EVALUATION OF SELF CONSOLIDATING CONCRETE AND CLASS IV CONCRETE FLOW IN DRILLED SHAFTS – PART 1

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Task 2b Deliverable – Field Exploratory Evaluation of Existing Bridges with Drilled Shaft Foundations

Submitted to

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Preface

This deliverable is submitted in partial fulfillment of the requirements set forth and agreed upon at the onset of the project and indicates a degree of completion. It also serves as an interim report of the research progress and findings as they pertain to the individual task-based goals that comprise the overall project scope. Herein, the FDOT project manager's approval and guidance are sought regarding the applicability of the intermediate research findings and the subsequent research direction. The project tasks, as outlined in the scope of services, are presented below. The subject of the present report is highlighted in bold.

Task 1. Literature Review (pages 3-90)

Task 2a. Exploratory Evaluation of Previously Cast Lab Shaft Specimens (page 91-287)

Task 2b. Field Exploratory Evaluation of Existing Bridges with Drilled Shaft Foundations

Task 3. Corrosion Potential Evaluations

Task 4. Porosity and Hydration Products Determinations

Task 5. Rheology Modeling and Testing

Task 6. Effects of Construction Approach

Task 7. Reporting: Draft and Final Report

The proposed study will culminate with a comprehensive final report describing all aspects of the study. This interim report is also intended to serve as a living draft of what will ultimately be the final report. As such, all previously submitted interim reports to date will be included for completeness (in greyed-out font) but may contain changes based on any new findings; this is especially applicable to the *Literature Review* component.

Chapter Four: Field Exploratory Evaluation of Existing Bridges with Drilled Shaft Foundations (Task 2b Deliverable)

With extreme event loading states often controlling pier/foundation designs for overwater bridges, there has been an almost complete change from bridge bents to cap and column footings. The net effect was to make all foundation elements (piles or shafts) work in concert to resist vessel impact loads. As a result, most new bridge piers have fully submerges foundation elements. Figure 4-1 shows the two variants comprising the east and west bound bridges in the Gandy Bridge corridor of Tampa Bay.

Figure 4.1 Newer cap and column pier design (left); older pile bent piers (right).

Overwater shaft construction employs steel casing through the water and embedded in the soil that allows the shaft concrete to be poured up to the cut-off elevation which is often near or below sea level. This casing is left in place until the concrete has cured sufficiently to proceed with footing construction and at which time the casing can be removed (cut off) down to the level of the mudline. This Task targeted overwater bridges where the casing was fully or partially removed to assess the shaft surface conditions. This approach was adopted in lieu of partial excavation around on-land shafts which would also reveal the shaft surface but may have also required washing and be costly.

The approach was multi-faceted (1) identify an inventory/listing of bridges built on shafts, (2) obtain plan sets detailed enough to screen candidate bridges, (3) obtain biennial inspection reports complete with diver notes to focus which shafts of which piers may be fruitful, and (4) conduct underwater evaluations

of those bridges where the casing was in part removed revealing the concrete surface. Ideally, candidate bridges would be constructed using all stabilization methods including: full length temporary casing (natural slurry), bentonite slurry and attapulgite slurry. Recall from Chapter 3 (Task 2a), none of the 24 laboratory cast samples were tremie placed in attapulgite.

4.1 Bridge Identification

Florida is home to more than 12,000 bridges (FHWA, 2016), many of which are over water. Close coordination with District maintenance engineers, past and present central office personnel, bridge inspectors and CEI consultants was required to draft a list of likely candidate bridges. Ongoing efforts to identify bridges that match the construction method in question have thus far produced a list of 14 bridges (Table 4.1, Figure 4.2).

Table 4.1 List of bridges reviewed to date.

Bridge Name	**Bridge Number**	**Location**	**Year Built**
Bridge of Lions	780074	St. Augustine, FL	1927
Clearwater Memorial Causeway	150244	Clearwater, FL	2005
Clearwater Pass Bridge	155522	Clearwater, FL	1995
Fuller Warren Bridge	720629*	Jacksonville, FL	1995
Gandy Bridge	100585	Tampa, FL	1924
John Ringling Causeway	170176	Sarasota, FL	1926
Overland Bridge	720627	Jacksonville, FL	2017
Santa Fe River Bridge	260112	Gainesville, FL	2002
SR2 Choctawhatchee Bridge	520145	Caryville, FL	1940
SR10 Choctawhatchee Bridge	520149	Caryville, FL	1927
SR20 Blountstown Bridge	470052	Blountstown, FL	1998
SR61 Lost Creek Bridge	590048	Wakulla, FL	1991
SR63 Ochlockonee Bridge	500124 - 500127	Ochlockonee River, FL	2001
Victory Bridge	530951	Chattahoochee, FL	1996

*Indicates main bridge span.

Not all necessary information could be obtained to warrant on-site investigations, but if any evidence suggested that exposed shaft concrete could be found, then those bridges were slated for underwater evaluation. A summary of each candidate bridge is provided for completeness.

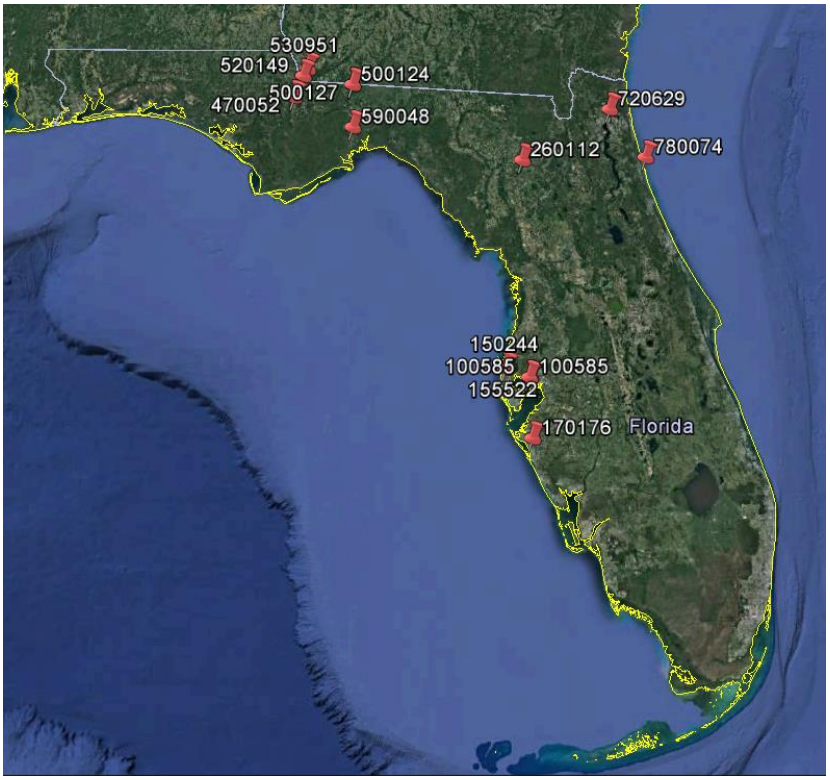


Figure 4.2 Bridge locations

4.1.1 Bridge of Lions

A part of State Road A1A, the Bridge of Lions spans the intracoastal waters of St. Augustine, connecting Anastasia Island with downtown St. Augustine. The bridge is iconically known for the two lions that have guarded the bridge since its construction in 1927. These lions are Carrara marble Medici Lions that are identical to those in Loggia dei Lanzi in Florence, Italy. Prior to the bridge of lions there was a wooden bridge, built in 1895, known as the "South Beach Railroad Bridge" or as "The Bridge to Anastasia Island". This bridge was renovated in 1904 and was able to accommodate a trolley. Known as the father of the Bridge of Lions, Henry Rodenbaugh initiated the construction of the bridge in 1925 through his funding efforts. Completed in 1927 with its extravagant art and style, the Bridge of Lions has been regarded as a symbol of the nation's oldest city. The Bridge of Lions underwent an 80 million dollar renovation in 2006. A temporary bridge was constructed and the lions were removed for the time being. After work was done on the bascule towers and the steel girders, the Bridge of Lions was reopened in March of 2010 and the Lions were brought back in March of 2011, marking the completion of a long renovation project.

Table 4.2 Bridge of Lions

Bridge Name	Bridge of Lions
Bridge Number	780074
Year Built	1927
Slurry Type	Mineral
Shaft Diameters	3ft-8ft

Bridge of Lions is a double leaf bascule bridge that stands on 25 piers (Figure 4.3). These piers are supported by drilled shafts ranging from 3 to 8ft in diameter (Table 4.2). Inspection records show that the drilled shafts on piers 10 and 11 have steel casings extending up from the ground line to within 6ft of the bottom of the footing. This is not a clear indicator that exposed concrete will be available for inspection. Inspection report photographs show delamination above the water line and minor damage to the fender system. The underwater photos do not indicate that any vegetation was removed for inspection and as

such cannot be used to confirm or deny the presence of casing. Based on review of the information provided for this bridge, further on-site evaluation is warranted.

Figure 4.3 Bridge Number 780074 (Bridge of Lions) plan and elevation images.

4.1.2 Clearwater Memorial Causeway

Clearwater Memorial Causeway (Figure 4.4) is a fixed span structure that connects downtown Clearwater and Clearwater Beach, passing over the intracoastal waterway. It is a part of State Road 60, a road that goes from Clearwater Beach to Vero Beach. The first Memorial Causeway Bridge opened in the 1920s. It was a two-lane flat span concrete bridge. This bridge was used for approximately forty years before the second Memorial Causeway Bridge. The second was a bascule bridge, opened in the 1960s. A portion of the original bridge was then opened as a fishing pier. The third bridge became fully operational in 2005. This bridge is 2540ft long and stands on 10 piers. These piers are supported by drilled shafts of 4 and 6ft diameter (Table 4.3).

Table 4.3 Clearwater Memorial Causeway

Bridge Name	Clearwater Memorial Causeway
Bridge Number	150244
Year Built	2002
Slurry Type	Natural
Shaft Diameters	4ft, 5ft

The underwater inspection report from 2016 indicates that the steel casing is still in place for all shafts. The report also indicates that the casings exhibit light pitting and minor corrosion. The presence of casings eliminates this bridge from the list of possible field inspections. Information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Figure 4.4 Bridge Number 150244 (Clearwater Memorial Causeway) plan and elevation images.

4.1.3 Clearwater Pass Bridge

Clearwater Pass Bridge (Figure 4.5) is a fixed span structure that carries Gulf Blvd. across Clearwater pass from Clearwater Beach to Sand Key Public Park. The current bridge opened in 1995 and replaced a drawbridge that had been in service since the 1960s. The Clearwater Pass bridge has a vertical clearance of 74ft and as such eliminates the need for drawbridge functionality. The bridge is 2520ft long and stands on 22 piers. These piers are supported by drilled shafts of 3 and 6ft diameter (Table 4.4).

Table 4.4 Clearwater Pass Bridge

Bridge Name	Clearwater Pass Bridge
Bridge Number	155522
Year Built	1995
Slurry Type	Natural
Shaft Diameters	3ft, 6ft

The underwater inspection report from 2017 indicates that the scour has exposed the concrete surface below the casing on 12 shafts. The depth of exposure varies from 7 to 42 inches. The concrete is noted as "irregular with no exposed steel." This bridge was constructed using natural slurry but the concrete irregularities may still warrant field verification. Based on review of the information provided for this bridge, further on-site evaluation is warranted.

Figure 4.5 Bridge Number 155522 (Clearwater Pass Bridge) plan and elevation images.

4.1.4 Fuller Warren Bridge

The Fuller Warren Bridge (Figure 4.6) is a prestressed concrete girder structure that carries interstate 95 across the St. Johns River. This bridge, which became fully operational in 2002, was built to replace the deteriorating steel bascule bridge that opened in 1954. The steel bridge remained in place, though out of service, until it was demolished with explosives in 2007. The new structure retains the namesake of former Florida Governor Fuller Warren, is eight lanes wide, 7,500ft long and has a 75ft vertical clearance at midspan.

The plans for the Fuller Warren Bridge are divided into 10 parts each corresponding to a different bridge section. Each bridge section has a unique bridge ID number. The main span is labeled as Bridge #3 in the plans but corresponds to bridge ID 720629. The full list of bridge labels and numbers are given in Table 4.5. Based on initial information, the plans were only requested for bridges 720627, 720628 and 720633 which correspond to Bridge 2, Ramp C Bridge and Ramp D Bridge respectively. These three plan sets show a total of 44 drilled shafts in the water ranging from 3 to 6ft in diameter (Table 4.6). The inspection reports indicate that these shafts are all fully cased. Information on the other seven bridges may provide further illumination regarding the drilled shafts in the

Table 4.5 Fuller Warren Bridge Sections

Bridge 1	720154
Detour over college street	720158
Bridge 2	720627
Ramp C Bridge	720628
Bridge 3	720629
Bridge 4	720630
Ramp F Bridge	720631
Ramp E Bridge	720632
Ramp D Bridge	720633
Ramp I Bridge	720645

Table 4.6 Fuller Warren Bridge

Bridge Name	Fuller Warren
Bridge Number	See Table 4.5
Year Built	2002
Slurry Type	Natural
Shaft Diameters	3ft, 4ft, 6ft

main span, of particular interest is 720629, Bridge 3. Information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Figure 4.6 Bridge Number 720629 (main) (Fuller Warren Bridge) plan and elevation images.

4.1.5 Gandy Bridge

The Gandy Bridge corridor is the first major water crossing between Hillsborough and Pinellas counties in Old Tampa Bay. The corridor, stretching 2.4 miles, has been the site for four bridges dating back to 1924 when the first two-lane low level draw bridge was built. In 1956, a second bridge was built to the north of the original bridge which carried west bound traffic; the 1924 bridge then carried two east bound lanes. In 1975, the third Gandy Bridge was opened to the south of the 1924 bridge and took over east bound traffic. In 1996 the fourth bridge (Figure 4.7) was opened which is the bridge of interest to this project. It was built on the original alignment of the 1924 bridge which had been fully removed. At that time, the 1956 bridge was converted to a pedestrian trail and all west bound traffic was routed over the newest bridge. The 1956, 1975 and 1996 bridges were all high level (45ft clearance) with no moving components. Today, the bridge is still part of US 92.

The bridge is technically in FDOT District 7 but was built in 1996 under District 1 oversight prior to the creation of District 7. The bridge has 96 spans supported by 97 Piers, 94 of the piers are in the water. Each water pier is cap and column design where a single hammerhead type pier cap, column and footing is supported by four drilled shafts with shaft diameters ranging from 4ft to 7ft (Table 4.7) and with both single and double concentric steel reinforcing cage

Table 4.7 Gandy Bridge (Westbound)

Bridge Name	Gandy Bridge (Westbound)
Bridge Number	100585
Year Built	1997
Slurry Type	Natural
Shaft Diameters	4ft, 6ft, 7ft

configurations. All shafts were constructed with natural slurry and a combination of temporary and permanent casing.

Inspection records for this bridge are highly detailed and show which shafts have been uncased and which have voids and/or honeycombing. This is one of the few bridges seen with casing removed. Based on review of the information provided for this bridge, further on-site evaluation is warranted.

Figure 4.7 Bridge Number 100585 (Gandy Bridge) plan and elevation images.

4.1.6 John Ringing Causeway

The original bridge was built in 1925 by John Ringling who owned land on both Lido and Longboat keys. Wanting to develop the land in the future, Ringling connected the two keys with the mainland. Shortly after, the bridge was donated to the city in 1927. In 1951 the State Road Department started to build a four-lane drawbridge which opened in 1959 and the original bridge was demolished. The same thing occurred in 2000 and a fixed high span bridge was completed in 2003 (Figure 4.8).

Table 4.8 John Ringling Causeway

Bridge Name	John Ringling Causeway
Bridge Number	170176
Year Built	2003
Slurry Type	Natural
Shaft Diameters	4ft, 9ft

John Ringling Causeway has 10 piers and two end bent systems. Each pier has two drilled shafts of diameter 9ft (Table 4.8). Each end bent system has a total of four drilled shafts each with a diameter of 4ft. The drilled shafts for this bridge were cast using natural slurry. Review of the most recent inspection report indicated that all shafts are still fully cased. Information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Figure 4.8 Bridge Number 170176 (John Ringling Causeway) plan and elevation images.

4.1.7 Overland Bridge

The Overland Bridge (Figure 4.9) is the elevated section of I-95 before the split into three bridges (the Fuller Warren Bridge, the Acosta Bridge and the Main St. Bridge). This bridge is currently under construction and as such no as- built plans were available. However, as an over-land structure there will be no piers in the water eliminating the possibility for underwater inspection. Basic bridge information can be found in Table 4.9. Information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Table 4.9 Overland Bridge

Bridge Name	Overland Bridge
Bridge Number	720627
Year Built	2017
Slurry Type	Bentonite
Shaft Diameters	unknown

Figure 4.9 Bridge Number 720627 (Overland Bridge) plan and perspective images.

4.1.8 Santa Fe River Bridge

The Santa Fe River Bridge (Figure 4.10) is located in High Springs, FL on US41/441. Its purpose is to carry the highway over the Santa Fe River. The bridge has a length of 369ft. While it does not have any historical significance, this bridge marks the start of a 26 mile paddle boarding trail from High Springs to Bransford at the Suwannee River.

Table 4.10 Santa Fe River Bridge

Bridge Name	Santa Fe River Bridge
Bridge Number	260112
Year Built	2002
Slurry Type	Bentonite
Shaft Diameters	3ft, 5ft

This bridge has two end bent piers and three intermediate piers with shaft diameters of 3 and 5ft respectively (Table 4.10), each pier is supported by two shafts. Inspection reports for this bridge note honeycombing on columns. Shafts were cast with bentonite slurry (contractor was given the choice of casing or bentonite). Based on the river depth profiles, the top of shafts can potentially be seen. Based on review of the information provided for this bridge, further on-site evaluation is warranted.

Figure 4.10 Bridge Number 260112 (Santa Fe River Bridge) plan and elevation images.

4.1.9 SR2 Choctawhatchee Bridge

This bridge carries SR 2 over the Choctawhatchee River (Figure 4.11). It is 2559ft long and holds no historic significance. Review of the plans for this bridge indicate that there are 21 piers in the waterway or flood plain. Those piers are supported by 42 drilled shafts 5ft in diameter (Table 4.11). Inspection reports show that this bridge is fully cased. Information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Table 4.11 SR2 Choctawhatchee Bridge

Bridge Name	SR2 Choctawhatchee Bridge
Bridge Number	520145
Year Built	2001
Slurry Type	Natural
Shaft Diameters	5ft

Figure 4.11 Bridge Number 520145 (SR2 Choctawhatchee Bridge) plan image.

4.1.10 SR10 Choctawhatchee Bridge

Known as the Caryville Bridge or the George L. Dickenson Bridge (Figure 4.12), this bridge was constructed in 1927 as an effort to connect Washington and Holmes County. The original bridge had four Warren deck trusses and a double leaf bascule section. Between 1944 and 1952 the bridge underwent a reconfiguration into a fixed deck design that had a wider roadway.

Review of the newer bridge plans indicates that there are 24 piers. Those piers are supported by 48 drilled shafts, 5 and 6ft in diameter (Table 4.12). Permanent casing was used during installation. Information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Table 4.12 SR10 Choctawhatchee Bridge

Bridge Name	SR10 Choctawhatchee Bridge
Bridge Number	520149
Year Built	2000
Slurry Type	Mineral Slurry
Shaft Diameters	5ft, 6ft

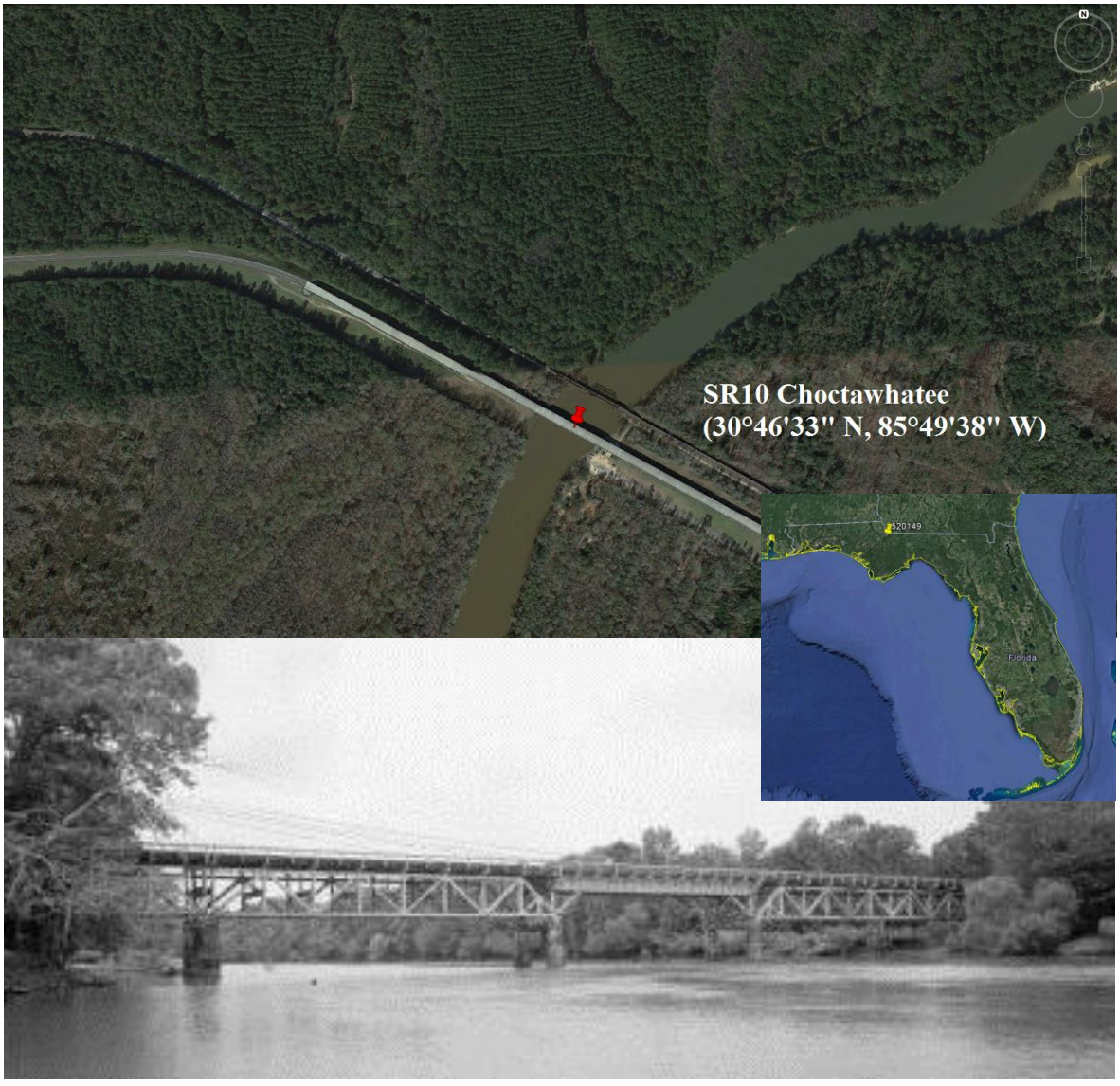


Figure 4.12 Bridge Number 520149 (SR10 Choctawhatchee Bridge) plan and elevation images.

4.1.11 SR20 Blountstown Bridge.

The bridge that carries SR20 over the Apalachicola river is commonly known as the Trammel Bridge (Figure 4.13), named after the three members of the Trammell family: (1) U.S Senator Park M. Trammel; (2) Member of the Florida Legislature John D. Trammell; and (3) Robert D. Trammel, a representative of the Blountstown area in the Florida legislature. These men helped either pass legislation that called for the construction of the bridge or were involved in securing funding. The original bridge was opened in 1938 and now carries westbound traffic whereas the eastbound span is a concrete high-rise bridge that was opened in 1998. Interestingly, the ends of the bridges do not share the same time zone. The east end is in the Eastern Time zone and the west end is in the Central Time Zone.

Table 4.13 SR20 Blountstown Bridge

Bridge Name	SR 20 Blountstown
Bridge Number	470052
Year Built	1998
Slurry Type	Bentonite
Shaft Diameters (ft)	5, 6, 7, 9

Review of the plans shows that there are 60 drilled shafts within the waterway or flood plain, four of which are in the Apalachicola River. Shafts range in diameter from 5 to 9ft (Table 4.13). The inspection reports received to date do not include the underwater reports. However, the plans indicate casing should be removed down to elevation 30ft and as such it is assumed that the casing was removed. Based on review of the information provided for this bridge, further on-site evaluation is warranted.

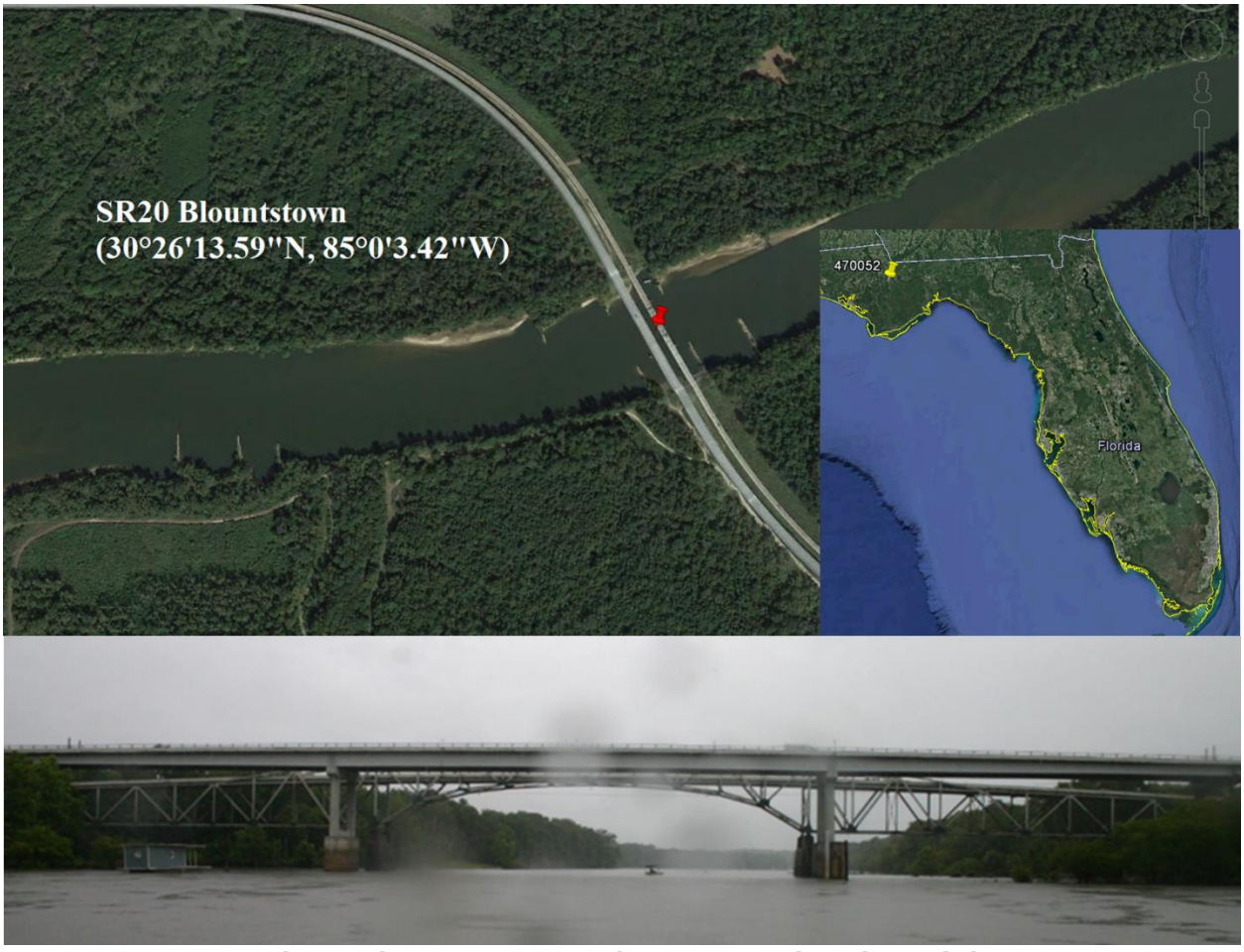


Figure 4.13 Bridge Number 470052 (SR20 Blountstown Bridge) plan and elevation images

4.1.12 SR61 Lost Creek Bridge

The Lost Creek Bridge (Figure 4.14) carries state road 61 over Lost Creek. This bridge is located 1.2 miles south of Crawfordville, FL. It has no historical significance.

Table 4.14 SR 61 Lost Creek Bridge

Bridge Name	SR61 Lost Creek Bridge
Bridge Number	590048
Year Built	1991
Slurry Type	Bentonite
Shaft Diameters	3ft

There are 4 piers within the waterway with a total of 8 drilled shafts 3ft in diameter (Table 4.14). Initial information indicated that the steel casing had been removed from the drilled shafts however there did not appear to be any water access to perform inspection. Thus, information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Figure 4.14 Bridge Number 590048 (Lost Creek Bridge) plan image.

4.1.13 SR63 Ochlockonee Bridge

The Ochlockonee Bridge on US 27 (SR 63) and is located one half mile north of Leon County (Figure 4.15). This bridge connects the highway over the Ochlockonee River, hence the name. This bridge has no historical significance.

Table 4.15 SR63 Ochlockonee Bridge

Bridge Name	SR 63 Ochlocknee Bridge
Bridge Number	500124/500127
Year Built	2001
Slurry Type	Bentonite
Shaft Diameters	3ft

The bridge is made up of four main sections each with their own bridge number. The northbound bridges are 500124 and 500126. The southbound bridges are 500125 and 500127. The portion of this bridge constructed using drilled shafts includes

bridges 500124 and 500127. Review of the plans indicates that there are 20 piers within the waterway or flood plain. These piers are supported by 40 drilled shafts 3ft diameter (Table 4.15). Inspection reports are unclear as to the presence of casing on the shafts. Information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Figure 4.14 Bridge Numbers 500124/500127 (SR63 Ochlockonee Bridge) plan image.

4.1.14 Victory Bridge

The Victory Bridge carries US90 over the wetlands/flood plain west of the Apalachicola River, immediately downstream of the Jim Woodruff Dam. The original bridge was built in 1927 and is no longer used, having been replaced in 1996 by the high level bridge that is in service currently.

Review of the construction plans indicates that there are 22 piers, each supported by 2 drilled shafts 4ft in diameter (Table 4.16). While inspection reports do not provide sufficient detail to determine what is visible, there is no access to the waterway to allow for inspection. Information provided for this bridge at this time was deemed insufficient or inappropriate to warrant further on-site evaluation.

Table 4.16 Victory Bridge

Bridge Name	Victory Bridge
Bridge Number	530111
Year Built	1996
Slurry Type	Natural
Shaft Diameters	4ft

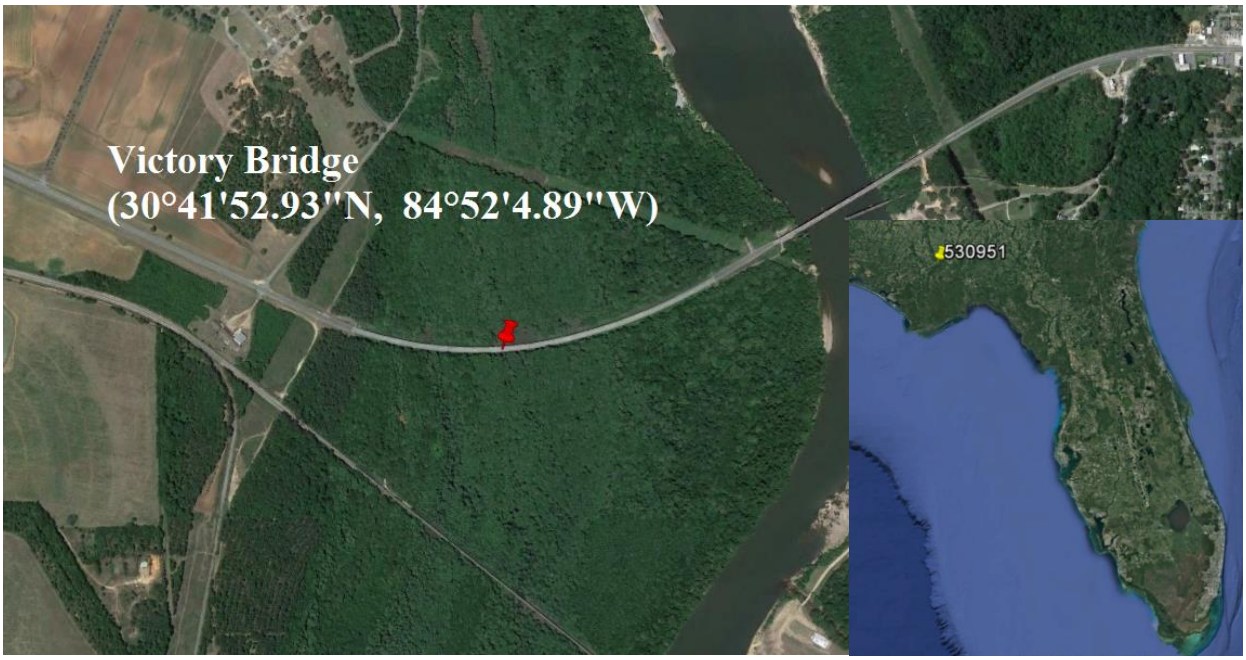


Figure 4.16 Bridge Number 530111 (Victory Bridge) plan image.

4.2 Underwater Evaluations

Of the 14 bridges screened and discussed earlier, four were selected for on-site, underwater evaluation. These bridges were selected to represent bridges constructed with bentonite, attapulgite and natural slurry types. To be appropriate for this stage, plans, and/or inspection or construction records had to indicate that the permanent casing (required for over water construction) had been removed at least in part allowing for direct access and visual evaluation.

4.2.1 Gandy Bridge 100585 (US-92 over Old Tampa Bay)

Drilled shaft construction records (logs) for the Gandy Bridge were not available through the normal information request protocol as that type of field record was not deemed important enough to store (hard copies). However, load testing reports from Statnamic tests provided the first real information about the construction process and was the only drilled shaft construction logs that could be found. These documents revealed that natural slurry was used for construction making this an ideal control site. It should be noted that construction logs for inspected shafts are not available. Only a few shafts were provided through the load testing report. Figure 4.17 shows both the eastbound (pile) and westbound (shaft) Gandy Bridges as well as the diving setup.

Figure 4.17 The current eastbound and westbound Gandy Bridge (looking west).

For dive inspections, shafts were selected based on the dive inspection reports provided by FDOT from Bolt Underwater Services. Uncased shaft locations were provided as well as if voids or honeycombing had been seen. Piers with voids as well as honeycombing were selected in addition to piers without deficiencies. Figure 4.18 shows the plan view of the eastern portion of the bridge and has the inspected piers circled. For reference of how shafts will be discussed please see Figure 4.19(a), shafts are labeled 1-4, 1 being NW, 2 SW, 3 NE, and 4 SE. Figure 4.19 (b) to (d) shows the varying shaft sizes and reinforcement cages used. This can be found on a larger scale in Appendix A. A summary of piers inspected along with their shaft sizes, reinforcement cages, and comments made by the dive inspectors can be found in Table 4.17.

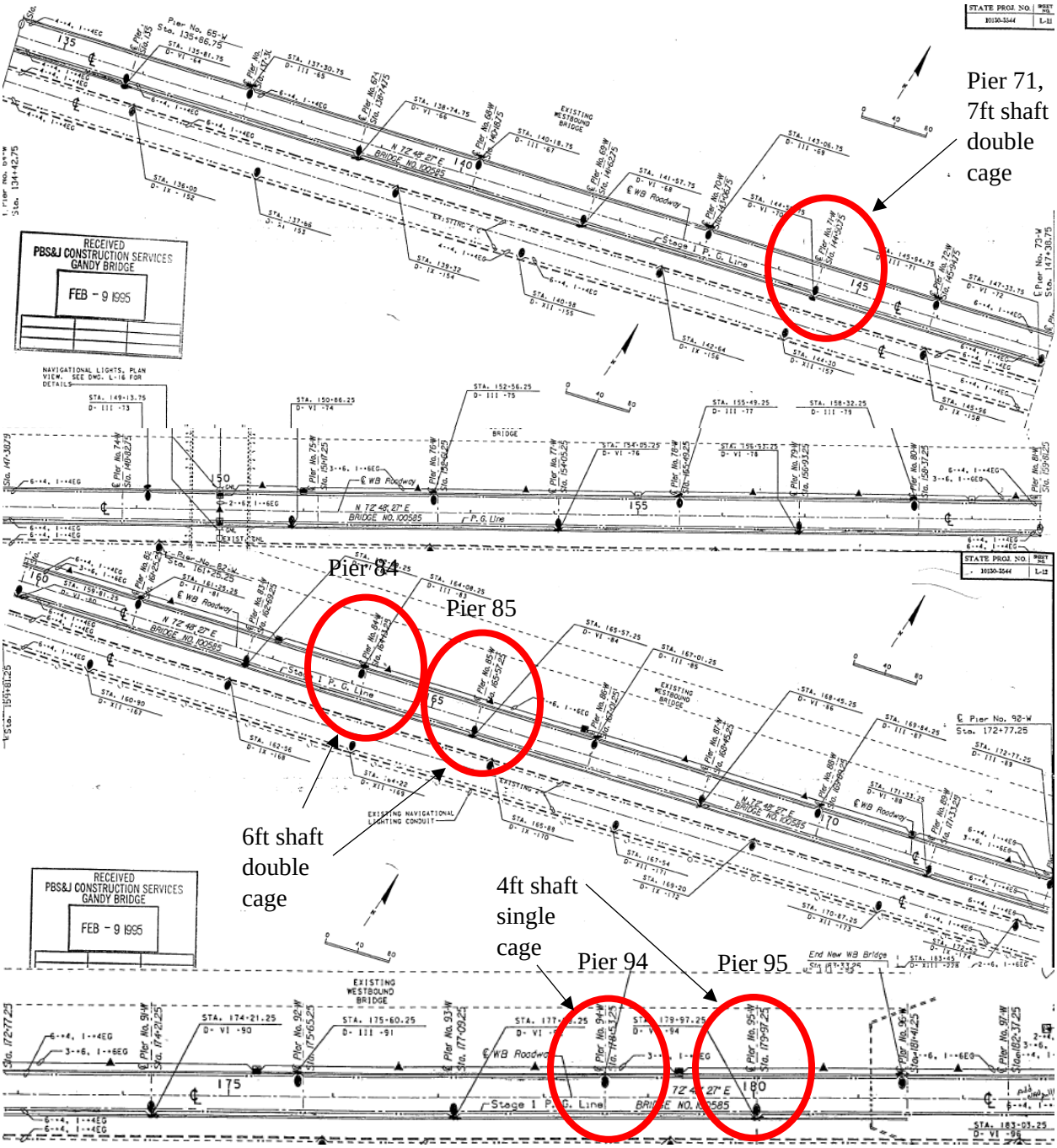
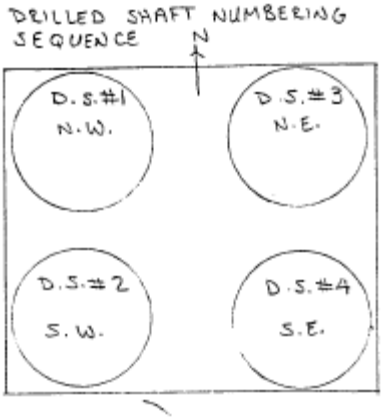
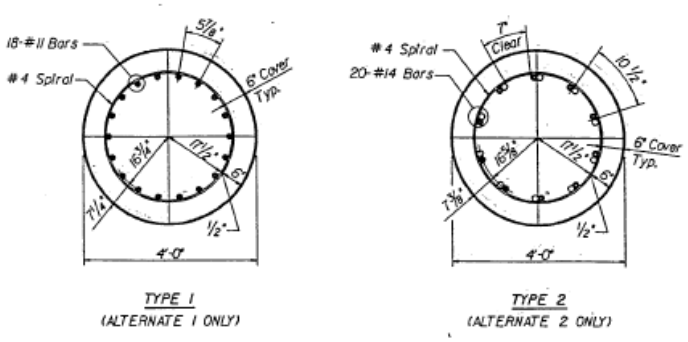


Figure 4.18 Plan view of eastern portion of Gandy Bridge. The piers that were inspected have been circled.



