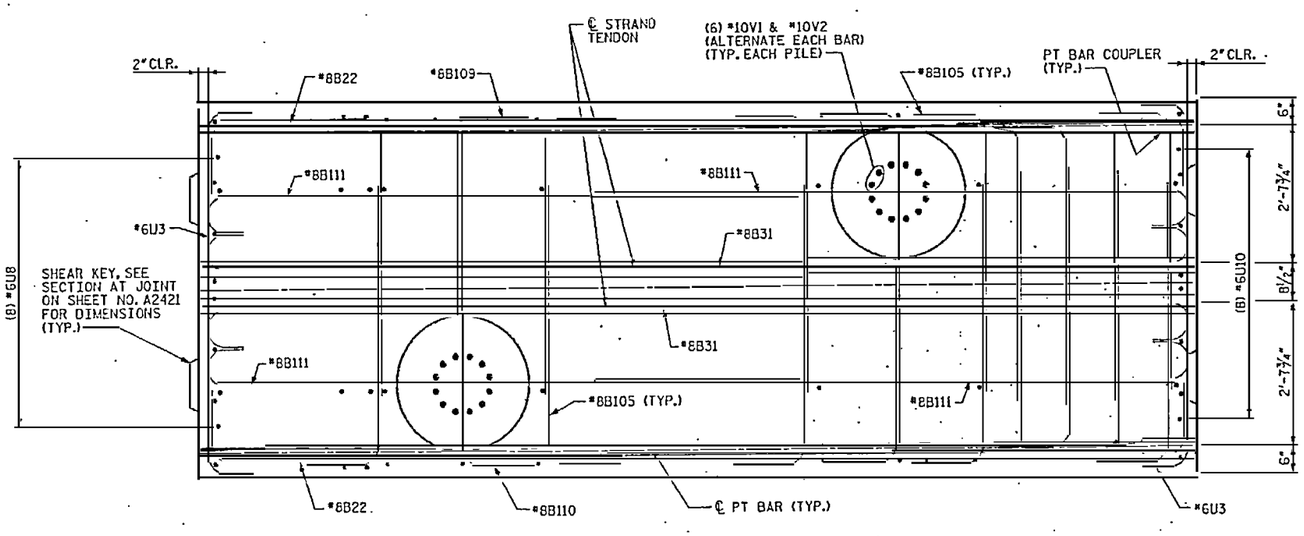


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 12 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2425.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
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USER: mtbelisle
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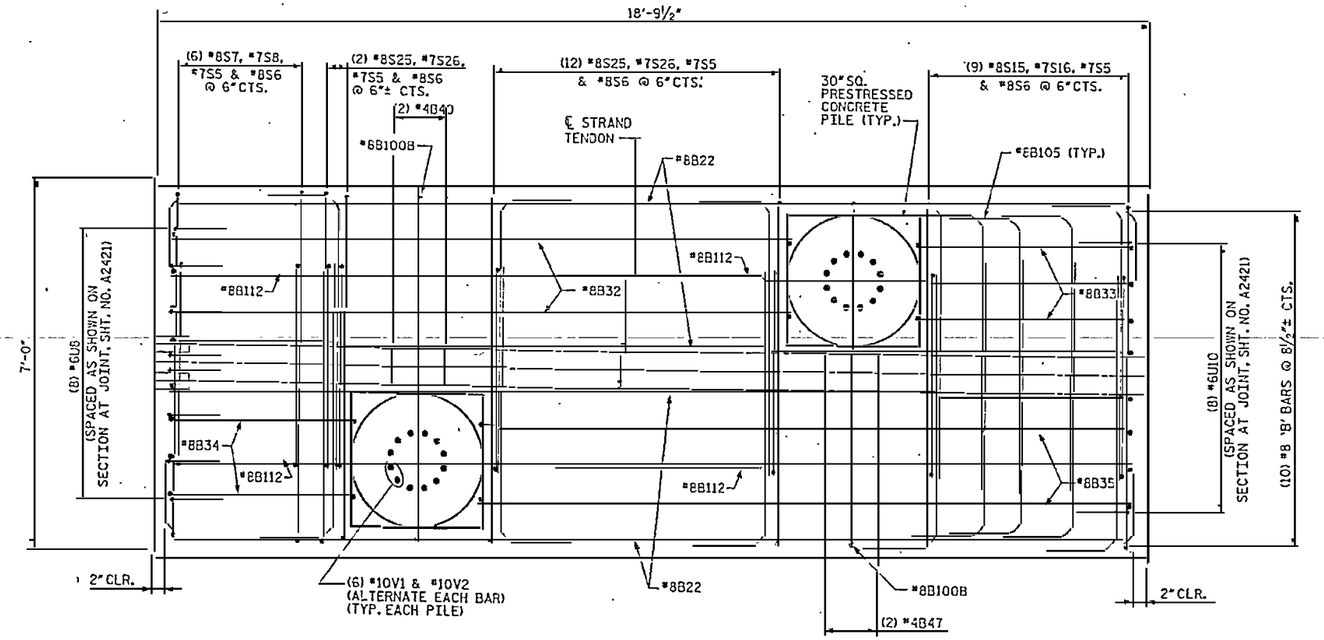
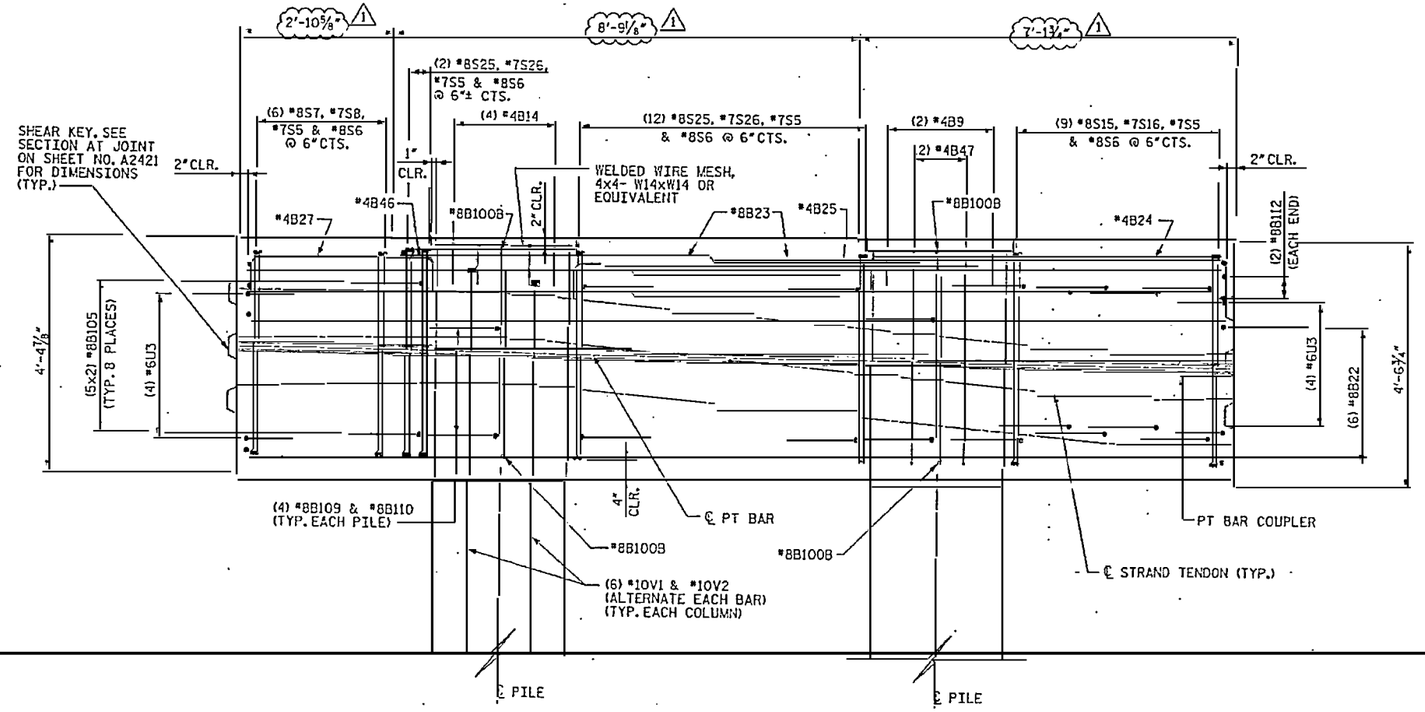


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/10/08

1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 12 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE~~ DETAILS
~~PILE CAP TYPE 9~~
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

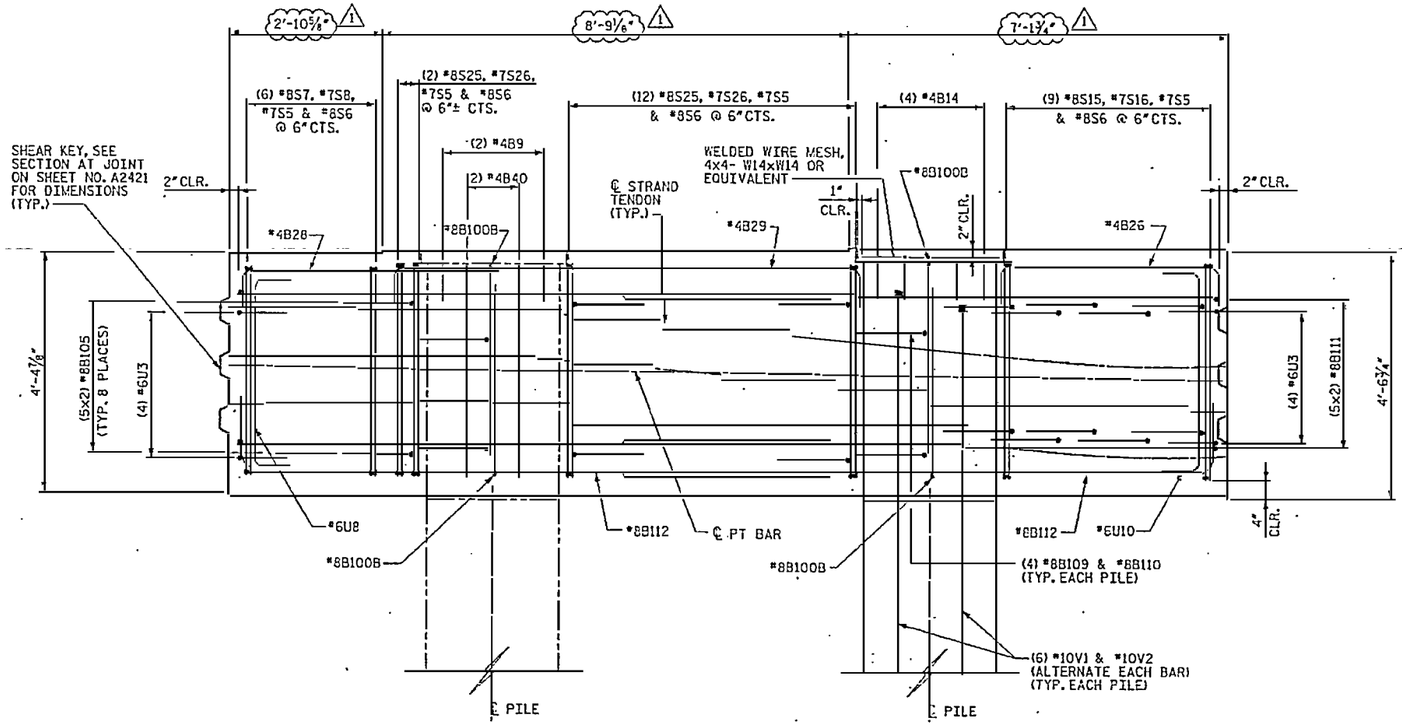
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2426.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

EarthTech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LEU DATE : 01/08

DATE: 3/7/2008
FILE: B2426_01.dgn

USER: mbelisle
DGN: N:\Structure\Tar River Bridge\CADD\B2426_01_DSN_STR-DETT#1.dgn



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2420)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2427.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

USER: mtbelisle
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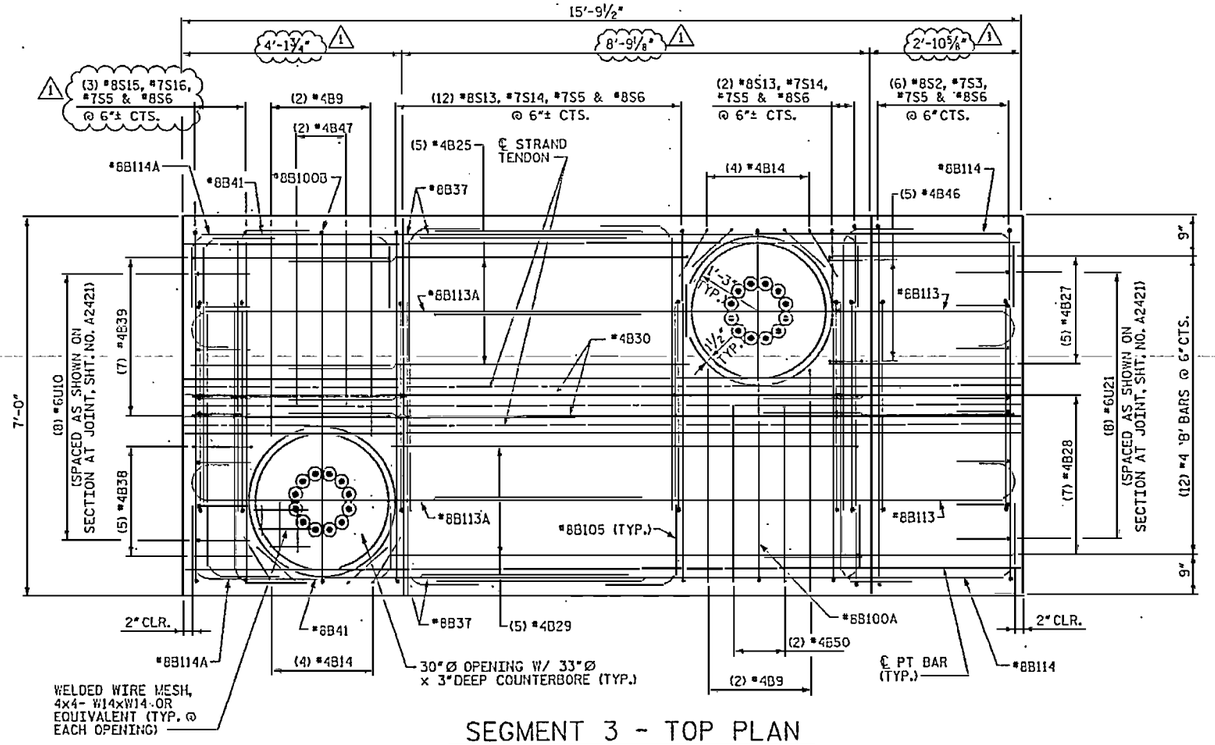
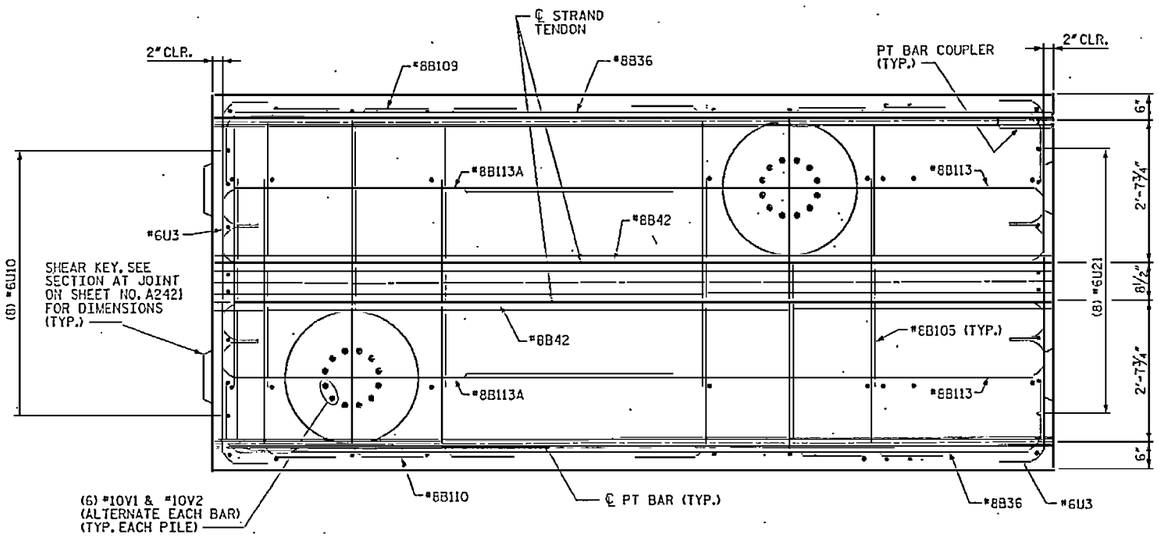
TIME: 2:44:16 PM



SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 12 BRIDGE NO. 353

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030876 JOHN T. JORDAN

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

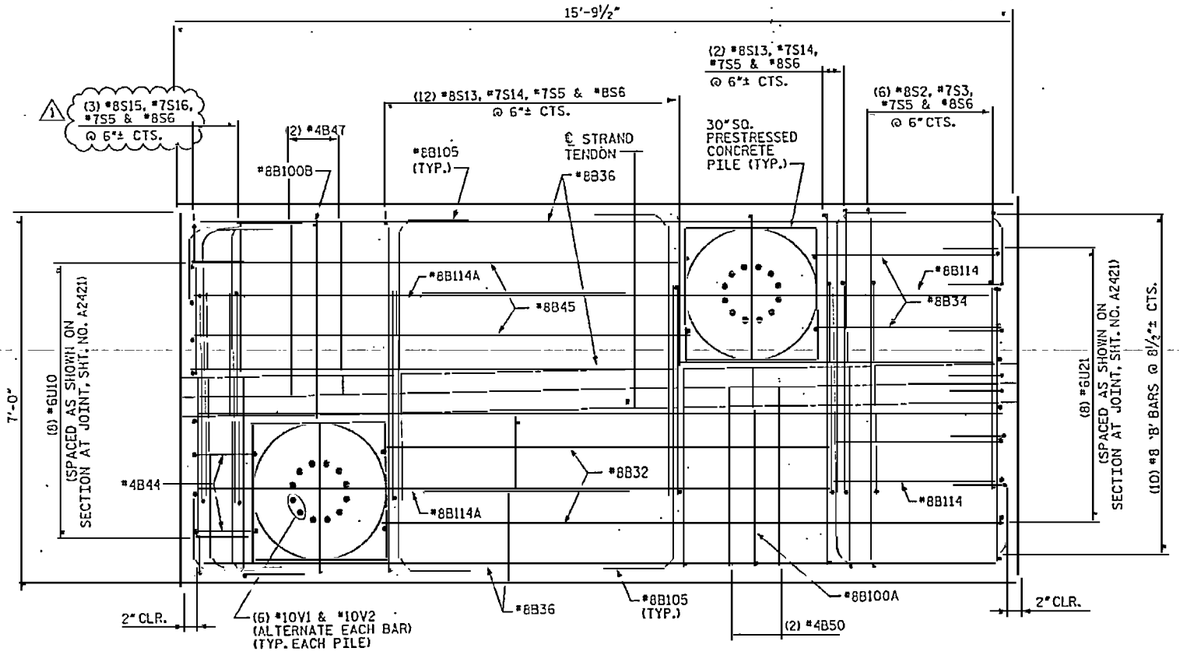
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2428.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

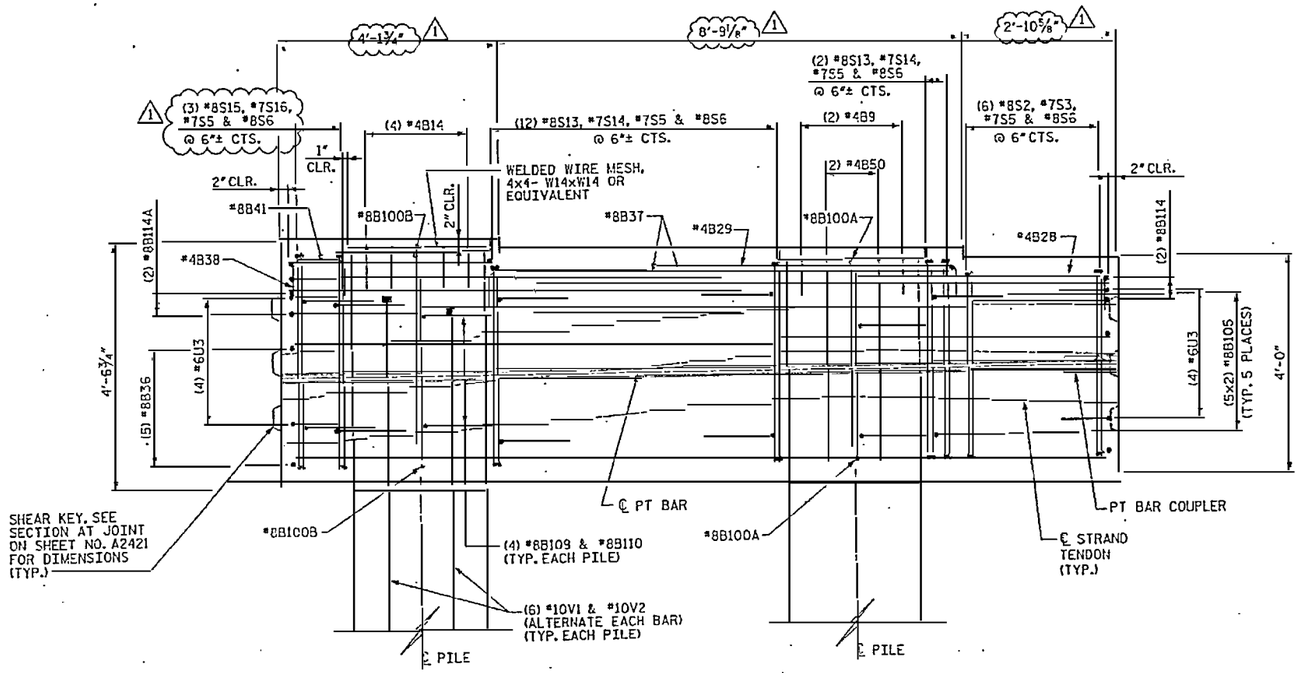
EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DGN: K:\Structures\Tar River Bridge\2400\2502_SOLIDS_STR-DETSHEET.dgn
USER: mbelisle
DATE: 3/7/2008
TIME: 8:24:47 PM



SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 3/11/08
TOM SHEARIN, PE DATE

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	3/7/08	3		
2			4		

SHEET NO. 2429.0
TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DATE 3/7/2008
TIME 2:51:57 PM
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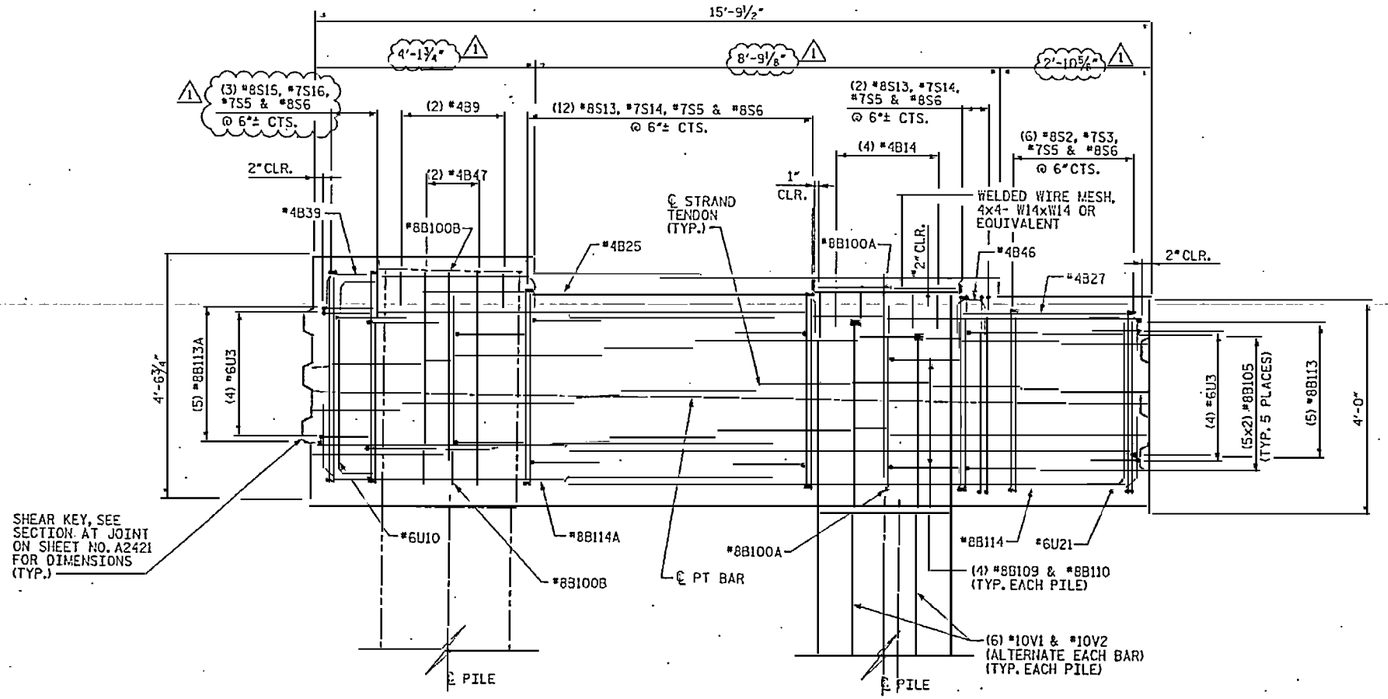

SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2420)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 3/11/08

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2430.01
1	MTB	3/7/08	3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELTSLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

USER: mbeltsle
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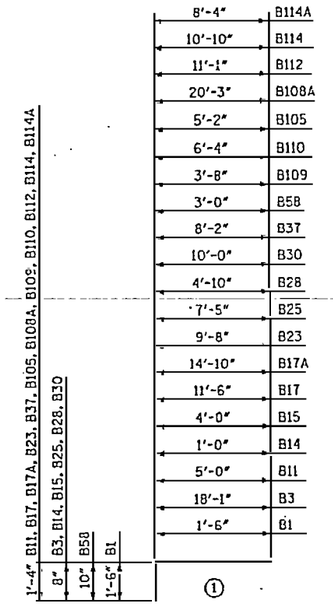
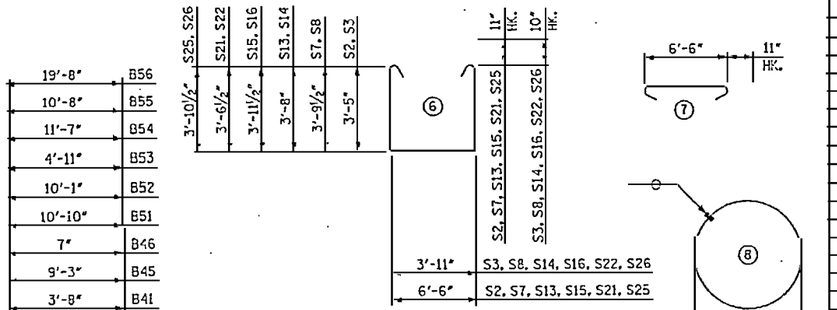
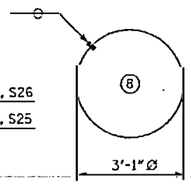
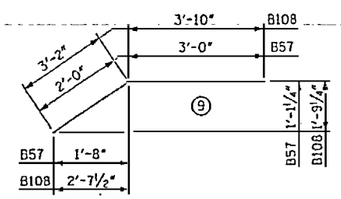
DATE: 3/7/2008
TIME: 2:13:23 PM

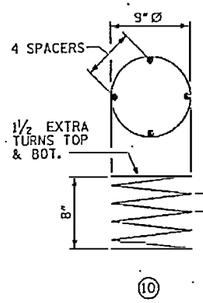
BAR TYPES

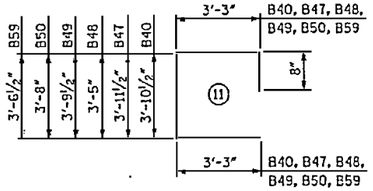


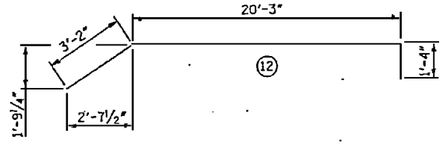


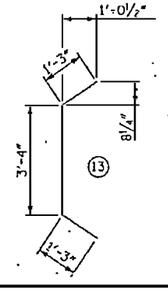


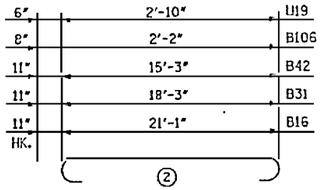


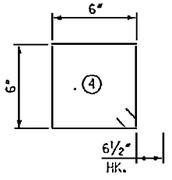


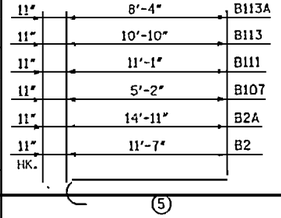


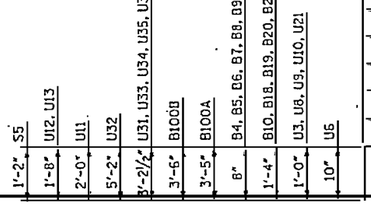












NOTES:

1. BARS USED AT PILES WHERE CAP DEPTH IS 4'-0", 4'-1⅝", 4'-3⅜" OR 4'-4½".
2. BARS USED AT PILES WHERE CAP DEPTH IS 4'-5⅛" OR 4'-6¾".

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	20	#8	(5)	12'-6"	668
B2A	20	#8	(5)	15'-10"	845
B3	4	#4	(1)	18'-9"	50
B4	10	#4	(3)	3'-2"	21
B5	6	#4	(3)	6'-2"	25
B6	6	#4	(3)	12'-10"	51
B7	2	#4	(3)	5'-7"	7
B8	2	#4	(3)	4'-11"	7
B9	20	#4	(3)	5'-3"	70
B10	4	#8	(3)	25'-1"	268
B11	8	#8	(1)	6'-4"	135
B12	10	#4	(3)	3'-0"	20
B13	14	#4	(3)	7'-5"	69
B14	40	#4	(1)	1'-8"	45
B15	10	#4	(1)	4'-8"	31
B16	12	#8	(2)	22'-11"	734
B17	4	#8	(1)	12'-10"	137
B17A	4	#8	(1)	16'-2"	173
B18	4	#8	(3)	11'-0"	117
B19	2	#8	(3)	6'-8"	36
B20	4	#8	(3)	4'-4"	46
B21	4	#8	(3)	13'-8"	146
B22	14	#8	(3)	20'-11"	782
B23	4	#8	(1)	11'-0"	117
B24	7	#4	(3)	7'-11"	37
B25	10	#4	(1)	8'-1"	54
B26	5	#4	(3)	5'-5"	18
B27	10	#4	(3)	4'-10"	32
B28	14	#4	(1)	5'-6"	51
B29	10	#4	(3)	10'-0"	67
B30	14	#4	(1)	11'-6"	108
B31	6	#8	(2)	20'-1"	322
B32	4	#8	(3)	14'-5"	154
B33	2	#8	(3)	6'-9"	36
B34	4	#8	(3)	6'-2"	66
B35	2	#8	(3)	14'-11"	80
B36	12	#8	(3)	17'-11"	574
B37	4	#8	(1)	9'-6"	101
B38	5	#4	(3)	2'-5"	8
B39	7	#4	(3)	4'-10"	23
B40	2	#4	(11)	11'-1"	15
B41	2	#8	(3)	6'-4"	34
B42	6	#8	(2)	17'-1"	274
B43	12	#8	(12)	24'-9"	793
B44	2	#8	(3)	3'-9"	20
B45	2	#8	(3)	11'-11"	64
B46	10	#4	(3)	1'-11"	13
B47	4	#4	(11)	11'-2"	30
B48	8	#4	(11)	10'-7"	57
B49	2	#4	(11)	11'-0"	15
B50	2	#4	(11)	10'-10"	14
B51	2	#4	(3)	12'-2"	16
B52	2	#4	(3)	11'-5"	15
B53	2	#8	(3)	7'-7"	40
B54	2	#8	(3)	14'-3"	76
B55	2	#8	(3)	13'-4"	71
B56	8	#8	(3)	22'-4"	477
B57	24	#7	(9)	5'-0"	245
B58	4	#5	(1)	3'-10"	16
B59	2	#4	(11)	10'-9"	14
[1] B100A	14	#8	(3)	13'-4"	498
[2] B100B	6	#8	(3)	13'-6"	216

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B105	250	#8	(1)	6'-6"	4339
B106	48	#6	(2)	3'-6"	252
B107	80	#8	(5)	6'-1"	1299
B108	8	#6	(9)	7'-0"	150
B108A	8	#8	(1)	21'-7"	461
B109	40	#8	(1)	5'-0"	534
B110	40	#8	(1)	7'-8"	819
B111	20	#8	(5)	12'-0"	641
B112	12	#8	(1)	12'-5"	398
B113	10	#8	(5)	11'-9"	314
B113A	10	#8	(5)	9'-3"	247
B114	6	#8	(1)	12'-2"	195
B114A	6	#8	(1)	9'-8"	155
S1	16	#4	(4)	3'-3"	35
S2	32	#8	(6)	15'-2"	1296
S3	32	#7	(6)	12'-5"	812
S5	96	#7	(3)	6'-3"	1226
S6	96	#8	(7)	8'-4"	2136
S7	15	#8	(6)	15'-11"	637
S8	15	#7	(6)	13'-2"	404
S13	14	#8	(6)	15'-8"	586
S14	14	#7	(6)	12'-11"	370
S15	12	#8	(6)	16'-3"	521
S16	12	#7	(6)	13'-6"	331
S21	9	#8	(6)	15'-5"	370
S22	9	#7	(6)	12'-8"	233
S25	14	#8	(6)	16'-1"	601
S26	14	#7	(6)	13'-4"	382
S31	14	#7	(8)	9'-5"	269
U3	24	#6	(3)	8'-4"	300
U6	12	#5	(3)	4'-11"	62
U8	16	#6	(3)	5'-7"	134
U9	8	#6	(3)	5'-4"	64
U10	16	#6	(3)	5'-9"	138
U11	12	#5	(3)	4'-10"	60
U12	8	#5	(3)	4'-3"	35
U13	8	#5	(3)	4'-8"	39
U16	12	#5	(13)	5'-10"	73
U19	2	#4	(2)	3'-10"	5
U21	8	#6	(3)	5'-3"	63
U31	52	#7	(3)	7'-8"	815
U32	8	#8	(3)	11'-4"	242
U33	20	#7	(3)	12'-11"	528
U34	8	#7	(3)	10'-4"	169
U35	4	#7	(3)	10'-2"	83
U36	4	#7	(3)	11'-0"	90
U37	8	#7	(3)	11'-5"	187
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2301				
V2	SEE SHEET NO. 2301				

RELEASED FOR CONSTRUCTION

Tom Shearin 3/11/08

TOM SHEARIN, P.E. DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030157 JOHN C. JORDAN

⚠1 UPDATED BILL OF MATERIAL.

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 12 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 9
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	3/7/08	3		
2			4		

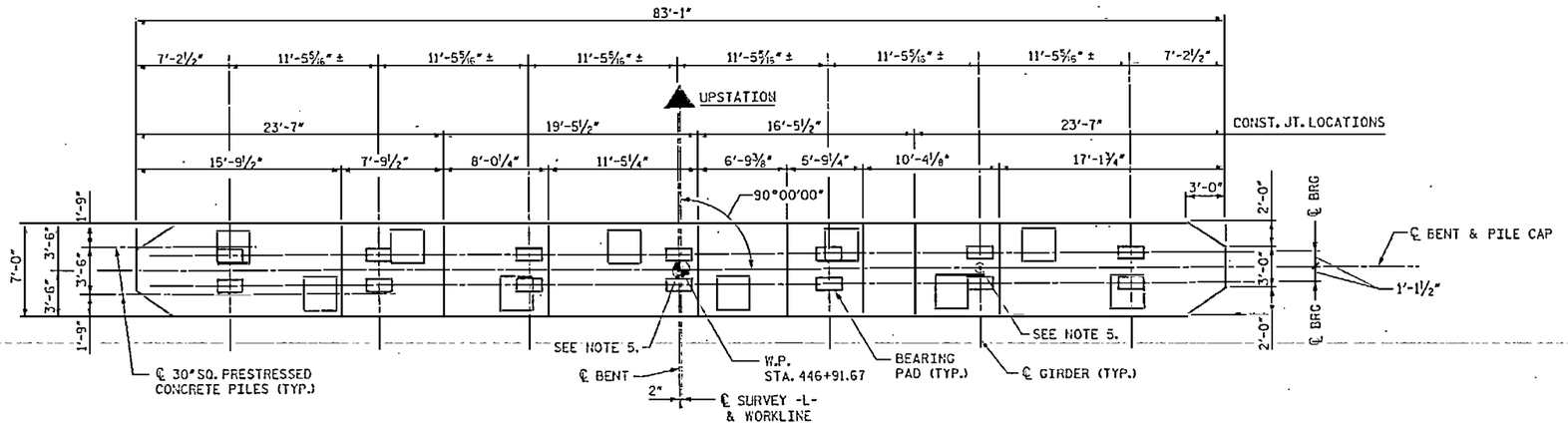
SHEET NO. A2431.01

TOTAL SHEETS

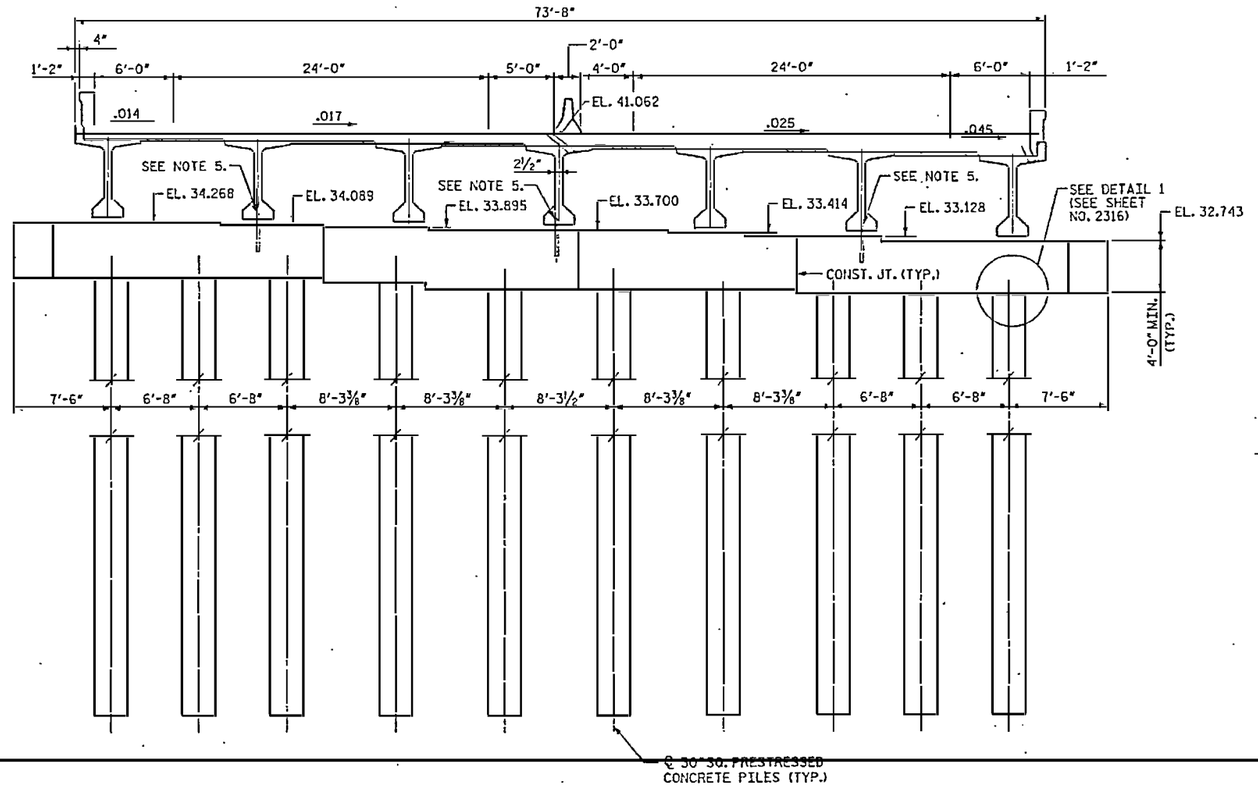
DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

DATE PLOTTED: 3/7/2008
TIME PLOTTED: 10:51:13 AM

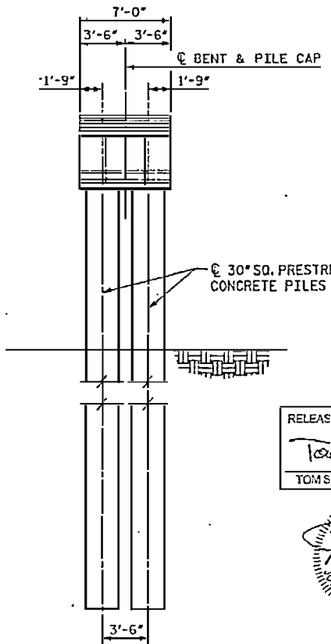
USER: mrbelisle
DGN: N:\Structure\Tar River Bridges\BOM\R2510B_SD_001_BT9-DETAILS.dgn



PLAN



ELEVATION
(BENT 103)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1.
5. 3"SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB.

1 2

1 REVISION TO NOTE NO. 5.
2 REVISION TO NOTE NO. 5.

RELEASED FOR CONSTRUCTION
Tom Shearin 10/24/07
TOM SHEARIN, PE · DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL D30078 JOHN M. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DIMENSIONS - BENT TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2434.02
1	MTB	7/2/07	3			TOTAL SHEETS
2	MTB	10/16/07	4			

DRAWN BY : S. G. STREDNAK DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

DATE: 9/28/2007
FILE: 2434.dgn
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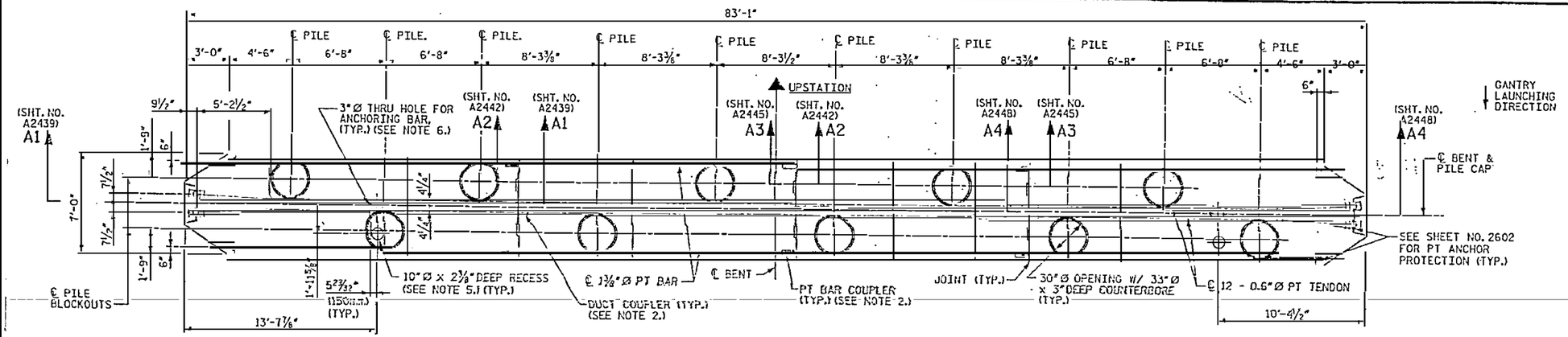
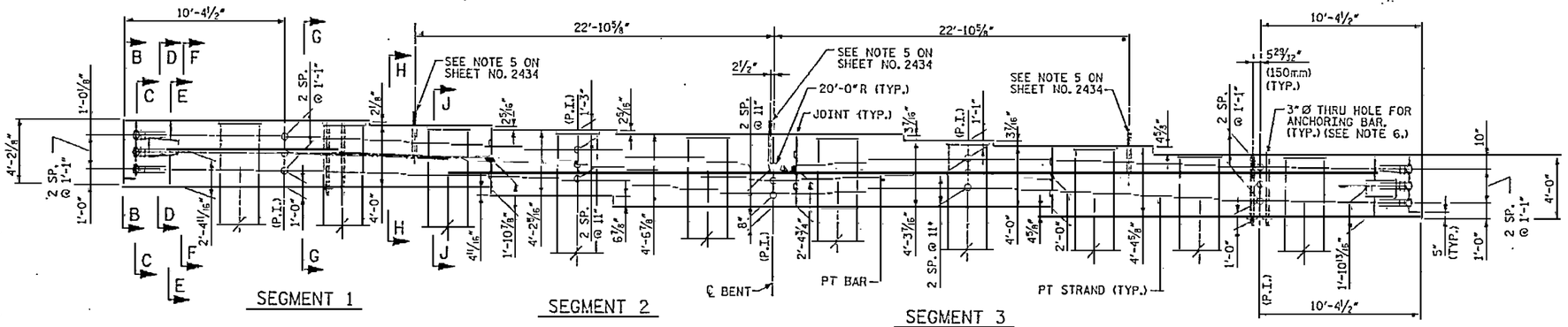
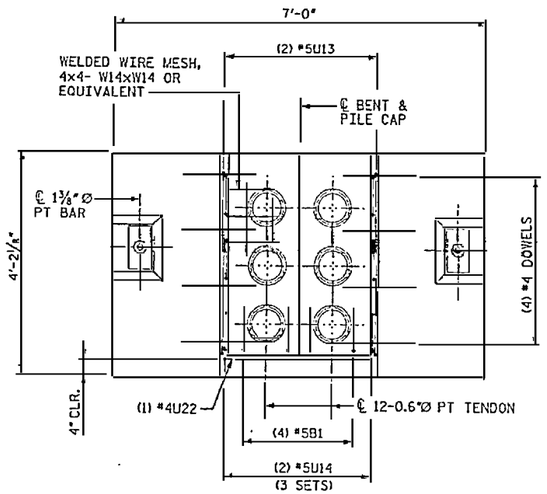


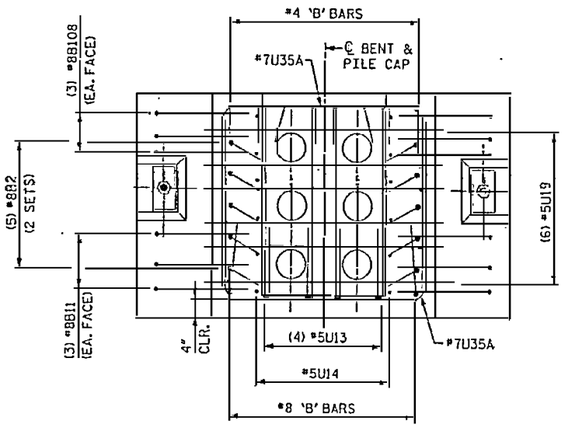
OVERALL PLAN



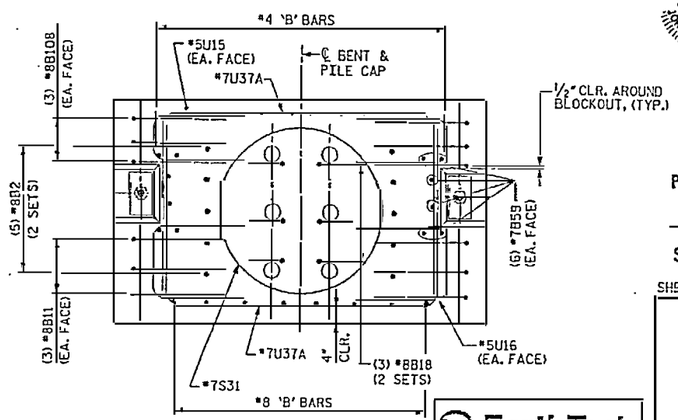
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 10 IS USED AT BENT NO. 103.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2436. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 15 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

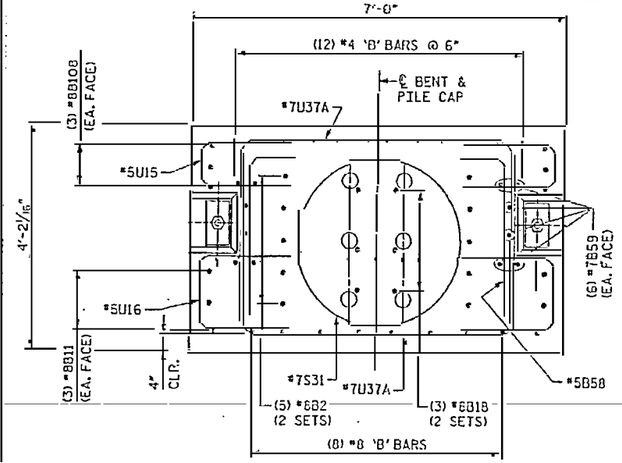
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2435.00
1			3			TOTAL SHEETS
2			4			

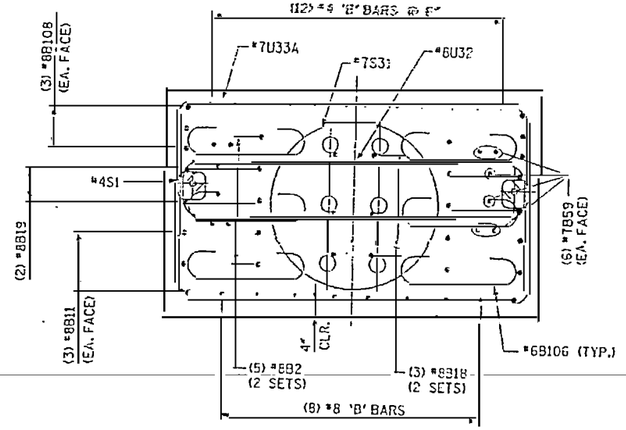
DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J. I TU DATE : 12/07

Earth Tech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

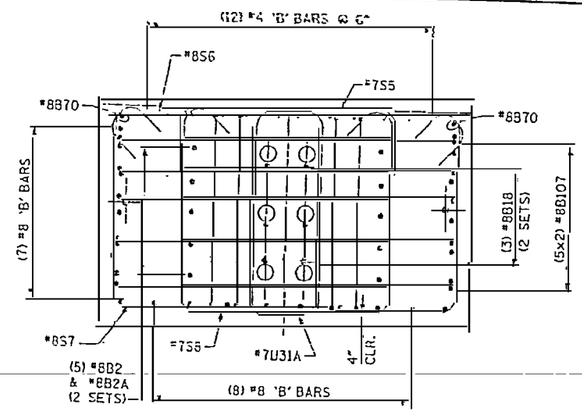
DATE: 12/13/2007
TIME: 10:56:12 AM
USER: mbelisle
DGN: 10Structure\Tar River Bridge\MAIDWGS\SLIDSHEETS-DETails.dgn



SECTION E-E

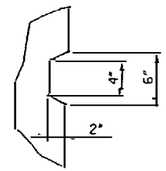


SECTION F-F



SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



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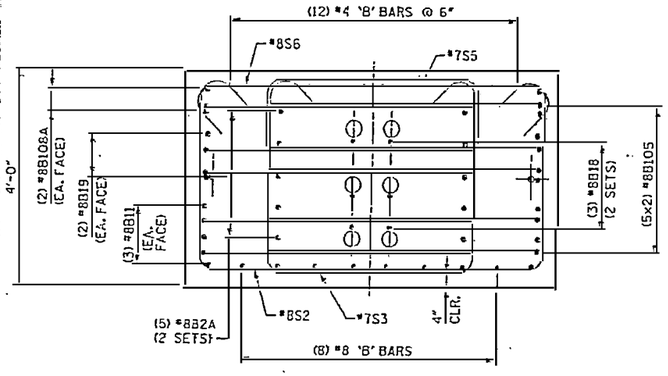
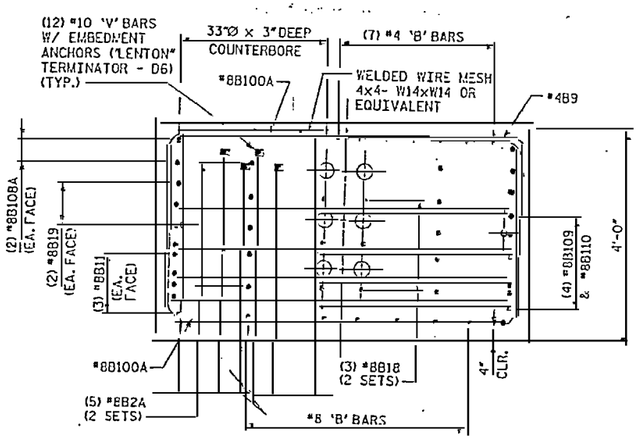
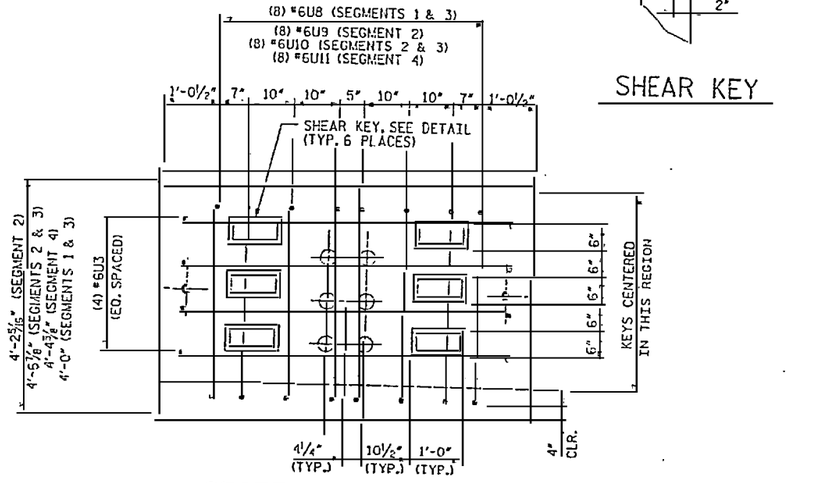


SECTION H-H

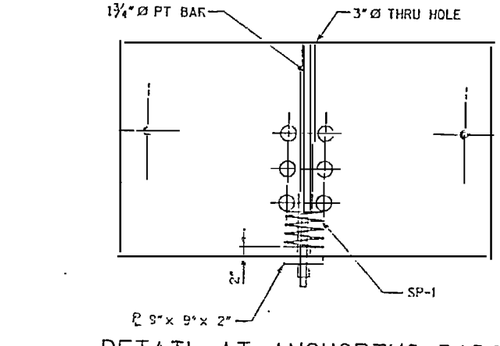


SECTION J-J



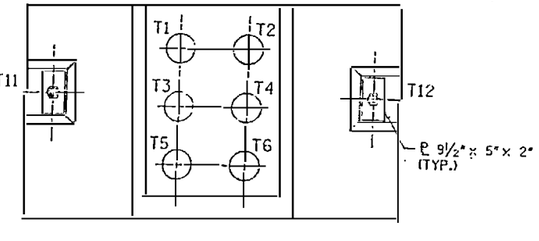
SECTION AT JOINT

(SEE SHEET NO. A2435)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1¾"Ø PT BARS AND T1 THRU T6 SHALL BE 12-0.6"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 29808 ENGINEER TOM SHEARIN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

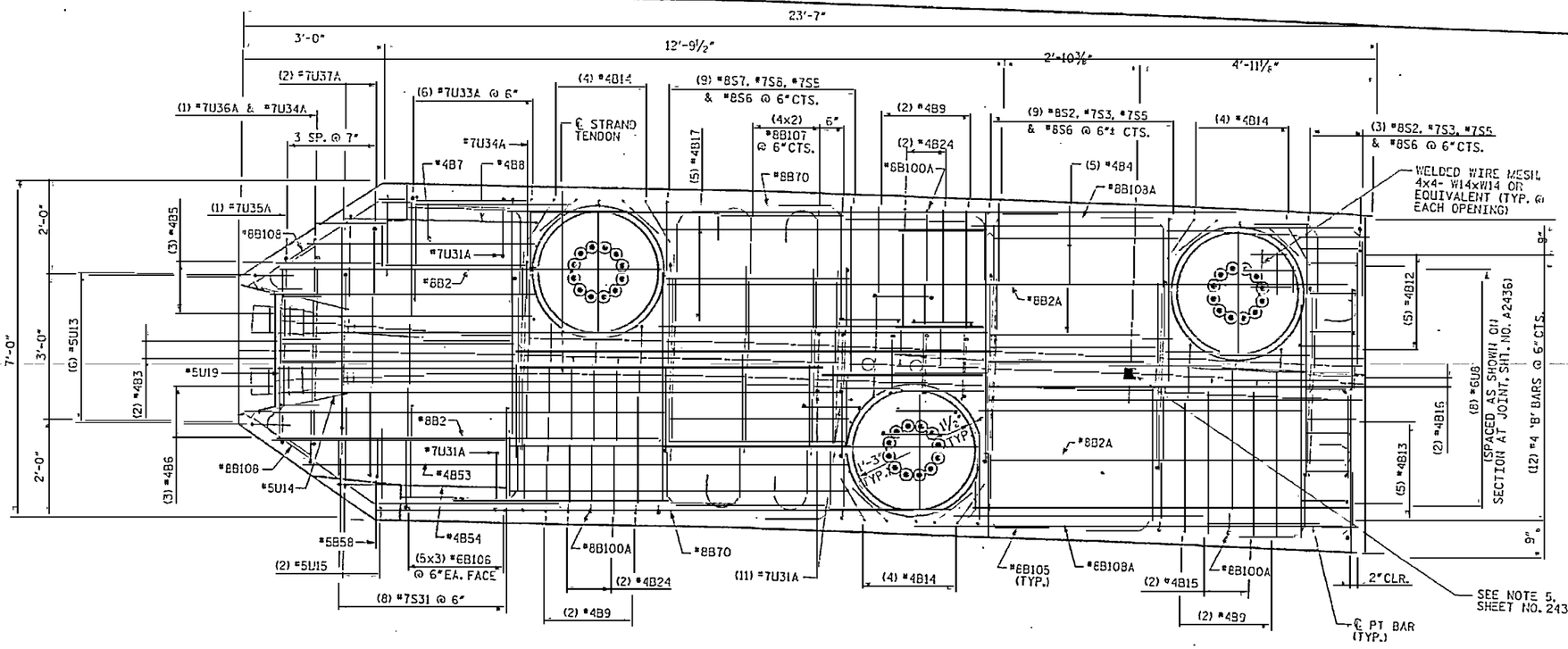
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2436.00
1.			3.			TOTAL SHEETS
2.			4.			

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BEITSLE DATE : 12/07
CHECKED BY : J. LEE DATE : 12/07

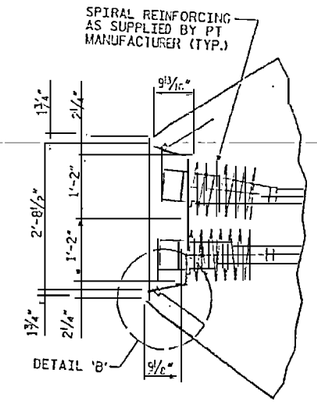
USER: ellenjohn
FILE: Pile Cap Type 10 Details.dgn



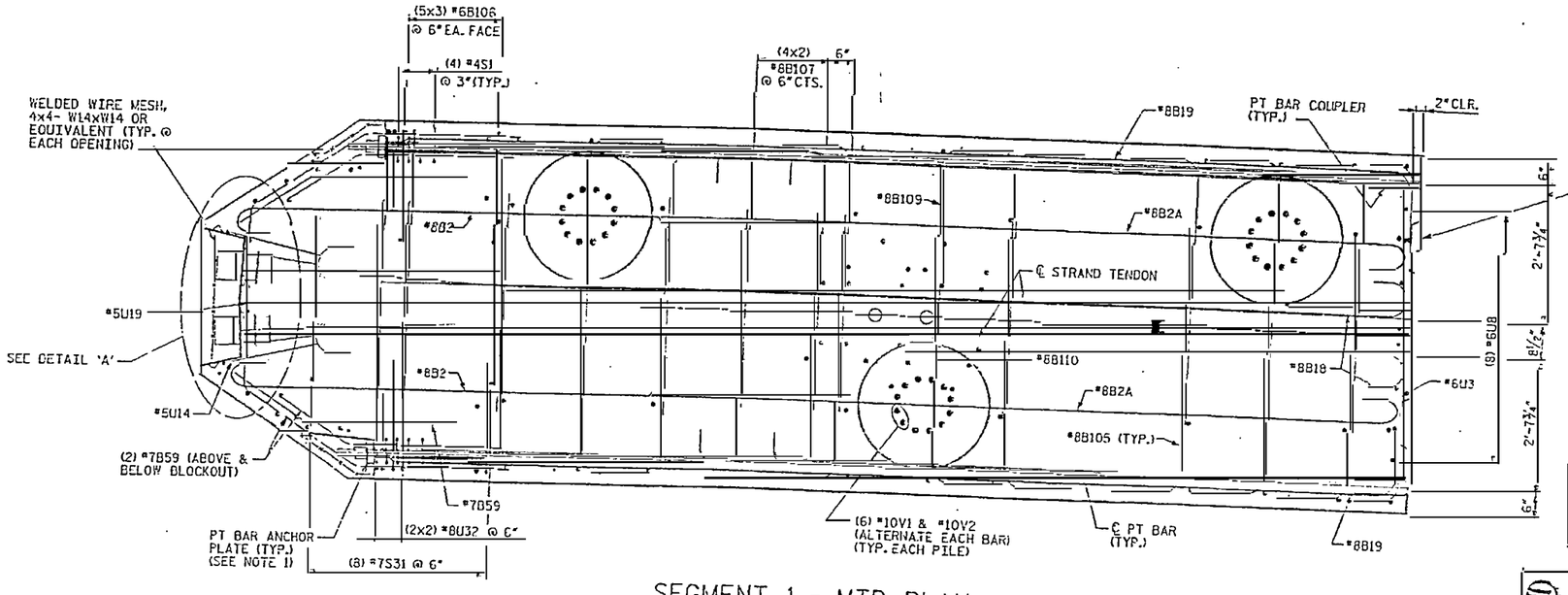
SEGMENT 1 - TOP PLAN

NOTES:

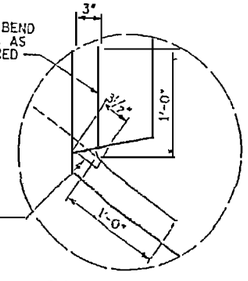
1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



SEGMENT 1 - MID PLAN



DETAIL 'B'

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029879 TOM SHEARIN 12-22-03

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 15

BRIDGE NO. 353

RELEASED FOR CONSTRUCTION

Tom Shearin 12/22/03

TOM SHEARIN, PE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

DRAWN BY : M.T. BELISLE DATE : 12/03
CHECKED BY : J. LEE DATE : 12/03

REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		A2437.00
1			3				TOTAL SHEETS
2			4				

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

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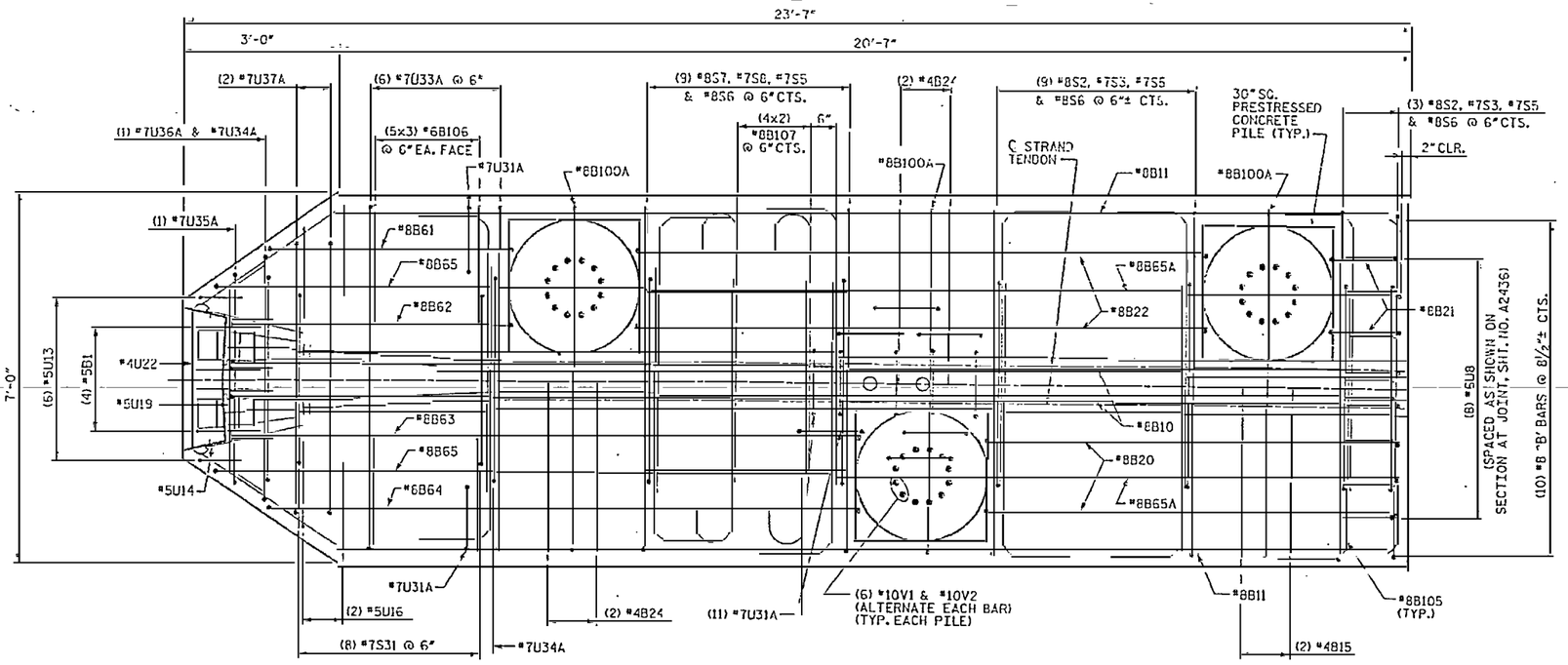
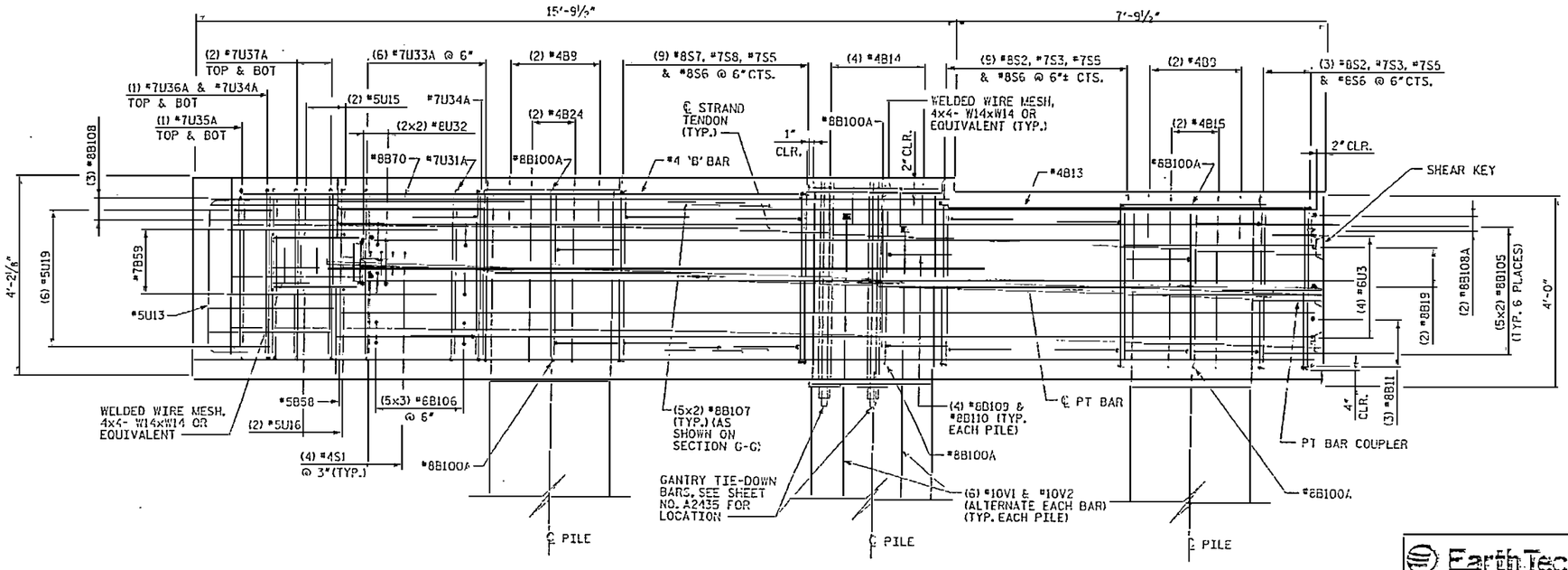


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039078 THOMAS E. SHEARIN

RELEASED FOR CONSTRUCTION
Tom Shearin 11/22/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2438.00
1			3			TOTAL SHEETS
2			4			

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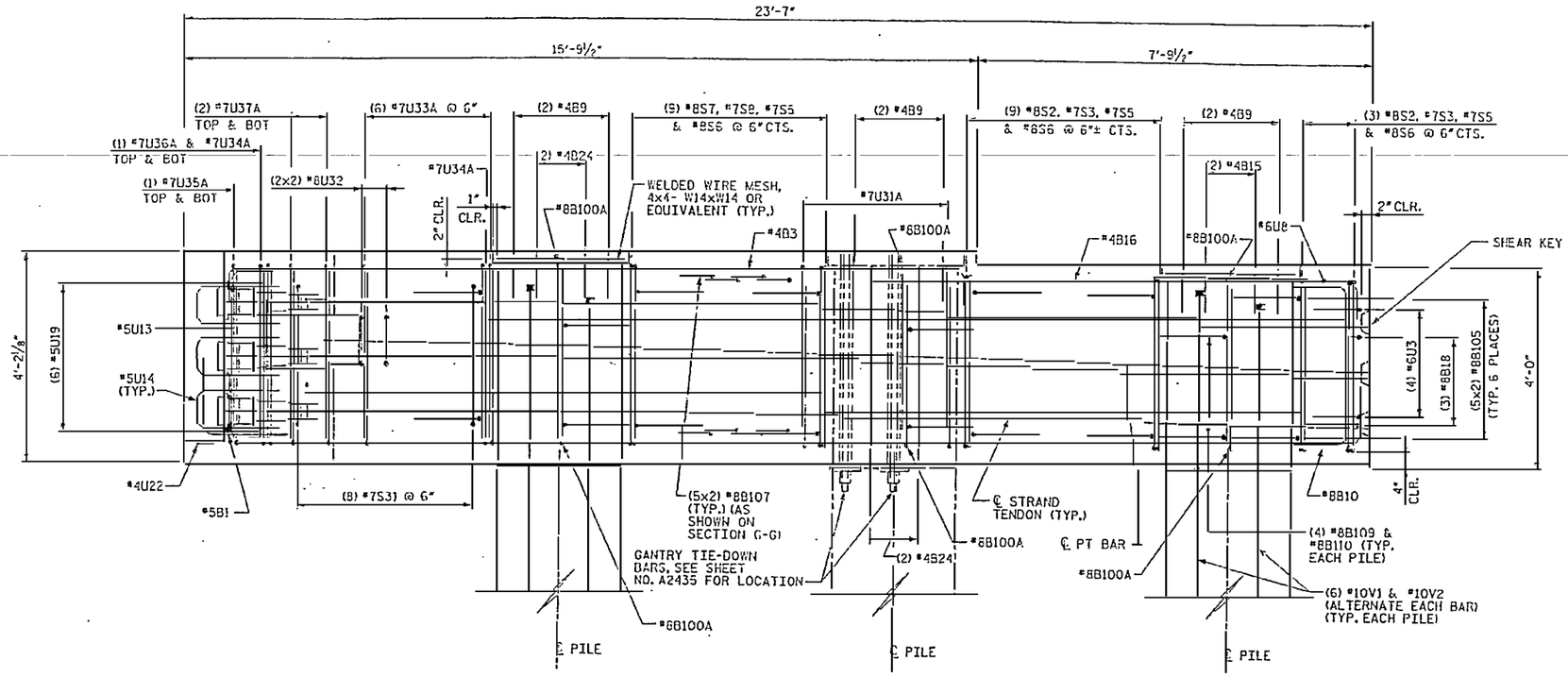
A Tyco International Ltd. Company

PLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. DELISLE DATE : 12/07
CHECKED BY : J. LT" DATE : 12/07

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2435)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2439.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 12/02
CHECKED BY : J.LYN DATE : 12/02

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 1/15/2003
TIME: 8:20:05 AM
USER: cthomas
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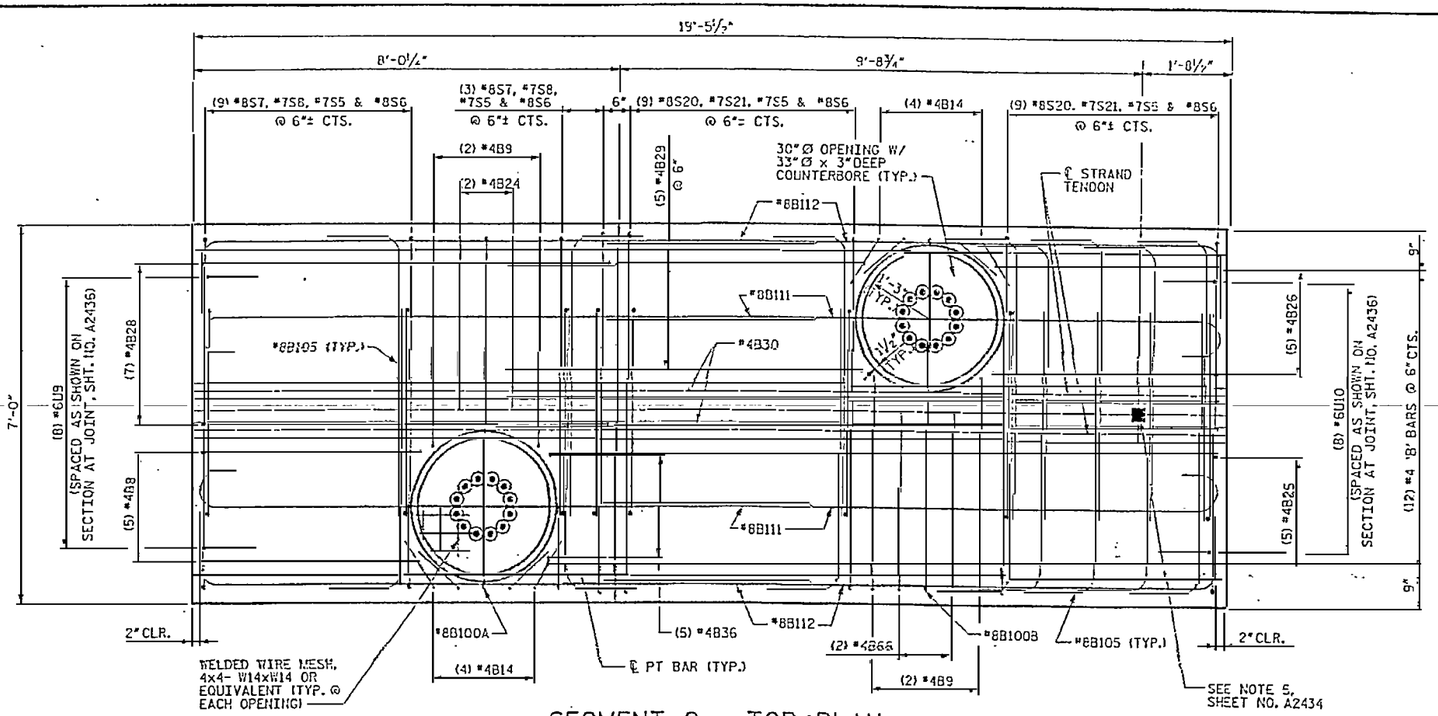
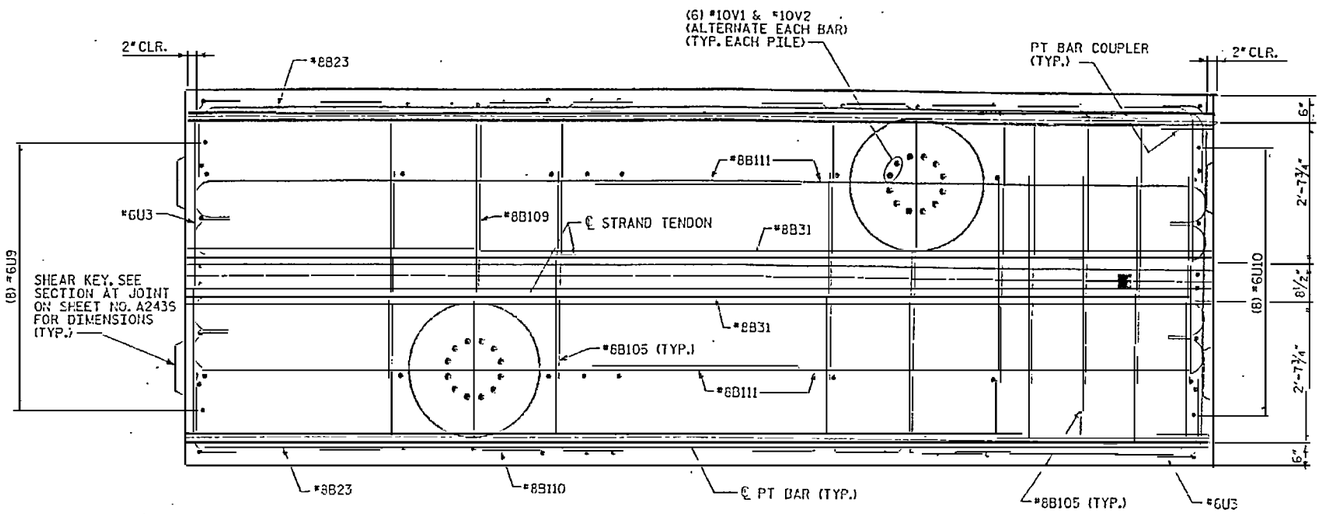


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/26/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 6 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO	BY:	DATE:	A2440.00
1			4			TOTAL SHEETS
2			5			

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J.L.H. DATE : 12/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

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DATE: 12/27/2007
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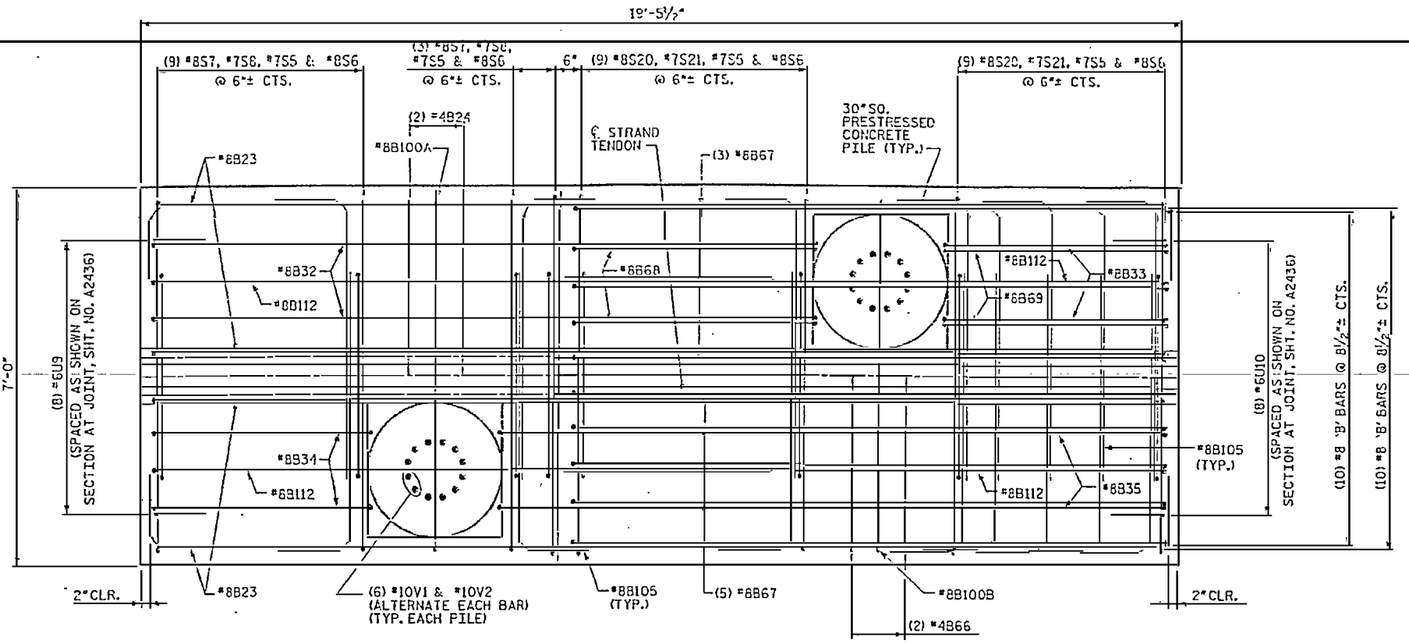
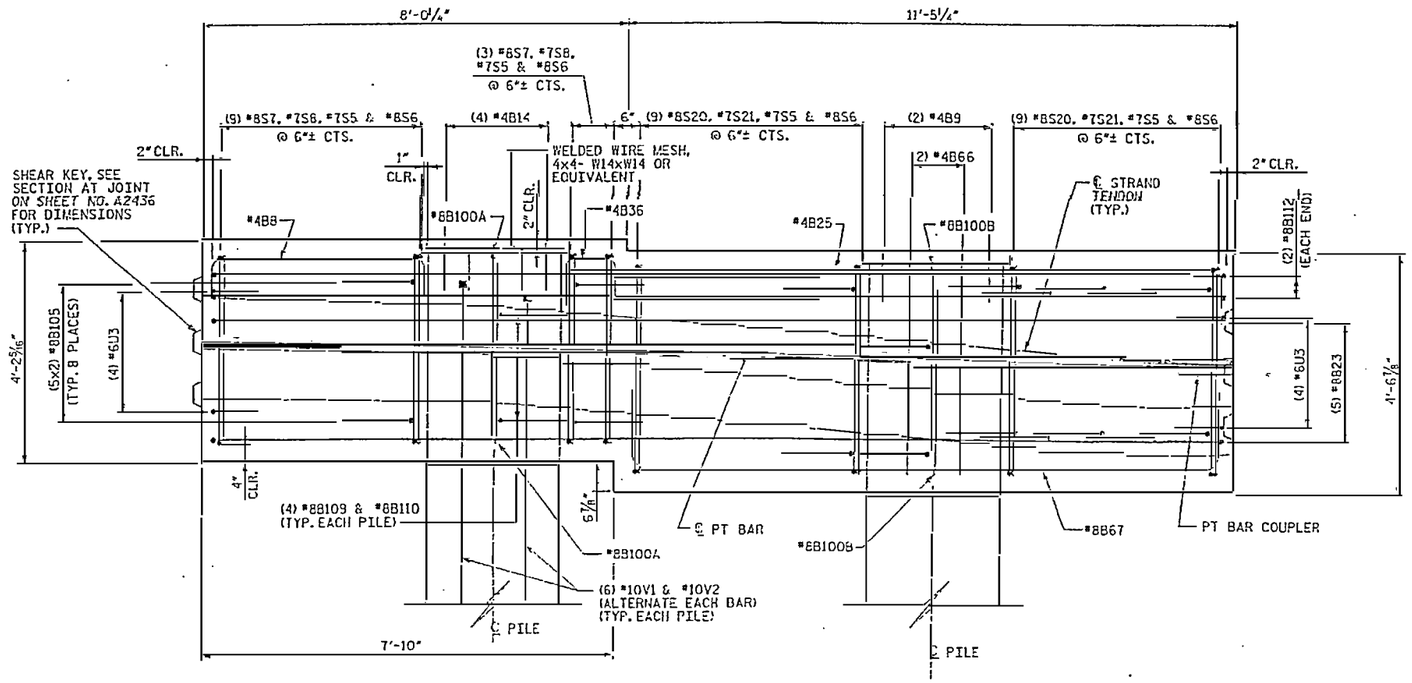


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M.T. DELISLE DATE : 12/07
CHECKED BY : J.J.LIU DATE : 12/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/22/08 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

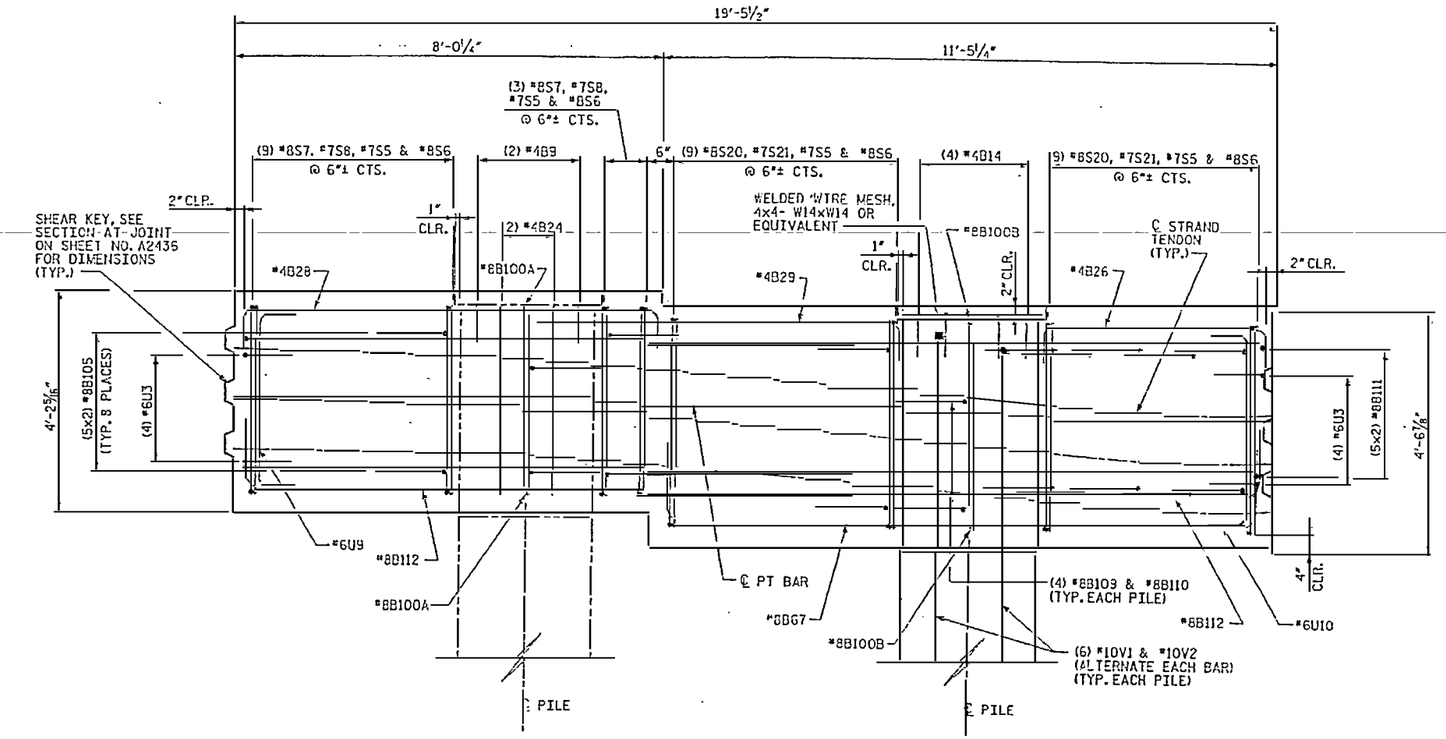
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2441.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2435)

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 8 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2442.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tetra Tech Inc. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELTSLE DATE : 12/07
CHECKED BY : J.LIU DATE : 12/07

DATE: 12/21/2007
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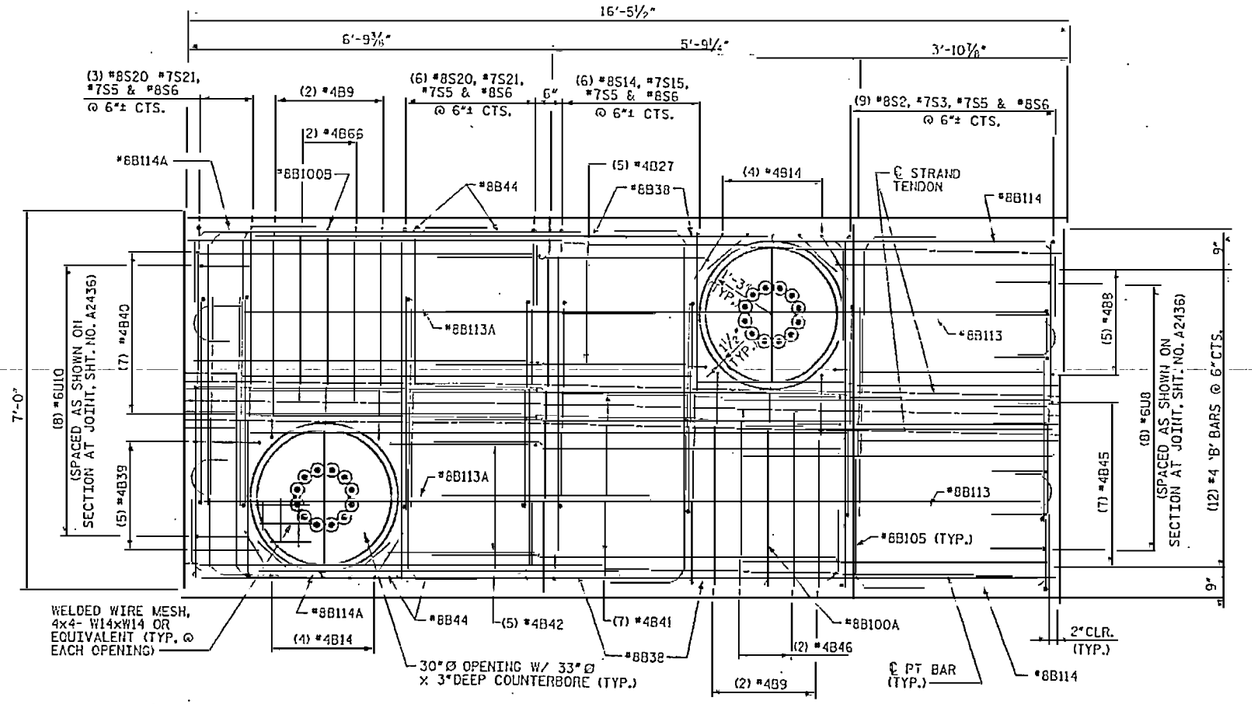
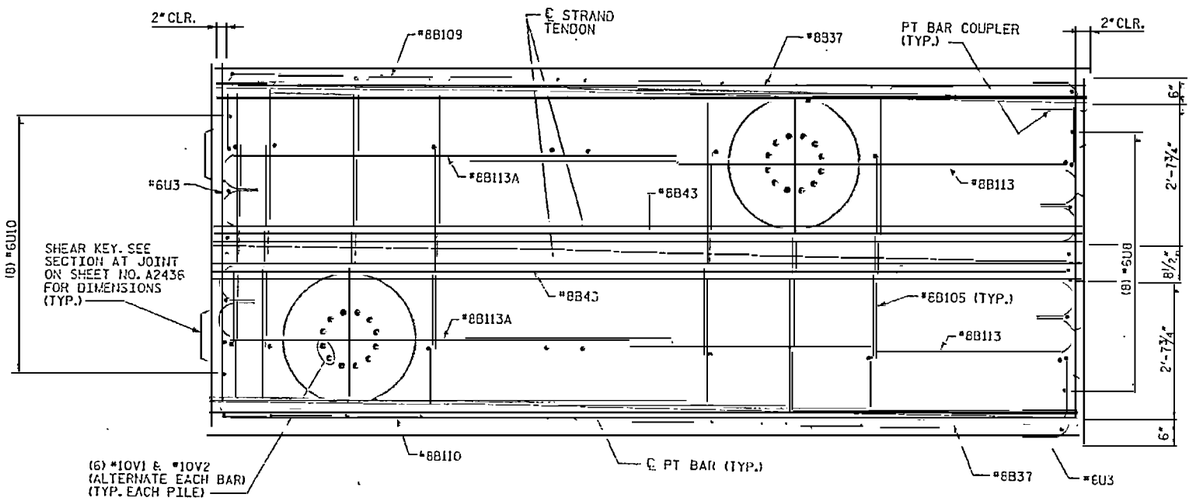


SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/09
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2443.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. DELISLE DATE : 12/07
CHECKED BY : J.T.H. DATE : 12/07

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USER: tmdavis
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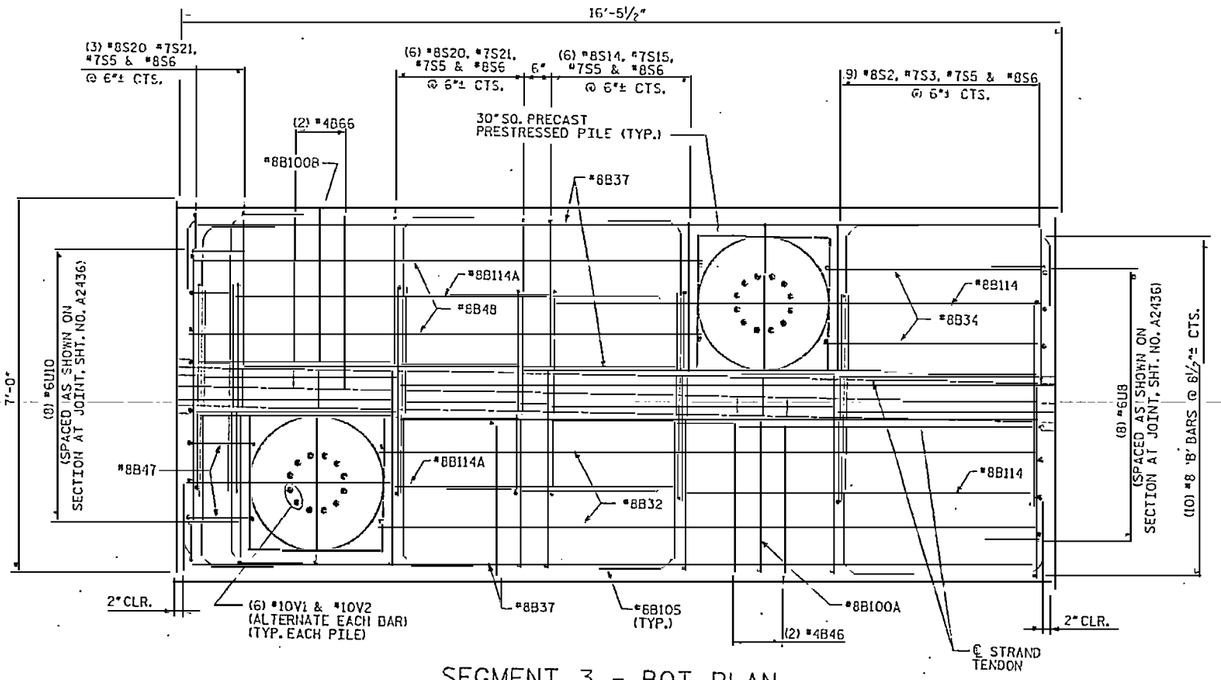
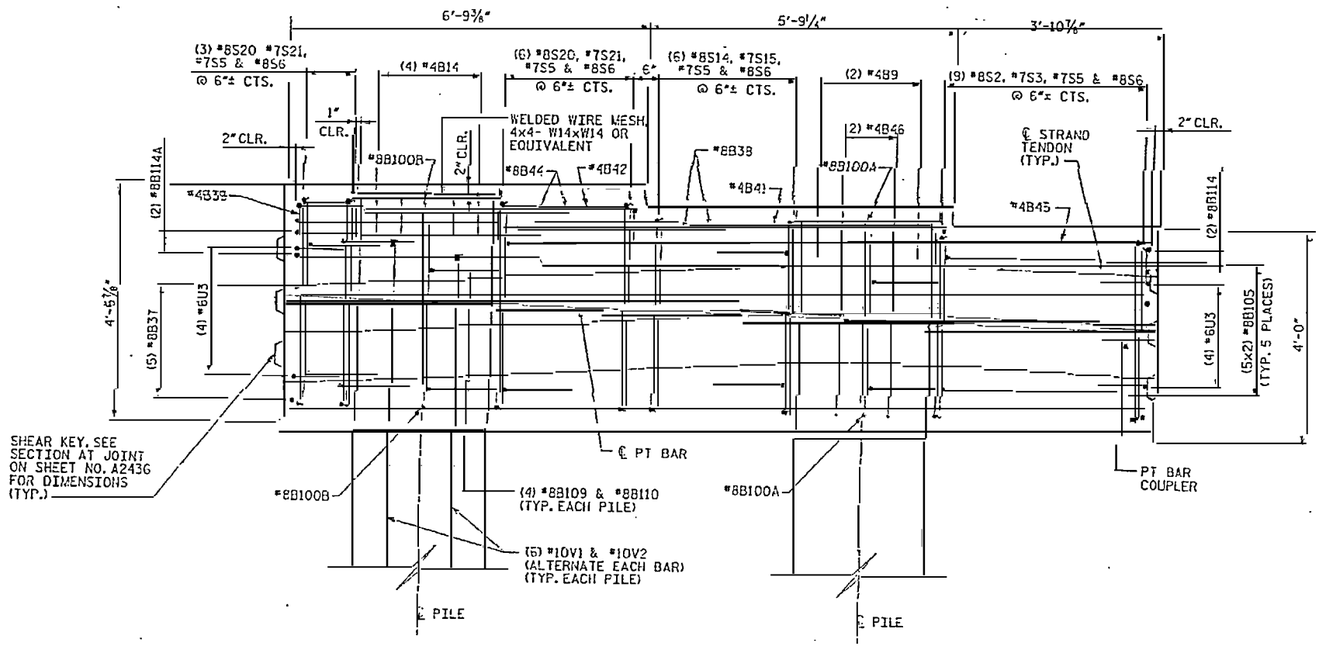


SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 10 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2444.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

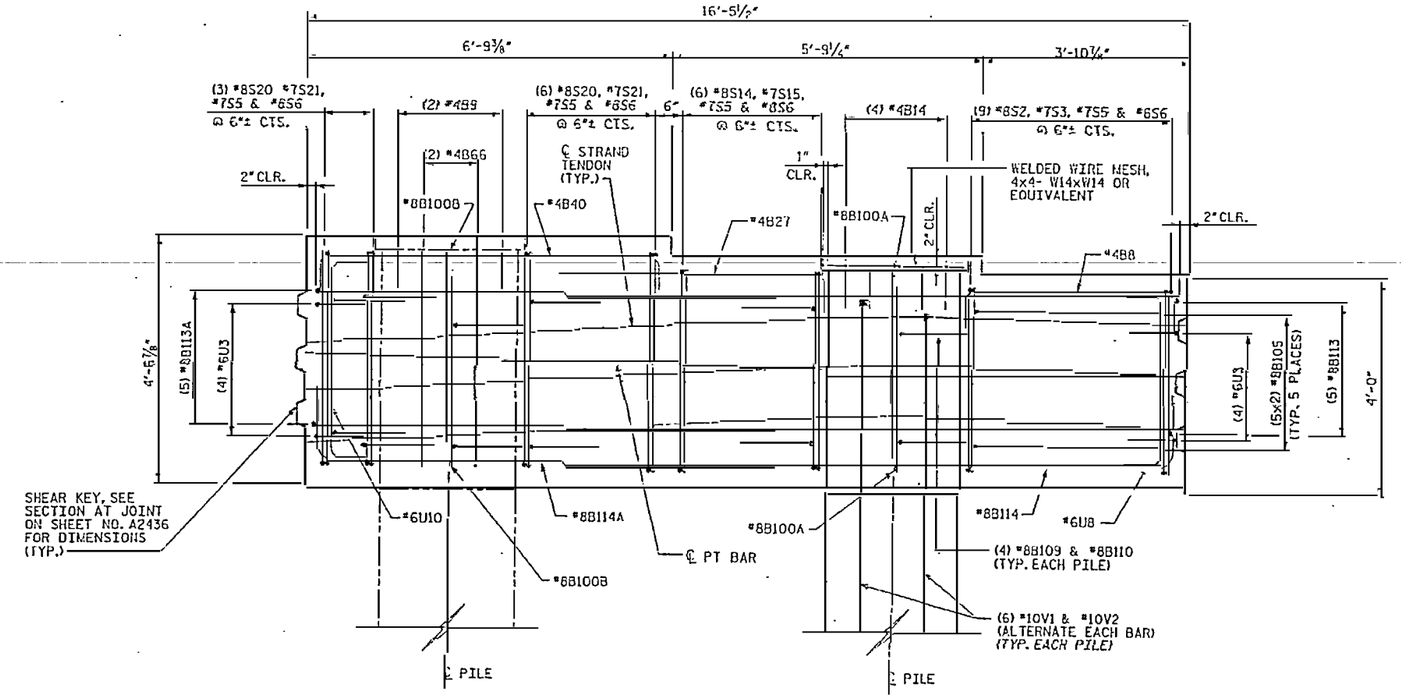
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.J. BELISLE DATE : 12/07
CHECKED BY : J. LITT DATE : 12/07

DGN: 1_2436.dgn
DW: 1_2436.dw
USER: pjrubio
DGN: P:\STRUCTURES\2430_50\DGN\2430_50_DGN_MTD_ESTA.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2435)

DATE: 12/03/2007
TIME: 11:38:19

User: mtbelisle
Time: 11:38:19 Plotted on: Fri Dec 07 11:38:19 2007 File: R:\projects\DOT\R2510B\Bridge\Sheets\R2510B_BRG_DET.dgn

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J.L.J.II DATE : 12/07

NORTH CAROLINA ENGINEER SEAL 030617 JOHN L. JORDAN II

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 15 BRIDGE NO. 353

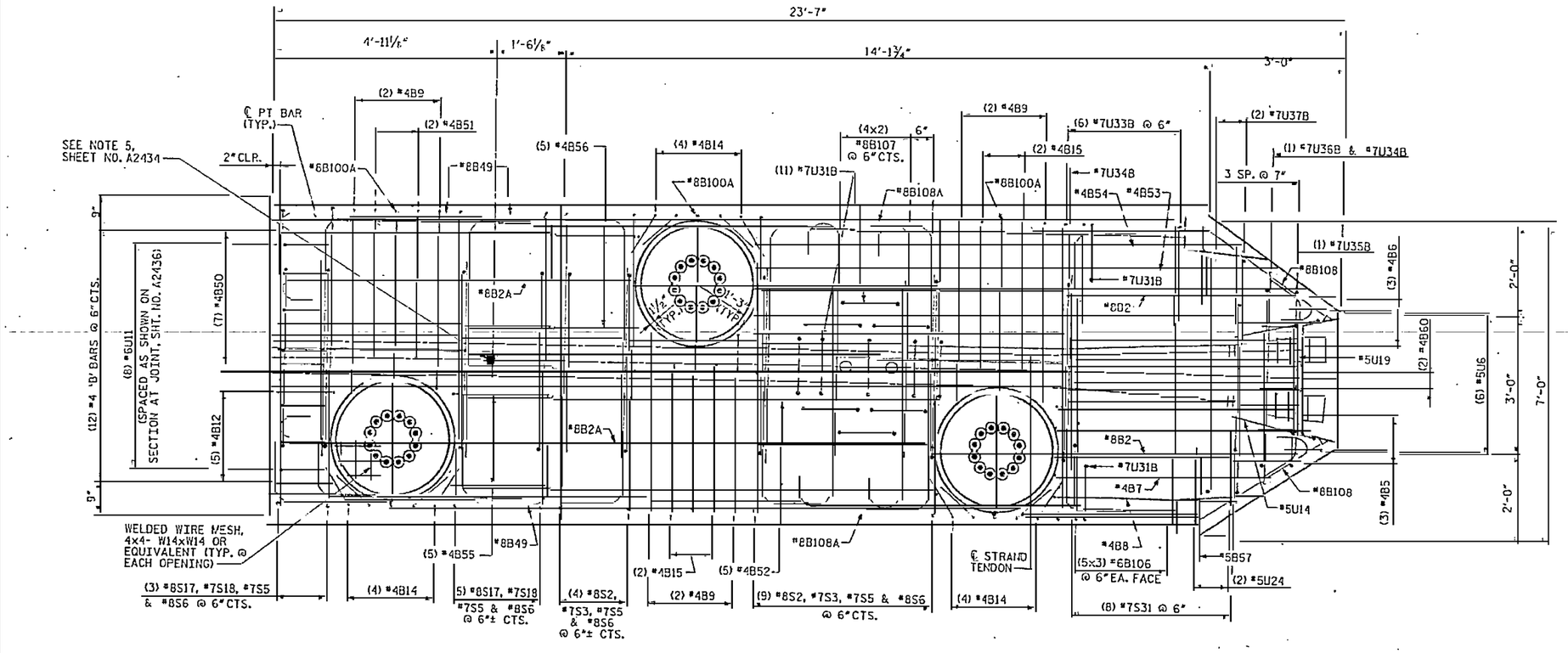
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

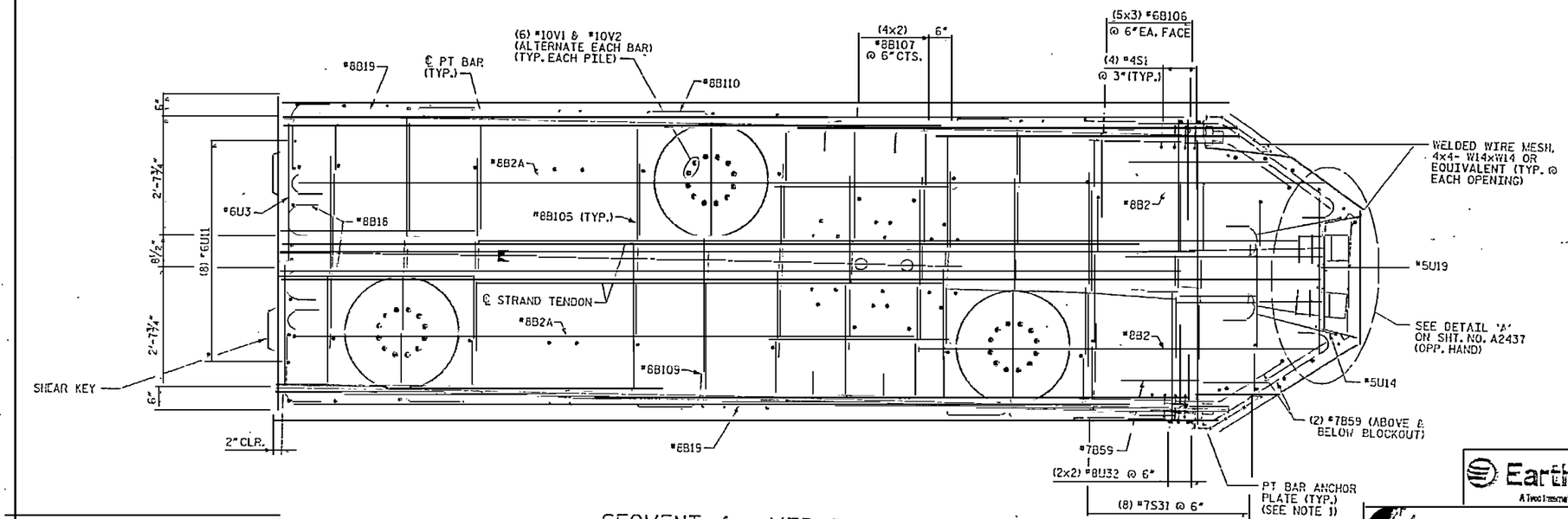
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2445.00
1			4			TOTAL SHEETS
2			5			

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE



SEGMENT 4 - TOP PLAN



SEGMENT 4 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 15
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2446.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J. LTH DATE : 12/07

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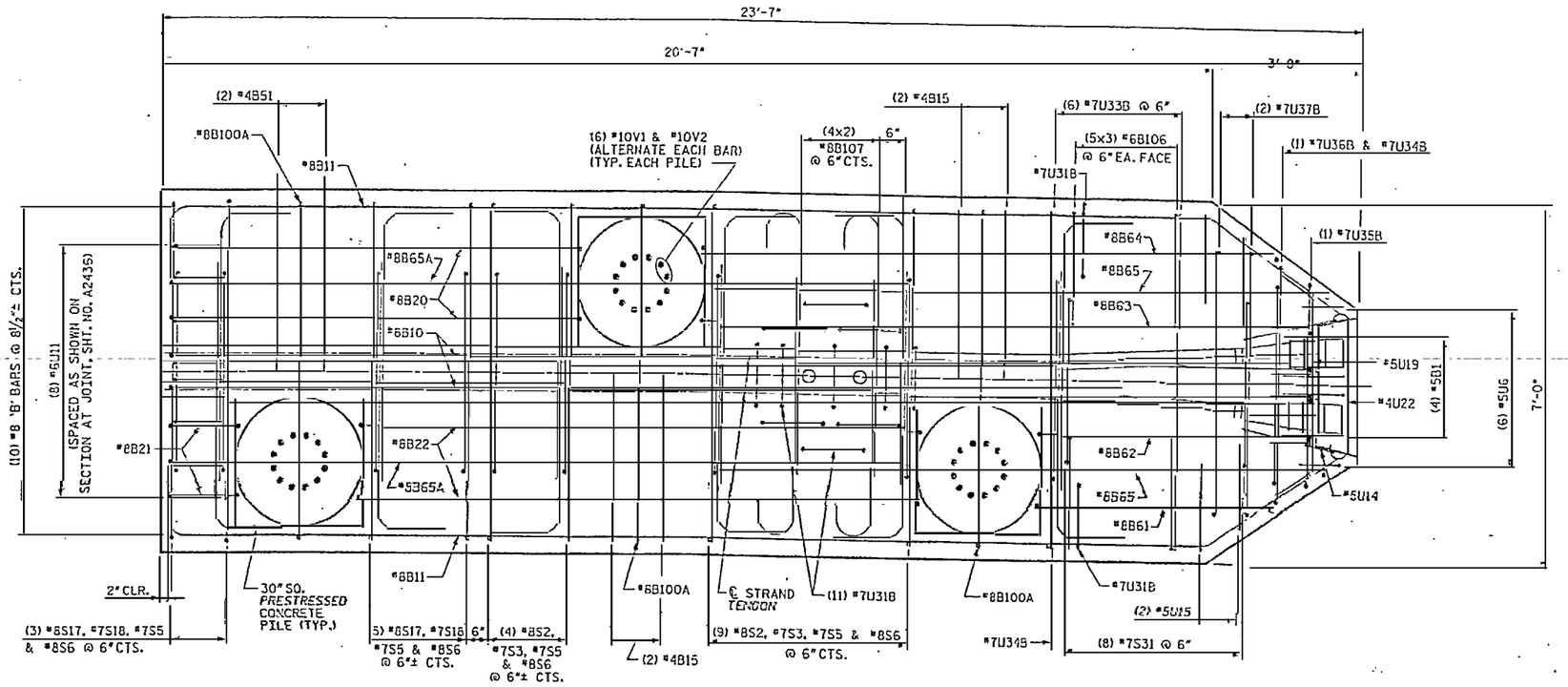
FLATIRON/UNITED — A JOINT VENTURE

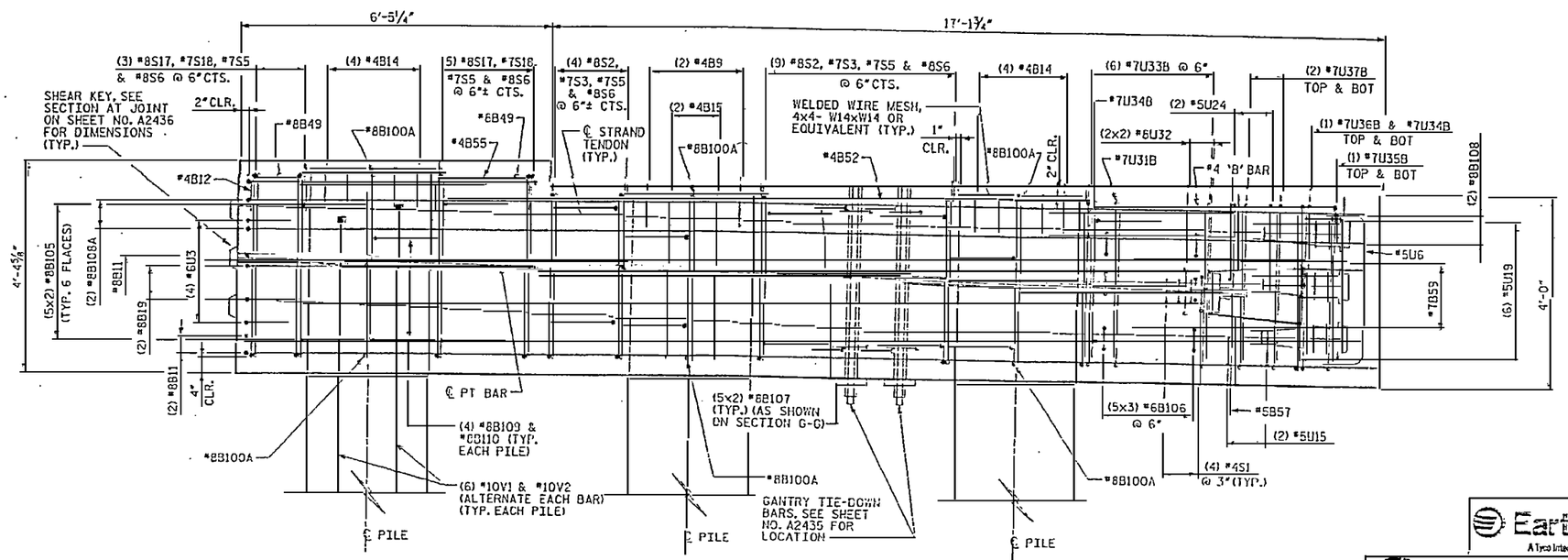
USER: rhiddle
DGN: K:\STRUCTURE\R2510B\CAD\PSHEETS\SEG_SLAB_MID-DETAILS.dgn
DATE: 12/13/2007
TIME: 10:22:30 AM



SEGMENT 4 - BOT PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 4 - ELEVATION

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 13 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2447.00
1			3			TOTAL SHEETS
2			4			

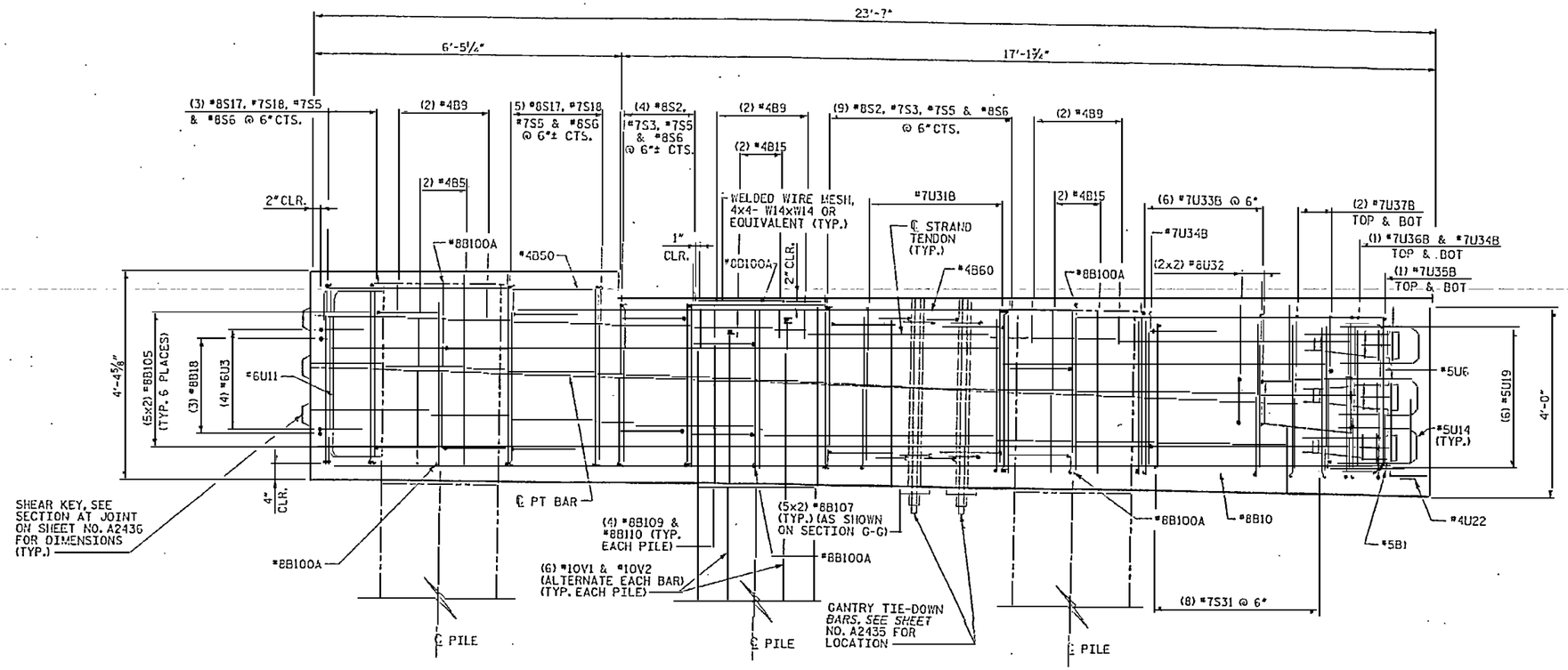
DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J. LITH DATE : 12/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 4 - SECTION A4

(SEE SHEET NO. A2435)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/22/08 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 14 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

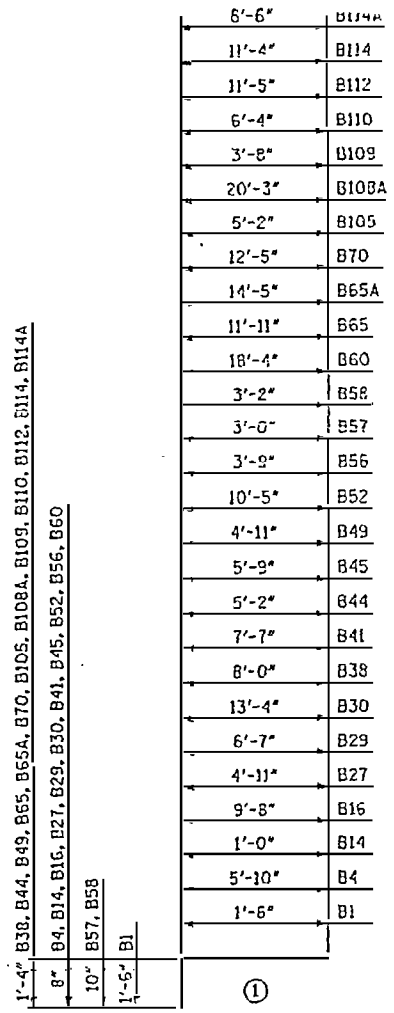
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2440.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELTSLE DATE : 12/07
CHECKED BY : J.LIU DATE : 12/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE



NOTES:

1. BARS USED AT PILES WHERE CAP DEPTH IS 4'-0", 4'-2⅛", 4'-2⅝", 4'-3⅛" OR 4'-4⅝".
2. BARS USED AT PILES WHERE CAP DEPTH IS 4'-6⅛".
3. BARS USED IN SEGMENT 1.
4. BARS USED IN SEGMENT 4.

B69	2	#8	(3)	7'-1"	38
B70	2	#8	(1)	13'-9"	73
[1] B100A	16	#8	(3)	13'-4"	570
[2] B100B	4	#8	(3)	13'-6"	144
B105	250	#8	(1)	6'-6"	4339
B106	60	#6	(2)	3'-6"	315
B107	80	#8	(5)	6'-1"	1299
B108	10	#8	(9)	7'-0"	187
B108A	8	#8	(1)	21'-7"	461
B109	40	#8	(1)	5'-0"	534
B110	40	#8	(1)	7'-8"	819
B111	20	#8	(5)	12'-4"	654
B112	12	#5	(1)	12'-9"	409
B113	10	#8	(5)	12'-3"	327
B113A	10	#8	(5)	9'-5"	251
B114	6	#8	(1)	12'-8"	203
B114A	6	#8	(1)	9'-10"	158

B2	20	#8	(5)	12'-11"	850	S2	34	#7	(6)	12'-5"	863
B2A	20	#8	(5)	15'-5"	823	S3	34	#7	(3)	6'-3"	1226
B3	2	#4	(3)	15'-11"	21	S5	96	#7	(3)	8'-4"	2136
B4	5	#4	(1)	6'-6"	22	S6	96	#8	(7)	15'-6"	870
B5	6	#4	(3)	6'-7"	26	S7	21	#8	(6)	12'-9"	547
B6	6	#4	(3)	13'-3"	53	S8	21	#7	(6)	15'-8"	251
B7	2	#4	(3)	6'-0"	8	S14	6	#8	(6)	12'-11"	317
B8	12	#4	(3)	5'-4"	43	S15	6	#7	(6)	15'-11"	340
B9	20	#4	(3)	5'-3"	70	S17	8	#8	(6)	13'-2"	215
B10	4	#8	(3)	25'-1"	268	S18	8	#7	(6)	16'-3"	1171
B11	12	#8	(12)	24'-9"	793	S20	27	#8	(6)	13'-6"	745
B12	10	#4	(3)	2'-7"	17	S21	27	#7	(6)	9'-5"	308
B13	5	#4	(3)	9'-3"	31	S31	16	#7	(9)		
B14	40	#4	(1)	1'-8"	45						
B15	6	#4	(11)	10'-7"	42	U3	24	#6	(3)	8'-4"	300
B16	2	#4	(1)	10'-4"	14	U6	6	#5	(3)	4'-11"	31
B17	5	#4	(3)	8'-1"	27	U8	16	#6	(3)	5'-3"	126
B18	12	#8	(2)	22'-11"	734	U9	8	#6	(3)	5'-5"	65
B19	6	#8	(3)	22'-4"	477	U10	16	#6	(3)	5'-9"	138
B20	4	#8	(3)	10'-7"	113	U11	8	#6	(3)	5'-7"	67
B21	4	#8	(3)	3'-11"	42	U13	6	#5	(3)	5'-1"	32
B22	4	#8	(3)	13'-8"	146	U14	12	#5	(1)	4'-10"	60
B23	12	#8	(3)	21'-7"	692	U15	8	#5	(3)	7'-3"	35
B24	6	#4	(11)	10'-9"	43	U16	4	#5	(3)	4'-9"	20
B25	5	#4	(3)	13'-9"	46	U19	12	#5	(13)	5'-10"	73
B26	5	#4	(3)	5'-5"	18	U22	2	#4	(2)	3'-10"	5
B27	5	#4	(1)	5'-7"	19	U24	4	#5	(3)	4'-7"	19
B28	7	#4	(3)	8'-10"	41						
B29	5	#4	(1)	7'-3"	24	[3] U31A	26	#7	(3)	7'-11"	421
B30	2	#4	(1)	14'-0"	19	[4] U31B	26	#7	(3)	7'-8"	407
B31	6	#8	(2)	20'-9"	332	U32	8	#8	(3)	11'-4"	242
B32	4	#8	(3)	15'-0"	160	[3] U33A	12	#7	(3)	13'-2"	323
B33	2	#8	(3)	6'-9"	36	[4] U33B	12	#7	(3)	12'-11"	317
B34	4	#8	(3)	6'-8"	71	[3] U34A	4	#7	(3)	10'-7"	87
B35	2	#8	(3)	15'-1"	81	[4] U34B	4	#7	(3)	10'-4"	84
B36	5	#4	(3)	2'-4"	8	[3] U35A	2	#7	(3)	10'-5"	43
B37	12	#8	(3)	18'-7"	595	[4] U35B	2	#7	(3)	10'-2"	42
B38	4	#8	(1)	9'-4"	100	[3] U36A	2	#7	(3)	11'-3"	46
B39	5	#4	(3)	2'-5"	8	[4] U36B	2	#7	(3)	11'-0"	45
B40	7	#4	(3)	7'-7"	35	[3] U37A	4	#7	(3)	11'-8"	95
B41	7	#4	(1)	8'-3"	39	[4] U37B	4	#7	(3)	11'-5"	93
B42	5	#4	(3)	3'-11"	13						
B43	6	#8	(2)	17'-9"	284	SP-1	4	#4	(10)	15'-8"	42
B44	4	#8	(1)	6'-6"	69						
B45	7	#4	(1)	6'-5"	30	V1	SEE SHEET NO. 2301				
B46	2	#4	(11)	10'-10"	14	V2	SEE SHEET NO. 2301				
B47	2	#8	(3)	3'-10"	20						
B48	2	#8	(3)	12'-1"	65						
B49	4	#8	(1)	6'-3"	67						
B50	7	#4	(3)	7'-3"	34						
B51	2	#4	(11)	11'-0"	15						
B52	5	#4	(1)	11'-1"	37						
B53	2	#4	(3)	12'-7"	17						
B54	2	#4	(3)	11'-10"	16						
B55	5	#4	(3)	3'-5"	11						
B56	5	#4	(1)	4'-5"	15						
B57	2	#5	(1)	3'-10"	8						
B58	2	#5	(1)	4'-0"	8						
B59	24	#7	(9)	5'-0"	245						
B60	2	#4	(1)	19'-0"	25						
B61	2	#8	(3)	7'-1"	38						
B62	2	#8	(3)	8'-0"	43						
B63	2	#8	(3)	14'-8"	78						
B64	2	#8	(3)	13'-9"	73						
B65	4	#8	(1)	13'-3"	142						
B65A	4	#8	(1)	15'-9"	163						
B66	4	#4	(11)	11'-2"	30						
B67	8	#8	(3)	14'-1"	301						
B68	2	#8	(3)	7'-6"	40						

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030076 TOM SHEARIN
RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 15 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 10
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2449.00
1			3			TOTAL SHEETS
2			4			

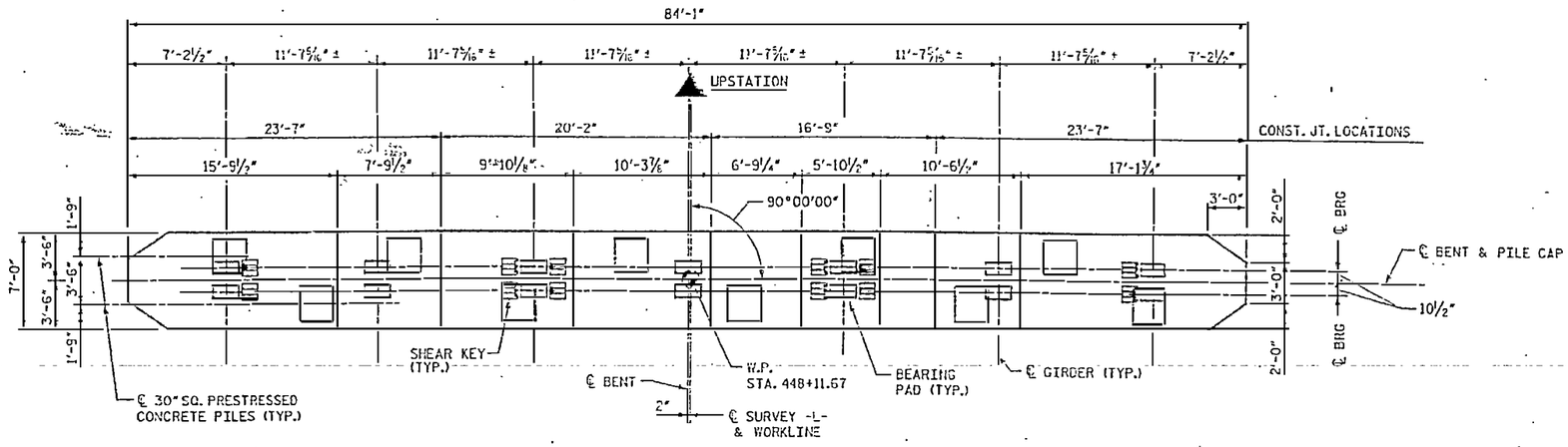
DRAWN BY : M.T. BELTSLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

ALL BAR DIMENSIONS ARE OUT TO OUT.

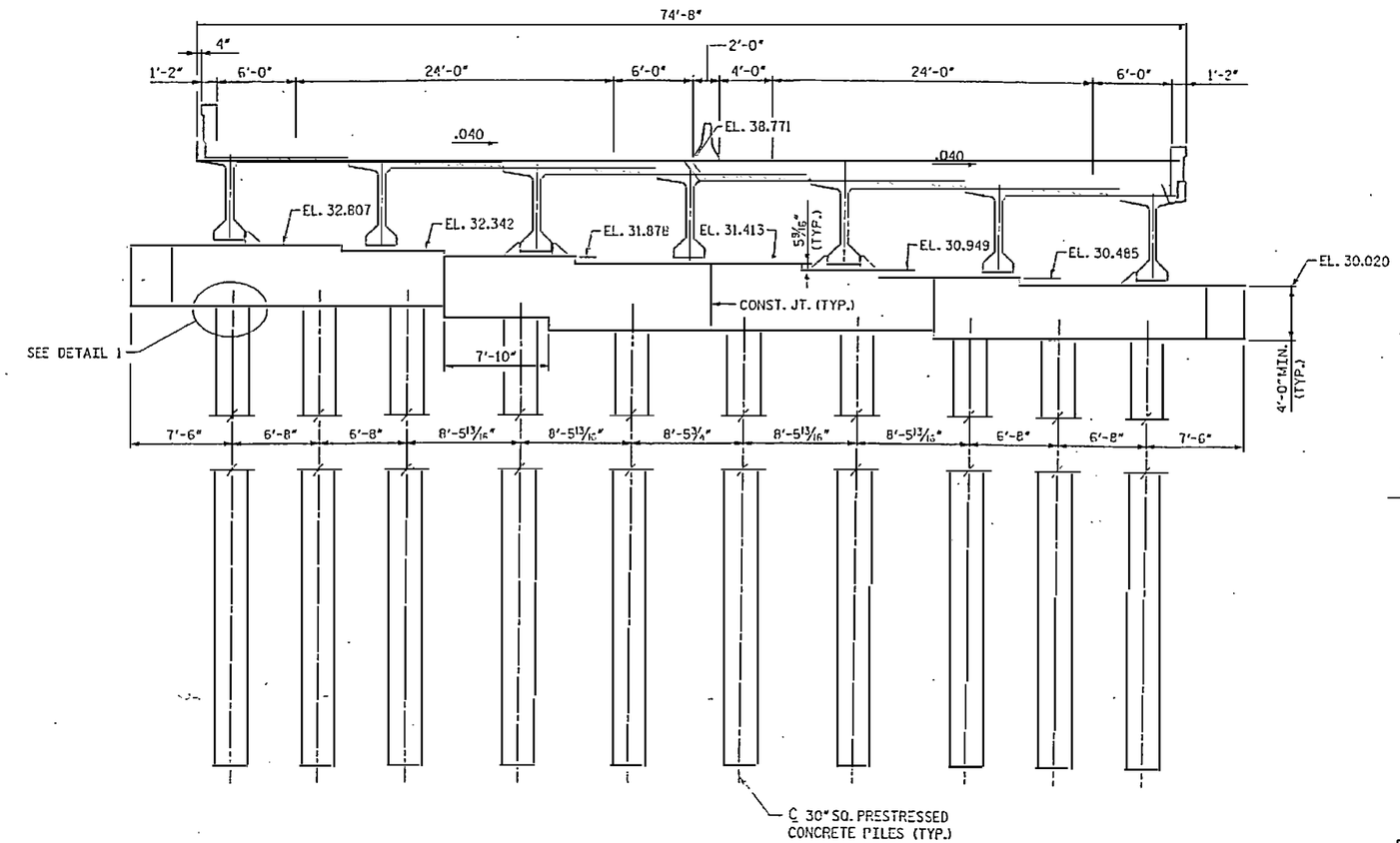
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

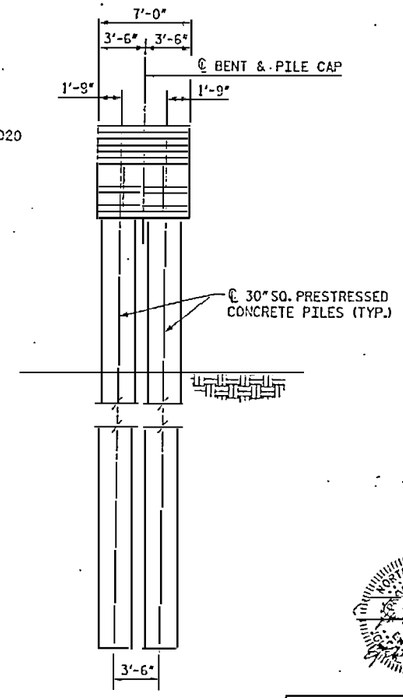
USER: mtbeltsle
DATE: 12/20/07 7:47:
FILE: N:\Structure\Bridge\Roadways\Beaufort\R2510B\Sheets\R2510B_PILE_DETAILS.dgn



PLAN



ELEVATION
(BENT 104)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. PROVIDE AN EPOXY PROTECTIVE COATING ON ALL EVEN-NUMBERED BENT CAPS (EXPANSION). SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

RELEASED FOR CONSTRUCTION
Tom Shearin 8/4/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

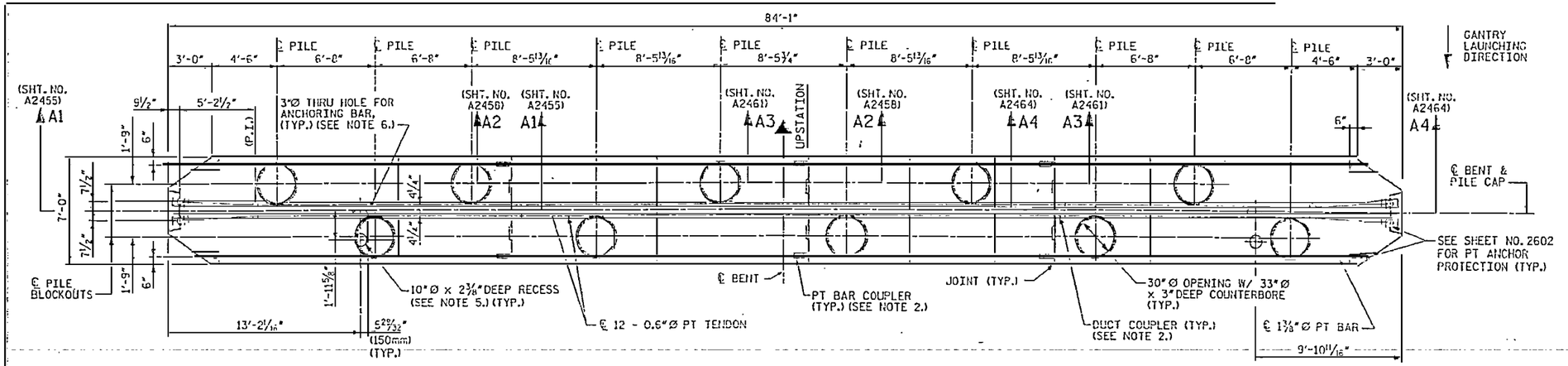
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2450.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREINAR DATE : 06/07
CHECKED BY : J. LLIS DATE : 06/07

FLATIRON/UNITED
A JOINT VENTURE

EarthTech
A Tyco International Ltd. Company

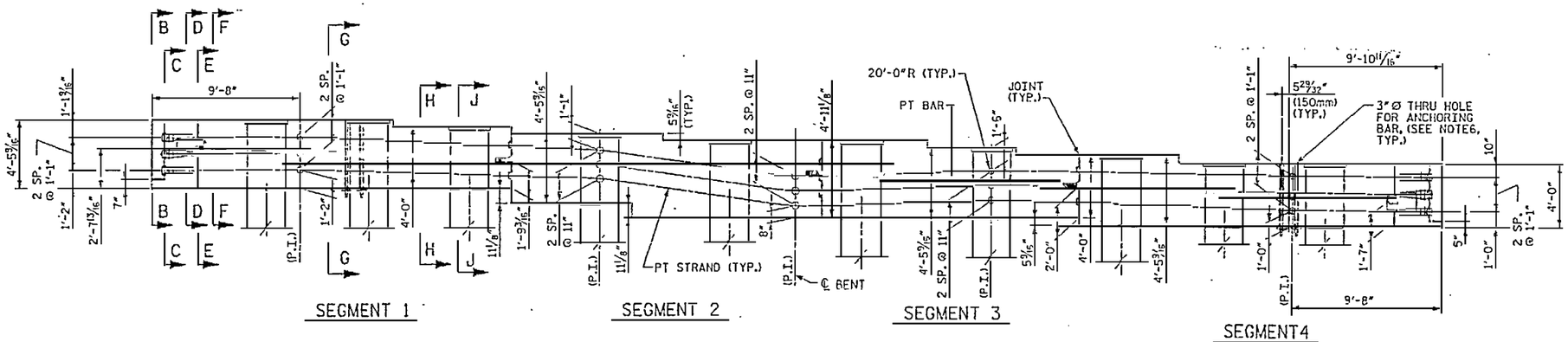
USER: mtaylor
PLOT: 8/3/2007 7:45:57 AM
FILE: N:\Projects\Tar River Bridge\2400\MSTR_SOLESHLPERT_TYPE11.dgn



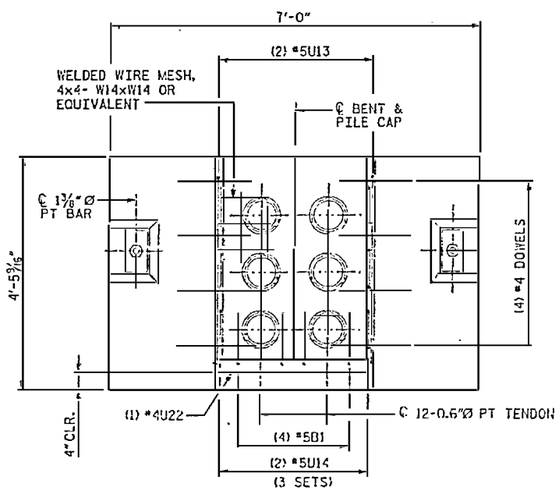
NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES. UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 11 IS USED AT BENT NO. 104.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2452. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

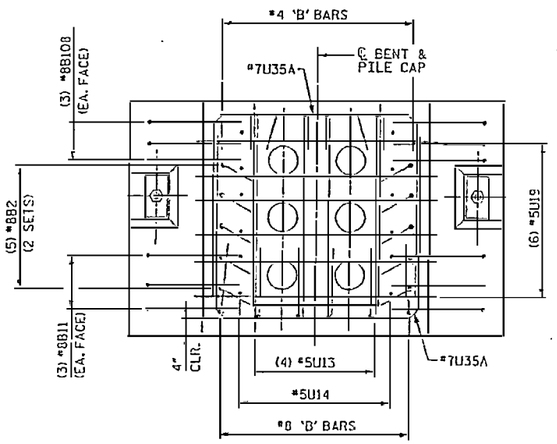
OVERALL PLAN



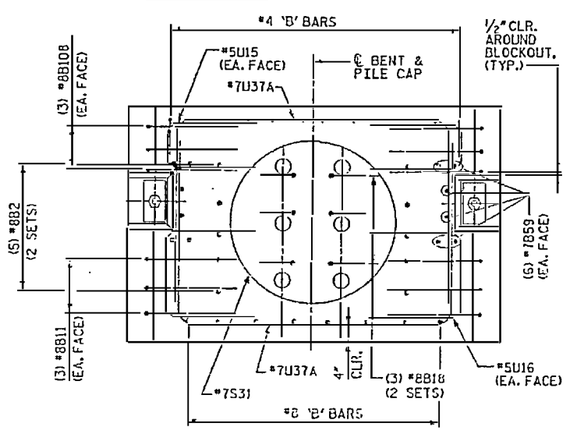
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LTH DATE : 11/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

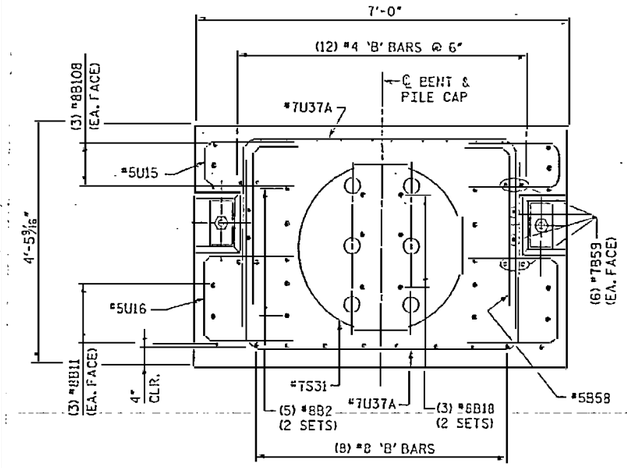
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

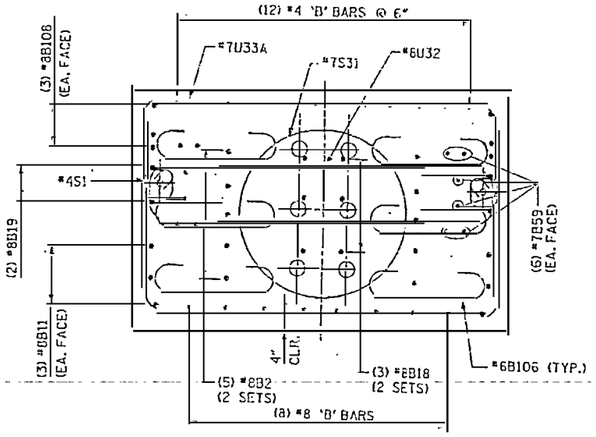
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2451.00
1			3			TOTAL SHEETS
2			4			

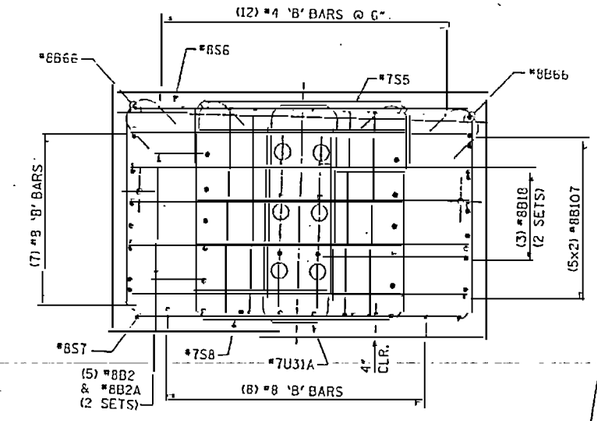
Earth Tech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE



SECTION E-E

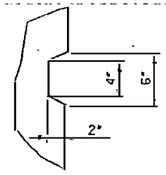


SECTION F-F

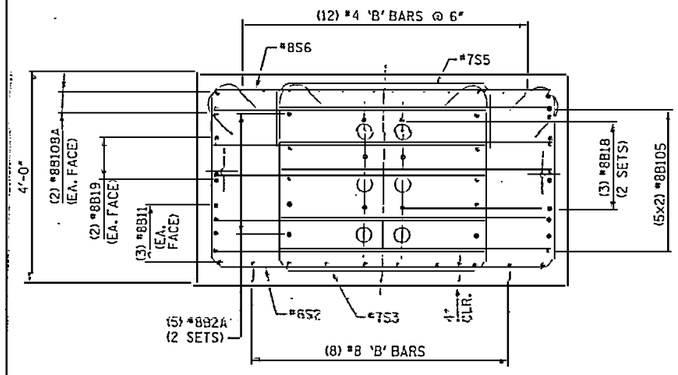


SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



SHEAR KEY



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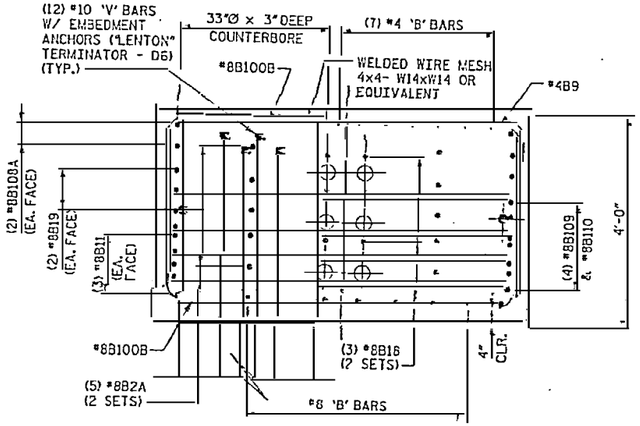
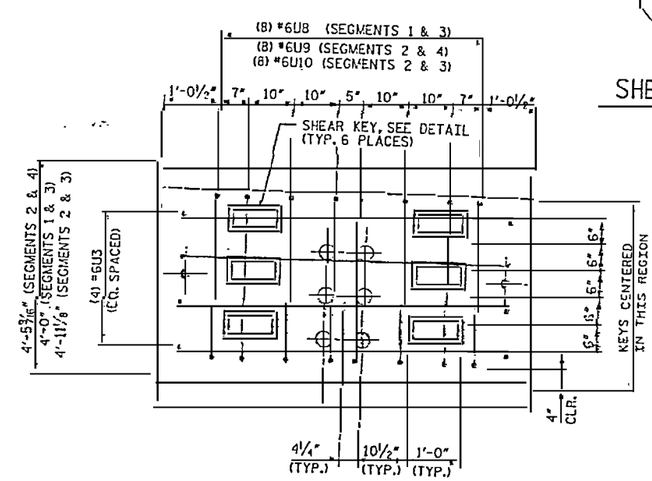
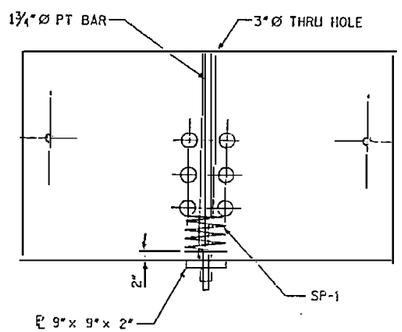


SECTION J-J



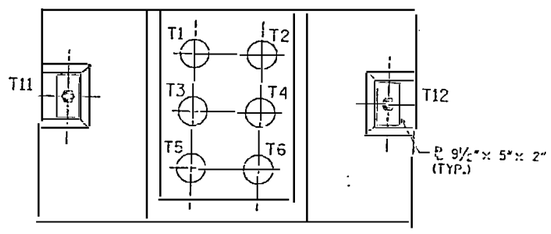
SECTION AT JOINT

(SEE SHEET NO. A2451)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø P1 BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M. T. PELTSLS DATE : 11/07
CHECKED BY : J. T. TU DATE : 11/07

REVISED 11/22/2007 PER DESIGN

USER: mtpeltsls
D:\fn R:\Structure\River Bridge\CADD\M2510_B_50-DSM_TPH-CET.dgn

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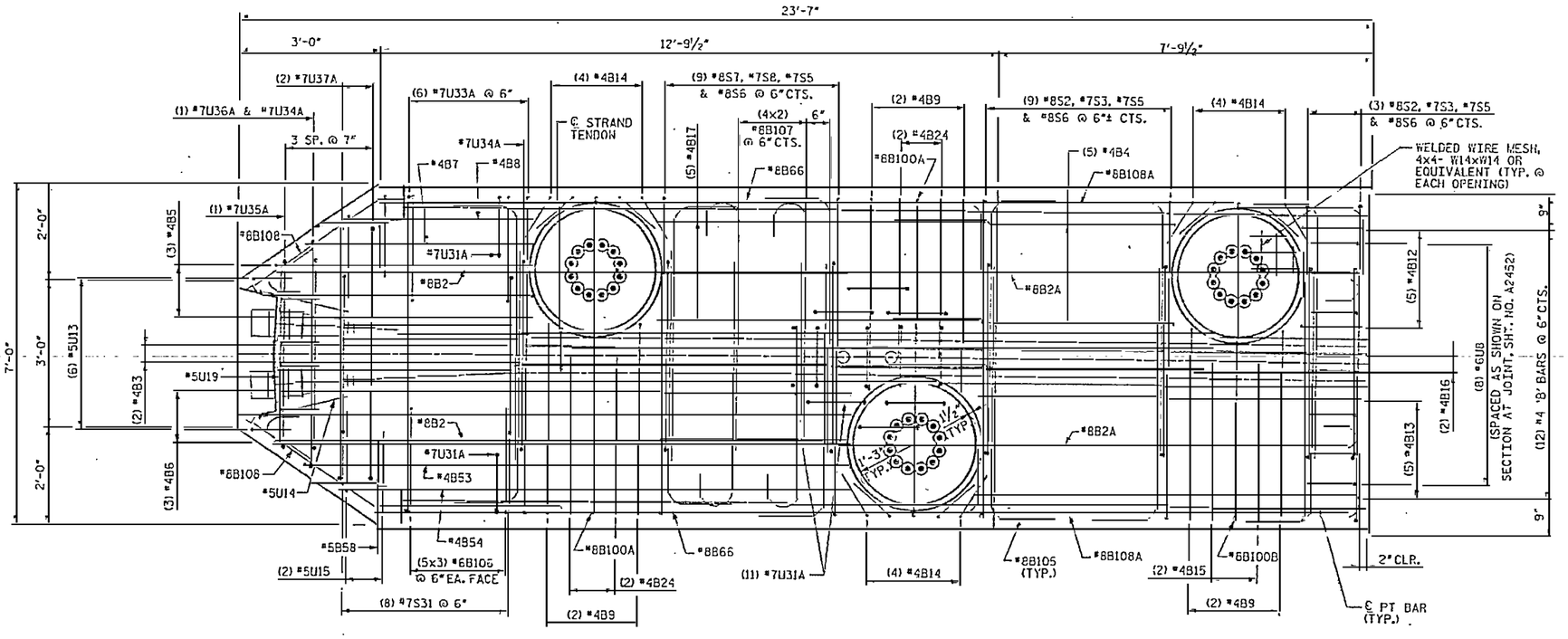
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/26/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 15 BRIDGE NO. 353

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

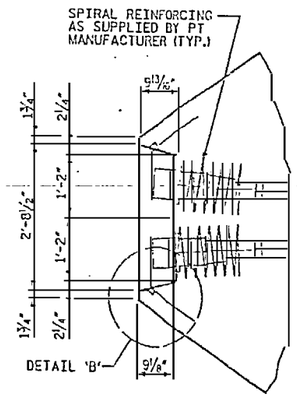
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2452.00
1			3			TOTAL SHEETS
2			4			



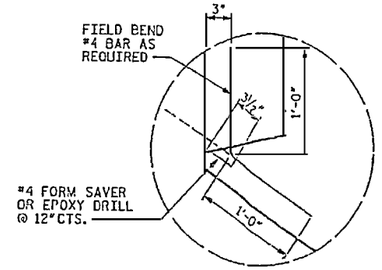
SEGMENT 1 - TOP PLAN

NOTES:

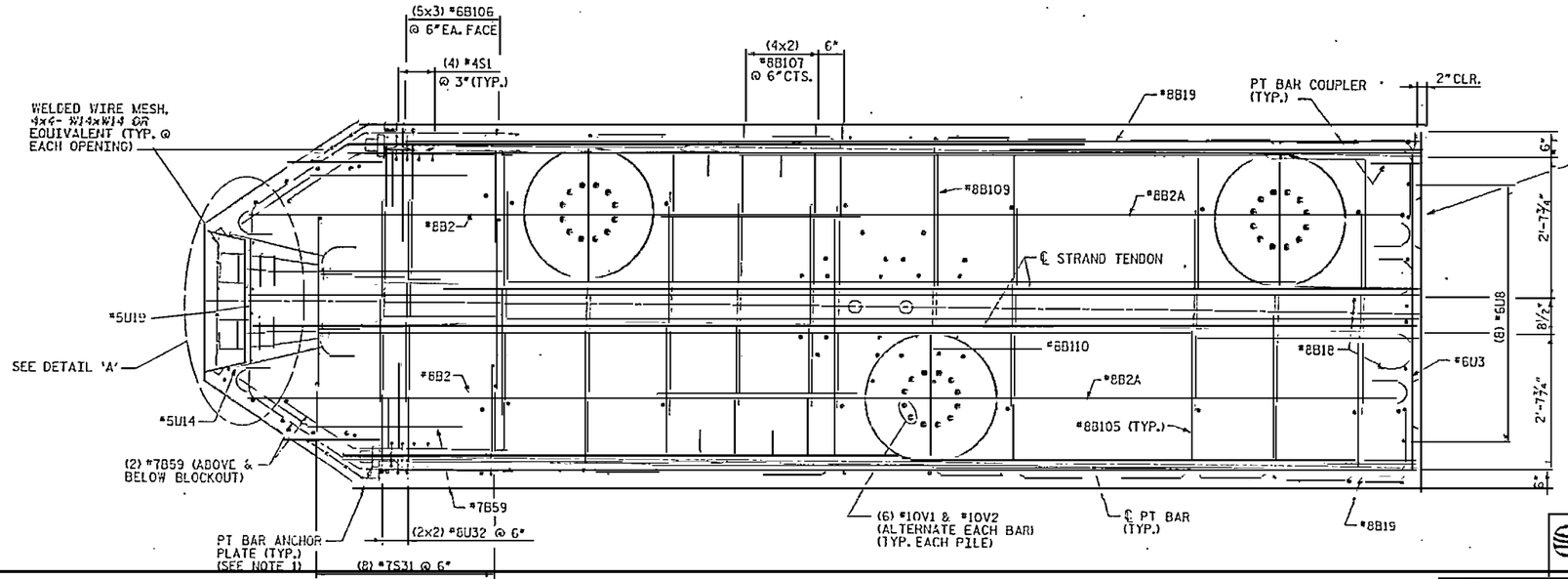
1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'



SEGMENT 1 - MID PLAN

RELEASED FOR CONSTRUCTION
Tom Shearin 11/26/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 3 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2453.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LTH DATE : 11/07

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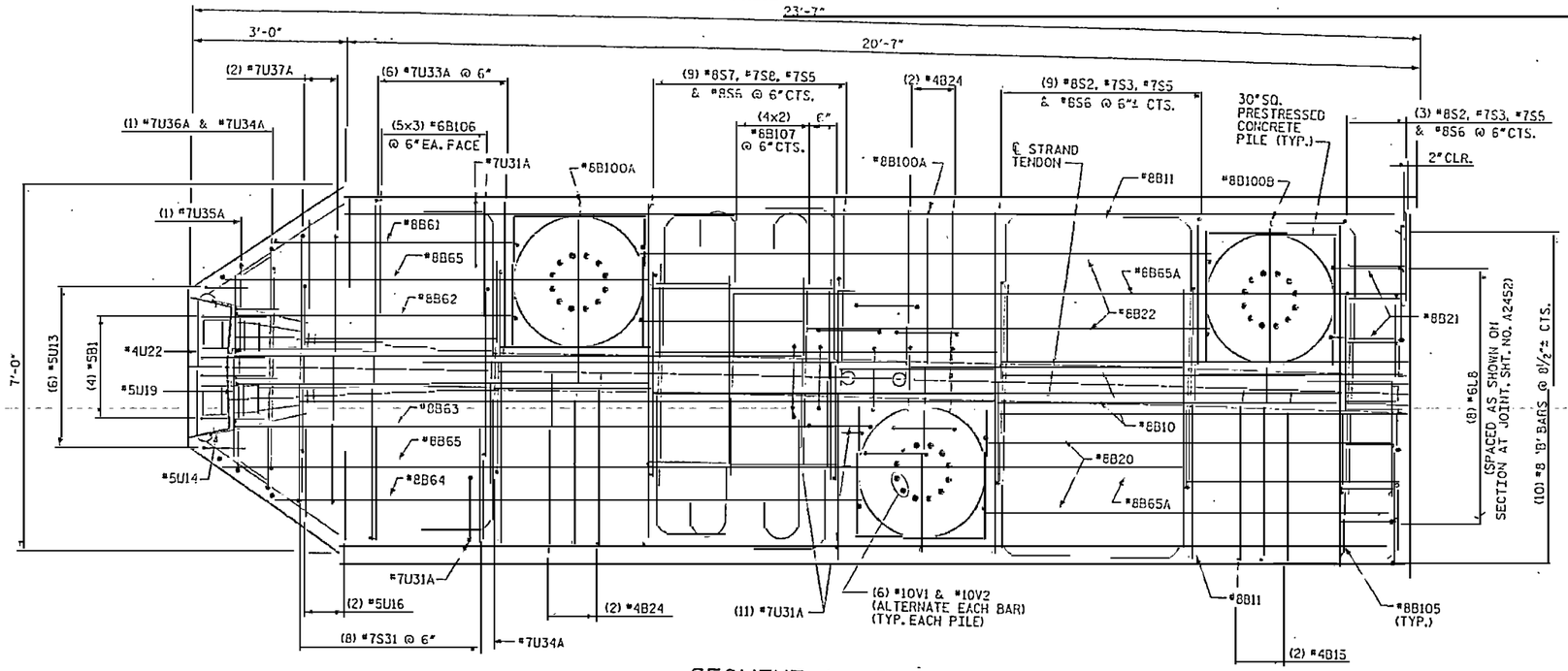
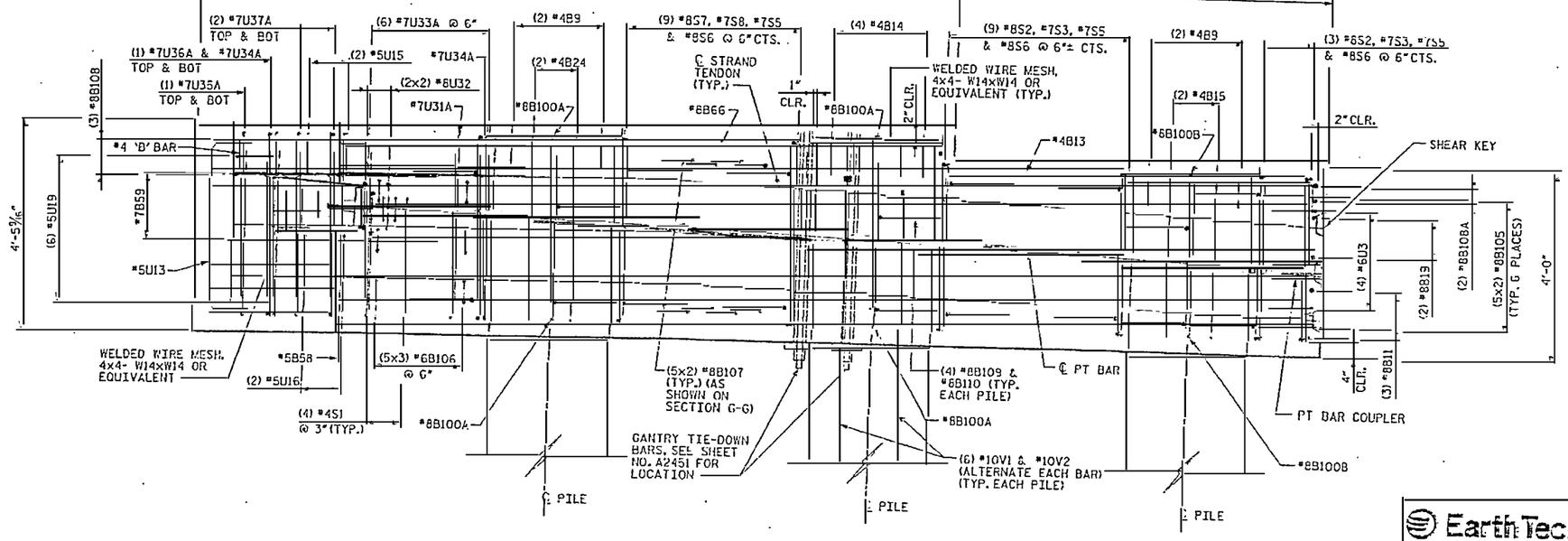


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LEE DATE : 11/07

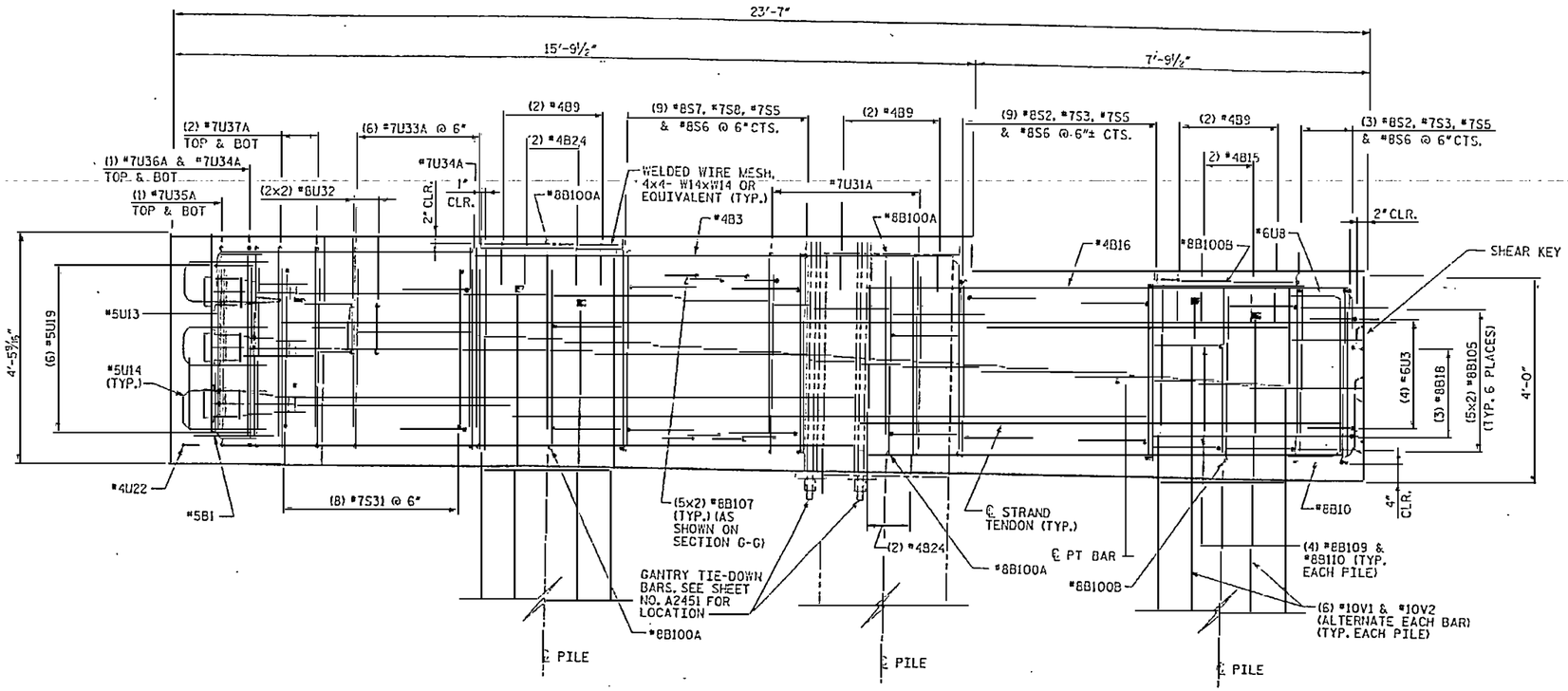
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2454.00
TOTAL SHEETS

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2451)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/26/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 15 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2455.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T.BELISLE DATE : 11/07
CHECKED BY : J.LTH DATE : 11/07

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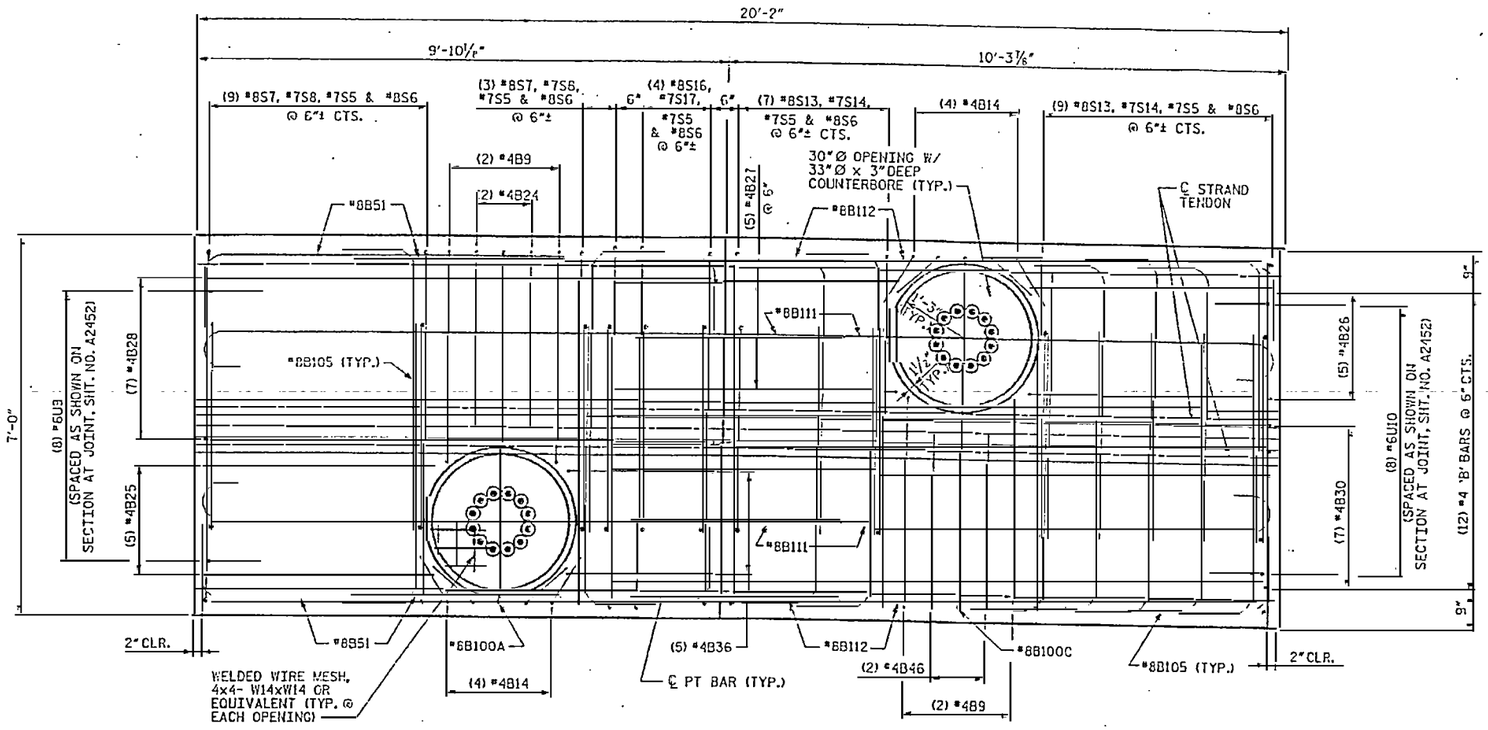
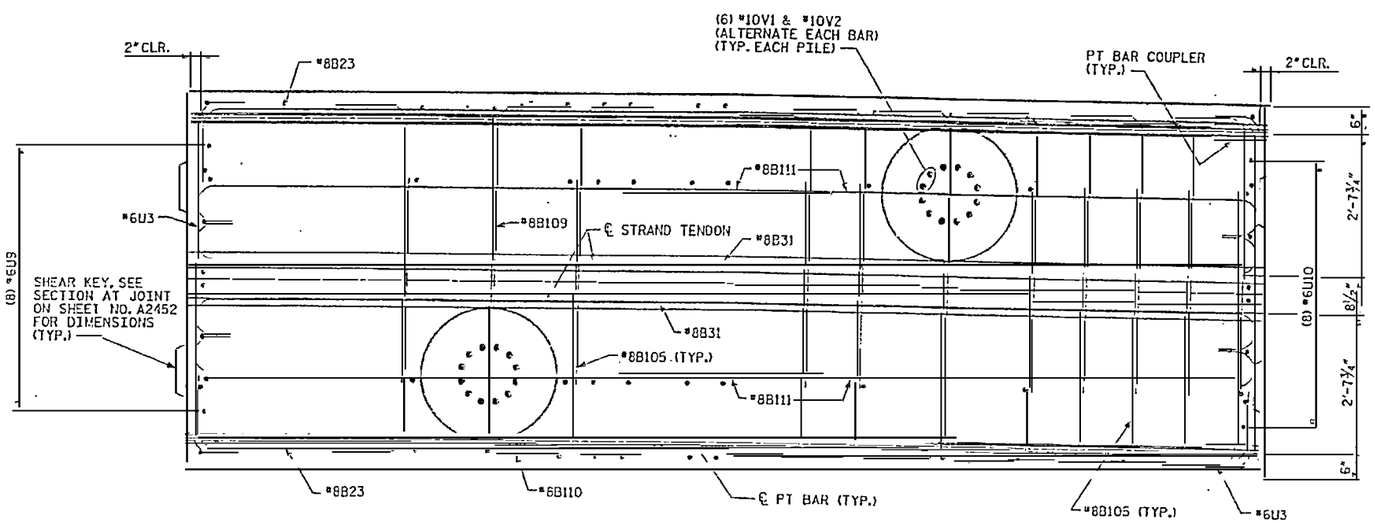


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 6 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2456.00
1			3			TOTAL SHEETS
2			4			

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DRAWN BY : K. T. DELISLE DATE : 11/07
CHECKED BY : J. L. T. DATE : 11/07

USER: rkirkman
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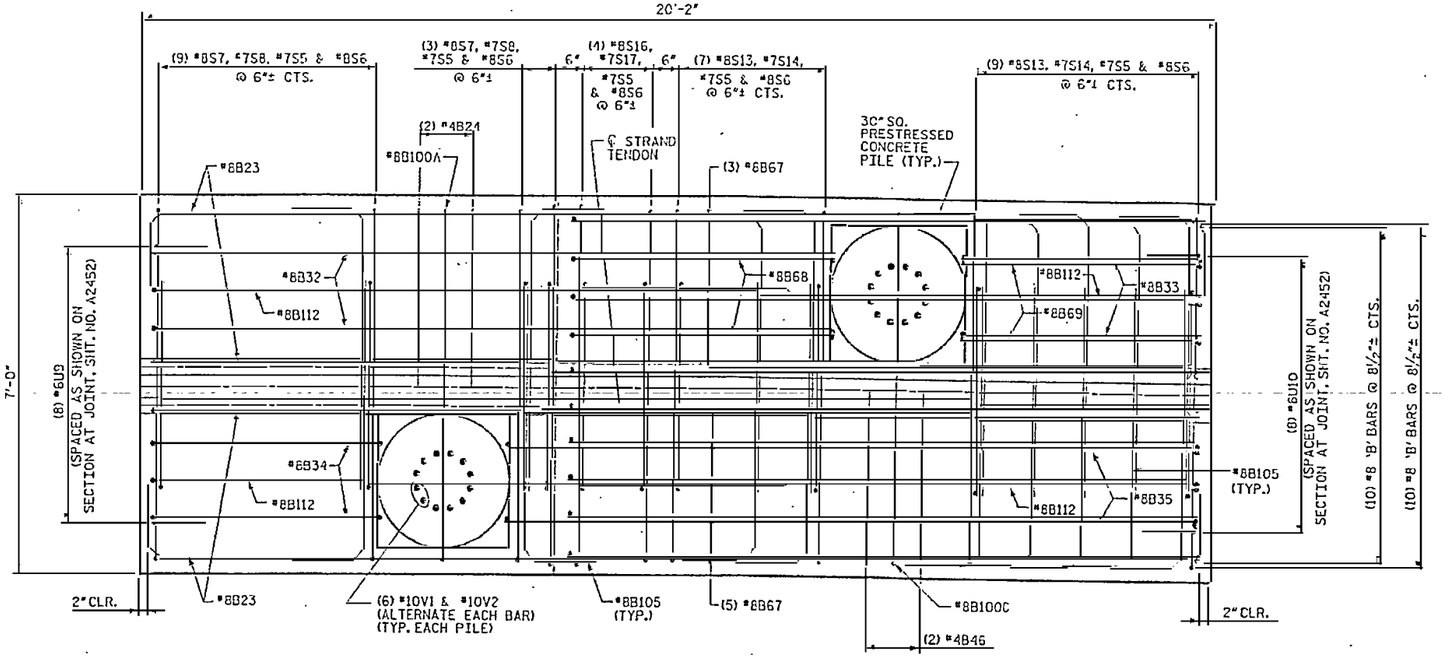
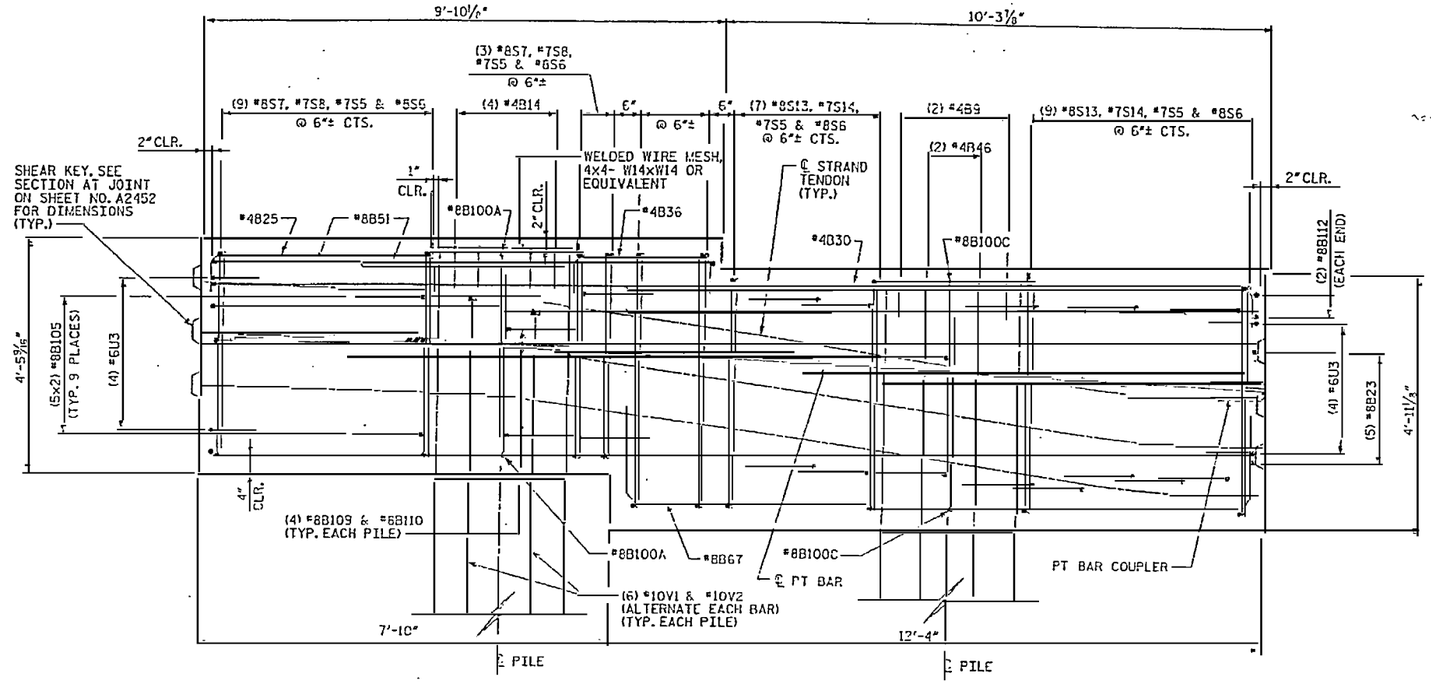


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. L. T. DATE : 11/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY: DATE:	A2457.00
1			3		TOTAL SHEETS
2			4		

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FLATIRON/UNITED
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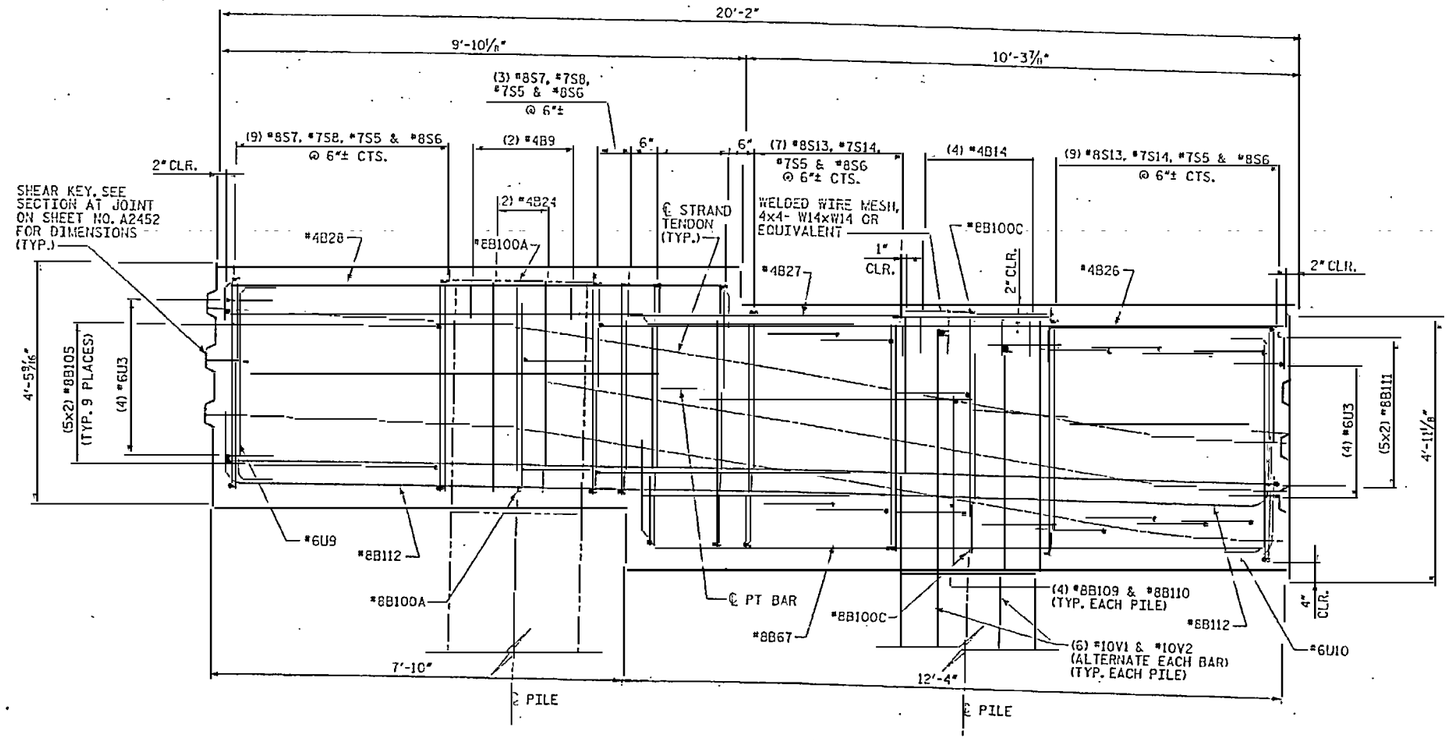
NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2451)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2458.00
TOTAL SHEETS

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LEE DATE : 11/07

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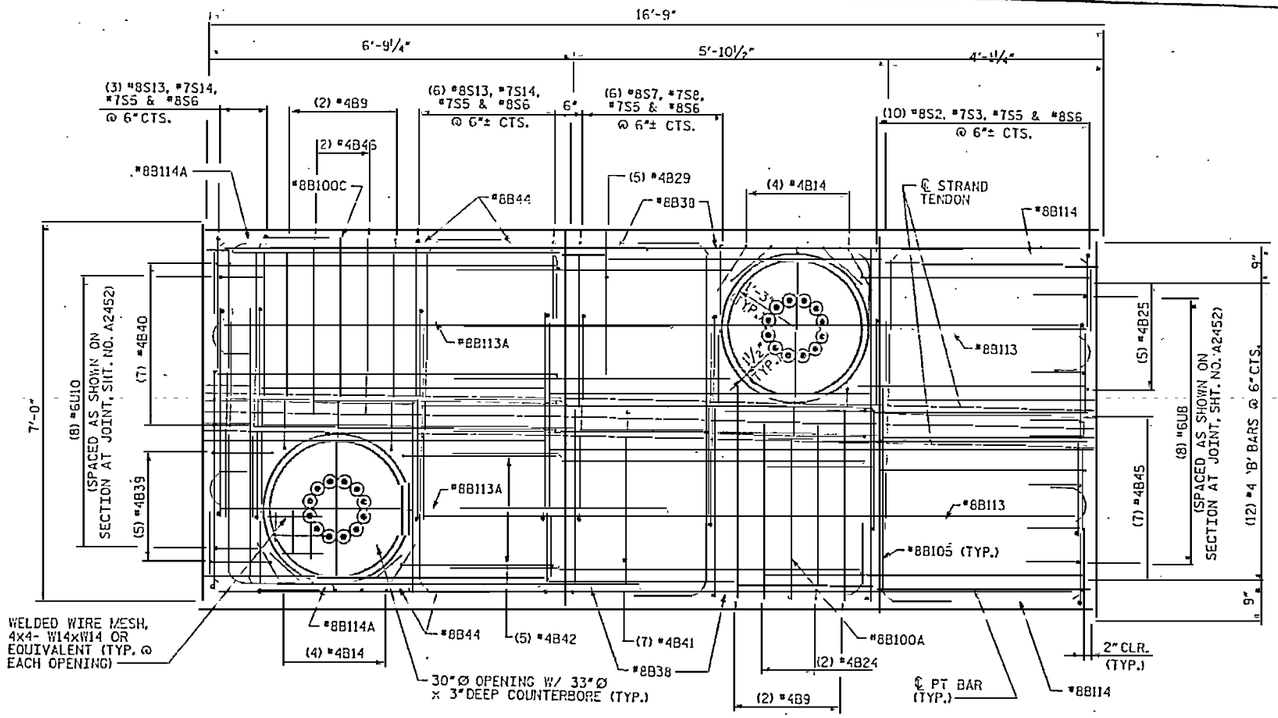
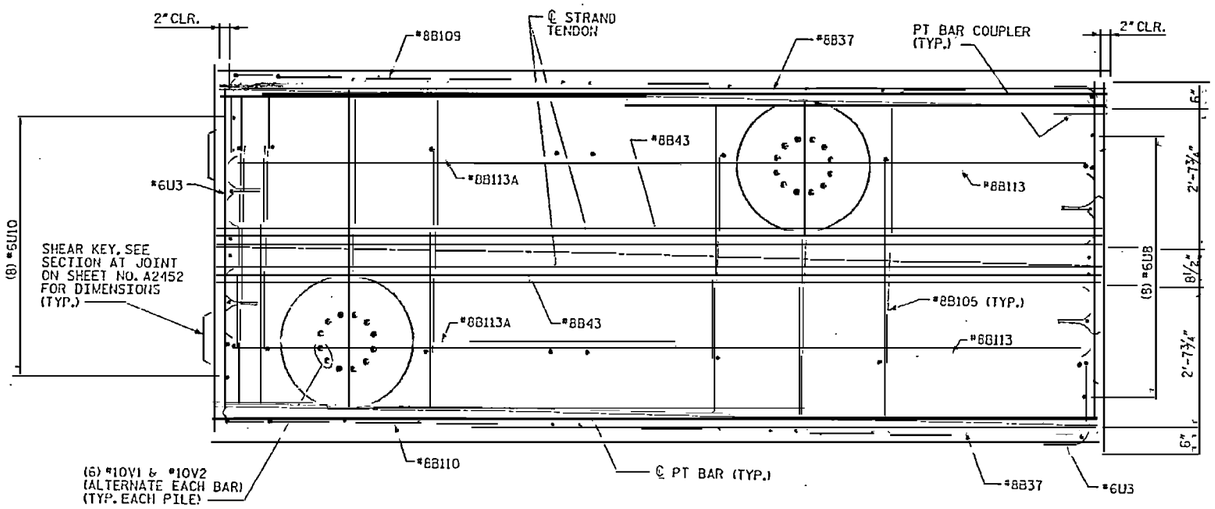


SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039879 JOHN T. SCRIVANI

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/7/08 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2459.00
1			3			TOTAL SHEETS
2			4			

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DRAWN BY : M. T. PELTSLE DATE : 11/07
CHECKED BY : J. L. T. DATE : 11/07

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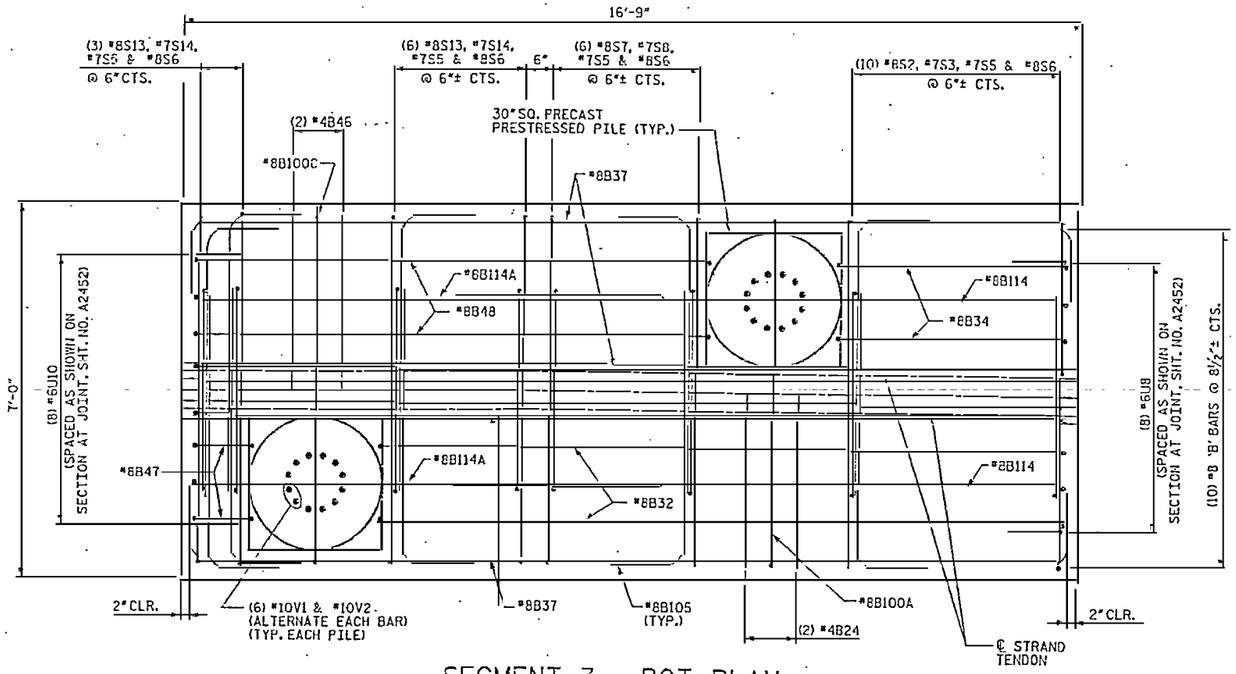
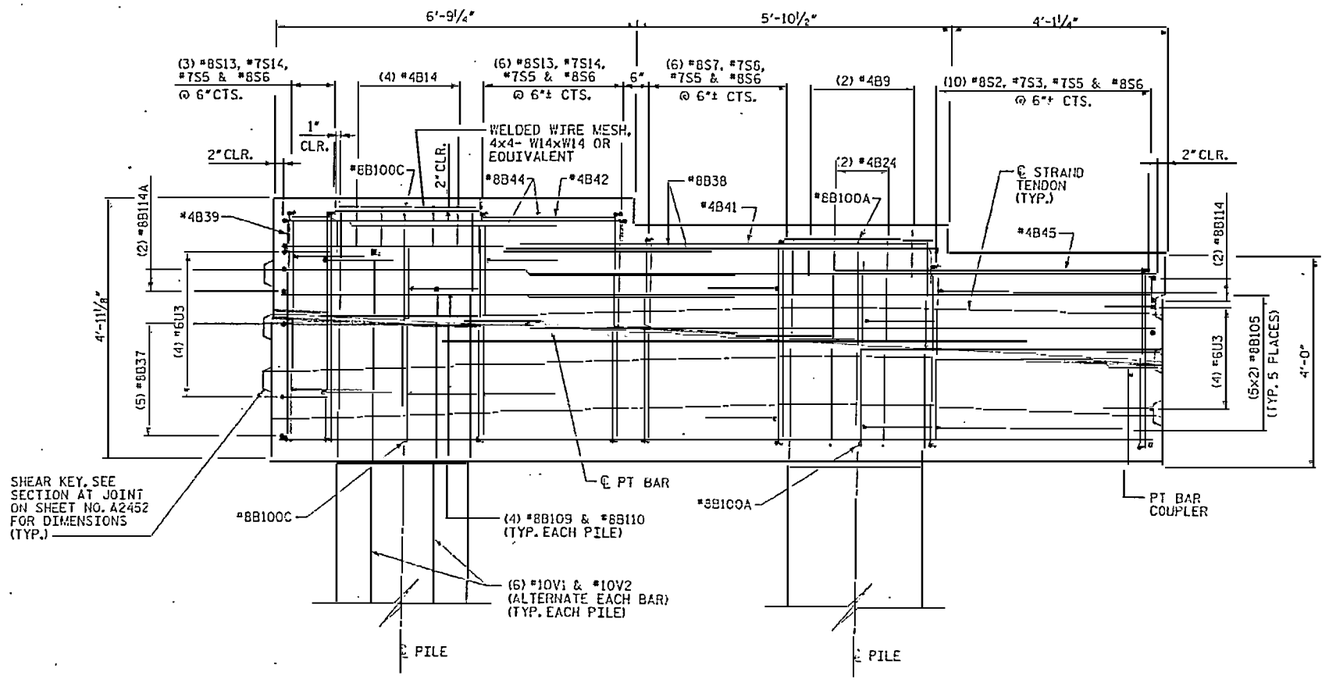


SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 15 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~-ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2460.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : K. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

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REV. 12/13/2007 TMS INCLUDE XW

USER: rbradley
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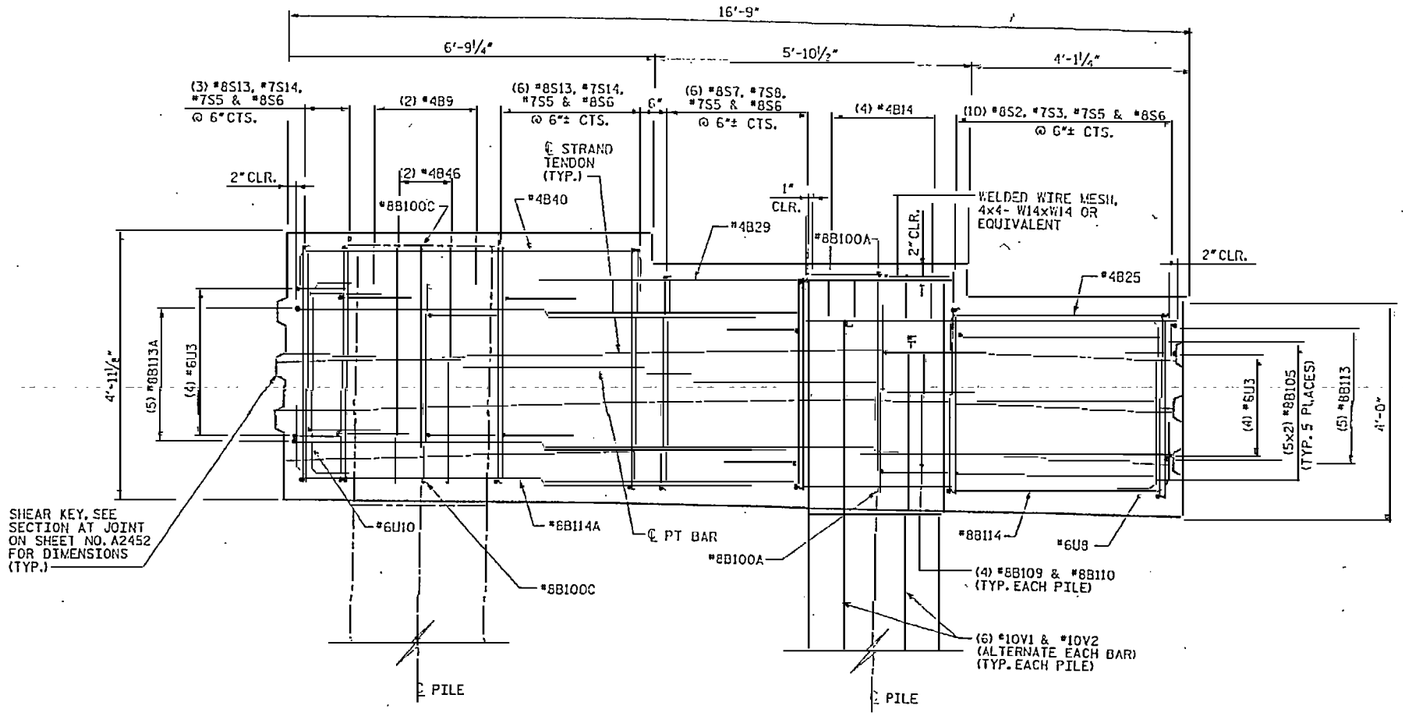

SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2451)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M. T. DELISLE DATE : 11/07
CHECKED BY : J. I. TU DATE : 11/07

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036674 JOHN I. JORDAN

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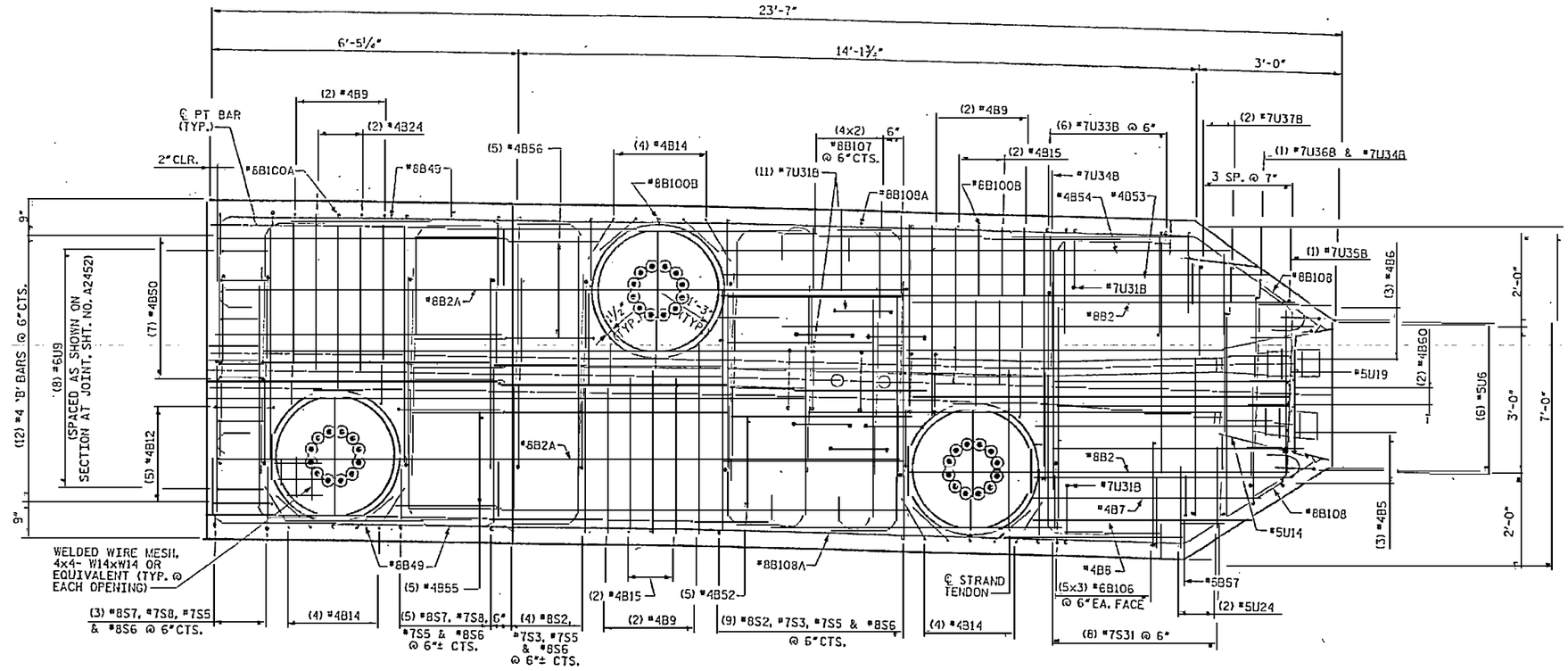
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 15 BRIDGE NO. 353

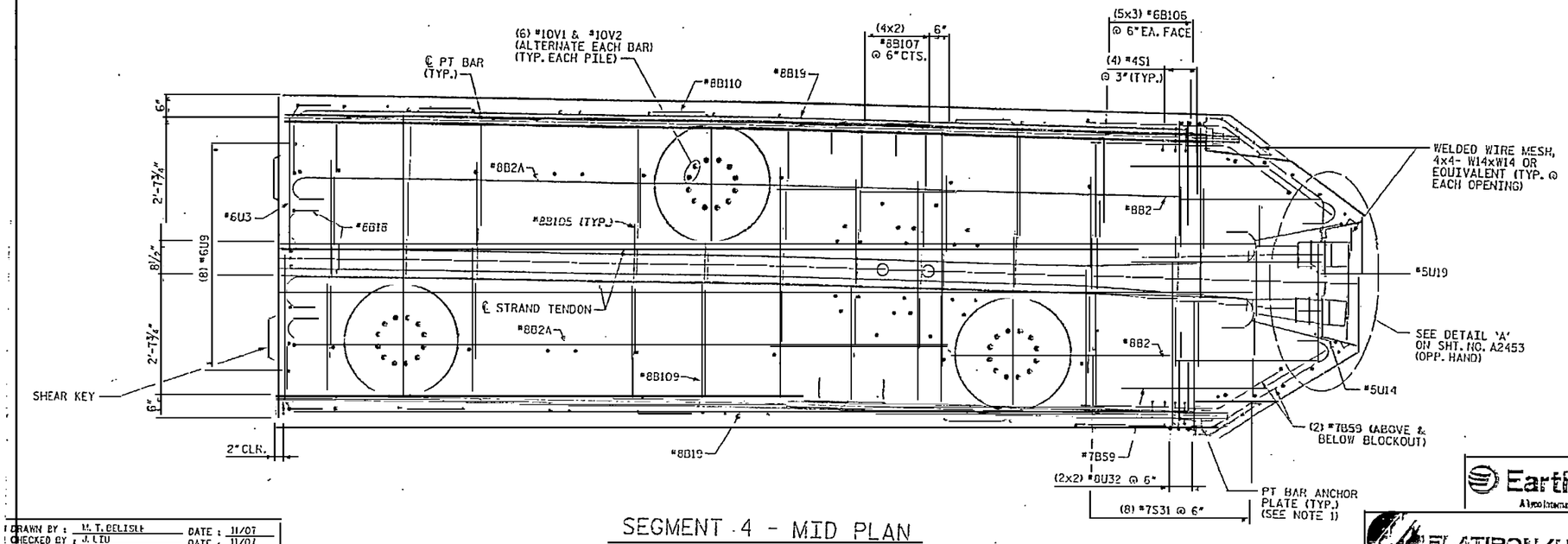
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2461.00
1			3			TOTAL SHEETS
2			4			



SEGMENT 4 - TOP PLAN



SEGMENT 4 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL ENGINEER 030870 JOHN K. JORDAN

RELEASED FOR CONSTRUCTION
Tom Shearin 11/27/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 12 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2462.00
TOTAL SHEETS

DRAWN BY : M. T. DELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

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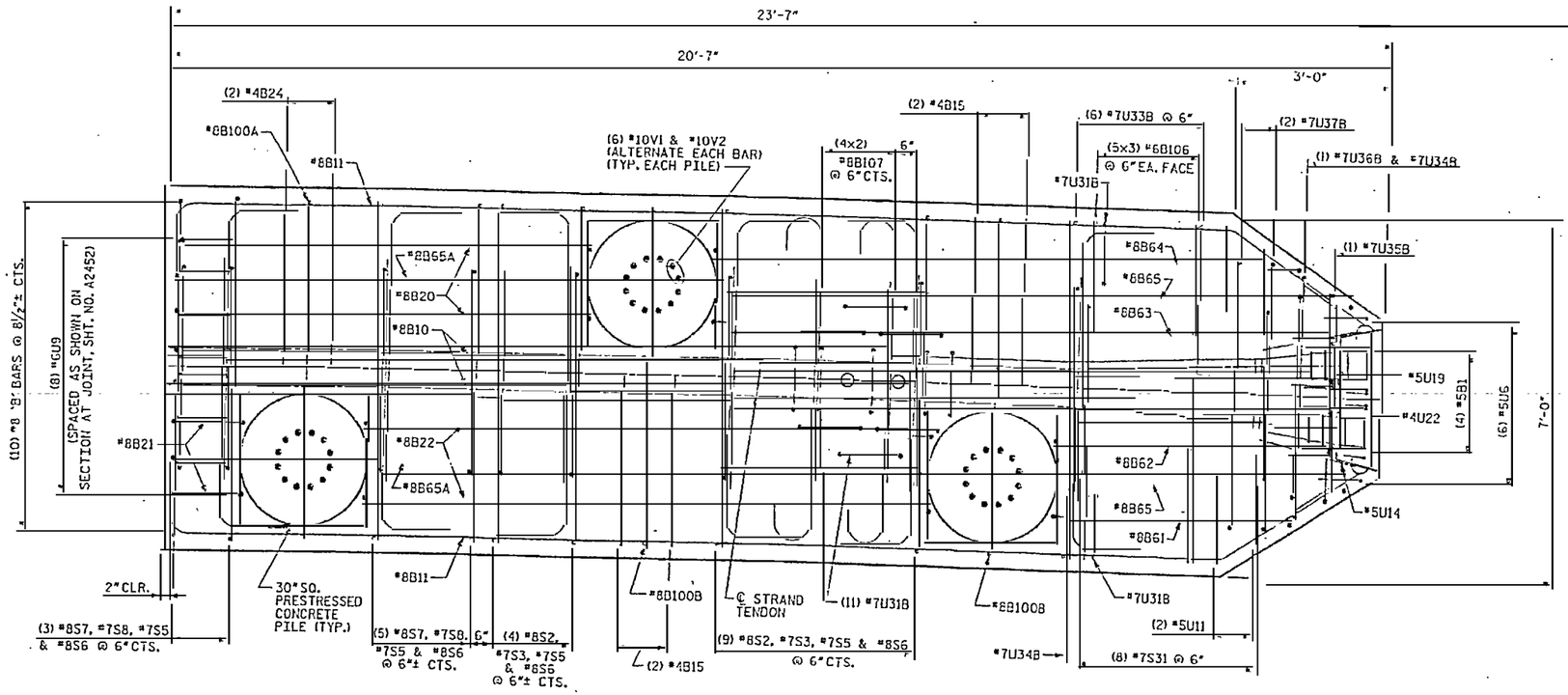
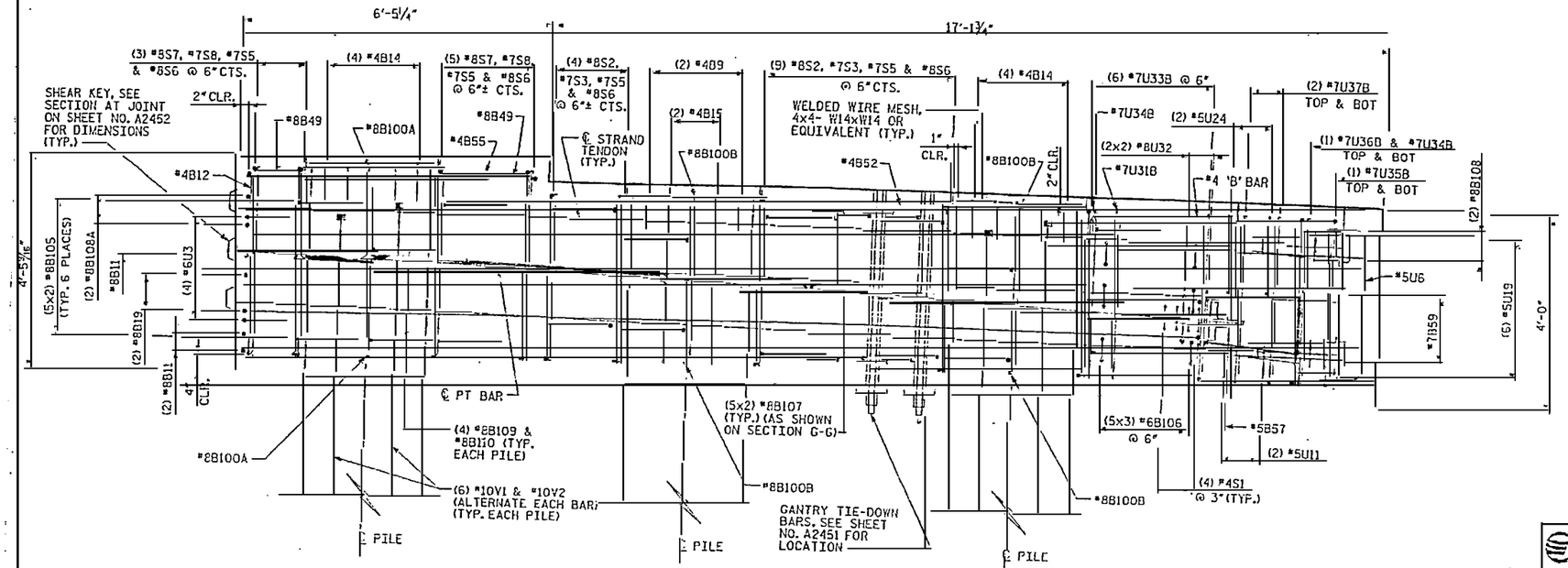


SEGMENT 4 - BOT PLAN



SEGMENT 4 - ELEVATION

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE 11/27/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 13 OF 15
BRIDGE NO. 353

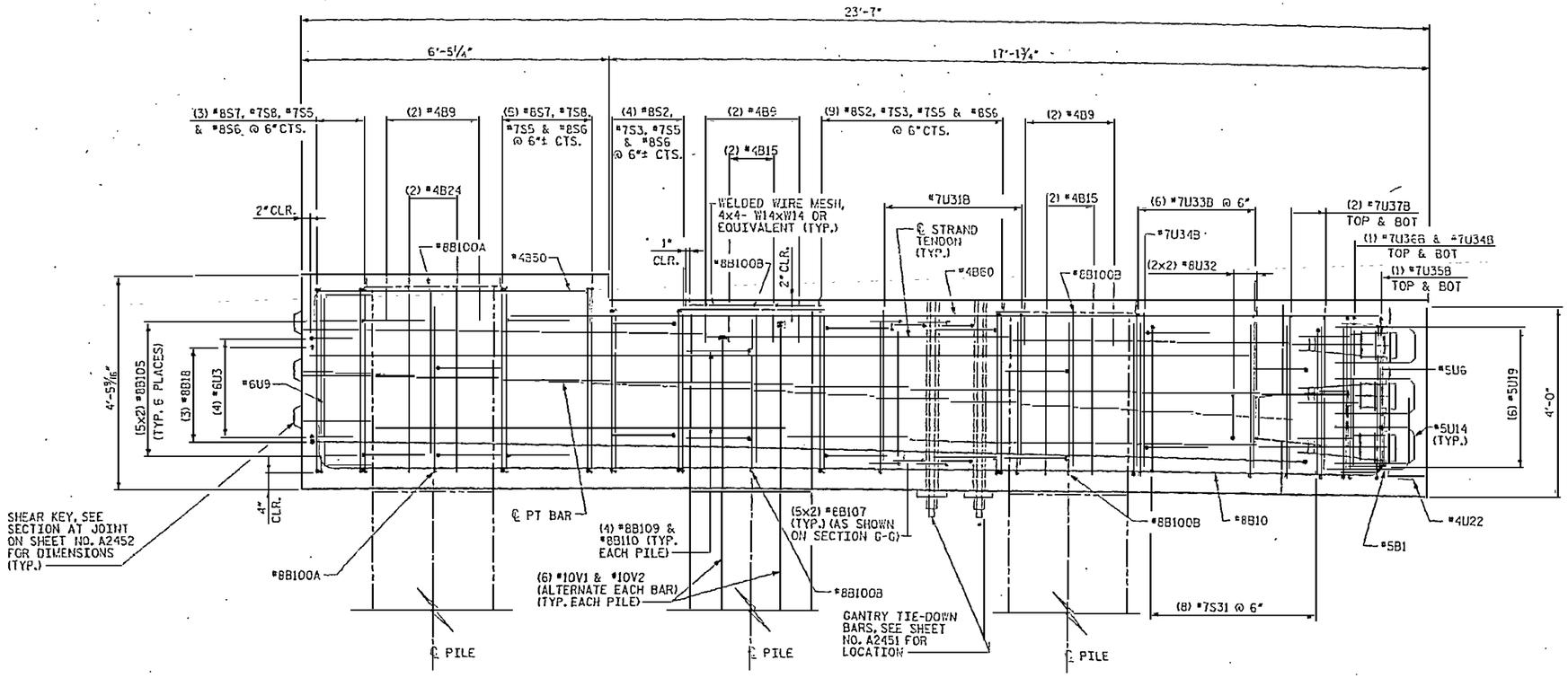
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2463.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. REITELF DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE



SEGMENT 4 - SECTION A4

(SEE SHEET NO. A2451)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL SEAL 030978 ENGINEER JOHN M. JORDAN

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 14 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~- ALTERNATE -~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

Earth Tech
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2464.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELTSLE DATE : 11/07
CHECKED BY : J. L. H. DATE : 11/07

DATE: 1/2/2008
TIME: 10:59:59 AM
USER: rchasten
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BAR TYPES

8'-6"	B114A
11'-9"	B114
11'-10"	B112
20'-3"	B108A
5'-2"	B105
6'-4"	B110
3'-8"	B109
12'-5"	B66
14'-5"	B65A
11'-11"	B65
18'-4"	B60
3'-7"	B58
3'-0"	B57
3'-9"	B56
10'-5"	B52
6'-8"	B51
4'-11"	B49
6'-0"	B45
5'-2"	B44
7'-9"	B41
8'-1"	B38
12'-3"	B30
5'-1"	B29
5'-3"	B27
9'-8"	B16
1'-0"	B14
5'-10"	B4
1'-6"	B1

1'-4" | 8" | 10" | 1'-6"

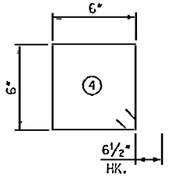
B38, B44, B49, B51, B65, B65A, B66, B105, B108A, B109, B110, B112, B114, B114A

B4, B14, B16, B27, B29, B30, B41, B45, B52, B56, B60

357, B58

B1

①



5'-0"	B68
11'-10"	B67
11'-1"	B64
12'-0"	B63
5'-4"	B62
4'-5"	B61
2'-1"	B55
10'-6"	B54
11'-3"	B53
5'-11"	B50
9'-6"	B48
2'-8"	B42
6'-3"	B40
1'-0"	B39, B47
16'-3"	B37
2'-6"	B36
12'-11"	B35
12'-8"	B32
9'-4"	B28
4'-5"	B26, B33, B69
4'-3"	B25, B34
19'-8"	B23
11'-0"	B22
19'-8"	B19
6'-9"	B17
7'-11"	B13, B20
1'-3"	B12, B21
22'-5"	B10
3'-11"	B9, S5, U34A, U34B
4'-0"	B8
4'-8"	B7
11'-11"	B6
5'-3"	B5
14'-7"	B3
5'-0"	U37A, U37B
4'-7"	U36A, U36B
3'-9"	U35A, U35B
6'-6"	U33A, U33B, B100A, B100B, B100C
1'-2½"	U31A, U31B
1'-7"	U24
1'-8"	U16
1'-0"	U15, U32
10"	U14
7"	U11
4'-2"	U10
3'-8"	U9, U13
3'-3"	U6, U8
6'-4"	U3

S16, S17 | S13, S14 | S7, S8 | S2, S3

4'-5½" | 4'-4" | 3'-10" | 3'-5"

11" HK. | 10" HK.

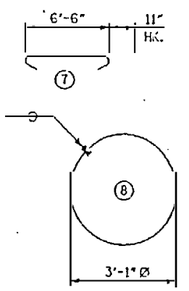
⑥

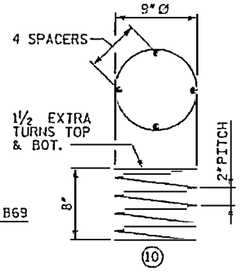
S2, S7, S13, S16

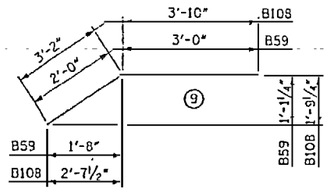
S3, S8, S14, S17

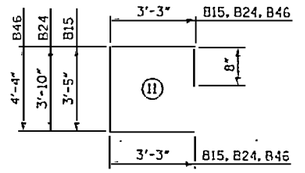
3'-11" S3, S8, S14, S17

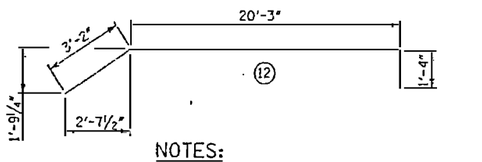
6'-6" S2, S7, S13, S16

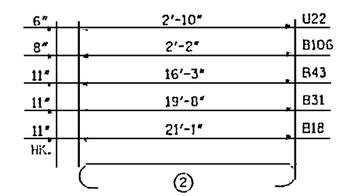


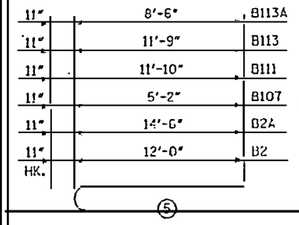








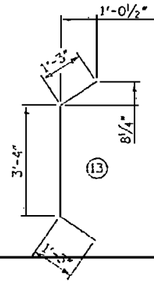




S5 | U11, U15, U16, U24 | U14 | U32 | B100C | U31B, U33B, U34B, U35B, U36B, U37B, B100B | U31A, U33A, U34A, U35A, U36A, U37A, B100A | B67, B68, B69 | B3, B5, B6, B7, B8, B9, B12, B13, B17, B25, B26, B28, B36, B39, B40, B42, B50, B53, B54, B55 | B10, B19, B20, B21, B22, B23, B32, B33, B34, B35, B37, B47, B48, B61, B62, B63, B64 | U3, U6, U9, U10 | U6, U13

1'-2" | 1'-8" | 2'-0" | 5'-2" | 3'-8" | 3'-2½" | 3'-5½" | 1'-10" | 8" | 1'-4" | 1'-0" | 10"

③



NOTES:

1. BARS USED AT PILES WHERE CAP DEPTH IS 4'-5⅝".
2. BARS USED AT PILES WHERE CAP DEPTH IS 4'-0".
3. BARS USED AT PILES WHERE CAP DEPTH IS 4'-11⅛"
4. BARS USED IN SEGMENT 1.
5. BARS USED IN SEGMENT 4.

B69	2	#6	(3)	8'-1"	43
[1] B100A	10	#8	(3)	13'-5"	358
[2] B100B	6	#8	(3)	12'-11"	207
[3] B100C	4	#8	(3)	13'-10"	148
B105	260	#8	(1)	6'-6"	4512
B106	60	#6	(2)	3'-6"	315
B107	80	#8	(5)	6'-1"	1299
B108	10	#8	(9)	7'-0"	187
B108A	8	#8	(1)	21'-7"	461
B109	40	#6	(1)	5'-0"	534
B110	40	#8	(1)	7'-8"	819
B111	20	#8	(5)	12'-9"	681
B112	12	#8	(1)	13'-2"	422
B113	10	#8	(5)	12'-8"	338
B113A	10	#8	(5)	9'-5"	251
B114	6	#8	(1)	13'-1"	210
B114A	6	#8	(1)	9'-10"	158

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	20	#8	(5)	12'-11"	690
B2A	20	#8	(5)	15'-5"	823
B3	2	#4	(3)	15'-11"	21
B4	5	#4	(1)	6'-6"	22
B5	6	#4	(3)	6'-7"	26
B6	6	#4	(3)	13'-3"	53
B7	2	#4	(3)	6'-0"	8
B8	2	#4	(3)	5'-4"	7
B9	20	#4	(3)	5'-3"	70
B10	4	#8	(3)	25'-1"	268
B11	12	#8	(12)	24'-9"	793
B12	10	#4	(3)	2'-7"	17
B13	5	#4	(3)	9'-3"	31
B14	40	#4	(1)	1'-8"	45
B15	6	#4	(11)	10'-7"	42
B16	2	#4	(1)	10'-4"	14
B17	5	#4	(3)	8'-1"	27
B18	12	#8	(2)	22'-11"	734
B19	8	#8	(3)	22'-4"	477
B20	4	#8	(3)	10'-7"	113
B21	4	#8	(3)	3'-11"	42
B22	4	#8	(3)	13'-8"	146
B23	12	#8	(3)	22'-4"	716
B24	10	#4	(11)	11'-0"	73
B25	10	#4	(3)	5'-7"	37
B26	5	#4	(3)	5'-9"	19
B27	5	#4	(1)	5'-11"	20
B28	7	#4	(3)	10'-8"	50
B29	5	#4	(1)	5'-9"	19
B30	7	#4	(1)	12'-11"	60
B31	6	#8	(2)	21'-6"	344
B32	4	#8	(3)	15'-4"	164
B33	2	#8	(3)	7'-1"	38
B34	4	#8	(3)	6'-11"	74
B35	2	#8	(3)	15'-7"	83
B36	5	#4	(3)	3'-10"	13
B37	12	#8	(3)	18'-11"	606
B38	4	#8	(1)	9'-5"	101
B39	5	#4	(3)	2'-4"	8
B40	7	#4	(3)	7'-7"	35
B41	7	#4	(1)	8'-5"	39
B42	5	#4	(3)	4'-0"	13
B43	6	#8	(2)	18'-1"	290
B44	4	#8	(1)	6'-6"	69
B45	7	#4	(1)	6'-8"	31
B46	4	#4	(11)	11'-6"	31
B47	2	#8	(3)	3'-8"	20
B48	2	#8	(3)	12'-2"	65
B49	4	#8	(1)	6'-3"	67
B50	7	#4	(3)	7'-3"	34
B51	4	#8	(1)	8'-0"	85
B52	5	#4	(1)	11'-1"	37
B53	2	#4	(3)	12'-7"	17
B54	2	#4	(3)	11'-10"	16
B55	5	#4	(3)	3'-5"	11
B56	5	#4	(1)	4'-5"	15
B57	2	#5	(1)	3'-10"	8
B58	2	#5	(1)	4'-5"	9
B59	24	#7	(9)	5'-0"	245
B60	2	#4	(1)	19'-0"	25
B61	2	#8	(3)	7'-1"	38
B62	2	#8	(3)	8'-0"	43
B63	2	#8	(3)	14'-8"	78
B64	2	#8	(3)	13'-9"	73
B65	4	#8	(1)	13'-3"	142
B65A	4	#8	(1)	15'-9"	163
B66	2	#8	(1)	13'-9"	73
B67	8	#8	(3)	15'-6"	331
B68	2	#8	(3)	8'-8"	46

BILL OF MATERIAL ⚠1

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	#4	(4)	3'-3"	35
S2	35	#8	(6)	15'-2"	1417
S3	35	#7	(6)	12'-5"	868
S5	99	#7	(3)	6'-3"	1265
S6	99	#8	(7)	8'-4"	2203
S7	35	#8	(6)	16'-0"	1495
S8	35	#7	(6)	13'-3"	948
S13	25	#8	(6)	17'-0"	1135
S14	25	#7	(6)	14'-3"	728
S16	4	#8	(6)	17'-11"	191
S17	4	#7	(6)	15'-2"	124
S31	16	#7	(8)	9'-5"	308
U3	24	#6	(3)	8'-4"	300
U6	6	#5	(3)	4'-11"	31
U8	16	#6	(3)	5'-3"	126
U9	16	#6	(3)	5'-8"	136
U10	16	#6	(3)	6'-2"	148
U11	4	#5	(3)	3'-11"	16
U13	6	#5	(3)	5'-4"	33
U14	12	#5	(3)	4'-10"	60
U15	4	#5	(3)	4'-4"	18
U16	4	#5	(3)	5'-0"	21
U19	12	#5	(3)	5'-10"	73
U22	2	#4	(2)	3'-10"	5
U24	4	#5	(3)	4'-11"	21
[4] U31A	26	#7	(3)	8'-2"	434
[5] U31B	26	#7	(3)	7'-8"	407
U32	8	#8	(3)	11'-4"	242
[4] U33A	12	#7	(3)	13'-5"	329
[5] U33B	12	#7	(3)	12'-11"	317
[4] U34A	4	#7	(3)	10'-10"	89
[5] U34B	4	#7	(3)	10'-4"	84
[4] U35A	2	#7	(3)	10'-8"	44
[5] U35B	2	#7	(3)	10'-2"	42
[4] U36A	2	#7	(3)	11'-6"	47
[5] U36B	2	#7	(3)	11'-0"	45
[4] U37A	4	#7	(3)	11'-11"	97
[5] U37B	4	#7	(3)	11'-5"	93
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2301				
V2	SEE SHEET NO. 2301				

RELEASED FOR CONSTRUCTION

Tom Shearin 4/5/08

TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030004 JORDAN 4/5/08

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 15 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 11
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	R2465.01
1	MTB	01/31/07	3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

USER: rfletcher
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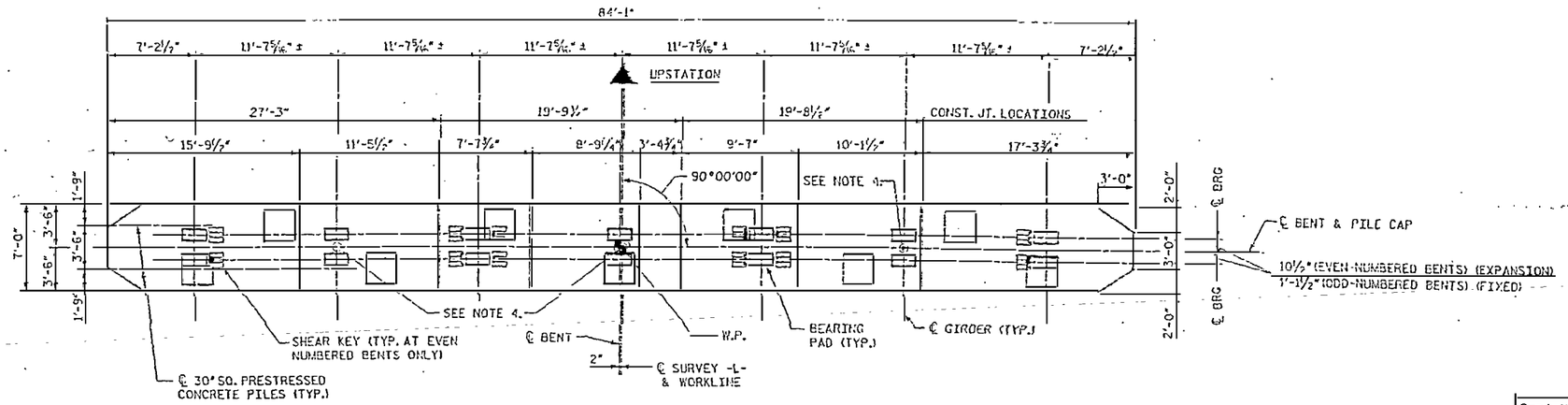
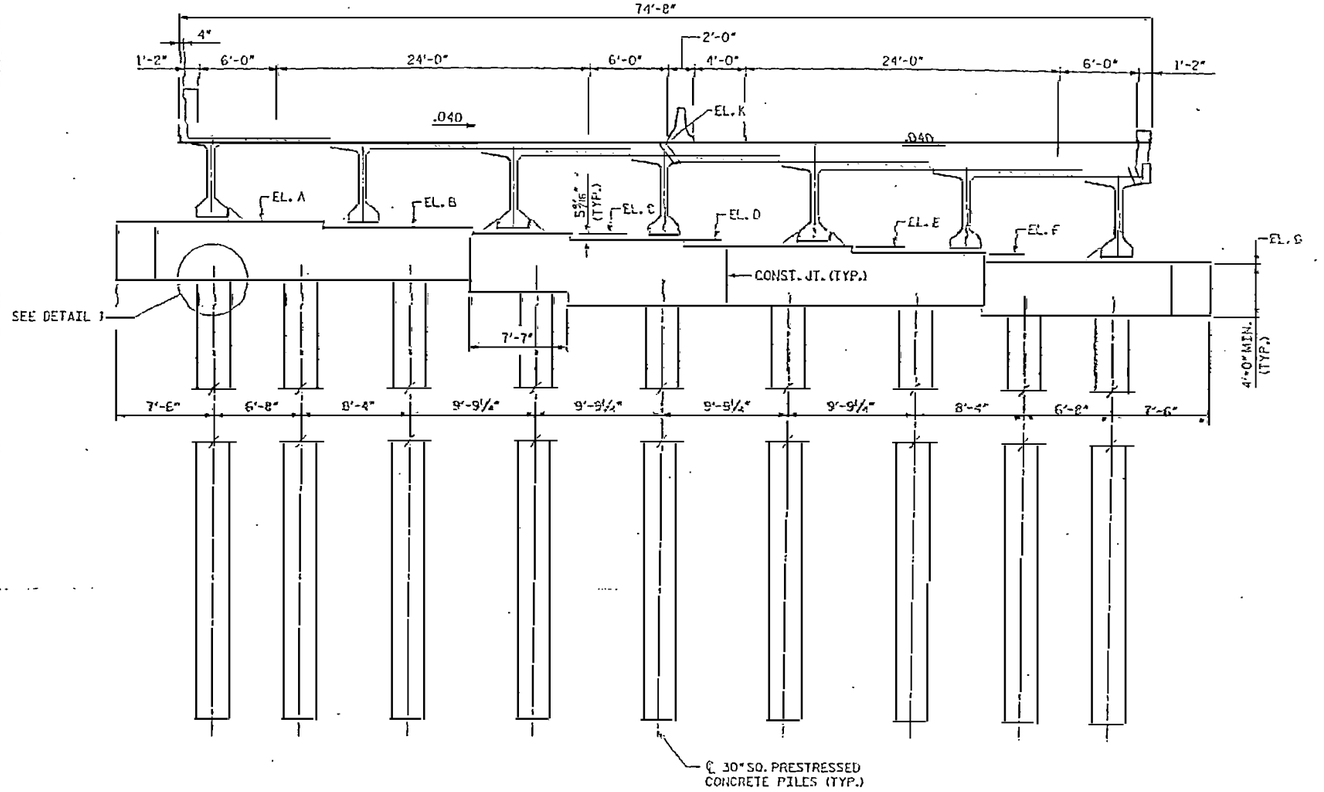
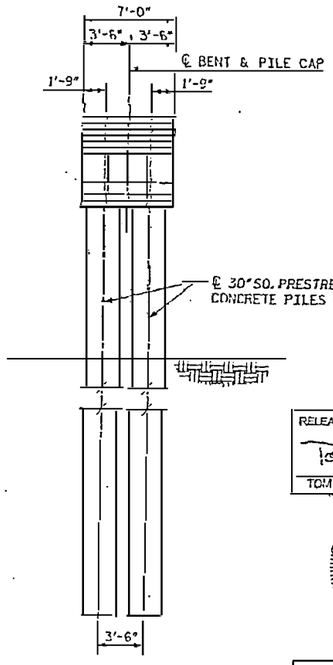
DATE: 04/03/08
TIME: 10:15:57 AM



PLAN



ELEVATION
(BENTS 105 THRU 110)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. ⚠1 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB. BARS ONLY AT ODD-NUMBERED BENTS.
5. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
6. PROVIDE AN EPOXY PROTECTIVE COATING ON ALL EVEN-NUMBERED BENT CAPS (EXPANSION). SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

Bent No.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. E (ft)	EL. F (ft)	EL. G (ft)	EL. K (ft)
105	30.791	30.326	29.862	29.397	28.933	28.469	28.004	35.755
106	29.239	28.774	28.310	27.845	27.381	26.917	26.452	35.203
107	28.234	27.770	27.305	26.841	26.376	25.912	25.447	34.115
108	27.610	27.145	26.681	26.217	25.752	25.288	24.823	33.491
109	27.249	26.784	26.320	25.855	25.391	24.927	24.462	33.130
110	26.889	26.424	25.960	25.495	25.031	24.567	24.102	32.770

⚠ REVISION TO NOTE 4.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

DRAWN BY : S. C. STREDNAK DATE : 09/05
CHECKED BY : J. L.H. DATE : 09/06

FLATIRON/UNITED
A JOINT VENTURE

EarthTech
A Tyco International Ltd. Company

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:	2466.01
1	MTG	9/28/07	3			TOTAL SHEETS
2			4			

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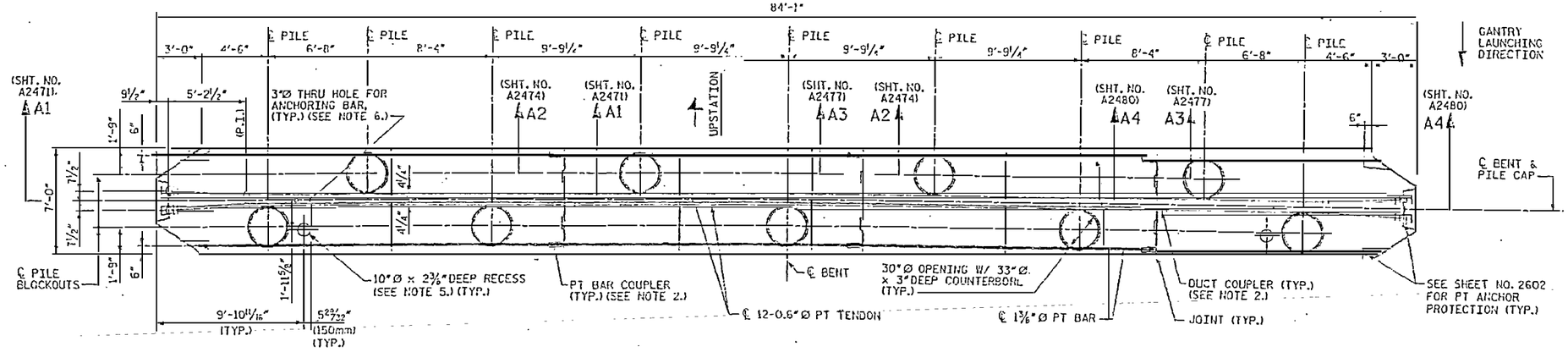
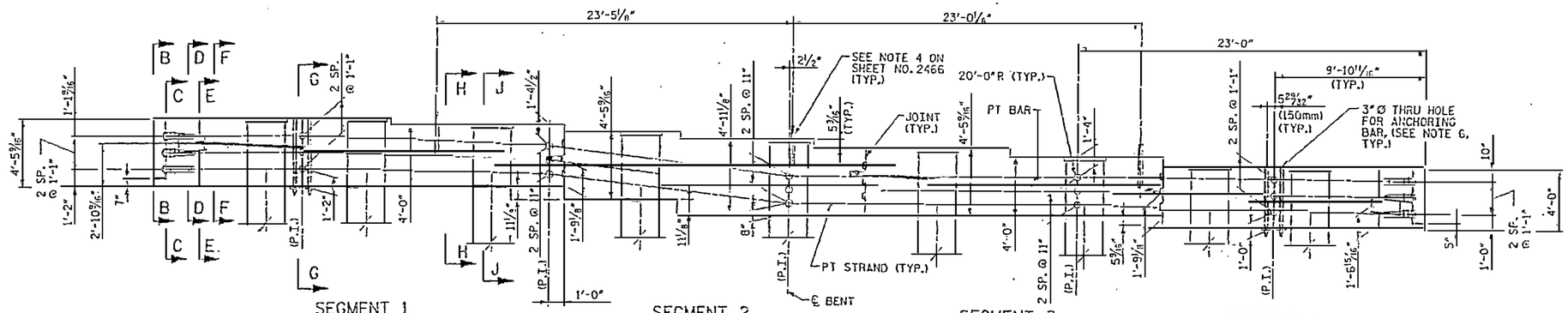
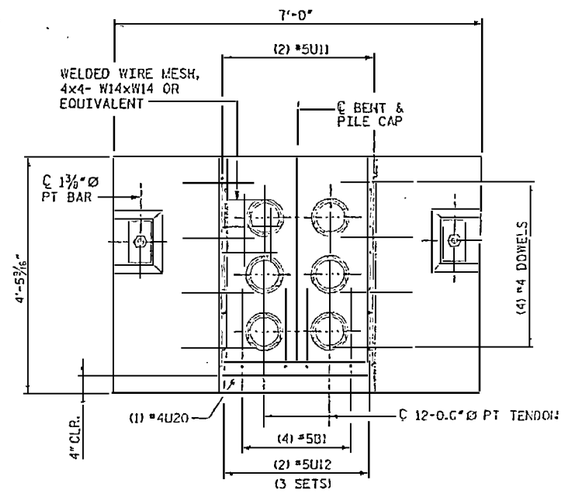


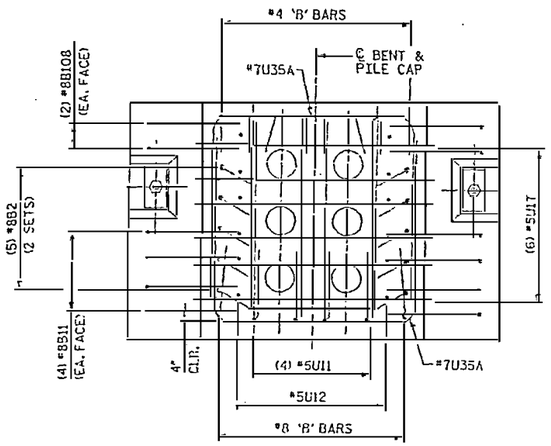
OVERALL PLAN



OVERALL ELEVATION



SECTION B-B



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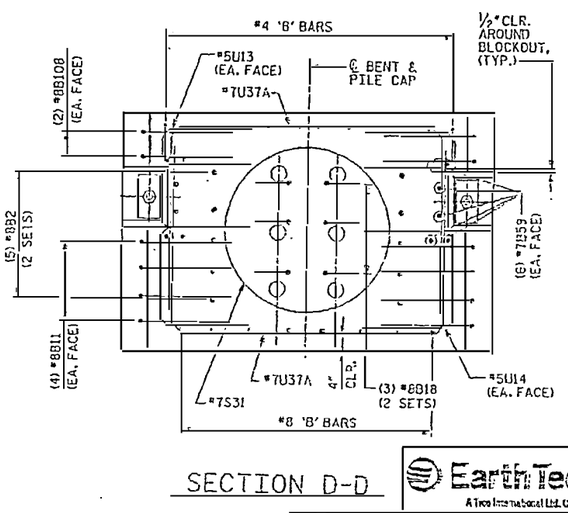

SECTION D-D

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 12 IS USED AT BENT NOS. 105 THRU 110.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2468. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

RELEASED FOR CONSTRUCTION
Tom Shearin 2/6/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS 1

NO.	BY:	DATE:	NO.	BY:	DATE
1			3		
2			4		

SHEET NO. A2467.00
TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.L.H. DATE : 01/08

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DATE: 1/24/2008
FILE: A2467.00
USER: ebeasley
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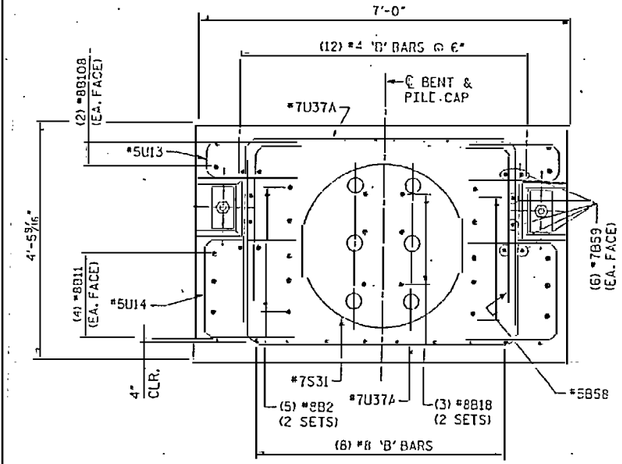
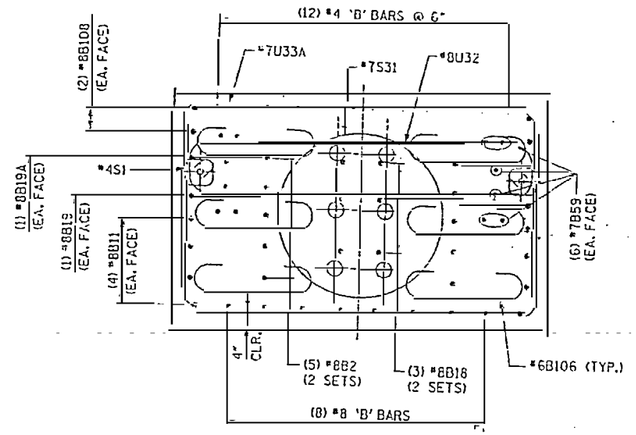


SECTION E-E



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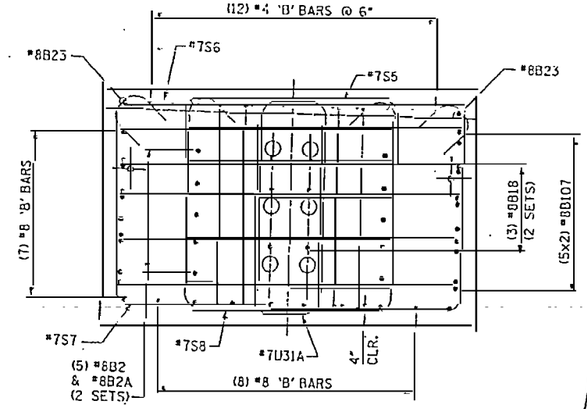
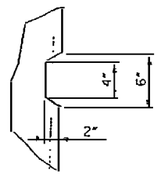


SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



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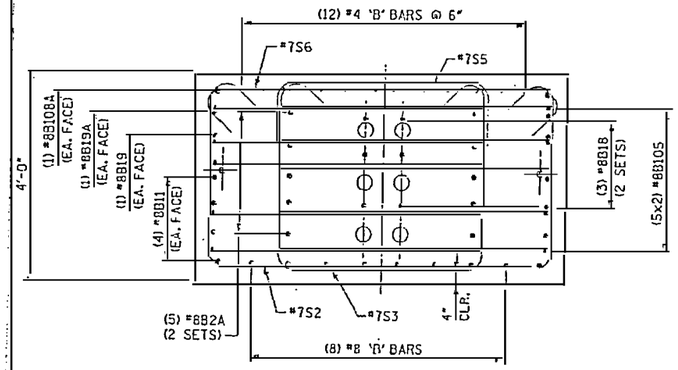
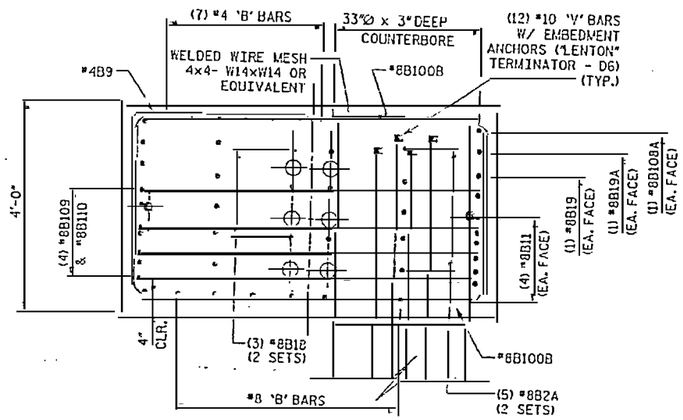
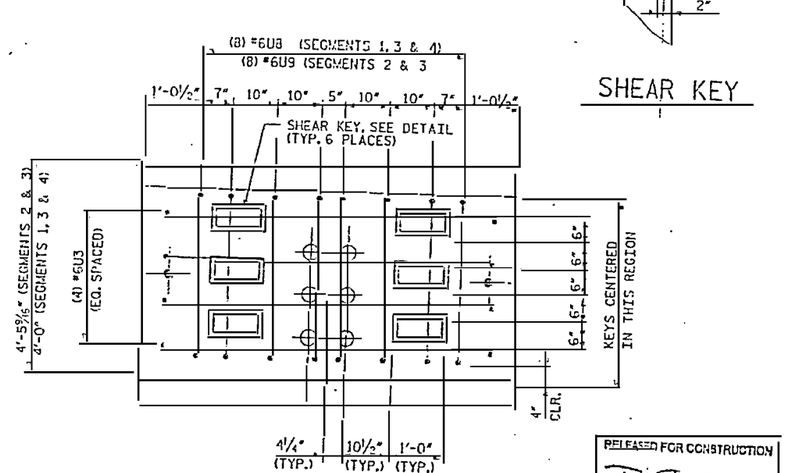


SECTION H-H

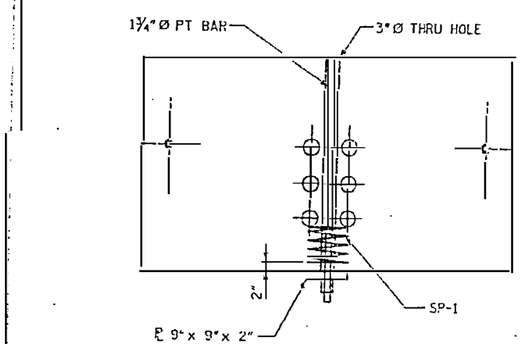


SECTION J-J



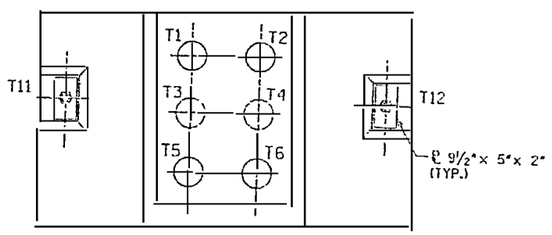
SECTION AT JOINT

(SEE SHEET NO. A2467)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-0.6"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/5/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030876 JOHN W. JORDAN IV

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 15 BRIDGE NO. 353

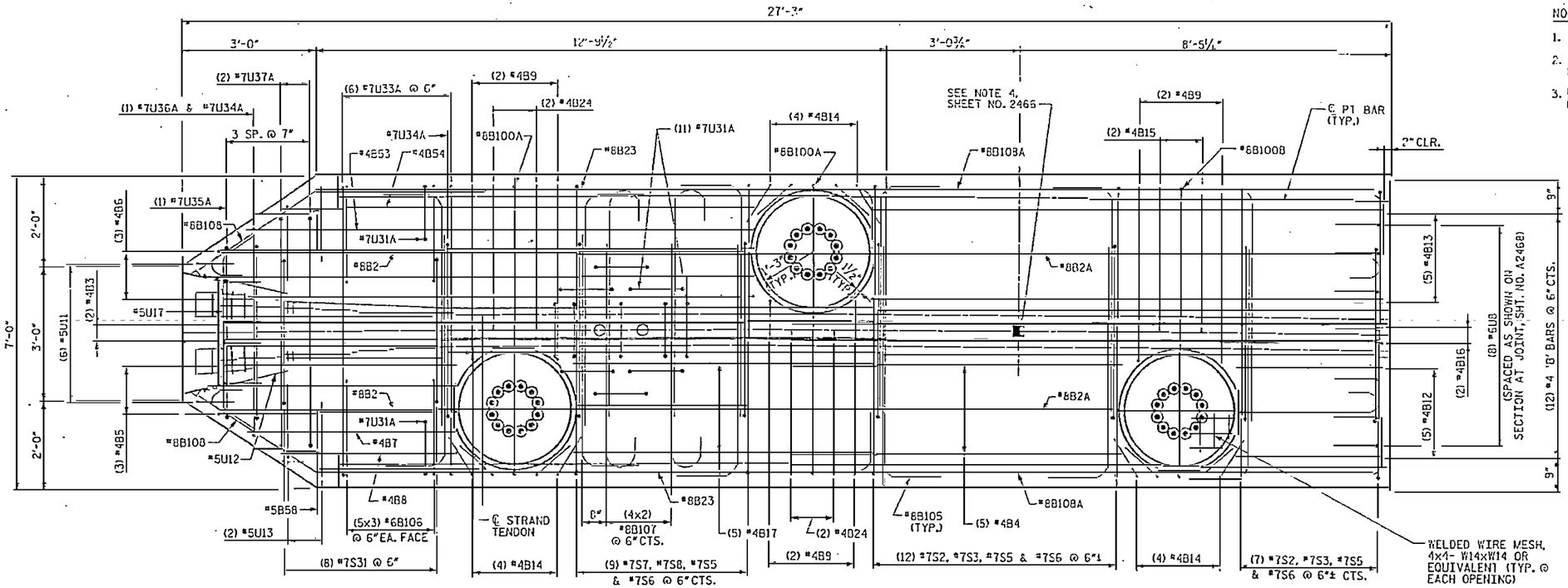
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

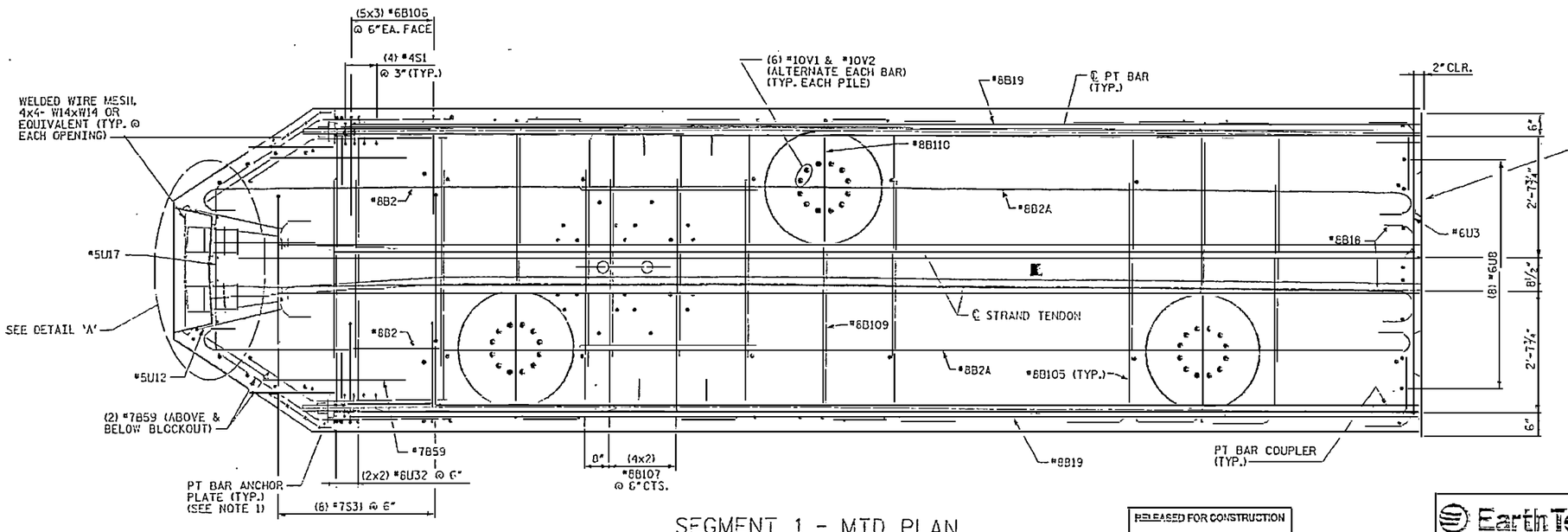
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2460.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. EELISLE DATE : 01/08
CHECKED BY : J. LITZ DATE : 01/08

DATE: 1/24/2008
FILE: A2460_2.dgn
USER: mtheisle
DGN: Northcarolina.dgn
Plotted: 01-24-2008 at 10:05:50 AM by mtheisle on Bridge-CADD-Server_50.dsn_ET12-CUTTER.dgn



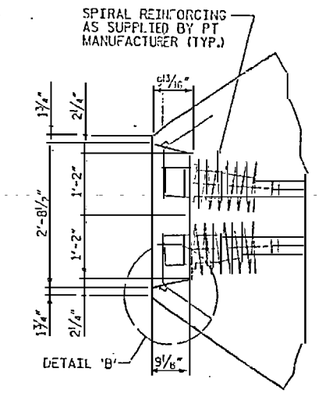
SEGMENT 1 - TOP PLAN



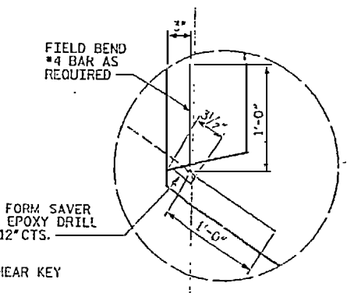
SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030071 JOHN V. JORDAN, III

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2469.00
1			3			TOTAL SHEETS
2			4			

RELEASED FOR CONSTRUCTION
Tom Shearin 2/5/08
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.J.T. DATE : 01/08

DATE: 1/24/2008
FILE: A2469.dgn

USER: engjjordan
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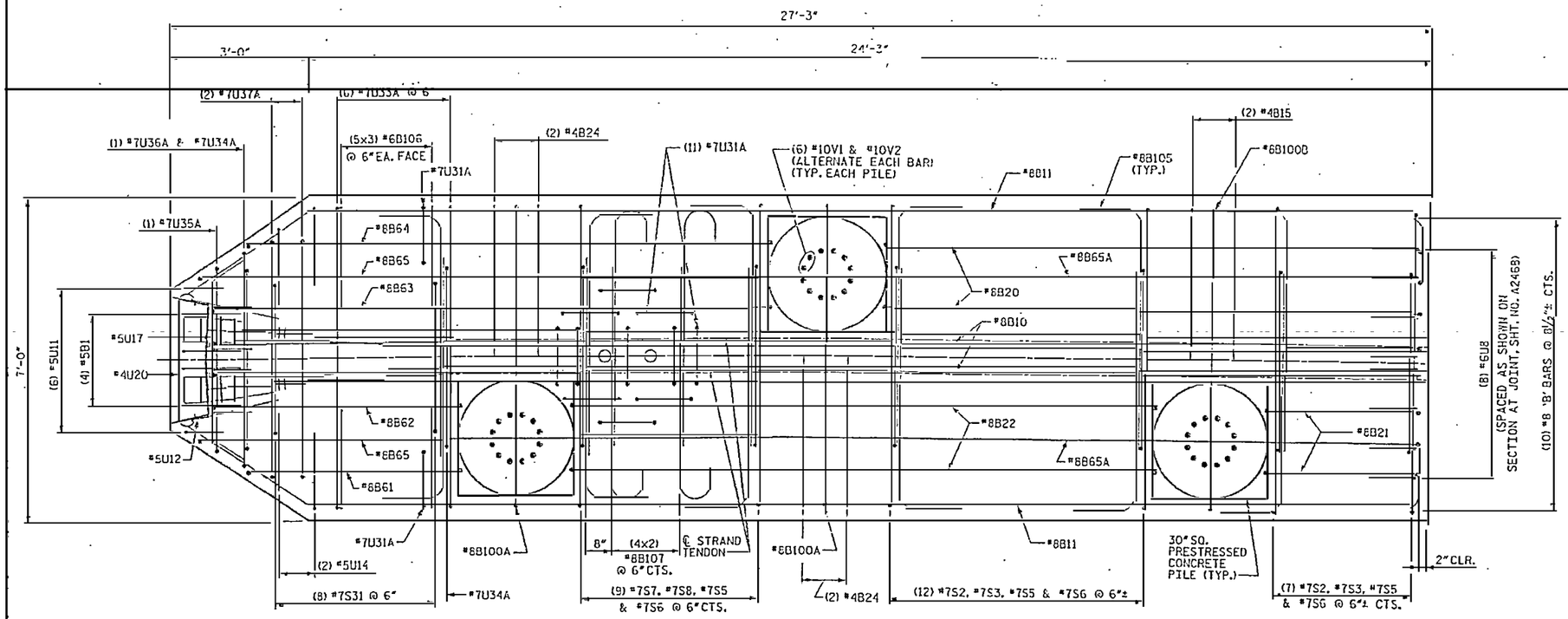
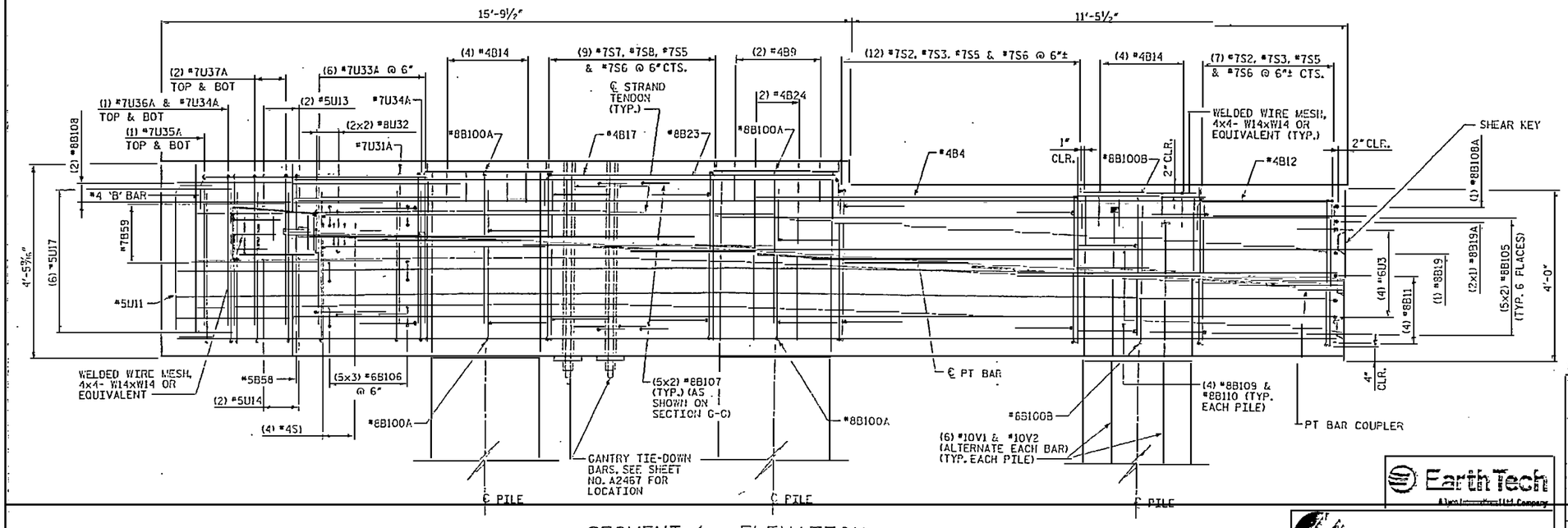


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/6/08

NORTH CAROLINA PROFESSIONAL SEAL E36826 ENGINEER JAMES T. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2470.00
TOTAL SHEETS

Earth Tech — A Joint Venture Company
FLATIRON/UNITED A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.J.T. DATE : 01/08

DATE: 1/28/2008
FILE: 2-SEGTYP
USER: KPRESTON
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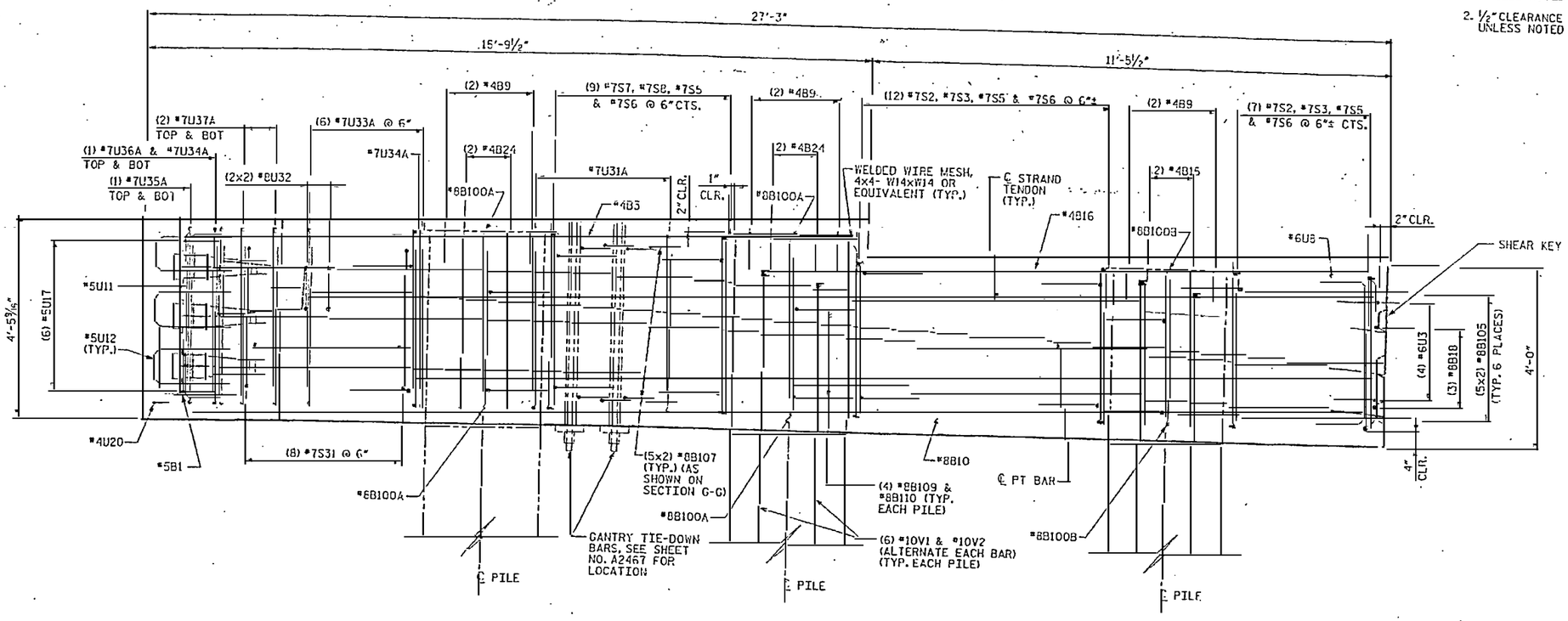
NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1/2" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2467)

RELEASED FOR CONSTRUCTION
Tom Shearin 2/6/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036972 ENGINEER JOHN W. HADDEN JR.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2471.00
1			5			TOTAL SHEETS
2			6			

DRAWN BY : M.T. BELTSLE DATE : 01/08
CHECKED BY : J. LTH DATE : 01/08

DATE: 1/24/2008
TIME: 8:44:58 AM

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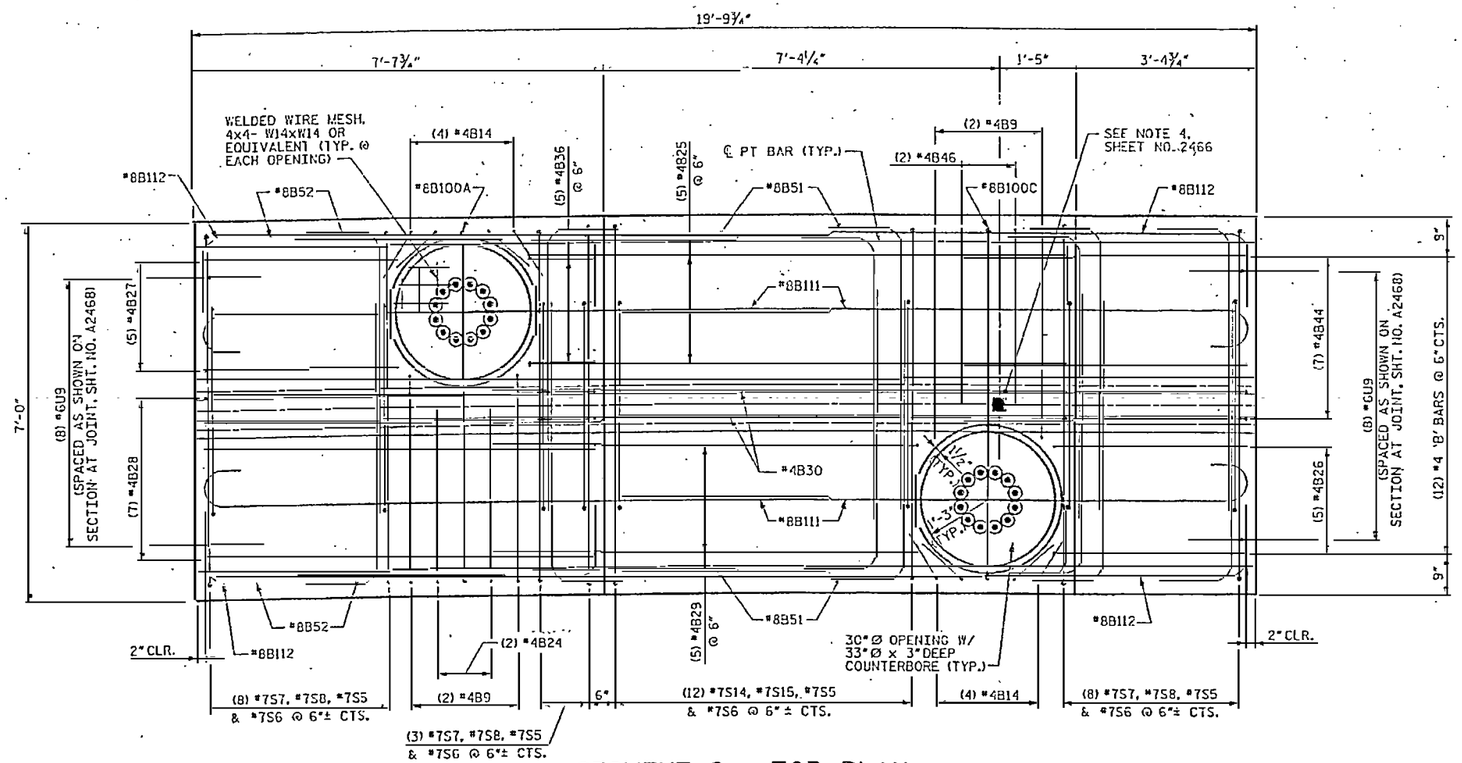
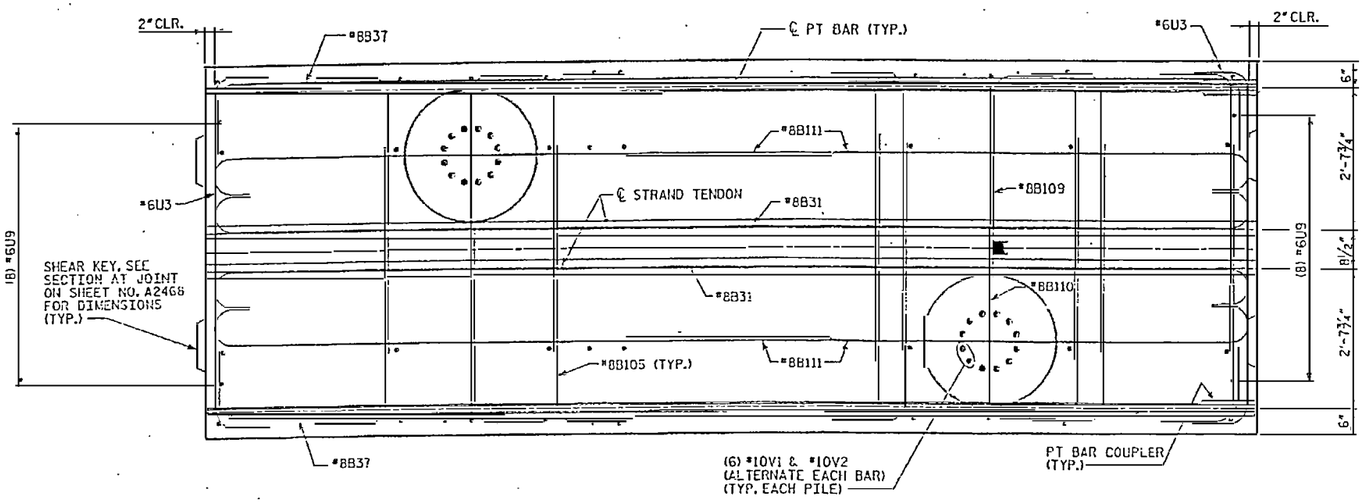


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 2/5/08
TOM SHEARIN, PE DATE

NORTH CAROLINA SEAL 030678 ENGINEER JOHN W. JOHNSON 1/8/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2472.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BEITSLE DATE : 01/08
CHECKED BY : J.L.T. DATE : 01/08

USER: RHARRIS
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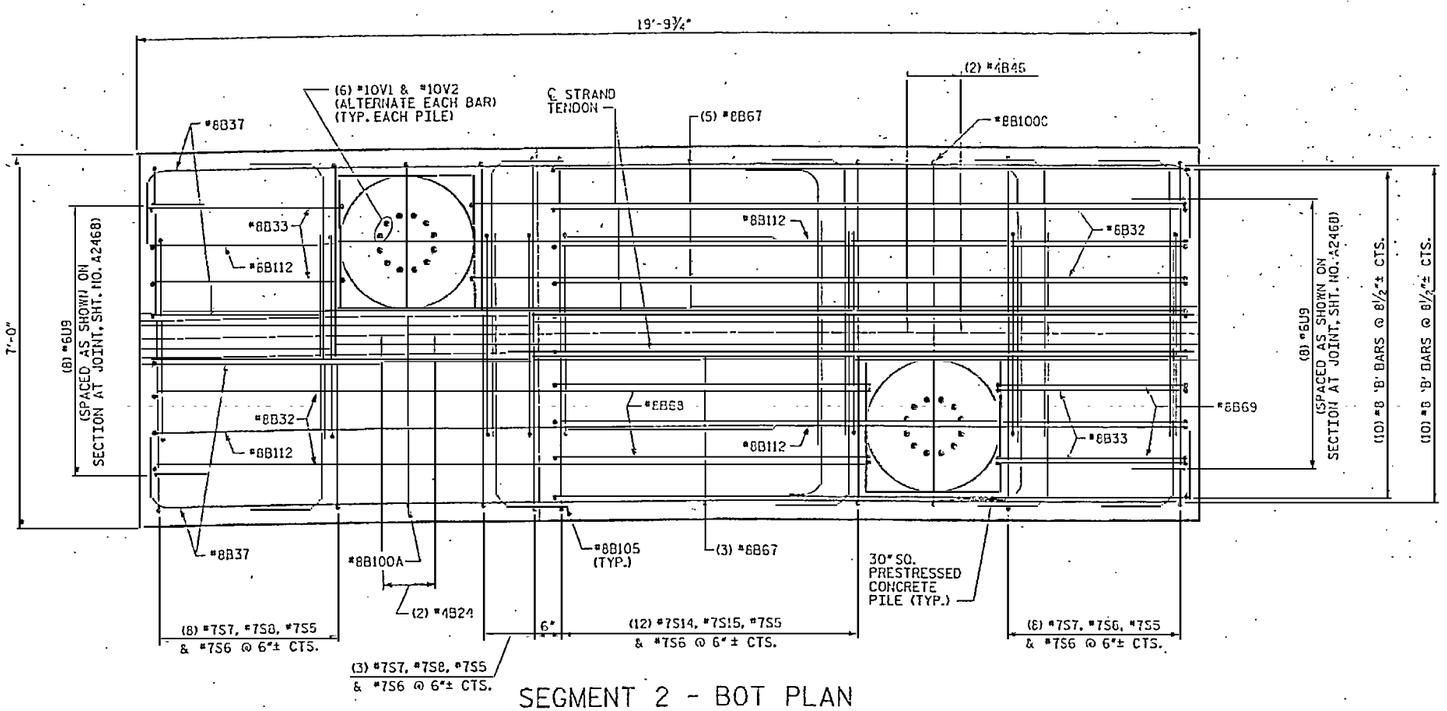
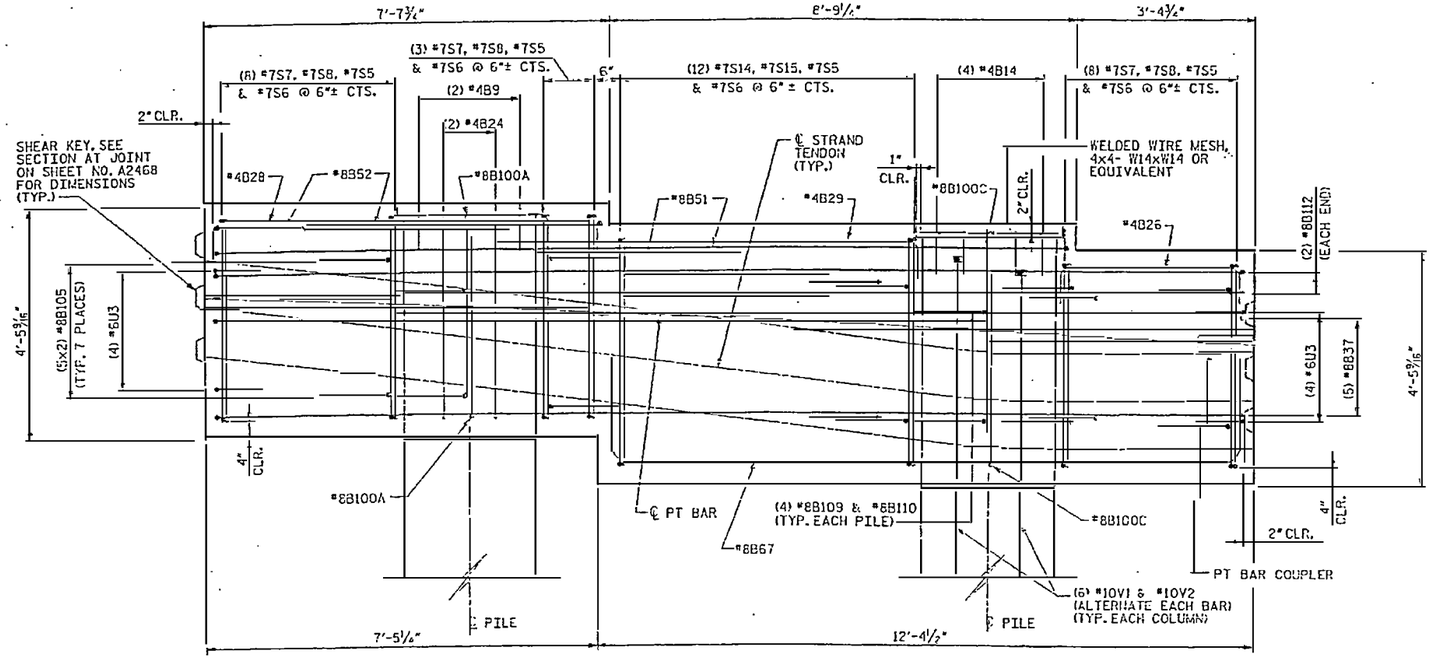
DATE: 1/8/2008
ENG. ACAD 2000



SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARN, PE 2/6/08 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2473.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELTSLE DATE : 01/07
CHECKED BY : J.L.T.U DATE : 01/07

DATE: 1/24/2008
USER: RMATTOX
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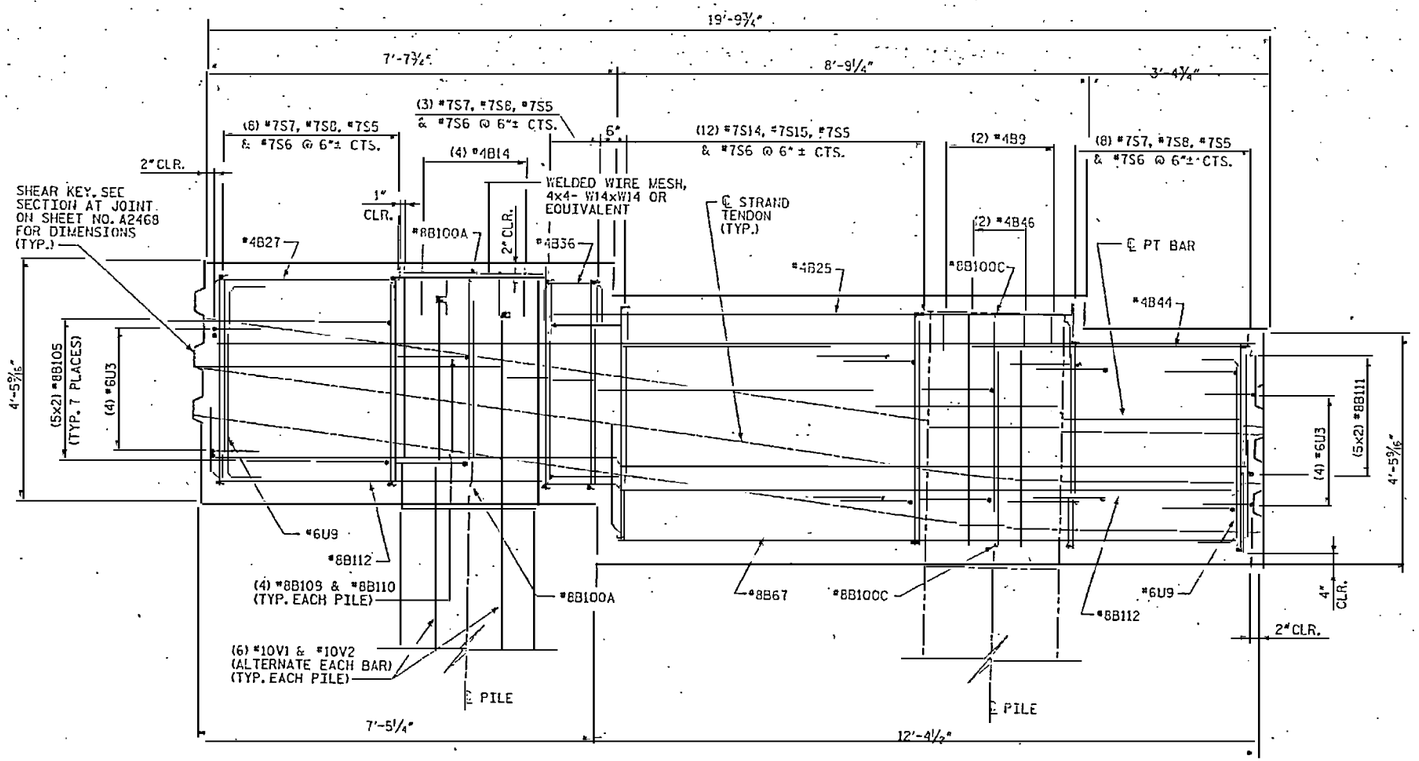

SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2467)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 2/5/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030078 JOHN W. JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 8 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2474.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. DELISLE DATE : 01/08
CHECKED BY : J. LEE DATE : 01/08

DATE: 1/24/2008
FILE: A2474.00

USER: mdelisle
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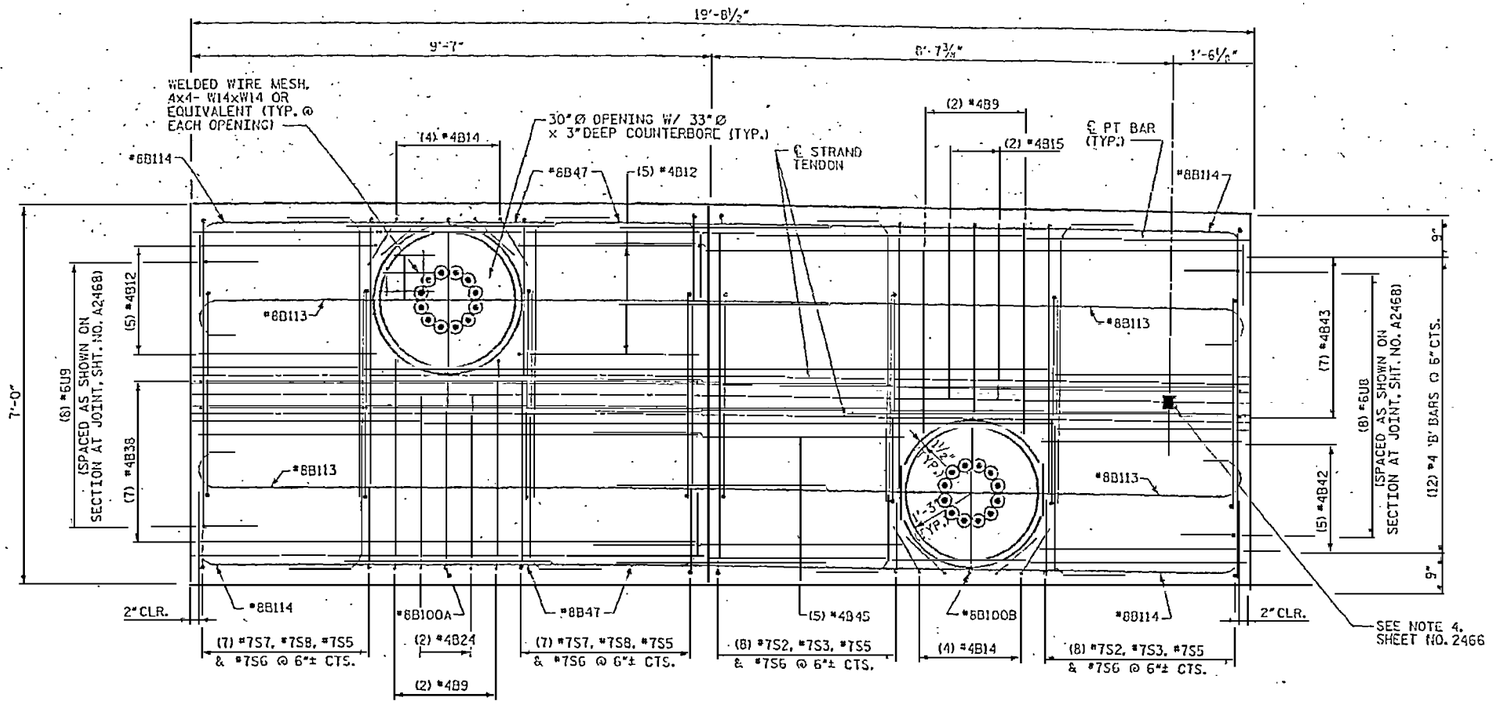
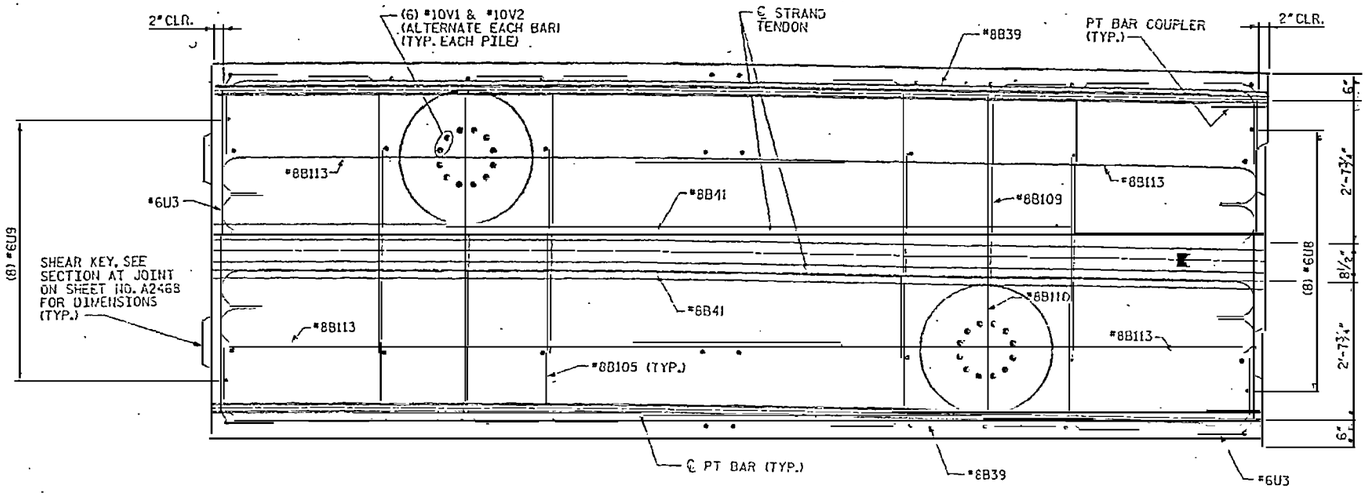


SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/5/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030574 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

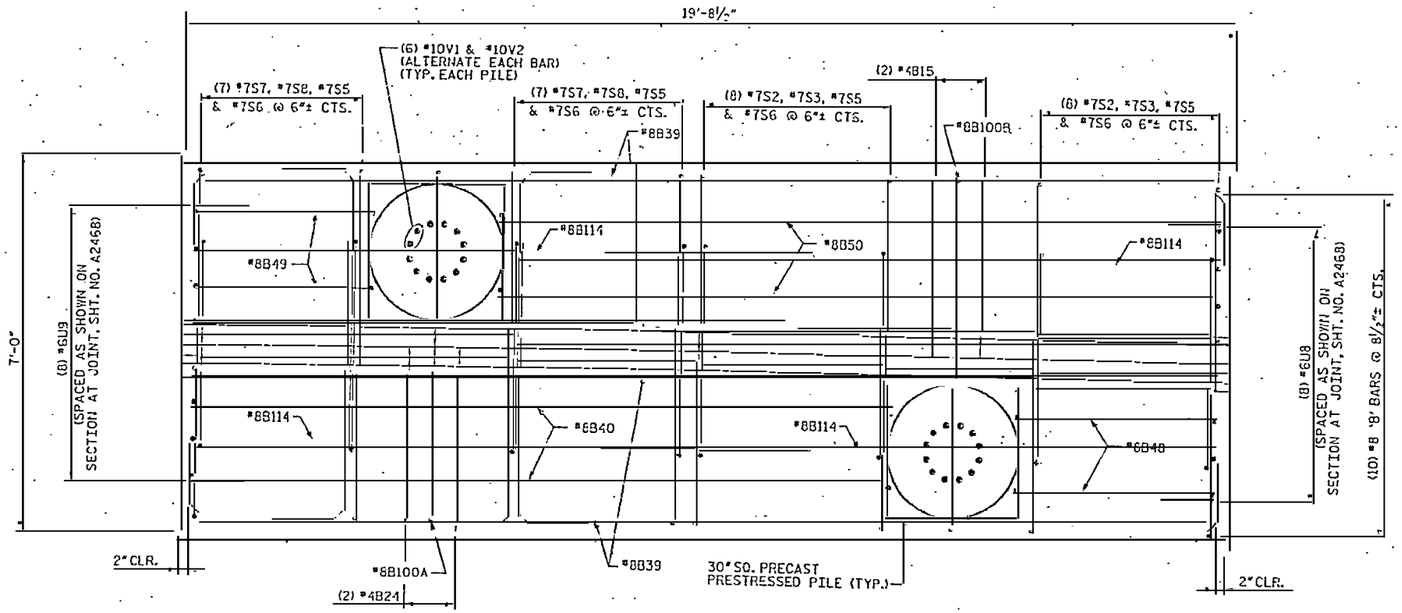
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

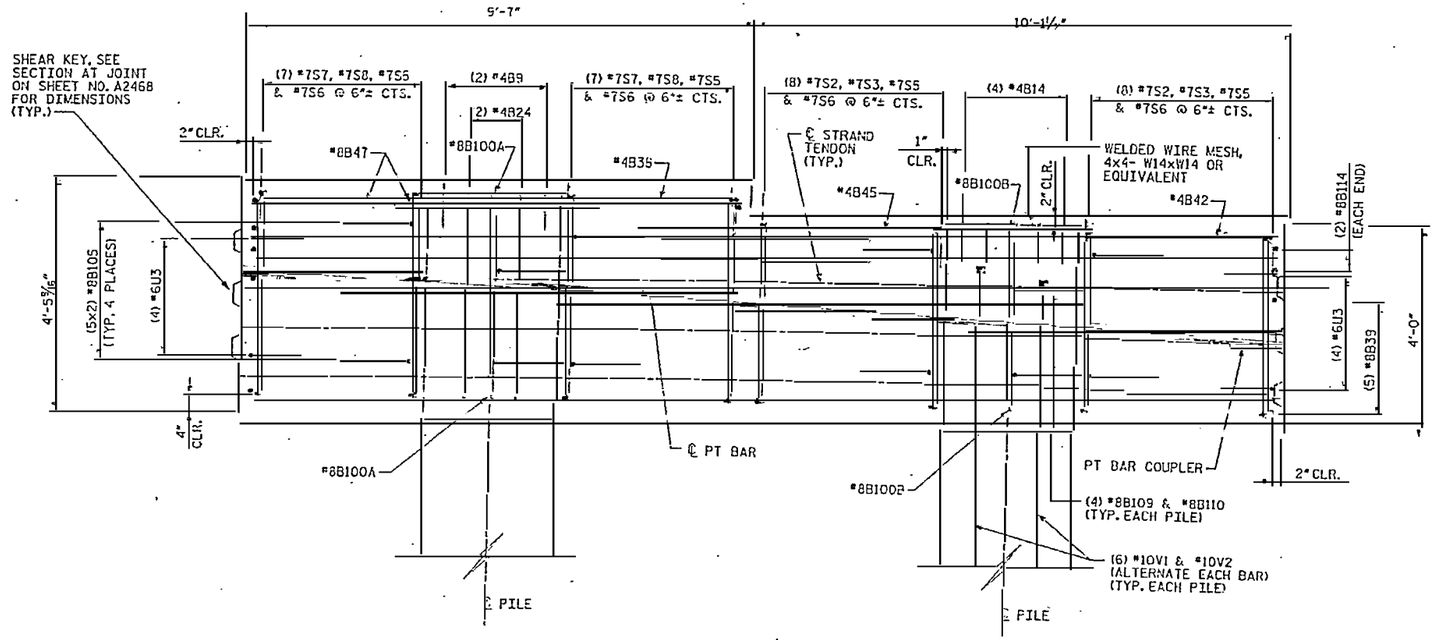
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2475.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELTSLE DATE : 01/08
CHECKED BY : J.J.H. DATE : 01/08



SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN/PE — DATE 2/5/08

NORTH CAROLINA ENGINEER SEAL 23068 ENGINEER THOMAS JORDAN SHEARIN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2476.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

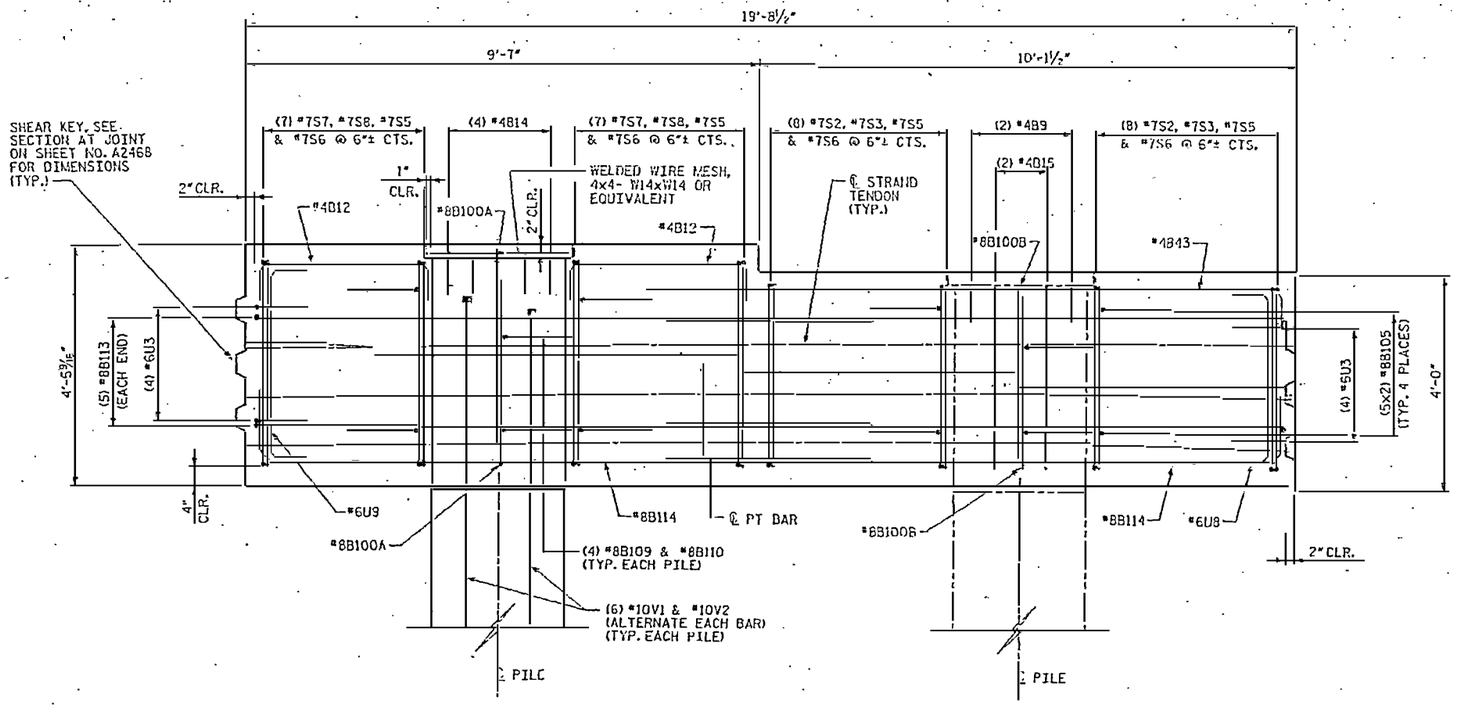
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/06
CHECKED BY : J. LIU DATE : 01/06

DATE: 1/24/2008
FILE: A2476.00
USER: mbelisle
Plotted by: Structures on River Bridges CADD\R2510_SOLIDS_DATE-DETAILS.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2467)

RELEASED FOR CONSTRUCTION
Tom Shearin 2/6/09
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 24441 THOMAS J. SHEARIN JR. 2/5/09

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2477.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELTSIE DATE : 01/08
CHECKED BY : J.J.T.: DATE : 01/08

USER: mbelsie
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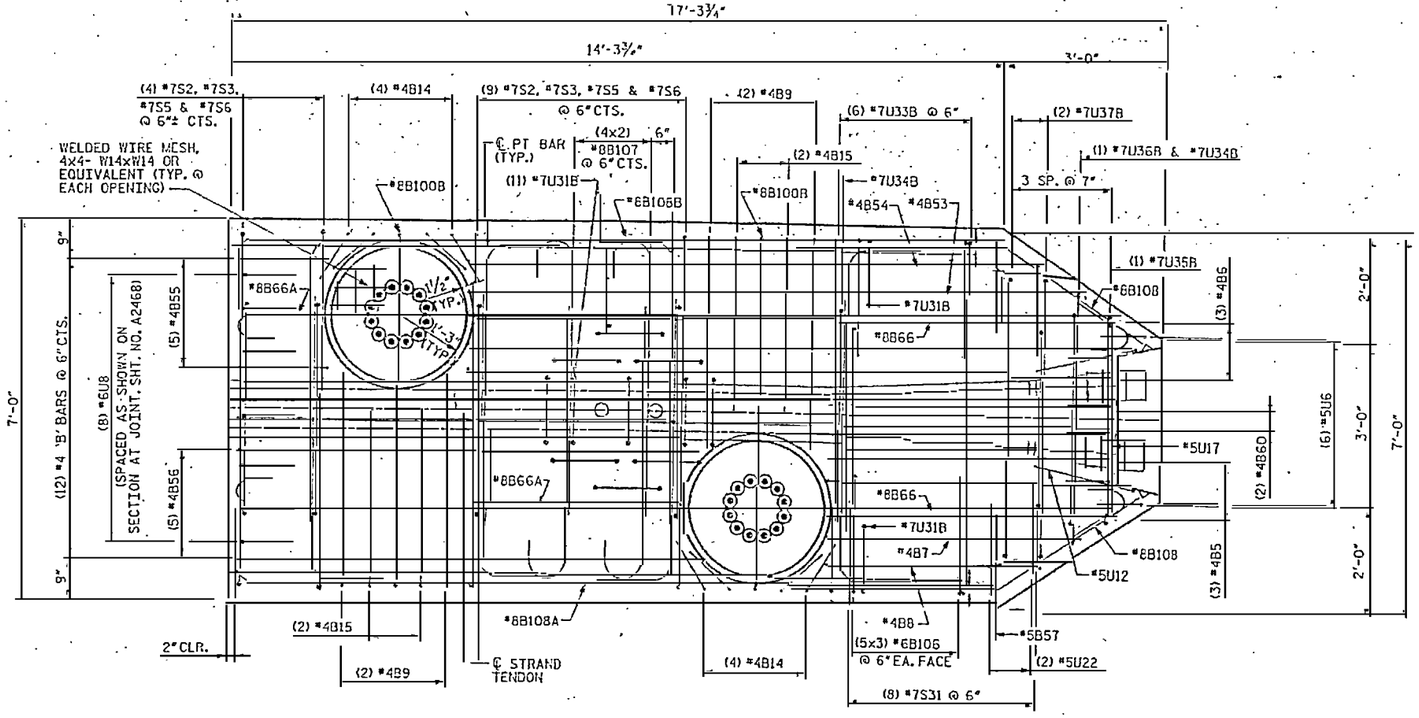
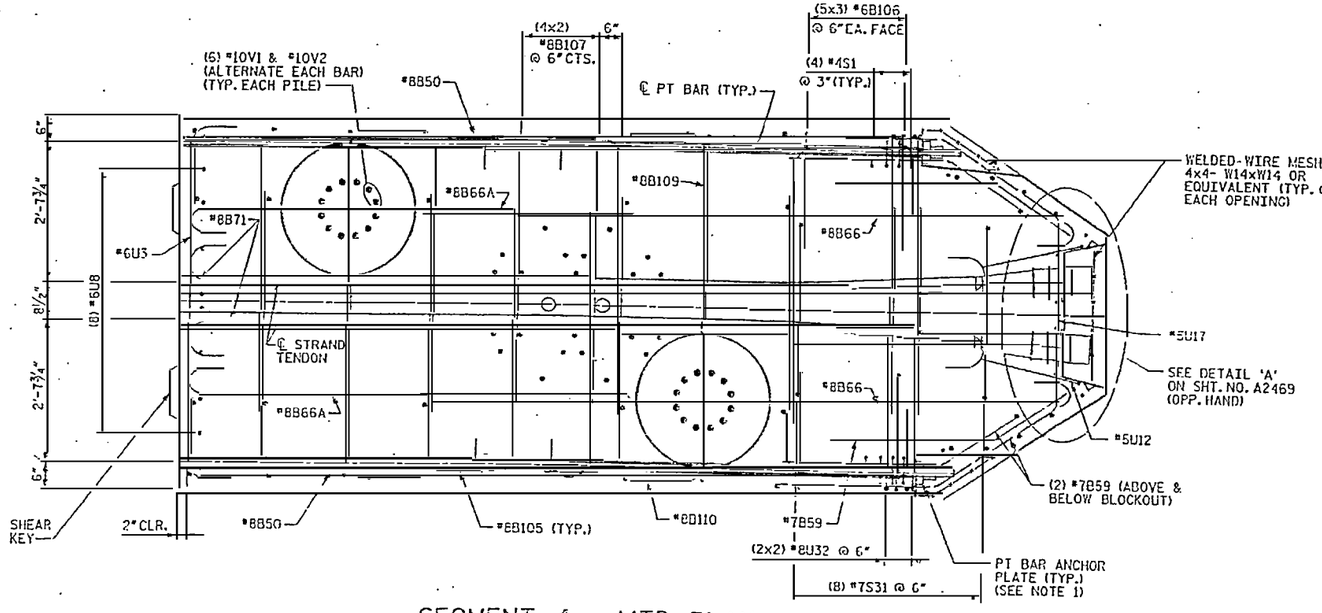
DATE: 1/24/2008
TIME: 09:46:46 AM



SEGMENT 4 - TOP PLAN



SEGMENT 4 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 2/4/08
TOM SHEARIN, PE / DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

DRAWN BY : M.T. DELISLE DATE : 01/09
CHECKED BY : J.L.T.II DATE : 01/09

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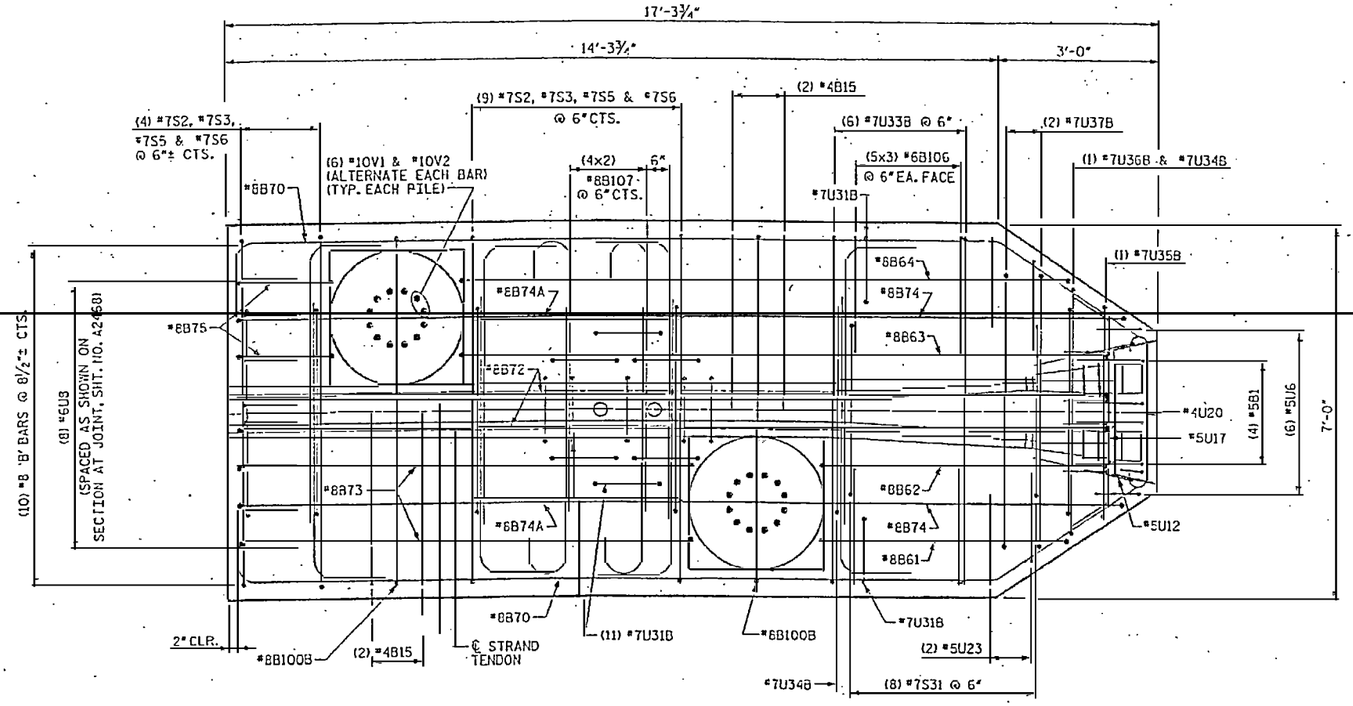
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2478.00
1			3			TOTAL SHEETS
2			4			

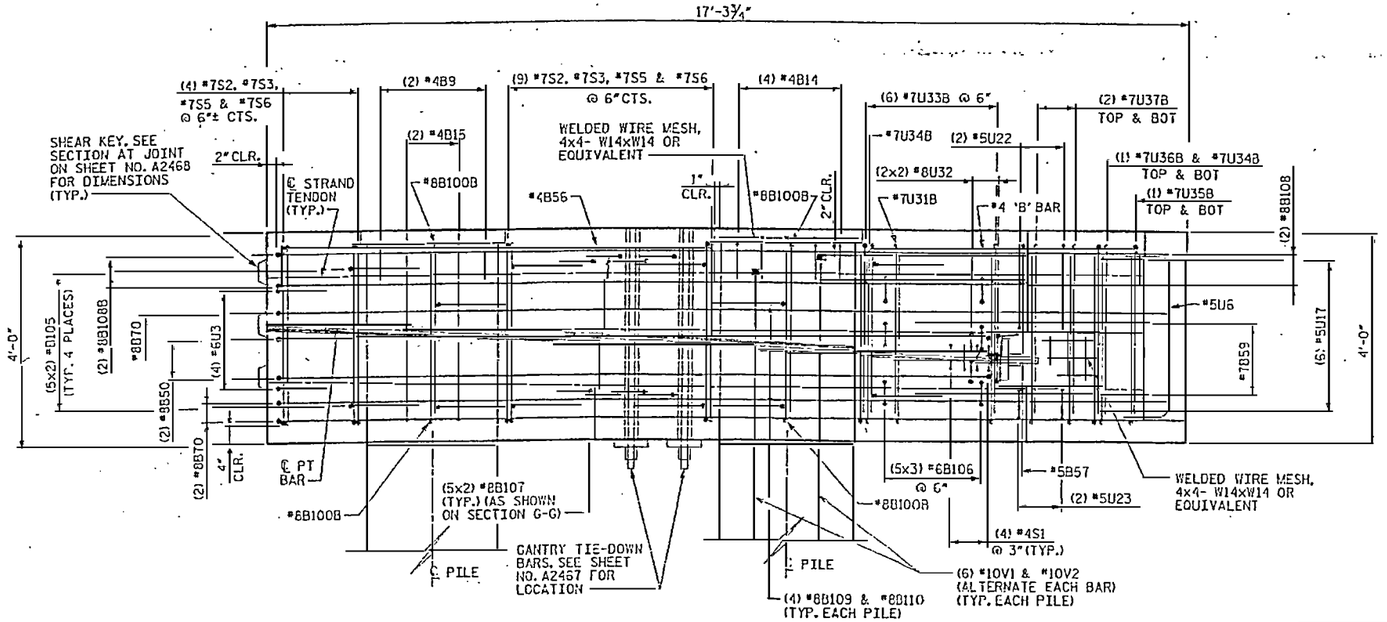
DATE: 1/24/2008
TIME: 08:22:22 AM
USER: mtdelisle
FILE: R:\Structure\Tar River Ends\BEAUFORT\B0_353\STR_GTIE-DETAILS.dgn



SEGMENT 4 - BOT PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 4 - ELEVATION

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 13 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2479.00
1			3			TOTAL SHEETS
2			4			

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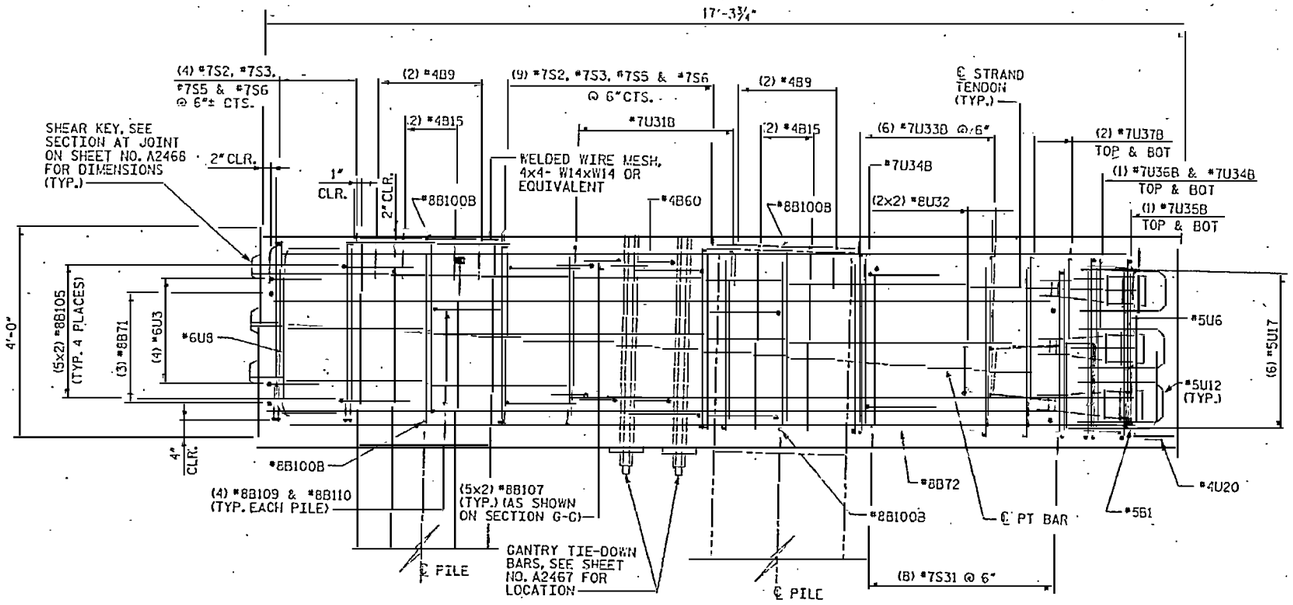
DRAWN BY : M.T. PO'TSLE DATE : 01/06
CHECKED BY : J.T.H. DATE : 01/06

CAD VERSION: TMS: RELEASE 14
USER NAME = R:\Engineering\Roadway\Projects\R2510B\Design\R2510B_SEG4-BOT.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 4 - SECTION A4

(SEE SHEET NO. A2467)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 14 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

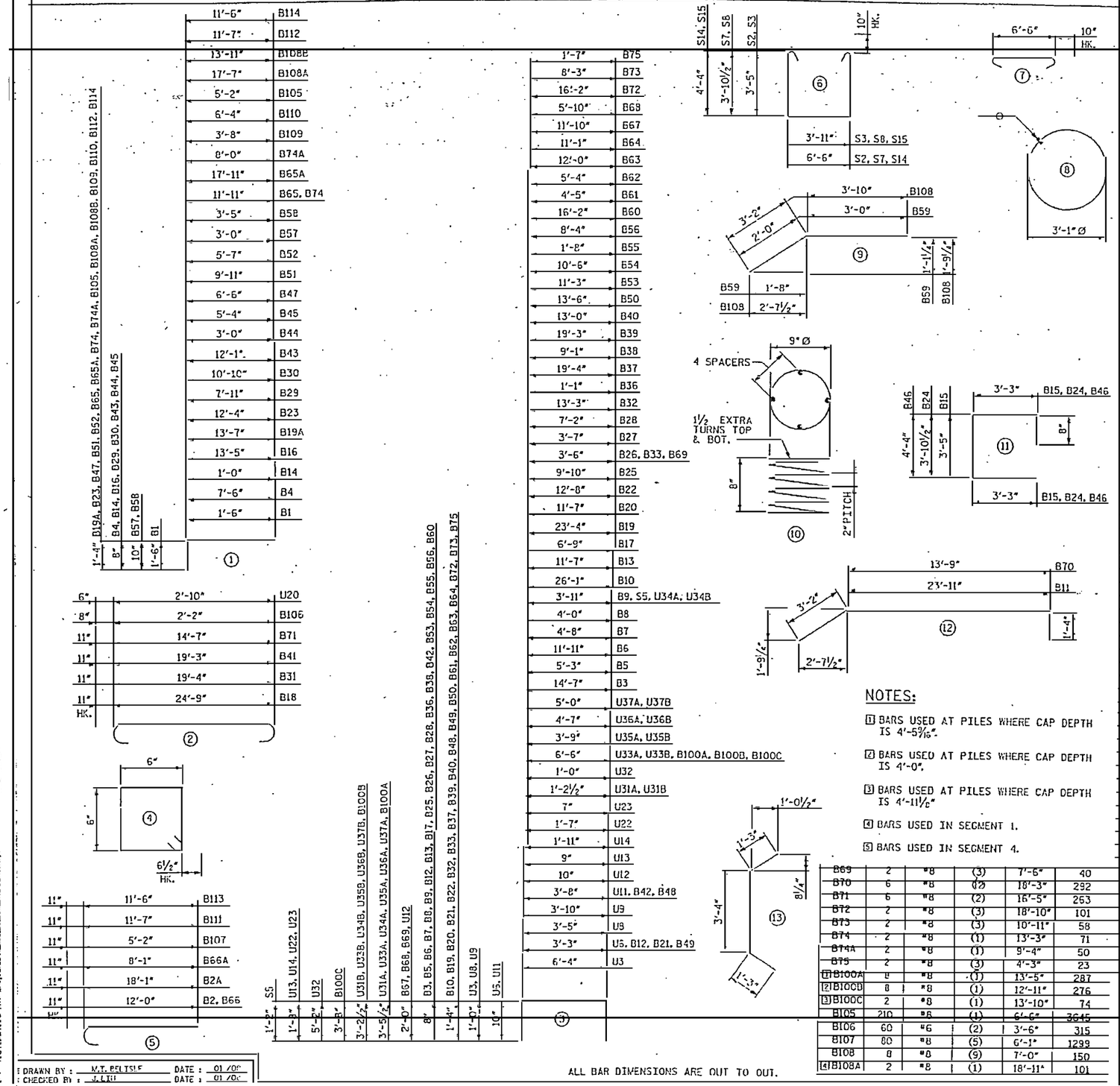
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2460.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : N.T. BEITSLE DATE : 01/06
CHECKED BY : J.TH DATE : 01/06

DATE: 1/24/2006
TIME: 1:49:53 PM

USER: nbeitsle
I:\Structures\Tar River Bridge\CADD\S2510_03.dgn

BAR TYPES



BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#3	(1)	3'-0"	25
B2	10	#8	(5)	12'-11"	345
B2A	10	#8	(5)	19'-0"	507
B3	2	#4	(3)	15'-11"	21
B4	5	#4	(1)	8'-2"	27
B5	6	#4	(3)	6'-7"	26
B6	6	#4	(3)	13'-3"	53
B7	2	#4	(3)	6'-0"	8
B8	2	#4	(3)	5'-4"	7
B9	18	#4	(3)	5'-3"	63
B10	2	#8	(3)	28'-9"	154
B11	8	#8	(12)	28'-5"	607
B12	15	#4	(3)	4'-7"	46
B13	5	#4	(3)	12'-11"	43
B14	36	#4	(1)	1'-8"	40
B15	8	#4	(11)	10'-7"	57
B16	2	#4	(1)	14'-1"	19
B17	5	#4	(3)	8'-0"	27
B18	6	#8	(2)	26'-7"	426
B19	2	#8	(3)	26'-0"	139
B19A	4	#8	(1)	14'-11"	159
B20	2	#6	(3)	14'-3"	76
B21	2	#8	(3)	5'-11"	32
B22	2	#8	(3)	14'-4"	77
B23	2	#8	(1)	13'-8"	73
B24	8	#4	(11)	11'-1"	59
B25	5	#4	(3)	11'-2"	37
B26	5	#4	(3)	4'-10"	16
B27	5	#4	(3)	4'-11"	16
B28	7	#4	(3)	8'-6"	40
B29	5	#4	(1)	8'-7"	29
B30	2	#4	(1)	11'-6"	15
B31	6	#8	(2)	21'-2"	339
B32	4	#8	(3)	15'-11"	170
B33	4	#8	(3)	6'-2"	66
B36	5	#4	(3)	2'-5"	8
B37	12	#8	(3)	22'-0"	705
B38	7	#4	(3)	10'-5"	49
B39	12	#8	(3)	21'-11"	702
B40	2	#8	(3)	15'-8"	84
B41	6	#8	(2)	21'-1"	338
B42	5	#4	(3)	5'-0"	17
B43	7	#4	(1)	12'-9"	60
B44	5	#4	(1)	6'-0"	20
B45	5	#4	(1)	6'-5"	21
B46	2	#4	(11)	11'-6"	15
B47	4	#8	(1)	7'-10"	84
B48	2	#8	(3)	6'-4"	34
B49	2	#8	(3)	5'-11"	32
B50	4	#8	(3)	16'-2"	173
B51	4	#8	(1)	11'-3"	120
B52	4	#8	(1)	6'-11"	73
B53	2	#4	(3)	12'-7"	17
B54	2	#4	(3)	11'-10"	16
B55	5	#4	(3)	3'-0"	10
B56	5	#4	(3)	9'-8"	32
B57	2	#5	(1)	3'-10"	8
B58	2	#5	(1)	4'-3"	9
B59	24	#7	(9)	5'-0"	245
B60	2	#4	(3)	17'-6"	23
B61	2	#8	(3)	7'-1"	38
B62	2	#8	(3)	8'-0"	43
B63	2	#8	(1)	14'-8"	74
B64	2	#8	(3)	13'-9"	73
B65	2	#8	(1)	13'-3"	71
B65A	2	#8	(1)	19'-3"	103
B66	10	#8	(5)	12'-11"	345
B66A	10	#8	(5)	9'-0"	240
B67	8	#8	(3)	15'-10"	338
B68	2	#8	(3)	9'-10"	53
B69	2	#8	(3)	7'-6"	40
B70	6	#8	(2)	18'-3"	292
B71	6	#8	(2)	16'-5"	263
B72	2	#8	(3)	18'-10"	101
B73	2	#8	(3)	10'-11"	58
B74	2	#8	(1)	13'-3"	71
B74A	2	#8	(1)	9'-4"	50
B75	2	#8	(3)	4'-3"	23
[4] B100A	8	#8	(1)	13'-5"	287
[2] B100B	8	#8	(1)	12'-11"	276
[3] B100C	2	#8	(1)	13'-10"	74
B105	210	#8	(1)	6'-6"	3645
B106	60	#6	(2)	3'-6"	315
B107	80	#8	(5)	6'-1"	1299
B108	8	#8	(9)	7'-0"	150
[4] B108A	2	#8	(1)	18'-11"	101

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
[5] B108B	4	#8	(1)	15'-3"	163
B109	36	#8	(1)	5'-0"	481
B110	36	#8	(1)	7'-8"	737
B111	20	#8	(5)	12'-6"	668
B112	12	#8	(1)	12'-11"	414
B113	20	#8	(5)	12'-5"	663
B114	12	#8	(1)	12'-10"	411
S1	16	#4	(4)	3'-3"	35
S2	48	#7	(6)	15'-0"	1472
S3	48	#7	(6)	12'-5"	1218
S5	99	#7	(1)	6'-3"	1265
S6	99	#7	(7)	8'-2"	1653
S7	39	#7	(5)	15'-11"	1269
S8	39	#7	(6)	13'-4"	1063
S14	12	#7	(6)	16'-10"	413
S15	12	#7	(6)	14'-3"	350
S31	16	#7	(8)	9'-5"	308
U3	24	#6	(1)	8'-4"	300
U6	6	#5	(1)	4'-11"	31
U8	24	#6	(1)	5'-5"	195
U9	24	#6	(1)	5'-10"	210
U11	6	#5	(1)	5'-4"	33
U12	12	#5	(1)	4'-10"	60
U13	4	#5	(1)	4'-1"	17
U14	4	#5	(1)	5'-3"	22
U17	12	#5	(13)	5'-10"	73
U20	2	#4	(2)	3'-10"	5
U22	4	#5	(1)	4'-11"	21
U23	4	#5	(1)	3'-11"	16
[4] U31A	26	#7	(1)	8'-2"	434
[5] U31B	26	#7	(1)	7'-8"	407
U32	8	#8	(1)	11'-4"	242
[4] U33A	12	#7	(1)	13'-6"	329
[5] U33B	12	#7	(1)	12'-11"	317
[4] U34A	4	#7	(1)	10'-10"	89
[5] U34B	4	#7	(1)	10'-4"	84
[4] U35A	2	#7	(1)	10'-8"	44
[5] U35B	2	#7	(1)	10'-2"	42
[4] U36A	2	#7	(1)	11'-6"	47
[5] U36B	2	#7	(1)	11'-0"	45
[4] U37A	4	#7	(1)	11'-11"	97
[5] U37B	4	#7	(1)	11'-5"	93
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2301				
V2	SEE SHEET NO. 2301				

NOTES:

[1] BARS USED AT PILES WHERE CAP DEPTH IS 4'-5⅜".

[2] BARS USED AT PILES WHERE CAP DEPTH IS 4'-0".

[3] BARS USED AT PILES WHERE CAP DEPTH IS 4'-11⅛".

[4] BARS USED IN SEGMENT 1.

[5] BARS USED IN SEGMENT 4.

ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : M.T. BELTSLE DATE : 01/06
CHECKED BY : J.LEE DATE : 01/06

RELEASED FOR CONSTRUCTION
Tom Shearin 2/5/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 030242 ENGINEER JORDAN, JR.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 15 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 12
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2481.00
1			3			TOTAL SHEETS
2			4			141

EarthTech
A Tec International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

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PROJECT: R-2510B_PILE CAP DETAILS.DGN
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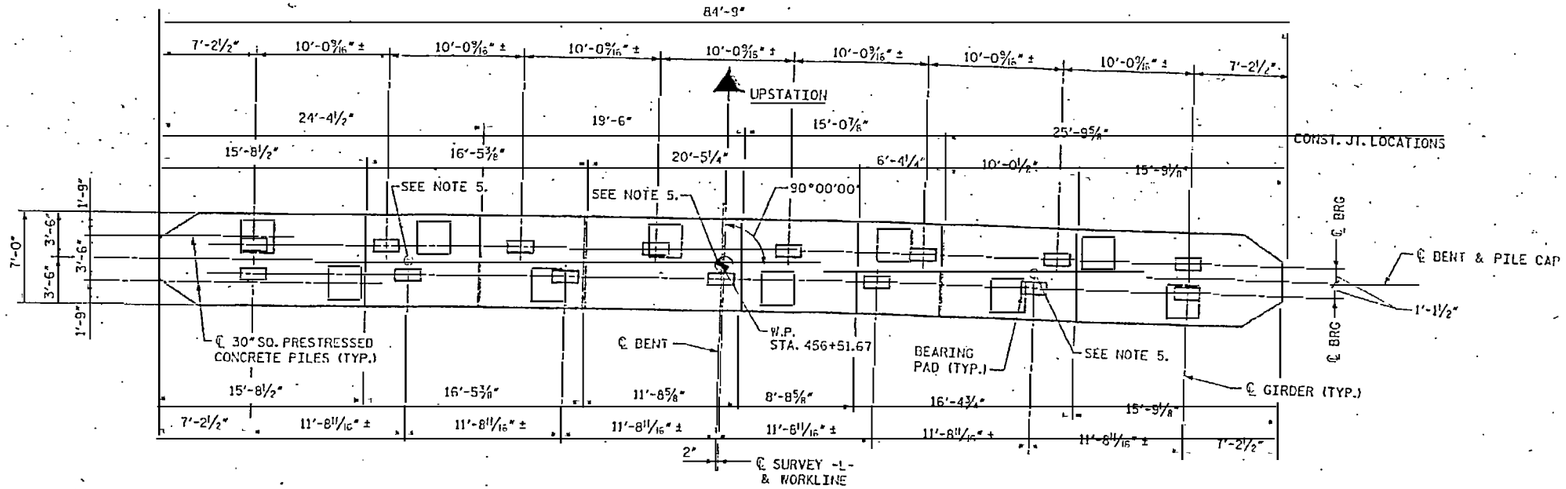
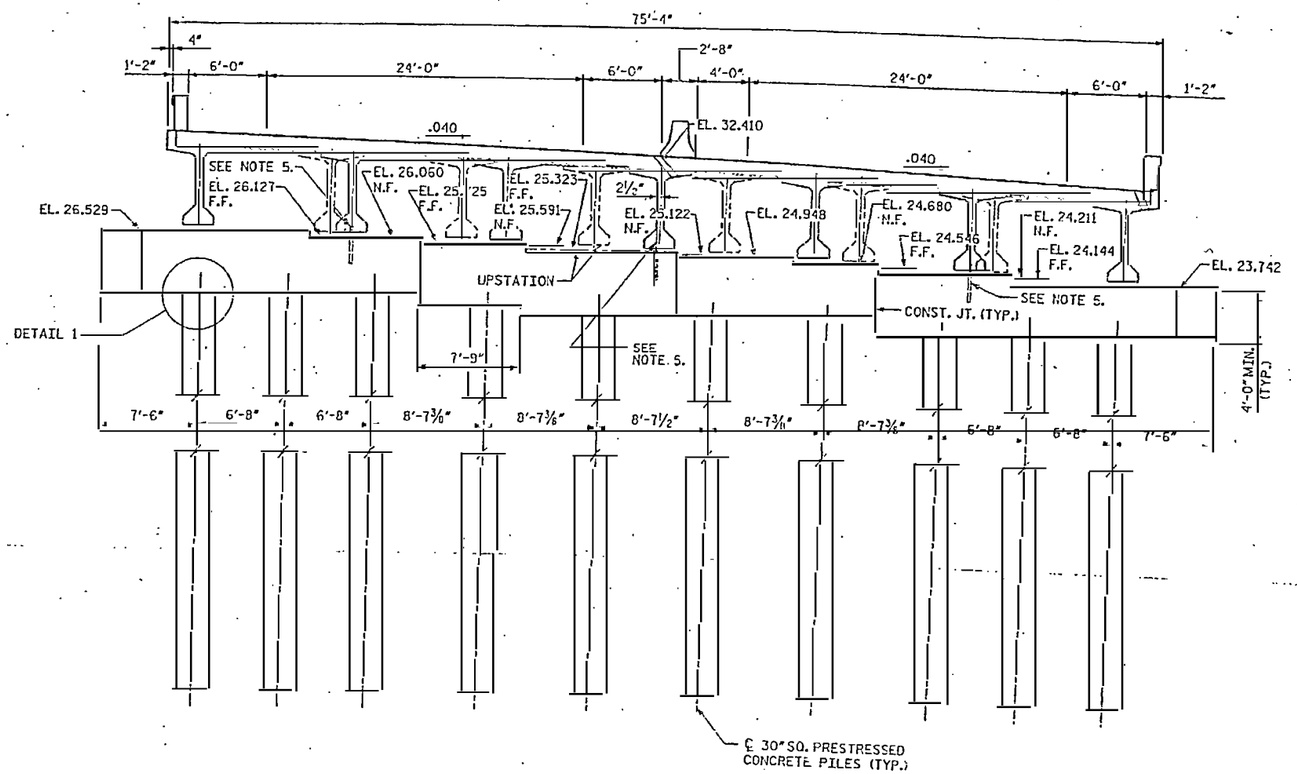
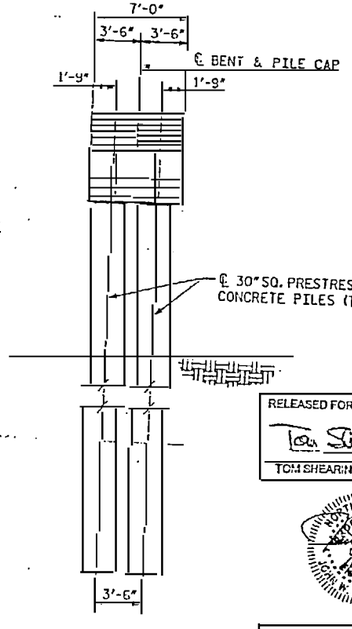


PLAN



ELEVATION
(BENT 111)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1.
5. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB. ⚠1
6. N.F. INDICATES NEAR FACE, F.F INDICATES FAR FACE.

⚠1 REVISION TO NOTE 5.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030876 JOHN M. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2402.01
1	SCS	10/18/07	3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 09/06
CHECKED BY : J. LTU DATE : 09/06

Earth Tech
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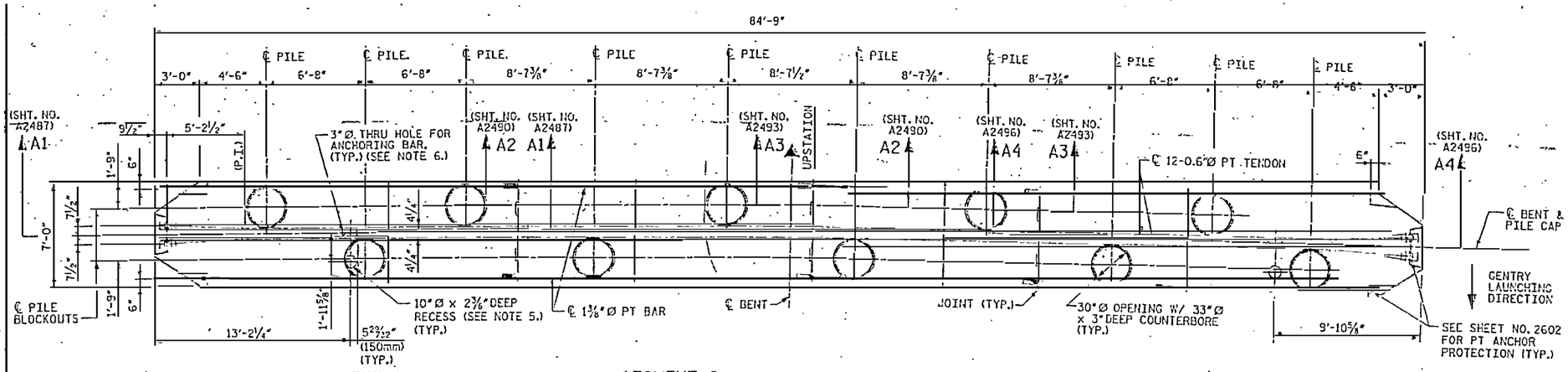
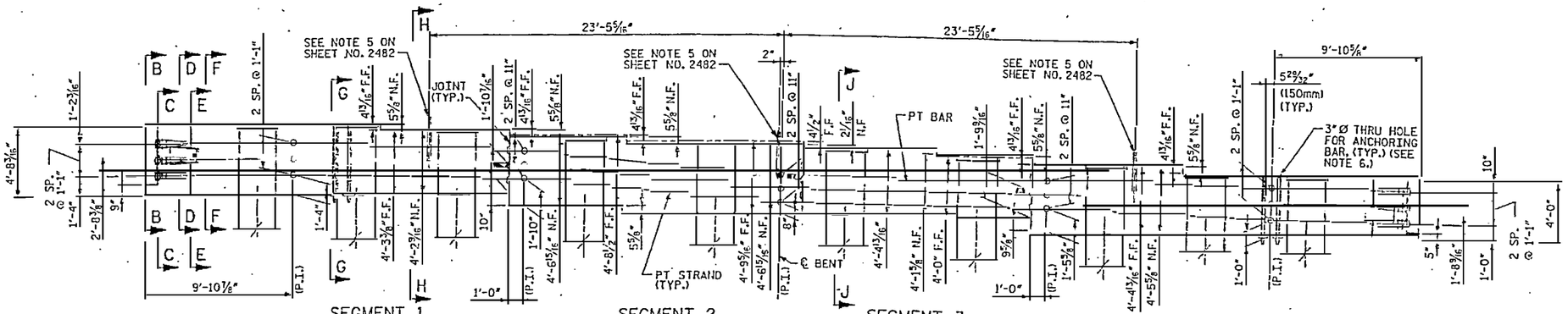
FLATIRON/UNITED
A JOINT VENTURE

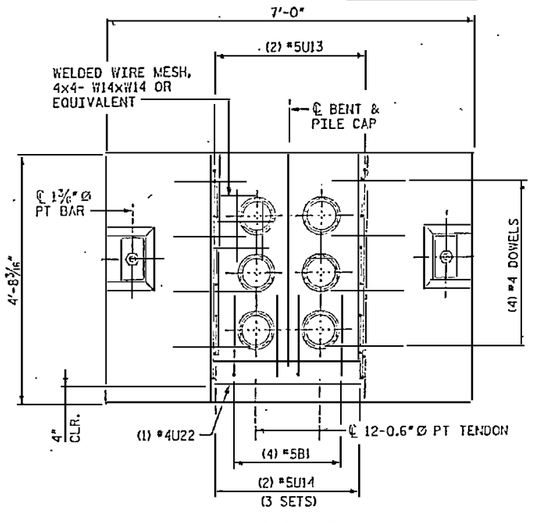
DATE: 9/18/2007
TIME: 12:55:53 PM
USER: estabrook
FILE: N:\DESIGN\BR_PRP_BRIDGES\R2510B_TOM_SHEET_TYPE13.dgn



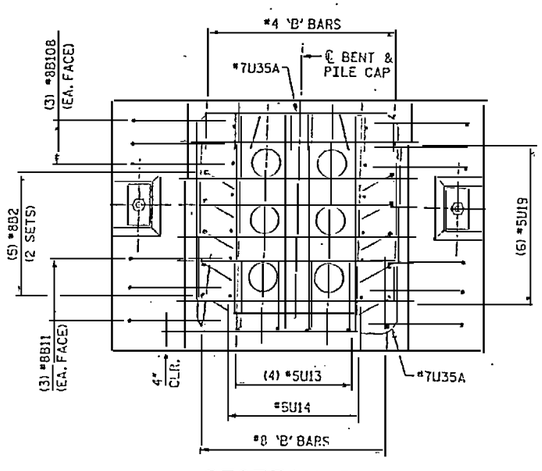
OVERALL PLAN



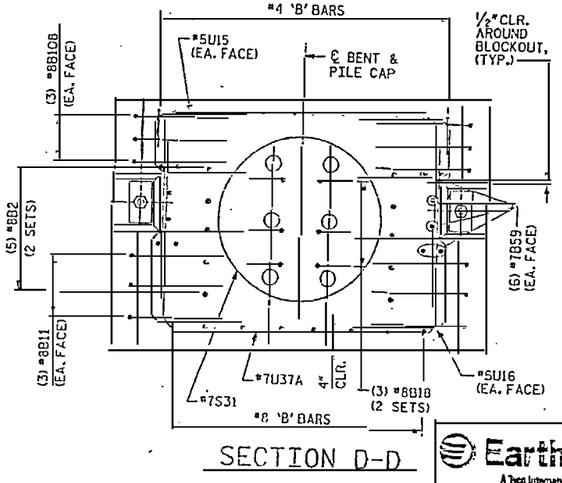
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 13 IS USED AT BENT NO. 111.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2484. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.
7. N.F. INDICATES NEAR FACE, F.F. INDICATES FAR FACE.

RELEASED FOR CONSTRUCTION
TOM SITEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 15
BRIDGE NO. 363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2483.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/06
CHECKED BY : J. LIU DATE : 01/06

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A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PSF: 8/4/2006
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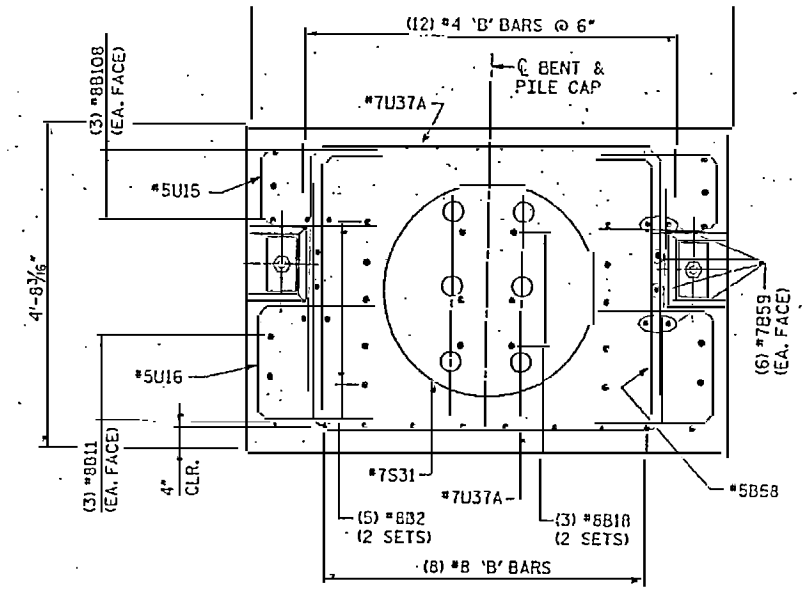
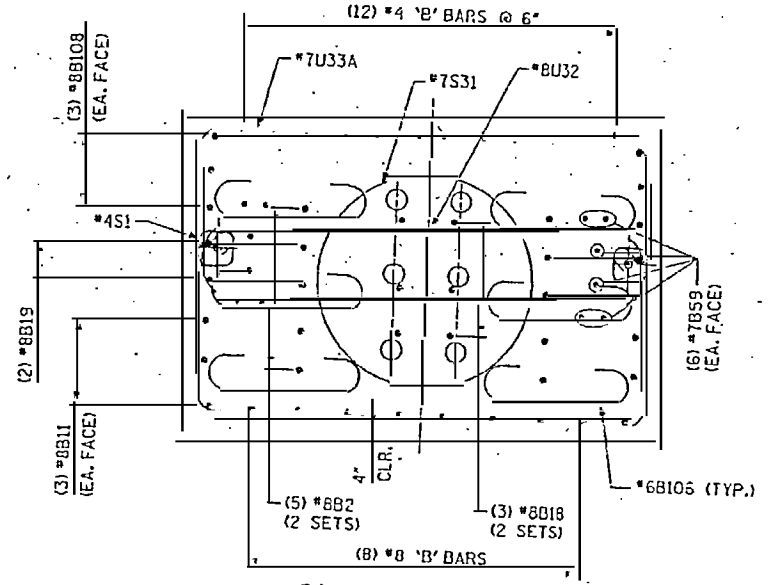
PLOT DATE = 8/4/2006



SECTION E-E



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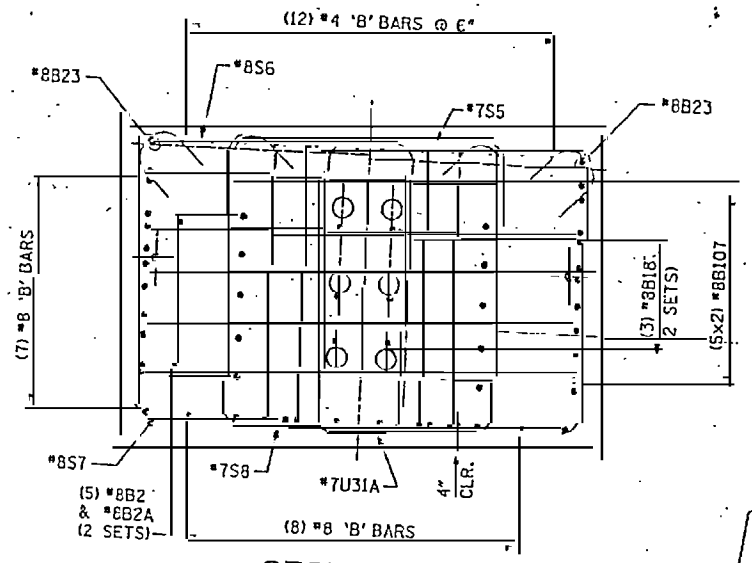
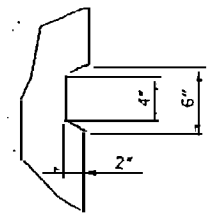


SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



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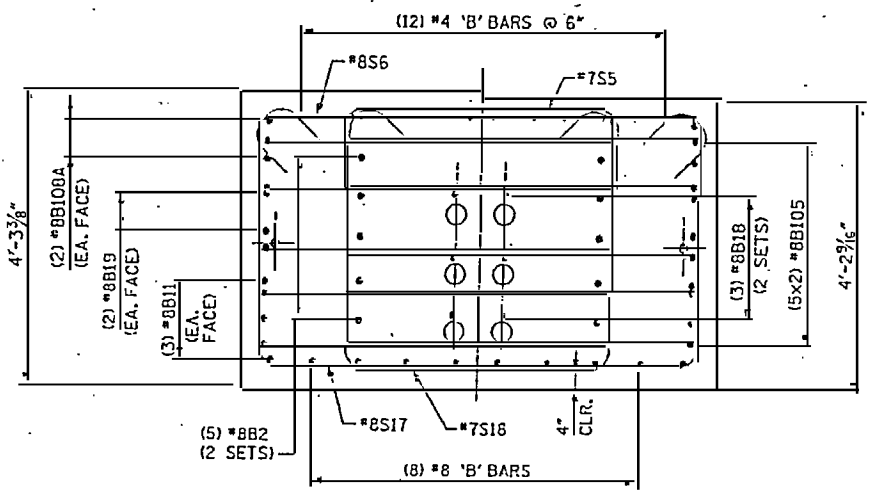
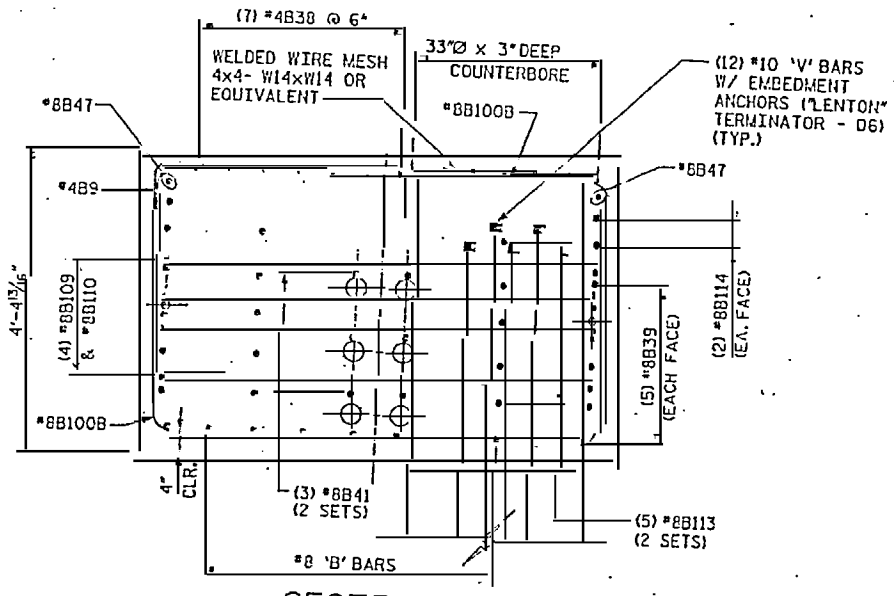
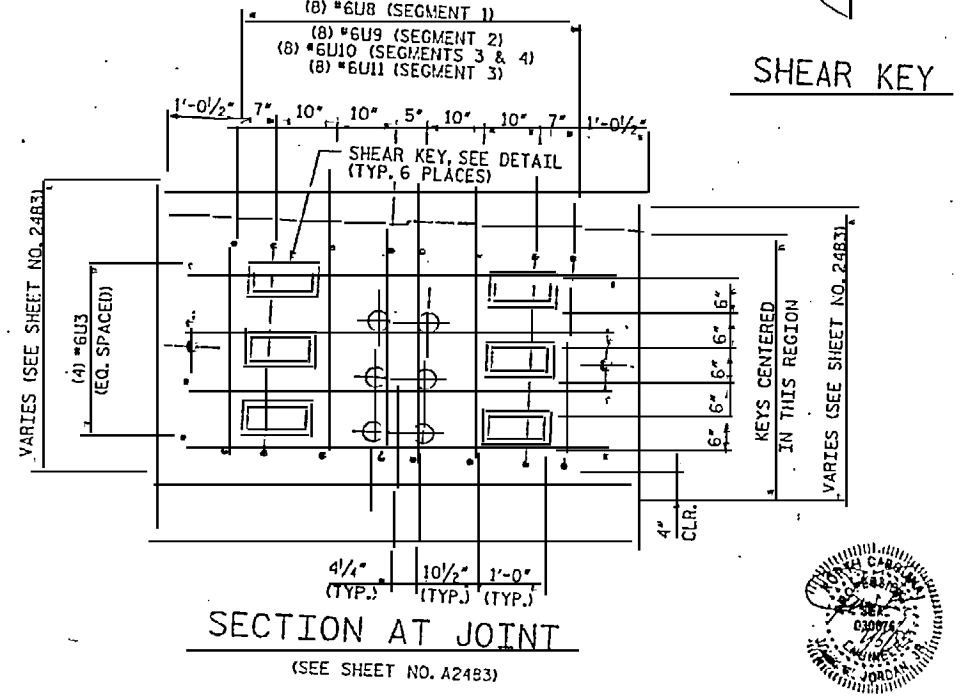


SECTION H-H

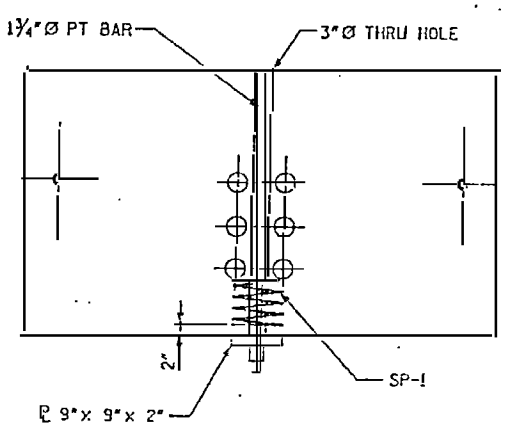


SECTION J-J



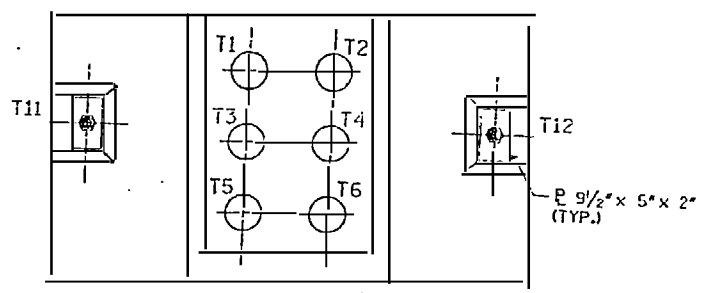
SECTION AT JOINT

(SEE SHEET NO. A2483)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1¾"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/5/09

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.L.T.U. DATE : 01/08

EarthTech
A Tyco International Ltd. Company

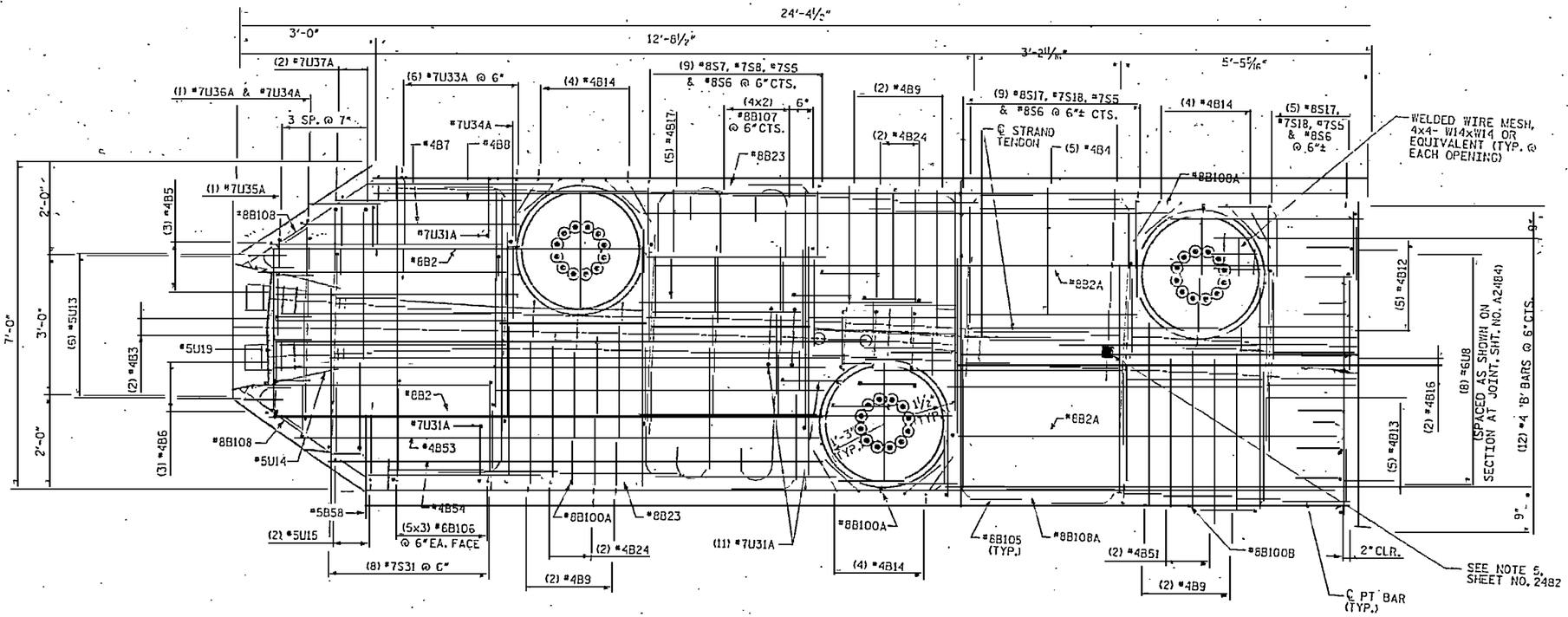
FLATIRON/UNITED

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 15
~~BRIDGE NO. 363~~

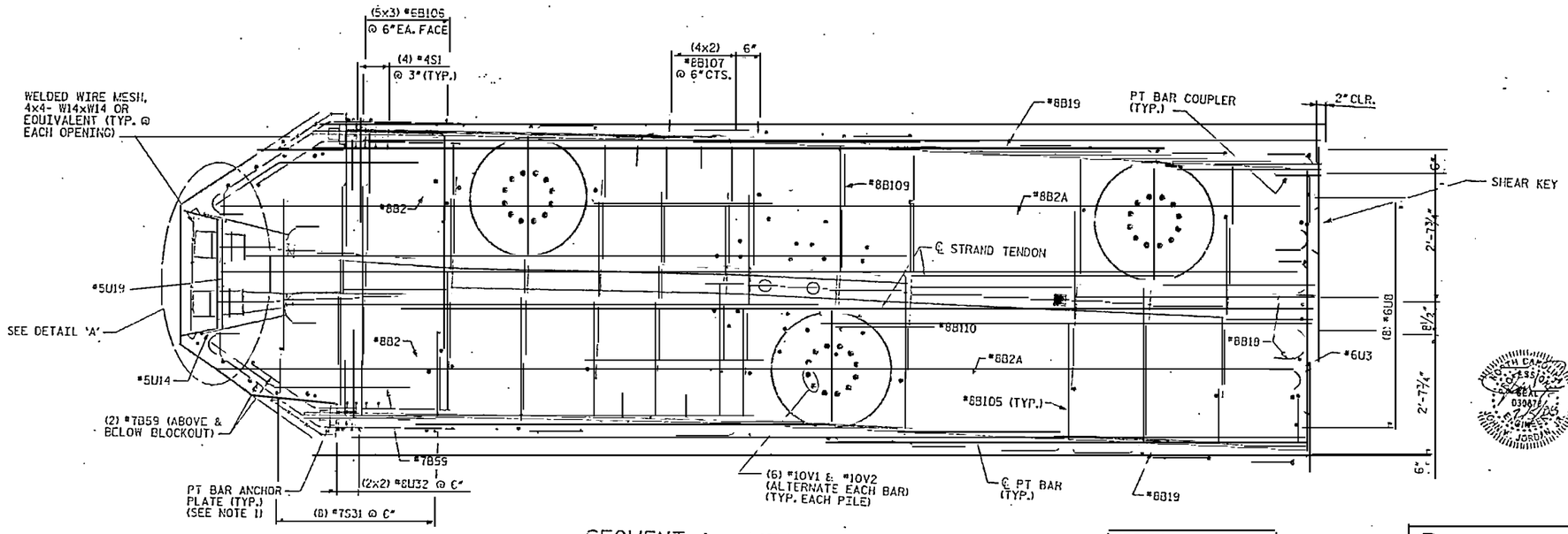
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS | SHEET NO.
NO. | BY | DATE | NO. | BY | DATE |



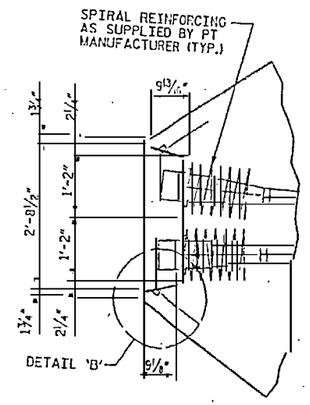
SEGMENT 1 - TOP PLAN



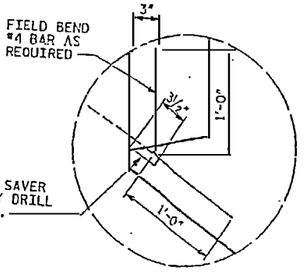
SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/5/08

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FLATIRON/UNITED
A JOINT VENTURE

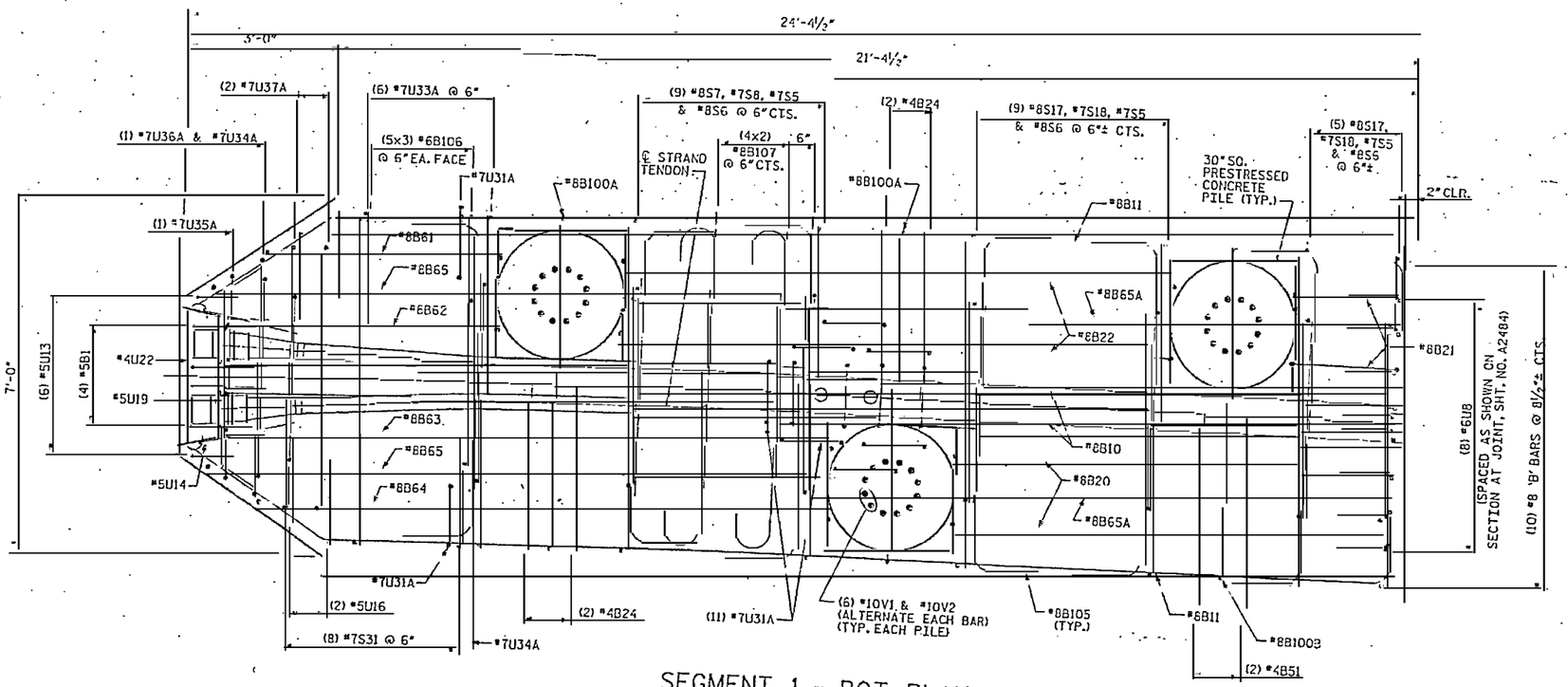
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 15
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

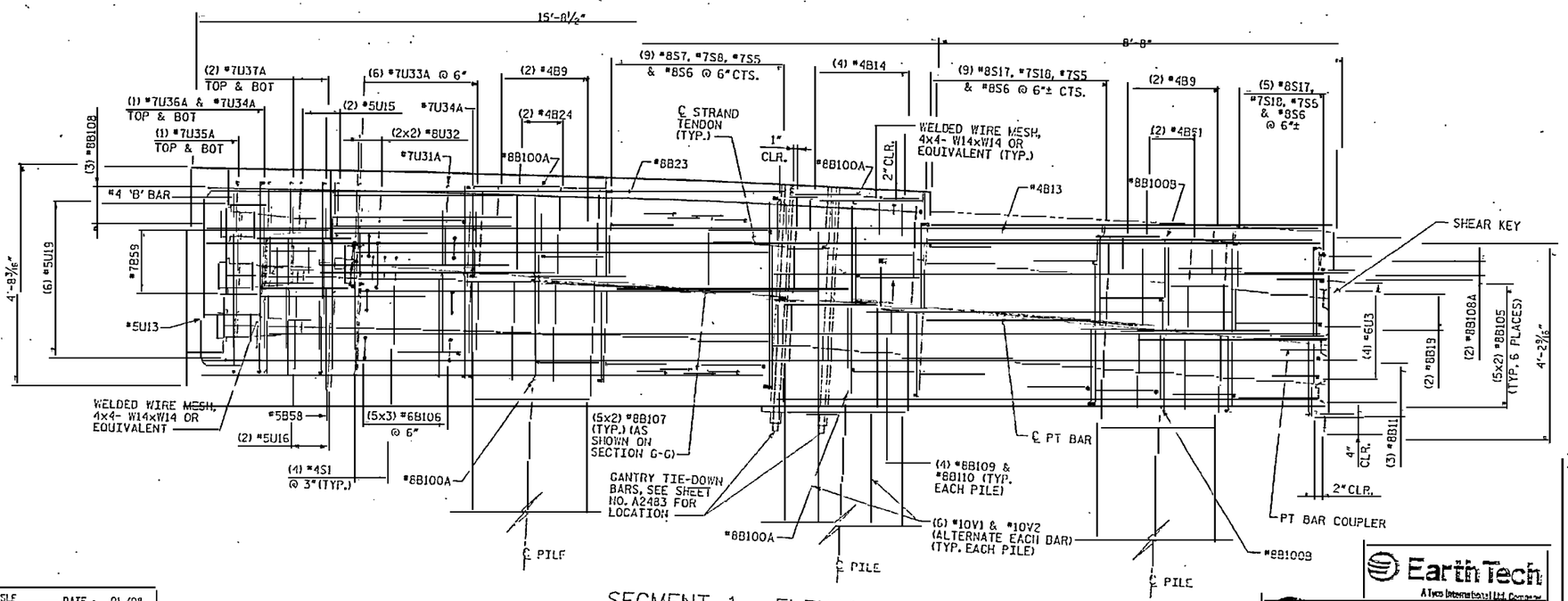
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	B2485.00
01			03			TOTAL SHEETS
02			04			

DRAWN BY : K.T. BEITSCH DATE : 01/07
CHECKED BY : J.J.T. DATE : 01/07



SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE: 2/4/13

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 019117 CHRISTOPHER R. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 15
BRIDGE NO. ~~353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2486.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LEU DATE : 01/08

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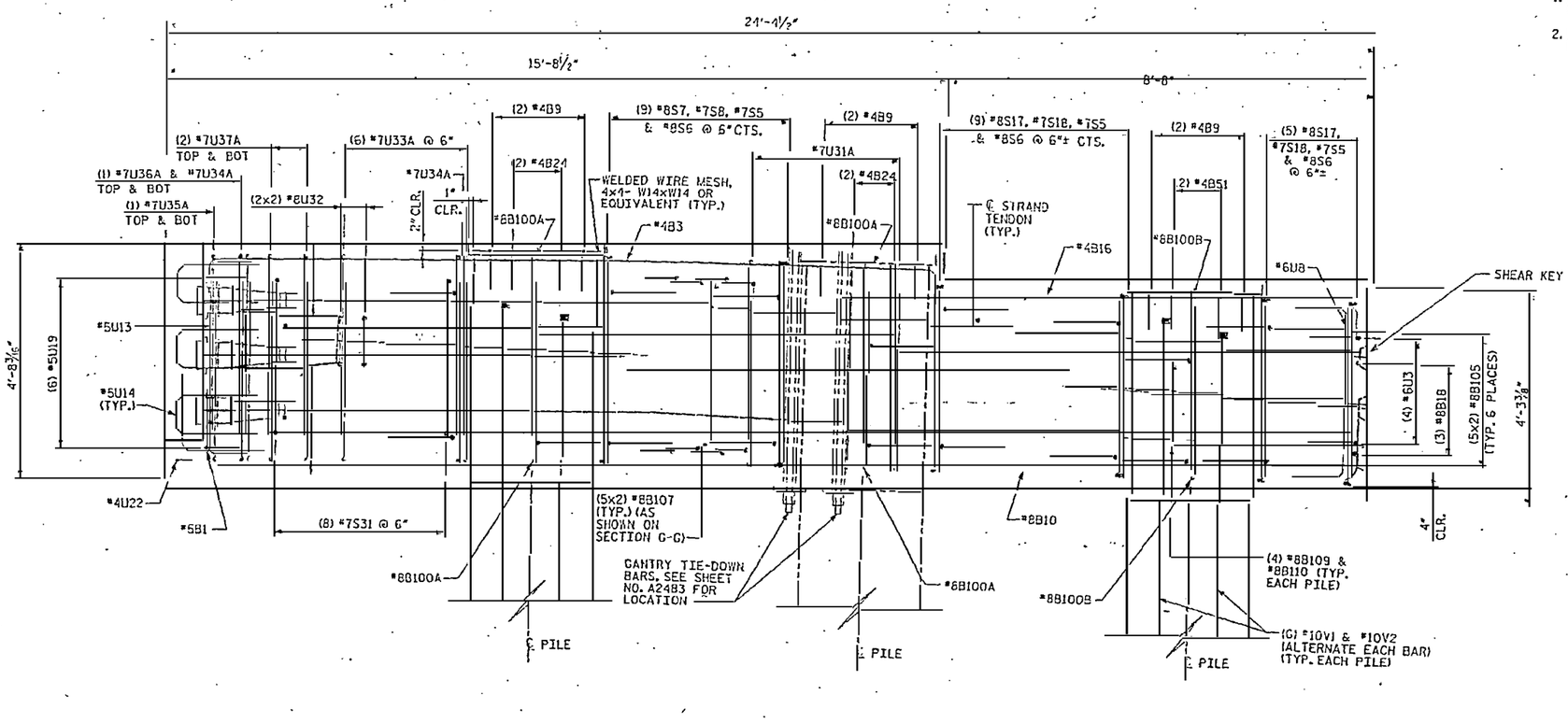
DATE: 2/4/2013
TIME: 12:23:18 PM

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2483)

RELEASED FOR CONSTRUCTION
Tom Shearin 2/5/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2487.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.J.H. DATE : 01/08

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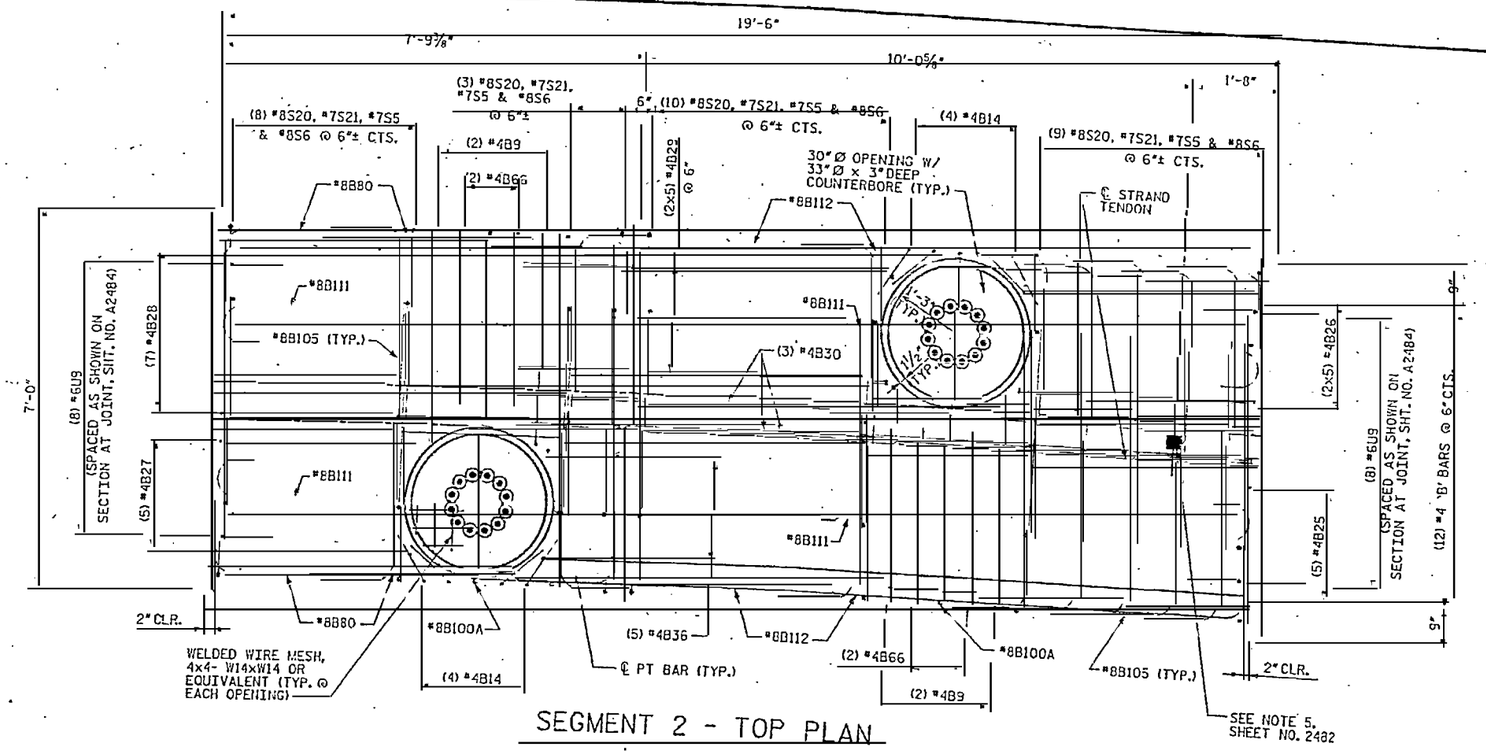
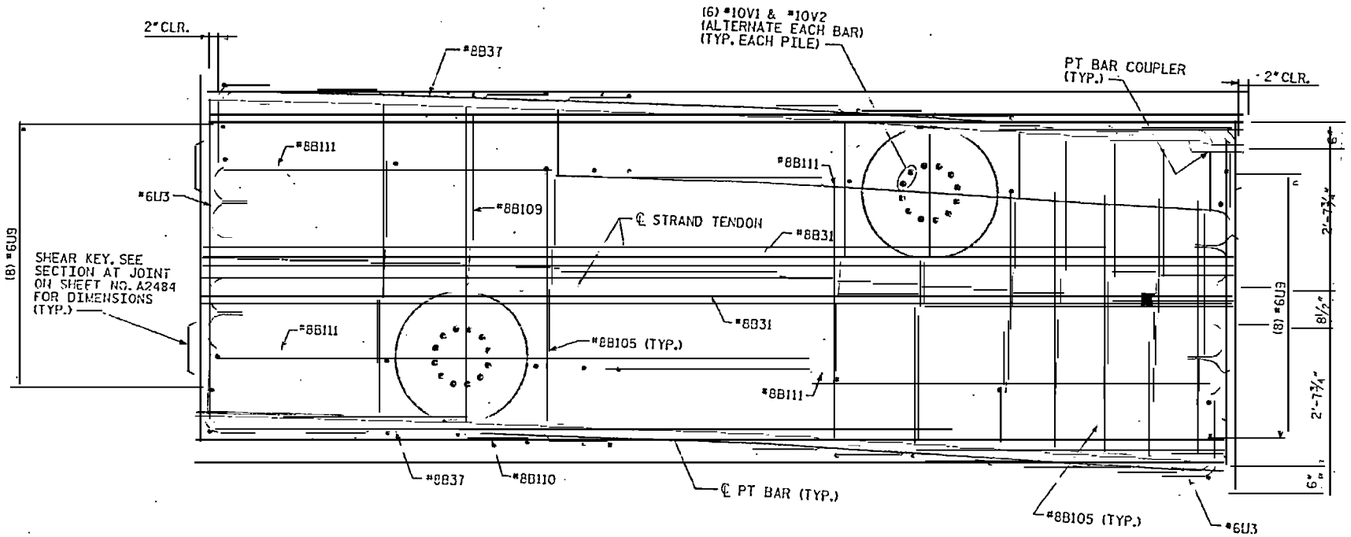


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 15
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2488.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/06
CHECKED BY : J. LIU DATE : 01/06

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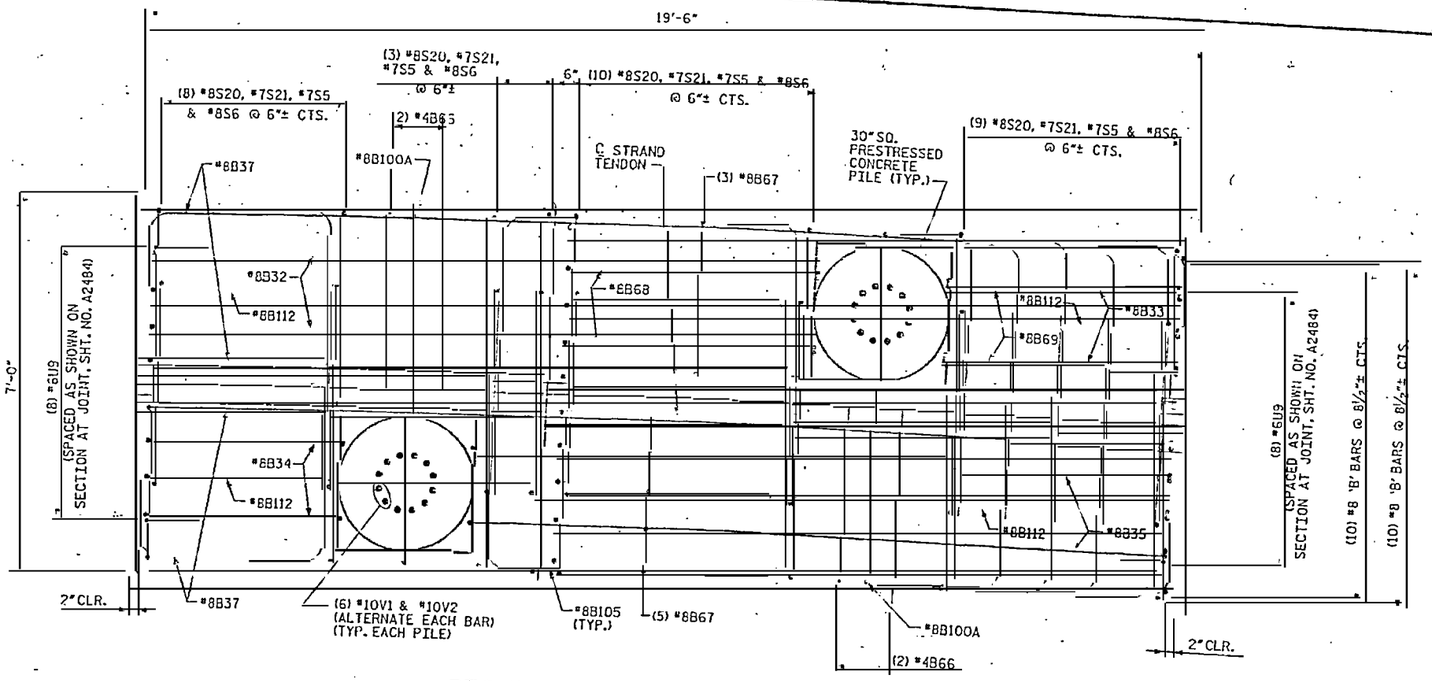
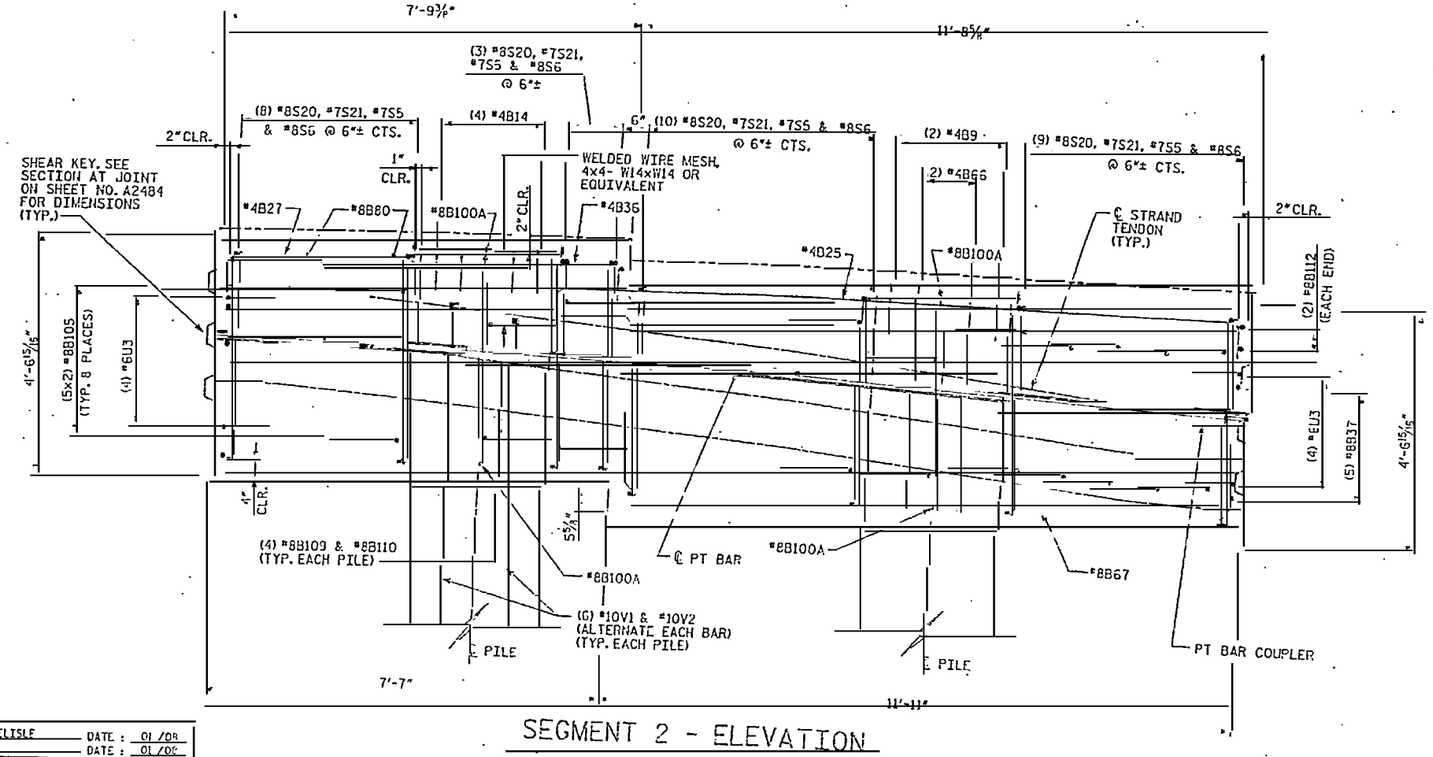


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 12/1/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030672 THOMAS E. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 15
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2489.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LTH DATE : 01/08