(a)



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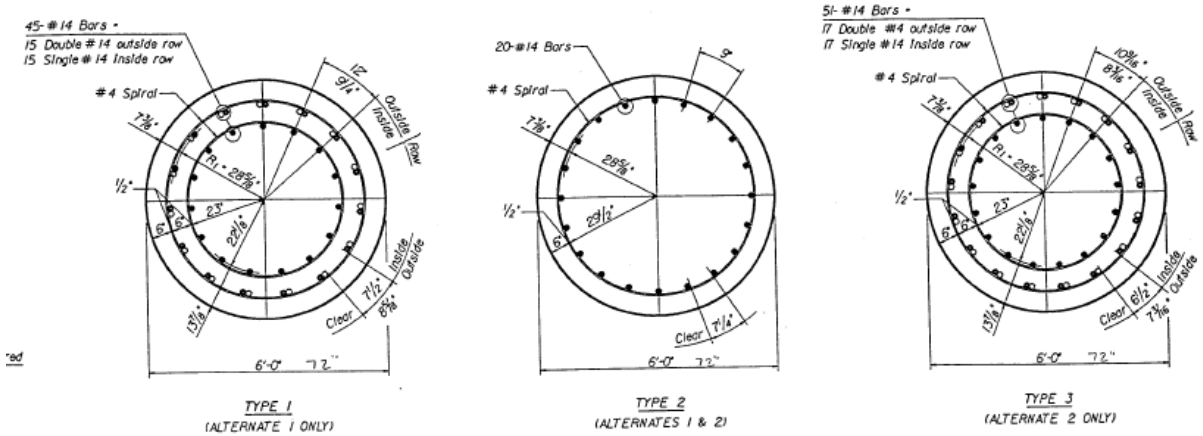

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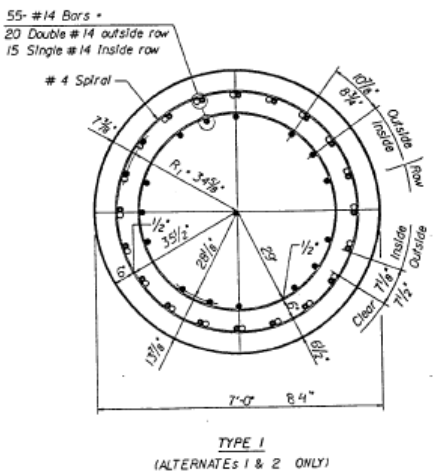


(d)

Figure 4.19 (a) Drilled shaft numbering sequence, (b) 4ft diameter shaft reinforcement cage layouts, (c) 6ft diameter shaft reinforcement cage layouts, (d) 7ft diameter shaft reinforcement cage layout.

Table 4.17. Summary of shafts inspected at Gandy Bridge.

Shaft #	Shaft Diameter (ft)	Cage Type	Diver Comment
71-1	7	Double[a]	Void, 5in diameter x3in deep
71-4	7	Double[a]	Void, 14in H x 14in W x 2in D
84-1	6	Double[b]	Void, 2in H x 9in W x 2in D
84-2	6	Double[b]	Void, 2in H x 9in W x 2in D
84-3	6	Double[b]	8in H x 3in W x 3in D
84-4	6	Double[b]	2Voids, Up to 14in H x 5in W x 4in D
85 (all)	6	Double[b]	N/A
94 (all)	4	Single[c]	N/A
95-1	4	Single[c]	Void, 32in H x 12in W x 2in D
95-2	4	Single[c]	Void, 2ft H x 18in W x 3in D

[a]See Figure 4.19(d)
[b]See Figure 4.19(c)- Type 1
[c]See Figure 4.19(b)- Type 1

Pier 95 (4ft diameter, single cage)

Two shafts were chosen for inspection on Pier 95, 95-1 and 95-3 on the north side. Noted in the diver report 95-1 has a void 12in below the footing/seal that is 32in H x 12in W x 2in D. 95-3 has no known deficiencies. All shafts at Pier 95 are 4ft in diameter and have a Type 1 reinforcement cage (Figure 4.19b).

95-1 did have a void as noted, it was noticeable even prior to cleaning (Figure 4.20). This void is substantial in the shaft, Figure 4.21 shows the void before cleaning which involved scraping barnacles, grinding and/or wire-brushing. A screwdriver was used for reference of void depth, which was about 2-3in (Figure 4.22). However, on the south (interior) side of the same shaft, the concrete is smooth (Figure 4.24). The north and south sides of the shaft can be seen in Figure 4.23 and 4.24 respectively. It should be noted that the sides of shafts look to have a concave effect, this is only from lens distortion.

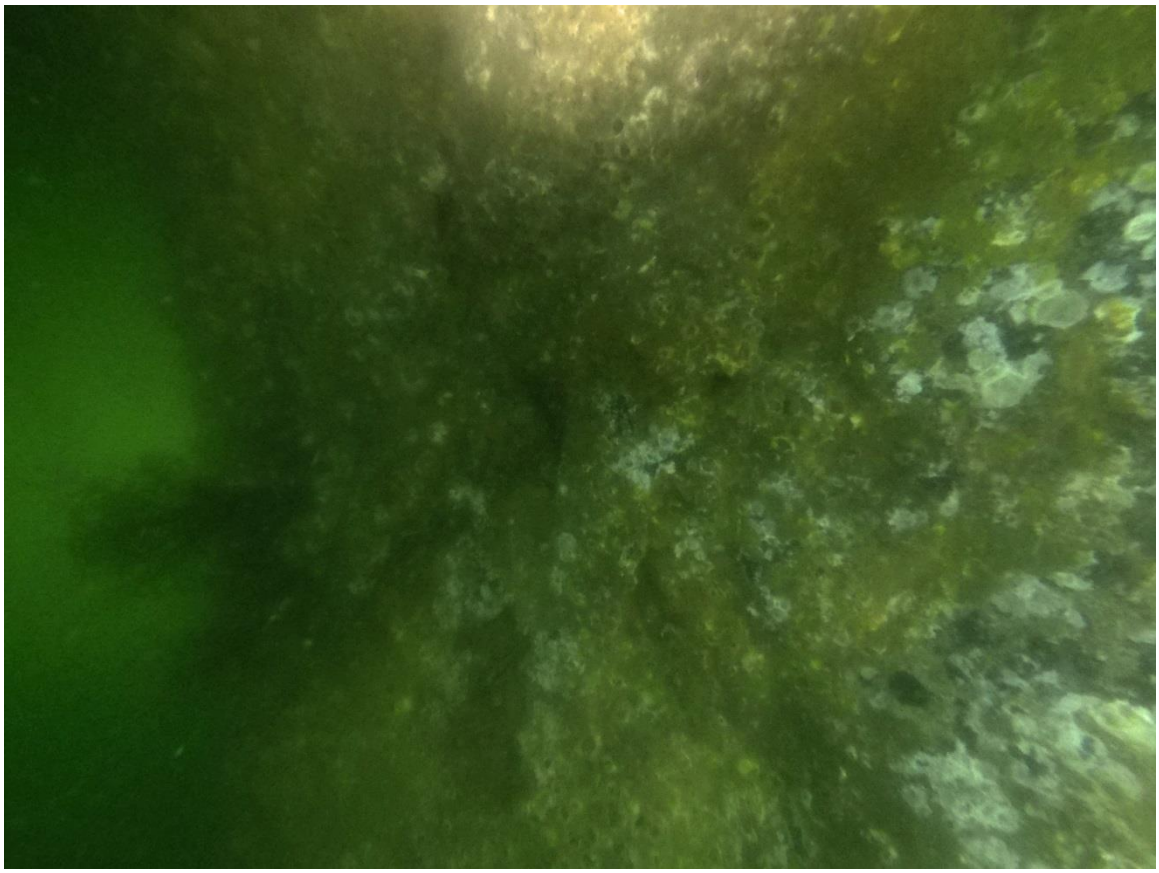


Figure 4.20 95-1 prior to cleaning.

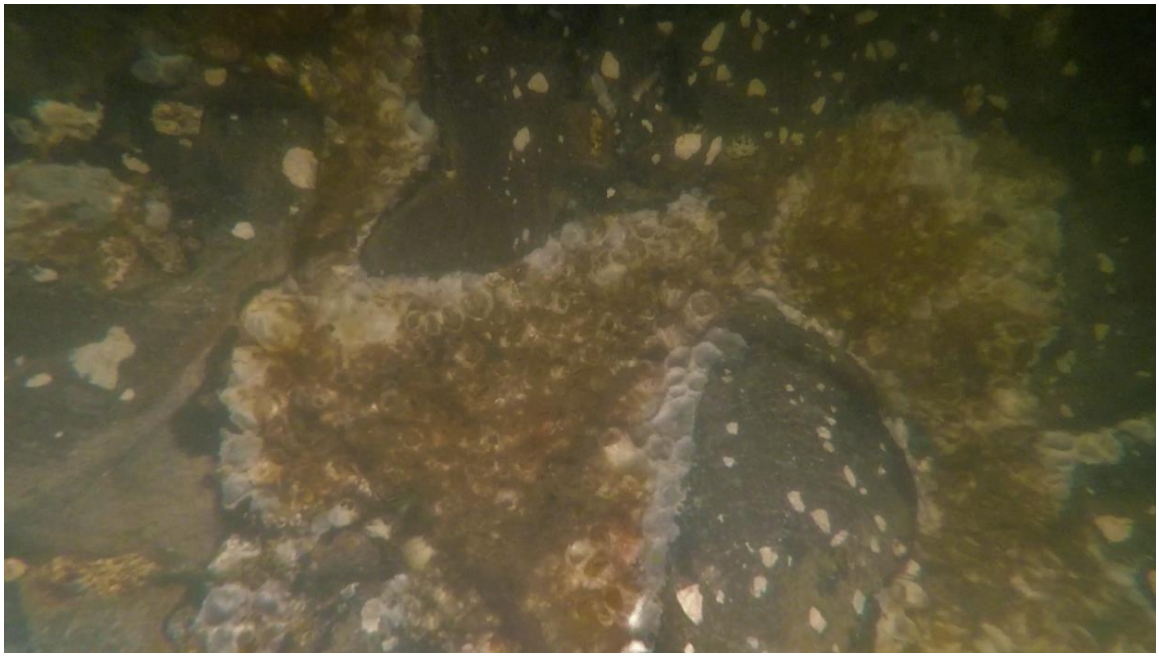


Figure 4.21 Void on 95-1, this was taken after grinding the shaft and before scraping out the barnacles residing in the voids.

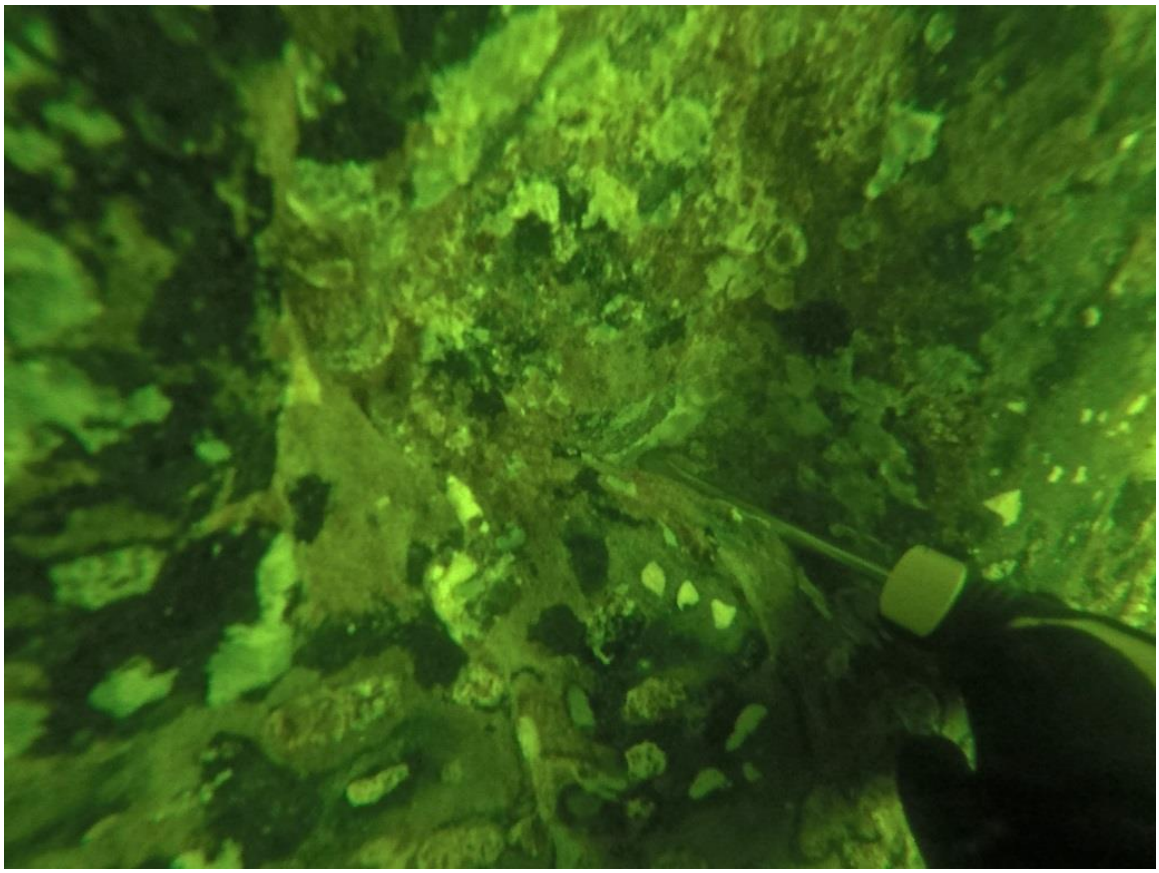
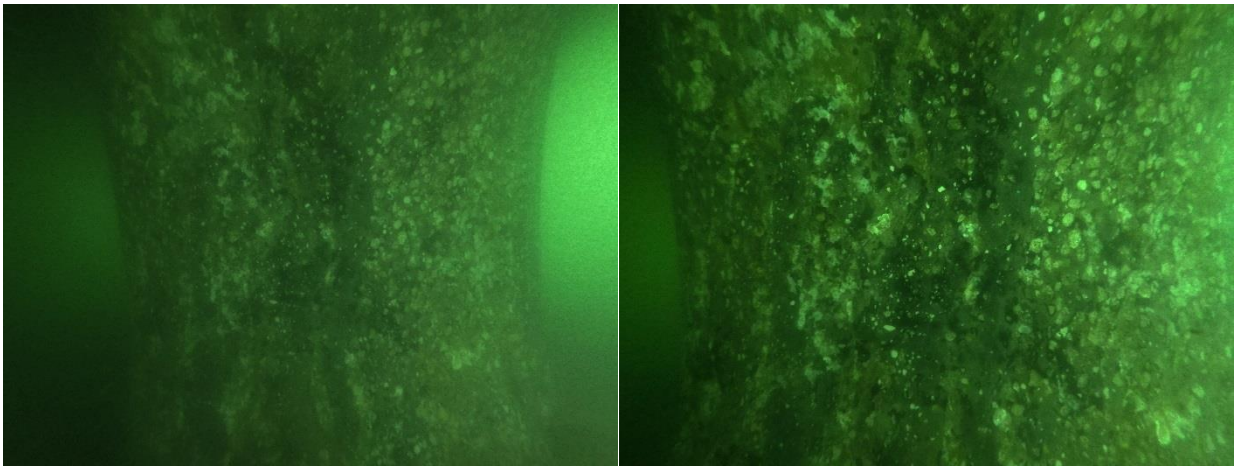


Figure 4.22 2-3in void in Shaft 95-1 post-barnacle scraping



(a) (b)

Figure 4.23 (a) View of the north side of 95-1 post-cleaning, (b) zoomed in view of (a)

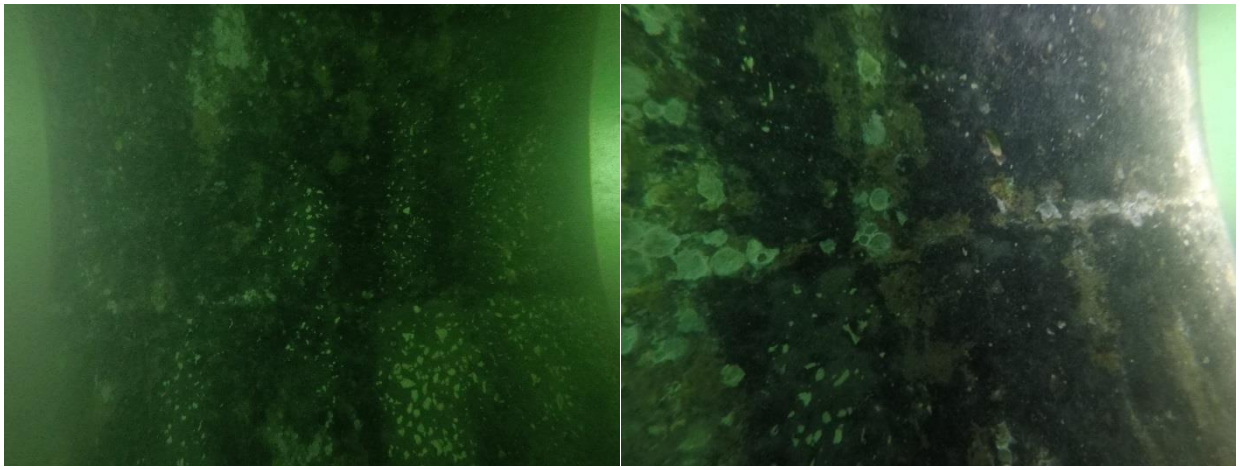


Figure 4.24 (a) South (interior) side of 95-1 post-cleaning, (b) zoomed in view of (a)

95-3 was cleaned for comparison as a shaft with no observed problems. Figure 4.25 shows 95-3 prior to cleaning. Due to the lack of water clarity on the day of inspection it was difficult to take a picture of the entire shaft, so sections are presented instead of an overall image. Figure 4.26 demonstrates a cleaned portion of the shaft. This shaft did not have any noticeable voids like 95-1. As seen from the cleaned portions the concrete surface was smooth.

Figure 4.25 Shaft 95-1 pre-cleaning

Figure 4.26 Shaft 95-1 sections post-cleaning

Pier 94 (4ft diameter, single cage, cased)

Shaft 4 from Pier 94 was chosen for cleaning to demonstrate what steel casing looks like versus the concrete. It can be difficult to tell if the shaft has casing or not because of the thick layer of barnacles surrounding the shaft. Pier 94 was not mentioned in the diver report and thus it was thought to be a good candidate to still have casing. Figure 4.27 shows 94-4 prior to cleaning and Figure 4.28 shows 94-4 during cleaning. In Figure 4.29 the steel from the casing is visible. As seen from Figure 4.29, there is a black layer underneath the encrustation and on top of the steel casing.

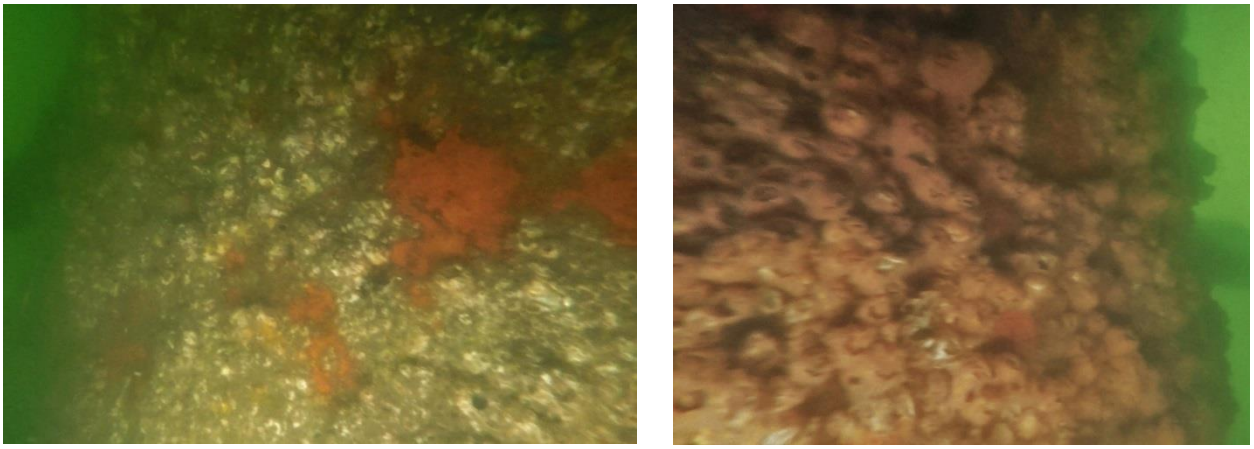


Figure 4.27 Shaft 94-4 pre-cleaning

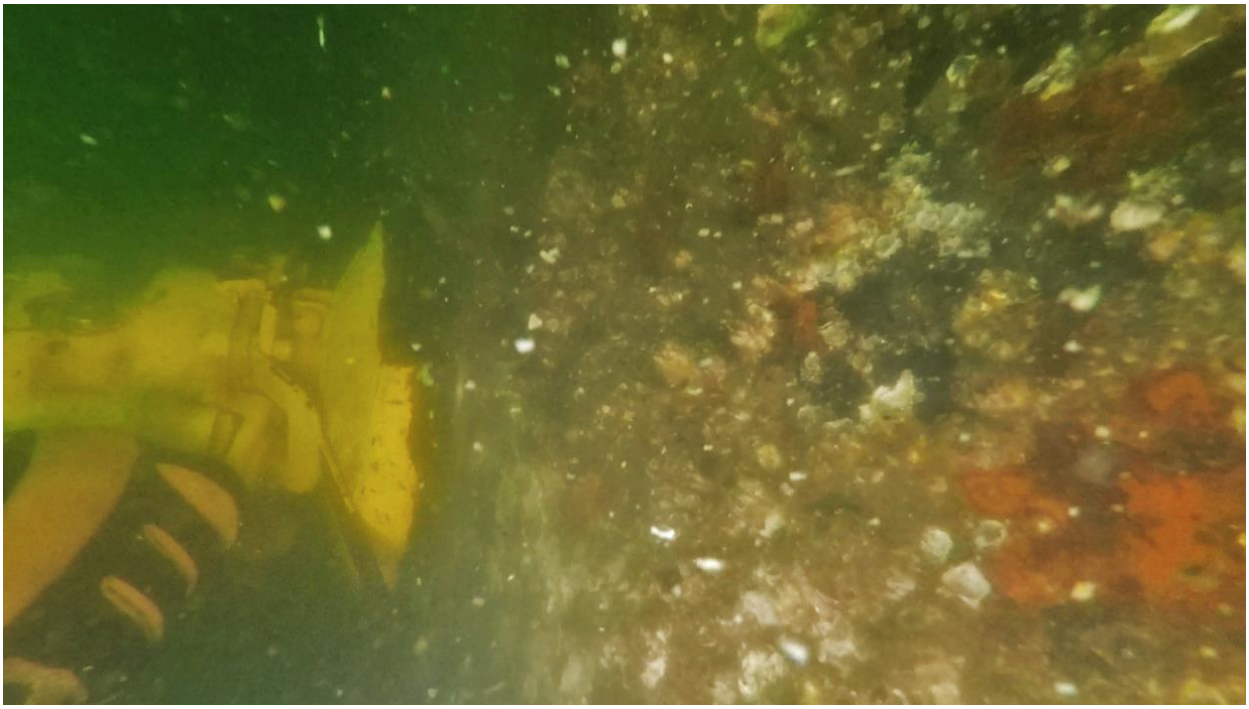


Figure 4.28 Shaft 94-4 during cleaning with the grinder

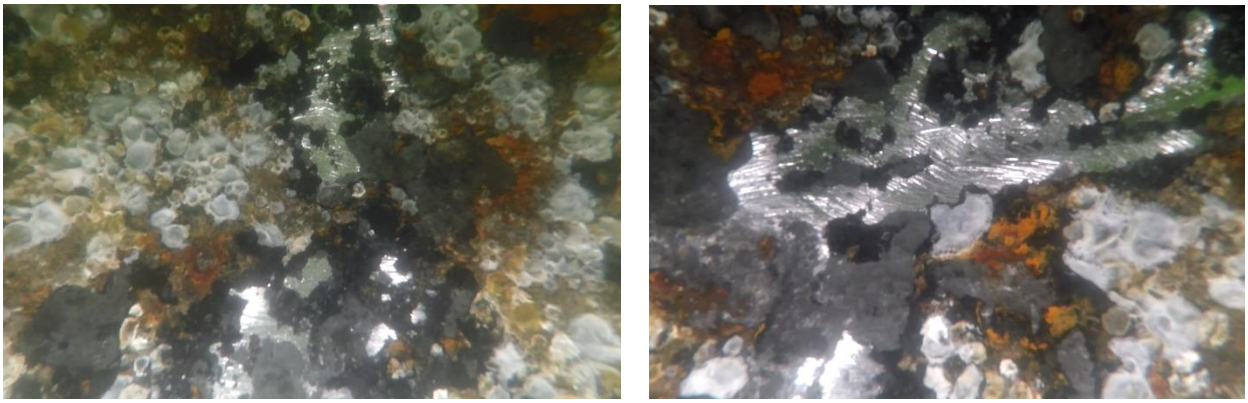


Figure 4.29 Shaft 94-4 after cleaning showing steel casing

Pier 85 (6ft diameter, double cage)

Pier 85 was chosen as an example of a typical 6ft Type 1 reinforcement cage (Figure 4.19(c)). The dive report does not mention this pier as having voids, however does state that two of the shafts, 85-2 and 85-3, do not have visible casing. Therefore, 85-2 was selected for inspection.

Unfortunately there is no image of 85-2 before cleaning, however it looked similar to others covered in barnacles. While the cleaned section of the shaft overall shows a smooth surface (Figure 4.30), there are small crevices. As seen in Figure 4.31 to 4.32, barnacles and sea-life fill in these voids. The small voids/crevices are believed to have been caused by the double reinforcement cage, as it was not seen in at Pier 95.

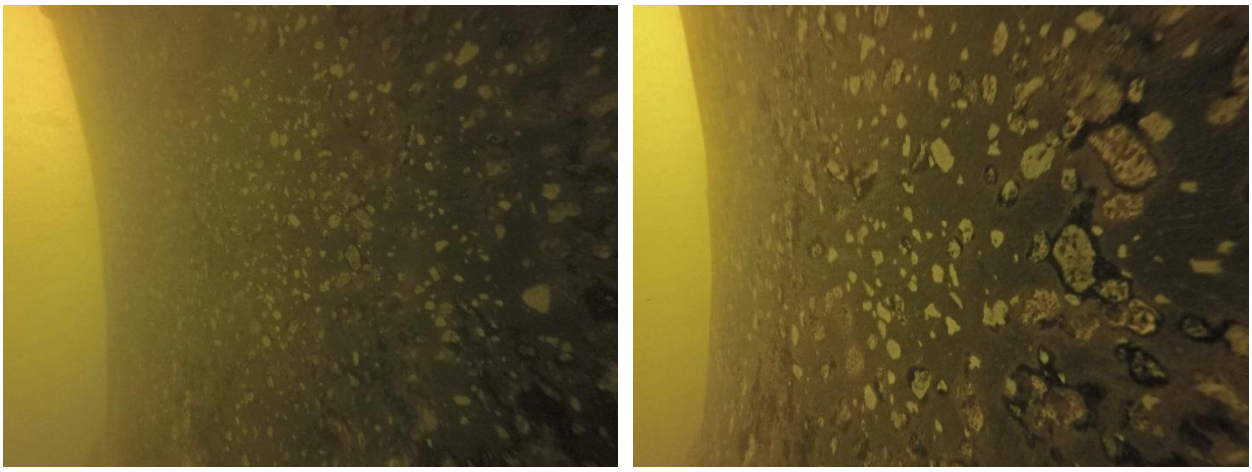


Figure 4.30 Shaft 85-2 after cleaning

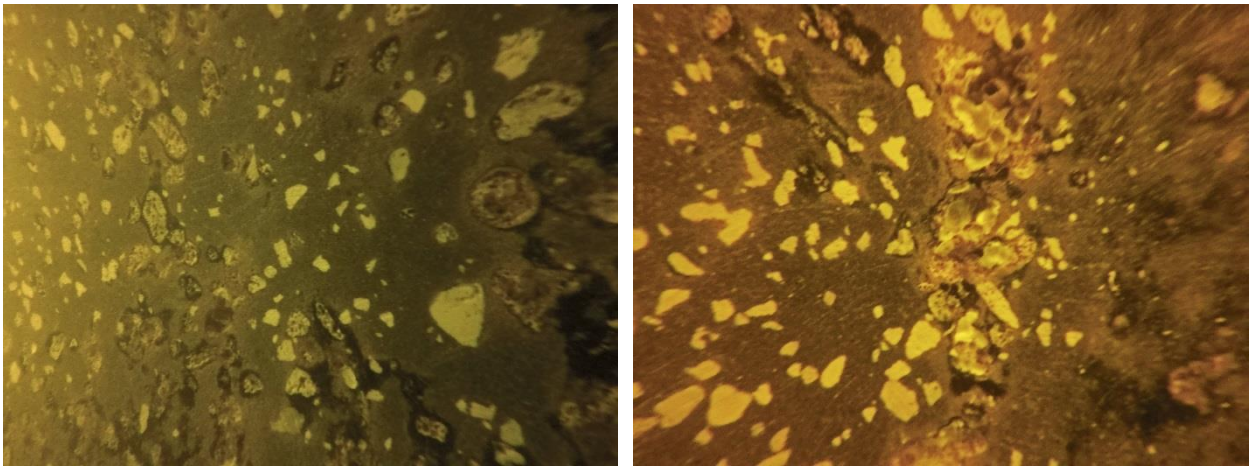


Figure 4.31 Crevices filled with barnacles

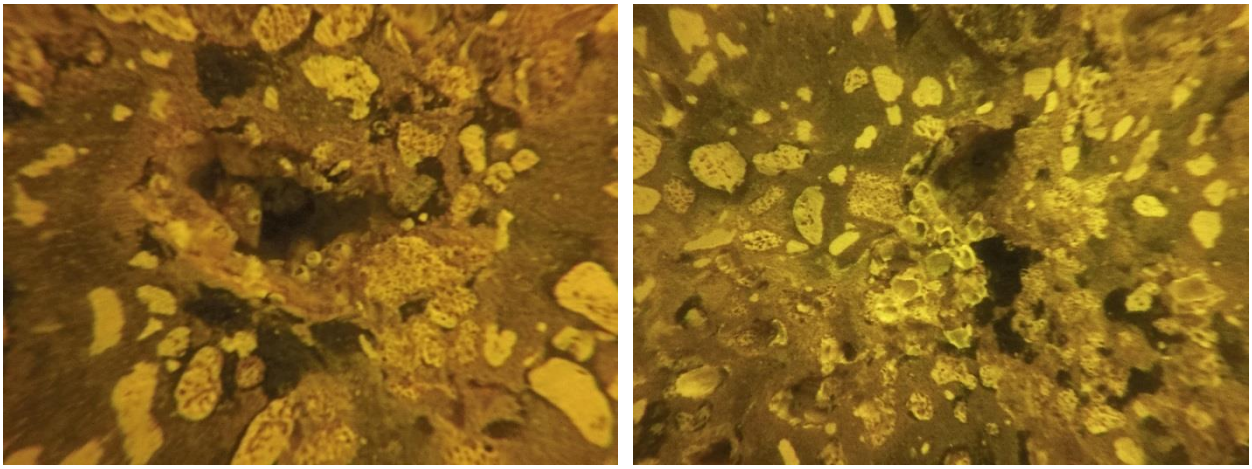


Figure 4.32 Small voids in 85-2 filled with sea-life and barnacles

Pier 84 (6ft diameter, double cage)

In contrast to Pier 85, Pier 84 had voids on all four shafts. Pier 84 contains 6ft diameter Type 1 reinforced shafts (Figure 4.19(c)). Shaft 84-4 was chosen for inspection as it is listed as having two voids. Figure 4.33 shows 84-4 with a thick layer of barnacles prior to cleaning. This layer is better viewed in Figure 4.34 where the cleaned concrete transitions into the barnacle layer. Figures 4.35 and 4.36 show the cleaned portions of the shaft from east and southeast sides. It can be seen in these figures that the concrete is not completely smooth like the 4ft shaft. The circled red areas on Figure 4.35 represent areas of the cleaned concrete that are filled with barnacles. Therefore the 6ft Type 1 shafts seem to experience at least small voids in the concrete. As mentioned for Pier 85, this is could have been caused by the double reinforcement cage. Figure 4.37 shows the layers found when cleaning the concrete. Consistently throughout the examination of the Gandy shafts, encrustations were found consisting of barnacles and miscellaneous plant life/organisms. Upon initial cleaning, barnacles were knocked/scraped off and the remnants of the barnacle attachment were then removed. Below this layer, a thin black layer was encountered which was difficult to remove. In cases of smooth surfaces with no significant voiding, pristine concrete could clearly be seen. Rougher surfaces with voids retained the plant life, barnacles and black layer. Except for isolated instances, there was no attempt to dig into voids and determine the full depth.

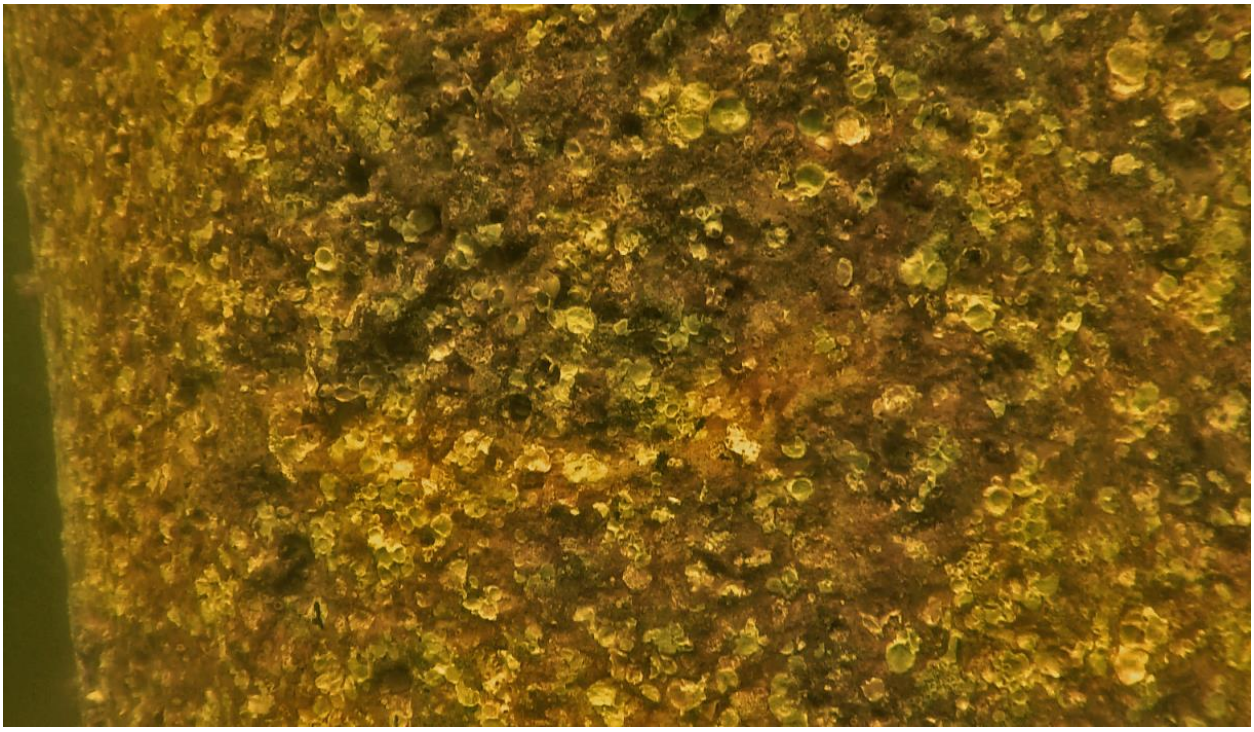


Figure 4.33 Shaft 84-4 prior to cleaning

Figure 4.34 Shaft 84-4 partially cleaned, note clean concrete going into layer of barnacles

Figure 4.35 Cleaned portion of 84-4 on the southeast side of the shaft, circled sections indicate small voids in concrete filled by barnacles

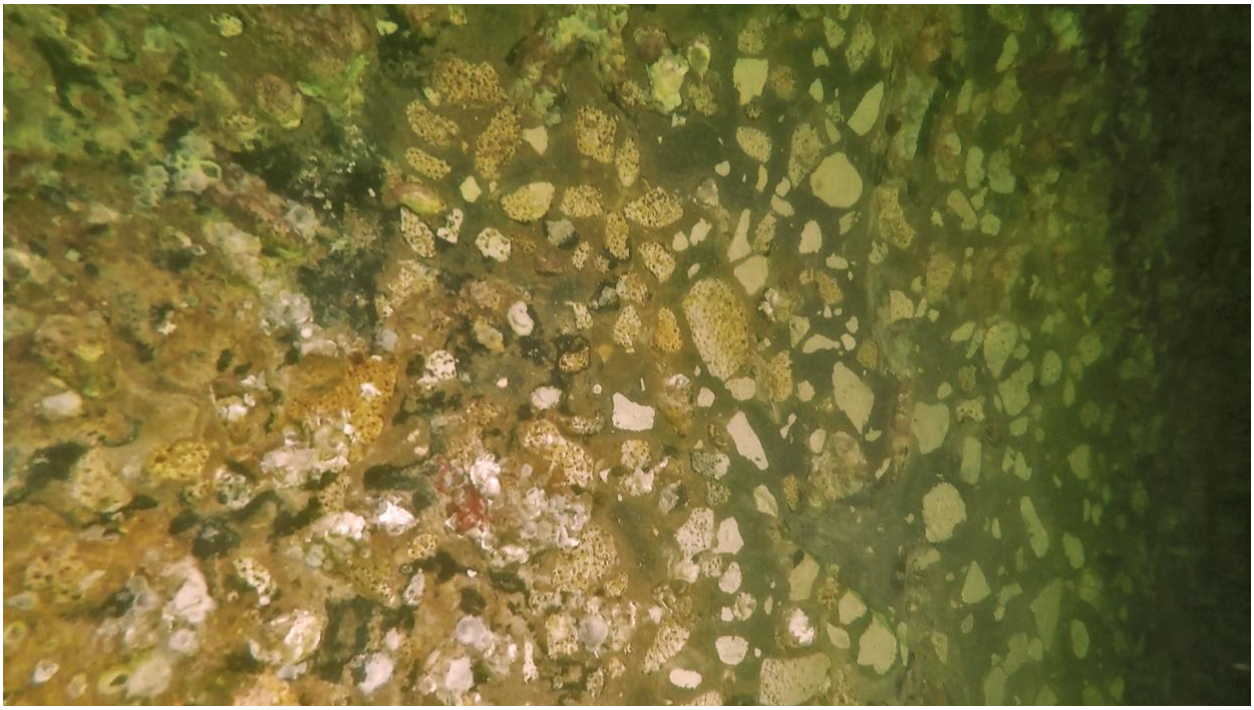


Figure 4.36. Cleaned portion of 84-4, east side of shaft

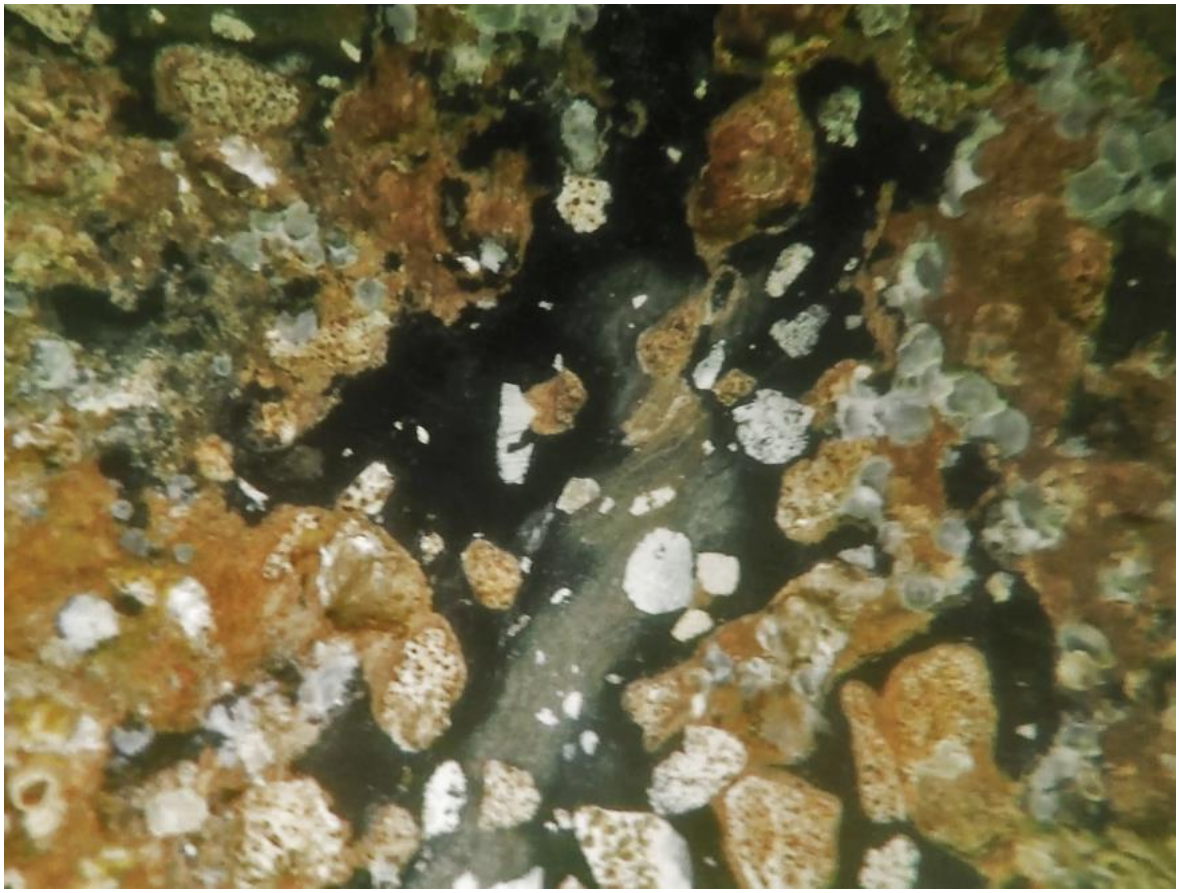


Figure 4.37 Layers from barnacles to black unknown layer to concrete

Pier 71 (7ft diameter, double cage)

Pier 71 contains 7ft diameter Type 1 shafts (Figure 4.19(d)). Two shafts 71-1 and 71-4 were listed as having voids in the dive report. Unfortunately there is no image of the shaft before cleaning, however it looked similar to the shafts shown above, covered in a layer of barnacles. Figure 4.38 shows each side of the cleaned portion of the shaft. As noted for Piers 84 and 85, it seems the 7ft shafts also experienced small voids in the cleaned concrete surface (Figure 4.39). Sections of cleaned concrete can be seen up-close in Figure 4.40, note that this concrete was the roughest seen on this bridge. Figure 4.41 shows a long crevice in 71-4.