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FLATIRON/UNITED
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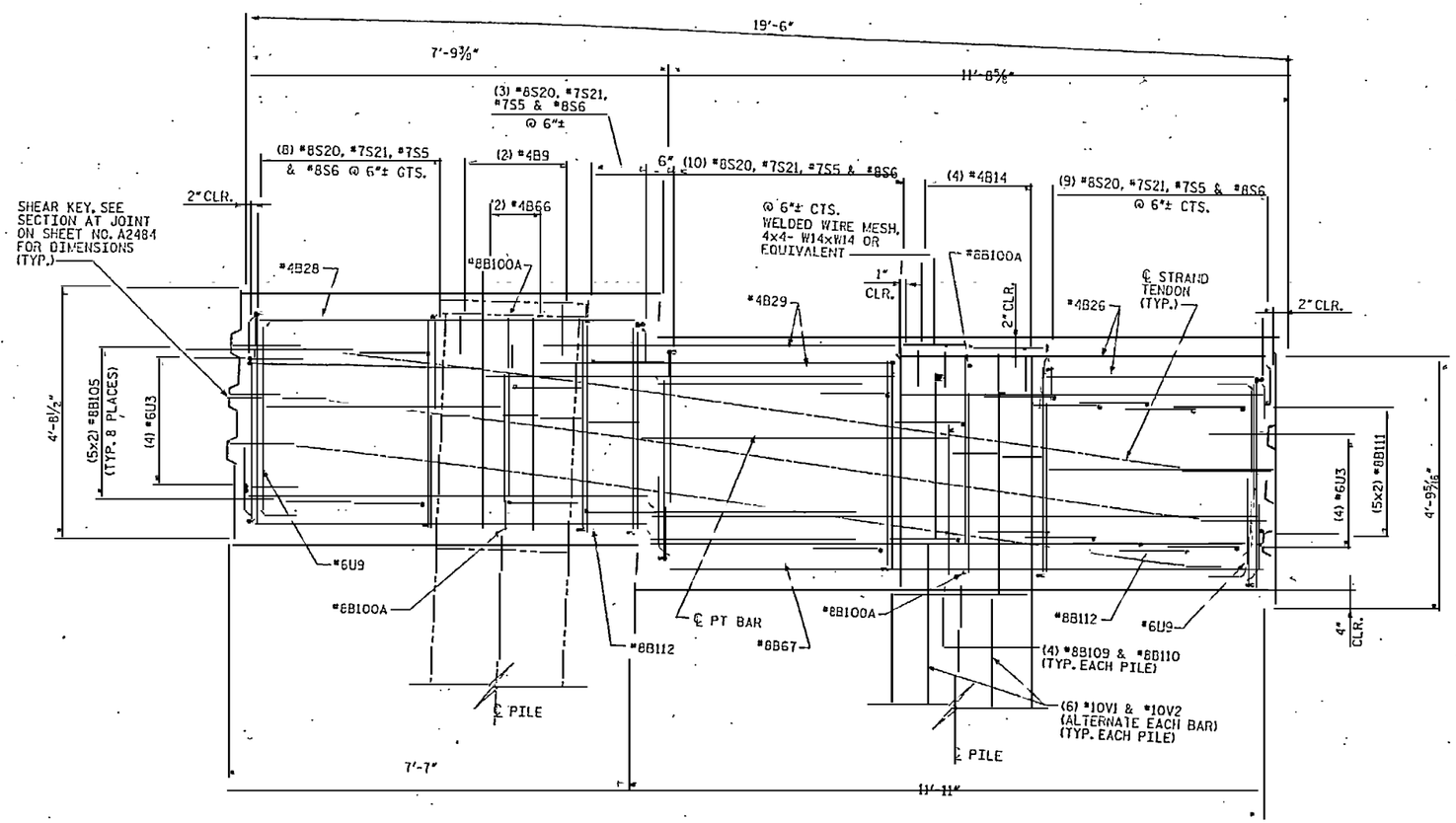

SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2483)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
2/6/08
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 15
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2490.00
TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LEE DATE : 01/08

USER: mbelisle
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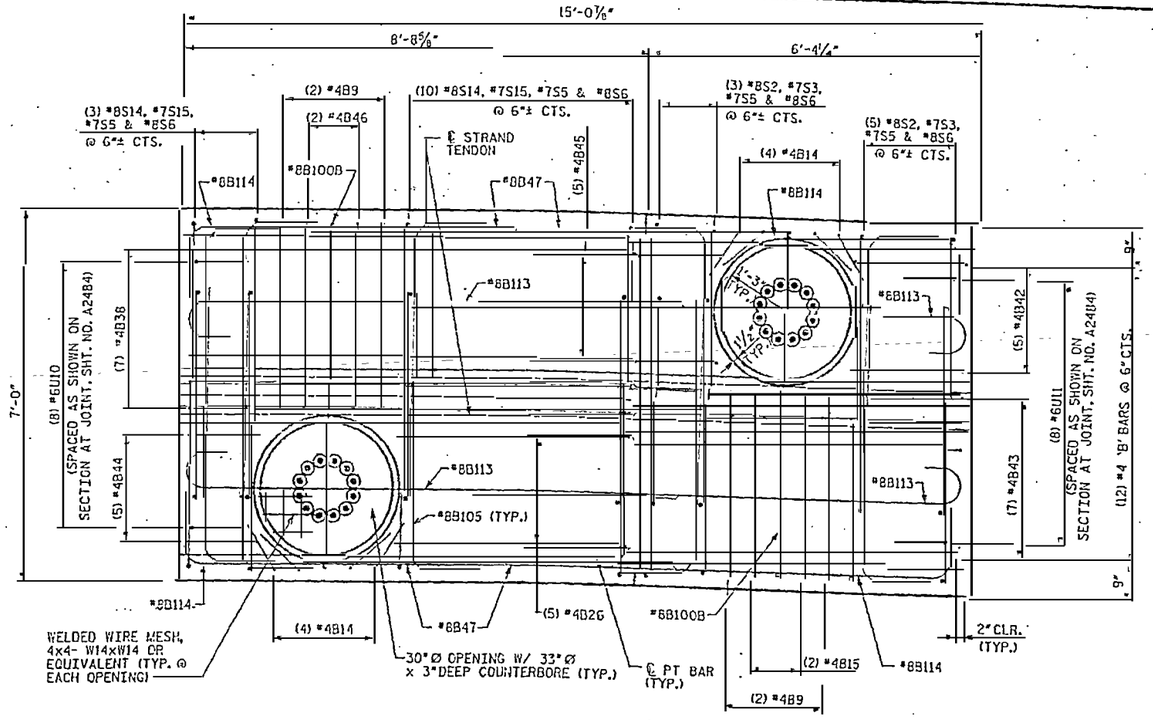

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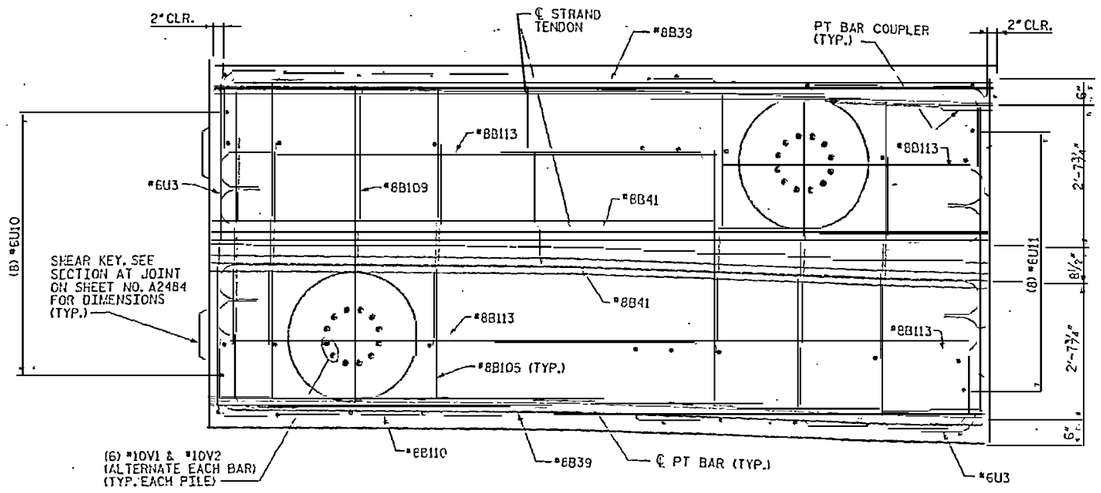

SEGMENT 3 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 2/5/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036287 JOHN W. JORDAN IV

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			5		
2			6		
3			7		
4			8		

SHEET NO. A2491.00
TOTAL SHEETS

EarthTech
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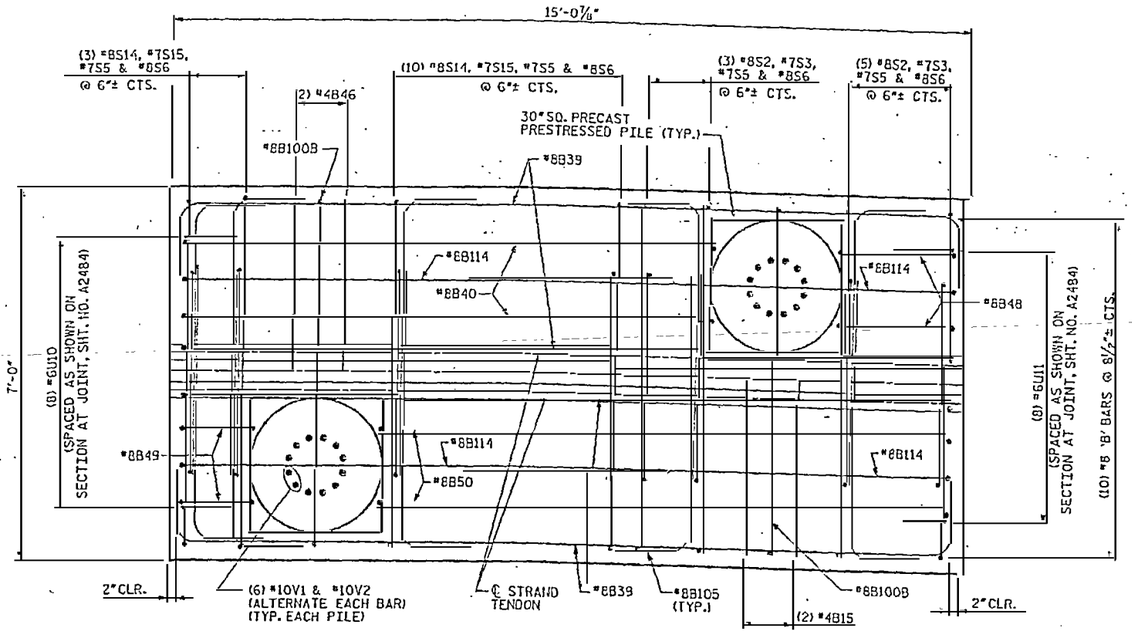
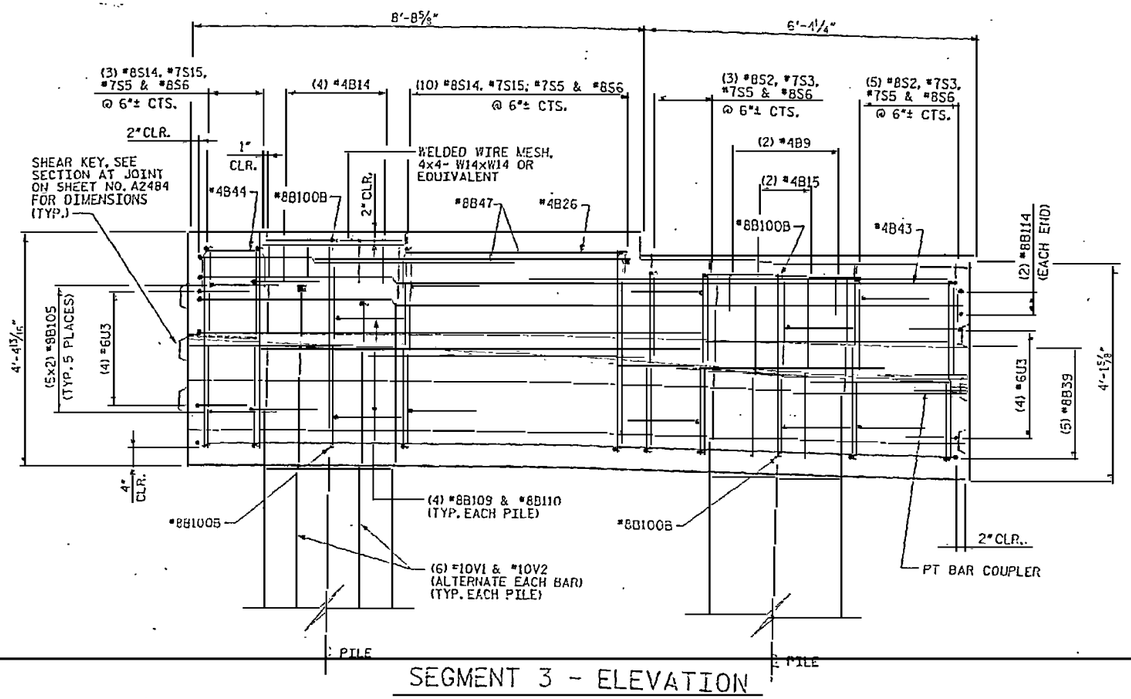
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : W.T. BELISLE DATE : 01/09
CHECKED BY : J.L.T. DATE : 01/09

DATE: 2/4/2008
TIME: 10:53:53 PM



SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2492.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELTSLE DATE : 01/08
CHECKED BY : J. LEE DATE : 01/08

DATE PLOTTED: 1/16/08 2:56:03 PM
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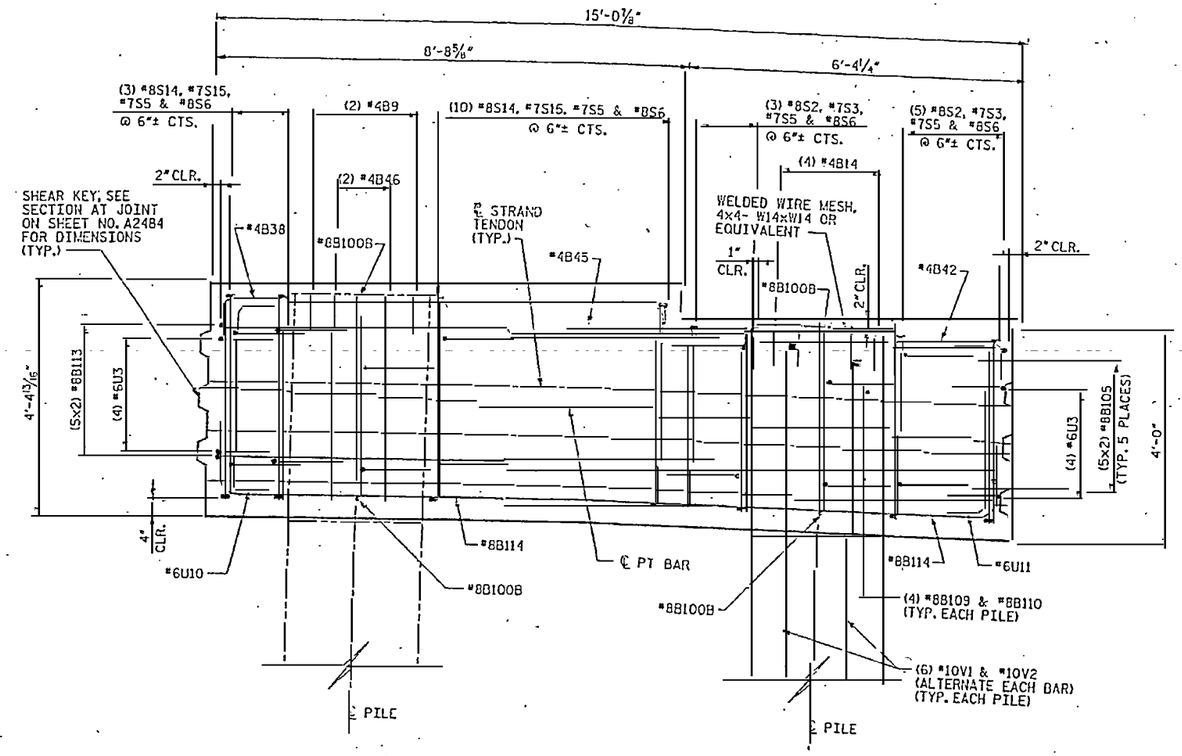


SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2483)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARN, PE — DATE

NORTH CAROLINA PROFESSIONAL SEAL 030078 ENGINEER JOHN M. JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 11 OF 15

~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

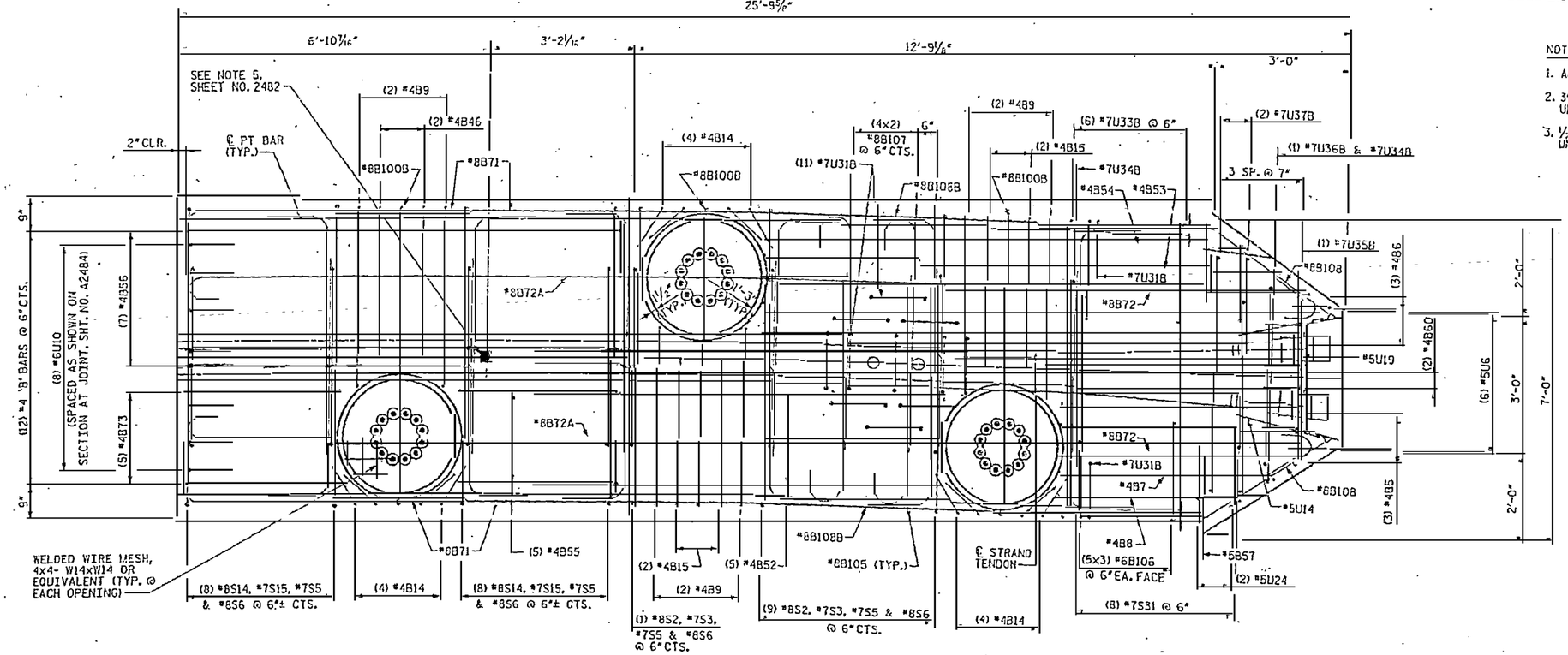
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2493.00
1			4			TOTAL SHEETS
2			5			
3			6			

Earth Tech
A Tyco International Ltd. Company

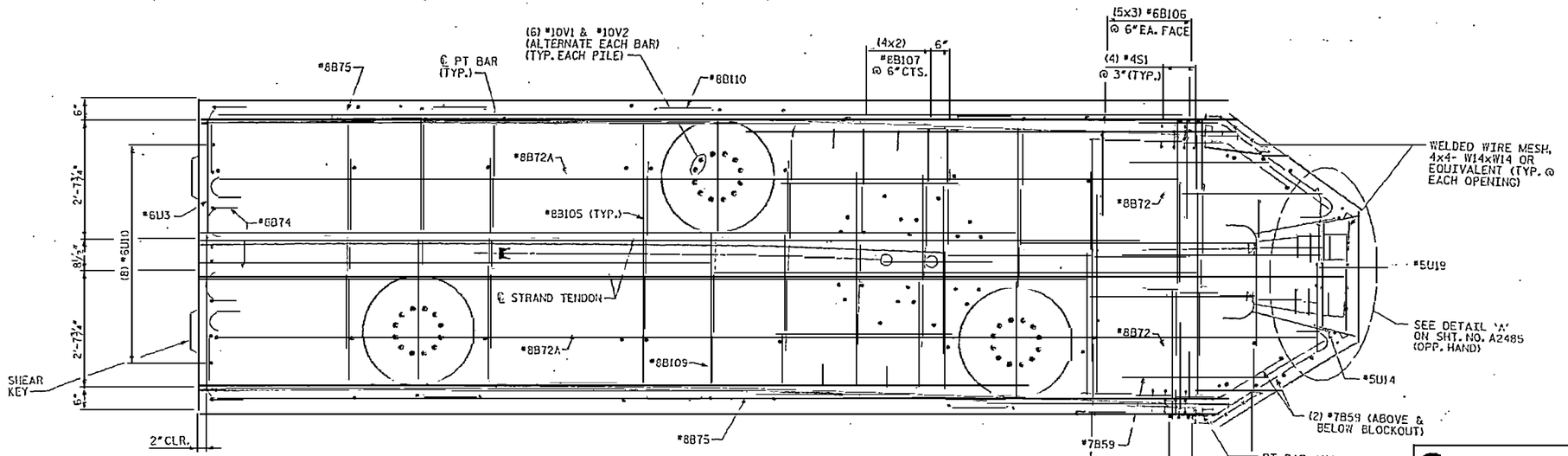
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. DELISLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

DATE: 8/4/2008
TIME: 2:54:43 PM
USER: dthomas
DGN: 0031dtdetail.dgn



SEGMENT 4 - TOP PLAN



SEGMENT 4 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036844 JOHN P. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 15 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

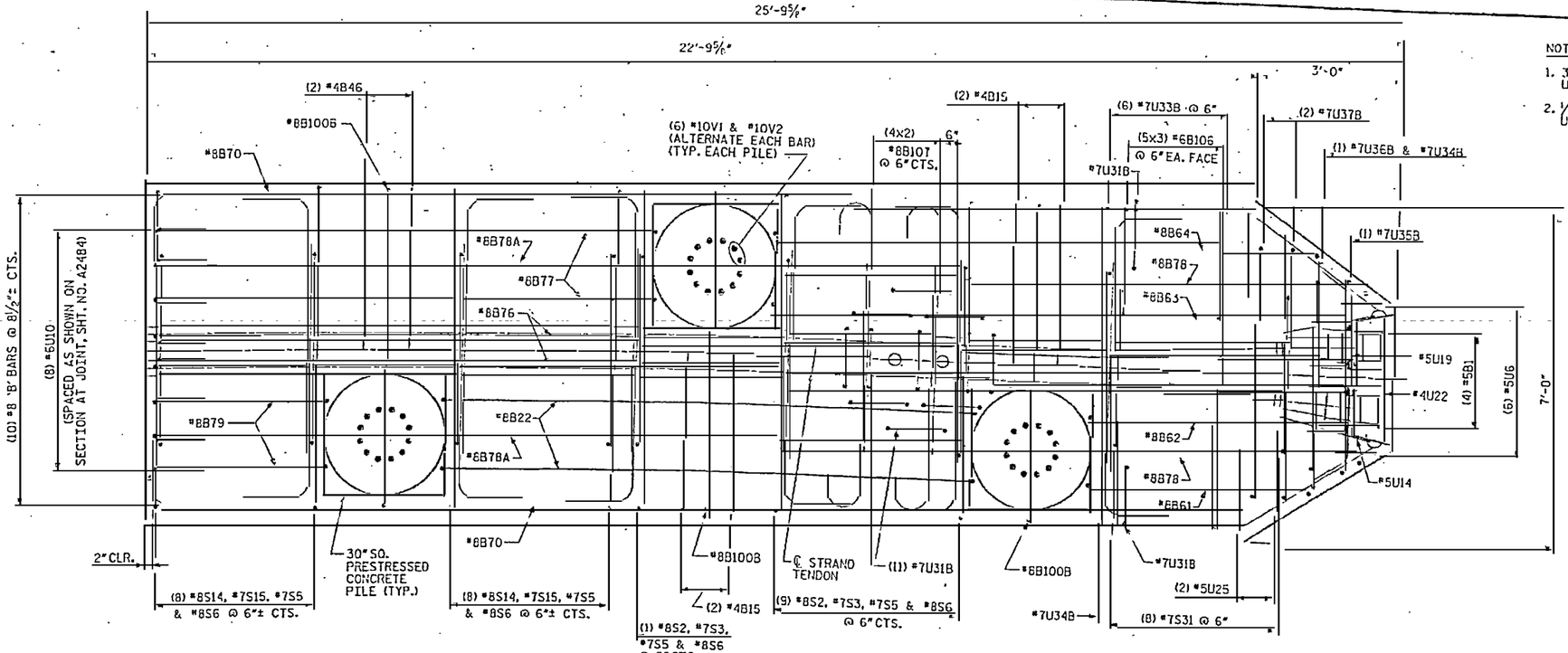
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO. A2494.00
1			3			TOTAL SHEETS
2			4			

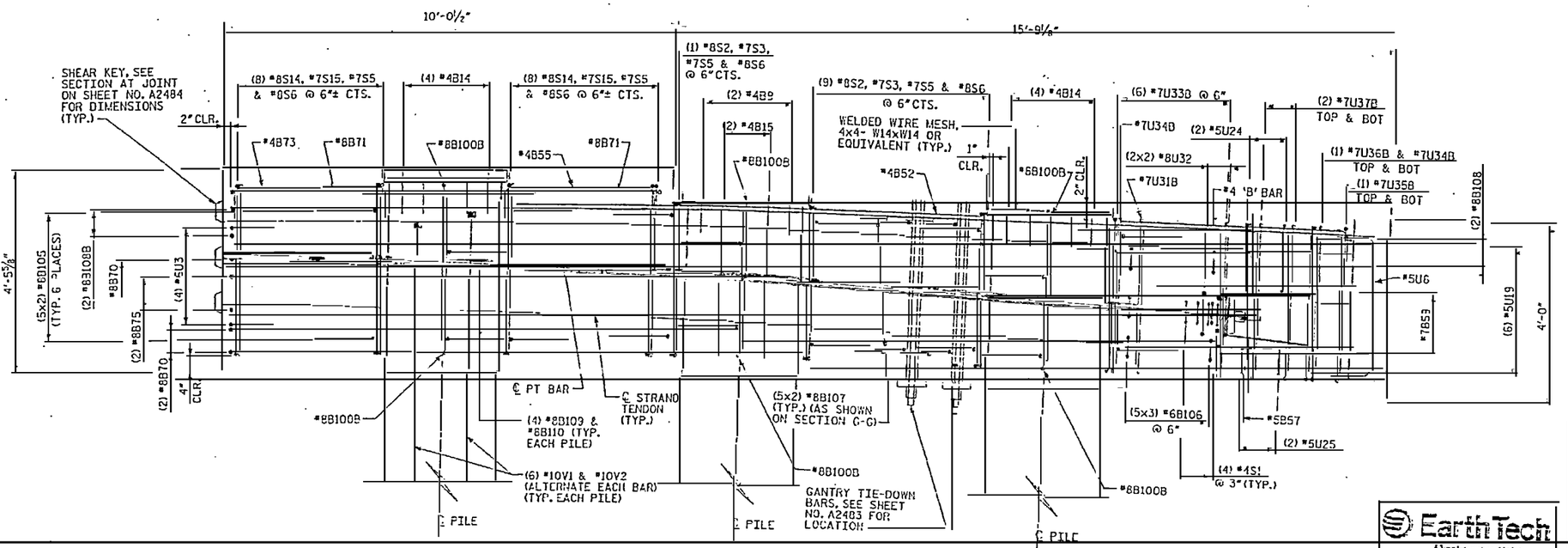
Earth Tech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.L.T. DATE : 01/08

USER: pbrown
DGN: ...\Bridges\Bridge No 2\Pile Cap\Pile Cap Type 13 Details.dgn
DATE: 1/8/2008
TIME: 10:59:19 AM



SEGMENT 4 - BOT PLAN



SEGMENT 4 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 2/5/08 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030678 THOMAS W. SHEARIN JR.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 13 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2495.00
TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELTSLE DATE : 01/08
CHECKED BY : J.L.T.H. DATE : 01/08

DATE PLOTTED: 2/4/2008
TIME PLOTTED: 22:32:32 PM
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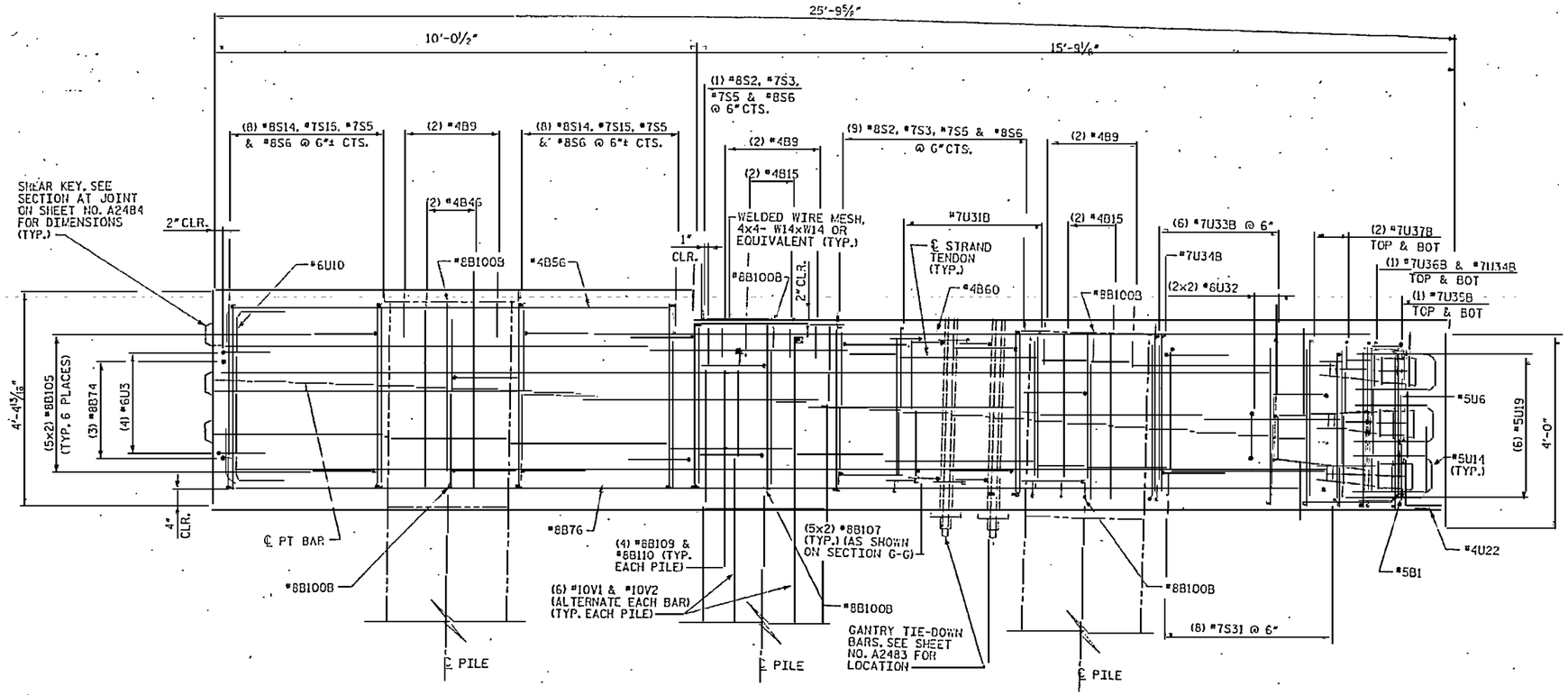


SEGMENT 4 - SECTION A4

(SEE SHEET NO. A2483)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 9/6/03

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030876 THOMAS W. SHEARIN 9/6/03

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 14 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2496.00

TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.L.H. DATE : 01/08

DATE: 8/1/2003
TIME: 8:26:25 PM

USER: mbelisle
P:\Structure\Tar River Bridges\Bridge2\Cap13.dgn

BAR TYPES

9'-3"	B114
11'-6"	B112
6'-4"	B110
3'-8"	B109
22'-6"	B108B
21'-1"	B108A
5'-2"	B105
5'-8"	B80
16'-8"	B78A
6'-10"	B71
15'-3"	B65A
11'-11"	B65, B78
16'-11"	B60
3'-8"	B58
3'-0"	B57
9'-1"	B52
6'-2"	B47
3'-6"	B45
8'-3"	B43
13'-7"	B30
6'-9"	B29
12'-4"	B23
10'-7"	B16
1'-0"	B14
5'-11"	B4
1'-6"	B1

1'-4" B23, B47, B65, B65A, B71, B78, B78A, B80, B105, B108A, B108B, B109, B110, B112, B114
8" B4, B14, B16, B29, B30, B43, B45, B52, B60
10" B57, B58
1'-6" B1

① (1)

4 SPACERS
9" Ø
1½ EXTRA TURNS TOP & BOT.
2" PITCH
8"
⑩ (10)

6"
6"
④ (4)
6½" HK.

6"	2'-10" U22
8"	2'-2" B106
11"	23'-4" B74
11"	14'-7" B41
11"	19'-0" B31
11"	21'-11" B18
HK.	

② (2)

11"	9'-3" B113
11"	11'-6" B111
11"	5'-2" B107
11"	16'-9" B72A
11"	15'-4" B2A
11"	12'-0" B2, B72
HK.	

⑤ (5)

1'-2" S5
1'-6" U15, U16, U24, U25
2'-0" U14
5'-2" U32
3'-5" B100B
3'-2½" U31B, U33B, U34B, U35B, U36B, U37B
3'-6½" U31A, U33A, U34A, U35A, U35A, U37A, B100A
1'-6" B67, B68, B69
8" B3, B5, B6, B7, B8, B9, B12, B13, B17, B25, B26, B27, B28, B35, B38, B42, B44, B53, B54, B55, B66, B73
1'-4" B10, B19, B20, B21, B22, B32, B33, B34, B35, B37, B39, B40, B48, B49, B50, B61, B62, B63, B64, B76, B76, B77, B79
1'-0" U3, U6, U9, U10, U11
10" U6, U13
③ (3)

10'-1"	B77
24'-10"	B76
21'-11"	B75
11'-5"	B67
11'-1"	B64
12'-0"	B63
5'-4"	B62
4'-5"	B61
9'-5"	B56
3'-5"	B55, B73, B79, U8
10'-6"	B54
11'-3"	B53
10'-9"	B50
1'-4"	B44, B49
2'-2"	B42, B48
9'-11"	B40
14'-7"	B39
8'-2"	B38
19'-0"	B37
1'-2"	B36
12'-2"	B32
7'-3"	B28
3'-7"	U10, B27, B34
4'-3"	B26, B33, B69
12'-11"	B25, B35
11'-0"	B22
20'-6"	B19
6'-8"	B17
8'-8"	B13, B20
2'-0"	B12, B21
23'-3"	B10
3'-11"	B9, S5, U34A, U34B
4'-0"	B8
4'-8"	B7
11'-11"	B6
5'-3"	B5
14'-6"	B3
5'-0"	U37A, U37B
4'-7"	U36A, U36B, B68
3'-9"	U9, U35A, U35B
6'-6"	U33A, U33B, B100A, B100B
1'-0"	U32
1'-2½"	U31A, U31B
9"	U25
1'-5"	U24
1'-8"	U16
1'-2"	U15
10"	U14
3'-11"	U13
3'-3"	U6, U11
6'-4"	U3

⑥ (6)

S20, S21 3'-11½"
S17, S18 3'-7½"
S14, S15 3'-9½"
S7, S8 4'-1"
S2, S3 3'-5"
11" HK.
10" HK.
S2, S7, S14, S17, S20
S3, S8, S15, S18, S21
3'-11" S3, S8, S15, S18, S21
6'-6" S2, S7, S14, S17, S20

6'-6"
11" HK.
⑦ (7)

⑧ (8)
3'-1" Ø

3'-10" B108
3'-0" B59
3'-2"
2'-0"
B59 1'-8"
B108 2'-7½"
1'-1½" B59
1'-9¼" B108
⑨ (9)

B66 3'-11½"
B51 3'-7½"
B46 3'-9½"
B24 4'-1"
B15 3'-5"
3'-3" B15, B24, B46, B51, B66
8"
3'-3" B15, B24, B46, B51, B66
⑪ (11)

22'-5" B70
21'-0" B11
1'-9¼"
3'-2"
2'-7½"
1'-4"
⑫ (12)

1'-0½"
1'-3"
8¼"
3'-4"
1'-3"
⑬ (13)

NOTES:

1. BARS USED AT PILES WHERE CAP DEPTH IS 4'-8³/₁₆" OR 4'-6¹⁵/₁₆".
2. BARS USED AT PILES WHERE CAP DEPTH IS 4'-0", 4'-2⁹/₁₆" OR 4'-4¹³/₁₆".
3. BARS USED IN SEGMENT 1.
4. BARS USED IN SEGMENT 4.

B69	2	#8	(3)	7'-3"	39
B70	2	#8	(12)	26'-11"	431
B71	4	#8	(1)	9'-2"	87
B72	10	#8	(5)	12'-11"	345
B72A	10	#8	(5)	17'-8"	472
B73	5	#4	(3)	4'-9"	16
B74	6	#8	(2)	25'-2"	403
B75	4	#8	(3)	24'-7"	263
B76	2	#8	(3)	27'-6"	147
B77	2	#8	(3)	12'-9"	68
B78	2	#8	(1)	13'-3"	71
B78A	2	#8	(1)	18'-0"	96
B79	2	#8	(3)	6'-1"	32
B80	4	#8	(1)	7'-0"	75
[1] B100A	8	#8	(3)	13'-7"	290
[2] B100B	12	#8	(3)	13'-4"	427
B105	250	#8	(1)	6'-6"	4339
B108	60	#6	(2)	3'-6"	315
B107	80	#8	(5)	6'-1"	1299
B108	10	#8	(9)	7'-0"	187
[3] B108A	4	#8	(1)	22'-5"	239
[4] B108B	4	#8	(1)	23'-10"	255
B109	40	#8	(1)	5'-0"	534
B110	40	#8	(1)	7'-8"	819
B111	20	#8	(5)	12'-5"	663
B112	12	#8	(1)	12'-10"	411
B113	20	#8	(5)	10'-2"	543
B114	12	#8	(1)	10'-7"	339

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	10	#8	(5)	12'-11"	345
B2A	10	#8	(5)	16'-3"	434
B3	2	#4	(3)	15'-10"	21
B4	5	#4	(1)	6'-7"	22
B5	6	#4	(3)	6'-7"	26
B6	6	#4	(3)	13'-3"	53
B7	2	#4	(3)	6'-0"	8
B8	2	#4	(3)	5'-4"	7
B9	20	#4	(3)	5'-3"	70
B10	2	#8	(3)	25'-11"	138
B11	6	#8	(12)	25'-6"	409
B12	5	#4	(3)	3'-4"	11
B13	5	#4	(3)	10'-0"	34
B14	40	#4	(1)	1'-8"	45
B15	6	#4	(11)	10'-7"	42
B16	2	#4	(1)	11'-3"	15
B17	5	#4	(3)	8'-0"	27
B18	6	#8	(2)	23'-9"	380
B19	4	#8	(3)	23'-2"	247
B20	2	#8	(5)	11'-4"	61
B21	2	#8	(5)	4'-8"	25
B22	4	#8	(3)	13'-8"	146
B23	2	#8	(1)	13'-8"	73
B24	4	#4	(11)	11'-3"	30
B25	5	#4	(3)	14'-3"	48
B26	15	#4	(3)	5'-7"	56
B27	5	#4	(3)	4'-11"	16
B28	7	#4	(3)	8'-7"	40
B29	10	#4	(1)	1'-5"	50
B30	3	#4	(11)	14'-3"	29
B31	6	#8	(2)	20'-10"	334
B32	2	#8	(3)	14'-10"	79
B33	2	#8	(3)	6'-11"	37
B34	2	#8	(3)	6'-3"	33
B35	2	#8	(3)	15'-7"	83
B36	5	#4	(3)	2'-6"	8
B37	12	#8	(3)	21'-8"	694
B38	7	#4	(3)	9'-6"	44
B39	12	#8	(3)	17'-3"	553
B40	2	#8	(3)	12'-7"	67
B41	6	#8	(2)	16'-5"	263
B42	5	#4	(3)	3'-6"	12
B43	7	#4	(1)	8'-11"	42
B44	4	#4	(3)	2'-8"	9
B45	5	#4	(1)	4'-2"	14
B46	4	#4	(11)	11'-0"	29
B47	4	#8	(1)	7'-6"	80
B48	2	#8	(3)	4'-10"	26
B49	2	#8	(3)	4'-0"	21
B50	2	#8	(3)	13'-5"	72
B51	2	#4	(11)	10'-10"	14
B52	5	#4	(1)	9'-9"	33
B53	2	#4	(3)	12'-7"	17
B54	2	#4	(3)	11'-10"	16
B55	5	#4	(3)	4'-9"	16
B56	1	#4	(3)	10'-9"	50
B57	2	#5	(1)	3'-10"	8
B58	2	#5	(1)	4'-6"	9
B59	24	#7	(9)	5'-0"	245
B60	2	#4	(1)	17'-7"	23
B61	2	#8	(3)	7'-1"	36
B62	2	#8	(3)	8'-0"	43
B63	2	#8	(3)	14'-8"	78
B64	2	#8	(3)	13'-9"	73
B65	2	#8	(1)	13'-3"	71
B65A	2	#8	(1)	16'-7"	89
B66	4	#4	(11)	11'-2"	30
B67	8	#8	(3)	14'-5"	308
B68	2	#8	(3)	7'-7"	40

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	#4	(4)	3'-3"	35
S2	18	#8	(6)	15'-2"	729
S3	18	#7	(6)	12'-5"	457
S5	100	#7	(3)	6'-3"	1276
S6	100	#8	(7)	8'-4"	2225
S7	3	#8	(6)	16'-6"	396
S8	9	#7	(6)	13'-9"	253
S14	29	#8	(6)	15'-11"	1232
S15	29	#7	(5)	13'-2"	780
S17	14	#8	(6)	15'-7"	583
S18	14	#7	(6)	12'-10"	367
S20	30	#8	(6)	16'-3"	1302
S21	30	#7	(6)	13'-6"	828
S31	16	#7	(8)	9'-5"	308
U3	24	#6	(3)	8'-4"	300
U6	6	#5	(3)	4'-11"	31
U8	8	#6	(3)	5'-5"	65
U9	16	#6	(3)	5'-9"	138
U10	16	#6	(3)	5'-7"	134
U11	8	#6	(3)	5'-3"	63
U13	6	#5	(3)	5'-7"	35
U14	12	#5	(3)	4'-10"	60
U15	4	#5	(3)	4'-6"	19
U16	4	#5	(3)	5'-0"	21
U19	12	#5	(3)	5'-10"	73
U22	2	#4	(3)	3'-10"	5
U24	4	#5	(3)	4'-9"	20
U25	4	#5	(3)	4'-1"	17
[3] U31A	26	#7	(3)	8'-4"	443
[4] U31B	26	#7	(3)	7'-8"	407
U32	8	#8	(3)	11'-4"	242
[3] U33A	12	#7	(3)	13'-7"	333
[4] U33B	12	#7	(3)	12'-11"	317
[3] U34A	4	#7	(3)	11'-0"	90
[4] U34B	4	#7	(3)	10'-4"	84
[3] U35A	2	#7	(3)	10'-10"	44
[4] U35B	2	#7	(3)	10'-2"	42
[3] U36A	2	#7	(3)	11'-8"	48
[4] U36B	2	#7	(3)	11'-0"	45
[3] U37A	4	#7	(3)	12'-1"	99
[4] U37B	4	#7	(3)	11'-5"	93
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2301				
V2	SEE SHEET NO. 2301				

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 2/11/15

NORTH CAROLINA 23067 PROFESSIONAL ENGINEER SEAL

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 15 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 13
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

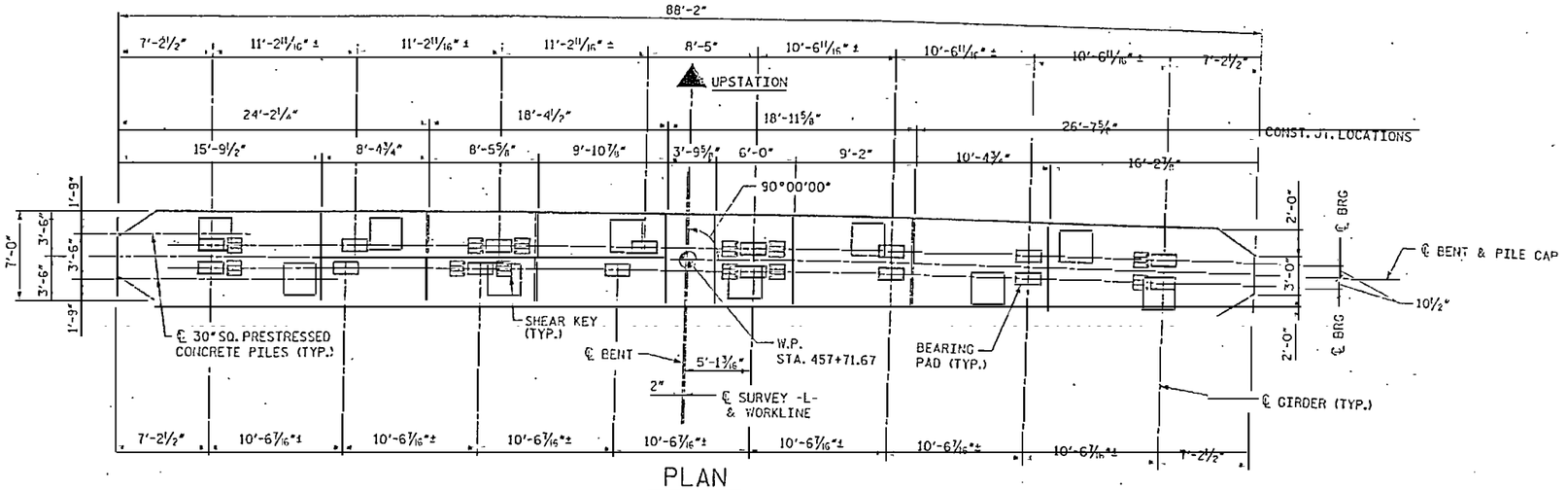
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2497.00
TOTAL SHEETS

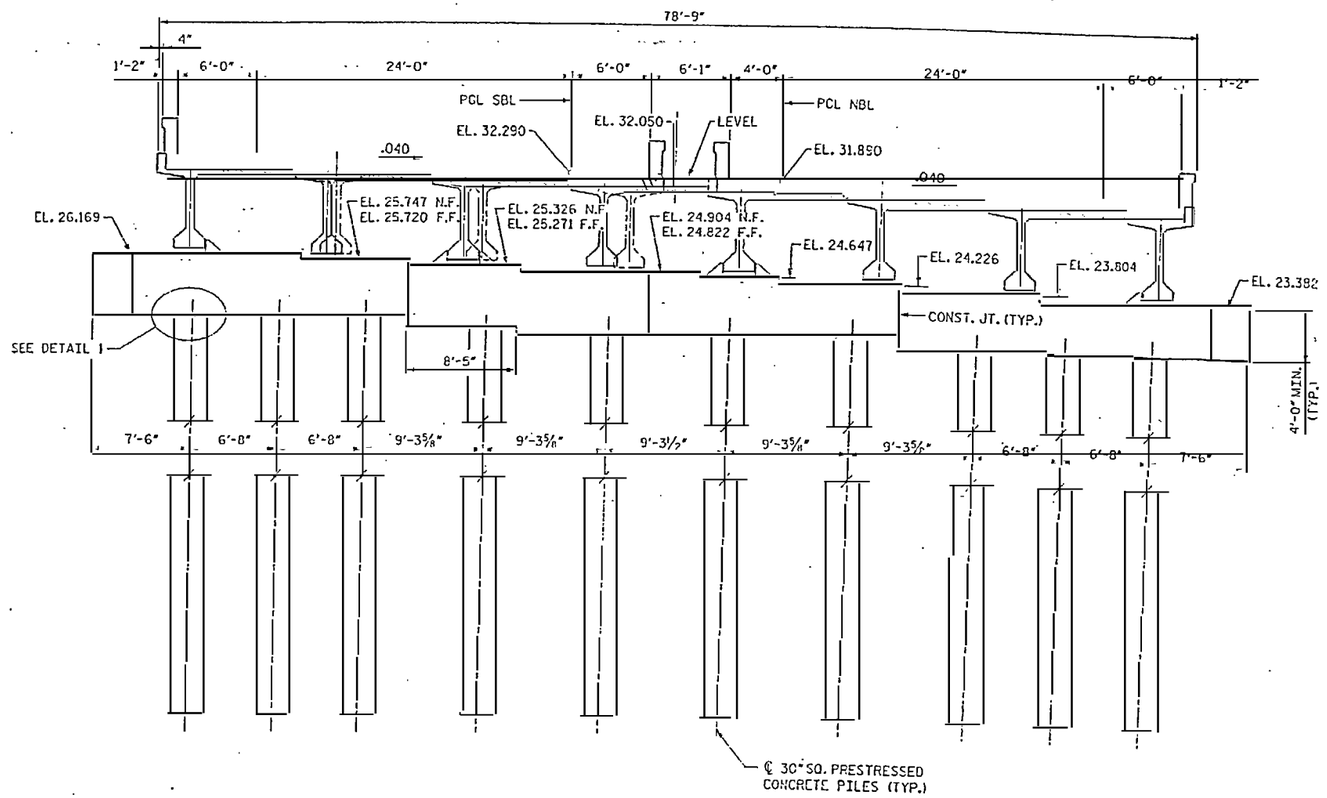
ALL BAR DIMENSIONS ARE OUT TO OUT.

USER: rfrancis
DGN: N:\CADD\ROW\SD_DSN\PTS-DET\B2497_PTS-DET13.dgn
DATE: 1/30/2015 9:25:37 AM

DRAWN BY : K.S. PRITCHETT DATE : 01/09
CHECKED BY : J. LIU DATE : 01/09

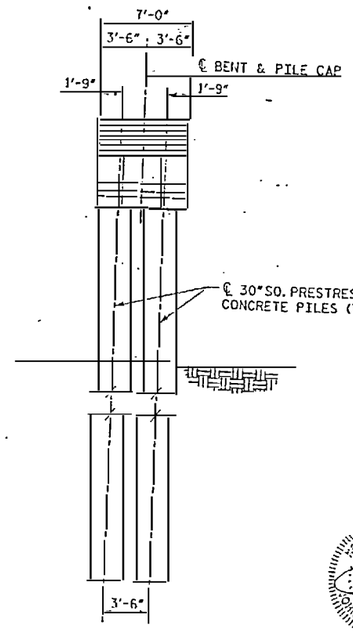


PLAN



ELEVATION

(BENT 1)(2)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT CAP. SEE TECHNICAL SPECIAL PROVISION FOR DETAILS.
6. N.F. INDICATES NEAR FACE. F.F. INDICATES FAR FACE.

RELEASED FOR CONSTRUCTION

TOM GHEARIN, PE — DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

BRIDGE NO. 363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 14
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 039574 ENGINEER JOHN C. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2498.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. LTL DATE : 10/06

USER: KSTREDNAK
DATE: 12/21/06
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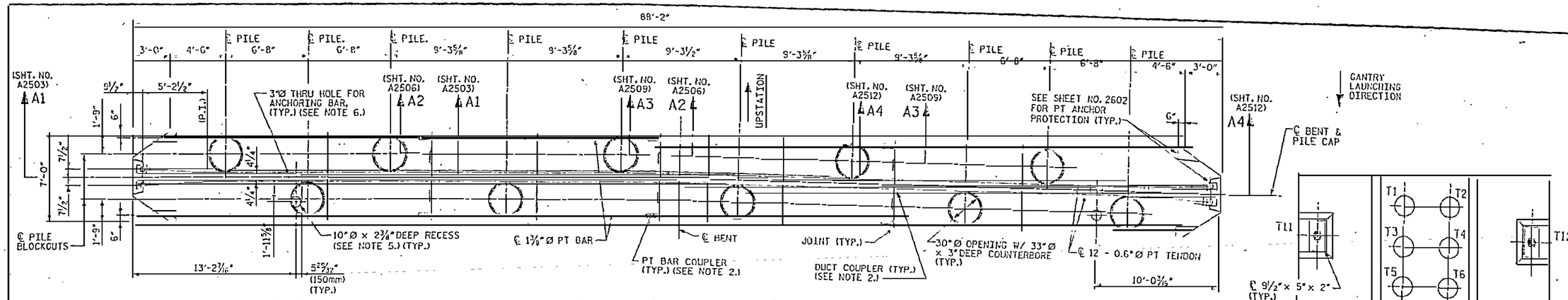
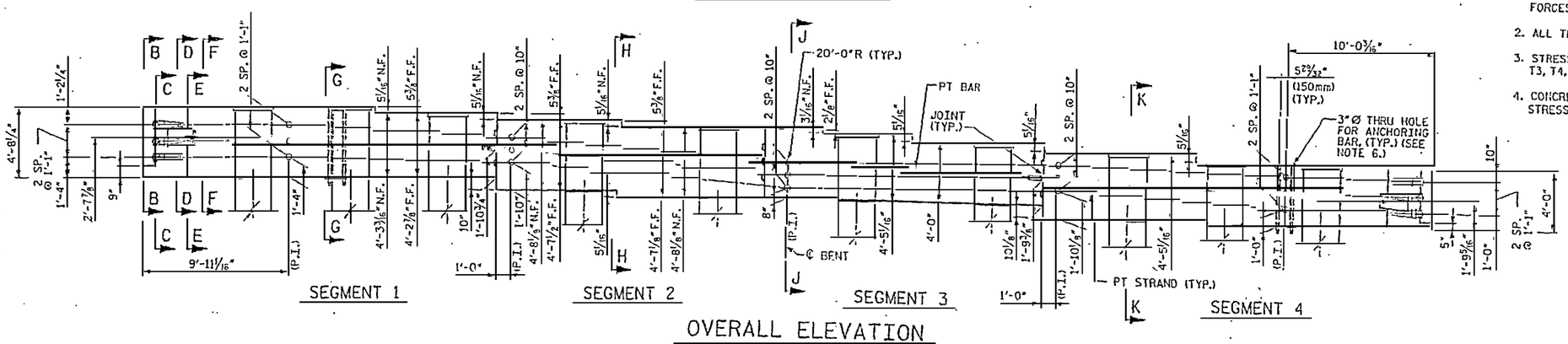
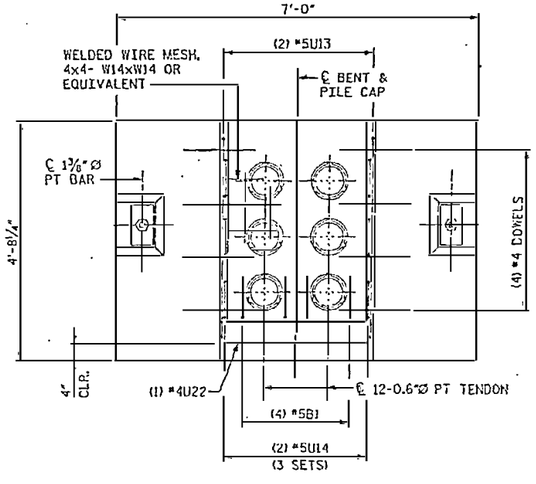


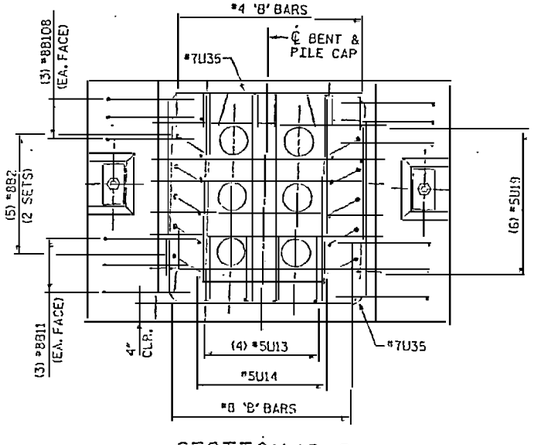
OVERALL PLAN



OVERALL ELEVATION



SECTION B-B



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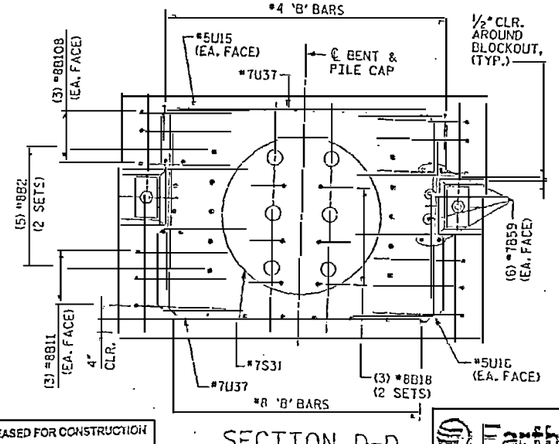


SECTION D-D

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-0.6"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

TENDON LAYOUT

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 14 IS USED AT BENT NO. 112.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2500. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

DRAWN BY : S. C. STEERMAN DATE : 12/07
CHECKED BY : J. I. TU DATE : 12/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

EarthTech
A Tetra Tech Company

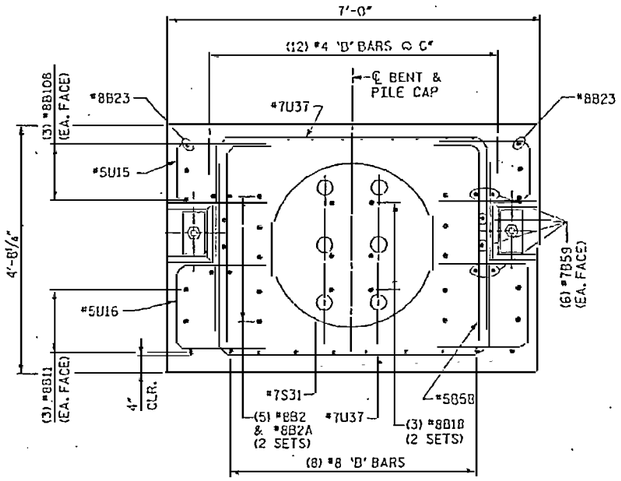
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 15 BRIDGE NO. 353

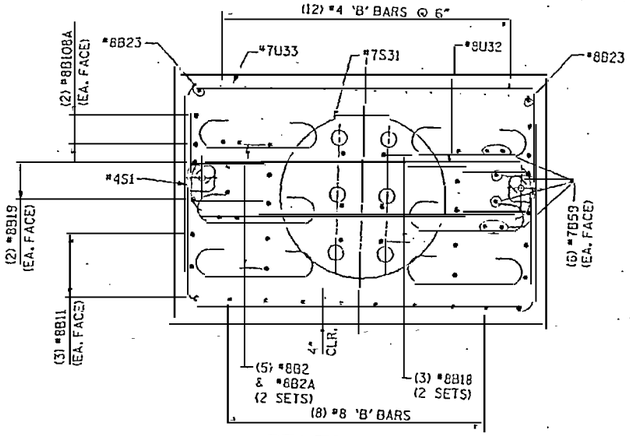
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2499.00
1			3			TOTAL SHEETS
2			4			



SECTION E-E



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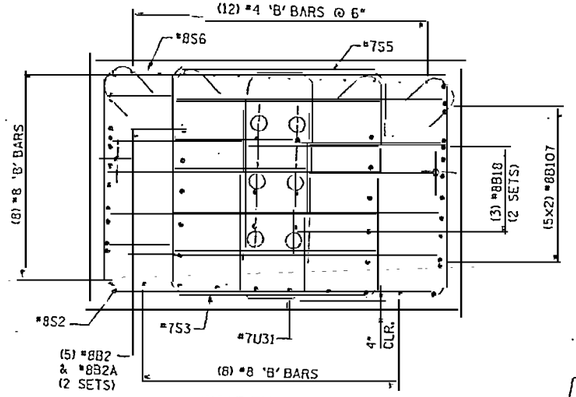
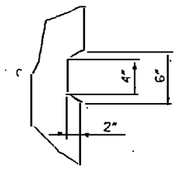


SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



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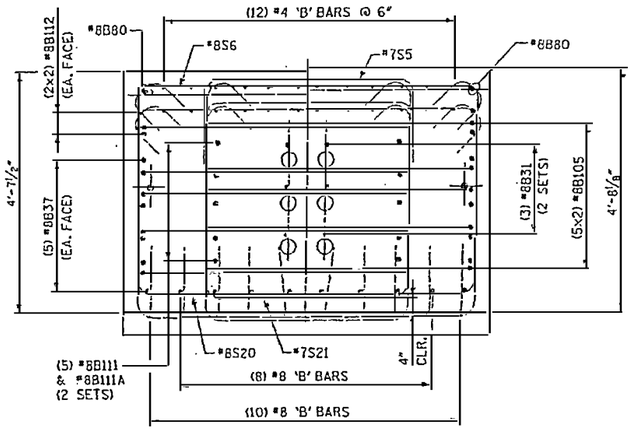
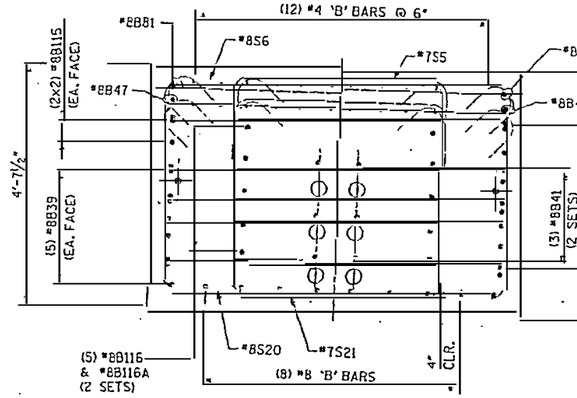
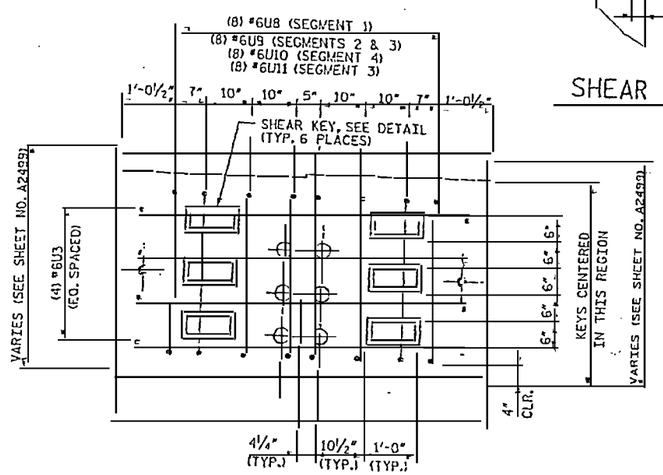


SECTION H-H

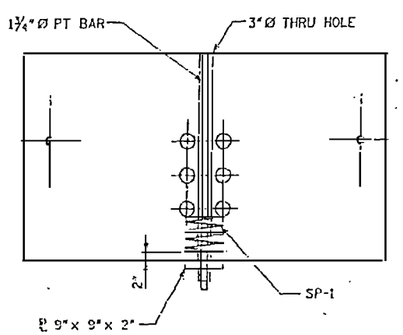


SECTION J-J



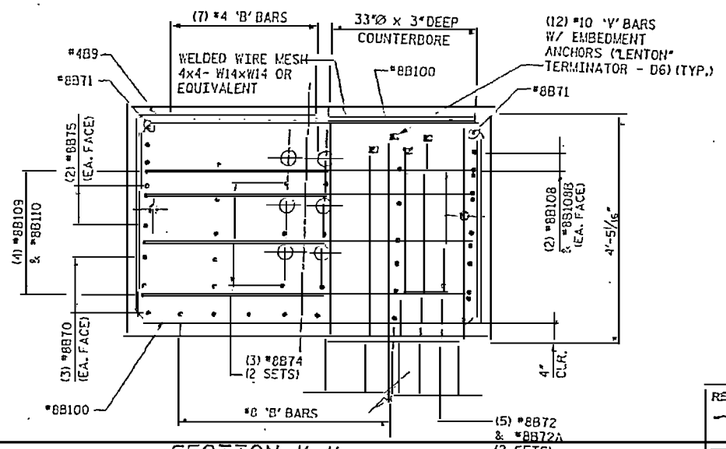
SECTION AT JOINT

(SEE SHEET NO. A2499)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



SECTION K-K

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

DRAWN BY : S. C. STREDNAK — DATE : 12/07

CHECKED BY : J. LIU — DATE : 12/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B

BEAUFORT COUNTY

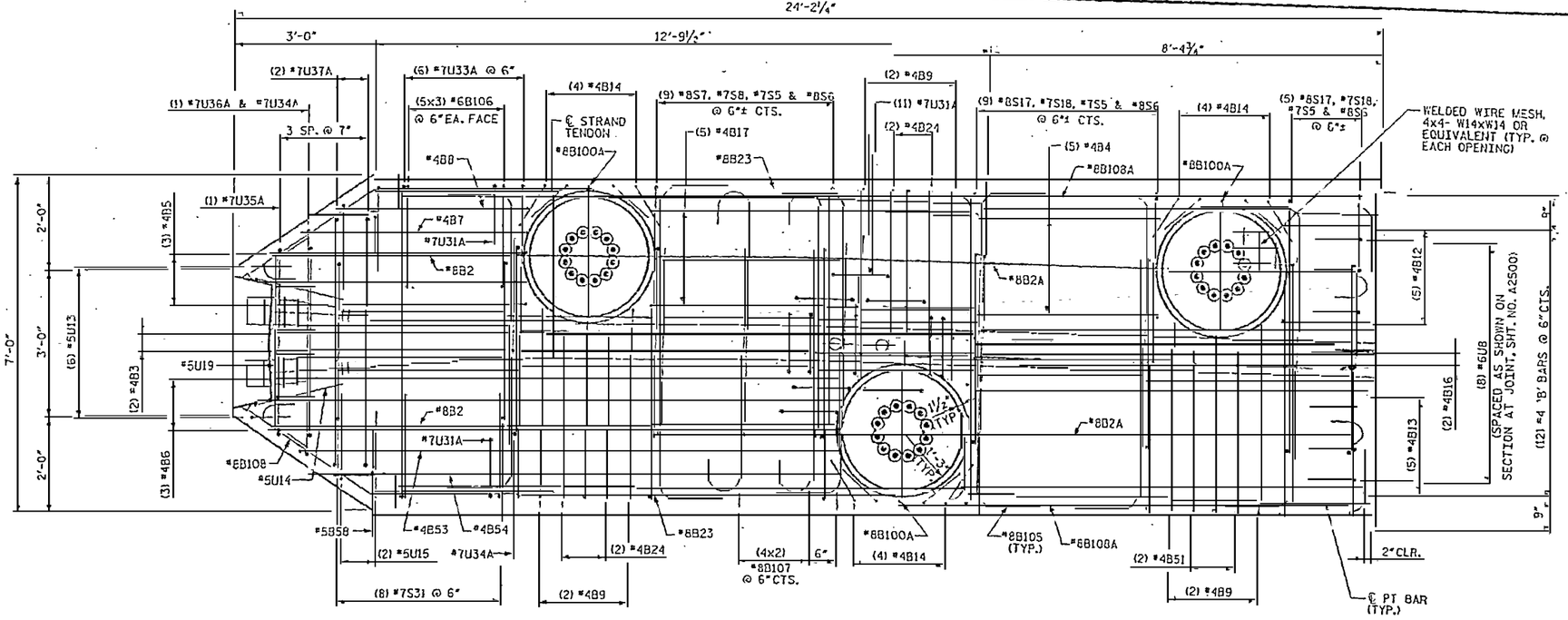
STATION: 434+51.67 -L-

SHEET 2 OF 15 — BRIDGE NO. 353

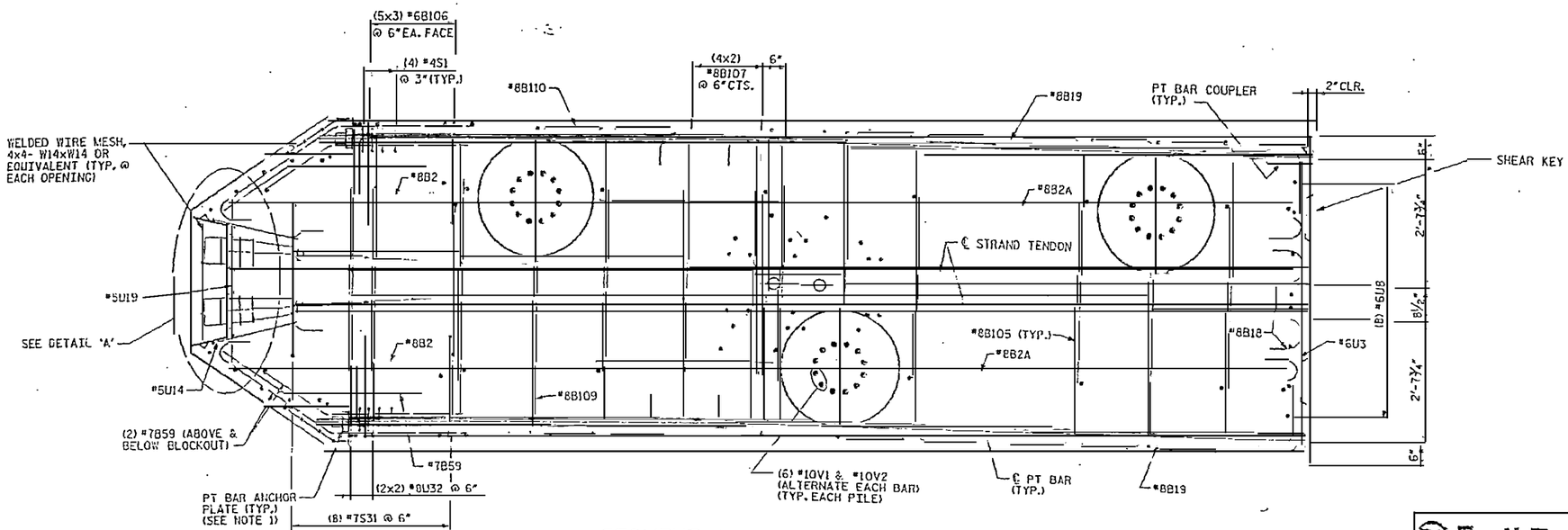
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2500.00
1			3			TOTAL SHEETS
2			4			



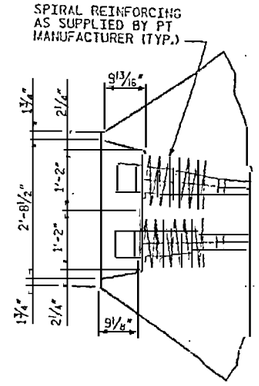
SEGMENT 1 - TOP PLAN



SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 15
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

DRAWN BY : S.C. STREDNAK DATE : 12/07
CHECKED BY : J.LIN DATE : 12/07

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REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2501.00
TOTAL SHEETS

USER: pstanton
DATE: 12/5/2008
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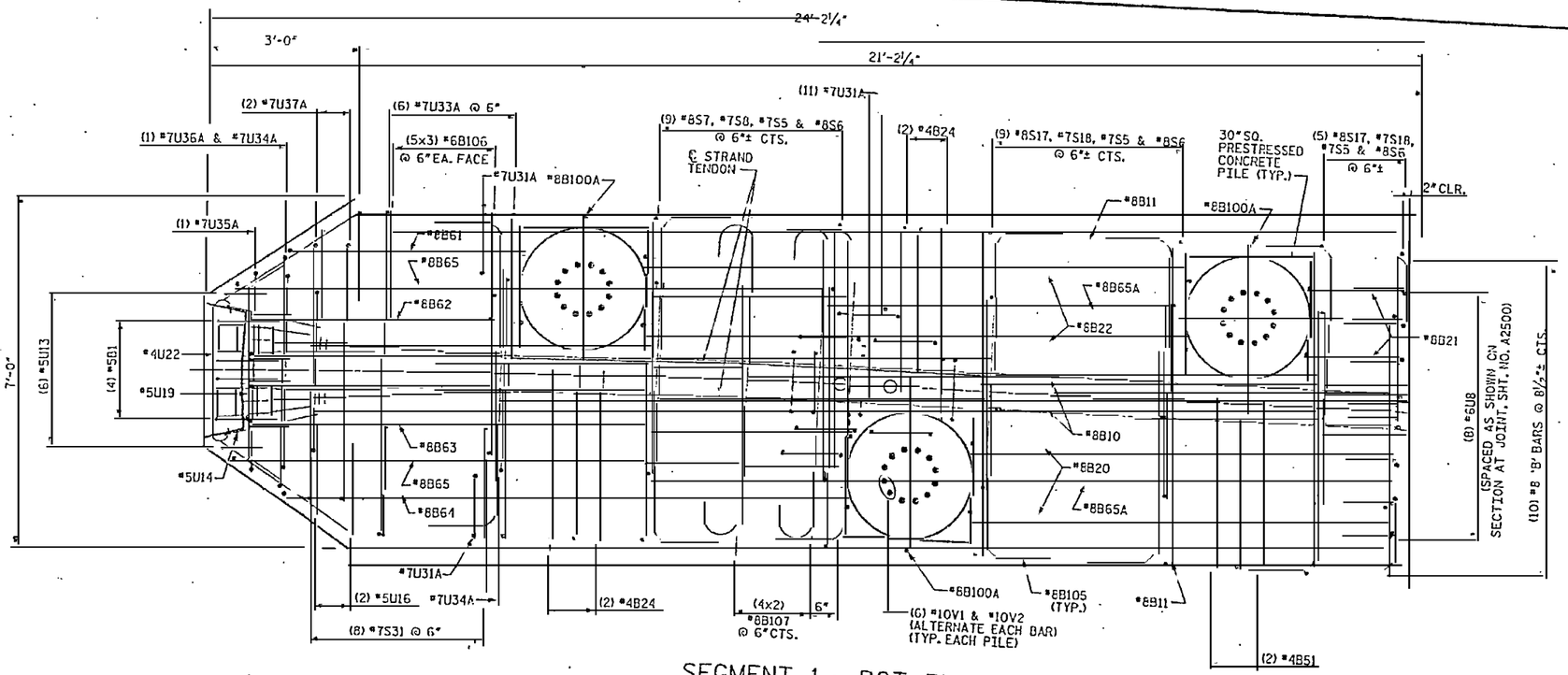
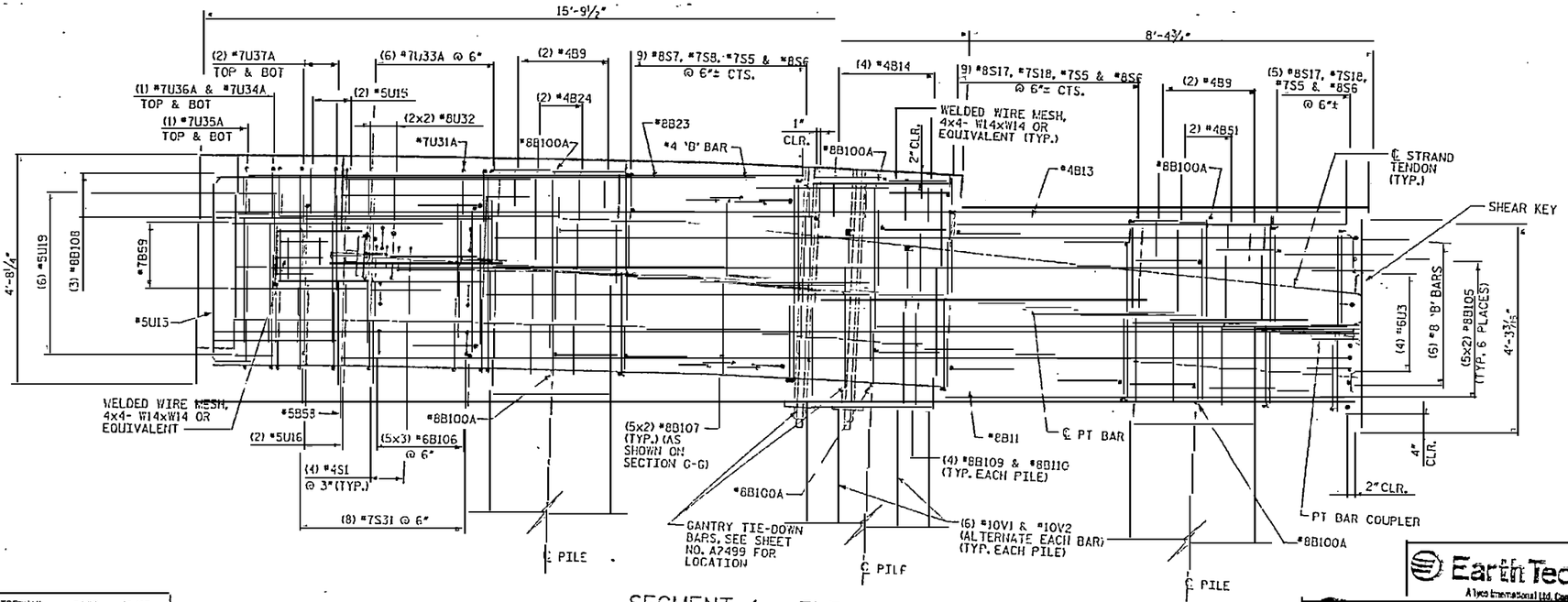


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039671 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 15
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

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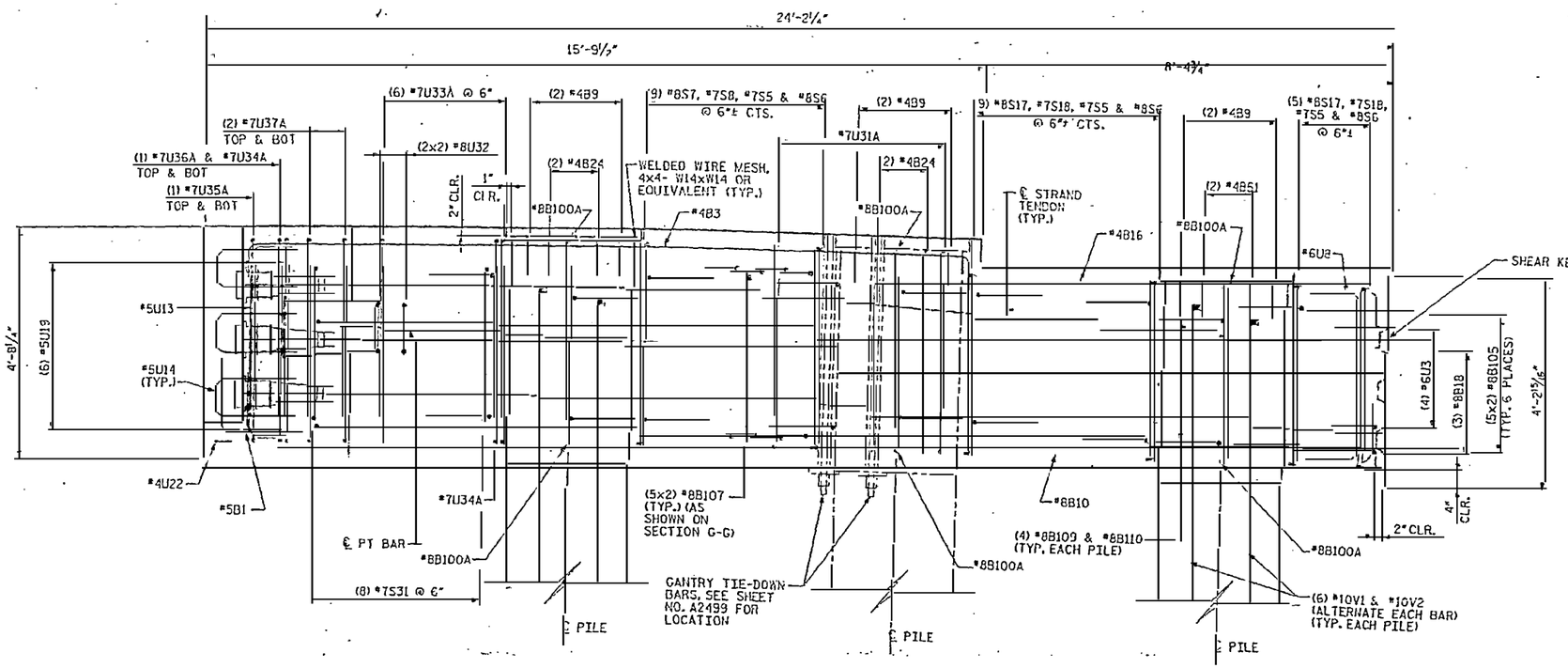
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2502.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

USER: sstredna
DGN: Instructor Font: bXyroot5\02\B-10.DGN
DATE: 12/5/2008
TIME: 10:25:58 AM

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2499)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/15/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026481 TOM SHEARIN 2-15-08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 15 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2503.00
1			3			TOTAL SHEETS
2			4			

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DRAWN BY : S. G. STEDMAN DATE : 12/07
CHECKED BY : J. LTH DATE : 12/07

USER NAME = jstedman
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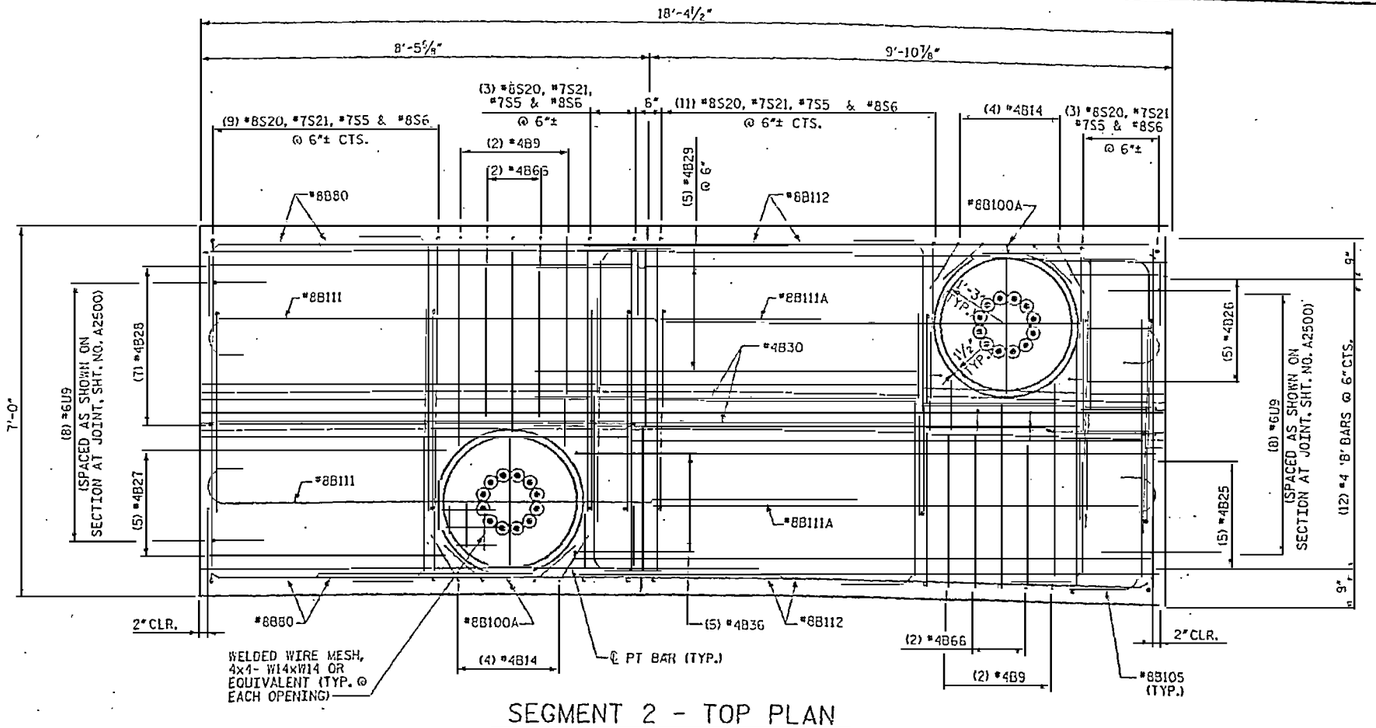
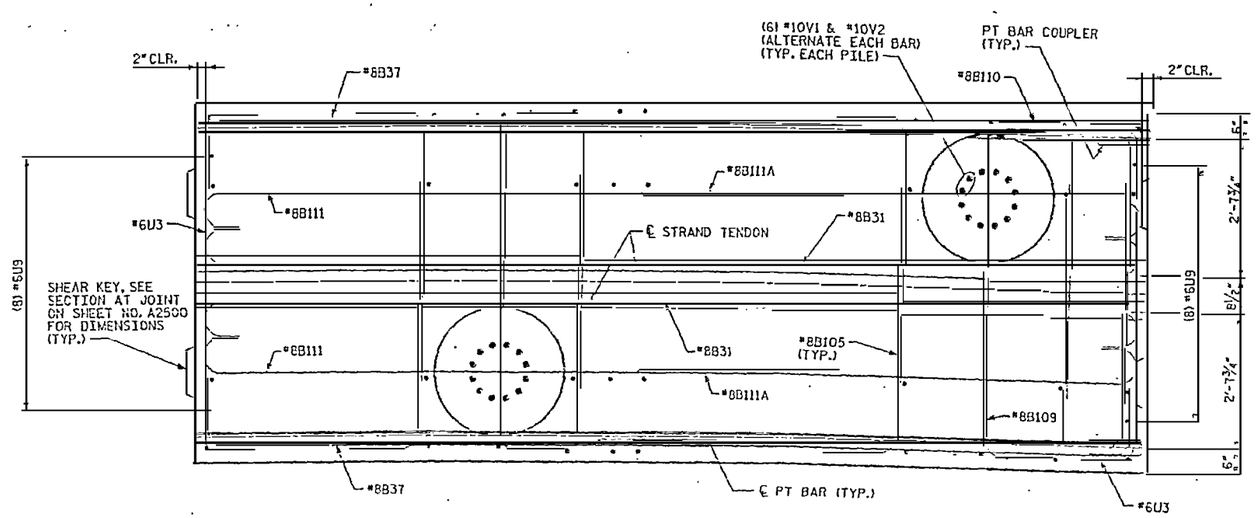


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO	BY:	DATE:	A2504.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STEPHAN DATE : 12/07
CHECKED BY : J. LEU DATE : 12/07

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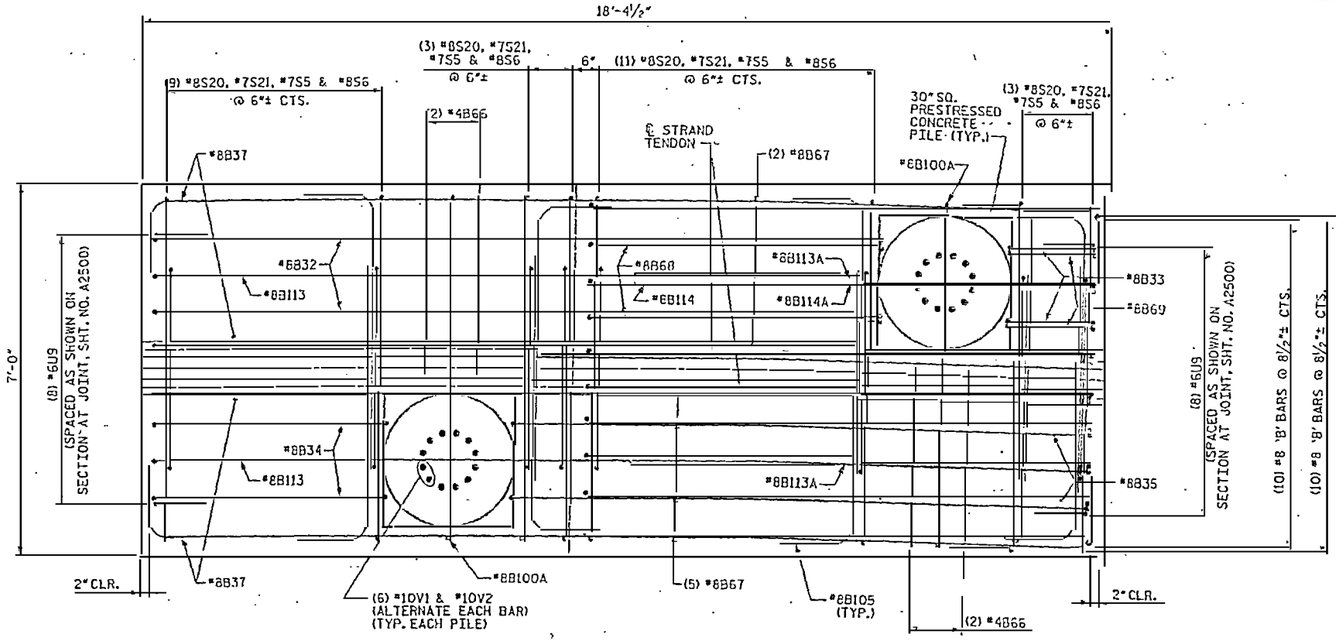
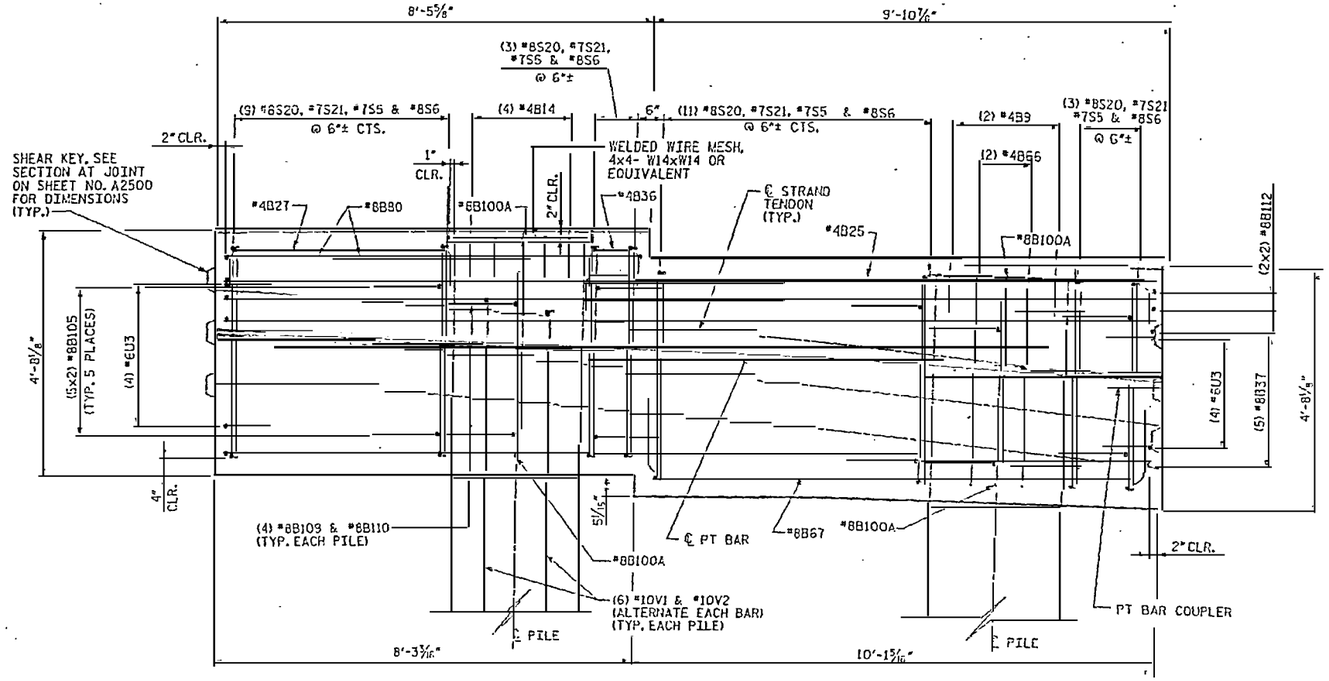


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

DRAWN BY : S.G. STREDNAK DATE : 12/07
CHECKED BY : J.LEE DATE : 12/07

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PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 15 BRIDGE NO. 353

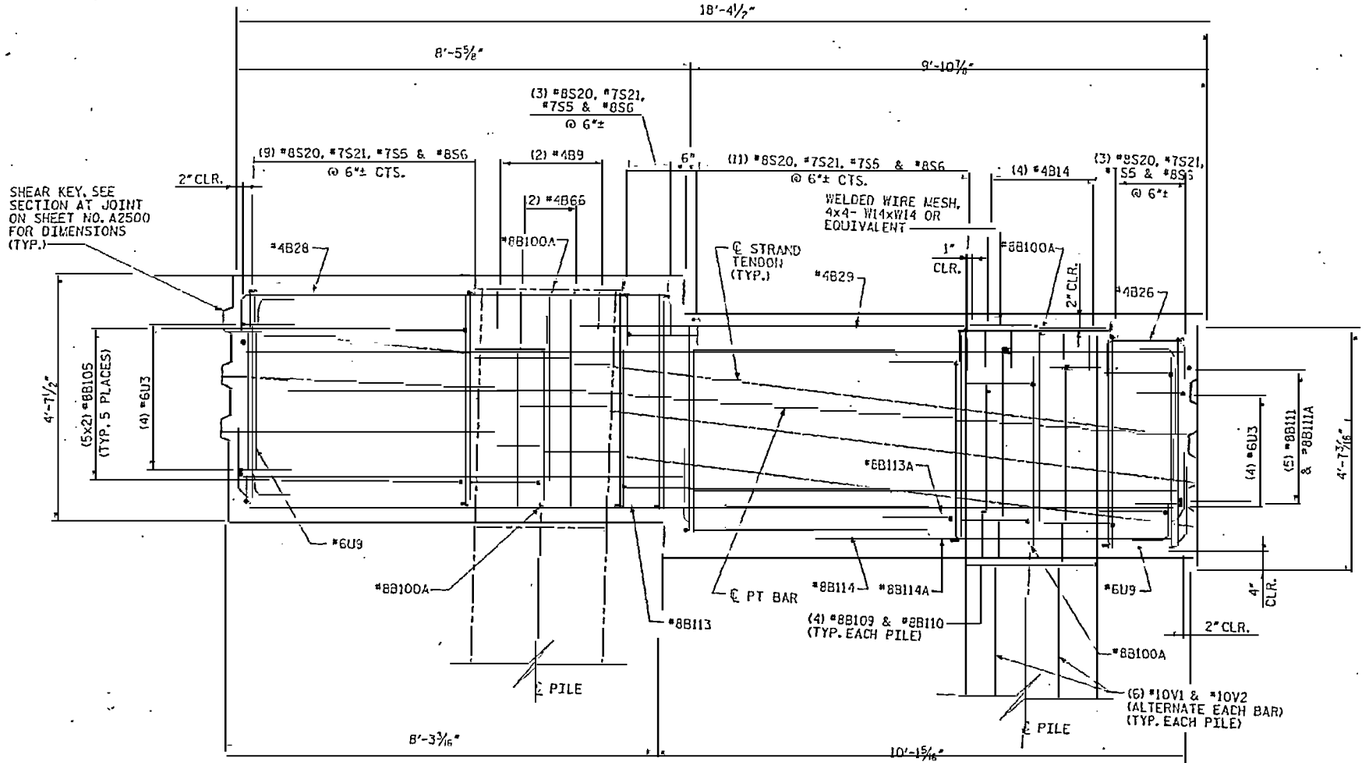
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2505.00
1			3			TOTAL SHEETS
2			4			

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2499)

RELEASED FOR CONSTRUCTION
Tom Shearin 2/5/09
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2506.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STEPHENS DATE : 12/07
CHECKED BY : J. LTU DATE : 12/07

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USER: wstephens
PLOT DATE: 1/22/2009
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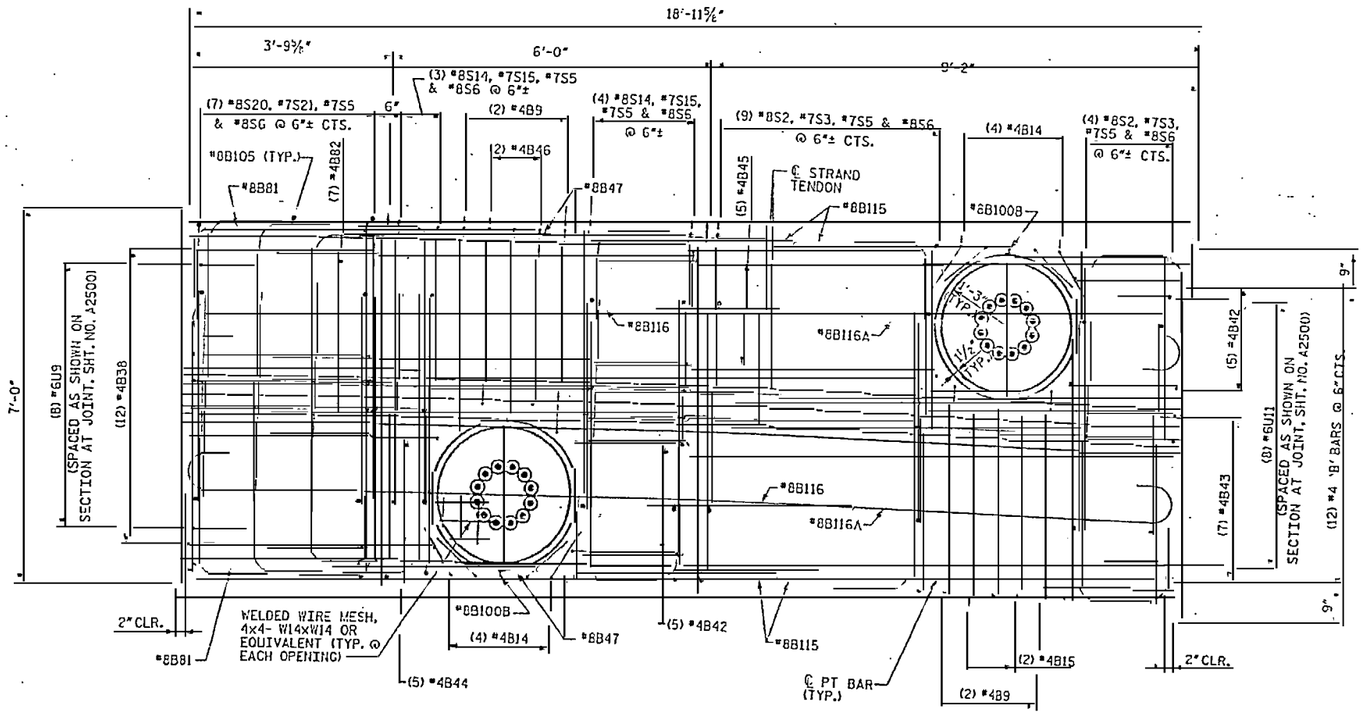
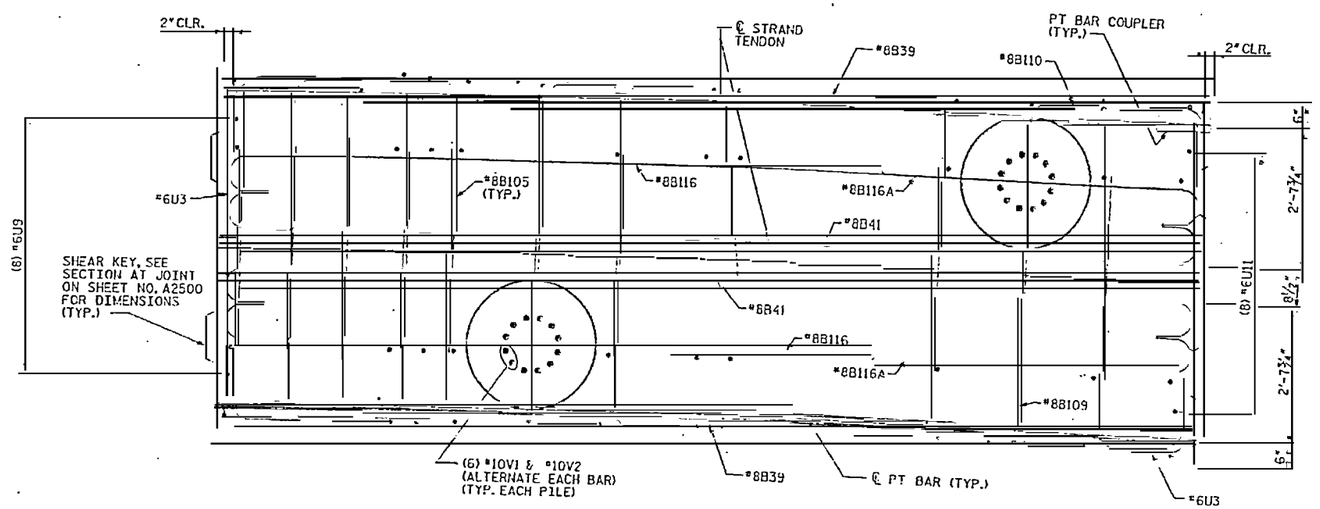


SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2507.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. C. STRICKLAND DATE : 12/07
CHECKED BY : J. LEE DATE : 12/07

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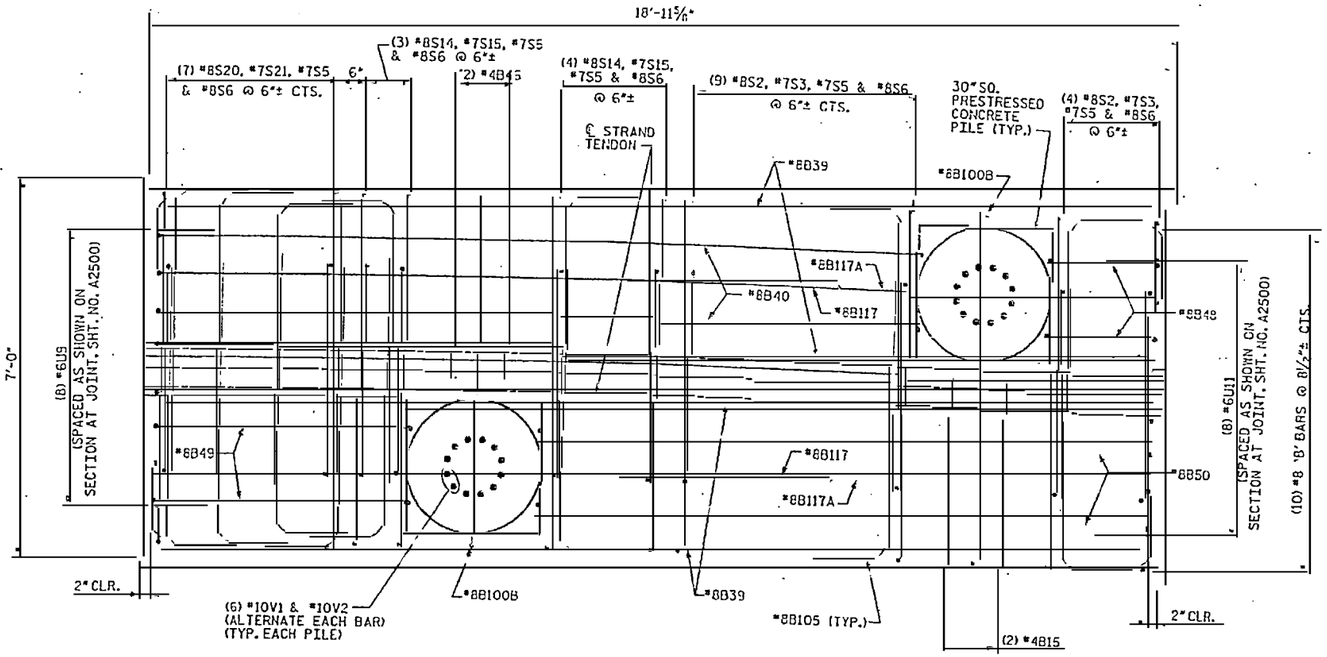
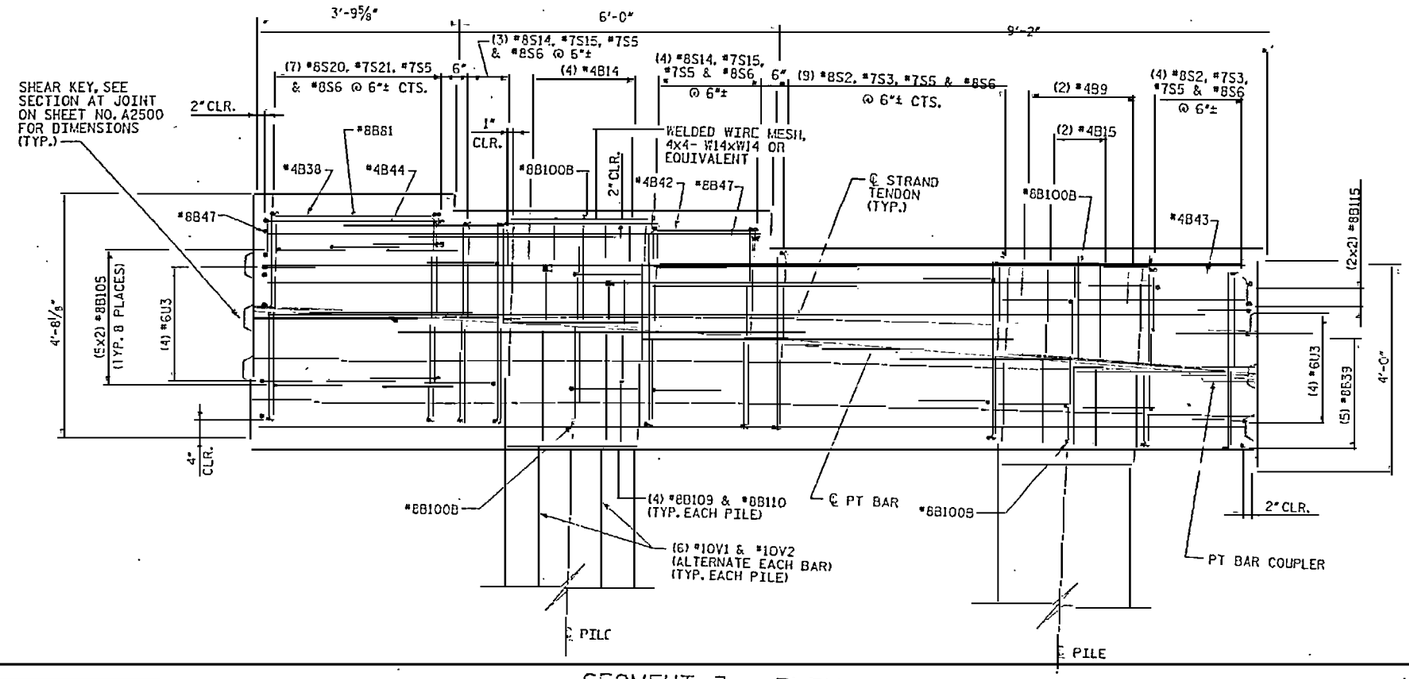
A JOINT VENTURE



SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA ENGINEER SEAL 030672 TOM SHEARIN JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 15 BRIDGE NO. ~~353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2508.00
0			3			TOTAL SHEETS
2			4			

DRAWN BY : S. C. STEPHAN DATE : 12/07
CHECKED BY : J. J. TH DATE : 12/07

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

DATE: 12/20/2008
FILE: A2508.dgn

USER: sstephan
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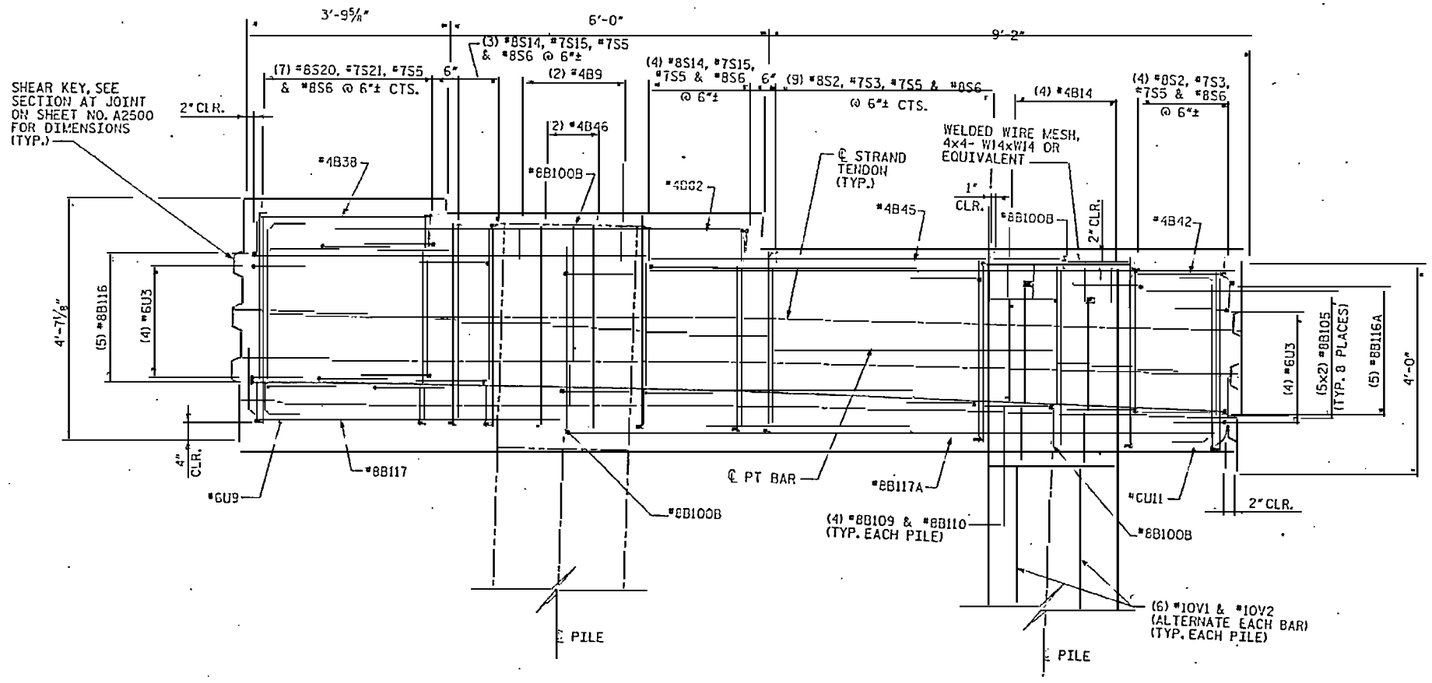

SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2499)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/5/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 11 OF 15 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech — A Tyco International Ltd. Company
FLATIRON/UNITED — A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2509.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. SIPERNAT DATE : 12/07
CHECKED BY : J. LTL. DATE : 12/07

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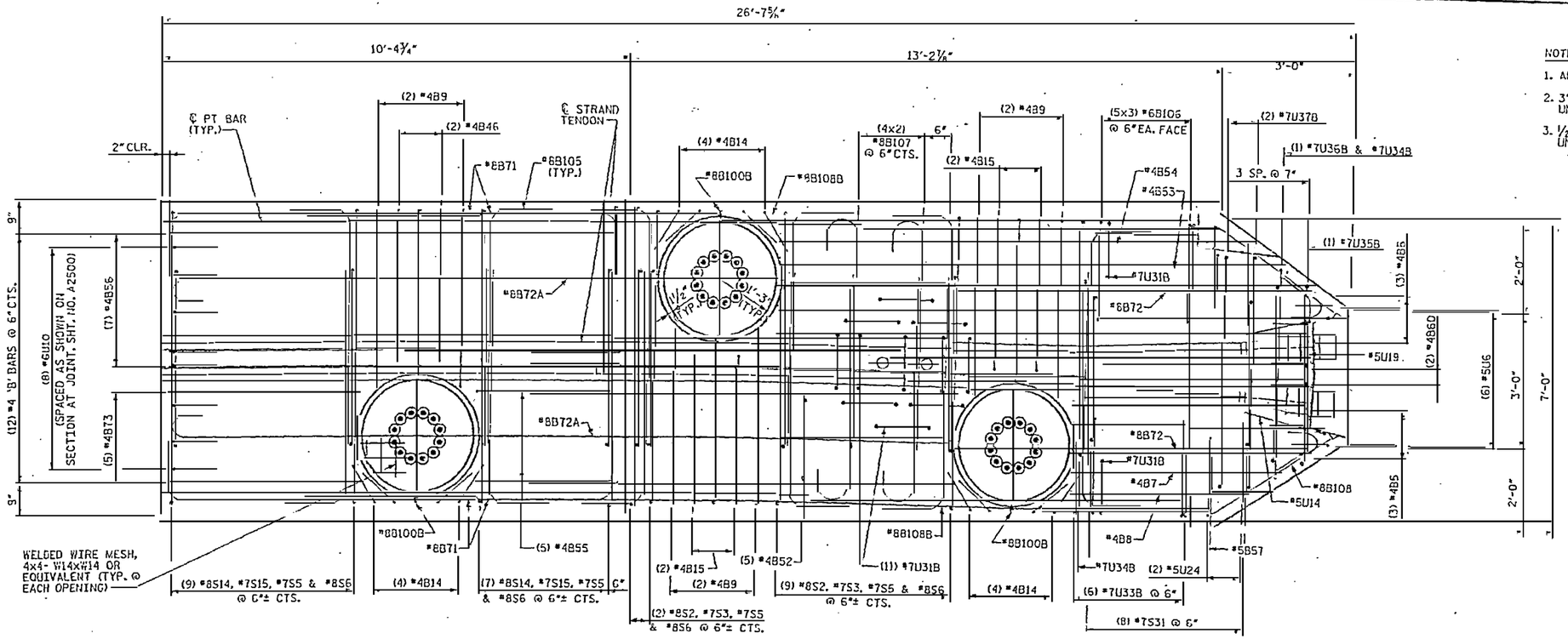
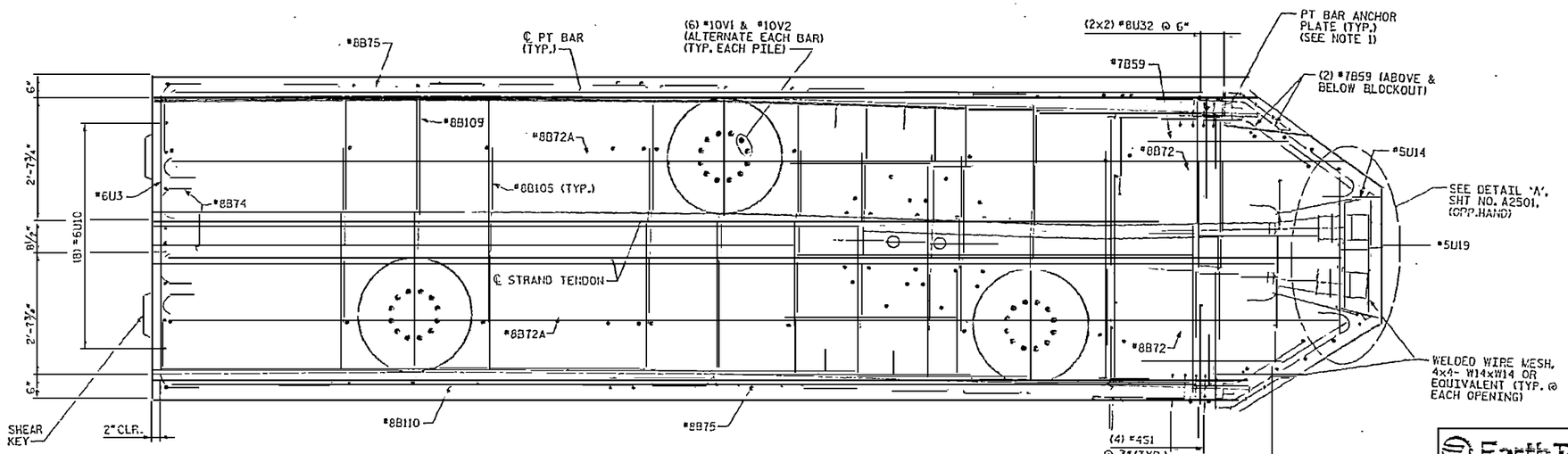
DGN: N:\structure\Projects\R-2510B_STH-Eng\sgs



SEGMENT 4 - TOP PLAN



SEGMENT 4 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 15 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2510.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STEEDMAN DATE : 12/07
CHECKED BY : J. LEE DATE : 12/07

DATE: 4/25/2008
USER: tstevens

USER: gwhitehurst
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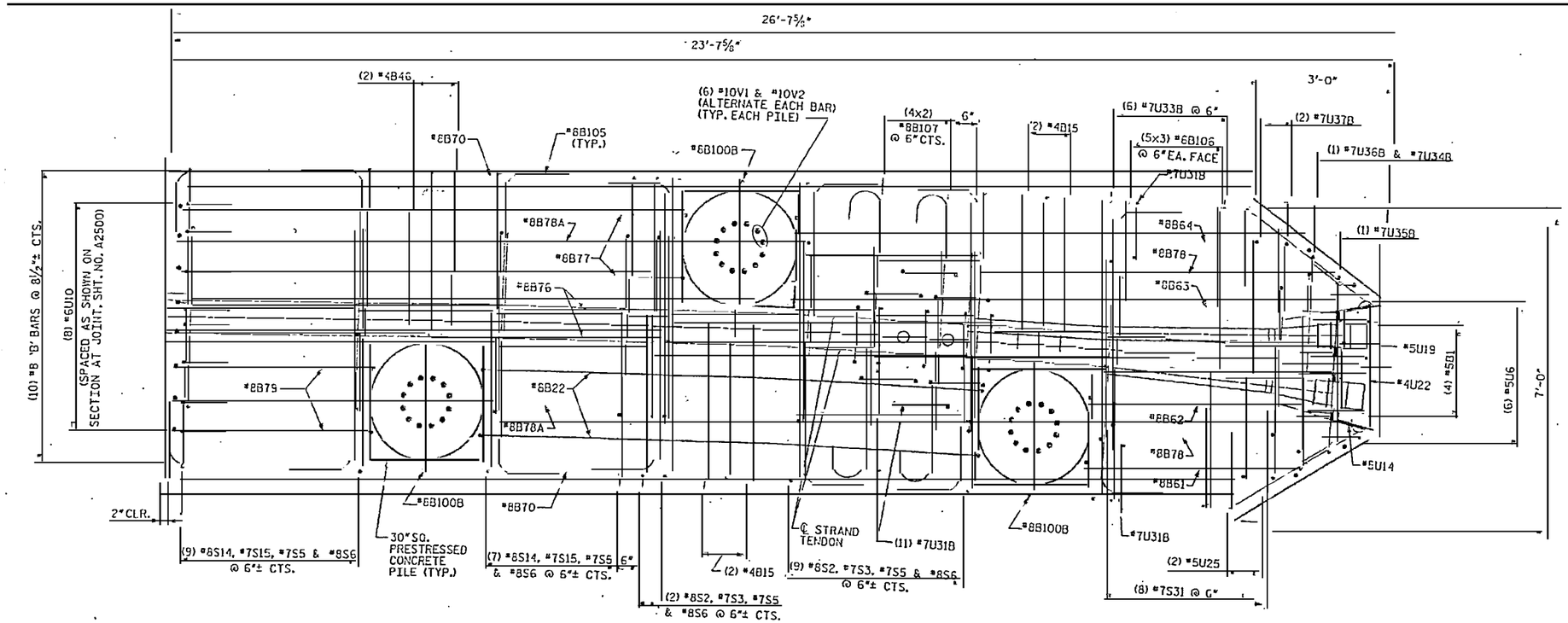
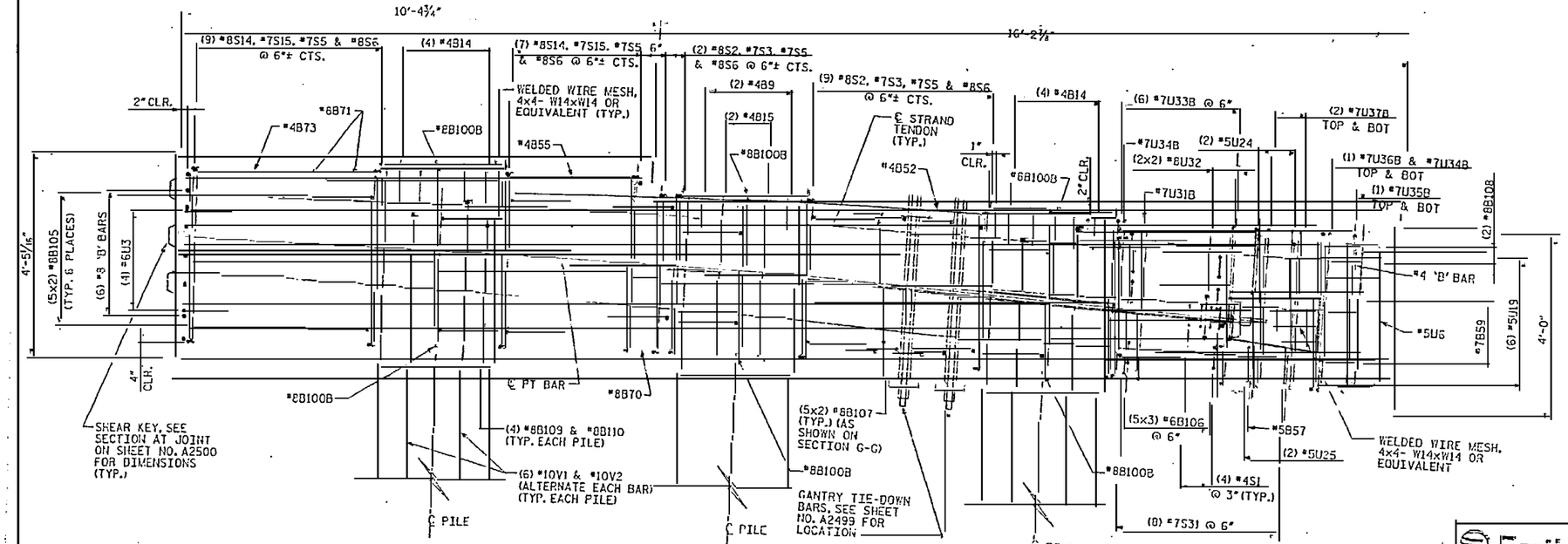


SEGMENT 4 - BOT PLAN



SEGMENT 4 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

NORTH CAROLINA SEAL 034[illegible] ENGINEER JOHN K. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 13 OF 15 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2511.00
1			3			TOTAL SHEETS
2			4			

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S.C. STEPHAN DATE : 12/07
CHECKED BY : J.I.TH DATE : 12/07

USER: estephan
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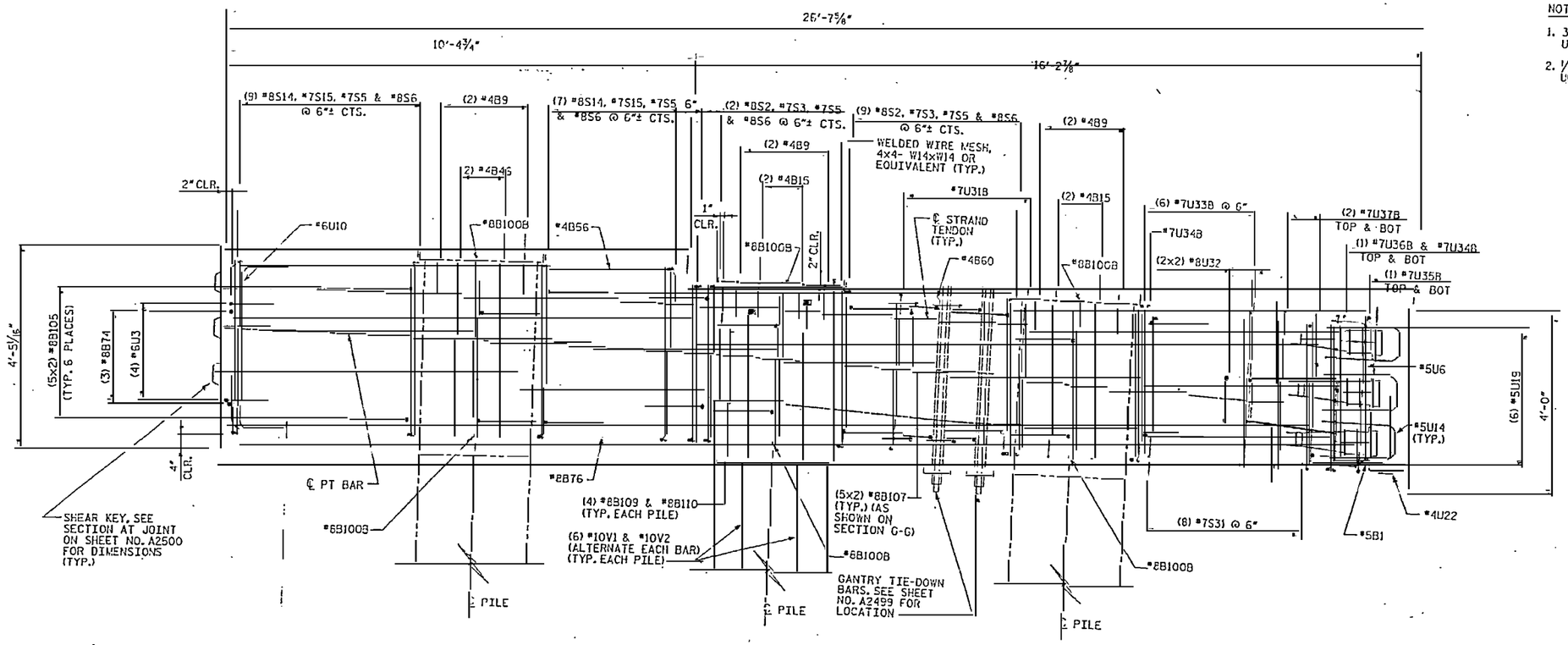
DATE: 1/25/2008
TIME: 12:08 PM



SEGMENT 4 - SECTION A4

(SEE SHEET NO. A2499)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 2/5/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 14 OF 15
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2512.00
TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. C. STEENAR DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

DATE: 1/25/2008
TIME: 10:57 PM

USER: matthews
P:\STRUCTURE\Projects\R2510B_SD_DSK_MTH\DETAILS\R2510B_SD_DSK_MTH_DET14.dgn

BAR TYPES

10'-0"	B117A
12'-6"	B117
11'-3"	B115
3'-11"	B114
9'-7"	B113A, B114A
12'-4"	B113
11'-0"	B112
6'-6"	B110
3'-8"	B109
23'-3"	B108B
20'-9"	B108A
5'-2"	B105
7'-9"	B82
6'-2"	B80
17'-5"	B78A
6'-11"	B71
15'-1"	B65A
11'-11"	B65, B78
17'-5"	B60
3'-8"	B58
3'-0"	B57
9'-5"	B52
6'-8"	B47
6'-5"	B45
3'-1"	B44
10'-11"	B43
11'-9"	B30
7'-5"	B29
12'-5"	B23
10'-3"	B16
1'-0"	B14
5'-10"	B4
1'-6"	B1

1'-4" B23, B47, B65, B65A, B71, B78, B78A, B80, B82, B105, B108A, B108B, B109, B110, B112, B113, B113A, B115, B117, B117A
8" B4, B14, B16, B29, B30, B43, B44, B45, B52, B60, B82
10" B57, B58
1'-6" B1, B114, B114A

① ⑦ ⑩

6" 2'-10" U22
8" 2'-2" B106
11" 24'-2" B74
11" 18'-7" B41
11" 18'-0" B31
11" 21'-9" B18
HK.

②

6"
6"
6½" HK.

④

1'-0½"
1'-3"
8¼"
3'-4"

⑮

11" 10'-0" B116A
11" 12'-6" B116
11" 17'-7" B72A
11" 9'-7" B111A
11" 12'-4" B111
11" 5'-2" B107
11" 15'-1" B2A
11" 12'-0" B2, B72
HK.

⑤

4'-0" 3'-7½" 3'-10" 4'-1" 3'-5"
B66 B51 B45 B24 B15
3'-3" 8" 3'-3"

⑪

6'-6" 11" HK.

9" Ø
4 SPACERS
1½ EXTRA TURNS TOP & BOT.
8"
2" PITCH

⑥

3'-1" Ø

S20, S21 S17, S18 S14, S15 S7, S8 S2, S3
4'-0" 3'-7½" 3'-10" 4'-1" 3'-5"
10" HK. 11" HK.
S2, S7, S14, S17, S20 6'-6"
S3, S8, S15, S18, S21 3'-11"
S3, S8, S15, S18, S21 S2, S7, S14, S17, S20

⑥

3'-4"	B81
25'-4"	B76
22'-8"	B75
4'-1"	B73
5'-6"	B68
9'-5"	B67
11'-1"	B64
12'-0"	B63
5'-4"	B62
4'-5"	B61
9'-9"	B56
2'-11"	B55
10'-6"	B54
11'-3"	B50, B53
1'-11"	B48
1'-10"	B42
13'-11"	B40
18'-6"	B39
3'-2"	B38
17'-11"	B37
10'-10"	B35
4'-4"	B34
1'-6"	B33, B69
13'-9"	B32
7'-10"	B28
4'-3"	B27, B79
10'-9"	B25
10'-11"	B22, B77
20'-2"	B19
6'-6"	B17, B100A, B100B
8'-4"	B13, B20
22'-9"	B10
4'-7"	B7, B49
11'-11"	B6
5'-3"	B5
14'-7"	B3
5'-0"	U37A, U37B
4'-7"	U36A, U36B
3'-9"	U35A, U35B
6'-6"	U33A, U33B
1'-0"	U32
1'-2½"	U31A, U31B
9"	U25
1'-5"	U24, B26
1'-8"	U16, B12, B21
1'-2"	U15
10"	U14, B36
3'-11"	U13, U34A, U34C, S5, B9
3'-8"	U10
3'-10"	U9, B8
3'-5"	U8
3'-3"	U6, U11
6'-4"	U3

1'-2" S5
5'-2" U32
2'-0" U14
3'-5" B100B
1'-6" B67, B68, B69
3'-6½" U31A, U33A, U34A, U35A, U36A, U37A, B100A
3'-2½" U31B, U33B, U34B, U35B, U36B, U37B
8" B3, B5, B6, B7, B8, B9, B12, B13, B17, B25, B26, B27, B28, B35, B38, B42, B53, B54, B55, B56, B73
1'-4" B10, B19, B20, B21, B22, B32, B33, B34, B35, B37, B39, B40, B48, B49, B50, B61, B62, B63, B64, B75, B76, B77, B79, B81
1'-0" U4, U8, U9, U10, U11
10" U5, U13, U15, U16, U24, U25

③

23'-3" B70
20'-9" B11
3'-2"
1'-8½"
2'-7½"

⑫

3'-10" B108
3'-0" B59
3'-2"
2'-0"
B59 1'-8"
B108 2'-7½"
B59 1'-1¼"
B108 1'-9¼"

⑬

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	4	4	3'-1"	33
S2	24	8	6	15'-2"	972
S5	24	7	6	12'-5"	609
S6	103	7	3	6'-3"	1316
S7	103	8	7	8'-4"	2292
S8	9	8	6	16'-6"	396
S14	9	7	6	13'-9"	253
S15	23	8	6	16'-0"	593
S17	23	7	6	13'-3"	623
S18	14	8	6	15'-7"	583
S20	14	7	6	12'-10"	367
S21	33	8	6	16'-4"	1439
S31	33	7	6	13'-7"	916
	16	7	8	9'-5"	308
U3	24	6	3	8'-4"	300
U6	6	5	3	4'-11"	31
U8	8	6	3	5'-5"	65
U9	24	6	3	5'-10"	210
U10	8	6	3	5'-8"	68
U11	8	6	3	5'-3"	63
U13	6	5	3	5'-7"	35
U14	12	5	3	4'-10"	60
U15	4	5	3	2'-10"	12
U16	4	5	3	3'-4"	14
U19	12	5	15	5'-10"	73
U22	2	4	2	3'-10"	5
U24	4	5	3	3'-1"	13
U25	4	5	3	2'-6"	10
U31A	26	7	3	8'-4"	443
U31B	26	7	3	7'-8"	407
U32	8	8	3	11'-4"	242
U33A	12	7	3	13'-7"	333
U33B	12	7	3	12'-11"	317
U34A	4	7	3	11'-0"	90
U34B	4	7	3	10'-4"	84
U35A	2	7	3	10'-10"	44
U35B	2	7	3	10'-2"	42
U36A	2	7	3	11'-8"	48
U36B	2	7	3	11'-0"	45
U37A	4	7	3	12'-1"	99
U37B	4	7	3	11'-5"	93
SP-1	4	#4	60	15'-8"	42
V1	SEE SHEET NO. 2301				
V2	SEE SHEET NO. 2301				

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	5	1	3'-0"	26
B2	10	8	5	12'-11"	345
B2A	10	8	5	16'-0"	427
B3	2	4	3	15'-11"	21
B4	5	4	1	6'-6"	22
B5	6	4	3	6'-7"	26
B6	6	4	3	13'-3"	53
B7	2	4	3	5'-11"	8
B8	2	4	3	5'-2"	7
B9	20	4	3	5'-3"	70
B10	2	8	3	25'-5"	136
B11	6	8	12	25'-3"	405
B12	5	4	3	3'-0"	10
B13	5	4	3	9'-8"	32
B14	40	4	1	1'-8"	45
B15	6	4	11	10'-7"	42
B16	2	4	1	10'-11"	15
B17	5	4	3	7'-10"	26
B18	6	8	2	23'-7"	378
B19	4	8	3	22'-10"	244
B20	2	8	3	11'-0"	59
B21	2	8	3	4'-4"	23
B22	4	8	3	13'-7"	145
B23	2	8	1	13'-9"	73
B24	4	4	11	11'-3"	30
B25	5	4	3	12'-1"	40
B26	5	4	3	2'-9"	9
B27	5	4	3	5'-7"	19
B28	7	4	3	9'-2"	43
B29	5	4	1	8'-1"	27
B30	2	4	1	12'-5"	17
B31	6	8	2	19'-10"	318
B32	2	8	3	16'-5"	88
B33	2	8	3	4'-2"	22
B34	2	8	3	7'-0"	37
B35	2	8	3	13'-6"	72
B36	5	4	3	2'-2"	7
B37	12	8	3	20'-7"	659
B38	12	4	3	4'-6"	36
B39	12	8	3	21'-2"	678
B40	2	8	3	16'-7"	89
B41	6	8	2	20'-5"	327
B42	10	4	3	3'-2"	21
B43	7	4	1	11'-7"	54
B44	5	4	1	3'-9"	13
B45	5	4	1	7'-1"	24
B46	4	4	11	11'-0"	29
B47	4	8	1	8'-0"	85
B48	2	8	3	4'-7"	24
B49	2	8	3	7'-3"	39
B50	2	8	3	13'-11"	74
B51	2	4	11	0'-10"	14
B52	5	4	1	0'-1"	34
B53	2	4	3	12'-7"	17
B54	2	4	3	11'-10"	16
B55	5	4	3	4'-3"	14
B56	1	4	3	11'-1"	52

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B57	2	5	1	3'-10"	8
B58	2	5	1	4'-6"	9
B59	24	7	13	5'-0"	245
B60	2	4	1	18'-1"	24
B61	2	8	3	7'-1"	30
B62	2	8	3	8'-0"	43
B63	2	8	3	14'-8"	78
B64	2	8	3	13'-9"	73
B65	2	8	1	13'-3"	71
B65A	2	8	1	16'-5"	88
B66	4	4	11	11'-2"	30
B67	7	8	3	12'-5"	232
B68	2	8	3	8'-6"	45
B69	2	8	3	4'-6"	24
B70	6	8	12	27'-9"	445
B71	4	8	1	8'-3"	88
B72	10	8	5	12'-11"	345
B72A	10	8	5	18'-6"	494
B73	5	4	3	5'-5"	18
B74	6	8	2	26'-0"	417
B75	4	8	3	25'-4"	271
B76	2	8	3	28'-0"	150
B77	2	8	3	13'-7"	73
B78	2	8	1	13'-3"	71
B78A	2	8	1	18'-9"	100
B79	2	8	3	6'-11"	37
B80	4	8	1	7'-6"	80
B81	2	8	3	6'-0"	32
B82	7	4	1	8'-5"	38
B100A	10	8	3	13'-8"	365
B100B	10	8	3	13'-4"	356
B105	250	8	1	6'-6"	4339
B106	60	6	2	3'-6"	315
B107	80	8	5	6'-1"	1299
B108	10	8	13	7'-0"	187
B108A	4	8	1	22'-1"	236
B108B	4	8	1	24'-7"	263
B109	40	8	1	5'-0"	534
B110	40	8	1	7'-10"	837
B111	10	8	5	13'-3"	354
B111A	10	8	5	10'-6"	280
B112	8	8	1	12'-4"	263
B113	2	8	1	13'-8"	73
B113A	2	6	1	10'-11"	58
B114	1	8	1	5'-5"	14
B114A	1	8	1	11'-1"	30
B115	8	8	1	12'-7"	269
B116	10	8	5	14'-4"	393
B116A	10	8	5	11'-10"	316
B117	2	8	1	13'-10"	74
B117A	2	8	1	11'-4"	61

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 2/5/02

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 15 OF 15 BRIDGE NO. 363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	B-2513.00
1			3			TOTAL SHEETS
2			4			141

DRAWN BY : S. C. STREDNAK DATE : 1/02
CHECKED BY : J. C. [illegible] DATE : 1/02

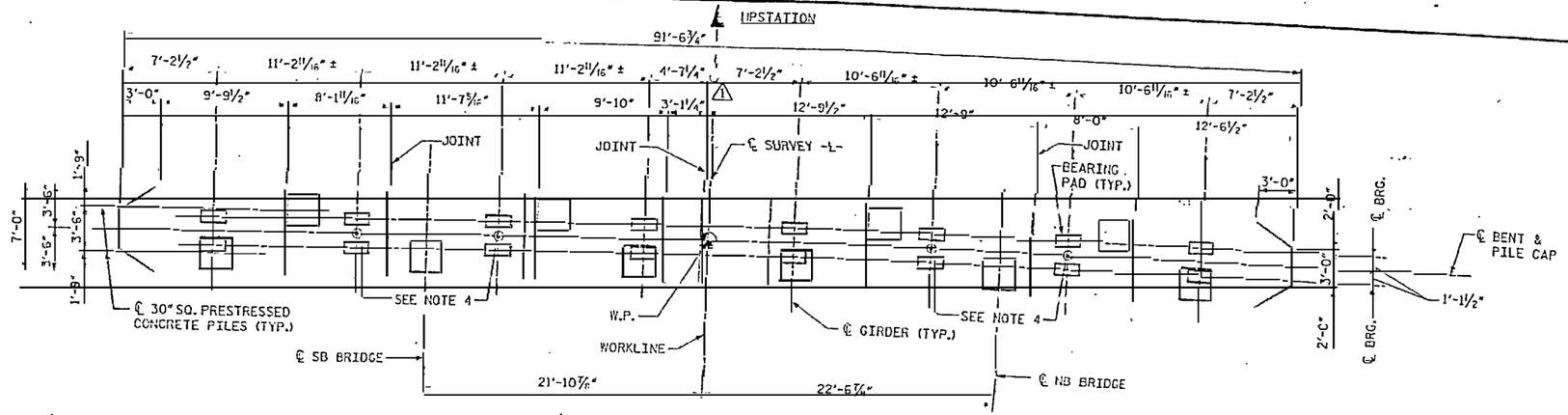
ALL BAR DIMENSIONS ARE OUT TO OUT.

EarthTech
A Jacobs Engineering Group Company

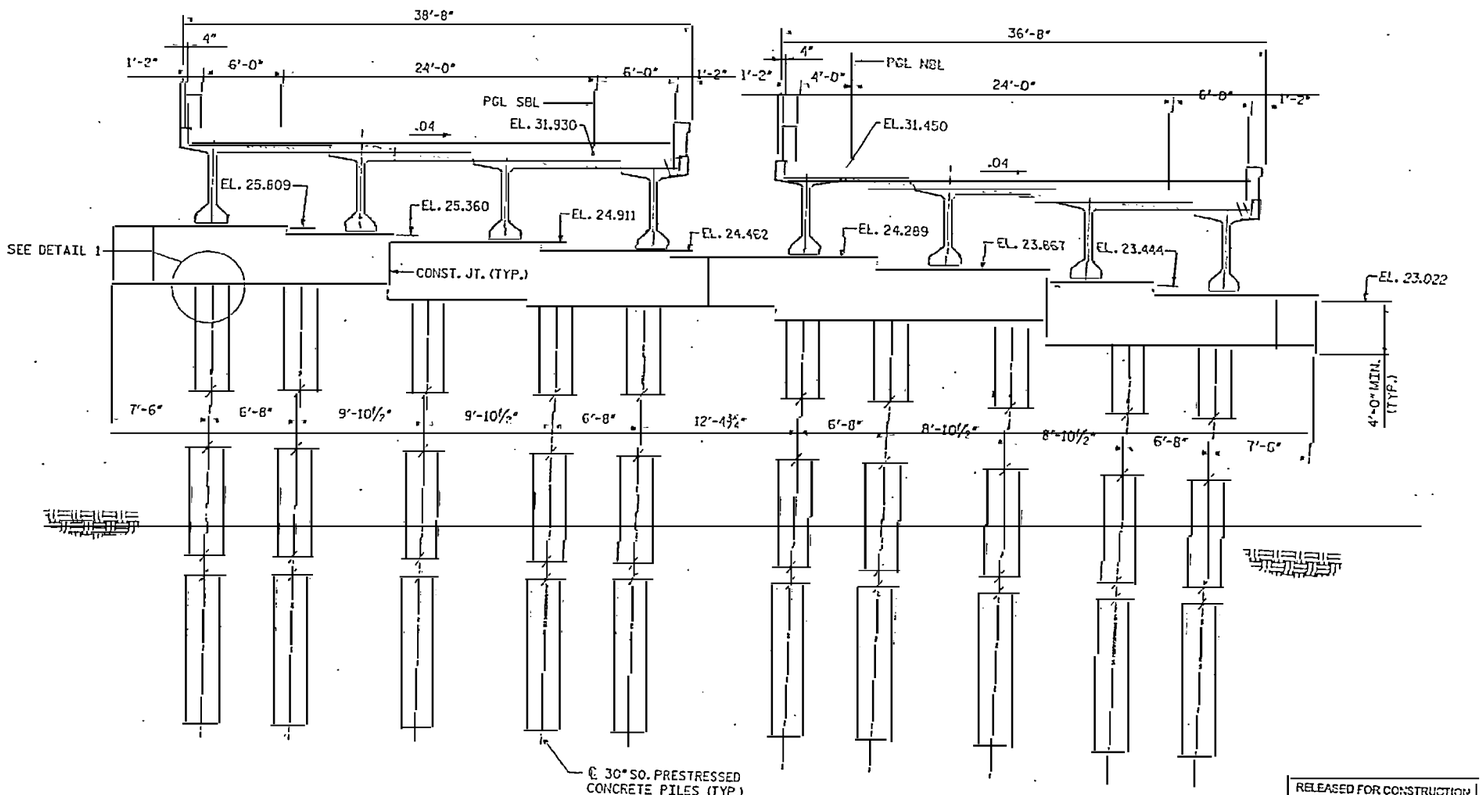
FLATIRON/UNITED
A JOINT VENTURE

CADD INFORMATION
FILE: [illegible]

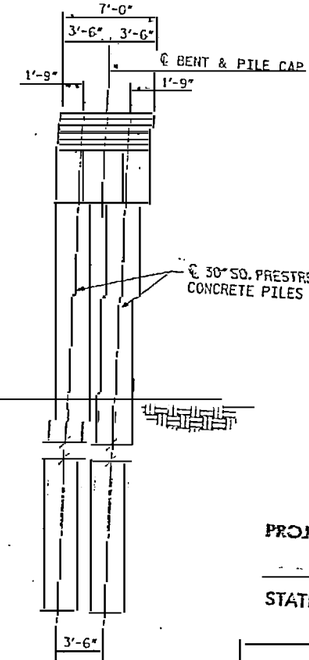
USER NOTE: THE PLAN SHEET ACCURACY AND DETAIL SHOWN ON THIS MICROFILM MAY BE AFFECTED BY THE RELATIVE QUALITY OF THE ORIGINAL DOCUMENT AND/OR THE SCANNING PROCESS USED.



PLAN



ELEVATION
(BENT 113)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. 1" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH. BAR SHALL BE PLUMB.
5. SEE SHEET NO. 2316 FOR DETAIL 1.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/26/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029641 TOM SHEARIN

DRAWN BY : R. WEIBEL — DATE : 07/26
CHECKED BY : J.T.H. — DATE : 10/06

EarthTech
A Jacobs International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

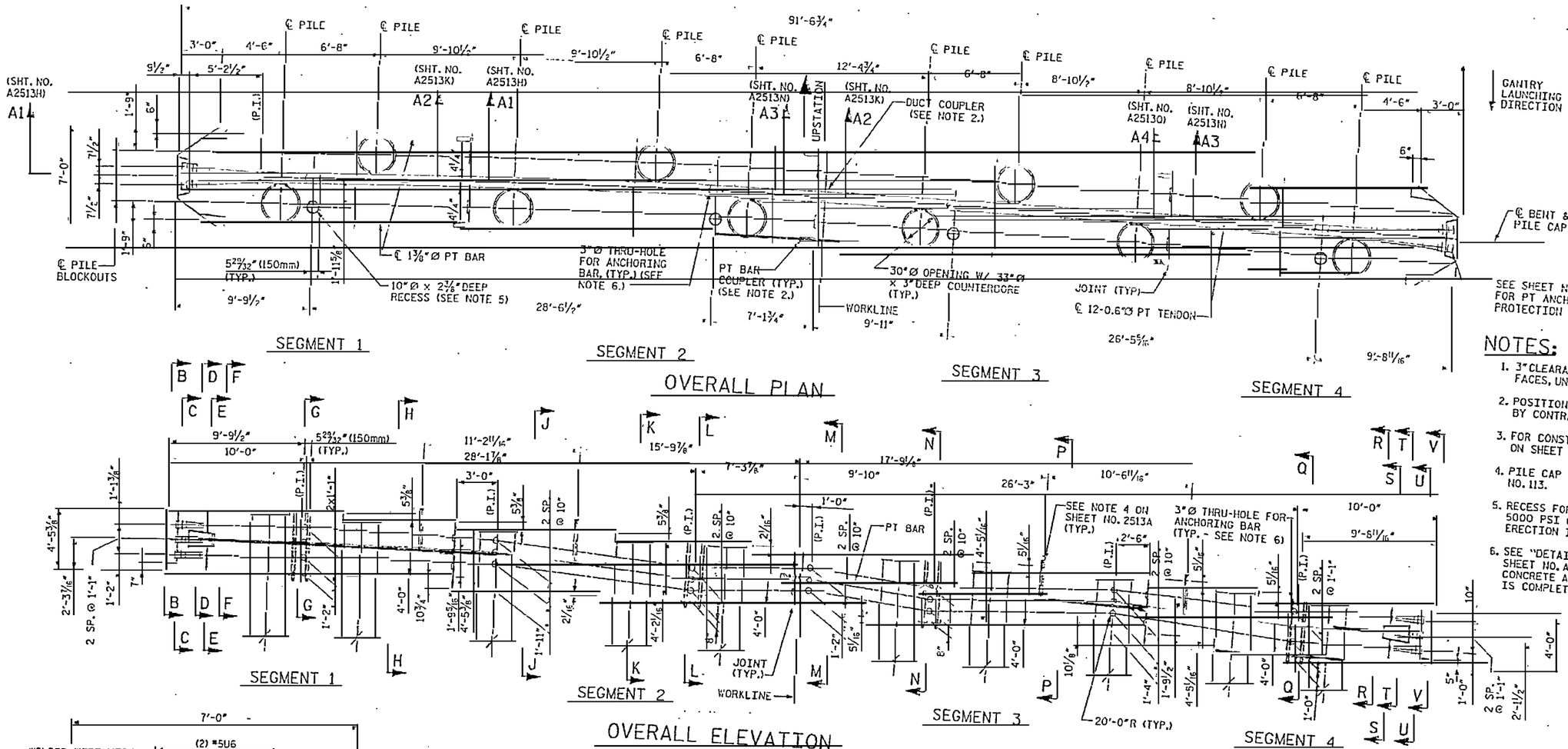
⚠1 GENERAL REVISIONS.
⚠2 REVISION TO NOTE 4.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

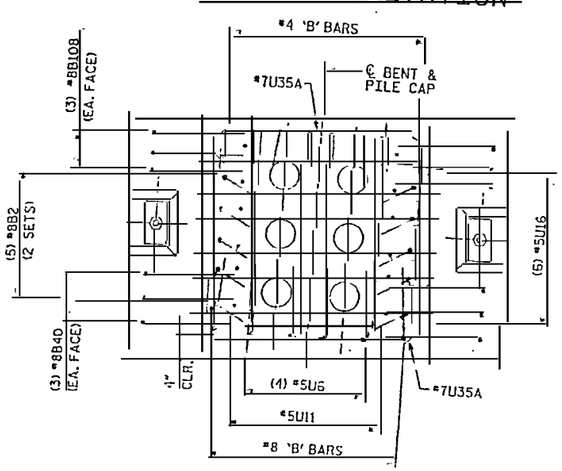
- BRIDGE No. 2 -
DIMENSIONS - BENT TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

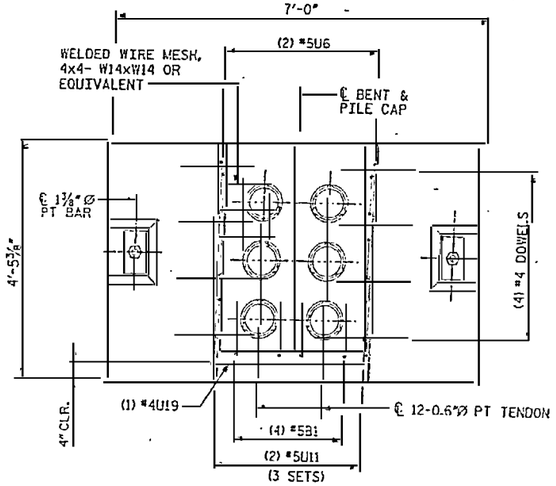
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2513A.02
1	MTC	10/9/07	3			TOTAL SHEETS
2	MTC	10/5/07	4			

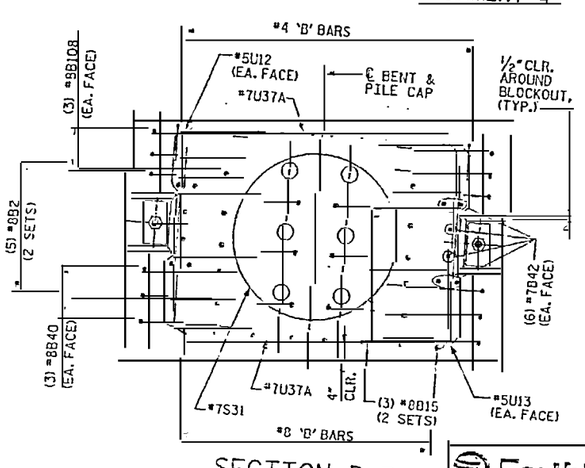


OVERALL PLAN

OVERALL ELEVATION







NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 14A IS USED AT BENT NO. 113.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2513E. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

DRAWN BY : M.T. DELISLE DATE : 12/07
CHECKED BY : J.C. LIU DATE : 12/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 18
~~BRIDGE NO. 355~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

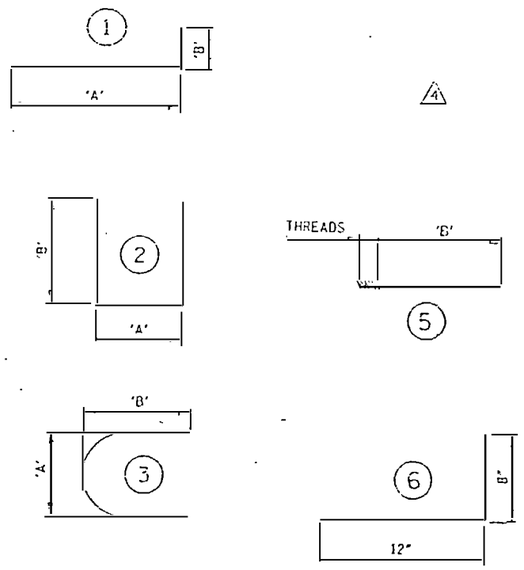
EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						
No.	BY:	DATE:	No.	BY:	DATE:	SHEET NO. A2513B.00
1			3			TOTAL SHEETS
2			4			

DATE 1/7/2008
TIME 7:57:47 AM
USER: mtdelisle
DGN: N:\Structures\Projects\R-2510B\Roadway\Str\R2510B_SB_DETAILS.dgn

BILL OF MATERIAL

BAR TYPES



STRUT TYPE 3 (ONE SHELL OF STRUCT)

BAR	No.	SIZE	TYPE	'A'	'B'	LENGTH	WEIGHT
B6	16	#6	1	14'-0"	1'-0"	15'-0"	360
B7	2	#6	1	29'-0"	1'-0"	30'-0"	90
B8	16	#6	1	27'-1"	1'-0"	28'-1"	675
C1	40	#4	2	9"	1'-6"	3'-9"	100
C2	40	#6	1	5'-6"	1'-0"	6'-6"	391
4 *L160	94	#4	5		8"	8"	42
L31	100	#4	5			1'-8"	111
H1	16	#6	1	28'-4"	1'-0"	29'-4"	705
H2	8	#6	2	8'-6"	1'-0"	10'-6"	126
U1	68	#6	2	8'-8"	4'-2"	17'-0"	1736
U2	1	#6	2	4'-7"	4'-2"	12'-11"	19
U3	1	#6	2	5'-10"	4'-2"	14'-2"	21
U4	1	#6	2	6'-9"	4'-2"	15'-1"	23
U5	1	#6	2	7'-6"	4'-2"	15'-10"	24
U6	1	#6	2	8'-0"	4'-2"	16'-4"	25
U7	1	#6	2	8'-4"	4'-2"	16'-8"	25
U8	1	#6	2	8'-6"	4'-2"	16'-10"	25
U9	1	#6	2	8'-7"	4'-2"	16'-11"	25
U10	9	#6	3	8'-6"	11'-2"	27'-2"	367
V1	32	#5	1	4'-2"	1'-0"	5'-2"	172

*EPOXY COATED

ALL BAR DIMENSIONS ARE OUT TO OUT.

1 ADDED BAR TYPE 3.
2 REMOVED CALLOUTS FOR STRUT TYPE 4.
3 GENERAL REVISION
4 GENERAL REVISION

DRAWN BY : C.J.PITTFIELD DATE : 03/01
CHECKED BY : J.E.T.H DATE : 03/01

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 26297 ENGINEER WILLIAM SCOTT 10/23/06

Earth Tech
FLATIRON/UNITED
A JOINT VENTURE

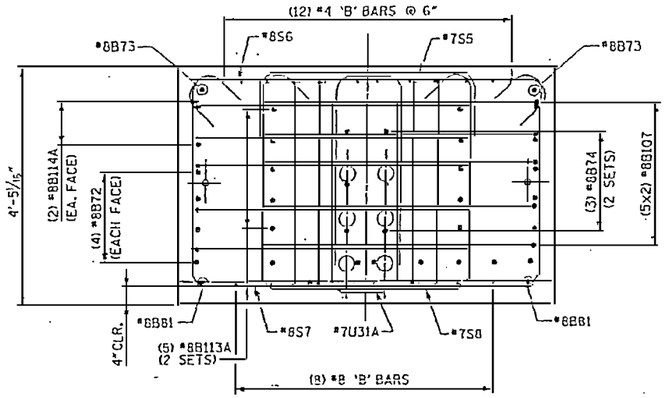
PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 2
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

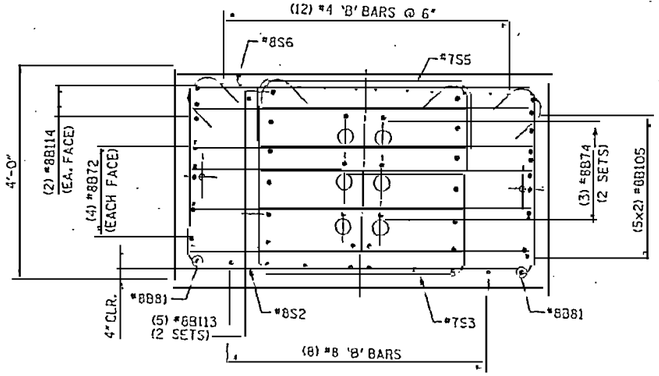
PRECAST SHELL FOR STRUT TYPE 3 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2612.04
#1	CJP	11/15/06	#3	DLF	10/13/06	TOTAL SHEETS
#2	MTH	12/22/06	#4	DLF	10/23/06	

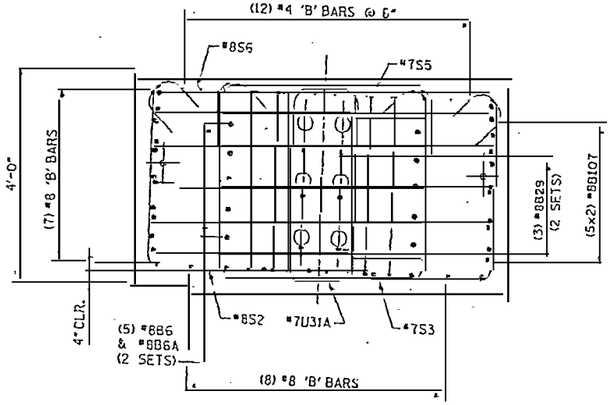


SECTION N-N

(ANCHORING BARS NOT SHOWN FOR CLARITY)

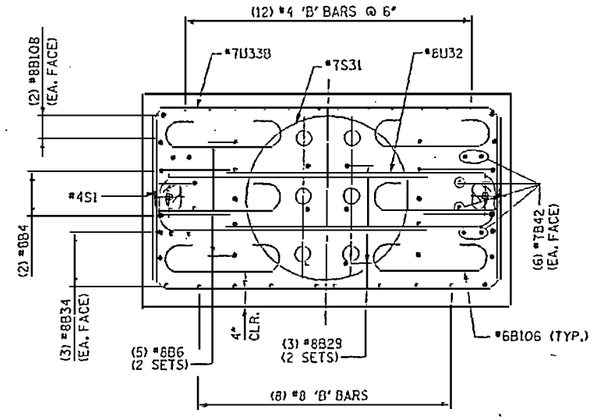


SECTION P-P

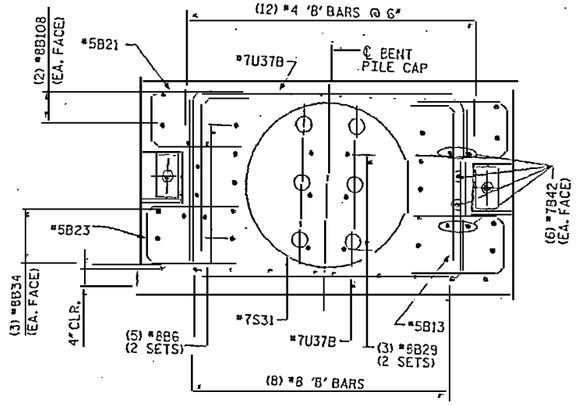


SECTION Q-Q

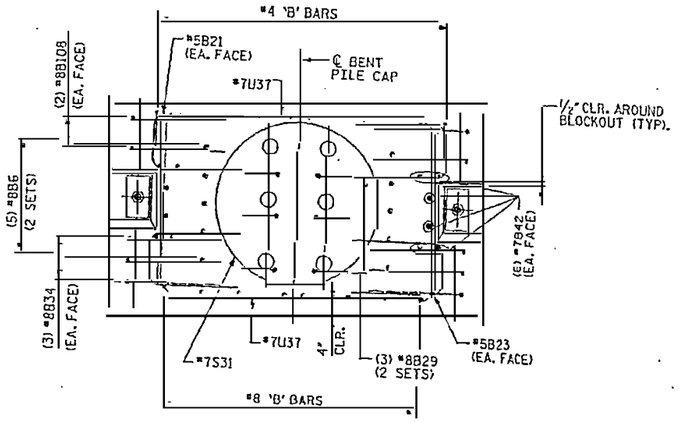
(ANCHORING BARS NOT SHOWN FOR CLARITY)



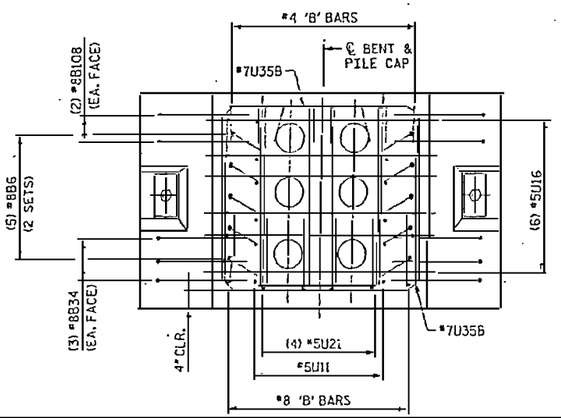
SECTION R-R



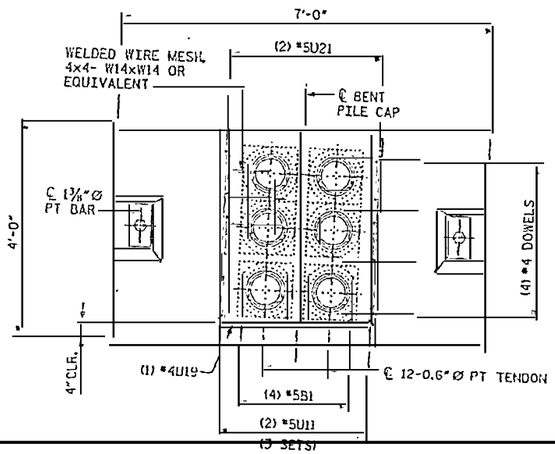
SECTION S-S



SECTION T-T



SECTION U-U



SECTION V-V

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 18
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR ~~BRIDGE~~ ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

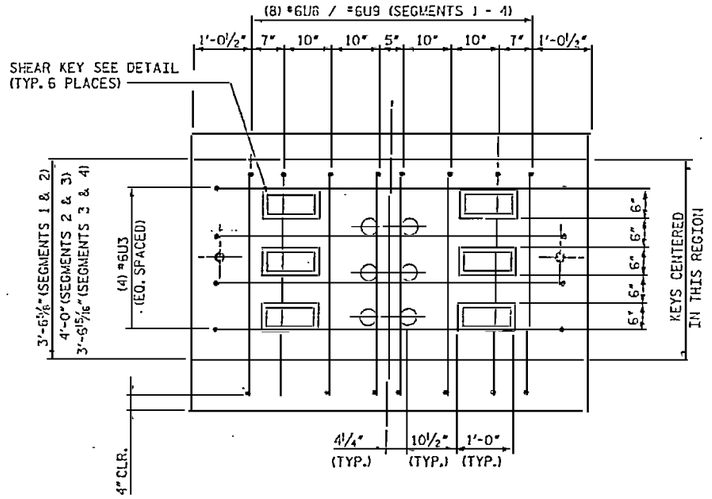
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2513D.00
TOTAL SHEETS

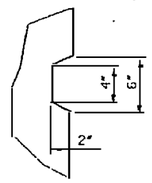
DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J.LIU DATE : 12/07

DGN: ATB6BRG1 (ENGINEERING SOLUTIONS-DOT.dgn)
DATE: 12/20/07
PLOT: 12/20/07 AM



SECTION AT JOINT

(SEE SHEET NO. A2513B)



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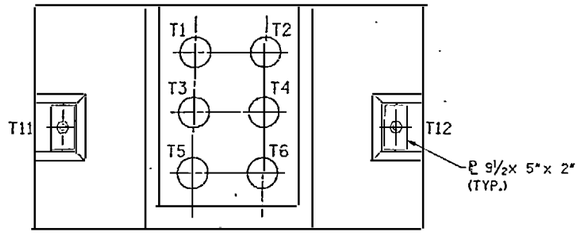
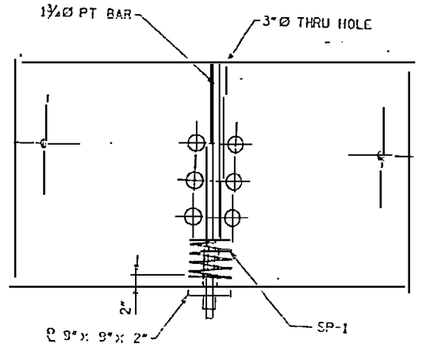


TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-0.6"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESITANT 3"Ø I.D. PVC PIPE)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M.T. BELTSLE DATE : 12/07
CHECKED BY : J. LEE DATE : 12/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

RELEASED FOR CONSTRUCTION
TOY SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 18
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2513E.00
1			3			TOTAL SHEETS
2			4			

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DATE: 12/20/07
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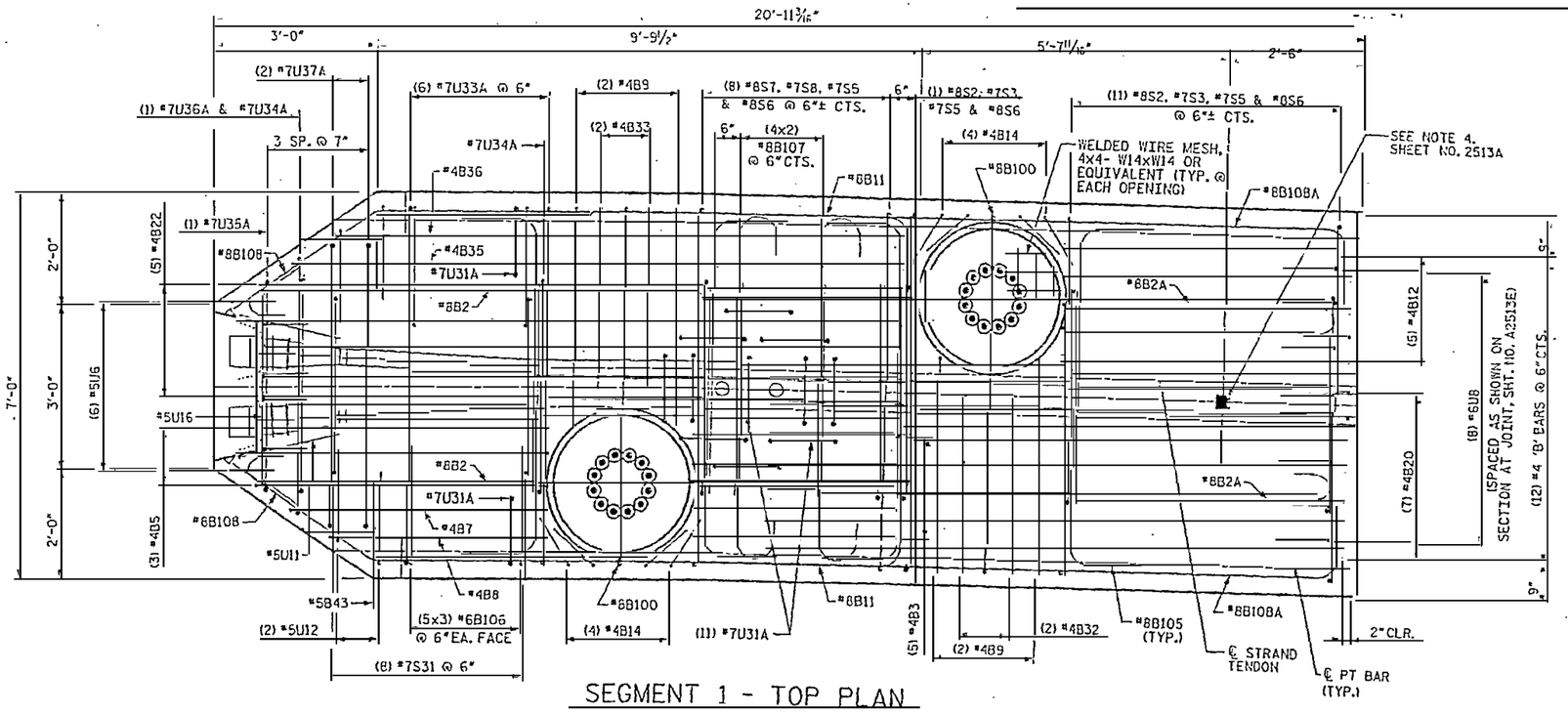
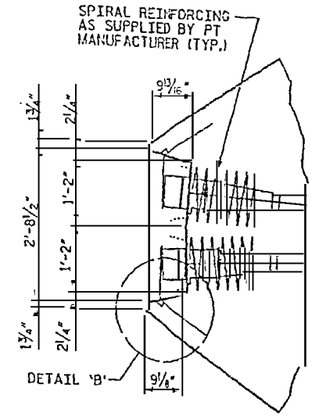


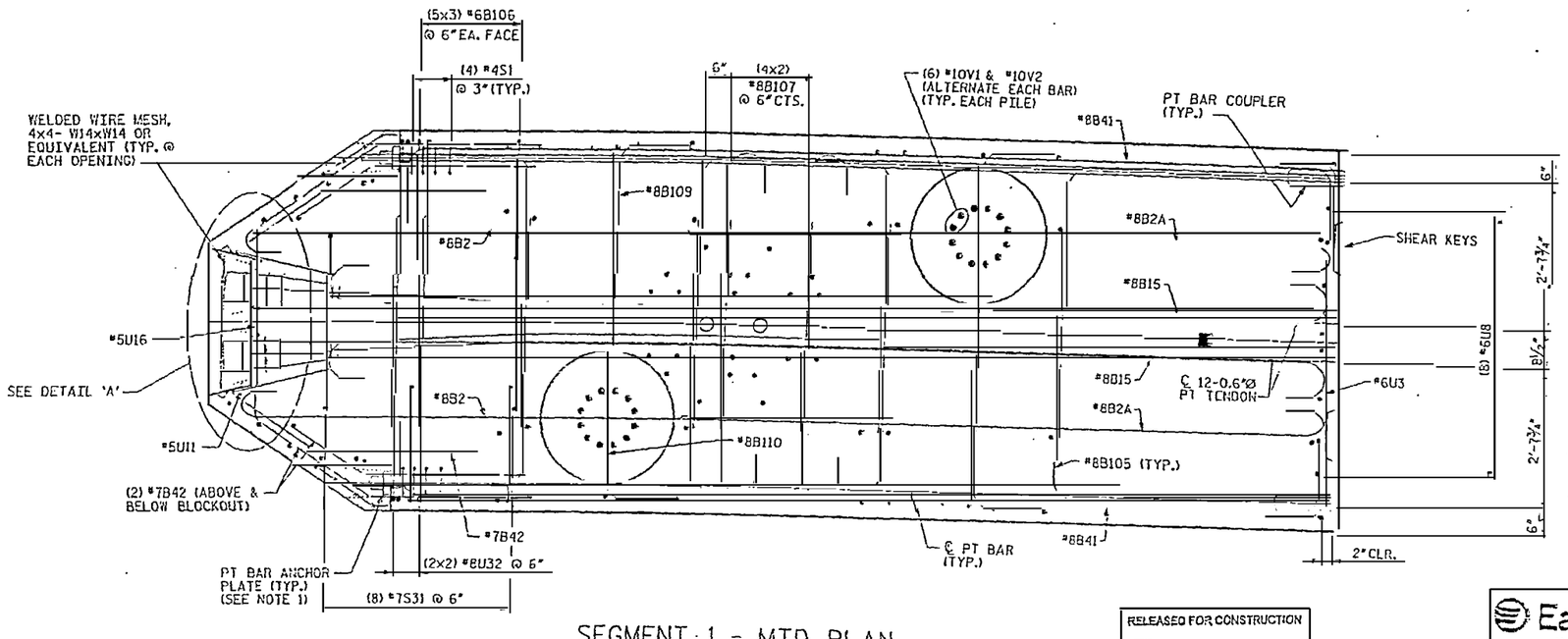
SEGMENT 1 - TOP PLAN

NOTES:

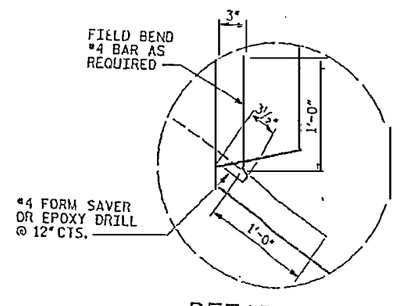
1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



SEGMENT 1 - MID PLAN



DETAIL 'B'

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 5 OF 18

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

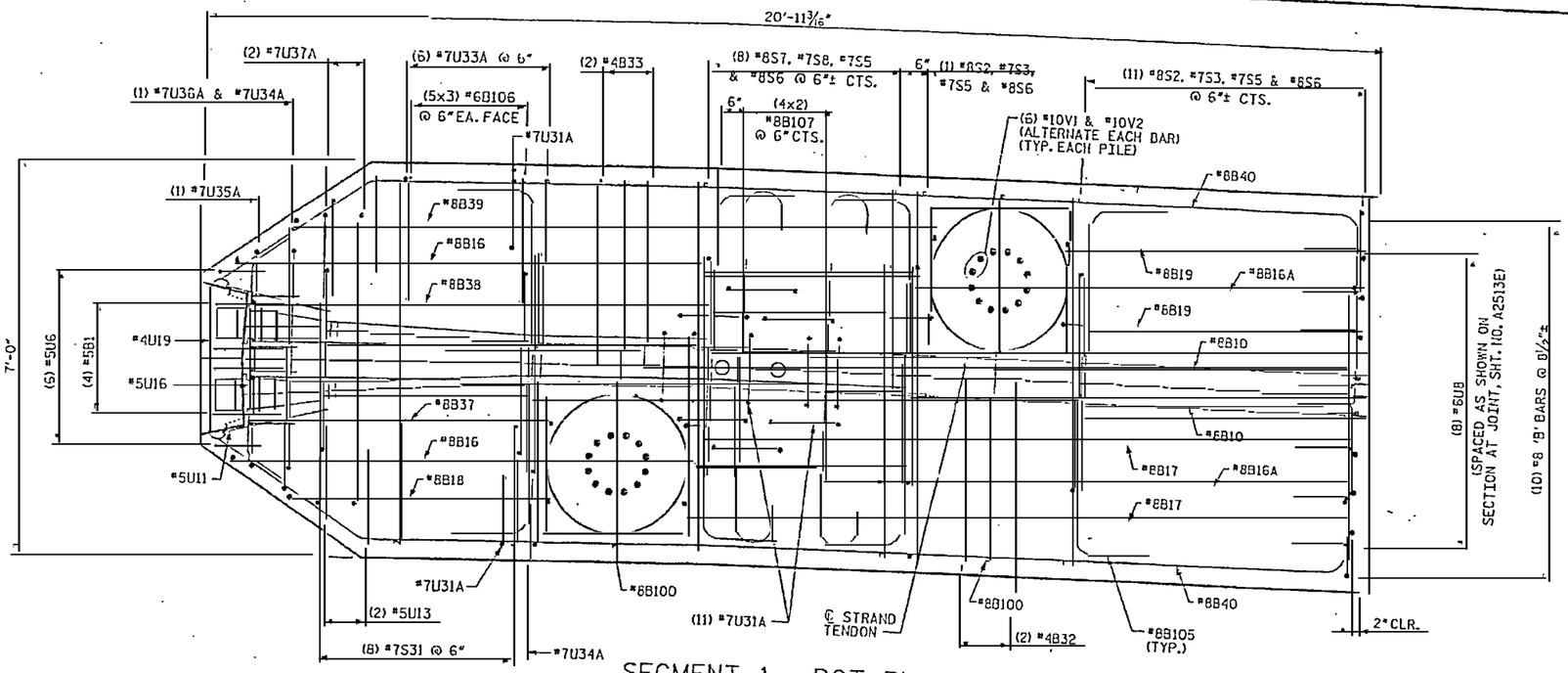
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

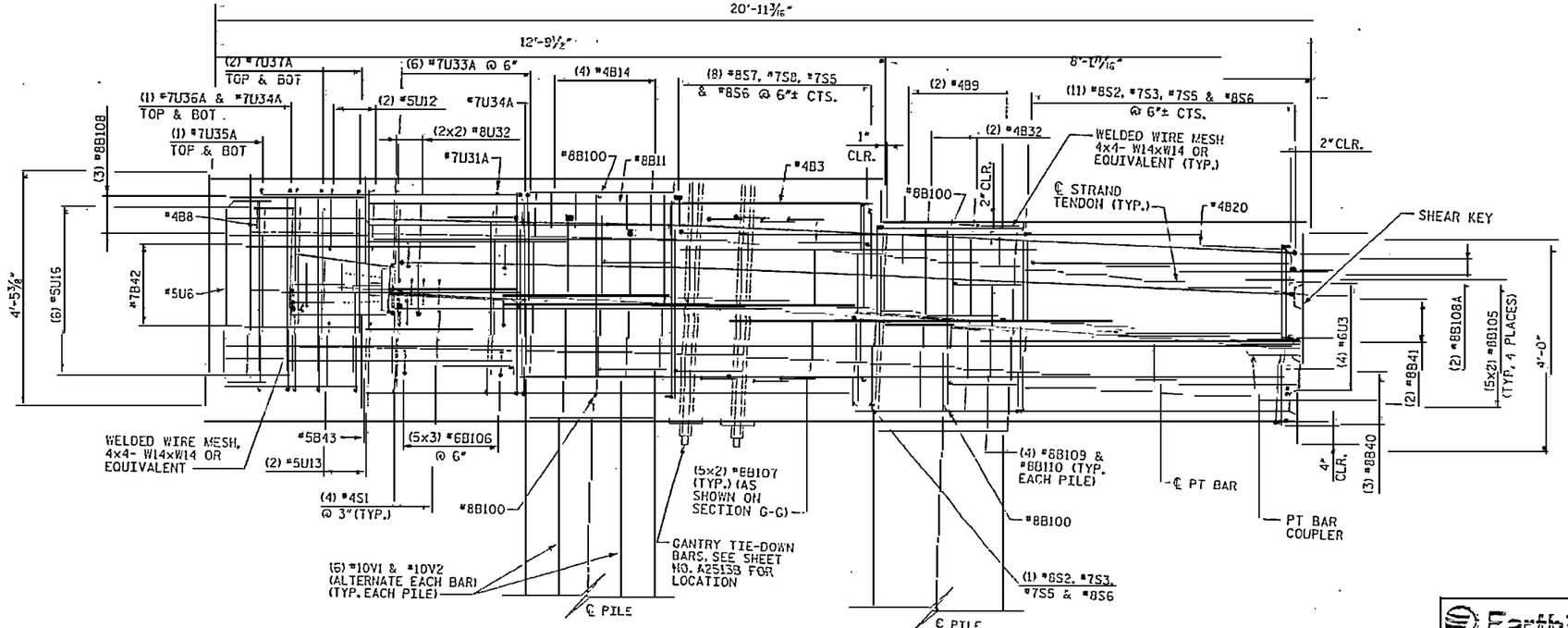
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2513F.00

TOTAL SHEETS



SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030878 JOHN K. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 18
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2513C.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 12/07
~~CHECKED BY : J.LTU~~ ~~DATE : 12/07~~

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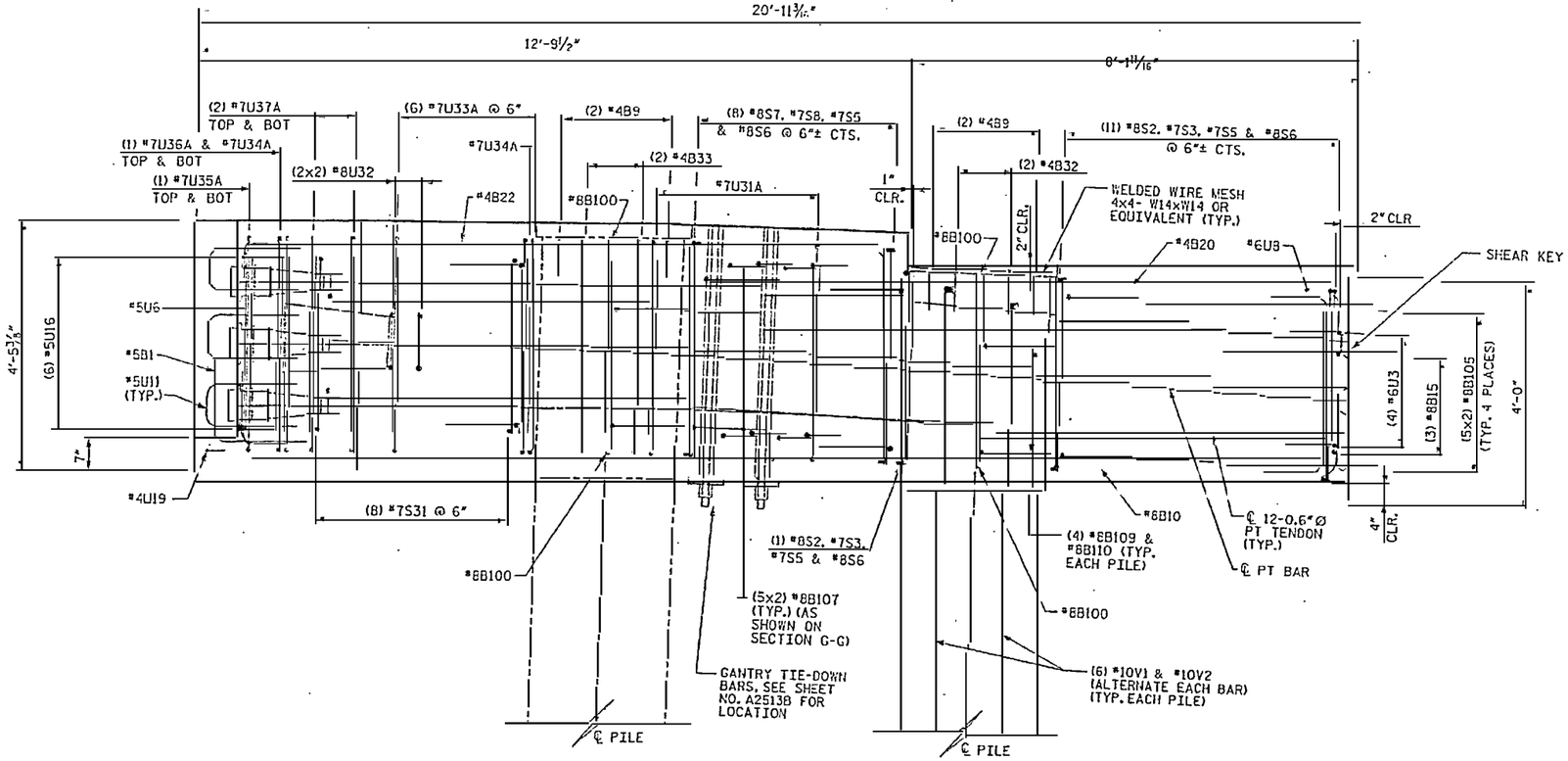
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

USER: mbelisle
DGN: K:\STRUCTURE\For Bridge\DGN\2513C_SOLIDLETTER-SIZE.dgn
DATE: 12/7/2007
TIME: 10:53:39 AM



SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2513B)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1/2" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 7 OF 16

~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2513H.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 1/8/2008
TIME: 12:19:13 PM

USER: rjhudgins
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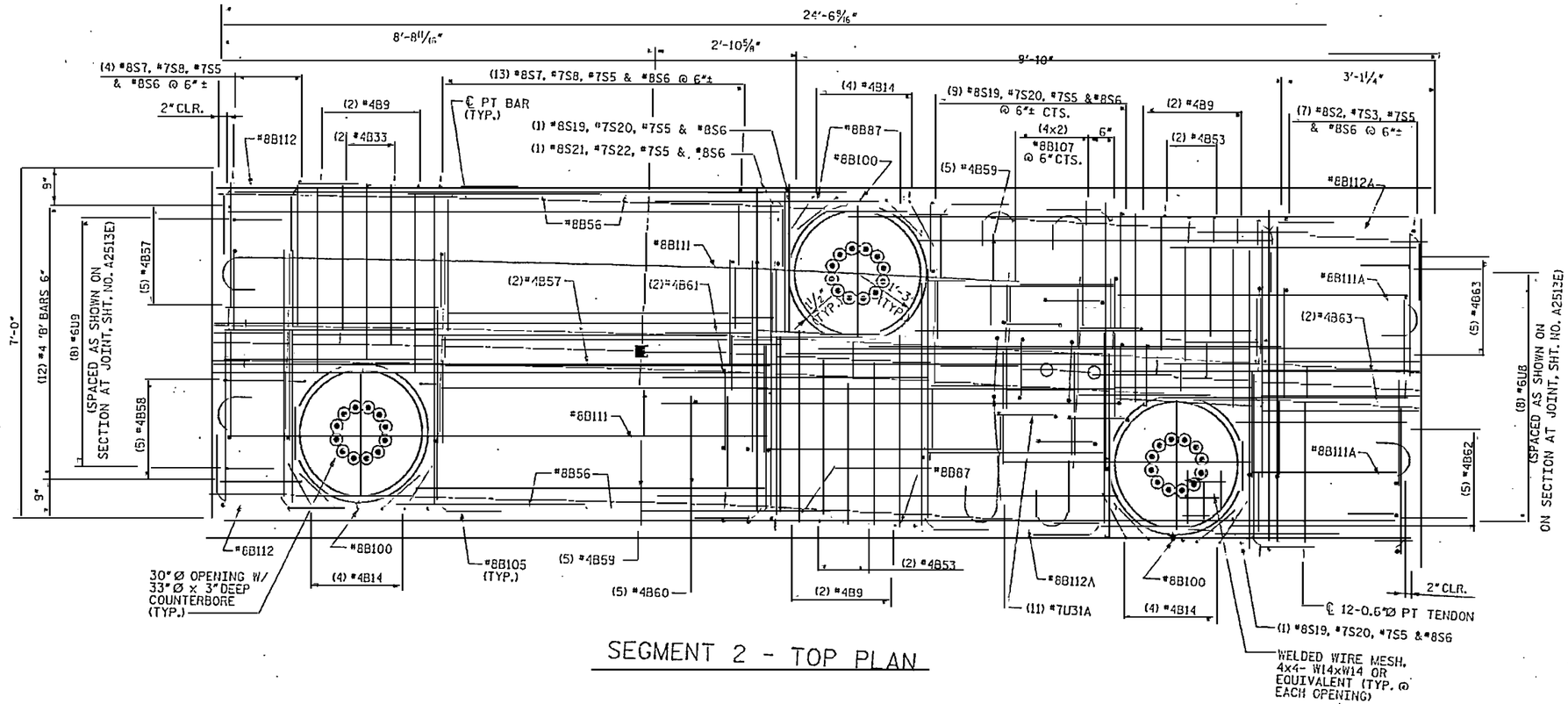
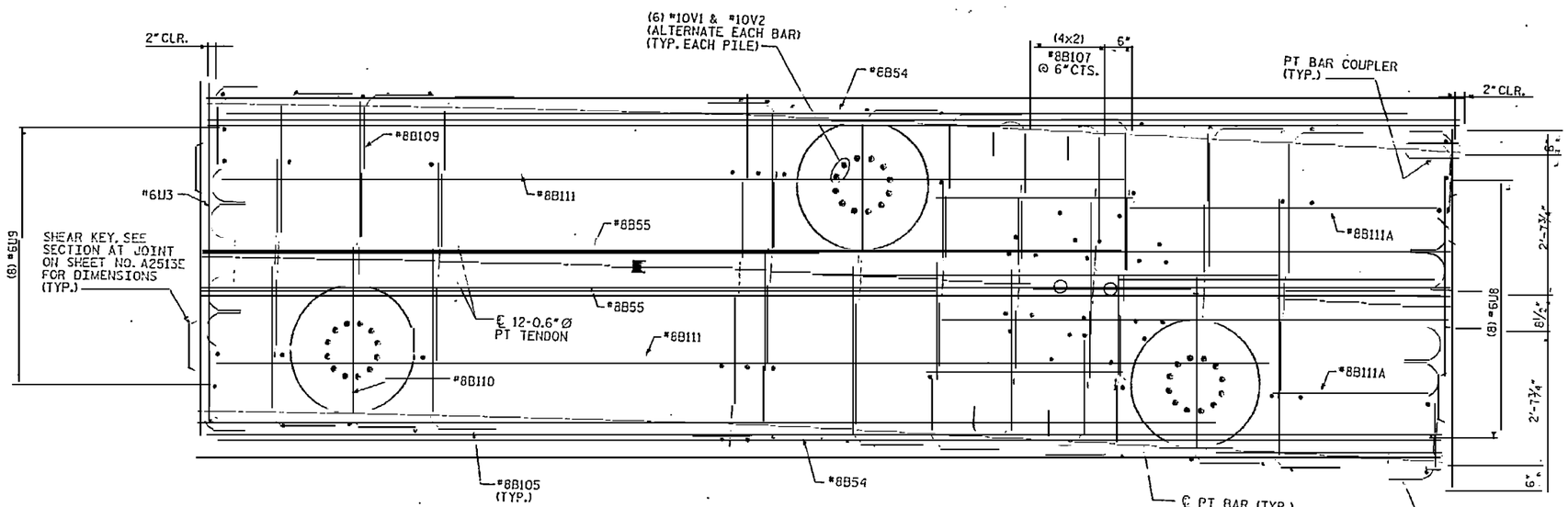


SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030976 THOMAS M. SHEARIN JOHN A. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 1/17/08
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 18
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

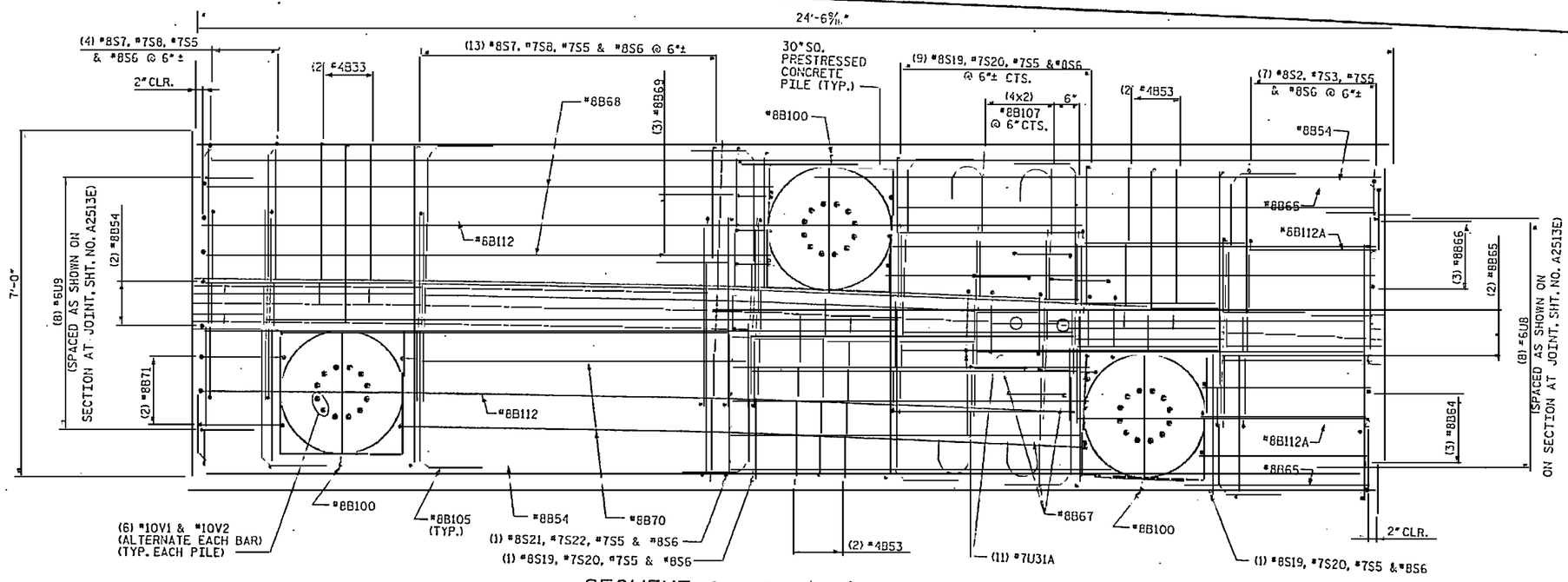
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		A2513J.DG
							TOTAL SHEETS

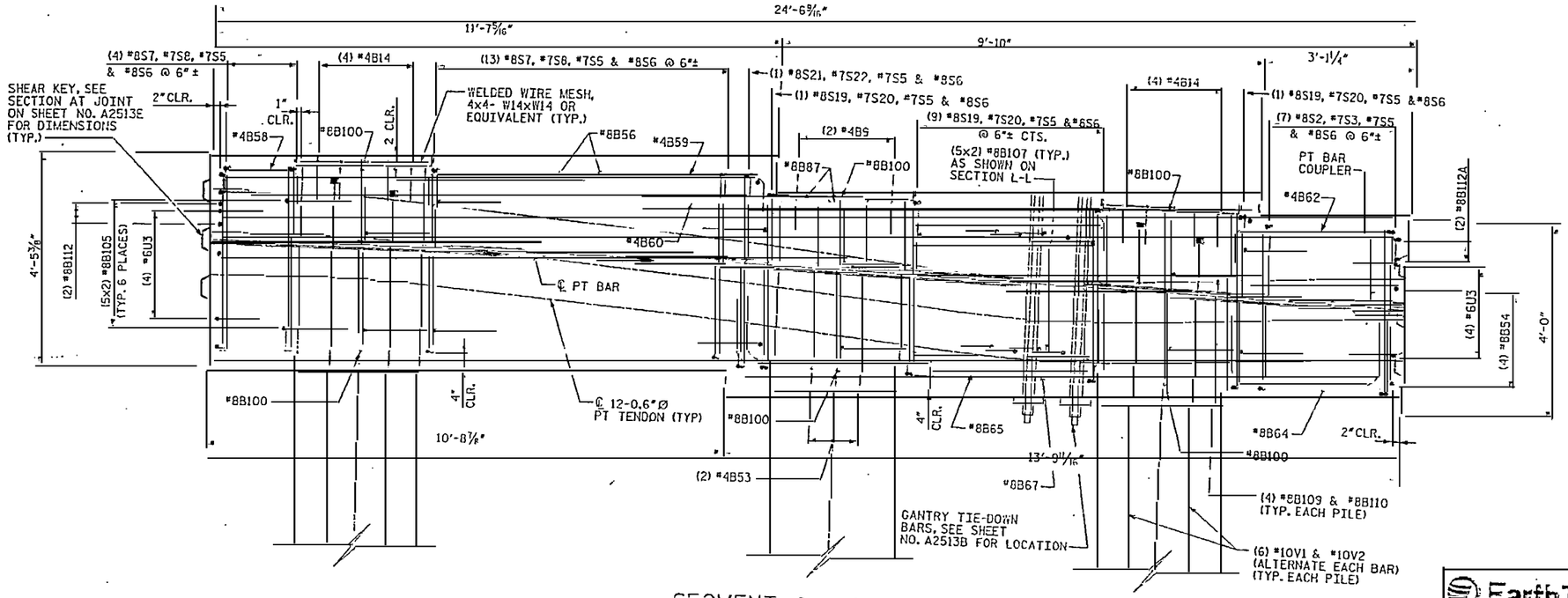
DRAWN BY : G.T. BELISLE DATE : 12/07
CHECKED BY : J. LTF DATE : 12/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE



SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL C30876 THOMAS W. SHEARIN JR.

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 18
~~BRIDGE NO. 353~~

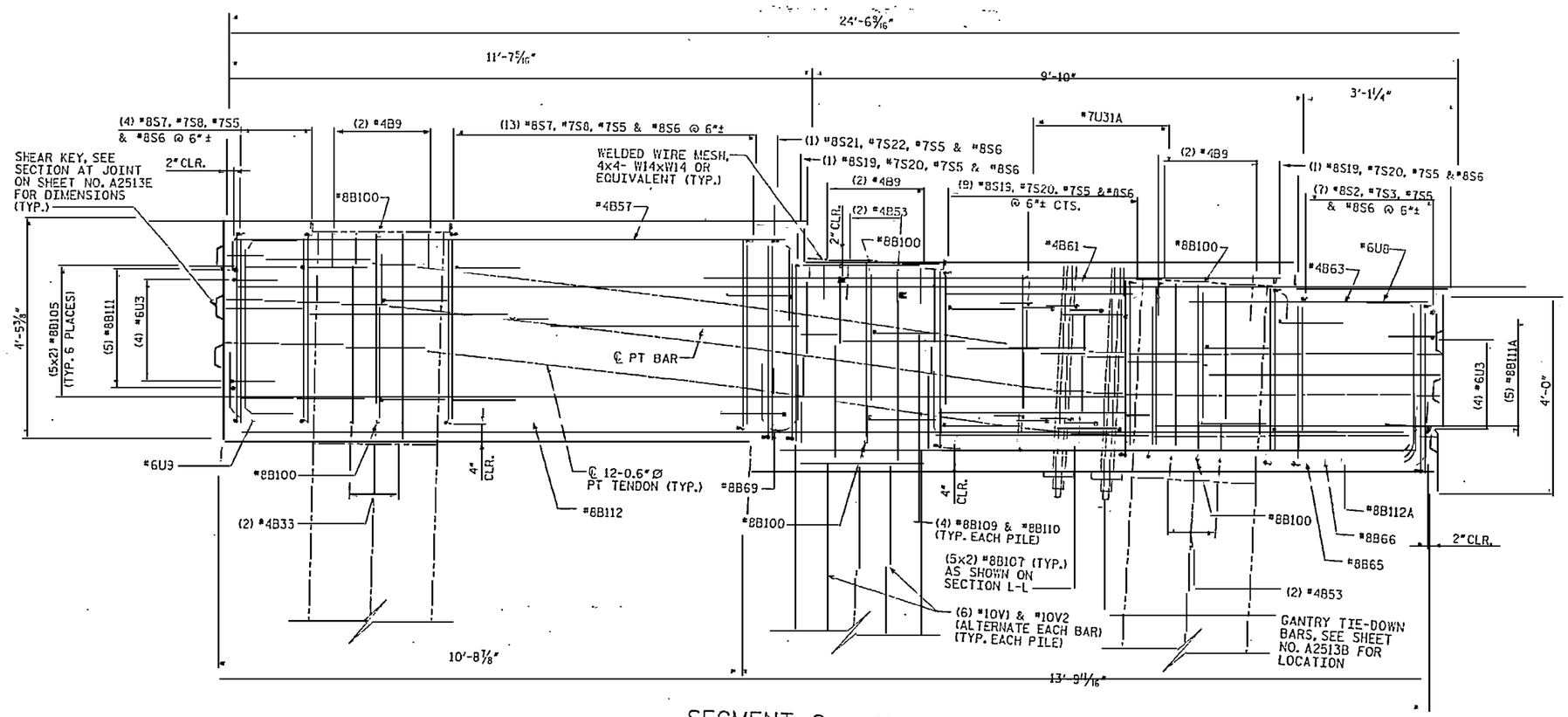
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2513J.00
1			3			TOTAL SHEETS
2			4			

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2513B)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE:

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 10 OF 18
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2513K.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 12/07
CHECKED BY : J.LEH DATE : 12/07

Earth Tech
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FLATIRON/UNITED
A JOINT VENTURE

DATE: 12/7/2009
TIME: 1:42:55 PM
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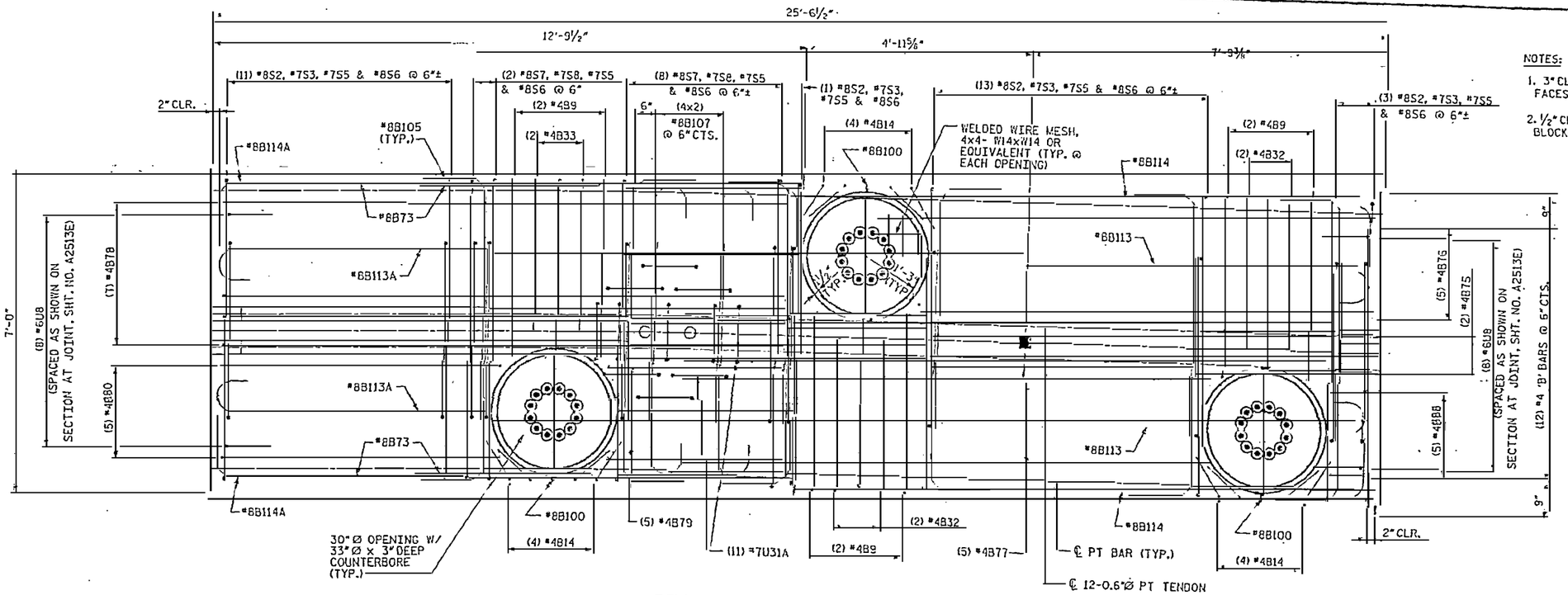
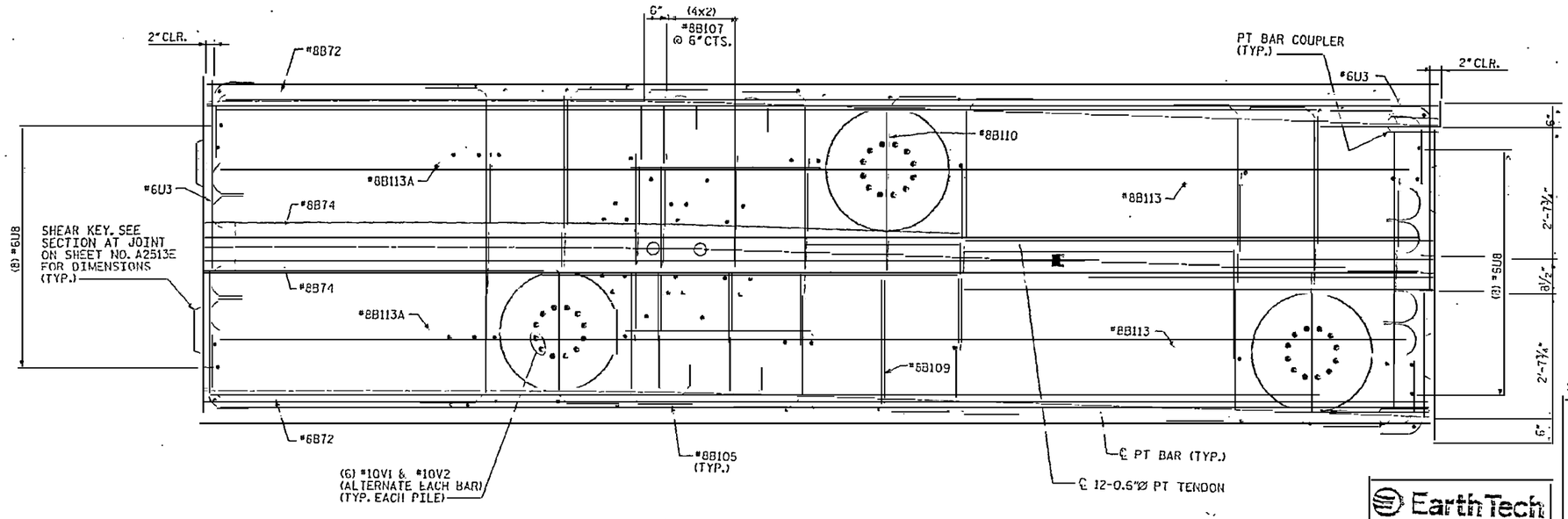


SEGMENT 3 - TOP PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 3 - MID PLAN

DRAWN BY : M.T. DELISLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 18 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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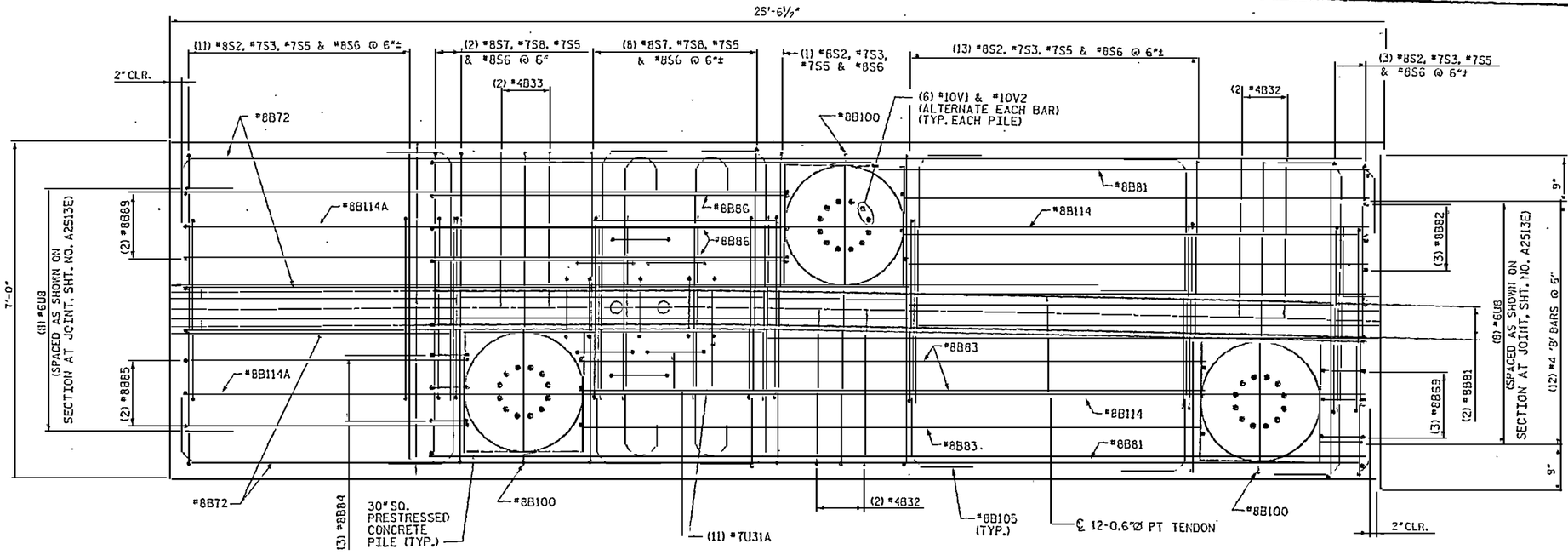
A JOINT VENTURE

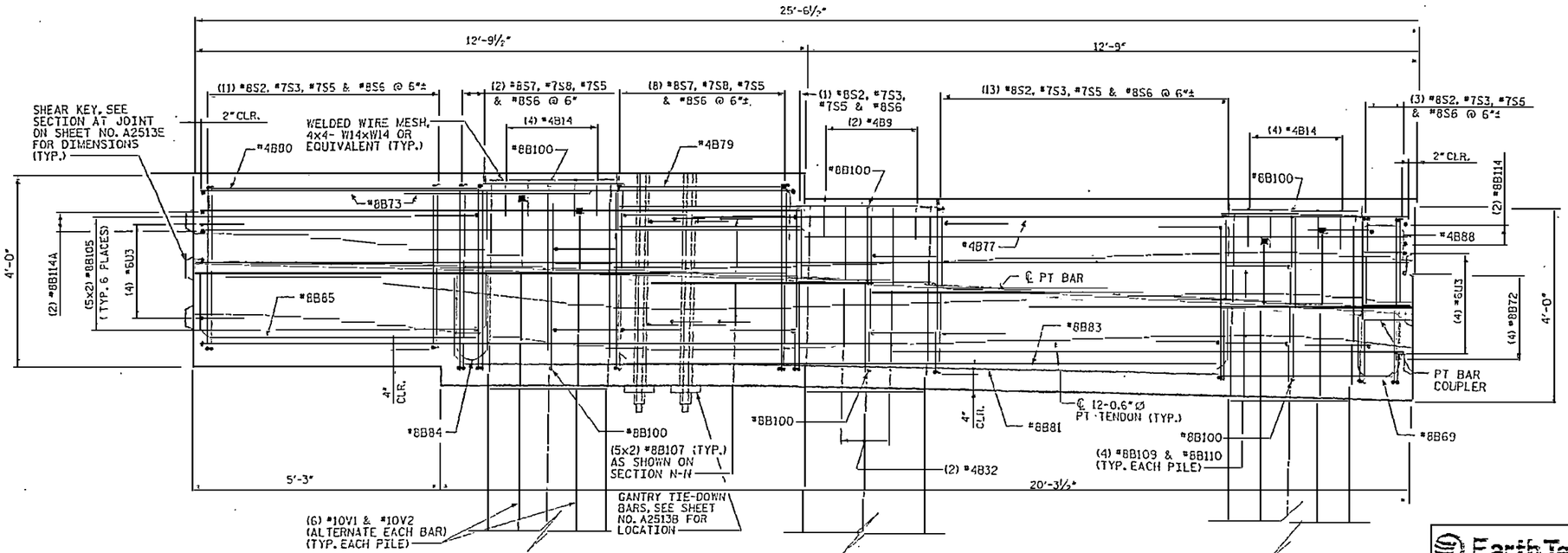
REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

SHEET NO. A2513L.00
TOTAL SHEETS



SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 1/22/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 16 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2513M.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELTSIE — DATE : 12/07
CHECKED BY : J. LIU — DATE : 12/07

Earth Tech, A Tyco International Ltd. Company
FLATIRON/UNITED, A JOINT VENTURE

DATE: 1/4/2008
USER: mbeltsie
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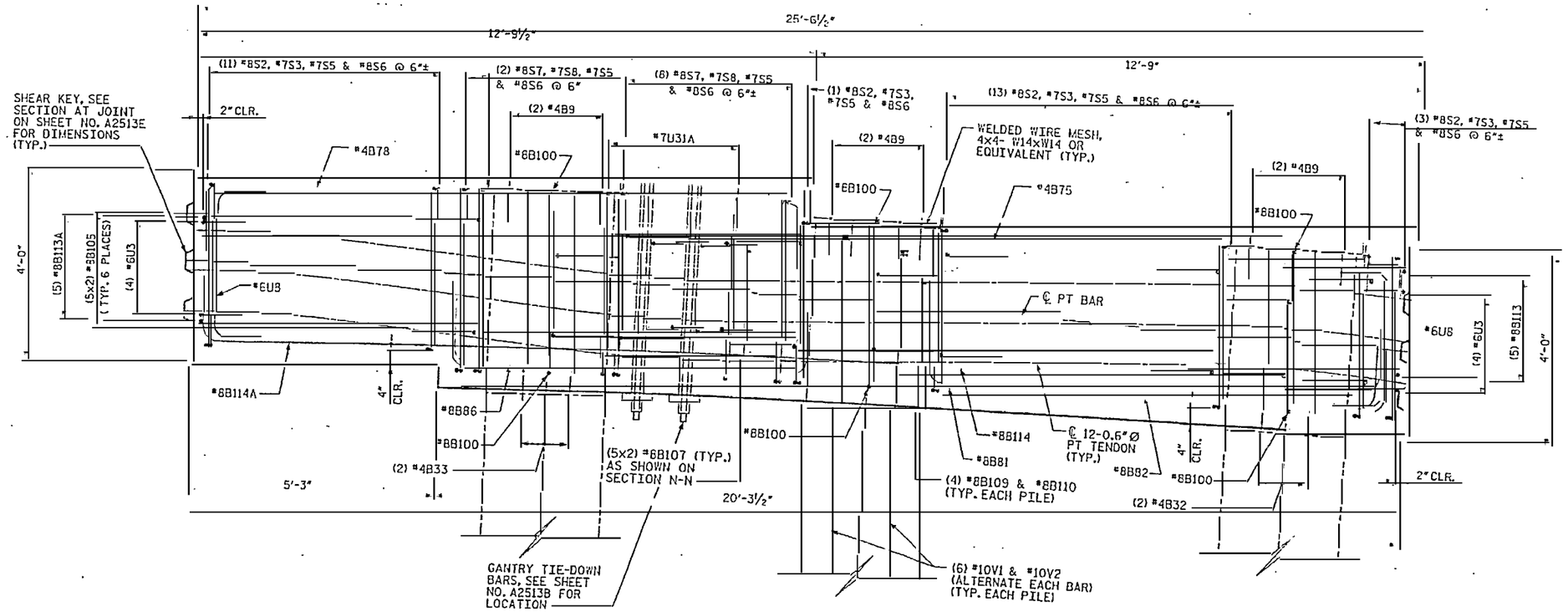

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2513B)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 13 OF 18
~~BRIDGE NO. 333~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO	BY:	DATE:	NO	BY:	DATE:
			3		
			4		

SHEET NO. A2513N.00
TOTAL SHEETS

DRAWN BY : M.T.BELISLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

Earth Tech
A Tyco International Ltd Company
FLATIRON/UNITED
A JOINT VENTURE

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TIME 10:05:17 AM
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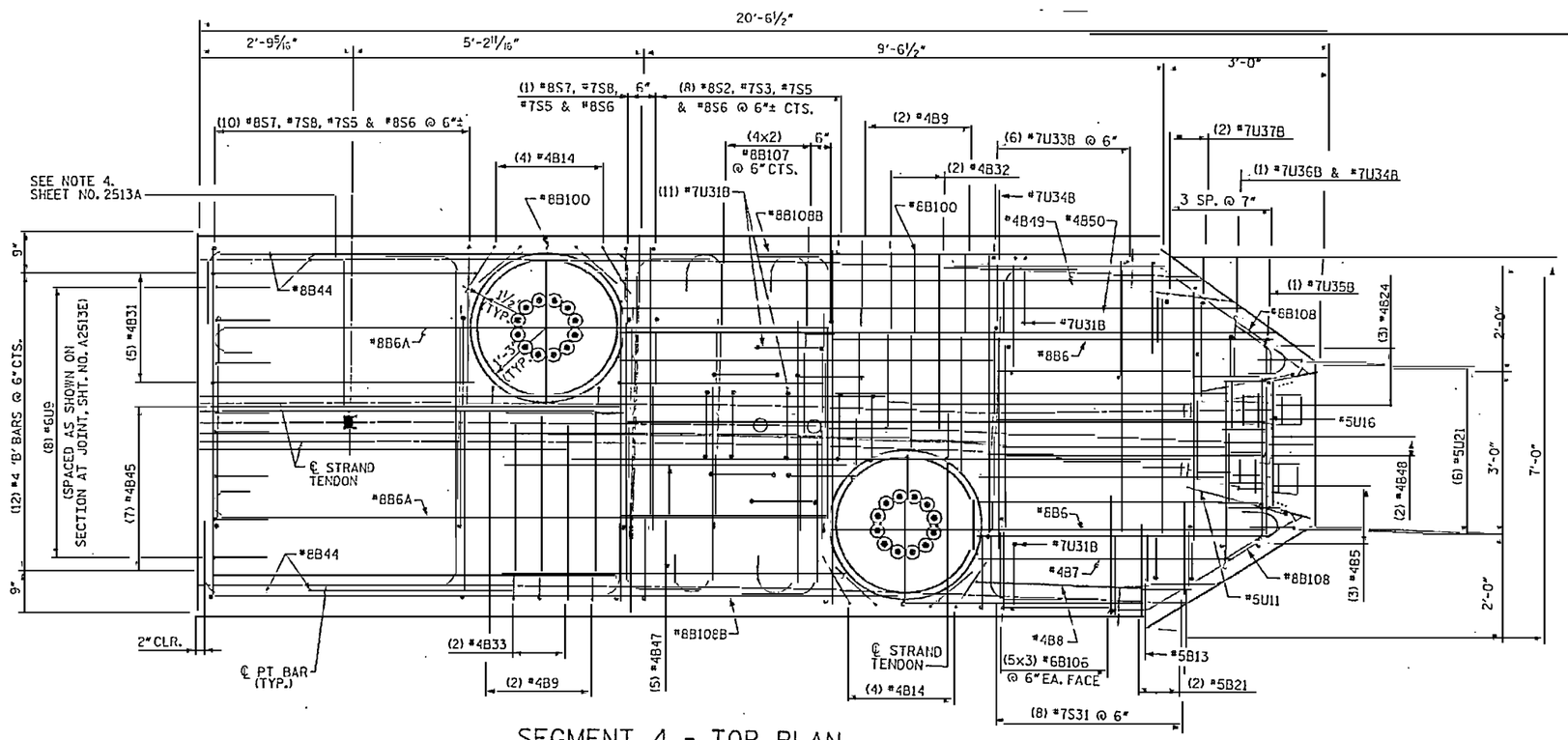
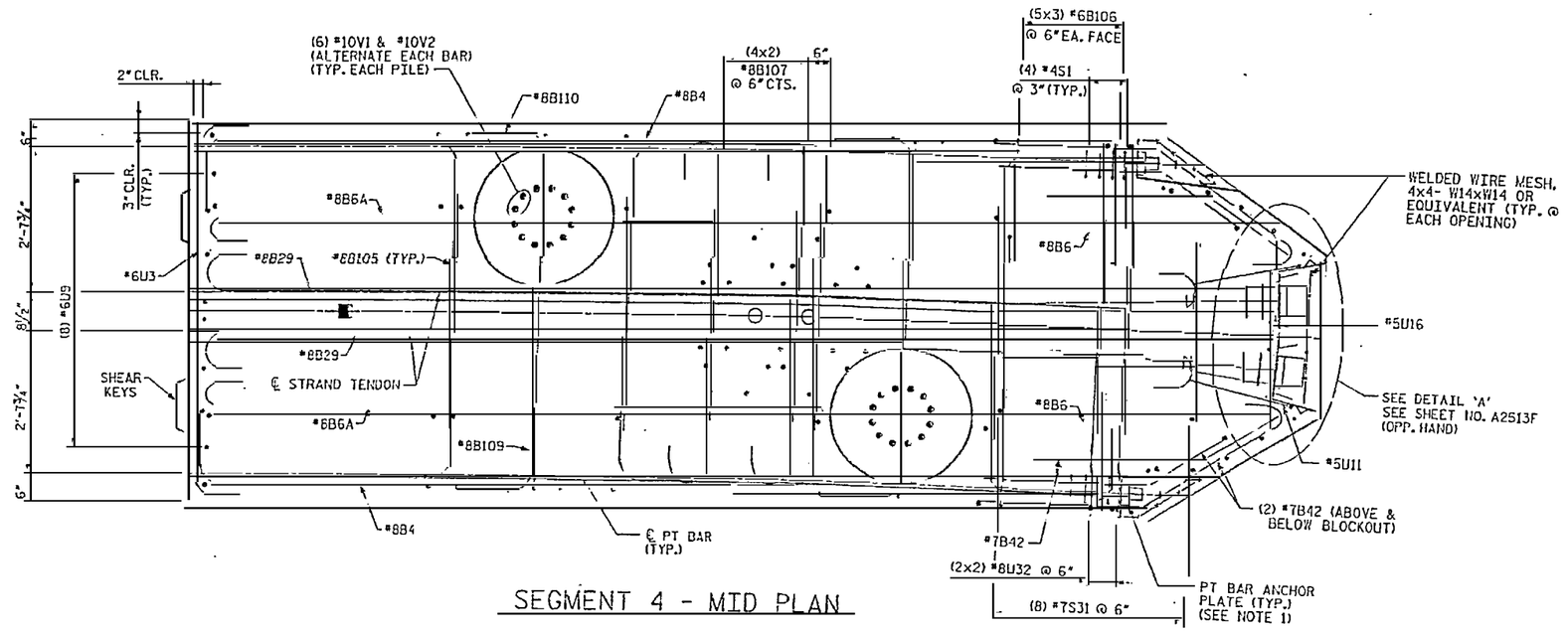


SEGMENT 4 - TOP PLAN



SEGMENT 4 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 14 OF 18
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A25130.00
TOTAL SHEETS

DRAWN BY : M.T. BFLTSL-P DATE : 12/07
CHECKED BY : J.L.TH DATE : 12/07

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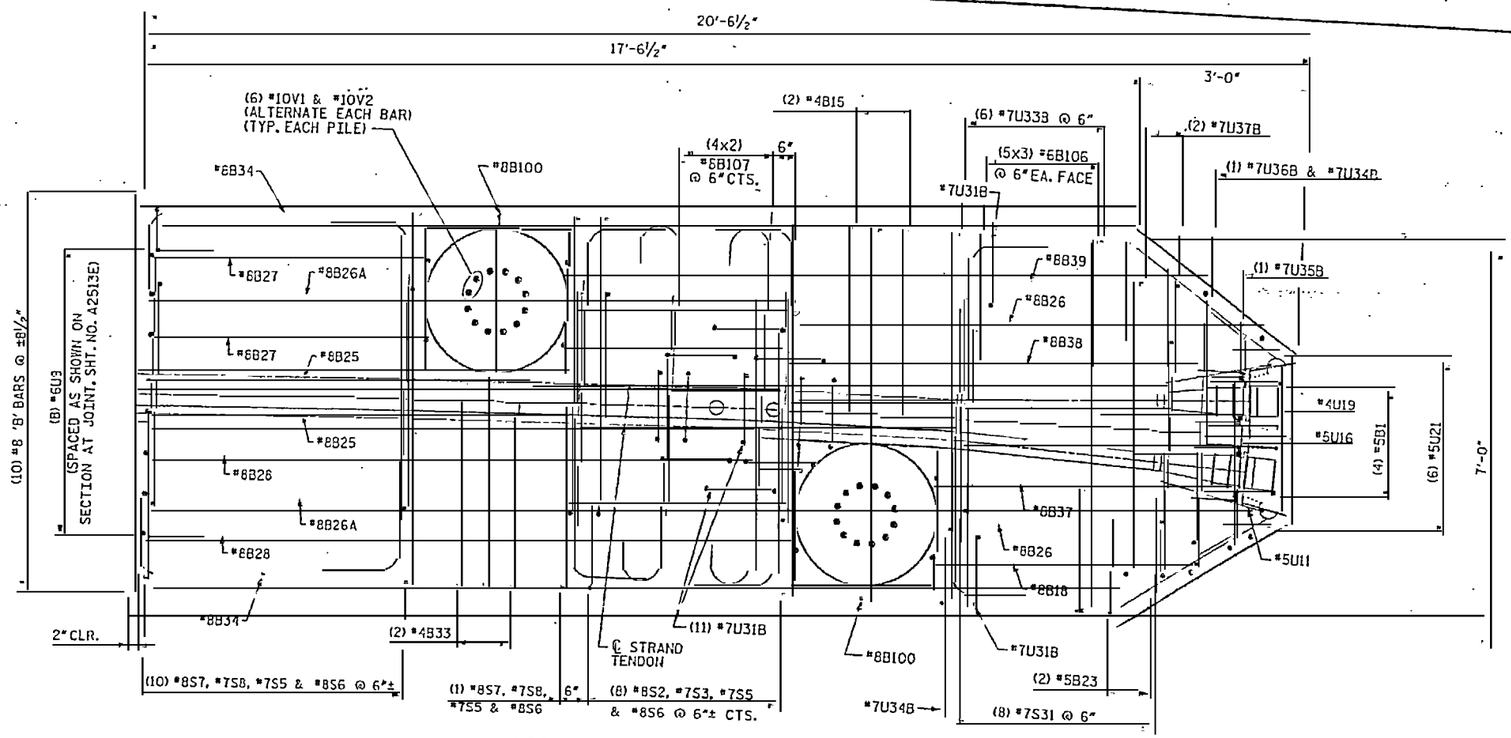
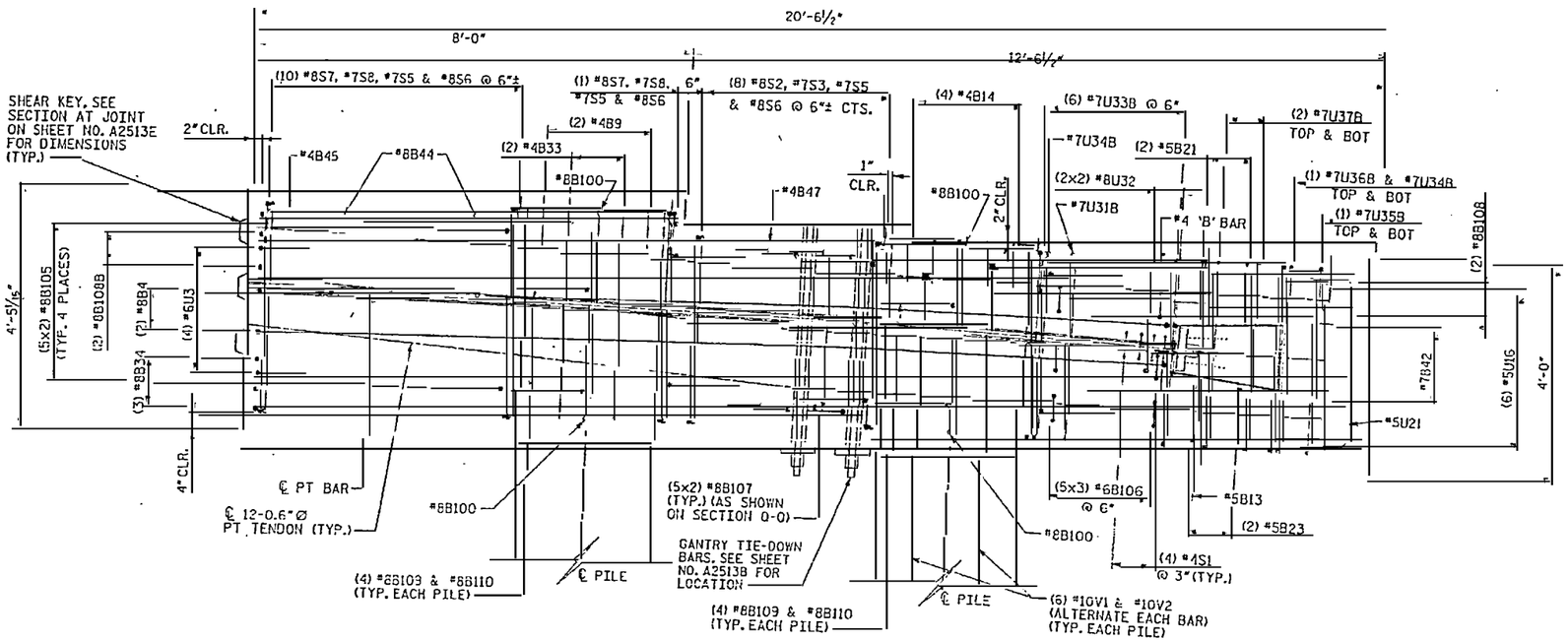
A JOINT VENTURE



SEGMENT 4 - BOT PLAN



SEGMENT 4 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 15 OF 18
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

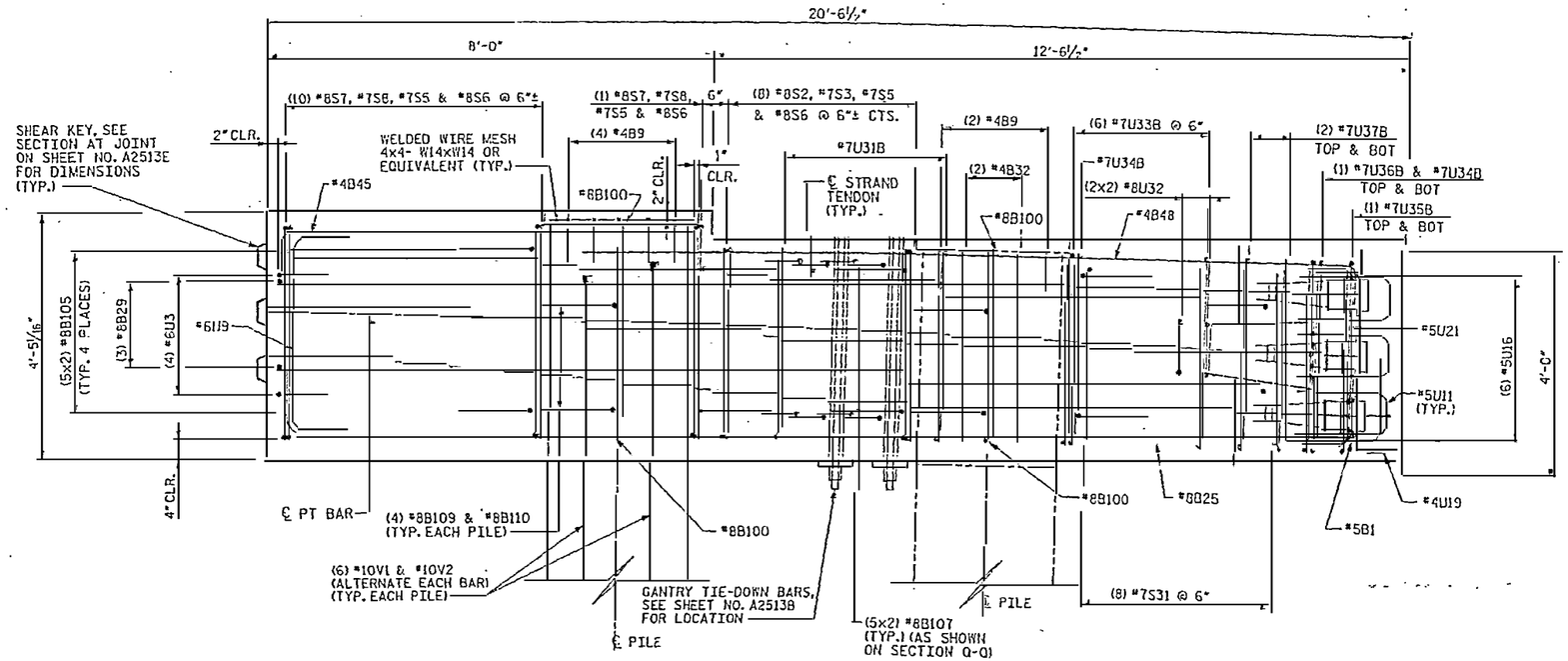
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2513P.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELTSIF DATE : 12/07
CHECKED BY : J. LTU DATE : 12/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE



SEGMENT 4 - SECTION A4

(SEE SHEET NO. A2513B)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA ENGINEER SEAL 030676 TOM SHEARIN JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 16 OF 18 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
~~FOR BRIDGE~~ ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2513A.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. DELISLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

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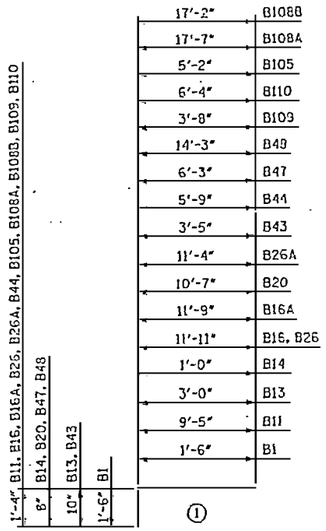
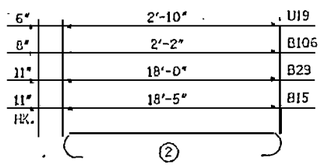
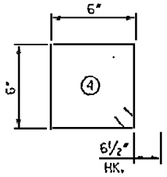
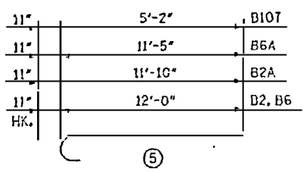
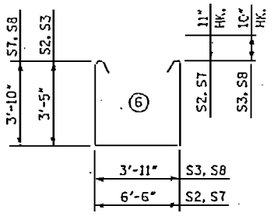
BAR TYPES

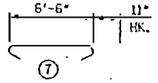


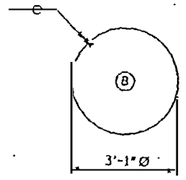


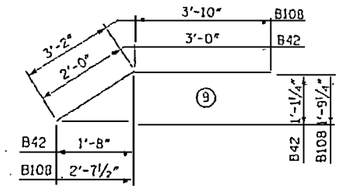


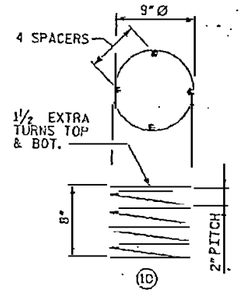


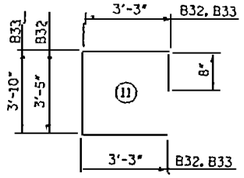


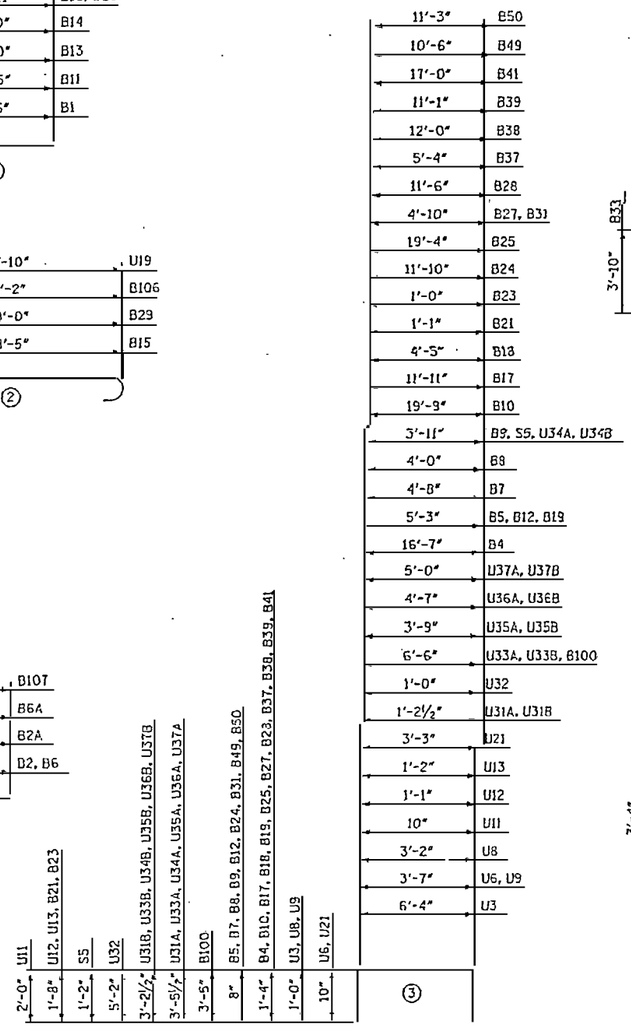


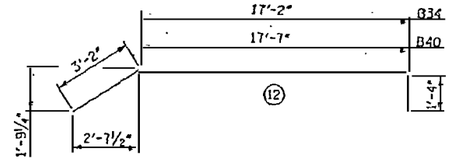


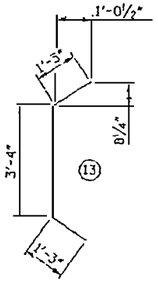


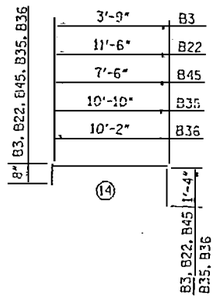












BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	10	#8	(5)	12'-11"	345
B2A	10	#8	(5)	12'-9"	340
B3	5	#4	(4)	5'-9"	19
B4	4	#8	(3)	19'-3"	206
B5	6	#4	(3)	6'-7"	26
B6	10	#8	(5)	12'-11"	345
B6A	10	#8	(5)	12'-4"	329
B7	2	#4	(3)	6'-0"	8
B8	2	#4	(3)	5'-4"	7
B9	8	#4	(3)	5'-3"	28
B10	2	#8	(5)	22'-5"	120
B11	2	#8	(1)	10'-9"	57
B12	5	#4	(3)	6'-7"	22
B13	2	#5	(1)	3'-10"	8
B14	16	#4	(1)	1'-8"	18
B15	6	#8	(2)	20'-3"	324
B16	2	#8	(1)	13'-3"	71
B16A	2	#8	(1)	13'-1"	70
B17	2	#8	(3)	14'-7"	78
B18	2	#8	(3)	7'-1"	38
B19	2	#8	(3)	7'-11"	42
B20	7	#4	(1)	11'-3"	53
B21	4	#5	(3)	4'-5"	18
B22	5	#4	(4)	13'-6"	45
B23	4	#5	(3)	4'-4"	18
B24	3	#4	(3)	13'-2"	26
B25	2	#8	(3)	22'-0"	117
B26	2	#8	(1)	13'-3"	71
B26A	2	#8	(1)	12'-8"	68
B27	2	#8	(3)	7'-6"	40
B28	2	#8	(3)	14'-2"	76
B29	8	#8	(2)	19'-10"	318
B31	5	#4	(3)	6'-2"	21
B32	4	#4	(11)	10'-7"	28
B33	4	#4	(11)	11'-0"	29
B34	6	#8	(12)	21'-8"	347
B35	1	#4	(4)	12'-10"	9
B36	1	#4	(14)	12'-2"	8
B37	2	#8	(3)	8'-0"	43
B38	2	#8	(3)	14'-8"	78
B39	2	#8	(3)	13'-8"	73
B40	6	#8	(12)	22'-1"	354
B41	4	#8	(3)	19'-8"	210
B42	24	#7	(9)	5'-0"	245
B43	2	#5	(1)	4'-3"	9
B44	4	#8	(1)	7'-1"	76
B45	7	#4	(4)	9'-6"	44
B47	5	#4	(1)	6'-11"	23
B48	2	#4	(1)	14'-11"	20
B49	1	#4	(3)	11'-10"	8
B50	1	#4	(3)	12'-7"	8
B100	8	#8	(3)	13'-4"	285
B105	60	#8	(1)	6'-6"	1388
B106	60	#6	(2)	3'-6"	315
B107	60	#8	(5)	6'-1"	1299
B108	10	#8	(9)	7'-0"	187
[1] B108A	4	#8	(1)	16'-11"	202
[2] B108B	4	#8	(1)	18'-6"	198
B109	16	#8	(1)	5'-0"	214
B110	16	#8	(1)	7'-8"	328

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	#4	(4)	3'-3"	35
S2	20	#8	(6)	15'-2"	810
S3	20	#7	(6)	12'-5"	568
S5	39	#7	(3)	6'-3"	498
S6	39	#8	(7)	8'-4"	668
S7	19	#8	(6)	16'-0"	812
S8	19	#7	(6)	13'-3"	515
S31	16	#7	(8)	9'-5"	308
U3	8	#6	(3)	8'-4"	100
U6	6	#5	(3)	5'-3"	33
U8	8	#6	(3)	5'-2"	62
U9	8	#6	(3)	5'-7"	67
U11	12	#5	(3)	4'-10"	60
U12	4	#5	(3)	4'-5"	18
U13	4	#5	(3)	4'-6"	19
U16	12	#5	(13)	5'-10"	73
U19	2	#4	(2)	3'-10"	5
U21	6	#5	(3)	4'-11"	31
[1] U31A	26	#7	(3)	8'-2"	434
[2] U31B	26	#7	(3)	7'-8"	407
U32	8	#8	(3)	11'-4"	242
[1] U33A	12	#7	(3)	13'-5"	329
[2] U33B	12	#7	(3)	12'-11"	317
[1] U34A	4	#7	(3)	10'-10"	69
[2] U34B	4	#7	(3)	10'-4"	84
[1] U35A	2	#7	(3)	10'-8"	44
[2] U35B	2	#7	(3)	10'-2"	42
[1] U36A	2	#7	(3)	11'-6"	47
[2] U36B	2	#7	(3)	11'-0"	45
[1] U37A	4	#7	(3)	11'-11"	97
[2] U37B	4	#7	(3)	11'-5"	93
SP-1	4	#4	(10)	15'-7"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

SEGMENTS 1 AND 4

NOTES:

[1] BARS USED IN SEGMENT 1.

[2] BARS USED IN SEGMENT 4.

ALL BAR DIMENSIONS ARE OUT TO OUT.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 17 OF 18 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
ALTERNATE DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. B2513R.00

TOTAL SHEETS

DRAWN BY : M.D. BOLTICK — DATE : 12/07
CHECKED BY : J.I.D. — DATE : 12/07

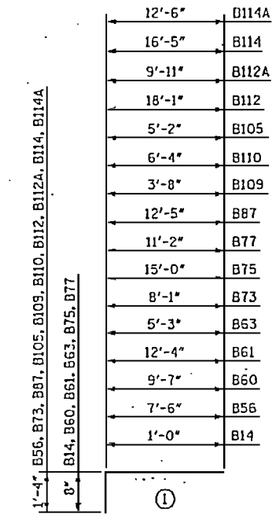
EarthTech
A Tetra Tech Inc. Ltd. Company

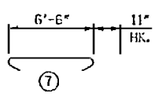
FLATIRON/UNITED
A JOINT VENTURE

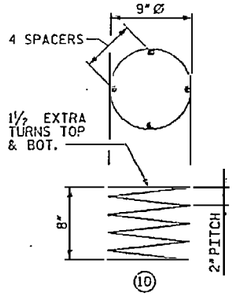
DATE: 12/2007
FILE: T:\457.dgn

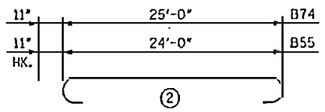
USER: mbolick
DGN: T:\457\roadway\river bridge\CADD\B2513R_03_SEGMENTS_1&4_DETAILS.dgn

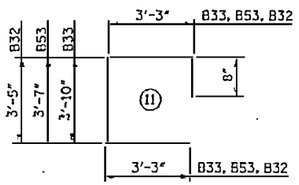
BAR TYPES

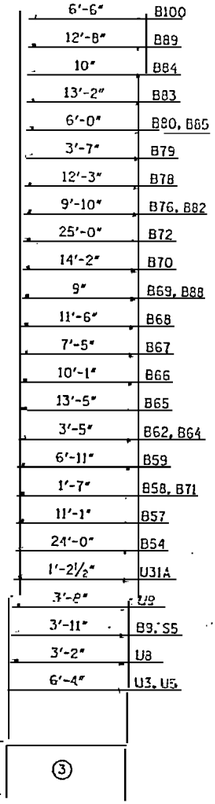


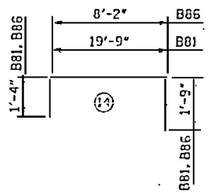


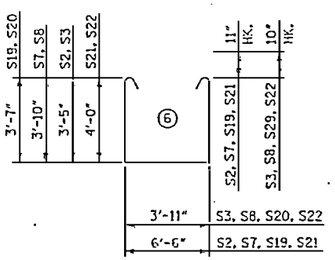


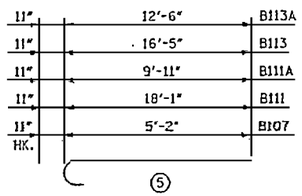












BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B9	12	#4	(3)	5'-3"	42
B14	24	#4	(1)	1'-8"	27
B32	4	#4	(11)	10'-7"	28
B33	4	#4	(11)	11'-0"	29
B53	4	#4	(11)	10'-9"	29
B54	10	#8	(3)	25'-8"	712
B55	6	#8	(2)	25'-10"	414
B56	4	#8	(1)	8'-10"	94
B57	7	#4	(3)	12'-5"	58
B58	5	#4	(3)	2'-11"	10
B59	10	#4	(3)	8'-3"	55
B60	5	#4	(1)	10'-3"	34
B61	2	#4	(1)	13'-0"	17
B62	5	#4	(3)	4'-9"	16
B63	7	#4	(1)	5'-11"	28
B64	3	#8	(3)	6'-1"	49
B65	4	#8	(3)	16'-1"	172
B66	3	#8	(3)	12'-9"	102
B67	3	#8	(3)	10'-1"	81
B68	2	#8	(3)	14'-2"	76
B69	6	#8	(3)	3'-5"	55
B70	2	#8	(3)	16'-10"	90
B71	2	#8	(3)	4'-3"	23
B72	10	#8	(3)	27'-8"	739
B73	4	#8	(1)	9'-5"	101
B74	6	#8	(2)	26'-10"	430
B75	2	#4	(1)	15'-8"	21
B76	5	#4	(3)	11'-2"	37
B77	5	#4	(1)	11'-10"	40
B78	7	#4	(3)	13'-7"	64
B79	5	#4	(3)	4'-11"	16
B80	5	#4	(3)	7'-4"	24
B81	4	#8	(4)	22'-10"	244
B82	3	#8	(3)	12'-6"	100
B83	3	#8	(3)	15'-10"	127
B84	3	#8	(3)	3'-6"	28
B85	2	#8	(3)	8'-8"	46
B86	3	#8	(4)	11'-3"	90
B87	4	#8	(1)	13'-9"	147
B88	5	#4	(3)	2'-1"	7
B89	2	#8	(3)	15'-4"	82
B100	12	#8	(3)	13'-4"	427
B105	120	#8	(1)	6'-6"	2083
B107	80	#8	(5)	6'-1"	1299
B109	24	#8	(1)	5'-0"	320
B110	24	#8	(1)	7'-8"	491
B111	10	#8	(5)	19'-0"	507
B111A	10	#8	(5)	10'-10"	289
B112	6	#8	(1)	19'-5"	311
B112A	6	#8	(1)	11'-3"	189
B113	10	#8	(5)	17'-4"	463
B113A	10	#8	(5)	13'-5"	358
B114	6	#8	(1)	17'-9"	284
B114A	6	#8	(1)	13'-10"	222

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S2	35	#8	(6)	15'-2"	1417
S3	35	#7	(6)	12'-5"	888
S5	74	#7	(3)	6'-3"	945
S6	74	#8	(7)	8'-4"	1646
S7	27	#8	(6)	16'-0"	1153
S8	27	#7	(6)	13'-3"	731
S19	11	#8	(6)	15'-6"	455
S20	11	#7	(6)	12'-9"	287
S21	1	#8	(6)	16'-4"	44
S22	1	#7	(6)	13'-7"	28
U3	16	#6	(3)	8'-4"	200
U8	24	#6	(3)	5'-2"	186
U9	8	#6	(3)	5'-8"	68
U31A	44	#7	(3)	8'-2"	734
SP-1	4	#4	(10)	15' 7"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

SEGMENTS 2 AND 3

ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : M.I. BELISLE DATE : 12/07
CHECKED BY : J. LIU DATE : 12/07

DATE PLOTTED: 12/28/07
TIME PLOTTED: 7:46:15 AM

USER NAME = mbelisle
DESIGN DATA = P:\DESIGN\DATA\R-2510B_SD_DISK1#1\R-2510B_SD_BARTYP.DGN

NORTH CAROLINA PROFESSIONAL SEAL 030112 ENGINEER JOHN W. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE / DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 18 OF 18 BRIDGE NO. 353

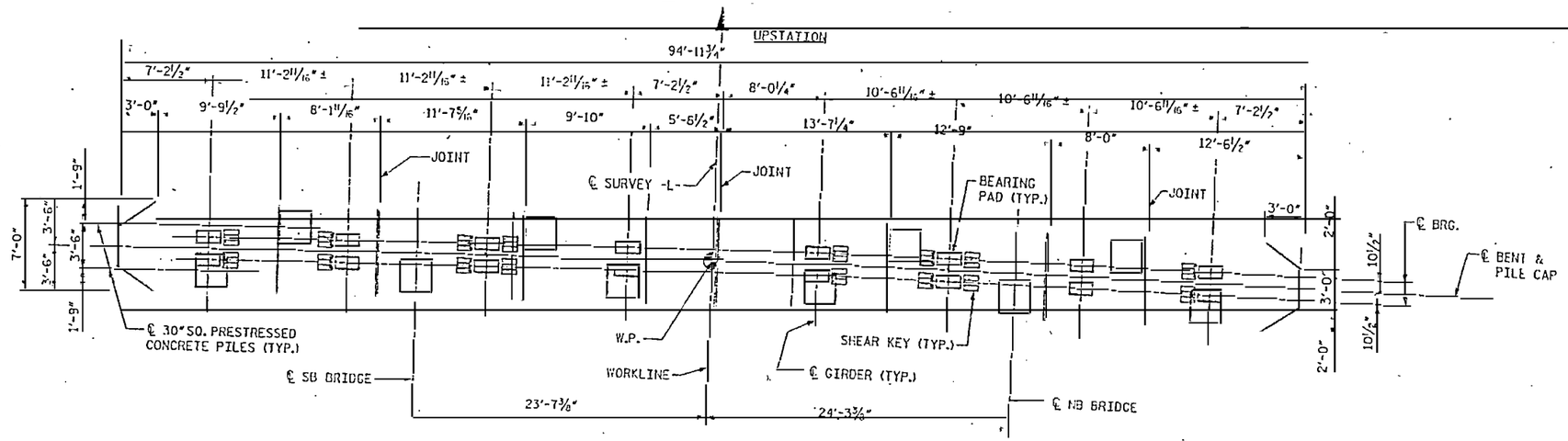
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14A
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

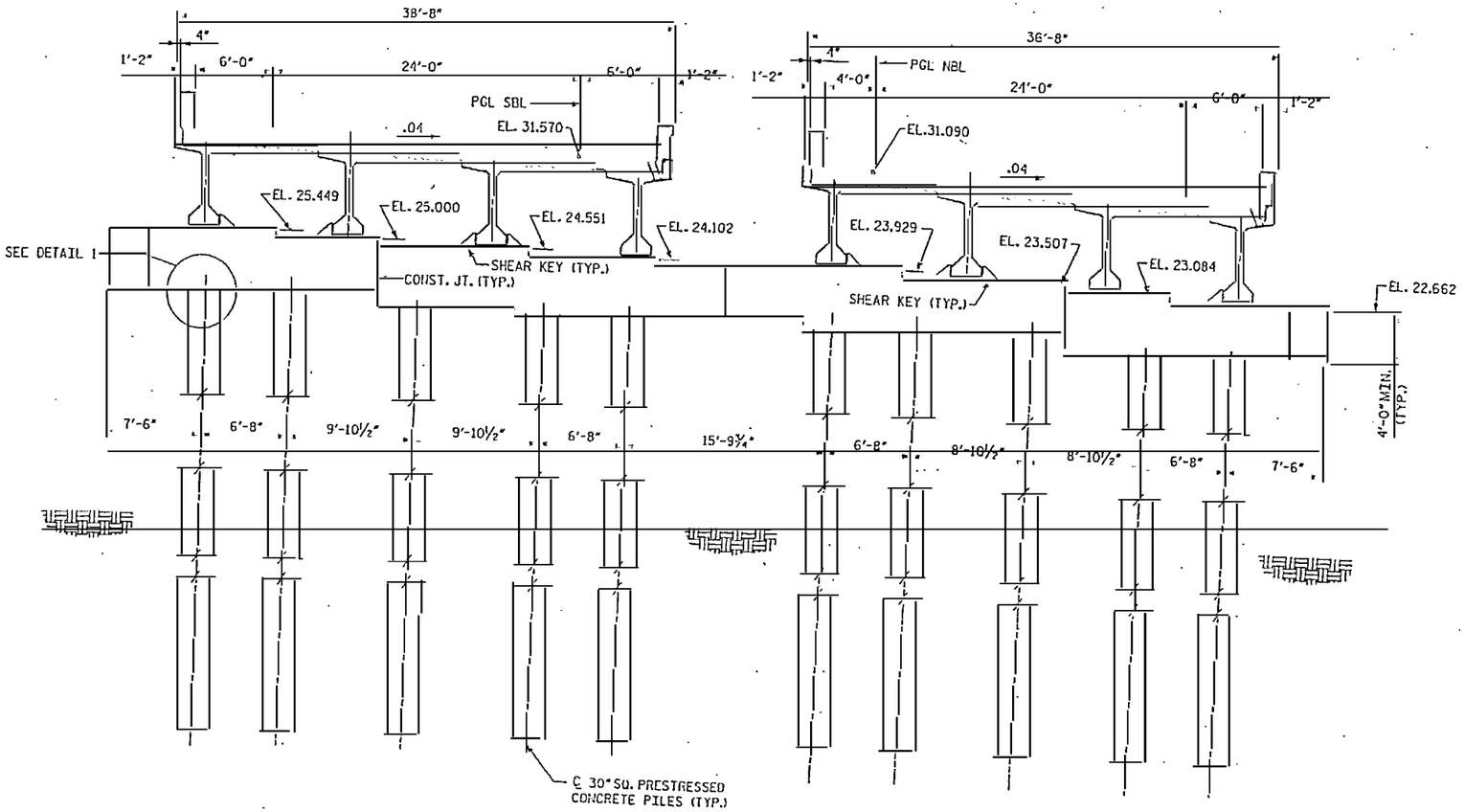
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A25135.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International LTD. Company

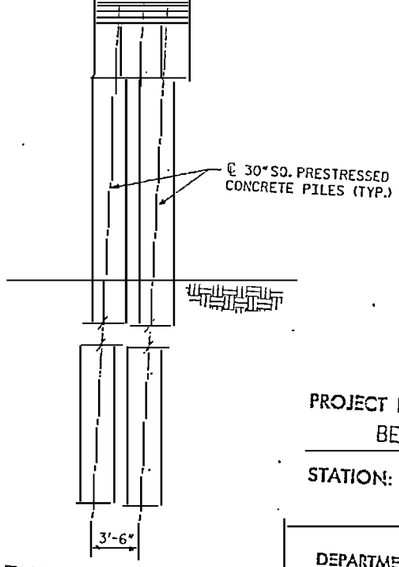
FLATIRON/UNITED
A JOINT VENTURE



PLAN



ELEVATION
(BENT 114)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT CAP. SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS
NO. BY: DATE: NO BY: DATE:

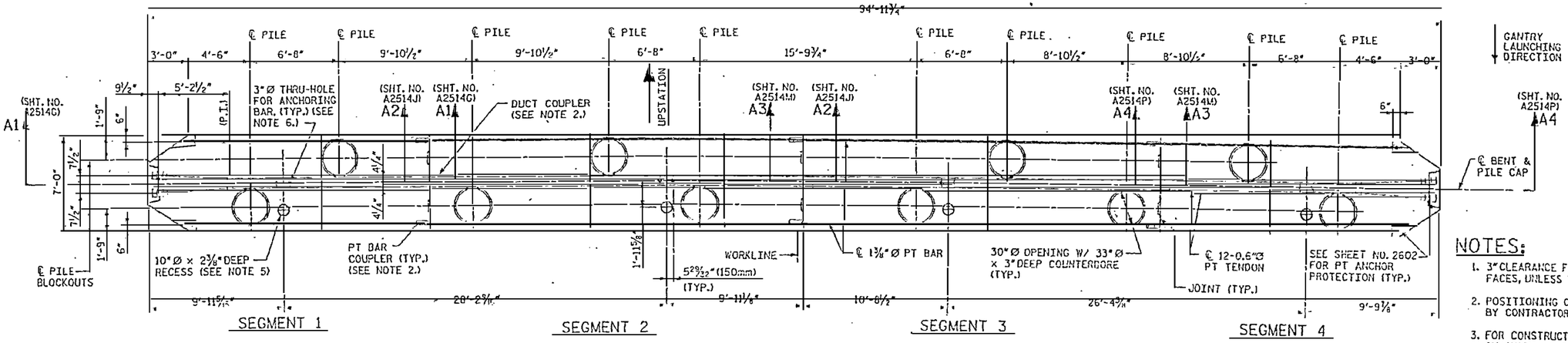
SHEET NO. 2514.00

DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. I. TID DATE : 10/06

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER

DATE PLOTTED: FRI, AUG 18 '06
FILE NAME: c:\projects\2510b_sb_ds1_bent_type14b.dgn
USER: strednak

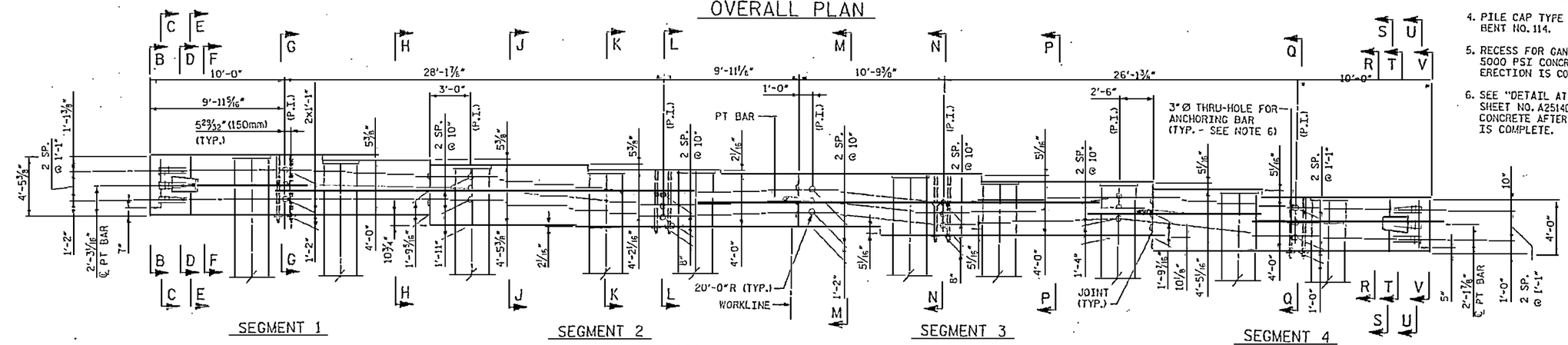


SEGMENT 1 SEGMENT 2 SEGMENT 3 SEGMENT 4

NOTES:

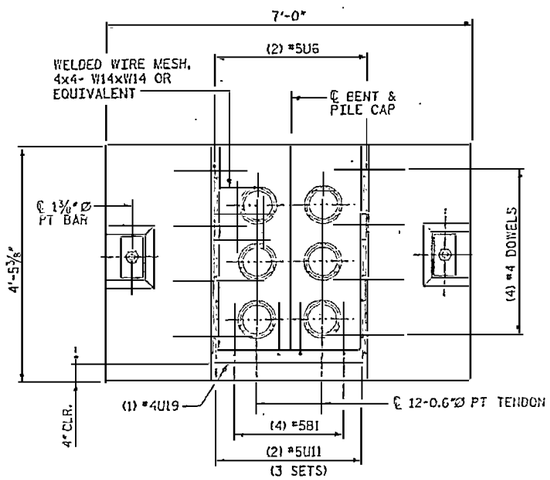
1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 14B IS USED AT BENT NO. 114.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A25140. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

OVERALL PLAN

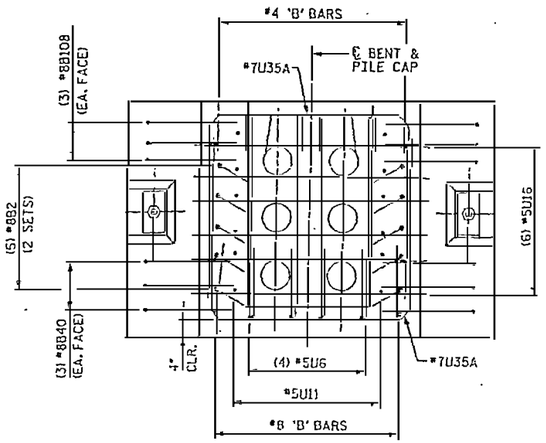


SEGMENT 1 SEGMENT 2 SEGMENT 3 SEGMENT 4

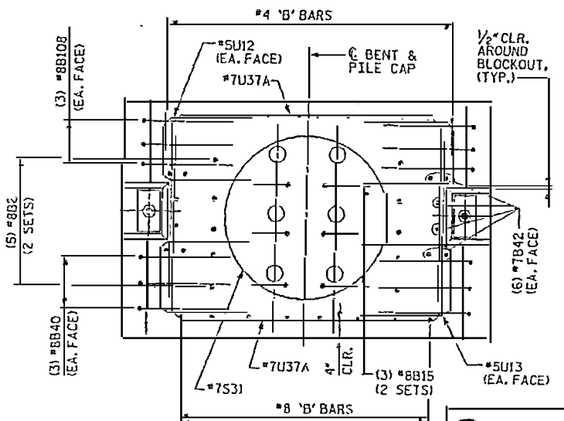
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

RELEASED FOR CONSTRUCTION
Tom Shearin 1/22/08
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 18 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2514A.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.L.TU DATE : 01/08

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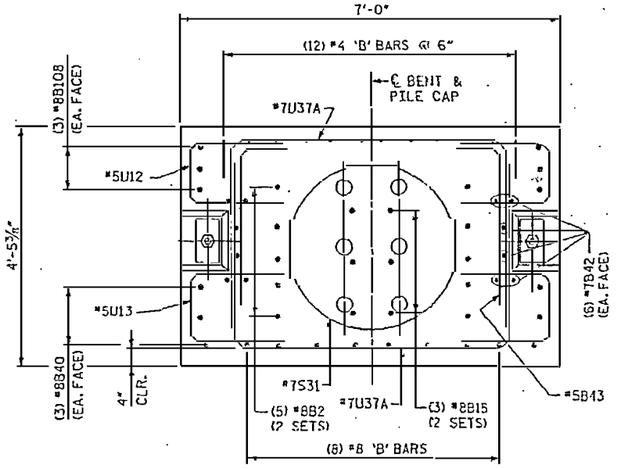
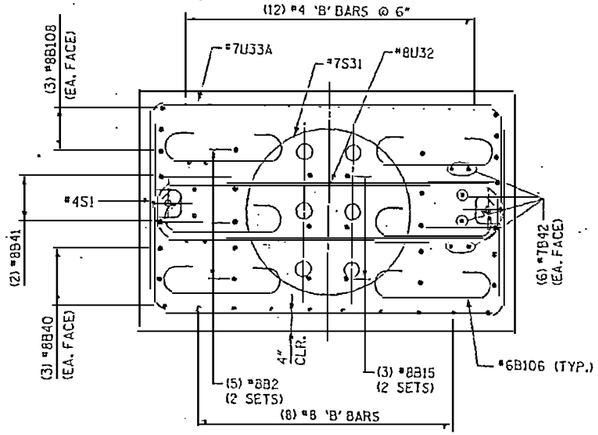
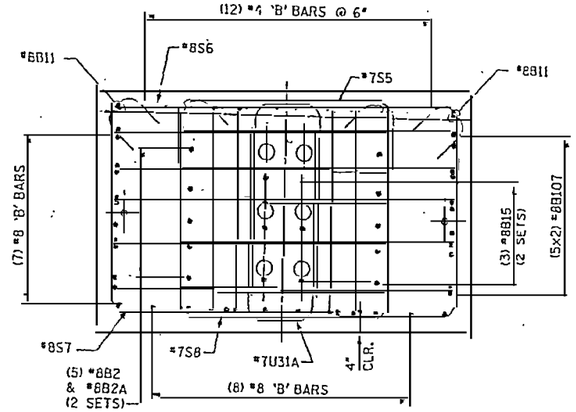
PLATIRON/UNITED A JOINT VENTURE



SECTION E-E

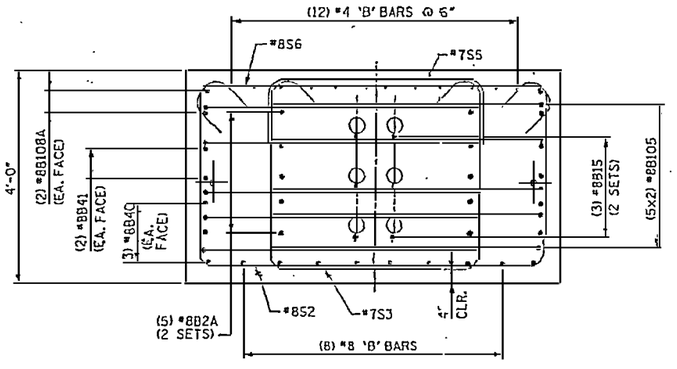


SECTION F-F

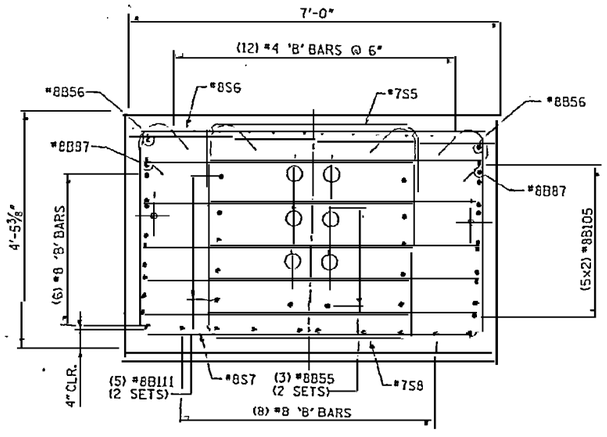


SECTION G-G

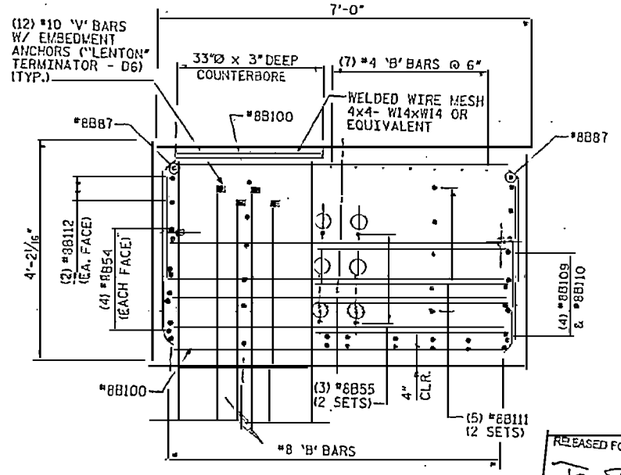
(ANCHORING BARS NOT SHOWN FOR CLARITY)



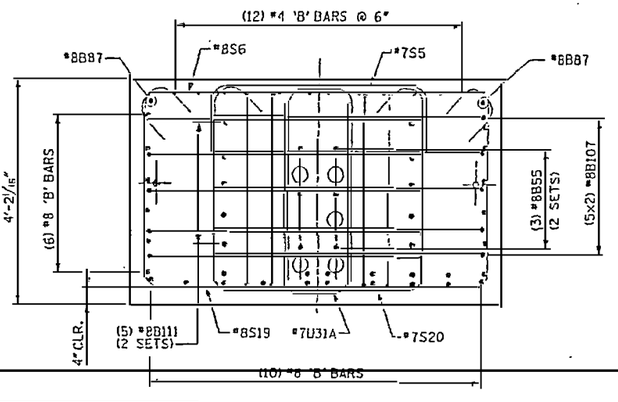
SECTION H-H



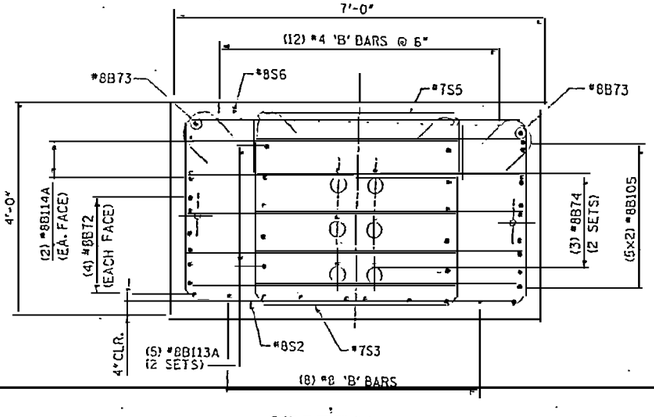
SECTION J-J



SECTION K-K



SECTION M-M



RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 18 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A25148.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/09
CHECKED BY : J. LIU DATE : 01/09

USER: rbeville
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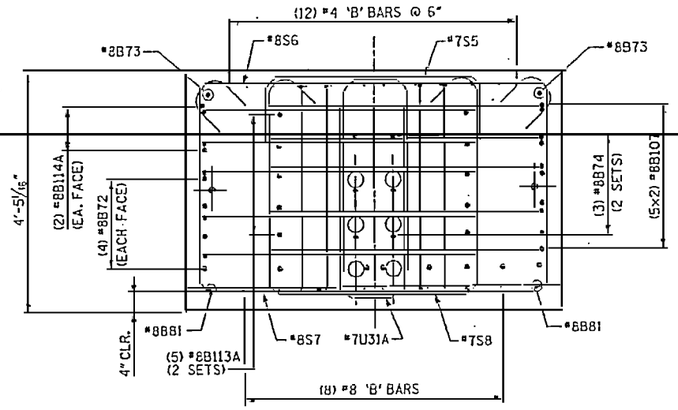
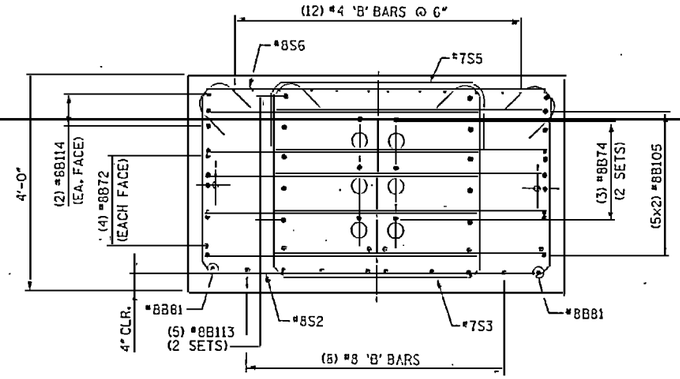
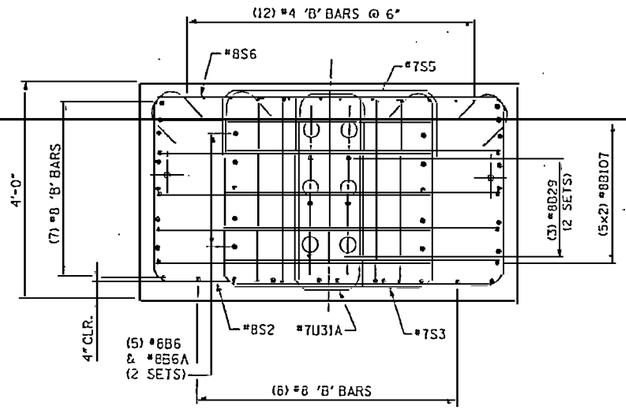


SECTION N-N

(ANCHORING BARS NOT SHOWN FOR CLARITY)

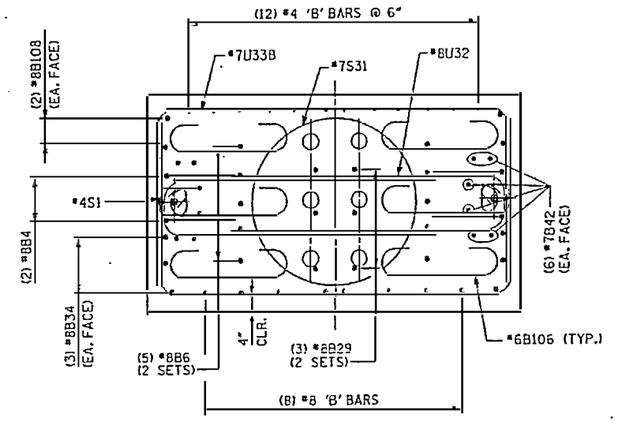


SECTION P-P

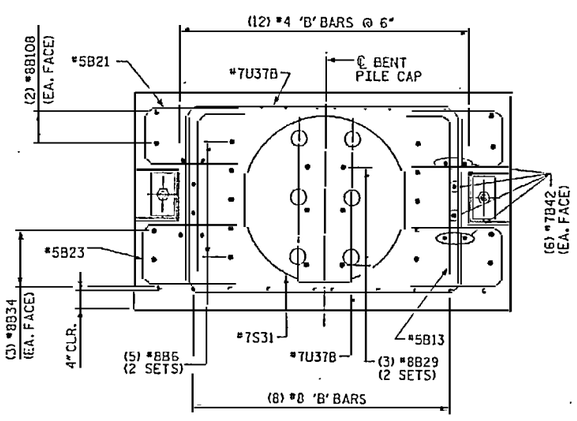


SECTION Q-Q

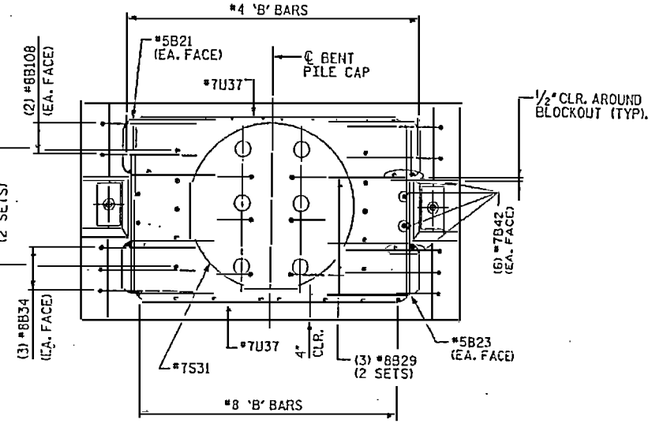
(ANCHORING BARS NOT SHOWN FOR CLARITY)



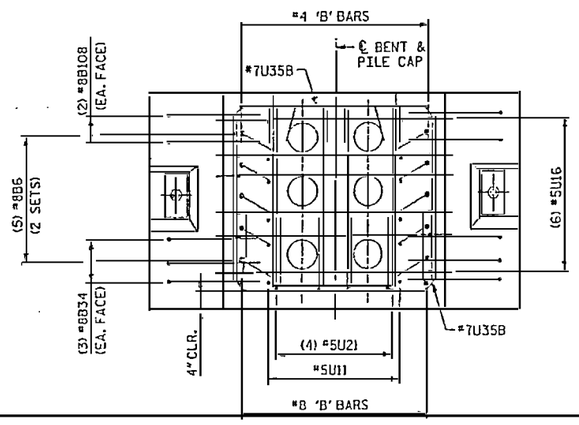
SECTION R-R



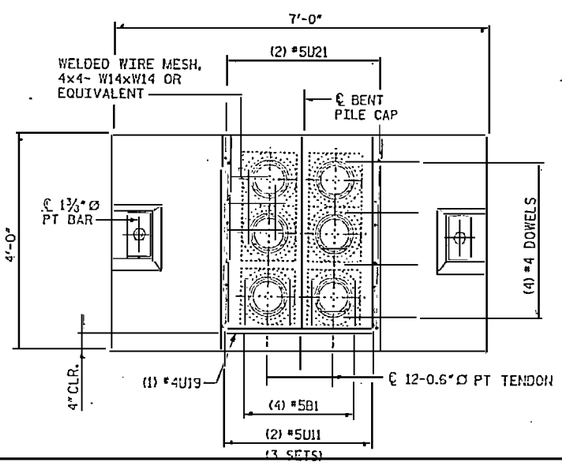
SECTION S-S



SECTION T-T



SECTION U-U



SECTION V-V

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1/2" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 18 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

EarthTech — A Tyco International Ltd. Company

FLATIRON/UNITED — A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2514C.00
1			3			TOTAL SHEETS
2			4			

DATE: 1/7/2008
FILE: F1455 AV

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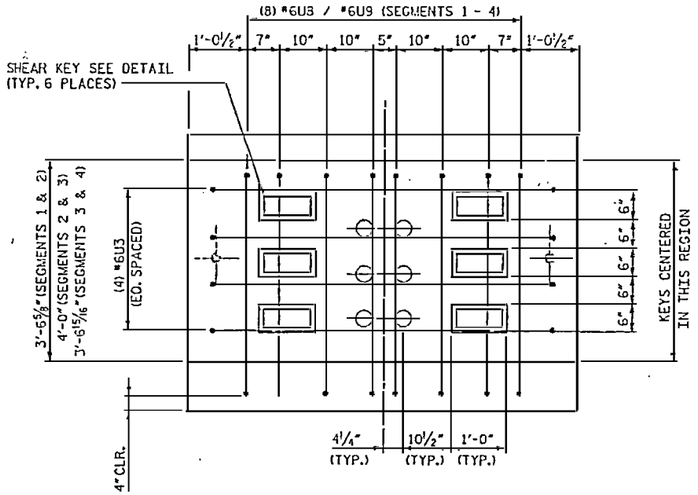
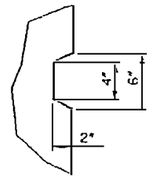


SECTION AT JOINT

(SEE SHEET NO. A2514A)



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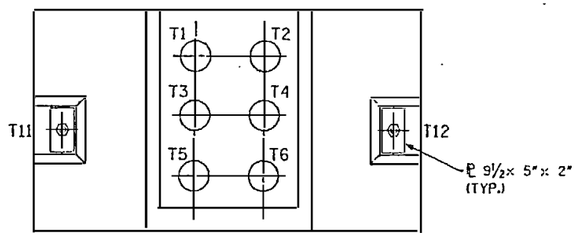
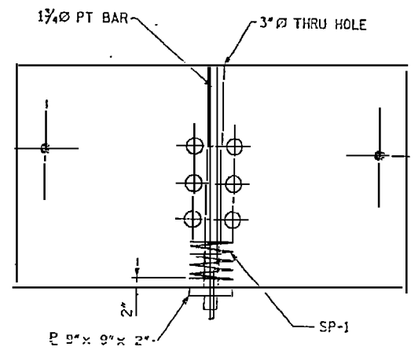


TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-0.6"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESITANT 3"Ø I.D. PVC PIPE)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE /DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 18 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2514D.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

USER: mbelisle
DGN: P:\Structures\Tar River Bridge\CADD\Final\R2510_353_PILE_CAP_14B.dgn
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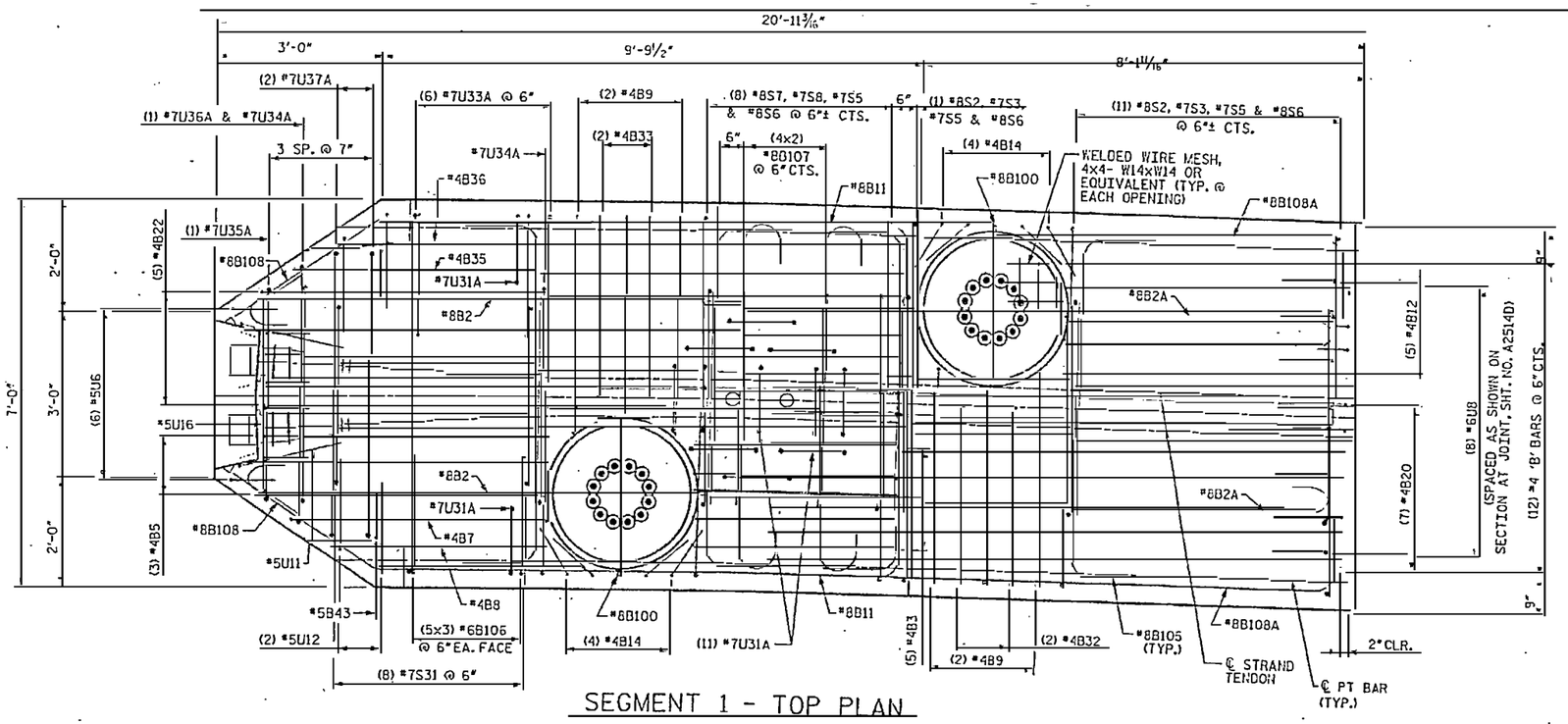
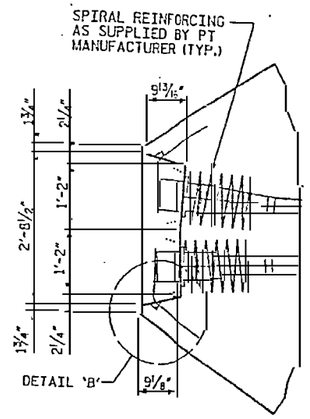
TIME: 11:45:34 AM



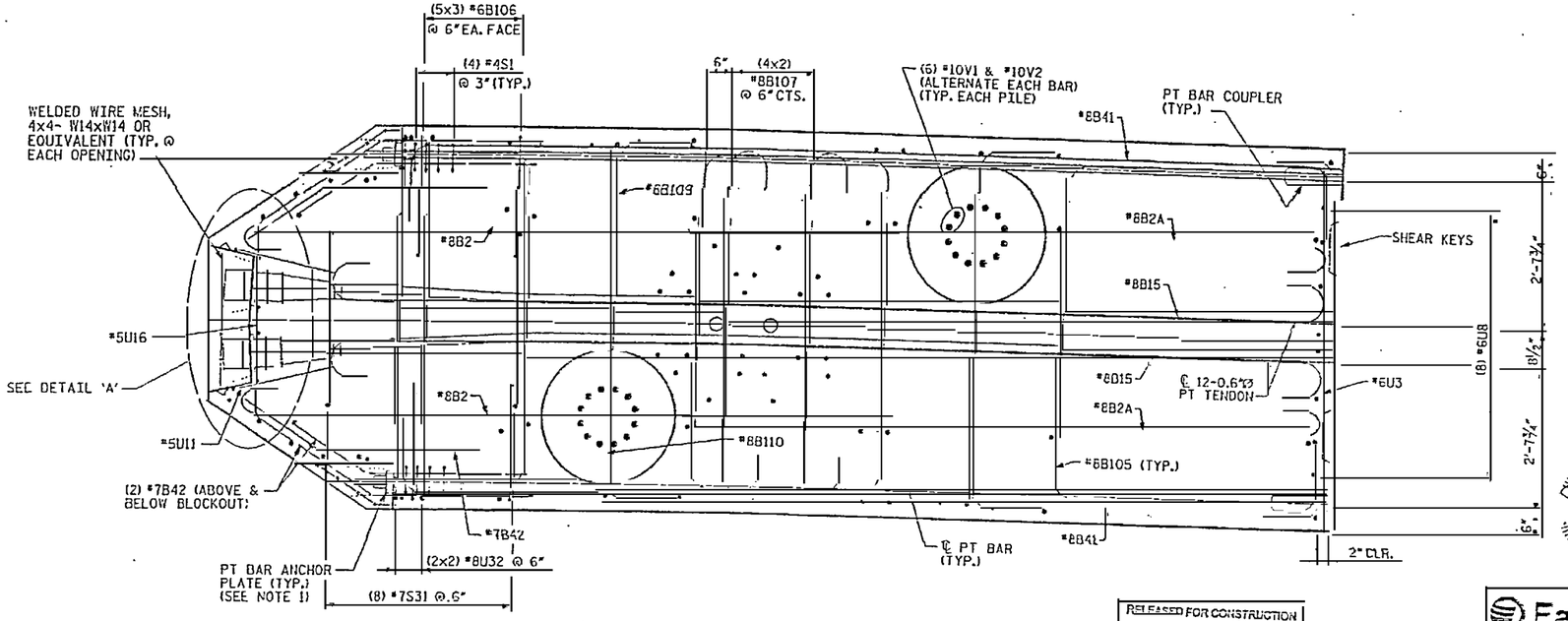
SEGMENT 1 - TOP PLAN

NOTES:

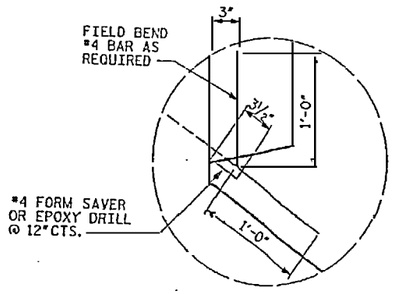
1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



SEGMENT 1 - MID PLAN



DETAIL 'B'

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 5 OF 18

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2514E.00

TOTAL SHEETS

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

RELEASED FOR CONSTRUCTION
Tom Shearin 1/10/08
TOM SHEARIN, PE / DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039677 THOMAS WILLIAM SHEARIN JR. 1/10/08

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

USER: mbelisle
Date: 1/10/2008 7:42:03 AM
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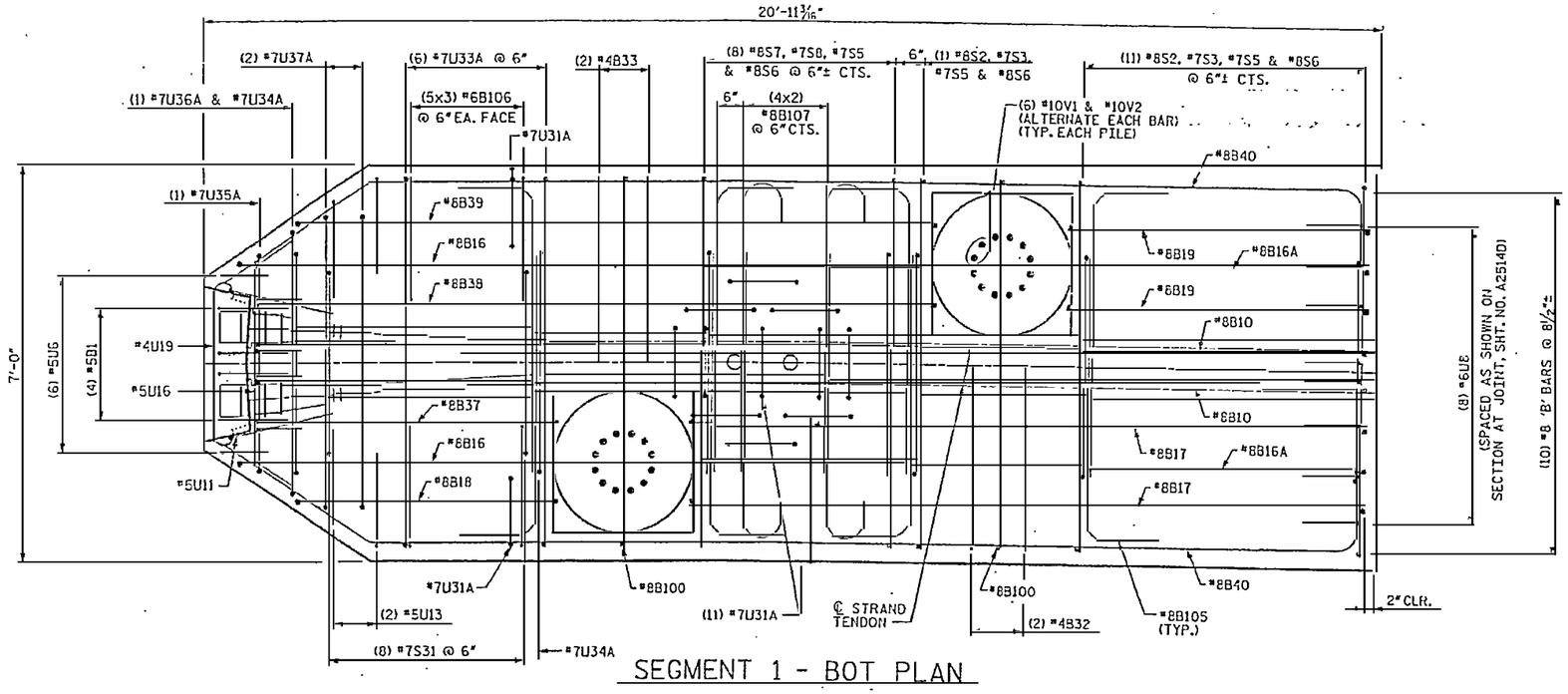
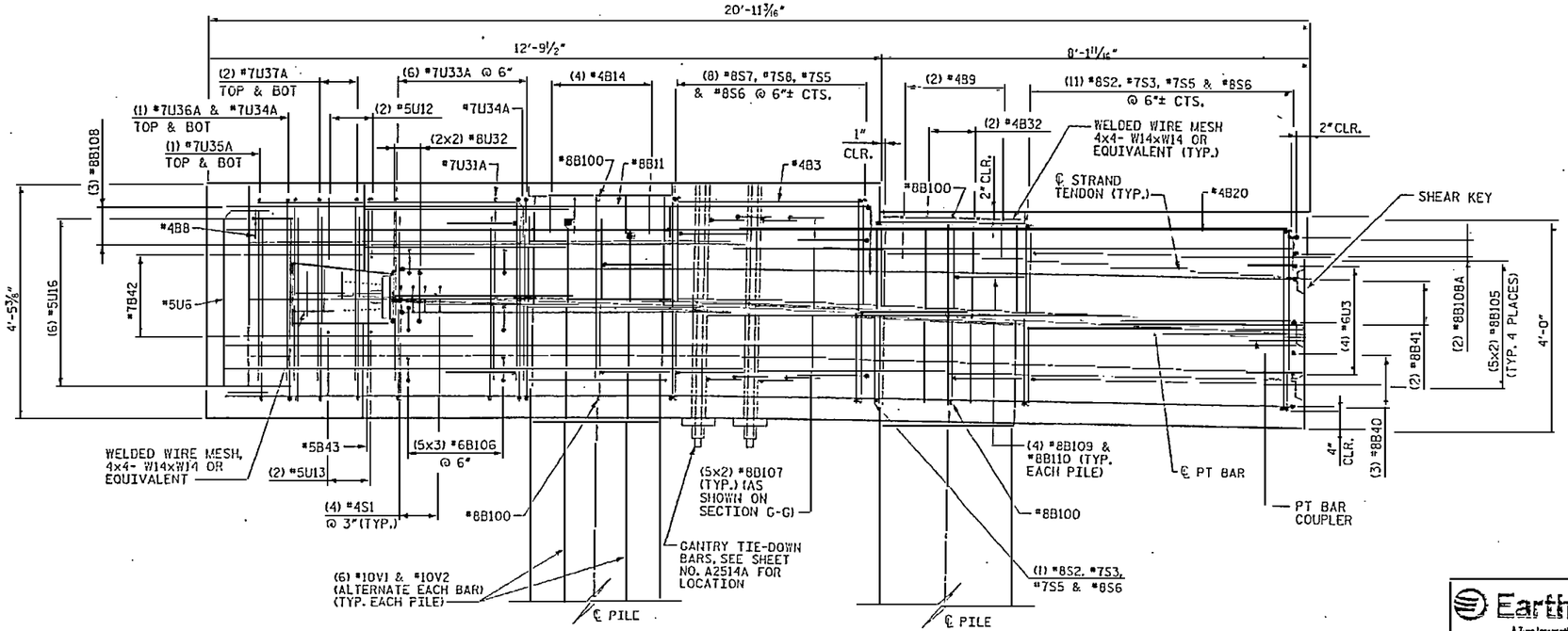


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 18 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2514F.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED — A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/09

DATE: 1/7/2009
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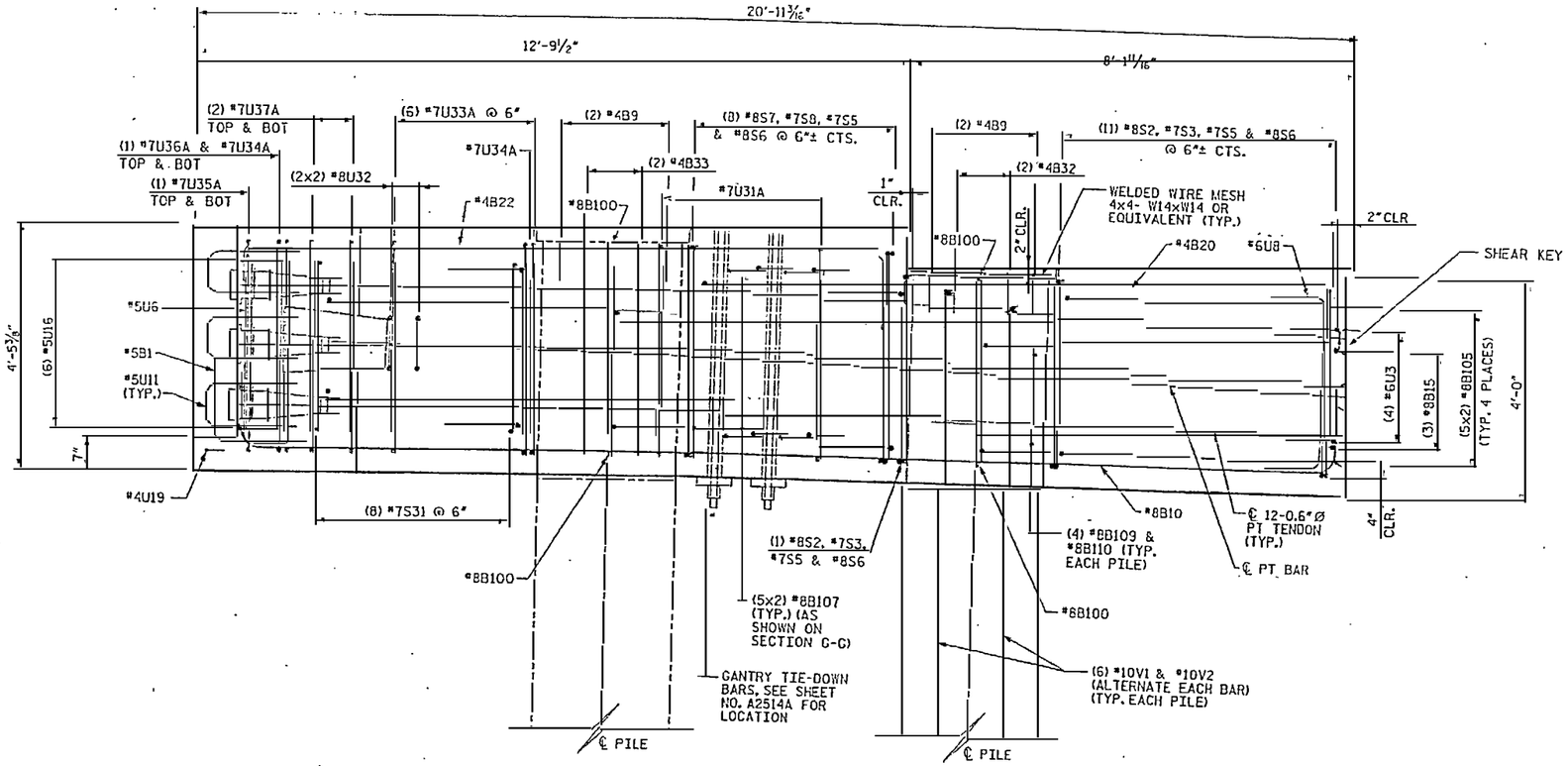

SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2514A)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1/2" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 7 OF 18

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2514A.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.LIU DATE : 01/08

DATE 1/25/2008
TIME 8:55:58 AM

USER: mbelisle
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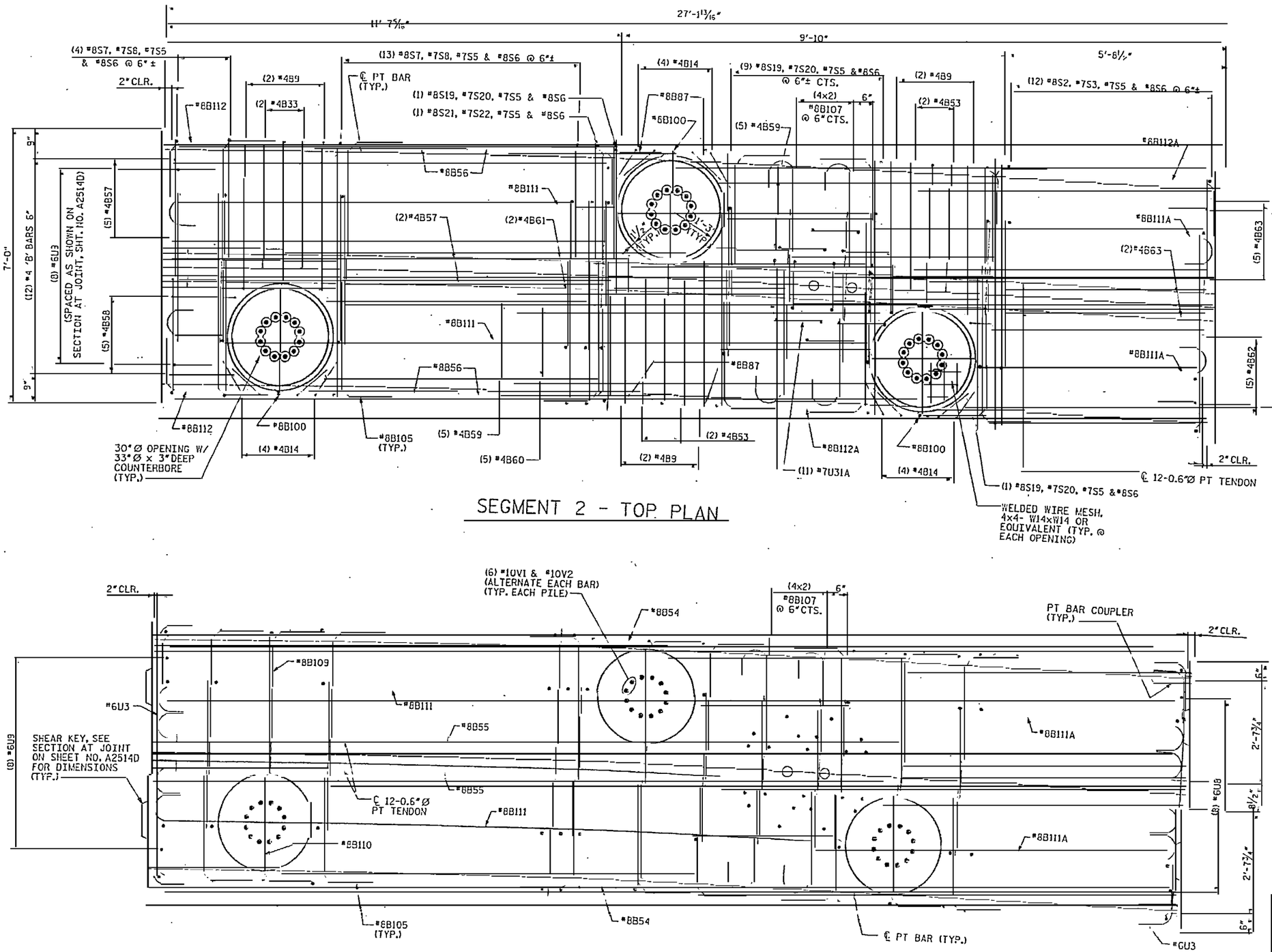

SEGMENT 2 - TOP PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

SEGMENT 2 - MID PLAN

DRAWN BY : M.T. BEITSLE DATE : 01/08
CHECKED BY : J. LIN DATE : 01/08

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 18
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2514H.09
TOTAL SHEETS

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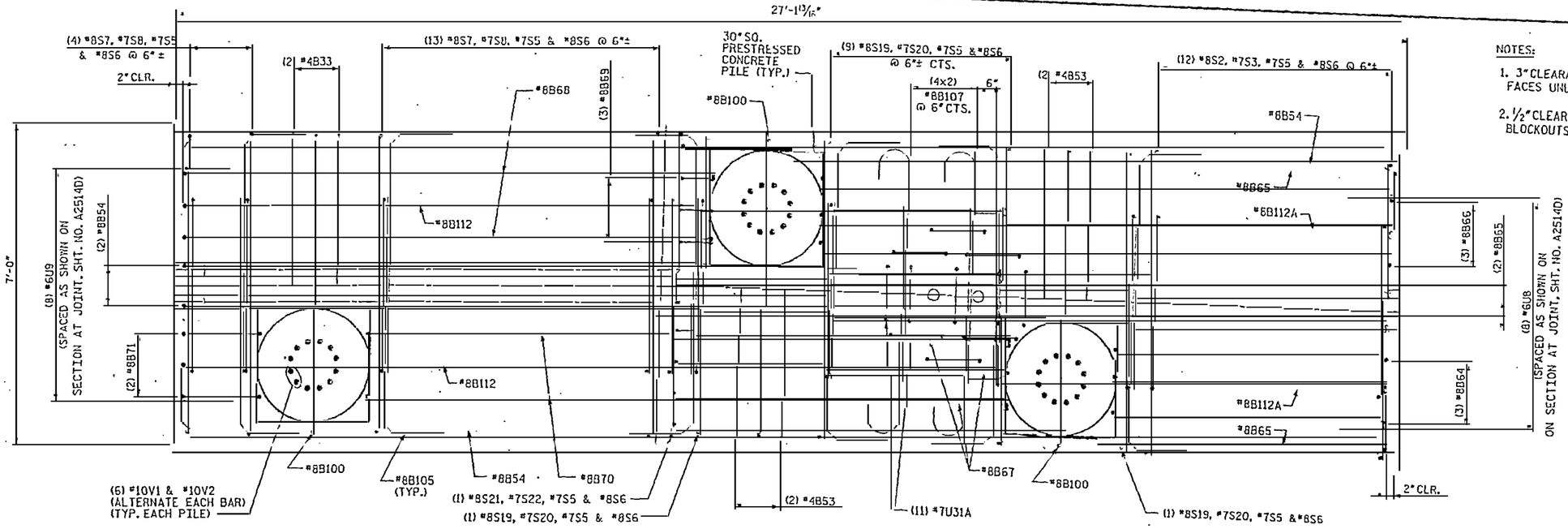
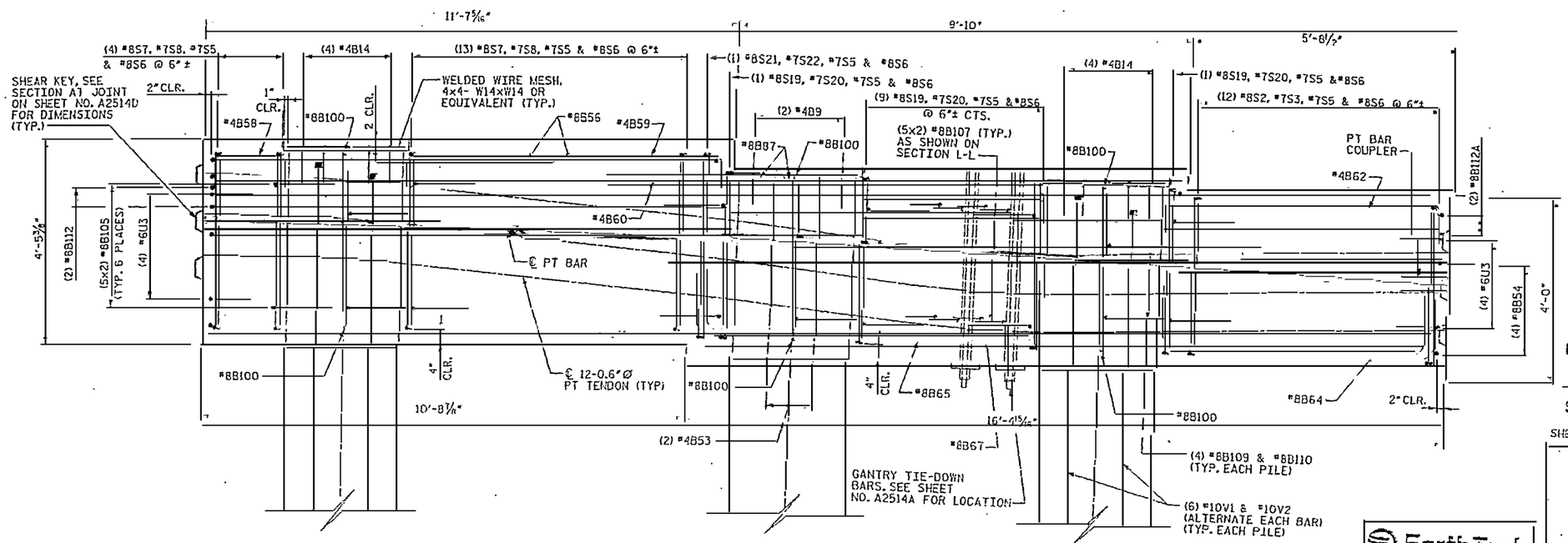
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE



SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA SEAL 039679 ENGINEER JOHN C. JORDAN

RELEASED FOR CONSTRUCTION
Tom Shearin
TOM SHEARIN, PE
/DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 18 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2514T.00
1			2			TOTAL SHEETS

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A Tyco International Ltd. Company

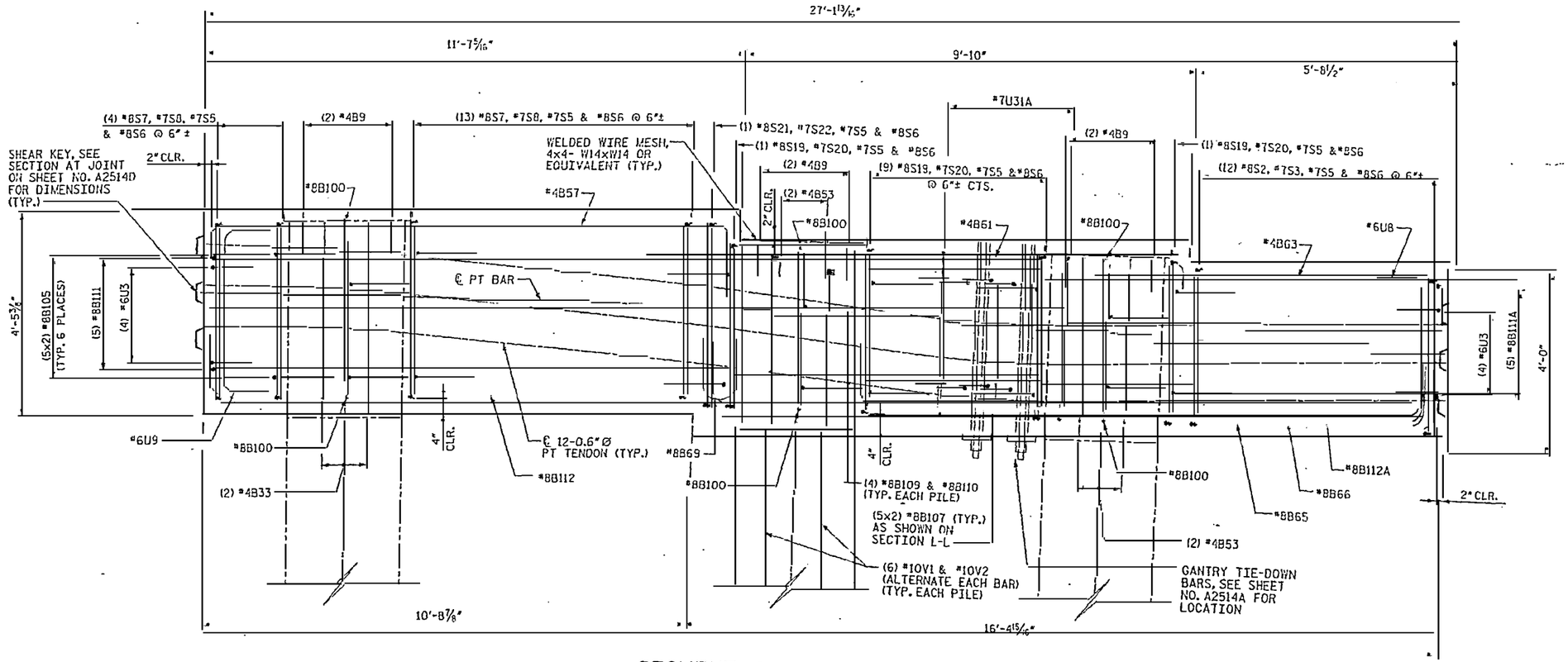
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/06
CHECKED BY : J. LIU DATE : 01/06

USER: MTBELISLE
DGN: M:\ACTIVE\2510B\ROADWAY\STRUCTURE\2510BT14B_DETAILS.DGN
DATE: 1/12/2006
TIME: 14:23:23

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2514A)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 'DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 18
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

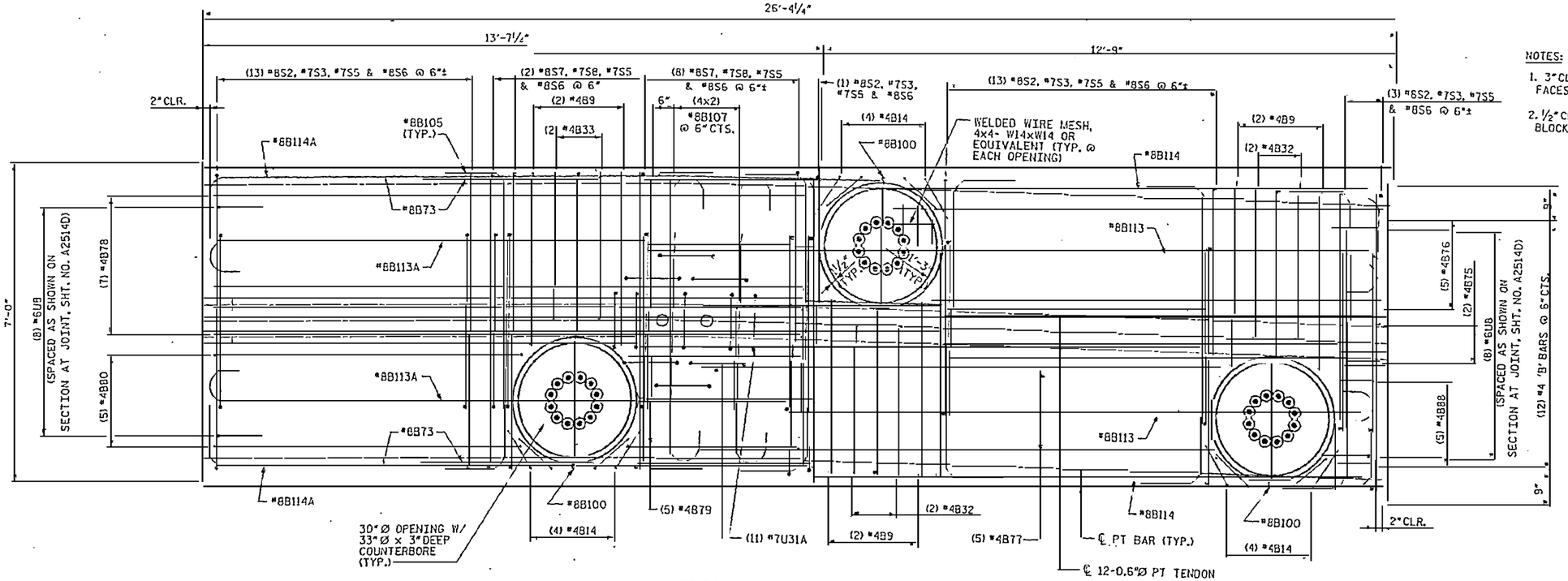
SHEET NO. A2514J.00
TOTAL SHEETS

Earth Tech
A Tyco International Ltd. Company

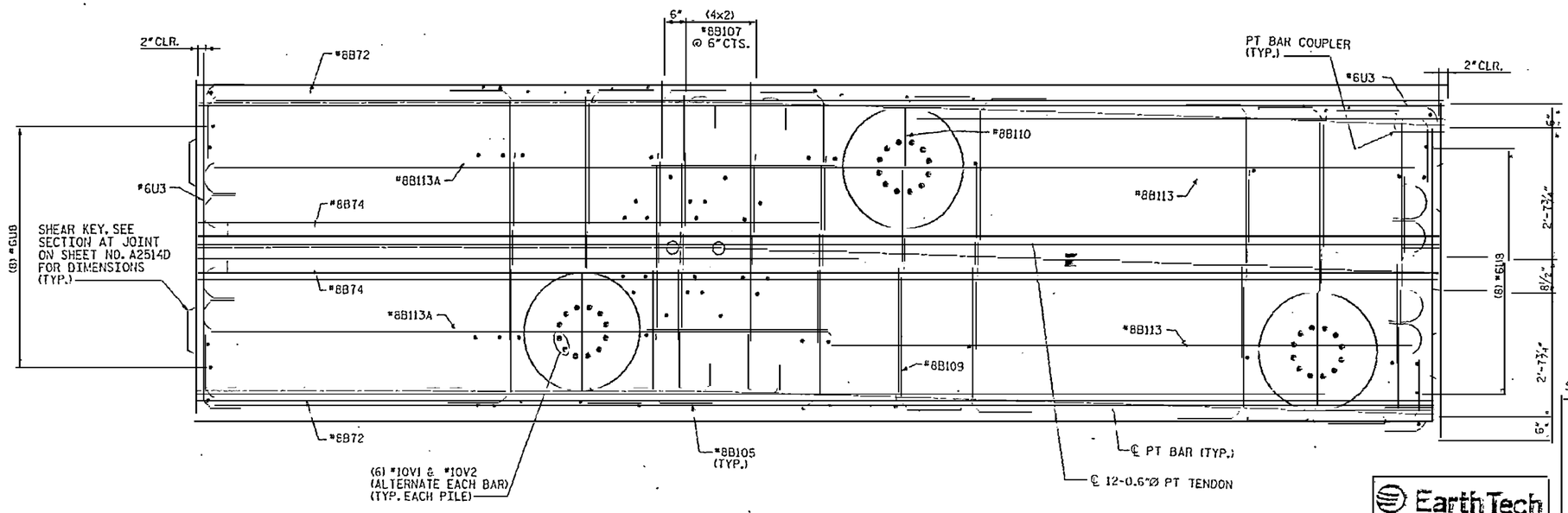
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.J.III DATE : 01/08

USER NAME = mbelisle Plot Scale = 4.0000 '/ in Plot Date = 1/7/2008
DGN: R2510BSTR02-SLG01_LETPB-DETS.dgn



SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA ENGINEER SEAL 030674 TOMMY R. HEARIN JORDAN

RELEASED FOR CONSTRUCTION
Tom Shearin
TOMMY HEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 18 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2514K.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : K.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

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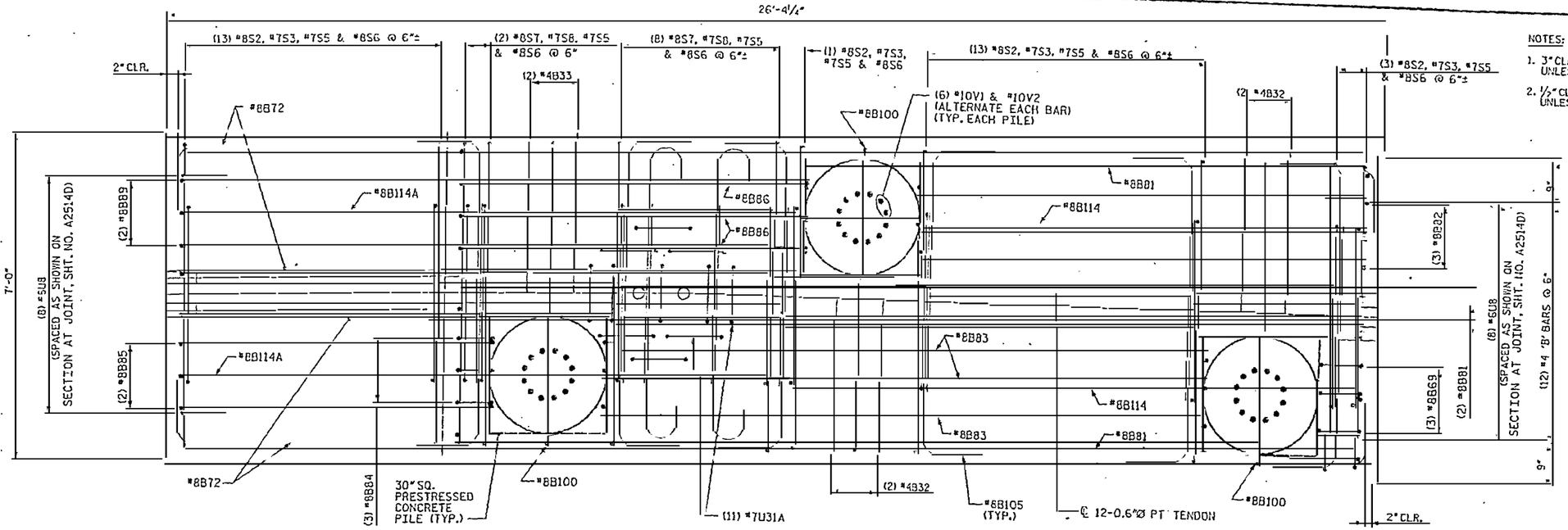
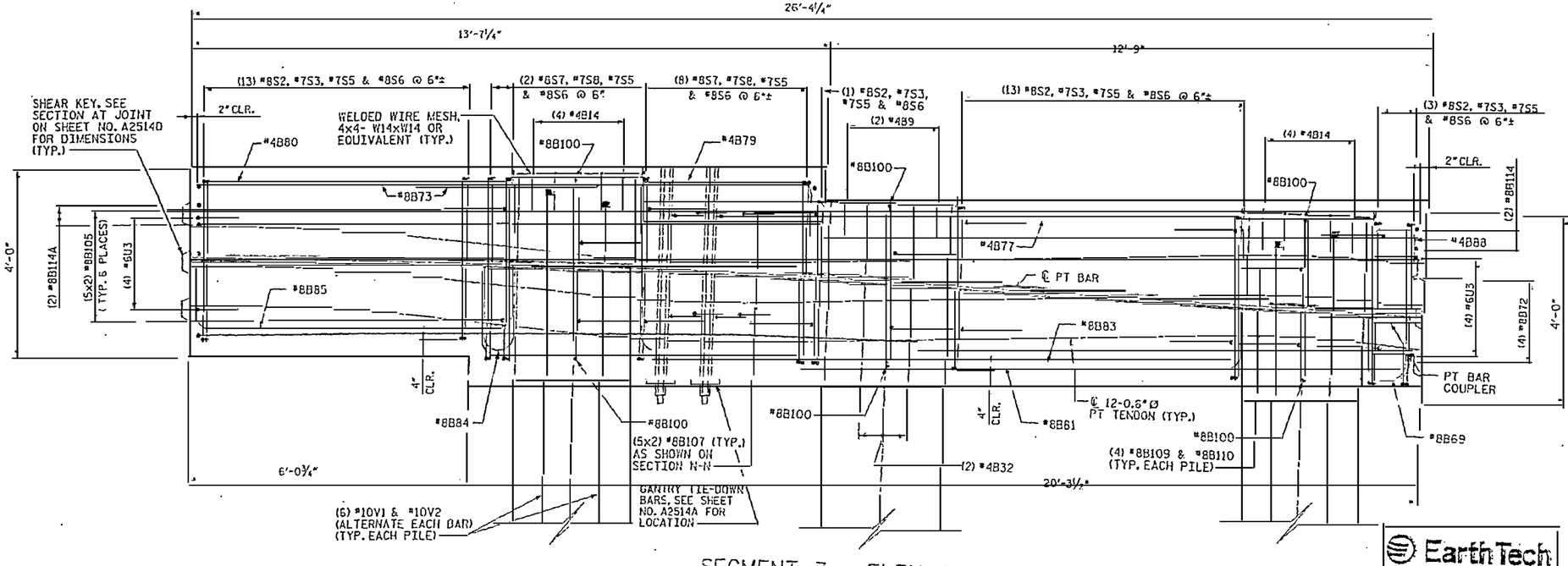


SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 12 OF 18
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

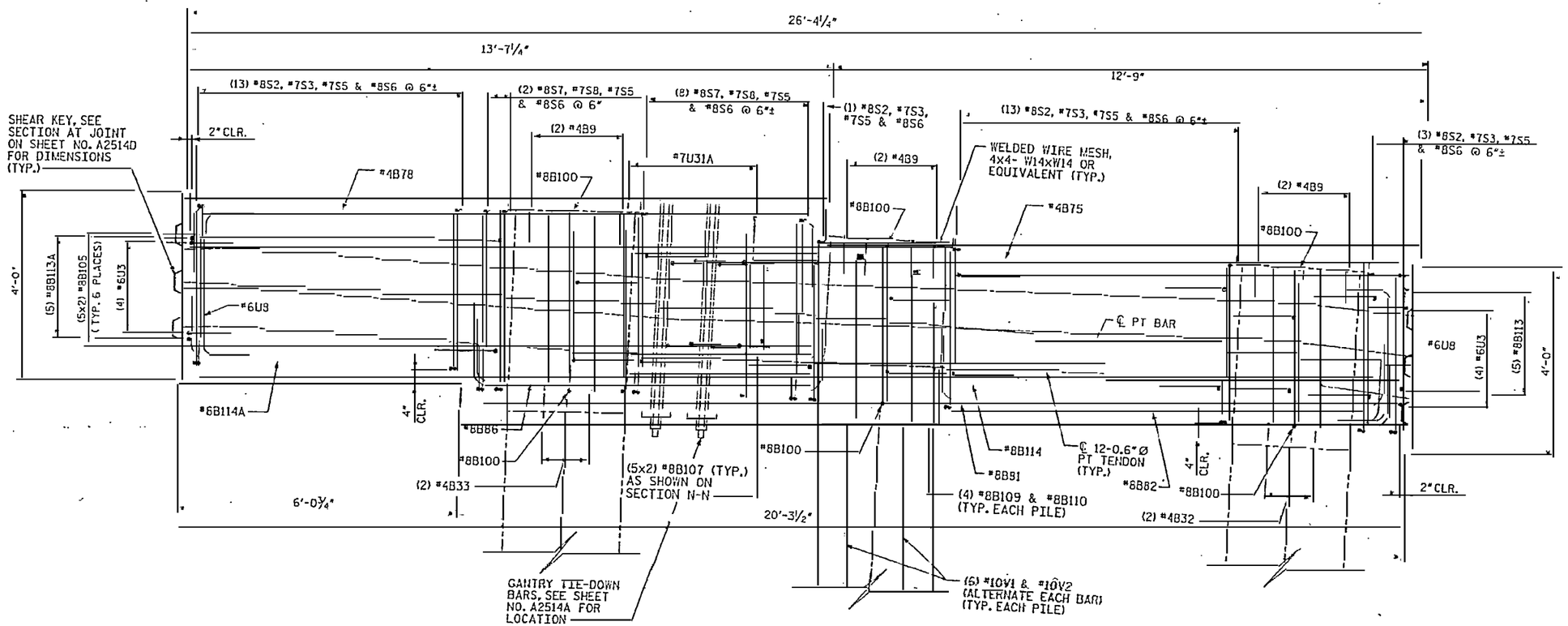
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2514L.00
1			3			
2						TOTAL

DRAWN BY : M.T. BEELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE



NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2514A)

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DRAWN BY : M.T. BELISLE DATE : 01/06
CHECKED BY : J. LEE DATE : 01/06

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 13 OF 16 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

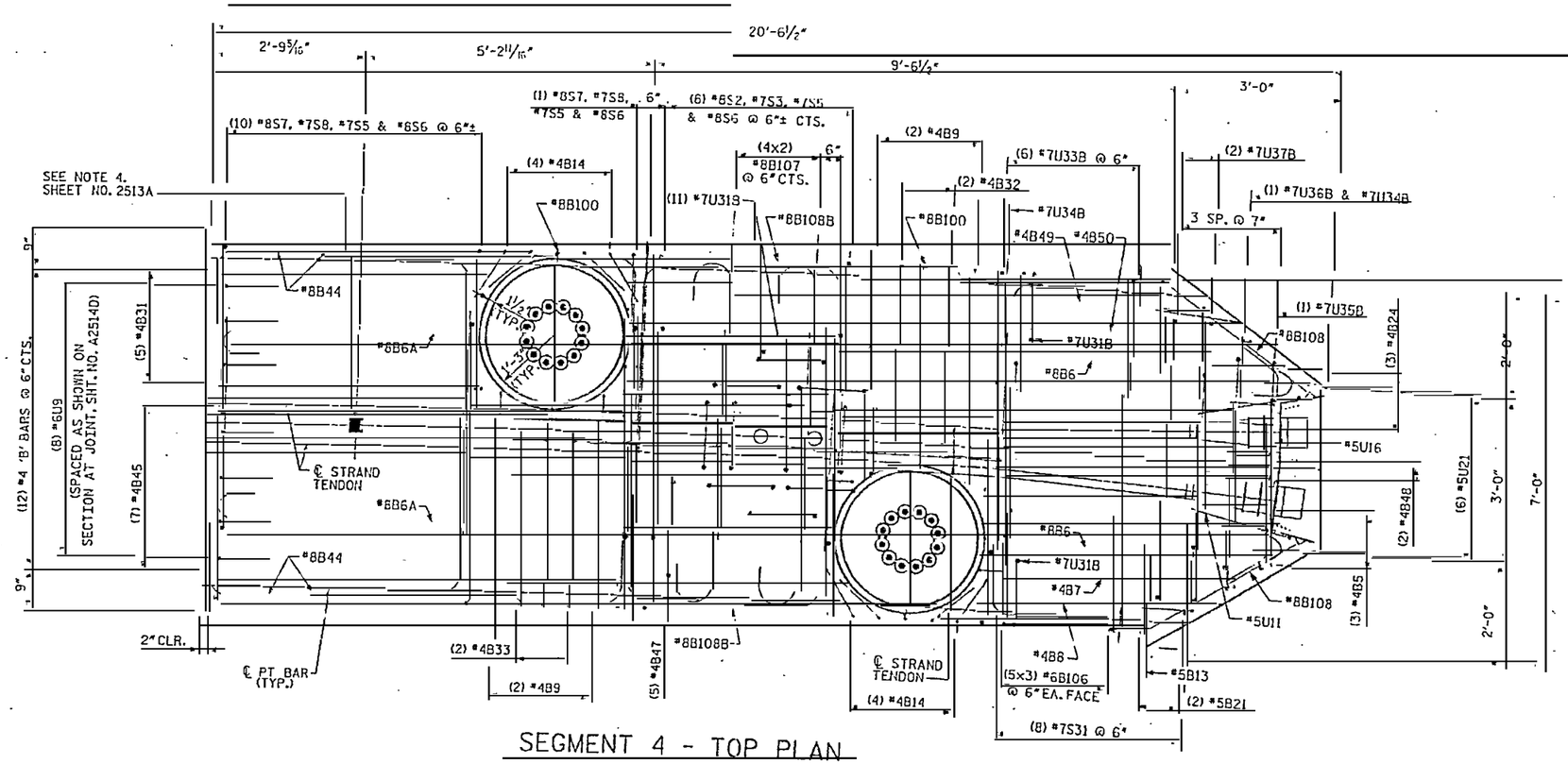
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

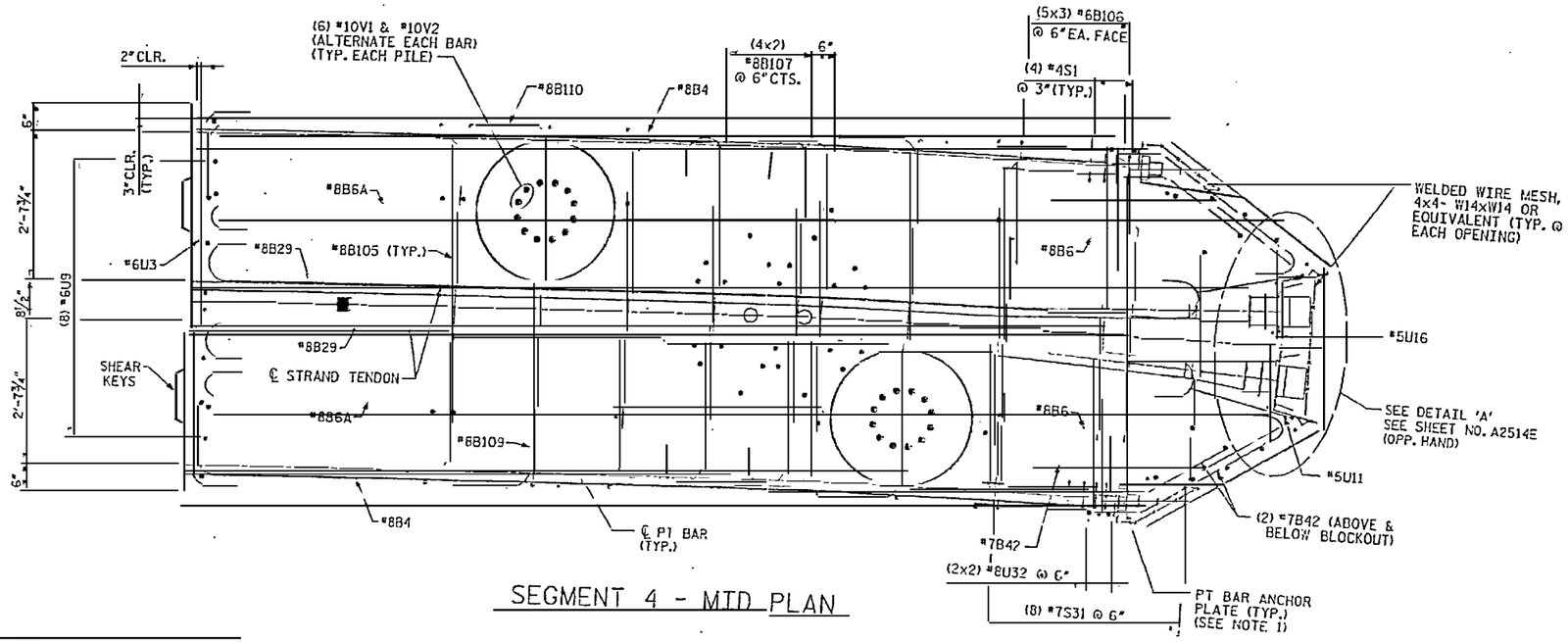
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2514M.00
TOTAL SHEETS



SEGMENT 4 - TOP PLAN



SEGMENT 4 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/09

RELEASED FOR CONSTRUCTION
TOM GHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 14 OF 18
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

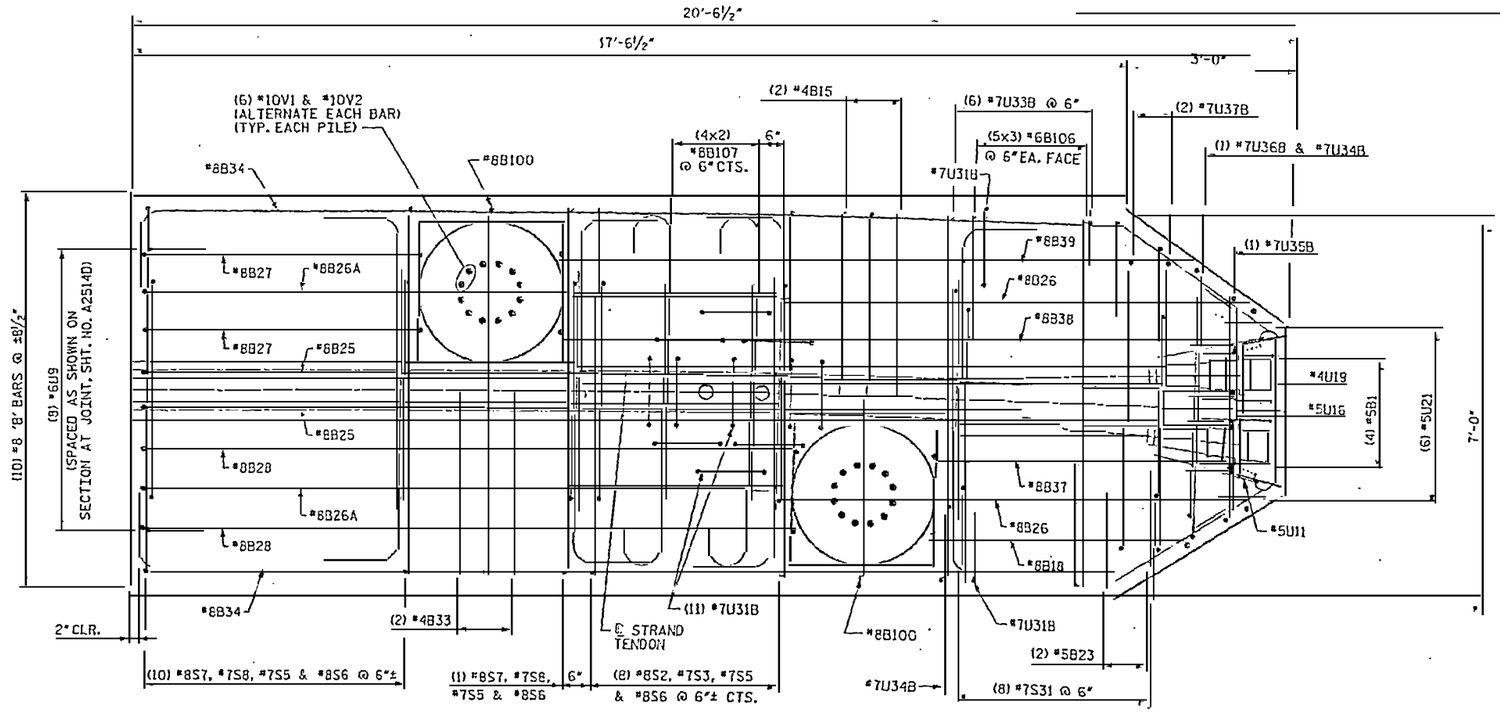
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

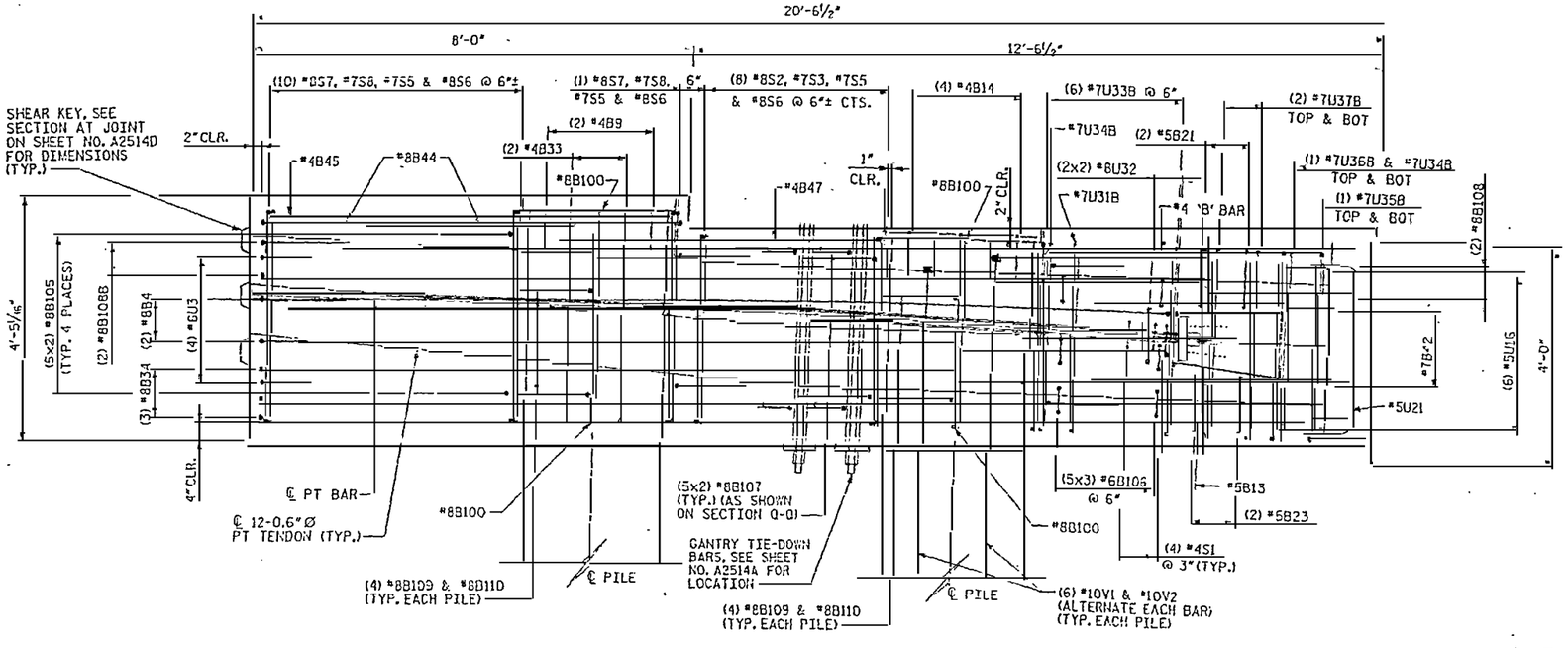
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2514N.00
TOT. SHEETS



SEGMENT 4 - BOT PLAN



SEGMENT 4 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE / DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 15 OF 18 BRIDGE NO. 383

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A25140.00
1			3			TOT. SHEETS
2			4			

DRAWN BY : M.T. DELISLE DATE : 01/09
CHECKED BY : O. ROTH DATE : 01/09

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

DATE: 1/5/2009
TIME: 6:07:57 PM
USER: mdelisle
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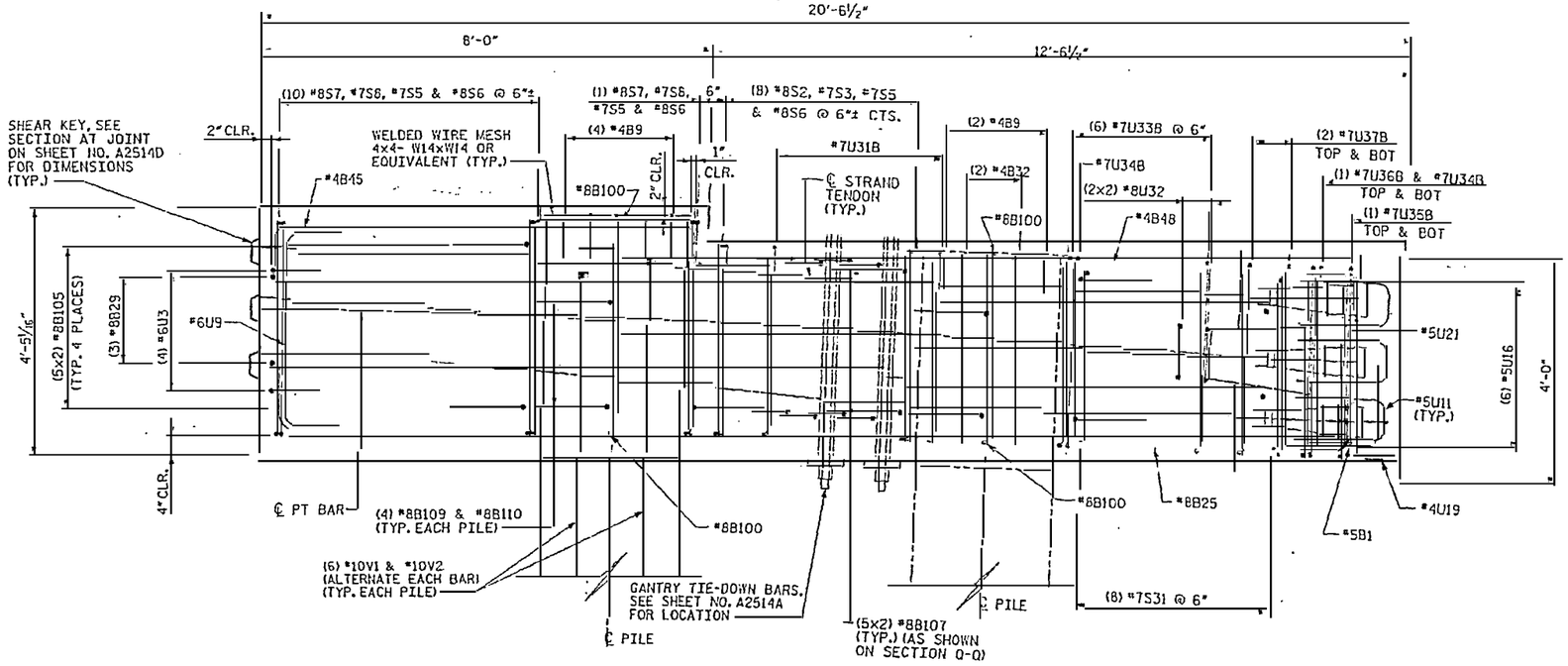


SEGMENT 4 - SECTION A4

(SEE SHEET NO. A2514A1

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DATE: 1/15/2008
TIME: 8:02:58 AM

User: mtbelisle
Dgn: R:\projects\r-2510b\roadway\sheets\r2510b_bridge_detail_sheets.dgn

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J.L.TH DATE : 01/08

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 1/24/08

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 16 OF 18
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

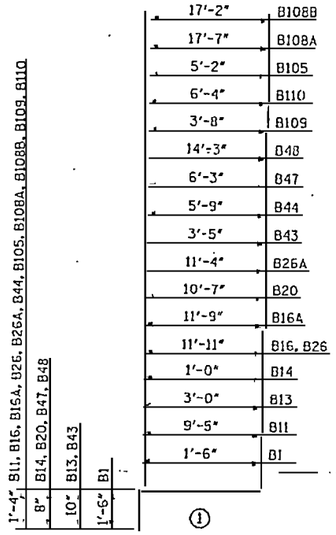
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

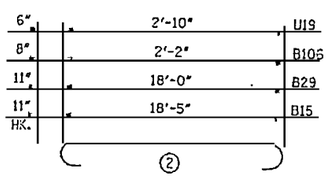
Earth Tech
A Tyco International Ltd. Company

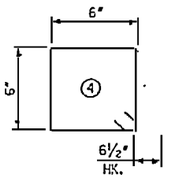
FLATIRON/UNITED
A JOINT VENTURE

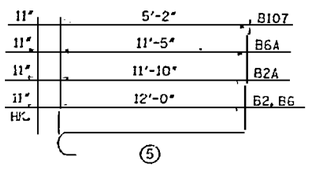
REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO. A2514P.00
1			13			TOTAL SHEETS
2			14			

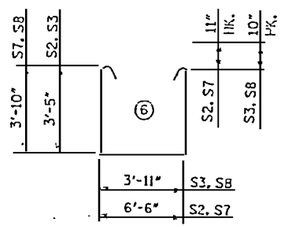
BAR TYPES

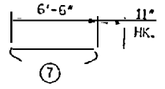


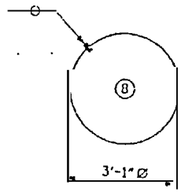


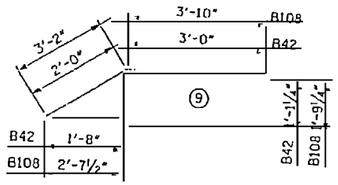


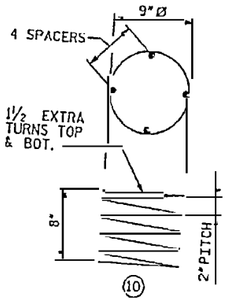


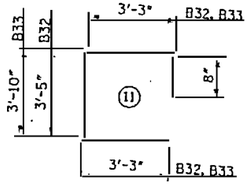


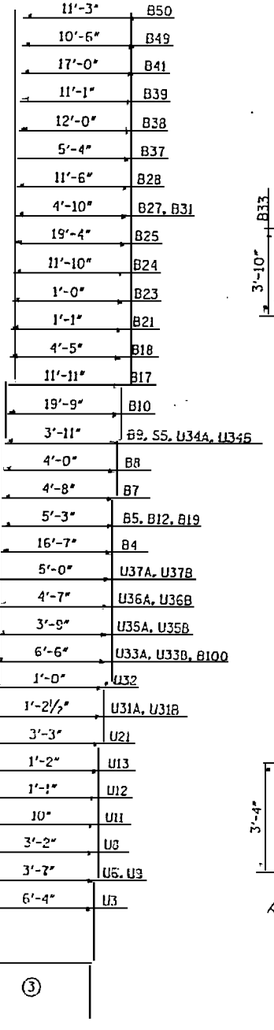


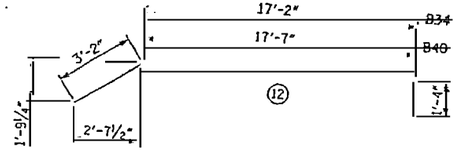


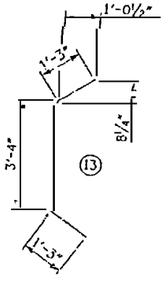


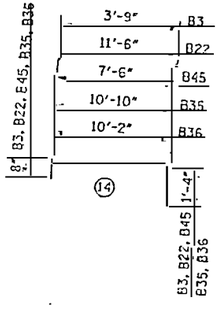












BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	10	#8	(5)	12'-11"	345
B2A	10	#8	(5)	12'-9"	340
B3	5	#4	(4)	5'-8"	19
B4	4	#8	(3)	19'-3"	206
B5	6	#4	(3)	6'-7"	26
B6	10	#8	(5)	12'-11"	345
B6A	10	#8	(5)	12'-4"	329
B7	2	#4	(3)	6'-0"	8
B8	2	#4	(3)	5'-4"	7
B9	8	#4	(3)	5'-3"	28
B10	2	#8	(3)	22'-5"	120
B11	2	#8	(1)	10'-9"	57
B12	5	#4	(3)	6'-7"	22
B13	2	#5	(1)	3'-10"	8
B14	16	#4	(1)	1'-8"	18
B15	6	#8	(2)	20'-3"	324
B16	2	#8	(1)	13'-3"	71
B16A	2	#8	(1)	13'-1"	70
B17	2	#8	(3)	14'-7"	78
B18	2	#8	(4)	7'-1"	38
B19	2	#8	(3)	7'-11"	42
B20	7	#4	(4)	11'-3"	53
B21	4	#5	(3)	4'-5"	18
B22	5	#4	(4)	13'-6"	45
B23	4	#5	(3)	4'-4"	18
B24	3	#4	(3)	13'-2"	26
B25	2	#8	(3)	22'-0"	117
B26	2	#8	(1)	13'-3"	71
B26A	2	#8	(1)	12'-8"	68
B27	2	#8	(3)	7'-6"	40
B28	2	#8	(3)	14'-2"	76
B29	6	#8	(2)	19'-10"	318
B31	5	#4	(5)	6'-2"	21
B32	4	#4	(11)	10'-7"	28
B33	4	#4	(11)	11'-0"	29
B34	6	#8	(12)	21'-8"	347
B35	1	#4	(14)	12'-10"	9
B36	1	#4	(14)	12'-2"	8
B37	2	#8	(3)	8'-0"	43
B38	2	#8	(3)	13'-8"	78
B39	2	#8	(3)	13'-9"	73
B40	6	#8	(12)	22'-1"	354
B41	4	#8	(3)	19'-8"	210
B42	24	#7	(9)	5'-0"	245
B43	2	#5	(1)	4'-3"	9
B44	4	#8	(1)	7'-1"	76
B45	7	#4	(14)	9'-6"	44
B47	5	#4	(4)	6'-11"	23
B48	2	#4	(1)	14'-11"	20
B49	1	#4	(3)	11'-10"	8
B50	1	#4	(3)	12'-7"	8
B100	8	#8	(3)	13'-4"	285
B105	80	#8	(1)	6'-6"	1388
B106	60	#6	(2)	3'-6"	315
B107	60	#8	(5)	6'-1"	1299
[1] B108A	4	#8	(9)	7'-0"	187
[2] B108B	4	#8	(1)	18'-11"	202
B109	16	#8	(1)	18'-6"	198
B110	16	#8	(1)	5'-0"	214

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	#4	(4)	3'-3"	35
S2	20	#8	(6)	15'-2"	810
S3	20	#7	(5)	12'-5"	508
S5	39	#7	(3)	6'-3"	488
S6	39	#8	(7)	8'-4"	868
S7	19	#8	(6)	16'-0"	812
S8	19	#7	(6)	13'-3"	515
S31	16	#7	(8)	9'-5"	308
U3	8	#6	(3)	8'-4"	100
U5	6	#5	(3)	5'-3"	33
U8	8	#6	(3)	5'-2"	62
U9	8	#6	(3)	5'-7"	67
U11	12	#5	(3)	4'-10"	60
U12	4	#5	(3)	4'-5"	18
U13	4	#5	(3)	4'-6"	19
U16	12	#5	(13)	5'-10"	73
U19	2	#4	(2)	3'-10"	5
U21	6	#5	(3)	4'-11"	31
[1] U31A	26	#7	(3)	8'-2"	434
[2] U31B	26	#7	(3)	7'-8"	407
U32	8	#8	(3)	11'-4"	242
[1] U33A	12	#7	(3)	13'-5"	329
[2] U33B	12	#7	(3)	12'-11"	317
[1] U34A	4	#7	(3)	10'-10"	89
[2] U34B	4	#7	(3)	10'-4"	84
[1] U35A	2	#7	(3)	10'-8"	44
[2] U35B	2	#7	(3)	10'-2"	42
[1] U36A	2	#7	(3)	11'-6"	47
[2] U36B	2	#7	(3)	11'-0"	45
[1] U37A	4	#7	(3)	11'-11"	97
[2] U37B	4	#7	(3)	11'-5"	93
SP-1	4	#4	(10)	15'-7"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

SEGMENTS 1 AND 4

NOTES:

[1] BARS USED IN SEGMENT 1.

[2] BARS USED IN SEGMENT 4.

ALL BAR DIMENSIONS ARE OUT TO OUT.

NORTH CAROLINA REGISTERED 039078 ENGINEER TOM JORDAN

RELEASED FOR CONSTRUCTION

Tom Shearin Wake

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 17 OF 18

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 425140.00

DRAWN BY : M.T. BELTSLE DATE : 01/08

CHECKED BY : J.T.T. DATE : 01/08

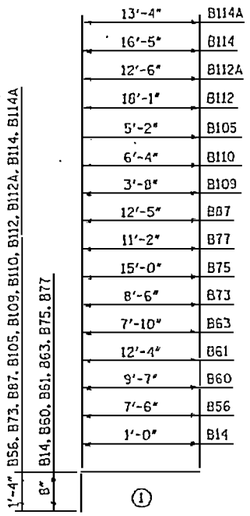
DATE: 1/21/2008
TIME: 12:59 PM

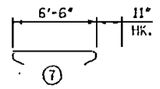
USER: mtbeltsle
DGN: N:\Structure\Tar River Bridge\CADD\353SD_SD_DSN_ATHEN-BETTS.dgn

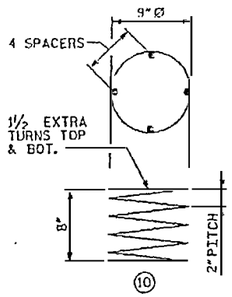
EarthTech
A Tyco International Ltd. Company

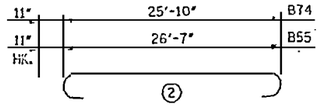
FLATIRON/UNITED
A JOINT VENTURE

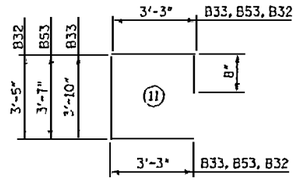
BAR TYPES

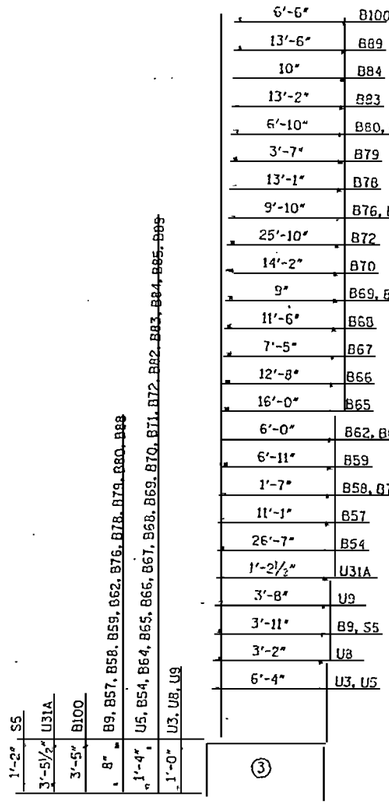


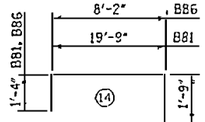


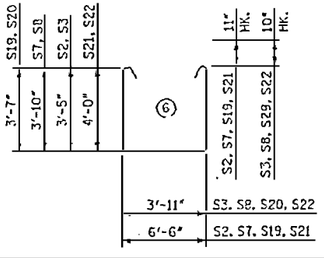


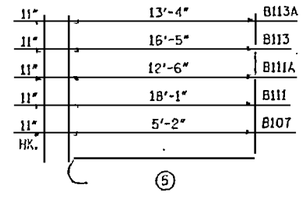












BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B9	12	#4	(3)	5'-3"	42
B14	24	#4	(1)	1'-8"	27
B32	4	#4	(11)	10'-7"	28
B33	4	#4	(11)	11'-0"	29
B53	4	#4	(11)	10'-9"	29
B54	10	#8	(3)	29'-3"	781
B55	6	#8	(2)	28'-5"	455
B56	4	#8	(1)	8'-10"	94
B57	7	#4	(3)	12'-5"	58
B58	5	#4	(3)	2'-11"	10
B59	10	#4	(3)	8'-3"	55
B60	5	#4	(1)	10'-3"	34
B61	2	#4	(1)	13'-0"	17
B62	5	#4	(3)	1'-4"	24
B63	7	#4	(1)	8'-6"	40
B64	3	#8	(3)	8'-0"	69
B65	4	#8	(3)	18'-8"	199
B66	3	#8	(3)	15'-4"	123
B67	3	#8	(3)	10'-1"	81
B68	2	#8	(3)	14'-2"	76
B69	6	#8	(3)	3'-5"	55
B70	2	#8	(3)	16'-10"	90
B71	2	#8	(3)	4'-3"	23
B72	10	#8	(3)	28'-6"	761
B73	4	#8	(1)	9'-10"	105
B74	6	#8	(2)	27'-8"	443
B75	2	#4	(1)	15'-8"	21
B76	5	#4	(3)	11'-2"	37
B77	5	#4	(1)	11'-10"	40
B78	7	#4	(3)	14'-5"	67
B79	5	#4	(3)	4'-11"	16
B80	5	#4	(3)	8'-2"	27
B81	4	#8	(4)	22'-10"	244
B82	3	#8	(3)	12'-6"	100
B83	3	#8	(3)	15'-10"	127
B84	3	#8	(3)	3'-6"	28
B85	2	#8	(3)	9'-6"	51
B86	3	#8	(4)	11'-3"	90
B87	4	#8	(1)	13'-9"	147
B88	5	#4	(3)	2'-1"	7
B89	2	#8	(3)	16'-2"	86
B100	12	#8	(3)	13'-4"	427
B105	120	#8	(1)	6'-6"	2083
B107	80	#8	(5)	6'-1"	1299
B109	24	#8	(1)	5'-0"	320
B110	24	#8	(1)	7'-8"	491
B111	10	#8	(5)	19'-0"	507
B111A	10	#8	(5)	10'-10"	289
B112	6	#8	(1)	19'-5"	311
B112A	6	#8	(1)	11'-3"	180
B113	10	#8	(5)	17'-4"	463
B113A	10	#8	(5)	13'-5"	358
B114	6	#8	(1)	17'-9"	284
B114A	6	#8	(1)	13'-10"	222

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S2	42	#8	(6)	15'-2"	1701
S3	42	#7	(6)	12'-5"	1065
S5	81	#7	(3)	6'-3"	1035
S6	81	#8	(7)	8'-4"	1802
S7	27	#8	(6)	16'-0"	1153
S8	27	#7	(6)	13'-3"	731
S19	11	#8	(6)	15'-6"	455
S20	11	#7	(6)	12'-9"	287
S21	1	#8	(6)	16'-4"	44
S22	1	#7	(6)	13'-7"	28
U3	16	#6	(3)	8'-4"	200
U8	24	#6	(3)	5'-2"	186
U9	8	#6	(3)	5'-8"	68
U31A	44	#7	(3)	8'-2"	734
SP-1	4	#4	(10)	15'-7"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

SEGMENTS 2 AND 3

DATE: 1/7/2013
TIME: 1:43:43 PM
USER: Kirkland
DGN: N:\ENGINEERING\Structure Design\PROJECTS\R-2510B\SHEETS\R2510B_ATYP_BARTYPES.dgn

DRAWN BY : M.T. BELISLE DATE : 01/08
CHECKED BY : J. LIU DATE : 01/08

ALL BAR DIMENSIONS ARE OUT TO OUT.

NORTH CAROLINA
SEAL
036878
ENGINEER
JOHN W. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 1/24/13

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 18 OF 18
~~BRIDGE NO. 353~~

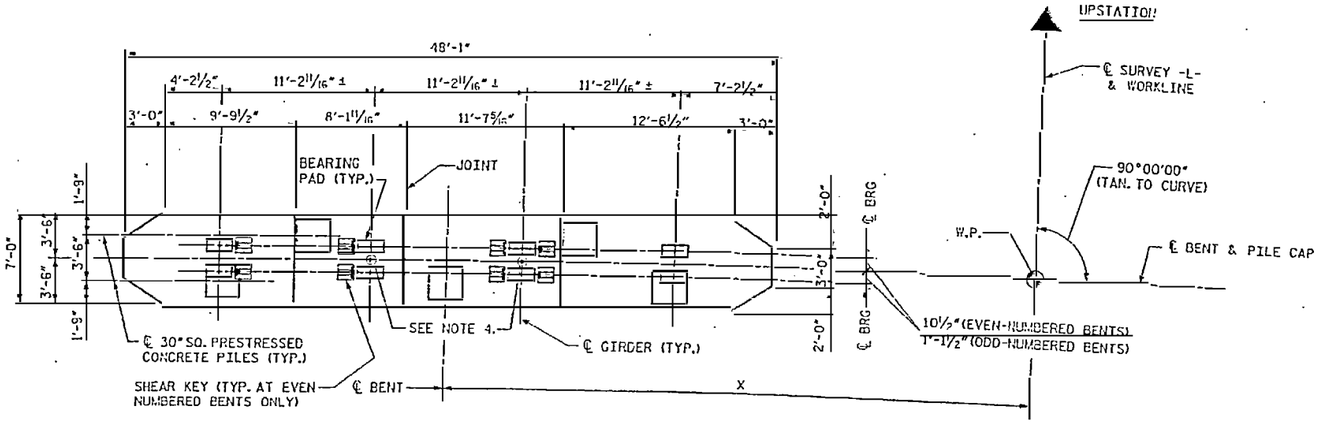
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 14B
~~FOR BRIDGE~~ ON US 17 BYPASS
OVER TAR RIVER

Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

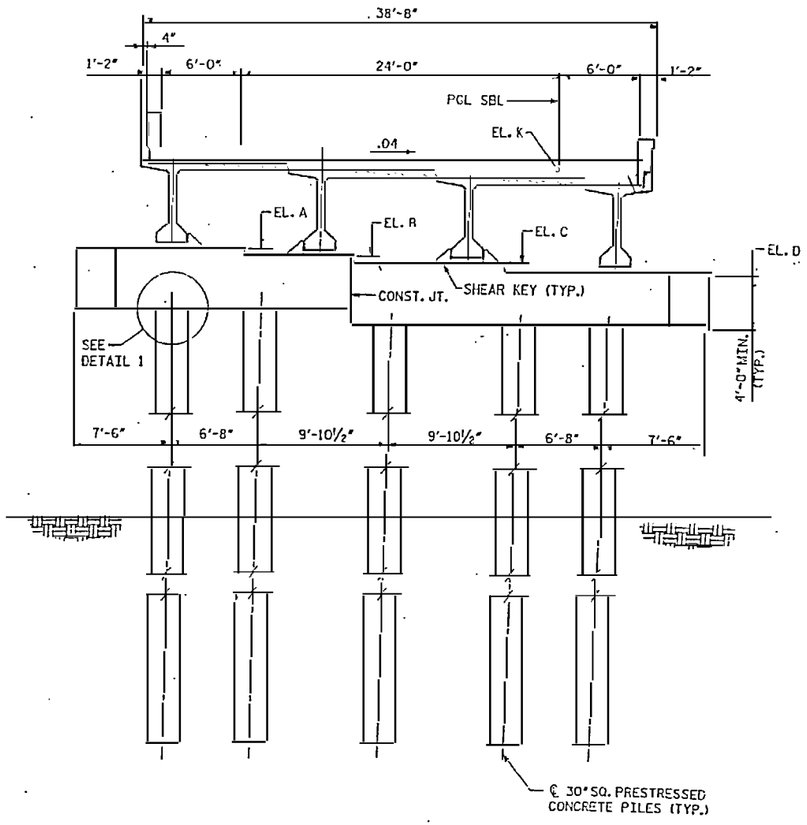
REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			5		
2			6		

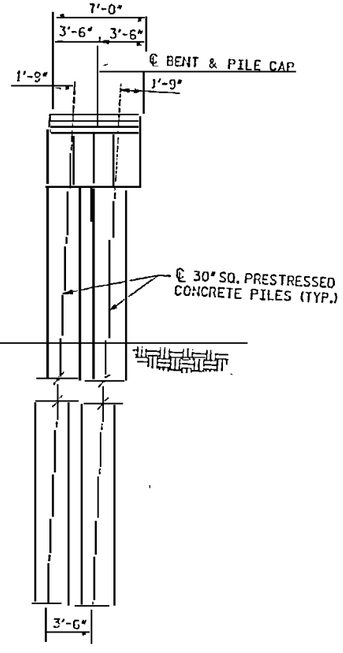
SHEET NO. R2514R.00
TOTAL SHEETS



PLAN



ELEVATION
(BENTS 115SB THRU 120SB)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG. 2'-0" EMBEDMENT LENGTH. BAR SHALL BE PLUMB. BARS ONLY AT ODD-NUMBERED BENTS. (1) (2)
5. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
6. PROVIDE AN EPOXY PROTECTIVE COATING ON ALL EVEN-NUMBERED BENT CAPS (EXPANSION). SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

~~BENT No.~~	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. K (ft)	X (ft)
~~115SB~~	25.089	24.640	24.191	23.742	31.210	~~25'-4"~~
~~116SB~~	24.729	24.280	23.831	23.382	30.850	~~27'-0⅛"~~
~~117SB~~	24.369	23.920	23.471	23.022	30.490	~~28'-5⅞"~~
~~118SB~~	24.009	23.560	23.111	22.662	30.130	~~30'-5¾"~~
~~119SB~~	23.649	23.200	22.751	22.302	29.770	~~32'-2¼"~~
~~120SB~~	23.289	22.840	22.391	21.942	29.410	~~33'-10⅞"~~

(1) REVISION TO NOTE NO. 4.
(2) REVISION TO NOTE NO. 4.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 12/28/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030407 JOHN M. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DIMENSIONS - BENT TYPE 15
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

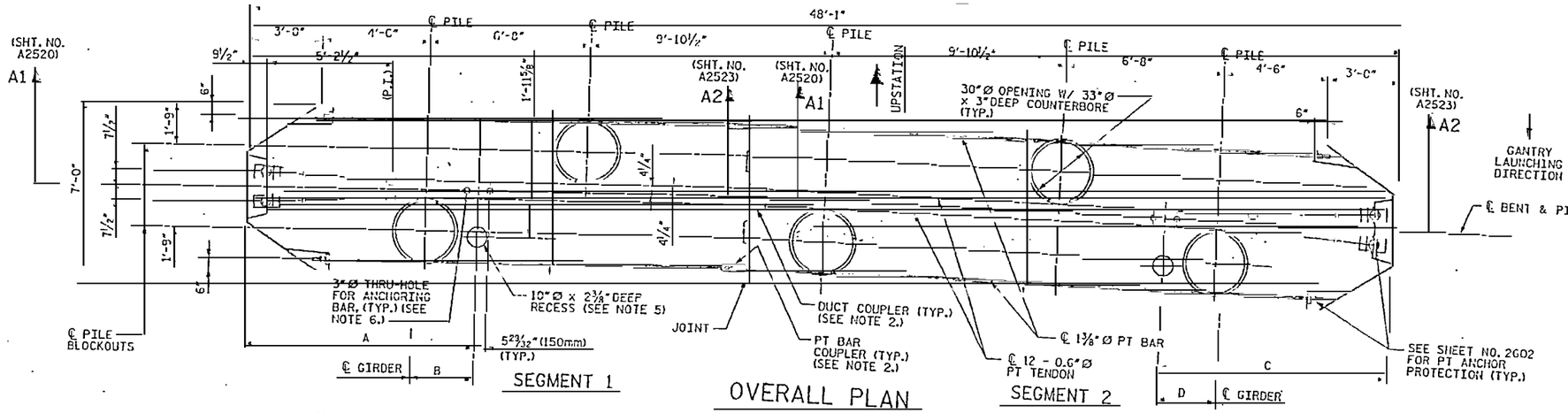
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	7/2/07			
2	MTB	10/8/07			

SHEET NO. 2515.02
TOTAL SHEETS

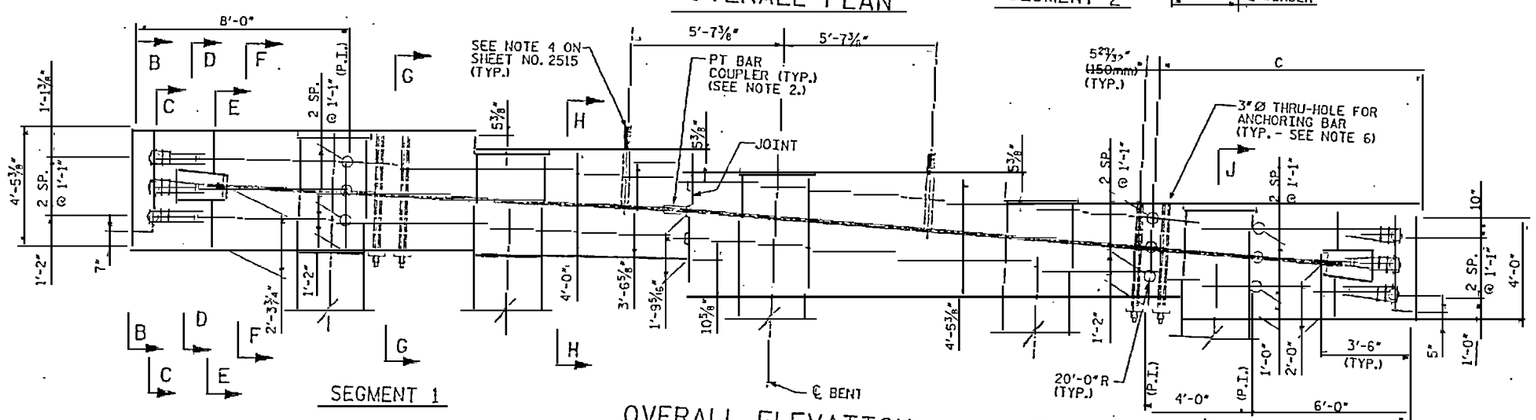
Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : E.S. CISNEROS DATE : 05/07
CHECKED BY : J. LIU DATE : 05/07

USER: rcarlson
FILE: N:\Projects\R2510B\Structures\Bridges\Bridge_50_US17_BYP\Sheets\Bridge_50_US17_BYP_TYPE15.dgn
DATE: 10/8/2007
TIME: 10:53:39 AM

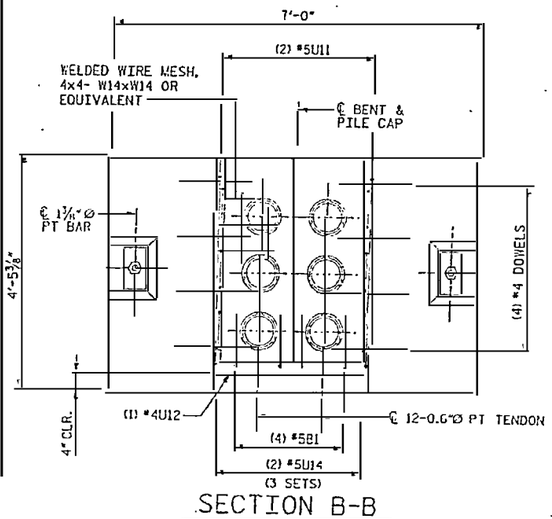


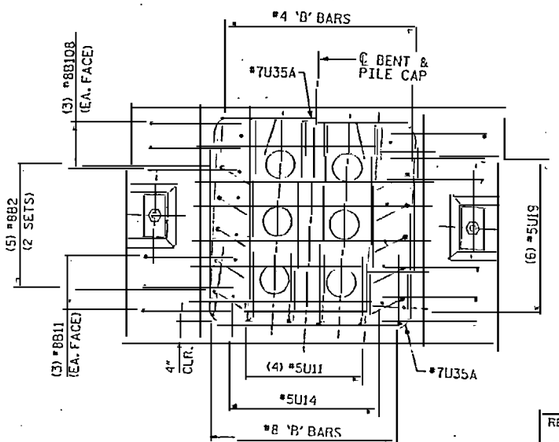
BENT No.	A	B	C	D
115SB	9'-11⁵/₁₆"	2'-8¹³/₁₆"	9'-11⅛"	2'-8⅝"
116SB	9'-11¼"	2'-8¾"	9'-11⁵/₁₆"	2'-8¹¹/₁₆"
117SB	10'-0⅜"	2'-10⅛"	9'-9¹³/₁₆"	2'-7⅝"
118SB	10'-1⅝"	2'-10¹³/₁₆"	9'-9⅛"	2'-6⅝"
119SB	10'-1⅞"	2'-10¹⁵/₁₆"	9'-9⅜"	2'-6⅝"
120SB	10'-0⅜"	2'-9⅛"	9'-10¼"	2'-7⅝"

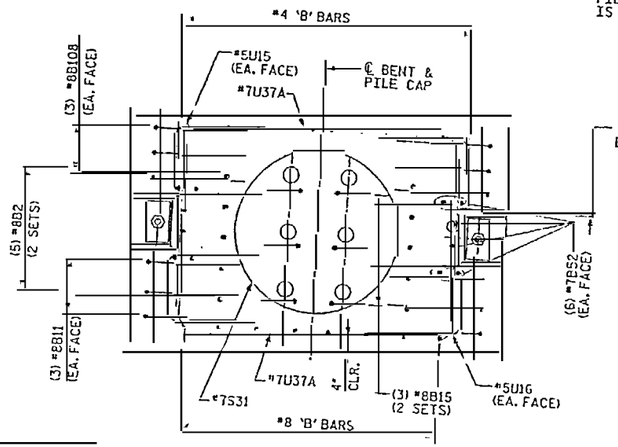


NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 15 IS USED AT BENT NOS. 115SB THRU 120SB.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE CAP ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2517. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.