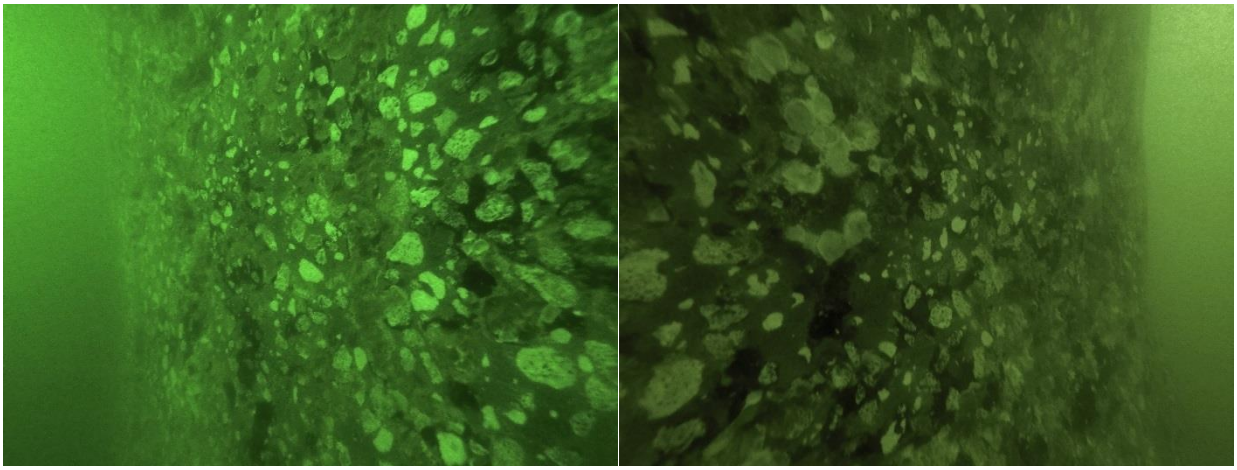


Figure 4.38 Shaft 71-4 post-cleaning

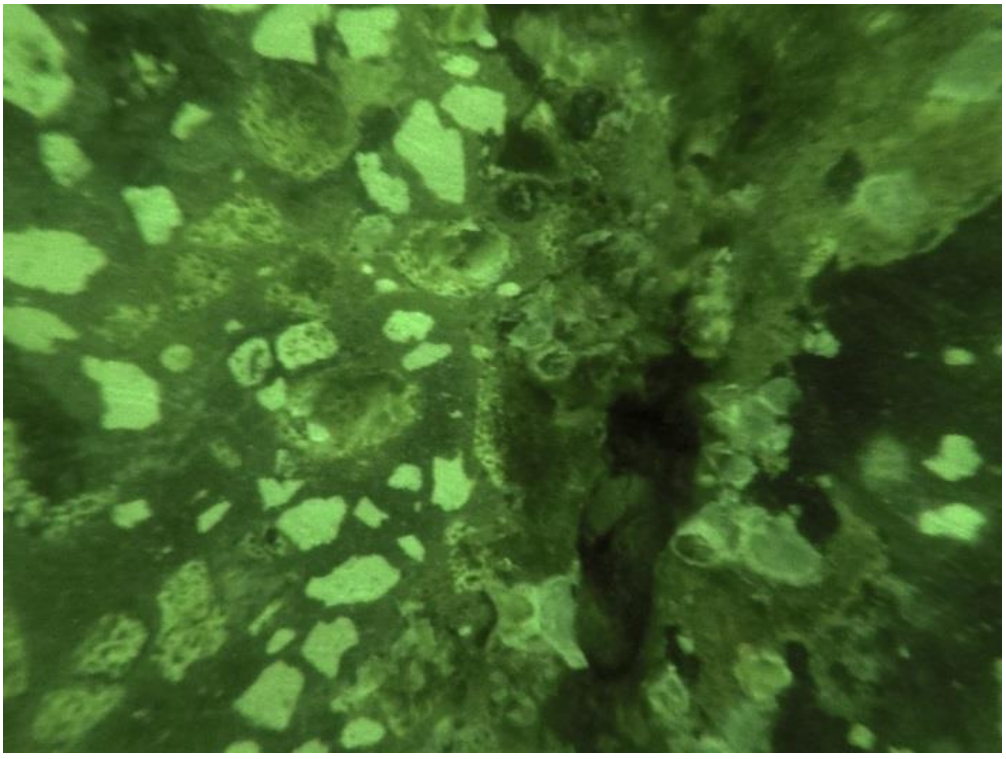


Figure 4.39 Close up of a small void on 71-4

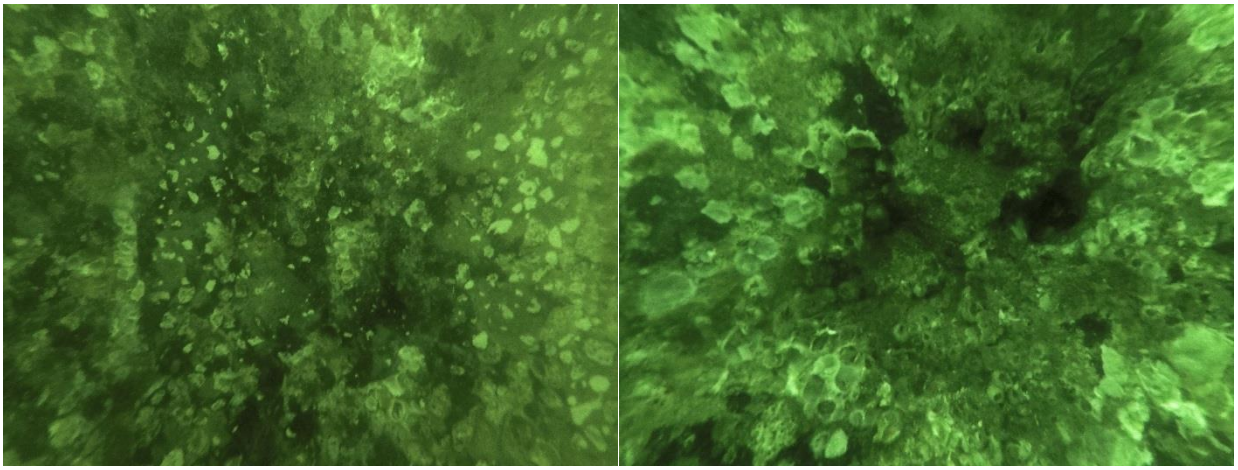


Figure 4.40 Cleaned concrete on 71-4, close pictures

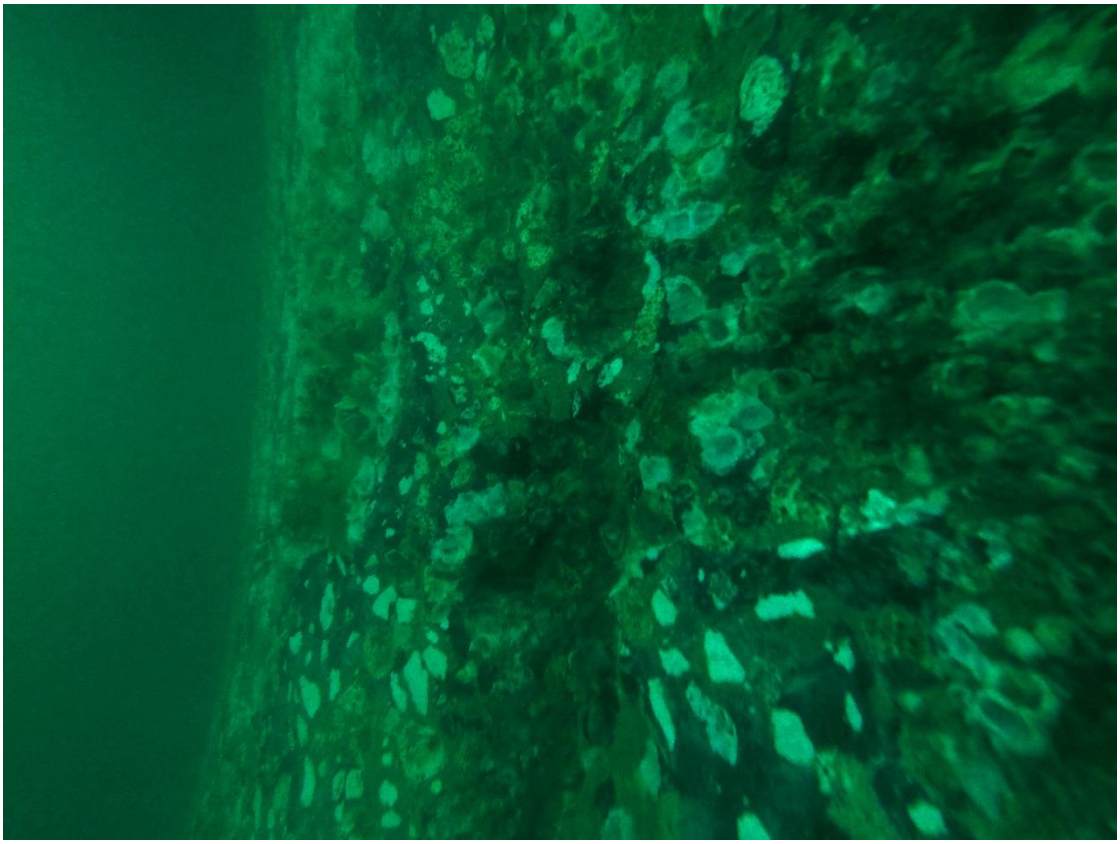


Figure 4.41 Large void found on the south side of 71-4

4.2.2 Santa Fe River Bridge 260112 (US 441 over the Santa Fe River)

The Santa Fe River Bridge has three intermediate piers (Figure 4.43) each on two 5ft shafts (Figure 4.42). Two piers were in the river at the time of the on-site review (Figure 4.44). The shafts for this bridge were cast using bentonite slurry, making this bridge a good candidate for the study. According to the plans, shafts for this bridge terminate very close to the mudline and are mono-shaft column structures. However, considering river bottom/depth changes after looking at the inspection report it was decided that this bridge yielded potential for investigation. The piers were investigated first by ROV (Figure 4.45), then by divers (Figure 4.46). While it was expected that only the very top of the shaft would potentially be

available, on-site inspection revealed scour/depth changes were not enough to expose the shafts. All four shaft/columns were investigated and only the smaller diameter 3ft columns could be seen (Figure 4.47).

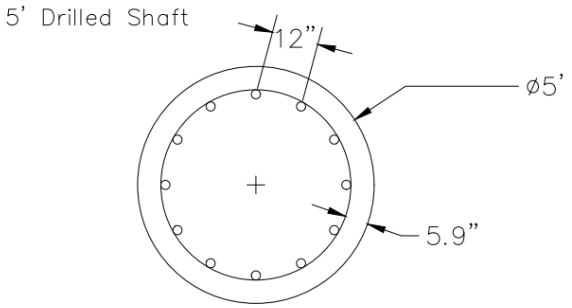


Figure 4.42 Intermediate drilled shaft layout

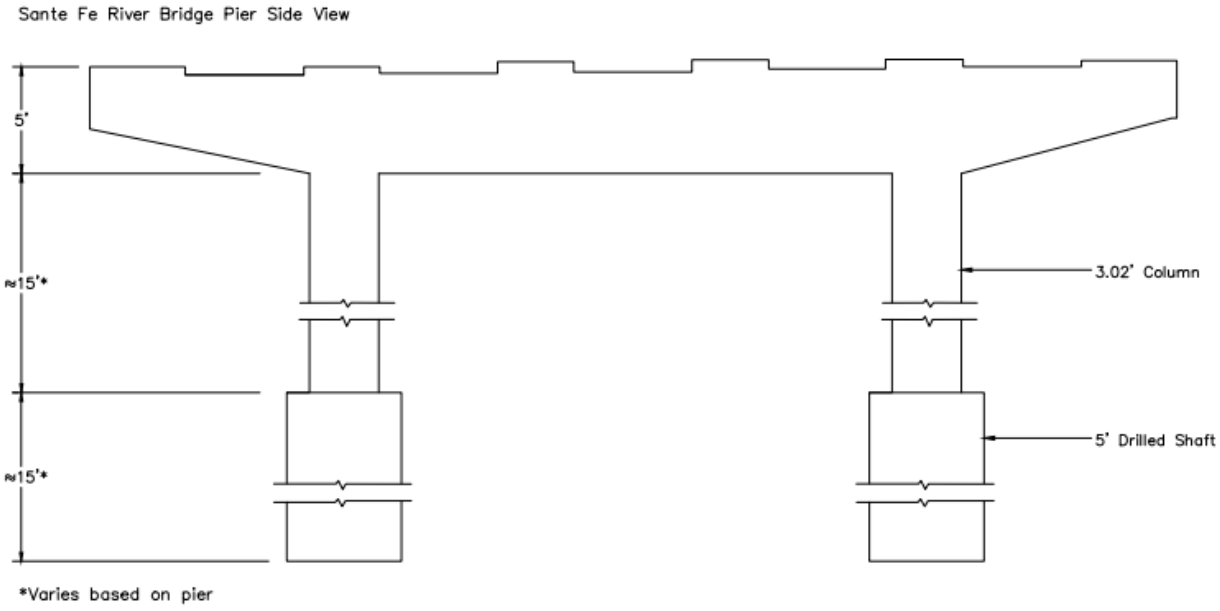


Figure 4.43 Layout for intermediate piers, height of column and shaft approximated as it varies by pier.

Figure 4.44 Four water column to shaft structures.

Figure 4.45 Remote operated vehicle system used to capture underwater images without divers.

Figure 4.46 Diver follow-up to further review column to shaft interface.

Figure 4.47 One of the columns at the mudline, no exposed shaft available for inspection

4.2.3 Blountstown Bridge 470052 (SR-20 over Apalachicola River)

The SR-20 bridge over the Apalachicola River (Figure 4.48), bridge number 470052 built in 1998 (Figure 4.49) was deemed to be a good inspection candidate as the shafts were cast with bentonite slurry, and the plans noted the casing was to be burned off down to elevation 30ft. That meant there should be at least a portion of exposed shaft for investigation. Figure 4.50 shows the plan view of Piers 58 and 59 as seen in the plans, Figure 4.51 highlights the strut in the top view and Figure 4.52 best demonstrates the column going into the shaft through the section view as well as the reinforcement layout and where the casing was noted to be burned off. At the time of these pictures, clearance was 61ft and water elevation was 35ft, making the water 17.5ft deep.

Figure 4.48 Main span of the Blountstown Bridge.

(a) (b)

Figure 4.49 (a) Date the bridge was built, (b) title of bridge and bridge number as seen on bridge.

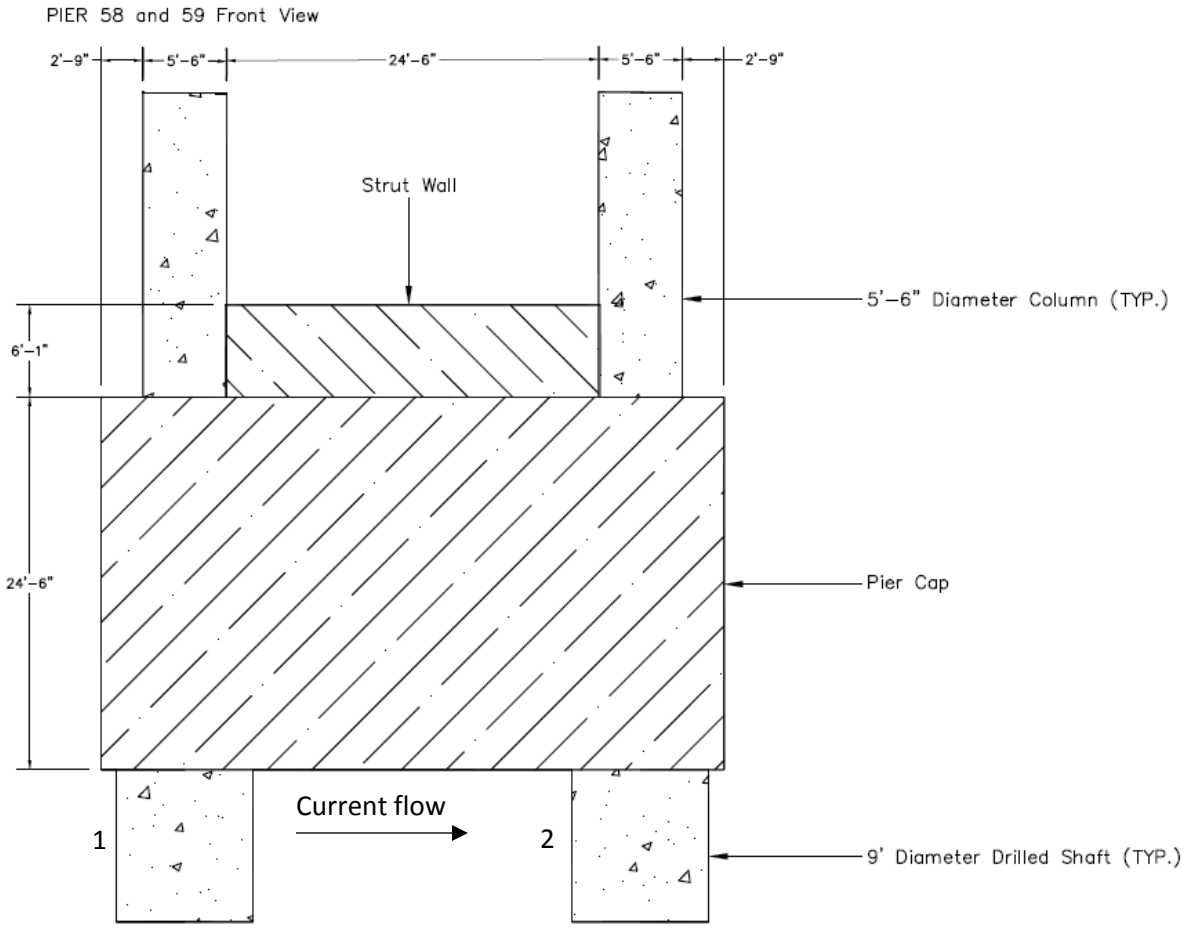


Figure 4.50 Elevation (front) view of Piers 58 and 59 looking east, river flow is to the right.

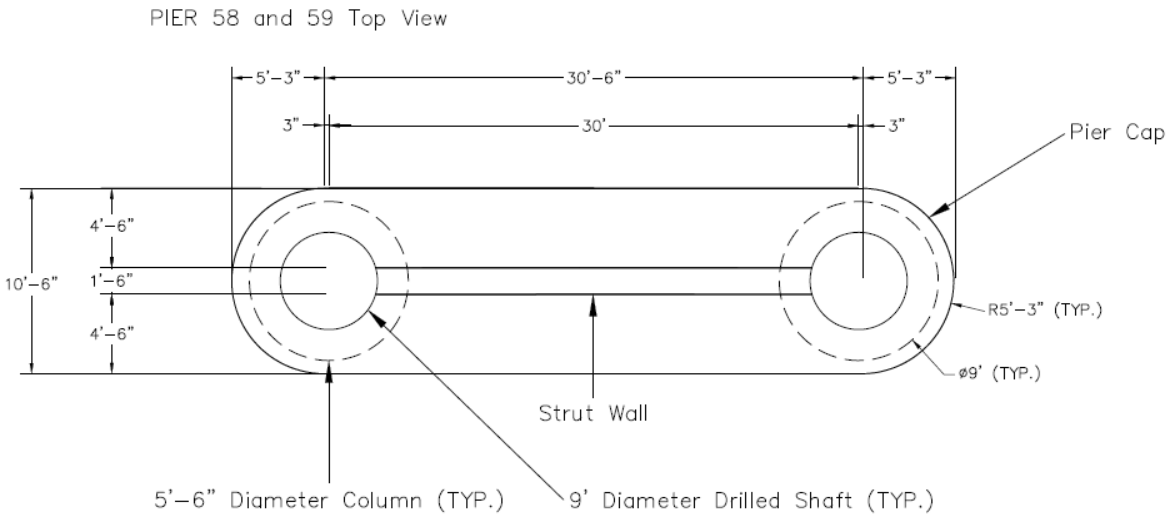


Figure 4.51 Top view of Piers 58 and 59.

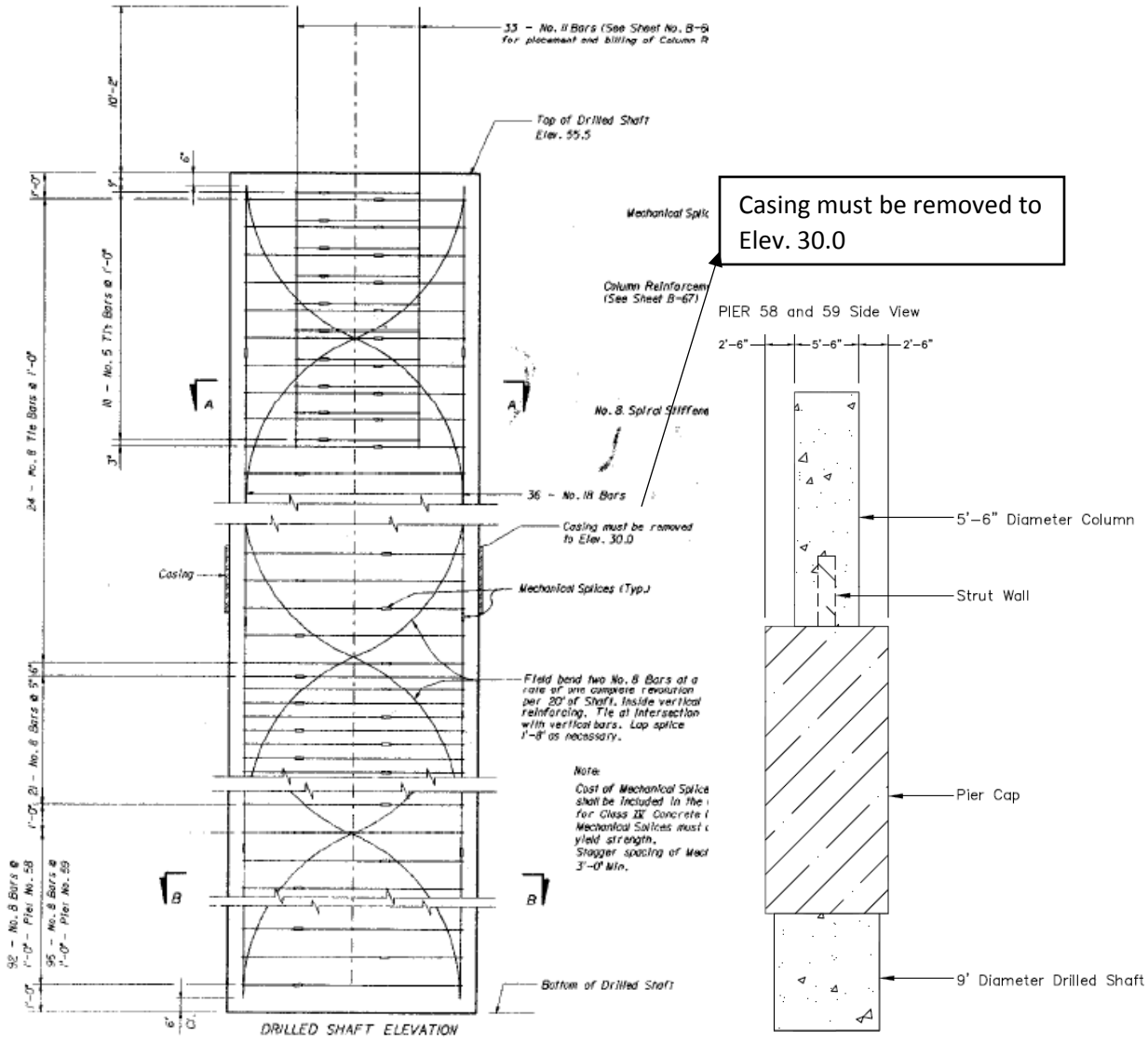


Figure 4.52 Section view of Piers 58 and 59.

While it was expected that there would be exposed shaft, after inspection it was realized that the only portion exposed was from what looked like a missing seal slab (Figure 4.53). Rubble on the bottom or river was likely to be remnants of the seal slab. Nevertheless, approximately 16-18inches of uncased shaft was visible. Figure 4.54 is a picture of what the exposed portion of shaft looked like prior to cleaning shaft 58-1 (note shafts were labeled 1 and 2 based on river flow seen in Figure 4.50). Figure 4.55 shows the shaft after cleaning shaft 58-1. Figure 4.55 also locates four positions labeled 1-4 corresponding to close-up images taken at those locations. The water clarity was poor and made overview images unhelpful. In all four images of Figure 4.55 vertical or horizontal creases were found; image (2) shows both vertical and horizontal creases (camera slightly tilted) along with a white patching compound in the center of the squares that was not concrete.

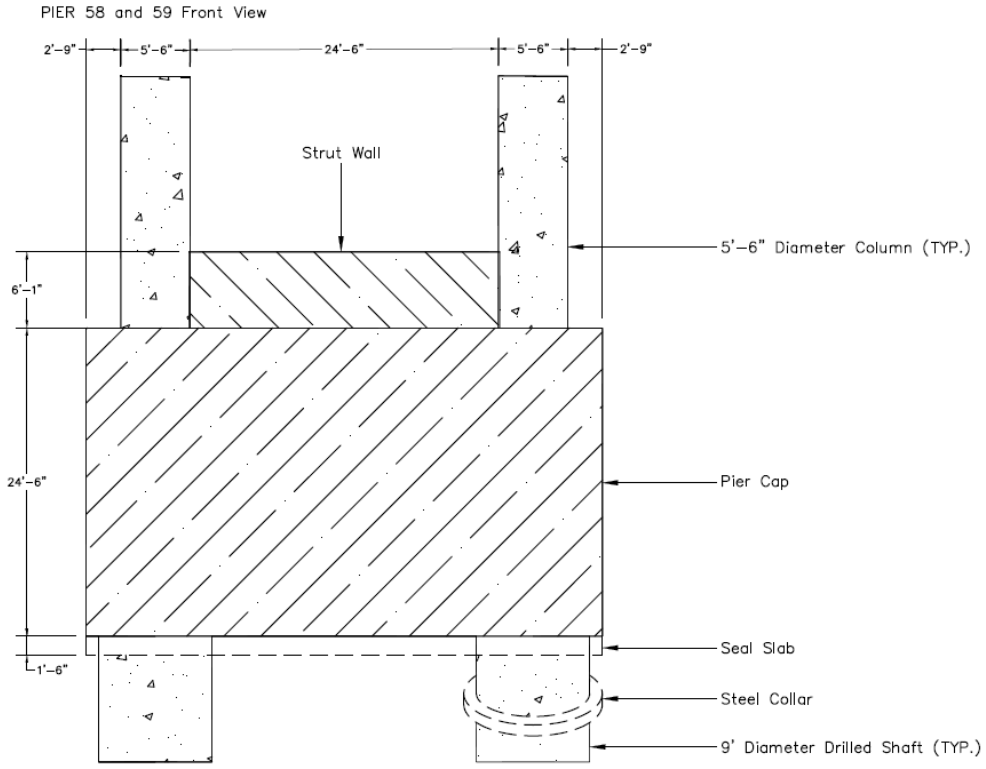


Figure 4.53 Front view of Pier 58 with theoretical seal slab and seen steel collar around shaft 2.

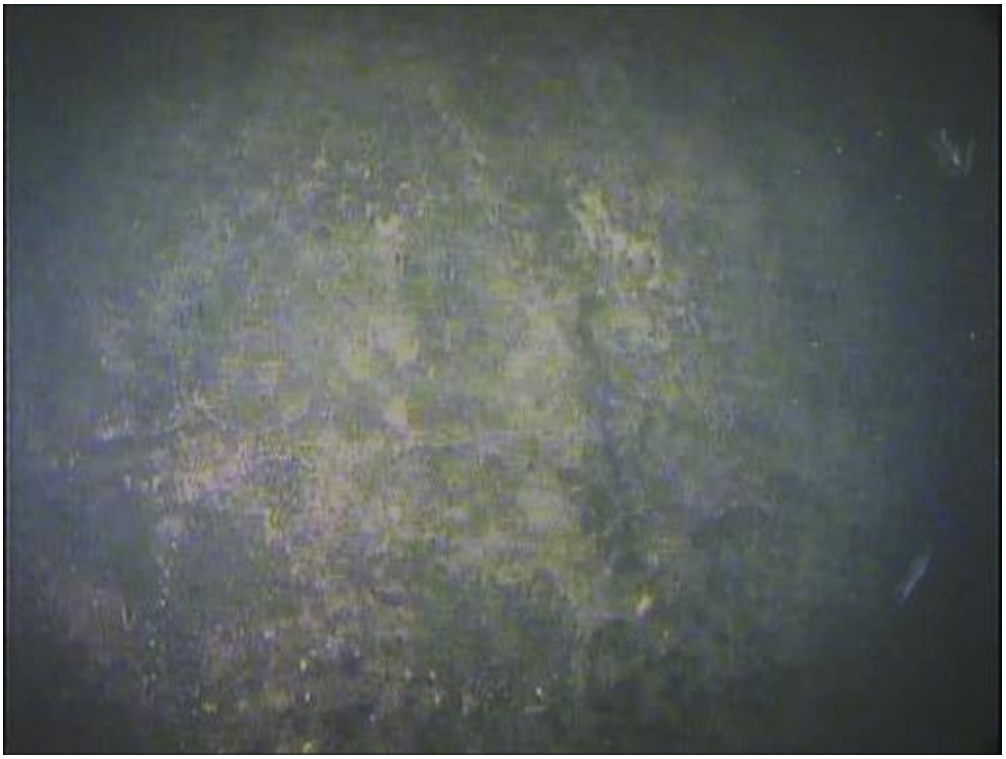


Figure 4.54 Before cleaning / what a dive inspector might see

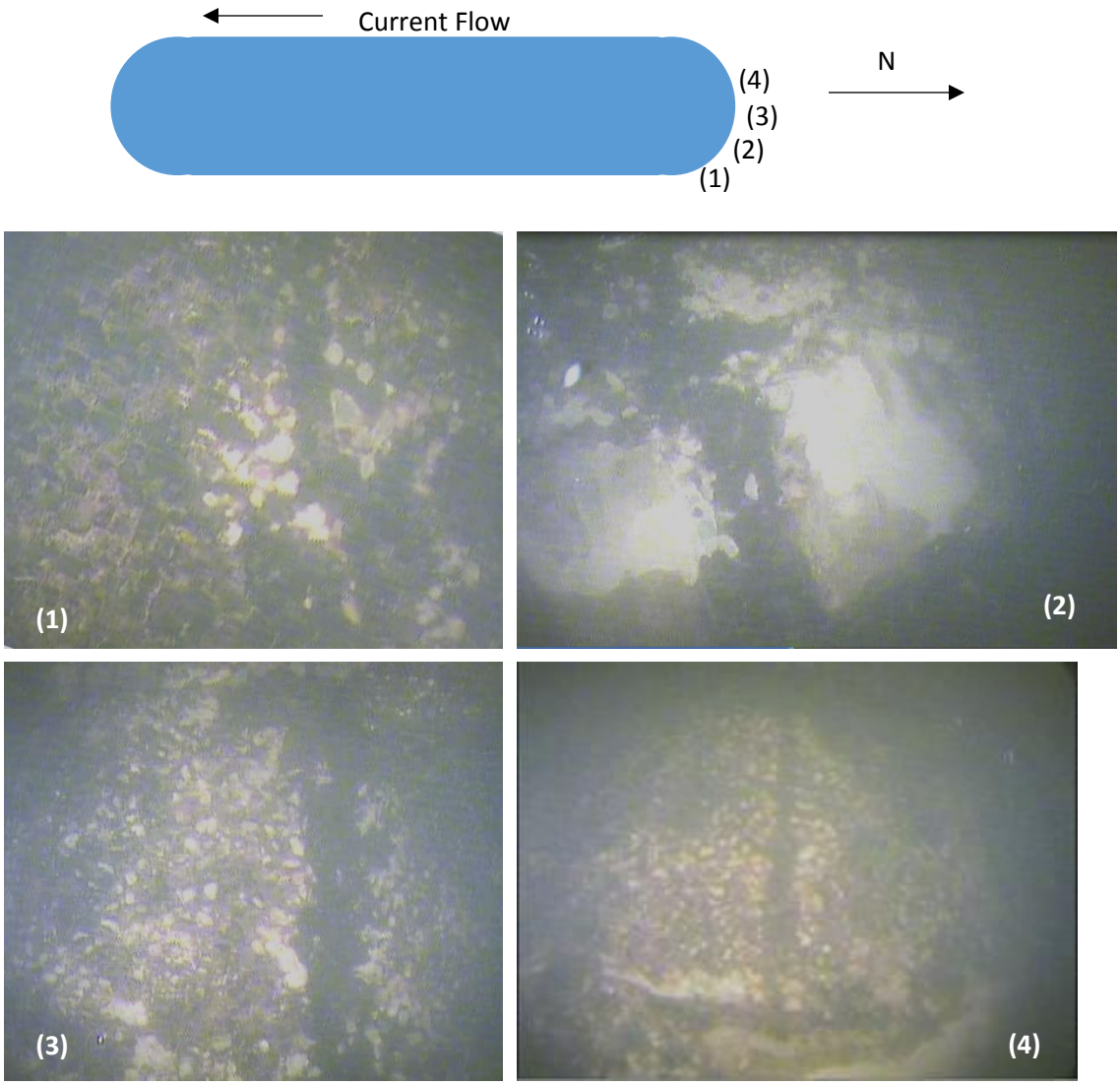


Figure 4.55 Images demonstrating quilting on Shaft 58-1. Images 1-4 correlate to positions 1-4 noted at the top of the figure.

Shaft 58-2 showed the same quilting as noted with shaft 58-1 prior to cleaning. This in part was based on experience from shaft 58-1. However, this shaft still had a portion of the collar (noted in the plans) partially dislodged and precariously leaning against the shaft on the south (downstream) side. The collar was seen as a safety hazard, and along with an increasing stream flow/current, conditions did not allow for a more thorough inspection.

Adjacent Pier 59, test shaft 8 (Figure 4.56) was also inspected. This is a 9ft diameter out of position shaft south of pier 59 near the main channel. By visual inspection there was some light creasing along the vertical reinforcement (Figure 4.57). Figure 4.58 shows test shaft 8 before cleaning; Figure 4.59 shows after cleaning. Again, the creasing is light but it can be seen. Being a test shaft, construction sequencing is often not exactly the same as production shafts. This shaft had additional longitudinal instrumentation which compounds concrete flow problems.

Figure 4.56 Test Pile adjacent (west) of Pier 59

Figure 4.57 West side of test shaft 8, light creases from vertical reinforcement

Figure 4.58 East side of test shaft 8 pre-cleaning.

Figure 4.59 East side of test shaft 8 post-cleaning.

4.2.4 Bridge of Lions 780074 (A1A over Matanzas River)

When Bridge of Lions was rehabilitated shafts were constructed using attapulgite slurry around the existing piers and a below-water footing was cast to tie the existing caissons to the new sister shafts (Figure 4.60 and 4.61). Figure 4.60 shows the 8ft diameter casing at the corners of the west bascule pier. These shafts were those indicated as possible locations for investigation. Figure 4.61 shows four 8ft casings around each of the neighboring piers 13 and 14.

Figure 4.60 West Bascule (Pier 15 implied via plans / Pier 11 via inspection report) during rehabilitation image taken from SE side looking NW.

Figure 4.61 West Bascule (Pier 15; right), Piers 14 and 13 moving to the left with four 8ft shaft casings shown taken from south looking north during rehabilitation.

Based on dive/inspection reports this bridge was deemed a good candidate for inspection and comparison. Inspection note:

> *"the SW and NW drilled shafts on Pier 10, NE and SE on Pier 11 have larger round steel casings extending up from the groundline to within 6ft of the bottom of the footing"*

While the plan set never assigns a pier number to the bascule piers (only west or east bascule), the inspection report seemed to imply that the west bascule was pier 10 and the east was pier 11, but these inspection logs reference pier numbering from the east which is opposite the plan set. Nevertheless, this comment gave confidence that there may be two shafts on the bascule piers without casing. Unfortunately, upon arrival and combining the comment with the plan and profile view of the bridge, it was noticed that the diver was commenting on the shaft that transitioned from an 8ft diameter shaft to a 5ft diameter column. Much of the confusion stemmed from pier numbering differences. Nothing but steel casing was found upon dive investigation of these piers. Thus, no useful inspection came from the Bridge of Lions (Figure 4.62). However, discussions with the district maintenance engineer indicated there may be other piers without casing.

Figure 4.62. Existing main span bascule piers of Bridge of Lions (left); approach spans Pier 14 closest decreasing in number into the distance (per plan numbering).

Figures 4.63 and 4.64 show the discrepancy between pier numbering from inspection reports and original plan set, respectively.