RELEASED FOR CONSTRUCTION
Tom Shearin 11/5/07
TOM SHEARIN, PE DATE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

EarthTech
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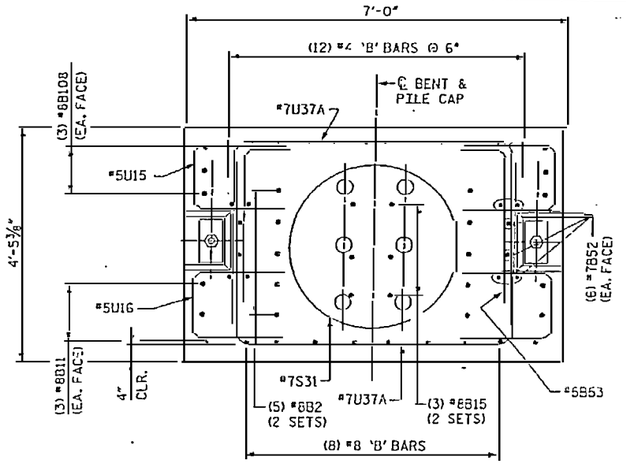
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 9
BRIDGE NO. 353

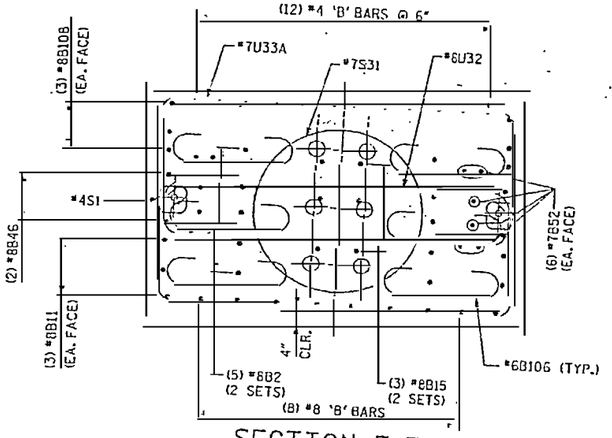
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 15
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2516.00
1			3			TOTAL SHEETS
2			4			



SECTION E-E



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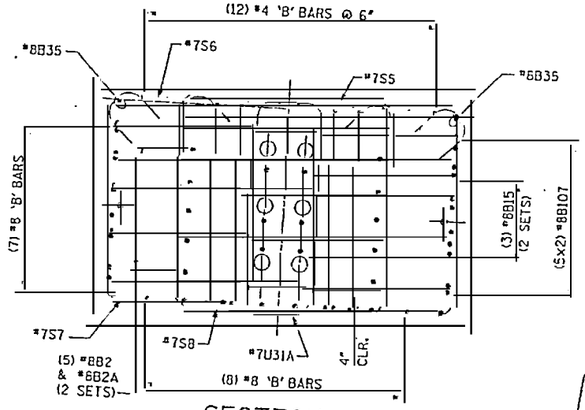
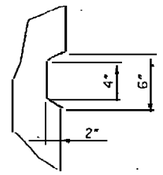


SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



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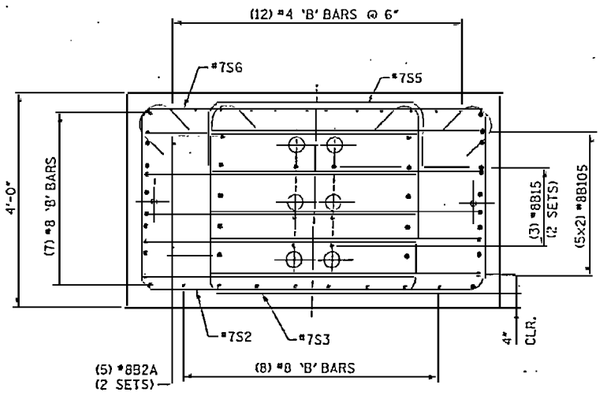
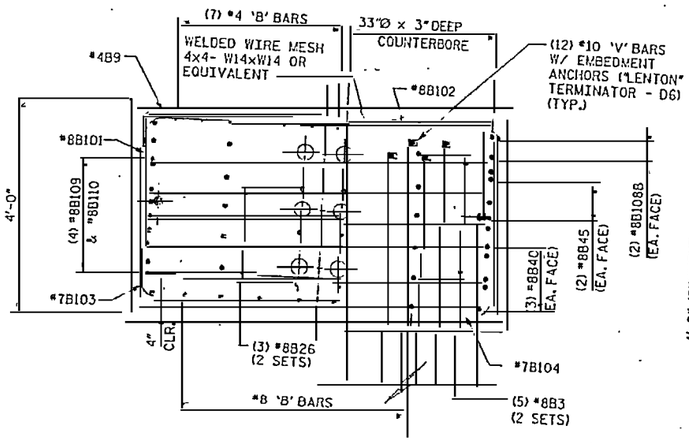
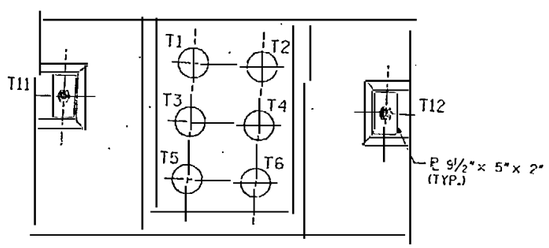


SECTION H-H

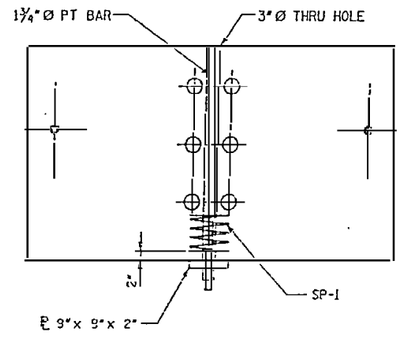


SECTION J-J



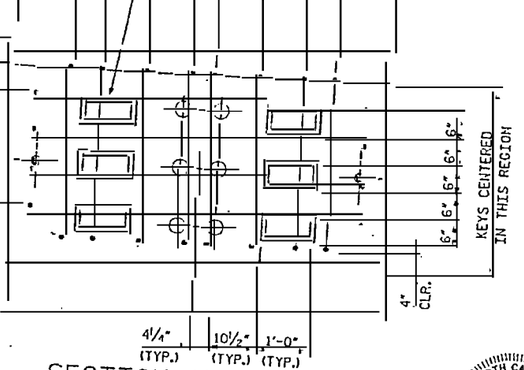
TENDON LAYOUT

1. T11 AND T12 SHALL BE 1¾"Ø PT BARS. T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T5, T4, T2, T3, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



SECTION AT JOINT

(SEE SHEET NO. A2516)

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036861 JOHN W. JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/05/09

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M. T. BELTSLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 9
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 15
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO. A2517.00
1			3			TOTAL SHEETS
2			4			

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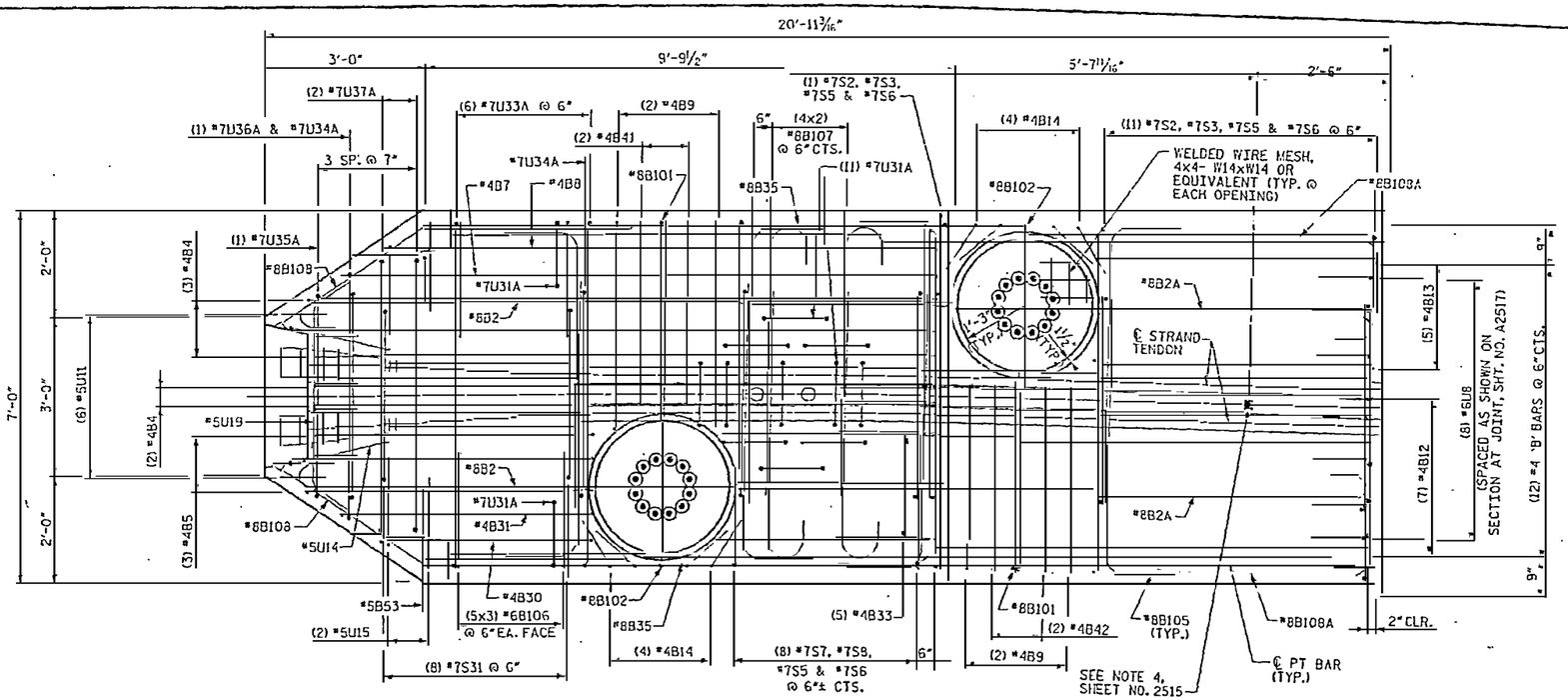
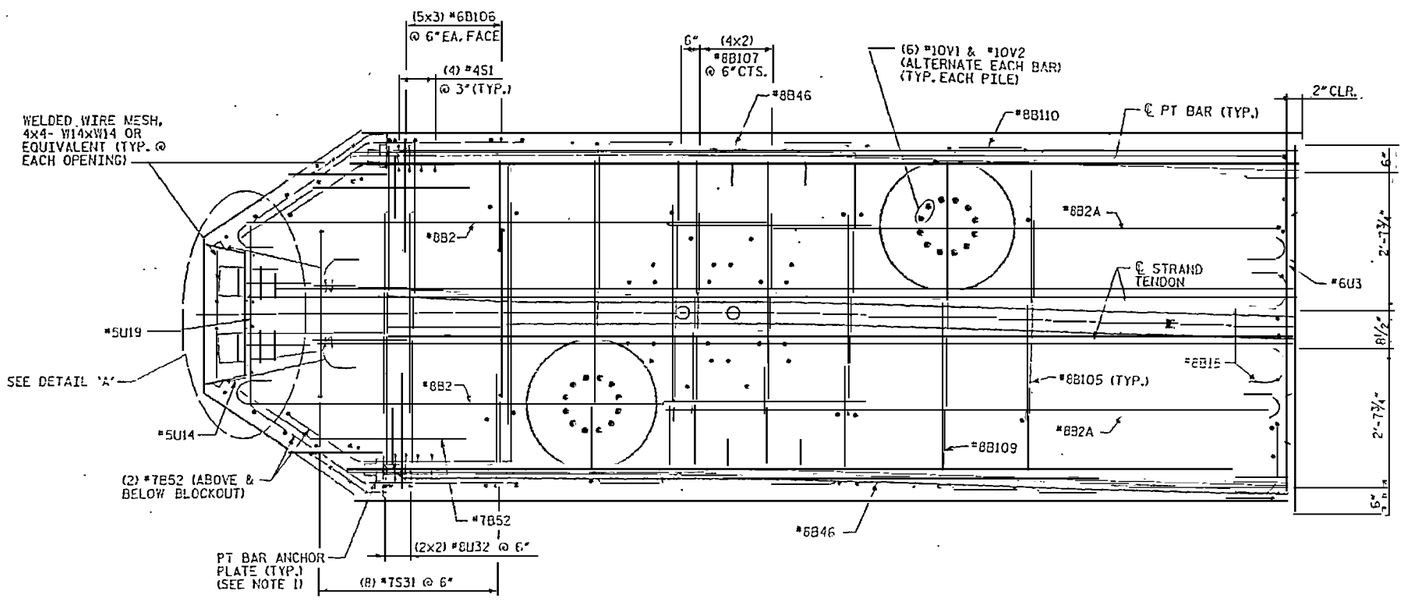


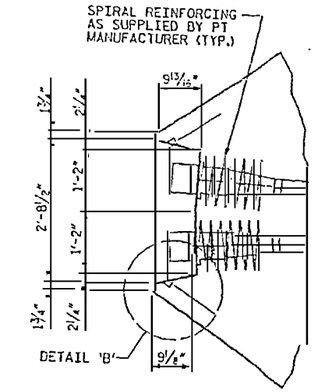
SEGMENT 1 - TOP PLAN



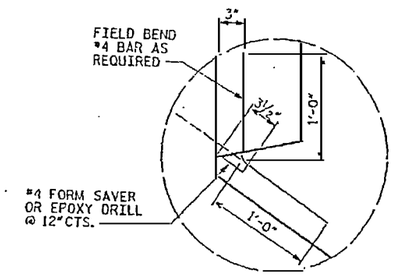
SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'

RELEASED FOR CONSTRUCTION
Tom Shearin 11/05/07
TOM SHEARIN, PE DATE

DRAWN BY : M. T. BELTSLE DATE : 11/07
CHECKED BY : J. J. III DATE : 11/07

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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 15
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2518.00
1			3			TOTAL SHEETS
2			4			

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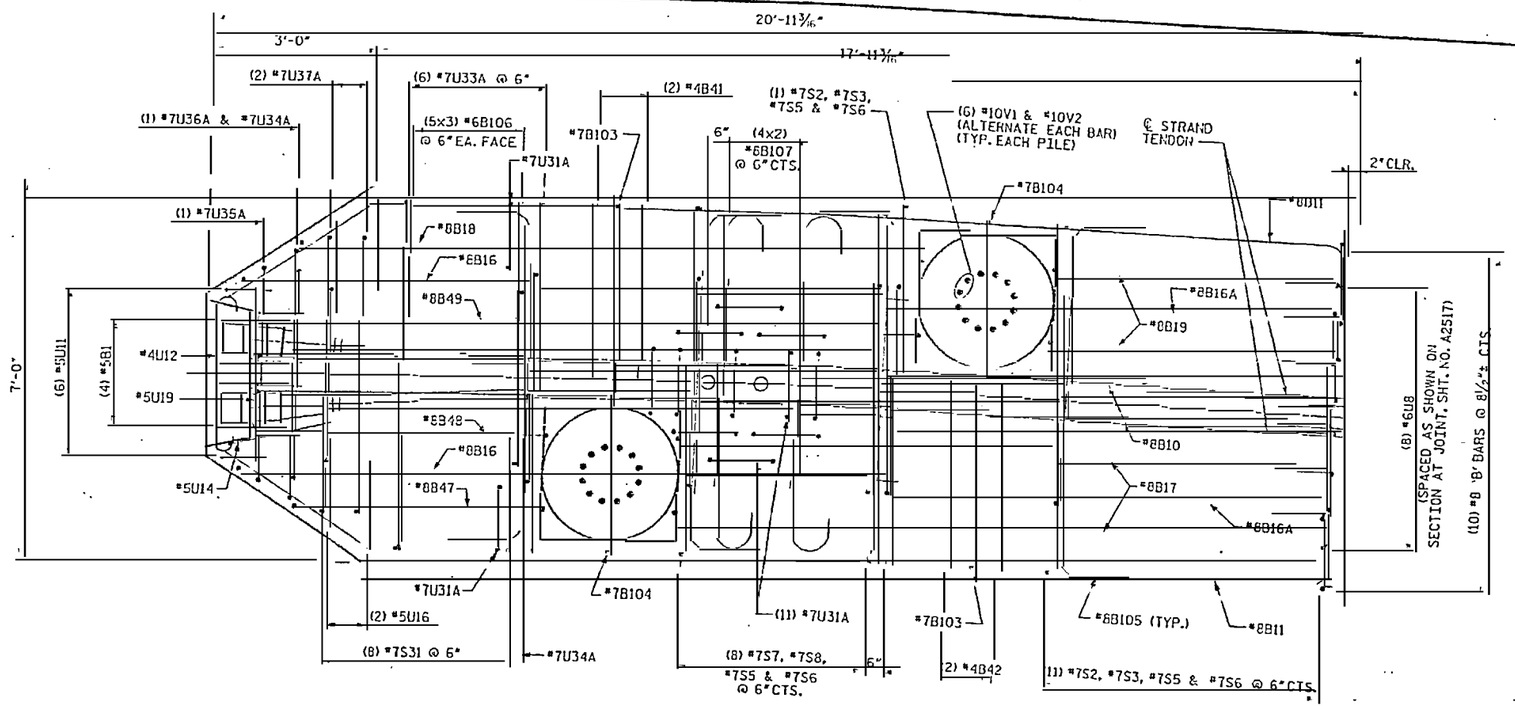
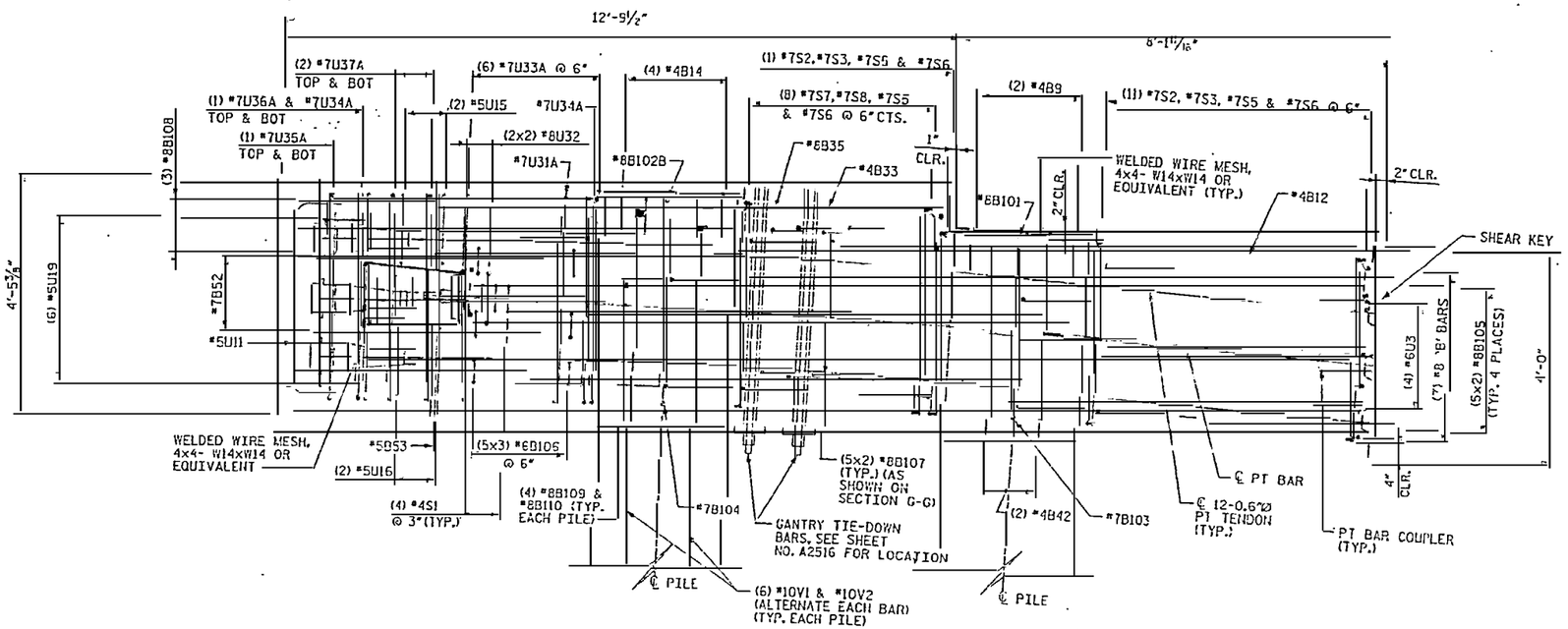
DATE: 11/5/2007
TIME: 12:43:27 PM



SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LEE DATE : 11/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/26/07 DATE

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 9
BRIDGE NO. 353

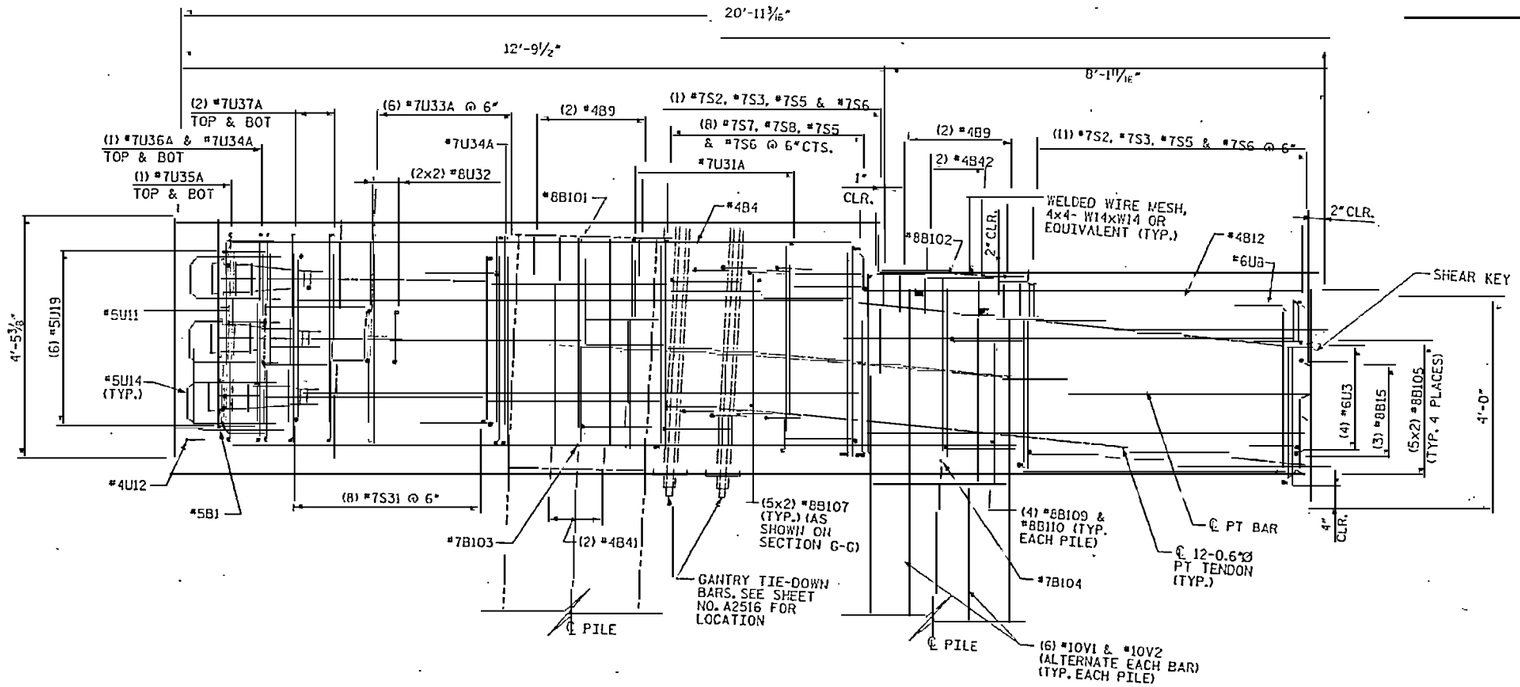
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 15
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2					

SHEET NO. A2519.00
TOTAL SHEETS



SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2516)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DATE: 11/5/2007
TIME: 12:23:55 PM

USER: mtelisle
DGN: R:\Structures\Pile Bridges\DESIGN\sheet_sn.dgn_BTB-CST3shop

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

RELEASED FOR CONSTRUCTION
Tom Shearin 11/05/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030607 JOHN W. JORDAN IV

Earth Tech
A Tyco International Ltd Company

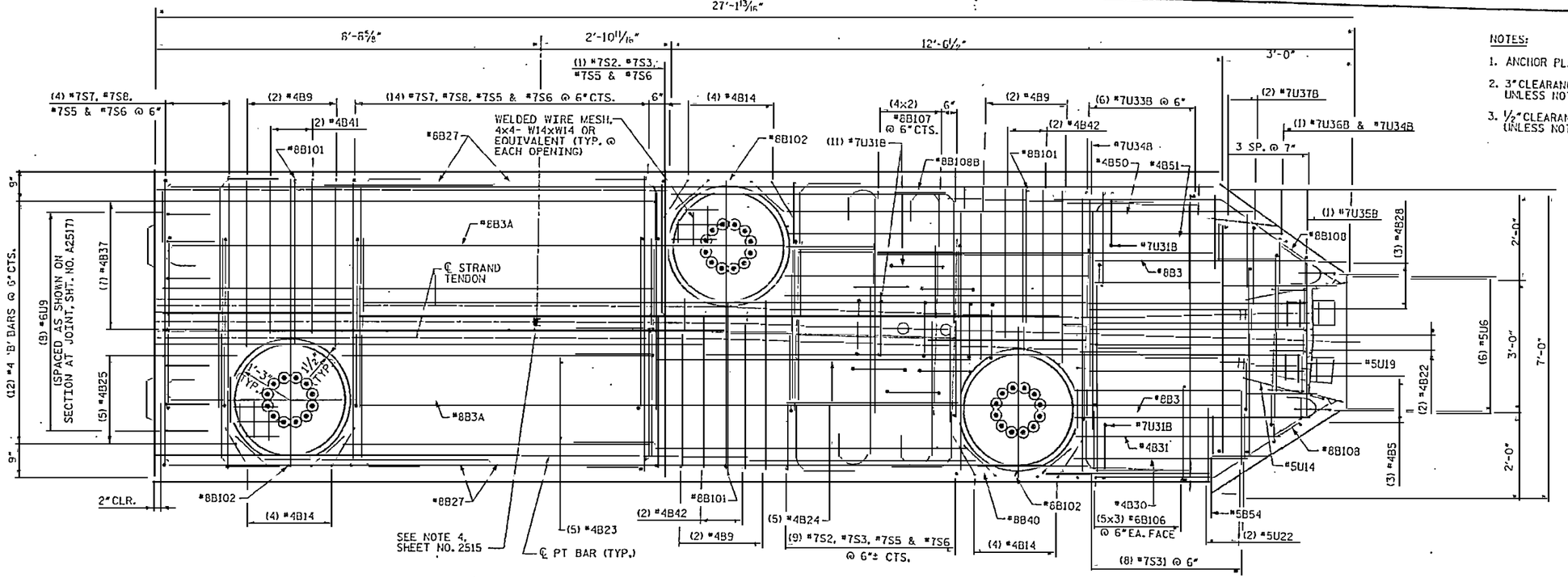
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 9
BRIDGE NO. 333

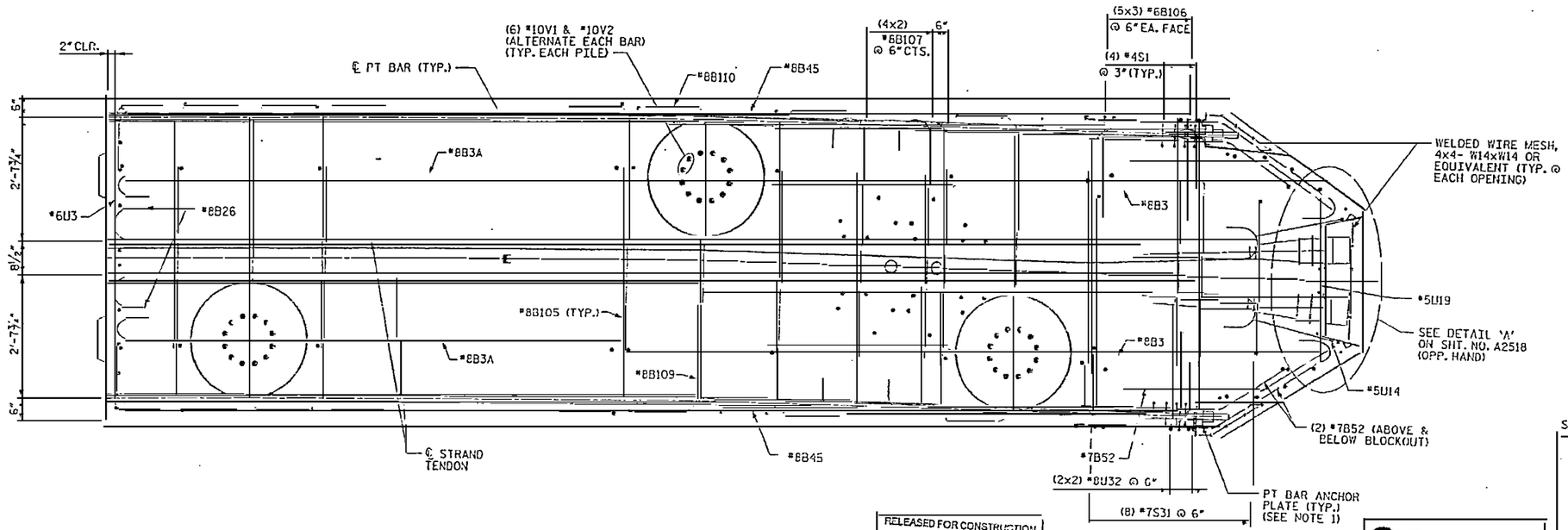
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 15
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE	A2520.00
1			3			TOTAL SHEETS
2			4			



SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/05/07 DATE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. T. H. DATE : 11/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE DETAILS~~
PILE CAP TYPE 15
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:	A2521.00
1			3			TOTAL SHEETS
2			4			

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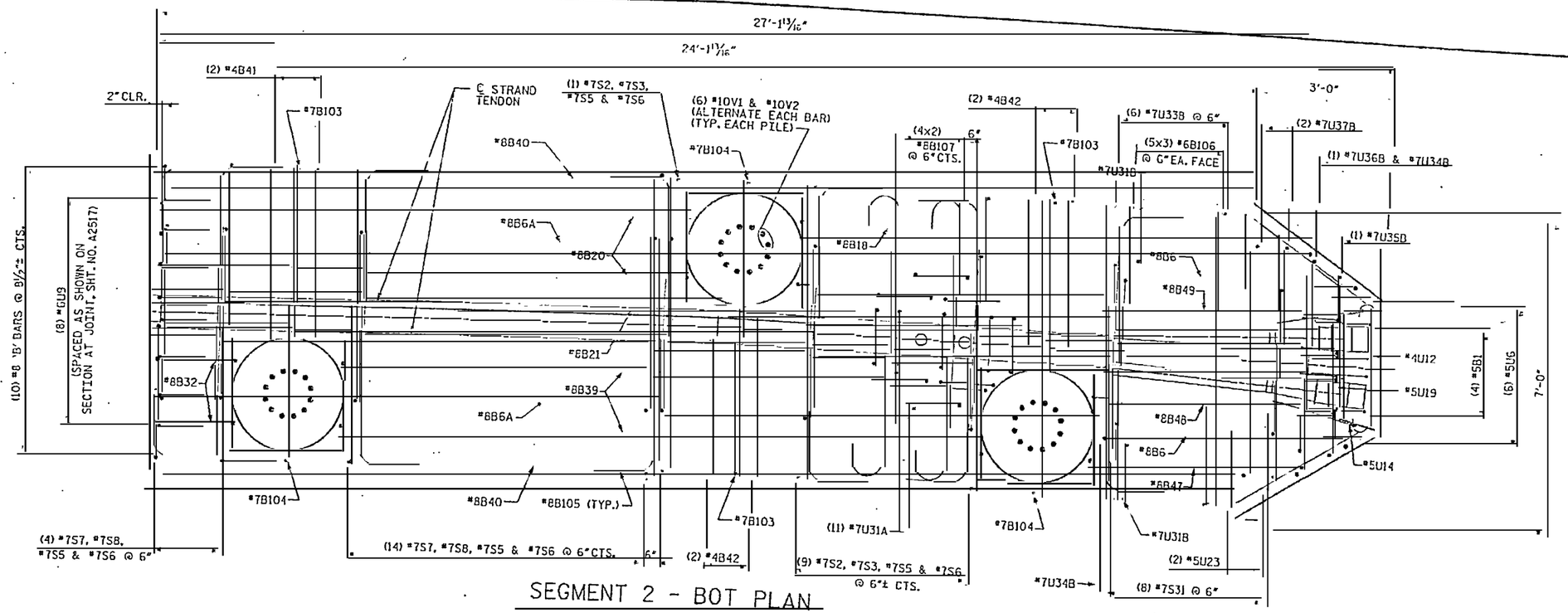
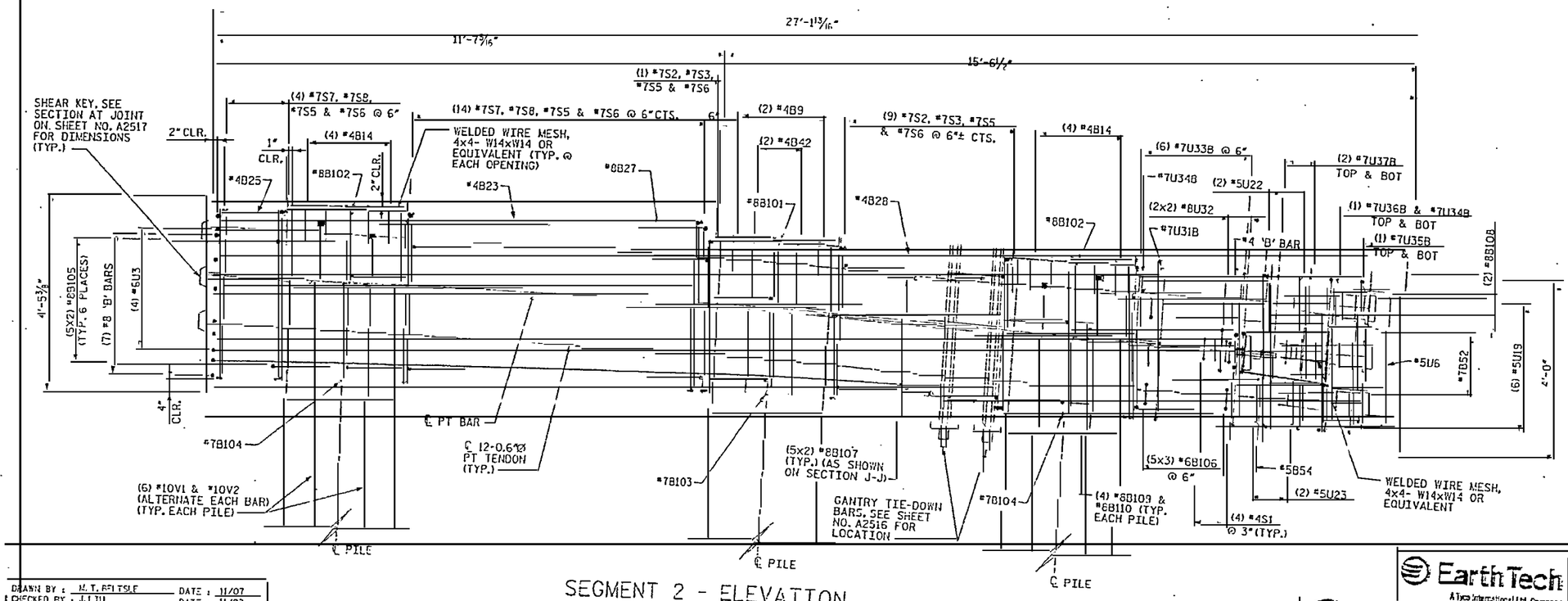


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/05/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030304 TOM SHEARIN JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 9
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 15
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2522.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. PELTSLE DATE : 11/07
CHECKED BY : J. L. LIU DATE : 11/07

DGN: stecklig
USER: mtpeltsle
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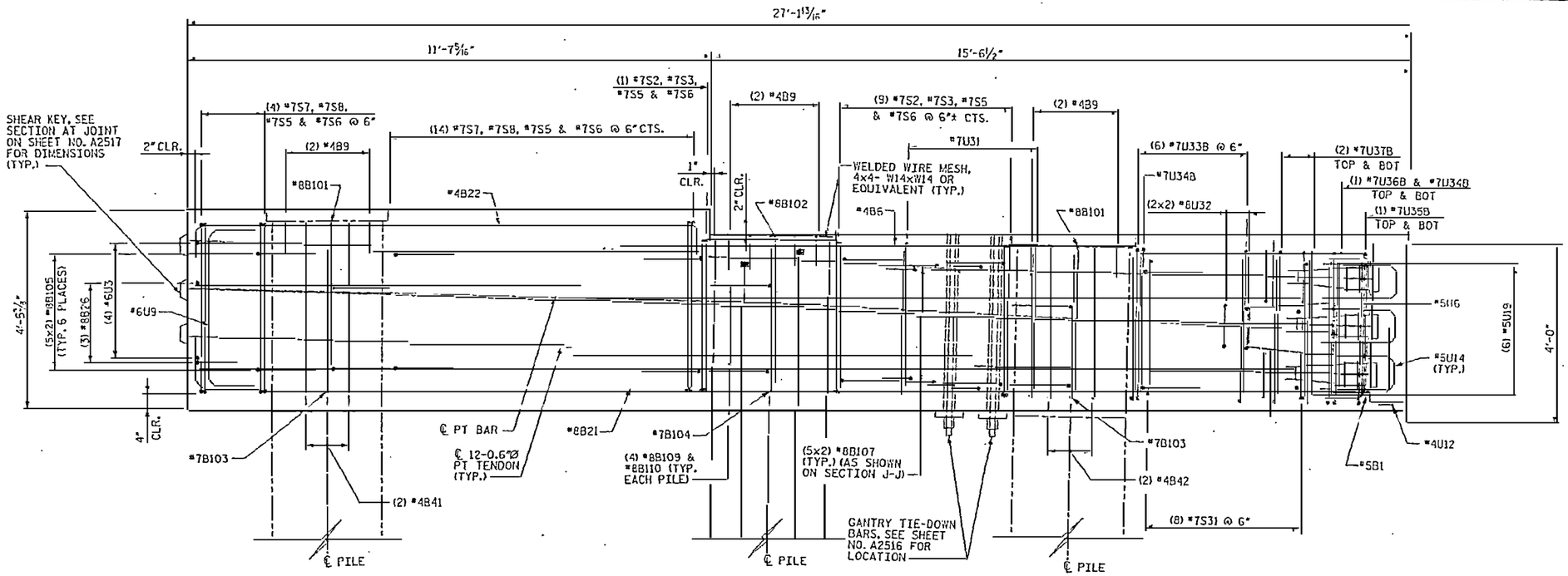
TIME: 7:57:08 PM



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2547)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 15
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	B-2523.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BELTSLE DATE : 11/07
CHECKED BY : J. LEE DATE : 11/07

DATE: 6/5/2008
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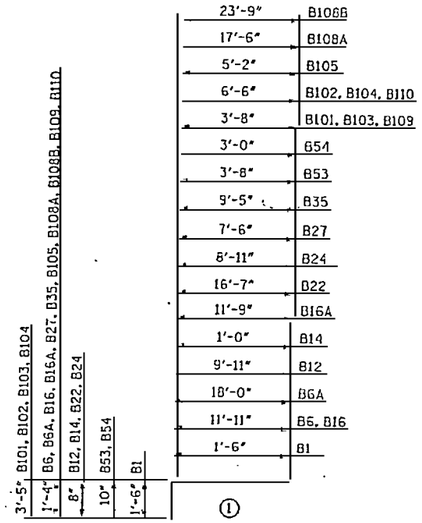
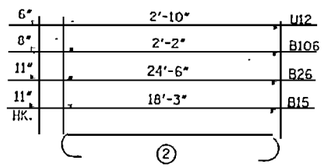
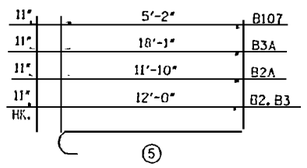
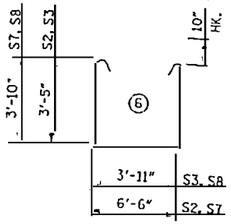
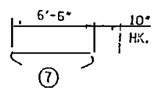
BAR TYPES

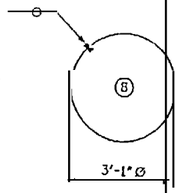


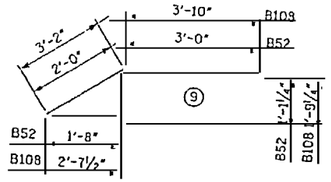


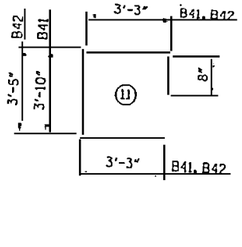


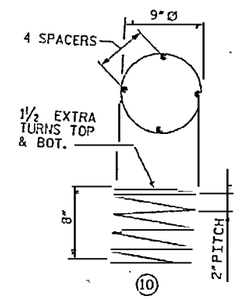


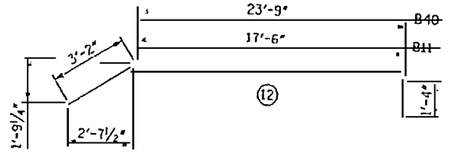


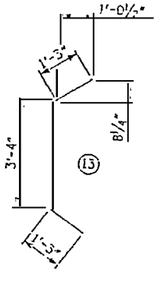












11'-4"	B51
10'-6"	B50
5'-4"	B48
4'-5"	B47
16'-11"	B46
23'-2"	B45
14'-2"	B39
11'-2"	B37
3'-10"	B33
4'-8"	B31
4'-0"	B30
12'-0"	B28, B49
1'-7"	B25, B32
7'-1"	B23
25'-11"	B21
11'-6"	B20
11'-1"	B18
11'-11"	B17
5'-3"	B13, B19
19'-8"	B10
3'-6"	B9
10'-3"	B8
11'-0"	B7
5'-3"	B5
5'-0"	U37A, U37B
4'-7"	U36A, U36B
3'-9"	U35A, U35B
3'-11"	U34A, U34B, S5
6'-6"	U33A, U33B
1'-0"	U23, U32
1'-2½"	U31A, U31B
1'-2"	U22
1'-4"	U16
1'-3"	U15
10"	U14
11'-6"	B6
3'-8"	U9, U11
3'-3"	U8, U9
6'-4"	U3

NOTES;

[1] BARS USED IN SEGMENT 1.

[2] BARS USED IN SEGMENT 4.

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	10	#8	(5)	12'-11"	345
B2A	10	#8	(5)	12'-9"	340
B3	10	#8	(5)	12'-11"	345
B3A	10	#8	(5)	19'-0"	507
B4	5	#4	(3)	12'-10"	43
B5	5	#4	(3)	6'-7"	26
B6	2	#8	(1)	13'-3"	71
B6A	2	#8	(1)	19'-4"	103
B7	1	#4	(3)	12'-4"	8
B8	1	#4	(3)	11'-7"	8
B9	10	#4	(3)	4'-10"	32
B10	2	#8	(3)	22'-4"	119
B11	6	#8	(12)	22'-0"	352
B12	7	#4	(1)	10'-7"	50
B13	5	#4	(3)	6'-1"	22
B14	20	#4	(1)	1'-8"	22
B15	6	#8	(2)	20'-1"	322
B16	2	#8	(1)	13'-3"	71
B16A	2	#8	(1)	13'-1"	70
B17	2	#8	(3)	14'-7"	78
B18	2	#8	(3)	13'-9"	73
B19	2	#8	(3)	7'-11"	42
B20	2	#8	(3)	14'-2"	76
B21	2	#8	(3)	28'-7"	153
B22	2	#4	(1)	17'-3"	23
B23	5	#4	(3)	8'-5"	28
B24	5	#4	(1)	9'-7"	32
B25	5	#4	(3)	2'-11"	10
B26	6	#8	(2)	26'-4"	422
B27	4	#8	(1)	8'-10"	94
B28	3	#4	(3)	13'-4"	27
B30	2	#4	(3)	5'-4"	7
B31	2	#4	(3)	6'-0"	8
B32	2	#8	(3)	4'-3"	23
B33	5	#4	(3)	5'-2"	17
B35	2	#8	(1)	10'-9"	57
B37	7	#4	(3)	12'-6"	59
B39	2	#8	(3)	16'-10"	90
B40	6	#8	(12)	28'-3"	453
B41	4	#4	(11)	11'-0"	29
B42	6	#4	(11)	10'-7"	42
B45	4	#8	(3)	25'-10"	276
B46	4	#8	(3)	19'-7"	209
B47	2	#8	(3)	7'-1"	38
B48	2	#8	(3)	8'-0"	43
B49	2	#8	(3)	14'-8"	78
B50	1	#4	(3)	11'-10"	8
B51	1	#4	(3)	12'-8"	9
B52	24	#7	(9)	5'-0"	245
B53	2	#5	(1)	4'-6"	9
B54	2	#5	(1)	3'-10"	8
B101	5	#8	(1)	7'-1"	95
B102	5	#8	(1)	9'-11"	132
B103	5	#7	(1)	7'-11"	72
B104	5	#7	(1)	9'-11"	101
B105	100	#8	(1)	6'-6"	1736
B106	60	#5	(2)	3'-6"	315
B107	80	#8	(5)	6'-1"	1299
B108	10	#8	(9)	7'-0"	187
[1] B108A	4	#8	(1)	16'-10"	201
[2] B108B	4	#8	(1)	25'-1"	268
B109	20	#8	(1)	5'-0"	267
B110	20	#8	(1)	7'-10"	418

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	#4	(4)	3'-3"	35
S2	22	#7	(6)	15'-0"	675
S3	22	#7	(6)	12'-5"	550
S5	48	#7	(3)	6'-3"	613
S6	48	#7	(7)	8'-2"	801
S7	26	#7	(5)	15'-10"	841
S8	26	#7	(6)	13'-3"	704
S31	16	#7	(8)	9'-5"	308
U3	8	#6	(3)	8'-4"	100
U6	6	#5	(3)	4'-11"	31
U8	8	#6	(3)	5'-3"	63
U9	8	#6	(3)	5'-8"	68
U11	6	#5	(3)	5'-4"	33
U12	2	#4	(2)	3'-10"	5
U14	12	#5	(3)	4'-10"	60
U15	4	#5	(3)	4'-7"	19
U16	4	#5	(3)	4'-8"	19
U19	12	#5	(3)	5'-10"	73
U22	4	#5	(3)	4'-6"	19
U23	4	#5	(3)	4'-4"	18
[1] U31A	26	#7	(3)	8'-2"	434
[2] U31B	26	#7	(3)	7'-8"	407
U32	8	#8	(3)	11'-4"	242
[1] U33A	12	#7	(3)	13'-5"	329
[2] U33B	12	#7	(3)	12'-11"	317
[1] U34A	4	#7	(3)	10'-10"	89
[2] U34B	4	#7	(3)	10'-4"	84
[1] U35A	2	#7	(3)	10'-8"	44
[2] U35B	2	#7	(3)	10'-2"	42
[1] U36A	2	#7	(3)	11'-6"	47
[2] U36B	2	#7	(3)	11'-0"	45
[1] U37A	4	#7	(3)	11'-11"	97
[2] U37B	4	#7	(3)	11'-5"	93
SP-1	4	#4	(10)	17'-10"	48
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 11/05/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029076 TOM SHEARIN JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 9 OF 9

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 15
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						
No.	BY:	DATE:	No.	BY:	DATE:	SHEET NO.
1			3			A2524.00
2			4			TOTAL SHEETS

DRAWN BY : ~~B.STAMPER~~ DATE : 11/07
CHECKED BY : J.CHI DATE : 11/07

Earth Tech — A Tyco International Ltd. Company

FLATIRON/UNITED — A JOINT VENTURE

DATE: 11/5/2007
TIME: 12:03:33 PM
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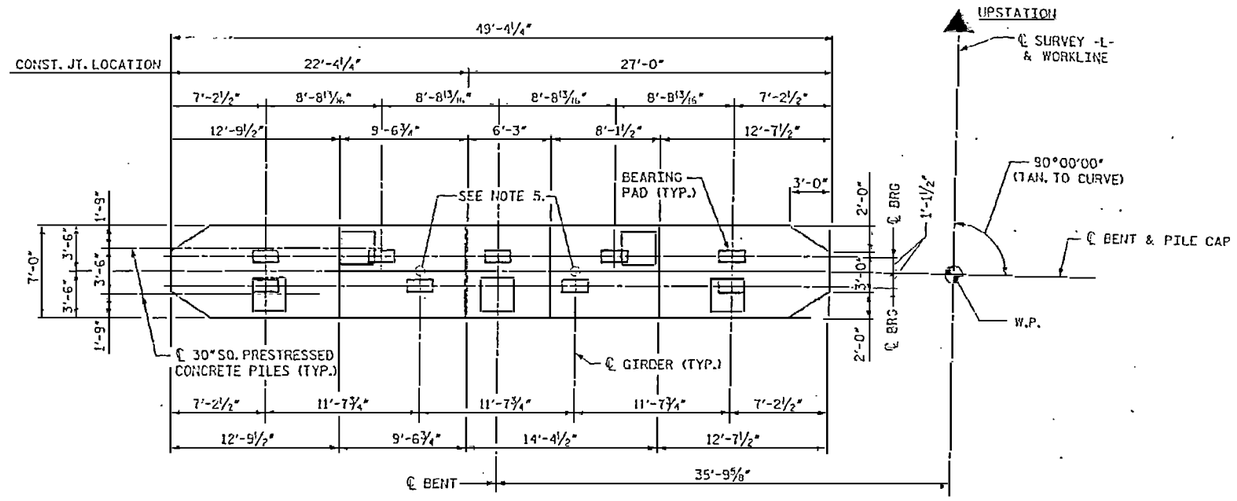

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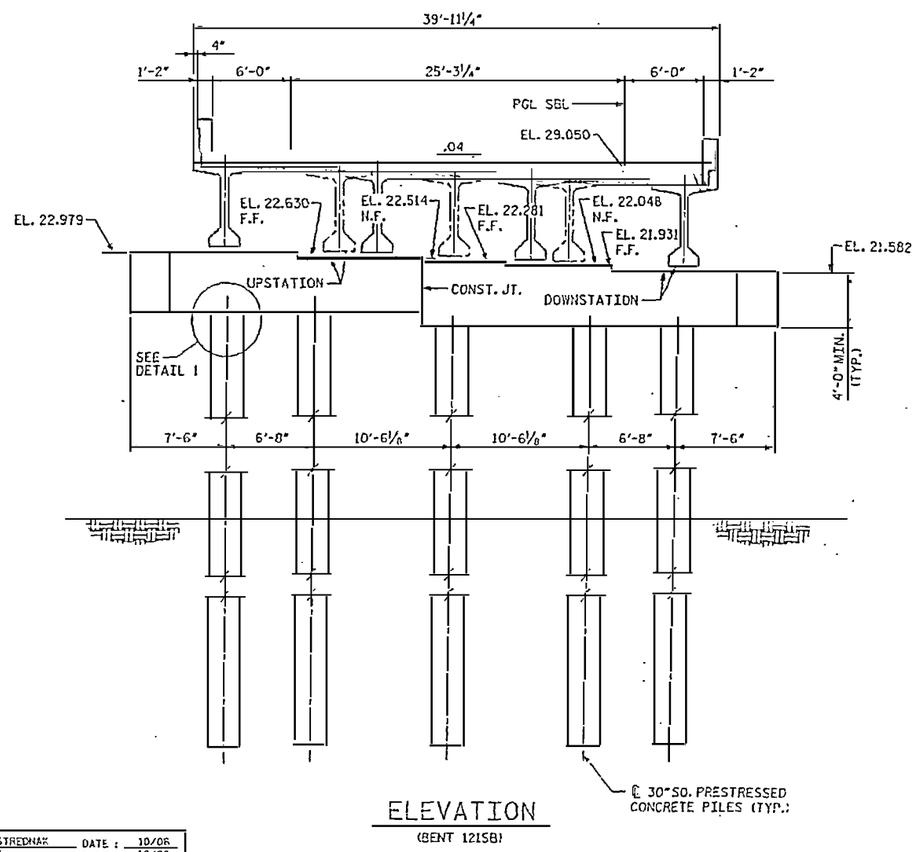
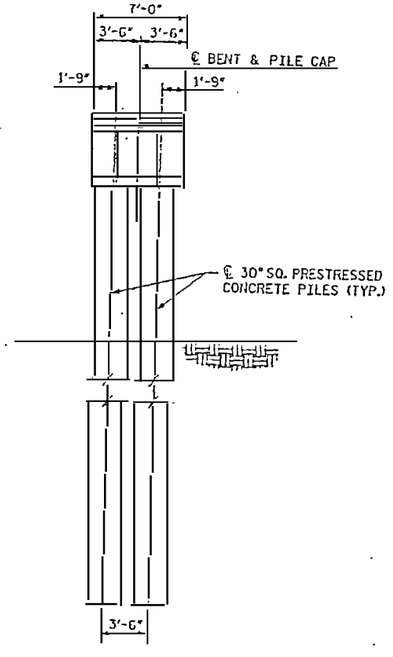


ELEVATION
(BENT 12158)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1.
5. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB.

2 REVISION TO NOTE NO. 5.
1 REVISION TO NOTE NO. 5.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 10/24/07 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024874 ENGINEERING

EarthTech
A Tetra Tech International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

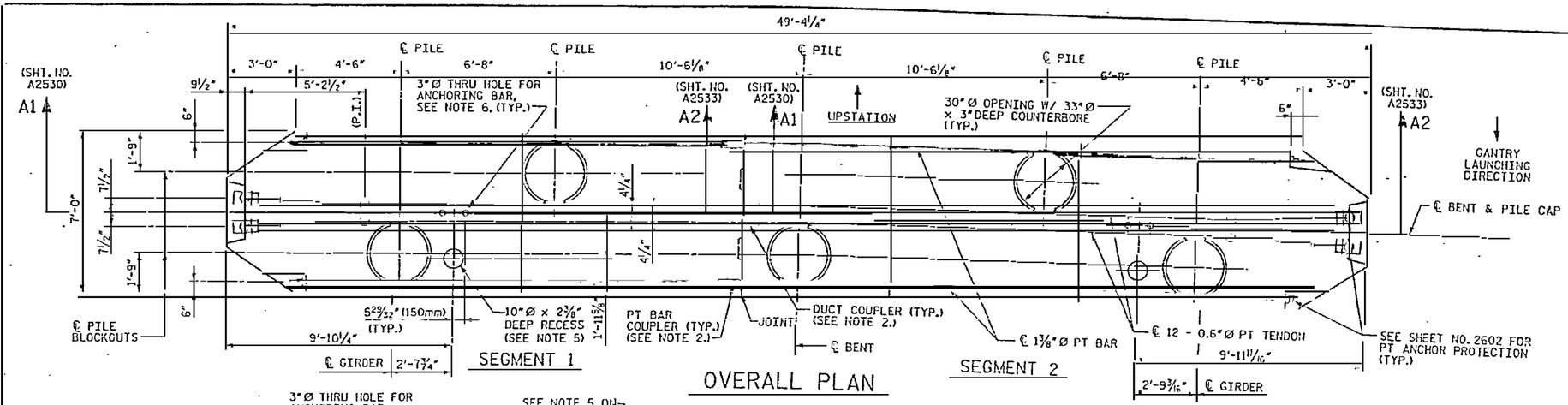
DIMENSIONS - BENT TYPE 16 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	7/2/07			
2	MTB	10/10/07			

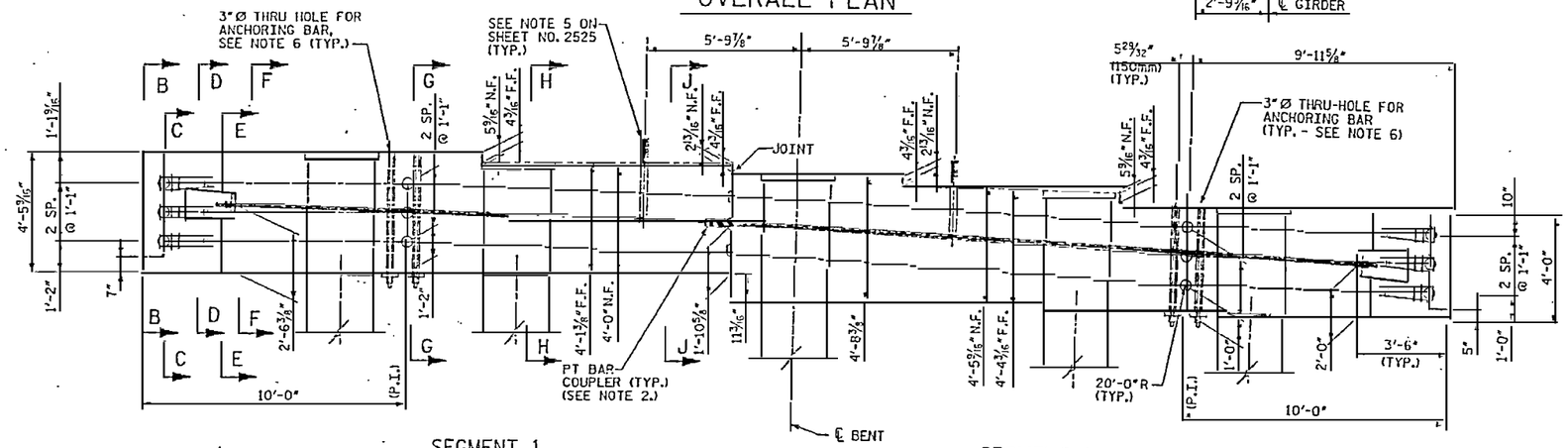
SHEET NO. 2525.02
TOTAL SHEETS

DRAWN BY : S. C. STREDNAK DATE : 10/06
CHECKED BY : J. LEU DATE : 10/06

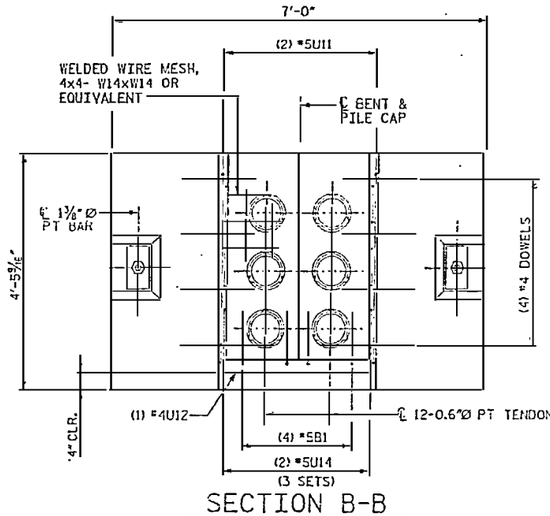
USER: mtbennett
DGN: K:\Projects\R2510B_BD_BRIDGE\DGN\R2510B_BD_BENT_TYPE16.dgn



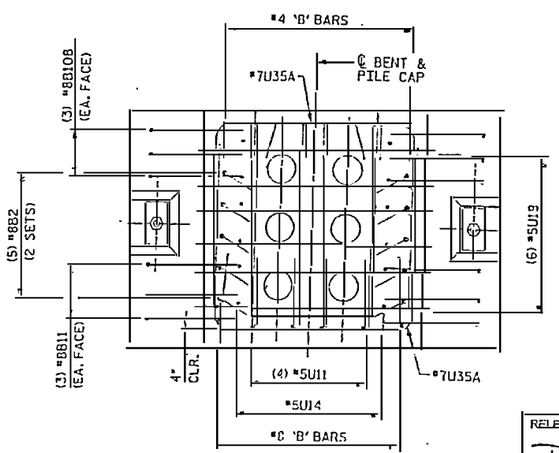
OVERALL PLAN



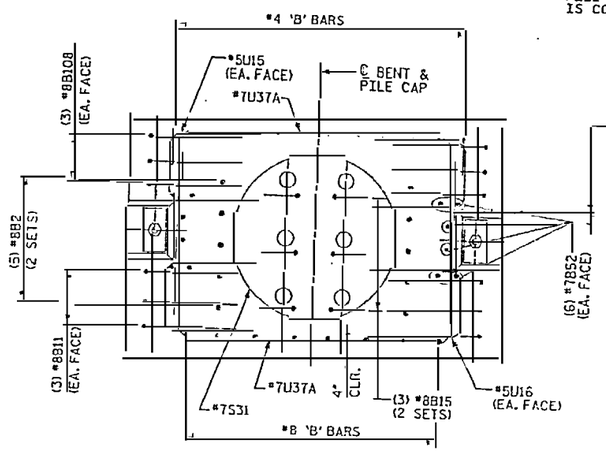
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 16 IS USED AT BENT NO. 121SB.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE CAP ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET A2527. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

RELEASED FOR CONSTRUCTION
11/05/07
TOM SLOAN, PE
DATE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 16
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2526.00
1			3			TOTAL SHEETS
2			4			

DATE: 11/5/2007
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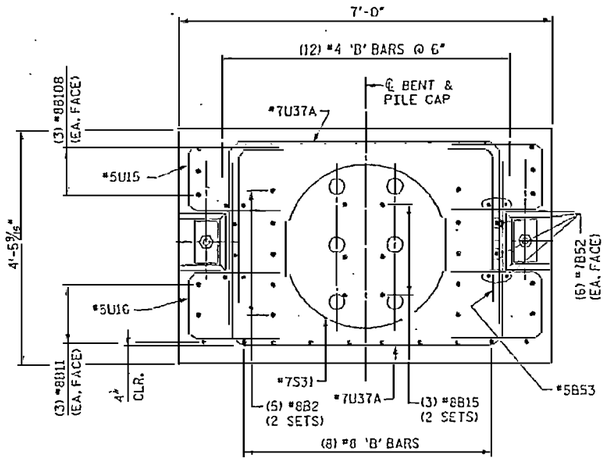
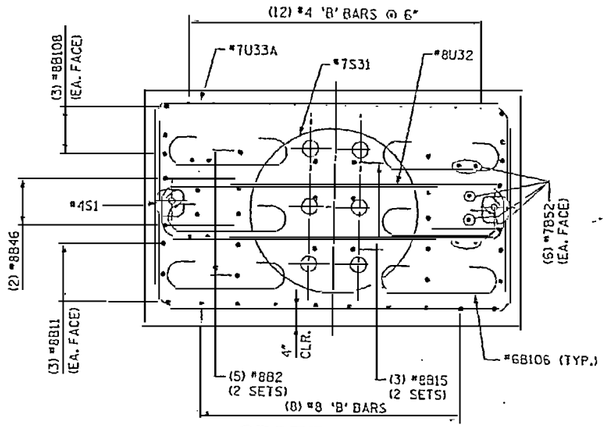
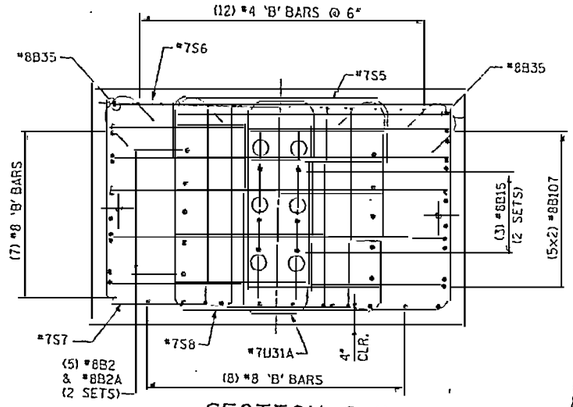


SECTION E-E

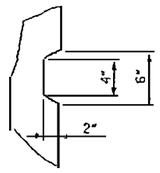


SECTION F-F

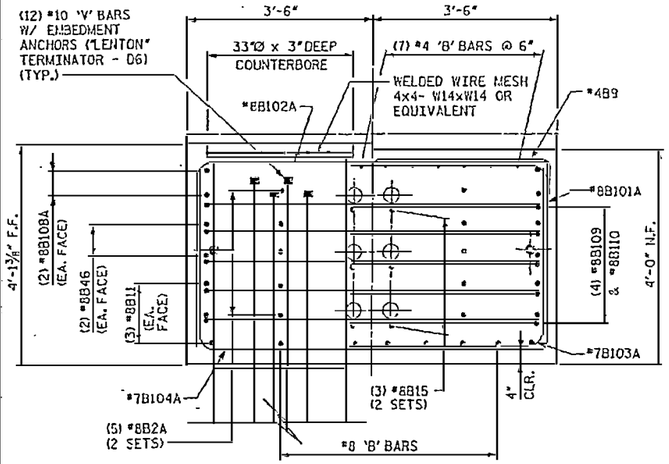


SECTION G-G

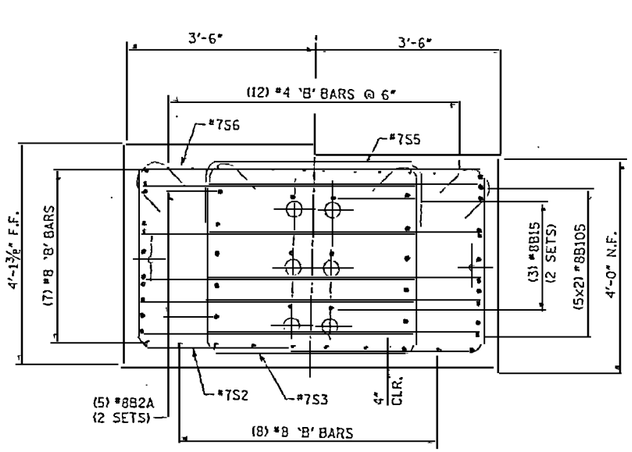
(ANCHORING BARS NOT SHOWN FOR CLARITY)



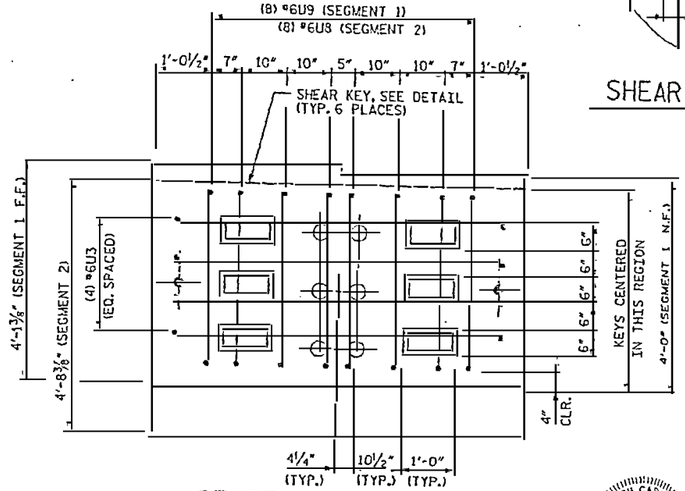
SHEAR KEY



SECTION H-H

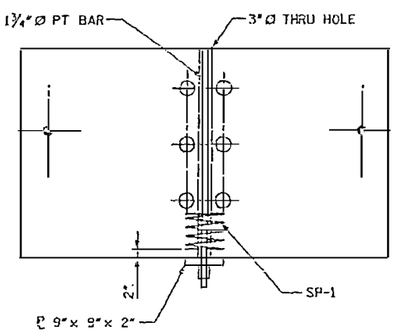


SECTION J-J



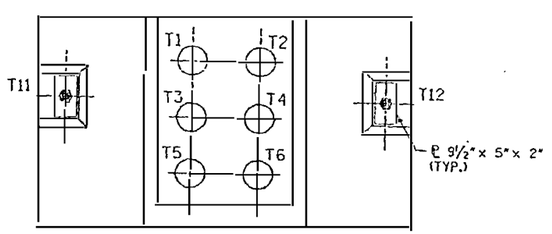
SECTION AT JOINT

(SEE SHEET NO. A2526)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS. T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/05/07

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026463 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 2 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 16
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO. A2527.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LEE DATE : 11/07

USER: mbelisle
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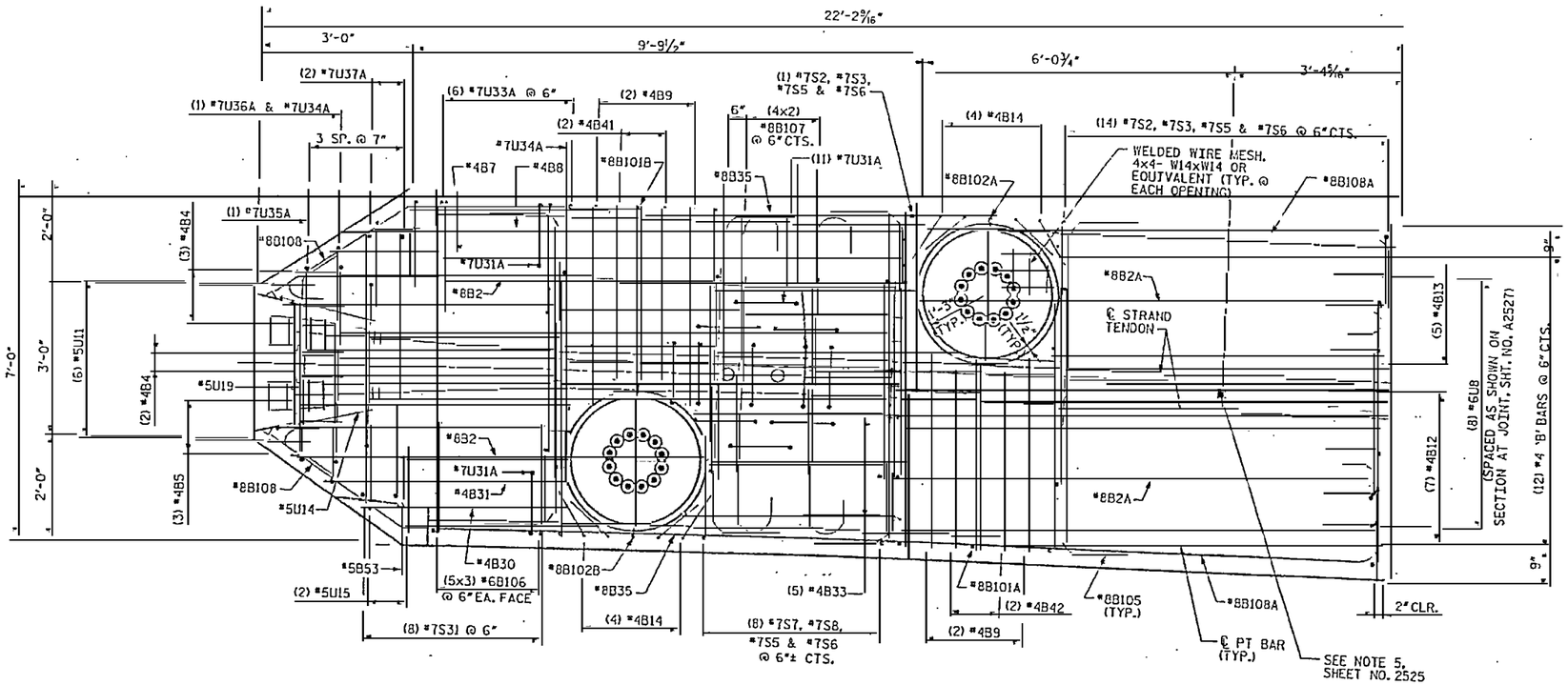
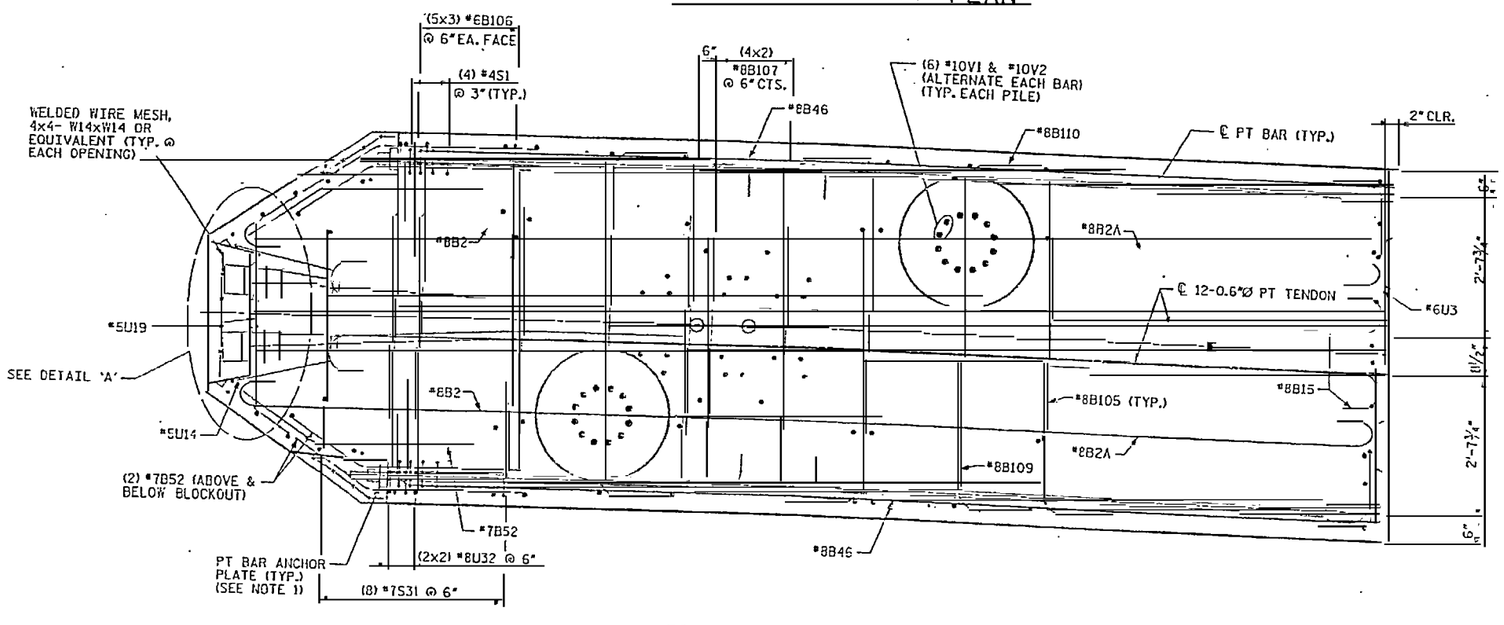
DATE: 11/5/2007
TIME: 10:53:33 AM



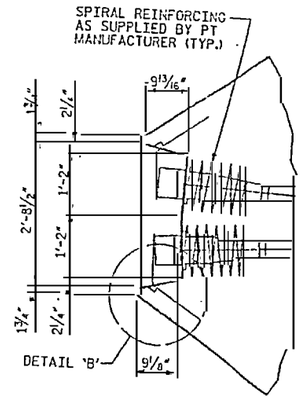
SEGMENT 1 - TOP PLAN



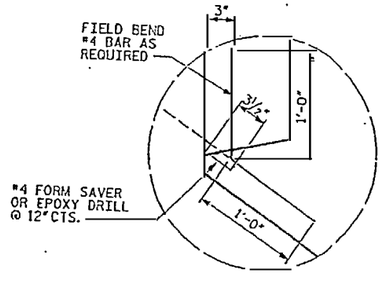
SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENT.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. L. H. DATE : 11/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/05/07 DATE

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 9
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 16
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2528.00
TOTAL SHEETS

REV. 11/2007
FILE: U2528_3.dgn

USER: cbrooks
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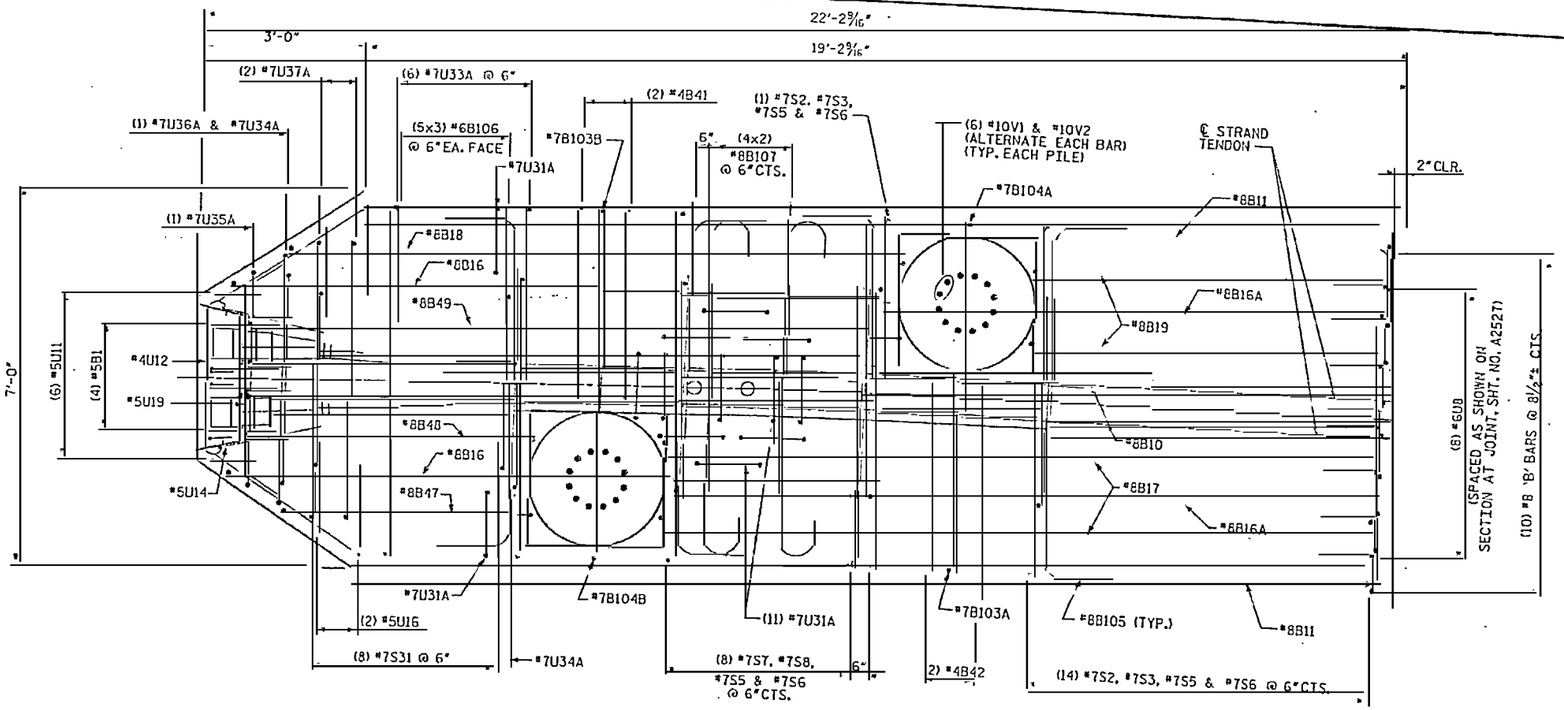
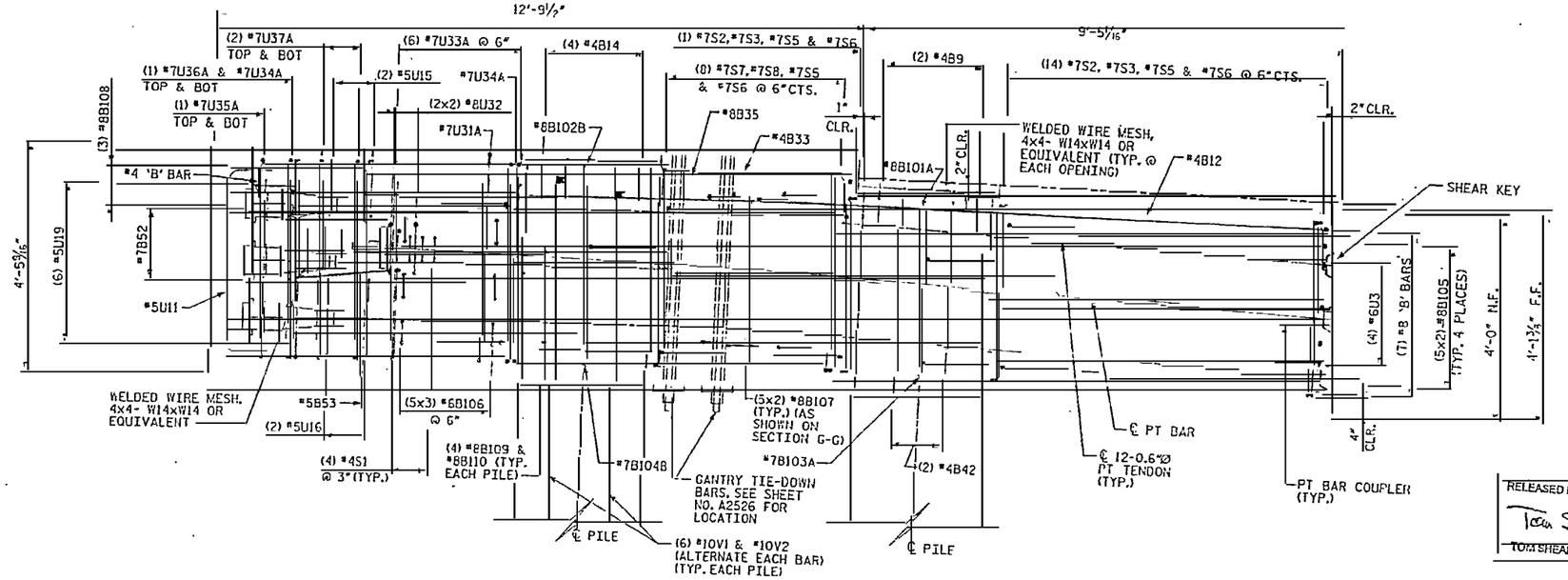


SEGMENT 1 - BOT PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 1 - ELEVATION

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

DRAWN BY : M. T. DELISLE DATE : 11/07
CHECKED BY : J. LEE DATE : 11/07

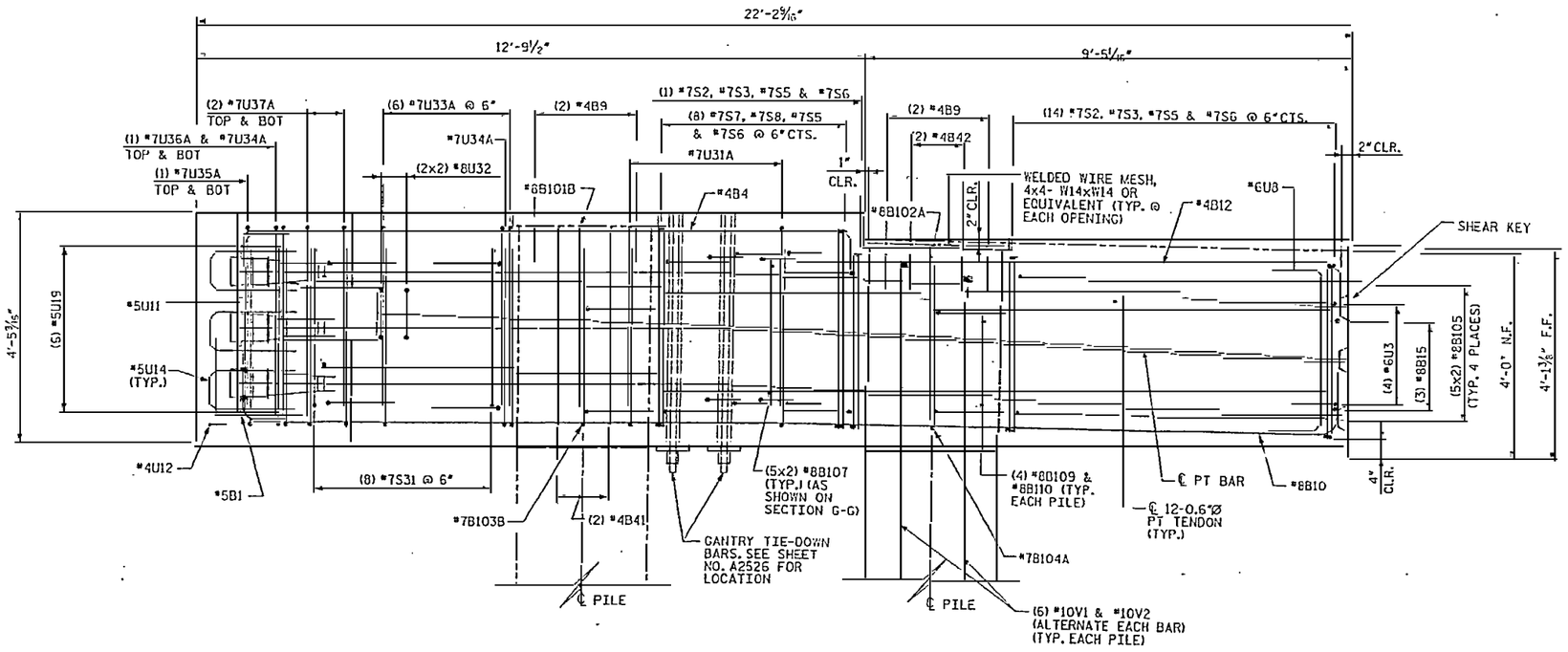
Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 9
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
~~PILE CAP TYPE 16~~
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO. A2529.00
1			3			
2			4			TOTAL SHEETS



SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2526)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

Earth Tech
A Tyco International Ltd. Company

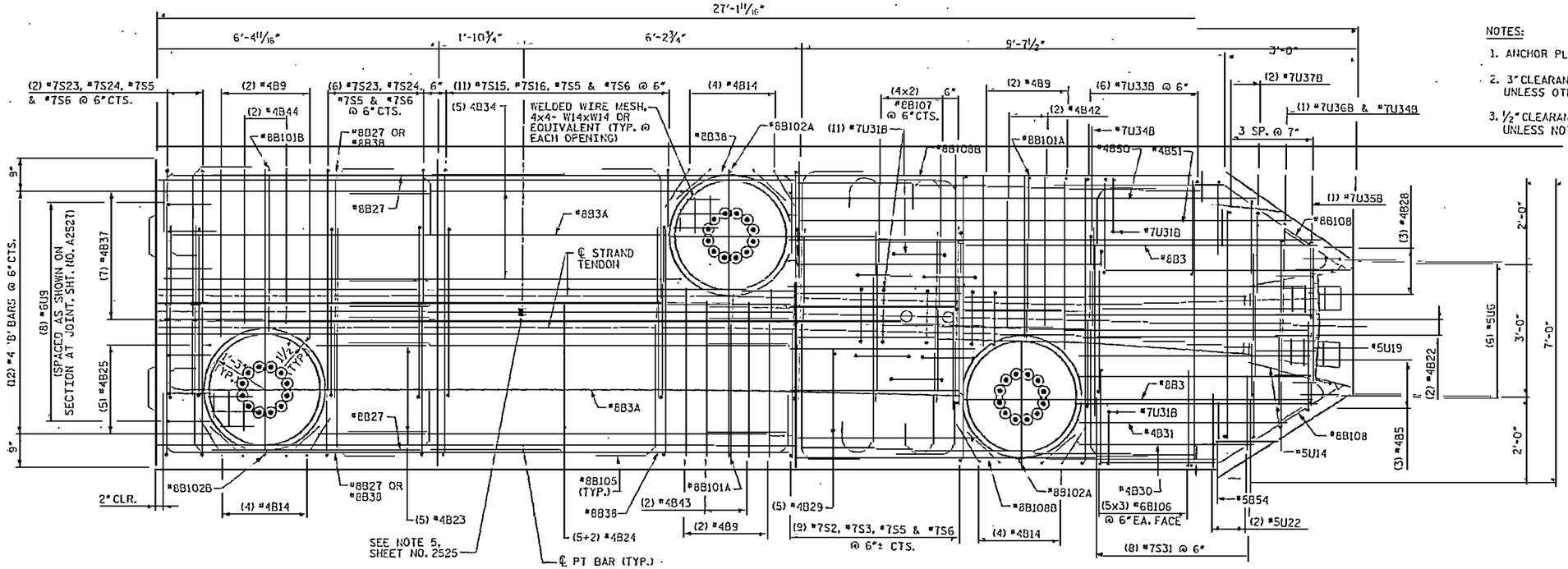
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 9 BRIDGE NO. 353

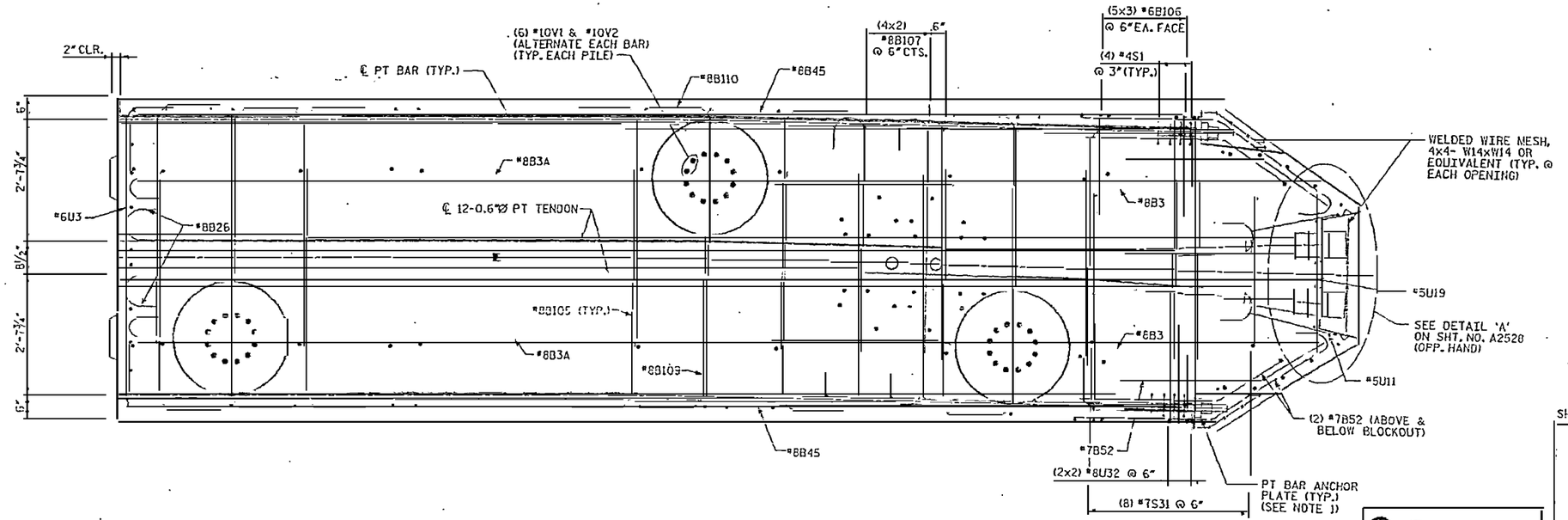
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 16
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY: DATE:	A2530.00
1			3		TOTAL SHEETS
2			4		



SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH THE CAP SEGMENT.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE

NORTH CAROLINA PROFESSIONAL SEAL 029307 ENGINEER JOHN W. JORDAN, IV

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 16
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2531.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BOTSLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

Earth Tech
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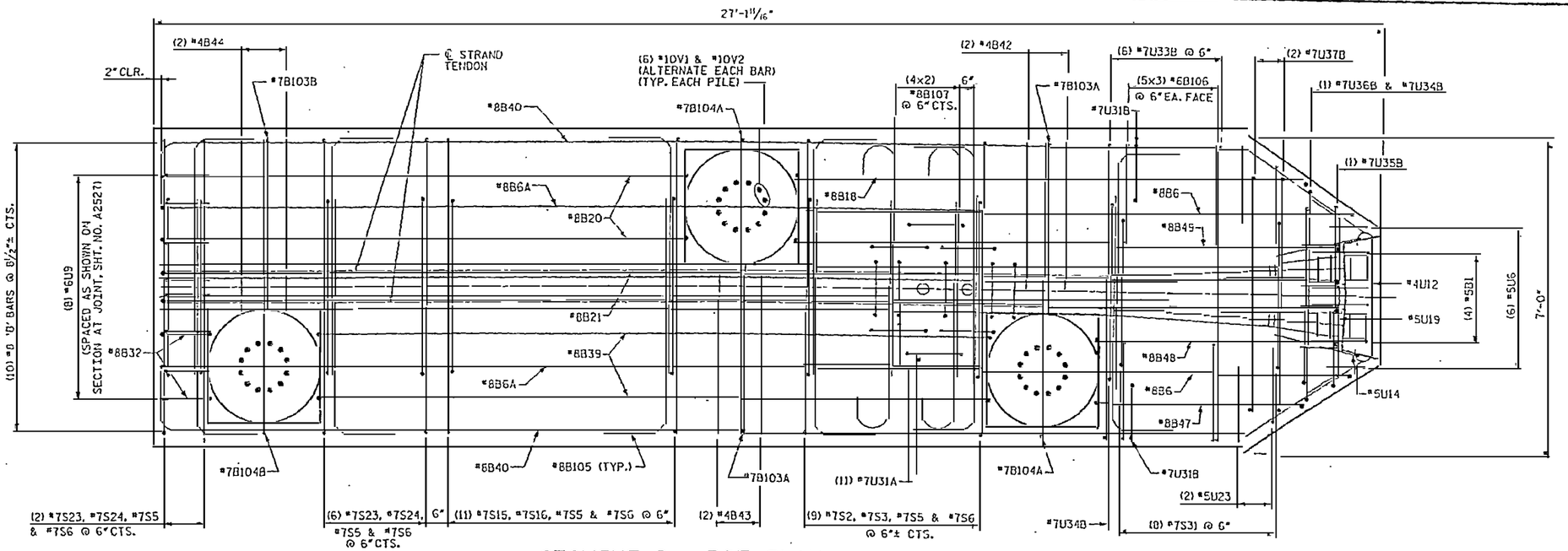
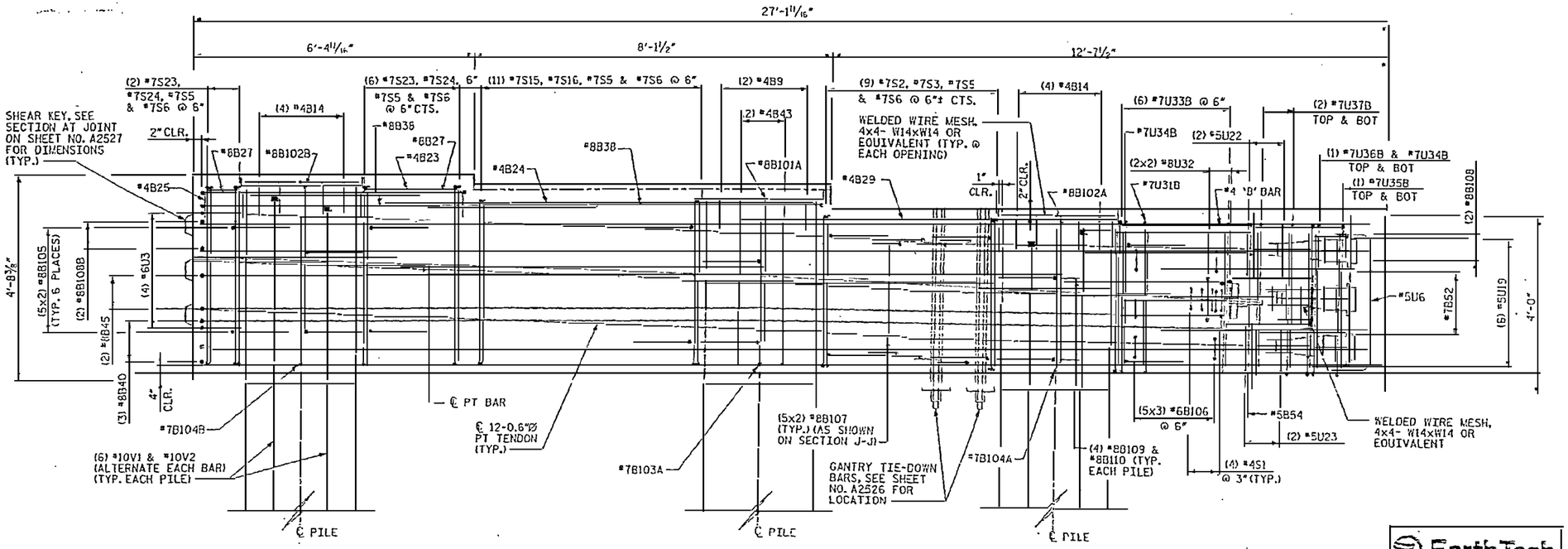
FLATIRON/UNITED
A JOINT VENTURE

USER: tmartin
DGN: N:\ROADWAY\Proj\R2510B\Roadway\Struct\R2510B_SD_DET_P16.dgn
DATE: 11/9/2007
PLOT SCALE: 1.000 '/ IN.
PLOT DATE: 11/9/2007



SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. 1/2" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029167 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 16
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2532.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BEITSLE DATE : 11/07
CHECKED BY : J. J. III DATE : 11/07

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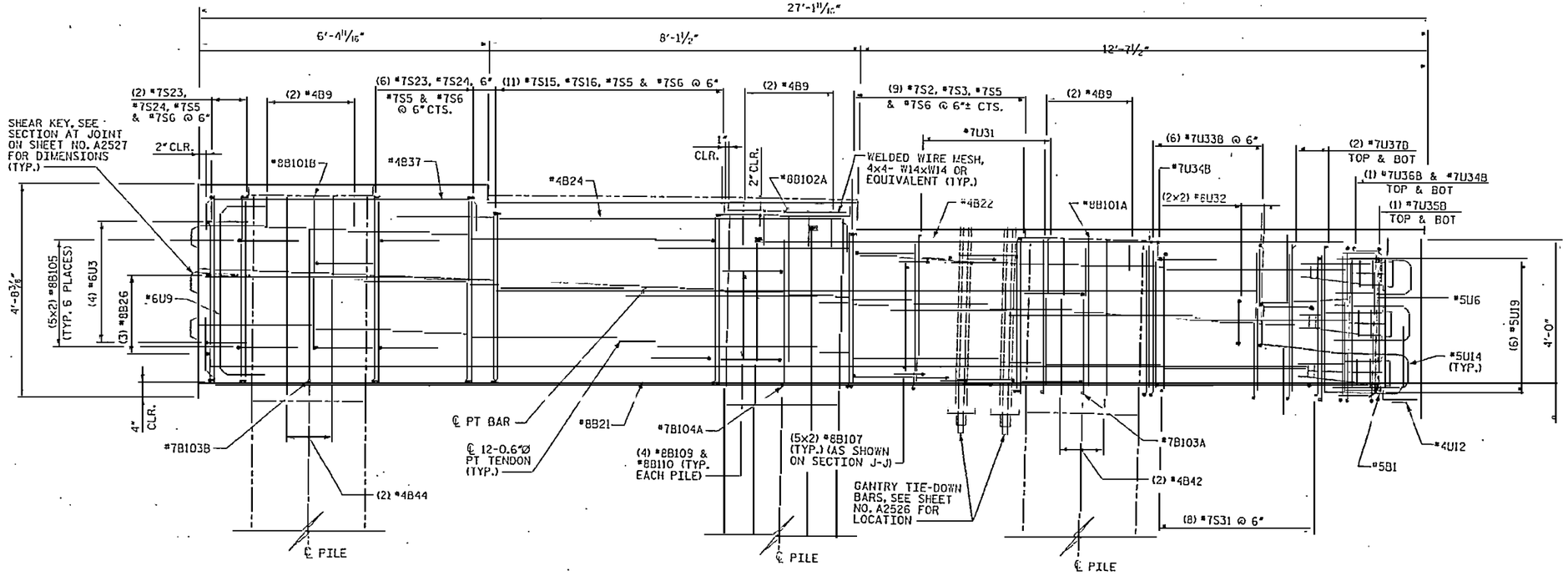
FLATIRON/UNITED
A JOINT VENTURE

DATE: 11/29/2007
TIME: 12:26:00 PM
USER: RDAVIS
DGN: R:\Structures\Tar River Bridges\ADVANCE\R-2510B\R-2510B_STR-CAP16.dgn



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2526)

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/05/09
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036477 JOHN W. JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 8 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 16
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2533.00
1			3			TOTAL SHEETS
2			4			

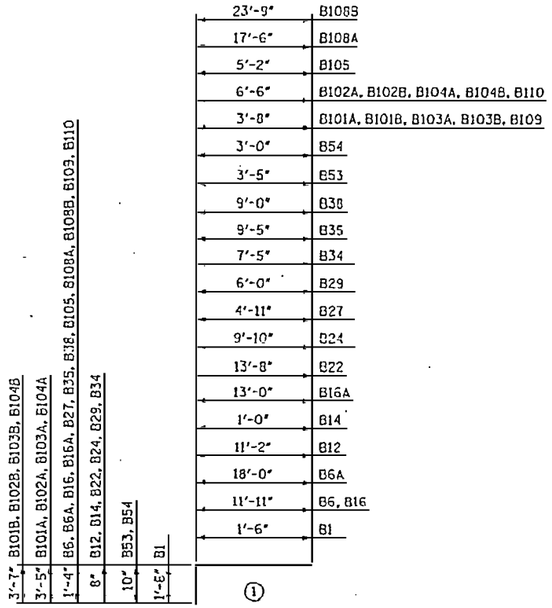
Earth Tech
A Tyco International Ltd. Company

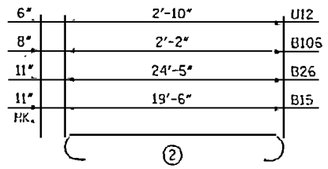
FLATIRON/UNITED
A JOINT VENTURE

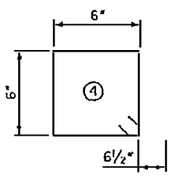
DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

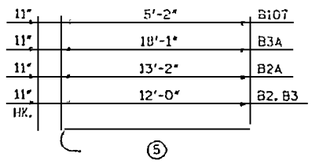
USER: MMARKS
RUSTRICAST'W River Bridge\CADD\R2510B_CO_USH_LPT16-BCTR4B20
DATE: 11/5/2009
FILE NAME: R2510B_CO_USH_LPT16-BCTR4B20

BAR TYPES

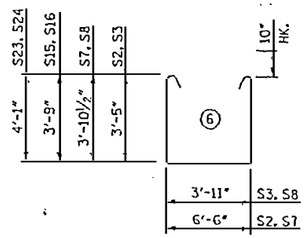


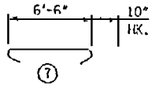


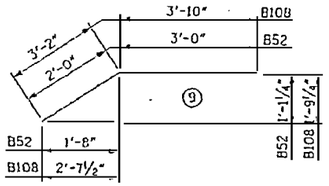


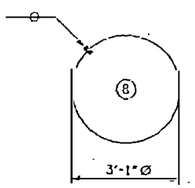


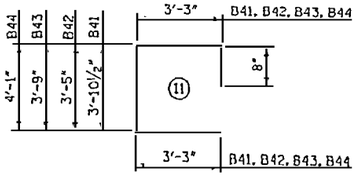
11'-4"	B51
10'-6"	B50
5'-4"	B48
4'-5"	B47
18'-2"	B46
23'-2"	B45
14'-10"	B39
6'-0"	B37
3'-10"	B33
4'-8"	B31
4'-0"	B30
12'-0"	B28, B49
11"	B25, B32
2'-5"	B23
25'-11"	B21
11'-6"	B20
11'-1"	B18
13'-2"	B17
6'-6"	B13, B19
20'-11"	B10
3'-6"	B9
10'-3"	B8
11'-0"	B7
5'-3"	B5
5'-0"	U37A, U37B
4'-7"	U36A, U36B
3'-9"	U35A, U35B
3'-11"	U34A, U34B, S5
6'-6"	U33A, U33B
1'-0"	U23, U32
1'-2½"	U31A, U31B
1'-2"	U22
1'-6"	U16
1'-1"	U15
10"	U14
11'-6"	B4
3'-8"	U3, U11
3'-3"	U6, U8
6'-4"	U3

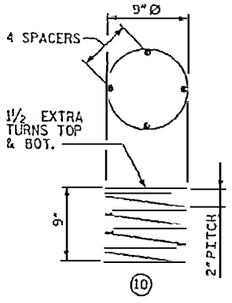


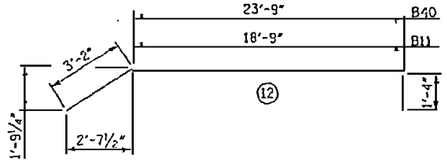


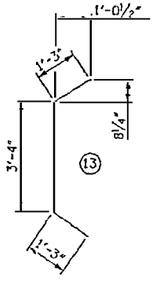












NOTES:

[1] BARS USED AT PILES WHERE CAP DEPTH IS 4'-0" OR 4'-4⅜".

[2] BARS USED AT PILES WHERE CAP DEPTH IS 4'-5⅝" OR 4'-6⅜".

[3] BARS USED IN SEGMENT 1.

[4] BARS USED IN SEGMENT 4.

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	10	#8	(5)	12'-11"	345
B2A	10	#8	(5)	14'-1"	376
B3	10	#8	(5)	12'-11"	345
B3A	10	#8	(5)	19'-0"	507
B4	5	#4	(3)	12'-10"	43
B5	6	#4	(3)	6'-7"	26
B6	2	#8	(1)	13'-3"	71
B6A	2	#8	(1)	19'-4"	103
B7	1	#4	(3)	12'-4"	8
B8	1	#4	(3)	11'-7"	8
B9	10	#4	(3)	4'-10"	32
B10	2	#8	(3)	23'-7"	126
B11	6	#8	(12)	23'-3"	352
B12	1	#4	(1)	11'-10"	55
B13	5	#4	(3)	7'-10"	26
B14	20	#4	(1)	1'-8"	22
B15	6	#8	(2)	21'-4"	342
B16	2	#8	(1)	13'-3"	71
B16A	2	#8	(1)	14'-4"	77
B17	2	#8	(3)	15'-10"	85
B18	2	#8	(3)	13'-9"	73
B19	2	#8	(3)	9'-2"	49
B20	2	#8	(3)	14'-2"	76
B21	2	#8	(3)	28'-7"	153
B22	2	#4	(1)	14'-4"	19
B23	5	#4	(3)	3'-9"	13
B24	7	#4	(1)	10'-6"	49
B25	5	#4	(3)	2'-3"	8
B26	6	#8	(2)	26'-3"	421
B27	4	#8	(1)	6'-3"	67
B28	3	#4	(3)	13'-4"	27
B29	5	#4	(1)	6'-8"	20
B30	2	#4	(3)	5'-4"	7
B31	2	#4	(3)	6'-0"	8
B32	2	#8	(3)	3'-7"	19
B33	5	#4	(3)	5'-2"	17
B34	5	#4	(1)	8'-1"	27
B35	2	#8	(1)	10'-9"	57
B37	1	#4	(3)	8'-8"	41
B38	4	#8	(1)	10'-4"	110
B39	2	#8	(3)	17'-6"	94
B40	6	#8	(12)	28'-3"	453
B41	2	#4	(11)	11'-1"	15
B42	4	#4	(11)	10'-7"	28
B43	2	#4	(11)	10'-11"	15
B44	2	#4	(11)	11'-3"	15
B45	4	#8	(3)	25'-10"	276
B46	4	#8	(3)	20'-10"	222
B47	2	#8	(3)	7'-1"	38
B48	2	#8	(3)	8'-0"	43
B49	2	#8	(3)	14'-8"	78
B50	1	#4	(3)	11'-10"	8
B51	1	#4	(3)	12'-8"	9
B52	24	#7	(9)	5'-0"	245
B53	2	#5	(1)	4'-3"	9
B54	2	#5	(1)	3'-10"	8
[1] B101A	3	#8	(1)	7'-1"	67
[2] B101B	2	#8	(1)	7'-3"	39
[1] B102A	3	#8	(1)	9'-11"	79
[2] B102B	2	#8	(1)	10'-1"	54
[1] B103A	3	#7	(1)	7'-1"	43
[2] B103B	2	#7	(1)	7'-3"	30
[1] B104A	3	#7	(1)	9'-11"	61
[2] B104B	2	#7	(1)	10'-1"	41
B105	100	#8	(1)	6'-6"	1736
B106	60	#6	(2)	3'-6"	315
B107	80	#8	(5)	6'-1"	1299

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B108	10	#8	(9)	7'-0"	187
[3] B108A	4	#8	(1)	18'-10"	201
[4] B108B	4	#8	(1)	25'-1"	268
B109	20	#8	(1)	5'-0"	267
B110	20	#8	(1)	7'-10"	418
S1	16	#4	(4)	3'-3"	35
S2	24	#7	(6)	15'-0"	736
S3	24	#7	(6)	12'-5"	609
S5	51	#7	(3)	6'-3"	652
S6	51	#7	(7)	8'-2"	851
S7	8	#7	(6)	15'-11"	260
S8	8	#7	(6)	13'-4"	218
S15	11	#7	(6)	15'-8"	352
S16	11	#7	(6)	13'-1"	294
S23	8	#7	(6)	16'-4"	267
S24	8	#7	(6)	13'-9"	225
S31	16	#7	(8)	9'-5"	308
U3	8	#6	(3)	8'-4"	100
U6	6	#5	(3)	4'-11"	31
U8	8	#6	(3)	5'-3"	63
U9	8	#6	(3)	5'-11"	71
U11	6	#5	(3)	5'-11"	37
U12	2	#4	(2)	3'-10"	5
U14	12	#5	(3)	4'-10"	60
U15	4	#5	(3)	4'-5"	18
U16	4	#5	(3)	4'-10"	20
U19	12	#5	(3)	5'-10"	73
U22	4	#5	(3)	4'-6"	19
U23	4	#5	(3)	4'-4"	18
[3] U31A	26	#7	(3)	8'-2"	434
[4] U31B	26	#7	(3)	7'-8"	407
U32	8	#8	(3)	11'-4"	242
[3] U33A	12	#7	(3)	13'-5"	329
[4] U33B	12	#7	(3)	12'-11"	317
[3] U34A	4	#7	(3)	10'-10"	89
[4] U34B	4	#7	(3)	10'-4"	84
[3] U35A	2	#7	(3)	10'-8"	44
[4] U35B	2	#7	(3)	10'-2"	42
[3] U36A	2	#7	(3)	11'-6"	47
[4] U36B	2	#7	(3)	11'-0"	45
[3] U37A	4	#7	(3)	11'-11"	97
[4] U37B	4	#7	(3)	11'-5"	93
SP-1	4	#4	(10)	17'-10"	48
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

RELEASED FOR CONSTRUCTION

Tom Shearin 11/6/07

TOM SHEARIN, PE — DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030161 TOM SHEARIN JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 9 OF 9 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 16
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

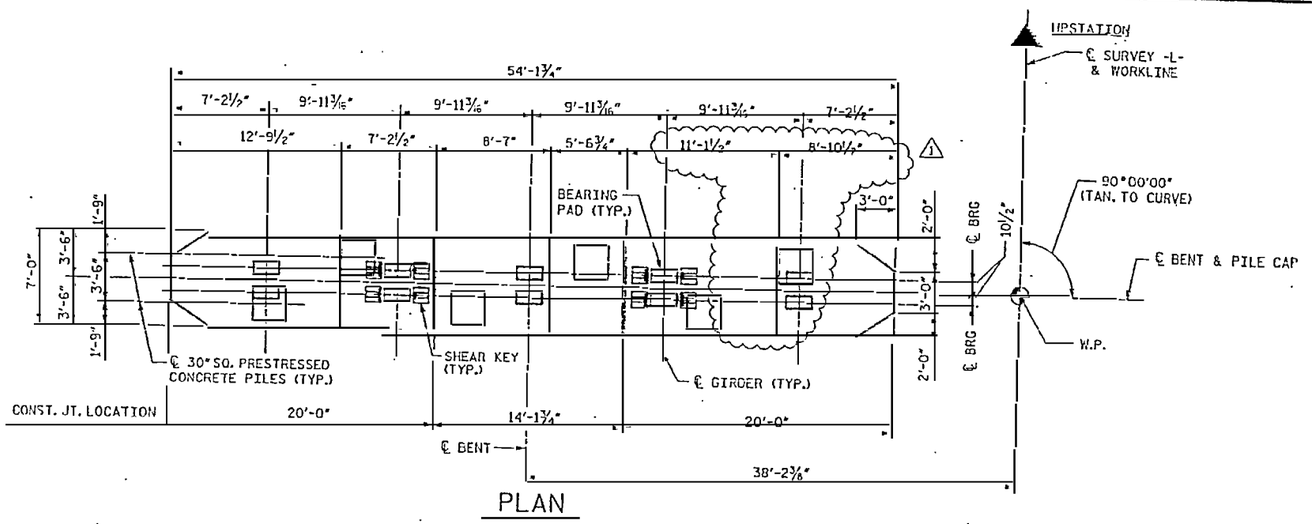
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2534.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

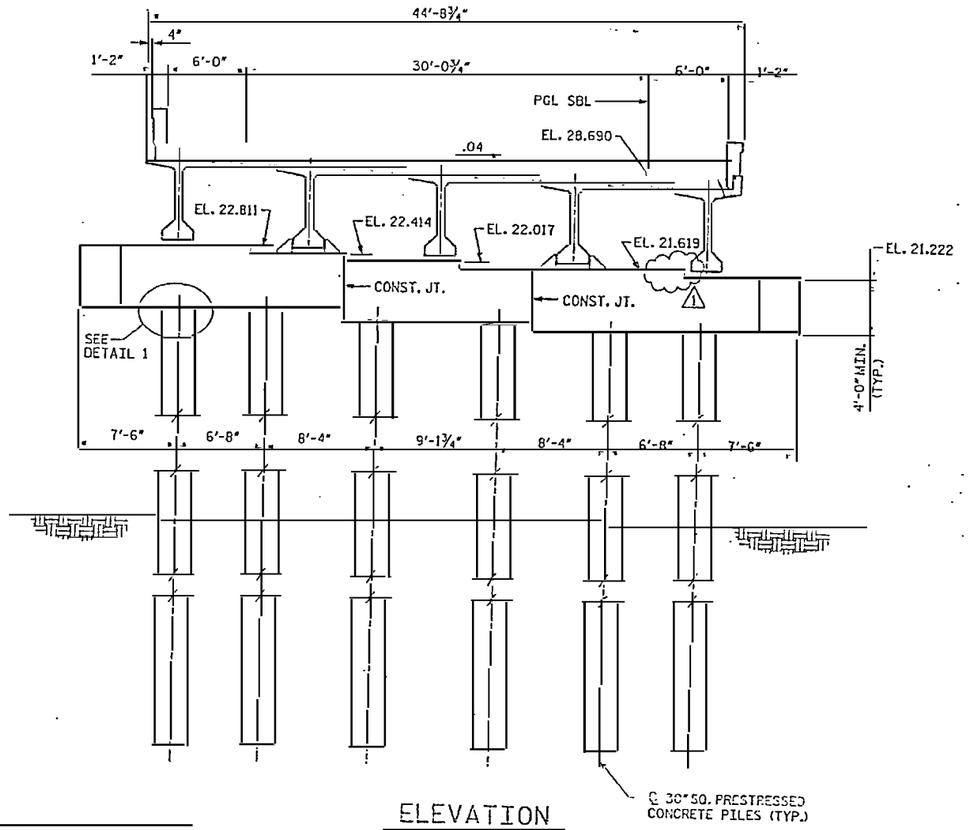
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

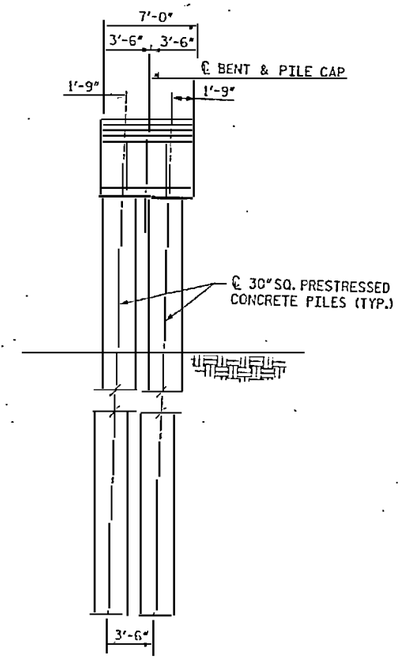
USER: mbelisle
DGN: N:\Structure\Tar River Bridge\ADD\2534B_BD_DET_PILE_DETAILS.dgn
DATE: 11/7/2007
TIME: 12:24:21 AM



PLAN



ELEVATION
(BENT 122SB)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 23D2.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT CAP. SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 35475 JOHN JORDAN

⚠1 REVISED CAP DIMENSION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NO.	BY:	DATE:	NO.	BY:	DATE:
1	SGS	10/02/07	3		
2			4		

SHEET NO. 2536.01
TOTAL SHEETS

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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STRICKLAND DATE : 10/06
CHECKED BY : J. LEE DATE : 10/06

RM 45/26 GM1
2006/09/26 15:43
USER: jlee
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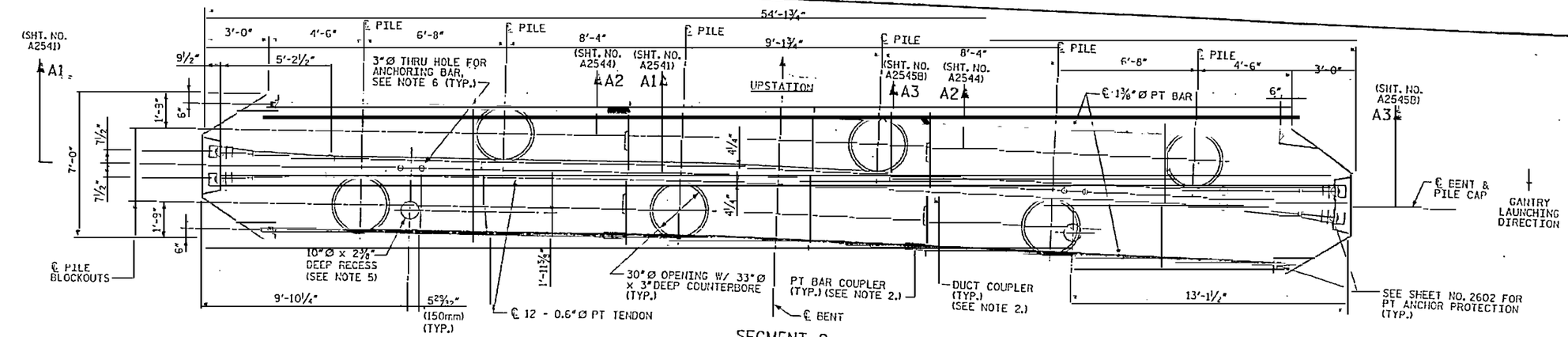
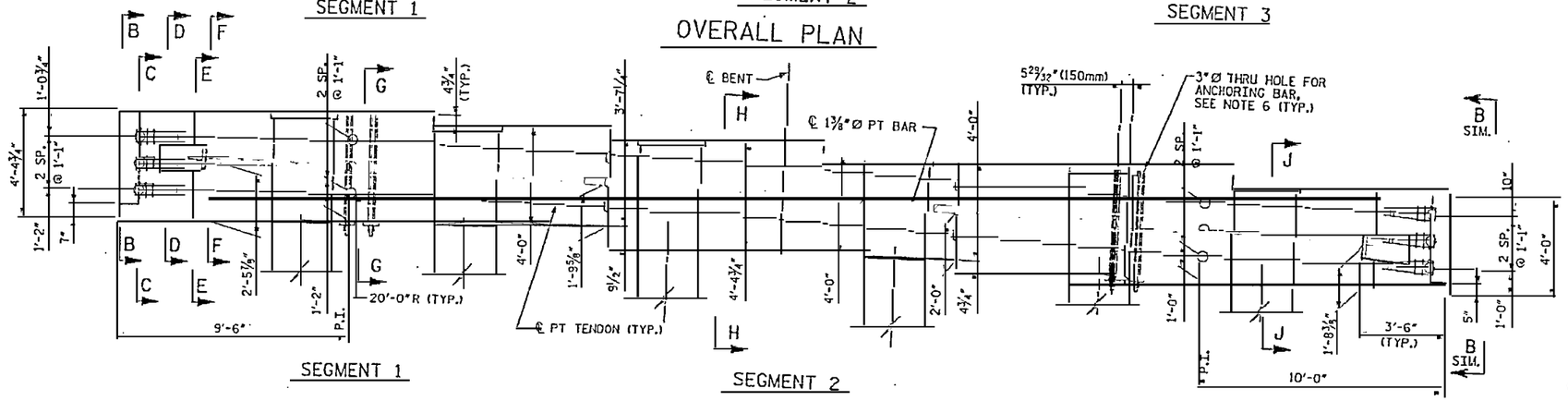
OVERALL PLAN

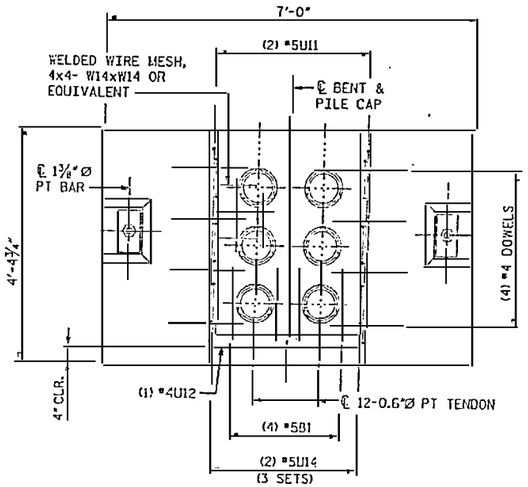




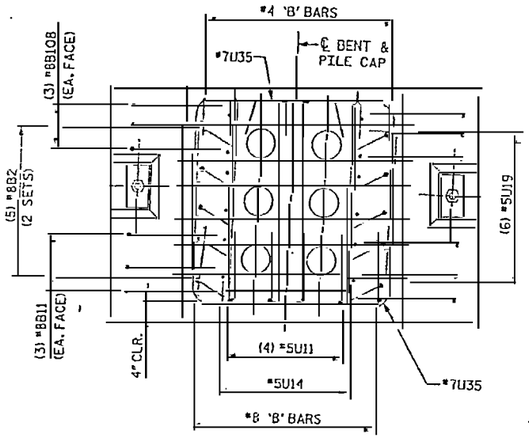
NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 17 IS USED AT BENT NO. 122SB
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET A2538. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

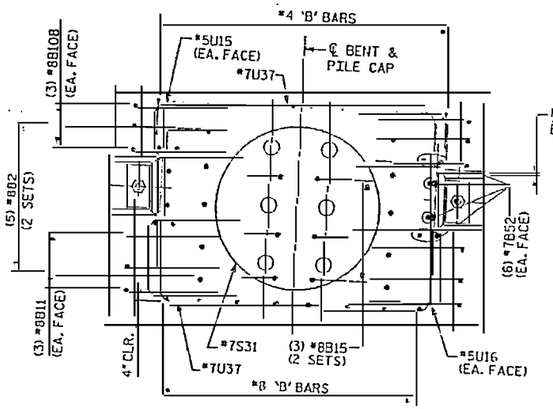
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

DRAWN BY : S. C. STREDNEY DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/13/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033676 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 12
BRIDGE NO. ~~353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		A2537.00
1			13				TOTAL SHEETS
2			14				

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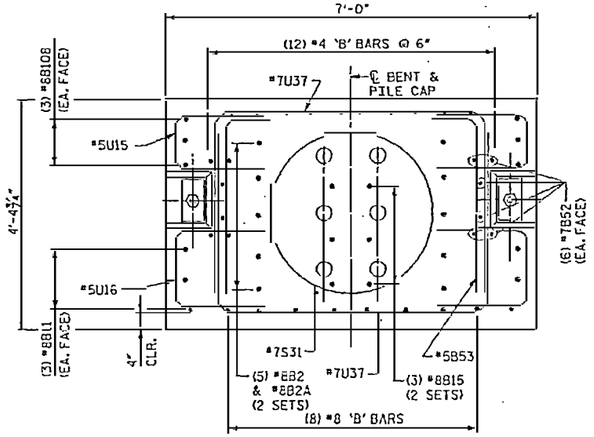
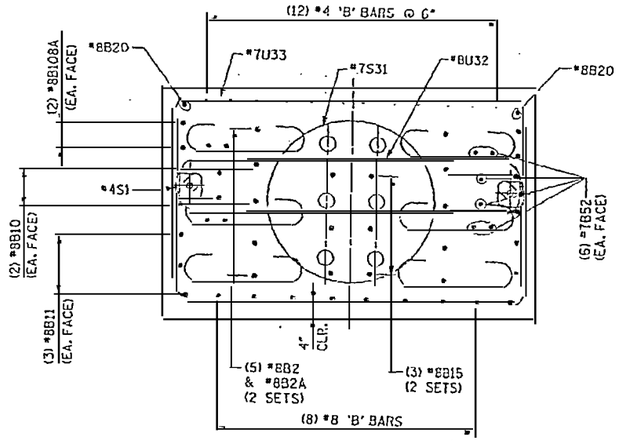
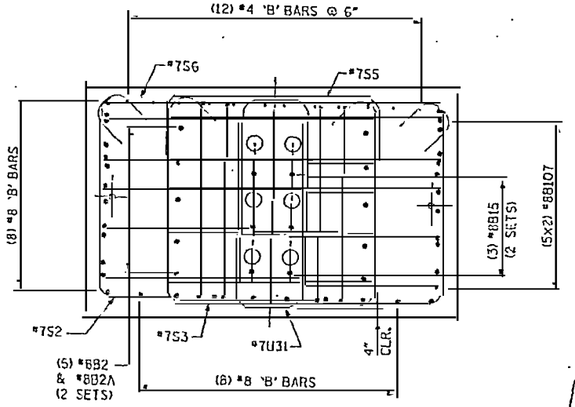
A JOINT VENTURE



SECTION E-E

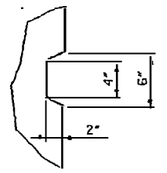


SECTION F-F

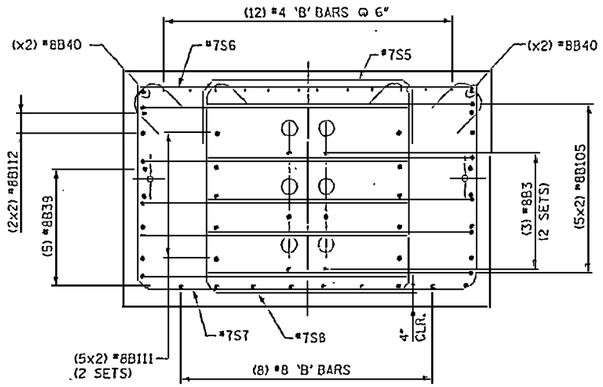


SECTION G-G

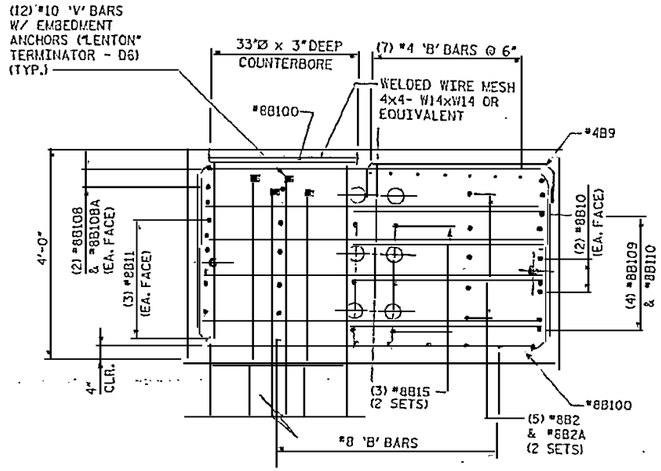
(ANCHORING BARS NOT SHOWN FOR CLARITY)



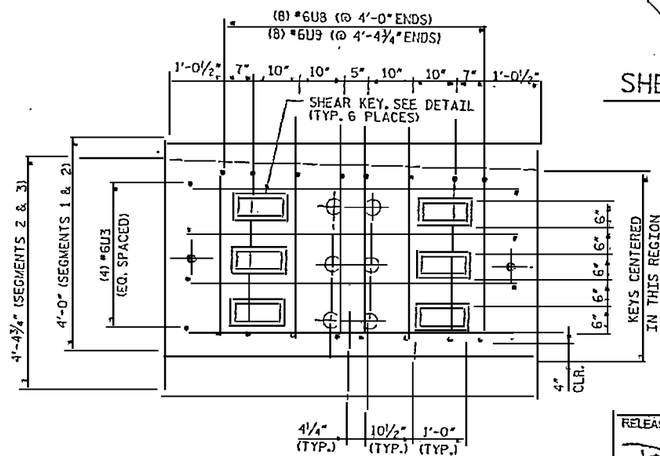
SHEAR KEY



SECTION H-H

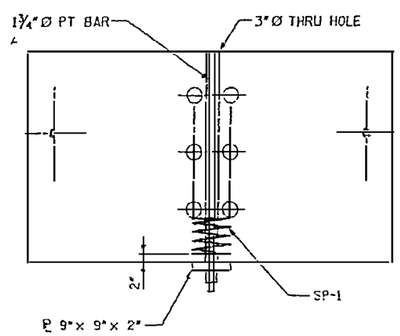


SECTION J-J



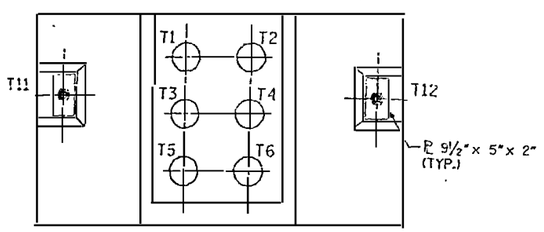
SECTION AT JOINT

(SEE SHEET NO. A2537)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-0.6"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA SEAL 038178 ENGINEER JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2538.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STEDMAN DATE : 11/07
CHECKED BY : J. C. H. DATE : 11/07

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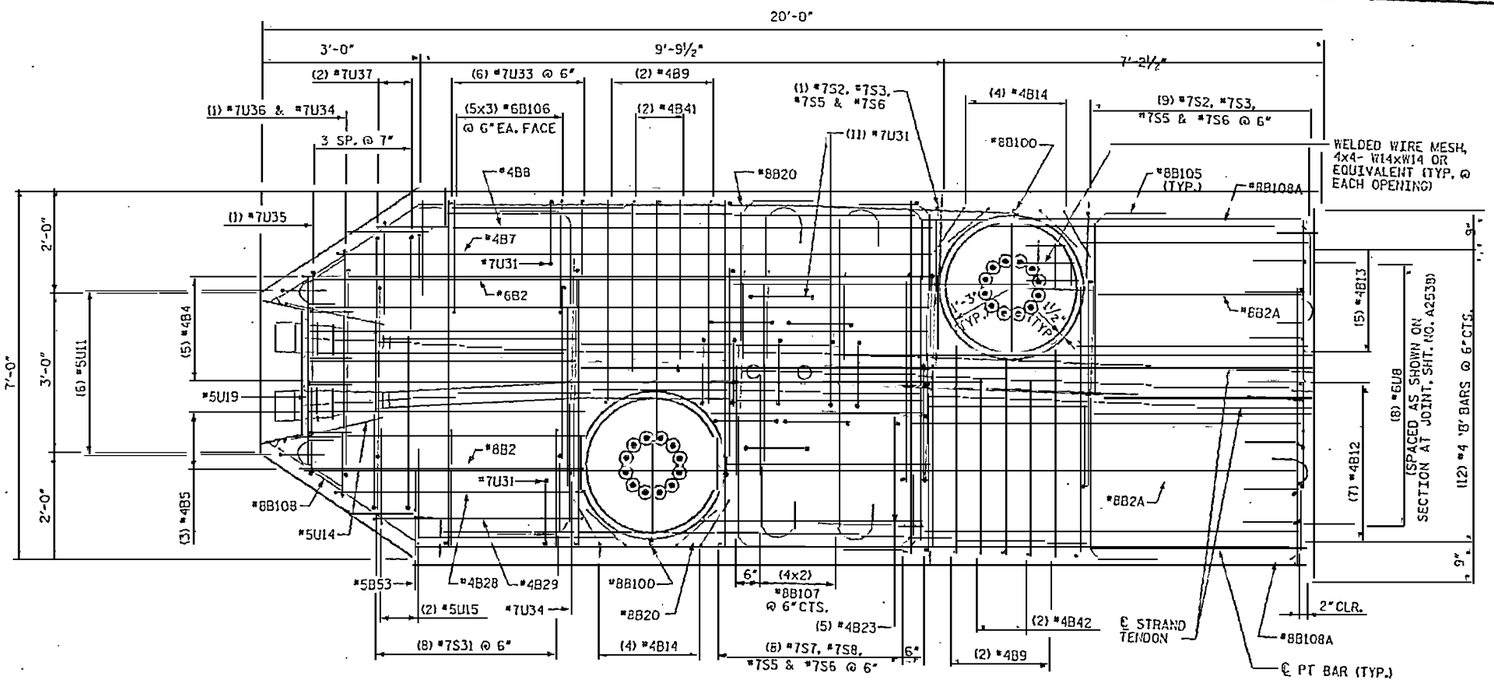
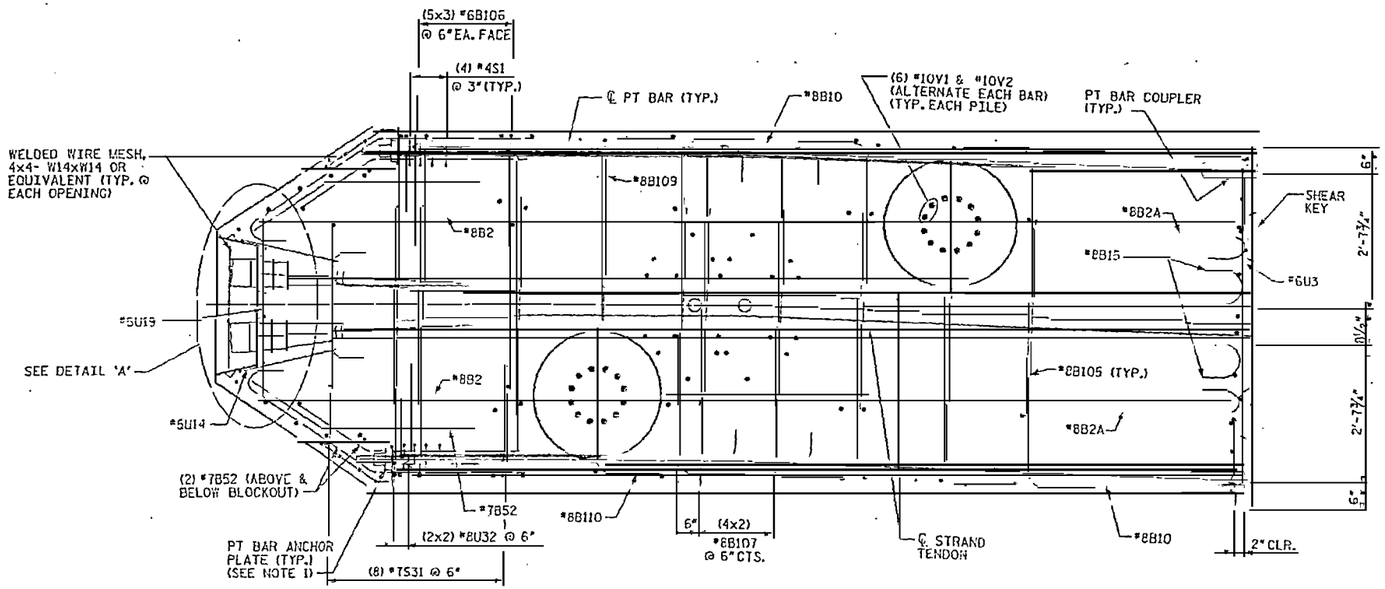
FLATIRON/UNITED
A JOINT VENTURE

DATE: 11/27/07
FILE: A2538_02.dgn

USER: rpatterson
DGN: c:\projects\02538.00\dsn\A2538_02.dgn



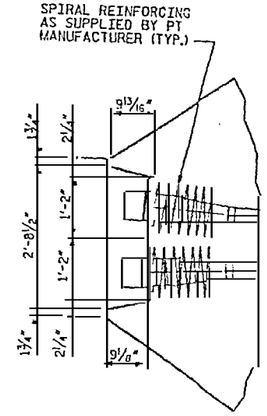
SEGMENT 1 - TOP PLAN



SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/13/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY: DATE:	A2539.00
1			3		TOTAL SHEETS
2			4		

DRAWN BY : S. G. STREDNIAK DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

EarthTech
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FLATIRON/UNITED
A JOINT VENTURE

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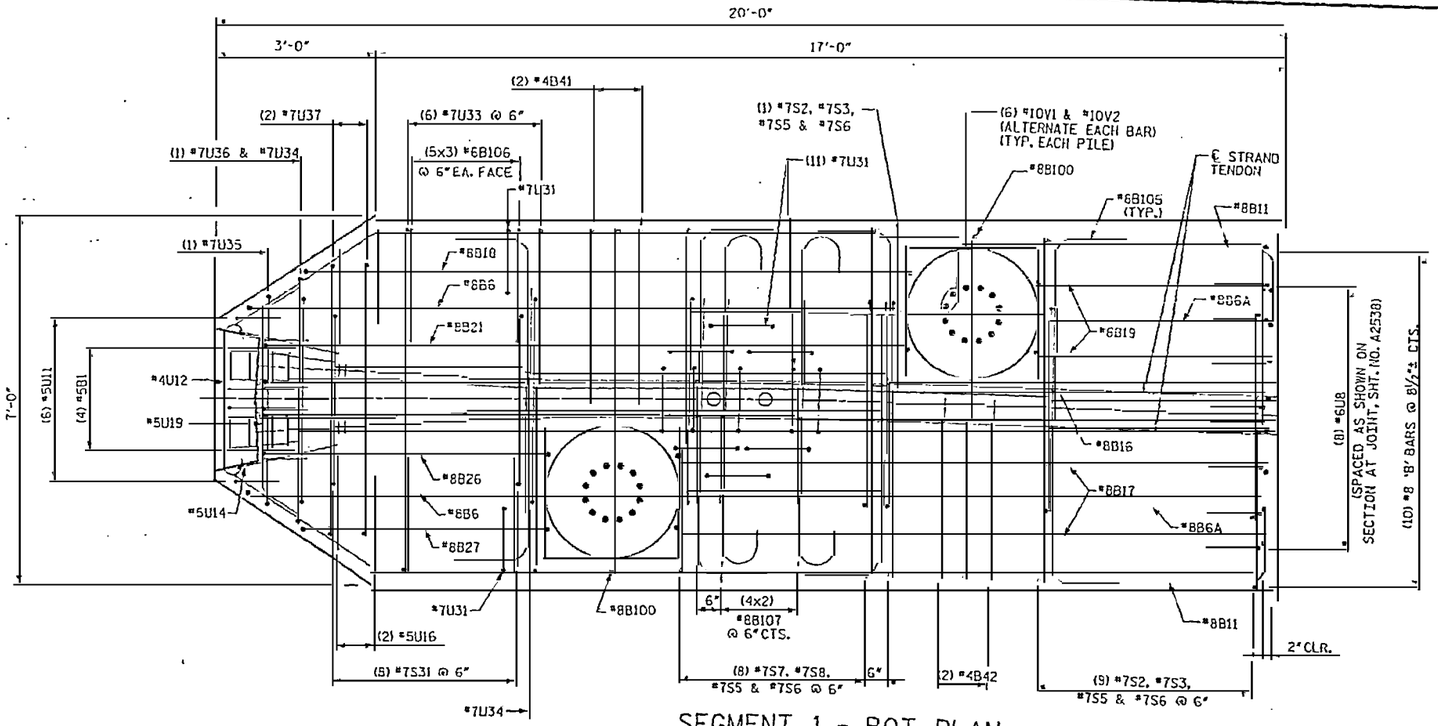
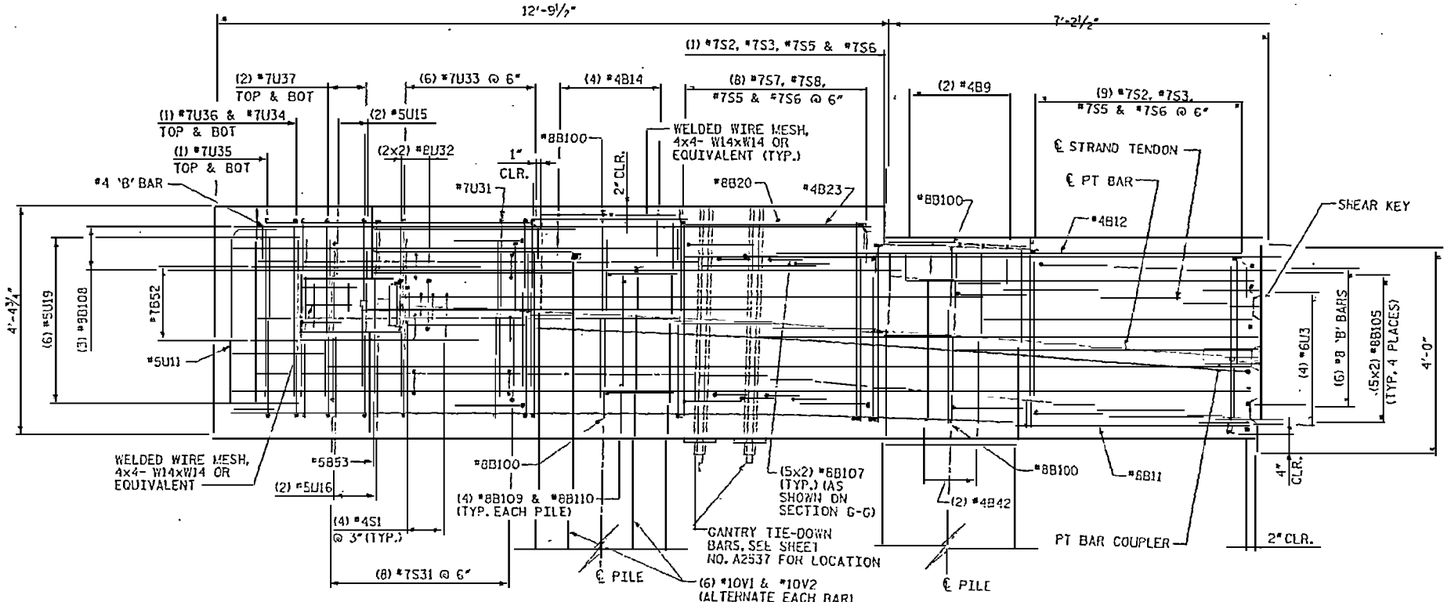


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/13/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

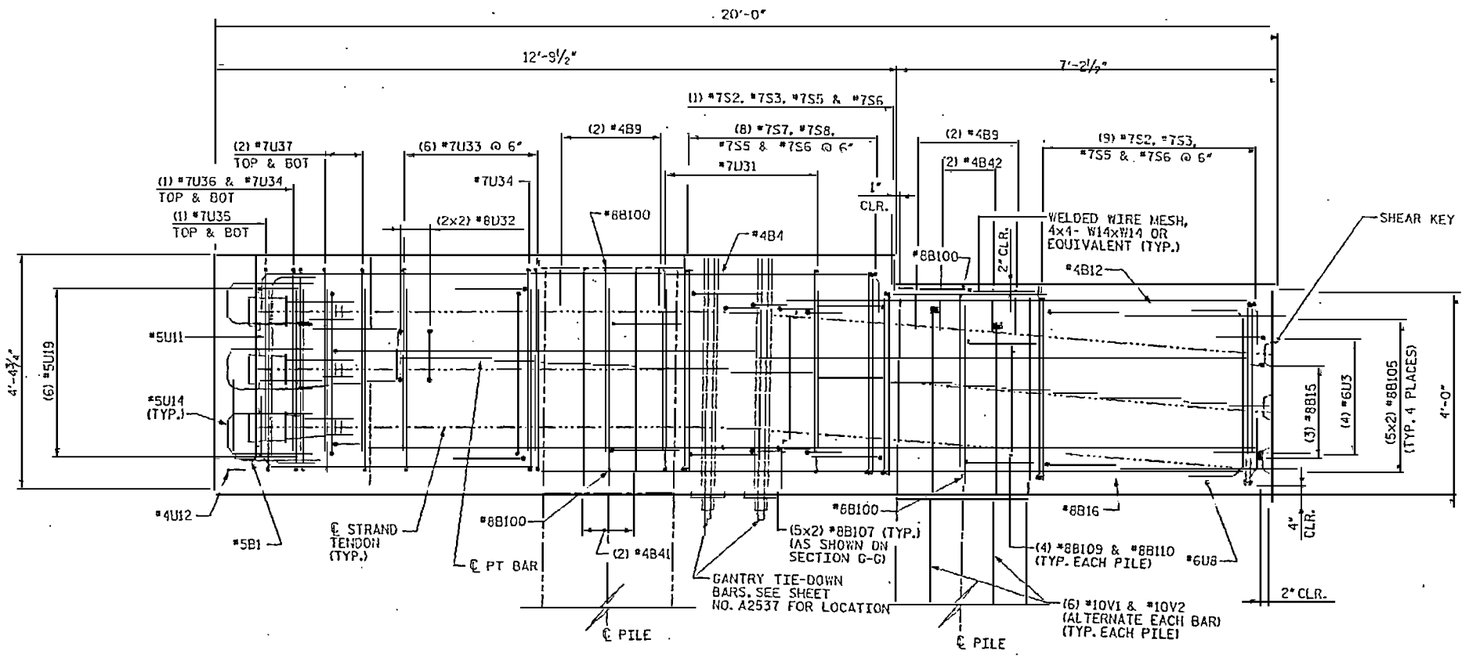
DRAWN BY : S.G. STREDNAK DATE : 11/07
CHECKED BY : J.L.T.H. DATE : 11/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2540.00
1			3			TOTAL SHEETS
2			4			

USER: mstevenson
DGN: mstevenson new bridge cad\A2540_SO2SHLBTM-DET-4.dgn
DATE: 8/13/2007
SHEET: #2565 W



SEGMENT 1 - SECTION A1

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearn 11/26/07
TOM SHEARN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2541.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. C. STREDNAK DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

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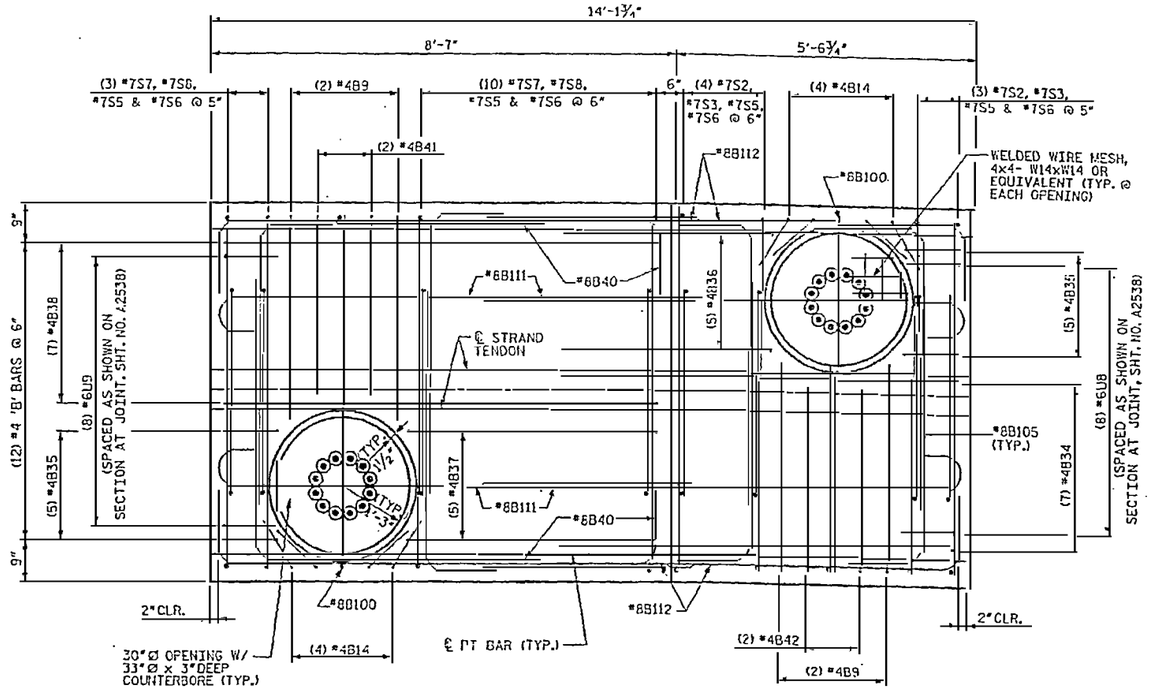
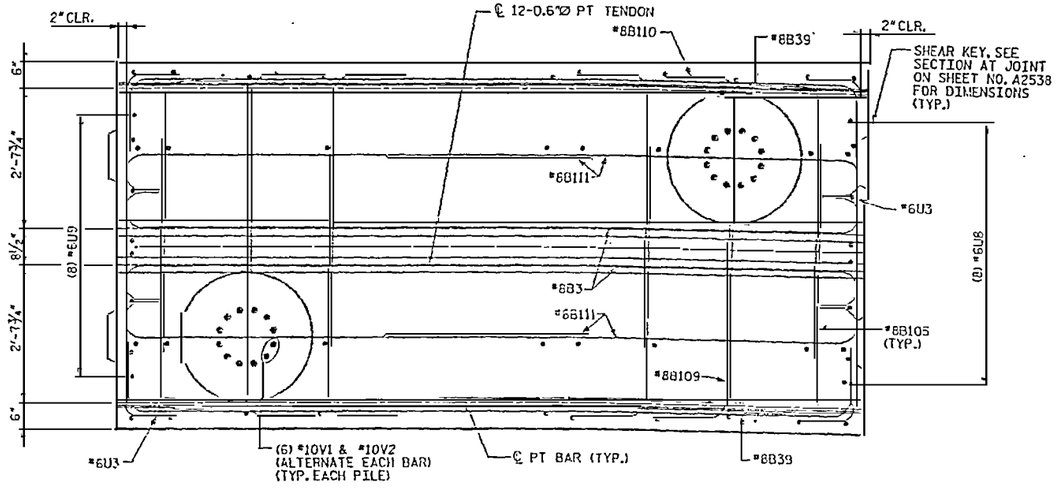
FLATIRON/UNITED
A JOINT VENTURE



SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2542.00
1			3			TOTAL SHEETS
2			4			

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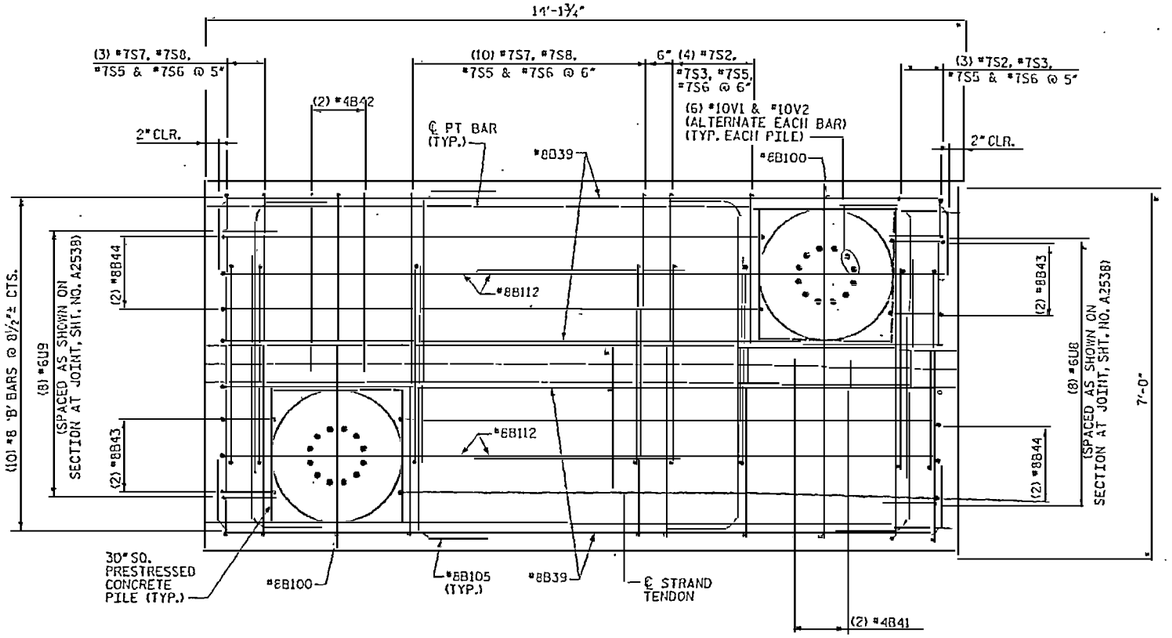
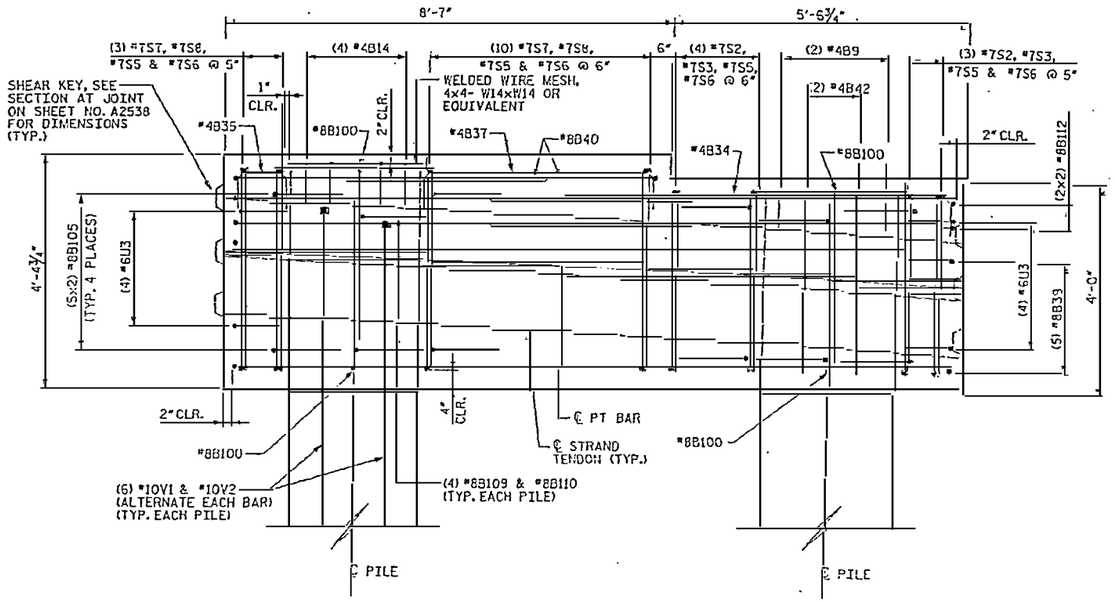
A JOINT VENTURE

DRAWN BY : S.C. STEPHAN DATE : 11/07
CHECKED BY : J. LEE DATE : 11/07

USGS authorized Data Acquisition for map purposes 50-USGS_ATP-DETAIL.dgn
DATE 11/21/2007 TIME 12:29:19 AM



SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/28/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 026679 ENGINEER JOHN W. JORDAN, III

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FLATIRON/UNITED
A JOINT VENTURE

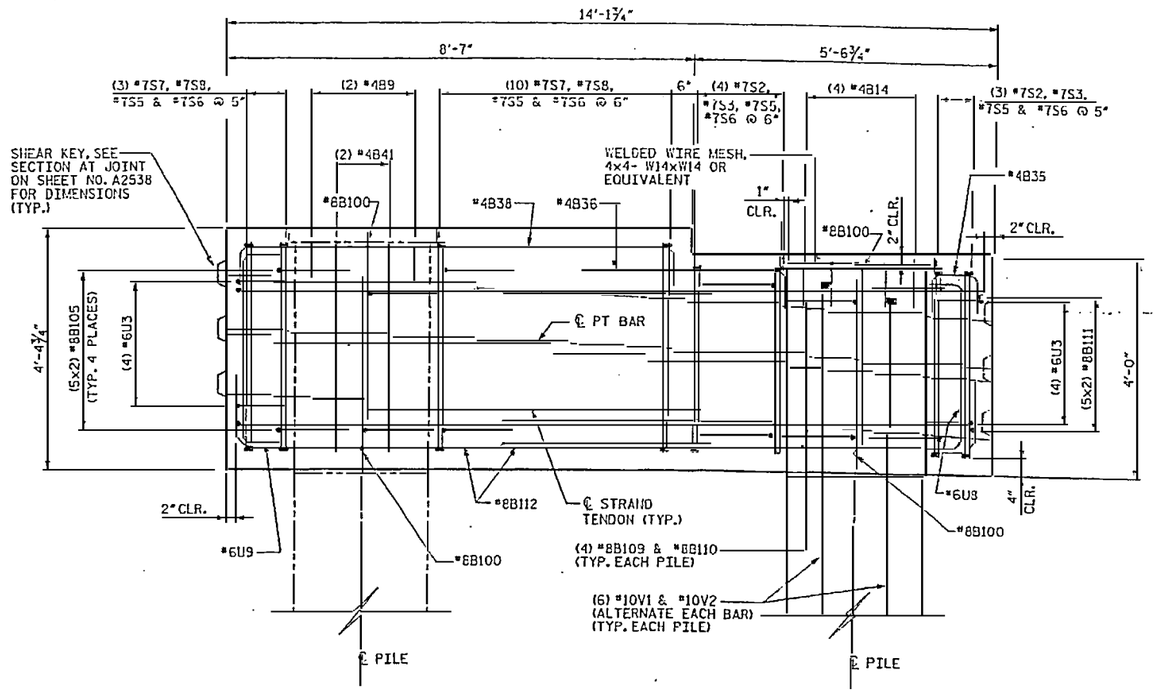
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2543.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S.G. STREDNAK DATE : 11/07
CHECKED BY : J.LIU DATE : 11/07

USER: mstredna
DGN: mstredna\Bridge\R2510B_SEGMENT_ELEVATION.dgn
DATE: 8/23/2007 11:22:59 AM

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - SECTION A2

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/12/07
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

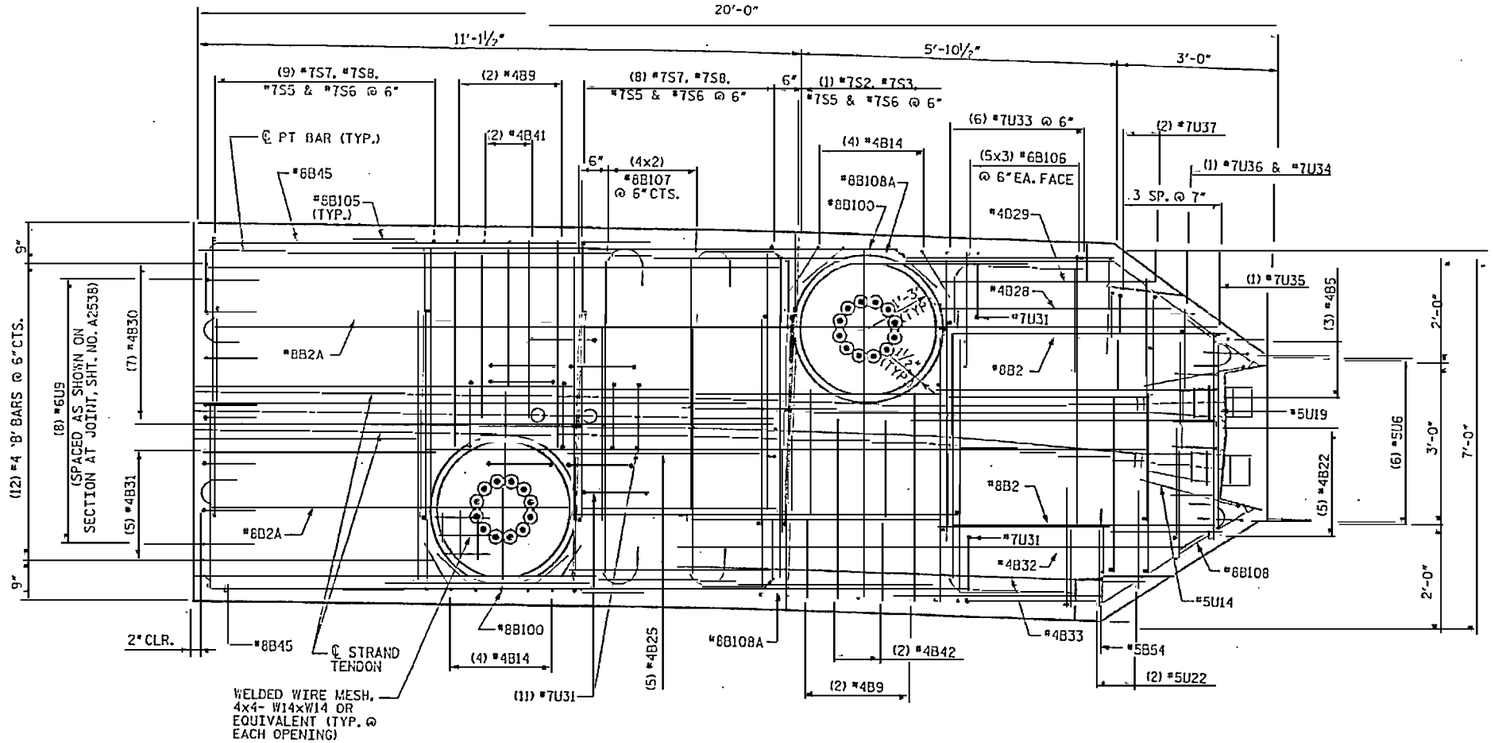
Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

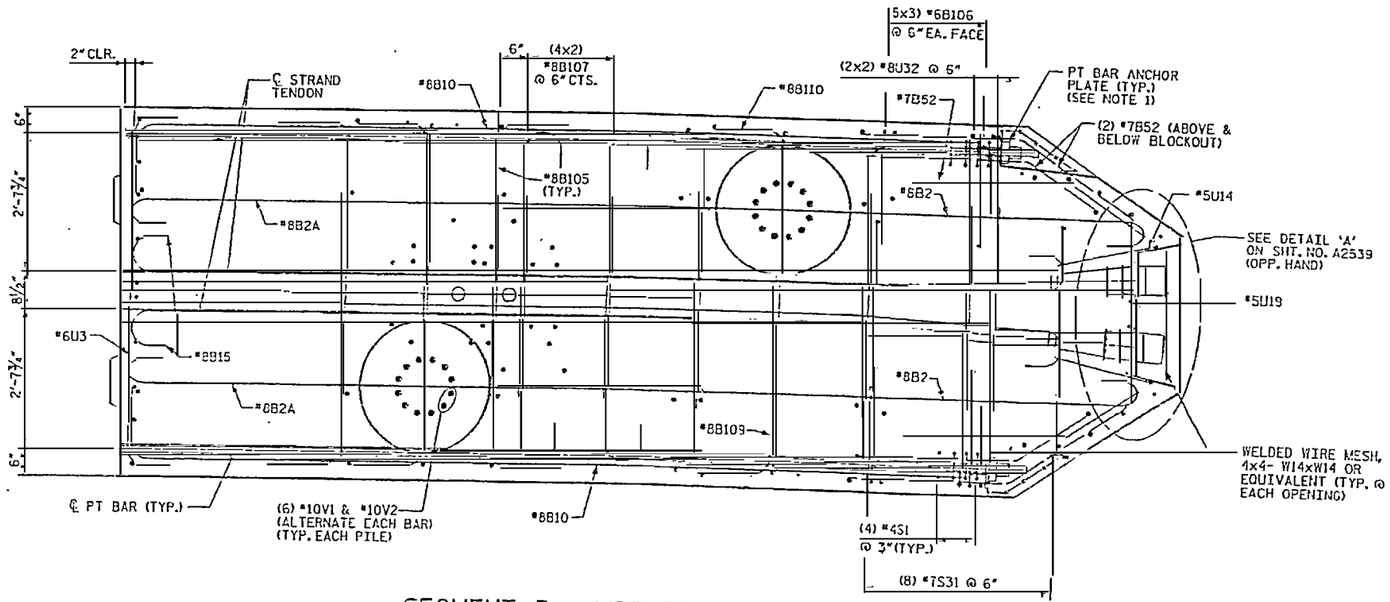
SHEET NO. A2544.00
TOTAL SHEETS

DRAWN BY : S. G. STREDNAY DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE: 11/12/2007
FILE: B2510_SEG2_A2.dgn
USER: sstredna
DGN: C:\projects\R-2510B\Bridge\Segment 2\B2510_SEG2_A2.dgn



SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/19/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2545.00
TOTAL SHEETS

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030976 S. CHRISTOPHER JORDAN

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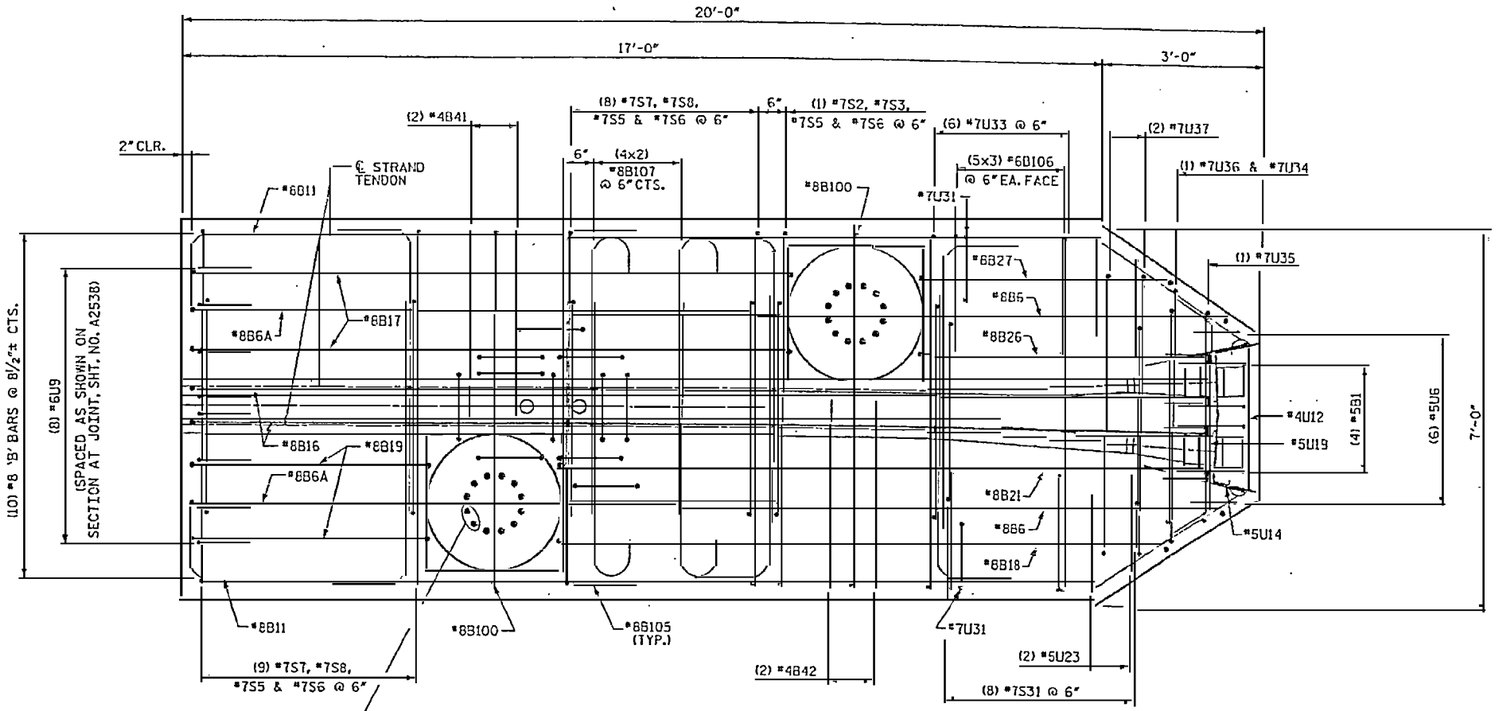
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. C. STREDNAK DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE: 11/21/2007
TIME: 12:23:33 PM
USER: sstredna
DGN: N:\STRUCTURE\Tier 1\Brunswick\US17\BRIDGE\PILE CAP\353_SHT_PILE CAP.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 3 - BOT. PLAN

RELEASED FOR CONSTRUCTION
Tom Shearin 11/13/07
TOM SHEARIN, PE / DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 10 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 17
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2545A.00
1			3			TOTAL SHEETS
2			4			

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030679 JOHN W. JORDAN 11/13/07

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STEDMAN DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

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DATE: 11/13/2007
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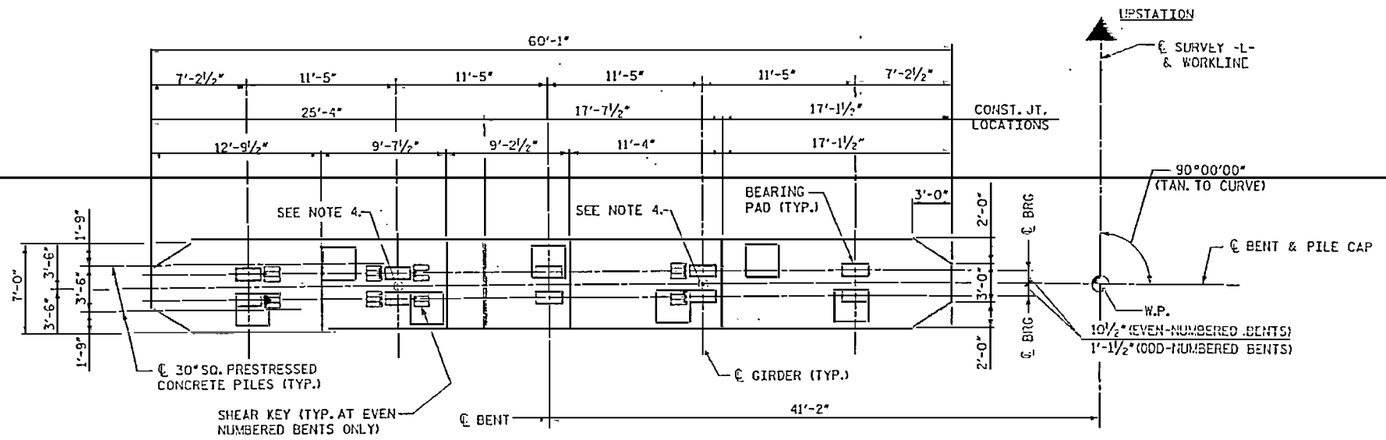
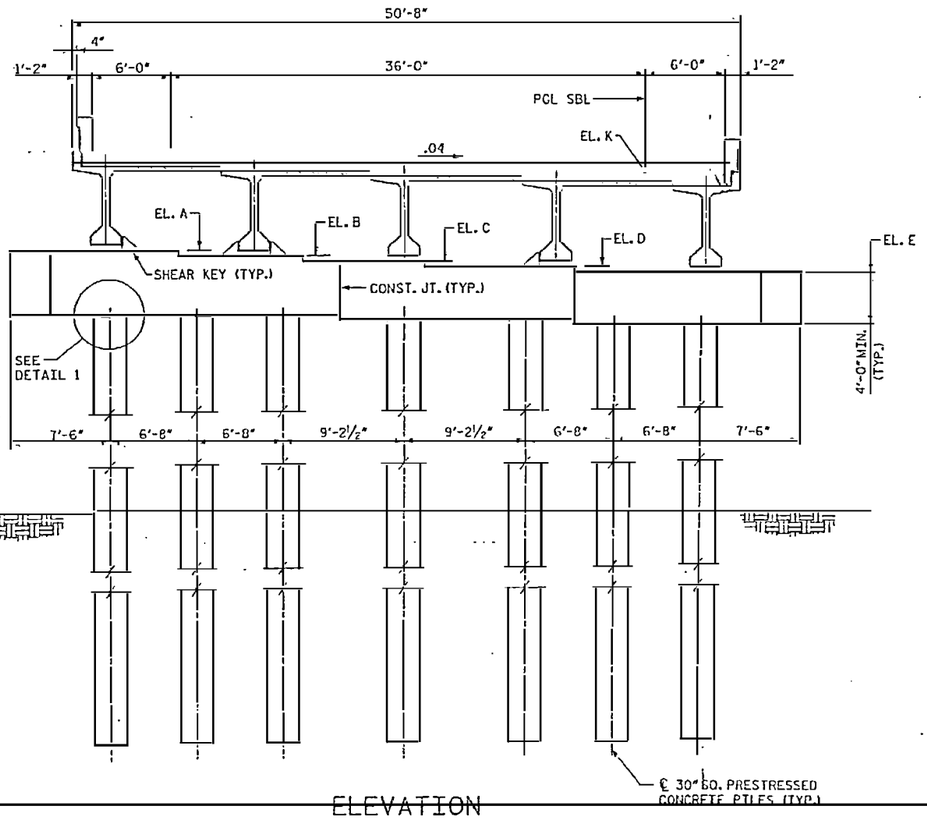
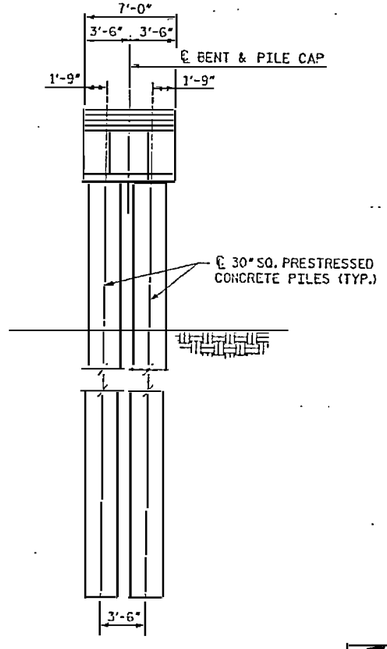


PLAN



ELEVATION
(BENTS 123SB THRU 127SB)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB. BARS ONLY AT ODD-NUMBERED BENTS. (1) (2)
5. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
6. PROVIDE AN EPOXY PROTECTIVE COATING ON ALL EVEN-NUMBERED BENT CAPS (EXPANSION). SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

Bent No.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. E (ft)	EL. K (ft)
123SB	22.689	22.232	21.775	21.319	20.862	28.330
124SB	22.329	21.872	21.415	20.959	20.502	27.970
125SB	21.952	21.496	21.039	20.582	20.126	27.594
126SB	21.344	20.887	20.430	19.974	19.517	26.985
127SB	20.436	19.979	19.522	19.066	18.609	26.077

(1) REVISION TO NOTE NO. 4.
(2) REVISION TO NOTE NO. 4.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 10/19/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030675 JOHN E. JORDAN

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DIMENSIONS - BENT TYPE 1B
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2545.02
1	MTB	7/2/07	3			TOTAL SHEETS
2	MTB	10/16/07	4			

DRAWN BY : S. C. STREDNAK DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 10/18/2007
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USER: rcarpenter
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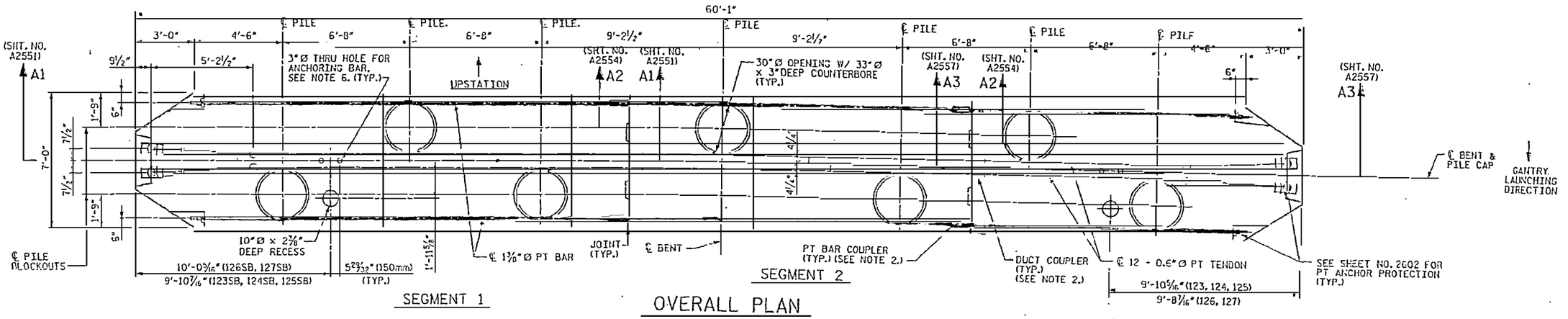
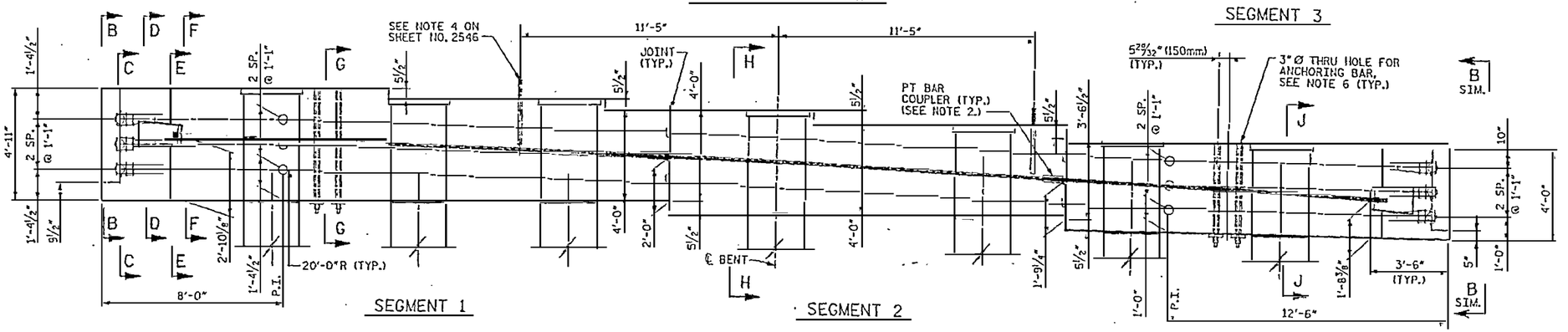
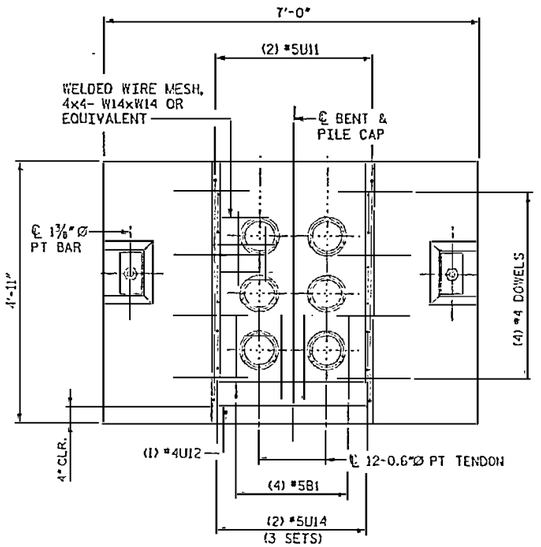


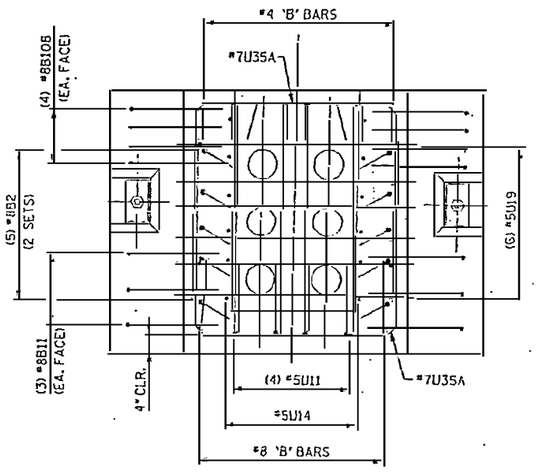
OVERALL PLAN



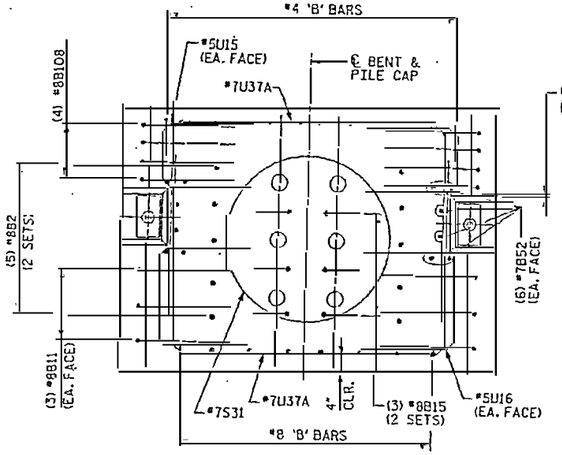
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 18 IS USED AT BENT NOS. 123SB THRU 127SB.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2548. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

~~A-T-E-R~~ - BRIDGE No. 2 -
~~T-A-R-R-I-V-E-R~~

DETAILS - PILE CAP TYPES 18 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

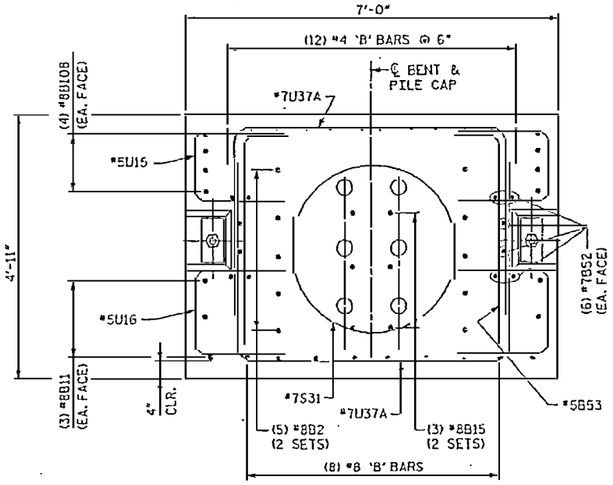
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2547.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

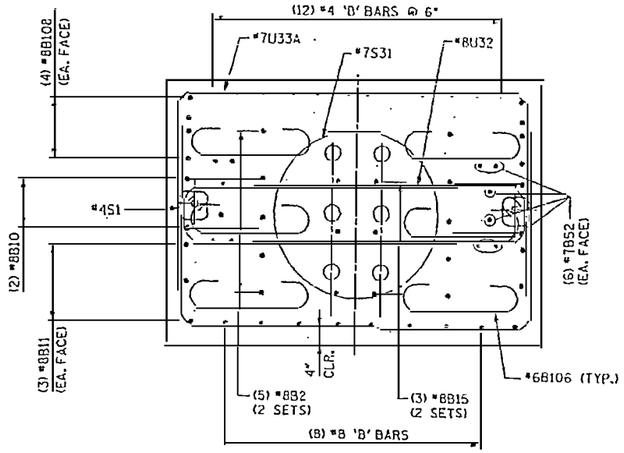
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

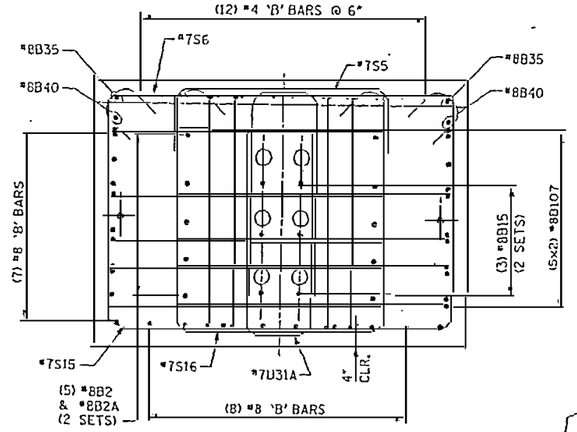
DATE: 6/23/2009
FILE: 92538.dgn
USER: michelle
DGN: dgn\ADDITIVE\92538_DSH_BTG-DETAILS.dgn



SECTION E-E

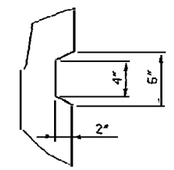


SECTION F-F

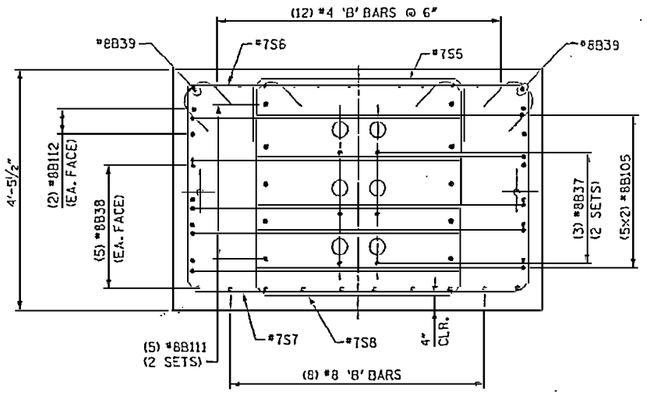


SECTION G-G

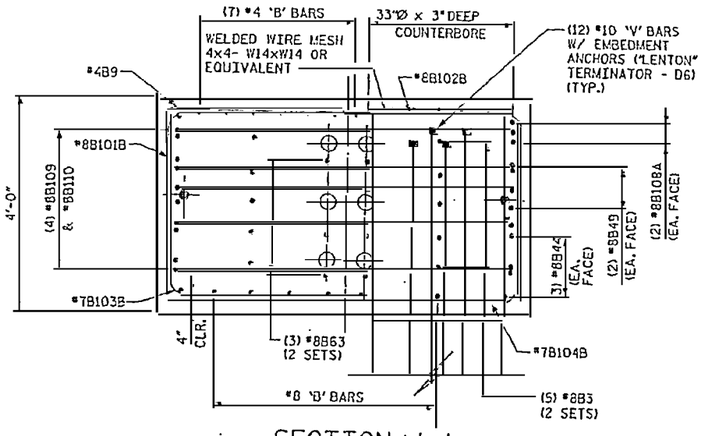
(ANCHORING BARS NOT SHOWN FOR CLARITY)



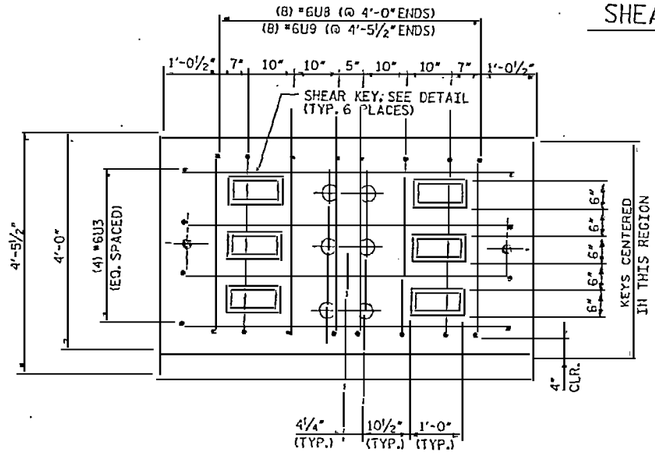
SHEAR KEY



SECTION H-H

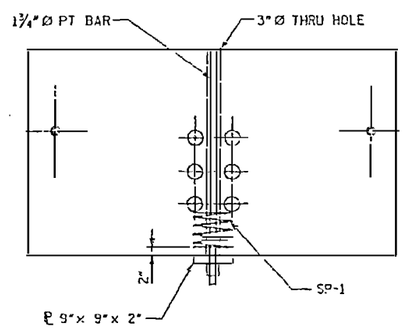


SECTION J-J



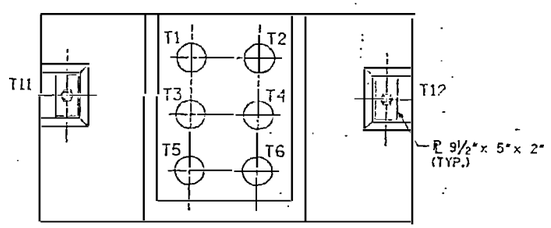
SECTION AT JOINT

(SEE SHEET NO. A2546)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/6/07

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

Earth Tech
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PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1B
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2548.00
1			3			TOTAL SHEETS
2			4			

DATE: 11/2/2007
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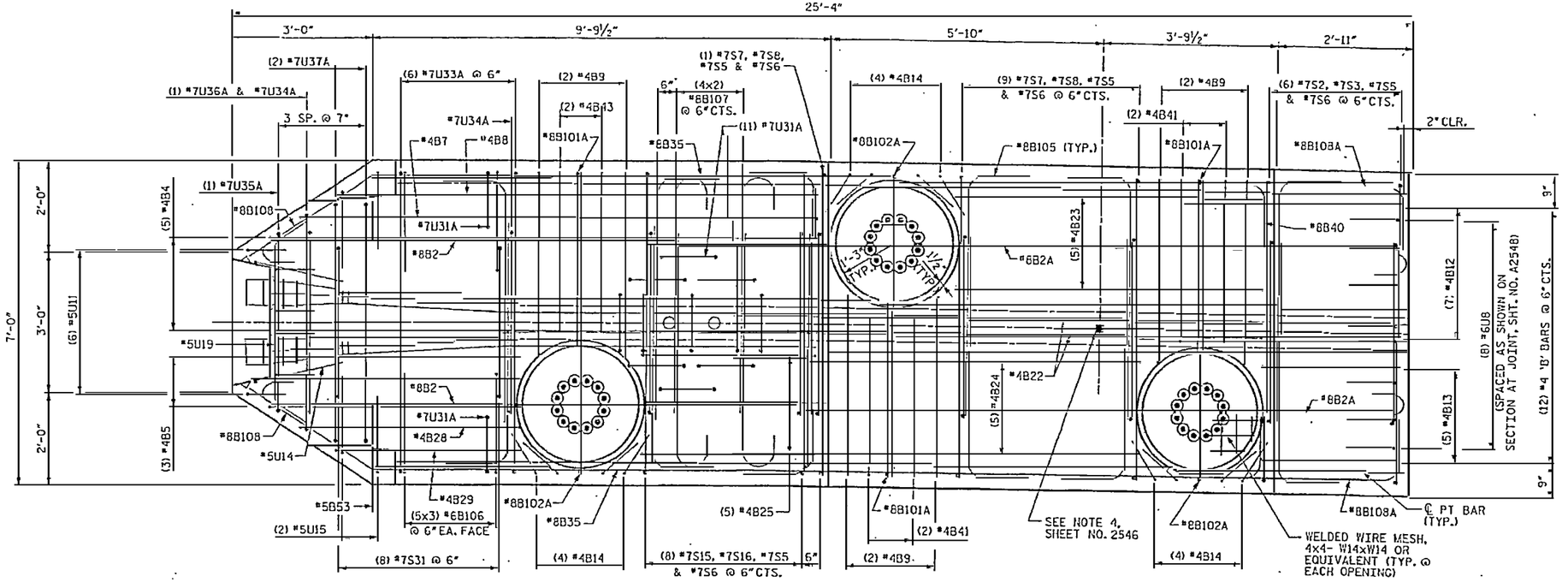
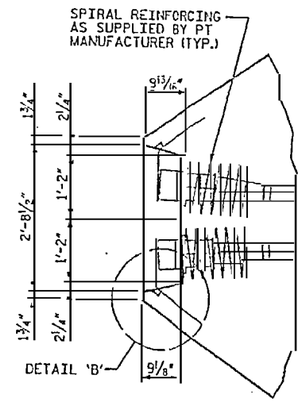


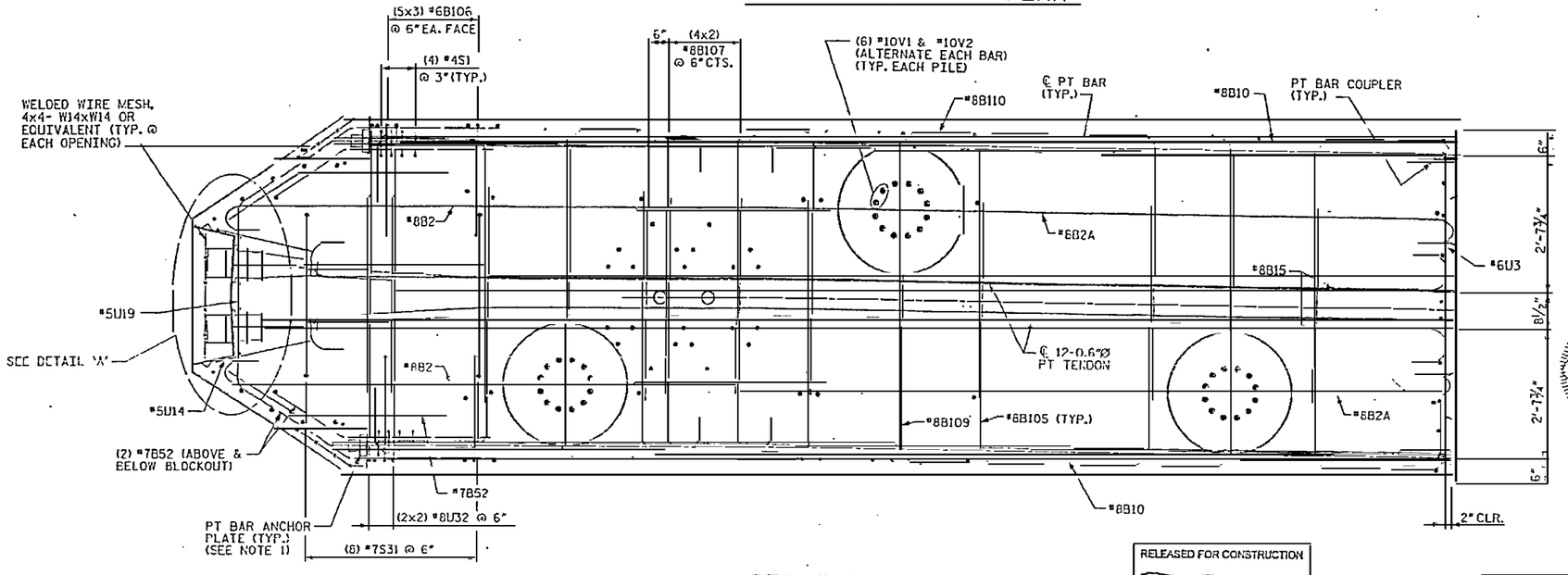
SEGMENT 1 - TOP PLAN

NOTES:

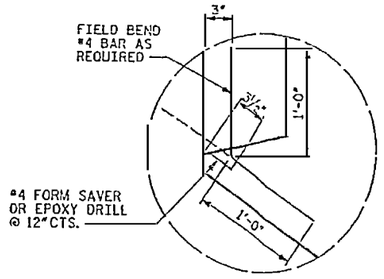
1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



SEGMENT 1 - MID PLAN



DETAIL 'B'

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031771 JOHN W. JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1B
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2549.00
1			3			TOTAL SHEETS
2			4			

RELEASED FOR CONSTRUCTION
Tom Shearin 11/05/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIN DATE : 11/07

DATE: 9/12/2007
TIME: 9:52:52 AM

USER: jlin
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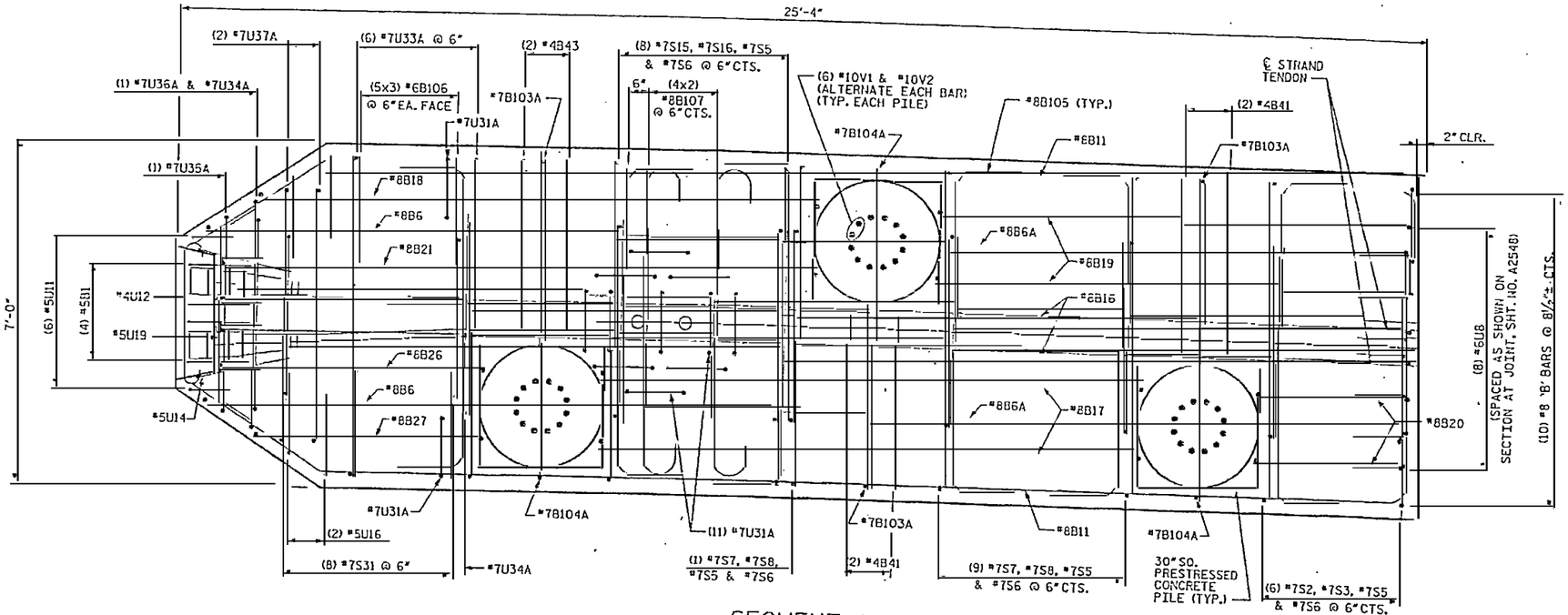
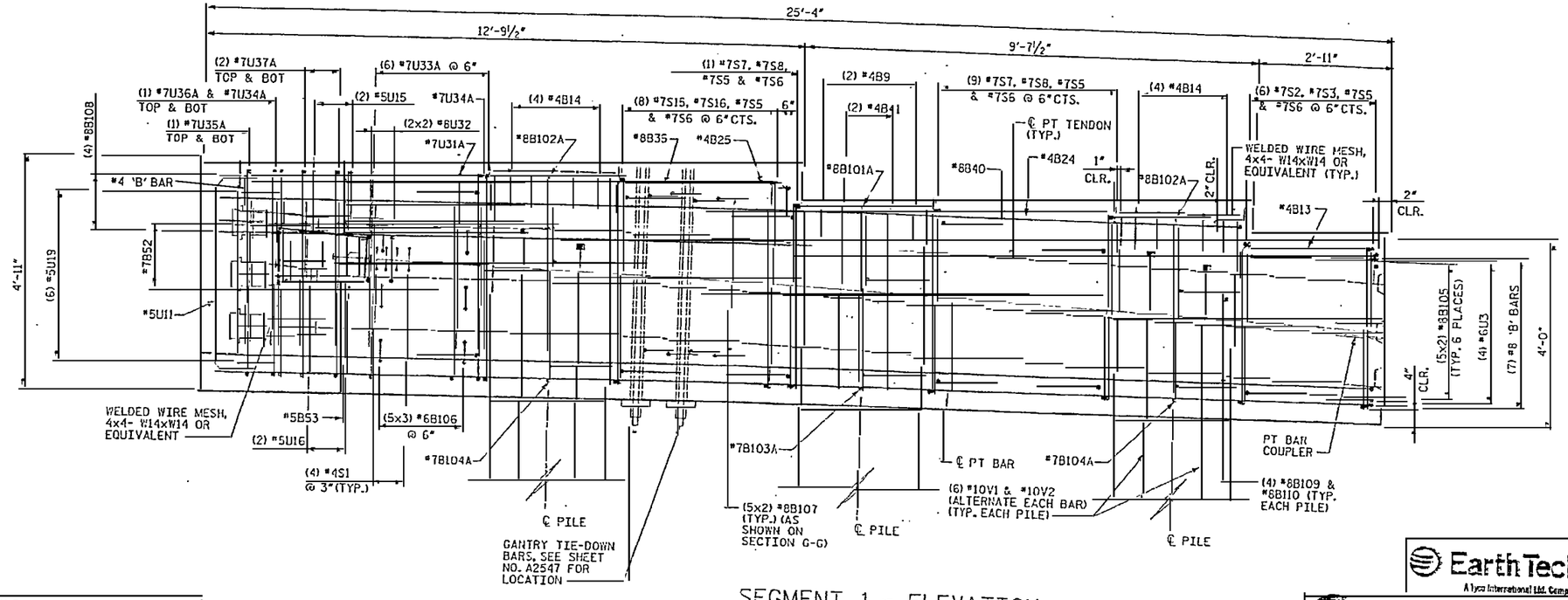


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1B
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2550.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

USER: ellyhines
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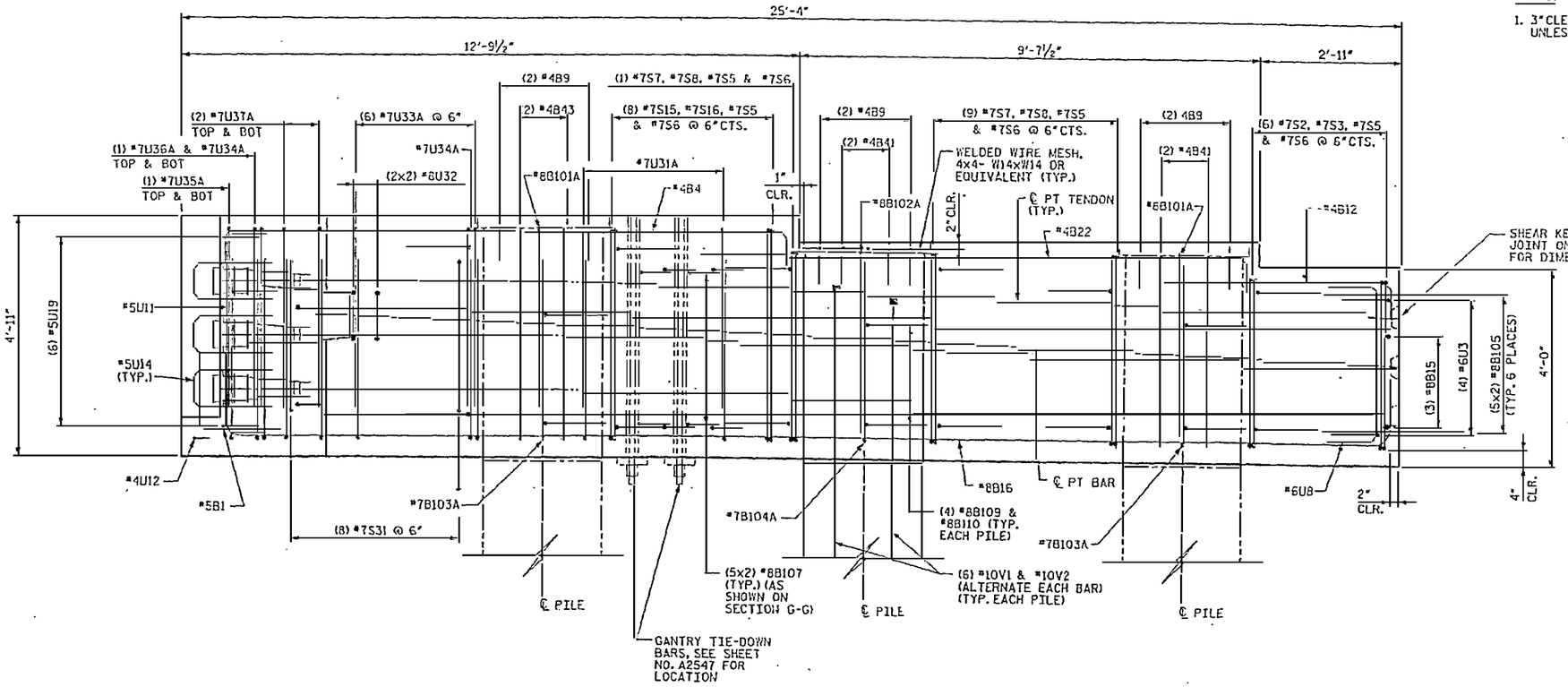
DATE: 9/22/2008
TIME: 9:22:03 AM



NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.