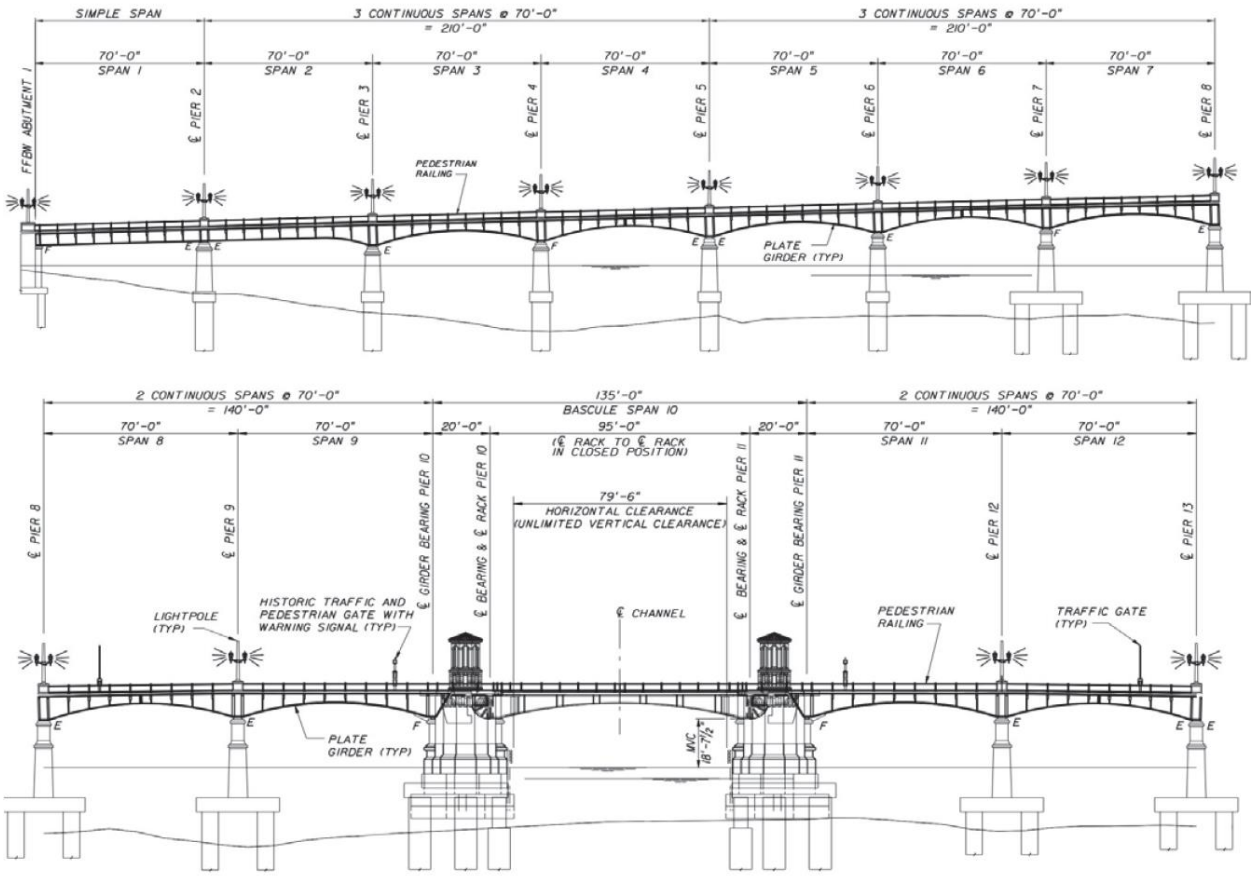


Figure 4.63 Plans from the inspection report noted as looking south which shows Pier 1 to be the east most end bent.

DRILLED SHAFT INSTALLATION TABLE

PIER OR BENT NO.	INSTALLATION CRITERIA: SHAFT SIZE Ø (IN)	TIP ELEV. (FT)	MIN. TIP ELEV. (FT)	MIN. ROCK SOCKET LENGTH (FT)	DESIGN CRITERIA: FACTORED DESIGN LOAD (TONS)	DOWN DRAG (TONS)	LONG-TERM SCOUR ELEV. (FT)	100 YR. SCOUR ELEV. (FT)	Ø	TOP OF SHAFT ELEV. (FT)
WEST ABUTMENT 1	36	-80	-80 ~~N/A~~	N/A	115	N/A	N/A	-41.2	0.55	-4.25
PIER 2	36	-88	-85 ~~N/A~~	N/A	163	N/A	N/A	-23.2	0.55	-7.75
PIER 3	36	-88	-85 ~~N/A~~	N/A	163	N/A	N/A	-25.0	0.55	-9.75
PIER 4	36	-88	-85 ~~N/A~~ AB	N/A	163	N/A	N/A	-26.4	0.55	-9.75
PIER 5	36	-88	-85 ~~N/A~~	N/A	163	N/A	N/A	-26.9	0.55	-9.75
PIER 6	90	-101	-100	N/A	569	N/A	N/A	-34.4	0.55	-14.75
PIER 7	90	-108	-100	N/A	569	N/A	N/A	-37.3	0.55	-14.75
PIER 8	90	-100	-100	N/A	569	N/A	N/A	-36.8	0.55	-14.75
PIER 9	90	-100	-100	N/A	569	N/A	N/A	-37.9	0.55	-14.75
PIER 10	90	-109	-100 AB	N/A	569	N/A	N/A	-39.2	0.55	-14.75
PIER 11	90	-110	-105 ~~-110~~	N/A	569	N/A	N/A	-43.9	0.55	-14.75
PIER 12	72	-109	-100 ~~-105~~	N/A	395	N/A	N/A	-48.5	0.55	-15.75
PIER 13	72	-105	-100 ~~-105~~	N/A	395	N/A	N/A	-47.8	0.55	-15.75
PIER 14	72	-106	-100 ~~-105~~	N/A	395	N/A	N/A	-50.3	0.55	-15.75
PIER 15 SHAFTS 1, 2, & 3	96	-135	-135	N/A	910	N/A	N/A	-46.1	0.55	-9.75
PIER 15 SHAFTS 4 & 5*	96	-135	-135	N/A	910	N/A	N/A	-46.1	0.55	-22.5
PIER 16 SHAFTS 1 & 2*	96	-135	-135	N/A	910	N/A	N/A	-50.3	0.55	-22.5
PIER 16 SHAFTS 3, 4, & 5	96	-135	-135	N/A	910	N/A	N/A	-50.3	0.55	-9.75
PIER 17	72	-105	-105 AB	N/A	395	N/A	N/A	-56.9	0.55	-15.75
PIER 18	72	-105	-100 ~~-105~~	N/A	395	N/A	N/A	-50.5	0.55	-15.75
PIER 19	72	-105	-100 ~~-105~~	N/A	395	N/A	N/A	-48.3	0.55	-15.75
PIER 20	90	-110	-105 ~~-110~~	N/A	569	N/A	N/A	-45.2	0.55	-14.75
PIER 21	90	-110	-105 ~~-110~~	N/A	569	N/A	N/A	-44.8	0.55	-14.75
PIER 22	90	-110	-110 AB	N/A	569	N/A	N/A	-51.6	0.55	-14.75
PIER 23	90	-110	-105 ~~-110~~	N/A	569	N/A	N/A	-42.0	0.55	-14.75
PIER 24	90	-103	-95 ~~-100~~	N/A	569	N/A	N/A	-32.3	0.55	-14.75
EAST ABUTMENT 25	36	-97	-97 ~~N/A~~	N/A	205	N/A	N/A	-37.8	0.55	-8.75
EAST SEAWALL	36	-75	-75 ~~N/A~~	N/A	135	N/A	N/A	-14.0	0.55	-8.75

4.64 List of piers as shown in plan set noting west most abutment to be Pier 1

4.3 Task Summary and Discussion

The goal of this Task was to identify the effects of slurry type on shaft surface roughness, void volume and/or cover quality. The premise of the approach was that overwater bridges supported by shafts will have some portion of the shaft between the mudline and footing that is exposed and therefore could be an easy way to reveal and assess the shaft surface. This type of investigation was performed in lieu of excavations beside on-land shafts or footings to expose the shaft side surface. To be a viable method/approach, the exposed underwater portion of a shaft must be free of casing which is always used to provide formwork in the water up to the footing elevation.

Review of plan sets from fourteen overwater bridges known to have been constructed on shafts gave rise to four candidate bridges which coincidentally also incorporated three different slurry types (natural,

bentonite and attapulgite). On-site investigations of these four bridges were conducted using both a remote operated vehicle that incorporated underwater video and hands-on diving which included surface cleaning and photography.

Of the four bridges visited, two provided valuable information; at the other two bridges exposed shaft concrete was not found. The Gandy Bridge provided a baseline for shafts cast with natural slurry which was shown to have no detrimental effects in laboratory samples (Chapter 3). Additional information was obtained which included the effect of varying shaft sizes and reinforcement cage configurations. The SR-20 Blountstown Bridge provided information pertaining to the effects of bentonite slurry, even though there was not much shaft surface exposed and not all conditions were deemed safe. No usable information was obtained from the US 441 Sante Fe River Bridge or the Bridge of Lions in St. Augustine.

Gandy Bridge: Shafts constructed with simple single cage reinforcement with natural slurry exhibited pristine concrete surface conditions with virtually no surface voids. In isolated cases irregularities were found which appeared to be in no way associated with quilting. Shafts examined that were constructed with concentric double reinforcement cages yielded more frequent and pronounced voids, but again these voids seem to be more random and were not associated with the quilting pattern.

Blountstown Bridge: three out of five shafts in the river portion of the bridge were examined and all showed evidence of quilting. These shafts were all cast with bentonite. The quilting pattern was so pronounced the grinder was barely, if at all, able to make a smooth surface in any area.

A surprising discovery from diving both fresh and salt water bridges was that pitting in the steel casing was much worse in fresh water (Figure 4.65) when compared to salt water. The bridges compared, Gandy and Blountstown, were almost the same age, built in 1996 and 1998, respectively. Figure 4.65 shows pronounced pitting corrosion at Blountstown and very little visible pitting in the Gandy casings. When preparing the surface of the Gandy shafts, a thin black presumably organic layer was found that was difficult to remove (Figure 4.65 and 4.66). This layer was hypothesized to be a layer of anaerobic decay from the barnacles and sea-growth, which would be an oxygen barrier and may slow or prevent corrosion. Samples were taken and are currently under investigation. Discussions with the USF Department of Integrative Biology confirmed similar observations of a black layer under oyster and barnacle growth. Some consideration will be given to promoting encrusted surfaces that would be beneficial to both concrete and steel surfaces under these conditions. While the Bridge of Lions casing was heavily encrusted, no data or observations were collected which could have provided insight into the effect of east coast marine conditions on corrosion.

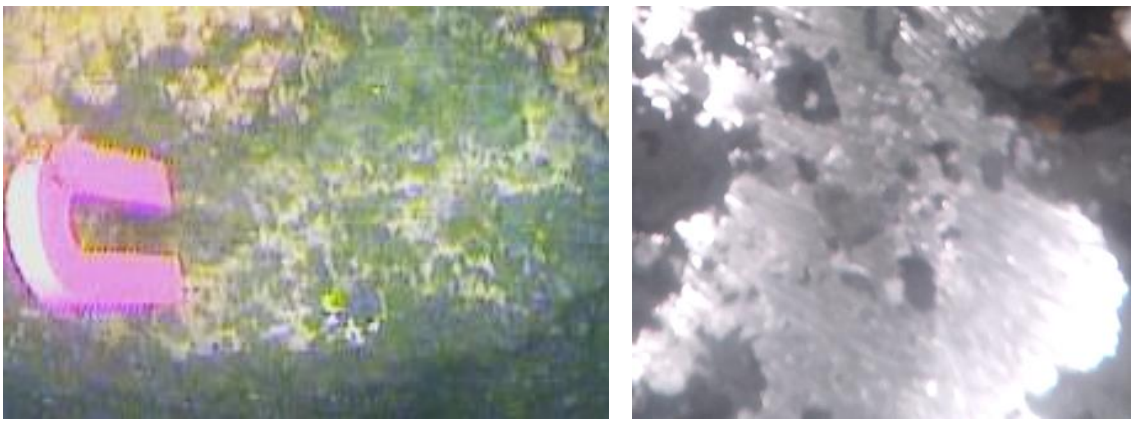


Figure 4.65. Pitting corrosion in freshwater (left); very little pitting in marine environment (right).

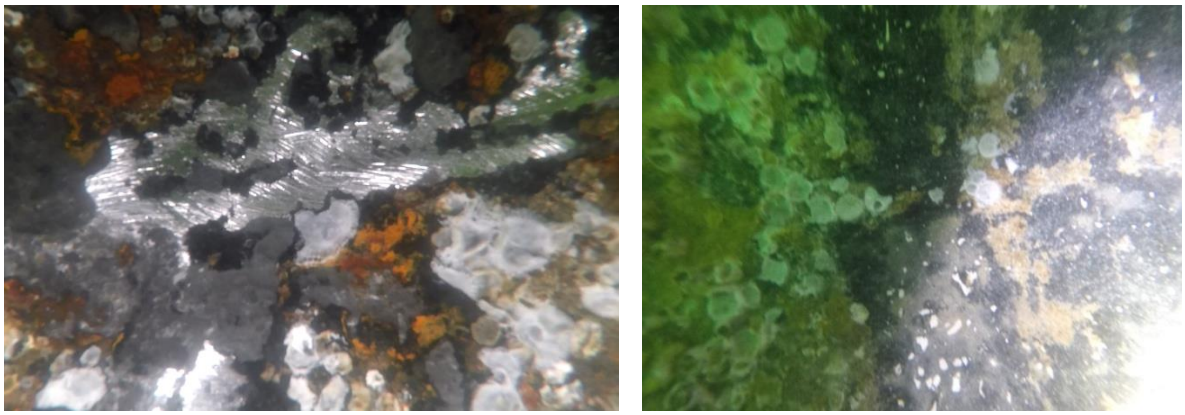


Figure 4.66 Black organic layer beneath barnacle growth; on steel casing (left), on concrete (right)

In summary, there are several notes that can be made from this task:

- While it would have been ideal to have more inspections for comparison, quilting was found as expected in bentonite-constructed shafts.
- Shafts constructed with natural slurry (water) were largely in pristine condition.
- Single reinforcement cages led to fewer voids and defects than double reinforcement cages,
- Pitting in steel casing was worse in fresh water without encrusted organism growth
- While casing does not appear to have an adverse effect on shaft performance, it does not eliminate the presence of quilting within the casing. These areas a just as vulnerable to corrosion as those without the casing.
- Review of overwater bridges was the means by which shaft concrete surface quality was evaluated where very few examples were found without casing. However, shafts without casing are in abundance for land piers where cover quality is highly likely to be compromised.

4.4 Continued Efforts

Underwater evaluation of shaft concrete surface quality/roughness was performed using subjective visual methods. Original plans to use laser-based scanners and quantify surface texture was not possible as the technology slated for use was actually not "laser-based" and was limited by poor visibility (typical of site conditions encountered). An alternate technology/vendor is being reviewed. Review of plans and inquiries with state officials will continue with the aim of identifying more sites for inspection. Further, USACoE recorded water levels for the Blountstown/Apalachicola river region show the water level was 6-7ft above gage level elevation of 27ft which corresponds well with the observed water depth at the time of the site visit. Using the same data source and projecting forward, October or November is likely to produce fully exposed conditions and a more thorough investigation can be done at that time (Figure 4.67).

Personal observations from PI. Despite overwhelming support and assistance from FDOT district maintenance personnel, the simple approach to review shafts underwater (without excavation) was frustrating from several aspects:

(1) The state bridge inventory database does not note the foundation element type (shaft or pile) which made personal recollections the only first round screening tool,
(2) Diver reports are scarce and if included are not descriptive, inconsistent and devoid of engineering terminology,
(3) Biennial inspection reports in today's era of databases and associated querying tools should be far more comprehensive and searchable. It is assumed that biennial inspections are privatized,

performed by consultants that could change periodically. As a result, the continuity required to make decisions in-the-field pertaining to points of concern or interest is limited without a chronologically organized inspection list for each element, not just the overall reports.

(4) Construction logs/records were understandably more poorly archived 20yrs ago when the Gandy and Blountstown bridges were built, but more recently constructed bridges like the Bridge of Lions (completed 2010) should have very accurate and high accessible information/records.

(5) All inspection reports should be in the same format statewide and it would be implicit that the dive reports would be appended to each overall inspection report especially when there is something found of concern. For instance, the Blountstown bridge during the October, 2011 inspection would have had a water level elevation around 28ft (based on USACoE records); this means that the underwater issues found between 30 and 31ft in this report would have been exposed and easily visible including the dislodged steel collar on shaft 58-2. Perhaps this information is somewhere, but was not made available to the researchers.

APALACHICOLA
BLOUNTSTOWN
Gage Zero 27.0 Flood Stage 15
NOTE: These readings are taken at approximately 12AM
2017 WATER YEAR

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	.44	.80	2.19		9.56	5.56	4.14	5.60	8.19		
2	.66	.45	.87	2.21		9.22	5.86	3.93	6.50	7.60		
3	.47	.47	.83	14.16		8.44	5.61	3.66	5.92	7.50		
4	.71	.48	.88	10.96		7.99	6.13	3.42	5.61	7.14		
5	.65	.51	.85	18.48		7.54	5.94	3.55	5.67	6.98		
6	1.04	.50	1.93	20.13		7.40	5.71	3.30	5.73			
7	.84	.48	8.42	20.37		7.39	11.23	3.17	5.88			
8	.67	.51	7.82	19.44	8.30	7.75	14.12	2.98	6.63			
9	.58	.47	8.19	18.08	10.93	8.29	15.23	2.83	8.68			
10	.50		7.41	17.24	12.30	7.94	14.81	2.75	9.26			
11	.46	.93	7.05	16.40	12.57	7.96	13.56	2.53	9.28			
12	.65	1.46	6.58	15.70	12.66		12.52	2.37	9.22			
13	.63	1.02	6.32	15.40	12.67	7.32	10.96	2.21	8.26			
14	.73	.53	5.96	14.94	11.20		9.71	1.81	7.94			
15	.66	.54	5.73	12.83	10.49	6.97	8.86	1.65	7.71			
16	.58	.49	5.37	11.14	9.60		7.76	1.33	7.56			
17	.49	.57	4.89	9.79	8.83		6.79	1.26	7.23			
18	.45	.56	4.70	8.96	8.42		6.70		7.02			
19	.42	.49	4.41	8.12	8.10		6.45		6.56			
20	.43	1.22	4.18	7.59			6.29	1.38	6.40			
21	.46	.85		7.63			6.29	1.35	7.30			
22	.52	.74	3.59	9.09	7.61	5.94	6.30	1.43	10.64			
23	.50	.73	3.26	-76.67	10.19	5.76	6.12	1.43	10.39			
24	.47	.72	2.97	18.95	13.65	5.89	6.08	7.47	9.46			
25	.46	.59	2.83	20.13	13.38	5.70	5.73	9.76	9.11			
26	.49	.52	2.82	19.73	12.86	5.63	5.35	8.87	9.71			
27	.52	.70	2.58	19.47	11.70	5.61	5.02	8.95	9.50			
28	.49	.84	2.57	18.72	10.78	5.56	4.74	8.15	9.34			
29	.51	.86	2.41	17.47		5.64	4.53	7.24	9.31			
30	.48	.84	2.25	16.34		5.62	4.38	7.20				
31	.44		2.22			5.51		6.26				
AVG	.57						7.81					
MAX	1.04						15.23					
MIN	.42						4.38					

Figure 4.67. Apalachicola River level at time of inspection (circled); historical values from last October boxed (http://water.sam.usace.army.mil/acfframe.htm)

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http://uglybridges.com/

APPENDIX A

BRIDGE PLANS

Bridge plans are in alphabetical order as seen in Table 4.1. Overland Bridge is not included as it is still currently under construction.

BRIDGE NO.	780074	FLORIDA DEPARTMENT OF TRANSPORTATION ********** BRIDGE INSPECTION REPORT	LOCATION	SR-A1A (BRIDGE OF LIONS) OVER MATANZAS RIVER IWW
COUNTY SECTION NO.	78040000		INSPECTION DATE	2/19/16
STATE ROAD NO.	SR-A1A		LEAD INSPECTOR	Roger Aker, CBI 00401
U.S. ROAD NO.	N/A		MILE POST NO.	16.693

FRACTURE CRITICAL INSPECTION

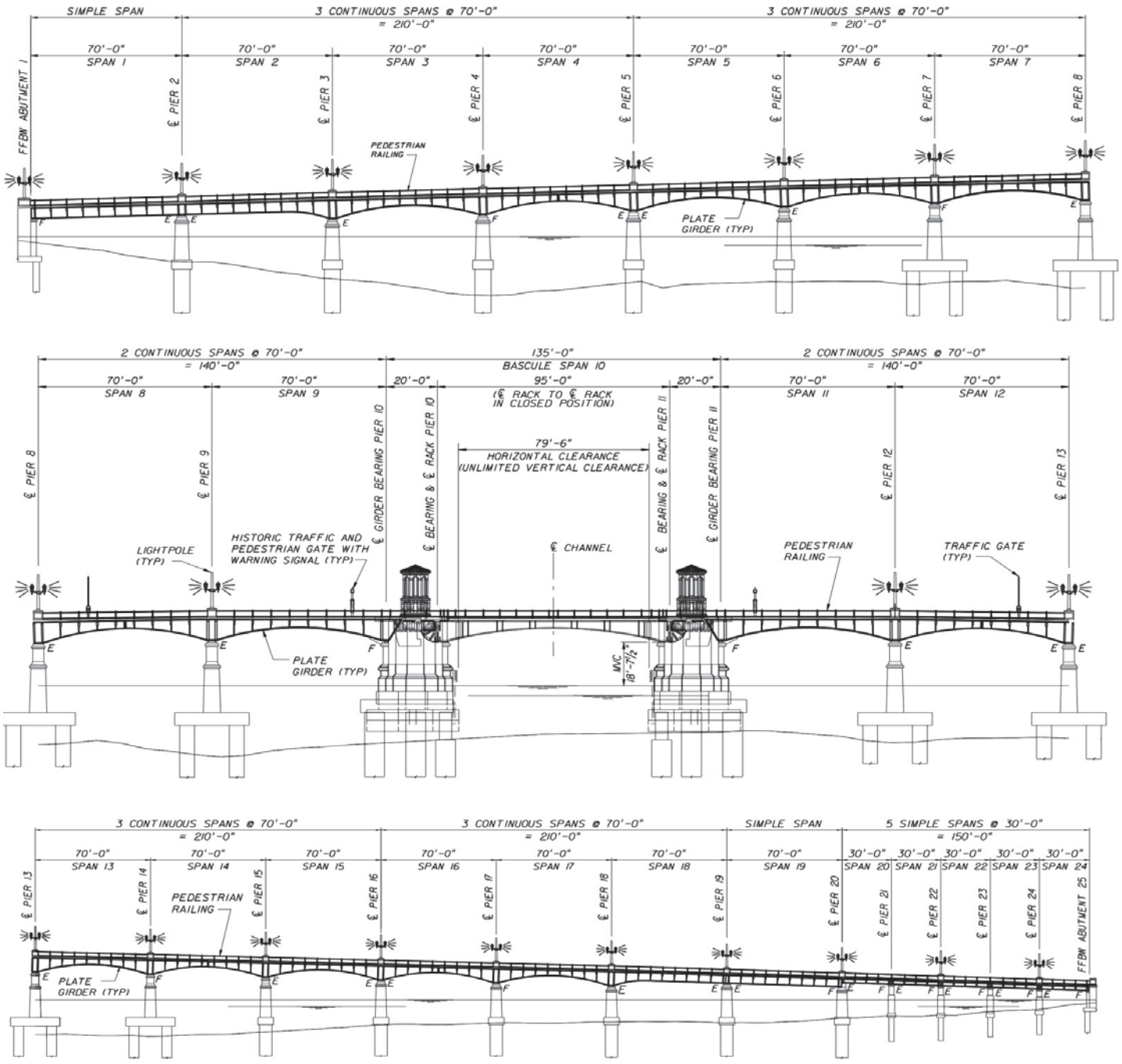
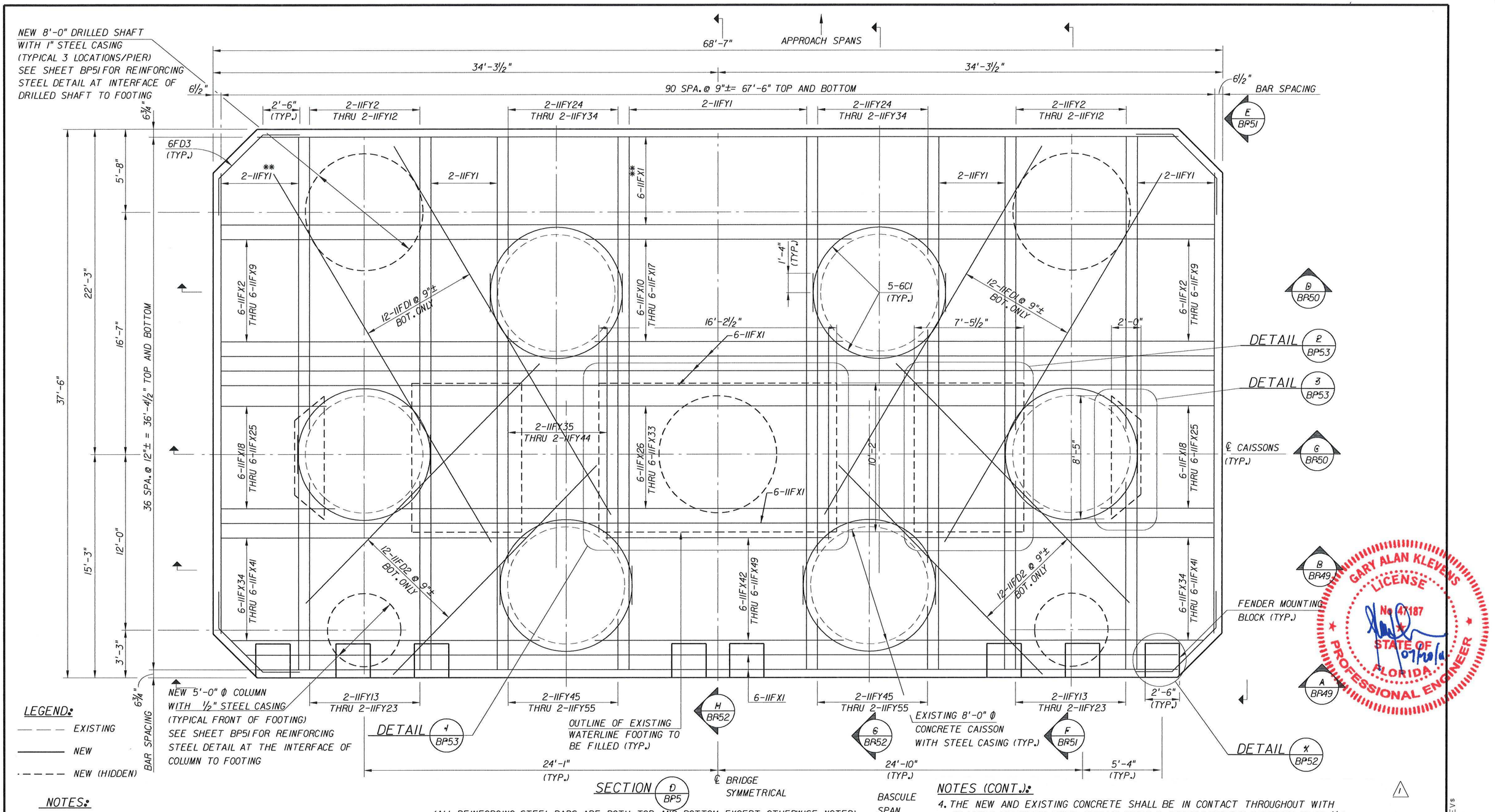


FIGURE 1. BRIDGE ELEVATION LOOKING SOUTH



NOTES:

1. FOR DETAILS OF FENDER MOUNTING BLOCK SEE SHEET BP52.
2. FOR DETAILS OF FILLING EXISTING OPENINGS WITH CONCRETE SEE SHEET BP53.
3. THE SURFACES OF EXISTING FOOTING AND CAISSONS CONTACTING THE NEW FOOTING SHALL BE CLEANED BY WATER JETTING TO REMOVE ALL DELETERIOUS MATERIALS SUCH AS MARINE GROWTH, LOOSE RUST, LOOSE CONCRETE, ETC. TO THE SATISFACTION OF THE ENGINEER. COLLECT ALL MATERIAL AND RUNOFF. THIS WORK IS INCIDENTAL TO THE FOOTING CONCRETE ITEM. 1

(ALL REINFORCING STEEL BARS ARE BOTH TOP AND BOTTOM EXCEPT OTHERWISE NOTED)

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC. AB

NOTES (CONT.):

4. THE NEW AND EXISTING CONCRETE SHALL BE IN CONTACT THROUGHOUT WITH NO VOIDS BETWEEN THEM. SPALLS, VOIDS & IRREGULARITIES GREATER THAN ½" DEEP IN THE UNDERSIDE OF THE EXISTING FOOTING SHALL BE PATCHED TO MATCH THE ADJACENT SURFACES. THIS WORK IS INCIDENTAL TO THE FOOTING CONCRETE ITEM. 1
5. HIGH SLUMP CONCRETE IS REQUIRED TO ENSURE FLOW OF NEW CONCRETE UNDER EXISTING FOOTING. HIGH SLUMP CONCRETE SHALL MEET THE REQUIREMENTS OF THE SPECIFICATIONS AND SHALL NOT EXCEED 7" SLUMP.

BRIDGE NO. 780074

GARY ALAN KLEVENS LICENSE No. 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 07/20/11

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
03/19/04	RWM	1 ADDED, DELETED AND REVISED NOTES			
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

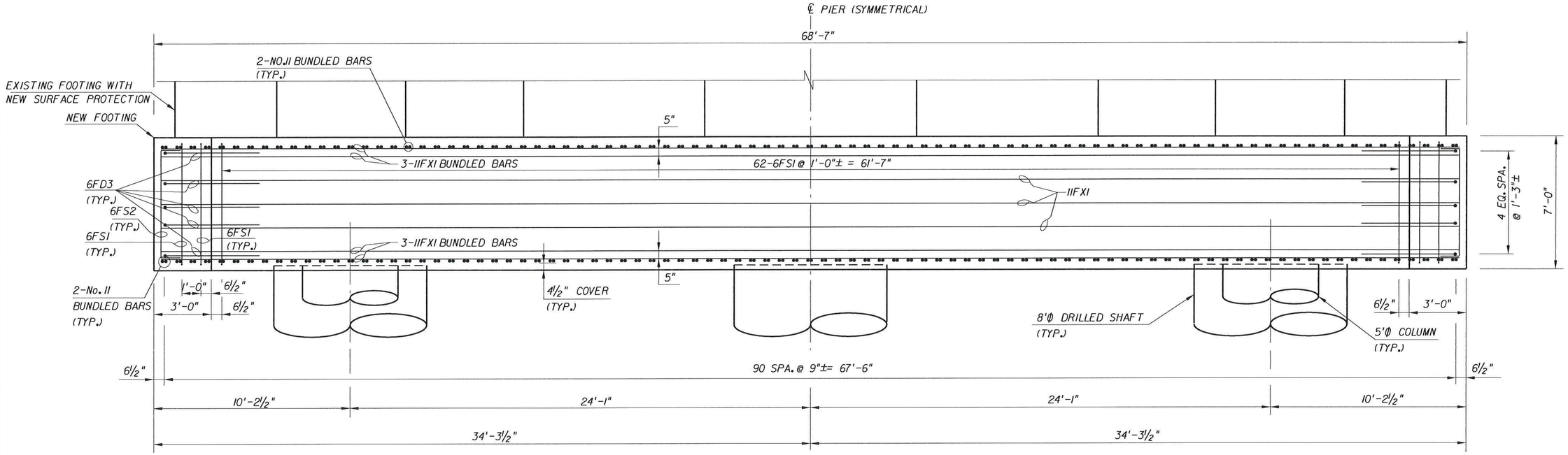
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: BASCULE PIER NEW FOOTING REINFORCING STEEL 1 OF 6

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

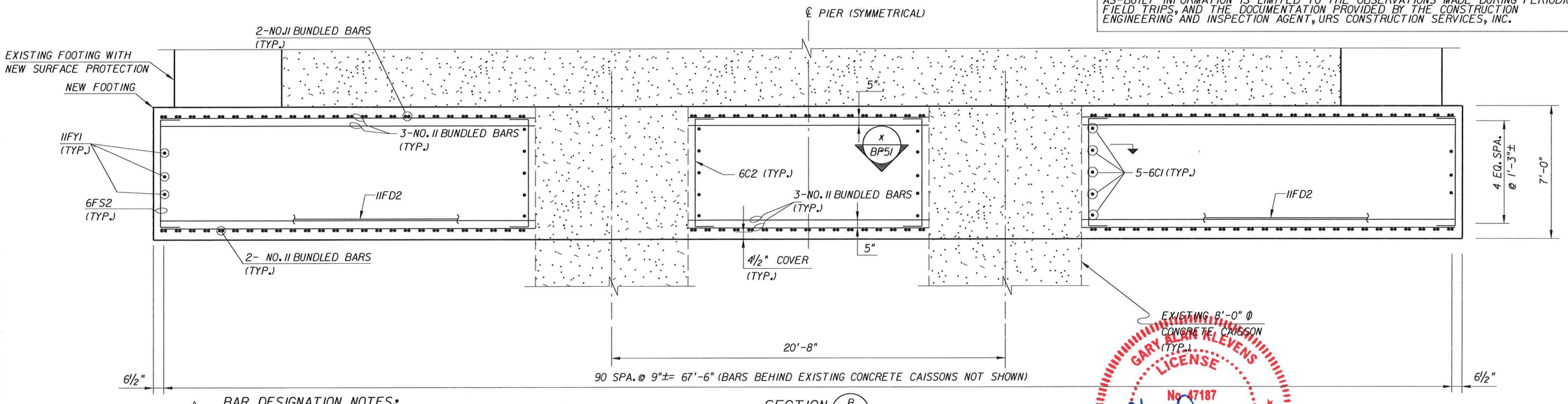
SHEET NO. BP48

7/20/2011 9:37:24 AM $FILEABBREVs



VIEW A (BP48)

(EXISTING 8'ϕ CONCRETE CAISSONS AND FENDER MOUNTING BLOCKS NOT SHOWN FOR CLARITY)



SECTION B (BP48)

(NEW DRILLED SHAFTS AND FAR EXISTING CONCRETE CAISSONS NOT SHOWN FOR CLARITY)

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

GARY ALAN KLEVENS LICENSE No. 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 07/20/11

LEGEND:

EXISTING

NEW

BAR DESIGNATION NOTES:

1. DESIGNATION 2-IIFY** DENOTES A PAIR OF BUNDLED #11 BARS (2 BARS TOTAL PER LOCATION).
2. DESIGNATION 6-IIFX** DENOTES 2 ROWS OF 3 BARS BUNDLED (6 BARS TOTAL PER LOCATION). SEE SECTIONS FOR DETAILS.

NOTES:

1. WORK THIS SHEET WITH SHEET BP48.

BRIDGE NO. 780074

REVISIONS

DATE	BY		DESCRIPTION	DATE	BY	DESCRIPTION
03/19/04	RWM	1	ADDED BAR DESIGNATION NOTES			
07/20/11	JH	AB	AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

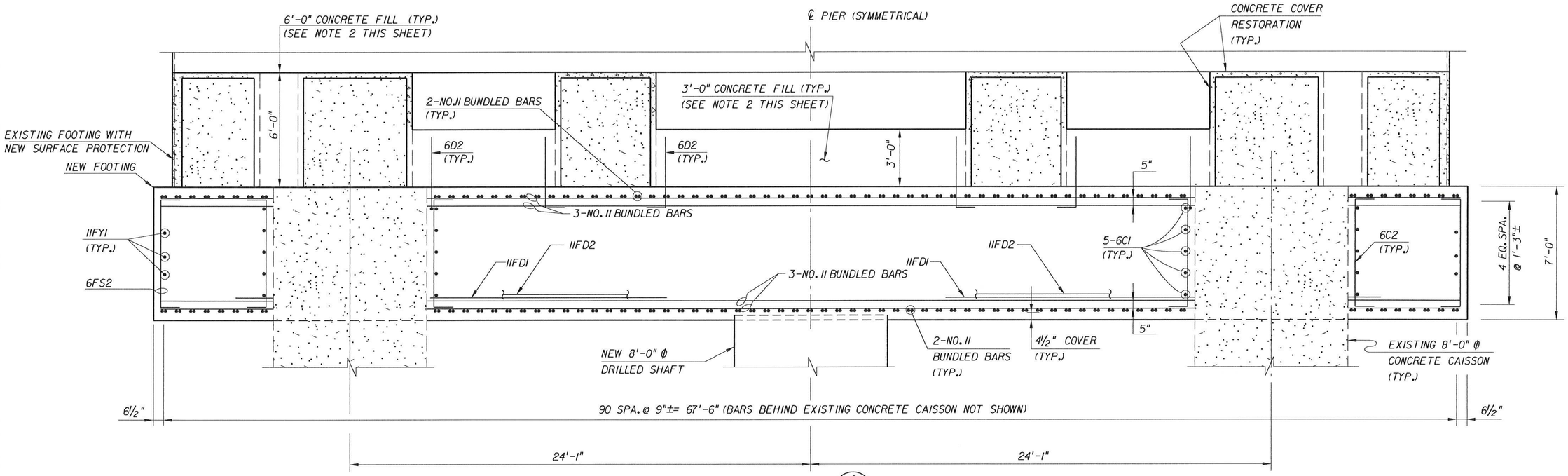
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-AIA	ST. JOHNS	210255-1-52-01

SHEET TITLE: BASCULE PIER NEW FOOTING REINFORCING STEEL 2 OF 6

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

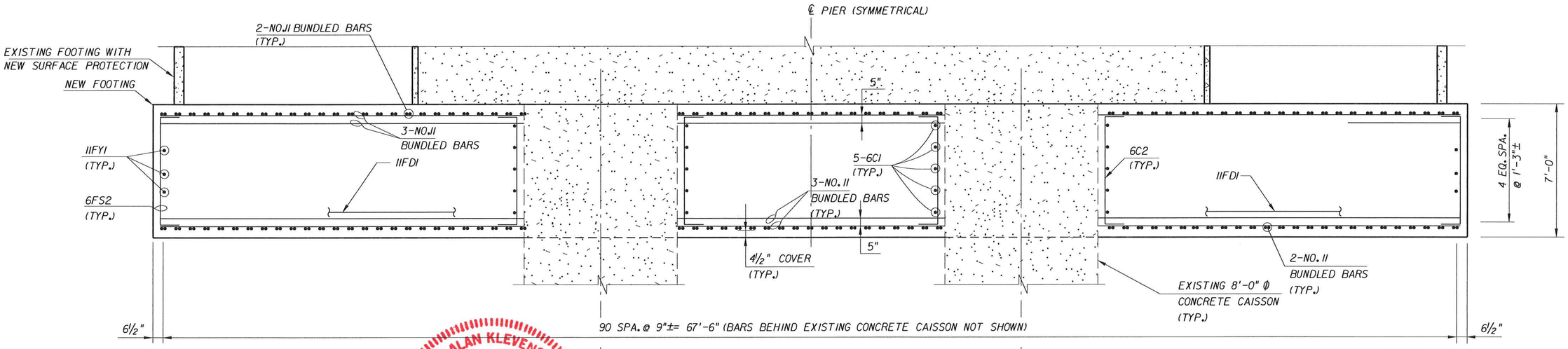
SHEET NO. BP49

7/20/2011 9:38:17 AM $FILEABBREVs



SECTION ℄ BR48

(FAR EXISTING CONCRETE CAISSONS NOT SHOWN FOR CLARITY)



SECTION ℄ BR48

(NEW DRILLED SHAFTS NOT SHOWN FOR CLARITY)

LEGEND:

EXISTING

NEW

NEW CONCRETE COVER RESTORATION

GARY ALAN KLEVENS LICENSE No 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 07/20/11

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

AB

NOTES:

1. WORK THIS SHEET WITH SHEET BP48.
2. FOR DETAILS OF FILLING EXISTING OPENINGS WITH CONCRETE SEE SHEET BP53.

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

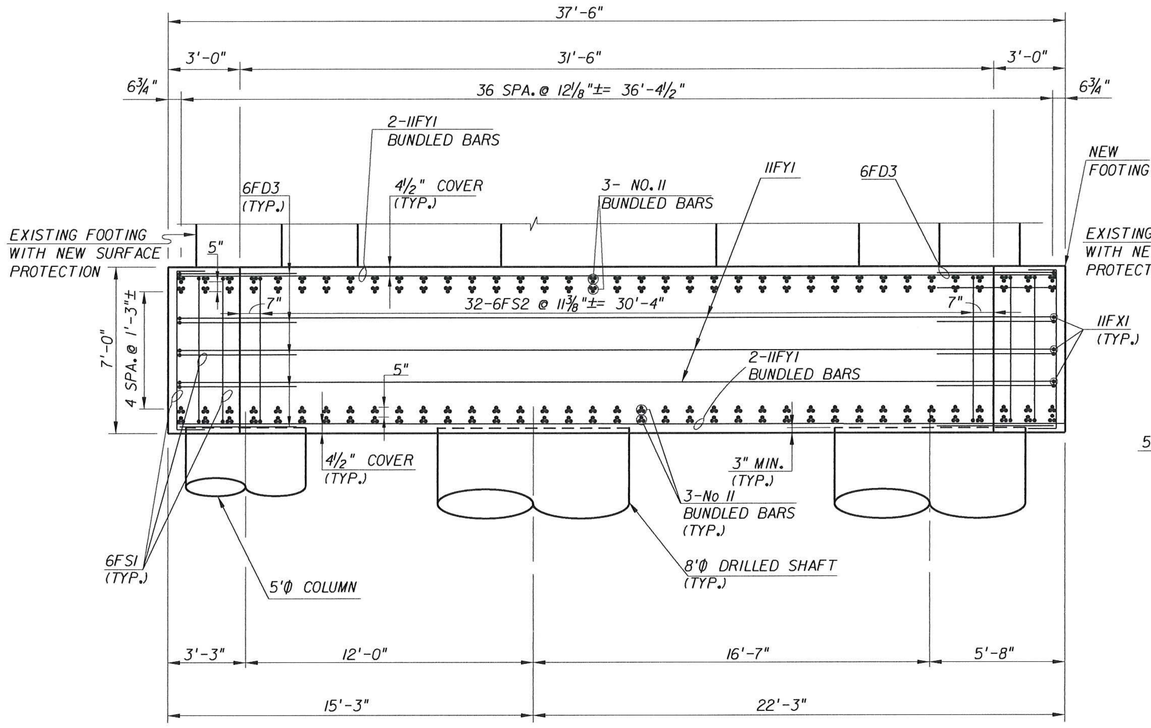
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: BASCULE PIER NEW FOOTING REINFORCING STEEL 3 OF 6

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

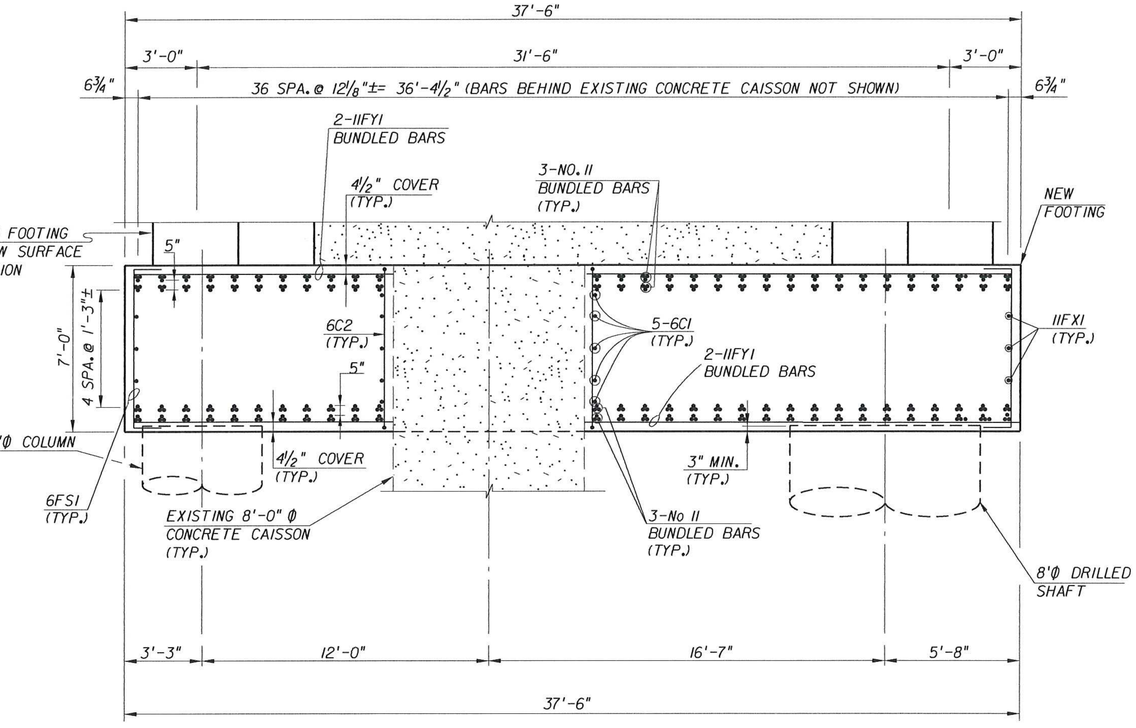
SHEET NO. BP50

7/20/2011 9:39:30 AM $FILEABBREV$



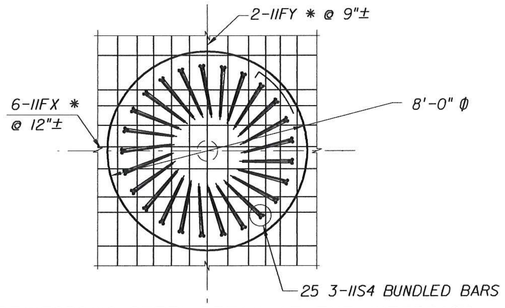
VIEW E / BP48

(EXISTING 8'Ø CONCRETE CAISSONS AND FENDER MOUNTING BLOCKS NOT SHOWN FOR CLARITY)

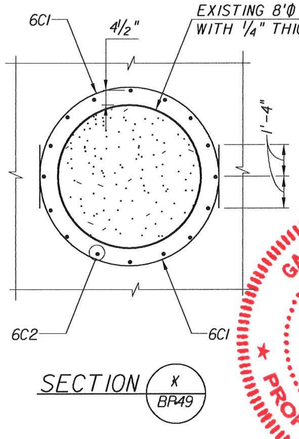


SECTION F / BP48

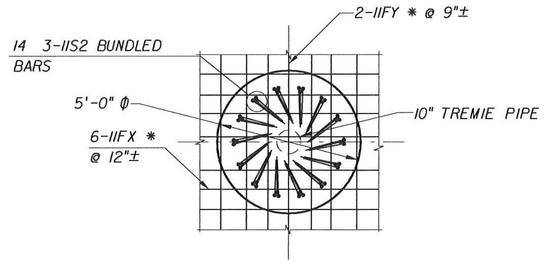
(FAR EXISTING 8'Ø CONCRETE CAISSONS NOT SHOWN FOR CLARITY)



REINFORCING STEEL DETAIL AT THE INTERFACE OF 8' Ø DRILLED SHAFT TO FOOTING



SECTION X / BP49



REINFORCING STEEL DETAIL AT THE INTERFACE OF 5' Ø COLUMN TO FOOTING

LEGEND:

EXISTING

NEW

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

GARY ALAN KLEVENS LICENSE No 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER

NOTES:

1. WORK THIS SHEET WITH SHEET BP48.

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

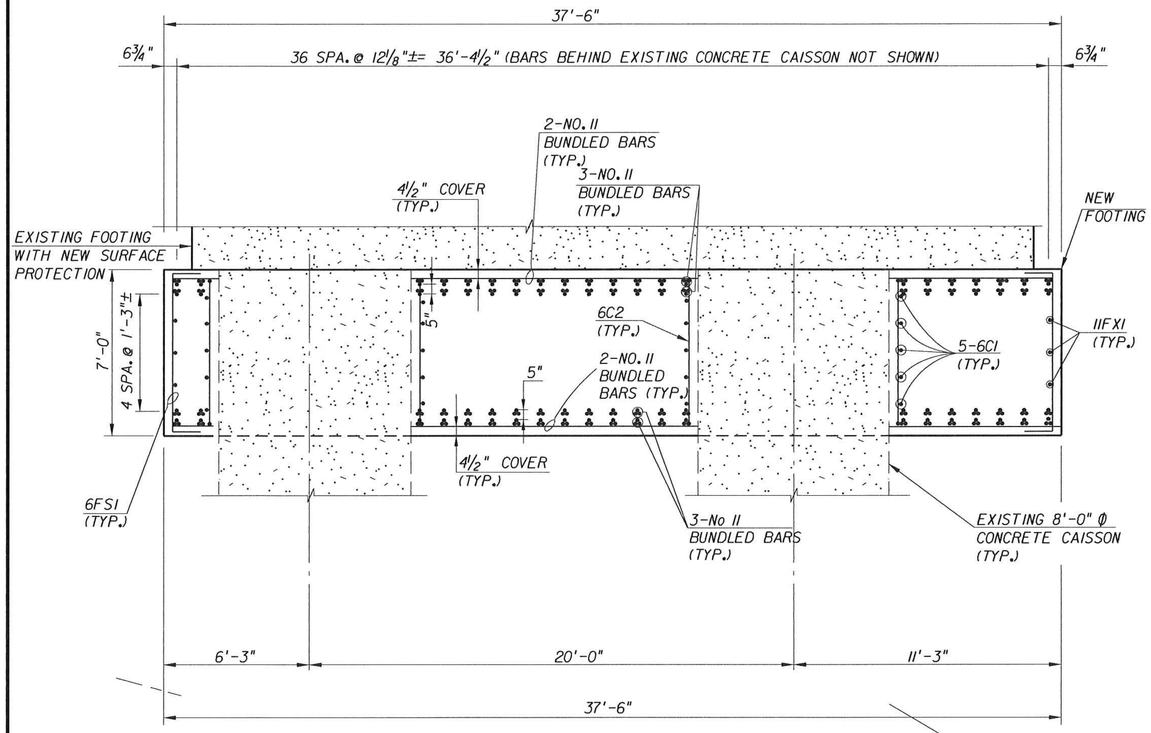
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: BASCULE PIER NEW FOOTING REINFORCING STEEL 4 OF 6

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

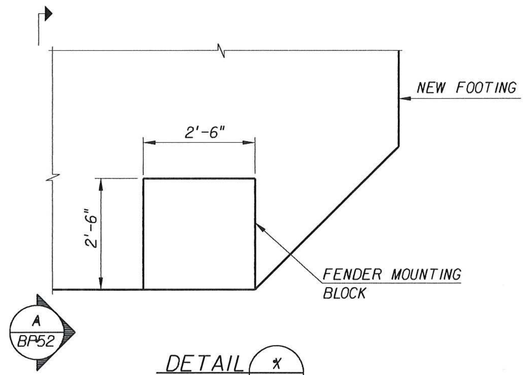
SHEET NO. BP51

7/20/2011 9:42:07 AM $FILEABBREVs



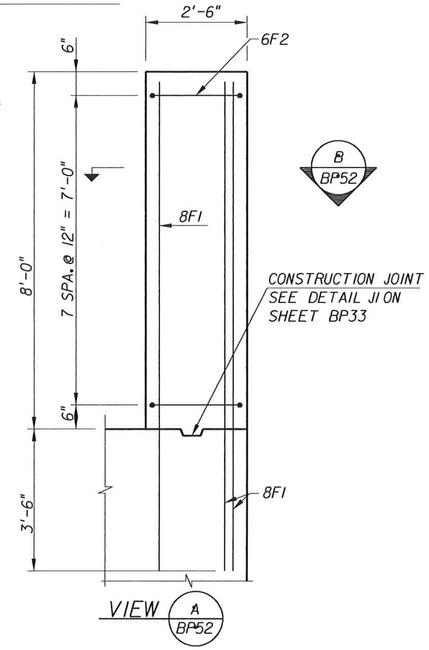
SECTION G BP48

(NEW DRILLED SHAFTS AND FAR EXISTING 8'Ø CONCRETE CAISSONS NOT SHOWN FOR CLARITY)

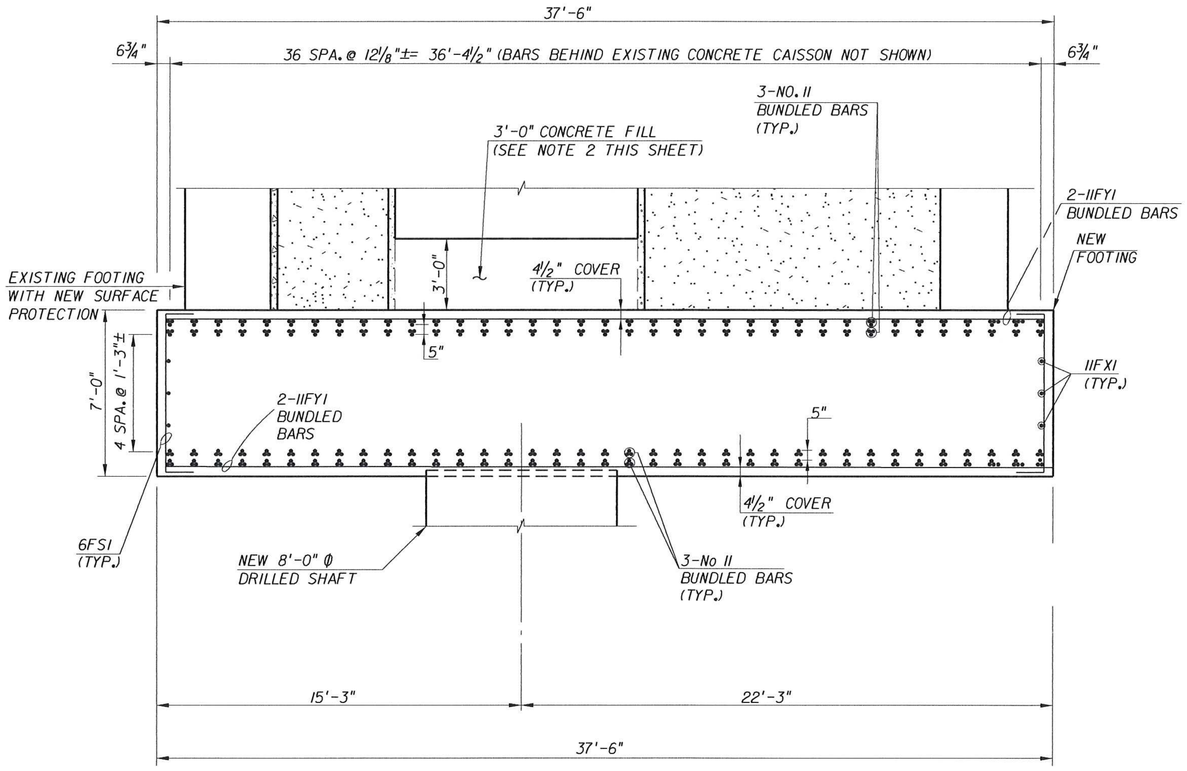


DETAIL X BP48

(4 REQUIRED PER FOOTING)



VIEW A BP52



SECTION H BP48

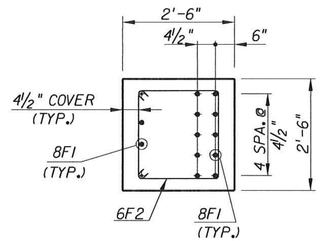
(FAR NEW DRILLED SHAFTS AND EXISTING 8'Ø CONCRETE CAISSONS NOT SHOWN FOR CLARITY)

AB

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.



SECTION B BP52

GARY ALAN KLEVENS LICENSE No. 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 07/20/11

LEGEND:

- EXISTING
- NEW
- NEW CONCRETE COVER RESTORATION

NOTES:

1. WORK THIS SHEET WITH SHEET BP48.
2. FOR DETAILS OF FILLING EXISTING OPENINGS WITH CONCRETE, SEE SHEET BP53.

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

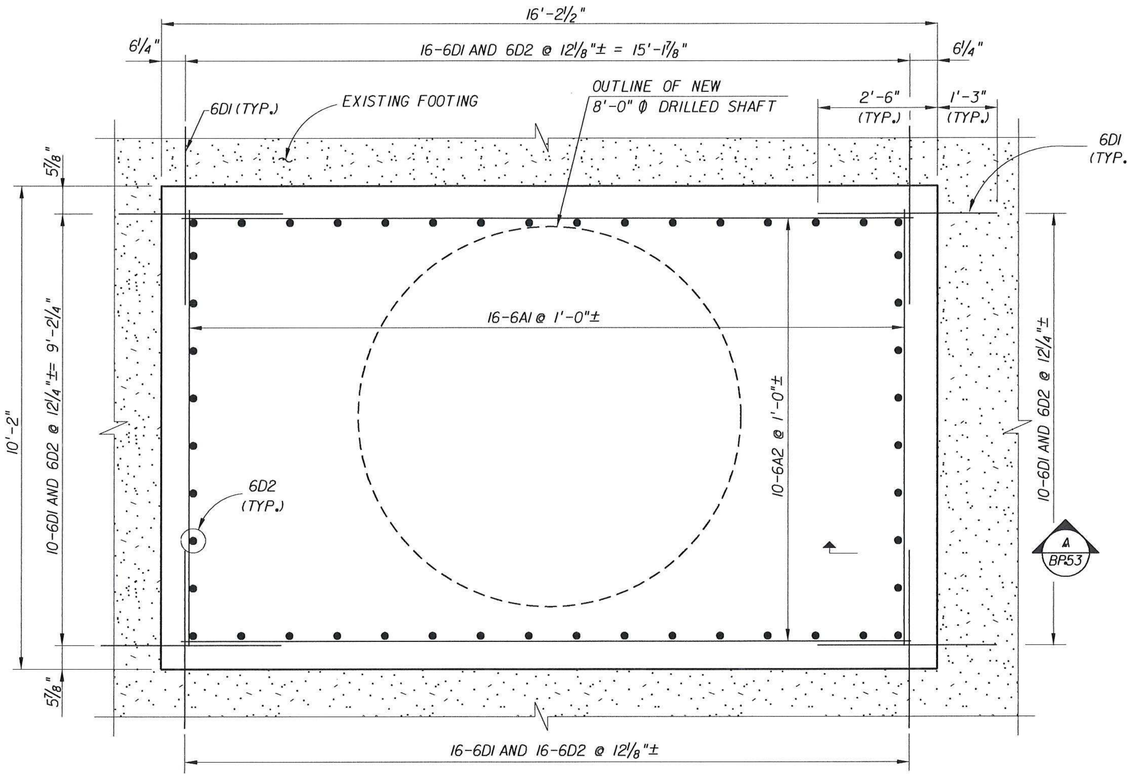
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-AIA	ST. JOHNS	210255-1-52-01

SHEET TITLE: BASCULE PIER NEW FOOTING REINFORCING STEEL 5 OF 6

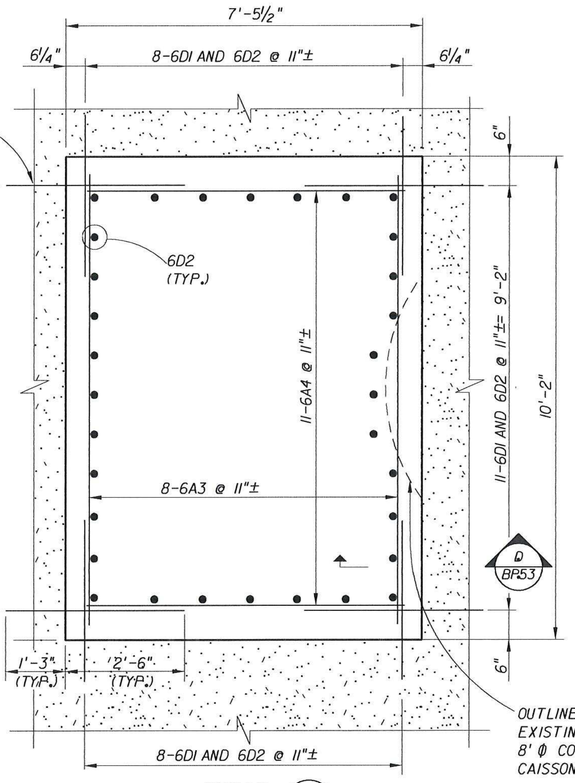
PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. BP52

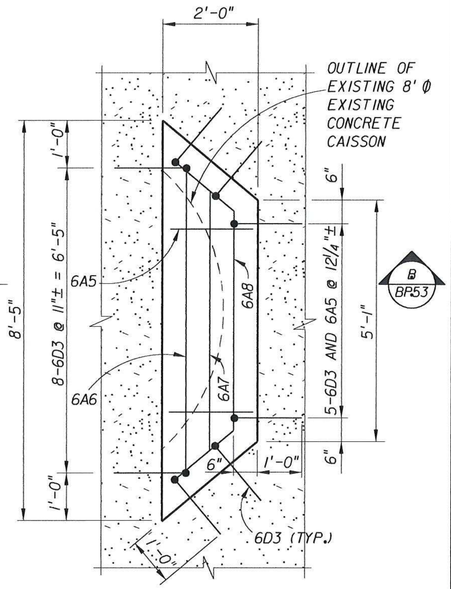
7/20/2011 9:43:15 AM $FILEABBREV$



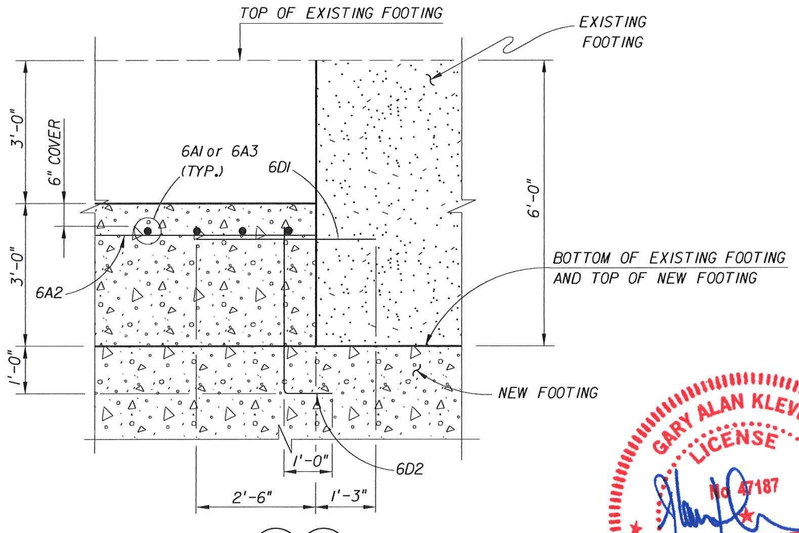
DETAIL 1 BP48



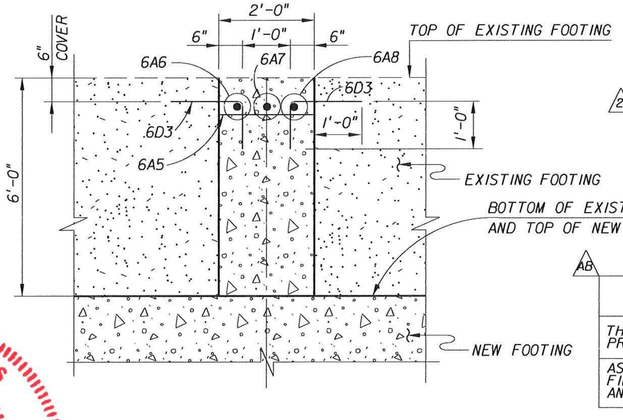
DETAIL 2 BP48



DETAIL 3 BP48



SECTION A BP53 D BP53



SECTION B BP53

ESTIMATED QUANTITIES			
ITEM	UNIT	QUANTITIES	
		PIER 15	PIER 16
Class V Concrete (Substructure) Mass Concrete	CY	639.0	639.0
Reinforcing Steel (Substructure)	LB	223,250	223,250

2

LEGEND:

EXISTING

NEW

GARY ALAN KLEVENS LICENSE No. 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 07/20/11

AB

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
04/02/04	PSF	2 CHANGED CLASS OF CONCRETE			
07/20/11	JH	AB AS-BUILT			

	NAME	DATE
DRAWN BY	CLR	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

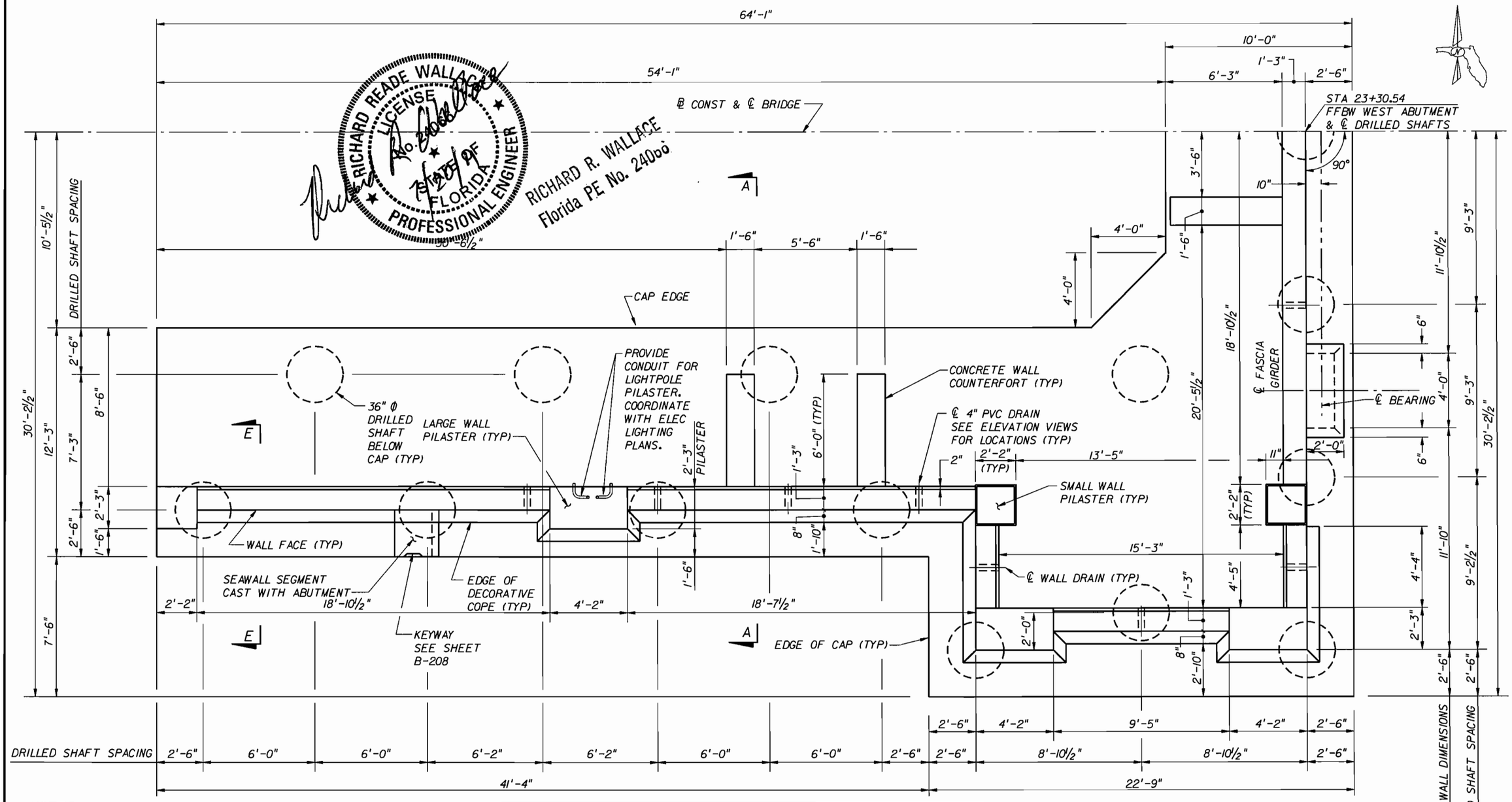
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: BASCULE PIER NEW FOOTING REINFORCING STEEL 6 OF 6

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. BP53

7/20/2011 9:43:49 AM $FILEABBREVs



RICHARD READE WALLACE LICENSE No. 24000 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida PE No. 24000

NOTES:

1. WORK THIS SHEET WITH SHEETS B-31, B-34, B-36 & B-185 FOR SEAWALL SEGMENT DETAILS.
2. SEE SHEET B-36 FOR SECTION A-A.
3. SEE SHEET B-37 FOR SECTION E-E.
4. COST OF ALL LABOR AND MATERIALS NECESSARY TO INSTALL WALL DRAINS WILL BE INCLUDED WITH UNIT PRICE FOR CONCRETE CLASS V (SUBSTRUCTURE).

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

HALF PLAN--SYMMETRICAL ABOUT ℄ BRIDGE

AB

ESTIMATED QUANTITIES FOR WEST ABUTMENT

ITEM	UNIT	QUANTITY
Class V Concrete (Substructure)	C.Y.	197.8
Class V Concrete (Microsilica-Substructure)	C.Y.	141.6
Reinforcing Steel (Substructure)	LB.	72,151
Class III Concrete (Seal)	C.Y.	197.4

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	GBL	09-03
CHECKED BY	JPT	10-03
DESIGNED BY	JPT	09-03
CHECKED BY	GBL	09-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

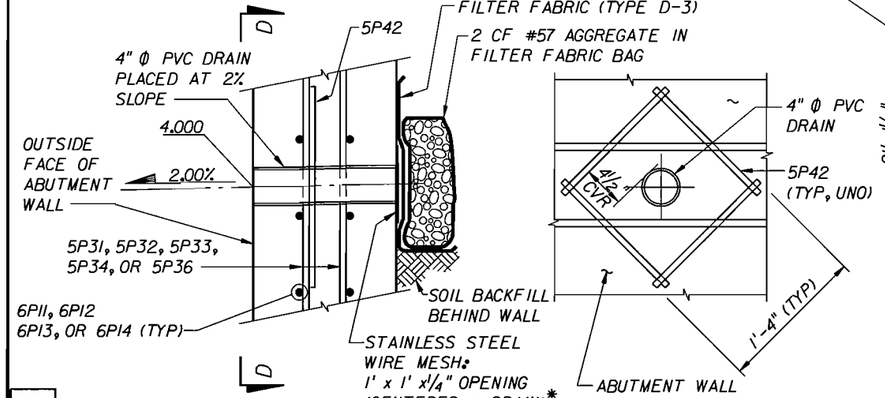
SHEET TITLE: WEST ABUTMENT 1 - HALF PLAN

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-30

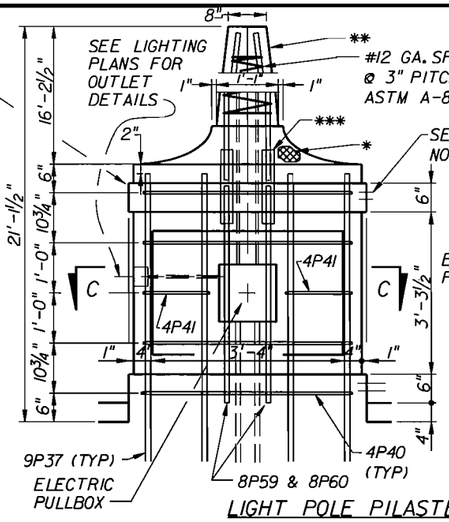
•DGN•SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•

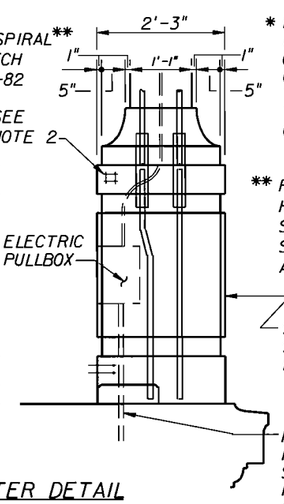


*4" Ø PVC PIPE, FILTER FABRIC, WIRE MESH, AND 2 CF #57 AGGREGATE USED FOR ABUTMENT WALL DRAINS SHALL BE INCLUDED WITH THE UNIT PRICE FOR CONCRETE CLASS V (SUBSTRUCTURE)

WALL DRAIN DETAILS (NOT TO SCALE)

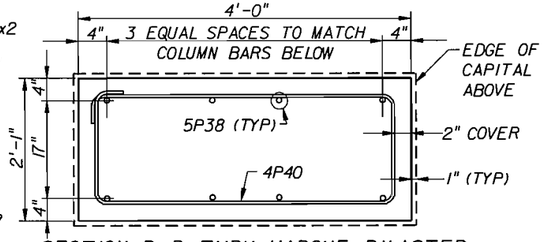


LIGHT POLE PILASTER DETAIL (MARQUE PILASTER SIMILAR--NOT TO SCALE)

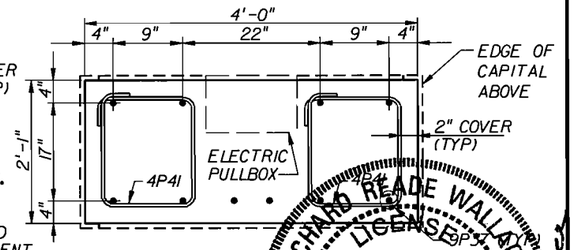


* FORM WWF 6x6 - W2x2 IN DECORATIVE CAPITAL, MAINTAIN 2" COVER. WIRE MESH TO BE INCLUDED IN THE COST OF THE CONCRETE.

** PRECAST CONCRETE HISTORIC LIGHT POLE, SEE DETAILS ON SHEETS B-91, B-92, AND B-92A

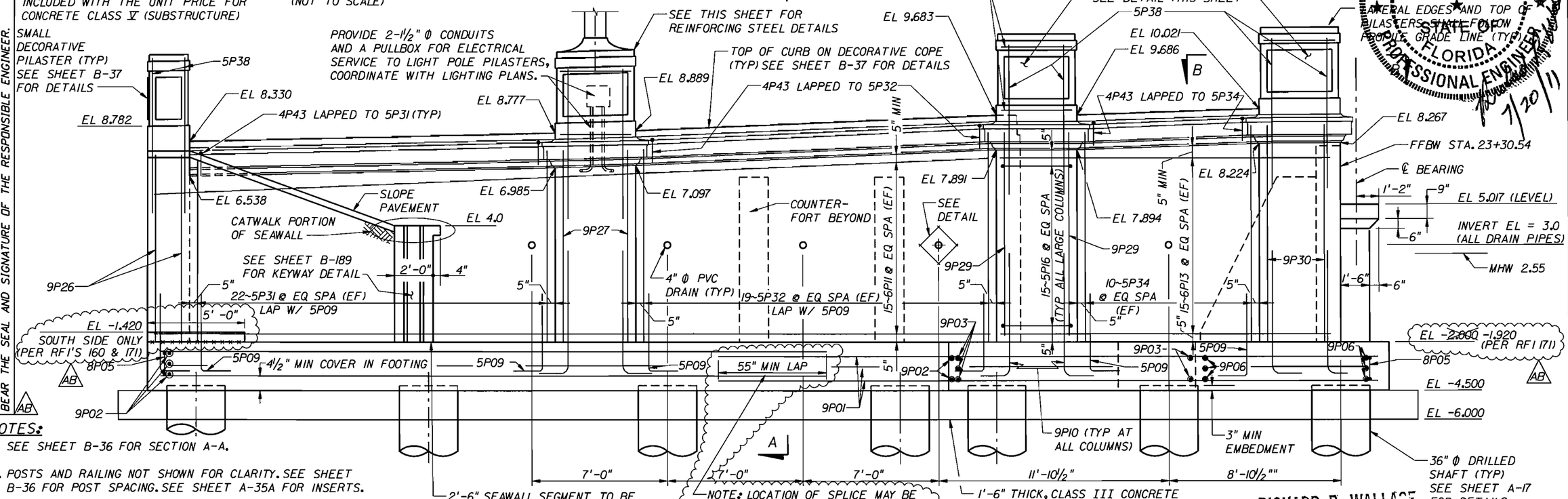


SECTION B-B THRU MARQUE PILASTER (NOT TO SCALE)



SECTION C-C THRU LIGHT POLE PILASTER (NOT TO SCALE)

*** MECHANICAL SPLICES FOR 8P59 & 8P60 BARS SHALL BE INCIDENTAL TO ITEM 400-8-106.



LATERAL EDGES AND TOP OF PILASTERS SHALL FOLLOW PROFILE GRADE LINE (TYP)

RICHARD R. WALLACE
Florida PE No. 24066

NOTES:

1. SEE SHEET B-36 FOR SECTION A-A.
2. POSTS AND RAILING NOT SHOWN FOR CLARITY. SEE SHEET B-36 FOR POST SPACING. SEE SHEET A-35A FOR INSERTS.
3. CONTRACTOR MAY SHIFT HORIZONTAL LOCATION OF DRAIN AS NECESSARY TO AVOID CONFLICTS WITH REINFORCING STEEL.
4. CONCRETE PILASTERS SHALL BE CAST INTEGRAL WITH WALL.
5. 2'-6" PORTION OF SEAWALL TO BE CAST AND CURED (72 HOURS) PRIOR TO BACKFILLING INTERIOR OF ABUTMENT.

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

BRIDGE NO. 780074

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

RICHARD R. WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER 7/20/11

REVISIONS

DATE	BY		DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB	AS-BUILT			

	NAMES	DATES
DRAWN BY	PAW	09-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	03-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Jeffrey P. Toussant, Florida PE No. 36387

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

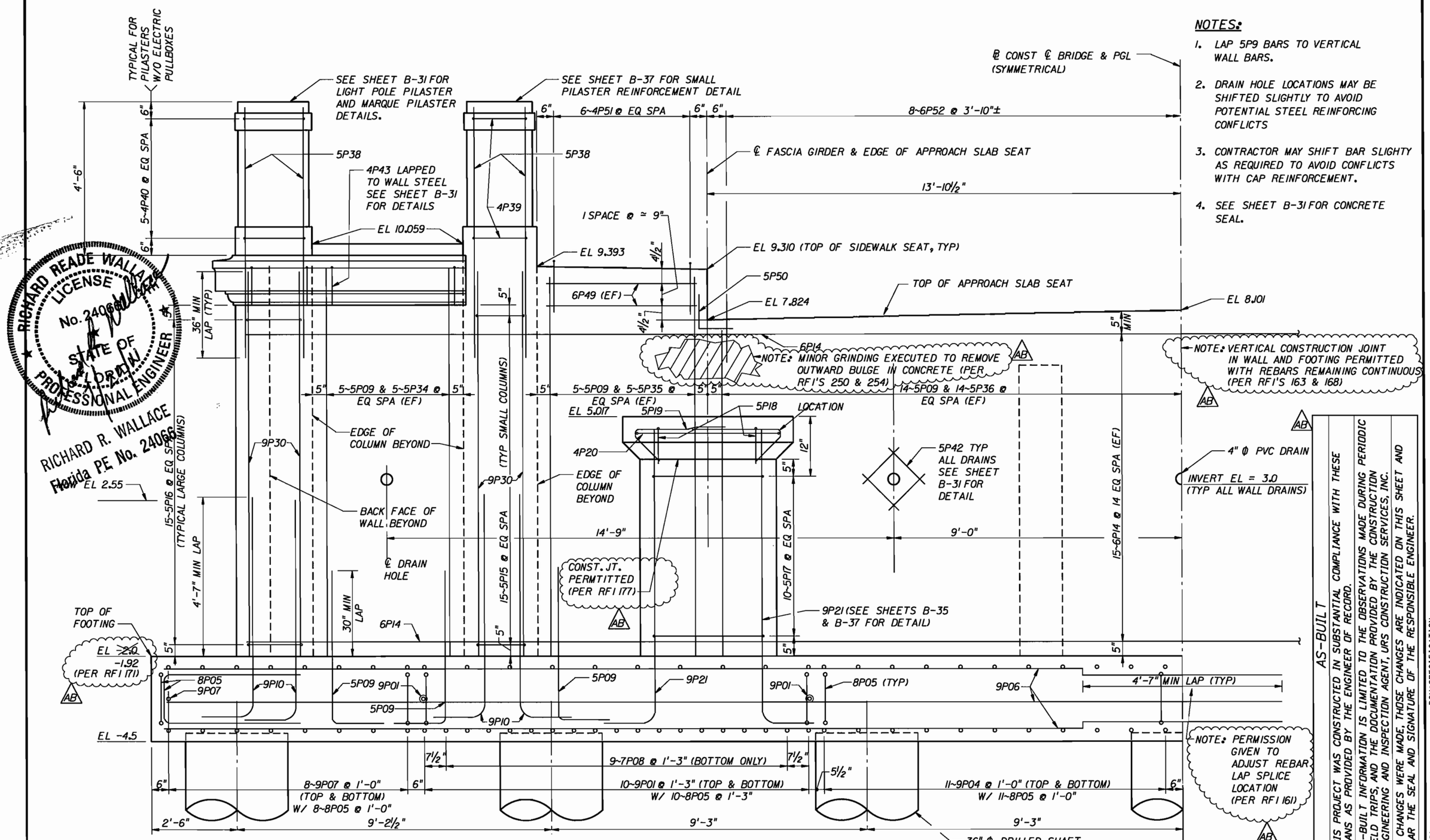
SHEET TITLE: WEST ABUTMENT 1 - ELEVATION (1 OF 2)

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-31

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



EAST ELEVATION HALF SECTION
(ELEVATION SYMMETRIC ABOUT ℄ CONST)

NOTES:

1. LAP 5P9 BARS TO VERTICAL WALL BARS.
2. DRAIN HOLE LOCATIONS MAY BE SHIFTED SLIGHTLY TO AVOID POTENTIAL STEEL REINFORCING CONFLICTS
3. CONTRACTOR MAY SHIFT BAR SLIGHTY AS REQUIRED TO AVOID CONFLICTS WITH CAP REINFORCEMENT.
4. SEE SHEET B-31 FOR CONCRETE SEAL.

RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER
RICHARD R. WALLACE Florida PE No. 24066

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
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BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	BMS	09-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	03-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Jeffrey P. Toussant, Florida PE No. 36387

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: WEST ABUTMENT 1 - ELEVATION (2 OF 2)

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

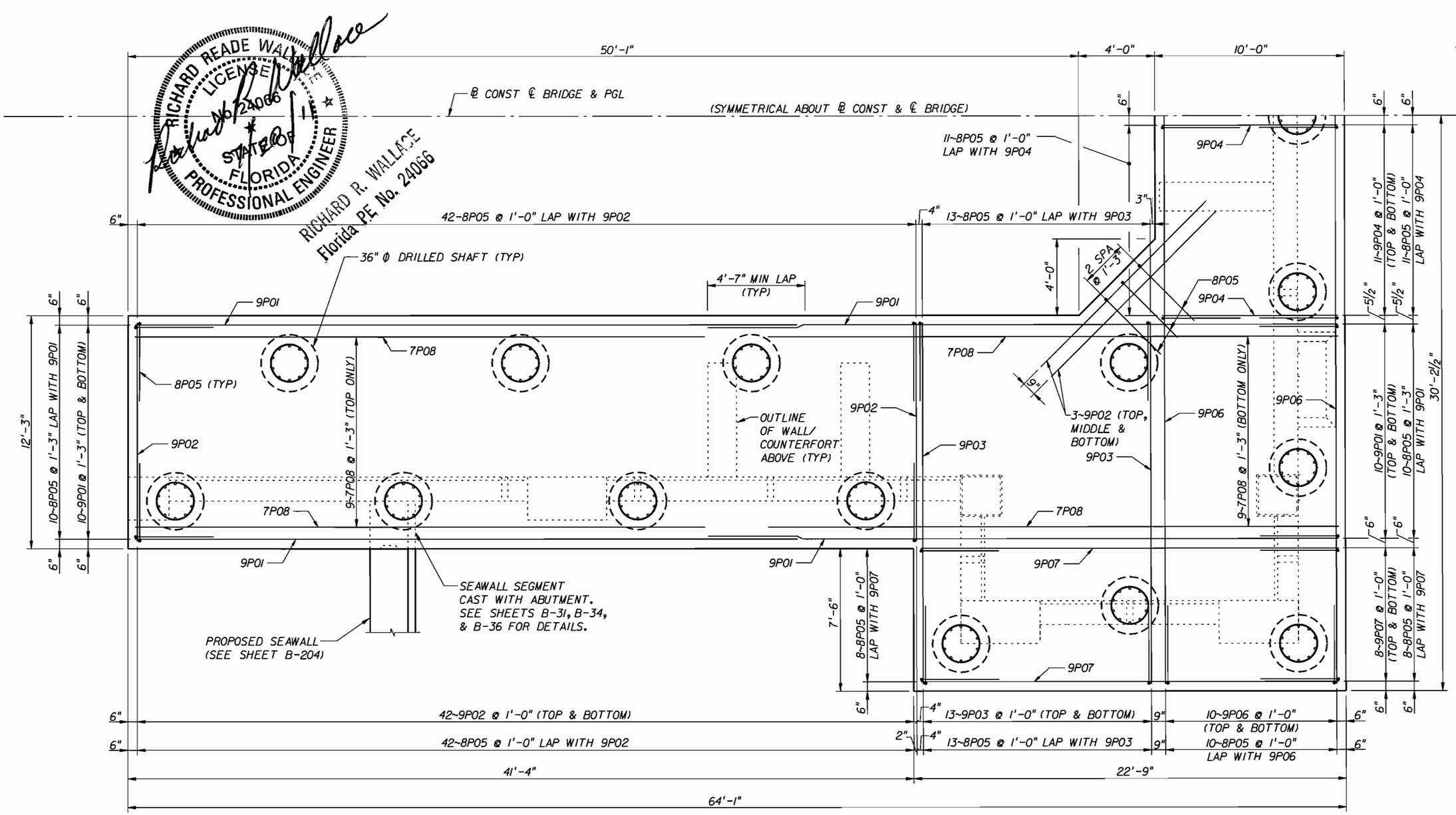
SHEET NO. B-32

•DGN•SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•

RICHARD READE WALLACE
LICENSE
No. 24066
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida P.E. No. 24066



NOTES:

1. CONTRACTOR MAY SHIFT BARS AS NECESSARY TO AVOID POTENTIAL REBAR CONFLICTS AT DRILLED SHAFTS.
2. CAP SHALL BE CAST MONOLITHICALLY.
3. COVER SHALL BE 4½" UNLESS NOTED OTHERWISE.

WEST ABUTMENT FOOTING REINFORCEMENT DETAILS

(SOUTH HALF SECTION SHOWN, NORTH SECTION SYMMETRIC ABOUT ℄ CONST)

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

AB IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

BRIDGE NO. 780074

REVISIONS

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	NAMES	DATES
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CHECKED BY	JPT	10-03
DESIGNED BY	JPT	09-03
CHECKED BY	GBL	09-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS&H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 Fl. Cert. No. EB0005820
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

SHEET TITLE: WEST ABUTMENT 1 - DETAILS (1 OF 5)

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-33

•DGN$SPECIFICATION•••••••

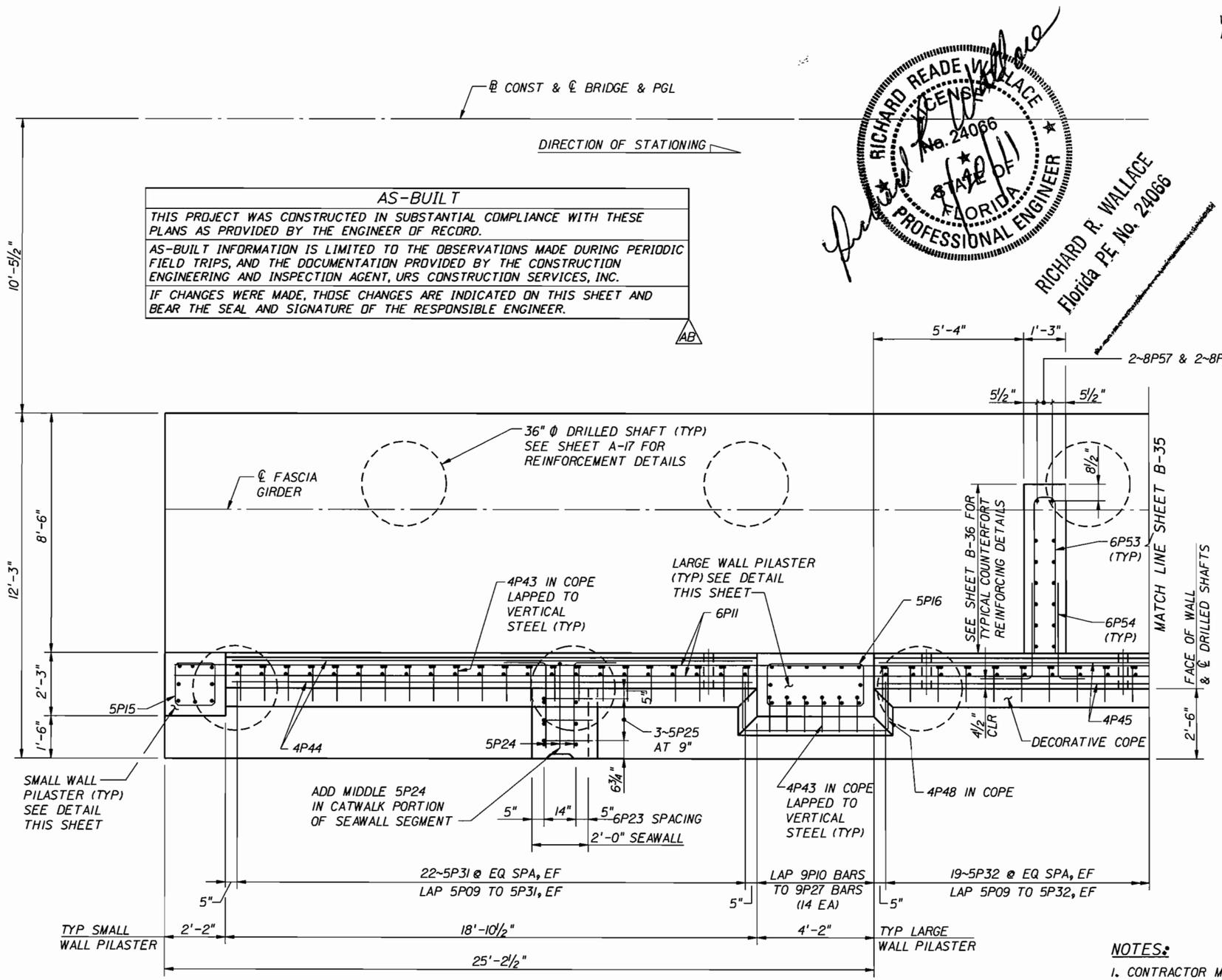
•DD-MMM-YYYY HH:MMM•

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

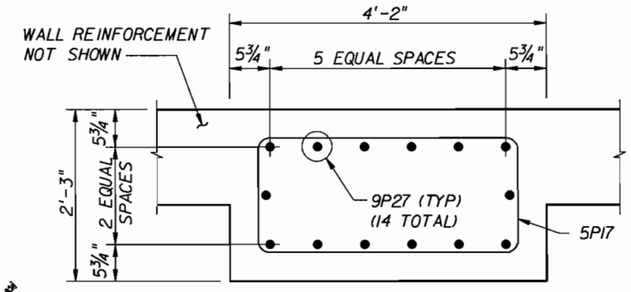
AB

RICHARD READE WALLACE
LICENSED
No. 24066
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

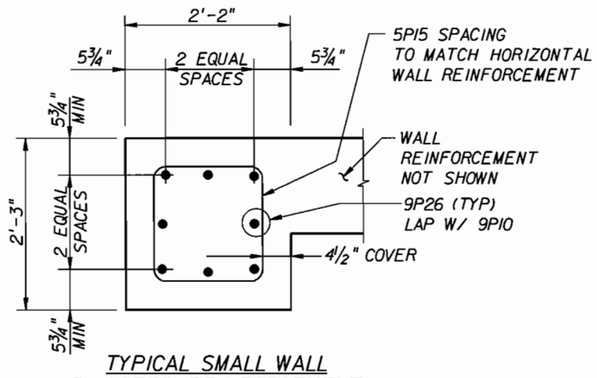
RICHARD R. WALLACE
Florida P.E. No. 24066



WEST ABUTMENT REINFORCEMENT DETAILS



TYPICAL LARGE WALL PILASTER REINFORCEMENT
(COLUMN SUPPORTING LIGHT POLE PILASTER SHOWN, OTHERS SIMILAR)



TYPICAL SMALL WALL PILASTER REINFORCEMENT
(COLUMN AT WEST END OF ABUTMENT SHOWN, OTHERS SIMILAR)

NOTES:

1. CONTRACTOR MAY SHIFT BARS SLIGHTLY AS REQUIRED TO AVOID CONFLICTS WITH CAP REINFORCEMENT.
2. COVER SHALL BE 4½" UNLESS OTHERWISE NOTED.

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	GBL	09-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	03-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Jeffrey P. Toussant, Florida PE No. 36387

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

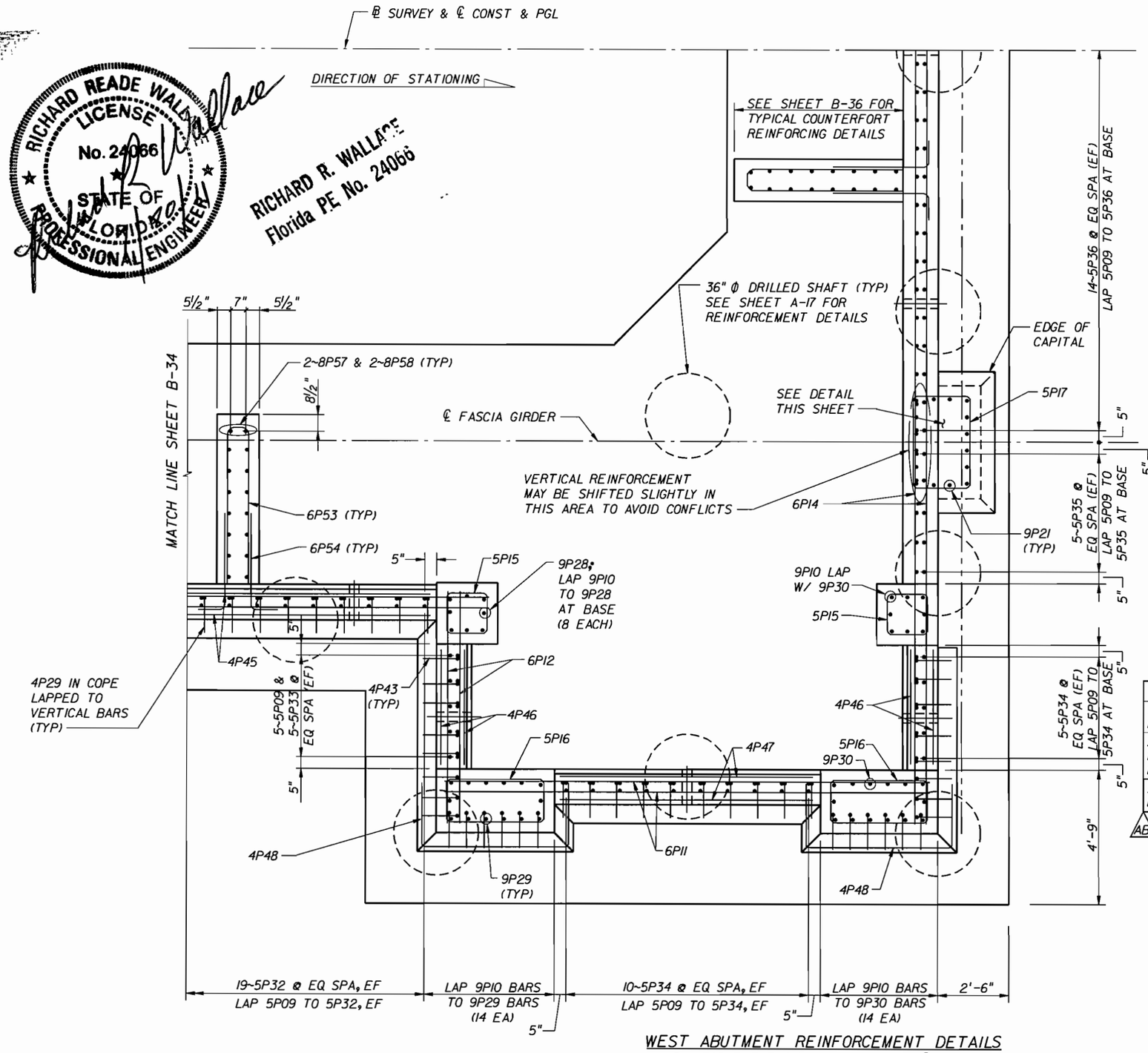
SHEET TITLE: WEST ABUTMENT 1 - DETAILS (2 OF 5)

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-34

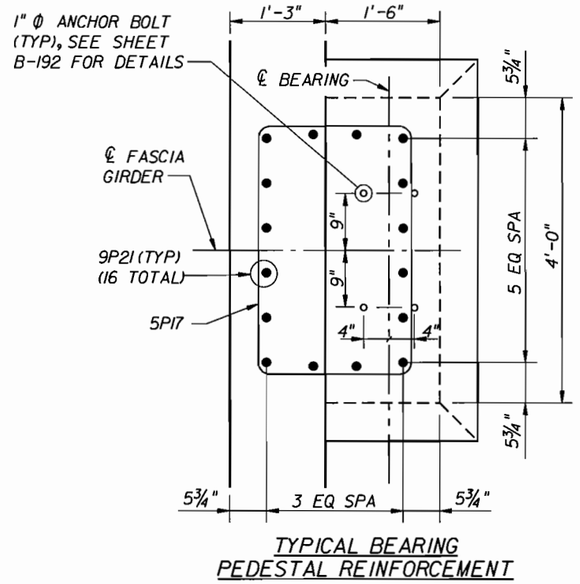
•DGN:SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



WEST ABUTMENT REINFORCEMENT DETAILS

(REINFORCEMENT SYMMETRICAL ABOUT ℄ CONST)



TYPICAL BEARING PEDESTAL REINFORCEMENT

(WALL REINFORCEMENT NOT SHOWN FOR CLARITY)

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

AB

NOTES:

1. CONTRACTOR MAY SHIFT VERTICAL WALL REINFORCING BARS SLIGHTLY AS REQUIRED TO AVOID CONFLICTS WITH CAP REINFORCEMENT.
2. COVER SHALL BE 4½" UNLESS OTHERWISE NOTED.

BRIDGE NO. 780074

RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida PE No. 24066

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	GBL	09-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	03-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD.
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: WEST ABUTMENT 1 - DETAILS (3 OF 5)

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

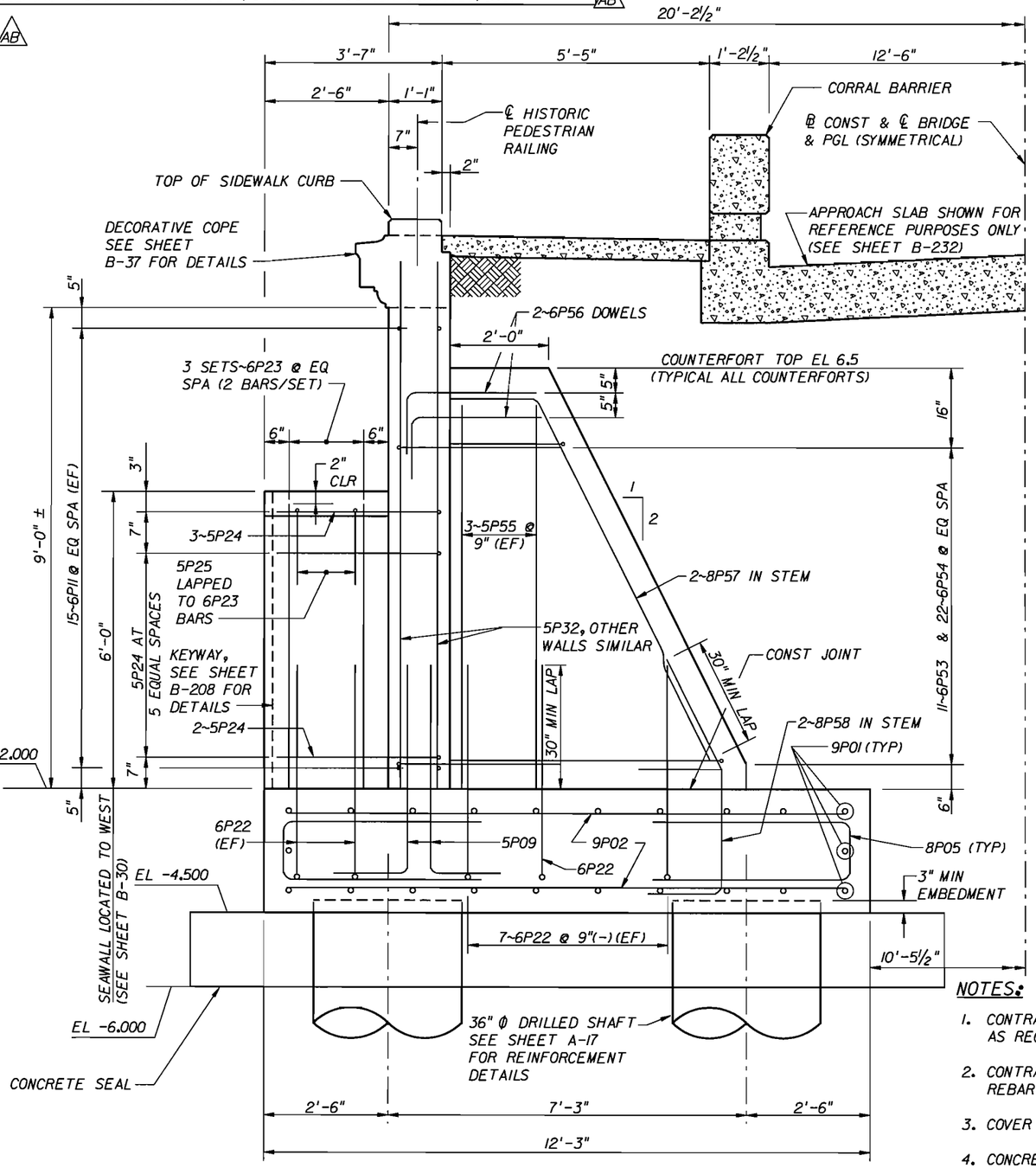
SHEET NO. B-35

•DGN$SPECIFICATION•••••••

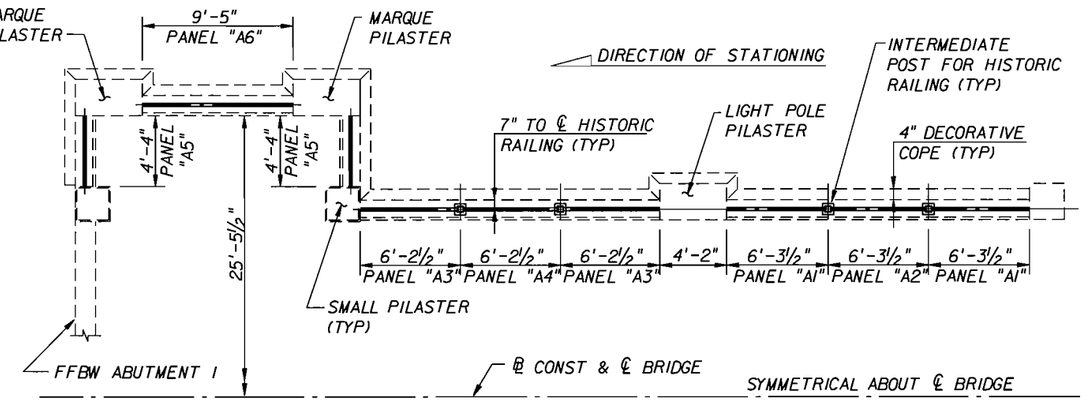
•DD-MMM-YYYY HH:MMM•

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC. AB

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER. AB



TYPICAL SECTION A-A THRU WINGWALL
(SECTIONS THRU BACKWALL SIMILAR)



WEST ABUTMENT 1 HISTORICAL PEDESTRIAN RAILING DETAIL
(NOT TO SCALE)

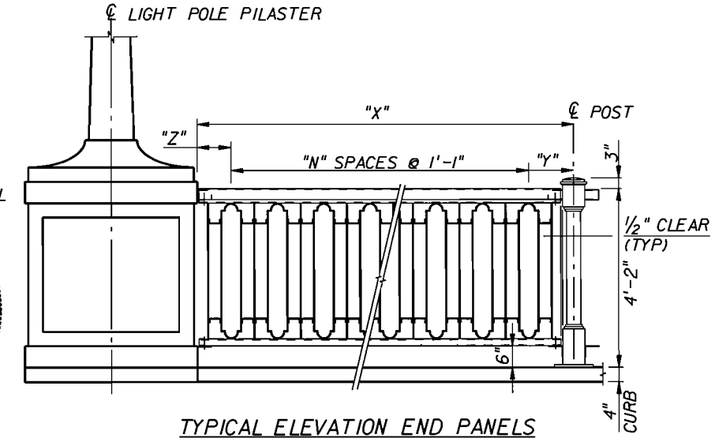
HISTORIC PEDESTRIAN RAILING DATA FOR WEST ABUTMENT

PANEL	"X" DIMENSION	"Y"	"Z"	NO. OF PANELS	N	REMARKS	RAIL SLOPE FT/FT
A1	6'-3½"	1'-1¼"	10¼"	4	4	END @ PILASTER	0.0356
A2	6'-3½"	11¾"	N/A	2	4	INTERMEDIATE	0.0356
A3	6'-2½"	1'-0¾"	9¾"	4	4	END @ PILASTER	0.0420
A4	6'-2½"	11¼"	N/A	2	4	INTERMEDIATE	0.0420
A5	4'-4"	N/A	1'-1"	4	2	MARQUE TO PILASTER	0.0000
A6	9'-5"	N/A	11"	2	7	MARQUE TO MARQUE	0.0237

N - NUMBER OF 1'-1" SEGMENTS PER PANEL

RAILING NOTES:

1. SEE SHEET A-34 FOR INTERMEDIATE POST DETAILS.
2. SEE DETAILS ON SHEET A-35 FOR PANEL DIMENSIONS.
3. SEE DETAILS ON SHEETS A-35A & B-90 FOR ATTACHMENT OF RAILING TO CONCRETE PILASTERS.
4. RAILING TO BE ERECTED PARALLEL TO TOP OF SIDEWALK CURB. INTERMEDIATE POSTS SHALL BE PLUMB. SEE NOTE 4 ON SHEET A-34.



TYPICAL ELEVATION END PANELS
(PANEL AT LIGHT POLE PILASTER AND RAILING POST SHOWN, PANEL BETWEEN TWO PILASTERS SIMILAR)

RICHARD R. WALLACE
Florida PE No. 24066

NOTES:

1. CONTRACTOR MAY SHIFT WALL AND COUNTERFORT BARS SLIGHTLY AS REQUIRED TO AVOID CONFLICTS WITH FOOTING REINFORCEMENT.
2. CONTRACTOR MAY SHIFT BARS AS NECESSARY TO AVOID POTENTIAL REBAR CONFLICTS WITH DRILLED SHAFTS.
3. COVER IS 4½" UNLESS NOTED OTHERWISE.
4. CONCRETE COUNTERFORT SHALL BE CONSOLIDATED IN 4 EQUAL LIFTS, FORMING SLOPED SURFACE IN 4 SEGMENTS. AT CONTRACTOR'S OPTION, COUNTERFORT MAY BE PLACED MONOLITHIC WITH WALL CONCRETE.

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD. AB

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	GBL	10-03
CHECKED BY	JPT	10-03
DESIGNED BY	JPT	09-03
CHECKED BY	GBL	09-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD.
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

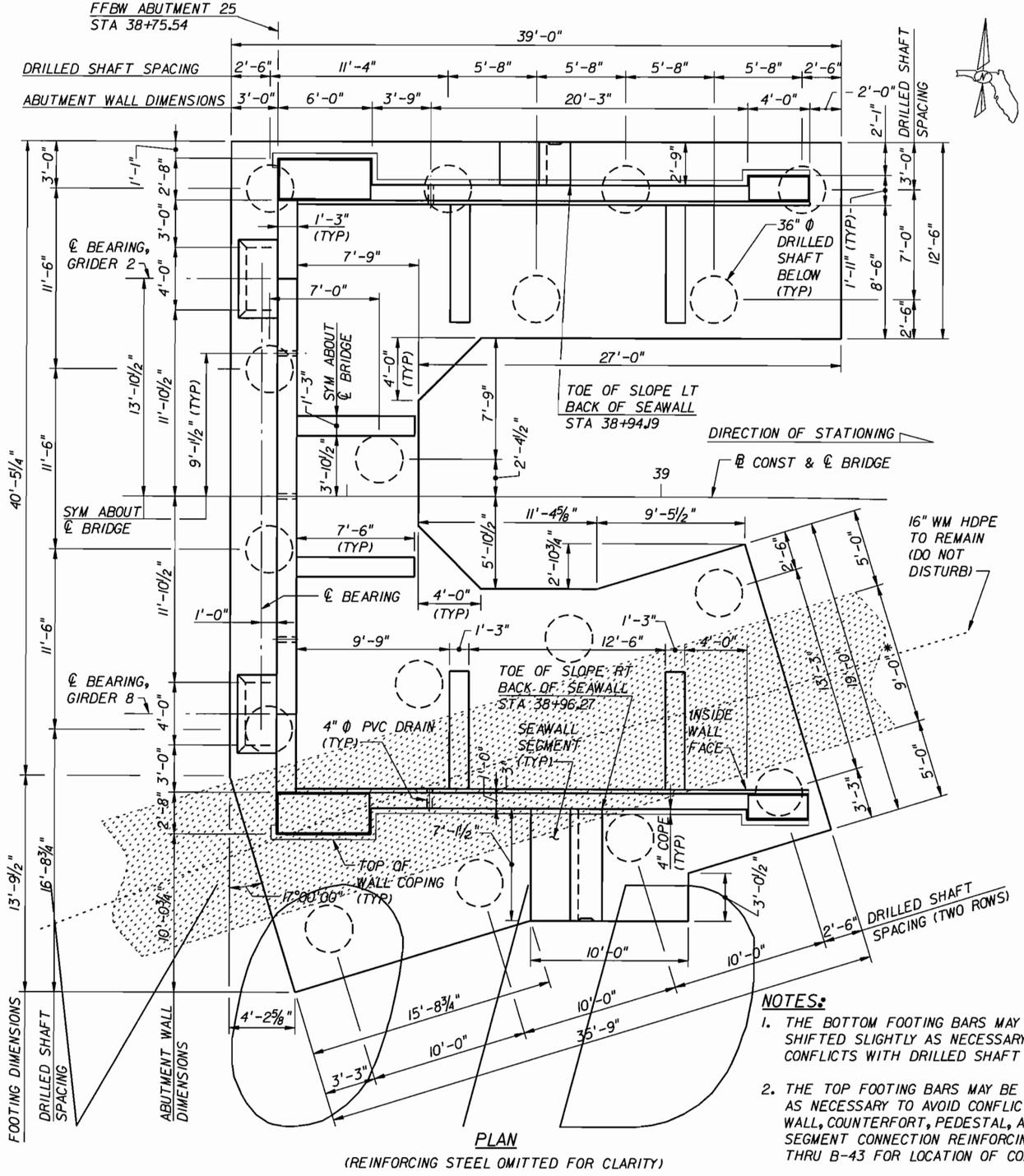
SHEET TITLE: WEST ABUTMENT 1 - DETAILS (4 OF 5)

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-36

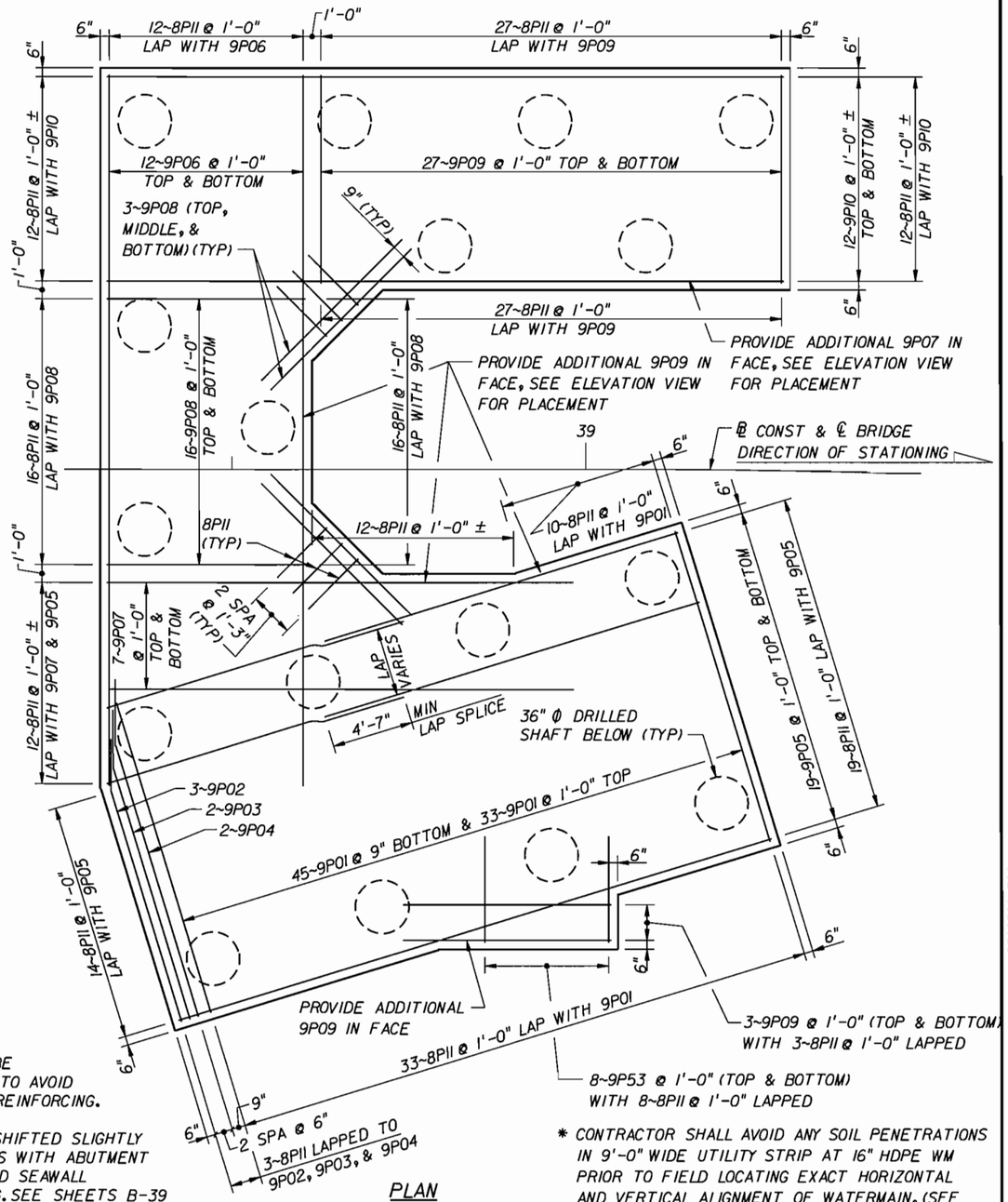
•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



PLAN

(REINFORCING STEEL OMITTED FOR CLARITY)



PLAN

TOP AND BOTTOM REINFORCING STEEL

NOTES:

1. THE BOTTOM FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH DRILLED SHAFT REINFORCING.
2. THE TOP FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH ABUTMENT WALL, COUNTERFORT, PEDESTAL, AND SEAWALL SEGMENT CONNECTION REINFORCING. SEE SHEETS B-39 THRU B-43 FOR LOCATION OF CONNECTION DOWEL BARS.
3. REFER TO SHEETS B-205 THRU B-211 FOR SEAWALL DETAILS.

* CONTRACTOR SHALL AVOID ANY SOIL PENETRATIONS IN 9'-0" WIDE UTILITY STRIP AT 16" HDPE WM PRIOR TO FIELD LOCATING EXACT HORIZONTAL AND VERTICAL ALIGNMENT OF WATERMAIN, (SEE SHEET B-40). SEE SHEET B-216 FOR PROTECTION DURING CONSTRUCTION.

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	GBL	10-03
CHECKED BY	JPT	10-03
DESIGNED BY	JPT	09-03
CHECKED BY	GBL	09-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0507
904-256-2500 FL Cert. No. EB0005620
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

SHEET TITLE: EAST ABUTMENT 25 - PLAN

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-38

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

AS-BUILT

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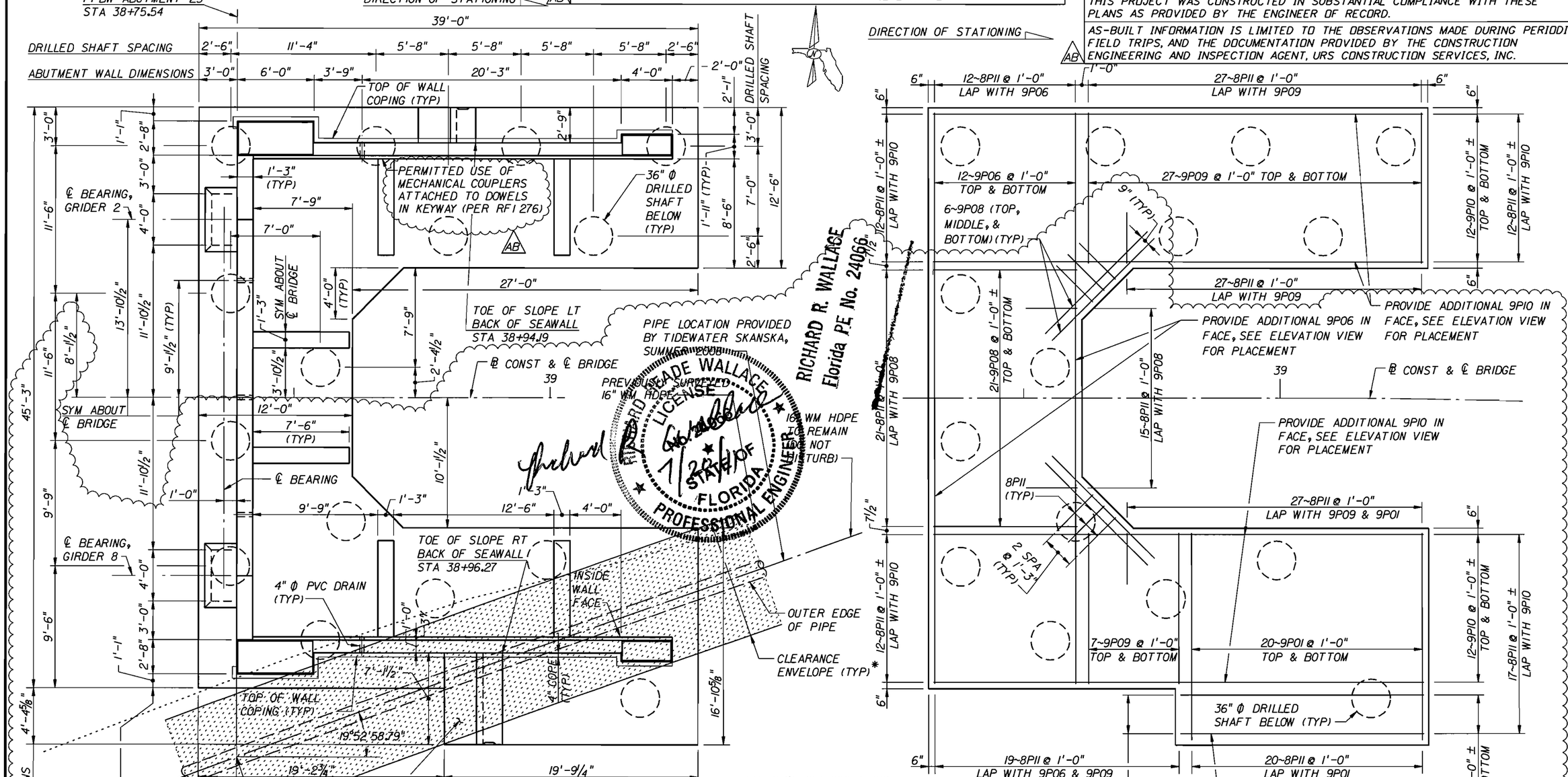

PLAN

(REINFORCING STEEL OMITTED FOR CLARITY)

PLAN

TOP AND BOTTOM REINFORCING STEEL

PER RF1'S 193, 200, & 201

RICHARD R. WALLACE Florida P.E. No. 24066 LICENSE STATE OF FLORIDA PROFESSIONAL ENGINEER

NOTES:

1. THE BOTTOM FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH DRILLED SHAFT REINFORCING.
2. THE TOP FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH ABUTMENT WALL, COUNTERFORT, PEDESTAL, AND SEAWALL SEGMENT CONNECTION REINFORCING. SEE SHEETS B-39 THRU B-43 FOR LOCATION OF CONNECTION DOWEL BARS.
3. REFER TO SHEETS B-205 THRU B-211 FOR SEAWALL DETAILS.

* CONTRACTOR SHALL AVOID ANY SOIL PENETRATIONS IN 9'-2" CLEARANCE ENVELOPE AT 16" HDPE WM PRIOR TO FIELD LOCATING EXACT HORIZONTAL AND VERTICAL ALIGNMENT OF WATERMAIN, (SEE SHEET B-40). SEE SHEET B-216 FOR PROTECTION DURING CONSTRUCTION.