SEGMENT 1 - SECTION A1

(SEE SHEET NO. A2547)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/6/07
DATE

NORTH CAROLINA PROFESSIONAL SEAL 027878 ENGINEER JOHN A. SMITH

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1B
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS							SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:		A2551.00
1			3			TOTAL SHEETS	
2			4				

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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : H. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

USER: fhanlon
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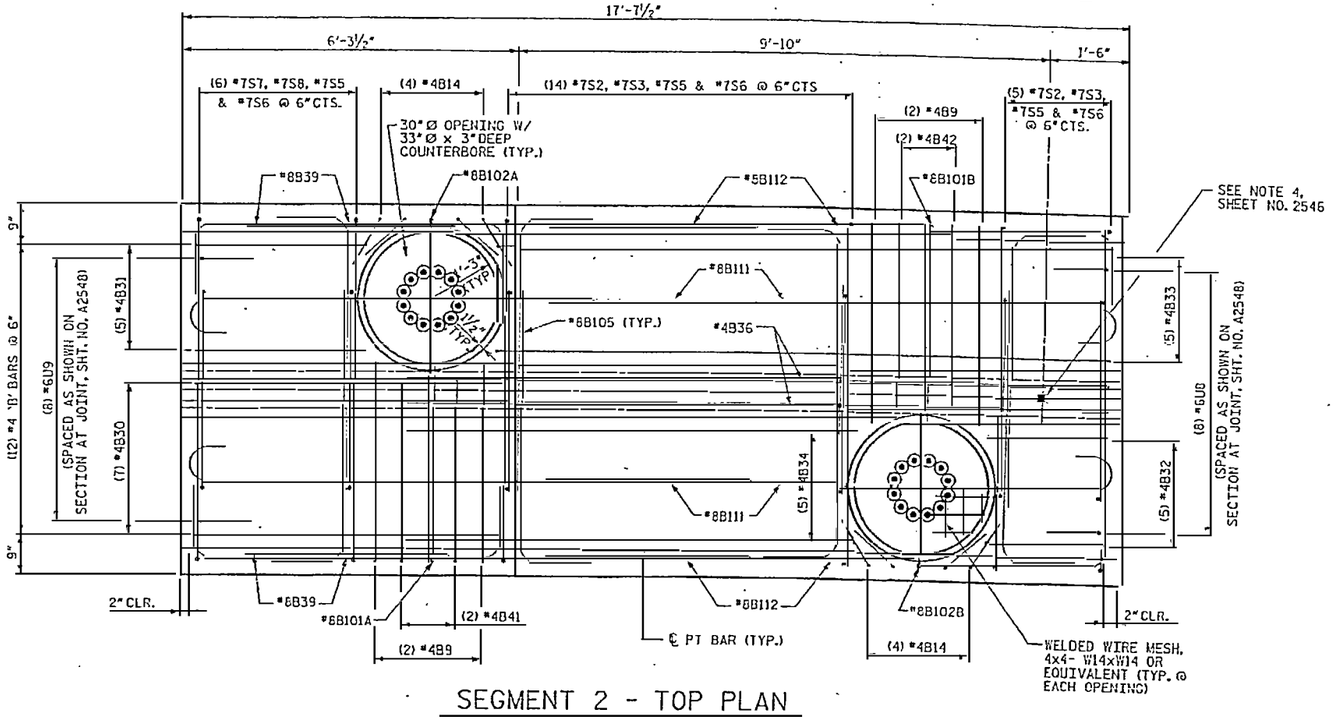
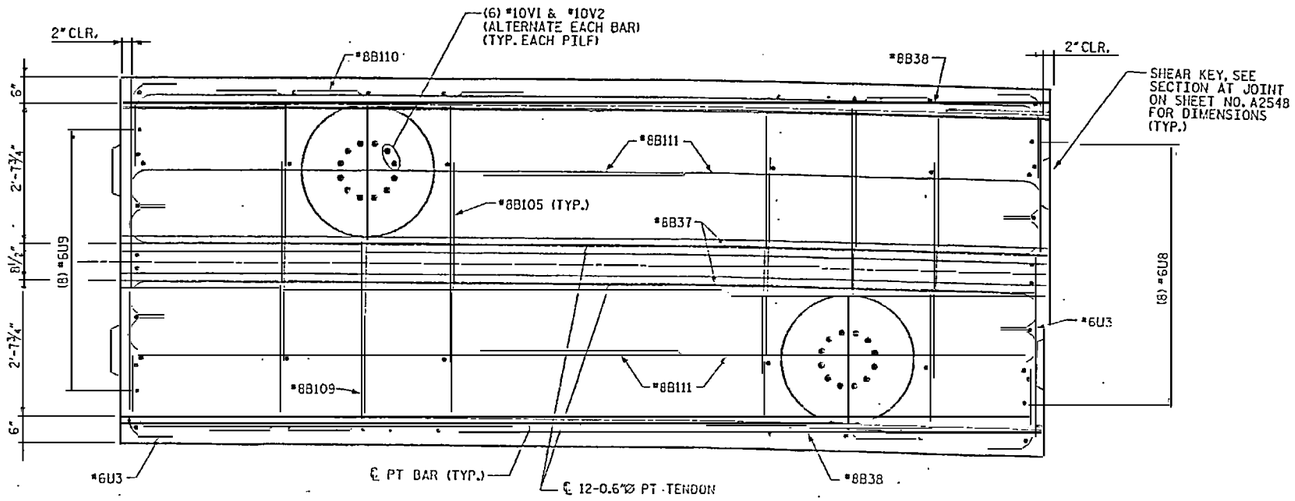
DATE: 11/2/2007
SHEET: 9x30.00 AV



SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036107 JOHN K. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS,
PILE CAP TYPE 1B
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2552.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE: 11/2/2007
TIME: 8:23:53 AM
USER: mbelisle
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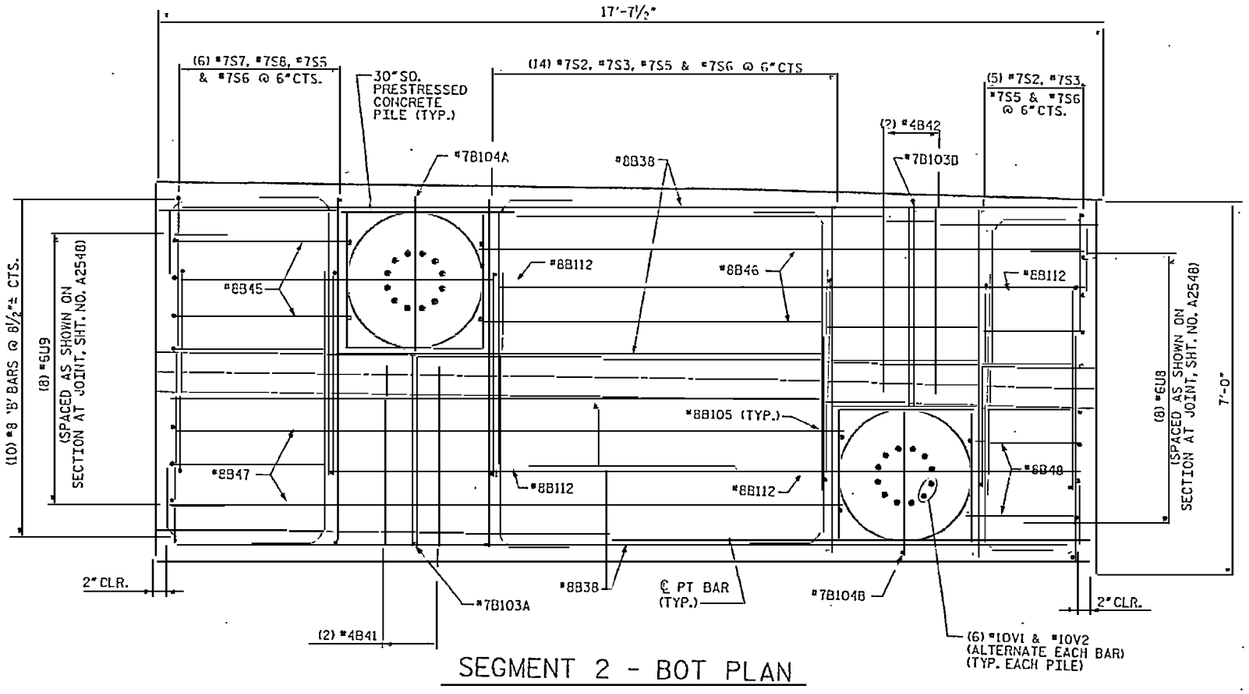
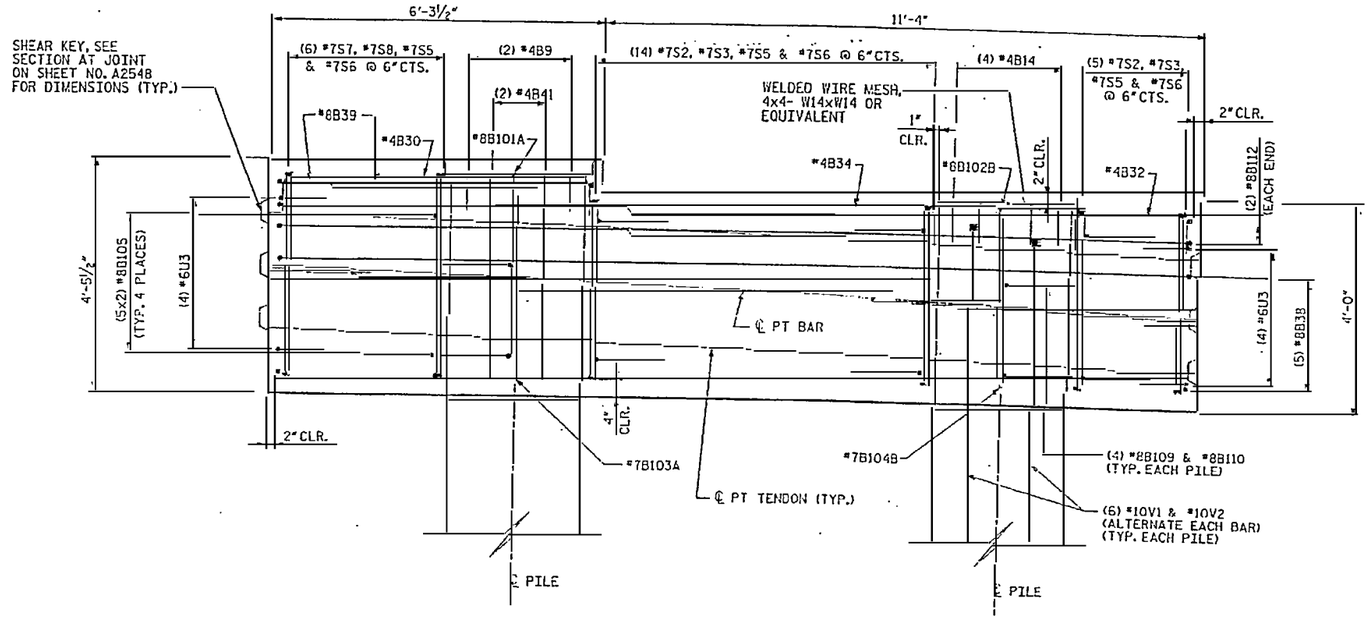


SEGMENT 2 - BOT PLAN



SEGMENT 2 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030096 TOM SHEARIN 11/5/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 18
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

Earth Tech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

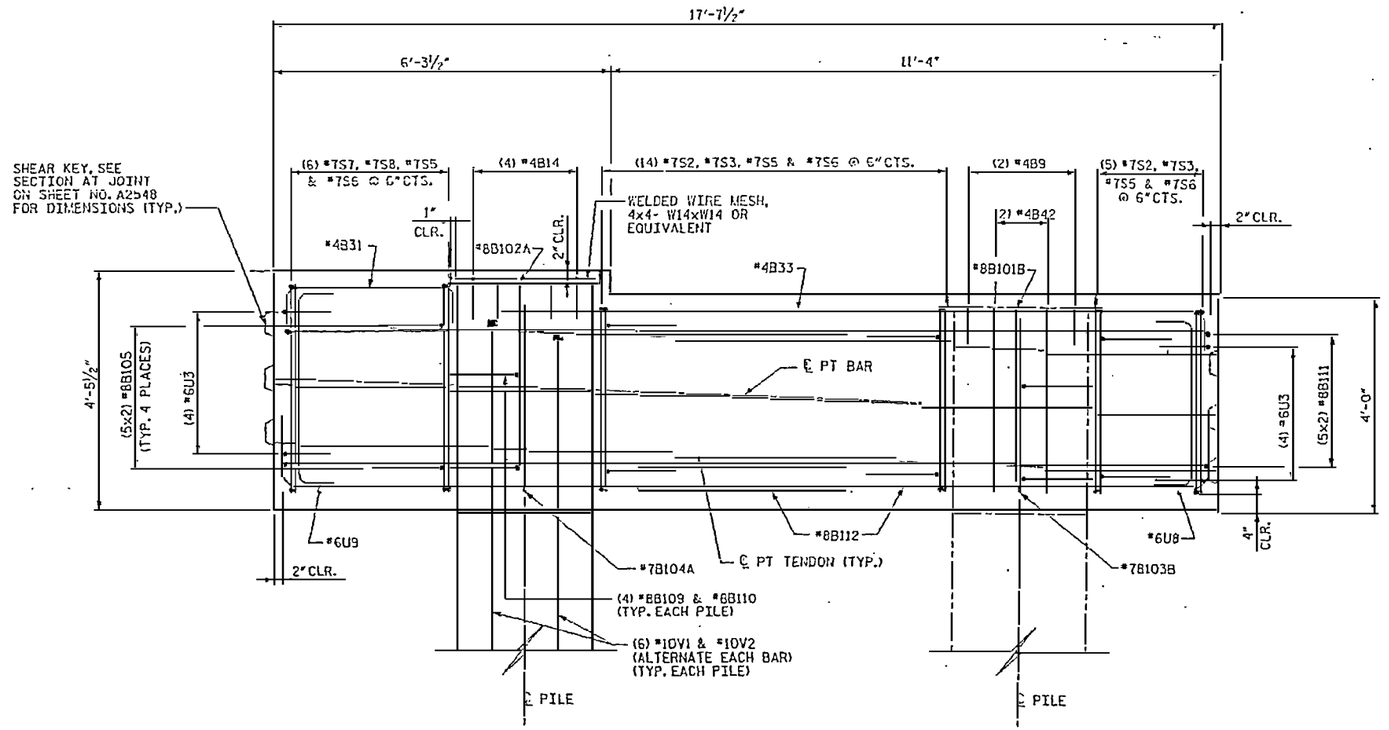
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2553.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M. T. ELLIS DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

USER: mtellis
DGN: P:\Structures\Bridge Drawings\R2510B\353\R2510_353_BTC_DETAILS.dgn
DATE: 11/2/2007
TIME: 9:24:23 AM

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS OTHERWISE NOTED.



SEGMENT 2 - SECTION A2

(SEE SHEET NO. A2547)

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/6/07 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030038 JOHN K. JORDAN, JR.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 18
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

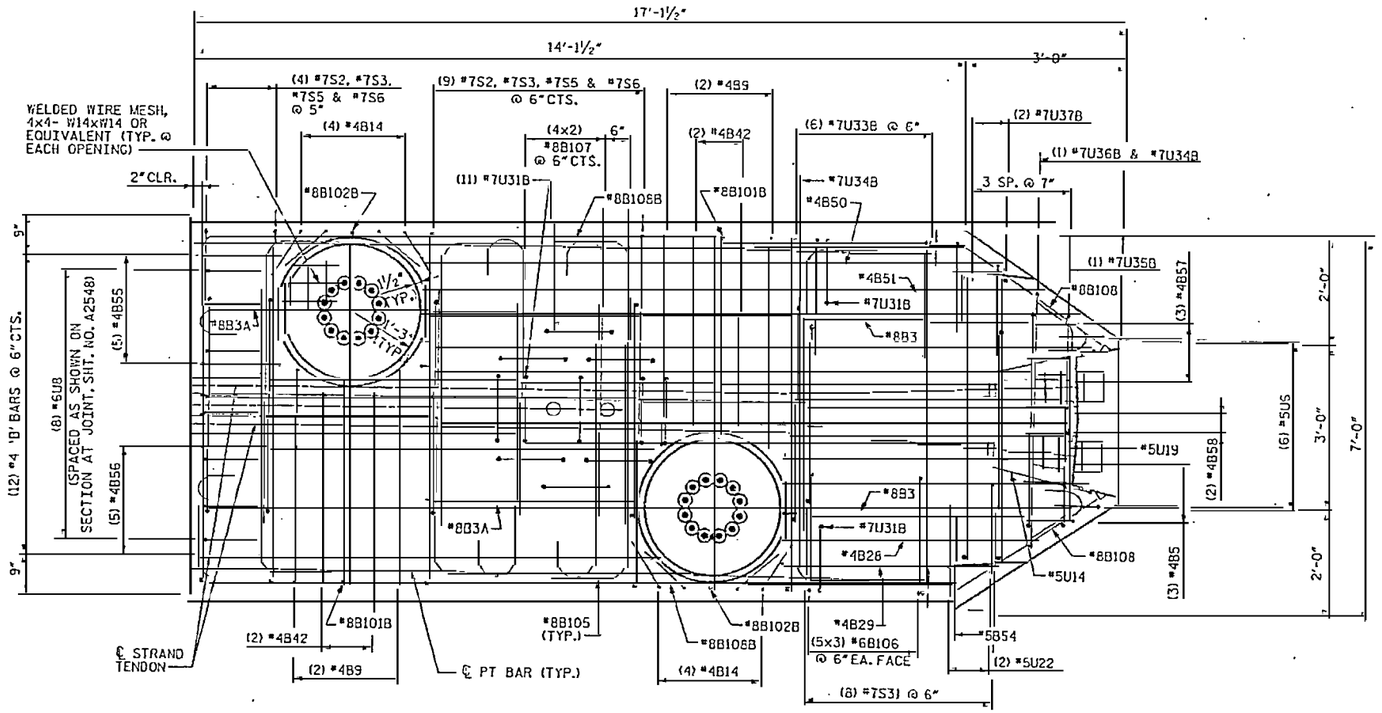
REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY	DATE:	42554.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

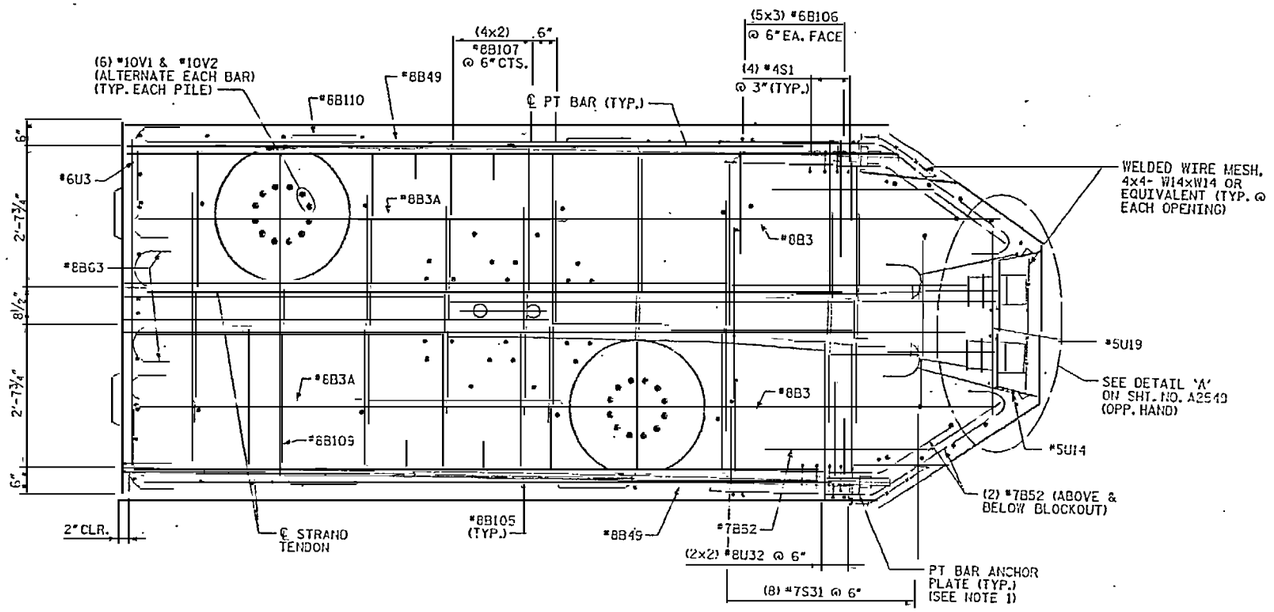
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. L. TU DATE : 11/07

THE STEEL DETAILS SHOWN ON THESE PLANS ARE FOR THE CONVENIENCE OF THE CONTRACTOR AND ARE NOT TO BE USED FOR SHOP DRAWINGS



SEGMENT 3 - TOP PLAN



SEGMENT 3 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/6/07 DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1B
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

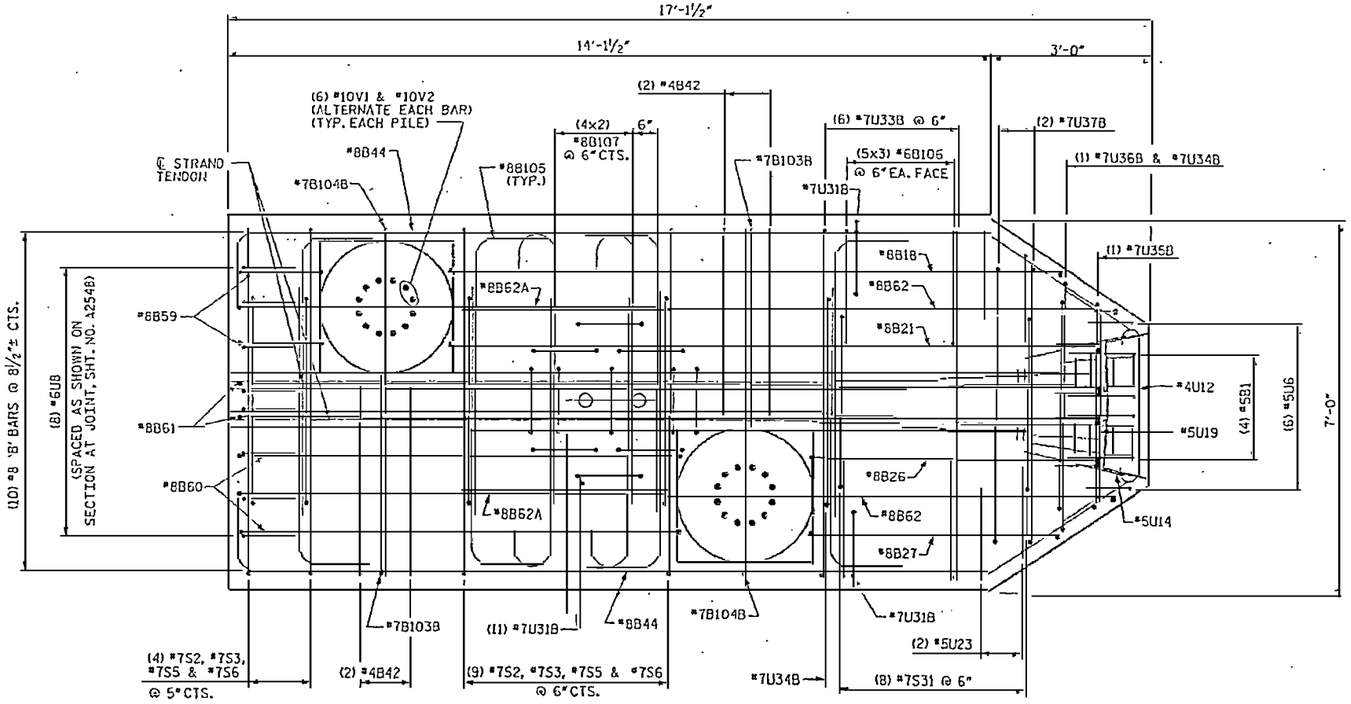
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	B-2555.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : N. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

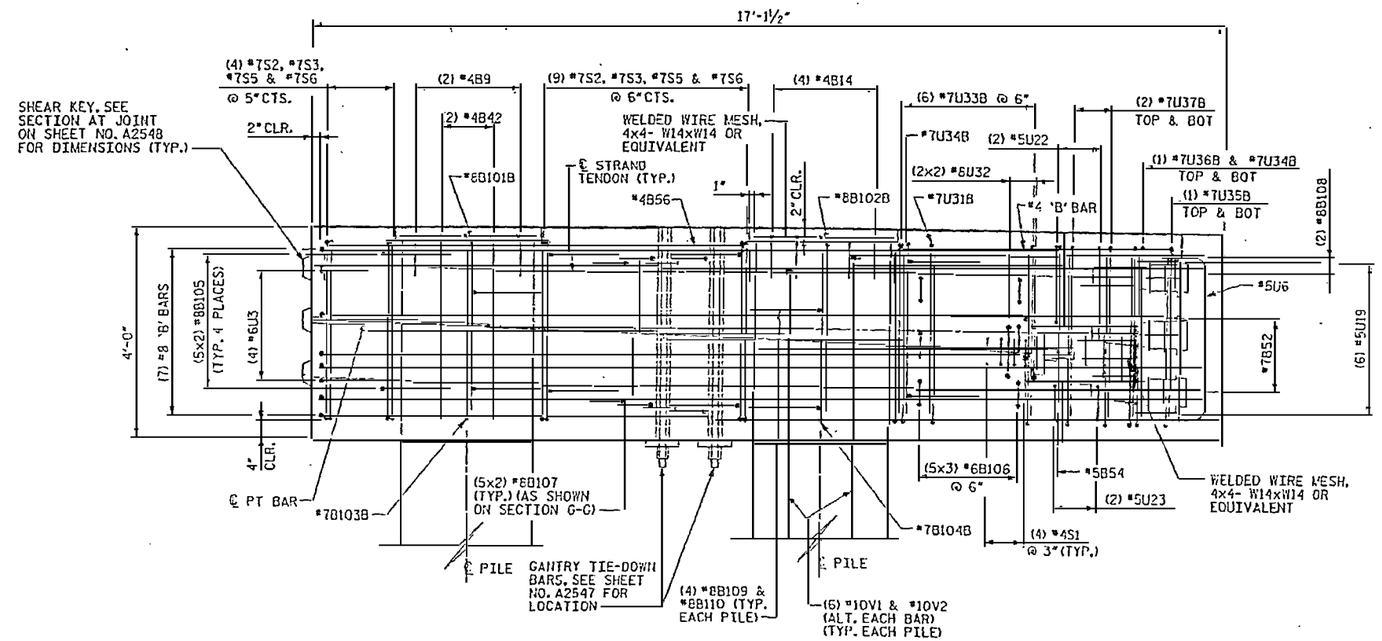
EarthTech A Tyco International Ltd. Company
FLATIRON/UNITED A JOINT VENTURE

DATE 8/22/2008
FILE B2555.dgn

USER: mbeasley
TIME: 8:23:57 AM
DGN: C:\Projects\Tar River Bridges\B2555\Roadway\Bridge\B2555_BRDG_PILE_CAP_TYP_1B.dgn



SEGMENT 3 - BOT PLAN



SEGMENT 3 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 10 OF 12 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1B
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	B-2556.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. DELISLE DATE : 11/07
CHECKED BY : J.L.IH DATE : 11/07

EarthTech
A Tyco International Ltd. Company

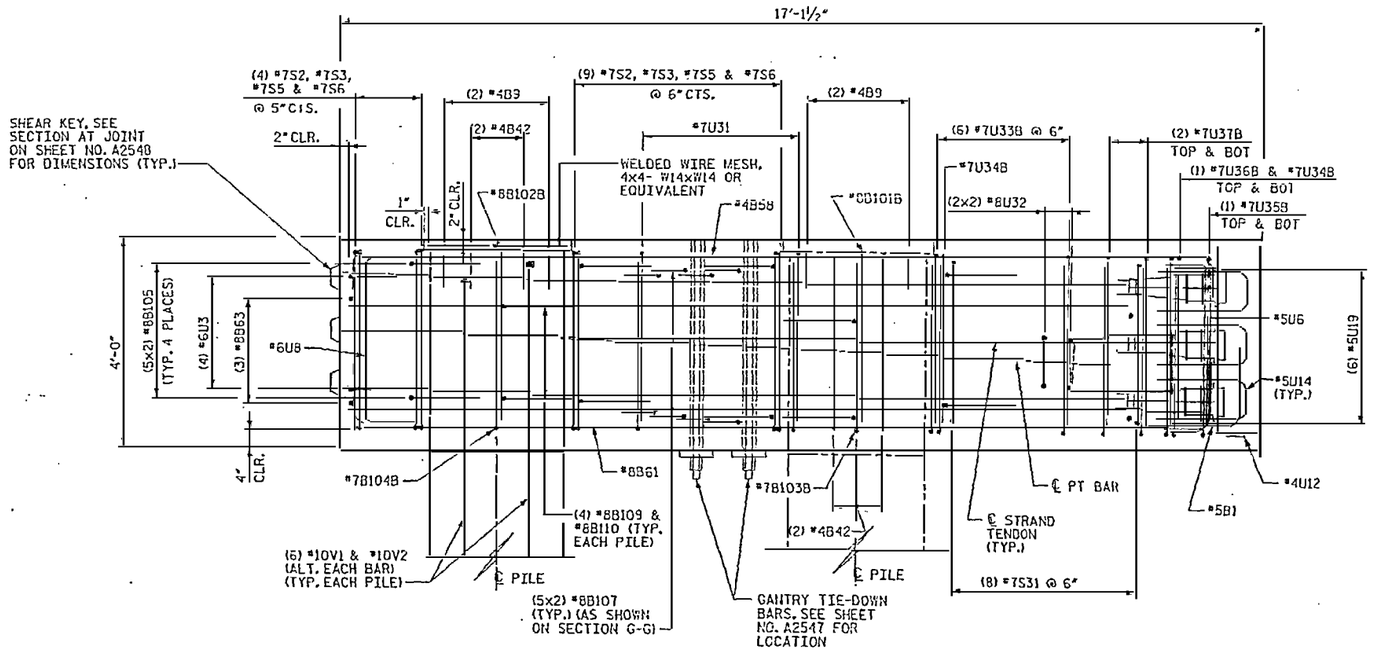
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030574 JOHN W. JORDAN, IV

USER: rdunlap
DGN: N:\Projects\Tar River Bridge\ADD\2510_03_DETAILS-SECTION.dgn
DATE: 9/17/2008
TIME: 8:48:37 AM

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.



SEGMENT 3 - SECTION A3

(SEE SHEET NO. A2547)

RELEASED FOR CONSTRUCTION
11/05/07
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 11 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 1B
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2557.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M. T. BELISLE DATE : 11/07
CHECKED BY : J. LIU DATE : 11/07

DATE PLOTTED: 9/25/2007 7:46:
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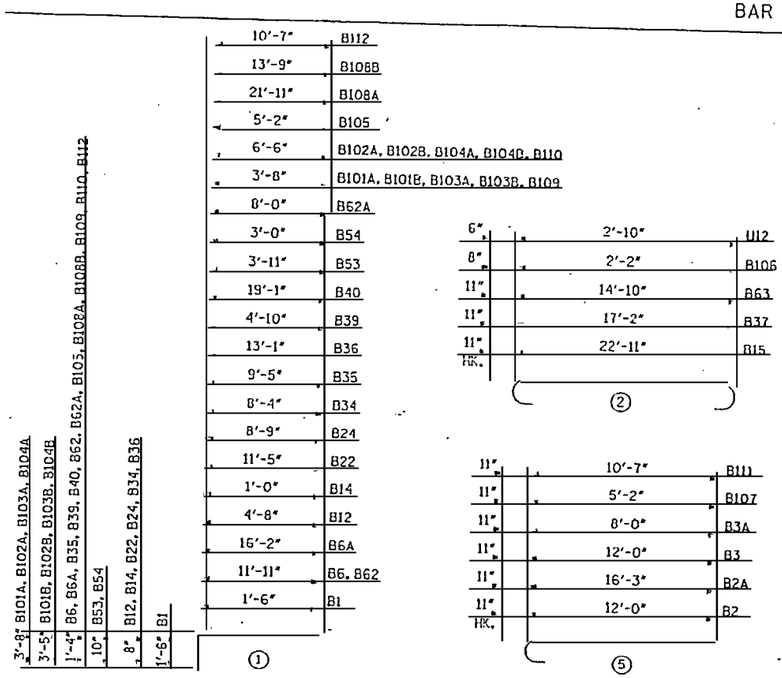
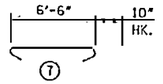
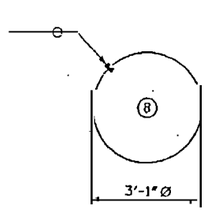
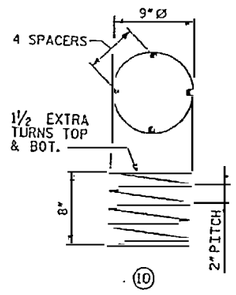
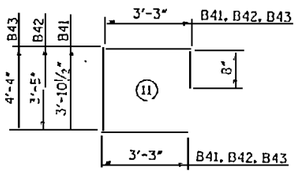
BAR TYPES

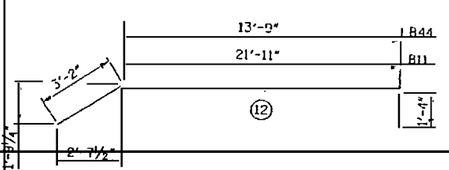


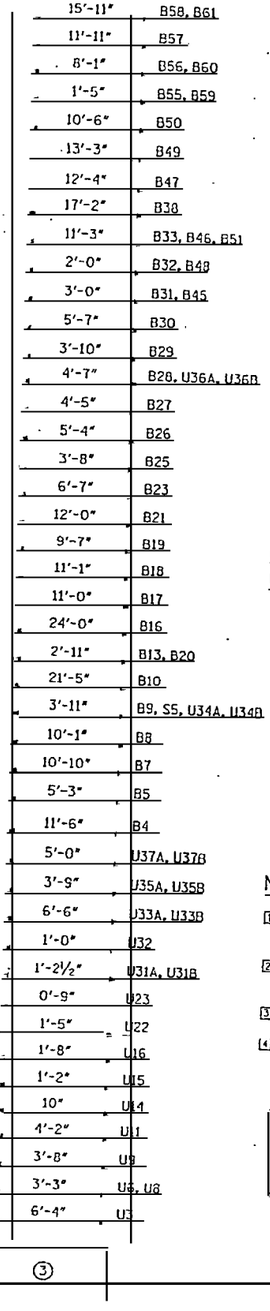


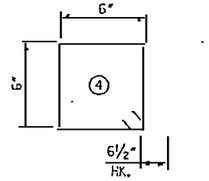


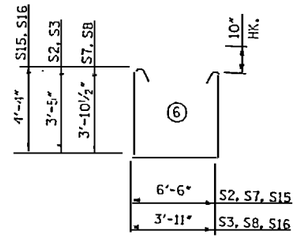


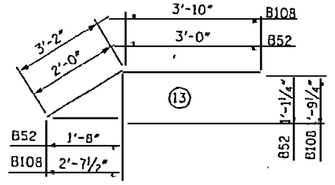


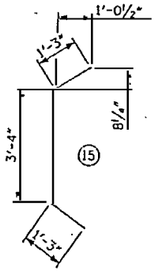












NOTES:

1. BARS USED AT PILES WHERE CAP DEPTH IS 4'-5½" OR 4'-11".
2. BARS USED AT PILES WHERE CAP DEPTH IS 4'-0".
3. BARS USED IN SEGMENT 1.
4. BARS USED IN SEGMENT 3

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/06/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036441 JOHN W. JORDAN, JR.

ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	5	(1)	3'-0"	25
B2	10	8	(5)	12'-11"	345
B2A	10	8	(5)	17'-2"	458
B3	10	8	(5)	12'-11"	345
B3A	10	8	(5)	8'-11"	238
B4	5	4	(3)	12'-10"	43
B5	6	4	(3)	6'-7"	26
B6	2	8	(1)	13'-3"	71
B6A	2	8	(1)	17'-6"	93
B7	1	4	(3)	12'-2"	8
B8	1	4	(3)	11'-5"	8
B9	14	4	(3)	5'-3"	49
B10	4	8	(3)	24'-1"	257
B11	6	8	(2)	26'-5"	423
B12	7	4	(1)	5'-4"	25
B13	5	4	(3)	4'-3"	14
B14	28	4	(1)	1'-8"	31
B15	6	8	(2)	24'-9"	396
B16	2	8	(3)	26'-8"	142
B17	2	8	(3)	13'-8"	73
B18	2	8	(3)	13'-9"	73
B19	2	8	(3)	12'-3"	65
B20	2	8	(3)	5'-7"	30
B21	2	8	(3)	14'-8"	78
B22	2	4	(1)	12'-1"	16
B23	5	4	(3)	7'-11"	26
B24	5	4	(1)	9'-5"	31
B25	5	4	(3)	5'-0"	17
B26	2	8	(3)	8'-0"	43
B27	2	8	(3)	7'-1"	38
B28	2	4	(3)	5'-11"	8
B29	2	4	(3)	5'-2"	7
B30	7	4	(3)	6'-11"	32
B31	5	4	(3)	4'-4"	14
B32	5	4	(3)	3'-4"	11
B33	5	4	(3)	12'-7"	42
B34	5	4	(1)	9'-0"	30
B35	2	8	(1)	10'-9"	57
B36	2	4	(1)	13'-9"	18
B37	6	8	(2)	19'-0"	304
B38	12	8	(3)	19'-10"	635
B39	4	8	(1)	6'-2"	66
B40	2	8	(1)	20'-5"	109
B41	6	4	(11)	11'-1"	44
B42	6	4	(11)	10'-7"	42
B43	2	4	(11)	11'-6"	15
B44	6	8	(12)	18'-3"	292
B45	2	8	(3)	5'-8"	30
B46	2	8	(3)	13'-11"	74
B47	2	8	(3)	15'-0"	80
B48	2	8	(3)	4'-8"	25
B49	4	8	(3)	15'-11"	170
B50	1	4	(3)	11'-10"	8
B51	1	4	(3)	12'-7"	8
B52	24	7	(13)	5'-0"	245
B53	2	5	(1)	4'-9"	10
B54	2	5	(1)	3'-10"	9
B55	5	4	(3)	2'-9"	9
B56	5	4	(3)	9'-5"	31
B57	3	4	(3)	13'-3"	27
B58	2	4	(3)	17'-3"	23
B59	2	8	(3)	4'-1"	22
B60	2	8	(3)	10'-9"	57
B61	2	8	(3)	18'-7"	99
B62	2	8	(1)	13'-3"	71
B62A	2	8	(1)	9'-4"	50
B63	6	8	(2)	16'-8"	267
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
[1] B101A	4	8	(1)	7'-4"	78
[2] B101B	3	8	(1)	7'-1"	57
[1] B102A	4	8	(1)	10'-2"	109
[2] B102B	3	8	(1)	9'-11"	79
[1] B103A	4	7	(1)	7'-4"	60
[2] B103B	3	7	(1)	7'-1"	43
[1] B104A	1	7	(1)	10'-2"	83
[2] B104B	3	7	(1)	9'-11"	61
B105	140	8	(1)	6'-6"	2430
B106	60	6	(2)	3'-6"	315
B107	60	8	(5)	6'-1"	1299
B108	12	8	(13)	7'-0"	224
[3] B108A	4	8	(1)	23'-3"	248
[4] B108B	4	8	(1)	15'-1"	161
B109	28	8	(1)	5'-0"	374
B110	28	8	(1)	7'-10"	586
B111	20	8	(5)	11'-6"	614
B112	12	8	(1)	11'-11"	382
S1	16	4	(4)	3'-3"	35
S2	38	7	(6)	15'-0"	1165
S3	38	7	(6)	12'-5"	964
S5	62	7	(3)	6'-3"	792
S6	62	7	(1)	8'-2"	1035
S7	16	7	(6)	15'-11"	521
S8	16	7	(6)	13'-4"	436
S15	8	7	(6)	16'-10"	275
S16	8	7	(6)	14'-3"	233
S31	16	7	(8)	9'-5"	308
U3	16	6	(3)	8'-4"	200
U6	6	5	(3)	4'-11"	31
U8	24	6	(3)	5'-3"	189
U9	8	6	(3)	5'-8"	68
U11	6	5	(3)	5'-10"	37
U12	2	4	(2)	3'-10"	5
U14	12	5	(3)	4'-10"	60
U15	4	5	(3)	2'-10"	12
U16	4	5	(3)	3'-4"	14
U19	12	5	(10)	5'-10"	73
U22	4	5	(3)	3'-1"	13
U23	4	5	(3)	2'-5"	10
[3] U31A	26	7	(3)	8'-7"	456
[4] U31B	26	7	(3)	7'-8"	407
U32	8	8	(3)	11'-4"	242
[3] U33A	12	7	(3)	13'-10"	339
[4] U33B	12	7	(3)	12'-11"	317
[3] U34A	4	7	(3)	11'-3"	92
[4] U34B	4	7	(3)	10'-4"	84
[3] U35A	2	7	(3)	1'-1"	45
[4] U35B	2	7	(3)	0'-2"	42
[3] U36A	2	7	(3)	11'-11"	49
[4] U36B	2	7	(3)	11'-0"	45
[3] U37A	4	7	(3)	12'-4"	101
[4] U37B	4	7	(3)	11'-5"	93
SP-1	4	#4	(9)	15'-8"	42

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 12 OF 12 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
ALTERNATE DETAILS
PILE CAP TYPE 18
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2558.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : M.T. BEITSLE DATE : 11/07
CHECKED BY : J.T.H. DATE : 11/07

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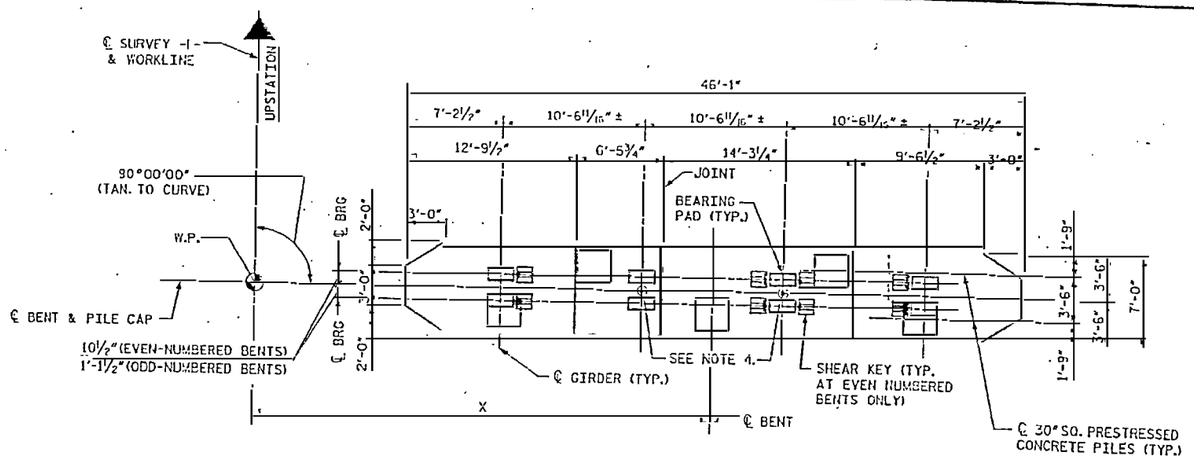
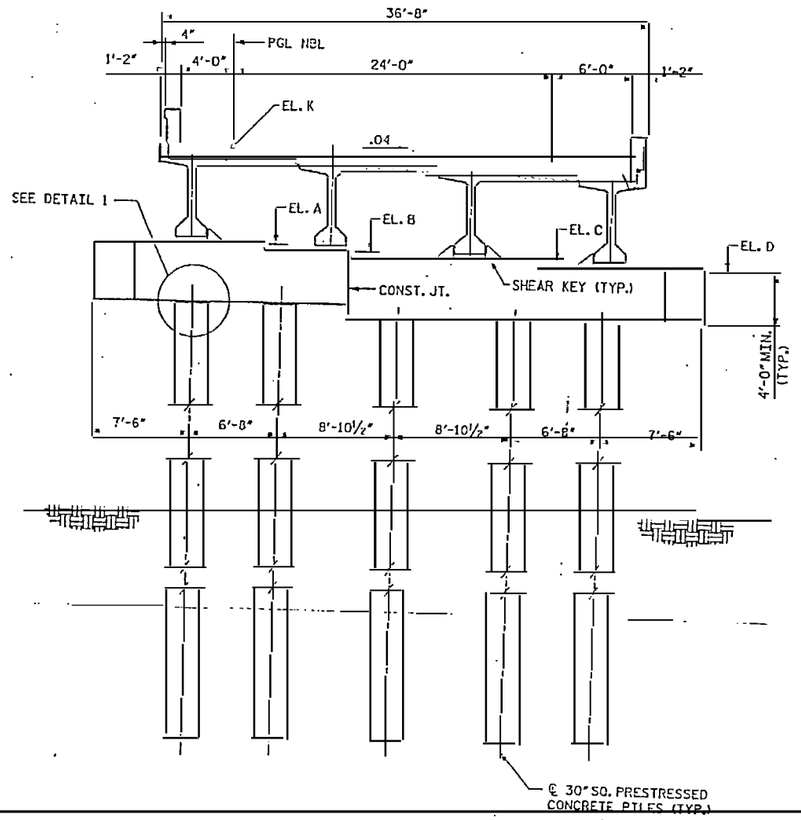
FLATIRON/UNITED
A JOINT VENTURE

DATE: 11/6/2007
FILE: 12B3.DGN

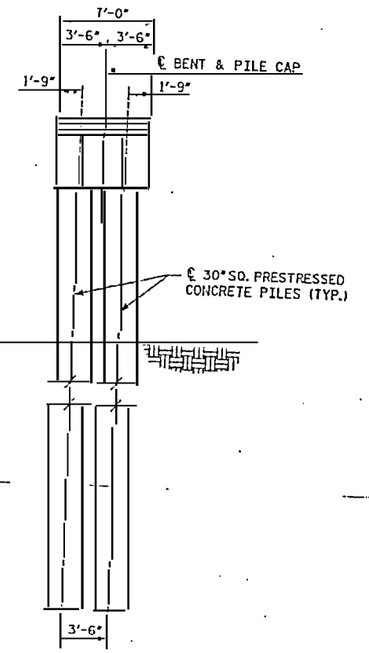
USER: mtbeitsle
DGN: N:\Structure\Projects\R-2510B\Roadway\12B3.dgn



PLAN



ELEVATION
(BENTS 115NB THRU 125NB)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE. SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. 1" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH. BAR SHALL BE PLUMB, BARS ONLY AT ODD-NUMBERED BENTS. (1) (2)
5. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
6. PROVIDE AN EPOXY PROTECTIVE COATING ON ALL EVEN-NUMBERED BENT CAPS (EXPANSION). SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

Bent No.	EL. A (ft)	EL. B (ft)	EL. C (ft)	EL. D (ft)	EL. K (ft)	X (ft)
115NB	23.569	23.147	22.724	22.302	30.730	26'-0"
116NB	23.209	22.787	22.364	21.942	30.370	27'-8⅝"
117NB	22.849	22.427	22.004	21.582	30.010	29'-5⅛"
118NB	22.489	22.067	21.644	21.222	29.650	31'-1¾"
119NB	22.129	21.707	21.284	20.862	29.290	32'-10¼"
120NB	21.769	21.347	20.924	20.502	28.930	34'-6⅛"
121NB	21.409	20.987	20.564	20.142	28.570	35'-10"
122NB	21.049	20.627	20.204	19.782	28.210	35'-10"
123NB	20.689	20.267	19.844	19.422	27.850	35'-10"
124NB	20.329	19.907	19.484	19.062	27.490	35'-10"
125NB	19.969	19.547	19.124	18.702	27.130	35'-10"

(1) REVISION TO NOTE NO. 4.
(2) REVISION TO NOTE NO. 4.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030878 JOHN M. JORDAN III

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 19
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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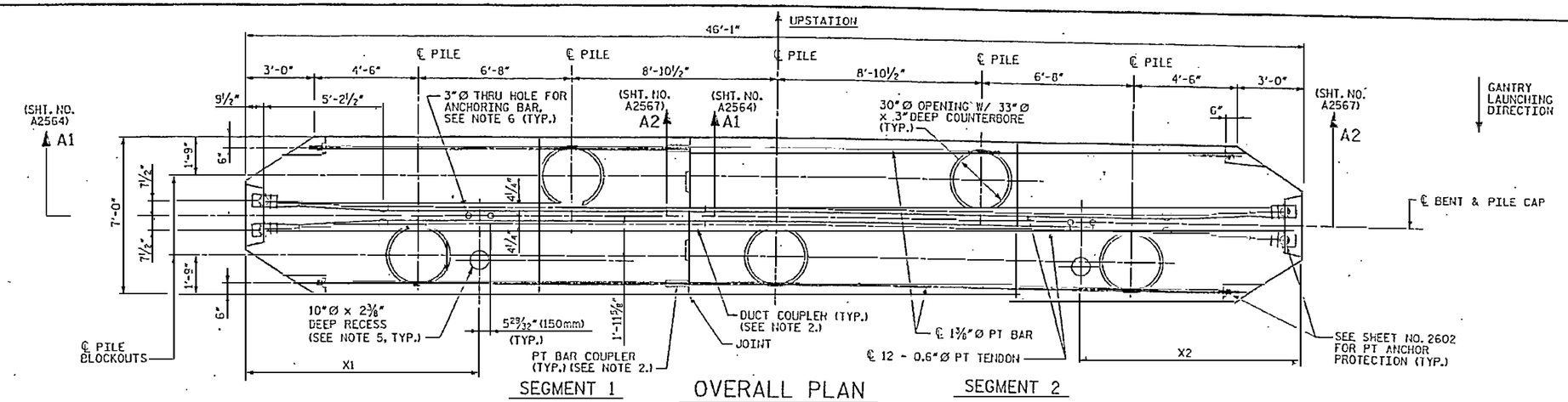
FLATIRON/UNITED
A JOINT VENTURE

NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	7/2/07	3		
2	MTB	10/16/07	4		

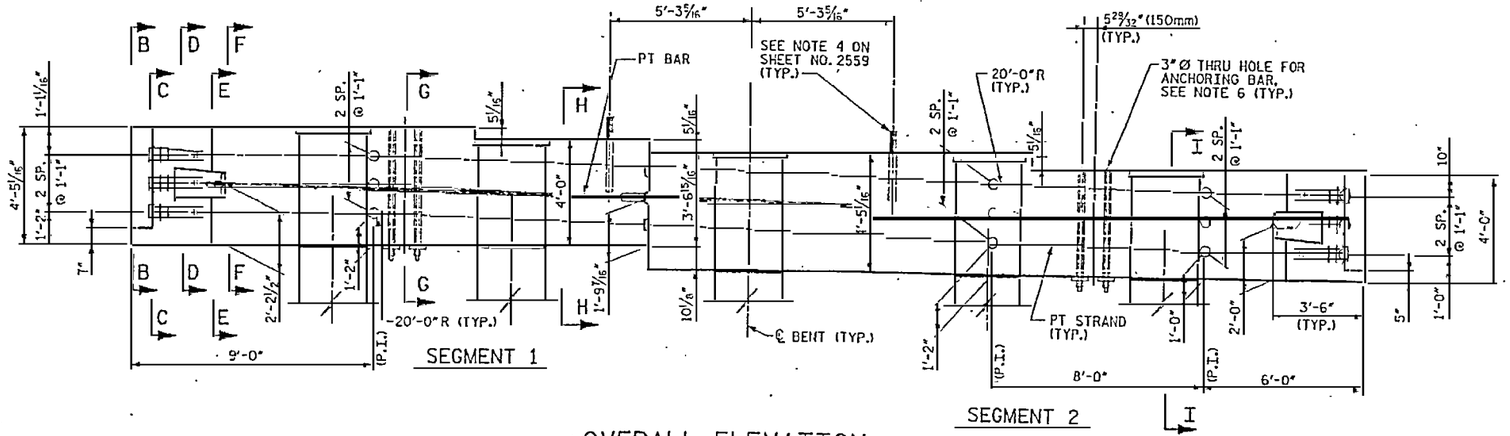
SHEET NO. 2559.02
TOTAL SHEETS

DRAWN BY : S. C. STREDNAK DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 10/31/2007
TIME: 12:56:4 PM
USER: ROBTHOMAS
DGN: ROBTHOMAS_NEW BRIDGES\R2510B_DSN_BENT_TYPE19.dgn

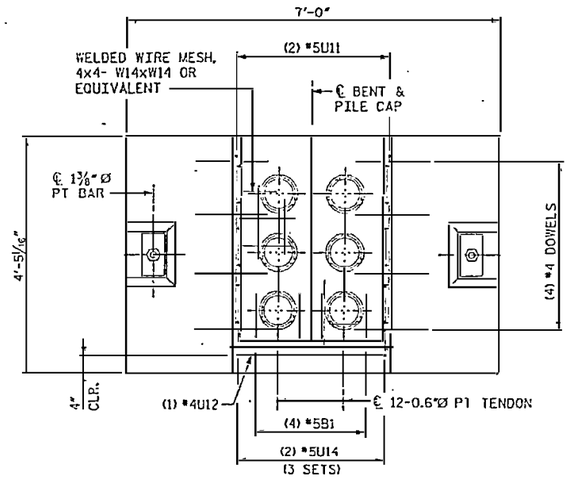


Bent No.	X1 (ft)	X2 (ft)
115NB	9'-9¼"	10'-2⅜"
116NB	9'-7⅜"	10'-0¼"
117NB	9'-7/16"	9'-8¹¹/16"
118NB	9'-8¼"	10'-1⁵/16"
119NB	9'-10⅜"	9'-11⅛"
120NB	9'-11¹¹/16"	10'-2⅝"
121NB	10'-0¹³/16"	9'-7⅜"
122NB	10'-0⅞"	9'-9⁵/16"
123NB	10'-0¹¹/16"	9'-10⅛"
124NB	10'-0¹¹/16"	9'-10⅛"
125NB	10'-0¹¹/16"	9'-10⅛"

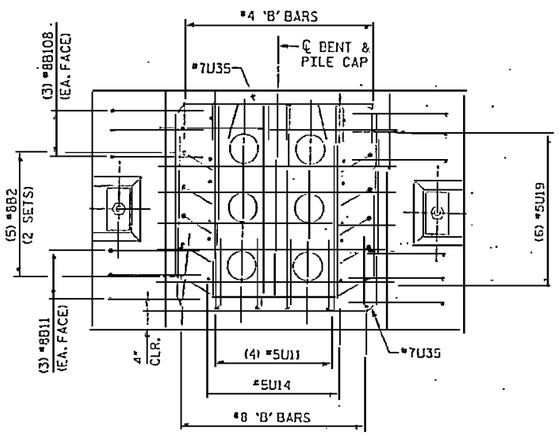


NOTES:

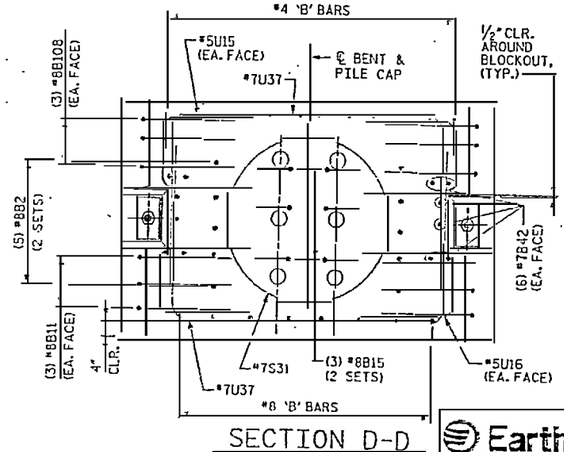
1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 19 IS USED AT BENT NOS. 115NB THRU 125NB.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. A2561. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.



SECTION B-B



SECTION C-C



SECTION D-D

OVERALL ELEVATION

DRAWN BY : S. C. STREDNAK DATE : 10/07
CHECKED BY : J. LEE DATE : 10/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/15/07 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER 038684 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 19
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2560.00
1			3			TOTAL SHEETS
2			4			

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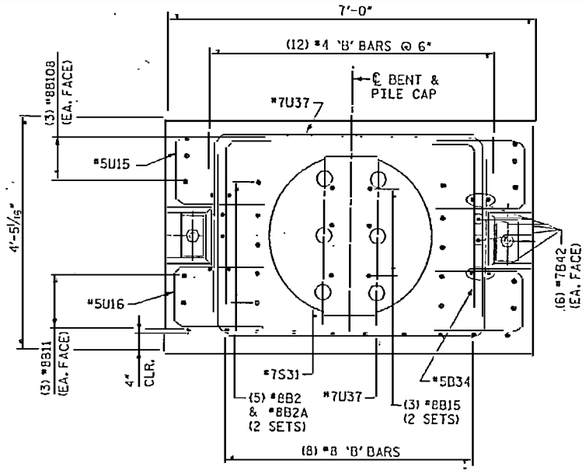
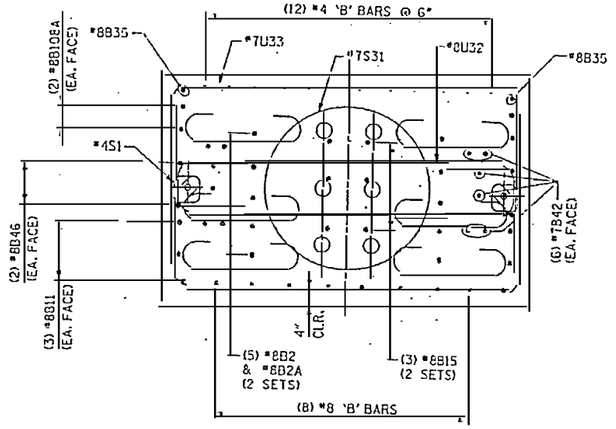
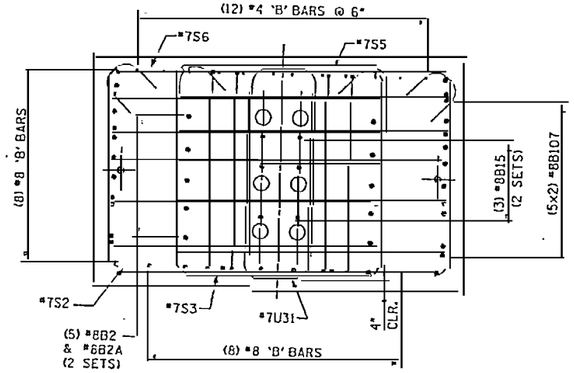


SECTION E-E

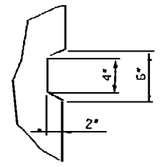


SECTION F-F

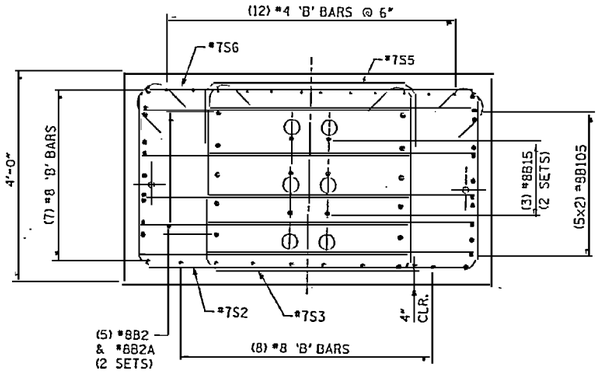


SECTION G-G

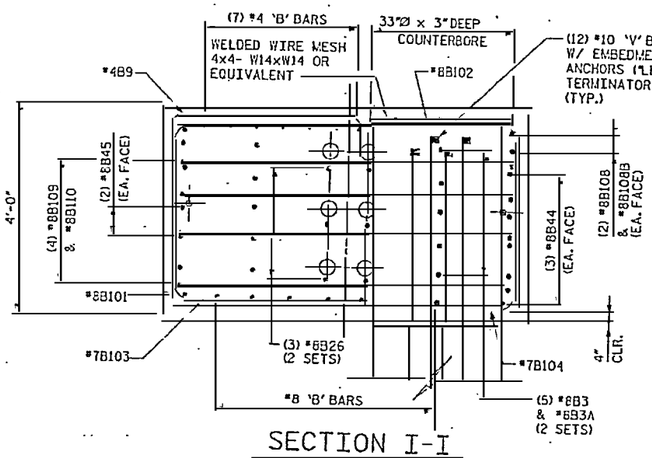
(ANCHORING BARS NOT SHOWN FOR CLARITY)



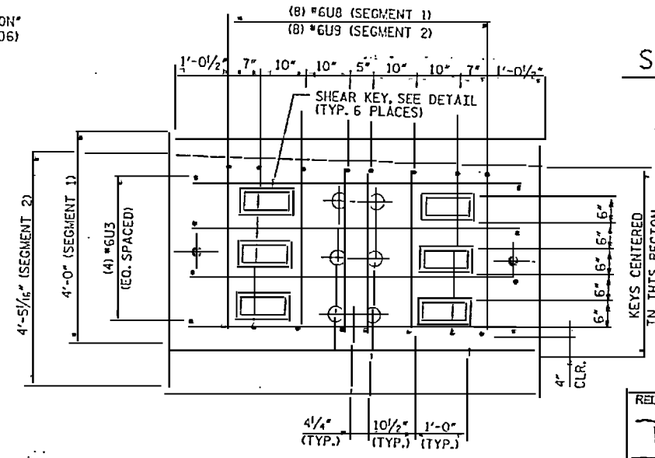
SHEAR KEY



SECTION H-H

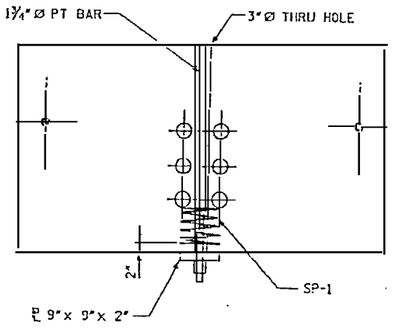


SECTION I-I



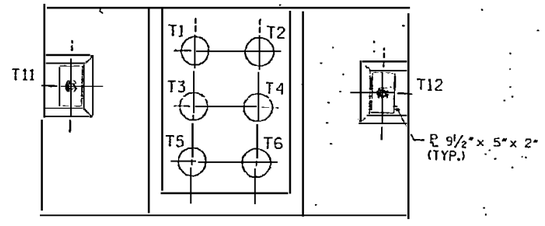
SECTION AT JOINT

(SEE SHEET NO. A2560)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3" Ø I.D. PVC PIPE)



TENDON LAYOUT

1. T11 AND T12 SHALL BE 1 3/8" Ø PT BARS AND T1 THRU T6 SHALL BE 12-06" Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 9
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 19
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. A2561.00
TOTAL SHEETS

DRAWN BY : S. G. STEPONAT DATE : 10/07
CHECKED BY : J. LTH DATE : 10/07

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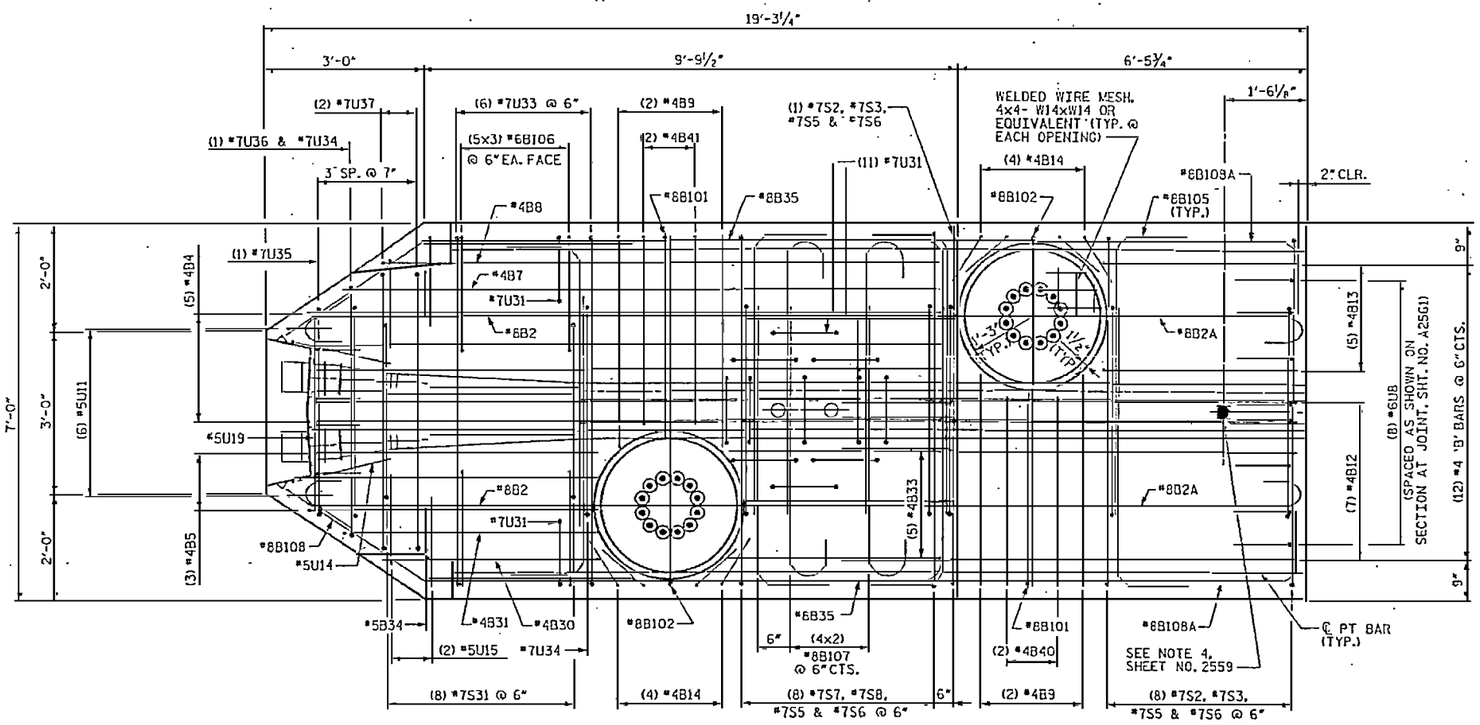
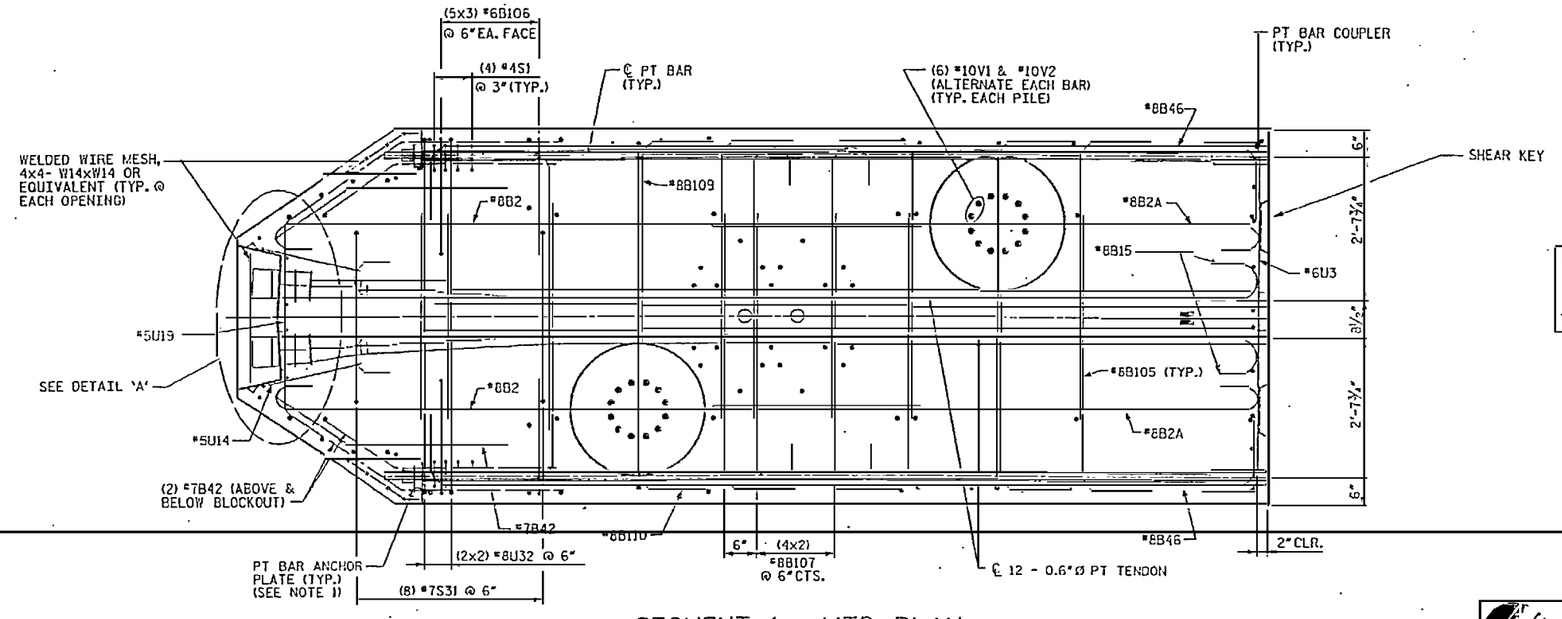
A JOINT VENTURE

DATE: 4/2/2008
FILE: BSD445.dgn

USER: scottbrook
DGN: Instruction sheet M:\projects\R2510B\SD\DSK_019-DETS.dgn



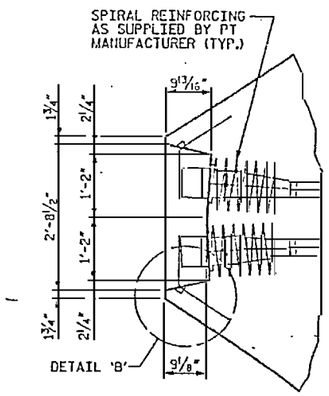
SEGMENT 1 - TOP PLAN



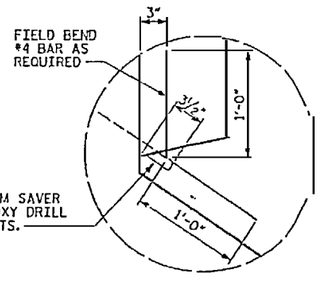
SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A



DETAIL 'B'

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/6/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE DETAILS~~
PILE CAP TYPE 19
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2562.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
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FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. C. STREDNAY DATE : 10/07
CHECKED BY : J. LIU DATE : 10/07

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PLOT DATE = 11/6/2007
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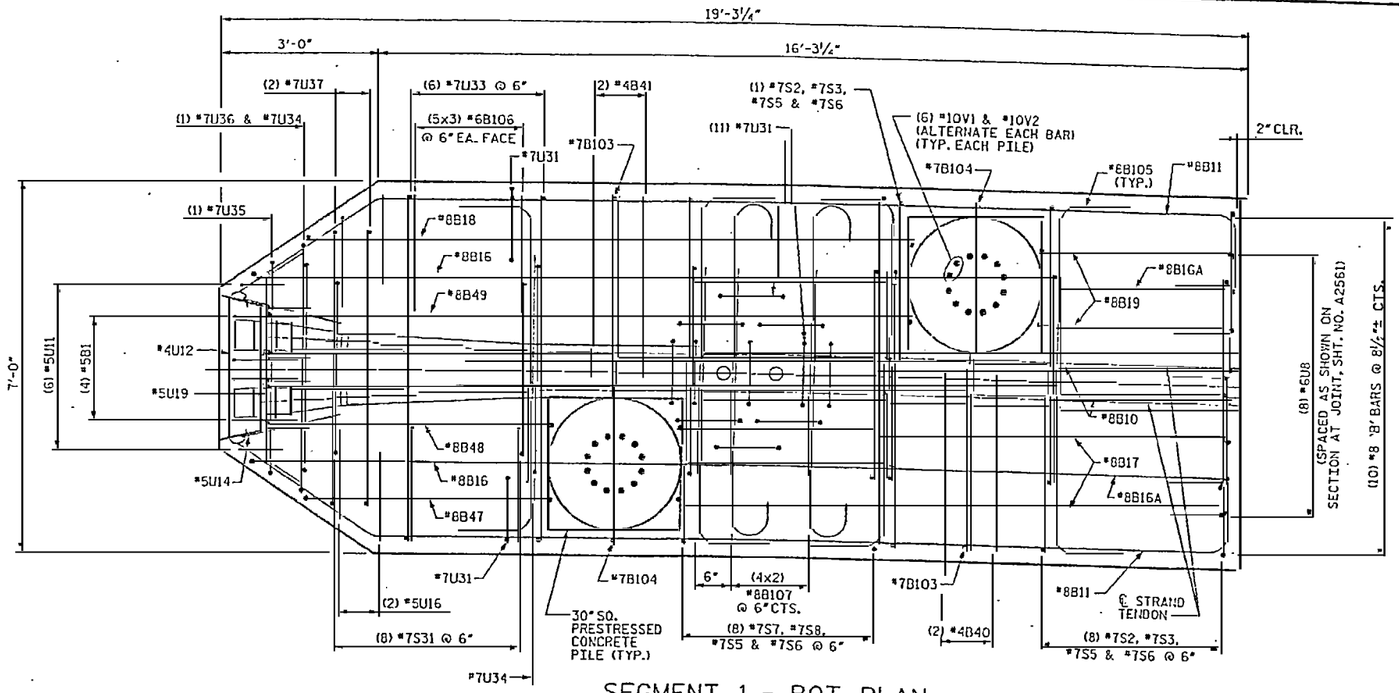
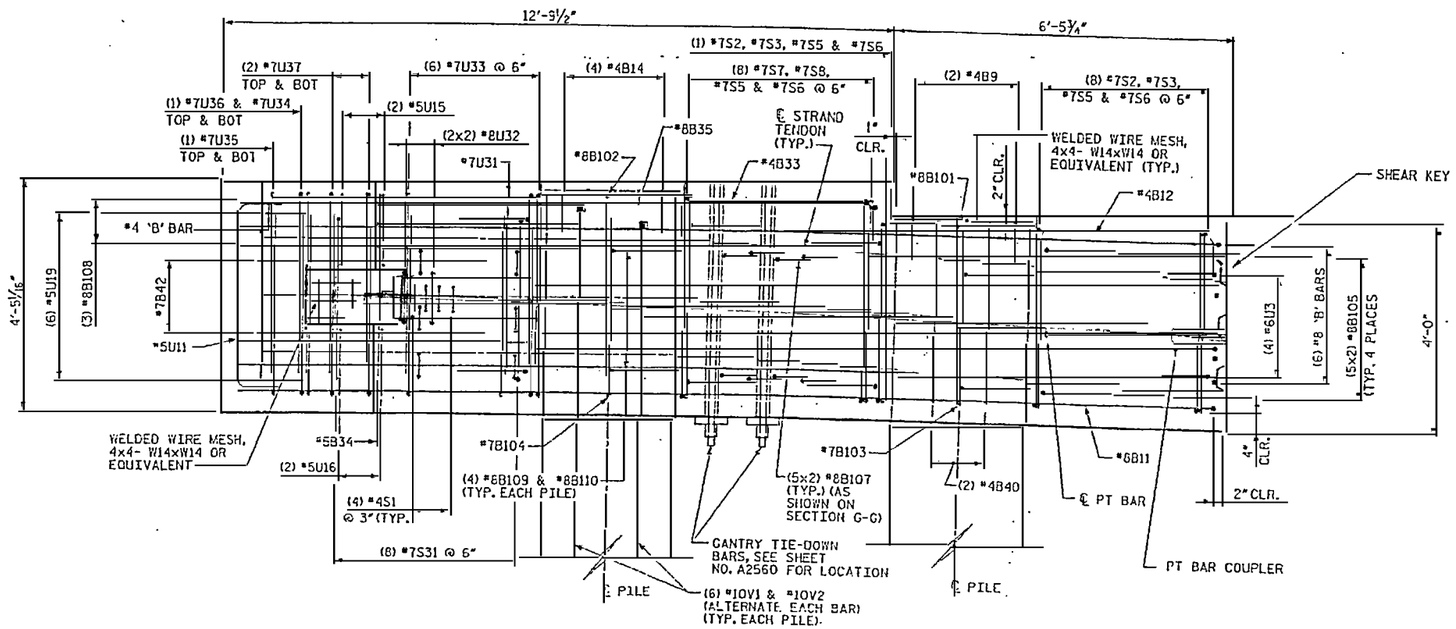


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/05/07

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036961 JOHN C. JORDAN

DRAWN BY : S. G. STRONAK DATE : 10/07
CHECKED BY : J. T. H. DATE : 10/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 9 BRIDGE NO. 353

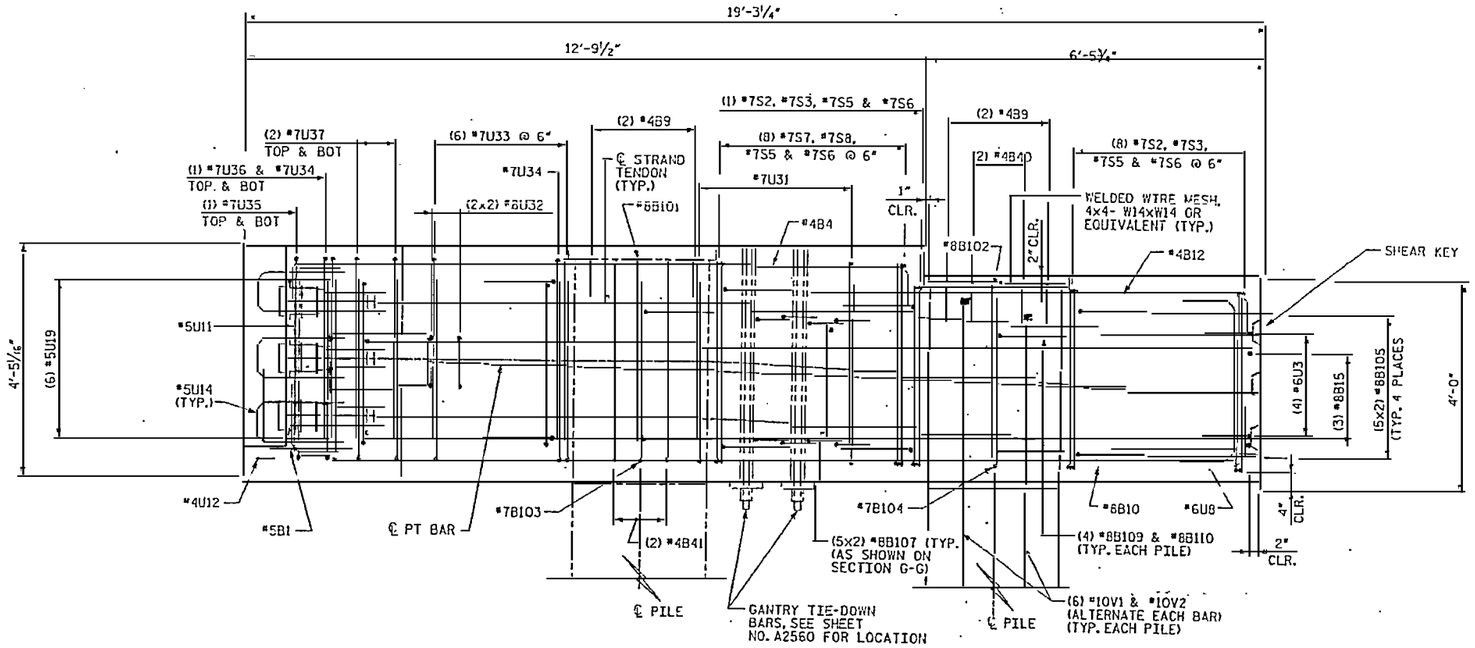
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 19
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2563.00
1			3			TOTAL SHEETS
2			4			

DATE: 9/21/2007
TIME: 10:44:56 AM

USER: estronak
DGN: Pile Cap Detail Sheets for BYS-0574-Opt



SEGMENT 1 - SECTION A1

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DATE: 11/21/2007
TIME: 10:56:40 AM

USER: scottstreitmatter
DGN: I:\structures\bridge\R2510B\SHEETS\B1S_PTB-CTS01.dgn

DRAWN BY : S. C. STREITMAT DATE : 10/07
CHECKED BY : J. LIU DATE : 10/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/15/07 DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030478 JOHN W. JORDAN

EarthTech
A Tyco International Ltd. Company

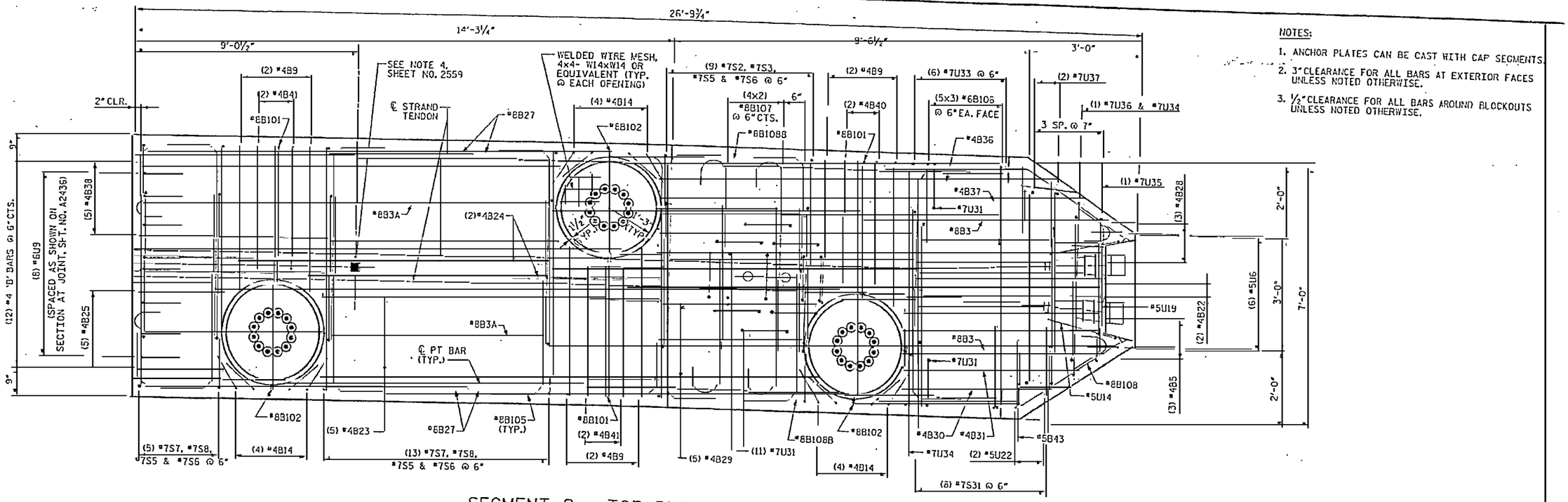
FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 19
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

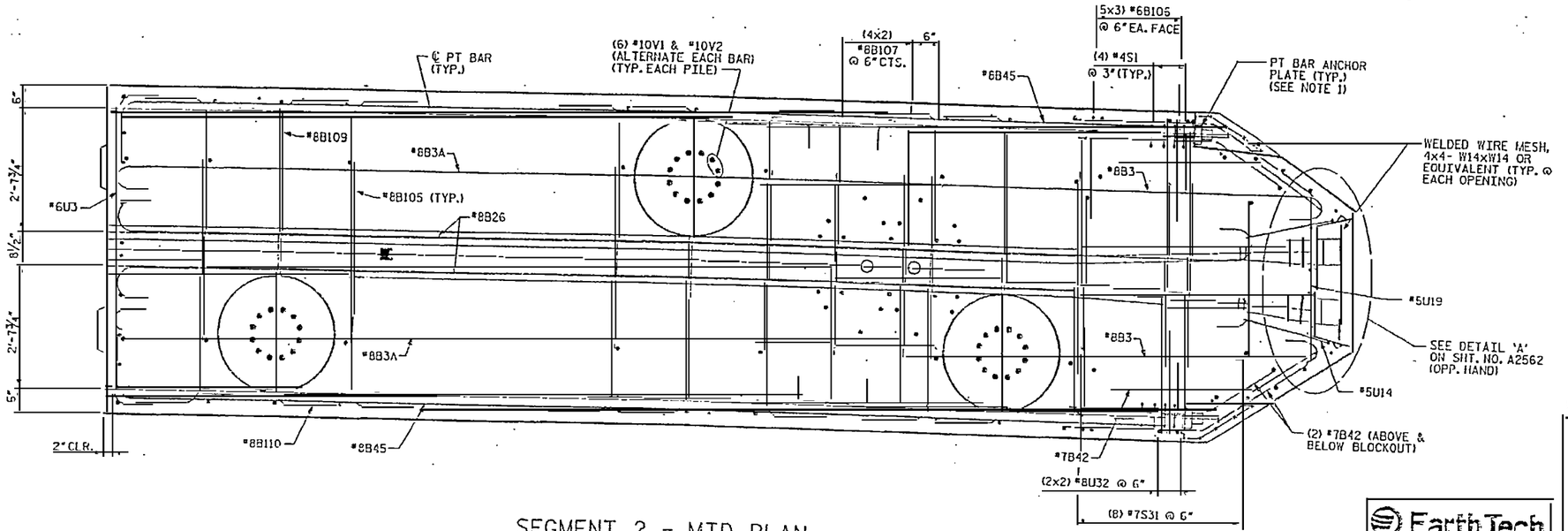
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2564.00
1			3			TOTAL SHEETS
2			4			



SEGMENT 2 - TOP PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - MID PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 6 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 19
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2565.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STEDNAK DATE : 10/07
CHECKED BY : J. LIU DATE : 10/07

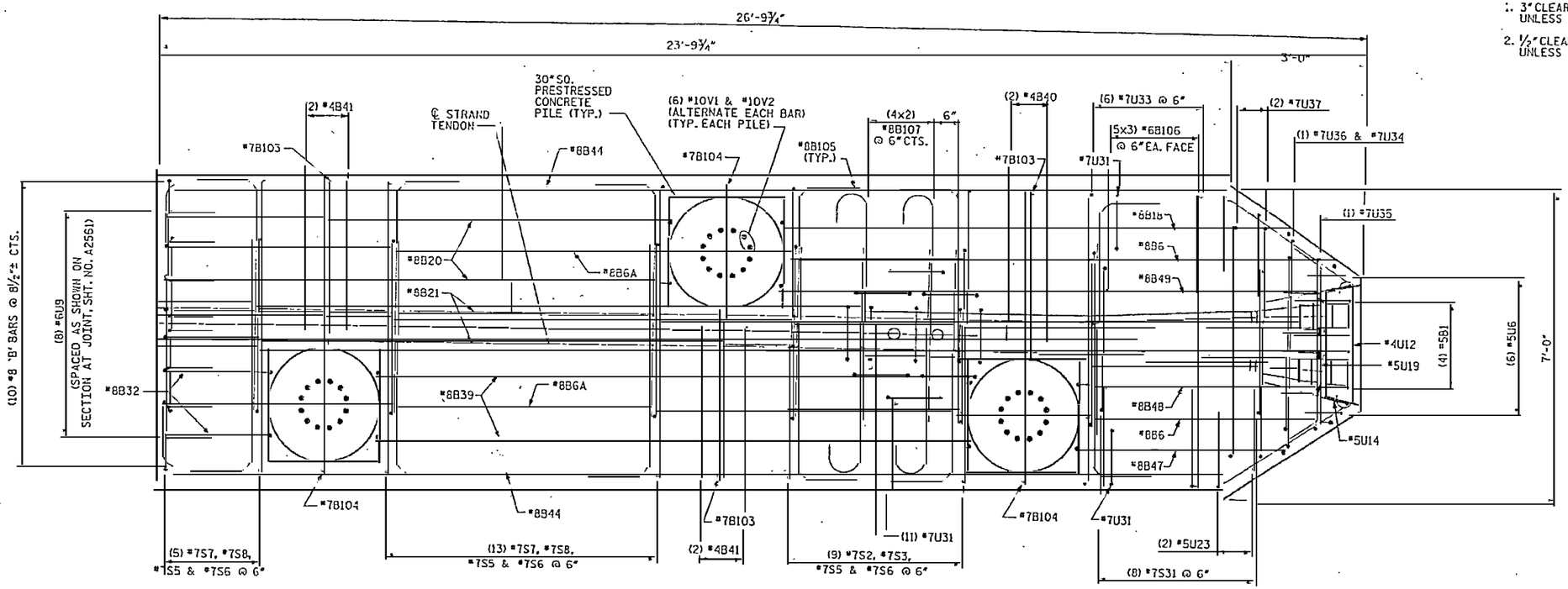
EarthTech
A Tyco International LTD Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 11/2/2007
TIME: 10:53:18 AM
USER: mcarter1
DGN: M:\Projects\R2510B\Structure\R2510B_STD_DSN_BRTP_PCTD1.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - BOT PLAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/05/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 7 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE DETAILS~~
PILE CAP TYPE 19
FOR BRIDGE ON US17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2566.00
1			3			TOTAL SHEETS
2			4			

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. C. STEDNAY DATE : 10/07
CHECKED BY : J. LIU DATE : 10/07

11/5/2007 11:55:38 AM
USER: sstednay
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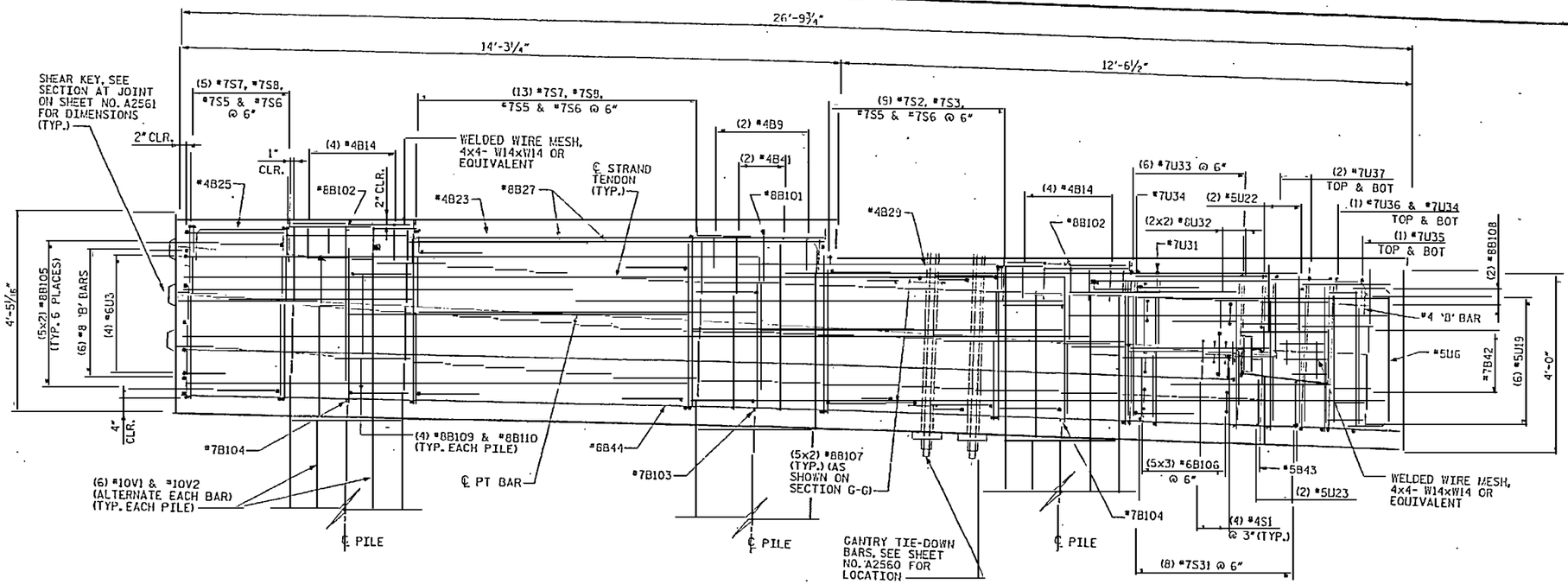
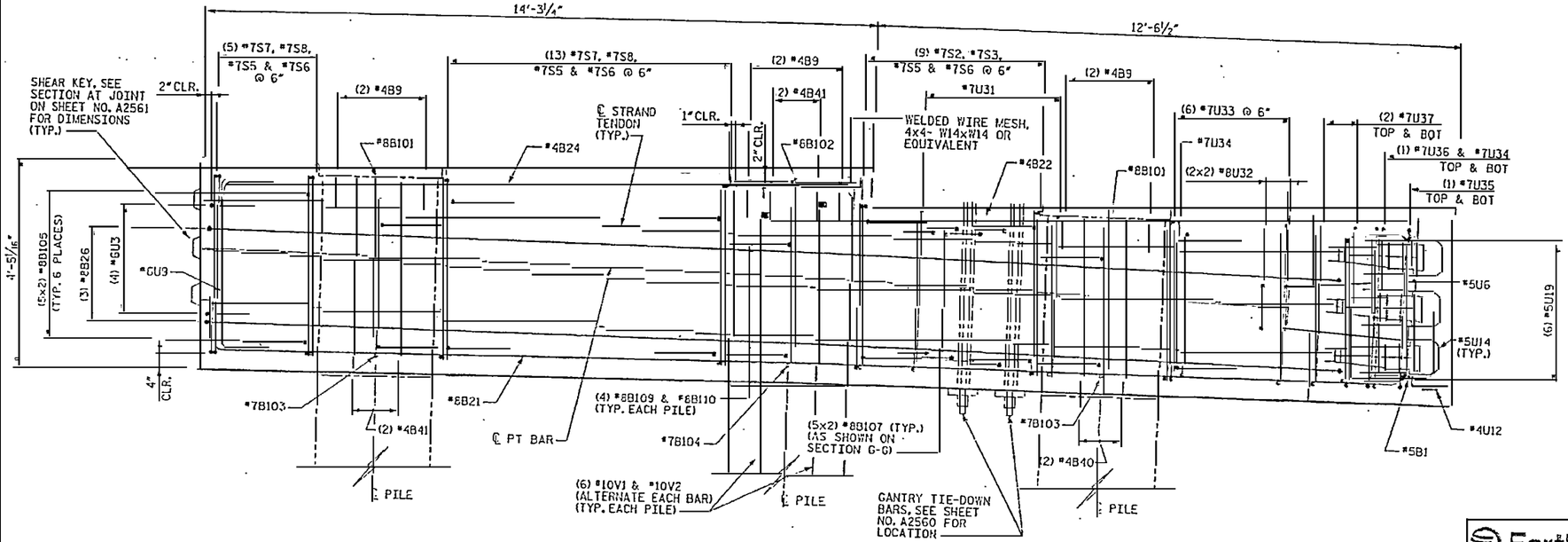


SEGMENT 2 - ELEVATION



SEGMENT 2 - SECTION A2

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/6/07
TOM SHEARN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 19
FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

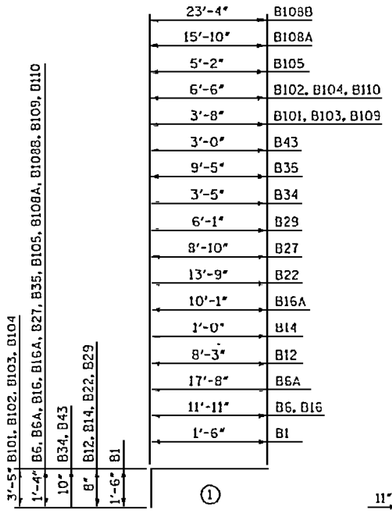
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	A2567.00
1			3			TOTAL SHEETS
2			4			

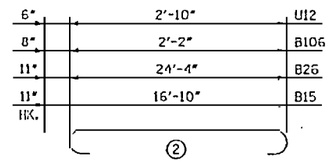
DRAWN BY : S. G. STEDMAN DATE : 10/07
CHECKED BY : J. LIU DATE : 10/07

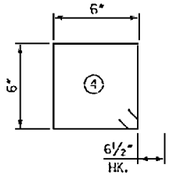
EarthTech A Tyco International Ltd. Company
FLATIRON/UNITED A JOINT VENTURE

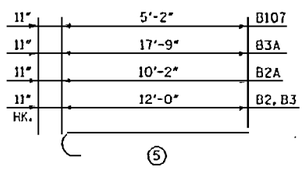
DGN: pwfarmer
DATE: 11/2/2007
TIME: 10:25:38 AM

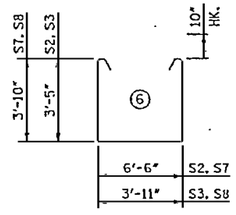
BAR TYPES

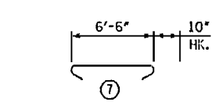


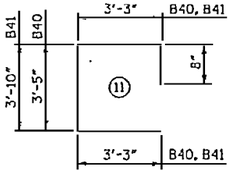


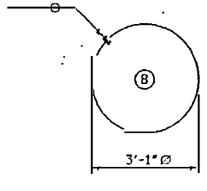


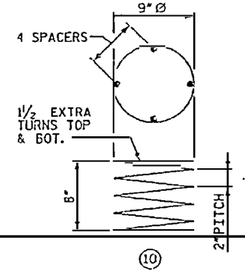


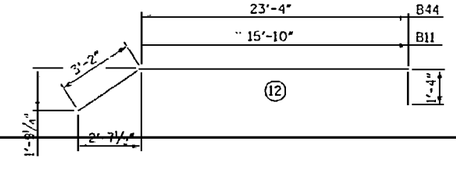


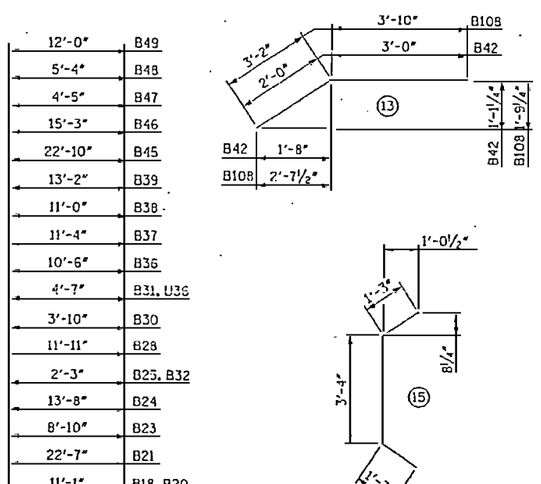


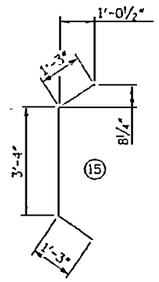












ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : S. G. STRICKNAR DATE : 9/07
CHECKED BY : J. LIU DATE : 9/07

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	5	(1)	3'-0"	25
B2	10	8	(5)	12'-11"	345
B2A	10	8	(5)	11'-1"	296
B3	10	8	(5)	12'-11"	345
B3A	10	8	(5)	18'-8"	498
B4	5	4	(3)	12'-10"	43
B5	6	4	(3)	6'-7"	26
B6	2	8	(1)	13'-3"	71
B6A	2	8	(1)	19'-0"	101
B7	1	4	(3)	12'-2"	8
B8	1	4	(3)	11'-5"	8
B9	10	4	(3)	5'-3"	35
B10	2	8	(3)	20'-9"	111
B11	6	8	(12)	20'-4"	326
B12	7	4	(1)	8'-11"	42
B13	5	4	(3)	4'-11"	16
B14	20	4	(1)	1'-8"	22
B15	6	8	(2)	18'-8"	299
B16	2	8	(1)	13'-3"	71
B16A	2	8	(1)	11'-5"	61
B17	2	8	(3)	12'-11"	69
B18	2	8	(3)	13'-9"	73
B19	2	8	(3)	6'-3"	33
B20	2	8	(3)	13'-9"	73
B21	2	8	(3)	25'-3"	135
B22	2	4	(1)	14'-5"	19
B23	5	4	(3)	10'-2"	34
B24	2	4	(3)	15'-0"	20
B25	5	4	(3)	3'-7"	12
B26	6	8	(2)	26'-2"	419
B27	4	8	(1)	10'-2"	109
B28	3	4	(3)	13'-3"	27
B29	5	4	(1)	6'-9"	23
B30	2	4	(3)	5'-2"	7
B31	2	4	(3)	5'-11"	8
B32	2	8	(3)	4'-11"	26
B33	5	4	(3)	4'-11"	16
B34	2	5	(1)	4'-3"	9
B35	2	8	(1)	10'-9"	57
B36	1	4	(3)	11'-10"	8
B37	1	4	(3)	12'-8"	8
B38	5	4	(3)	12'-4"	41
B39	2	8	(3)	15'-10"	85
B40	4	4	(11)	10'-7"	28
B41	6	4	(11)	11'-0"	44
B42	24	7	(13)	5'-0"	245
B43	2	5	(1)	3'-10"	8
B44	6	8	(12)	27'-10"	446
B45	4	8	(3)	25'-6"	272
B46	4	8	(3)	17'-11"	191
B47	2	8	(3)	7'-1"	38
B48	2	8	(3)	8'-0"	43
B49	2	8	(3)	14'-8"	78
B101	5	8	(1)	7'-1"	95
B102	5	8	(1)	9'-11"	132
B103	5	7	(1)	7'-1"	72
B104	5	7	(1)	9'-11"	101
B105	100	6	(1)	6'-6"	1736
B106	60	6	(2)	3'-6"	315
B107	80	8	(5)	6'-1"	1299
B108	10	8	(13)	7'-0"	187
B108A	4	8	(1)	17'-2"	183
B108B	4	8	(1)	24'-8"	263
B109	20	8	(1)	5'-0"	267
B110	20	8	(1)	7'-10"	418

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	4	(4)	3'-1"	33
S2	18	7	(6)	15'-0"	552
S3	18	7	(6)	12'-5"	457
S5	44	7	(3)	6'-3"	562
S6	44	7	(7)	8'-2"	734
S7	26	7	(6)	15'-10"	841
S8	26	7	(6)	13'-3"	704
S31	16	7	(8)	9'-5"	308
U3	8	6	(3)	8'-4"	100
U6	6	5	(3)	4'-11"	31
U8	8	6	(3)	5'-3"	63
U9	8	6	(3)	5'-8"	68
U11	6	5	(3)	5'-4"	33
U12	2	4	(2)	3'-10"	5
U14	12	5	(3)	4'-10"	60
U15	4	5	(3)	3'-0"	13
U16	4	5	(3)	2'-11"	12
U19	12	5	(15)	5'-10"	73
U22	4	5	(3)	2'-10"	12
U23	4	5	(3)	2'-8"	11
U31	52	7	(3)	7'-8"	815
U32	8	8	(3)	11'-4"	242
U33	24	7	(3)	12'-11"	634
U34	8	7	(3)	10'-4"	169
U35	4	7	(3)	10'-2"	83
U36	4	7	(3)	11'-0"	90
U37	8	7	(3)	11'-5"	187
SP-1	4	#4	00	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/05/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 9 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
~~ALTERNATE~~ DETAILS
PILE CAP TYPE 19
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	R2568.00
1			3			TOTAL SHEETS
2			4			

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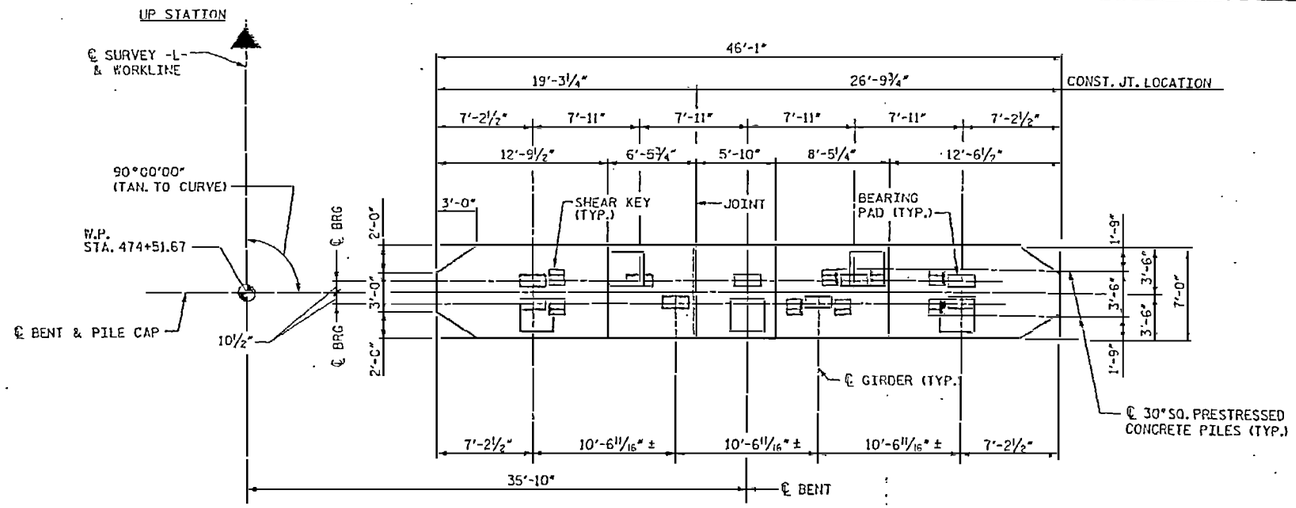
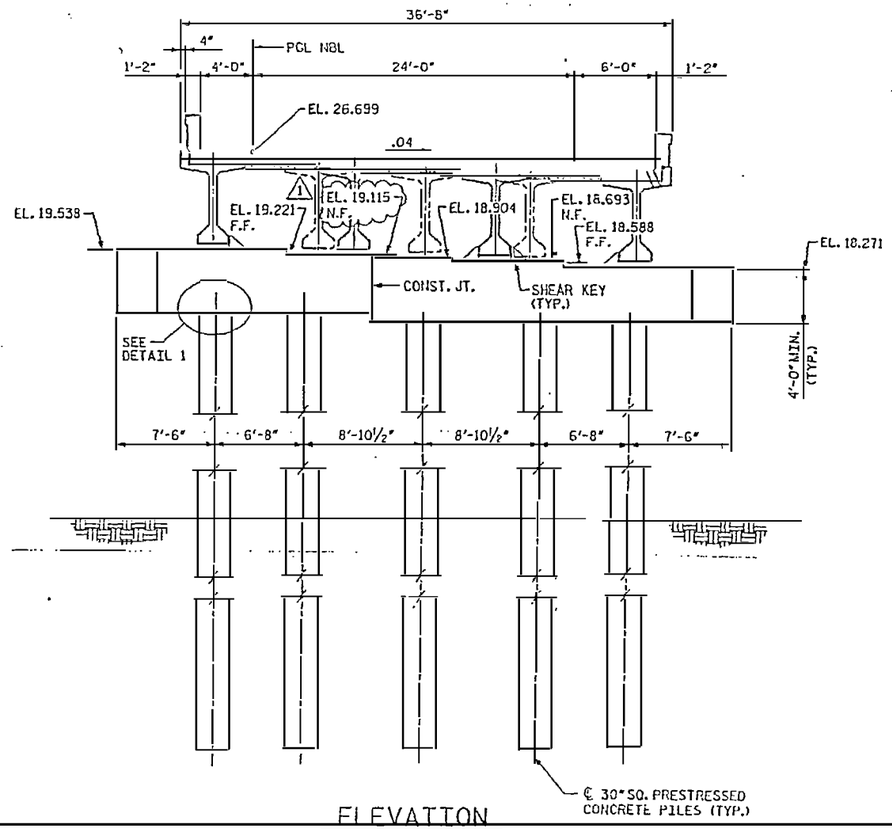
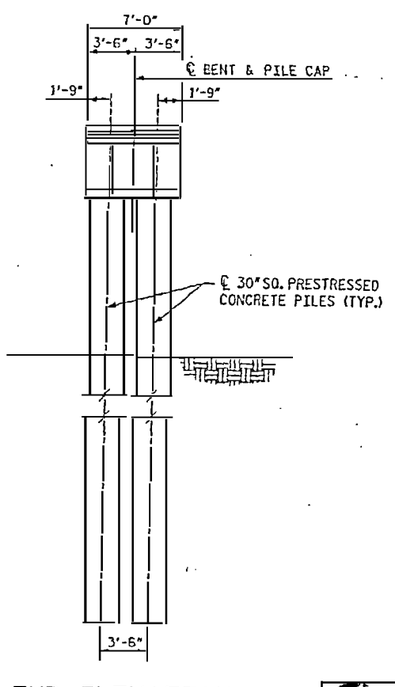


PLAN



ELEVATION
(BENT 126NB)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1 AND SHEAR KEY.
5. PROVIDE AN EPOXY PROTECTIVE COATING ON BENT CAP. SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

⚠1 REVISION TO ELEVATION.

RELEASED FOR CONSTRUCTION
Tom Shearin 10/24/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030891 10/25/07 JOHN W. JORDAN, III

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DIMENSIONS - BENT TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2569.01
1	MTB	10/16/07				TOTAL SHEETS
2						

DRAWN BY : S. G. STREDNAK DATE : 10/06
CHECKED BY : J. LIU DATE : 10/06

DATE: 10/23/2007
TIME: 3:26:25 PM

USER: mstredna
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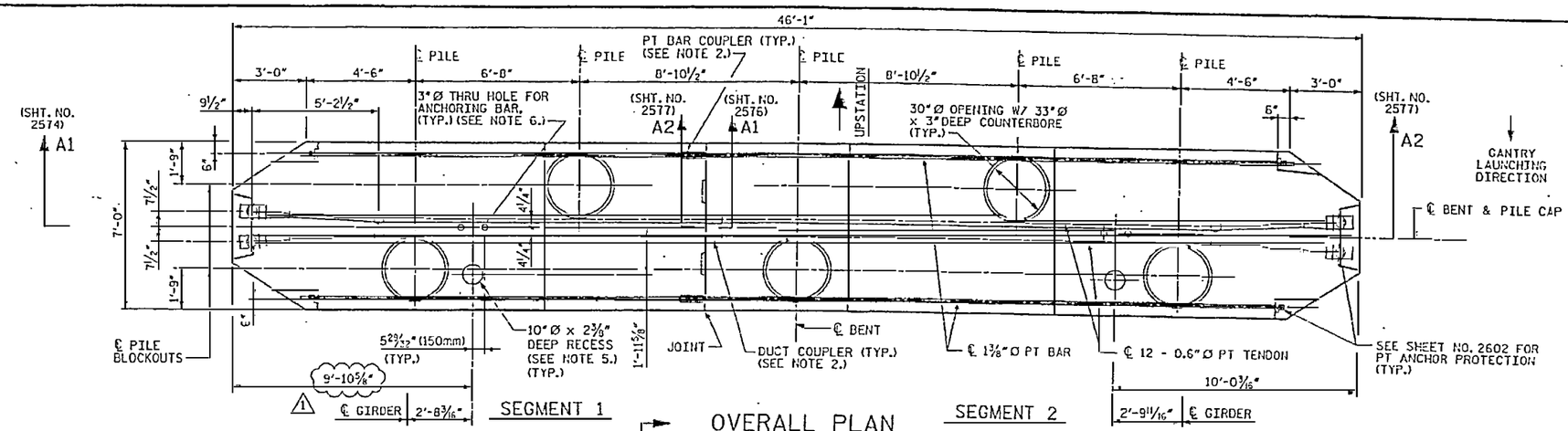
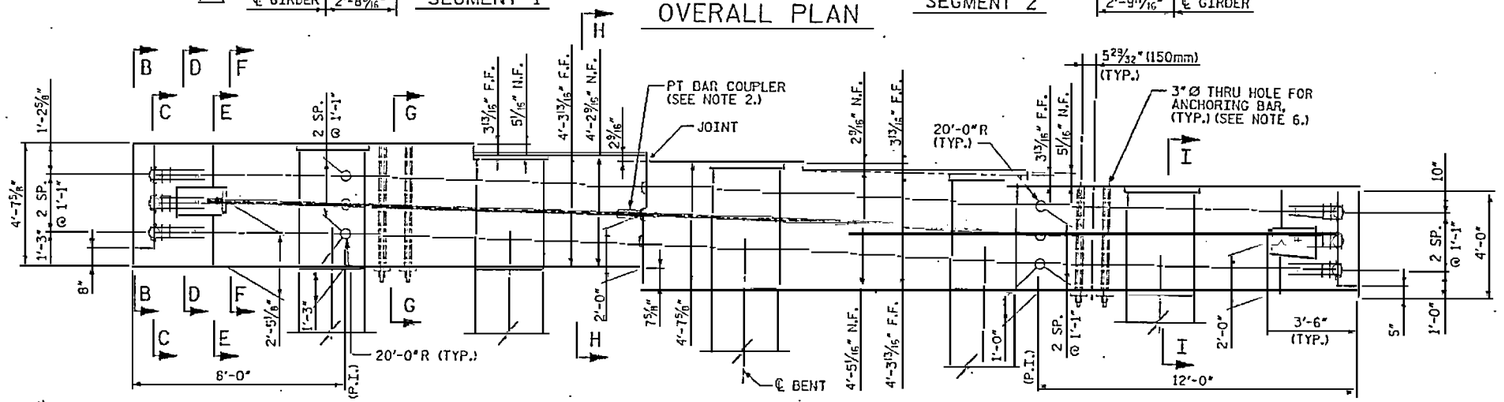
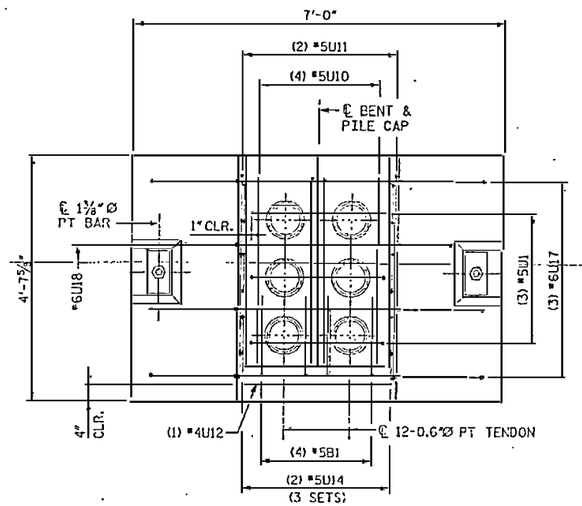


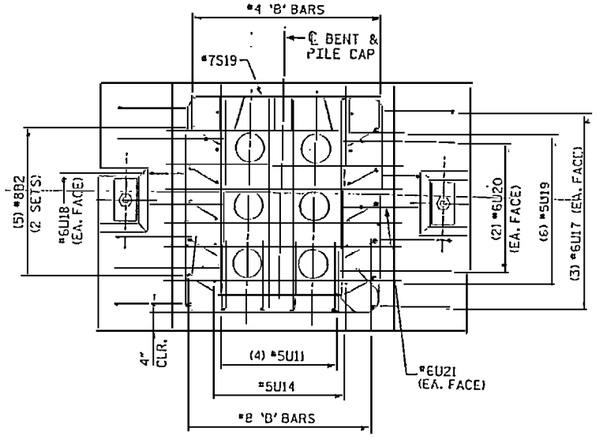


NOTES:

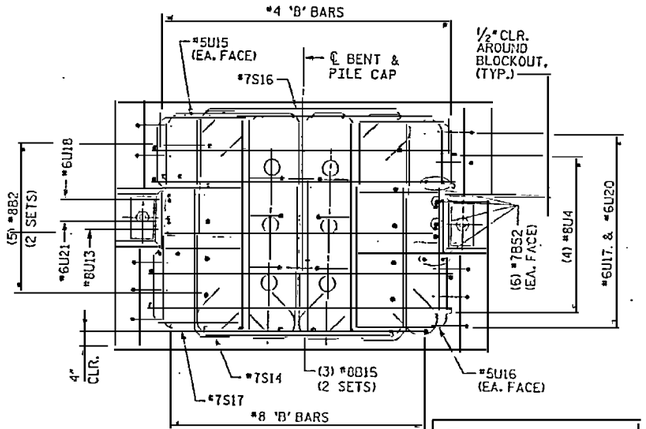
1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 20 IS USED AT BENT NO. 126NB.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE CAP ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. 2571. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.



SECTION B-B



SECTION C-C



SECTION D-D

DRAWN BY : K. CAMERON DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 10/16/07 DATE

⚠1 REVISION TO SEGMENT 1.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

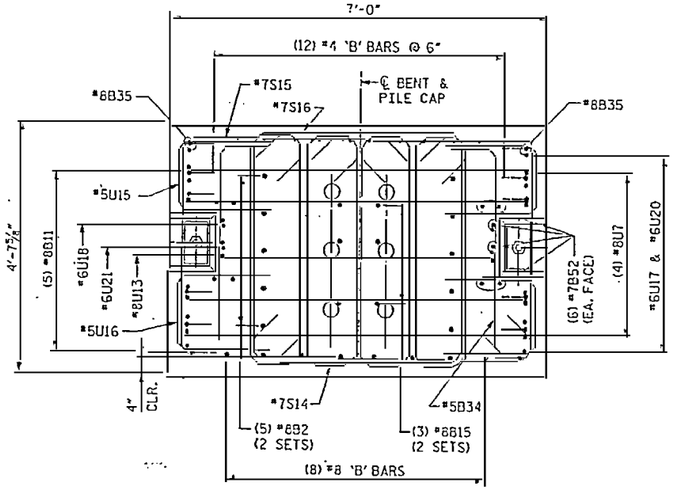
DETAILS - PILE CAP TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2570.01
1	MTU	10/16/07	3			TOTAL SHEETS
2			4			

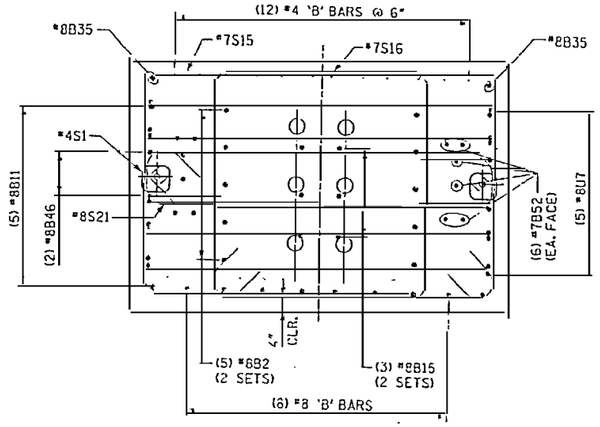
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

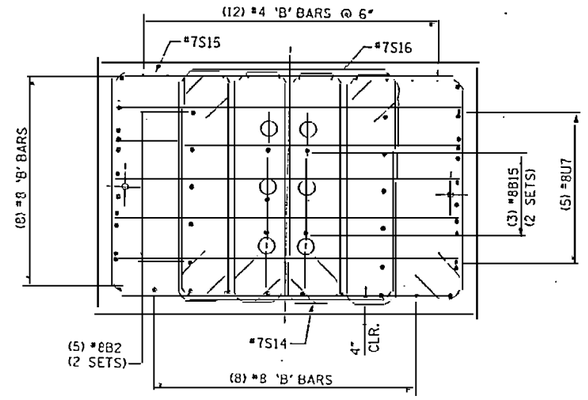
DATE: 10/19/2007
TIME: 3:29:54 PM
USER: mturnwall
File: n:\structures\projects\r-2510b\std-det\pc20_std-det1.dgn



SECTION E-E

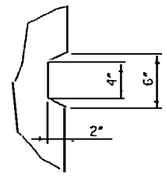


SECTION F-F

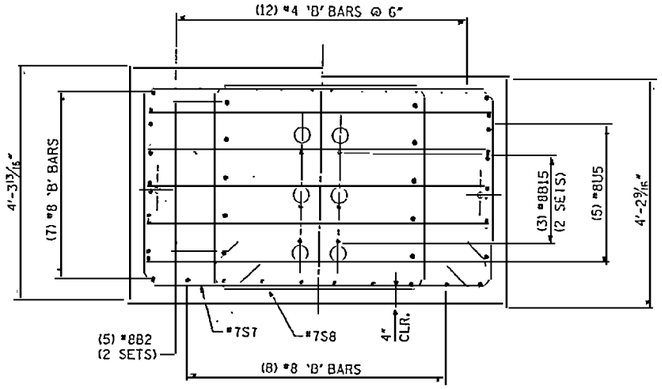


SECTION G-G

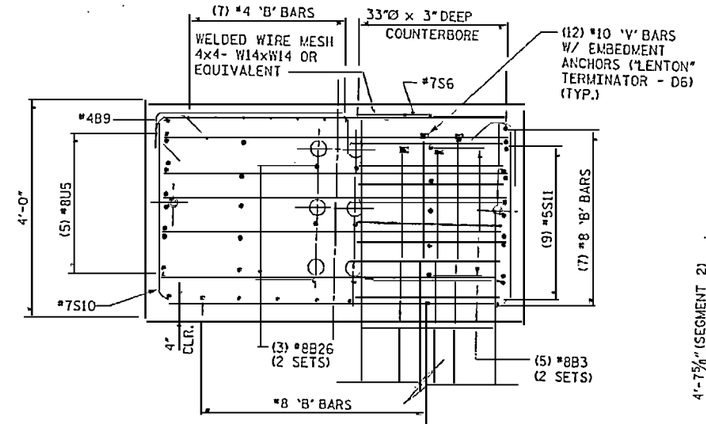
(ANCHORING BARS NOT SHOWN FOR CLARITY)



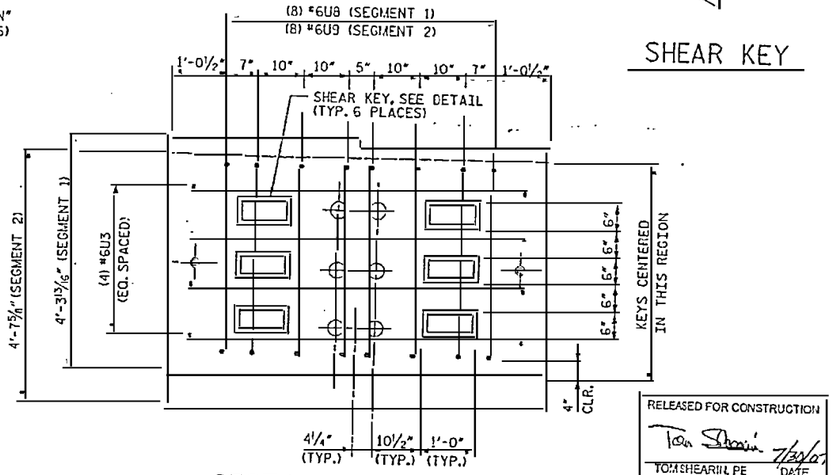
SHEAR KEY



SECTION H-H

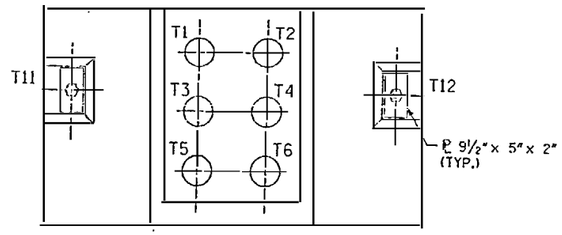


SECTION I-I



SECTION AT JOINT

(SEE SHEET NO. 2570)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)

TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-0.6"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 7/30/07 DATE

⚠ REVISION TO "TENDON LAYOUT", NOTE NO. 1.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 2 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2571.01
1	MTB	7/2/07	3			TOTAL SHEETS
2			4			

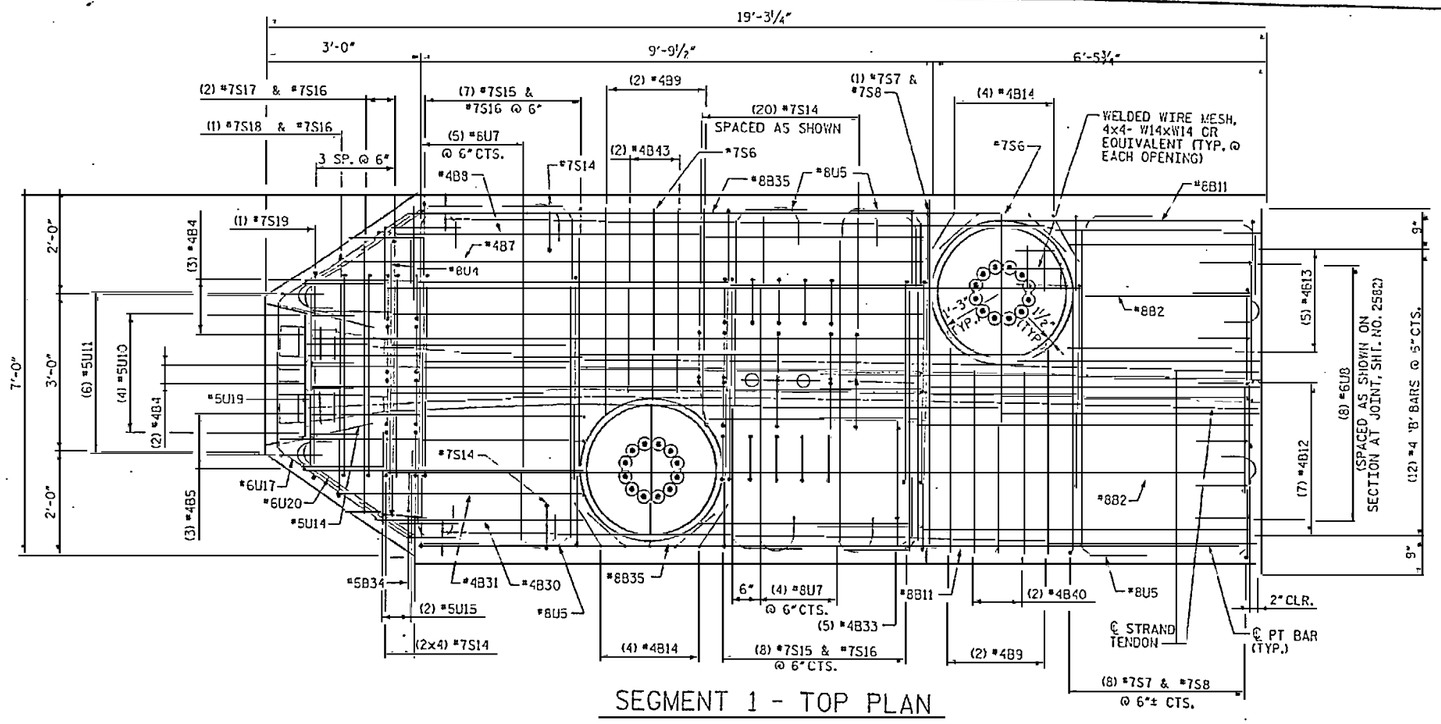
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

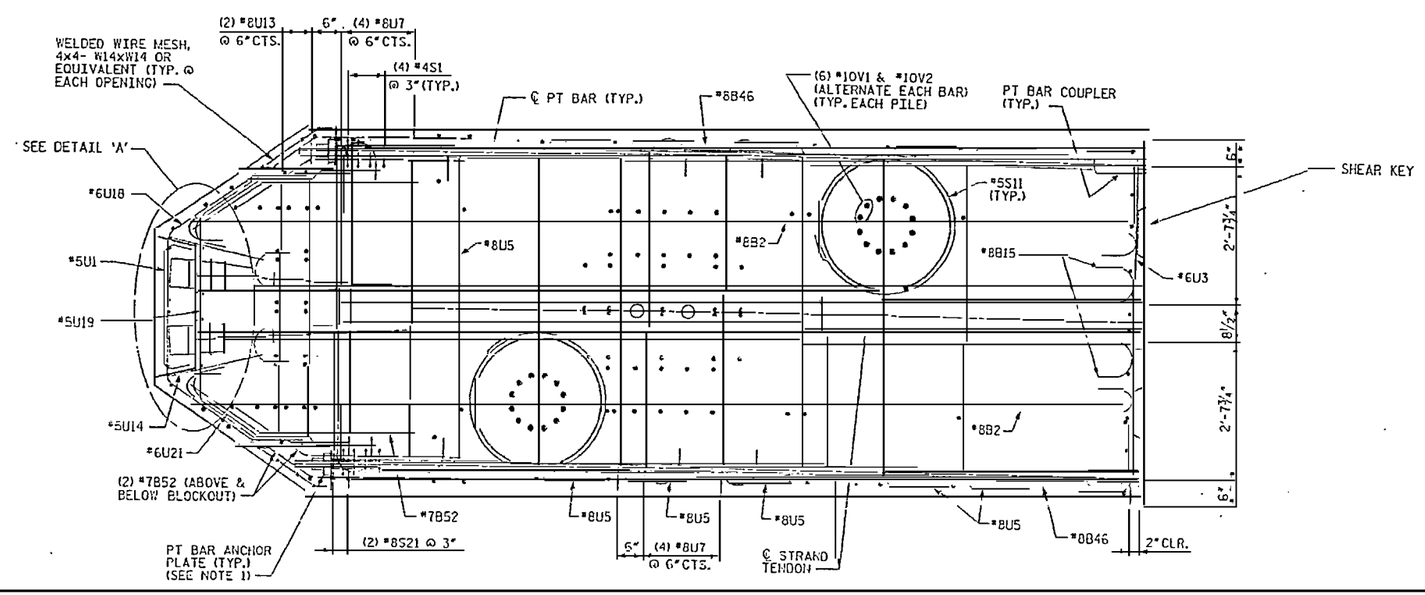
DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J. LTG DATE : 5/07

DATE: 7/12/2007
TIME: 08:57 AM

USER: mtbelisle
DGN: Roadway\Str Plan Bridge\CAD\R2510_STR01_CT2.dgn



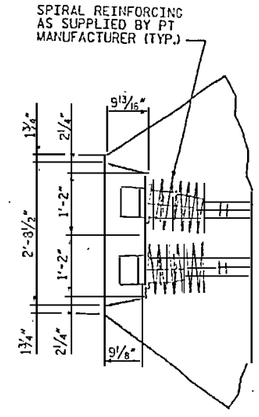
SEGMENT 1 - TOP PLAN



SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 9 BRIDGE NO. 351

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

~~DETAILS - BENT CAP TYPE 2C~~
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2572.00

TOTAL SHEETS

RELEASED FOR CONSTRUCTION
6/15/07
TOM SHEARIN, PE DATE

Earth Tech
A Tyco International LTD Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : K. CAMERON DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

DATE: 6/14/2007 TIME: 04:58:58 PM
USER: rcameron
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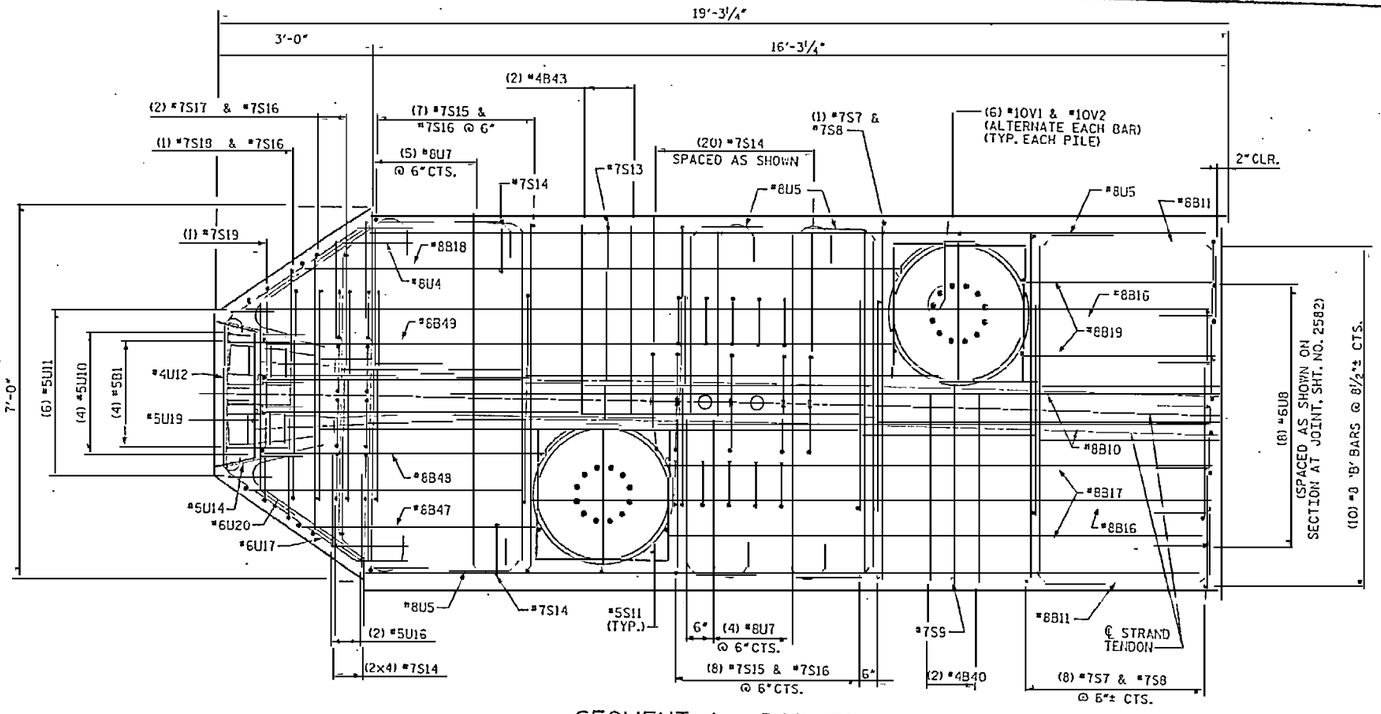
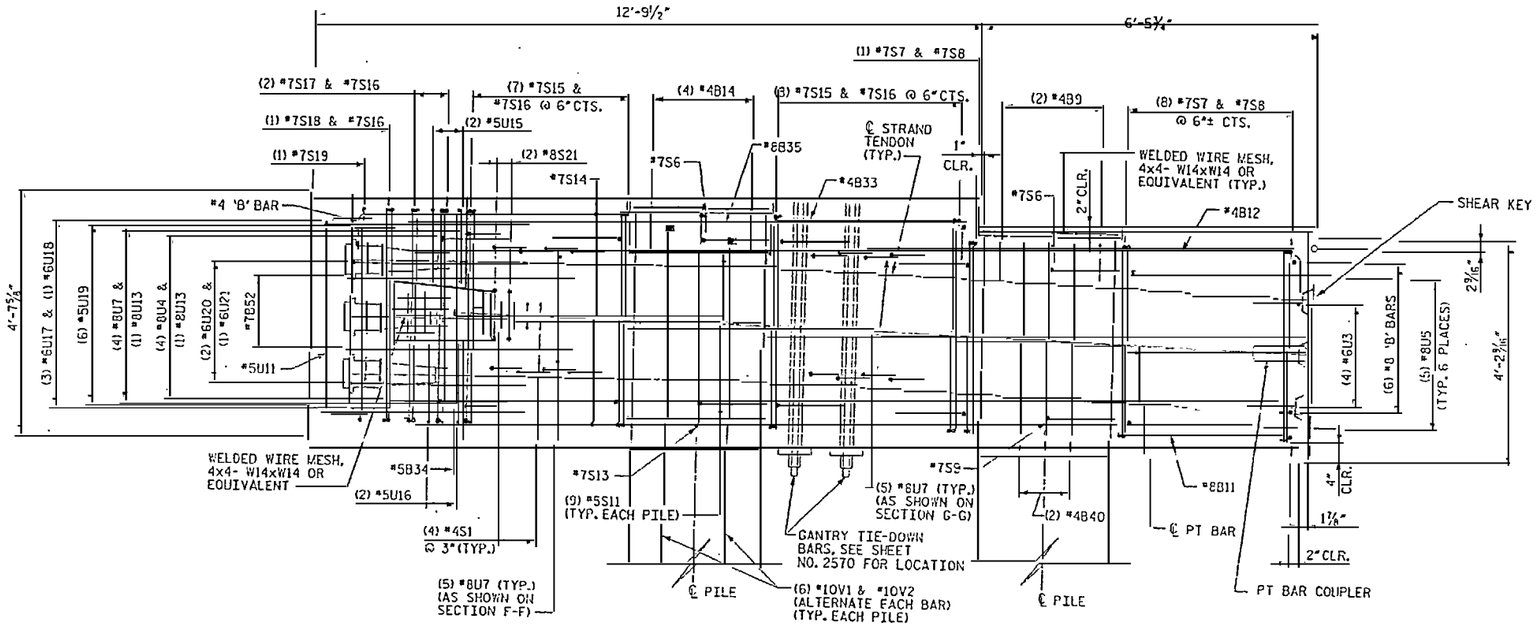


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. 1½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

NORTH CAROLINA PROFESSIONAL SEAL 029834 ENGINEER JOHN W. JORDAN IV

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 20 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/07 DATE

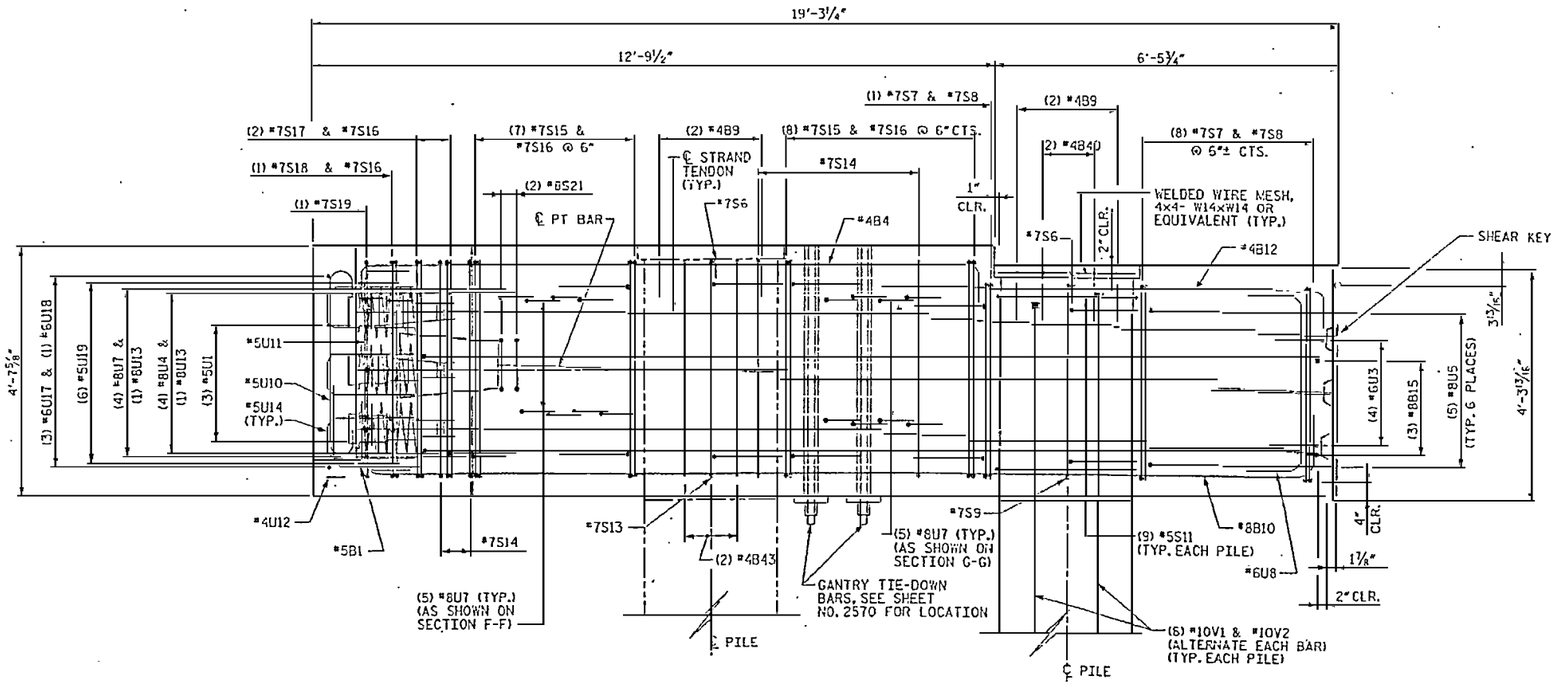
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2573.00
3			6			TOTAL SHEETS
2			4			

DRAWN BY : K. CAMERON DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

USER: mwang
DGN: R:\Structures\Var Files\CADD\R2510B_SOLN_BT2-DET1.dgn
DATE: 6/14/2007
TIME: 3:46:23 PM



SEGMENT 1 - SECTION A1

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

DATE PLOTTED: 5/16/2007 7:14
USER NAME: kcameron
DGN: K:\Projects\R-2510B\Bridge\Bridge02\Segment1\Segment1_Details_Pile_Cap_Type_20.dgn

DRAWN BY : K. CAMERON DATE : 3/07
CHECKED BY : A.L.T.W. DATE : 3/07

RELEASED FOR CONSTRUCTION
Tom Shearin 6/5/07
TOM SHEARIN, PE DATE

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FLATIRON/UNITED
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030678 JOHN N. JORDAN III

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

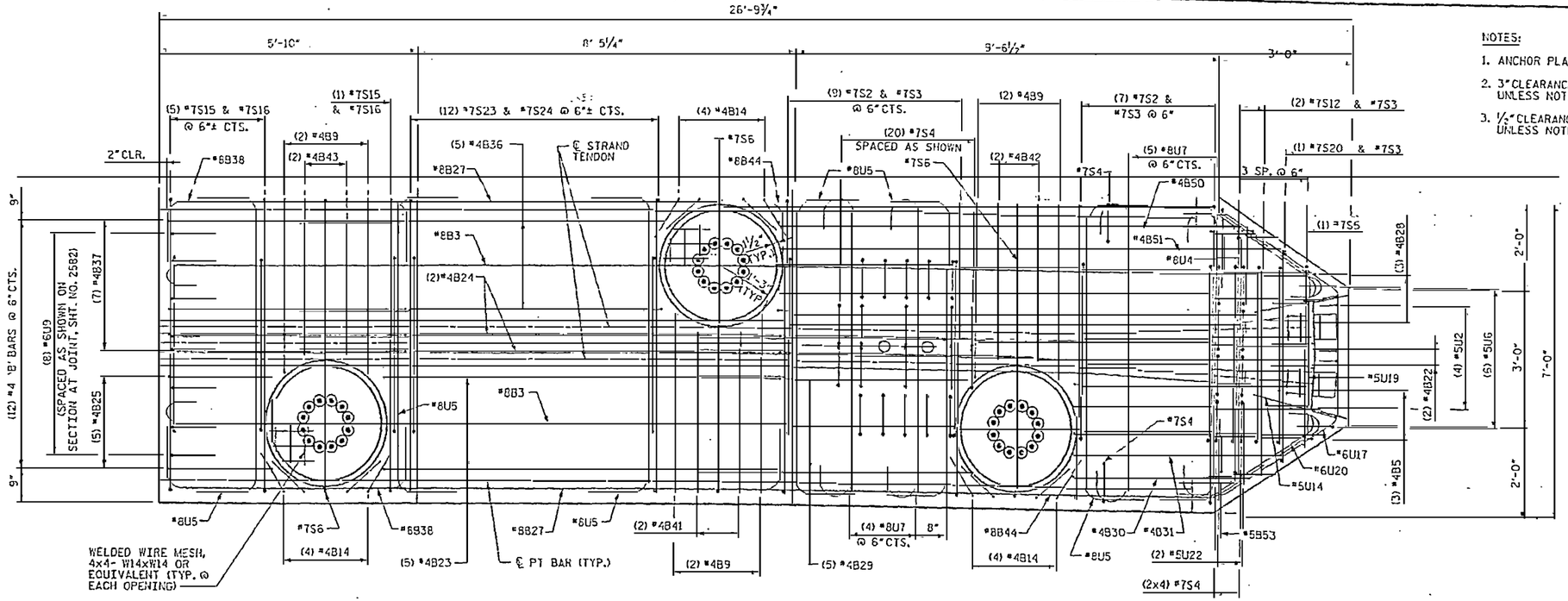
SHEET 5 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

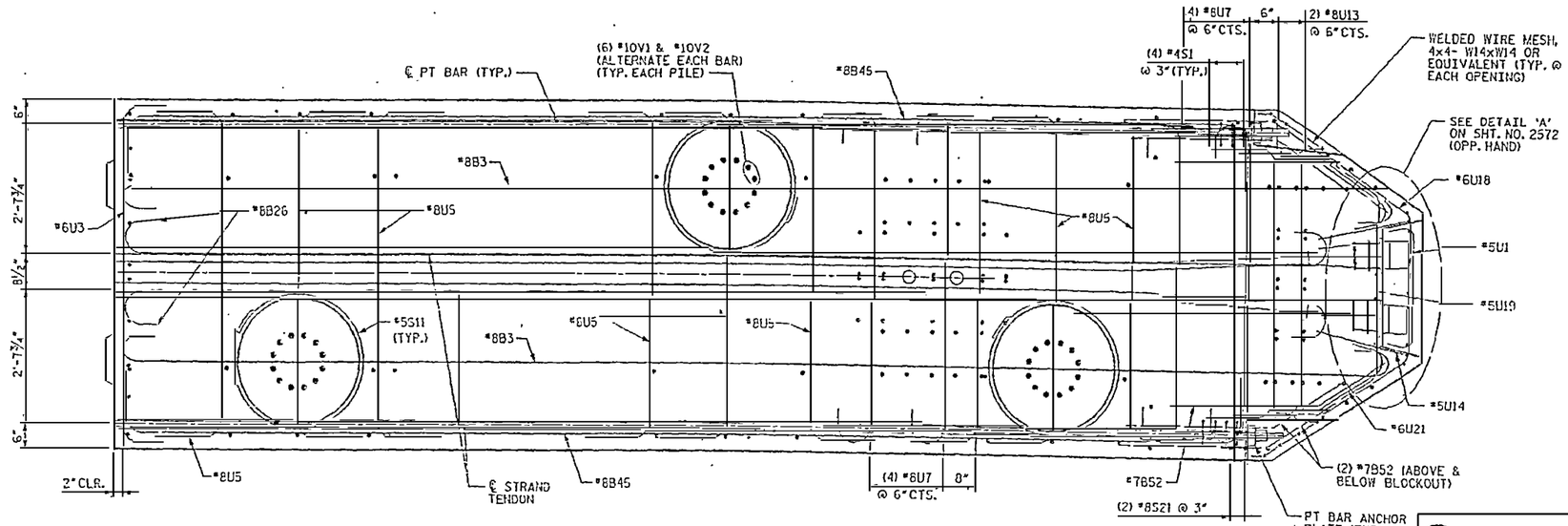
- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 20 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO	BY:	DATE:	2574.00
1			3			TOTAL SHEETS
2			4			



SEGMENT 2 - TOP PLAN



SEGMENT 2 - MID PLAN

RELEASED FOR CONSTRUCTION
Tom Shearin 6/5/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030076 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 6 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - BENT CAP TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2575.00
1			3			TOTAL SHEETS
2			4			

Earth Tech
A Tyco International Ltd. Company

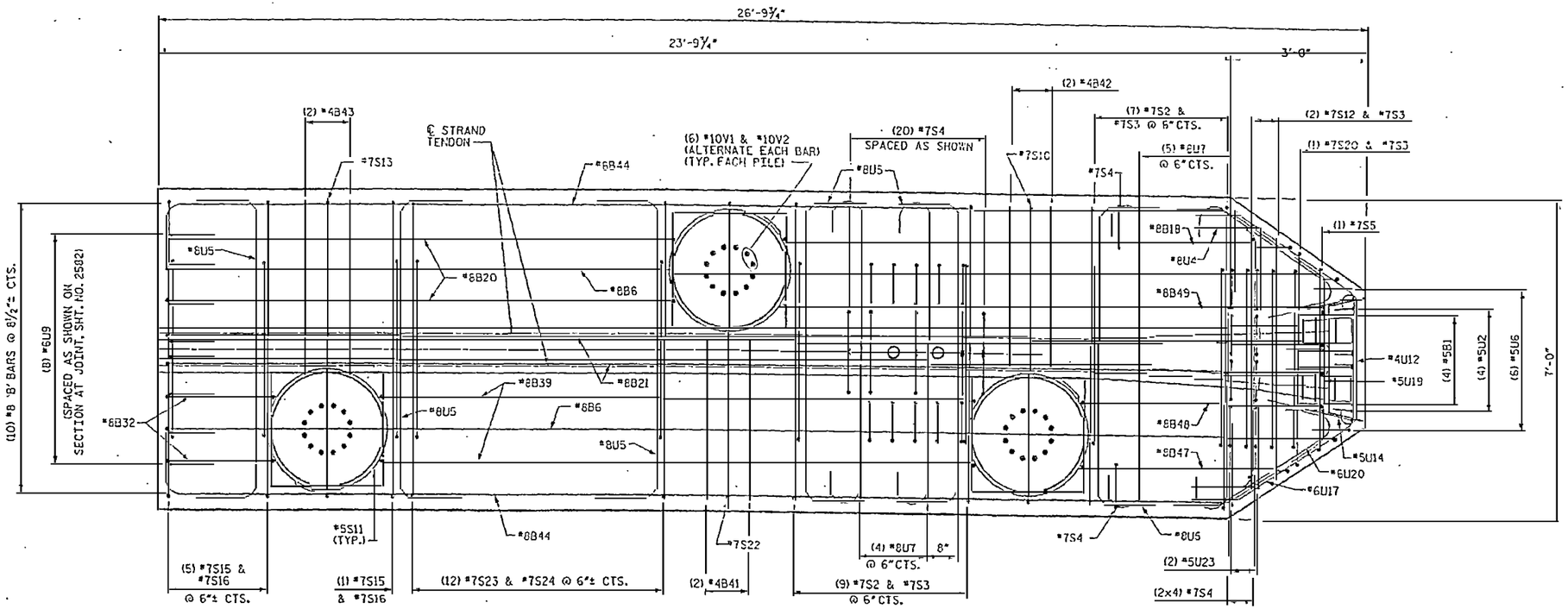
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : E.S. CISNEROS DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

USER: mjohnson
DGN: K:\Structures\Tar River Bridge\CAD\WE2DB_SLICE_BT20-DET1.dgn
DATE: 6/4/2007
TIME: 9:42:03 PM

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - BOT PLAN

DATE: 6/4/2007
TIME: 9:46:03 AM

USER: rhinehar
DGN: R:\Structure\Bridge Files\Beaufort\2576\Sheets\2576_Segment2_Bot.dgn

DRAWN BY : K. CAMERON DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

RELEASED FOR CONSTRUCTION
Tom Shearin 6/4/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 9 BRIDGE NO. 353

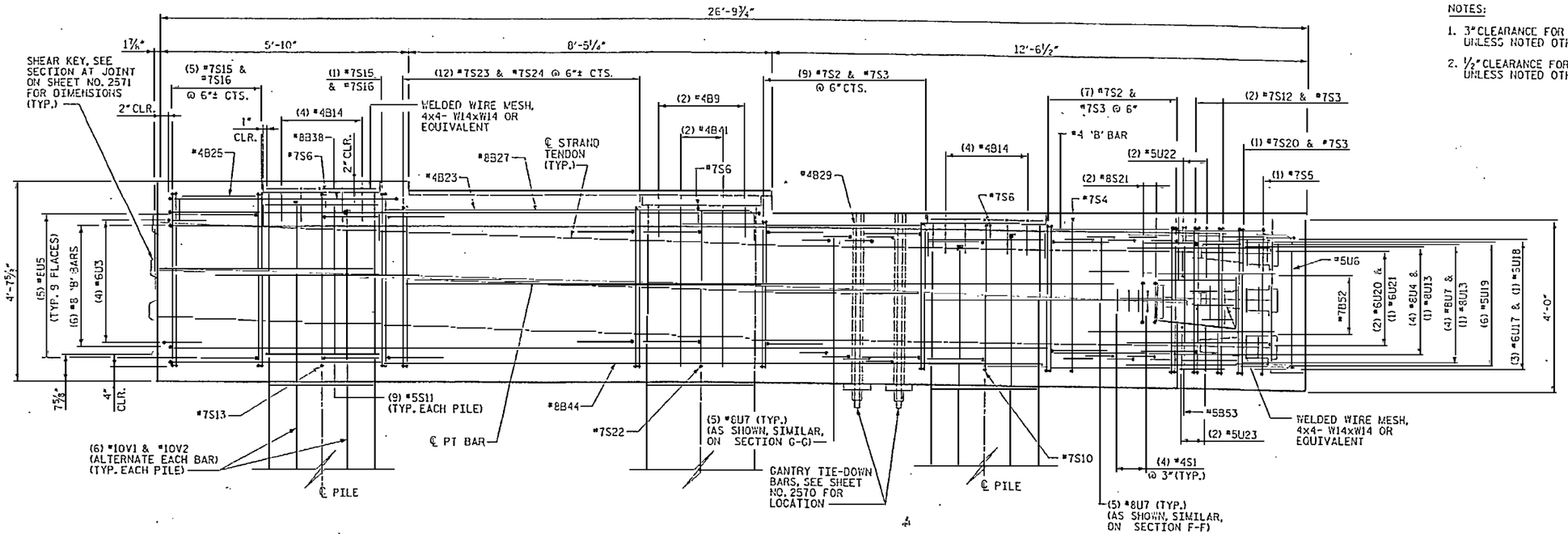
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DETAILS - PILE CAP TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

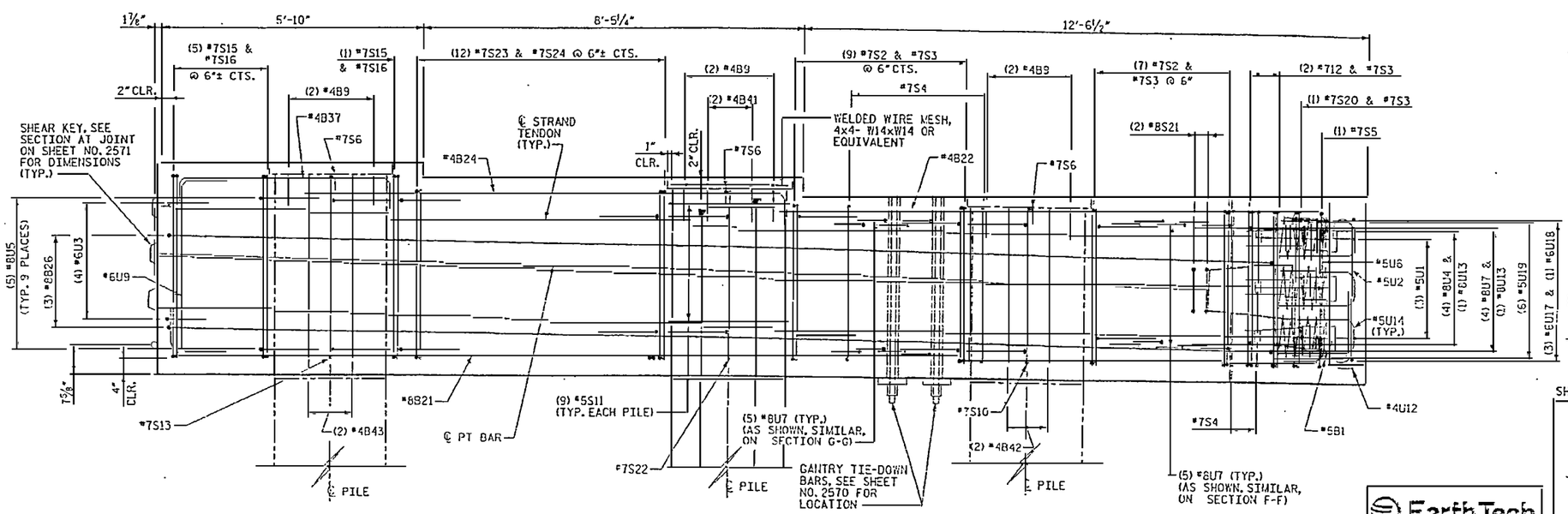
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2576.00
1			3			TOTAL SHEETS
2			4			

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - ELEVATION



SEGMENT 2 - SECTION A2

DRAWN BY : K. CAMERON DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/09 DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030707 JOHN W. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 8 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

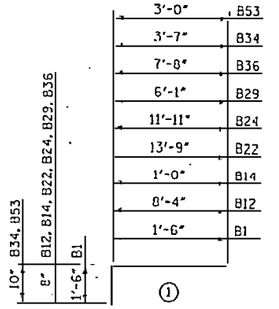
- BRIDGE No. 2 -

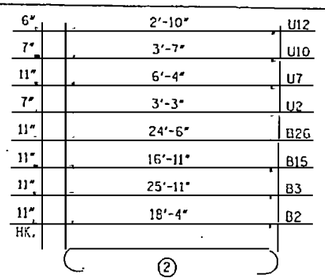
DETAILS - PILE CAP TYPE 20 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

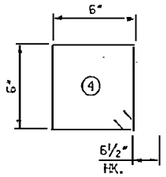
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2577.00
1			3			TOTAL SHEETS
2			4			

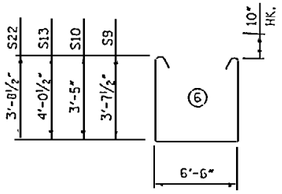
USER NAME = KSHEARIN
PLOT SCALE = 1.0000 '/ IN.
PLOT DATE = 6/15/2009
D:\Structure\Tar River Bridge\2009\DESIGN\S0_DSM_BRDG-CPT8.dgn

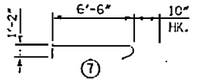
BAR TYPES

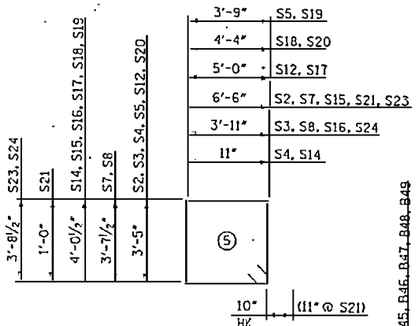


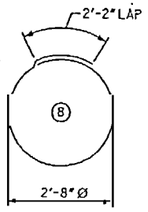


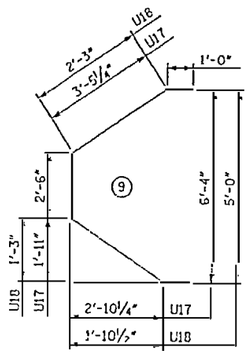


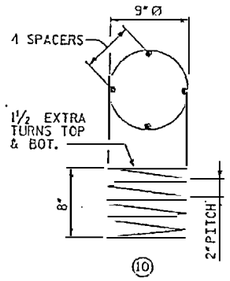


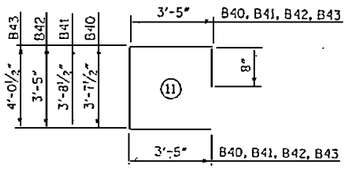


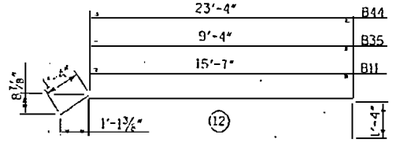


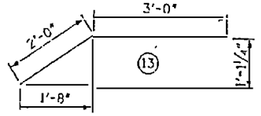


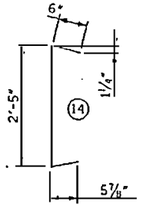


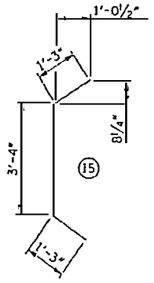


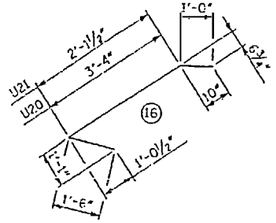












BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	10	#8	(2)	20'-2"	538
B3	10	#8	(2)	27'-9"	741
B4	5	#4	(3)	12'-10"	43
B5	6	#4	(3)	6'-7"	26
B6	2	#8	(3)	28'-5"	152
B7	1	#4	(3)	12'-4"	8
B8	1	#4	(3)	11'-7"	8
B9	10	#4	(3)	5'-3"	35
B10	2	#8	(3)	19'-8"	105
B11	10	#8	(12)	18'-3"	487
B12	7	#4	(1)	9'-0"	42
B13	5	#4	(3)	4'-11"	16
B14	20	#4	(1)	1'-8"	22
B15	5	#8	(2)	18'-9"	300
B16	2	#8	(3)	20'-11"	112
B17	2	#8	(3)	13'-0"	69
B18	2	#8	(3)	13'-9"	73
B19	2	#8	(3)	6'-3"	33
B20	2	#8	(3)	13'-10"	74
B21	2	#8	(3)	18'-9"	100
B22	2	#4	(1)	14'-5"	19
B23	5	#4	(3)	10'-2"	34
B24	2	#4	(1)	12'-7"	17
B25	5	#4	(3)	3'-7"	12
B26	6	#8	(2)	26'-4"	422
B27	2	#8	(3)	16'-6"	88
B28	3	#4	(3)	13'-4"	27
B29	5	#4	(1)	6'-9"	23
B30	2	#4	(3)	5'-4"	7
B31	2	#4	(3)	6'-0"	8
B32	2	#8	(3)	5'-2"	28
B33	5	#4	(3)	5'-2"	17
B34	2	#5	(1)	4'-5"	9
B35	2	#8	(12)	12'-0"	64
B36	5	#4	(1)	8'-5"	28
B37	7	#4	(3)	6'-7"	31
B38	2	#8	(3)	8'-1"	43
B39	2	#8	(3)	15'-10"	85
B40	2	#4	(11)	11'-2"	15
B41	2	#4	(11)	11'-3"	15
B42	2	#4	(11)	10'-11"	15
B43	4	#4	(11)	11'-7"	31
B44	10	#8	(12)	26'-0"	694
B45	4	#8	(3)	25'-7"	273
B46	4	#8	(3)	17'-11"	191
B47	2	#8	(3)	7'-1"	38
B48	2	#8	(3)	8'-0"	43
B49	2	#8	(3)	14'-8"	78
B50	1	#4	(3)	11'-10"	8
B51	1	#4	(3)	12'-8"	8
B52	24	#7	(13)	5'-0"	245
B53	2	#5	(1)	3'-10"	8
S1	16	#4	(4)	3'-3"	35
S2	16	#7	(5)	21'-6"	703
S3	19	#7	(5)	16'-4"	634
S4	30	#7	(5)	10'-4"	634
S5	1	#7	(5)	16'-0"	33
S6	5	#7	(7)	6'-6"	67
S7	9	#7	(5)	21'-11"	403
S8	9	#7	(5)	16'-9"	308
S9	1	#7	(6)	15'-5"	32
S10	1	#7	(6)	15'-0"	31

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S11	45	#5	(8)	10'-7"	497
S12	2	#7	(5)	18'-6"	76
S13	2	#7	(6)	16'-3"	66
S14	30	#7	(5)	11'-7"	710
S15	21	#7	(5)	22'-9"	977
S16	24	#7	(5)	17'-7"	863
S17	2	#7	(5)	19'-9"	81
S18	1	#7	(5)	18'-5"	38
S19	1	#7	(5)	17'-3"	35
S20	1	#7	(5)	17'-2"	35
S21	4	#8	(5)	16'-10"	180
S22	1	#7	(6)	15'-7"	32
S23	12	#7	(5)	22'-1"	542
S24	12	#7	(5)	16'-11"	415
U1	6	#5	(14)	3'-5"	21
U2	4	#5	(2)	4'-5"	18
U3	8	#5	(1)	8'-4"	100
U4	8	#8	(3)	8'-4"	178
U5	75	#8	(3)	9'-0"	1802
U6	6	#5	(3)	4'-11"	31
U7	88	#8	(2)	8'-2"	1919
U8	8	#6	(3)	5'-5"	65
U9	8	#6	(3)	5'-10"	70
U10	4	#5	(2)	4'-9"	20
U11	6	#5	(3)	5'-6"	34
U12	2	#4	(2)	3'-10"	5
U13	4	#8	(3)	7'-11"	65
U14	12	#5	(3)	4'-10"	60
U15	4	#5	(3)	3'-0"	13
U16	4	#5	(3)	3'-2"	13
U17	6	#6	(9)	11'-5"	103
U18	2	#6	(9)	9'-0"	27
U19	12	#5	(15)	5'-10"	73
U20	8	#6	(16)	5'-10"	70
U21	4	#6	(15)	4'-8"	28
U22	4	#5	(3)	2'-10"	12
U23	4	#5	(3)	2'-8"	11
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

ALL BAR DIMENSIONS ARE OUT TO OUT.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 6/6/11

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030619 JOHN W. JORDAN, III

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 9 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 20
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

DRAWN BY : K. CAMERON DATE : 3/07
CHECKED BY : J.T.JU DATE : 3/07

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2578.00
1			3			TOTAL SHEETS
2			4			

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FLATIRON/UNITED
A JOINT VENTURE

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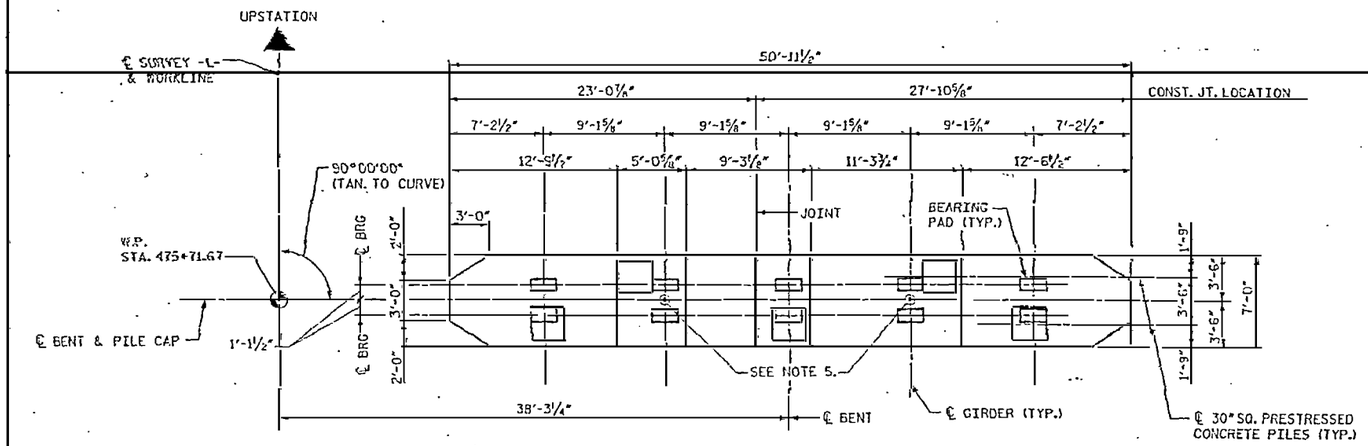
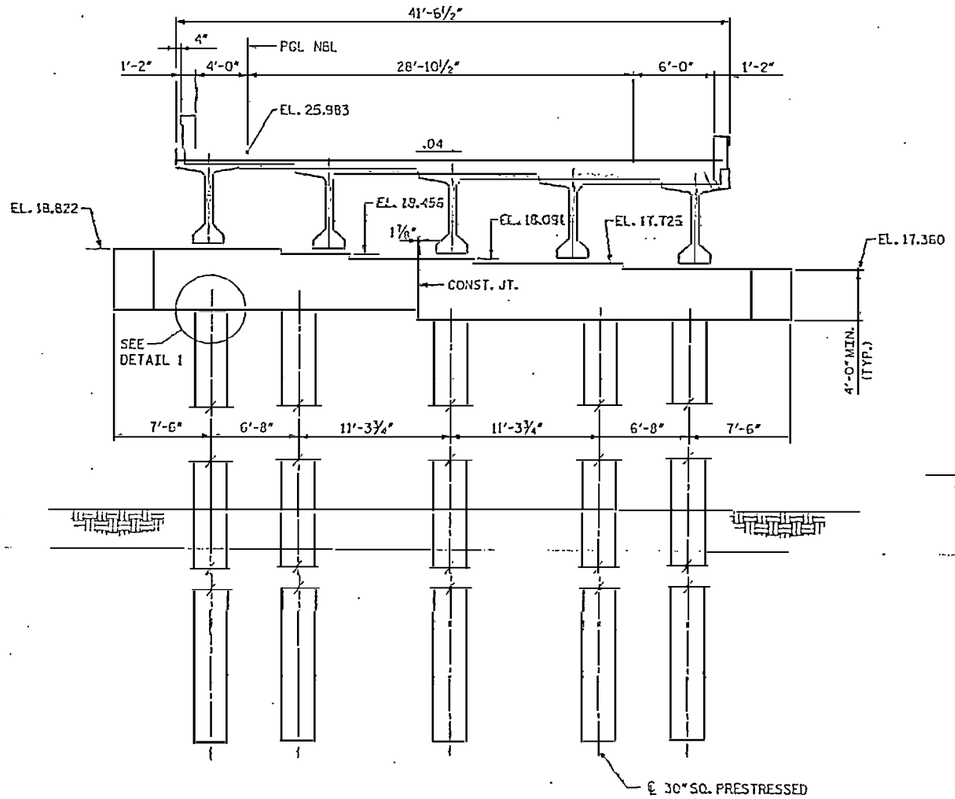
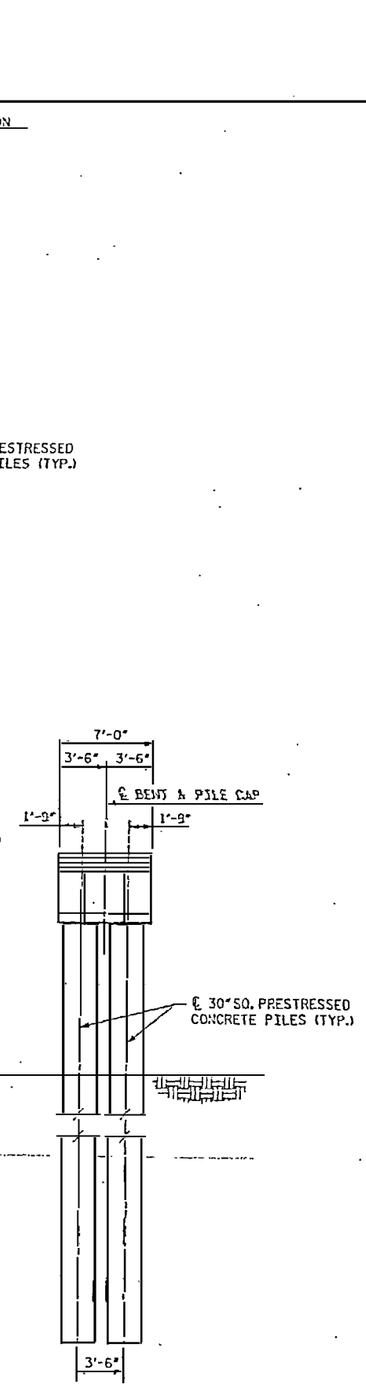
DATE: 6/14/2007
TIME: 8:53:23 AM



PLAN



ELEVATION
(BENT 127N3)



END ELEVATION

NOTES:

1. FOR PILE CROSS SECTION DETAIL, SEE SHEET NO. 2302.
2. FOR THE CONNECTION BETWEEN PILE CAP AND PILE, SEE SHEET NO. 2301.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF PILE CAPS SHALL BE 5000 PSI.
4. SEE SHEET NO. 2316 FOR DETAIL 1.
5. 3" SQ. ASTM 304 STAINLESS STEEL SMOOTH BAR, 2'-10" LONG, 2'-0" EMBEDMENT LENGTH, BAR SHALL BE PLUMB.

1 2

1 REVISION TO NOTE NO. 5.
2 REVISION TO NOTE NO. 5.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 10/18/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DIMENSIONS - BENT TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

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FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2560.02
1	MTB	7/2/07	3			TOTAL SHEETS
2	MTB	10/16/07	4			

DRAWN BY : E.S. CISNEROS DATE : 03/07
CHECKED BY : J. LIU DATE : 03/07

DATE PLOTTED: 10/18/2007
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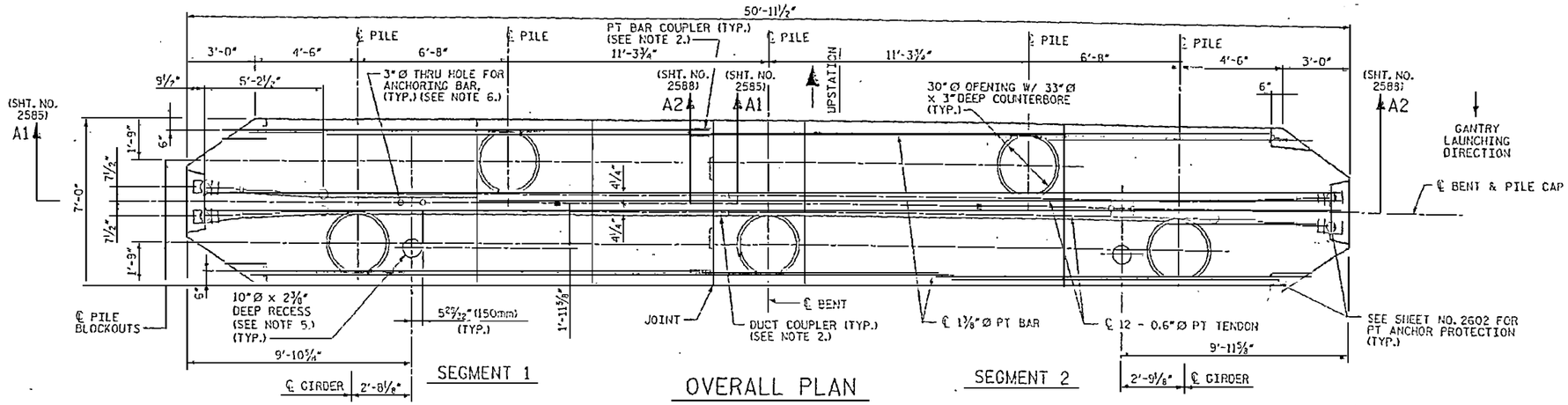
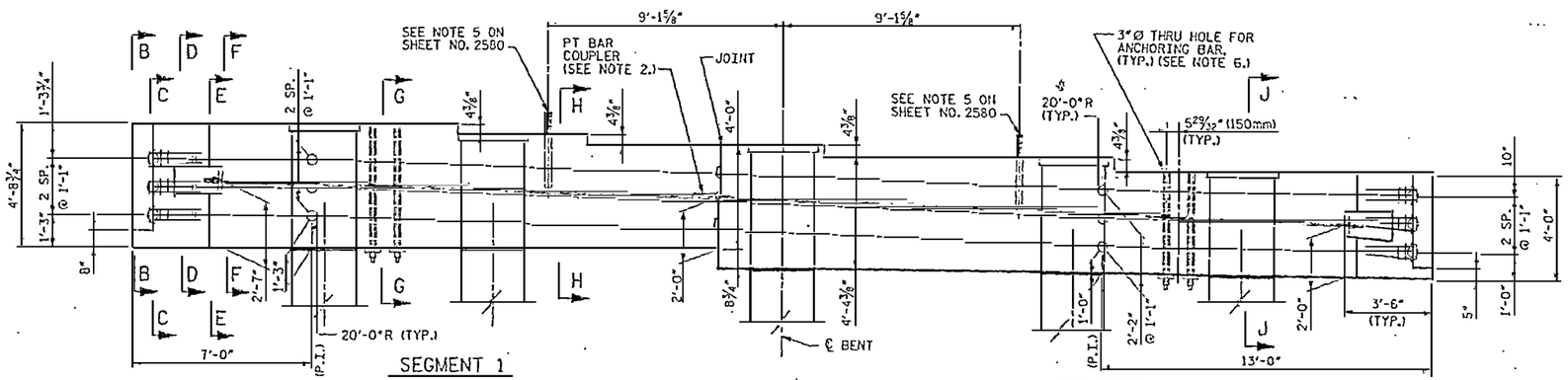
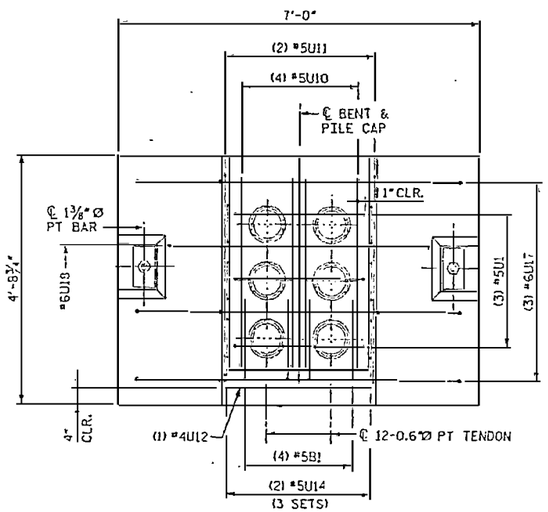


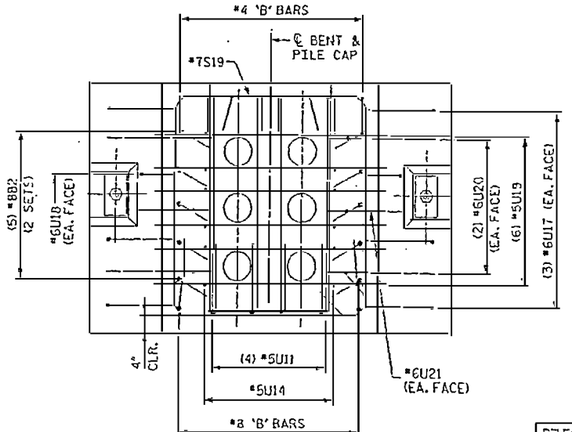
OVERALL PLAN



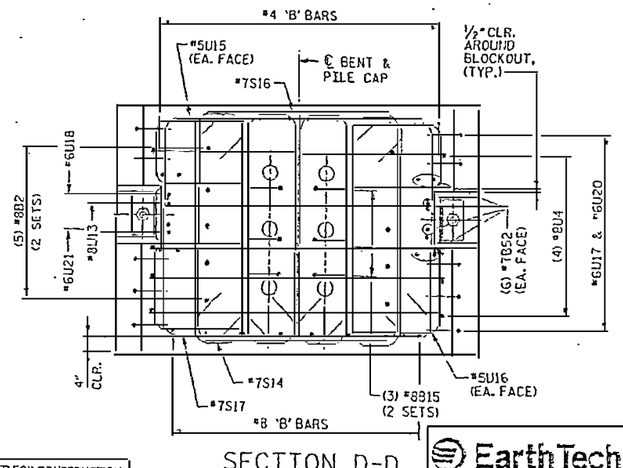
OVERALL ELEVATION



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES, UNLESS NOTED OTHERWISE.
2. POSITIONING OF COUPLERS AS REQUIRED BY CONTRACTOR.
3. FOR CONSTRUCTION SEQUENCE, SEE NOTES ON SHEET NO. 2602.
4. PILE CAP TYPE 21 IS USED AT BENT NO. 127NB.
5. RECESS FOR GANTRY FOOT. FILL WITH 5000 PSI CONCRETE AFTER THE BRIDGE ERECTION IS COMPLETE.
6. SEE "DETAIL AT ANCHORING BARS" ON SHEET NO. 2582. FILL WITH 5000 PSI CONCRETE AFTER BRIDGE ERECTION IS COMPLETE.

RELEASED FOR CONSTRUCTION
Tom Shearin 1/16/07
TOM SHEARIN, PE — DATE

DRAWN BY : C.S. CISNEROS — DATE : 3/07
CHECKED BY : J.T.T. — DATE : 3/07

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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 9 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 21 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2581.00
1			3			TOTAL SHEETS
2			4			

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PLOT DATE: 1/16/2007
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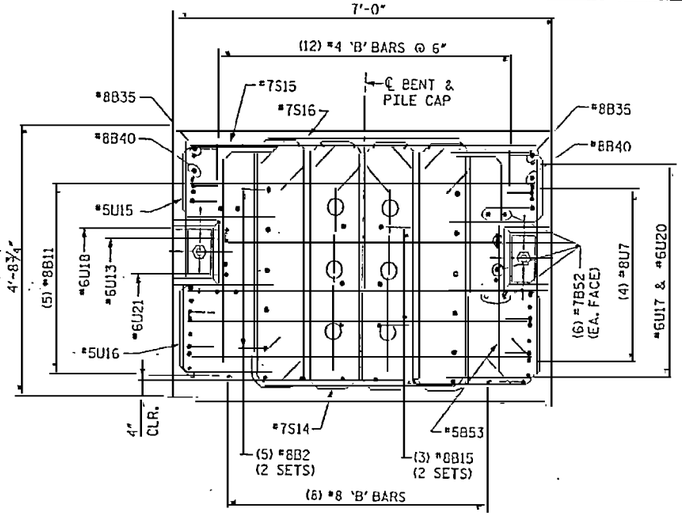
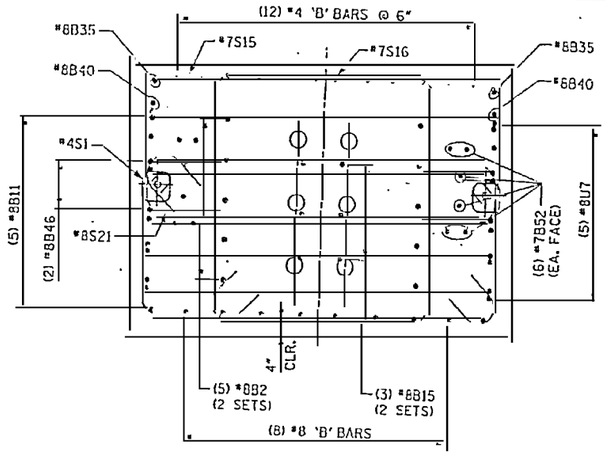
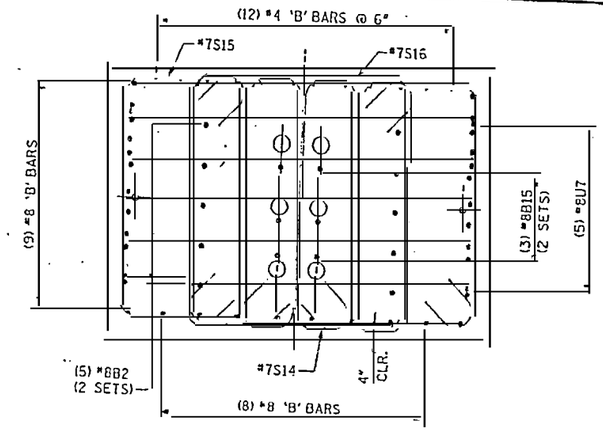


SECTION E-E

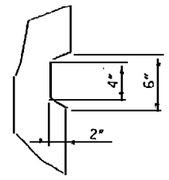


SECTION F-F



SECTION G-G

(ANCHORING BARS NOT SHOWN FOR CLARITY)



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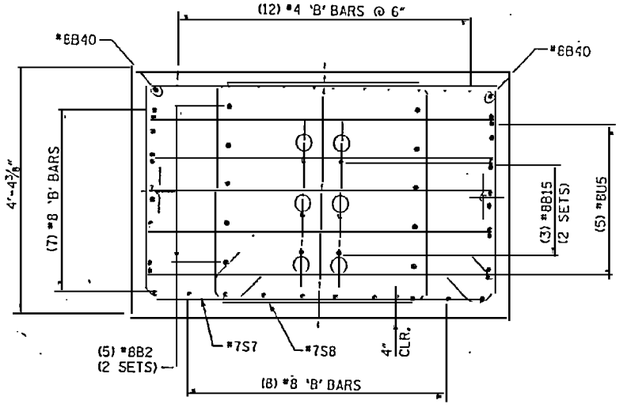
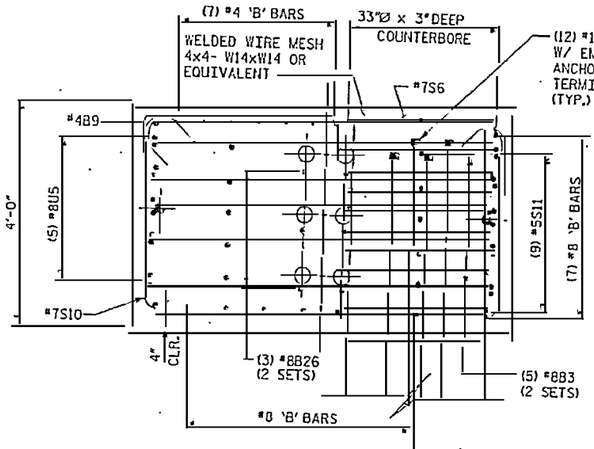
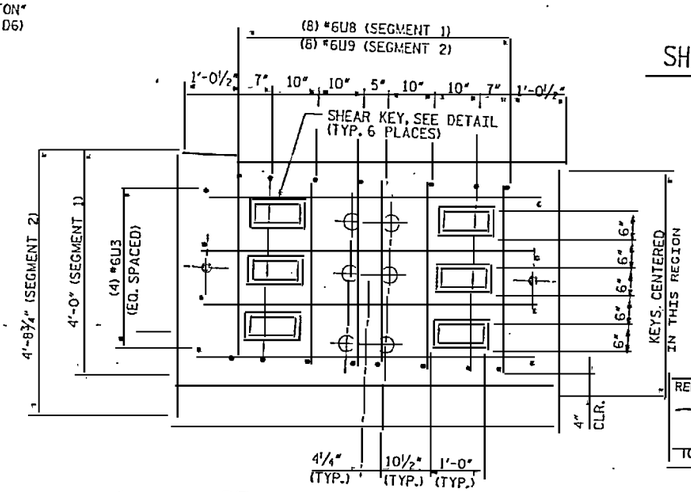


SECTION H-H

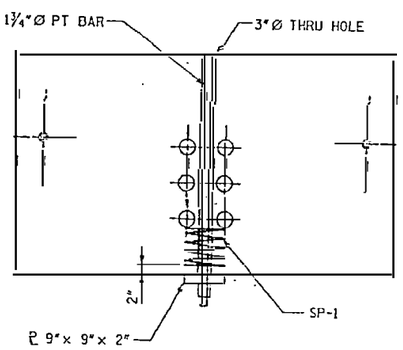


SECTION J-J ⚠2



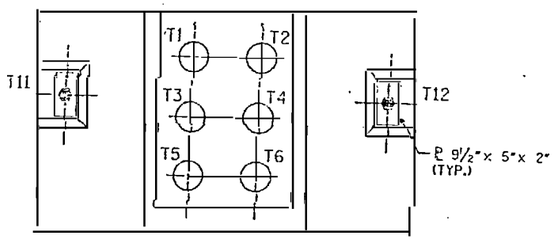
SECTION AT JOINT

(SEE SHEET NO. 2581)



DETAIL AT ANCHORING BARS

(FORMED WITH UV-RESISTANT 3"Ø I.D. PVC PIPE)



TENDON LAYOUT

⚠1 1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-06"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.

2. ALL TENDONS SHALL BE SINGLE END STRESSED.

3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.

4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
Tom Shearin 9/4/07
TOM SHEARIN, PE DATE

⚠2 REVISED VIEW TITLE
⚠1 REVISION TO "TENDON LAYOUT", NOTE NO. 1.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 9.
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 21 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2582.02
1	MTB	7/2/07				TOTAL SHEETS
2	SGS	9/7/07				

DRAWN BY : M.T. BELISLE DATE : 5/07
CHECKED BY : J. LIU DATE : 5/07

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FLATIRON/UNITED
A JOINT VENTURE

PLOTTED: 9/4/2007 11:42:03 PM
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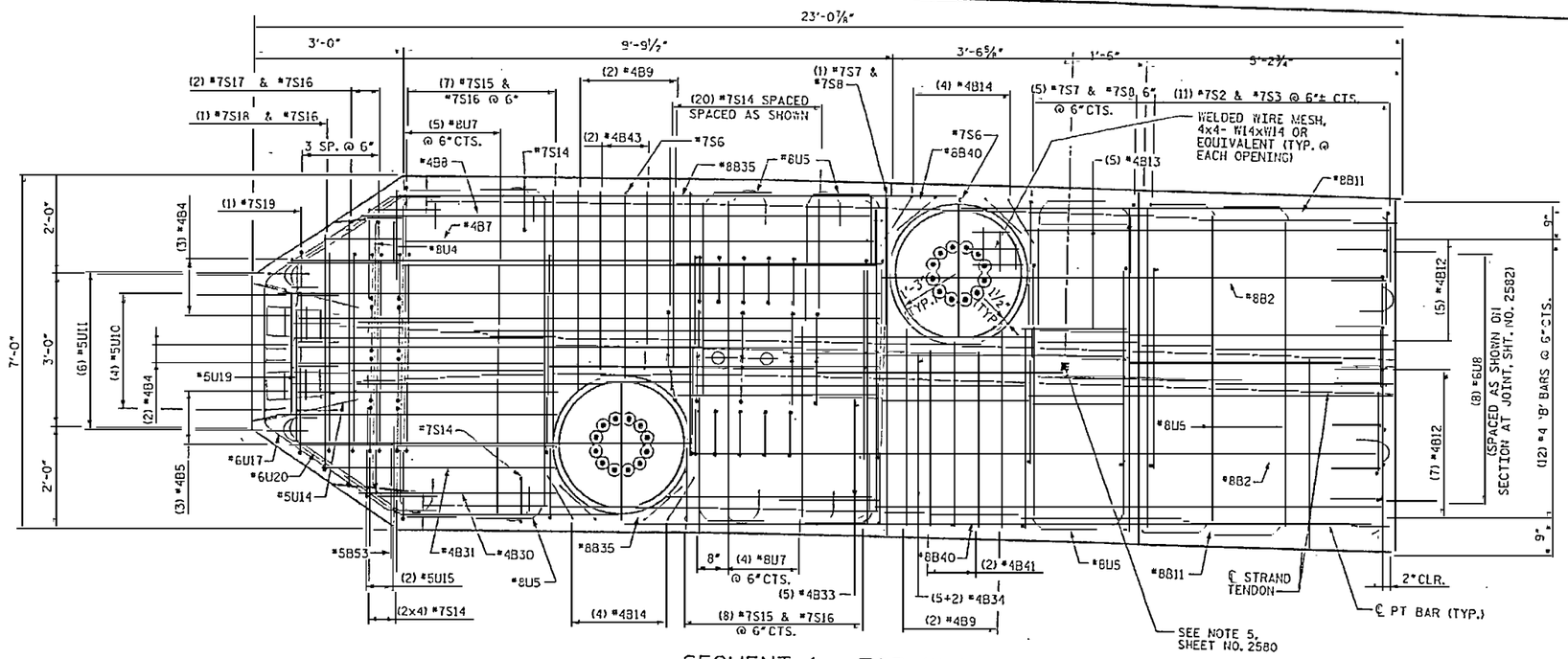
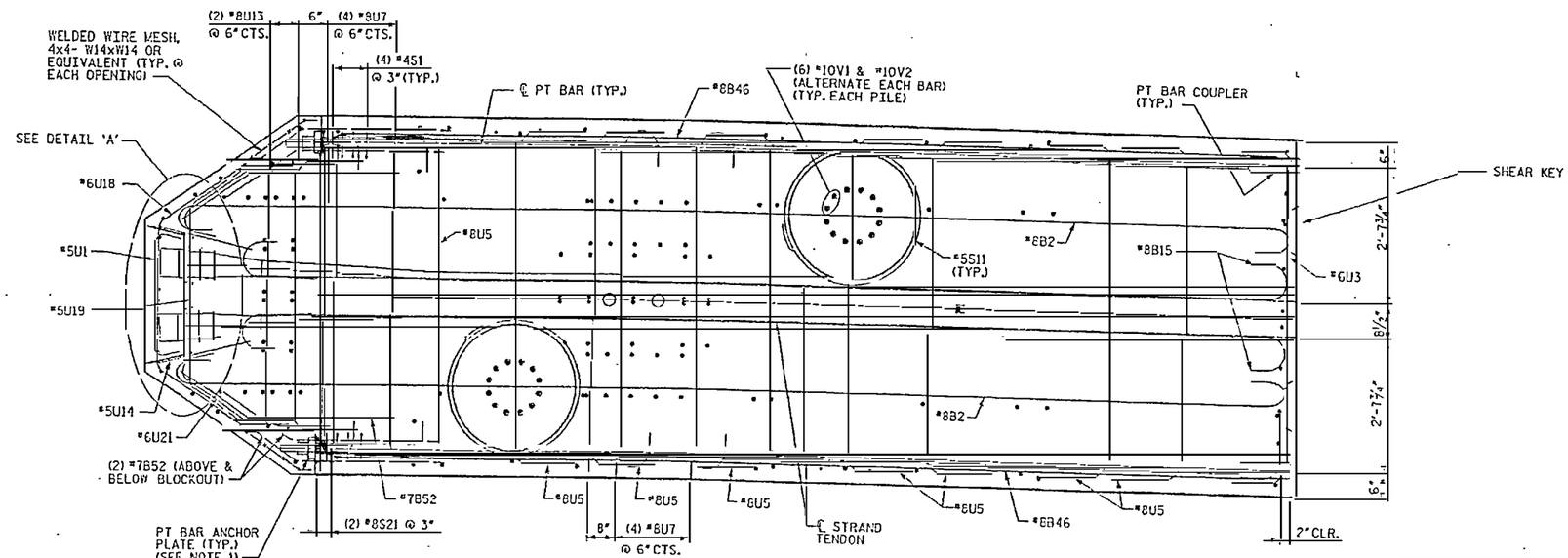
DGN: mbelisle@river Bridge\d0025cse_sb_t21_t12-dt72.dgn



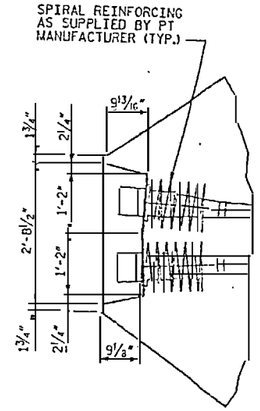
SEGMENT 1 - TOP PLAN



SEGMENT 1 - MID PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



DETAIL A

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 21 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2583.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : E.S. CISNEROS DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/18/07 DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 6/14/2007
TIME: 3:51:42 PM

USER: rcrabtree
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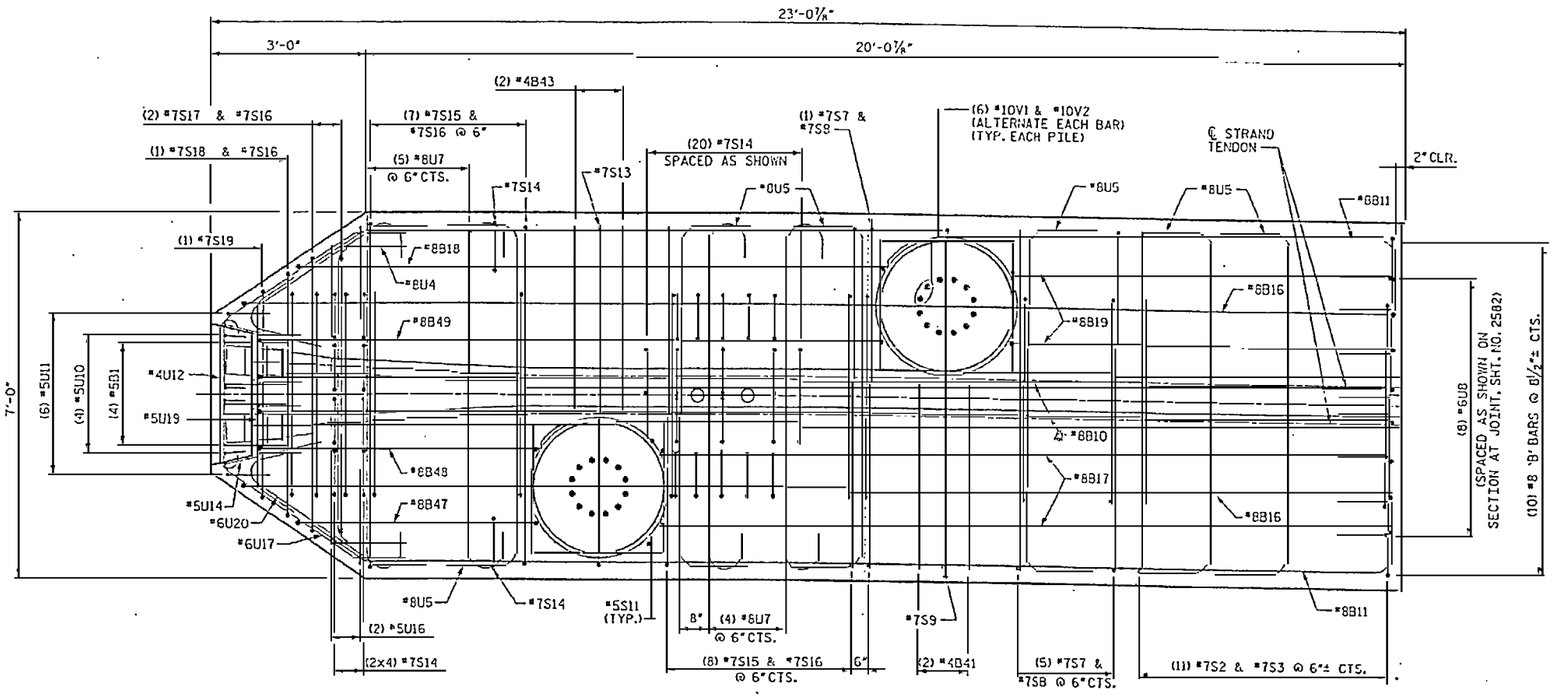
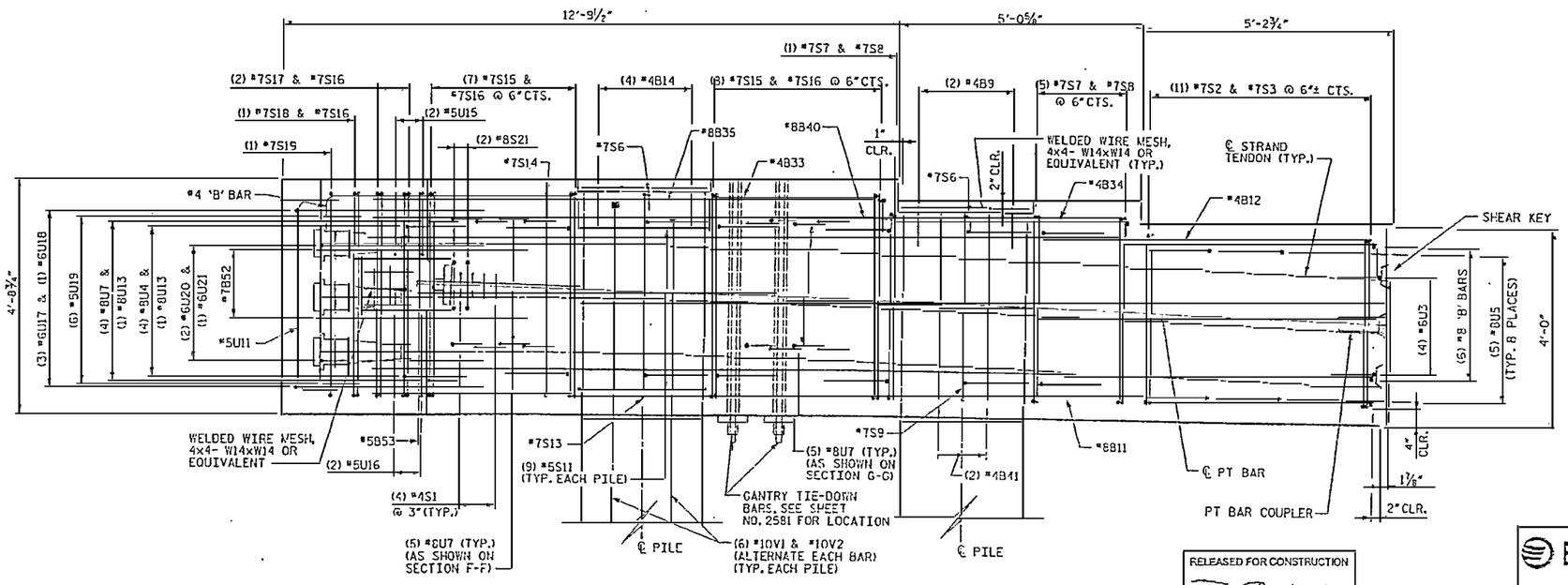


SEGMENT 1 - BOT PLAN



SEGMENT 1 - ELEVATION

NOTES:

1. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 6/15/07

DRAWN BY : E.S. CISNEROS DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035672 JOHN W. JORDAN, JR.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 9 BRIDGE NO. 353

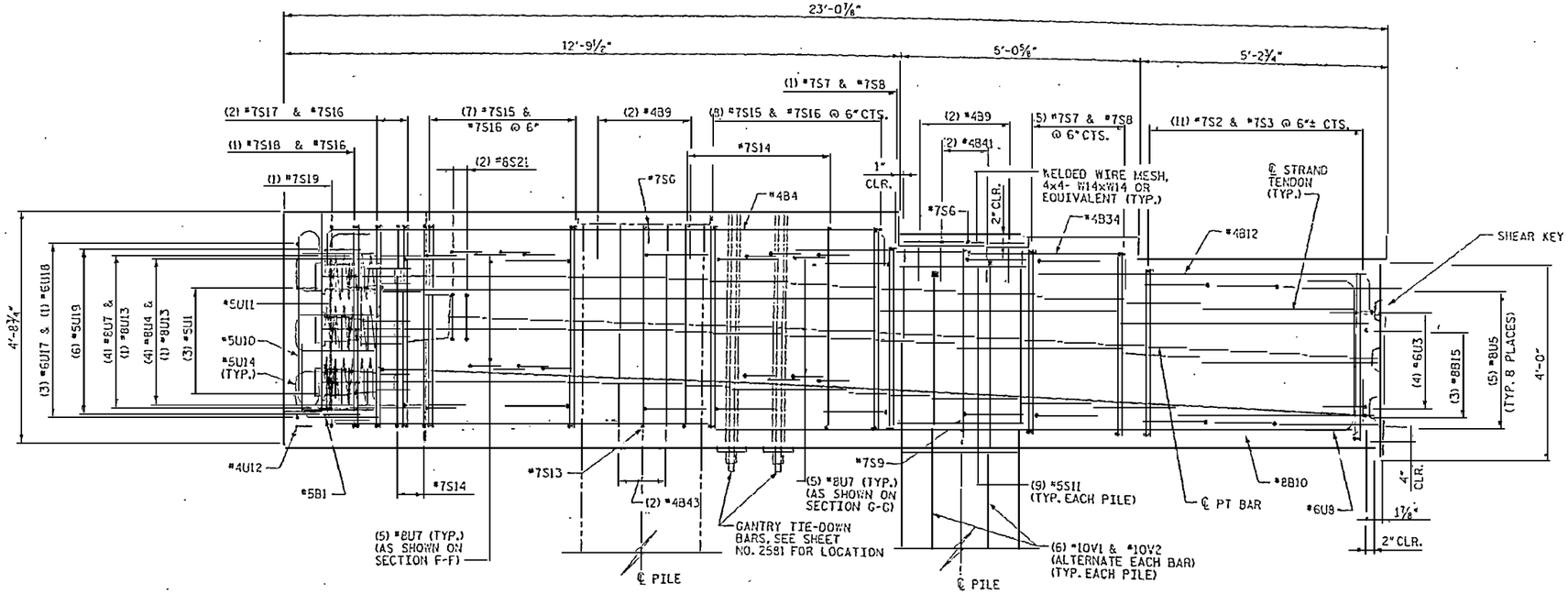
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DETAILS - PILE CAP TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO	BY:	DATE:	2584.00
1			3			TOTAL SHEETS
2			4			

DATE: 6/14/2007
FILE: S1SEG1FM

USER: jwjordan
DGN: Roadways\Str Div\Standards\SGL_RTE-RDT14.dgn



NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

SEGMENT 1 - SECTION A1

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 6/1/07

EarthTech — A Tyco International of U.S. Company
FLATIRON/UNITED — A JOINT VENTURE

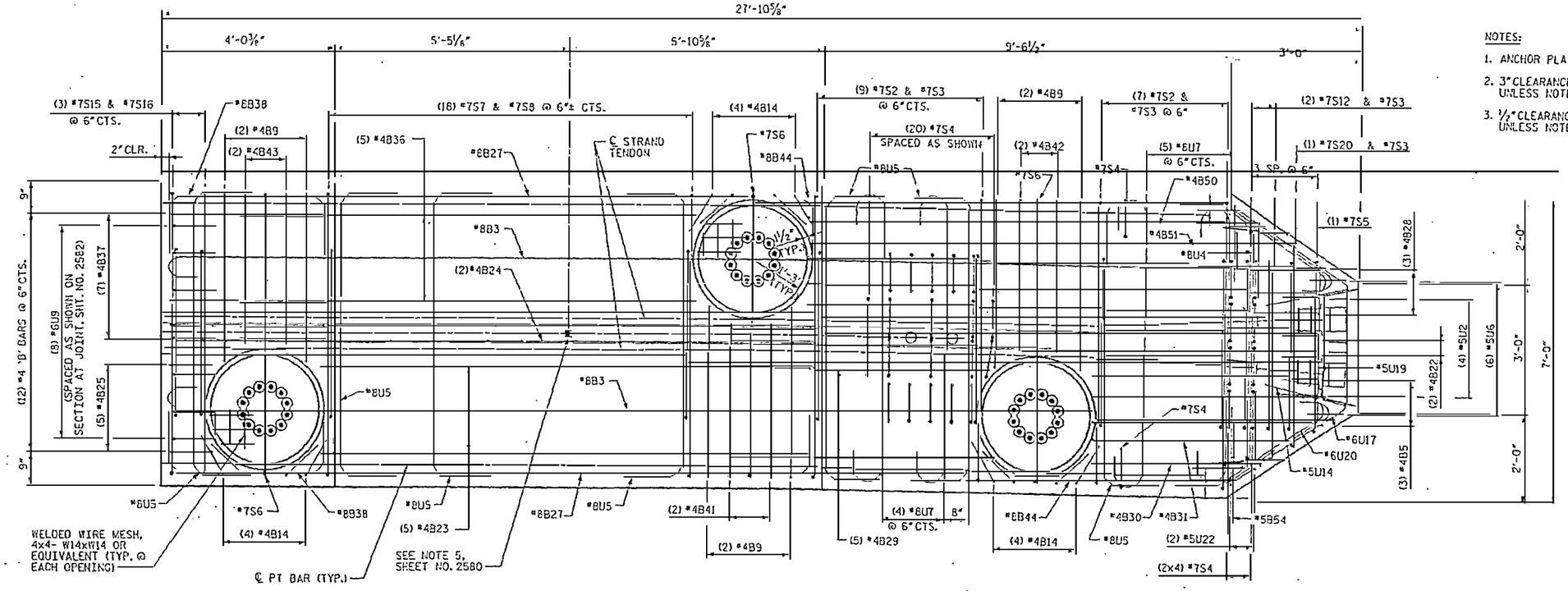
DRAWN BY : E.S. CISNEROS — DATE : 3/07
CHECKED BY : J. LEU — DATE : 3/07

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 9 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DETAILS - PILE CAP TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

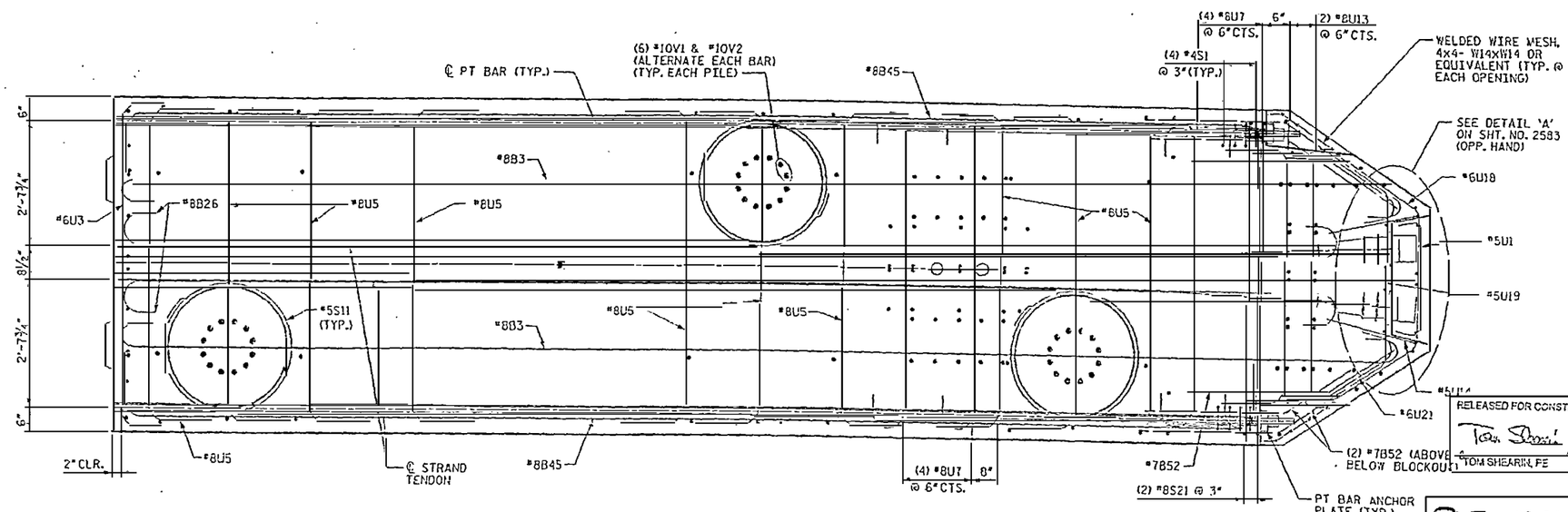
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2585.00
1			3			TOTAL SHEETS
2			4			



SEGMENT 2 - TOP PLAN

NOTES:

1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3"CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½"CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - MID PLAN

DATE: 6/14/2007
TIME: 3:33:48 PM

USER: mtgibbs
DGN: N:\Structures\Active Projects\R-2510B\Roadway\Sheets\R2510B_SEG2_DETS.dgn

DRAWN BY : E.S. CISNEROS DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 6/15/07 DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 6 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

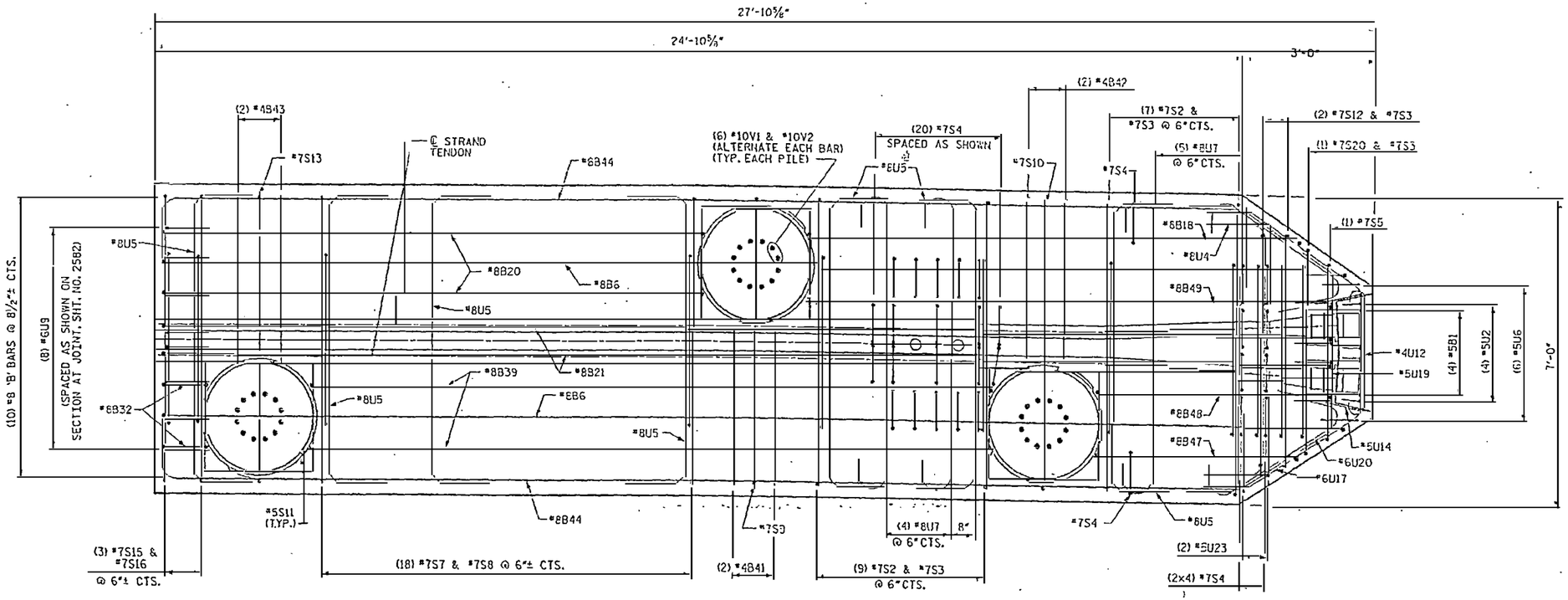
- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2586.00
1			3			TOTAL SHEETS
2			4			

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - BOT PLAN

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 7 OF 9 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - PILE CAP TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2587.00
1			3			TOTAL SHEETS
2			4			

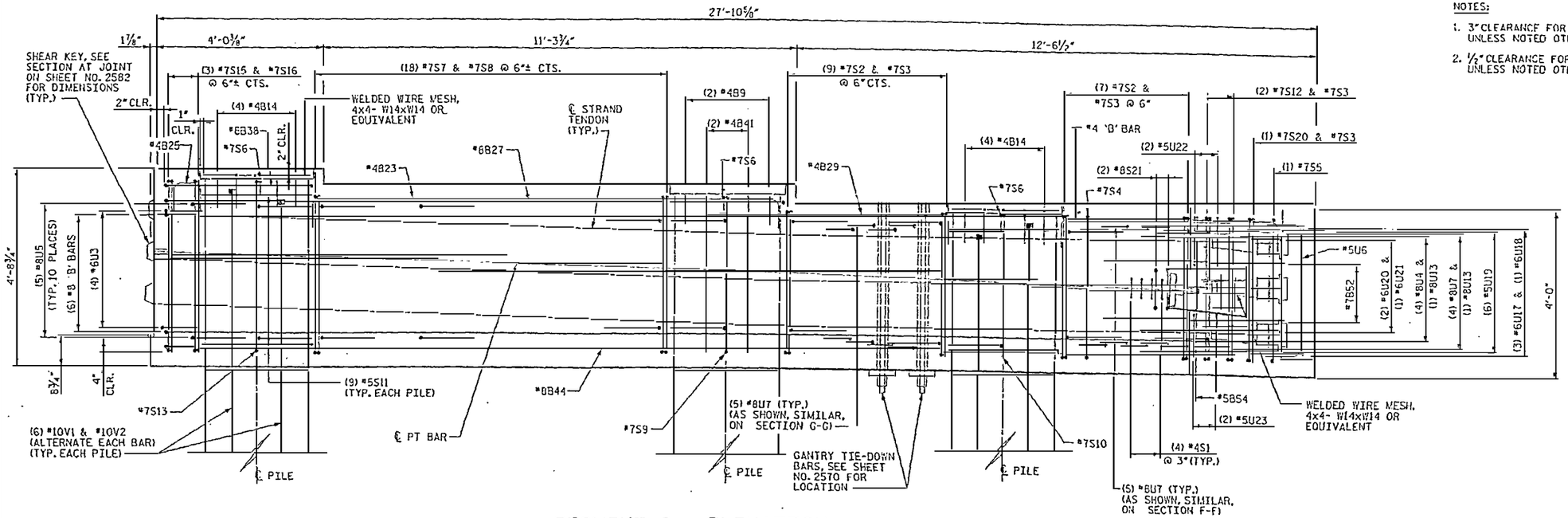
DRAWN BY : E.S. CISNEROS DATE : 3/07
CHECKED BY : J. LEE DATE : 3/07

DATE: 6/14/2007
TIME: 3:32:22 PM

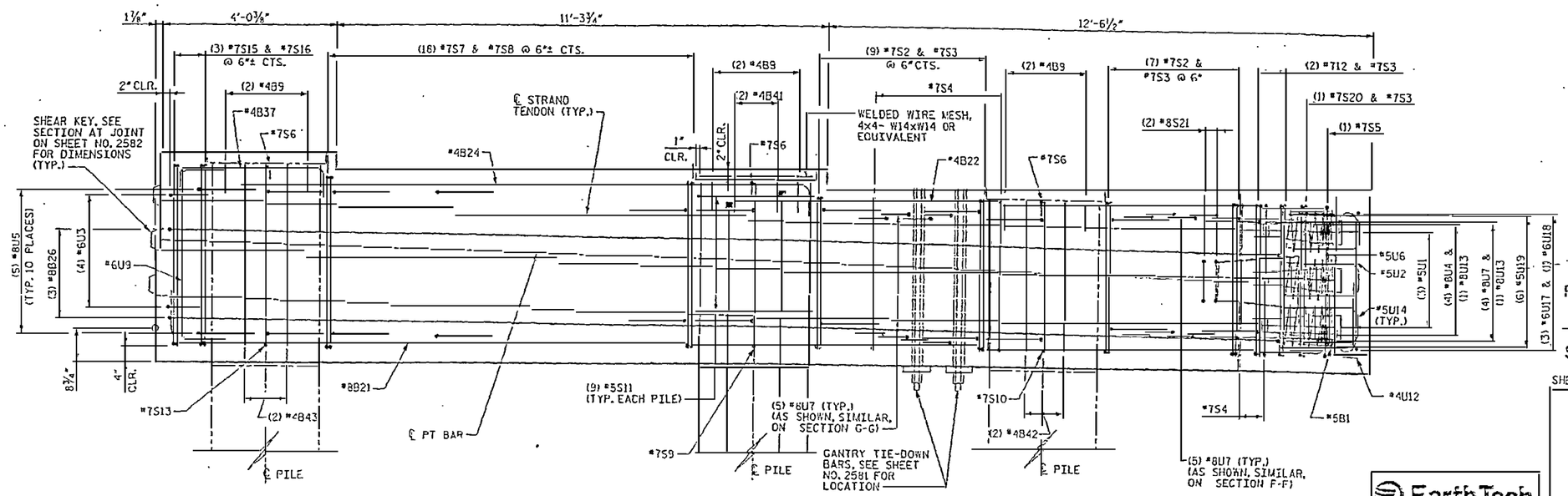
USER: elisneros
DGN: N:\Structure\Tar River Bridge\Deck\R2510_SOLDSH_STR_021.dgn

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



SEGMENT 2 - ELEVATION



SEGMENT 2 - SECTION A2

DRAWN BY : E.G. CISNEROS DATE : 3/07
CHECKED BY : J. LEU DATE : 3/07

RELEASED FOR CONSTRUCTION
Tom Shearin 6/15/07
TOM SHEARIN, PE DATE

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA ENGINEER SEAL 23576 JOHN W. LEU, JR.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 8 OF 9 BRIDGE NO. 353

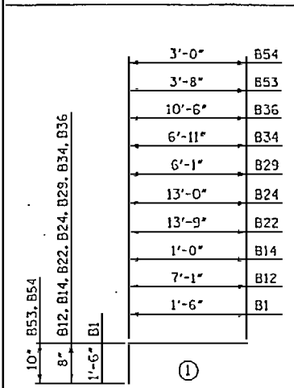
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

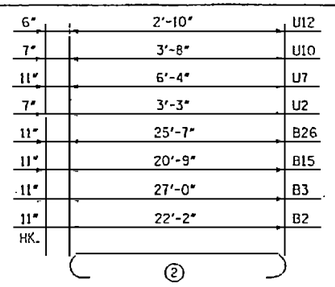
- BRIDGE NO. 2 -

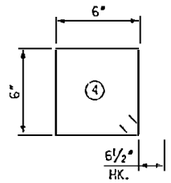
DETAILS - PILE CAP TYPE 21
~~FOR BRIDGE ON US 17 BYPASS~~
OVER TAR RIVER

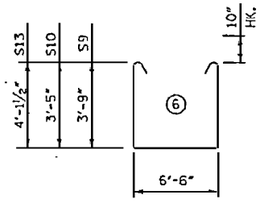
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2588.00
1			3			TOTAL SHEETS
2			4			

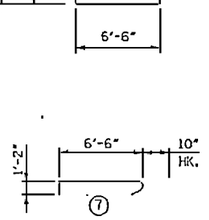
BAR TYPES

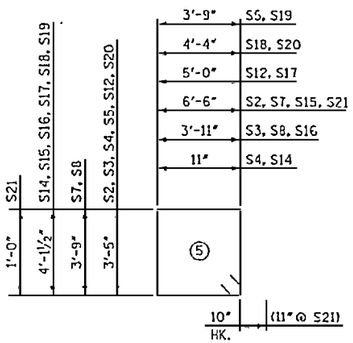


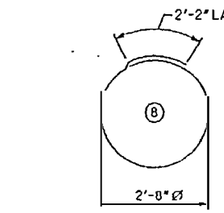


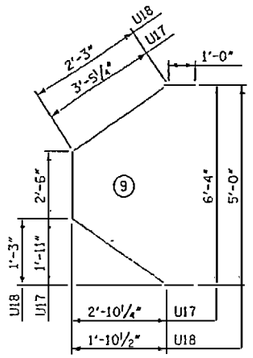


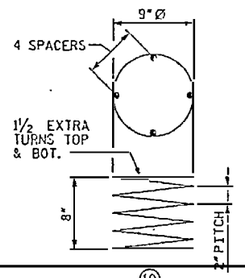


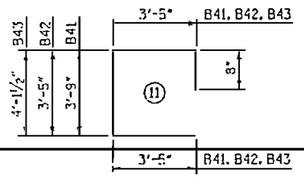


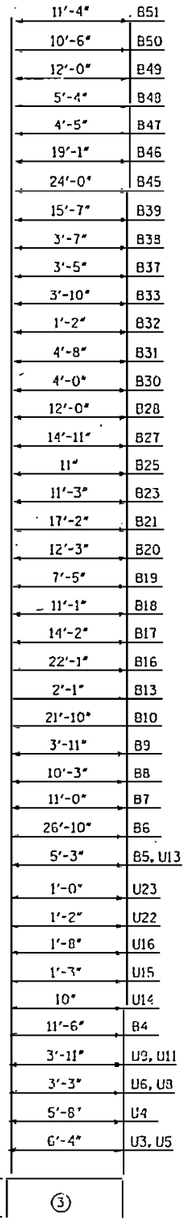


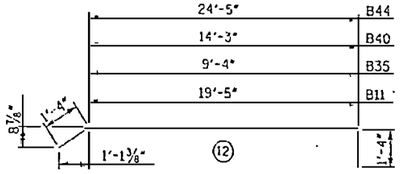


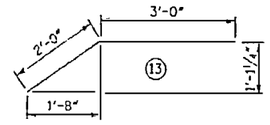


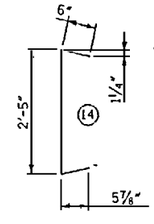


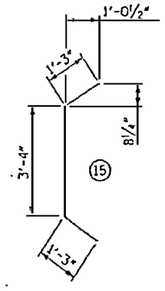


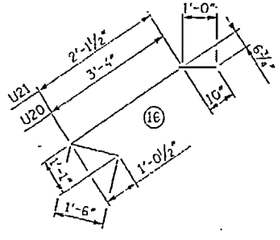












ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : E.S. CISNEROS DATE : 3/07
CHECKED BY : J. LIU DATE : 3/07

DATE 6/11/2007
TIME 3:34:47 PM

USER NAME = Jun Pan
DGN: R2510B-D01-TSHEET.dgn

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#5	(1)	3'-0"	25
B2	10	#8	(2)	24'-0"	641
B3	10	#8	(2)	28'-10"	770
B4	5	#4	(3)	12'-10"	43
B5	6	#4	(3)	6'-7"	26
B6	2	#8	(3)	29'-6"	158
B7	1	#4	(3)	12'-4"	8
B8	1	#4	(3)	11'-7"	8
B9	10	#4	(3)	5'-3"	35
B10	2	#8	(3)	23'-6"	125
B11	10	#8	(12)	22'-1"	590
B12	12	#4	(1)	7'-9"	62
B13	5	#4	(3)	3'-5"	12
B14	20	#4	(1)	1'-8"	22
B15	6	#8	(2)	22'-7"	362
B16	2	#8	(3)	24'-9"	132
B17	2	#8	(3)	16'-10"	90
B18	2	#8	(3)	13'-9"	73
B19	2	#8	(3)	10'-1"	54
B20	2	#8	(3)	14'-11"	80
B21	2	#8	(3)	19'-10"	106
B22	2	#4	(1)	14'-5"	19
B23	5	#4	(3)	12'-7"	42
B24	2	#4	(1)	13'-8"	18
B25	5	#4	(3)	2'-3"	8
B26	6	#8	(2)	27'-5"	439
B27	2	#8	(3)	17'-7"	94
B28	3	#4	(3)	13'-4"	27
B29	5	#4	(1)	6'-9"	23
B30	2	#4	(3)	5'-4"	7
B31	2	#4	(3)	6'-0"	8
B32	2	#8	(3)	3'-10"	20
B33	5	#4	(3)	5'-2"	17
B34	7	#4	(1)	7'-7"	36
B35	2	#8	(12)	12'-0"	64
B36	5	#4	(1)	11'-3"	38
B37	7	#4	(3)	4'-9"	22
B38	2	#8	(3)	6'-3"	33
B39	2	#8	(3)	18'-3"	97
B40	2	#8	(12)	16'-11"	90
B41	4	#4	(11)	11'-3"	30
B42	2	#4	(11)	10'-11"	15
B43	4	#4	(11)	11'-8"	31
B44	10	#8	(12)	27'-1"	723
B45	4	#8	(3)	26'-8"	285
B46	4	#8	(3)	21'-9"	232
B47	2	#8	(3)	7'-1"	38
B48	2	#8	(3)	8'-0"	43
B49	2	#8	(3)	14'-8"	78
B50	1	#4	(3)	11'-10"	8
B51	1	#4	(3)	12'-8"	8
B52	24	#7	(13)	5'-0"	245
B53	2	#5	(1)	4'-6"	9
B54	2	#5	(1)	3'-10"	8

BILL OF MATERIAL

FOR CONCRETE PILE CAP ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
S1	16	#4	(4)	3'-3"	35
S2	27	#7	(5)	21'-6"	1187
S3	30	#7	(5)	16'-4"	1002
S4	30	#7	(5)	10'-4"	634
S5	1	#7	(5)	16'-0"	33
S6	5	#7	(7)	8'-6"	87
S7	24	#7	(5)	22'-2"	1087
S8	24	#7	(5)	17'-0"	834
S9	2	#7	(6)	15'-8"	64
S10	1	#7	(6)	15'-0"	31
S11	45	#5	(8)	10'-7"	497
S12	2	#7	(5)	18'-6"	76
S13	2	#7	(6)	16'-5"	67
S14	30	#7	(5)	11'-9"	721
S15	18	#7	(5)	22'-11"	843
S16	21	#7	(5)	17'-9"	762
S17	2	#7	(5)	19'-11"	81
S18	1	#7	(5)	18'-7"	38
S19	1	#7	(5)	17'-5"	36
S20	1	#7	(5)	17'-2"	35
S21	4	#8	(5)	16'-10"	180
U1	6	#5	(14)	3'-5"	21
U2	4	#5	(2)	4'-5"	18
U3	8	#6	(3)	8'-4"	100
U4	8	#8	(3)	8'-4"	178
U5	90	#8	(3)	9'-0"	2163
U6	6	#5	(3)	4'-11"	31
U7	88	#8	(2)	8'-2"	1919
U8	8	#6	(3)	5'-3"	63
U9	8	#6	(3)	5'-11"	71
U10	4	#5	(2)	4'-10"	20
U11	6	#5	(3)	5'-7"	35
U12	2	#4	(2)	3'-10"	5
U13	4	#8	(3)	7'-11"	85
U14	12	#5	(3)	4'-10"	60
U15	4	#5	(3)	2'-11"	12
U16	4	#5	(3)	3'-4"	14
U17	6	#6	(9)	11'-5"	103
U18	2	#6	(9)	9'-0"	27
U19	12	#5	(15)	5'-10"	73
U20	8	#6	(16)	5'-10"	70
U21	4	#6	(16)	4'-8"	28
U22	4	#5	(3)	2'-10"	12
U23	4	#5	(3)	2'-8"	11
SP-1	4	#4	(10)	15'-8"	42
V1	SEE SHEET NO. 2302				
V2	SEE SHEET NO. 2302				

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 4/16/07

EarthTech
A Jacobs Engineering Group Company

FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029878 JOHN JONES JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 9 OF 9 BRIDGE NO. 353

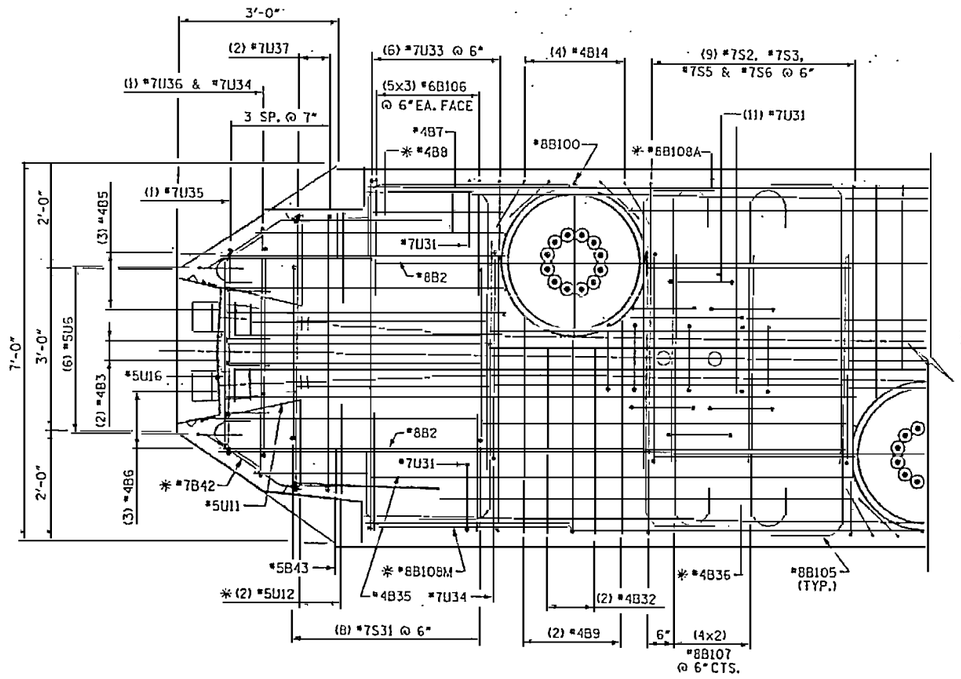
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

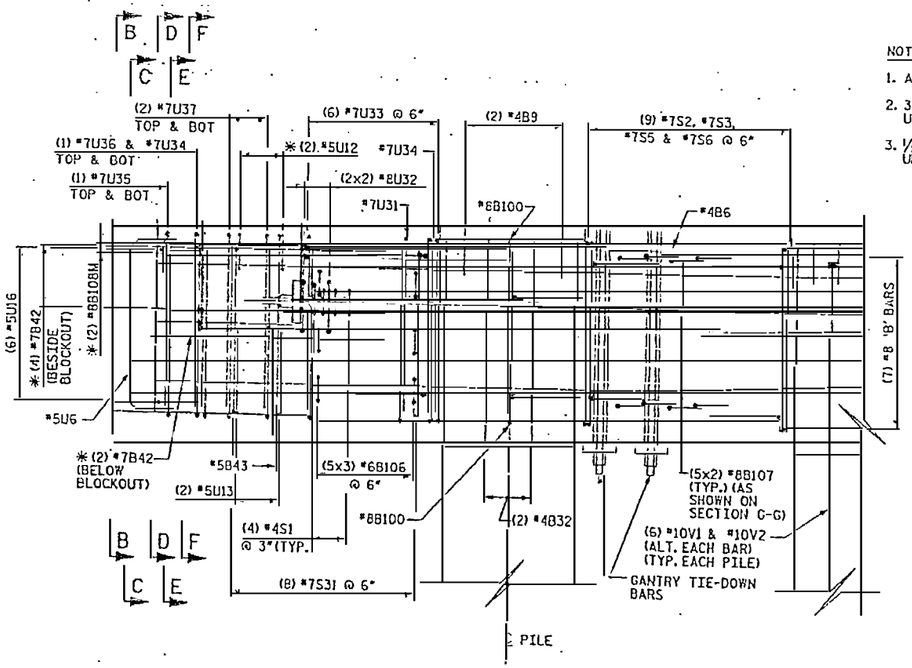
DETAILS - PILE CAP TYPE 21
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2589.00
TOTAL SHEETS



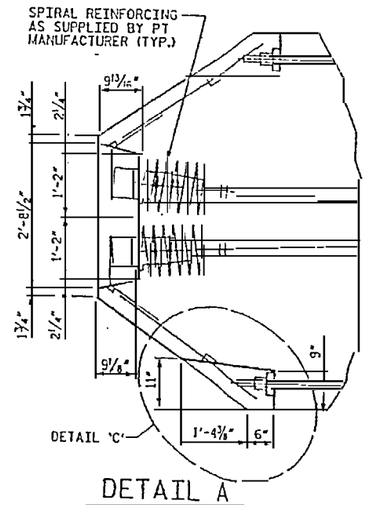
END SEGMENT - TOP PLAN



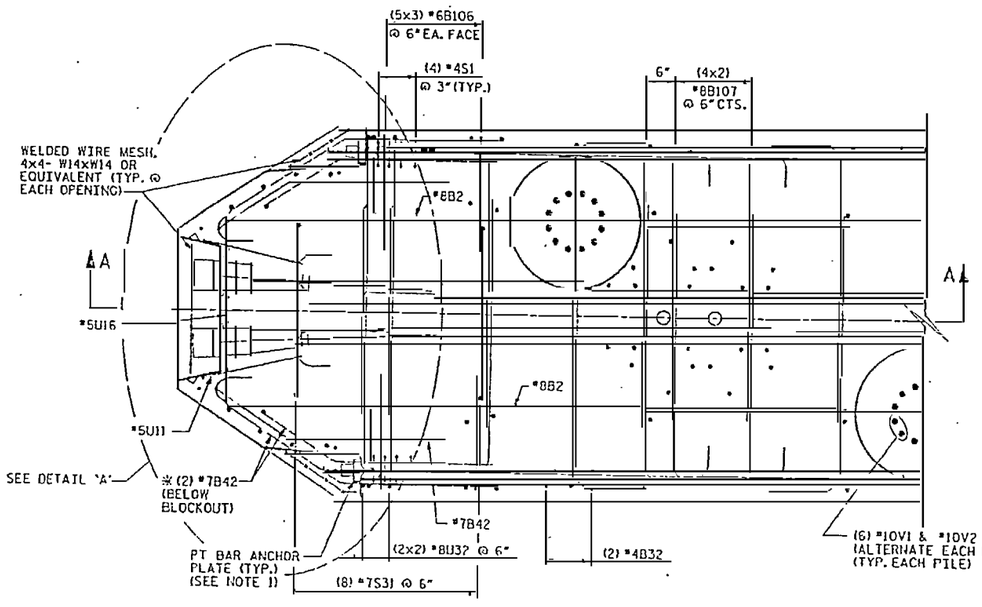
END SEGMENT - ELEVATION

NOTES:

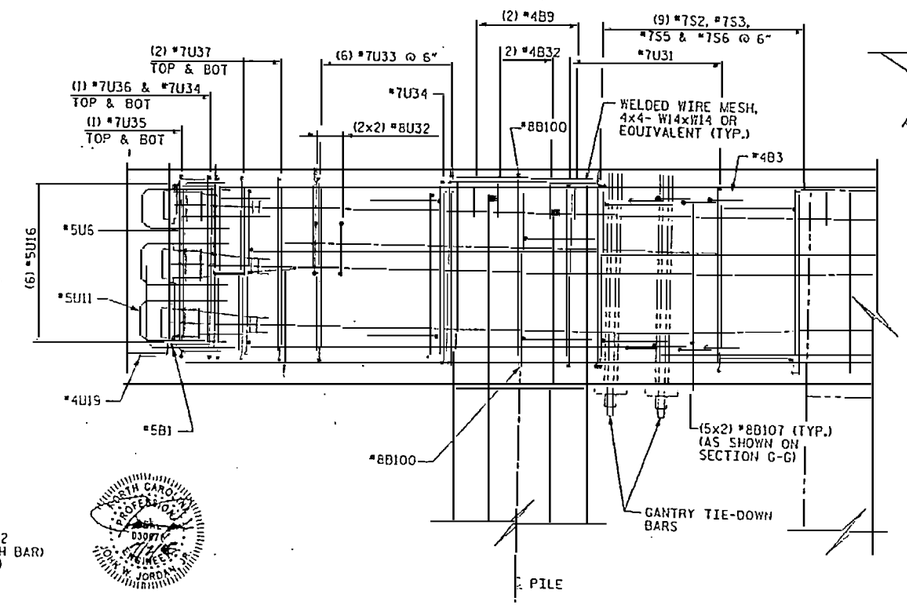
1. ANCHOR PLATES CAN BE CAST WITH CAP SEGMENTS.
2. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
3. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.



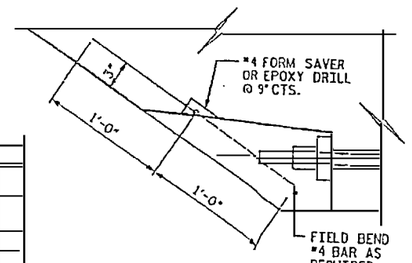
DETAIL A



END SEGMENT - MID PLAN



END SEGMENT - SECTION A



DETAIL C

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
ALTERNATE DETAILS FOR P.T. BAR BLOCKOUTS IN PRECAST PILE CAPS FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2590.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 6 /08

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030977 JOHN W. JORDAN

EarthTech
A Jacobs International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DATE: 1/2/2008
TIME: 10:22:45 AM

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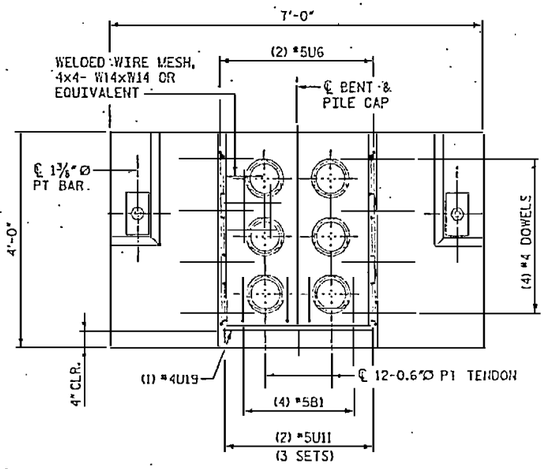
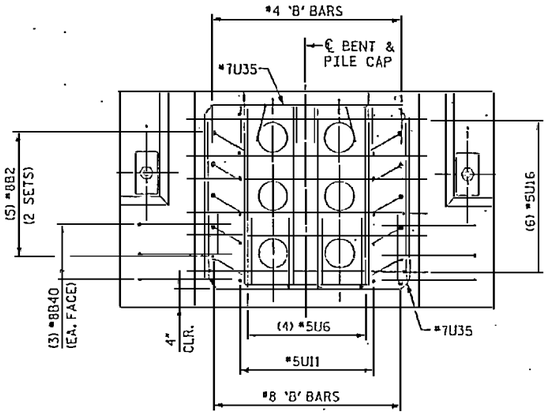


SECTION B-B



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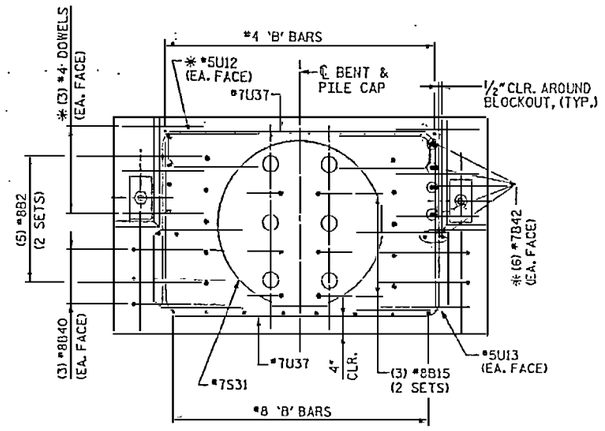

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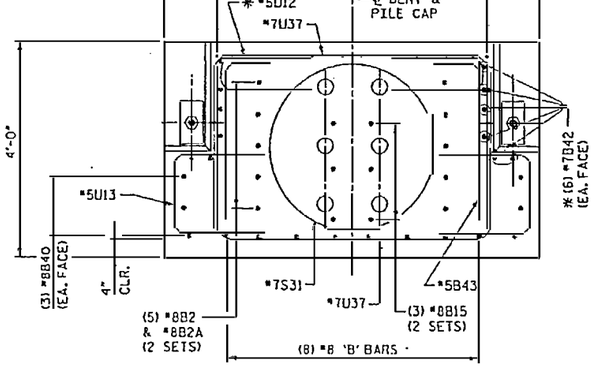

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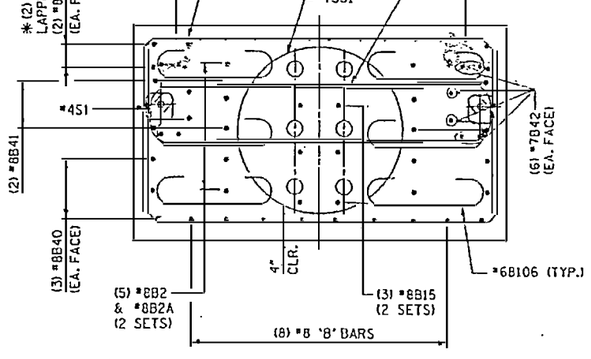

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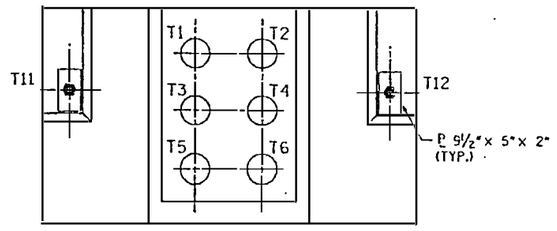

TENDON LAYOUT

1. T11 AND T12 SHALL BE 1⅜"Ø PT BARS AND T1 THRU T6 SHALL BE 12-0.6"Ø STRAND TENDONS. FOR STRESSING FORCES, SEE "POST-TENSIONING INFORMATION" SHEET.
2. ALL TENDONS SHALL BE SINGLE END STRESSED.
3. STRESSING SEQUENCE FOR STRAND TENDONS: T3, T4, T2, T5, T6, T1.
4. CONCRETE STRENGTH SHALL BE AT LEAST 4 ksi BEFORE STRESSING ANY STRAND TENDONS.

NOTES:

1. 3" CLEARANCE FOR ALL BARS AT EXTERIOR FACES UNLESS NOTED OTHERWISE.
2. ½" CLEARANCE FOR ALL BARS AROUND BLOCKOUTS UNLESS NOTED OTHERWISE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN PE — DATE 7/2/08

NORTH CAROLINA PROFESSIONAL ENGINEER 030671 7/2/08 JOHN W. JORDAN

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FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
ALTERNATE DETAILS FOR P.I. BAR BLOCKOUTS IN PRECAST PILE CAPS FOR BRIDGE ON US17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2591.00
1			3			TOTAL SHEETS
2			4			

DGN: 7/2/2008
Plot: 7/2/08 10:13 AM
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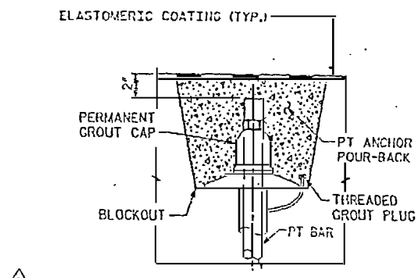
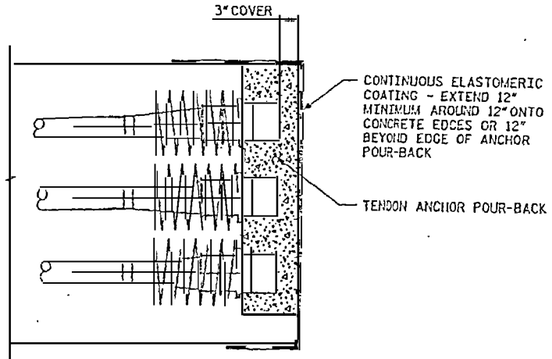
Bent Location	Tendon Designation	No. Required per Bent	Bent No. in the Group	Total PT No. Required	Tendon Quantity & Size	Tendon Length (ft-in)	Each Tendon Weight (lbs)	Tendon Weight per Bent (lbs)	Total Weight (lbs)	Stressing Force / Tendon (kips)	Stressing End	Elongation (in) Before Anchor set	Elongation (in) After Anchor set
1 thru 13, 18 thru 26, 29 thru 80	T1, T2	2	74	148	12 x0.6" ϕ strand	80'-3"	713	1425	105468	534	One Side	6.76	6.39
	T3, T4	2	74	148	12 x0.6" ϕ strand	80'-3"	713	1425	105468	534	One Side	6.72	6.35
	T5, T6	2	74	148	12 x0.6" ϕ strand	80'-3"	713	1425	105468	534	One Side	6.72	6.35
	T11, T12	2	74	148	1 x1 3/8" ϕ PT Bar	75'-1"	417	835	61785	166	One Side	3.24	3.24
14, 17	T1, T2	2	2	4	12 x0.6" ϕ strand	84'-7 1/8"	751	1502	3005	556	One Side	7.27	6.89
	T3, T4	2	2	4	12 x0.6" ϕ strand	84'-7 1/8"	751	1502	3005	556	One Side	7.23	6.86
	T5, T6	2	2	4	12 x0.6" ϕ strand	84'-7 1/8"	751	1502	3005	556	One Side	7.20	6.82
	T11, T12	2	2	4	1 x1 3/8" ϕ PT Bar	79'-5 1/8"	442	883	1766	166	One Side	3.40	3.40
15, 16	T1, T2	2	2	4	12 x0.6" ϕ strand	100'-9 1/4"	895	1790	3579	559	One Side	8.48	8.11
	T3, T4	2	2	4	12 x0.6" ϕ strand	100'-9 1/4"	895	1790	3579	559	One Side	8.60	8.22
	T5, T6	2	2	4	12 x0.6" ϕ strand	100'-9 1/4"	895	1790	3579	559	One Side	8.69	8.32
	T11, T12	2	2	4	1 x1 3/8" ϕ PT Bar	95'-7 1/4"	532	1063	2126	166	One Side	4.09	4.09
27	T1 thru T12	12	1	12	1 x1 3/4" ϕ PT Bar	70'-2"	648	7772	7772	280	One Side	3.07	3.07
28	T1-T3, T5-T7, T9-T11	9	1	9	1 x1 3/4" ϕ PT Bar	70'-2"	648	5829	5829	280	One Side	3.07	3.07
	T4, T8, T12	3	1	3	1 x1 3/4" ϕ PT Bar	66'-10 1/2"	617	1852	1852	280	One Side	2.93	2.93
81, 100	T1, T2	2	2	4	12 x0.6" ϕ strand	81'-2"	721	1442	2883	557	One Side	6.98	6.61
	T3, T4	2	2	4	12 x0.6" ϕ strand	81'-2"	721	1442	2883	557	One Side	6.94	6.57
	T5, T6	2	2	4	12 x0.6" ϕ strand	81'-2"	721	1442	2883	557	One Side	6.90	6.53
	T11, T12	2	2	4	1 x1 3/8" ϕ PT Bar	76'-0"	423	845	1690	166	One Side	3.26	3.26
82 thru 85	T1, T2	2	4	8	12 x0.6" ϕ strand	84'-10 7/8"	754	1508	6032	563	One Side	7.59	7.22
	T3, T4	2	4	8	12 x0.6" ϕ strand	84'-10 7/8"	754	1508	6032	563	One Side	7.71	7.34
	T5, T6	2	4	8	12 x0.6" ϕ strand	84'-10 7/8"	754	1508	6032	563	One Side	7.83	7.45
	T11, T12	2	4	8	1 x1 3/8" ϕ PT Bar	79'-8 7/8"	443	887	3547	166	One Side	3.72	3.72
86 thru 99	T1, T2	2	14	28	12 x0.6" ϕ strand	97'-4 7/8"	865	1730	24219	563	One Side	8.15	7.77
	T3, T4	2	14	28	12 x0.6" ϕ strand	97'-4 7/8"	865	1730	24219	563	One Side	8.28	7.91
	T5, T6	2	14	28	12 x0.6" ϕ strand	97'-4 7/8"	865	1730	24219	563	One Side	8.41	8.03
	T11, T12	2	14	28	1 x1 3/8" ϕ PT Bar	92'-2 7/8"	513	1026	14360	166	One Side	3.93	3.93

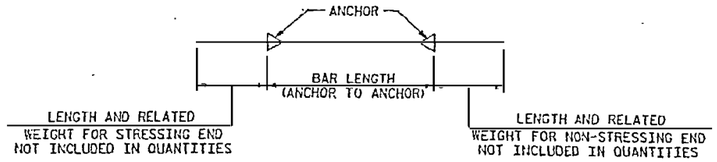


ANCHOR PROTECTION FOR PT BARS

NOTE:
EXTEND ELASTOMERIC COATING 12" ONTO CONCRETE EDGES OR 12" BEYOND EDGE OF ANCHOR POUR-BACK.



ANCHOR PROTECTION FOR PT TENDONS



NOTES:

1. FOR EPOXY JOINTING AT PRECAST BENT CAPS, SEE SPECIAL PROVISIONS.
2. FOR POST-TENSIONING OF PRECAST BENT CAPS, SEE SPECIAL PROVISIONS.
3. FOR POST-TENSIONING GROUT, SEE SPECIAL PROVISIONS.

CONSTRUCTION SEQUENCE:
(FOR BENT NOS. 27 & 28)

1. AFTER ALL PILES ARE DRIVEN AND ALL THE PILE TOPS ARE SET TO THE REQUIRED ELEVATIONS, SET ALL BENT CAP SEGMENTS INTO THE PROPER POSITION.
2. APPLY APPROVED SEGMENTAL BRIDGE EPOXY AT ALL BENT CAP SEGMENT JOINTS. STRESS PT BARS IN THE FOLLOWING ORDER: T6, T7, T2, T11, T10 AND T3 TO SET THE EPOXY. EACH PT BAR IS STRESSED TO 35 KIPS.
3. AFTER EPOXY SETS, INSERT REBARS INTO THE PILE VOIDS AND BENT CAP OPENINGS FOR PILES, AND FILL THE VOIDS AND OPENINGS WITH SPECIFIED CONCRETE.
4. AFTER THE CONCRETE COMPRESSIVE STRENGTH REACHES 4 KSI, STRESS ALL THE PT BARS TO THEIR FINAL FORCE, 280 KIPS.
5. GROUT ALL POST-TENSIONING DUCTS.
6. FILL THE PT BAR ANCHOR BLOCKOUTS WITH SPECIFIED CONCRETE MIX. (SEE SPECIAL PROVISIONS.) APPLY ELASTOMERIC COATING TO ANCHOR BLOCKOUTS AS SHOWN IN DETAIL "ANCHOR PROTECTION FOR PT BARS" ON THIS SHEET.

CONSTRUCTION SEQUENCE:
(FOR ALL BENTS EXCEPT BENT NOS. 27 & 28)

1. AFTER ALL PILES ARE DRIVEN AND ALL THE PILE TOPS ARE SET TO THE REQUIRED ELEVATIONS, SET ALL BENT CAP SEGMENTS INTO THE PROPER POSITION.
2. APPLY APPROVED EPOXY BONDING AGENT AT ALL BENT CAP SEGMENT JOINTS. STRESS PT BARS T11 AND T12. EACH PT BAR IS STRESSED TO 166 KIPS.
3. AFTER EPOXY SETS, INSERT REBARS INTO THE PILE VOIDS AND BENT CAP OPENINGS FOR PILES, AND FILL THE VOIDS AND OPENINGS WITH SPECIFIED CONCRETE.
4. AFTER THE CONCRETE COMPRESSIVE STRENGTH REACHES 4 KSI, STRESS PT TENDONS T1 THRU T6 TO THEIR FINAL FORCES AS SHOWN IN THE POST-TENSIONING INFORMATION TABLE.
5. GROUT ALL POST-TENSIONING DUCTS.
6. FILL THE PT BAR AND TENDON ANCHOR BLOCKOUTS WITH SPECIFIED CONCRETE MIX. (SEE SPECIAL PROVISIONS.) APPLY ELASTOMERIC COATING TO ANCHOR BLOCKOUTS AS SHOWN IN DETAILS "ANCHOR PROTECTION FOR PT BARS" AND "ANCHOR PROTECTION FOR PT TENDONS" ON THIS SHEET.

RELEASED FOR CONSTRUCTION
Tom Shearin 10/12/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030731 W. JORDAN

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3 REVISED TABLE.
2 REVISED TABLE, ANCHOR PROTECTION DETAILS AND ADDED NOTES
1 REVISION TO BENT CAP SHAPE AND POST-TENSIONING SYSTEM.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

POST-TENSIONING INFORMATION FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2602.03
1	MTB	5/07	3	MTB	10/9/07	TOTAL SHEETS
2	SGS	7/07				

DRAWN BY : C. J. WHITFIELD DATE : 1/07
CHECKED BY : J. LIU DATE : 1/07

Bent Location	Tendon Designation	No. Required per Bent	Bent No. in the Group	Total PT No. Required	Tendon Quantity & Size	Tendon Length (ft-in)	Each Tendon Weight (lbs)	Tendon Weight per Bent (lbs)	Total Weight (lbs)	Stressing Force / Tendon (kips)	Stressing End	Elongation (in) Before Anchor set	Elongation (in) After Anchor set
101	T1, T2	2	1	2	12 x0.6" ϕ strand	80'-3"	713	1425	1425	557	One Side	6.80	6.53
	T3, T4	2	1	2	12 x0.6" ϕ strand	80'-3"	713	1425	1425	557	One Side	6.66	6.49
	T5, T6	2	1	2	12 x0.6" ϕ strand	80'-3"	713	1425	1425	557	One Side	6.82	6.45
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	75'-1"	417	835	835	166	One Side	3.22	3.22
102	T1, T2	2	1	2	12 x0.6" ϕ strand	80'-3"	713	1425	1425	557	One Side	6.69	6.52
	T3, T4	2	1	2	12 x0.6" ϕ strand	80'-3"	713	1425	1425	557	One Side	6.85	6.48
	T5, T6	2	1	2	12 x0.6" ϕ strand	80'-3"	713	1425	1425	557	One Side	6.81	6.44
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	75'-11"	417	835	835	166	One Side	3.22	3.22
103	T1, T2	2	1	2	12 x0.6" ϕ strand	81'-7"	724	1449	1449	554	One Side	7.00	6.63
	T3, T4	2	1	2	12 x0.6" ϕ strand	81'-7"	724	1449	1449	554	One Side	6.96	6.60
	T5, T6	2	1	2	12 x0.6" ϕ strand	81'-7"	724	1449	1449	554	One Side	6.93	6.58
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	76'-5"	425	850	850	166	One Side	3.27	3.27
104	T1, T2	2	1	2	12 x0.6" ϕ strand	82'-7"	733	1467	1467	558	One Side	7.15	6.78
	T3, T4	2	1	2	12 x0.6" ϕ strand	82'-7"	733	1467	1467	558	One Side	7.13	6.75
	T5, T6	2	1	2	12 x0.6" ϕ strand	82'-7"	733	1467	1467	558	One Side	7.10	6.73
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	77'-5"	430	861	861	166	One Side	3.32	3.32
105 thru 110	*T1, T2*	*2*	*6*	*12*	*12 x0.6" ϕ strand*	*82'-7"*	*733*	*1467*	*8800*	*541*	*One Side*	*7.04*	*6.66*
	T3, T4	2	6	12	12 x0.6" ϕ strand	82'-7"	733	1467	8800	541	One Side	7.08	6.70
	T5, T6	2	6	12	12 x0.6" ϕ strand	82'-7"	733	1467	8800	541	One Side	6.99	6.62
	T11, T12	2	6	12	1 x1 3/8" ϕ PT Bar	77'-5"	430	861	5165	166	One Side	3.32	3.32
111	T1, T2	2	1	2	12 x0.6" ϕ strand	83'-3"	739	1479	1479	558	One Side	7.08	6.70
	T3, T4	2	1	2	12 x0.6" ϕ strand	83'-3"	739	1479	1479	558	One Side	7.05	6.67
	T5, T6	2	1	2	12 x0.6" ϕ strand	83'-3"	739	1479	1479	558	One Side	7.01	6.64
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	78'-1"	434	868	868	166	One Side	3.35	3.35
112	T1, T2	2	1	2	12 x0.6" ϕ strand	86'-8"	770	1539	1539	542	One Side	7.36	7.01
	T3, T4	2	1	2	12 x0.6" ϕ strand	86'-8"	770	1539	1539	542	One Side	7.33	6.96
	T5, T6	2	1	2	12 x0.6" ϕ strand	86'-8"	770	1539	1539	542	One Side	7.29	6.91
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	81'-6"	453	906	906	166	One Side	3.49	3.49
113	T1, T2	2	1	2	12 x0.6" ϕ strand	90'-0 3/4"	800	1600	1600	563	One Side	7.48	7.11
	T3, T4	2	1	2	12 x0.6" ϕ strand	90'-0 3/4"	800	1600	1600	563	One Side	7.43	7.05
	T5, T6	2	1	2	12 x0.6" ϕ strand	90'-0 3/4"	800	1600	1600	563	One Side	7.37	7.00
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	84'-10 3/4"	472	944	944	166	One Side	3.64	3.64
114	T1, T2	2	1	2	12 x0.6" ϕ strand	93'-5 3/4"	830	1660	1660	563	One Side	7.78	7.41
	T3, T4	2	1	2	12 x0.6" ϕ strand	93'-5 3/4"	830	1660	1660	563	One Side	7.72	7.35
	T5, T6	2	1	2	12 x0.6" ϕ strand	93'-5 3/4"	830	1660	1660	563	One Side	7.66	7.29
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	86'-3 3/4"	491	982	982	166	One Side	3.78	3.78
115SB thru 120SB	T1 thru T6	6	6	36	12 x0.6" ϕ strand	46'-7"	414	2482	14892	540	One Side	4.04	3.67
	T11, T12	2	6	12	1 x1 3/8" ϕ PT Bar	41'-5"	230	461	2763	166	One Side	1.79	1.79
121SB	T1 thru T6	6	1	6	12 x0.6" ϕ strand	47'-10 1/4"	425	2550	2550	540	One Side	4.14	3.77
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	42'-8 1/4"	237	475	475	166	One Side	1.85	1.85
122SB	T1 thru T6	6	1	6	12 x0.6" ϕ strand	52'-7 3/4"	467	2805	2805	535	One Side	4.51	4.14
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	47'-5 3/4"	264	528	528	166	One Side	2.05	2.05
123SB thru 127SB	T1 thru T6	6	5	30	12 x0.6" ϕ strand	58'-7"	520	3121	15607	531	One Side	4.99	4.61
	T11, T12	2	5	10	1 x1 3/8" ϕ PT Bar	53'-5"	297	594	2970	166	One Side	2.31	2.31
115NB thru 126NB	T1 thru T6	6	11	66	12 x0.6" ϕ strand	44'-7"	396	2375	26129	538	One Side	3.86	3.48
	T11, T12	2	11	22	1 x1 3/8" ϕ PT Bar	39'-5"	219	438	4821	166	One Side	1.71	1.71
126NB	T1 thru T6	6	1	6	12 x0.6" ϕ strand	44'-7"	396	2375	2375	545	One Side	3.89	3.52
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	39'-5"	219	438	438	166	One Side	1.71	1.71
127NB	T1 thru T6	6	1	6	12 x0.6" ϕ strand	49'-5 1/2"	439	2635	2635	540	One Side	4.29	3.91
	T11, T12	2	1	2	1 x1 3/8" ϕ PT Bar	44'-3 1/2"	246	493	493	166	One Side	1.92	1.92

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 10/12/07 DATE

⚠1 REVISED TABLE.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 2 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

POST-TENSIONING INFORMATION FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2503.01
1	MTB	10/9/07				TOTAL SHEETS
2						

EarthTech
A Tyco International Ltd. Company

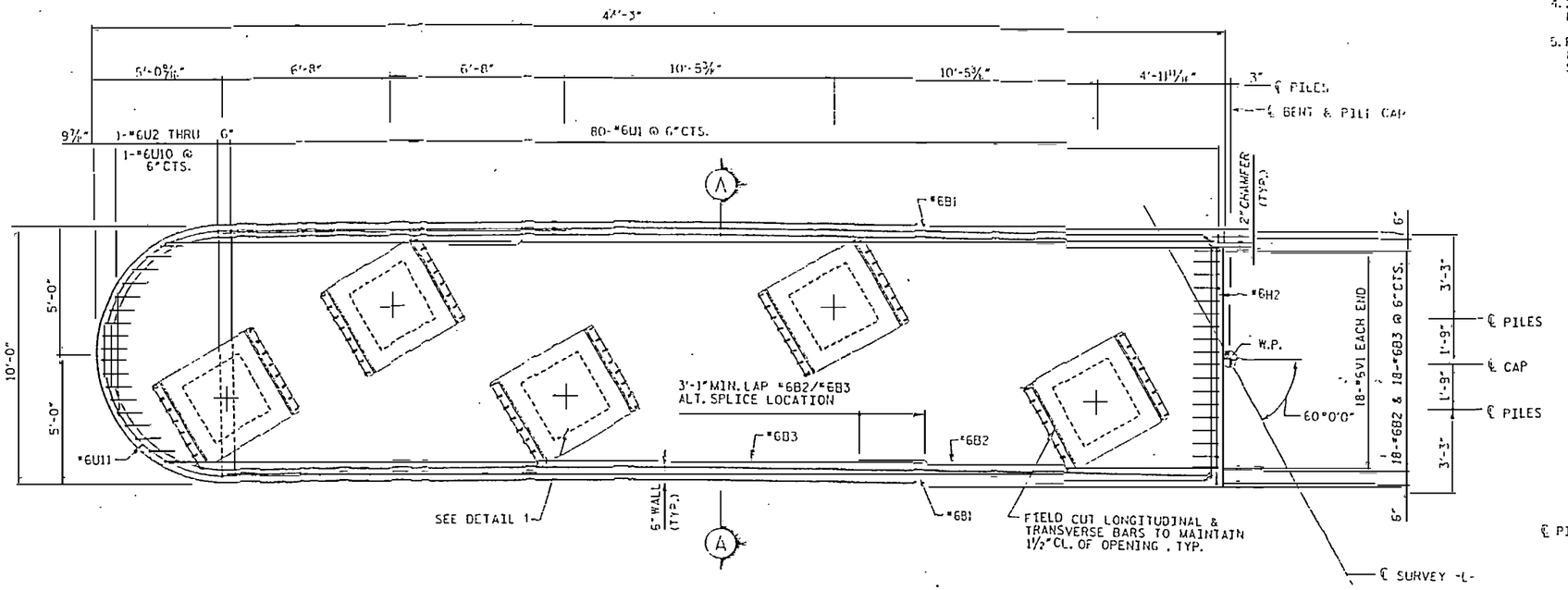
FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 7/07
CHECKED BY : J. T. III DATE : 7/07

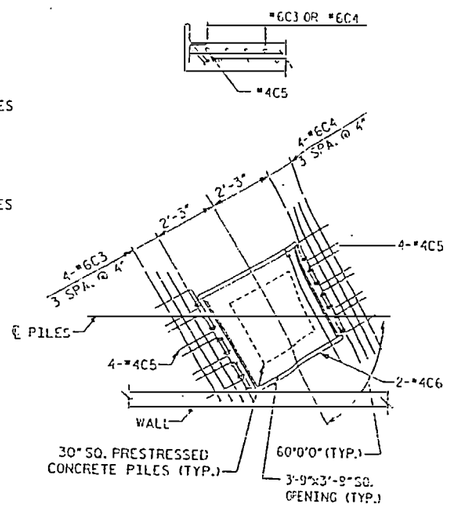
DGN: SS1R.dgn
DW: SS1R.dw
CTB: sheet.ctb
Xrefs: Projection.dgn Survey.dgn Structures.dgn

NOTES:

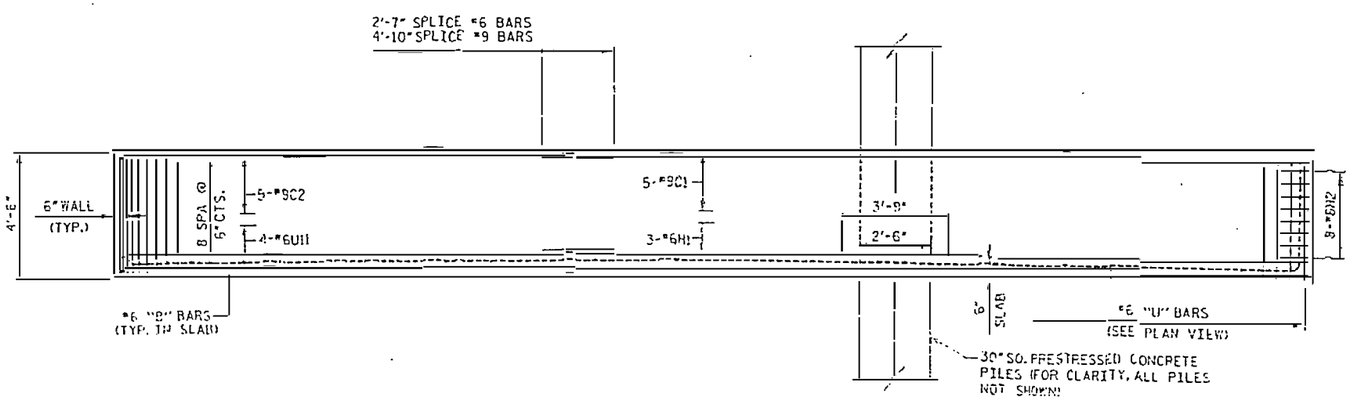
1. ONLY ONE SHELL IS SHOWN. THE OTHER SHELL IS SIMILAR BY 180° ROTATION. EACH STRUT CONSISTS OF TWO SHELLS.
2. FOR SECTION A-A SEE SHEET 2 OF 2.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF THE SHELL SHALL BE 5000 PSI.
4. 2" CLEARANCE FOR ALL BARS AT EXTERIOR FACE UNLESS NOTED OTHERWISE.
5. FOR LIFTING DETAILS, HANGER STRUT SUPPORT DETAILS, & EXTERNAL WALL TIES SEE MCNARY BERGERON DETAIL SHEETS TD-1 THRU TD-3



PLAN
(BENTS B2 THRU B5)



DETAIL 1
(TYP. PILE OPENINGS)



ELEVATION (CASING CAP CONCRETE)

RELEASED FOR CONSTRUCTION
TOM SHEARIN PE DATE

1 REVISION TO NOTES, ADDED DETAIL 2 AND REBAR CALLOUT.
2 REVISED PLAN TO UPDATE PILE OPENING LOCATIONS AND REBAR CALLOUTS.
3 GENERAL REVISION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 2 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

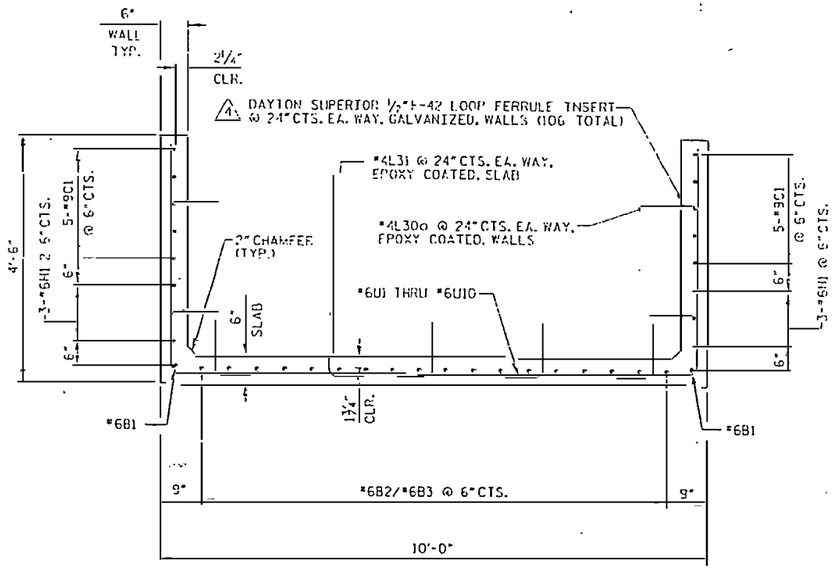
- BRIDGE No. 2 -

PRECAST SHELL FOR STRUT TYPE 1 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

Earth Tech
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY: DATE:	2006.03
1	CJP	11/5/07	3	CJP 10/13/08	TOTAL SHEETS
2	MTE	07/23/08			

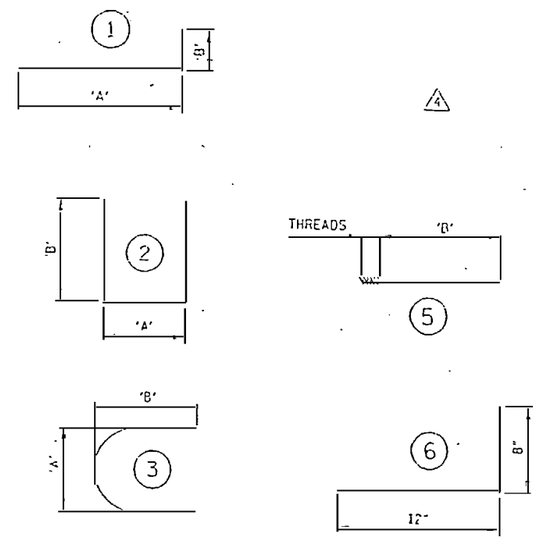
DRAWN BY : C.J. PITTFIELD DATE : 03/07
CHECKED BY : T.H.S. DATE : 07/07



SECTION A-A

BILL OF MATERIAL

BAR TYPES



STRUT TYPE 1 (ONE SHELL OF STRUCT)

BAR	No.	SIZE	TYPE	'A'	'B'	LENGTH	WEIGHT
B1	2	#6	1	39'-0"	1'-0"	40'-0"	120
B2	18	#6	1	16'-0"	1'-0"	17'-0"	460
B3	18	#6	1	31'-1"	1'-0"	32'-1"	867
C1	10	#9	1	30'-5"	1'-7"	32'-0"	1080
C2	5	#9	3	9'-6"	10'-3"	41'-11"	713
C3	20	#6	1	5'-3"	1'-0"	6'-3"	188
C4	20	#6	STR			6'-3"	188
C5	40	#4	2	9"	1'-6"	3'-9"	100
C6	10	#4	2	4'-3"	8"	5'-7"	37
4							
*L300	106	#4	5		8"	8"	47
*L31	115	#4	6			1'-8"	128
H1	6	#6	1	28'-2"	1'-0"	29'-2"	263
H2	8	#6	2	9'-6"	1'-0"	11'-6"	138
U1	80	#6	2	9'-8"	4'-2"	18'-0"	2163
U2	1	#6	2	4'-10"	4'-2"	13'-2"	20
U3	1	#6	2	6'-3"	4'-2"	14'-7"	22
U4	1	#6	2	7'-3"	4'-2"	15'-7"	23
U5	1	#6	2	8'-0"	4'-2"	16'-4"	25
U6	1	#6	2	8'-7"	4'-2"	16'-11"	25
U7	1	#6	2	9'-0"	4'-2"	17'-4"	26
U8	1	#6	2	9'-4"	4'-2"	17'-8"	27
U9	1	#6	2	9'-6"	4'-2"	17'-10"	27
U10	1	#6	2	9'-7"	4'-2"	17'-11"	27
U11	4	#6	3	9'-6"	18'-3"	41'-11"	252
V1	36	#6	1	4'-2"	1'-0"	5'-2"	279

* EPOXY COATED

ALL BAR DIMENSIONS ARE OUT TO OUT.

NOTES:

1. EACH STRUT CONSISTS OF TWO SHELLS.

1 GENERAL REVISIONS.
2 REVISIONS TO BILL OF MATERIAL AND GENERAL REVISIONS.
3 GENERAL REVISION
4 REVISE AS NOTED

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 2 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 26297 ENGINEER
10/23/08

Earth Tech
FLATIRON/UNITED A JOINT VENTURE

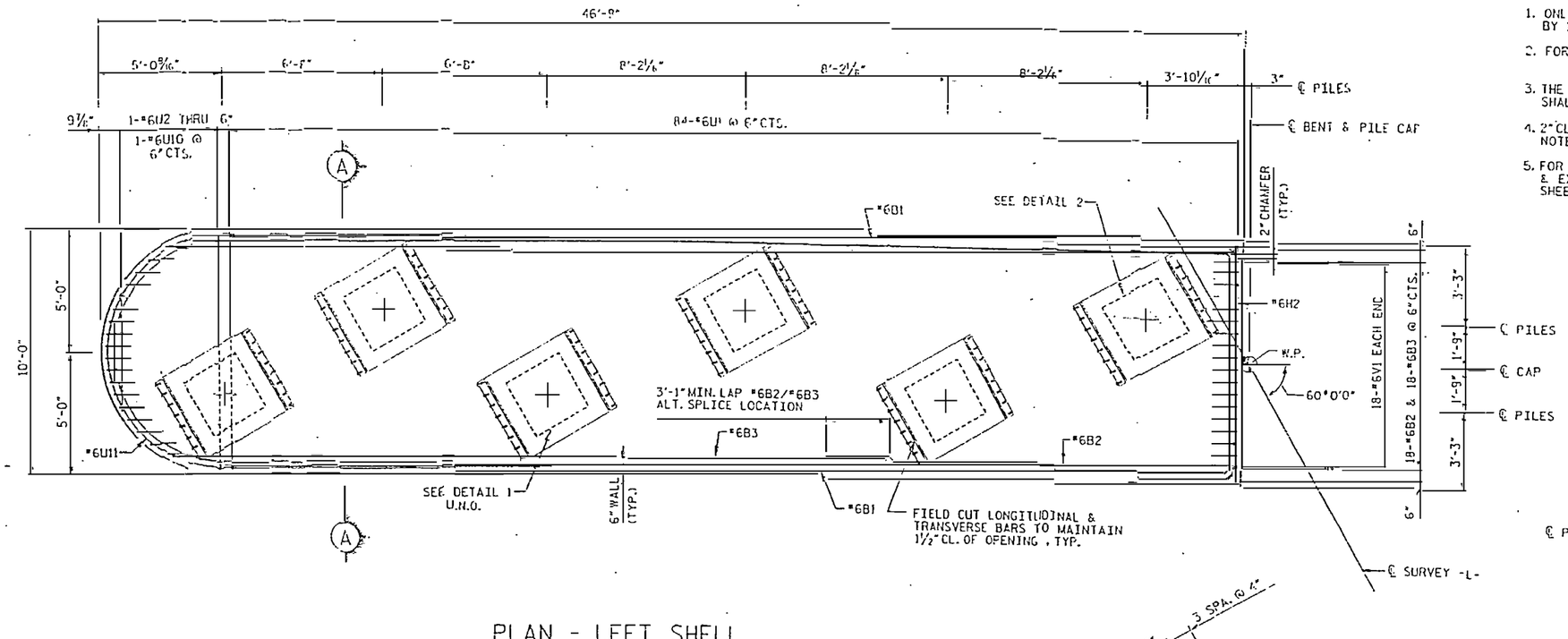
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

PRECAST SHELL FOR STRUT TYPE 1 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2607.04
1	MTL	11/5/07	3	DLT	10/13/08	TOTAL SHEETS
2	MTL	07/23/08	4	DLT	10/23/08	

DRAWN BY: S.J. WHITFIELD DATE: 03/07
CHECKED BY: J.L.S. DATE: 07/07

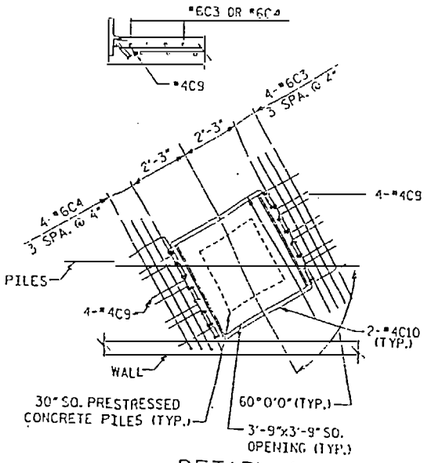


PLAN - LEFT SHELL

RIGHT SHELL SIMILAR BY 180° ROTATION (BENTS 66 THRU 99)

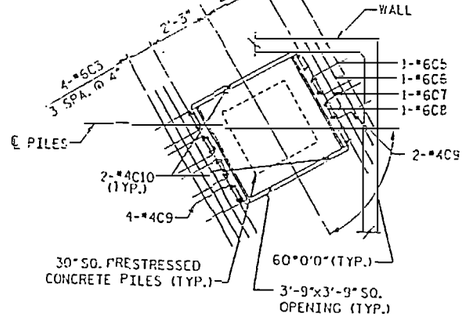
NOTES:

1. ONLY ONE SHELL IS SHOWN. THE OTHER SHELL IS SIMILAR BY 180° ROTATION. EACH STRUT CONSISTS OF TWO SHELLS.
2. FOR SECTION A-A SEE SHEET 2 OF 2.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF THE SHELL SHALL BE 5000 PSI.
4. 2" CLEARANCE FOR ALL BARS AT EXTERIOR FACE UNLESS NOTED OTHERWISE.
5. FOR LIFTING DETAILS, HANGER STRUT SUPPORT DETAILS, & EXTERNAL WALL TIES SEE MCNARY BERGERON DETAIL SHEETS TD-1 THRU TD-3



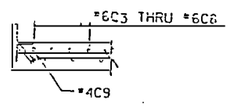
DETAIL 1

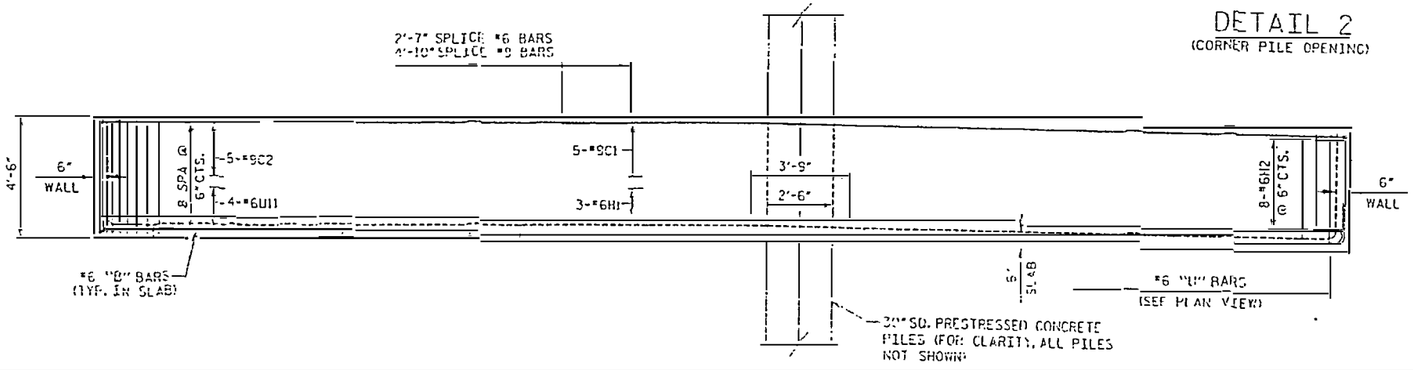
(TYP. PILE OPENINGS)



DETAIL 2

(CORNER PILE OPENING)





ELEVATION (CASING CAP CONCRETE)

1 REVISION TO NOTES, ADDED DETAIL 2 AND REBAR CALLOUT.

2 REVISED PLAN TO UPDATE PILE OPENING LOCATIONS AND REBAR CALLOUTS.

3 GENERAL REVISION

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE / DATE

NORTH CAROLINA PROFESSIONAL SEAL 28297 ENGINEER

10/24/13

Earth Tech

PLATIRON/UNITED A JOINT VENTURE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 1 OF 2 BRIDGE NO. 353

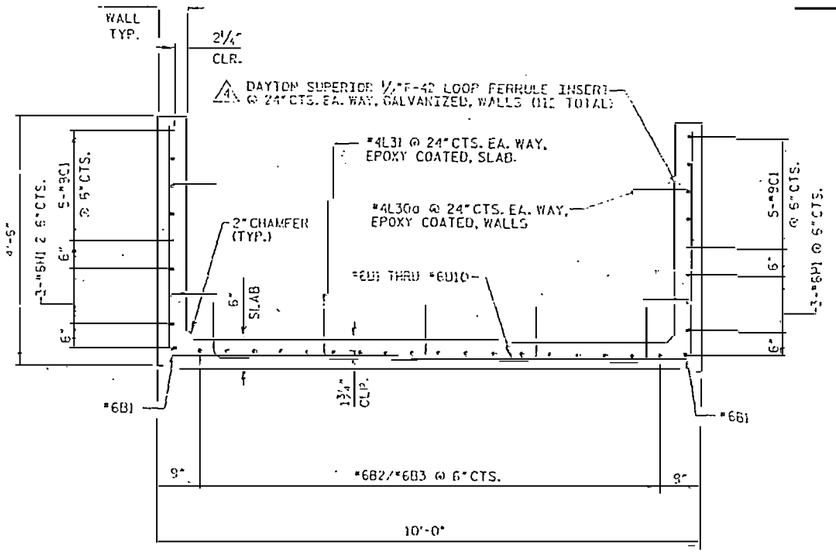
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

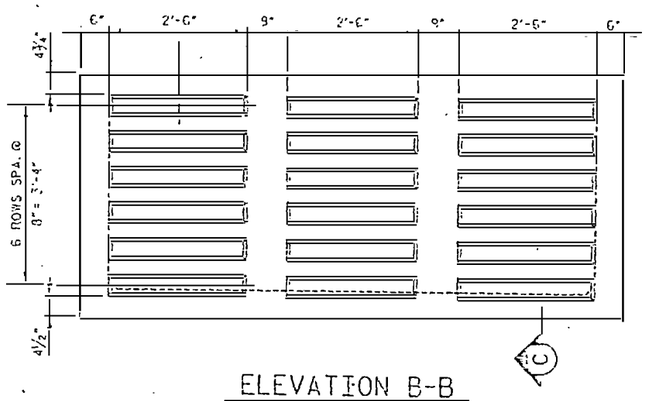
PRECAST SHELL FOR STRUT TYPE 2 FOR BRIDGE ON US 17 BYPASS OVER IAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2608.03
1	CJF	11/5/07	3	CJF	10/13/09	
2	SG	07/23/08				TOTAL SHEETS

DRAWN BY : S. G. STEDMAN DATE : 10/06
CHECKED BY : S.H. DATE : 10/06

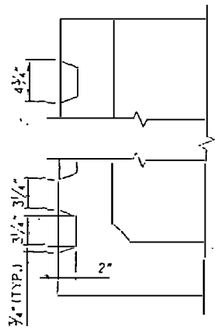


SECTION A-A



ELEVATION B-B

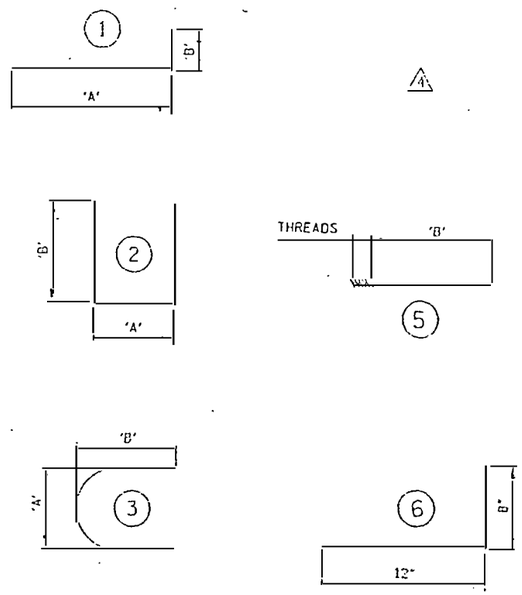
(SHOWING SHEAR KEYS; REQUIRED ONLY AT BENTS 90 THRU 95)



SECTION C-C

BILL OF MATERIAL

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

STRUT TYPE 2 (ONE SHELL OF STRUCT)

BAR	No.	SIZE	TYPE	'A'	'B'	LENGTH	WEIGHT
B1	2	#6	1	41'-0"	1'-0"	42'-0"	126
B2	16	#6	1	16'-0"	1'-0"	17'-0"	460
B3	18	#6	1	33'-1"	1'-0"	34'-7"	935
C1	10	#9	1	32'-11"	1'-7"	34'-6"	1173
C2	5	#5	3	9'-6"	18'-3"	41'-11"	713
C3	24	#6	STR			6'-3"	225
C4	20	#6	1	5'-5"	1'-0"	6'-3"	188
C5	1	#6	2	3'-6"	1'-0"	5'-6"	8
C6	1	#6	2	4'-3"	1'-0"	6'-3"	9
C7	1	#6	2	5'-0"	1'-0"	7'-0"	11
C8	1	#6	1	5'-5"	1'-0"	6'-5"	10
C9	46	#4	2	9"	1'-6"	3'-9	115
C10	12	#4	2	4'-3"	8"	5'-7"	45
4							
#L30a	112	#4	5		8"	8"	50
* L31	120	#4	6			1'-8"	134
H1	6	#6	1	30'-8"	1'-0"	31'-8"	285
H2	8	#6	2	9'-6"	1'-0"	11'-6"	138
U1	84	#6	2	9'-8"	4'-2"	18'-0"	2271
U2	1	#6	2	4'-10"	4'-2"	13'-2"	20
U3	1	#6	2	6'-3"	4'-2"	14'-7"	22
U4	1	#6	2	7'-3"	4'-2"	15'-7"	23
U5	1	#6	2	8'-0"	4'-2"	16'-4"	25
U6	1	#6	2	8'-7"	4'-2"	16'-11"	25
U7	1	#6	2	9'-0"	4'-2"	17'-4"	26
U8	1	#6	2	9'-4"	4'-2"	17'-8"	27
U9	1	#6	2	9'-6"	4'-2"	17'-10"	27
U10	1	#6	2	9'-7"	4'-2"	17'-11"	27
U11	4	#6	3	9'-6"	18'-3"	41'-11"	252
V1	36	#6	1	4'-2"	1'-0"	5'-2"	279

* EPOXY COATED

1 GENERAL REVISIONS.
2 REVISIONS TO BILL OF MATERIAL AND GENERAL REVISIONS.
3 GENERAL REVISION
4 REVISE AS NOTED

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 2 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 26297 ENGINEER WILLIAM SCOTT ALLEN
10/7/08

Earth Tech

FLATIRON/UNITED JOINT VENTURE

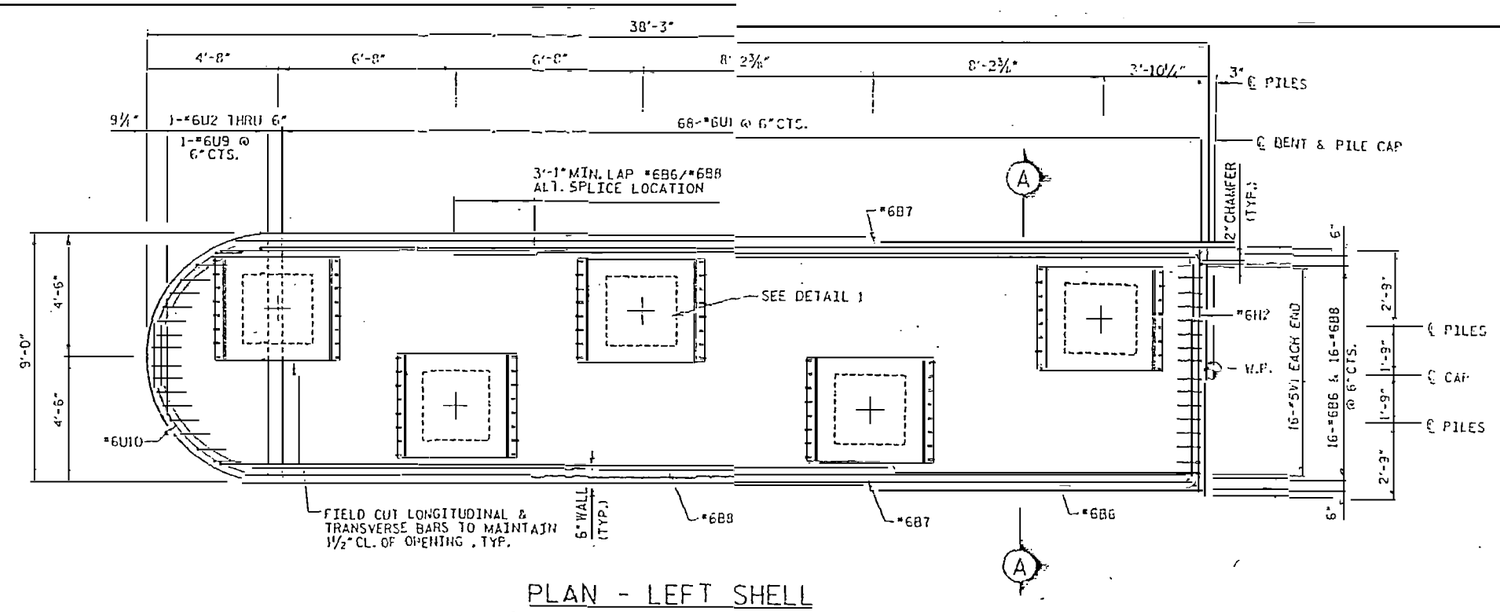
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

PRECAST SHELL FOR STRUT TYPE 2 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

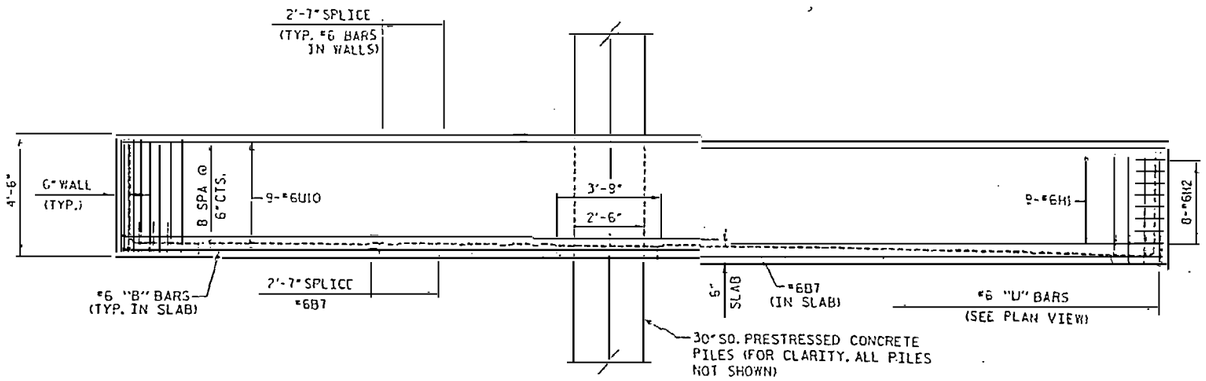
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2609.07
1	RPT	11/5/07	3	DET	10/13/08	TOTAL SHEETS
2	SS	04/24/08	4	DET	10/23/08	

DRAWN BY : C.J.WHITFIELD DATE : 03/07
CHECKED BY : J.LEU DATE : 03/07



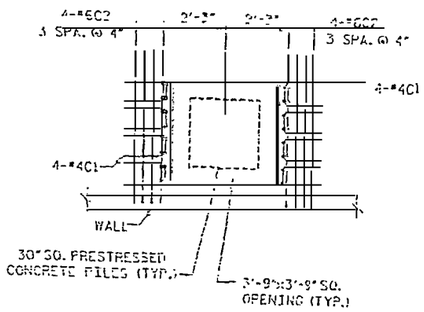
PLAN - LEFT SHELL

(RIGHT SHELL SIMILAR BY 180° ROTATION)
(BENTS 100, 101 AND 102)



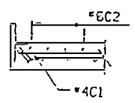
ELEVATION (CASING CAP CONCRETE)

(BENTS 100, 101 AND 102)



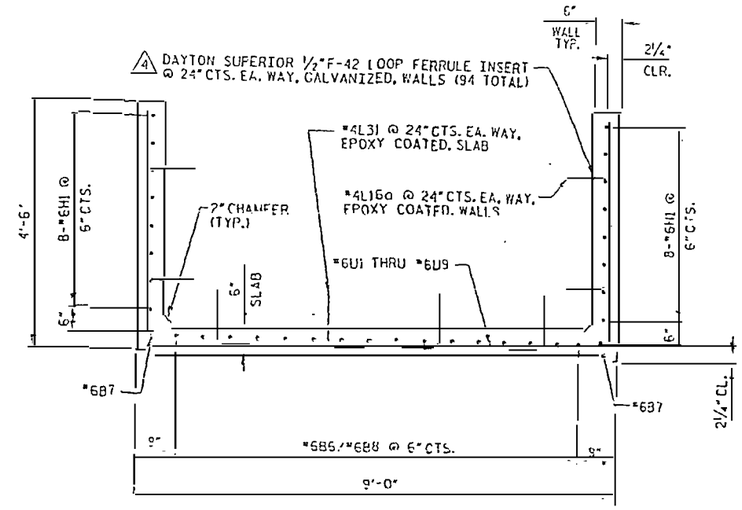
DETAIL 1

(TYP. PILE OPENINGS)



NOTES:

1. ONLY ONE SHELL IS SHOWN. THE OTHER SHELL IS SIMILAR BY 180° ROTATION. EACH STRUT CONSISTS OF TWO SHELLS.
2. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF THE SHELL SHALL BE 5000 PSI.
3. 2" CLEARANCE FOR ALL BARS AT EXTERIOR FACE UNLESS NOTED OTHERWISE.
4. FILL THE DUCT WITH 5000 PSI CONCRETE AFTER THE STRUT CONSTRUCTION IS COMPLETE.
5. FOR LIFTING DETAILS, HANGER STRUT SUPPORT DETAILS, & EXTERNAL WALL TIES SEE MCNARY BERGERON DETAIL SHEETS TD-1 THRU TD-5



SECTION A-A

1 REVISION TO NOTES, ADDED DETAIL 1 AND REBAR CALLOUT.
2 REVISION TO ADD BENTS 101 & 102.
3 GENERAL REVISION
4 REVISE AS NOTED

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 2
BRIDGE NO. 353

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 22231 ENGINEER SCOTT A. SMITH
10-17-2001

Earth Tech
FLATIRON/UNITED A JOINT VENTURE

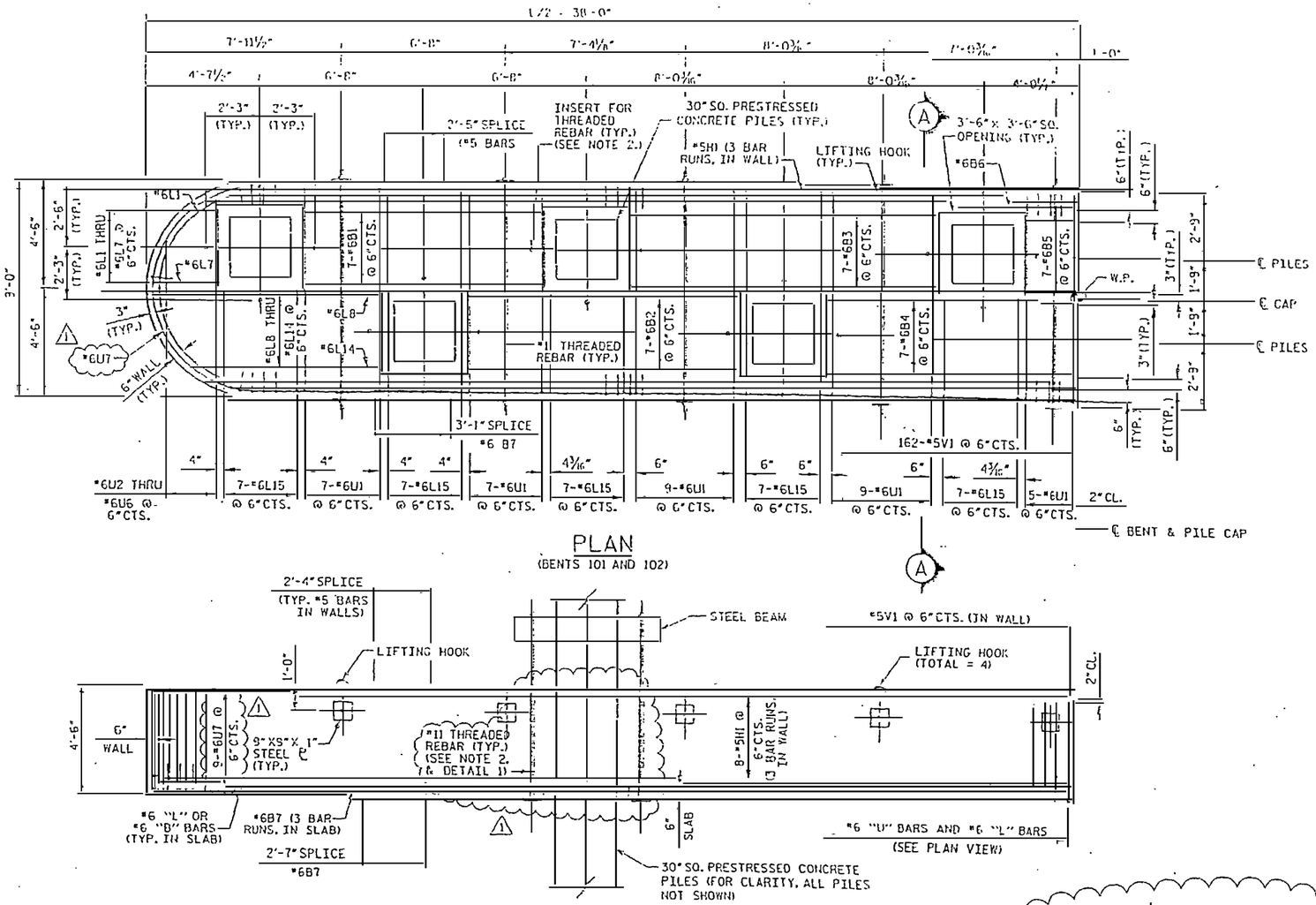
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

PRECAST SHELL FOR STRUT TYPE 3 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

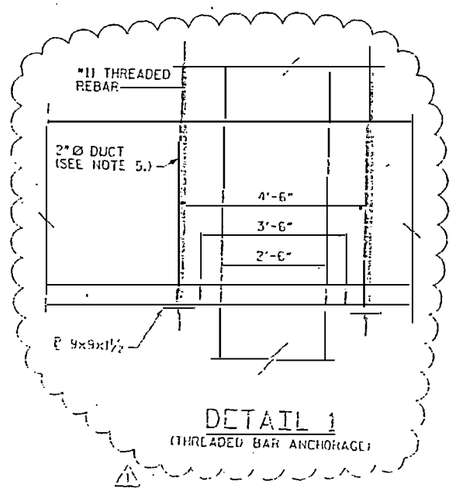
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2610.01
3	MTB	11/15/01	5	DLC	10/13/01	TOTAL SHEETS
2	MTB	07/23/01	1	DLC	10/23/01	

DRAWN BY: J. C. STEDMAN DATE: 10/00
CHECKED BY: KEITH DATE: 10/00



PLAN
(BENTS 101 AND 102)

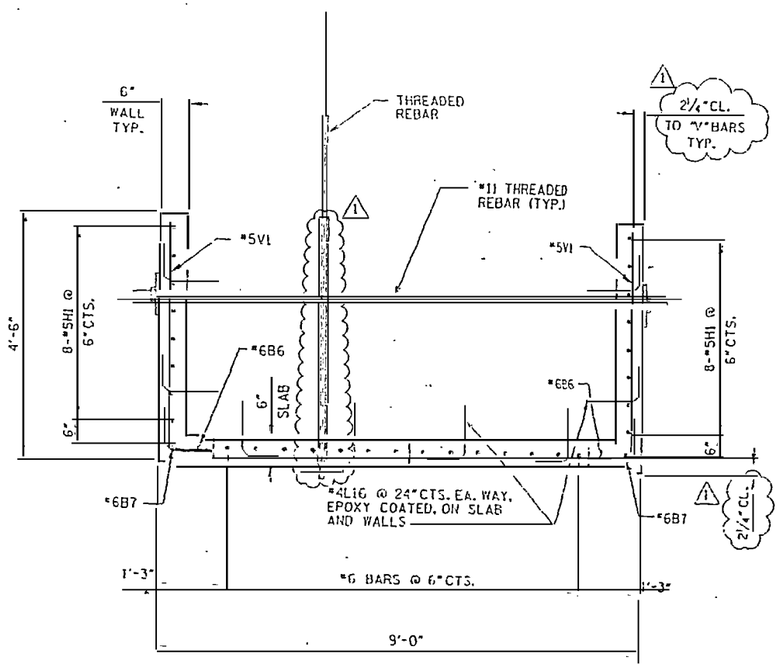
ELEVATION (CASING CAP CONCRETE)
(BENTS 101 AND 102)



DETAIL 1
(THREADED BAR ANCHORAGE)

NOTES:

1. ONLY ONE-HALF OF THE SHELL IS SHOWN THE OTHER HALF IS SIMILAR. EACH PILE CAP CONSISTS OF TWO HALF-PIECES.
2. EACH ANCHOR SHALL HAVE ALLOWABLE CAPACITY OF 30 KIP.
3. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH OF THE SHELL SHALL BE 5000 PSI.
4. 2" CLEARANCE FOR ALL BARS AT EXTERIOR FACE UNLESS NOTED OTHERWISE.
5. FILL THE DUCT WITH 5000 PSI CONCRETE AFTER THE STRUT CONSTRUCTION IS COMPLETE.



SECTION A-A

REVISION TO NOTES, ADDED DETAIL 1 AND REBAR CALLOUT.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 3

BRIDGE NO. 363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

PRECAST SHELL FOR STRUT TYPE 4 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

NORTH CAROLINA ENGINEER SEAL 030371 JORDAN

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE 11/04/17

Earth tech
A tyco international ltd. company

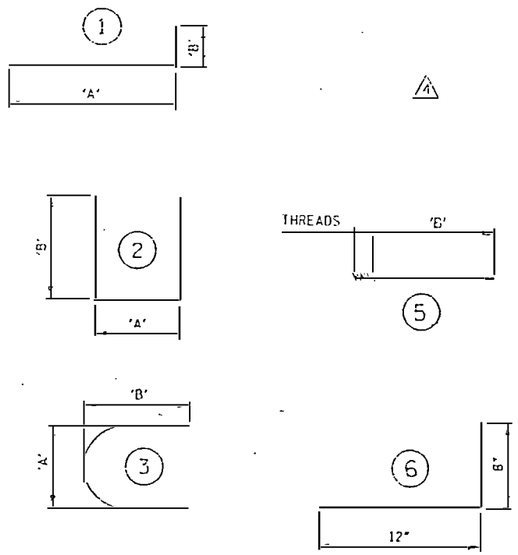
PLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY	1	DATE: 11/04/17	NO.	BY	DATE:	TOTAL SHEETS
NO.	BY	DATE:	NO.	BY	DATE:	

DRAWN BY : S.J.WHITFIELD DATE : 01/02
CHECKED BY : T.J.? DATE : 01/06

BILL OF MATERIAL

BAR TYPES



STRUT TYPE 3 (ONE SHELL OF STRUCT)

BAR	No.	SIZE	TYPE	'A'	'B'	LENGTH	WEIGHT
B6	16	#6	1	14'-0"	1'-0"	15'-0"	360
B7	3	#6	1	29'-0"	1'-0"	30'-0"	90
B8	16	#6	1	27'-1"	1'-0"	28'-1"	675
C1	40	#4	2	2"	1'-6"	3'-9"	100
C2	40	#6	1	5'-6"	1'-0"	6'-6"	391
⚠4							
*L16a	94	#4	5		8"	8"	42
L31	100	#4	6			1'-8"	111
H1	16	#6	1	28'-4"	1'-0"	29'-4"	705
H2	8	#6	2	8'-6"	1'-0"	10'-6"	126
U1	68	#6	2	8'-8"	4'-2"	17'-0"	1736
U2	1	#6	2	4'-7"	4'-2"	12'-11"	19
U3	1	#6	2	5'-10"	4'-2"	14'-2"	21
U4	1	#6	2	6'-9"	4'-2"	15'-1"	23
U5	1	#6	2	7'-6"	4'-2"	15'-10"	24
U6	1	#6	2	8'-0"	4'-2"	16'-4"	25
U7	1	#6	2	8'-4"	4'-2"	16'-8"	25
U8	1	#6	2	8'-6"	4'-2"	16'-10"	25
U9	1	#6	2	8'-7"	4'-2"	16'-11"	25
U10	9	#6	3	8'-6"	11'-2"	27'-2"	367
V1	32	#5	1	4'-2"	1'-0"	5'-2"	172

*EPOXY COATED

ALL BAR DIMENSIONS ARE OUT TO OUT.

DRAWN BY : C.J.WHITFIELD DATE : 03/01
CHECKED BY : J.L.D. DATE : 01/0

⚠1 ADDED BAR TYPE 3.
⚠2 REMOVED CALLOUTS FOR STRUT TYPE 4.
⚠3 GENERAL REVISION
⚠4 GENERAL REVISION

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 2
BRIDGE NO. 353

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 20297 ENGINEER VIJAYAM SOUTHEKKEMPAT 10/17/01

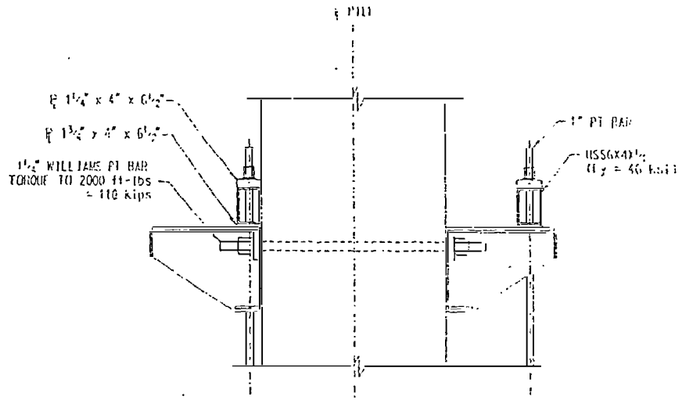
Earth Tech
FLATIRON/UNITED
A JOINT VENTURE

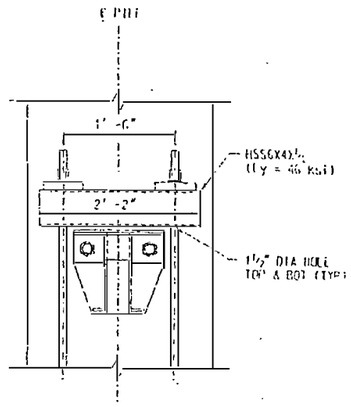
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

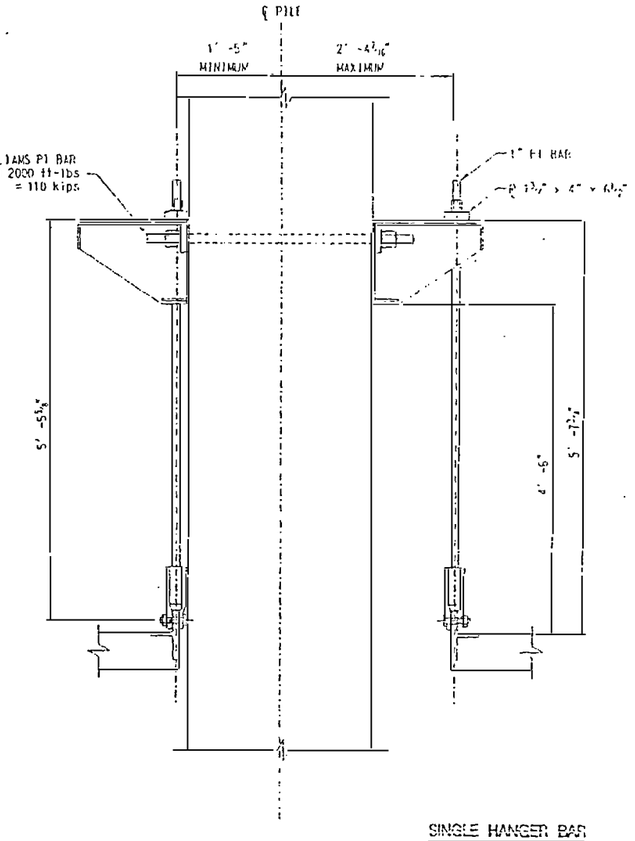
PRECAST SHELL FOR STRUT TYPE 3 FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

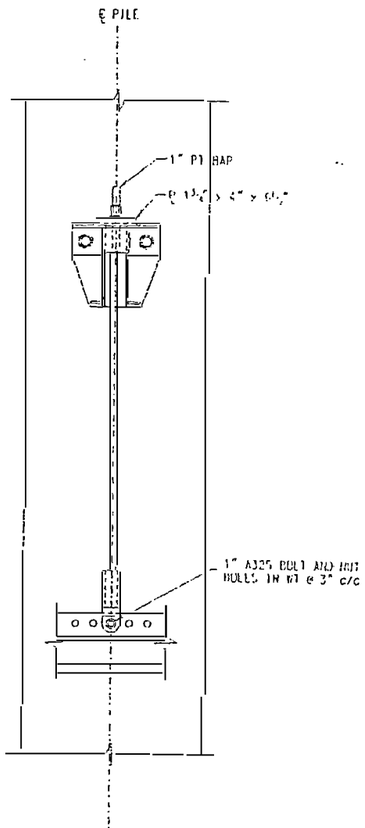
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2612.04
1	CJW	11/15/01	3	DLP	10/13/01	TOTAL SHEETS
2	MTH	12/26/01	4	DLP	10/23/01	



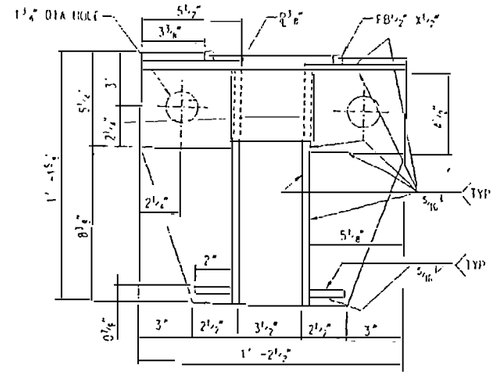


DOUBLE HANGER BARS

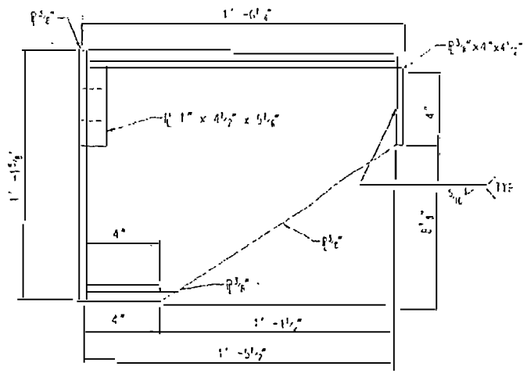


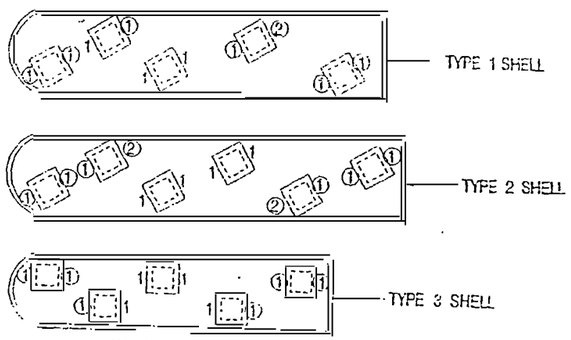


SINGLE HANGER BAR



PILE BRACKET DETAIL





HANGER TYPE KEY

1 = SINGLE HANGER BAR
2 = DOUBLE HANGER BARS
G1 = SINGLE HANGER BAR, REQUIRED FOR TEMPORARY SHELL SUPPORT
G2 = DOUBLE HANGER BARS, REQUIRED FOR TEMPORARY SHELL SUPPORT

NOTES:

1. FABRICATION SHALL BE IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
2. ALL WELDS SHALL BE PREQUALIFIED AND ALL WELDERS ARE CERTIFIED.
3. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, LATEST EDITION.
4. MATERIAL SHALL BE AS NOTED HERE OR EQUIVALENT.
   - STEEL A36 UNLESS OTHERWISE NOTED
   - WELDS E70XX
5. DESIGN LOADS
   - 37 KIP LOAD SINGLE HANGER BAR
   - 44 KIP TOTAL LOAD DOUBLE HANGER BARS
6. FOR WT CONNECTION DETAIL, SEE SHEET TD-1A.

EarthTech
A TYCO International Company
701 Corporate Center Drive, Suite 475 Raleigh, NC 27...

CHECKED FOR CONFORMANCE WITH GENERAL CONCEPTS OF THE PROJECT. CADD CONTRACTOR RESPONSIBLE FOR COMPLIANCE WITH INFORMATION SHOWN IN CONTRACT DOCUMENTS, DIMENSIONS, QUANTITIES, ENVIRONMENTAL REQUIREMENTS, DRAWINGS IS TO BE CORRELATED AT JOB SITE. FABRICATION TO DIMENSIONS AND FOR COORDINATION OF THE WORK OF ALL TRADES

APPROVED

APPROVED WITH NOTES EXCEPTIONS: REFER TO CORRESPONDENCE

NOT APPROVED. REVISE & RESUBMIT. REFER TO CORRESPONDENCE

REVISE AND RESUBMIT. REFER TO CORRESPONDENCE

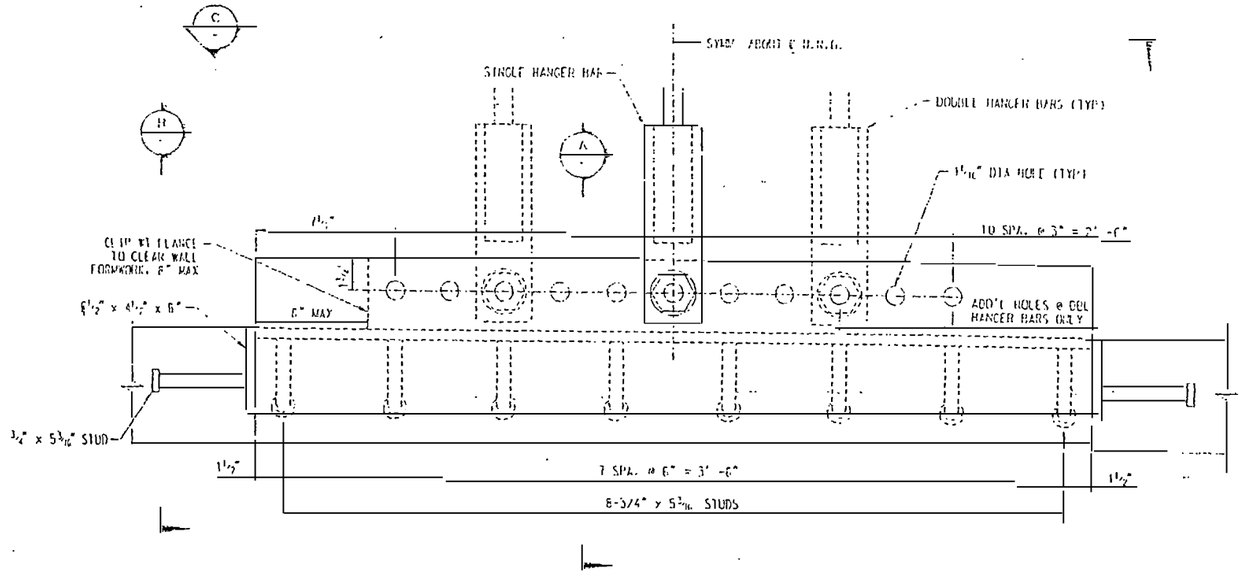
DATE 10/04/06

NO.	REVISION	DATE
1	MOVE WT CONNECTION DETAIL TO TD-1A	10-13-2006

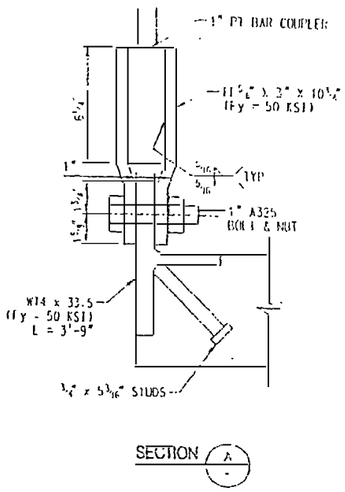
McNary Bergeron & Associates
COLORADO • CONNECTICUT

PRECAST STRUT SHELLS
WT HANGER SYSTEM

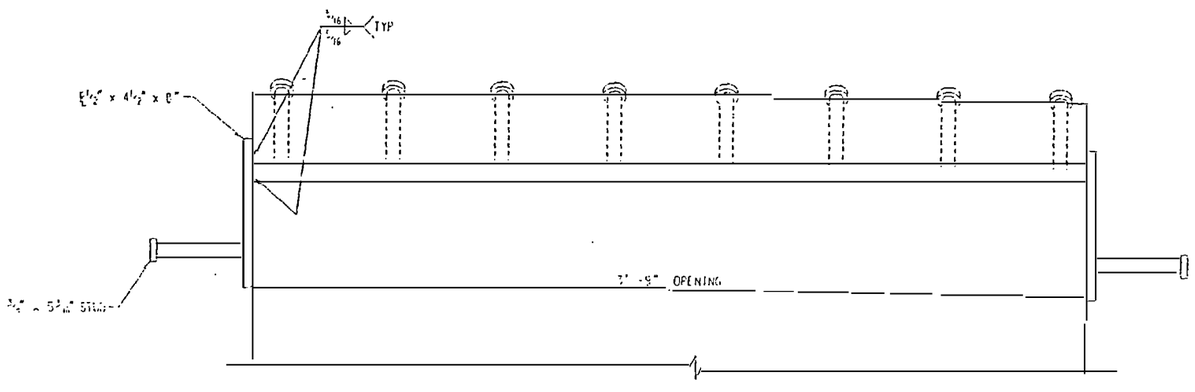
PROJ.:	US 17 WASHINGTON BYPASS				
CONTRACT:	FLATIRON / UNITED JOINT VENTURE				
IN CHARGE:	WSC	MADE BY:	ZTG	CHECK BY:	JD
DATE:	4-22-2004	SHEET:	TD-1		



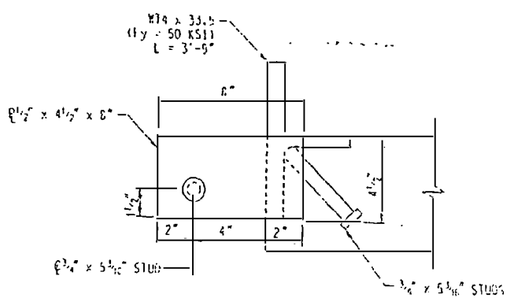
WT CONNECTION DETAIL



SECTION A



VIEW C



SECTION B

NOTES:
1. FABRICATION SHALL BE IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
2. ALL WELDS SHALL BE PREQUALIFIED AND ALL WELDERS AWS CERTIFIED.
3. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, LATEST EDITION.
4. MATERIAL SHALL BE AS NOTED HERE OR EQUIVALENT.
   - STEEL A36 UNLESS OTHERWISE NOTED
   - WELDS E70xx
5. DESIGN LOADS
   - 37 KIP LOAD SINGLE HANGER BARS
   - 44 KIP TOTAL LOAD DOUBLE HANGER BARS
6. FOR GENERAL LAYOUT OF WT / HANGER SYSTEM, SEE SHEET TD-1

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CHECKED FOR CONFORMANCE WITH DESIGN CONCEPT OF THE PROJECT BY CONTRACTOR RESPONSIBLE FOR CONSTRUCTION. INFORMATION SHOWN IN CONTRACT DOCUMENTS CONCERNING QUANTITIES APPROXIMATE. ALL REQUIREMENTS, DIMENSIONS TO BE CORRELATED AT JOB SITE. FABRICATION TO INCLUDE AND FOR COORDINATION OF THE WORK IN ALL TRADES.

DATE

APPROVED

APPROVED WITH NOTED EXCEPTIONS. REFER TO CORRESPONDENCE

NOT APPROVED. REFER TO CORRESPONDENCE

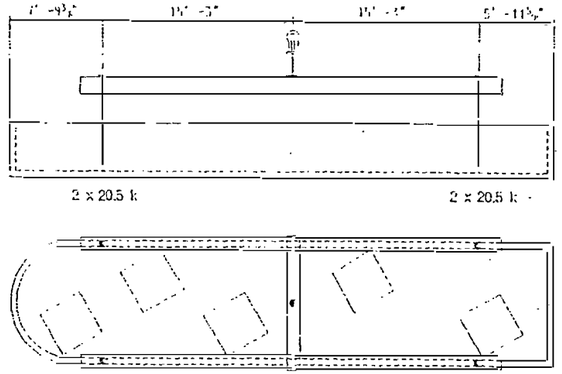
REVISE AND RESUBMIT AS NOTED

NO.	REVISION	DATE
1	ADDED RETURN PLATE	10-15-2008

McNARY BERGERON & ASSOCIATES
COLORADO · CONNECTICUT

PRECAST STRUT SHELLS
WT CONNECTION DETAIL

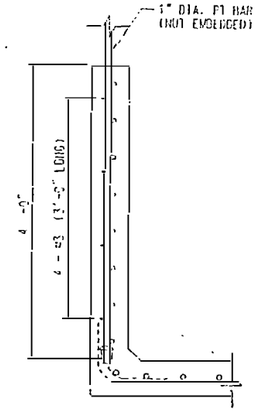
PROJECT: US 17 WASHINGTON BYPASS
CONTRACTOR: FLATIRON / LINDEN JOINT VENTURE
IN CHARGE: MSK | CADD BY: ZTG | CHECK BY: JDJ
DATE: 10-24-2008 | SHEET: TD-1B

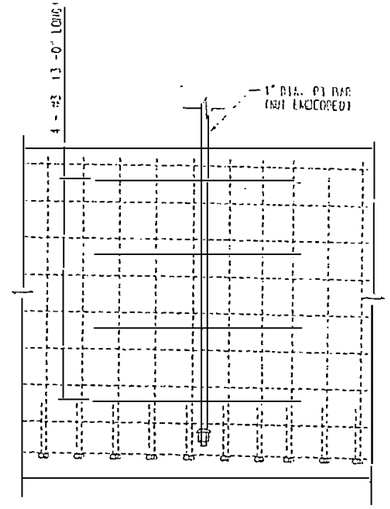


TYPE 1 SHELL WEIGHT BREAKDOWN:

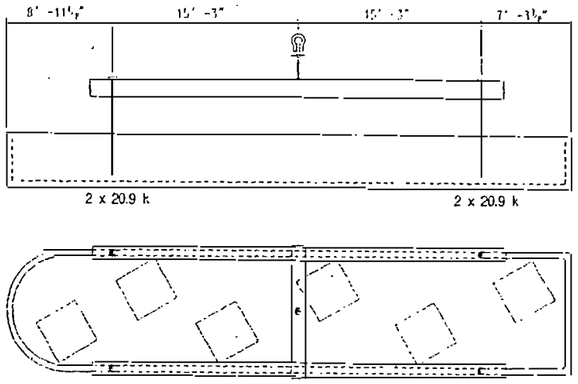
- SHELL SELF-WT	60500 lb
- STRUT REBAR CAGE	17355 lb
- COUNTERWEIGHT	0 lb
- LIVE LOAD	4000 lb
- TOTAL	81855 lb

TYPE 1 SHELL LIFTING LOADS / LOCATIONS – NO COUNTERWEIGHT

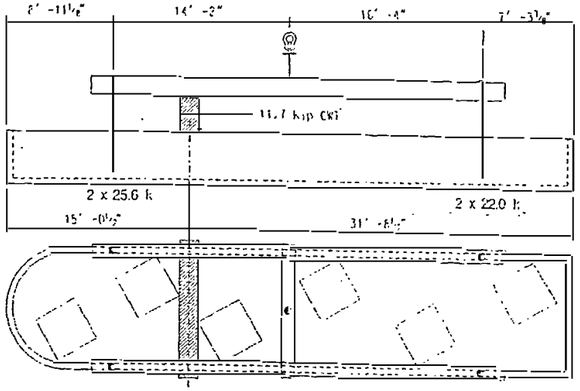




LIFTING BAR DETAIL



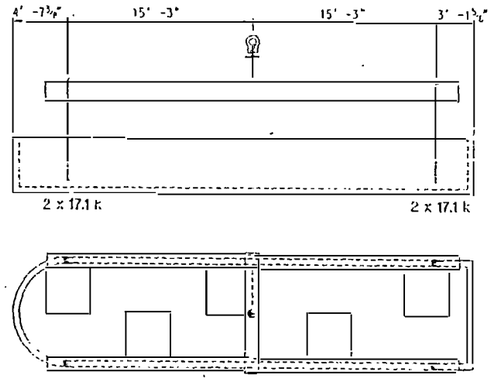
TYPE 2 SHELL LIFTING LOADS / LOCATIONS – NO COUNTERWEIGHT



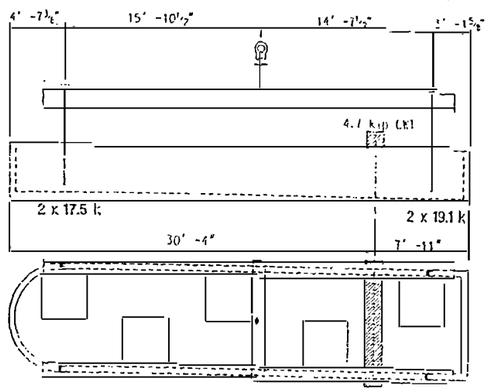
TYPE 2 SHELL LIFTING LOADS / LOCATIONS – COUNTERWEIGHT AS SHOWN

TYPE 2 SHELL WEIGHT BREAKDOWN:

- SHELL SELF-WT	62000 lb
- STRUT REBAR CAGE	17469 lb
- COUNTERWEIGHT	11700 lb
- LIVE LOAD	4000 lb
- TOTAL	95169 lb



TYPE 3 SHELL LIFTING LOADS / LOCATIONS – NO COUNTERWEIGHT



TYPE 3 SHELL LIFTING LOADS / LOCATIONS – COUNTERWEIGHT AS SHOWN

TYPE 3 SHELL WEIGHT BREAKDOWN:

- SHELL SELF-WT	48900 lb
- STRUT REBAR CAGE	15527 lb
- COUNTERWEIGHT	4700 lb
- LIVE LOAD	4000 lb
- TOTAL	73127 lb

NOTES:
1. LOADS DO NOT INCLUDE DYNAMIC ALLOWANCE
2. SHIFT TYPICAL REINFORCING AS NEEDED TO ACCOMODATE LIFTING BARS.
3. LIVE LOAD INCLUDES PERSONNEL, BRACKETS, TIES & TOOLS, AND SHALL BE UNIFORMLY DISTRIBUTED OVER THE SHELL AREA.
4. ADJUSTMENTS TO COUNTERWEIGHT LOCATION AND WEIGHT MAY BE ADJUSTED WITHOUT INCREASING EMBEDDED BAR LOADS.

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701 Corporate Center Drive, Suite 475 Raleigh, NC 27607

CHECKED FOR COMPLIANCE WITH DESIGN CONCEPT OF THE PROJECT AND CONTRACTOR RESPONSIBLE FOR COMPLIANCE WITH INFORMATION GIVEN IN CONTRACT DOCUMENTS, DIMENSIONS, QUANTITIES AND CONSTRUCTION PROCESSES, METHODS AND TECHNIQUES AS JOB SITE, FABRICATION TECHNIQUES AND FOR COORDINATION OF THE WORK OF ALL TRADES.

DATE

APPROVED

APPROVED WITH NOTED EXCEPTIONS. REVISE AND RESUBMIT.

NOT APPROVED. REVISE AND RESUBMIT.

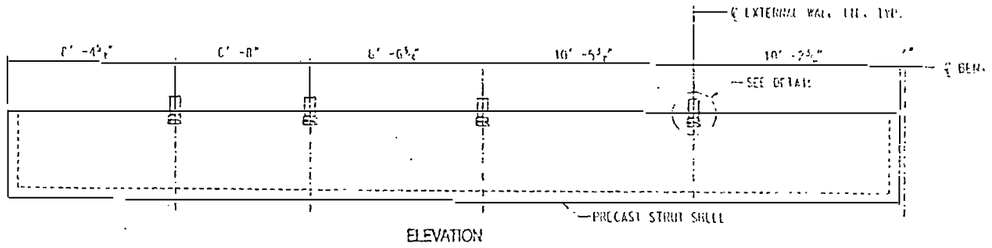
RECEIPT ACKNOWLEDGED

NO.	REVISION	DATE
1	REVISE LOADS AND LAYOUT	10-15-2008

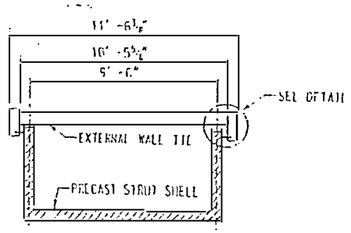
McNARY BERGERON & ASSOCIATES
COLORADO • CONNECTICUT

PRECAST STRUT SHELLS
LIFTING LOADS AND DETAILS

PROJ.:	US 17 WASHINGTON BYPASS				
CONTRACTOR:	FLATIRON / UNITED JOINT VENTURE				
PE CHARGE:	WSK	MADE BY:	ZTK	CHECK BY:	JDJ
DATE:	4-23-2009	SHEET:	TT-2		

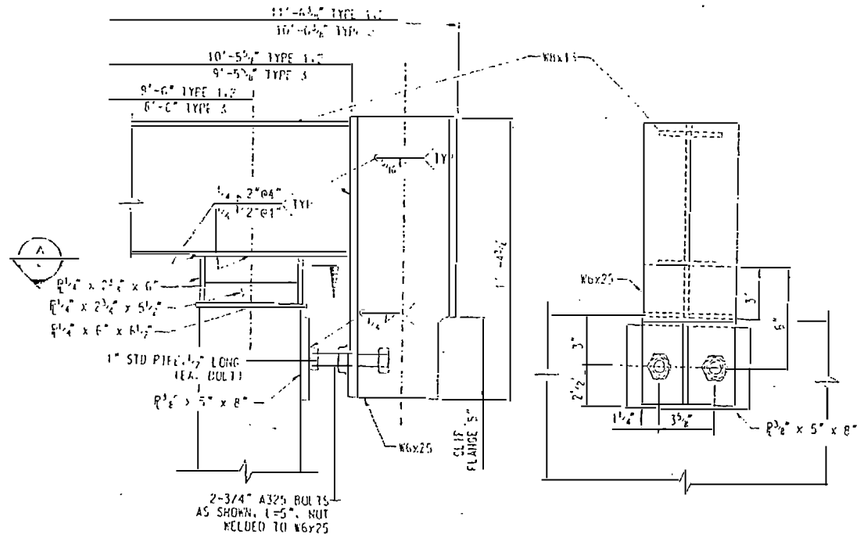


ELEVATION

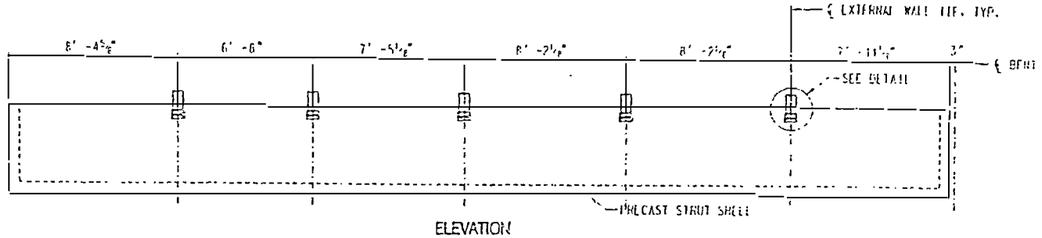


CROSS SECTION

TYPE 1 SHELL: EXTERNAL WALL TIE LAYOUT



EXTERNAL WALL TIE DETAIL



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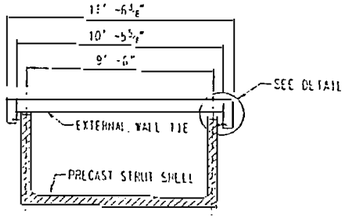
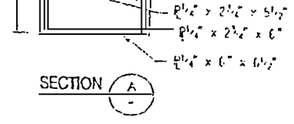
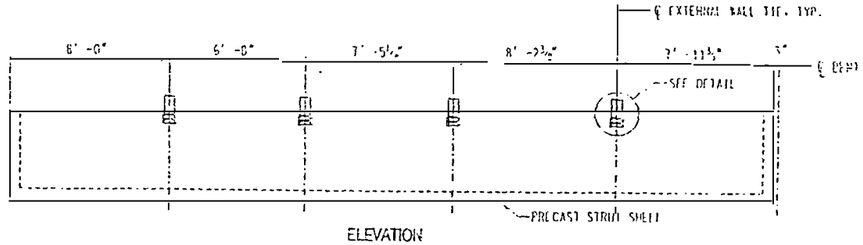


CROSS SECTION

TYPE 2 SHELL: EXTERNAL WALL TIE LAYOUT





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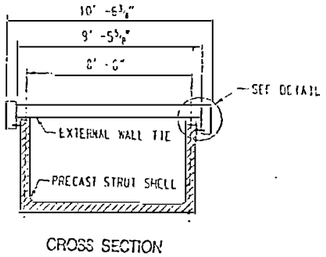


CROSS SECTION

TYPE 3 SHELL: EXTERNAL WALL TIE LAYOUT

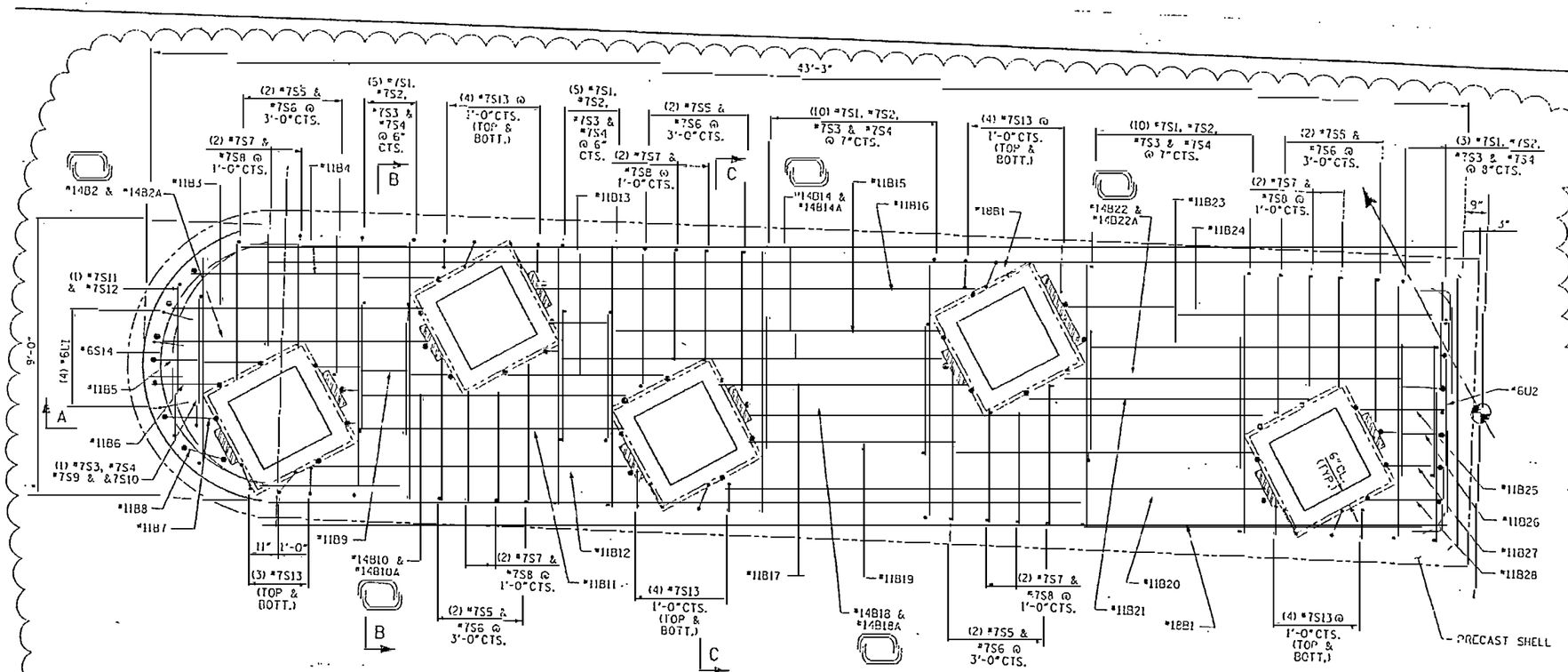
NOTES:
1. FABRICATION SHALL BE IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
2. ALL WELDS SHALL BE PREQUALIFIED AND ALL WELDERS ARE CERTIFIED.
3. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, LATEST EDITION.
4. MATERIAL SHALL BE AS NOTED HERE OR EQUIVALENT.
   - STEEL A36 UNLESS OTHERWISE NOTED
   - WELDS E70XX
5. DESIGN LOADS
   - 12 KIP HORIZONTAL LOAD DURING CONCRETE POUR

NO.	REVISION	DATE

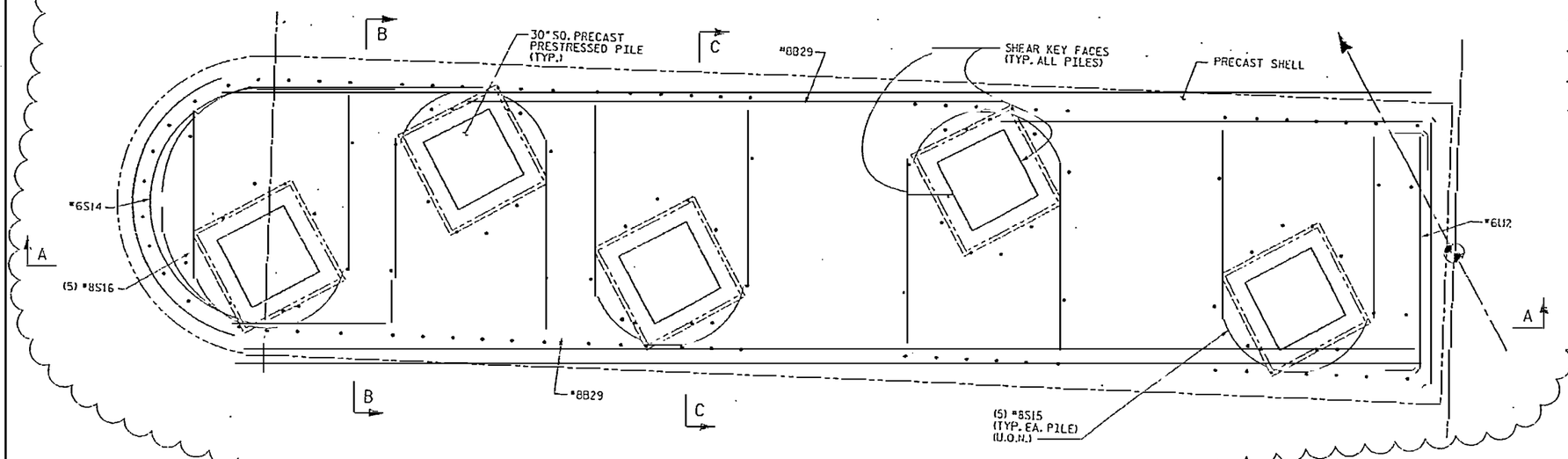
McNary Bergeron & Associates
COLORADO • CONNECTICUT

PRECAST STRUT SHELLS
EXTERNAL WALL TIE DETAILS

PROJ.:	US 17 WASHINGTON BYPASS			
CONTRACTOR:	FLATIRON / UNITED JOINT VENTURE			
IN CHARGE:	KSM	MADE BY:	ZTG	CHECK BY: JDH
DATE:	10-14-2005	SHEET:	TD-3	



TOP & BOTTOM PLANS - LEFT HALF PIECE ⚠2



MID PLAN - LEFT HALF PIECE ⚠2

NOTES:

1. STRUT TO BE USED AT BENTS 82 THRU 85.
2. 4" CLEARANCE FOR ALL BARS AT TOP AND BOTTOM FACES OF STRUT, 2" AT ALL OTHER FACES.
3. 6" CLEARANCE FOR ALL BARS AROUND PILES.
4. ALTERNATE #7S2, #7S4 AND #7S6 STIRRUPS.
5. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH SHALL BE 5000 PSI.
6. APPLY CONCRETE BONDING AGENT ON PILE SURFACE WITHIN STRUTS AND SHELLS BEFORE POURING STRUT CONCRETE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE 11/6/08

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026141 THOMAS W. SHEARIN 11/6/08

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.
⚠1 REVISED REINFORCING BARS AND NOTES.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 5
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - STRUT TYPE I
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

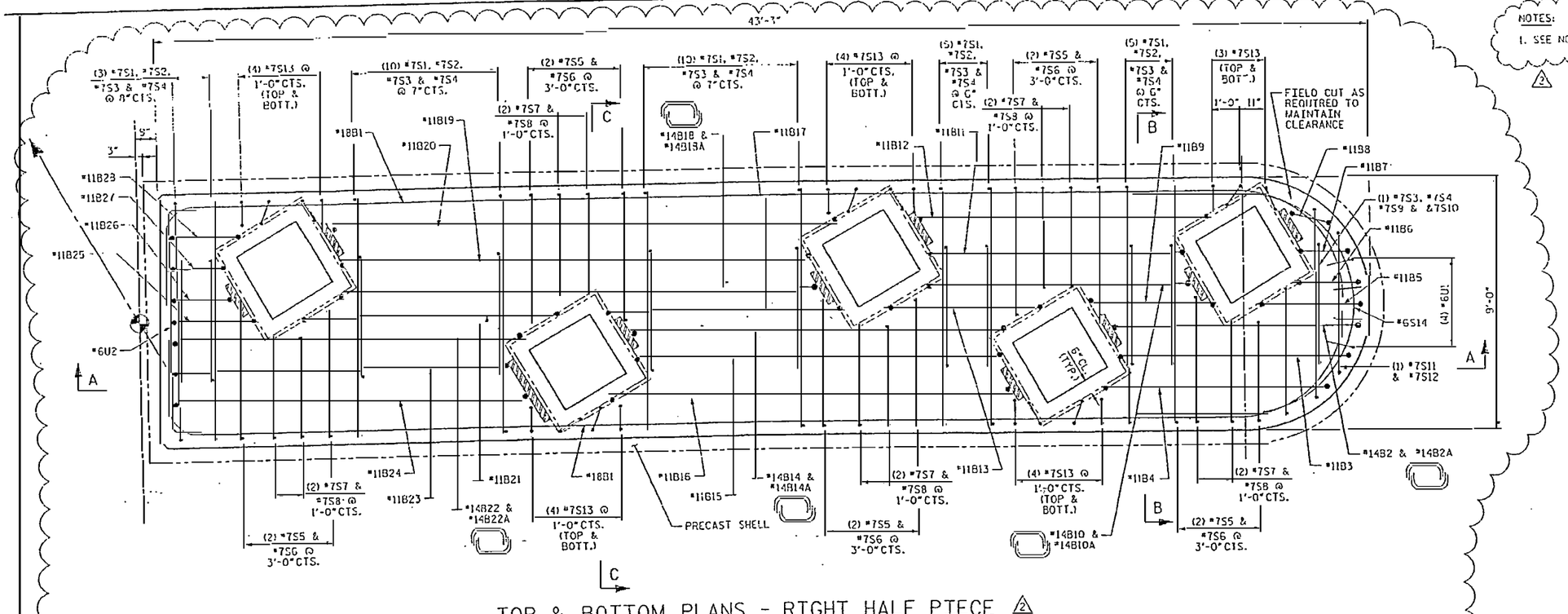
REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		2616.02
1	MTB	7/22/05	3				TOTAL SHEETS
2	SDS	10/27/08	4				

DRAWN BY : M.T. BELISLE DATE : 1/07
CHECKED BY : J. LIN DATE : 1/07

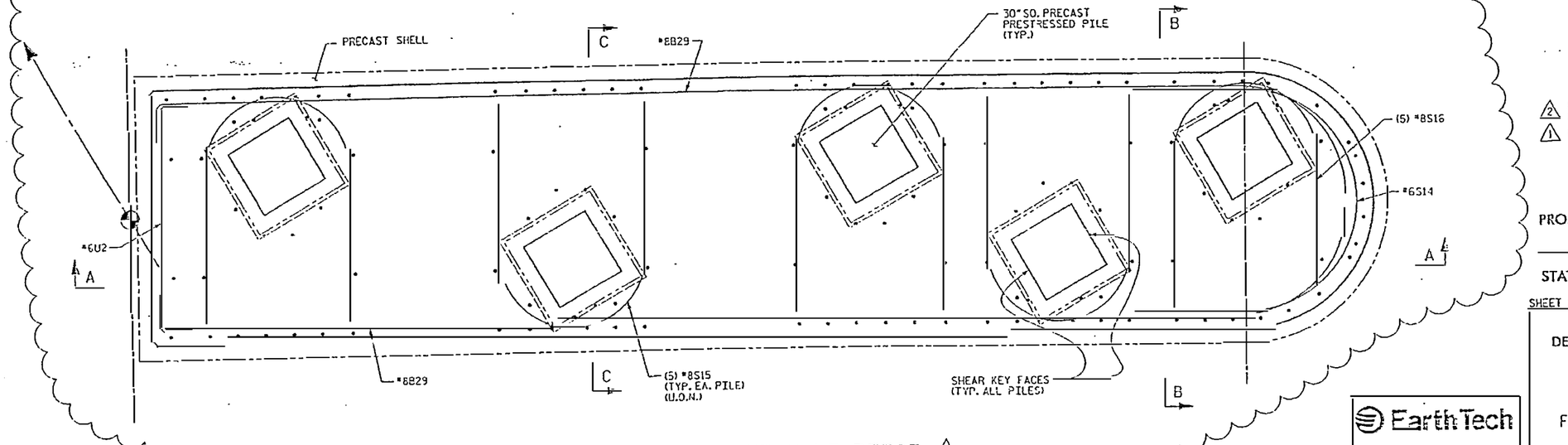
EarthTech
FLATIRON/UNITED
A JOINT VENTURE

PAGE REVISED THU 3:58:41 PM

NOTES:
1. SEE NOTES ON SHEET 1 OF 5.