BRIDGE NO. 780074

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM AM•

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12-04-06	BMS	6 MODIFIED SHAFTS AND FOOTING			
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	GBL	10-03
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CHECKED BY	GBL	09-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
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Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Bryan M. Stumm, Florida PE No. 64066

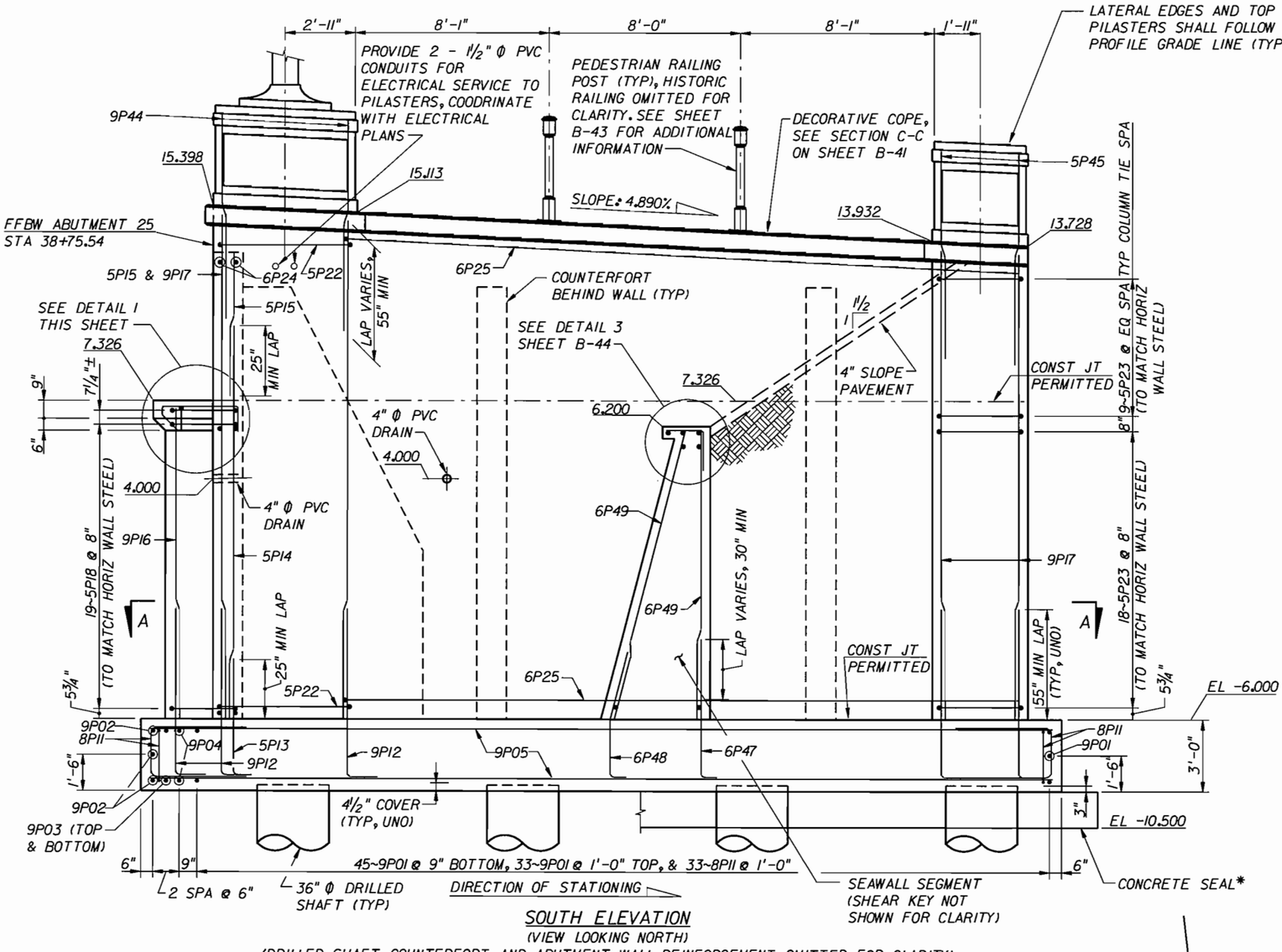
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: EAST ABUTMENT 25 - PLAN

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

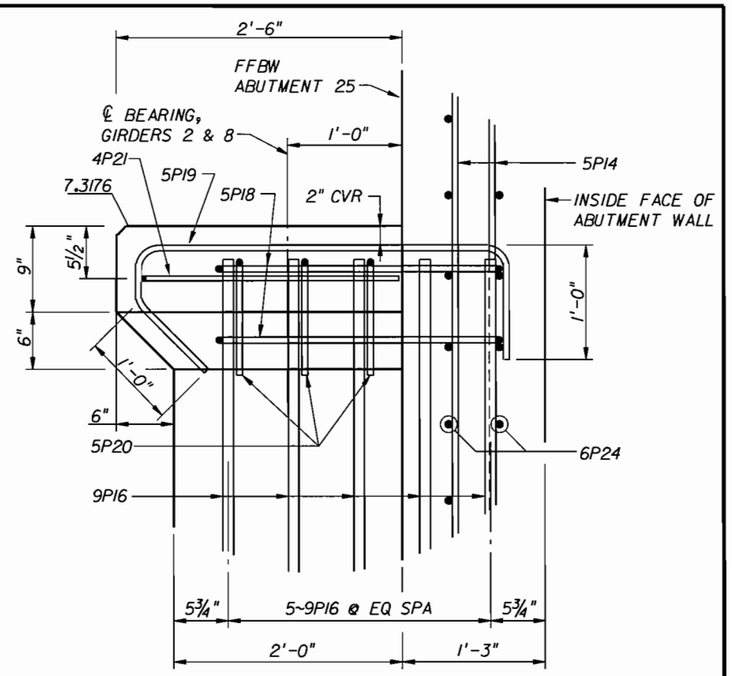
SHEET NO. B-38



SOUTH ELEVATION

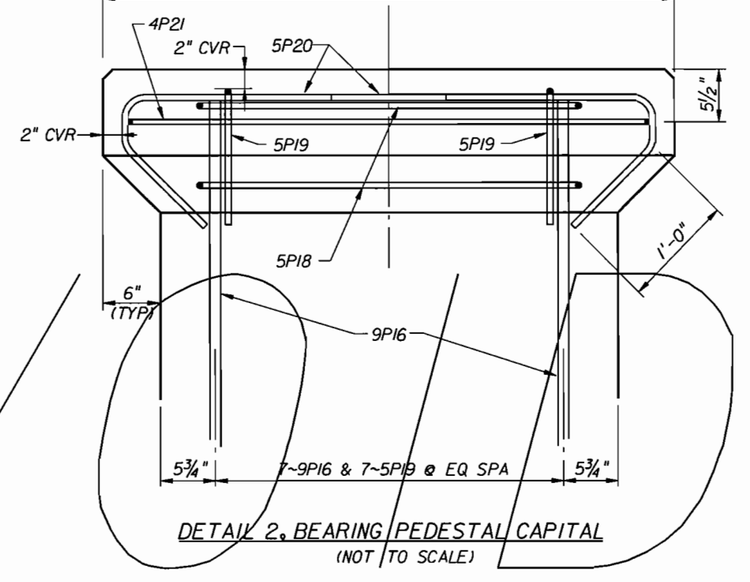
(VIEW LOOKING NORTH)

(DRILLED SHAFT, COUNTERFORT, AND ABUTMENT WALL REINFORCEMENT OMITTED FOR CLARITY)



DETAIL 1, BEARING PEDESTAL CAPITAL

(NOT TO SCALE)



DETAIL 2, BEARING PEDESTAL CAPITAL

(NOT TO SCALE)

NOTES:

1. SEE SHEET B-42 FOR SECTION A-A.
2. SEE SHEET B-44 FOR PILASTER REINFORCEMENT DETAILS.
3. SEE SHEET A-17 FOR REINFORCEMENT LAYOUT AND CONNECTION DETAILS IN DRILLED SHAFTS.
4. BOTTOM FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH DRILLED SHAFT BARS.
5. TOP FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH ABUTMENT WALL, COUNTERFORT, PEDESTAL, AND SEAWALL SEGMENT CONNECTION REINFORCING.

ESTIMATED QUANTITIES FOR EAST ABUTMENT		
ITEM	UNIT	QUANTITY
Class V Concrete (Substructure)	C.Y.	161.6
Class V Concrete (Microsilica-Substructure)	C.Y.	175.0
Reinforcing Steel (Substructure)	LB.	66,255
Class III Concrete (Seal)	C.Y.	299.6

* 1'-6" MINIMUM THICKNESS CLASS III CONCRETE SEAL SHALL BE USED BELOW FOOTING AS NECESSARY TO PROVIDE DRY WORK AREA.

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	GBL	05-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	02-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

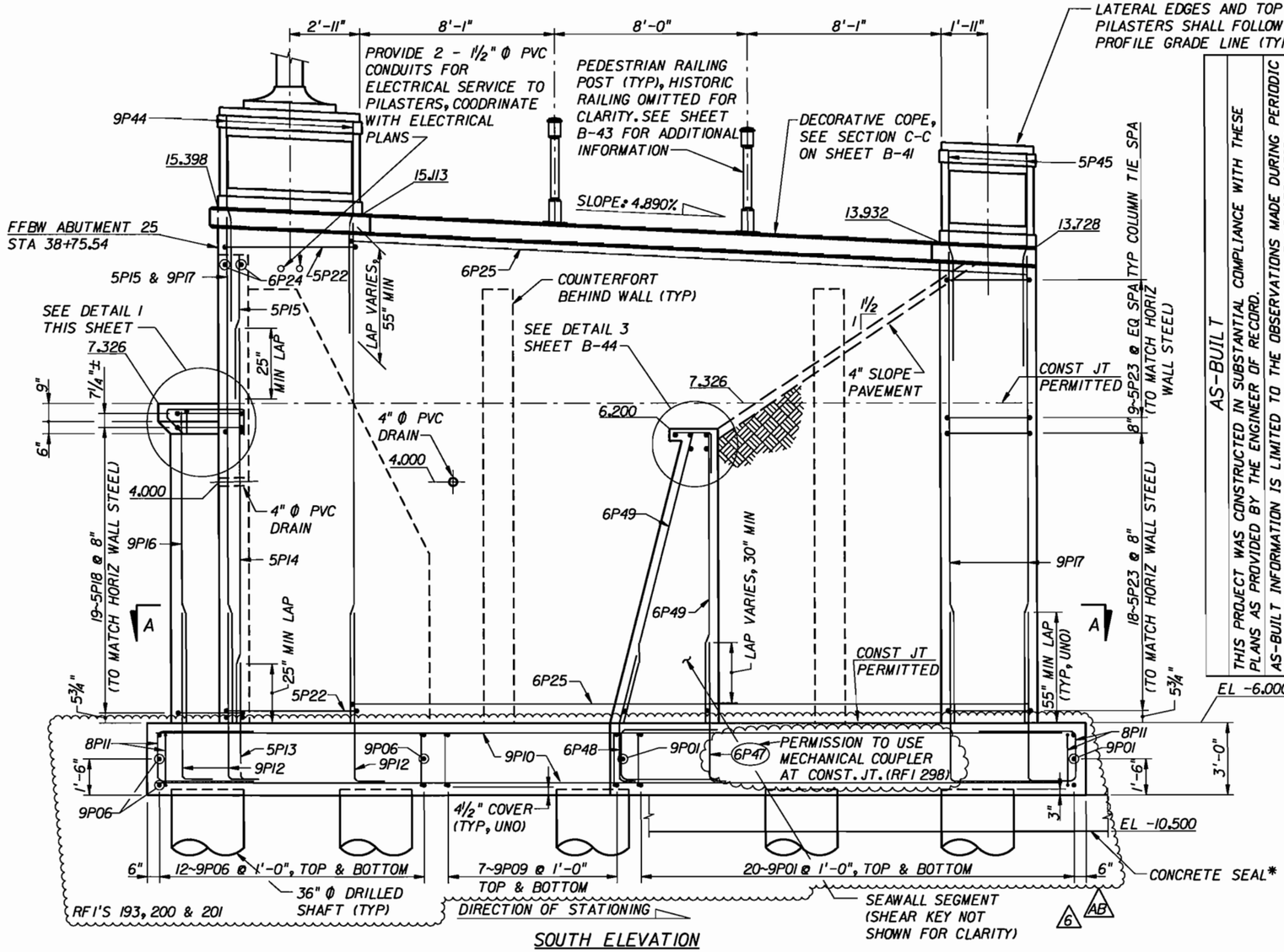
SHEET TITLE: EAST ABUTMENT 25 - ELEVATION (1 OF 3)

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-39

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM•



SOUTH ELEVATION

(VIEW LOOKING NORTH)

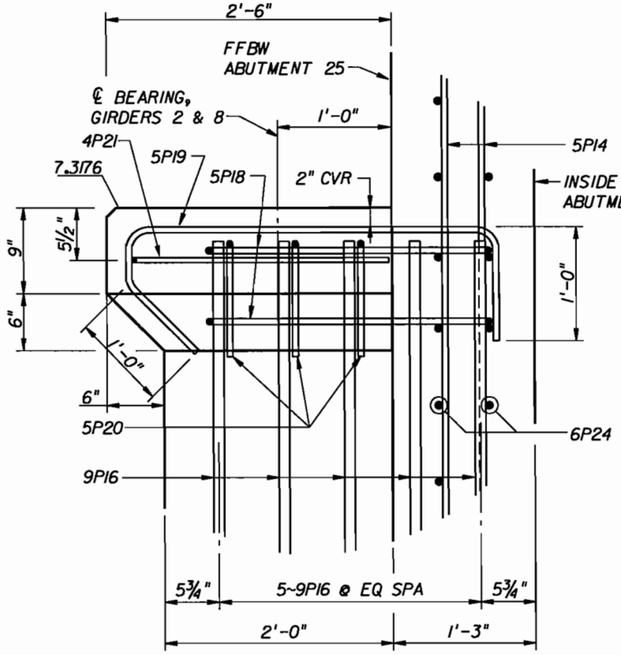
(DRILLED SHAFT, COUNTERFORT, AND ABUTMENT WALL REINFORCEMENT OMITTED FOR CLARITY)

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

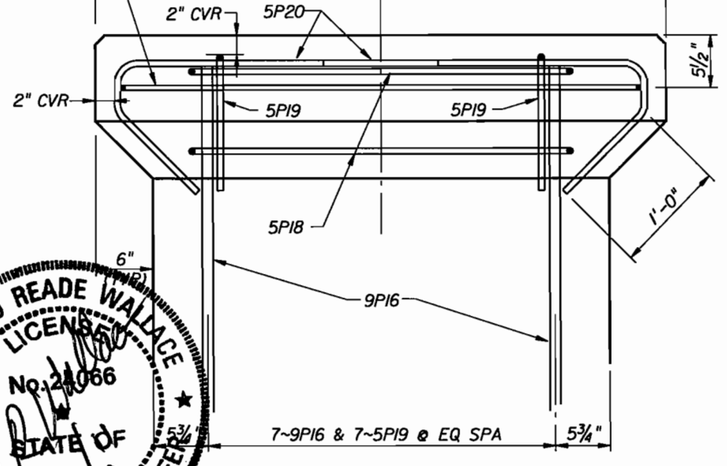
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.



DETAIL 1, BEARING PEDESTAL CAPITAL

(NOT TO SCALE)



DETAIL 2, BEARING PEDESTAL CAPITAL

(NOT TO SCALE)

NOTES:

1. SEE SHEET B-42 FOR SECTION A-A.
2. SEE SHEET B-44 FOR PILASTER REINFORCEMENT DETAILS.
3. SEE SHEET A-17 FOR REINFORCEMENT LAYOUT AND CONNECTION DETAILS IN DRILLED SHAFTS.
4. BOTTOM FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH DRILLED SHAFT BARS.
5. TOP FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH ABUTMENT WALL, COUNTERFORT, PEDESTAL, AND SEAWALL SEGMENT CONNECTION REINFORCING.

ESTIMATED QUANTITIES FOR EAST ABUTMENT

ITEM	UNIT	QUANTITY
Class V Concrete (Substructure)	C.Y.	146.8
Class V Concrete (Microsilica-Substructure)	C.Y.	175.0
Reinforcing Steel (Substructure)	LB.	61,318
Class III Concrete (Seal)	C.Y.	299.6

AB 6

* 1'-6" MINIMUM THICKNESS CLASS III CONCRETE SEAL SHALL BE USED BELOW FOOTING AS NECESSARY TO PROVIDE DRY WORK AREA.

RICHARD READE WALLACE LICENSED No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida PE No. 24066

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12-04-06	BMS	6 MODIFIED SHAFTS AND FOOTING			
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	GBL	05-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	02-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Bryan M. Sturm, Florida PE No. 64066

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

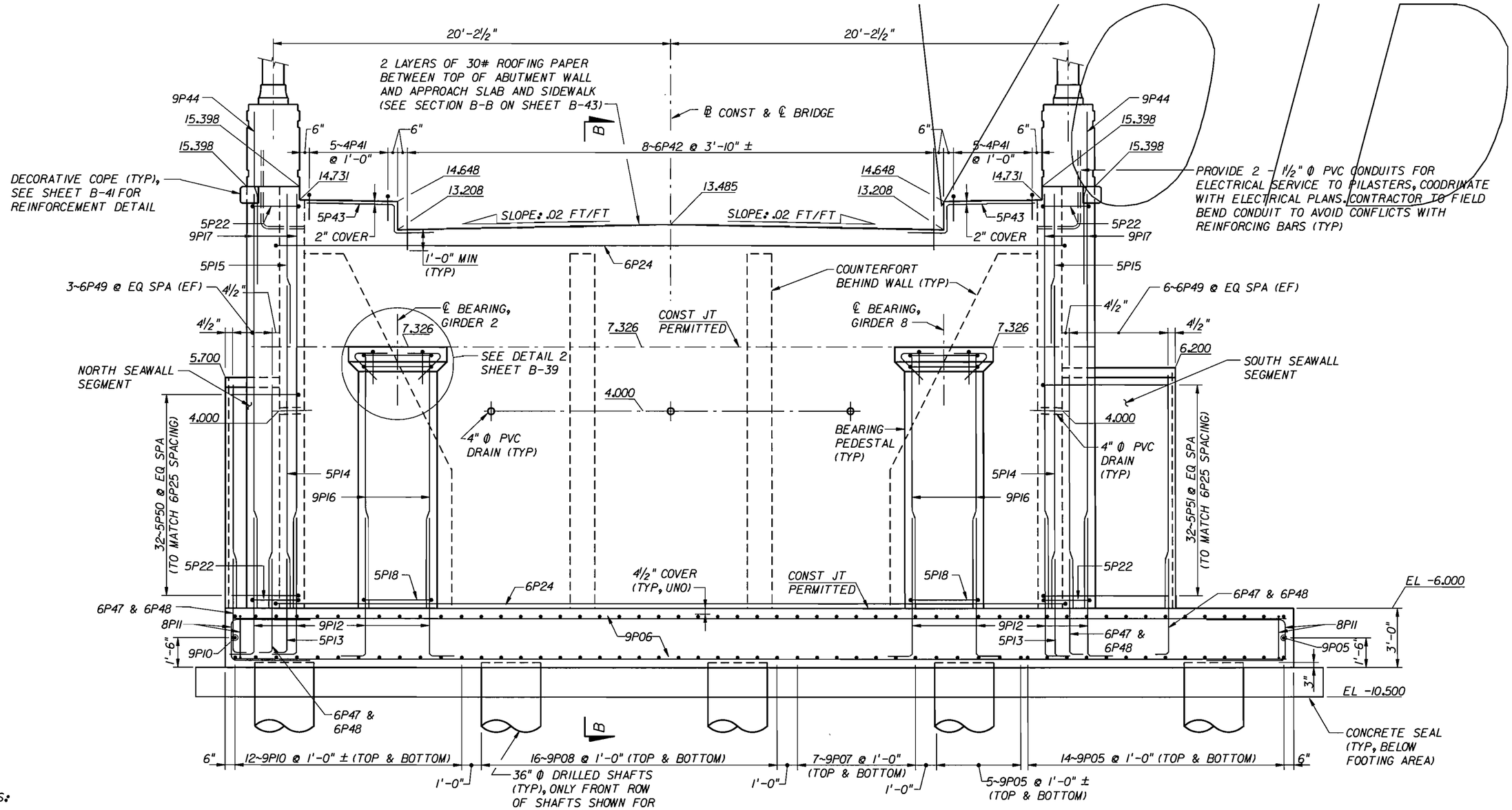
SHEET TITLE: EAST ABUTMENT 25 - ELEVATION (1 OF 3)

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-39

•DGN•SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



ELEVATION

(VIEW LOOKING EAST, DIRECTION OF STATIONING)
(DRILLED SHAFT, COUNTERFORT, AND ABUTMENT WALL REINFORCEMENT OMITTED FOR CLARITY)

EL -32.000 ±
16" HDPE WM *
(TO REMAIN)

NOTES:

1. SEE SHEET B-43 FOR SECTION B-B.
2. SEE SHEET B-44 FOR PILASTER REINFORCEMENT DETAILS.
3. SEE SHEET A-17 FOR REINFORCEMENT LAYOUT AND CONNECTION DETAILS IN DRILLED SHAFTS.
4. BOTTOM FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH DRILLED SHAFT BARS.
5. TOP FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH ABUTMENT WALL, COUNTERFORT, PEDESTAL, AND SEAWALL SEGMENT CONNECTION REINFORCING.

* CONTRACTOR SHALL FIELD LOCATE WATERMAIN PRIOR TO DRIVING SHEET PILING OR DRILLING FOR DRILLED SHAFT INSTALLATION. (SEE SHEET B-216 FOR PROTECTION DURING CONSTRUCTION)

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	GBL	05-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	02-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

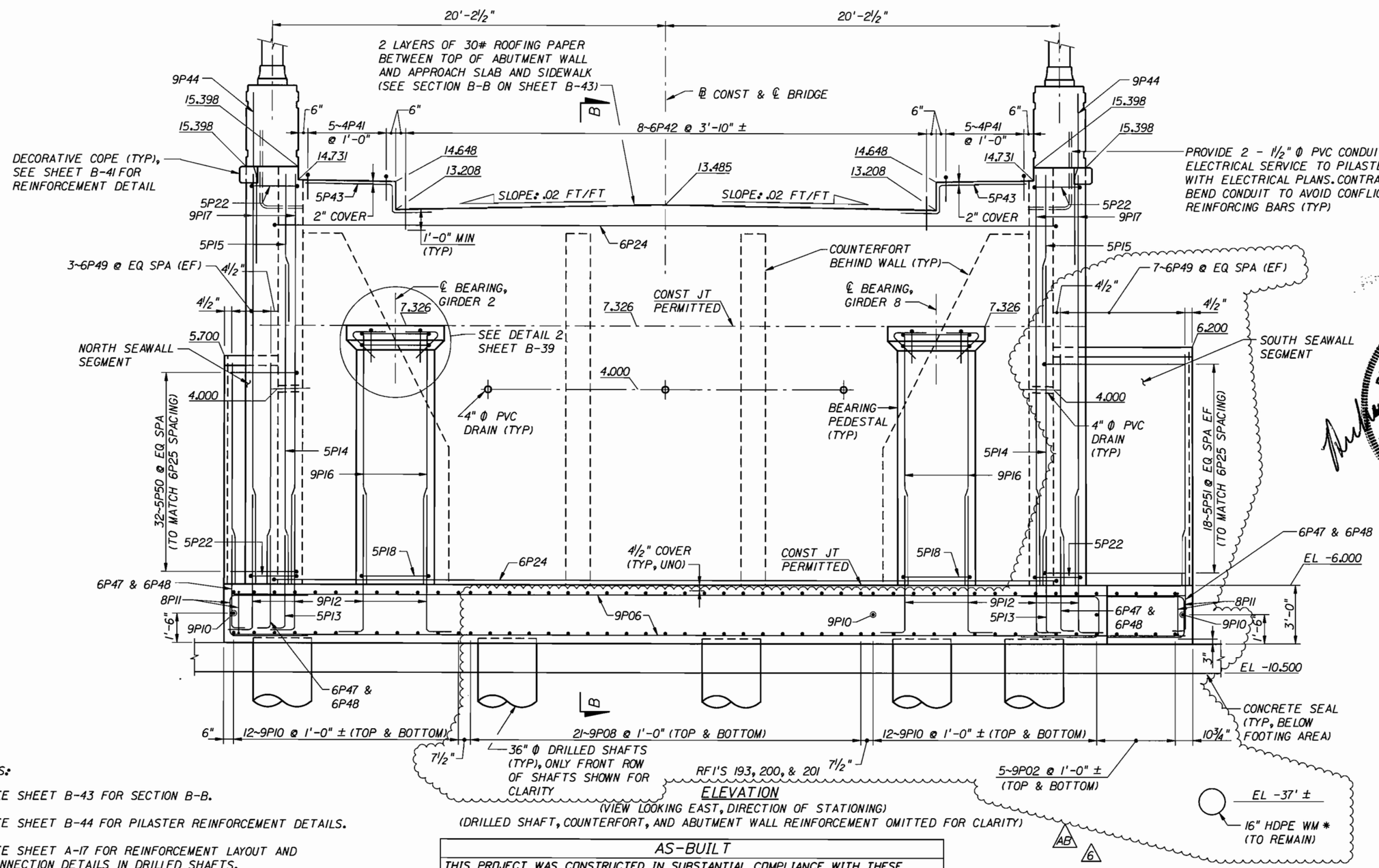
SHEET TITLE: EAST ABUTMENT 25 - ELEVATION (2 OF 3)

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-40

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



ELEVATION

(VIEW LOOKING EAST, DIRECTION OF STATIONING)

(DRILLED SHAFT, COUNTERFORT, AND ABUTMENT WALL REINFORCEMENT OMITTED FOR CLARITY)

NOTES:

1. SEE SHEET B-43 FOR SECTION B-B.
2. SEE SHEET B-44 FOR PILASTER REINFORCEMENT DETAILS.
3. SEE SHEET A-17 FOR REINFORCEMENT LAYOUT AND CONNECTION DETAILS IN DRILLED SHAFTS.
4. BOTTOM FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH DRILLED SHAFT BARS.
5. TOP FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH ABUTMENT WALL, COUNTERFORT, PEDESTAL, AND SEAWALL SEGMENT CONNECTION REINFORCING.

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER. AB

* CONTRACTOR SHALL FIELD LOCATE WATERMAIN PRIOR TO DRIVING SHEET PILING OR DRILLING FOR DRILLED SHAFT INSTALLATION. (SEE SHEET B-216 FOR PROTECTION DURING CONSTRUCTION)

RICHARD WADE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida P.E. No. 24066

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12-04-06	BMS	6 MODIFIED SHAFTS AND FOOTING, RESCALED SOUTH SEAWALL SEGMENT			
7-20-11	RRW	AB AS-BUILT (PER RFI'S 193, 200, & 201)			

	NAMES	DATES
DRAWN BY	GBL	05-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	02-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Bryan M. Sturm, Florida PE No. 64066

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

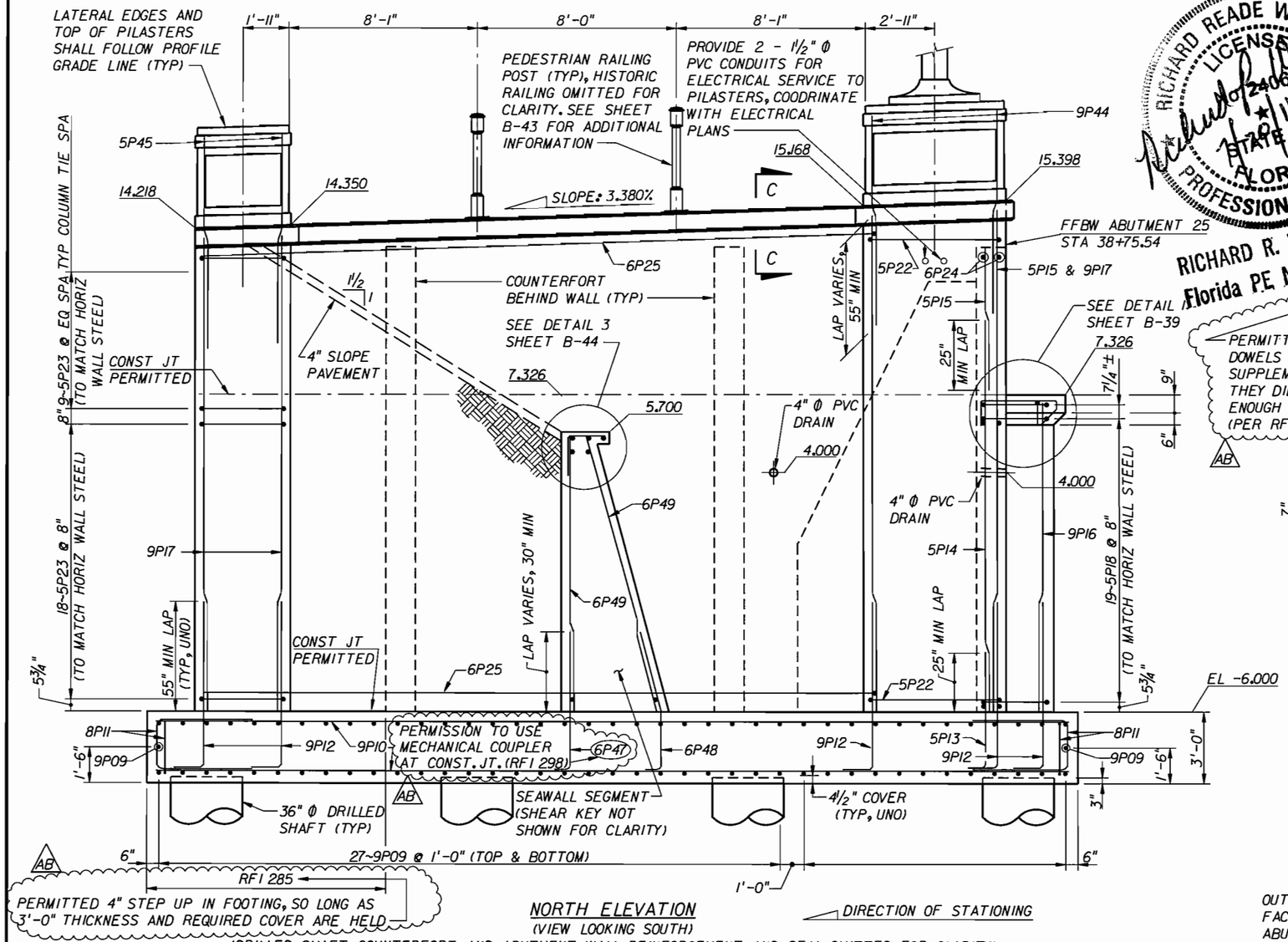
SHEET TITLE: EAST ABUTMENT 25 - ELEVATION (2 OF 3)

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-40

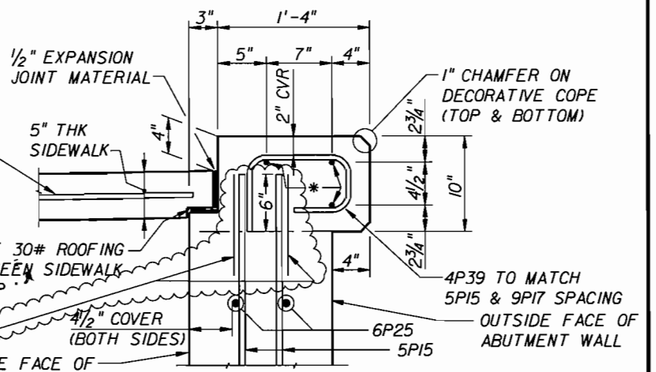
•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



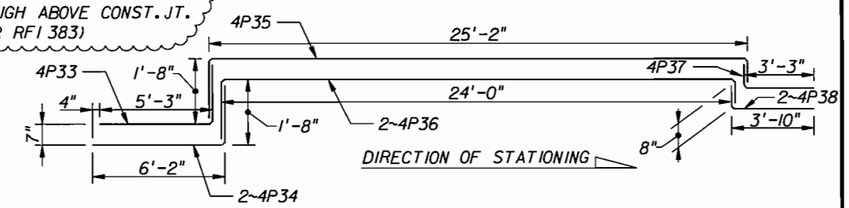
NORTH ELEVATION
(VIEW LOOKING SOUTH)
DIRECTION OF STATIONING
(DRILLED SHAFT, COUNTERFORT, AND ABUTMENT WALL REINFORCEMENT AND SEAL OMITTED FOR CLARITY)

RICHARD READE WALLACE
LICENSE
24066
STATE OF FLORIDA
PROFESSIONAL ENGINEER
RICHARD R. WALLACE
Florida P.E. No. 24066



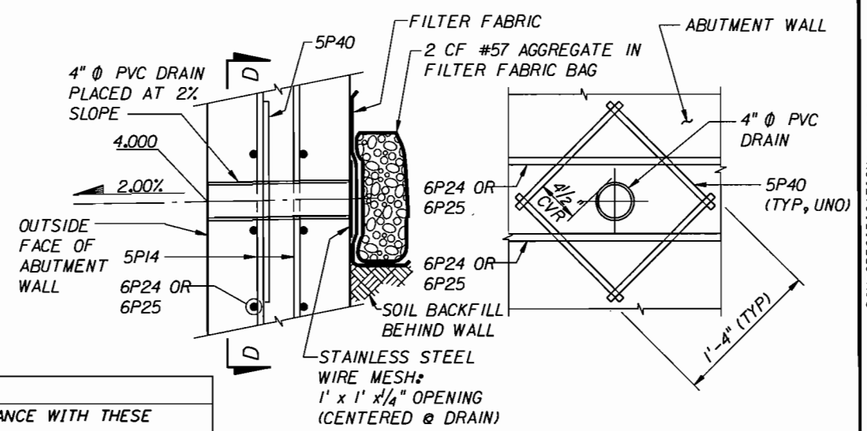
* SEE BAR DIAGRAM BELOW FOR BAR DESIGNATIONS

SECTION C-C



BAR DIAGRAM - PLAN VIEW
(LONGITUDINAL BARS IN DECORATIVE COPING, SOUTH COPING SHOWN, NORTH COPING SIMILAR)

DECORATIVE COPE DETAILS
(NOT TO SCALE)



ELEVATION SECTION D-D

WALL DRAIN DETAILS
(NOT TO SCALE)

NOTES:

1. SEE SHEET B-44 FOR PILASTER REINFORCEMENT DETAILS.
2. SEE SHEET A-17 FOR REINFORCEMENT LAYOUT AND CONNECTION DETAILS IN DRILLED SHAFTS.
3. BOTTOM FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH DRILLED SHAFT BARS.
4. TOP FOOTING BARS MAY BE SHIFTED SLIGHTLY AS NECESSARY TO AVOID CONFLICTS WITH ABUTMENT WALL, COUNTERFORT, PEDESTAL, AND SEAWALL SEGMENT CONNECTION REINFORCING.
5. 4" Ø PVC PIPE, FILTER FABRIC, WIRE MESH, AND 2 CF #57 AGGREGATE USED FOR ABUTMENT WALL DRAINS SHALL BE INCLUDED WITH THE UNIT PRICE FOR CONCRETE CLASS V (SUBSTRUCTURE).

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER. AB

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	GBL	05-03
CHECKED BY	JPT	10-03
DESIGNED BY	PAW	02-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

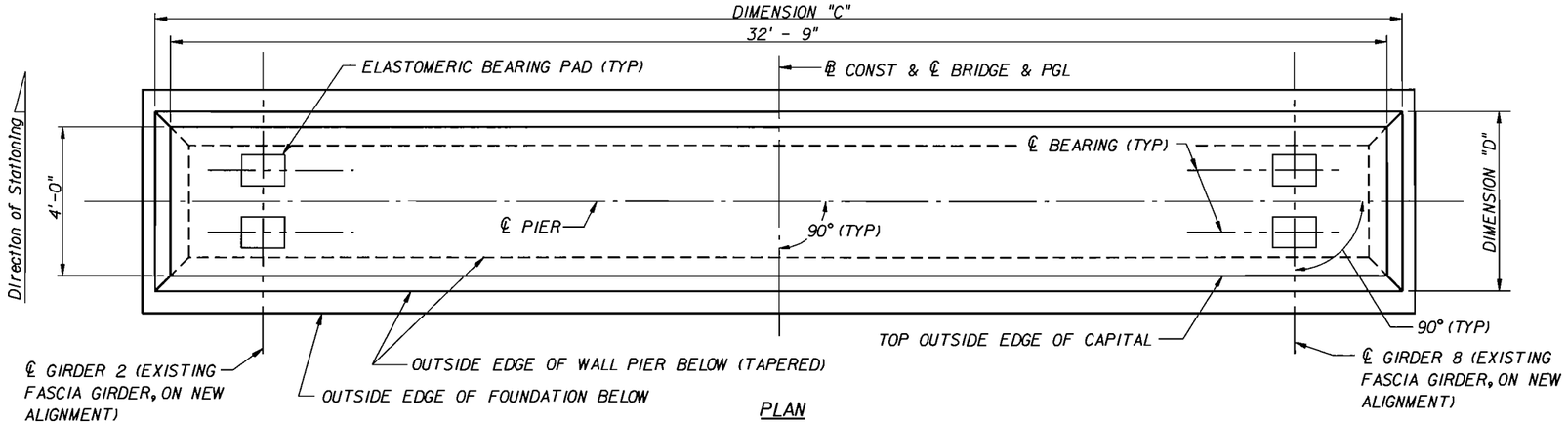
SHEET TITLE: EAST ABUTMENT 25 - ELEVATION (3 OF 3)

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

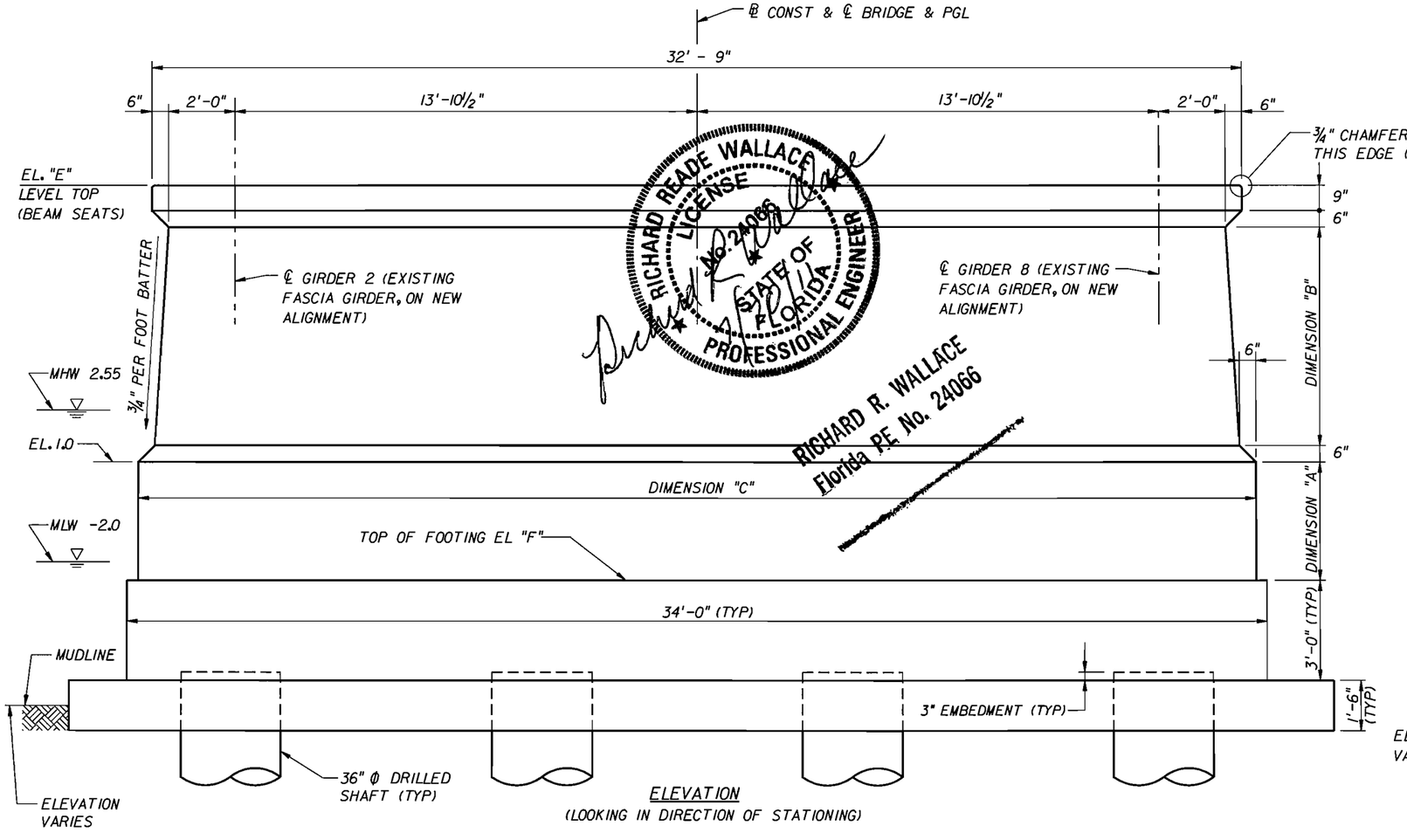
SHEET NO. B-41

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



PLAN



ELEVATION
(LOOKING IN DIRECTION OF STATIONING)

RICHARD R. WALLACE
Florida PE No. 24066

NOTES:

1. FOUNDATION SHOWN FOR REFERENCE PURPOSES ONLY. SEE SHEET B-48 FOR FOUNDATION DETAILS.
2. BEARINGS SHOWN IN PLAN VIEW ONLY FOR ILLUSTRATIVE PURPOSES. SEE SHEETS B-191 THRU B-196 FOR BEARING DETAILS.
3. ALL CHAMFERS SHALL BE ¾" UNO.