TOP & BOTTOM PLANS - RIGHT HALF PIECE ⚠2



MID PLAN - RIGHT HALF PIECE ⚠2

DRAWN BY : M.T. DELISLE DATE : 1/07
CHECKED BY : J.LIU DATE : 1/07

RELEASED FOR CONSTRUCTION
Tom Shearin 11/6/08
TOM SHEARIN, PE DATE

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.
⚠1 REVISED REINFORCING BARS AND NOTES.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 5 BRIDGE NO. 353

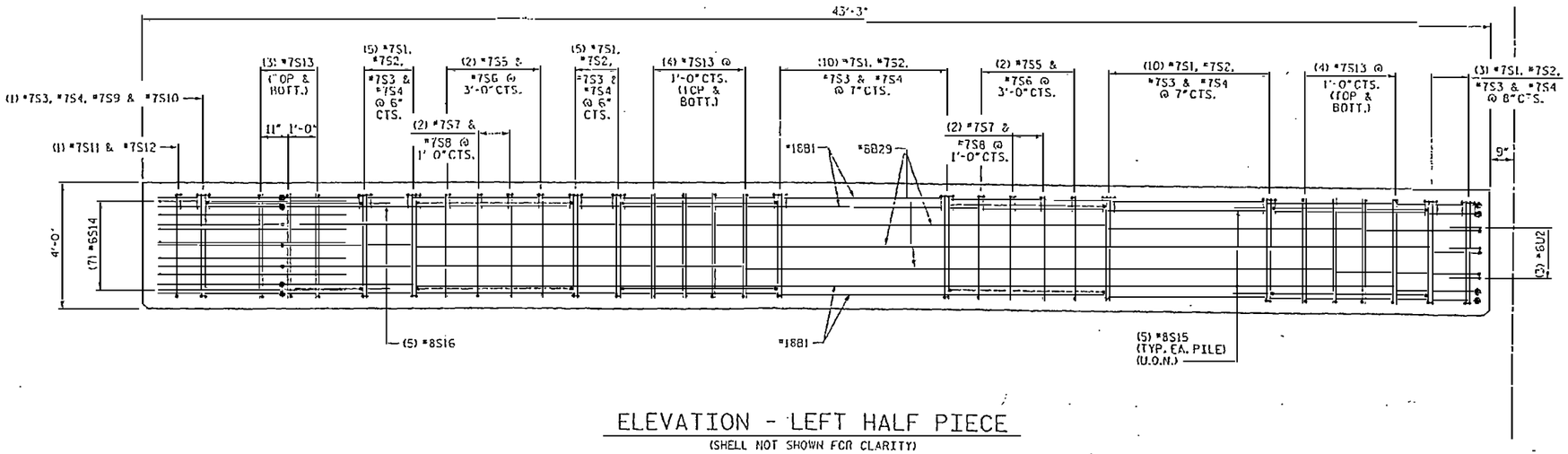
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - STRUT TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

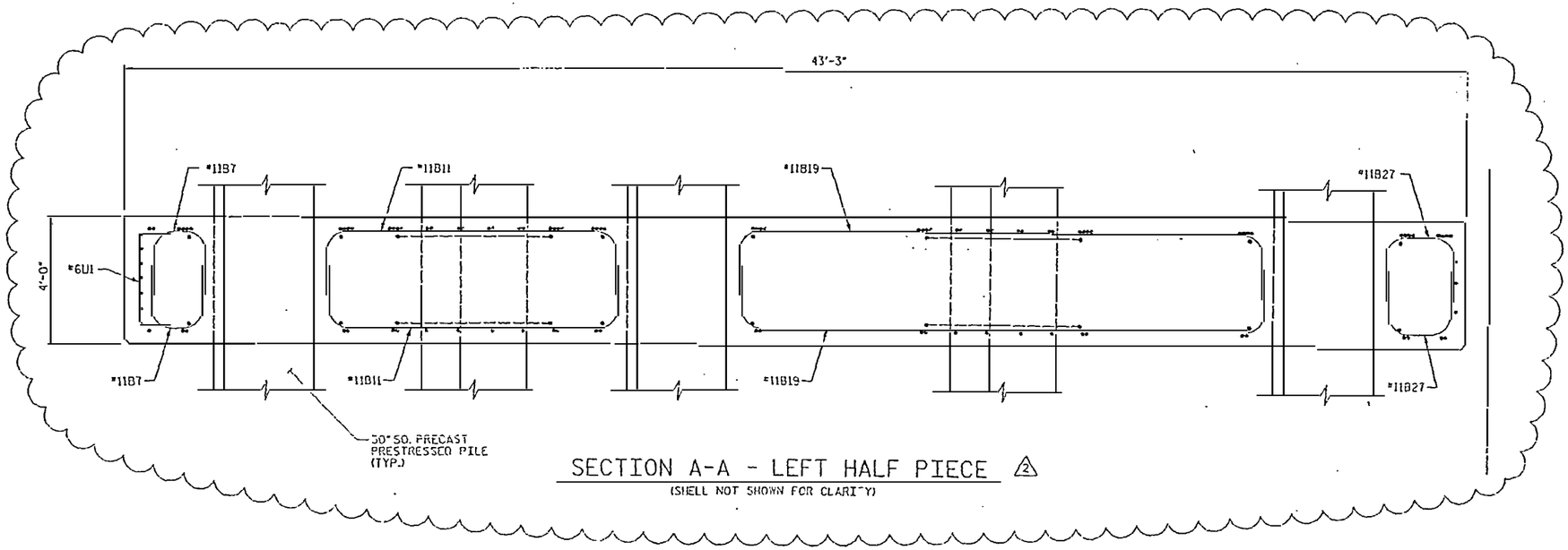
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2617.02
1	MTD	7/22/08	3			TOTAL SHEETS
2	SGS	10/27/08	4			

EarthTech
FLATIRON/UNITED
A JOINT VENTURE



ELEVATION - LEFT HALF PIECE

(SHELL NOT SHOWN FOR CLARITY)



SECTION A-A - LEFT HALF PIECE (2)

(SHELL NOT SHOWN FOR CLARITY)

NOTES:

1. SEE NOTES ON SHEET 1 OF 5.

(2)

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 11/6/08

(1)

(2) REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

(1) REVISED REINFORCING BARS AND NOTES.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

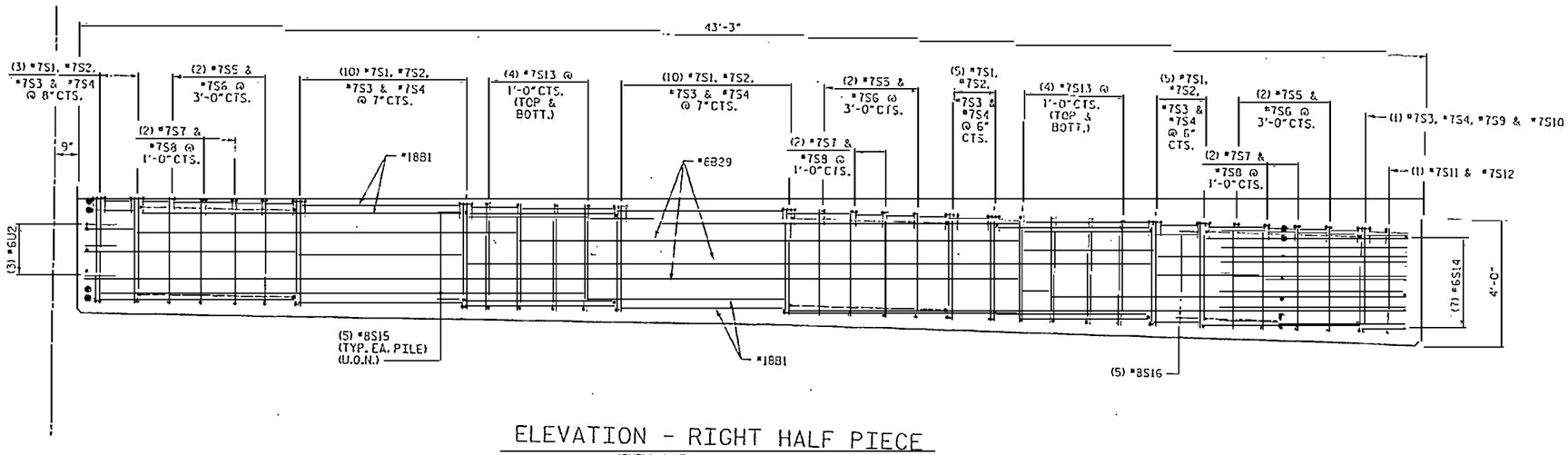
DETAILS - STRUT TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2618.02
0	MTB	7/22/08	3			TOTAL SHEETS
2	SCS	10/27/08	4			

DRAWN BY : M.T. BELTSLE DATE : 1/07
CHECKED BY : J.L.H. DATE : 1/07

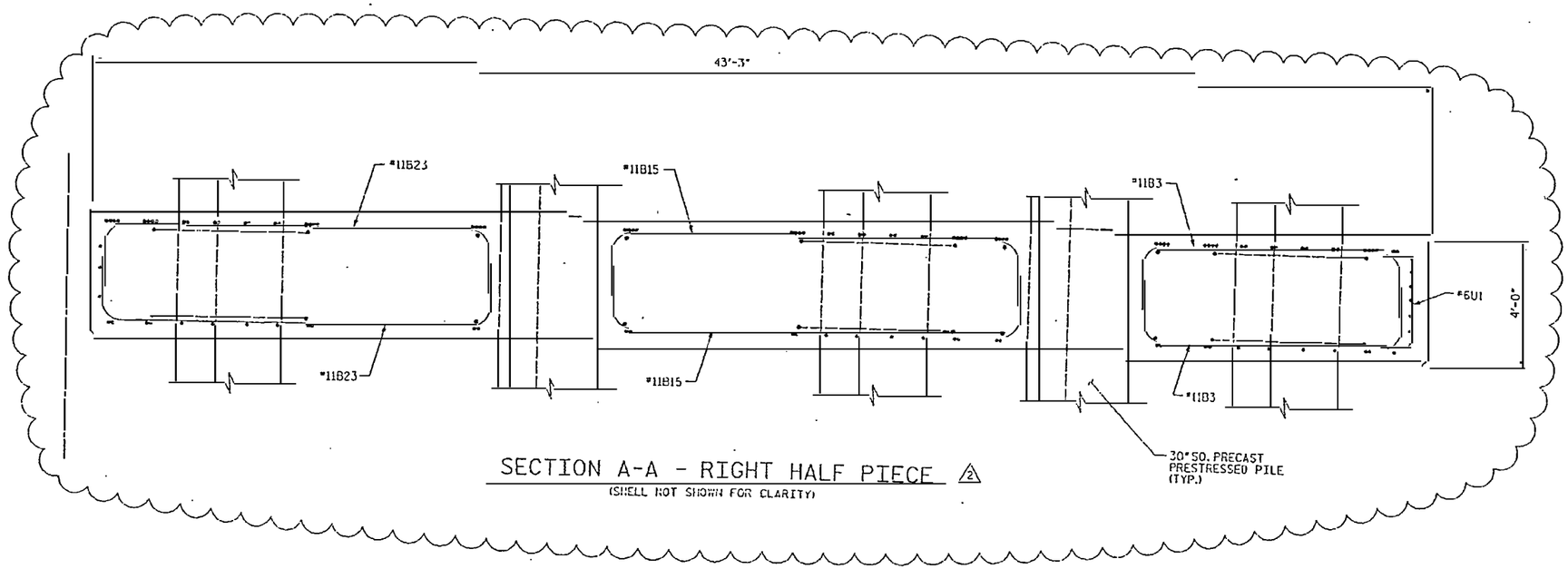
EarthTech

FLATIRON/UNITED
A JOINT VENTURE



ELEVATION - RIGHT HALF PIECE

(SHELL NOT SHOWN FOR CLARITY)



SECTION A-A - RIGHT HALF PIECE △2

(SHELL NOT SHOWN FOR CLARITY)

NOTES:

1. SEE NOTES ON SHEET 1 OF 5.

△2

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

△1

△2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

△1 REVISED REINFORCING BARS AND NOTES.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

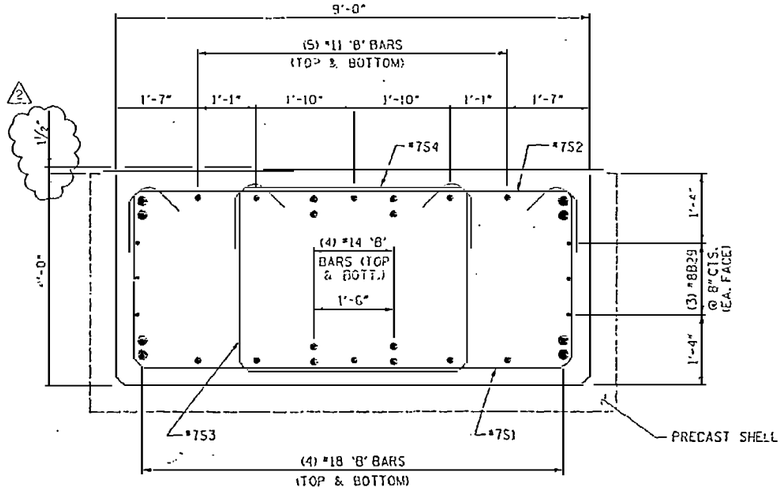
DETAILS - STRUT TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2619.02
1	MTB	7/22/08	3			TOTAL SHEETS
2	SGS	10/31/08	4			

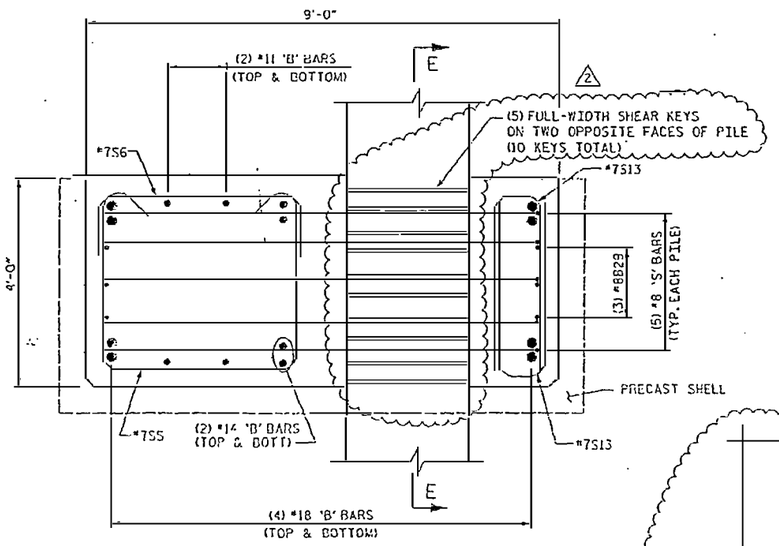
DRAWN BY : M.T. BELISLE DATE : 1/07
CHECKED BY : J. LEE DATE : 1/07

EarthTech

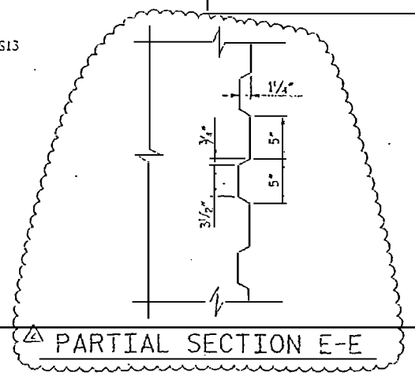
FLATIRON/UNITED
A JOINT VENTURE



SECTION B-B

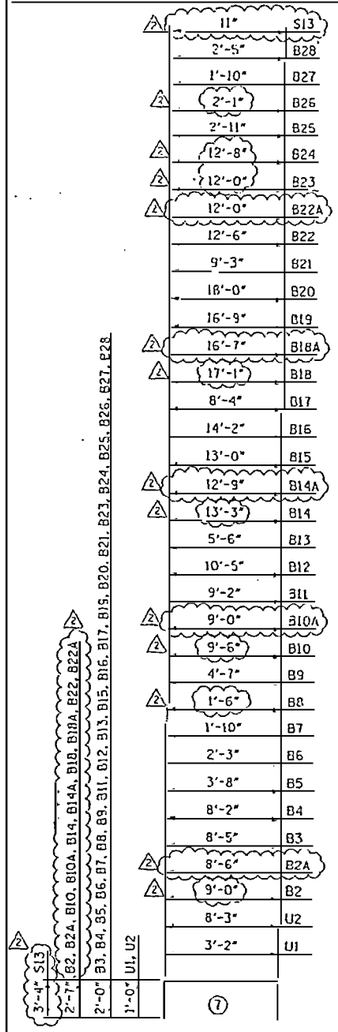


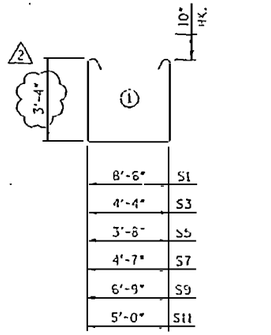
SECTION C-C

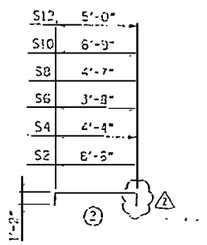


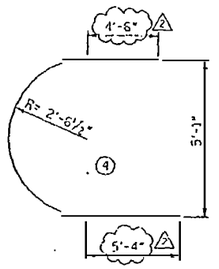
PARTIAL SECTION E-E

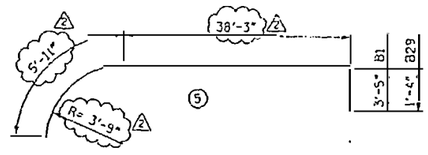
BAR TYPES











ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR ONE HALF PIECE OF CONCRETE STRUT ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#18	(5)	47'-7"	5177
B2	1	#14	(7)	14'-2"	108
B2A	1	#14	(7)	13'-8"	105
B3	2	#11	(7)	12'-5"	132
B4	2	#11	(7)	12'-2"	129
B5	2	#11	(7)	7'-8"	81
B6	2	#11	(7)	6'-3"	66
B7	2	#11	(7)	5'-10"	62
B8	2	#11	(7)	5'-6"	58
B9	2	#11	(7)	8'-7"	91
B10	1	#14	(7)	14'-8"	112
B10A	1	#14	(7)	14'-2"	108
B11	2	#11	(7)	13'-2"	140
B12	2	#11	(7)	14'-5"	153
B13	2	#11	(7)	9'-6"	101
B14	1	#14	(7)	18'-5"	141
B14A	1	#14	(7)	17'-11"	137
B15	2	#11	(7)	17'-0"	181
B16	2	#11	(7)	18'-2"	193
B17	2	#11	(7)	12'-4"	131
B18	1	#14	(7)	22'-3"	170
B18A	1	#14	(7)	21'-9"	166
B19	2	#11	(7)	20'-9"	220
B20	2	#11	(7)	22'-0"	234
B21	2	#11	(7)	13'-3"	141
B22	1	#14	(7)	17'-8"	135
B22A	1	#14	(7)	17'-2"	131
B23	2	#11	(7)	16'-0"	170
B24	2	#11	(7)	16'-8"	177
B25	2	#11	(7)	6'-11"	73
B26	2	#11	(7)	6'-1"	65
B27	2	#11	(7)	5'-10"	62
B28	2	#11	(7)	6'-5"	68
B29	6	#8	(5)	45'-6"	729
S1	33	#7	(1)	16'-10"	1135
S2	33	#7	(2)	10'-10"	731
S3	34	#7	(1)	12'-8"	880
S4	34	#7	(2)	6'-8"	463
S5	10	#7	(1)	12'-0"	245
S6	10	#7	(2)	6'-0"	123
S7	10	#7	(1)	12'-11"	264
S8	10	#7	(2)	6'-11"	141
S9	1	#7	(1)	15'-1"	31
S10	1	#7	(2)	9'-1"	19
S11	1	#7	(1)	13'-4"	27
S12	1	#7	(2)	7'-4"	15
S13	38	#7	(7)	7'-7"	589
S14	7	#6	(3)	20'-9"	218
S15	20	#8	(3)	10'-8"	997
S16	5	#8	(4)	17'-10"	238
U1	4	#6	(7)	5'-2"	31
U2	3	#6	(7)	10'-3"	46

NOTES:

1. ALL REINFORCING BARS TO BE EPOXY COATED.
2. STRUT CONSISTS OF ONE EACH LEFT HALF AND RIGHT HALF PIECES.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE 11/6/08
TOM SHEARIN, PE DATE

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

⚠1 REVISIONS TO REINFORCING SCHEDULE AND SECTIONS.

⚠1

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030376 JOSEPH W. JORDAN JR.

EarthTech

FLATIRON/UNITED A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - STRUT TYPE 1
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2620.02
1	MTB	7/22/08				TOTAL SHEETS
2	SGS	10/27/08				

DRAWN BY : M.T. HELTSLE DATE : 1/07
CHECKED BY : J.K.LEE DATE : 1/07

USER: mtheltsley
PLOT DATE: 10/27/2008
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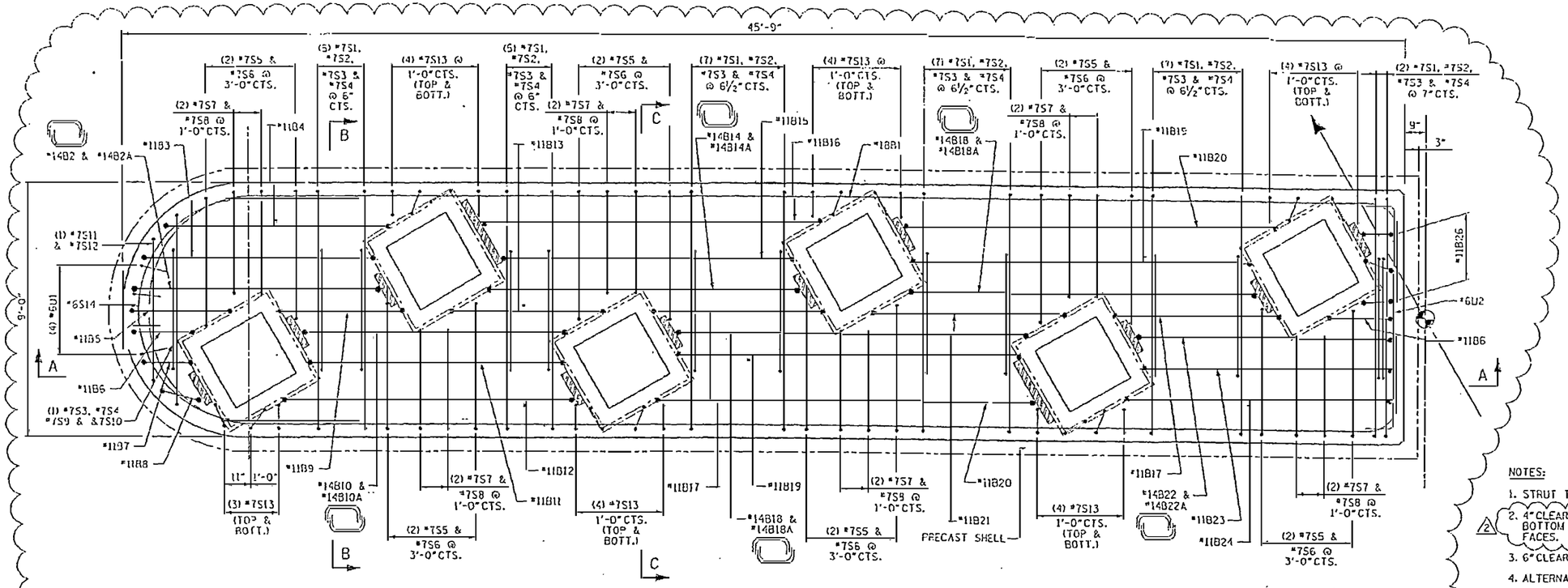
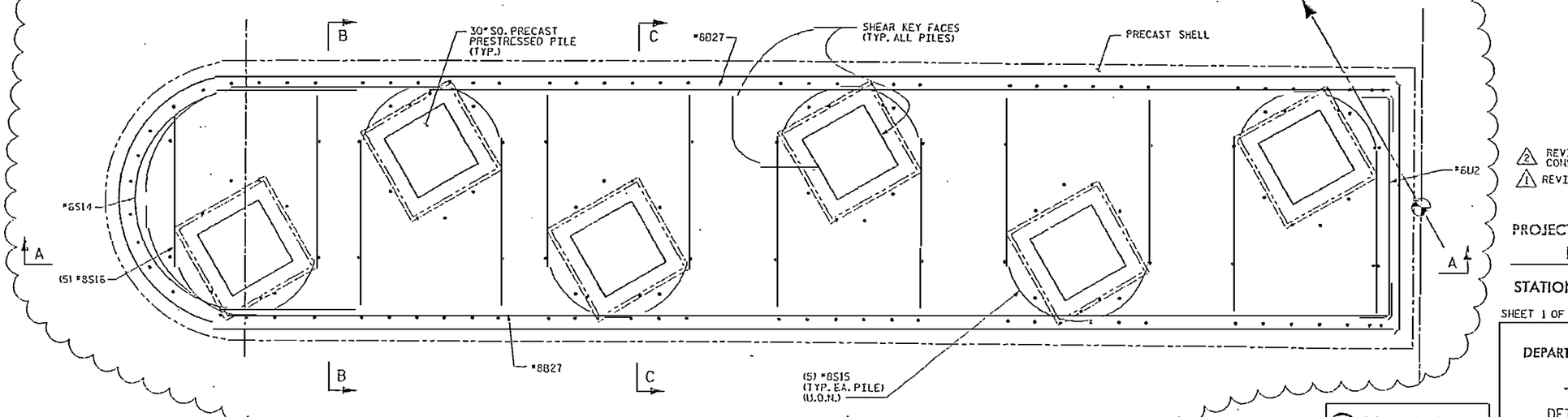


TOP & BOTTOM PLANS - LEFT HALF PIECE ⚠2



MID PLAN - LEFT HALF PIECE ⚠2

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE DATE

NOTES:

1. STRUT TO BE USED AT BENTS 86 THRU 99.
2. ⚠2 4" CLEARANCE FOR ALL BARS AT TOP AND BOTTOM FACES OF STRUT. 2" AT ALL OTHER FACES.
3. 6" CLEARANCE FOR ALL BARS AROUND PILES.
4. ALTERNATE #7S2, #7S4 AND #7S6 STIRRUPS.
5. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH SHALL BE 5000 PSI.
6. APPLY CONCRETE BONDING AGENT ON PILE SURFACE WITHIN STRUTS AND SHELLS BEFORE POURING STRUT CONCRETE.

⚠1

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.
⚠1 REVISED REINFORCING BARS AND NOTES.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 1 OF 5 BRIDGE NO. 353

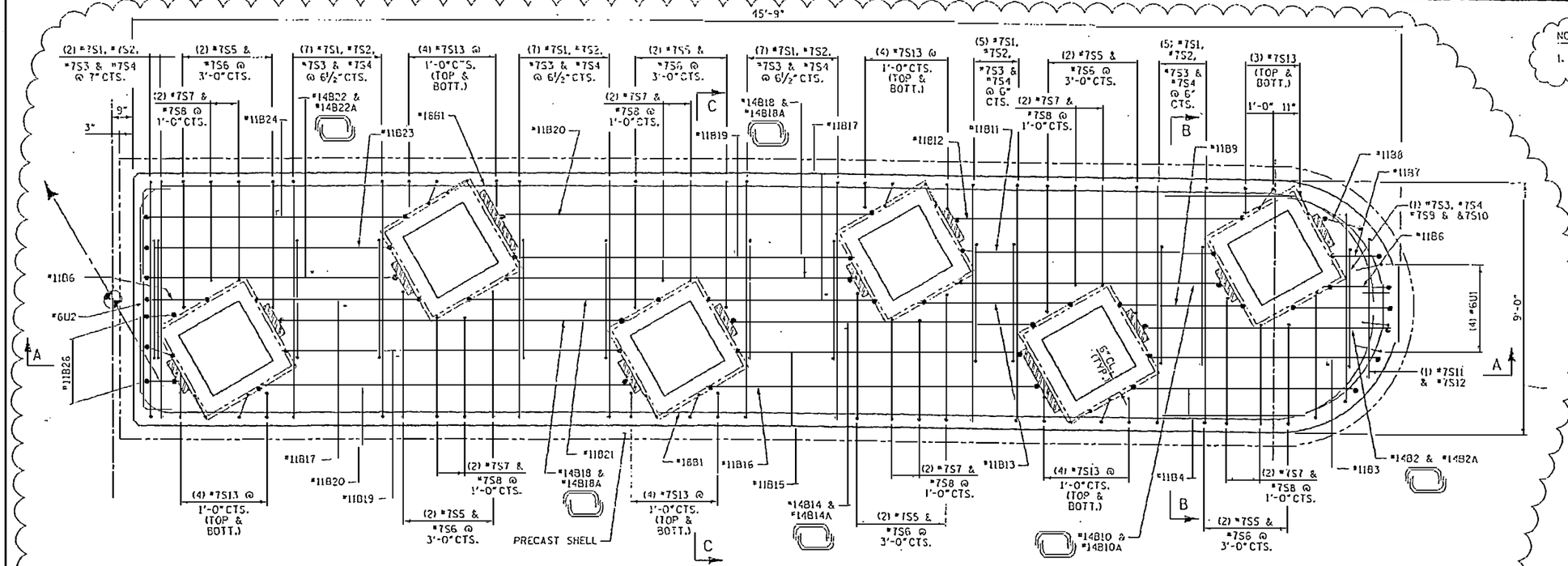
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
DETAILS - STRUT TYPE 2
FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS							SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:		2621.02
1	MTB	7/23/08	3				TOTAL SHEETS
2	SGS	10/27/08	4				

DRAWN BY : M.T. DELISLE DATE : 1/07
CHECKED BY : J. LEE DATE : 1/07

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

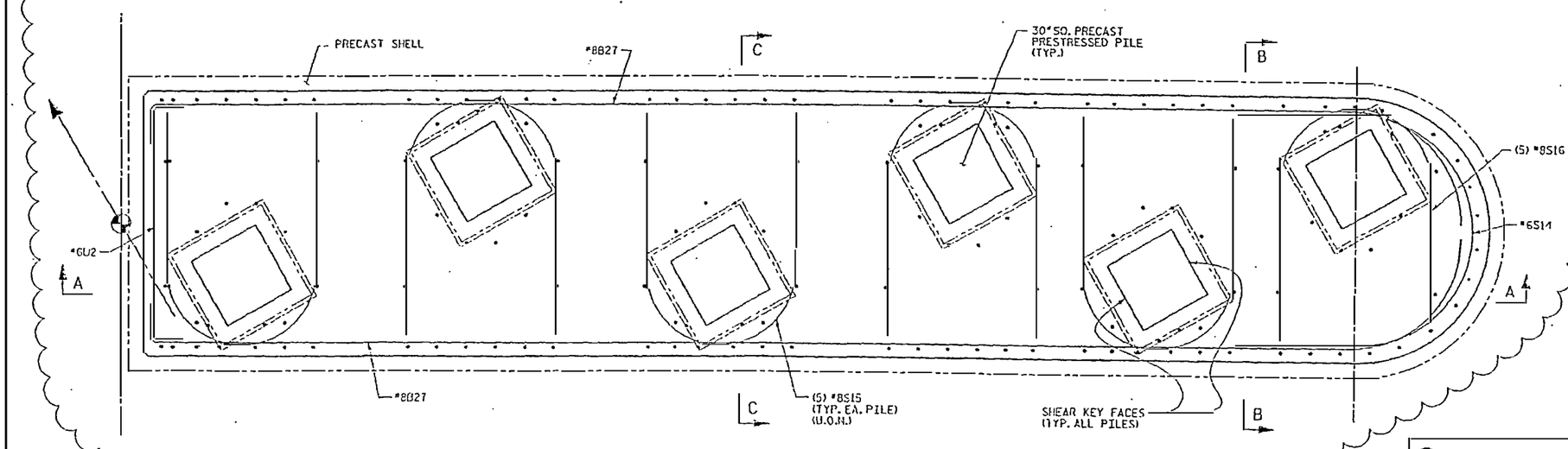


TOP & BOTTOM PLANS - RIGHT HALF PIECE ⚠2

NOTES:

1. SEE NOTES ON SHEET 1 OF 5.

⚠2



MID PLAN - RIGHT HALF PIECE ⚠2

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE

⚠1

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

⚠1 REVISED REINFORCING BARS AND NOTES.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - STRUT TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2622.02
1	MTG	7/23/08	3			TOTAL SHEETS
2	SGS	10/27/08	4			

EarthTech

FLATIRON/UNITED
A JOINT VENTURE

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CHECKED BY : J. I. TU DATE : 1/07

DATE PLOTTED: 10-SEP-2008
TIME PLOTTED: 15:04:12 PM

USER: estanford
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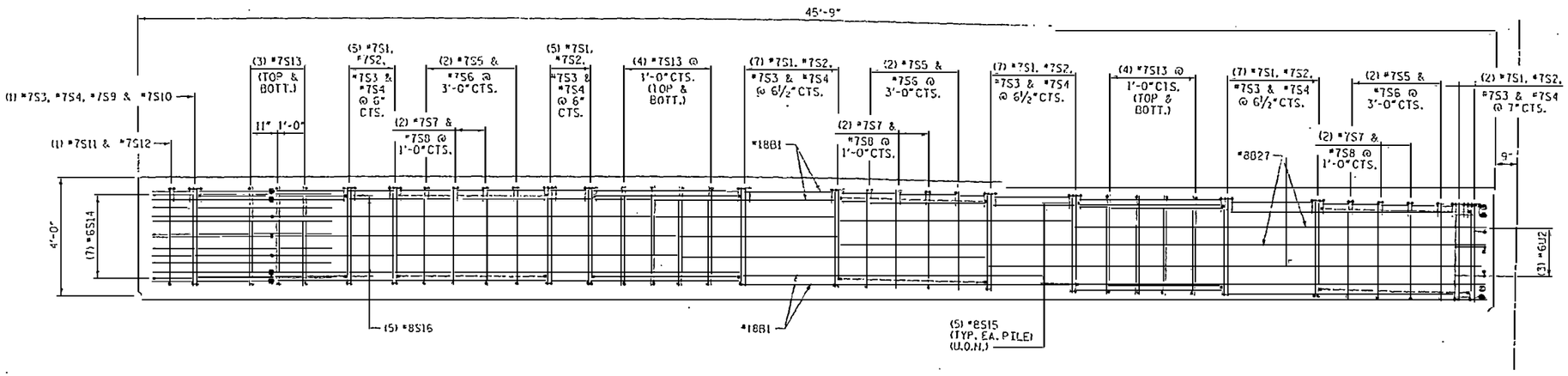
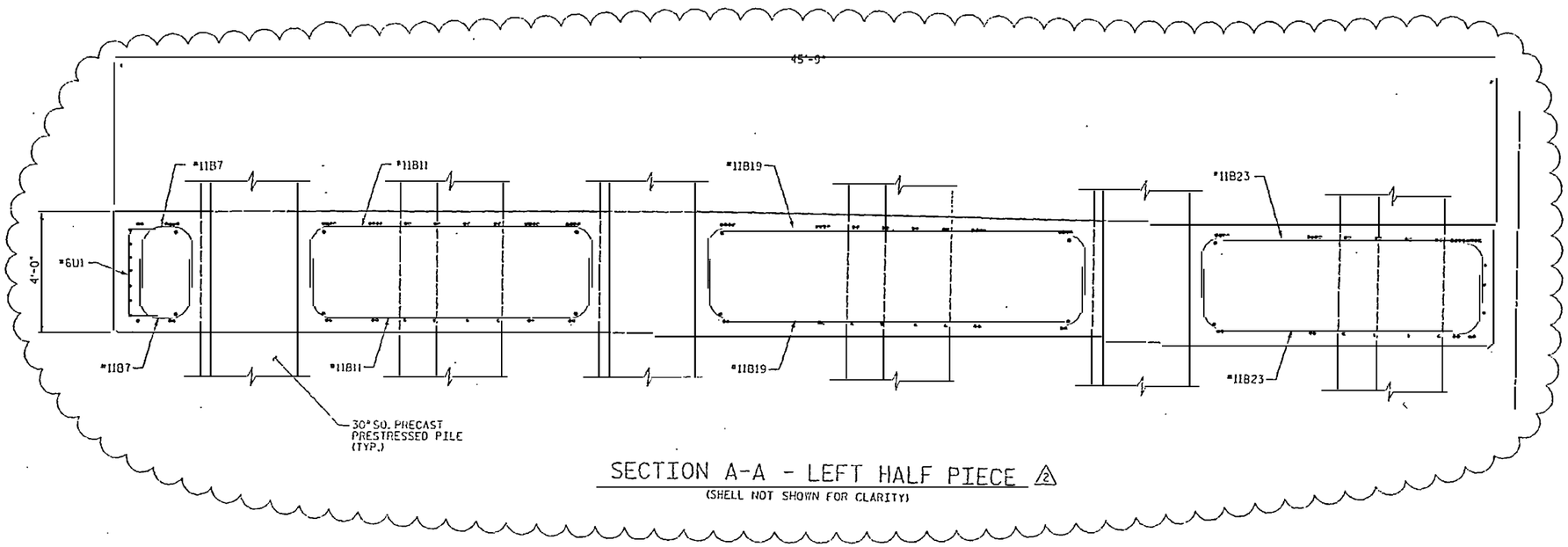


ELEVATION - LEFT HALF PIECE

(SHELL NOT SHOWN FOR CLARITY)



SECTION A-A - LEFT HALF PIECE ⚠2

(SHELL NOT SHOWN FOR CLARITY)

NOTES:

1. SEE NOTES ON SHEET 1 OF 5.

RELEASED FOR CONSTRUCTION

Tom Shearin 11/6/08

TOM SHEARIN, PE DATE

⚠1

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

⚠1 REVISED REINFORCING BARS AND NOTES.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - STRUT TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2623.02
1	MTB	7/23/08	3			TOTAL SHEETS
2	SGS	10/27/08	4			

DRAWN BY : M.T. DELISLE DATE : 1/07
CHECKED BY : J. TIU DATE : 1/07

DATE: 11/6/2008
TIME: 3:56:08 PM

USER: scandrett
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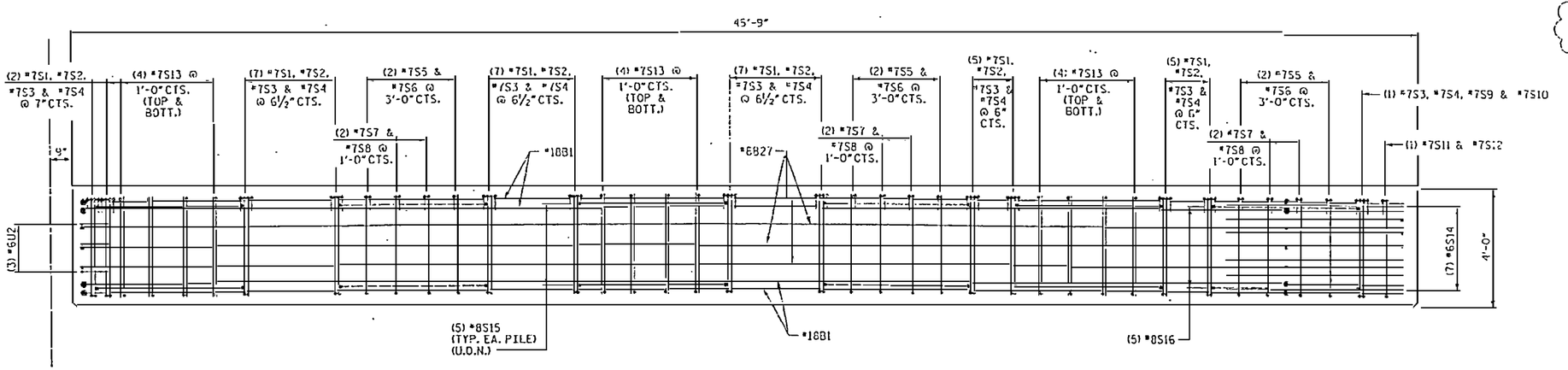


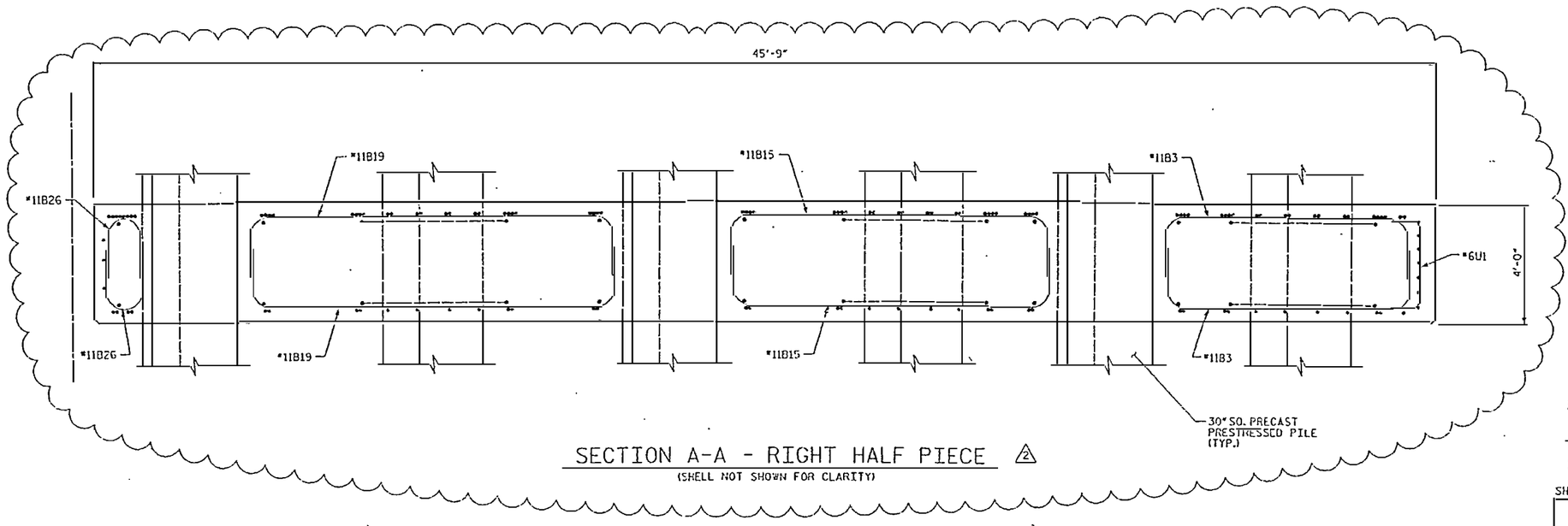
ELEVATION - RIGHT HALF PIECE

(SHELL NOT SHOWN FOR CLARITY)

NOTES:

1. SEE NOTES ON SHEET 1 OF 5.

2



SECTION A-A - RIGHT HALF PIECE 2

(SHELL NOT SHOWN FOR CLARITY)

RELEASED FOR CONSTRUCTION
Tom Shearin 11/6/08
TOM SHEARIN, PE DATE

1

2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.
1 REVISED REINFORCING BARS AND NOTES.

PROJECT NO. R-25108
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 4 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - STRUT TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO.	BY:	DATE:	2624.02
1	MTB	7/23/08	3			TOTAL SHEETS
2	SGS	10/27/08	4			

DRAWN BY : M.T. BELISLE DATE : 1/07
CHECKED BY : J. LEE DATE : 1/07

USER: kstevenson
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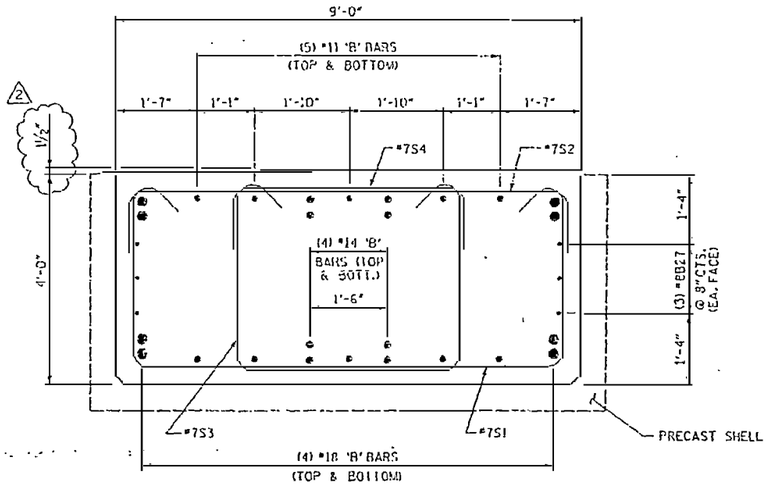
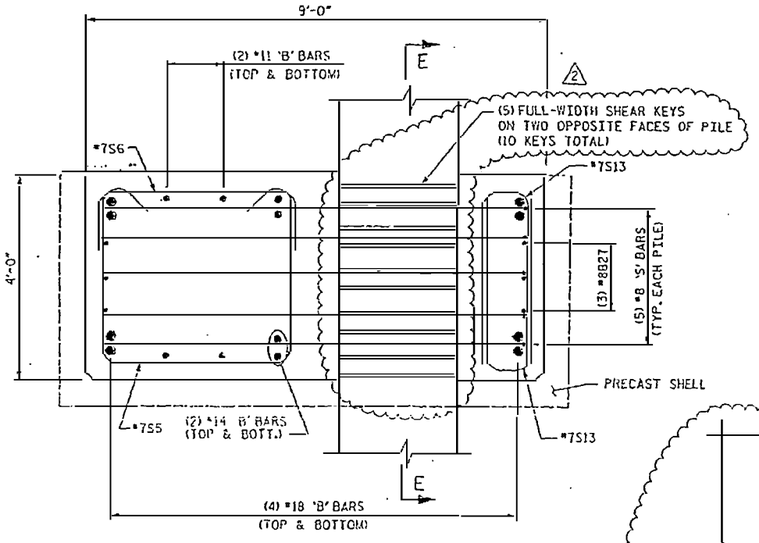
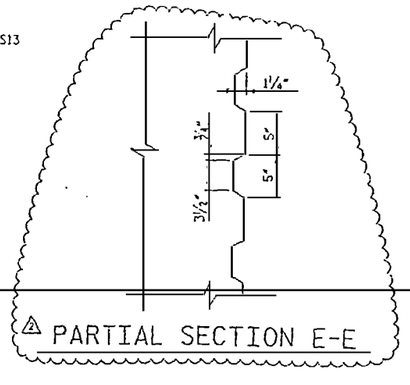


SECTION B-B

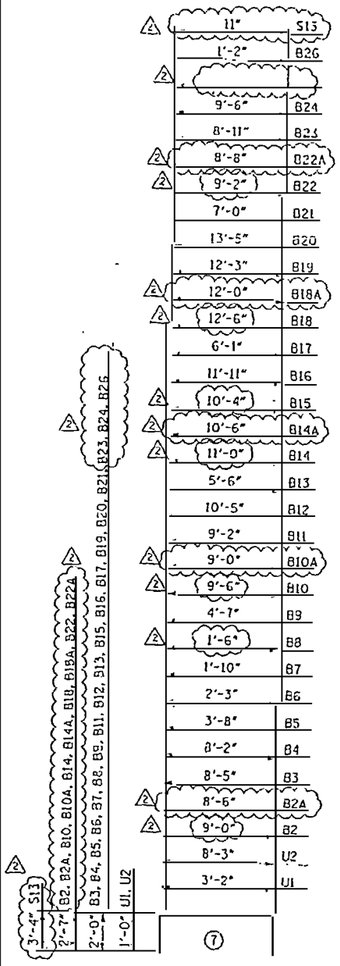


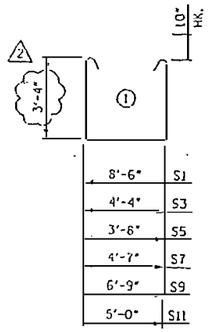
SECTION C-C

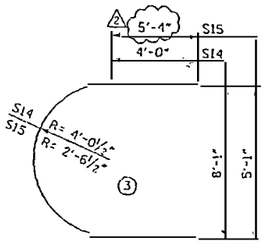


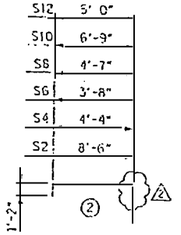
PARTIAL SECTION E-E

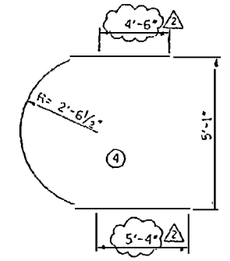
BAR TYPES

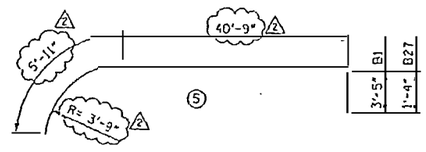












ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

FOR ONE HALF PIECE OF CONCRETE STRUT ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#18	(5)	50'-1"	5449
B2	1	#14	(1)	14'-2"	108
B2A	1	#14	(1)	13'-8"	105
B3	2	#11	(1)	12'-5"	132
B4	2	#11	(1)	12'-2"	129
B5	2	#11	(1)	7'-8"	81
B6	4	#11	(1)	6'-3"	133
B7	2	#11	(1)	5'-10"	62
B8	2	#11	(1)	5'-6"	58
B9	2	#11	(1)	8'-7"	91
B10	1	#14	(1)	14'-8"	112
B10A	1	#14	(1)	14'-2"	108
B11	2	#11	(1)	13'-2"	140
B12	2	#11	(1)	14'-5"	153
B13	2	#11	(1)	9'-6"	101
B14	1	#14	(1)	16'-2"	124
B14A	1	#14	(1)	15'-8"	120
B15	2	#11	(1)	14'-4"	152
B16	2	#11	(1)	15'-11"	169
B17	4	#11	(1)	10'-1"	214
B18	2	#14	(1)	17'-8"	270
B18A	2	#14	(1)	17'-2"	263
B19	4	#11	(1)	16'-3"	345
B20	4	#11	(1)	17'-5"	370
B21	2	#11	(1)	11'-0"	117
B22	1	#14	(1)	14'-4"	110
B22A	1	#14	(1)	13'-10"	106
B23	2	#11	(1)	12'-11"	137
B24	2	#11	(1)	13'-6"	143
B26	6	#11	(1)	5'-2"	165
B27	6	#8	(5)	48'-0"	769
S1	33	#7	(1)	16'-10"	1135
S2	33	#7	(2)	10'-10"	731
S3	34	#7	(1)	12'-6"	880
S4	34	#7	(2)	6'-8"	463
S5	12	#7	(1)	12'-0"	294
S6	12	#7	(2)	6'-0"	147
S7	12	#7	(1)	12'-11"	317
S8	12	#7	(2)	6'-11"	170
S9	1	#7	(1)	15'-1"	31
S10	1	#7	(2)	9'-1"	19
S11	1	#7	(1)	13'-4"	27
S12	1	#7	(2)	7'-4"	15
S13	46	#7	(7)	7'-7"	713
S14	7	#6	(3)	20'-9"	218
S15	25	#8	(3)	19'-2"	1279
S16	5	#8	(4)	17'-10"	238
U1	4	#6	(7)	5'-2"	31
U2	3	#6	(1)	10'-3"	46

NOTES:

1. ALL REINFORCING BARS TO BE EPOXY COATED.
2. STRUT CONSISTS OF ONE EACH LEFT HALF AND RIGHT HALF PIECES.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/4/08
TOM SHEARIN, PE DATE

2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

1 REVISIONS TO REINFORCING SCHEDULE AND SECTIONS.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030761 JOSEPH W. JORDAN

EarthTech

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 5 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

DETAILS - STRUT TYPE 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NO.	BY:	DATE:	NO.	BY:	DATE:
1	MTB	7/23/08	3		
2	SCS	10/27/08	4		

SHEET NO. 2625.02
TOTAL SHEETS

DRAWN BY : M.T. BEISLER DATE : 1/07
CHECKED BY : J.L.IU DATE : 1/07

USER: jmckinnon
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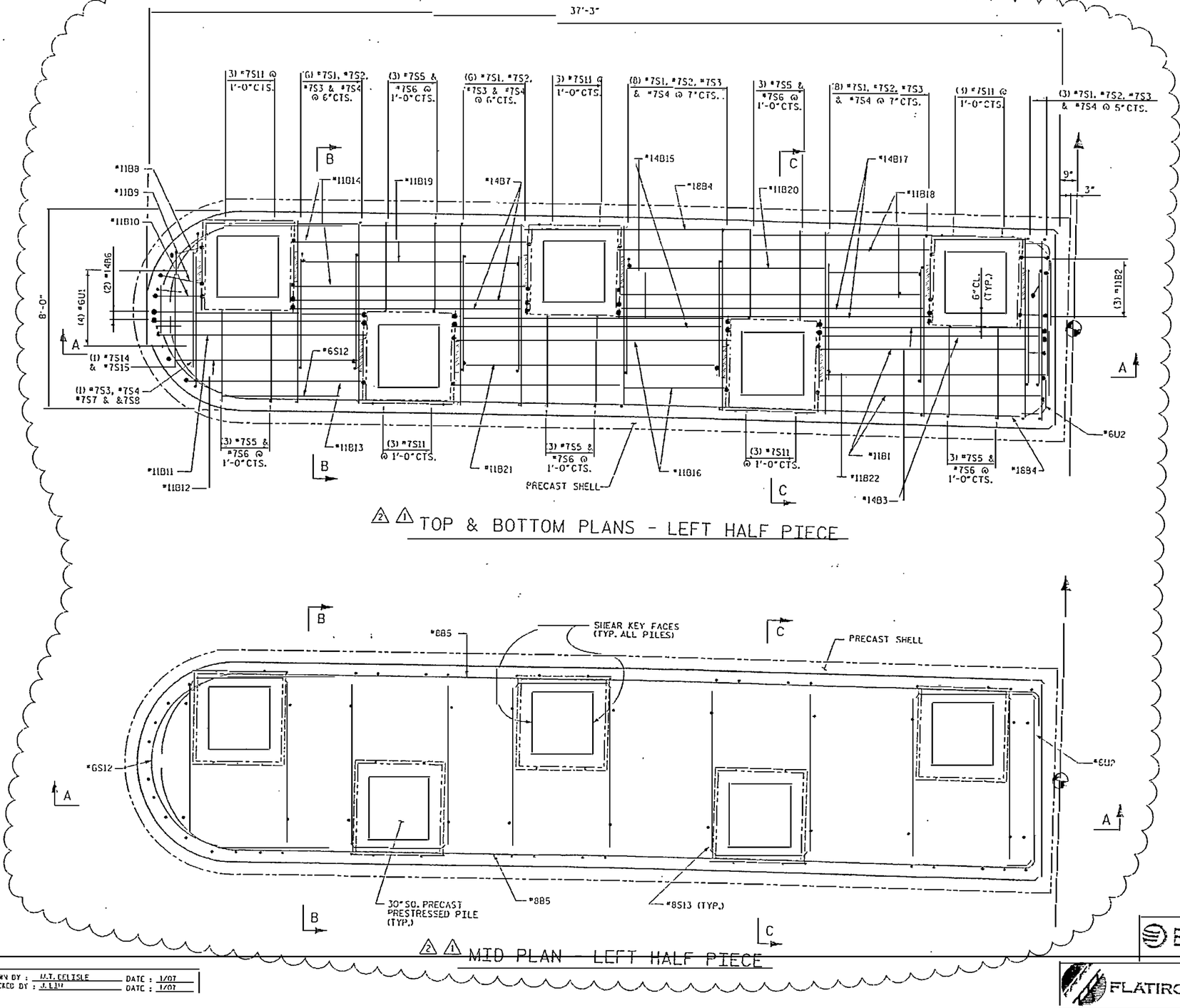


2 1 TOP & BOTTOM PLANS - LEFT HALF PIECE

2 1 MID PLAN - LEFT HALF PIECE

1 NOTES:

1. STRUT TO BE USED AT BENTS 100, 101 & 102.
2. 4" CLEARANCE FOR ALL BARS AT TOP AND BOTTOM FACES OF STRUT, 2" CLEARANCE FOR ALL OTHER FACES.
3. 6" CLEARANCE FOR ALL BARS AROUND PILES.
4. ALTERNATE #7S2, #7S4 AND #7S6 STIRRUPS.
5. THE 28 DAY CONCRETE COMPRESSIVE STRENGTH SHALL BE 5000 PSI.
6. APPLY CONCRETE BONDING AGENT ON PILE SURFACE WITHIN STRUTS AND SHELLS BEFORE POURING STRUT CONCRETE.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.
1 REVISED REINFORCING BARS AND NOTES; REMOVED CALLOUTS FOR STRUT TYPE 4.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

SHEET 1 OF 5 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

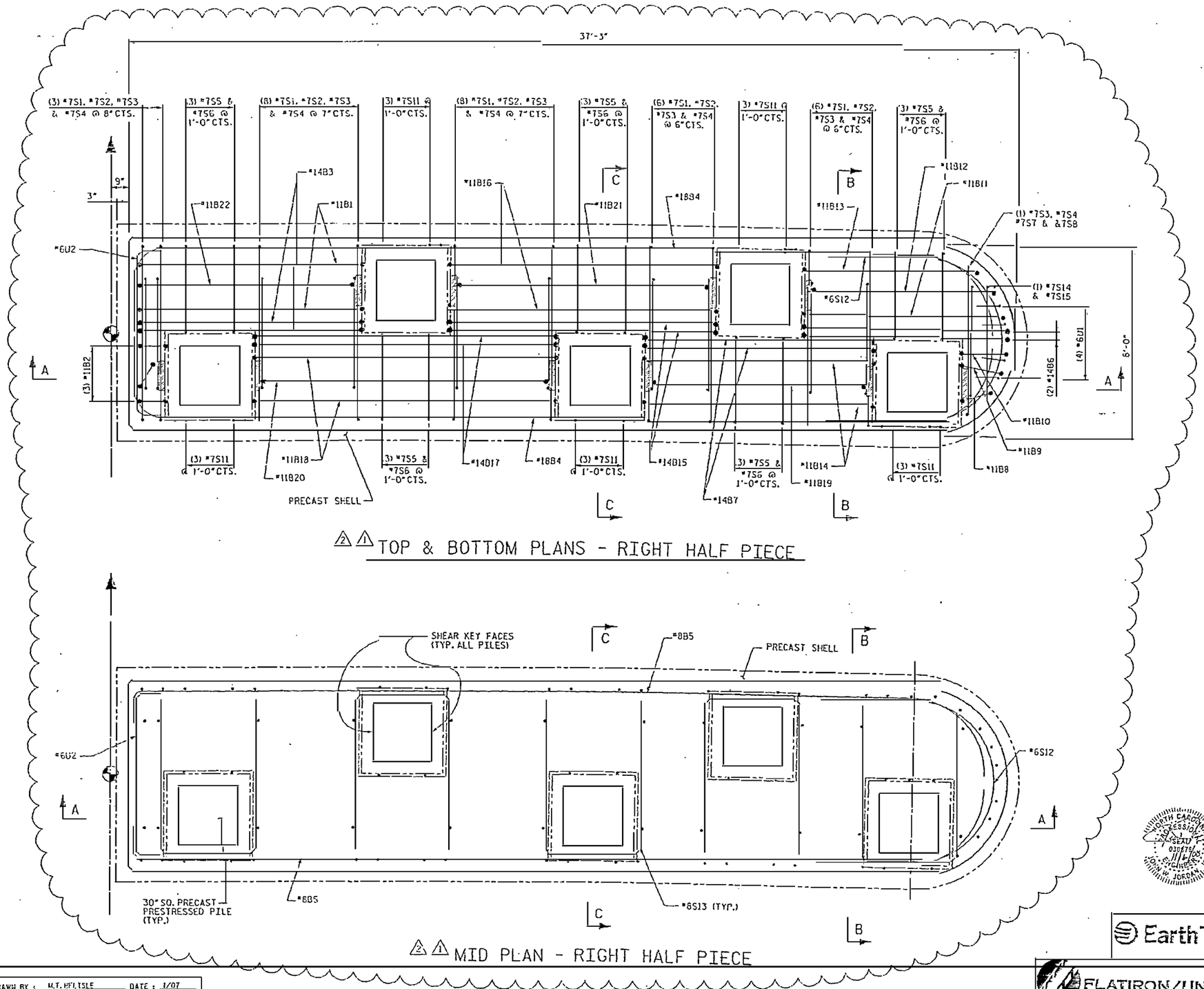
1

DETAILS - STRUT TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO	BY:	DATE:	NO	BY:	DATE:	2626.02
1	SGS	07/23/08	3			TOTAL SHEETS
2	SGS	10/27/03	4			

EarthTech
FLATIRON/UNITED A JOINT VENTURE

DRAWN BY : M.T. CELISLE DATE : 1/07
CHECKED BY : J.L.H. DATE : 1/07



⚠2⚠1 TOP & BOTTOM PLANS - RIGHT HALF PIECE

⚠2⚠1 MID PLAN - RIGHT HALF PIECE

NOTES:

1. SEE NOTES ON SHEET 1 OF 5.

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE — DATE

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.
⚠1 REVISED REINFORCING BARS AND NOTES; REMOVED CALLOUTS FOR STRUT TYPE 4.

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 5 — BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 - ⚠1
DETAILS - STRUT TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 030675 ENGINEER JOSEPH W. JORDAN

EarthTech
FLATIRON/UNITED A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY.	DATE:	2627.02
1	SCS	07/23/09	3			TOTAL SHEETS
2	SCS	10/27/09	4			

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CHECKED BY : J. LIU DATE : 1/07

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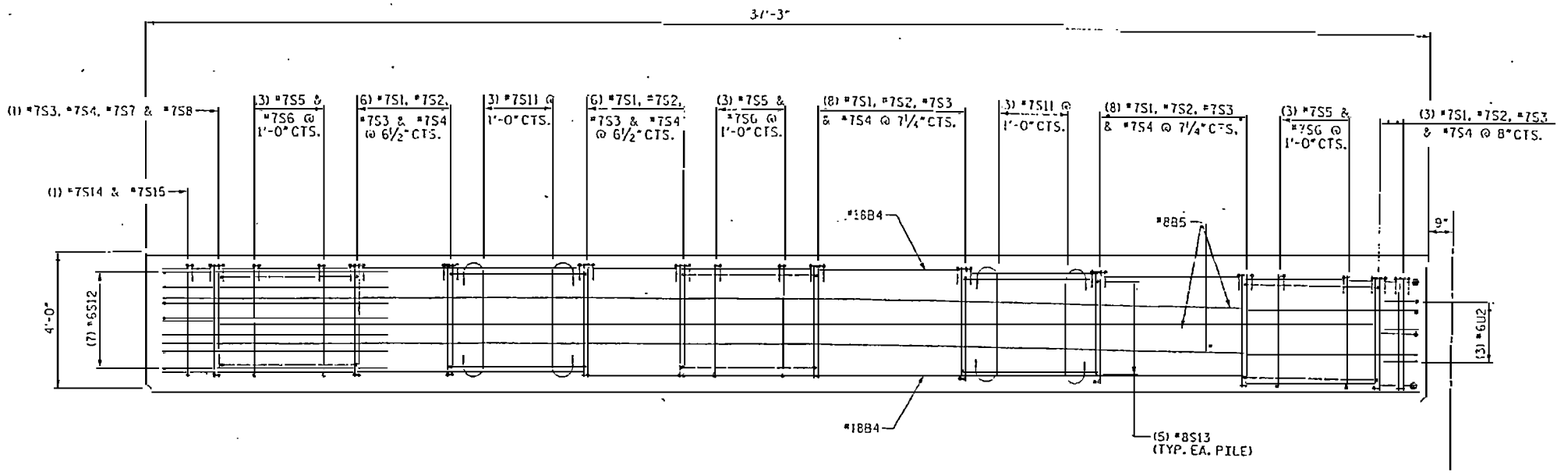
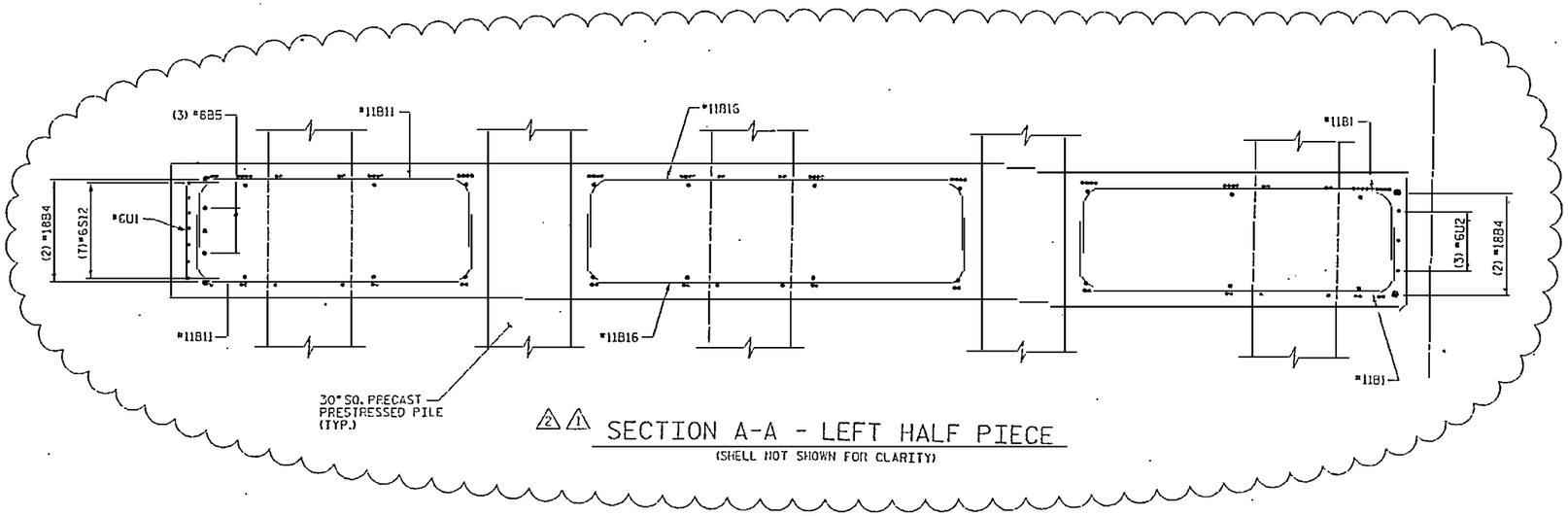


⚠1 ELEVATION - LEFT HALF PIECE

(SHELL NOT SHOWN FOR CLARITY)



⚠2⚠1 SECTION A-A - LEFT HALF PIECE

(SHELL NOT SHOWN FOR CLARITY)

⚠ NOTES:

1. SEE NOTES ON SHEET 1 OF 5.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 11/6/08

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

⚠1 REVISED REINFORCING BARS AND NOTES; REMOVED CALLOUTS FOR STRUT TYPE 4.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 - ⚠1

DETAILS - STRUT TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

Earth Tech

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. DEITSLE DATE : 1/07
CHECKED BY : J. LIU DATE : 1/07

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2628.02
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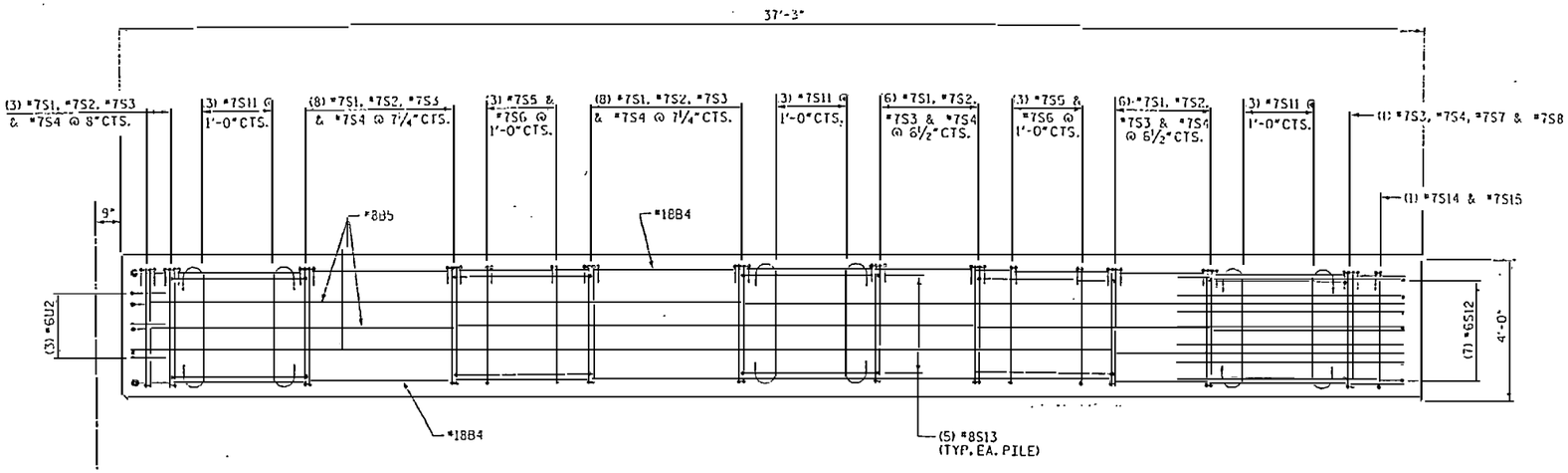
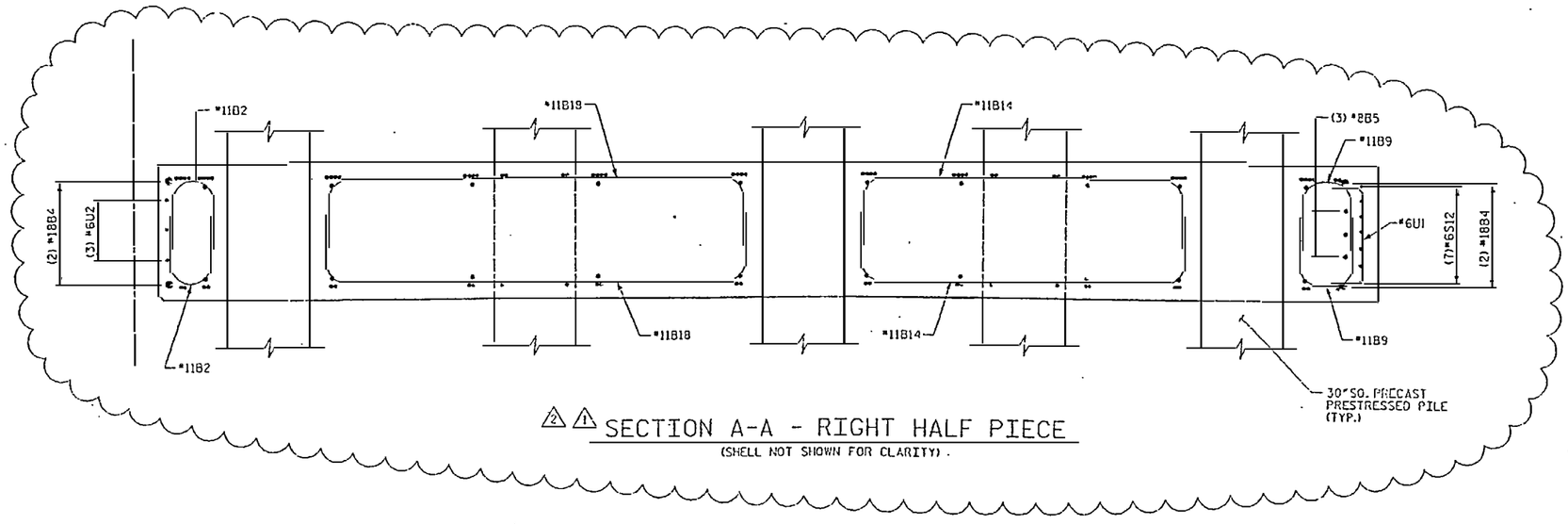
⚠2	SGS	10/27/08	4			



⚠1 ELEVATION - RIGHT HALF PIECE

(SHELL NOT SHOWN FOR CLARITY)



⚠2⚠1 SECTION A-A - RIGHT HALF PIECE

(SHELL NOT SHOWN FOR CLARITY).

⚠ NOTES:

1. SEE NOTES ON SHEET 1 OF 5.

RELEASED FOR CONSTRUCTION

TOM SHEARIN, PE — DATE 11/20/08

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

⚠1 REVISED REINFORCING BARS AND NOTES; REMOVED CALLOUTS FOR STRUT TYPE 4.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 4 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 - ⚠1

DETAILS - STRUT TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2629.02
1	SCS	07/23/08	3			TOTAL SHEETS
2	SCS	10/27/08	4			

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CHECKED BY : J.L.TIL DATE : 1/07

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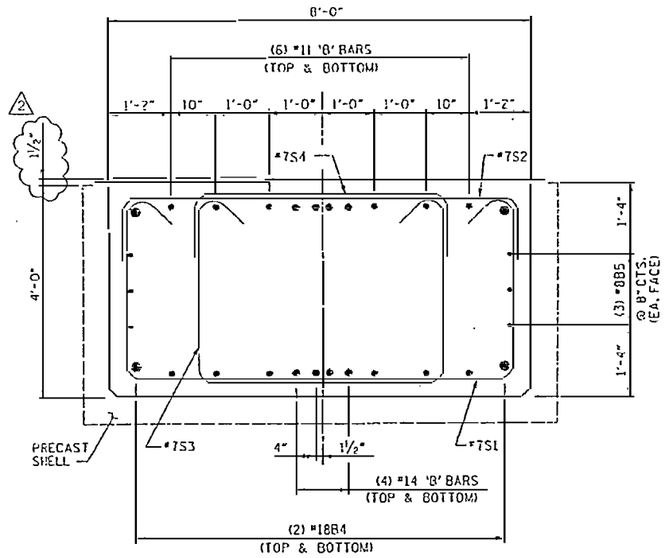
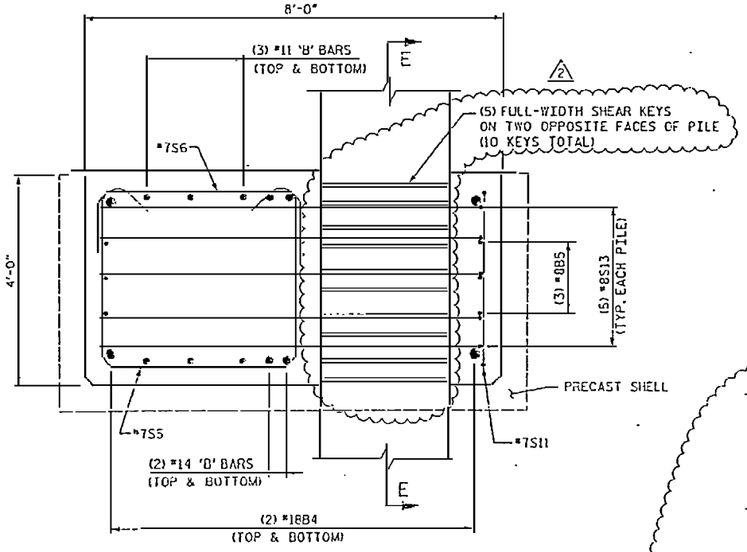
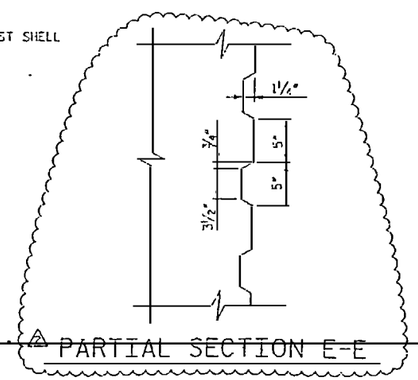


⚠1 SECTION B-B

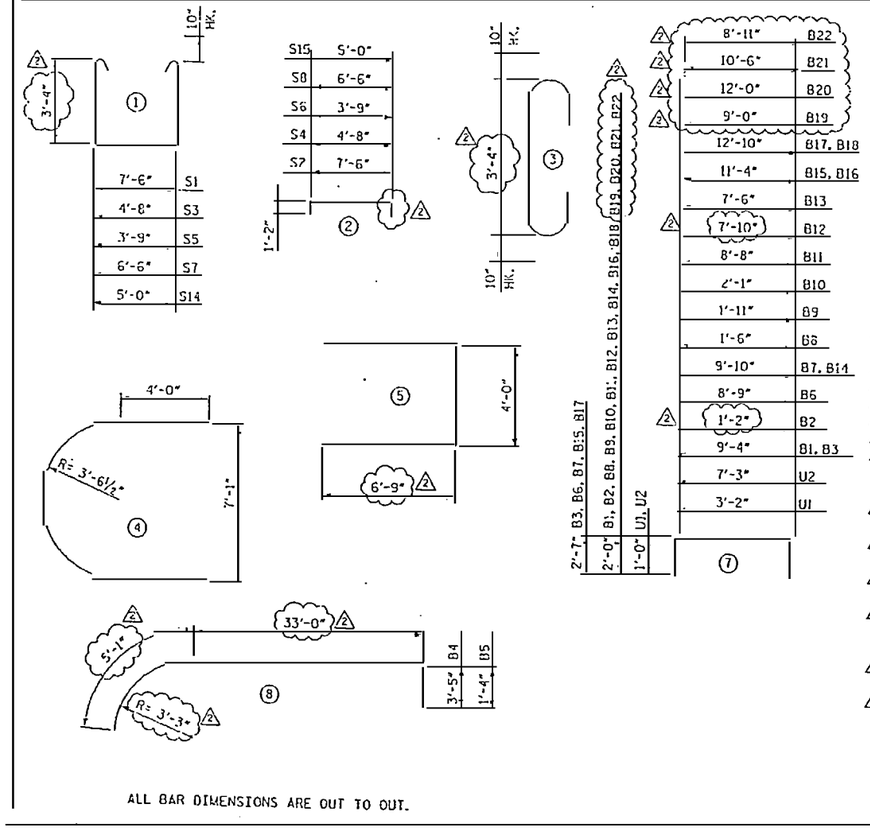


⚠1 SECTION C-C



⚠2 PARTIAL SECTION E-E

BAR TYPES ⚠1



ALL BAR DIMENSIONS ARE OUT TO OUT.

⚠1 BILL OF MATERIAL

FOR ONE HALF PIECE OF CONCRETE STRUT ONLY

	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
2	B1	4	#11	(7)	13'-4"	283
2	B2	6	#11	(7)	5'-2"	165
	B3	4	#14	(7)	14'-6"	444
2	B4	4	#18	(8)	41'-6"	2258
2	B5	6	#8	(8)	39'-5"	631
	B6	4	#14	(7)	13'-11"	426
	B7	4	#14	(7)	15'-0"	459
	B8	2	#11	(7)	5'-6"	58
	B9	2	#11	(7)	5'-11"	63
	B10	2	#11	(7)	6'-1"	65
	B11	2	#11	(7)	12'-8"	135
2	B12	2	#11	(7)	11'-10"	126
	B13	2	#11	(7)	11'-6"	122
2	B14	4	#11	(7)	13'-10"	294
	B15	4	#14	(7)	16'-6"	505
2	B16	4	#11	(7)	15'-4"	326
	B17	4	#14	(7)	18'-0"	551
2	B18	4	#11	(7)	16'-10"	358
2	B19	2	#11	(7)	13'-0"	138
2	B20	2	#11	(7)	16'-0"	170
2	B21	2	#11	(7)	14'-6"	154
2	B22	2	#11	(7)	12'-11"	137
2						
	S1	31	#7	(1)	15'-10"	1003
2	S2	31	#7	(2)	9'-10"	623
	S3	32	#7	(1)	13'-0"	850
2	S4	32	#7	(2)	7'-0"	458
	S5	15	#7	(1)	12'-1"	370
2	S6	15	#7	(2)	6'-1"	187
	S7	1	#7	(1)	14'-10"	30
2	S8	1	#7	(2)	8'-10"	18
	S11	15	#7	(3)	5'-0"	153
	S12	7	#6	(4)	19'-2"	202
2	S13	25	#8	(5)	17'-6"	1168
	S14	1	#7	(1)	13'-4"	27
2	S15	1	#7	(2)	7'-4"	15
	U1	4	#6	(7)	5'-2"	31
	U2	3	#6	(7)	9'-3"	42

⚠1 NOTES:
1. ALL REINFORCING BARS TO BE EPOXY COATED.
2. STRUT CONSISTS OF ONE EACH LEFT HAND AND RIGHT HAND PIECES.

⚠2 REVISIONS DUE TO CHANGE IN CONSTRUCTION METHOD.

⚠1 REVISIONS TO REINFORCING SCHEDULE AND SECTIONS, AND REMOVED CALLOUTS FOR STRUT TYPE 4.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/6/08
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 037677 JOHN L. LITTLE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 5 OF 5 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 - ⚠1

DETAILS - STRUT TYPE 3
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2630.02
⚠1	SGS	07/23/08	3			TOTAL SHEETS
⚠2	SGS	10/27/08	4			

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CHECKED BY : J.L.TU DATE : 1/07

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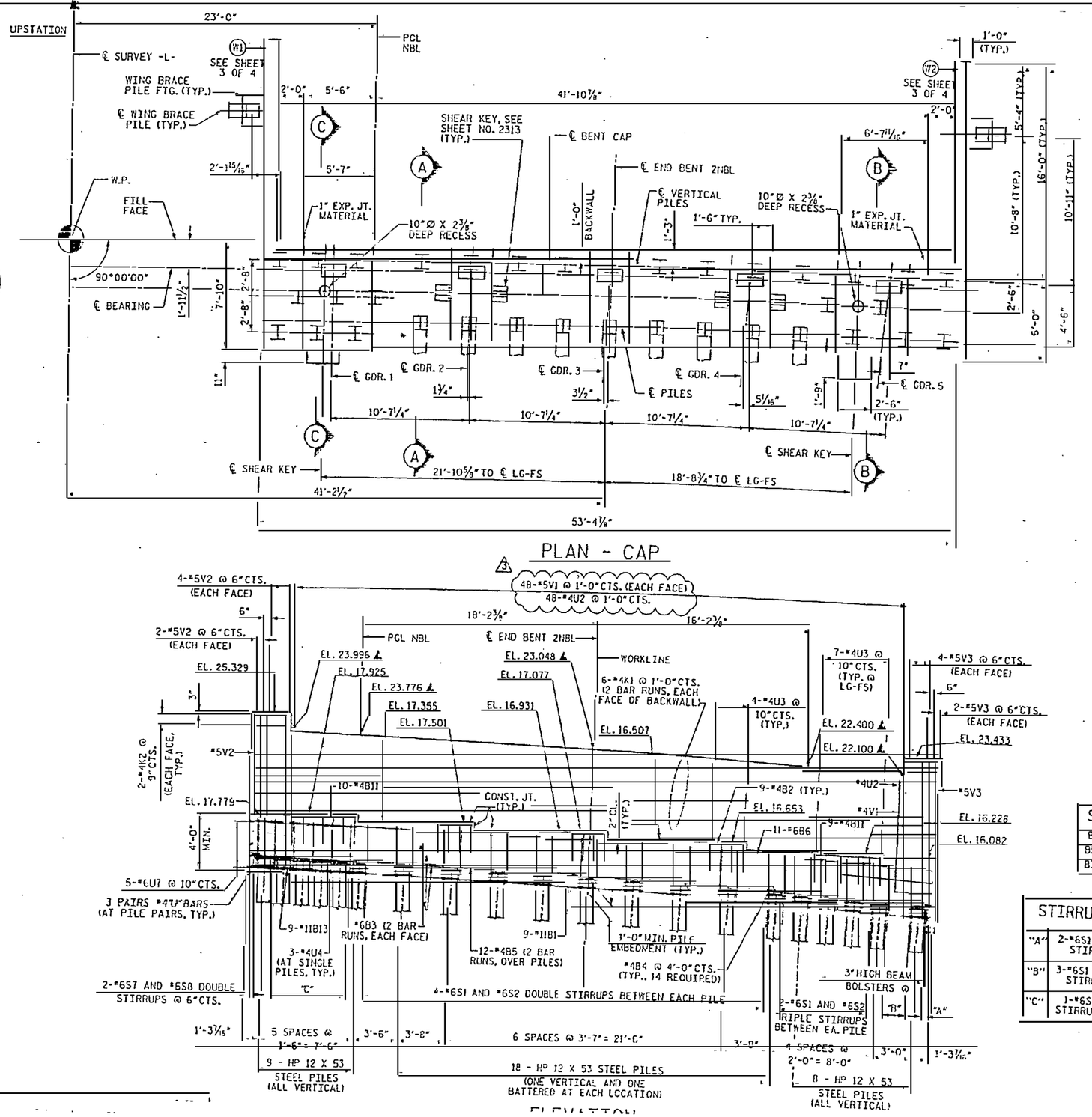


PLAN - CAP

ELEVATION

NOTES

FOR ELASTOMERIC BEARING DETAILS, SEE "ELASTOMERIC BEARING DETAILS" SHEET.

THE TOP SURFACE OF THE END BENT CAP SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THAT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

THE TOP SURFACE AREA OF THE END BENT CAP EXCEPT THE BRIDGE SEAT BUILD-UPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE FRONT FACE AT THE RATE OF 2%.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

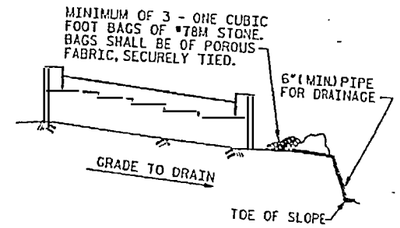
BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

△ THIS ELEVATION IS TAKEN AT FILL FACE OF BACKWALL.

FOR SECTION A-A AND B-B, SEE SHEET 4 OF 4.

FOR SECTION C-C, SEE SHEET 2 OF 4.

TIE DOWNS / LEGS PER THE DEAL LAUNCHING GANTRY DRAWINGS PROVIDED BY OTHERS.



BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

TEMPORARY DRAINAGE AT END BENT

SPLICE CHART		
BAR	SIZE	LENGTH
B5.K1	4	2'-5"
B3	6	3'-10"

STIRRUPS SPACING	
"A"	2-#6S1 AND #6S2 DOUBLE STIRRUPS @ 6"CTS.
"B"	3-#6S1 AND #6S2 DOUBLE STIRRUPS @ 10"CTS.
"C"	1-#6S7 AND #6S8 TRIPLE STIRRUPS BETWEEN EA. PILE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 024681 JOHN W. JORDAN

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 1 OF 4

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

END BENT 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

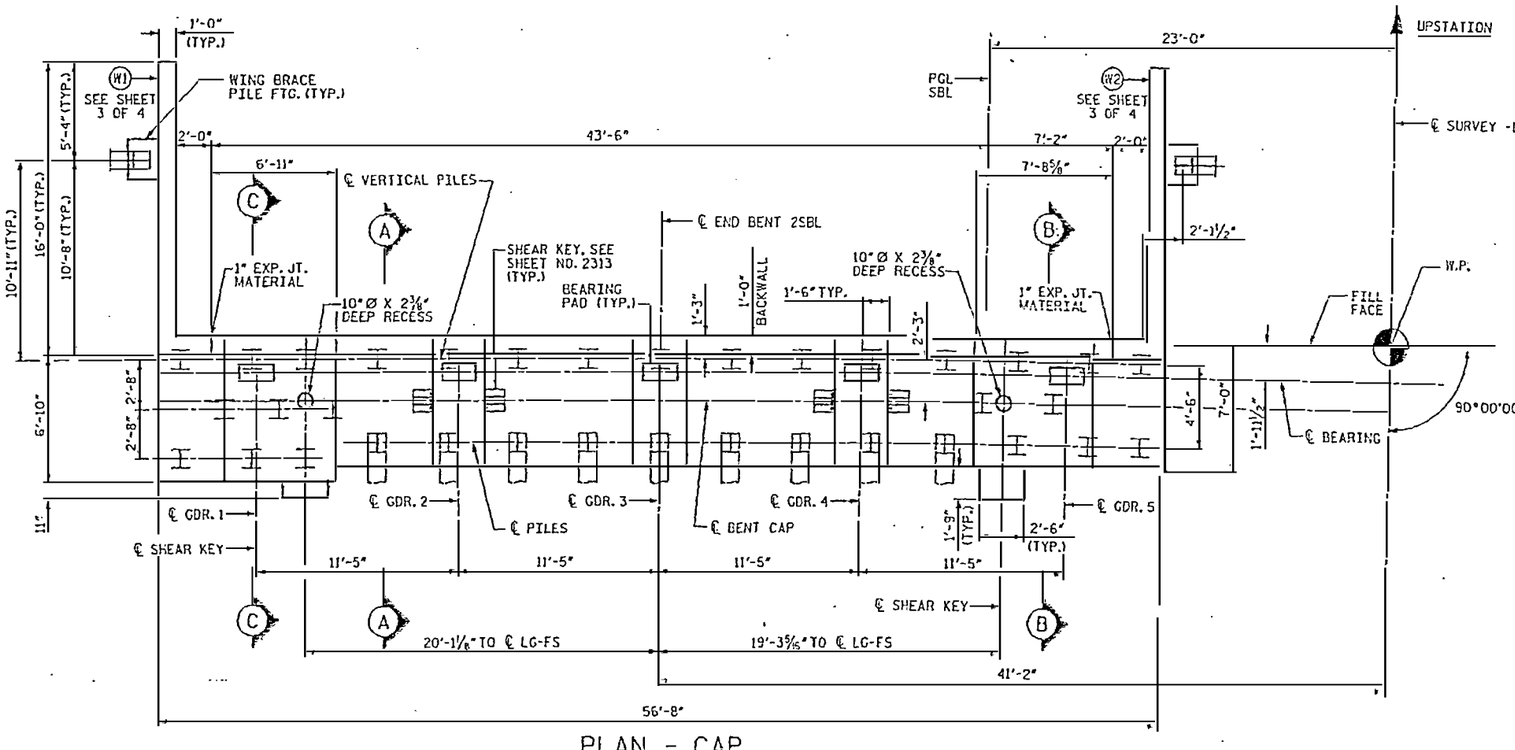
EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED

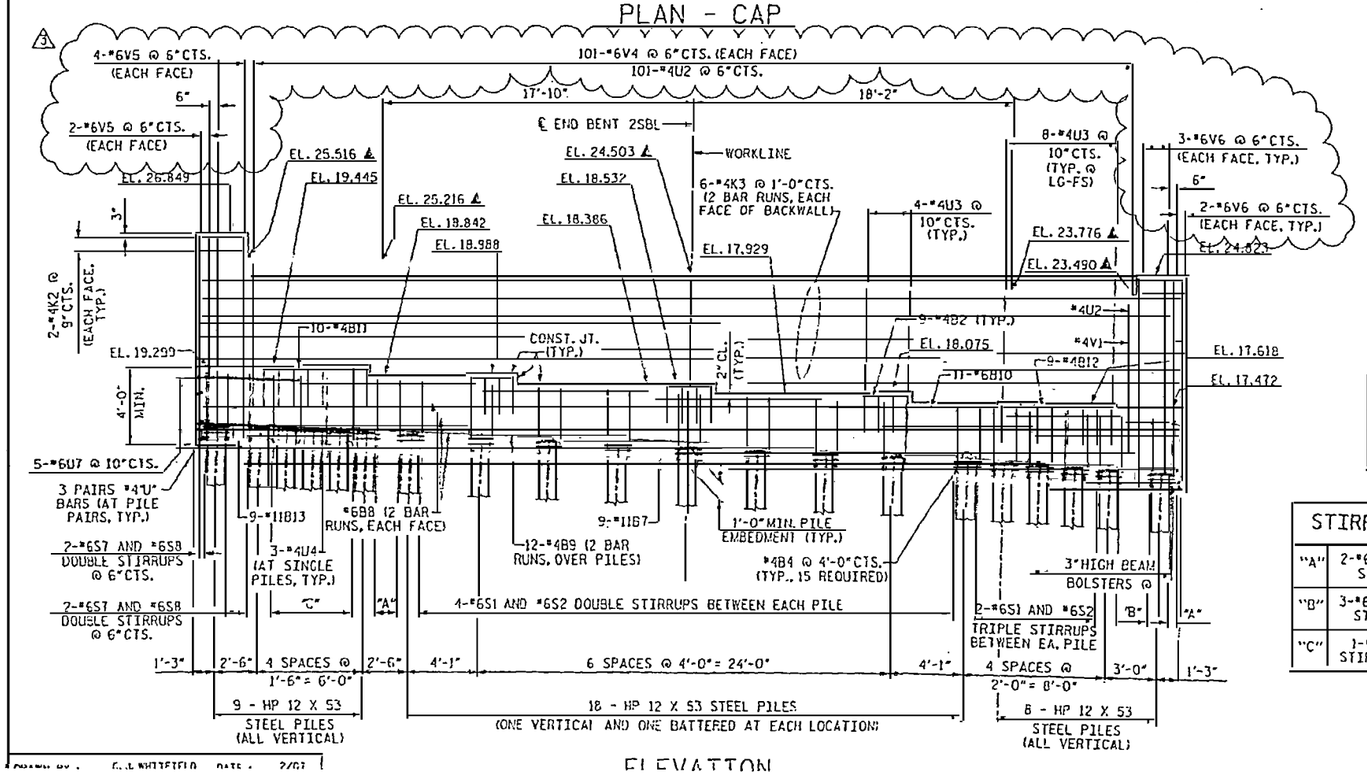
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2640.03

DATE: 6/29/2007
TIME: 2:22:24 PM

Preliminary Plans Only Not For Construction



PLAN - CAP



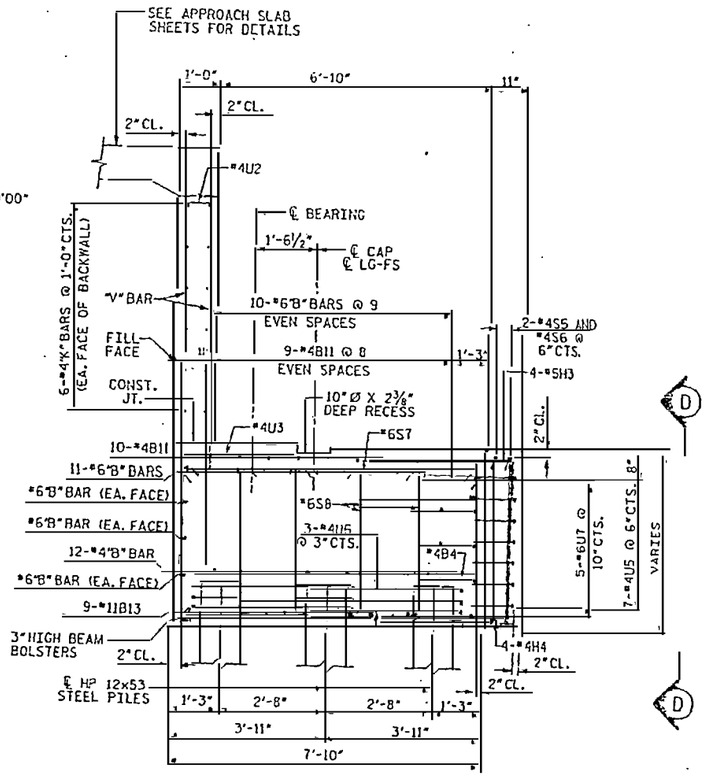
ELEVATION

NOTES

FOR NOTES SEE SHEET 1 OF 4

FOR SECTION A-A, B-B AND D-D, SEE SHEET 4 OF 4

▲ THIS ELEVATION IS TAKEN AT FILL FACE OF BACKWALL.



SECTION C-C

SPLICE CHART		
BAR	SIZE	LENGTH
B9.K3	4	2'-5"
B8	6	3'-10"

STIRRUPS SPACING	
"A"	2-#6S1 AND #6S2 DOUBLE STIRRUPS @ 6"CTS.
"B"	3-#6S1 AND #6S2 DOUBLE STIRRUPS @ 10"CTS.
"C"	1-#6S7 AND #6S8 TRIPLE STIRRUPS BETWEEN EA. PILE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 4

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

END BENT 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2641.03
1	CJK	05/10/07	2	CJK	06/25/07	TOTAL

EarthTech
A Tyco International Ltd. Company

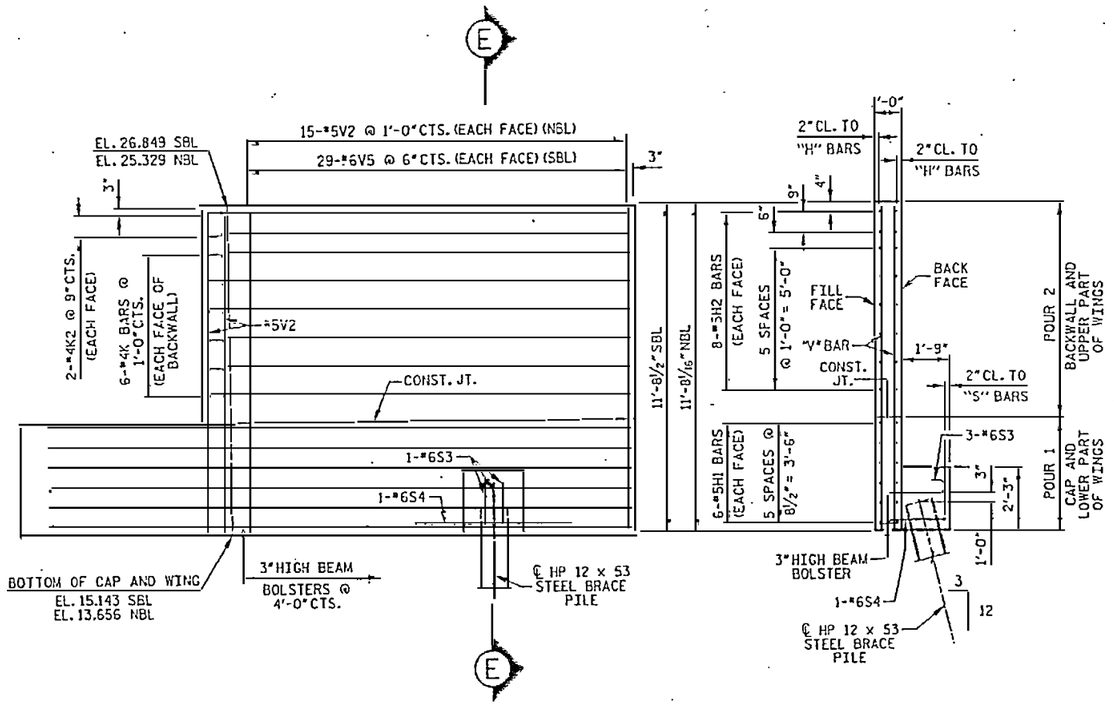
FLATIRON/UNITED
A JOINT VENTURE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029176 C. JORDAN

DATE: 6/28/2007

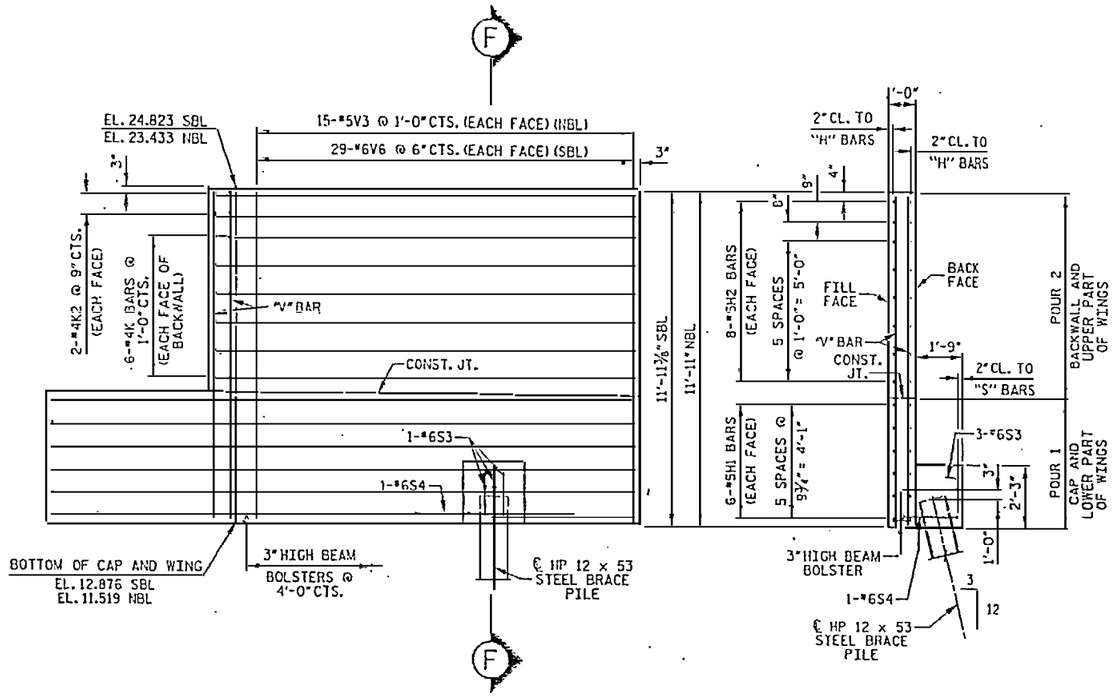
FILE: 2641.03

Plotted by: C.J. WHITFIELD DATE: 2/07



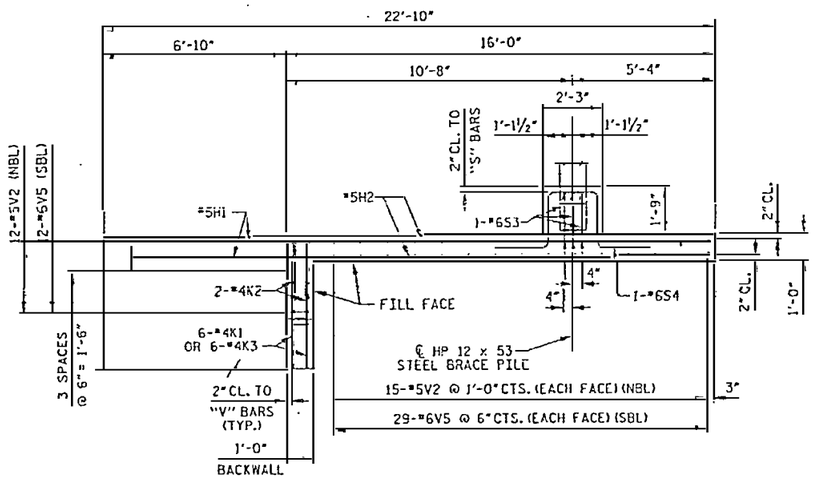
ELEVATION OF WING W1

SECTION E-E

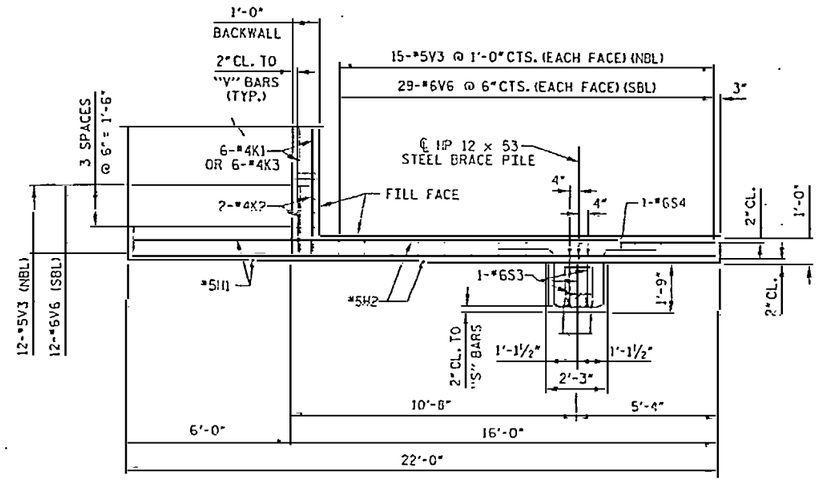


ELEVATION OF WING W2

SECTION F-F



PLAN OF WING W1



PLAN OF WING W2

⚠2 REVISIONS MADE TO "V" BARS

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

END BENT 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2642.02
1	CJW	05/10/07	2			TOTAL SHEETS

Earth Tech
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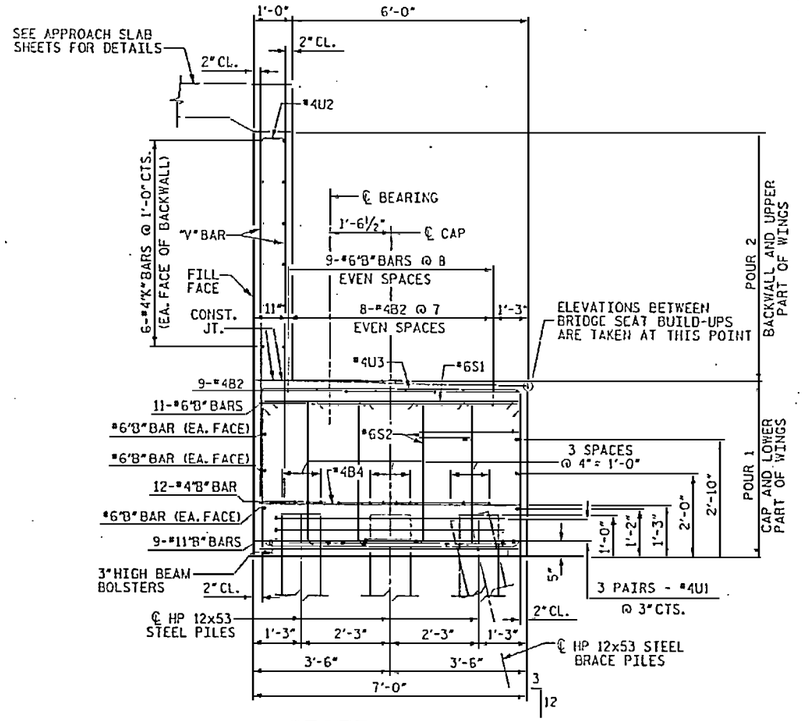
FLATIRON/UNITED
A JOINT VENTURE

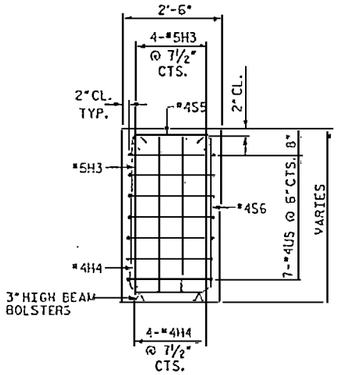
DATE: 6/25/2007
FILE: 25325 PW

C:\pwworking\jwhar\D0604240\N25CE_SOLIDS_EBENT2-W2.dgn

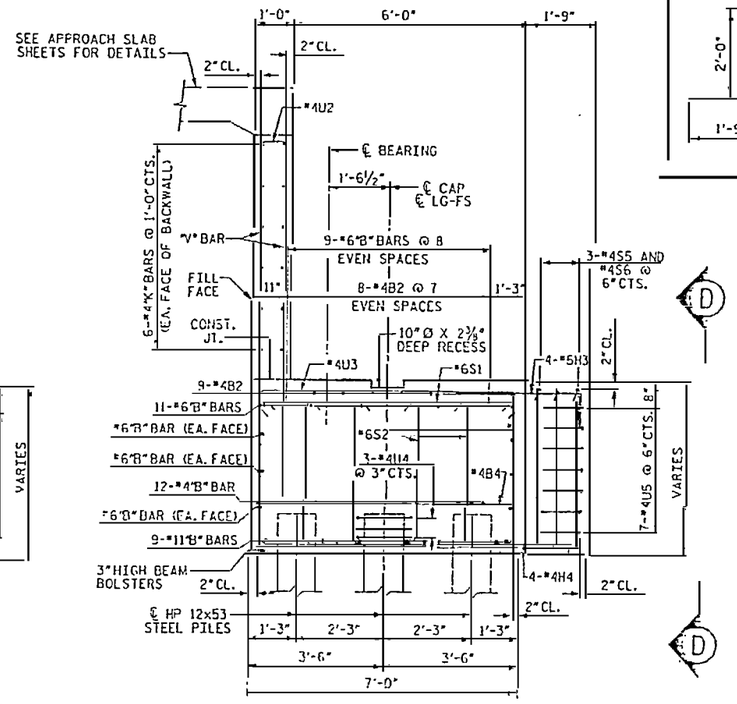
DRAWN BY: C.J. WHITFIELD DATE: 2/07



SECTION A-A

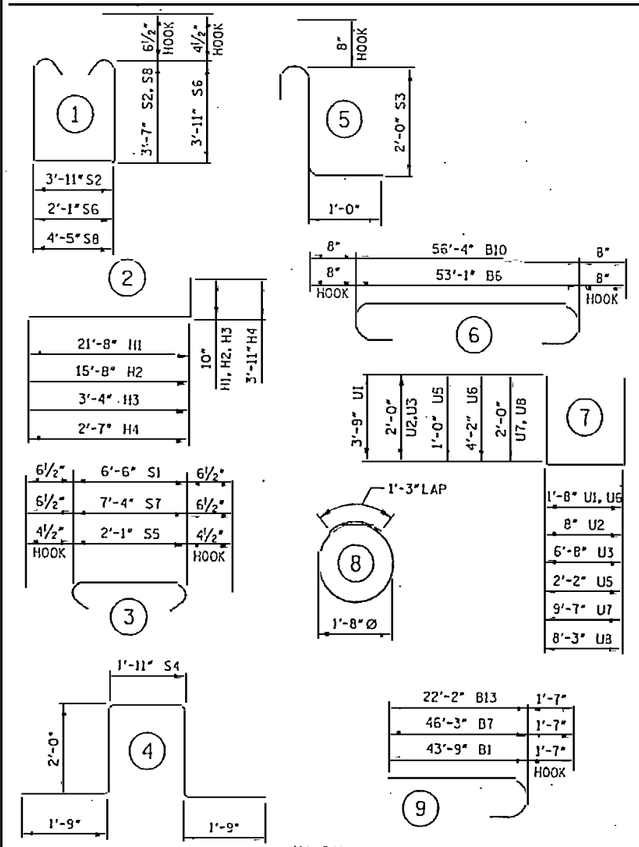


SECTION D-D



SECTION B-B

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL

END BENT 2 NBL

BAR	No.	SIZE	TYPE	LENGTH	WEIGHT
B1	9	#11	9	45'-4"	2168
B2	27	#4	STR	2'-8"	48
B3	12	#5	STR	28'-6"	514
B4	14	#4	STR	6'-8"	62
B5	24	#4	STR	27'-10"	446
B6	11	#6	6	54'-5"	899
B11	10	#4	STR	5'-1"	34
B13	9	#11	9	23'-9"	1136
H1	24	#5	2	22'-6"	563
H2	32	#5	2	16'-6"	551
H3	8	#5	2	4'-2"	35
H4	8	#4	2	6'-6"	35
K1	12	#4	STR	27'-10"	223
K2	8	#4	STR	2'-8"	14
S1	49	#6	3	7'-7"	558
S2	106	#6	1	12'-2"	1937
S3	6	#6	5	3'-8"	33
S4	2	#6	4	9'-5"	28
S5	5	#4	3	2'-10"	9
S6	5	#4	1	10'-0"	36
S7	5	#6	3	8'-5"	63
S8	15	#6	1	12'-8"	285
U1	72	#4	7	9'-2"	441
U2	48	#4	7	4'-8"	150
U3	26	#4	7	10'-8"	185
U4	15	#4	8	6'-6"	65
U5	14	#4	7	4'-2"	39
U6	18	#4	7	10'-0"	120
U8	5	#6	7	12'-3"	92
V1	96	#5	STR	9'-7"	960
V2	42	#5	STR	11'-4"	496
V3	42	#5	STR	11'-6"	504

REINFORCING STEEL 12,729 LBS.

CLASS "A" CONCRETE

POUR 1	CAP AND LOWER PART OF WING	66.2 CU. YDS.
POUR 2	BACKWALL AND UPPER PART OF WING	20.8 CU. YDS.
	TOTAL	87.0 CU. YDS.

HP 12 x 53 STEEL PILES
37 REQUIRED 3,490 LIN. FT.

PILE TIP ELEVATION -68 FT ± MSL

END BENT 2 SBL

BAR	No.	SIZE	TYPE	LENGTH	WEIGHT
B2	27	#4	STR	2'-8"	48
B4	15	#4	STR	6'-8"	67
B7	9	#11	9	47'-10"	2287
B8	12	#5	STR	30'-2"	544
B9	24	#4	STR	29'-5"	472
B10	11	#6	6	57'-8"	953
B11	10	#4	STR	5'-10"	39
B12	9	#4	STR	6'-4"	38
B13	9	#11	9	23'-9"	1136
H1	24	#5	2	22'-6"	563
H2	32	#5	2	16'-6"	551
H3	8	#5	2	4'-2"	35
H4	8	#4	2	6'-6"	35
K2	8	#4	STR	2'-8"	14
K3	12	#4	STR	29'-5"	236
S1	47	#6	3	7'-7"	535
S2	102	#6	1	12'-2"	1864
S3	6	#6	5	3'-8"	33
S4	2	#6	4	9'-5"	28
S5	5	#4	3	2'-10"	9
S6	5	#4	1	10'-8"	36
S7	8	#6	3	8'-5"	101
S8	20	#6	1	12'-8"	381
U1	72	#4	7	9'-2"	441
U2	101	#4	7	4'-8"	315
U3	28	#4	7	10'-8"	200
U4	15	#4	8	6'-6"	65
U5	14	#4	7	4'-2"	39
U6	18	#4	7	10'-0"	120
U7	5	#6	7	13'-7"	102
V4	202	#6	STR	9'-7"	2908
V5	70	#6	STR	11'-4"	1192
V6	70	#6	STR	11'-6"	1209

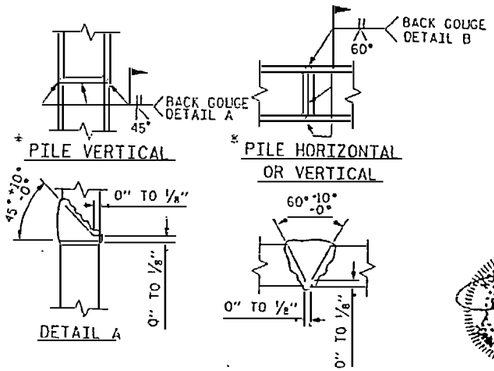
REINFORCING STEEL 16,596 LBS.

CLASS "A" CONCRETE

POUR 1	CAP AND LOWER PART OF WING	70.1 CU. YDS.
POUR 2	BACKWALL AND UPPER PART OF WING	21.6 CU. YDS.
	TOTAL	92.0 CU. YDS.

HP 12 x 53 STEEL PILES
37 REQUIRED 3,490 LIN. FT.

PILE TIP ELEVATION -68 FT ± MSL



* POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS

NOTE:
A PREMADE SPLICE MAY BE USED AS AN ALTERNATE WITH THE APPROVAL OF THE EOE.

1 REVISIONS MADE TO ENTIRE SHEET
2 REVISIONS MADE TO END BENT 2 SBL BILL OF MATERIAL
3 REVISIONS MADE TO BILL OF MATERIAL

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
END BENT 2
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

EarthTech
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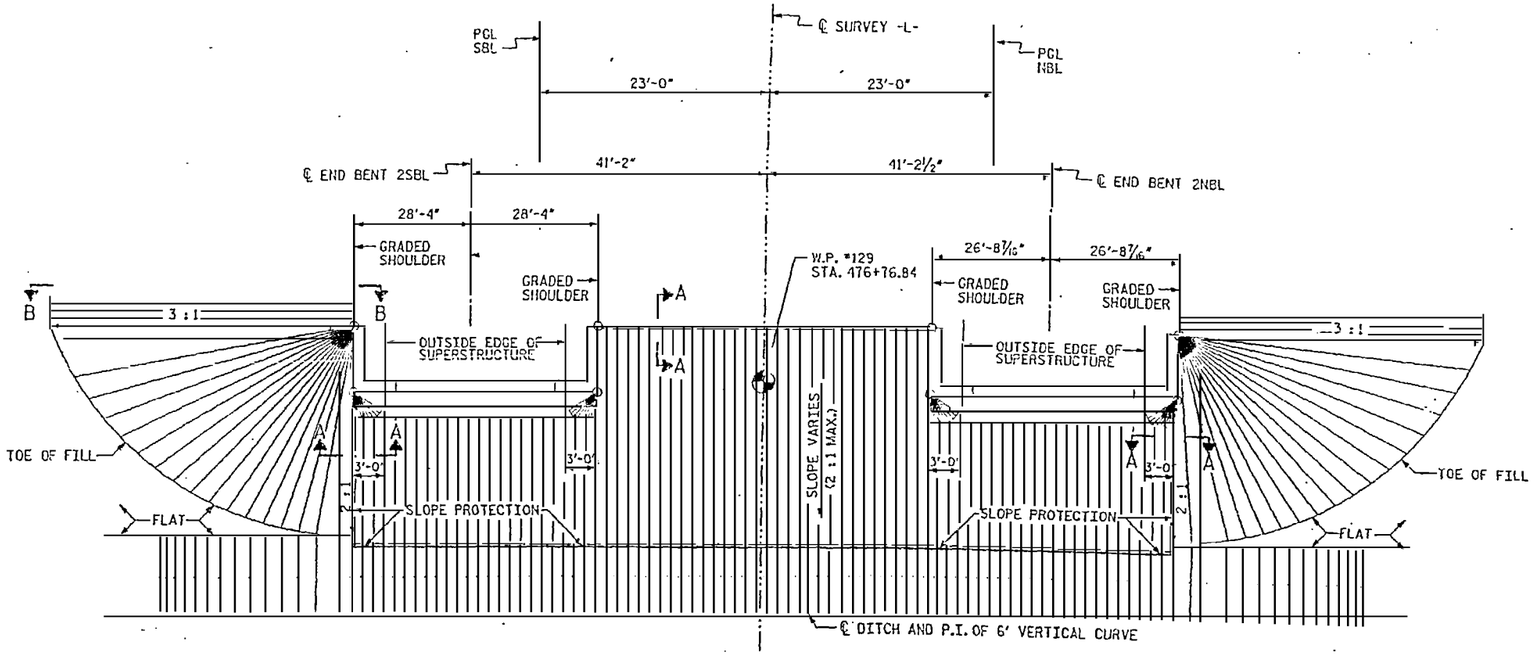
FLATIRON/UNITED
A JOINT VENTURE

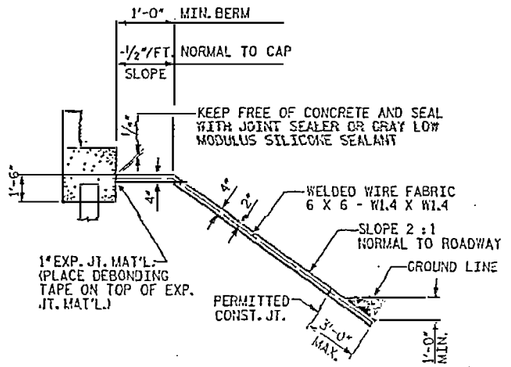
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2643.03
1	CJE	05/10/07	3	CJE	06/26/07	TOTAL SHEETS

DGN: 6.22.2007
PWD: 2:52:22 PM

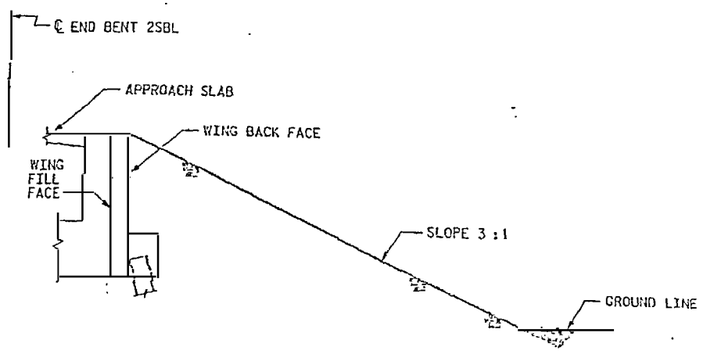


PLAN - END BENT #2

(SLOPE VARIES)



SECTION ALONG ℄ ROADWAY WHEN DITCH IS NOT PROVIDED



SECTION B-B

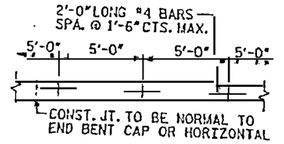
BRIDGE @ STA. 434+51.67 -L-	4" INCH SLOPE PROTECTION	* WELDED WIRE FABRIC 60 INCHES WIDE
	SQUARE YARDS	APPROX. L.F.
END BENT 2	356	642

* QUANTITY SHOWN IS BASED ON 5' POURS.

NOTES

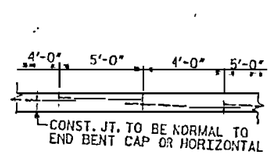
SLOPE PROTECTION SHALL BE PLACED UNDER END BENT #2 AS SHOWN IN THE DETAILS ON THIS SHEET. STRAIGHT EDGING WILL NOT BE REQUIRED UNLESS, IN THE OPINION OF THE DEPARTMENT, VISUAL INSPECTION INDICATES A NEED FOR IT.

SLOPE PAVEMENT SHALL CONSIST OF 4" POURED-IN-PLACE CONCRETE PAVING AS SHOWN IN THE DETAILS ON THIS SHEET. CONCRETE SHALL BE CLASS "B". THE CONCRETE SURFACE SHALL BE FLOATED WITH A WOODEN FLOAT AND FINISHED. WELDED WIRE FABRIC REINFORCING SHALL BE 6 X 6 - W1.4 X W1.4, 60" WIDE. SLOPE PROTECTION SHALL BE POURED IN 5' STRIPS AS SHOWN IN THE "POURING DETAIL" WITH 2'-0" LONG #4 BARS PLACED ALONG THE SLOPE BETWEEN STRIPS AT 1'-6" MAXIMUM SPACING. SLOPE PROTECTION MAY BE POURED IN ALTERNATE 4' AND 5' STRIPS AS SHOWN IN THE "OPTIONAL POURING DETAIL" WITH ADJACENT RUNS OF WELDED WIRE FABRIC LAPPING AT LEAST 6".



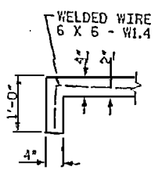
STRIP WIDTHS MAY VARY IN CURVED PORTION.

POURING DETAIL



POUR A 4'-0" STRIP FIRST. STRIP WIDTHS MAY VARY IN CURVED PORTION.

OPTIONAL POURING DETAIL



SECTION A-A

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
8/21/07
DATE

⚠1 GENERAL REVISIONS.

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 1 OF 1

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SLOPE PROTECTION DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2644.01
1	MTB	8/21/07				TOTAL SHEETS

EarthTech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : M.T. BEISLE DATE : 4/07
CHECKED BY : J. TAI DATE : 4/07

DATE: 8/21/2007
TIME: 10:34:47 AM

USER: mtbeisle
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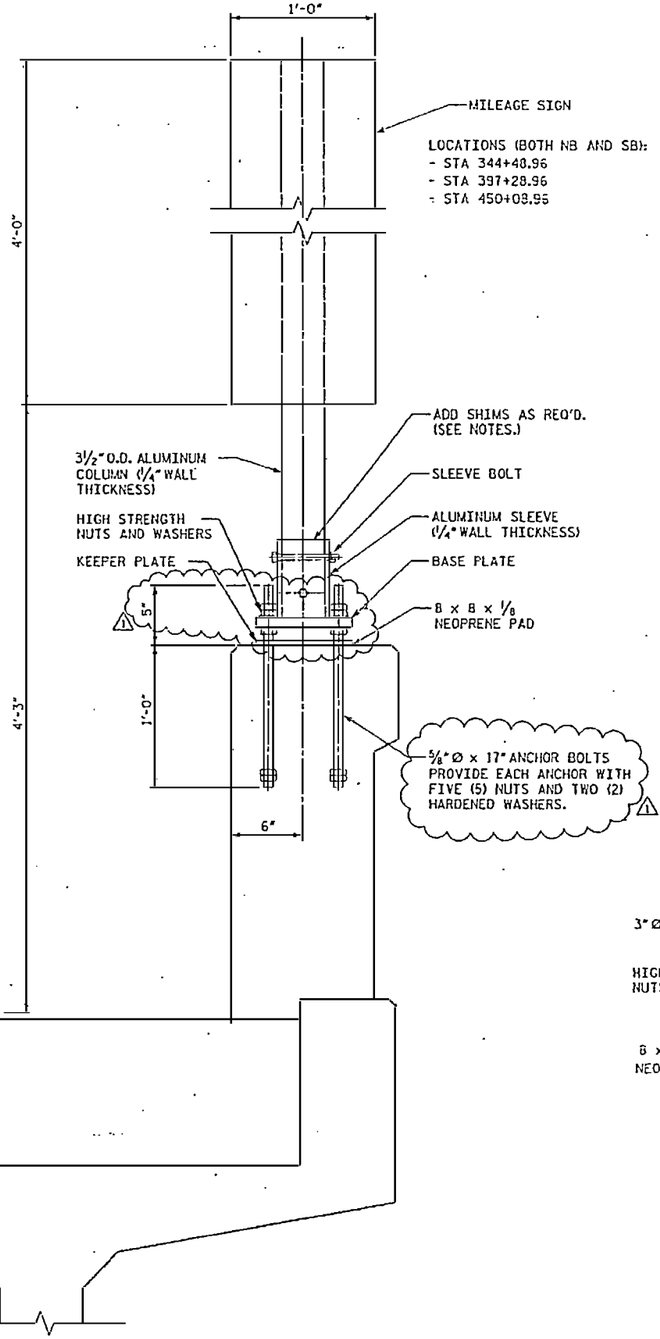
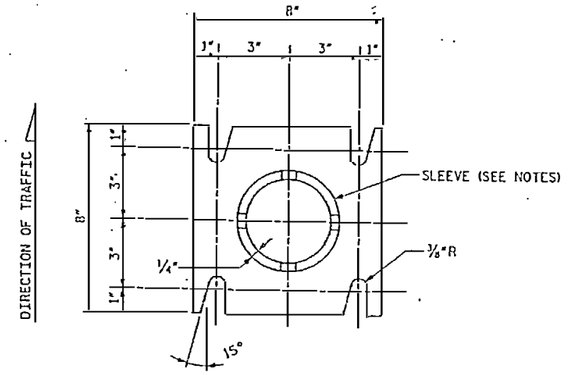
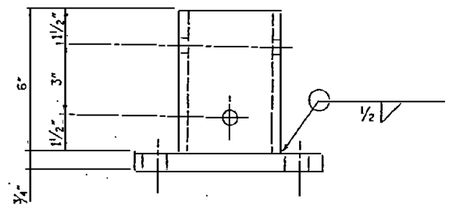


ELEVATION



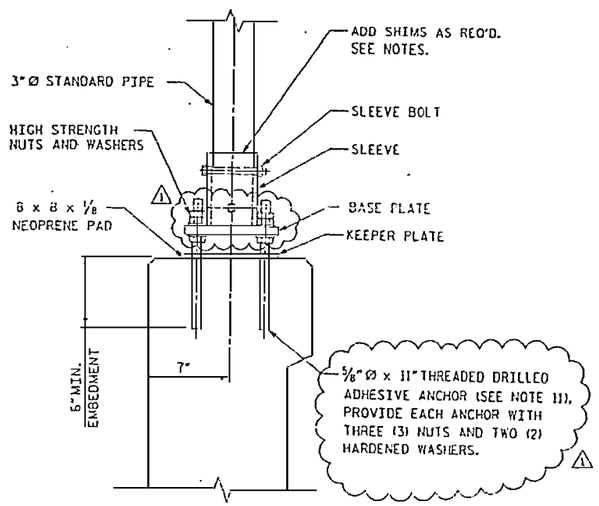
PLAN



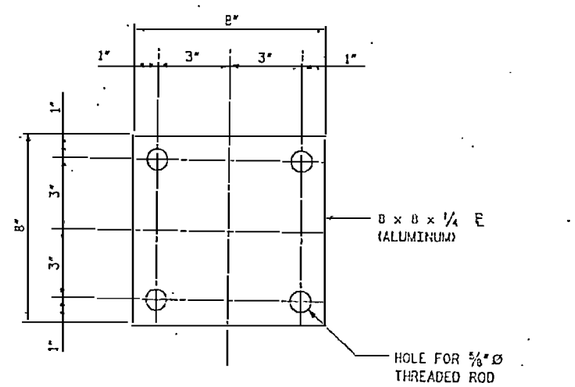
ELEVATION

SLEEVE & BASE PLATE DETAILS

(SINGLE BEVELED PLATES)



ELEVATION - ADHESIVE ANCHOR ALTERNATE



KEEPER PLATE DETAIL

NOTES:

1. DESIGN WIND SPEED: 130 MPH.
2. GENERAL SPECIFICATIONS: CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SUPPLEMENTS THERETO.
3. DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 2001 EDITION WITH 2003 INTERIM.
4. ALUMINUM: ALUMINUM MATERIALS SHALL MEET THE REQUIREMENTS OF ALUMINUM ASSOCIATION ALLOY 6061-T6 (ASTM B209, B221, OR B308).
5. USE SLEEVES WITH AN INSIDE DIAMETER (I.D.) NO MORE THAN 1/16" LARGER THAN THE OUTSIDE DIAMETER (O.D.) OF THE COLUMN.
6. SLEEVE BOLTS: ASTM A-307, ½"Ø GALVANIZED STEEL BOLT (WITH LOCK NUTS) OR ALLOY 2024-T4 OR 6061-T6 (ASTM B-211).
7. ⚠1 ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF AASHTO M183 OR ASTM A307 FOR GRADE A. HOT-DIP GALVANIZE ANCHOR BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH AASHTO M232.
8. BASE PLATES MAY HAVE EITHER SINGLE OR DOUBLE BEVELED SLOTS.
9. ASSEMBLE THE SLIP BASE CONNECTION IN THE FOLLOWING MANNER: CONNECT COLUMN TO SLEEVE USING TWO (2) ½"Ø MACHINE BOLTS. ASSEMBLE BASE PLATE USING HIGH STRENGTH BOLTS WITH TWO (2) HARDENED WASHERS PER BOLT. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" TO 15" WRENCH TO BED THE WASHERS AND SHIMS AND TO CLEAR THE BOLT THREADS. LOOSEN EACH BOLT ONE (1) TURN AND RETIGHTEN TO 29 FT-LBS (355 IN-LBS) OF TORQUE. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.
10. USE GALVANIZED STEEL SHIMS TO OBTAIN A TIGHT FIT BETWEEN THE COLUMN FACE AND THE SLEEVE. PLACE SHIMS IN ALL QUADRANTS BETWEEN THE ½"Ø SLEEVE BOLTS. THE SHIM LENGTH SHALL BE 1" SHORTER THAN THE HEIGHT OF THE SLEEVE.
11. ⚠1 FOR ADHESIVE ANCHOR ALTERNATE, USE HILTI ANCHOR TYPE HVA-SUPER-(5/8) OR EQUIVALENT. ROD MATERIAL SHALL MEET THE REQUIREMENTS OF ASTM A193, GRADE B7. HOT-DIP GALVANIZE ANCHOR BOLTS, NUTS AND WASHERS IN ACCORDANCE WITH AASHTO M232.

⚠1 GENERAL REVISIONS

RELEASED FOR CONSTRUCTION

Tom Shearin 11/1/06

TOM SHEARIN, PE DATE

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

BARRIER MOUNTED SIGN DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2650.01
1	SCS	12/08/06	3			TOTAL SHEETS
2			4			

EarthTech

FLATIRON/UNITED
A JOINT VENTURE

DRAWN BY : S.G. STREDNAK DATE : 09/06
CHECKED BY : T.J.T. DATE : 09/06

DGN: ROADWAY
DW: 12/8/2006
TIME: 11:47:39
USER: scstredna
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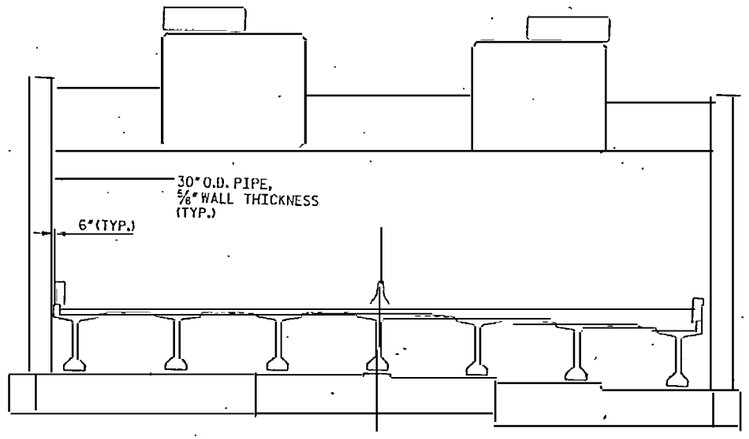
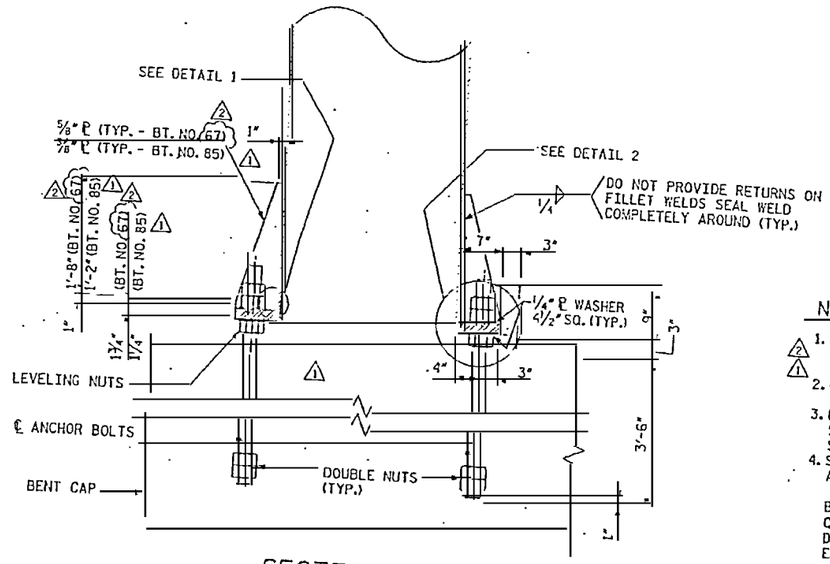


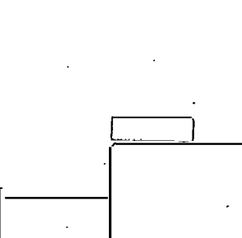
ELEVATION - SIGN SUPPORT STRUCTURE @ BENT 67 ⚠2



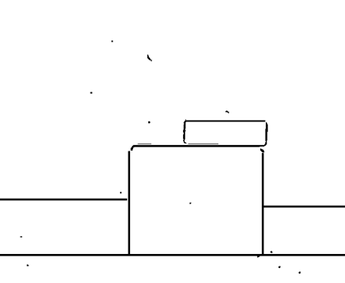
SECTION A-A

NOTES:

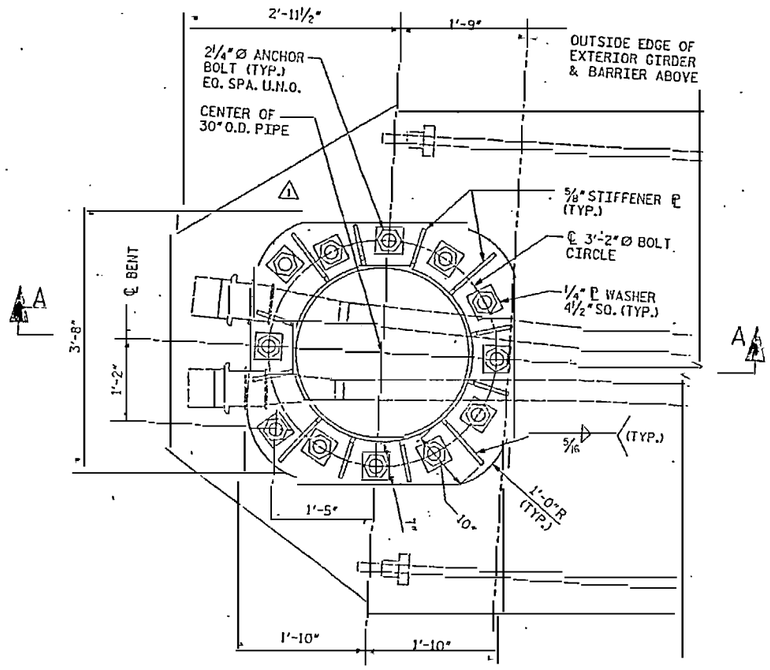
1. DESIGN WIND SPEED: 130 MPH. THE CENTER OF TRAFFIC SIGN IS
   ⚠2 - 70 FT ABOVE GROUND LEVEL AT BENT NO. 67.
   ⚠1 - 75 FT ABOVE GROUND LEVEL AT BENT NO. 85.
2. GENERAL SPECIFICATIONS: CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SUPPLEMENTS THERETO.
3. DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 2001 EDITION WITH 2003 INTERIM.
4. SIGN STRUCTURE MATERIALS:
   A. UPRIGHT AND CHORDS (STEEL PIPE): API-5L-X42 (42 KSI YIELD) OR ASTM A500, GRADE B.
   B. STEEL ANGLES: ASTM A 709, GRADE 36.
   C. STEEL PLATES: ASTM A 709, GRADE 36.
   D. WELD METAL: E70XX.
   E. WELDING: CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (STEEL) ANSI/AWS D1.1 (CURRENT EDITION).
   F. ANCHOR BOLTS: ASTM F1554, GRADE 55 WITH ASTM A563 GRADE A HEAVY-HEX DOUBLE NUTS.
   G. ANCHOR BOLT HOLE DIAMETERS: EQUAL TO THE BOLT DIAMETER PLUS ½".
⚠1 5. GALVANIZATION: NUTS, BOLTS AND WASHERS: AASHTO M232. OTHER STEEL ITEMS: ASTM A123



DETAIL 1



DETAIL 2



PLAN VIEW - BASE PLATE

RELEASED FOR CONSTRUCTION
Tom Shearin 3/23/09
TOM SHEARIN, PE DATE

⚠2 CHANGED LOCATION OF SIGN AT BENT 63 TO BENT 67
⚠1 CHANGED LOCATION OF SIGN AT BENT 84 TO BENT 85, REMOVED GROUT PAD AND CORD

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 3
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
SIGN SUPPORT STRUCTURE DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1	SGS	1/14/09	3			2651.02
2	SGS	3/13/09	4			TOTAL SHEETS

DRAWN BY : S.C. STREDNEY DATE : 09/08
CHECKED BY : J.C.H. DATE : 09/08

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

DATE: 3/18/2009
FILE: 43567.PM
USER: ASTREDNEY
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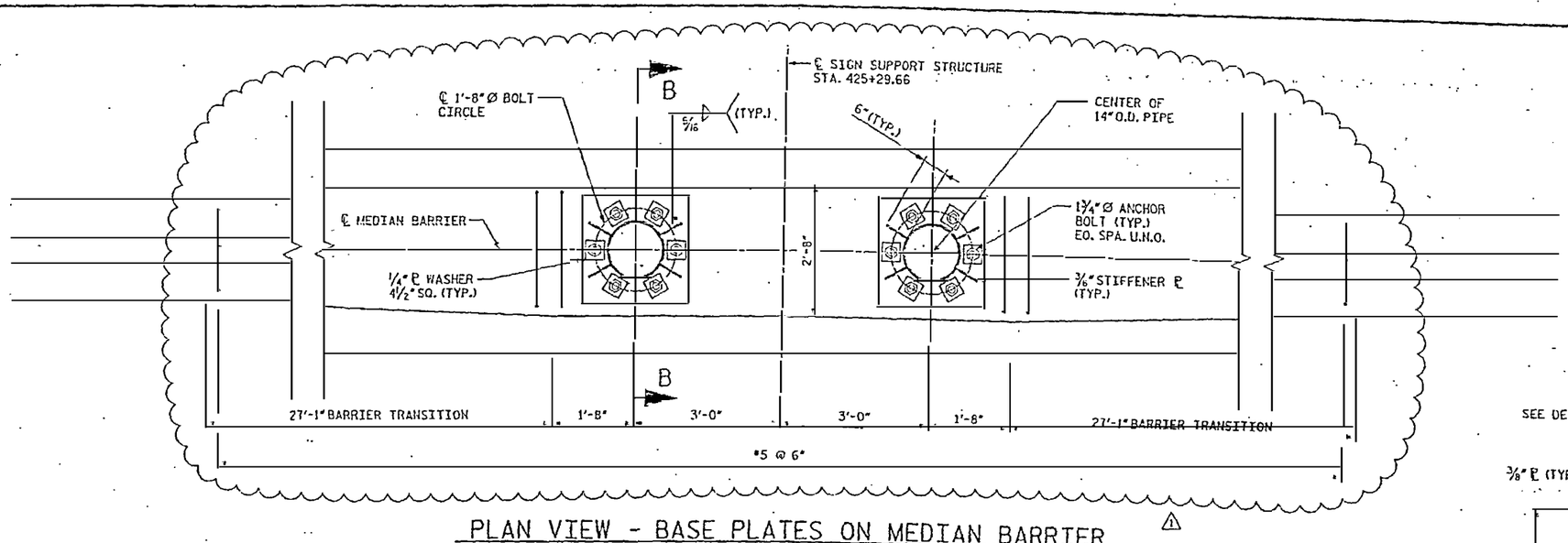
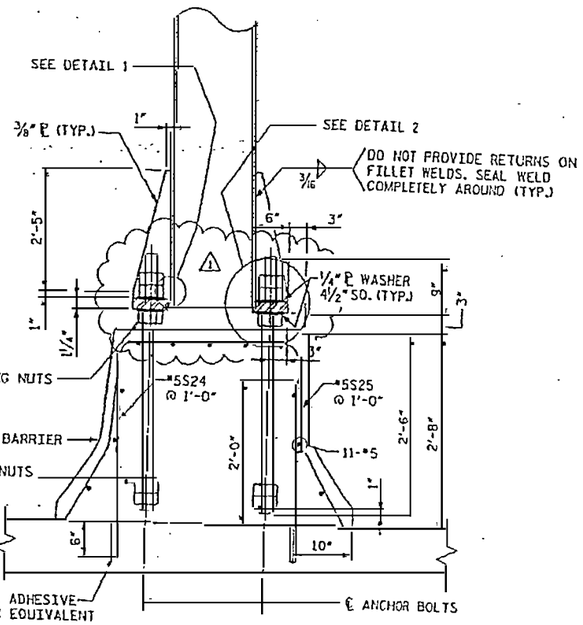


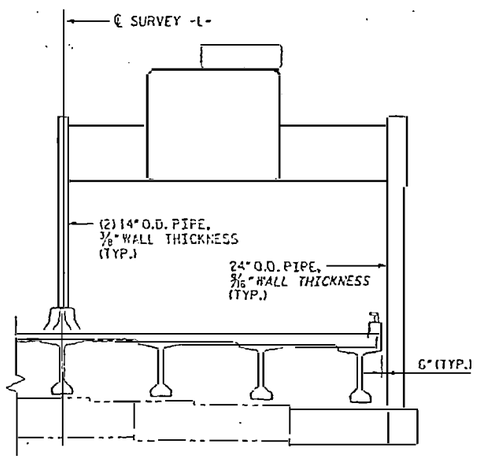
PLAN VIEW - BASE PLATES ON MEDIAN BARRIER

NOTES:

1. FOR NOTES, SECTION A-A AND DETAILS 1 & 2, SEE SHEET 1 OF 3.



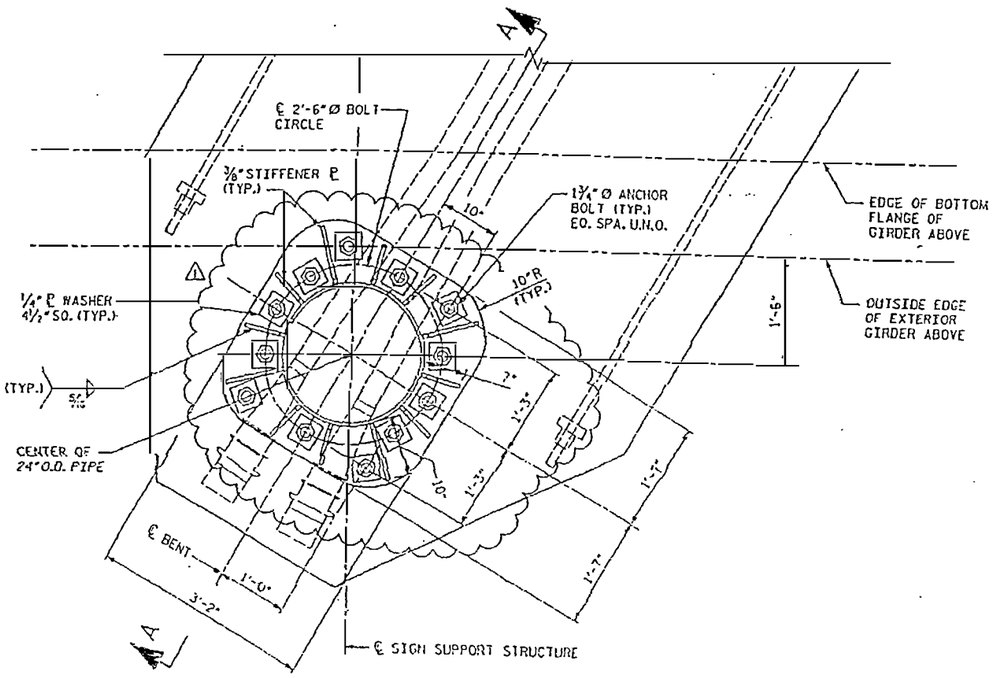
SECTION B-B



ELEVATION - SIGN SUPPORT STRUCTURE @ BENT 85 ⚠

(LOOKING UPSTATION)

UPSTATION



PLAN VIEW - BASE PLATE ON BENT CAP

⚠ CHANGED LOCATION TO BENT 85, REVISED BARRIER TRANSITION, REMOVED GROUT PAD AND CORD

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 2 OF 3 BRIDGE NO. 353

RELEASED FOR CONSTRUCTION

Tom Shearin 1/16/09

TOM SHEARIN, PE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SIGN SUPPORT STRUCTURE DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2652.01
1	SGS	1/14/09	3			TOTAL SHEETS
2			4			

EarthTech

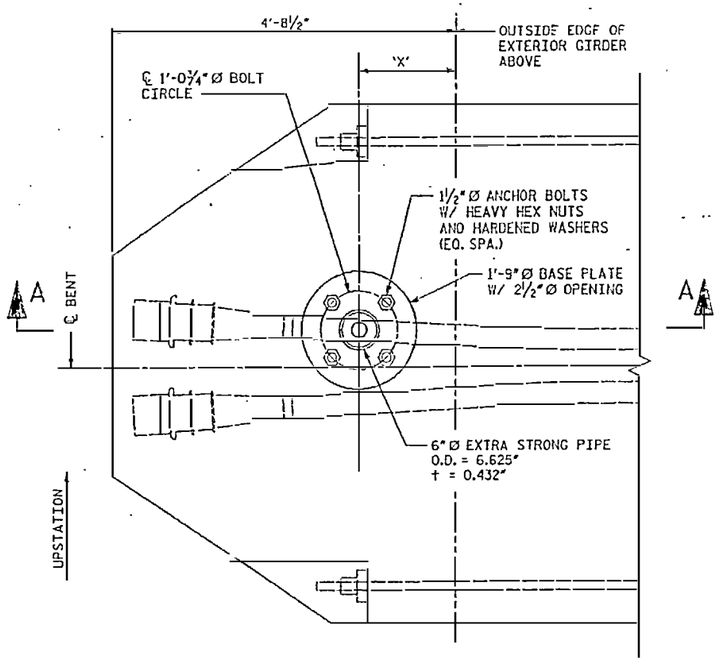
FLATIRON/UNITED A JOINT VENTURE

DRAWN BY : S. G. STREDNAK DATE : 09/08

CHECKED BY : J. LEE DATE : 09/08

DATE: 1/14/2009
TIME: 2:03:41 PM

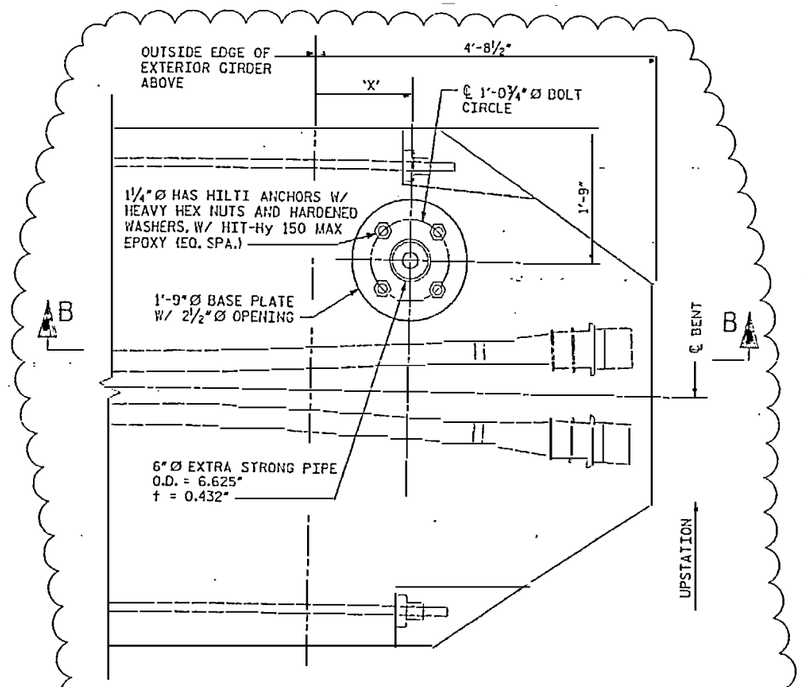
USER: estreckert
DGN: K:\Structures\R-2510B\Sheets\R2510BSheet2.dgn



PLAN VIEW - BASE PLATE

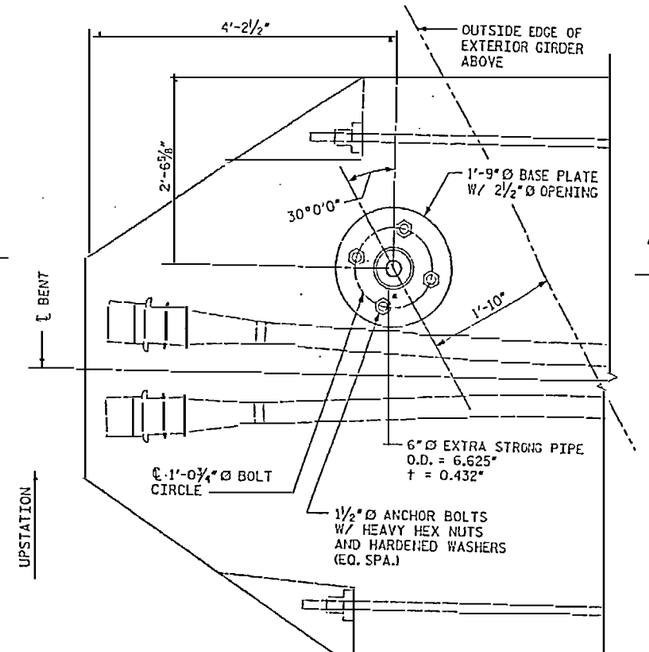
(BENT NOS. 111 & 114)

3



PLAN VIEW - BASE PLATE

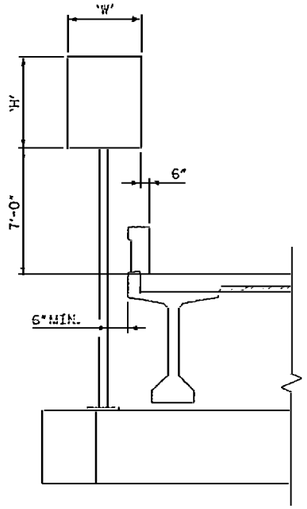
(BENT NO. 80)



1 PLAN VIEW - BASE PLATE

(BENT NO. 97)

2

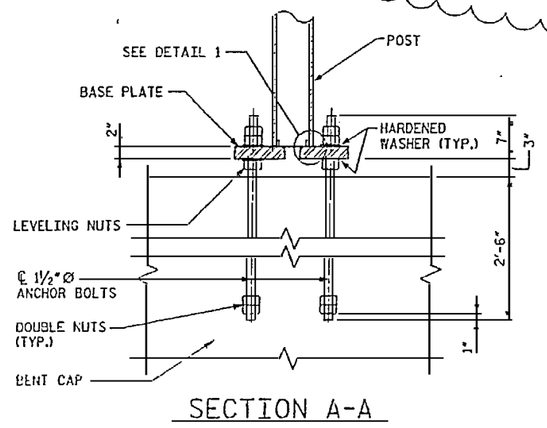


ELEVATION - SIGN SUPPORT STRUCTURE

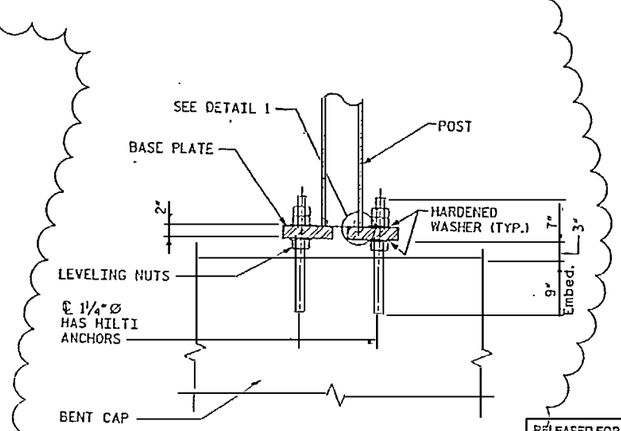
2 @ BENTS 97, 111, & 114 (AS SHOWN)

@ BENT {80} (OPP. HAND)

3

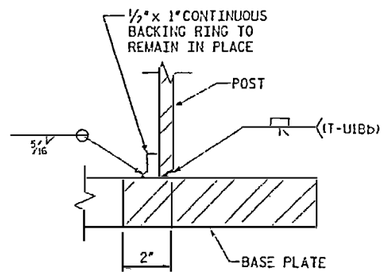


SECTION A-A



SECTION B-B

3



DETAIL 1

TABLE OF VARIABLE DIMENSIONS			
BENT NO.	SIGN SIZE 'H'	SIGN SIZE 'W'	POST LOCATION 'X'
80 (RIGHT)	4'-0"	5'-0"	1'-10"
97 (LEFT)	4'-0"	5'-0"	SEE PLAN
111 (LEFT)	5'-0"	4'-0"	1'-4"
114 (LEFT)	4'-3"	3'-0"	10"

2 3 2 1

NOTES:

1. DESIGN WIND SPEED: 130 MPH.
2. GENERAL SPECIFICATIONS: CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SUPPLEMENTS THERETO.
3. DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 2001 EDITION WITH 2003 INTERIM.
4. SIGN STRUCTURE MATERIALS:
   - A. UPRIGHT AND CHORDS (STEEL PIPE): API-5L-X42 (42 KSI YIELD) OR ASTM A500, GRADE B.
   - B. STEEL ANGLES: ASTM A 709, GRADE 36.
   - C. STEEL PLATES: ASTM A 709, GRADE 36.
   - D. WELD METAL: E70XX.
   - E. WELDING: CONFORM TO AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (STEEL) ANSI/AWS D1.1 (CURRENT EDITION).
   - F. ANCHOR BOLTS: AASHTO M183 OR ASTM A307 FOR GRADE A WITH ASTM A563 GRADE A HEAVY-HEX DOUBLE NUTS.
   - G. ANCHOR BOLT HOLE DIAMETERS: EQUAL TO THE BOLT DIAMETER PLUS ⅛".
5. GALVANIZATION: NUTS, BOLTS AND WASHERS: AASHTO M232. OTHER STEEL ITEMS: ASTM A123

RELEASED FOR CONSTRUCTION

Tom Shearin 12/11/09

TOM SHEARIN, PE DATE

SEAL 024676 ENGINEER JOSEPH E. JORDAN 12/11/09

1 GENERAL REVISIONS
2 REVISED SIGN LOCATION TO PIER 97
1 REMOVED GROUT PAD. CHANGES PER RFI 302

PROJECT NO. R-2510B

BEAUFORT COUNTY

STATION: 434+51.67 -L-

SHEET 3 OF 3 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -

SIGN SUPPORT STRUCTURE DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

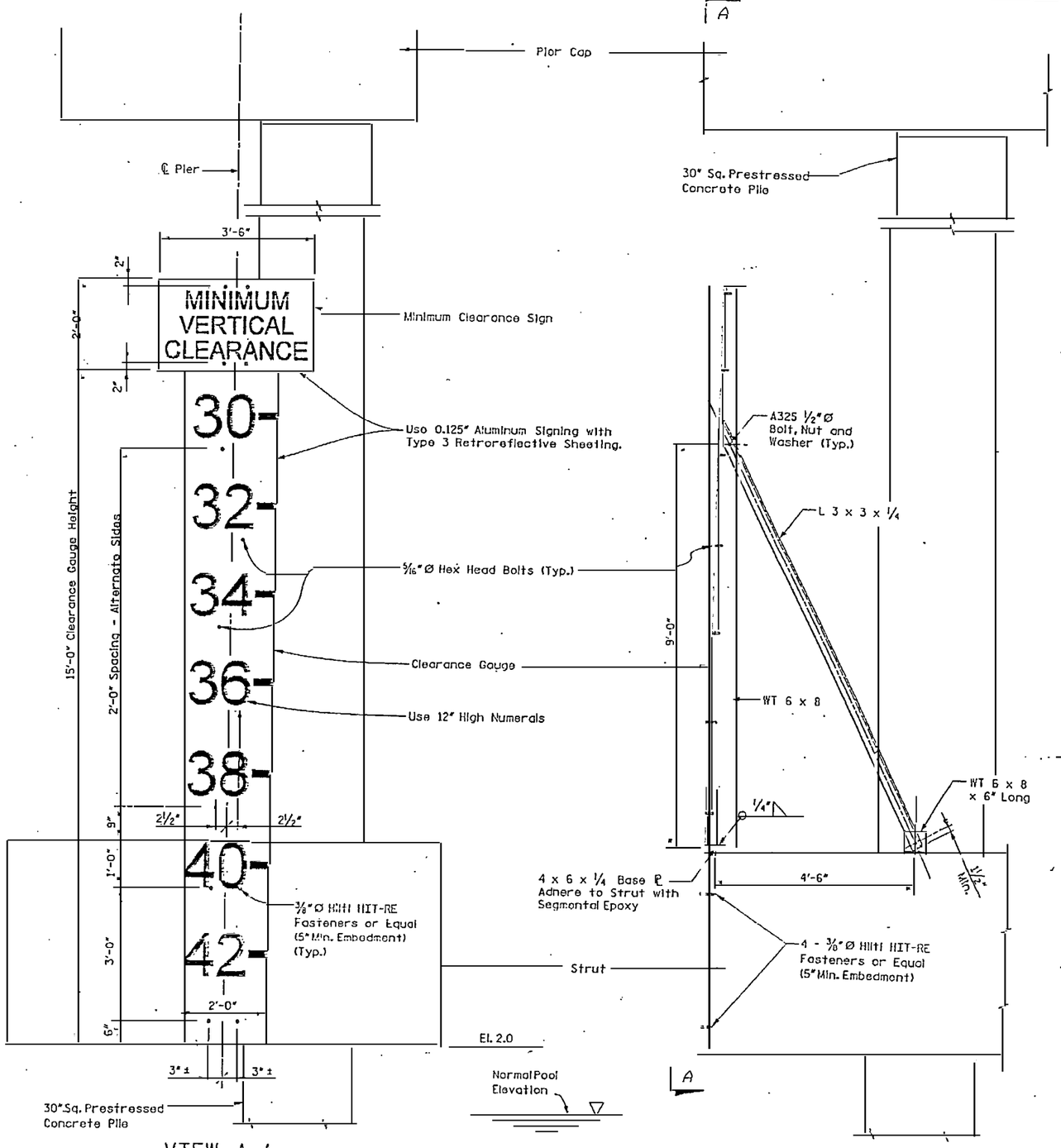
Earth Tech

FLATIRON/UNITED A JOINT VENTURE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2653.03
1	SCS	1/14/09	3	MTC	12/11/09	TOTAL SHEETS
2	SCS	1/21/09	4			

DRAWN BY : S. C. STREDNAK DATE : 03/08
CHECKED BY : J. L. T. DATE : 09/01

USER: kellison
DGN: G:\DESIGN\structures\Bridge Envts\CADD\ES\Sheets\sign_support.dgn
DATE: 12/11/2009
TIME: 02:58 PM



NOTES:

1. All Steel Sections and Bolts shall be Hot-dipped Galvanized.

RELEASED FOR CONSTRUCTION
Tom Shearin 11/20/2007
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-

BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
CLEARANCE GAUGE DETAILS FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2655.00
TOTAL SHEETS

DRAWN BY : S. G. STPEDNAY DATE : 8/08
CHECKED BY : J. W. JORDAN DATE : 8/08

EarthTech
FLATIRON/UNITED
A JOINT VENTURE

DATE: 11/30/2007
TIME: 2:10:8 PM
USER: SSTPEDNAY
FILE: C:\Projects\Tar River Bridge\DGN\2510b_clearancegauge.dgn

SEE SHEETS 3 & 4 OF 4 FOR PLANS

NOTES

THE COST OF THE BARRIER RAIL ON THE APPROACH SLAB SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR BRIDGE APPROACH SLABS.

APPROACH SLAB SHALL NOT BE CONSTRUCTED PRIOR TO COMPLETION OF THE BRIDGE DECK.

FOR REINFORCED BRIDGE APPROACH FILL INCLUDING FABRIC, IMPERVEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.

AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE.

THE 6" COMP. A.B.C. SHALL EXTEND 10'-0" BEYOND THE END OF THE APPROACH SLAB AND 1'-0" OUTSIDE OF EACH EDGE OF THE SLAB.

THE CONTRACTOR MAY USE 4" TYPE B-25.0B ASPHALT CONCRETE BASE COURSE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE BASE COURSE SHALL EXTEND 1'-0" BEYOND THE END OF THE APPROACH SLAB AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB.

THE CONTRACTOR MAY USE 5" CLASS "A" CONCRETE BASE IN LIEU OF 6" COMP. A.B.C. IF THIS OPTION IS USED, THE CONCRETE BASE SHALL EXTEND 1'-0" BEYOND THE END OF THE APPROACH SLAB AND THE WIDTH SHALL BE THE SAME AS THAT OF THE APPROACH SLAB. THE CONCRETE SHALL BE FINISHED TO A SMOOTH SURFACE AND A LAYER OF 30 LB ROOFING FELT SHALL BE PLACED BETWEEN THE CONCRETE BASE AND THE APPROACH SLAB TO PREVENT BOND. THE APPROACH SLAB SHALL NOT BE CAST UNTIL THE CONCRETE BASE HAS REACHED AN AGE OF THREE CURING DAYS.

WITH EVAZOTE JOINT SEAL

FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE EVAZOTE JOINT SEAL SHALL BE 2½" (SEE SHEET NO. 2266).

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

BILL OF MATERIAL FOR ONE APPROACH SLAB (AT END BENT #1)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	98	#4	STR	37'-0"	2422
A2	100	#4	STR	37'-0"	2472
*B1	144	#5	STR	24'-8"	3705
B2	144	#6	STR	24'-8"	5335
*B3	8	#5	4	9'-6"	79
*B4	8	#5	STR	11'-8"	97
*B5	8	#5	STR	4'-0"	33
*S1	8	#5	1	5'-2"	43
*S2	8	#5	2	6'-11"	58
*S3	10	#5	1	5'-1"	42
*S4	10	#5	2	6'-11"	58
*S5	10	#5	1	4'-10"	50
*S6	10	#5	2	6'-7"	69
*S7	8	#5	3	3'-7"	30
*S8	10	#5	3	3'-6"	37
*S9	10	#5	3	3'-5"	36

REINFORCING STEEL LBS. 7807
*EPOXY COATED REINFORCING STEEL LBS. 6759

CLASS AA CONCRETE BREAKDOWN

POUR 1 SLAB AND CURB C.Y. 67.7
POUR 2 RAIL C.Y. 2.2

CLASS AA CONCRETE C.Y. 69.9

BILL OF MATERIAL FOR ONE APPROACH SLAB (AT END BENT #2 SB)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	49	#4	STR	49'-11"	1634
A2	50	#4	STR	49'-11"	1657
*B1	100	#5	STR	24'-9"	2581
B2	100	#6	STR	24'-9"	3717
*B3	8	#5	4	9'-6"	79
*B4	8	#5	STR	11'-8"	97
*B5	8	#5	STR	4'-0"	33
*S1	8	#5	1	5'-2"	43
*S2	8	#5	2	6'-11"	58
*S3	10	#5	1	5'-1"	42
*S4	10	#5	2	6'-11"	58
*S5	10	#5	1	4'-10"	50
*S6	10	#5	2	6'-7"	69
*S7	8	#5	3	3'-7"	30
*S8	10	#5	3	3'-6"	37
*S9	10	#5	3	3'-5"	36

REINFORCING STEEL LBS. 5384
*EPOXY COATED REINFORCING STEEL LBS. 4847

CLASS AA CONCRETE BREAKDOWN

POUR 1 SLAB AND CURB C.Y. 47.0
POUR 2 RAIL C.Y. 2.2

CLASS AA CONCRETE C.Y. 49.2

BILL OF MATERIAL FOR ONE APPROACH SLAB (AT END BENT #2 NB)

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*A1	93	#4	STR	25'-9"	1686
A2	100	#4	STR	25'-9"	1720
*B1	96	#5	STR	24'-7"	2461
B2	96	#6	STR	24'-7"	3545
*B3	8	#5	4	9'-6"	79
*B4	8	#5	STR	11'-8"	97
*B5	8	#5	STR	4'-0"	33
*S1	8	#5	1	5'-2"	43
*S2	8	#5	2	6'-11"	58
*S3	10	#5	1	5'-1"	42
*S4	10	#5	2	6'-11"	58
*S5	10	#5	1	4'-10"	50
*S6	10	#5	2	6'-7"	69
*S7	8	#5	3	3'-7"	30
*S8	10	#5	3	3'-6"	37
*S9	10	#5	3	3'-5"	36

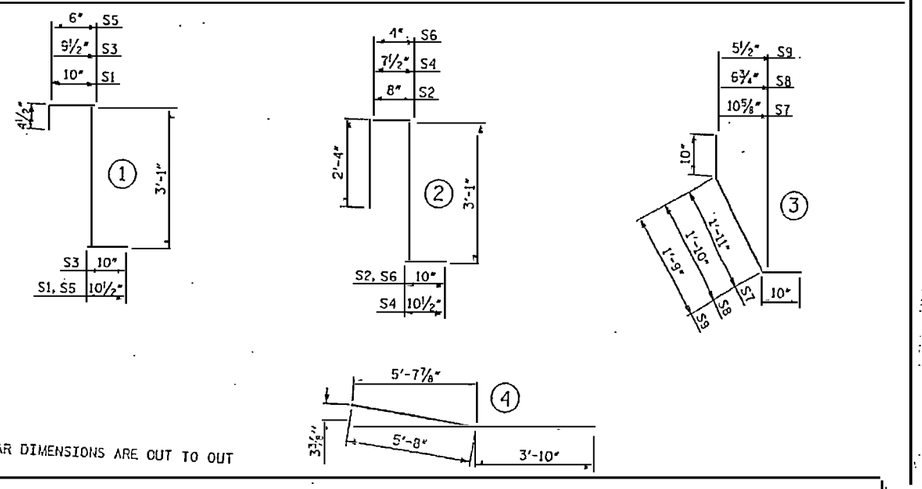
REINFORCING STEEL LBS. 5265
*EPOXY COATED REINFORCING STEEL LBS. 4779

CLASS AA CONCRETE BREAKDOWN

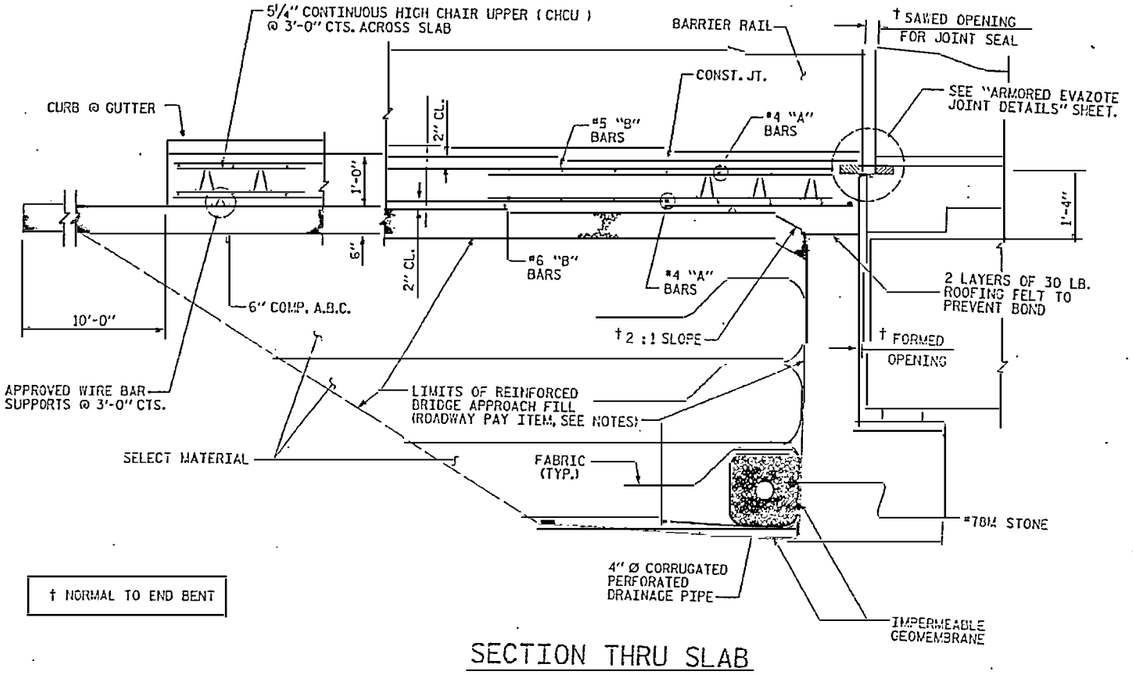
POUR 1 SLAB AND CURB C.Y. 44.6
POUR 2 RAIL C.Y. 2.2

CLASS AA CONCRETE C.Y. 46.8

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT



SECTION THRU SLAB

SHOWING SECTION WITHOUT CONCRETE WEARING SURFACE

DRAWN BY : M.T. BELISLE DATE : 11/05
CHECKED BY : J.T. JORDAN DATE : 11/05

RELEASED FOR CONSTRUCTION
Tom Shearin Shilm
TOM SHEARIN, PE DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 1 OF 4
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
BRIDGE APPROACH SLAB FOR RIGID PAVEMENT WITH BARRIER RAIL FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2					

SHEET NO. 2669.00
TOTAL SHEETS

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

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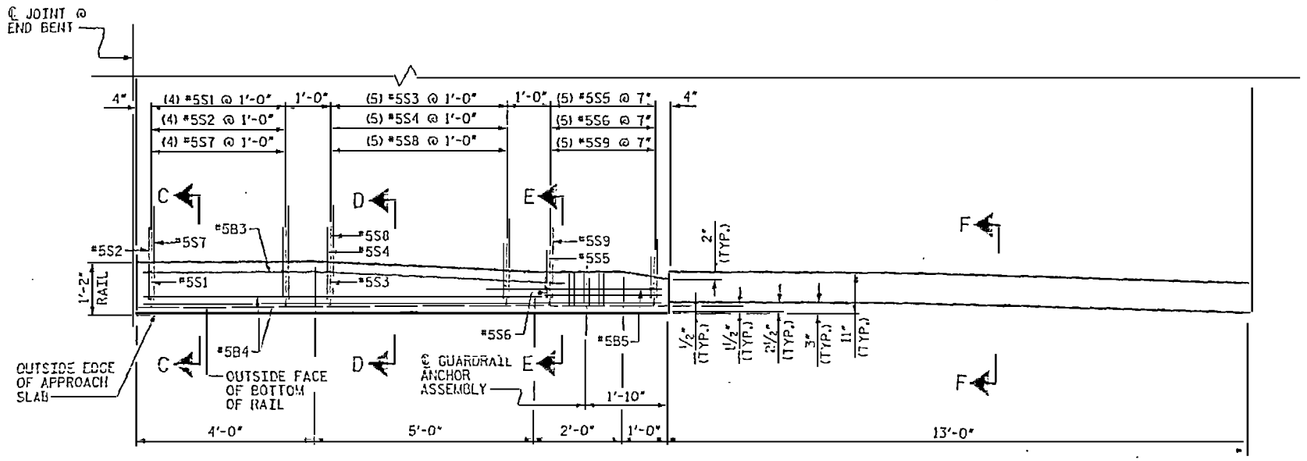
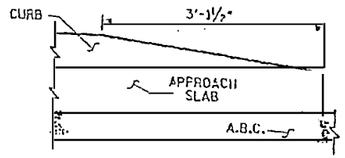
DATE: 8/31/2006
TIME: 8:51:43 AM



PLAN

END APPROACH SLAB AT EAST SIDE, SOUTHBOUND LANE SHOWN, OTHERS SIMILAR



END OF CURB WITHOUT SHOULDER BERM GUTTER

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4"HOLD DOWN PLATE AND 7 - 7/8"Ø BOLTS WITH NUTS AND WASHERS.

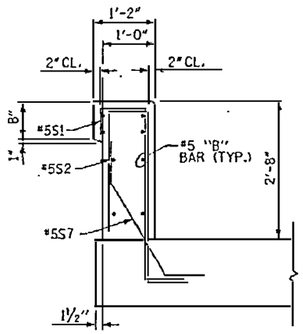
THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8"Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.

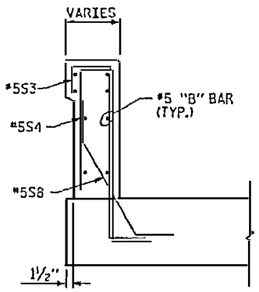
AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS, NUTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE DID FOR BRIDGE APPROACH SLABS.

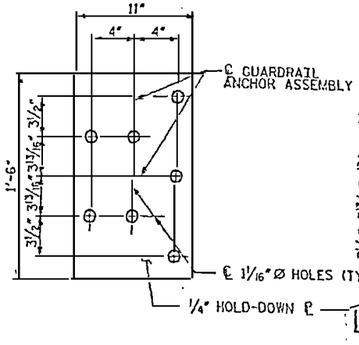
THE 1 1/4"Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.



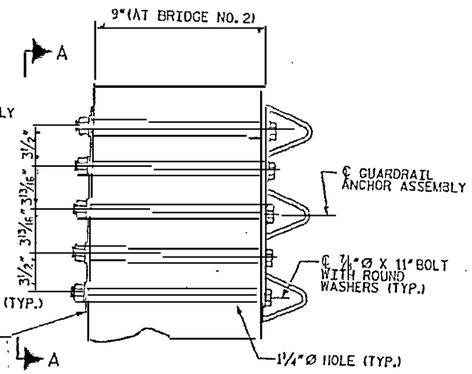
SECTION C-C



SECTION D-D

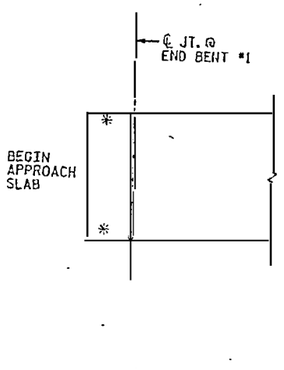


SECTION A-A



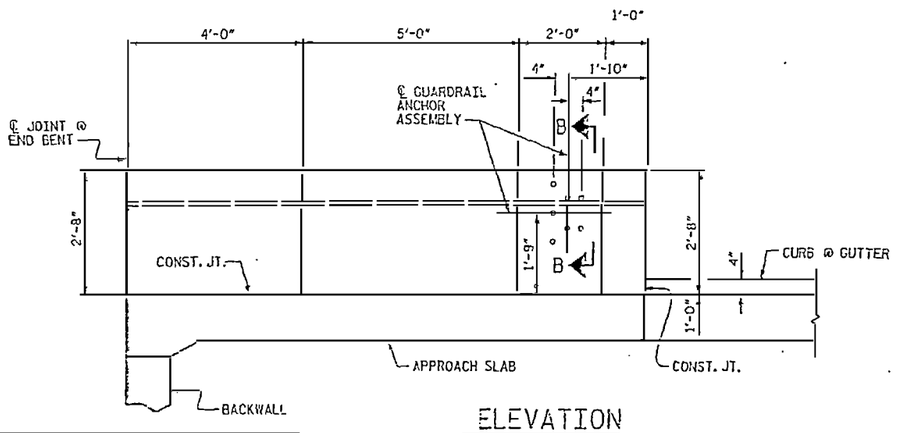
SECTION B-B

GUARDRAIL ANCHOR ASSEMBLY DETAILS



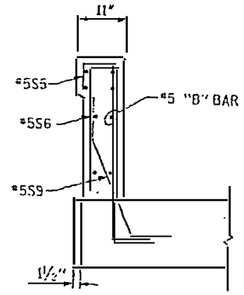
SKETCH SHOWING POINTS OF ATTACHMENT

* INDICATES POINTS OF ATTACHMENT

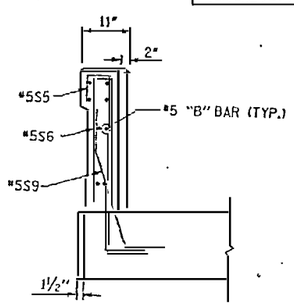


ELEVATION

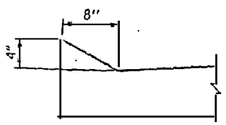
END APPROACH SLAB ALONG SHOWN, OTHERS SIMILAR



SECTION E-E



END -VIEW



SECTION F-F

RELEASED FOR CONSTRUCTION
Tom Shearin 8/1/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL SEAL 030270 ENGINEER W. JORDAN

Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 2 OF 4
BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
BRIDGE APPROACH SLAB FOR RIGID PAVEMENT WITH BARRIER RAIL FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2670.00

DRAWN BY : M.T. BOLTON DATE : 11/05
CHECKED BY : J.W. JORDAN DATE : 11/05

DATE PLOTTED: 8/2/2007
TIME PLOTTED: 08:26:54

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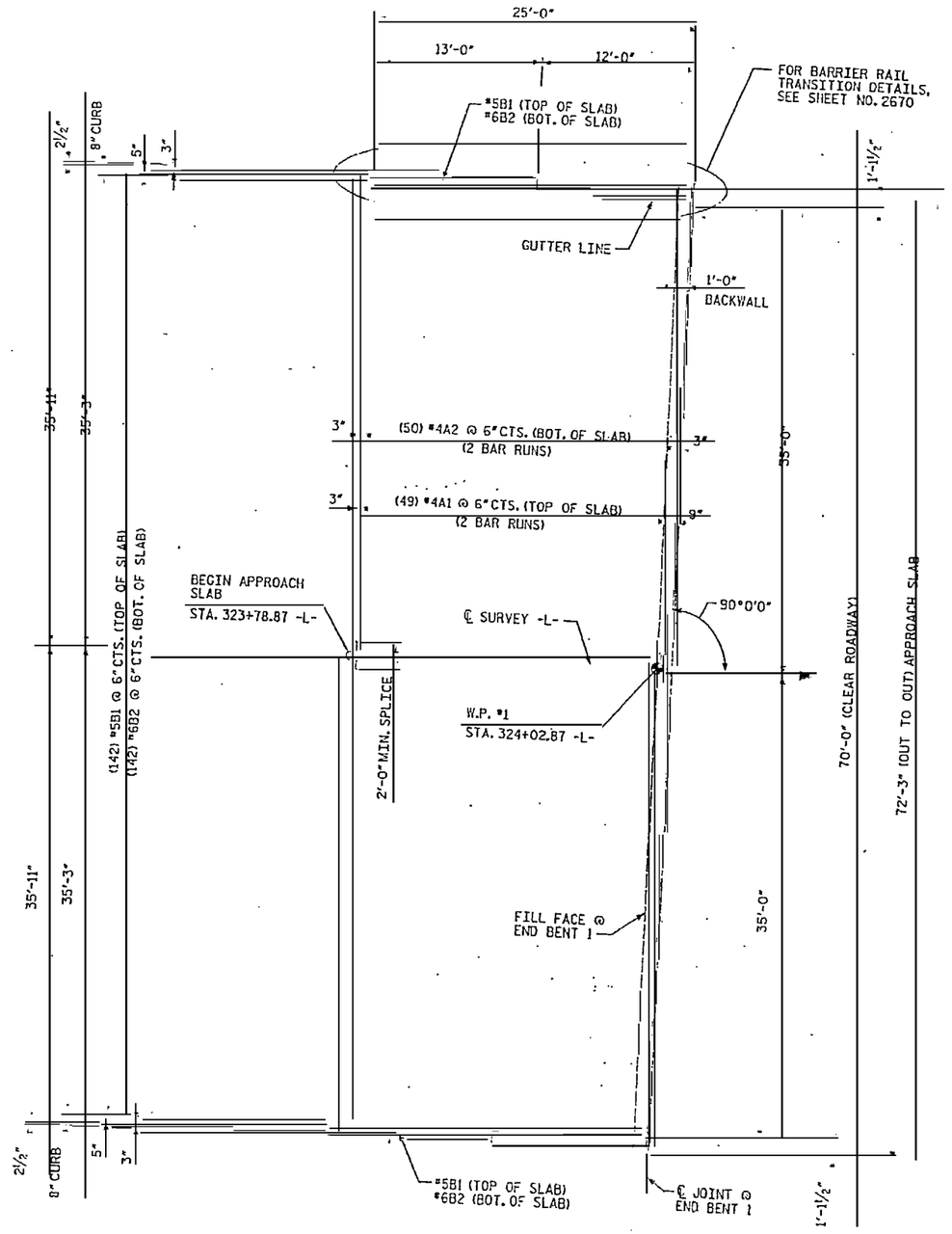


PLAN OF APPROACH SLAB AT END BENT No. 1

DRAWN BY : S. G. STROUD
CHECKED BY : J. L. LU

3/07
3/07

RELEASED FOR CONSTRUCTION
TOM SHEARIN, PE
DATE

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 3 OF 4
~~BRIDGE NO. 353~~

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

- BRIDGE No. 2 -
BRIDGE APPROACH SLAB
FOR RIGID PAVEMENT
WITH BARRIER RAIL
FOR BRIDGE ON US 17 BYPASS
OVER TAR RIVER

NORTH CAROLINA PROFESSIONAL SEAL 19876 ENGINEER JAMES W. JORDAN

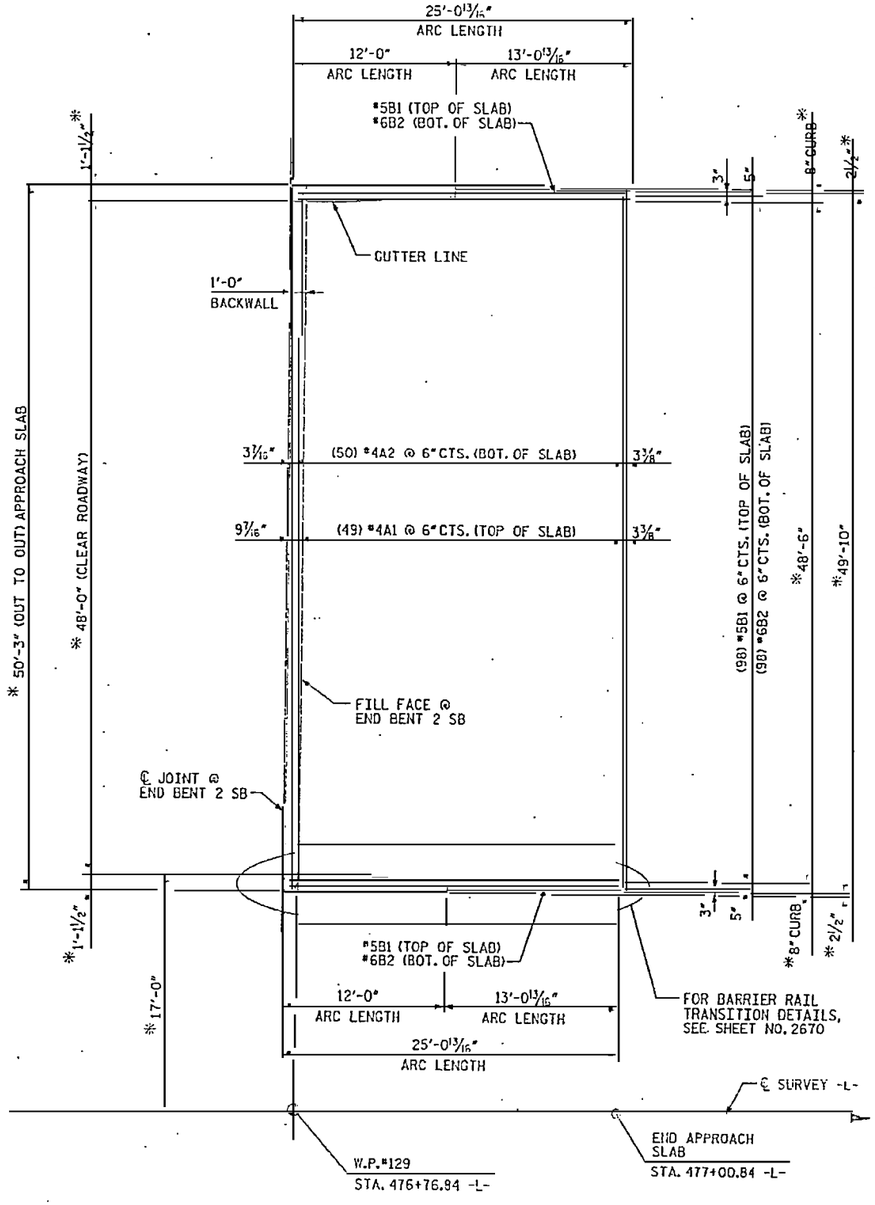
Earth Tech
A Tyco International Ltd. Company

FLATIRON/UNITED
A JOINT VENTURE

REVISIONS

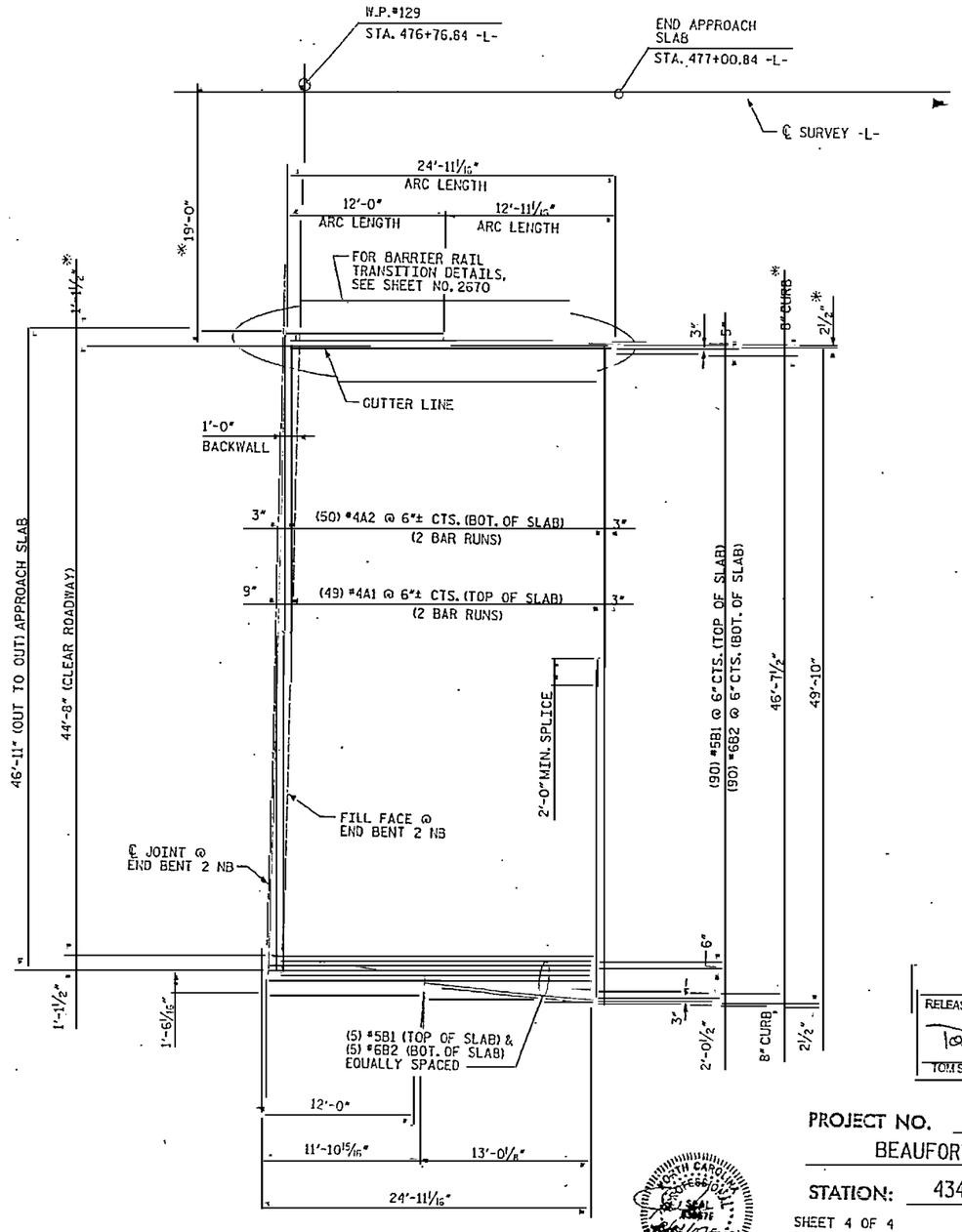
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 2671.00
TOTAL SHEETS



PLAN OF APPROACH SLAB AT END BENT No. 2 SB

*DENOTES RAIL DIMENSION



PLAN OF APPROACH SLAB AT END BENT No. 2 NB

*DENOTES RAIL DIMENSION

NOTE:

END OF APPROACH SLABS ARE PARALLEL TO FILL FACE AT END BENTS.

RELEASED FOR CONSTRUCTION
Tom Shearin 8/1/07
TOM SHEARIN, PE DATE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026181 ENGINEER JOSEPH E. JORDAN

PROJECT NO. R-2510B
BEAUFORT COUNTY
STATION: 434+51.67 -L-
SHEET 4 OF 4 BRIDGE NO. 353

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
- BRIDGE No. 2 -
BRIDGE APPROACH SLAB FOR RIGID PAVEMENT WITH BARRIER RAIL FOR BRIDGE ON US 17 BYPASS OVER TAR RIVER

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	2672.00
1			3			TOTAL SHEETS
2			4			

DRAWN BY : S. G. STREDNAK DATE : 3/07
CHECKED BY : J. LEE DATE : 3/07

DATE: 8/21/2007
TIME: 8:59:18 AM

USER: mhanks
FILE: N:\Structure and Bridge Units\Projects\R2510B\Sheets\R2510B_APPR_SLAB.dgn