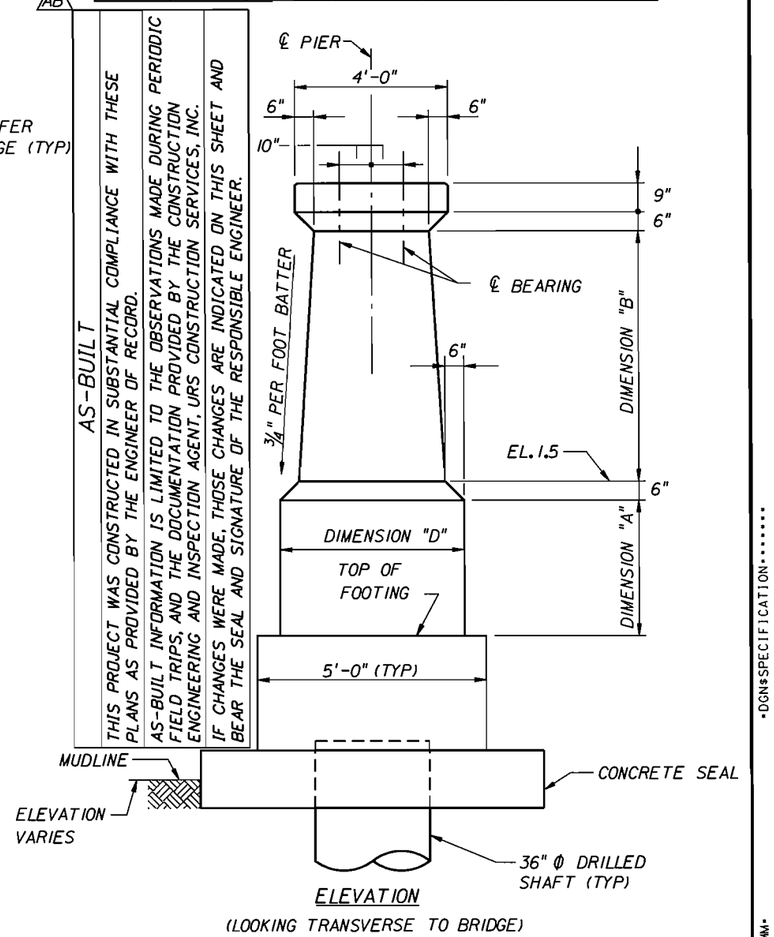
	DIMENSION				ELEVATION	
PIER	"A"	"B"	"C"	"D"	"E"	"F"
2	6'-0"	3'-3¾"	33'-2"	4'-5"	6.056	-5.0
3	8'-0"	4'-4⅞"	33'-3⅝"	4'-6⅝"	7.157	-7.0
4	8'-0"	5'-6⅛"	33'-5¼"	4'-8¼"	8.258	-7.0
5	8'-0"	6'-7¼"	33'-7"	4'-10"	9.359	-7.0

AB AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.



ELEVATION
(LOOKING TRANSVERSE TO BRIDGE)

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	PAW	11-02
CHECKED BY	JPT	06-03
DESIGNED BY	PAW	11-02
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

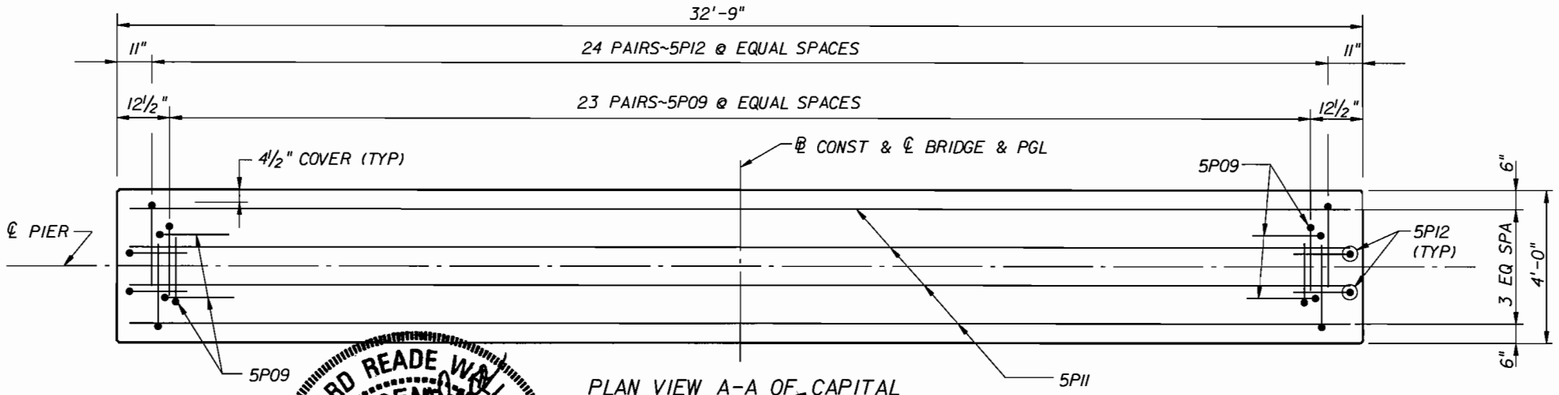
SHEET TITLE: PIERS 2 - 5 PLAN AND ELEVATION

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-45

•DGN•SPECIFICATION•••••••

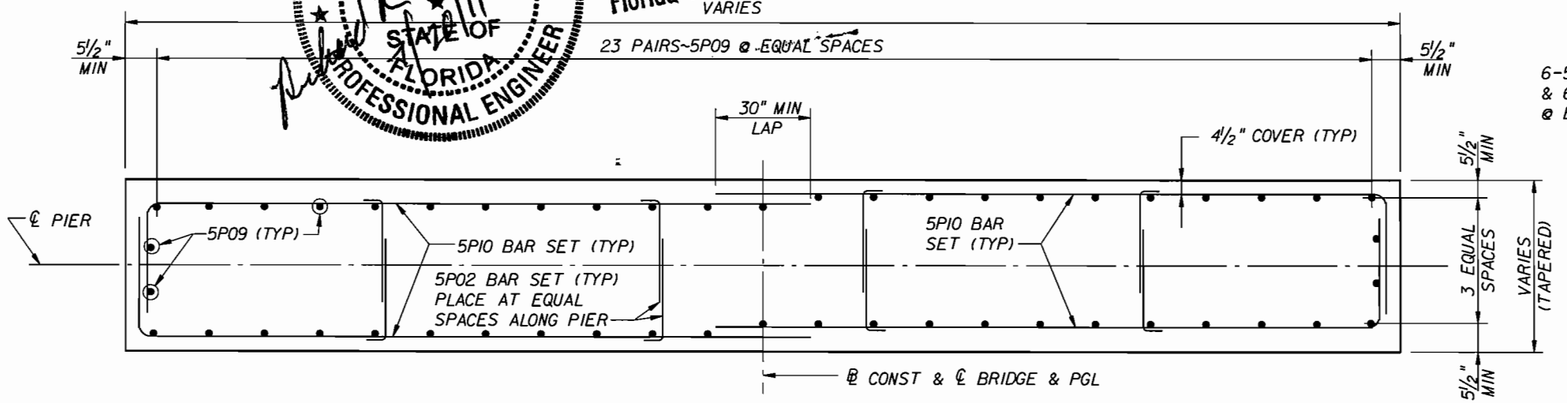
•DD-MMM-YYYY HH:MMM•



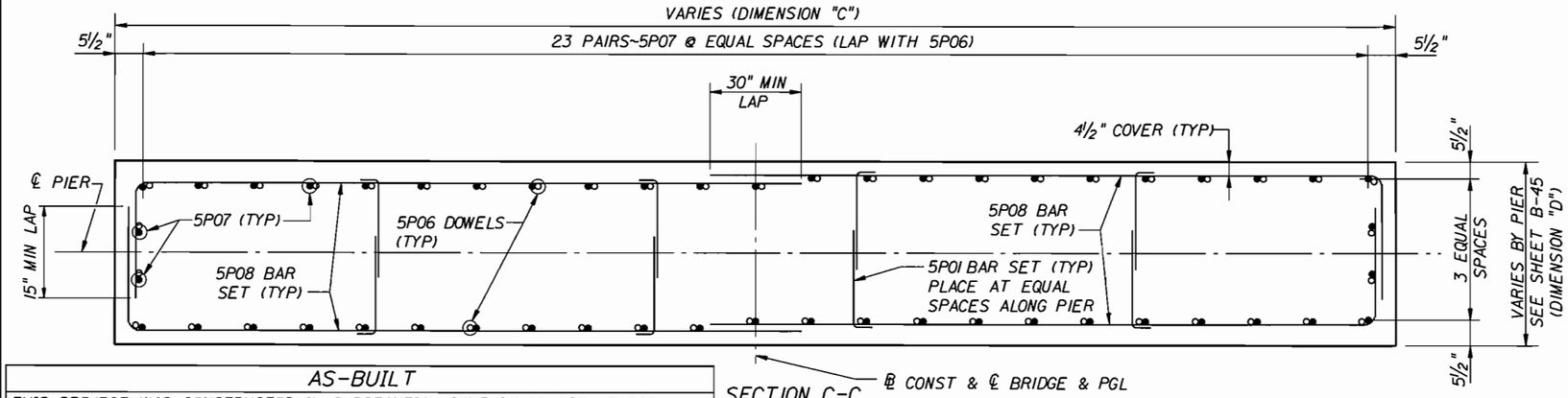
PLAN VIEW A-A OF CAPITAL

RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

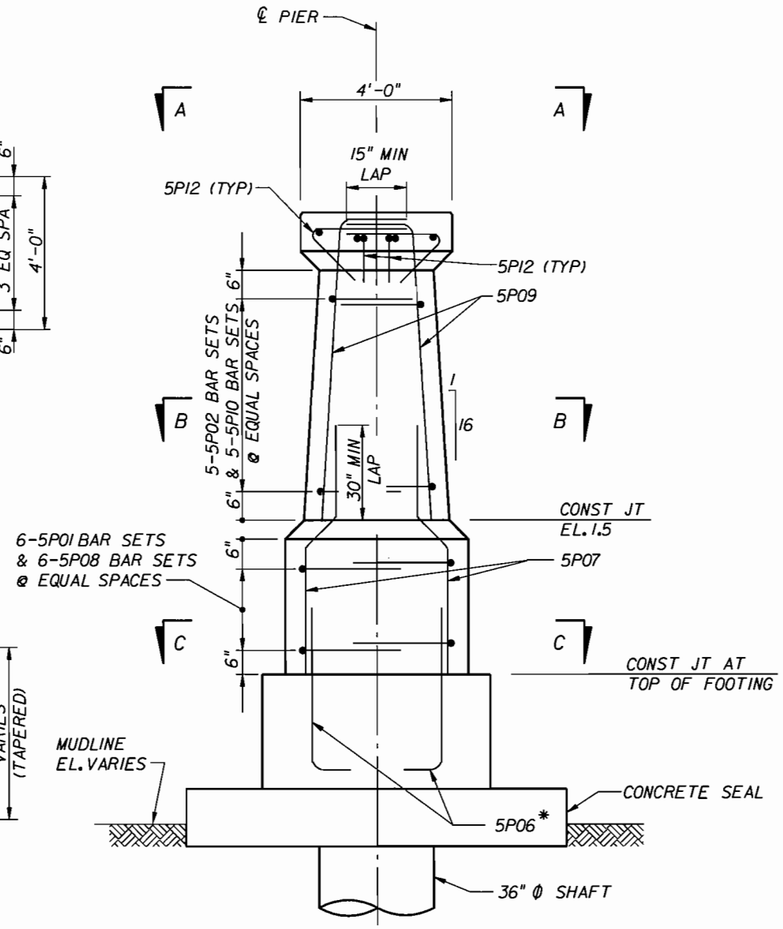
RICHARD R. WALLACE
Florida PE No. 24066



SECTION B-B



SECTION C-C



ELEVATION

* ORIENTATION OF 5P06 BARS MAY BE ADJUSTED TO AVOID CONFLICTS WITH DRILLED SHAFT BARS.

NOTES:

1. FOOTING SHOWN FOR REFERENCE PURPOSES ONLY. SEE SHEET B-48 FOR FOOTING DETAILS AND REINFORCEMENT.
2. AS A COUNTERMEASURE TO SPECIFICATION SECTION 400-9.5, THE CONTRACTOR SHALL NOT PERMIT BAY WATER TO CONTAMINATE THE SURFACE OF ANY CONSTRUCTION JOINTS PLACED BETWEEN ELEVATION -4.00 AND ELEVATION +6.55. JOINT SURFACES SHALL BE DRY OR FLOODED WITH FRESH WATER UNTIL THE COLUMN PORTION ABOVE CONSTRUCTION JOINT IS PLACED AND CURED FOR AT LEAST 72 HOURS.
3. BARS 5P09, 5P11, AND 5P12 MAY BE SHIFTED SLIGHTLY TO AVOID CONFLICTS WITH ANCHOR BOLTS AS NECESSARY.

BRIDGE NO. 780074

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC. AB

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER. AB

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	PAW	11-02
CHECKED BY	JPT	06-03
DESIGNED BY	PAW	11-02
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

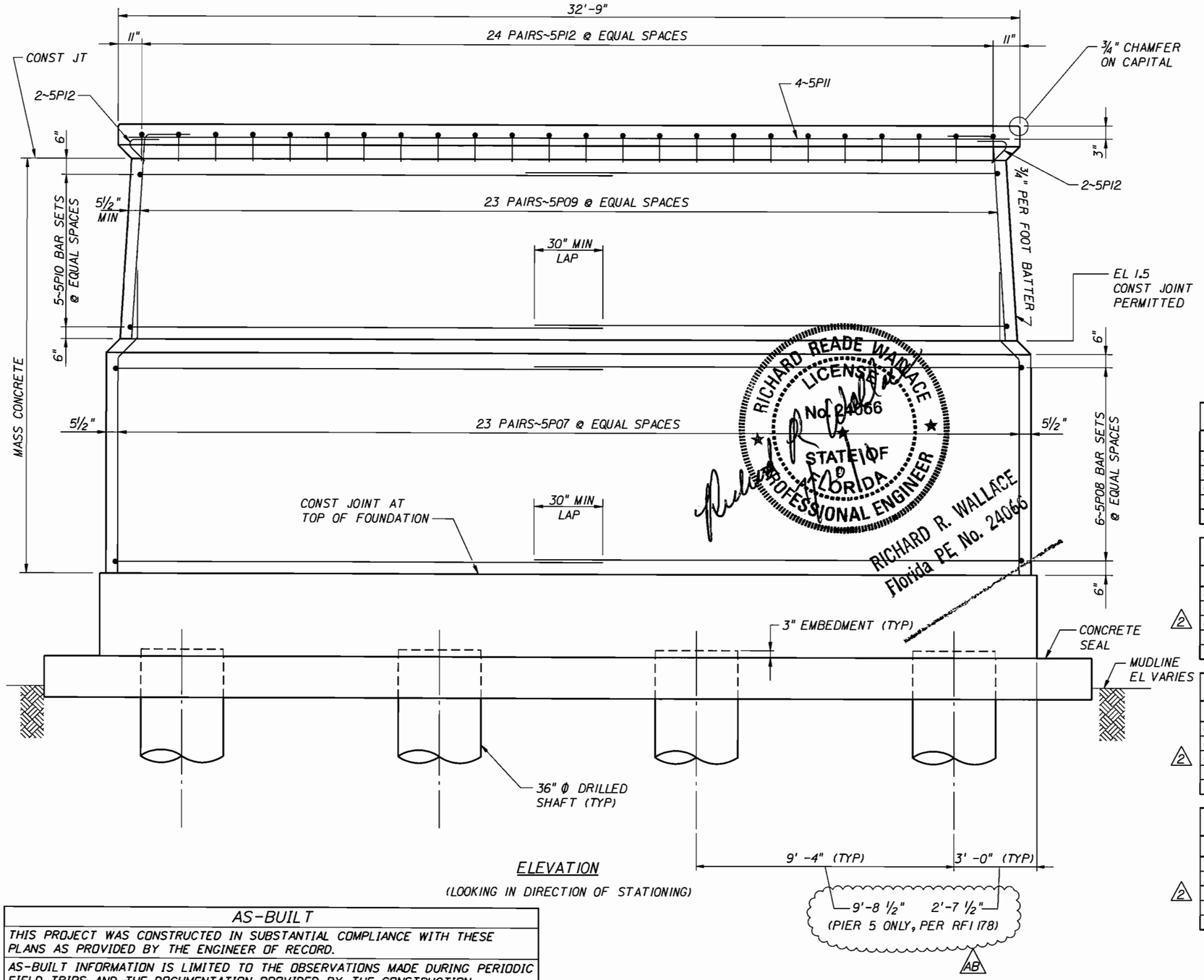
SHEET TITLE: REINFORCEMENT DETAILS PIERS 2 - 5 (1 OF 3)

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-46

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM•



ELEVATION

(LOOKING IN DIRECTION OF STATIONING)

RICHARD READE WALLACE LICENSED No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida PE No. 24066

NOTES:

1. FOOTING SHOWN FOR REFERENCE PURPOSES ONLY. SEE SHEET B-48 FOR FOOTING DETAILS AND REINFORCEMENT.
2. AS A COUNTERMEASURE TO SPECIFICATION SECTION 400-9.5, THE CONTRACTOR SHALL NOT PERMIT BAY WATER TO CONTAMINATE THE SURFACE OF ANY CONSTRUCTION JOINTS PLACED BETWEEN ELEVATION -4.00 AND ELEVATION +6.55. JOINT SURFACES SHALL BE DRY OR FLOODED WITH FRESH WATER UNTIL THE COLUMN PORTION ABOVE CONSTRUCTION JOINT IS PLACED AND CURED FOR AT LEAST 72 HOURS.

ESTIMATED QUANTITIES FOR PIER 2		
ITEM	UNIT	QUANTITY
Class V Concrete (Substructure)	C.Y.	18.89
Class V Concrete (Microsilica-Substructure)	C.Y.	5.7
Class V Concrete (Mass) (Microsilica-Substructure)	C.Y.	47.5
Class III (Seal) Concrete *	C.Y.	20J
Reinforcing Steel (Substructure)	LB.	3,954

ESTIMATED QUANTITIES FOR PIER 3		
ITEM	UNIT	QUANTITY
Class V Concrete (Substructure)	C.Y.	18.89
Class V Concrete (Microsilica-Substructure)	C.Y.	5.7
2 Class V Concrete (Mass) (Microsilica-Substructure)	C.Y.	64.5
Class III (Seal) Concrete *	C.Y.	20J
Reinforcing Steel (Substructure)	LB.	4,120

ESTIMATED QUANTITIES FOR PIER 4		
ITEM	UNIT	QUANTITY
Class V Concrete (Substructure)	C.Y.	18.89
Class V Concrete (Microsilica-Substructure)	C.Y.	5.7
2 Class V Concrete (Mass) (Microsilica-Substructure)	C.Y.	70.9
Class III (Seal) Concrete *	C.Y.	20J
Reinforcing Steel (Substructure)	LB.	4,179

ESTIMATED QUANTITIES FOR PIER 5		
ITEM	UNIT	QUANTITY
Class V Concrete (Substructure)	C.Y.	18.89
Class V Concrete (Microsilica-Substructure)	C.Y.	5.7
2 Class V Concrete (Mass) (Microsilica-Substructure)	C.Y.	77.4
Class III (Seal) Concrete *	C.Y.	20J
Reinforcing Steel (Substructure)	LB.	4,292

* SEAL QUANTITIES BASED ON 1'-6" THICKNESS

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER. AB

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
4-2-04	BMS	2 REVISIONS TO ESTIMATED QUANTITIES FOR PIERS 3, 4, AND 5			
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	PAW	11-02
CHECKED BY	JPT	06-03
DESIGNED BY	PAW	11-02
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

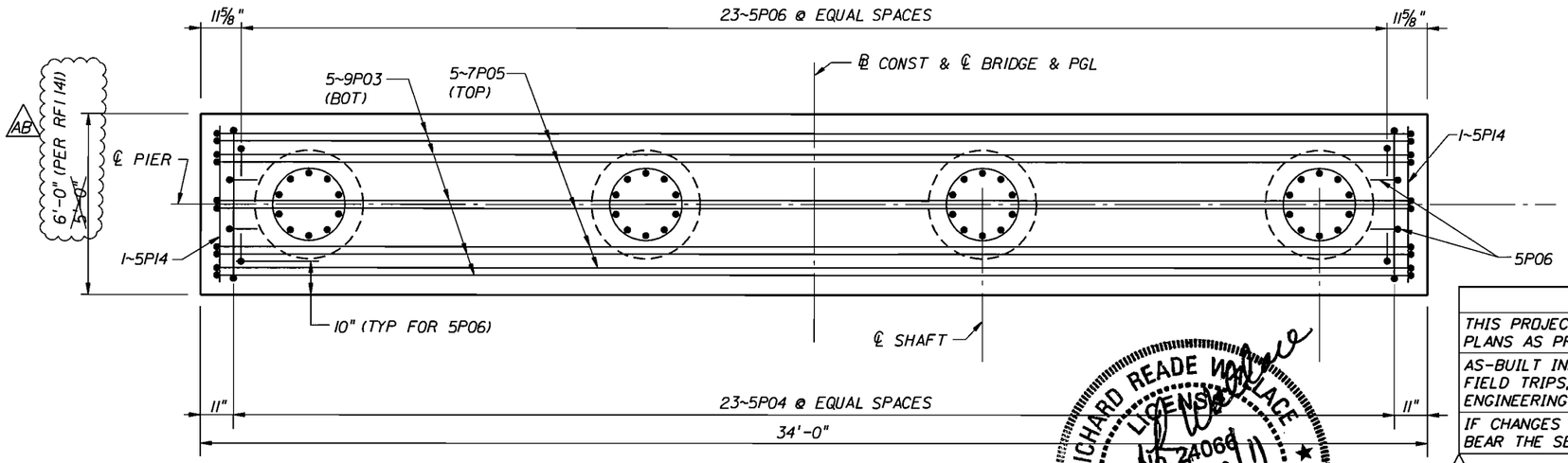
SHEET TITLE: REINFORCEMENT DETAILS PIERS 2 - 5 (2 OF 3)

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-47

•DGN•SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



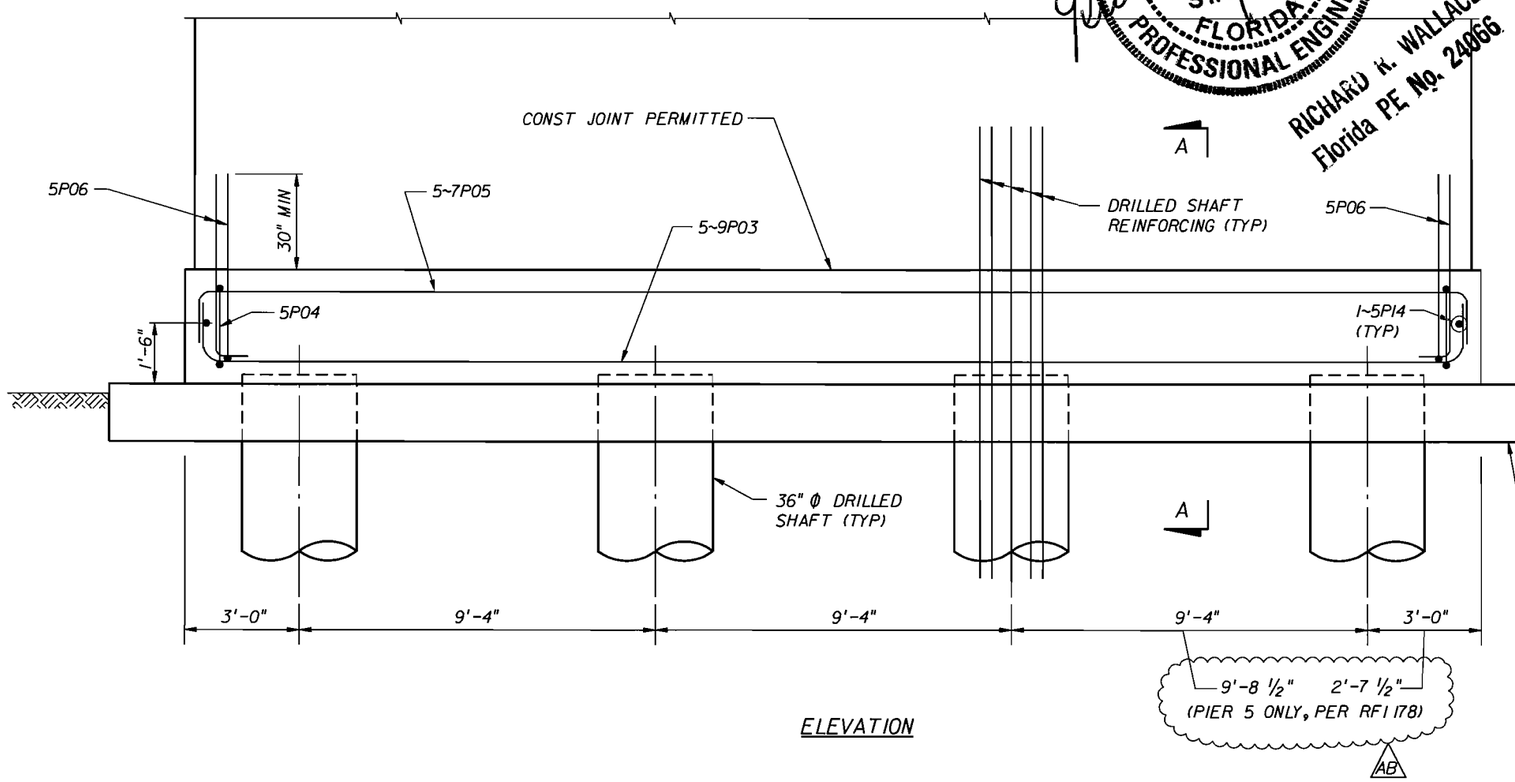
PLAN

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

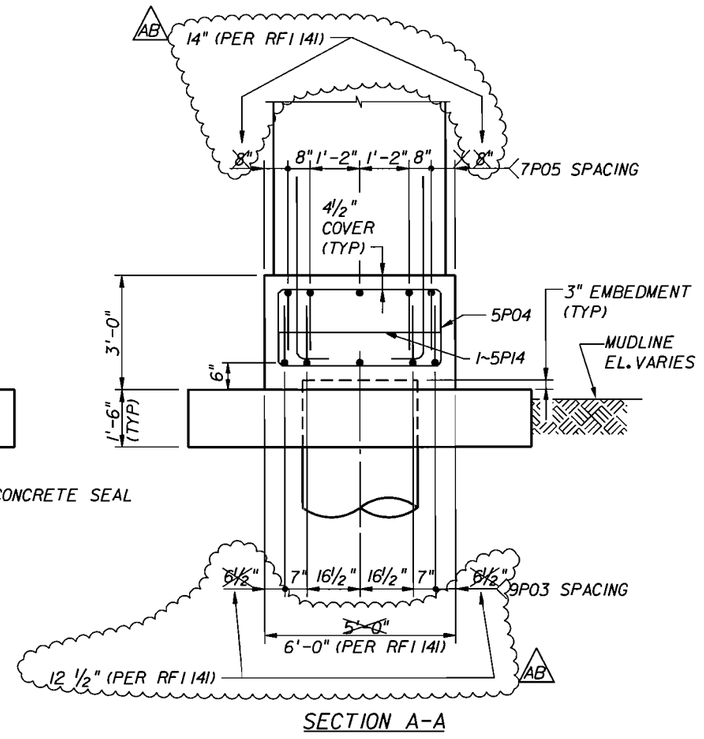
AB

RICHARD READE WALLACE LICENSE No. 24066 7-20-11 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE Florida P.E. No. 24066



ELEVATION



SECTION A-A

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	PAW	11-02
CHECKED BY	JPT	06-03
DESIGNED BY	PAW	11-02
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0507
904-256-2500 FL Cert. No. EB0005820
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

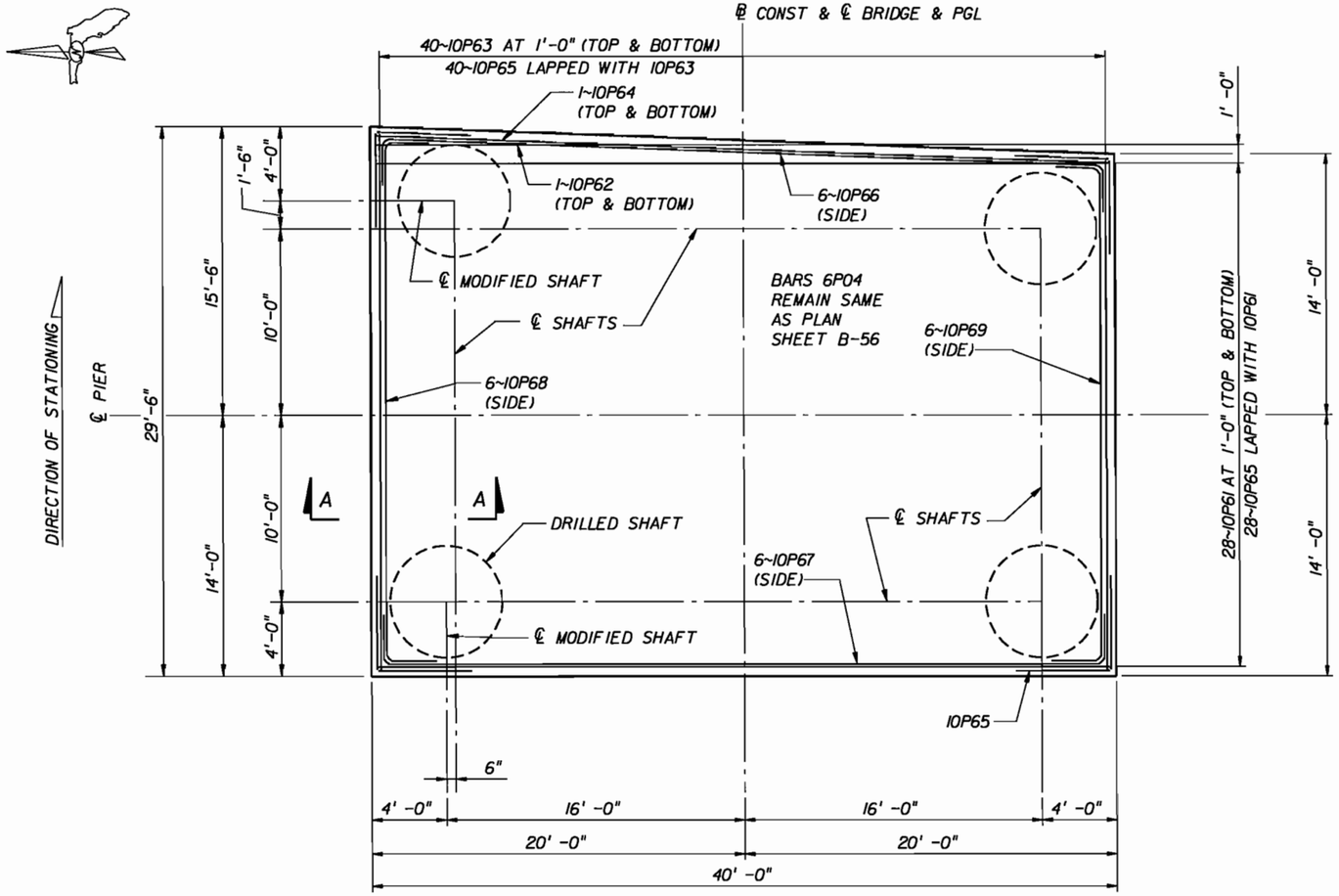
SHEET TITLE:
REINFORCEMENT DETAILS
PIERS 2 - 5 (3 OF 3)

PROJECT NAME:
PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

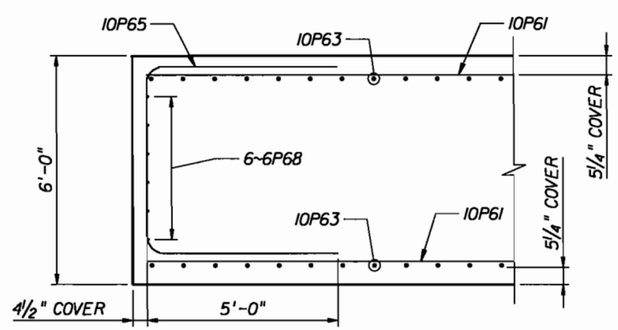
SHEET NO.
B-48

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



PLAN - PIER 12



SECTION A-A

RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida P.E. No. 24066

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

AB

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT - NEW SHEET (PER RFI 147)			

	NAMES	DATES
DRAWN BY	BMS	01-07
CHECKED BY	RRW	01-07
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD: RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

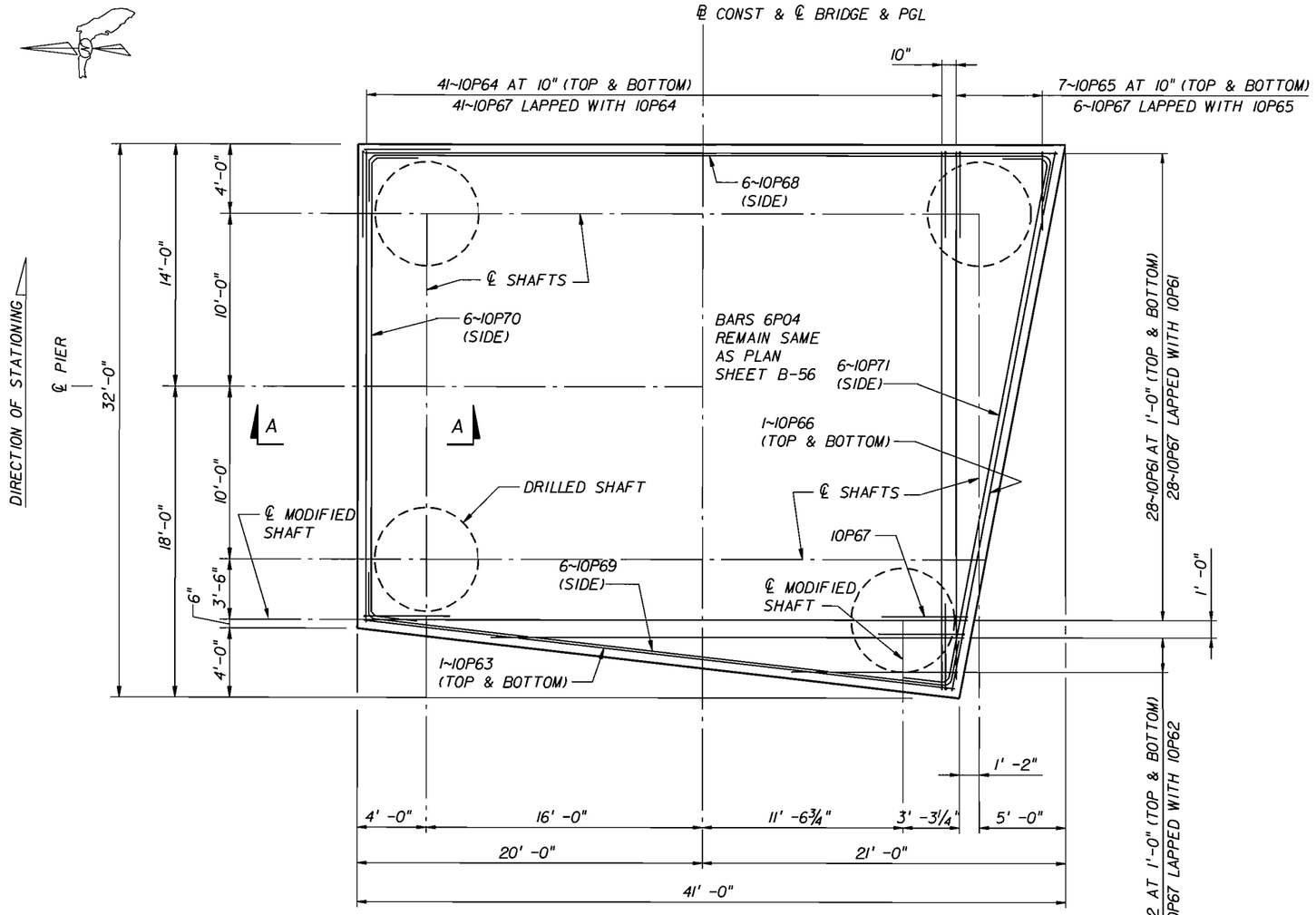
SHEET TITLE: FOOTING REINFORCEMENT DETAILS MODIFIED PIER 12

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

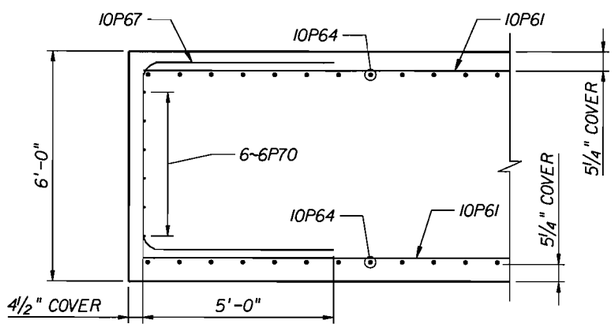
SHEET NO. B-56A

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM•



PLAN - PIER 13



SECTION A-A

RICHARD READE WALLACE
LICENSE
No. 24066
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida PE No. 24066

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

AB

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT - NEW SHEET (PER RFI'S 144, 147, & 148)			

	NAMES	DATES
DRAWN BY	BMS	12-06
CHECKED BY	RRW	12-06
DESIGNED BY		
CHECKED BY		
APPROVED BY		

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0587
904-256-2500 FL Cert. No. EB0005620

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

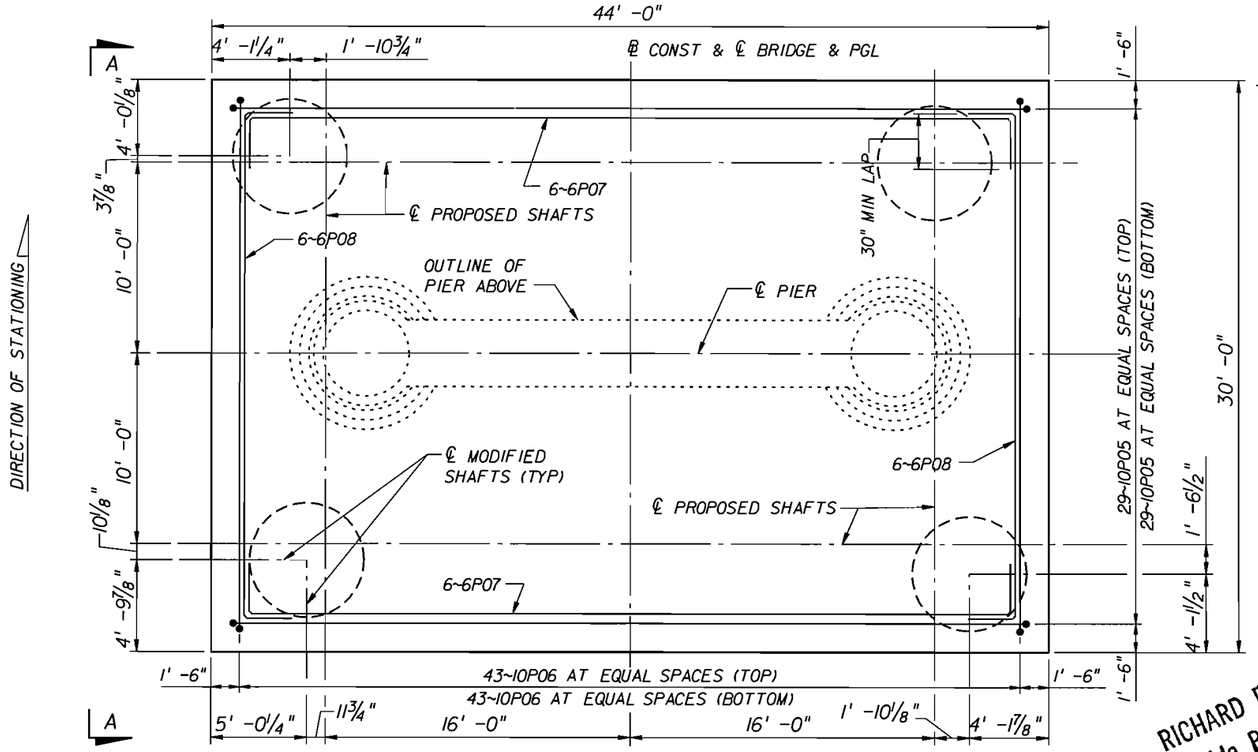
SHEET TITLE: FOOTING REINFORCEMENT DETAILS MODIFIED PIER 13

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

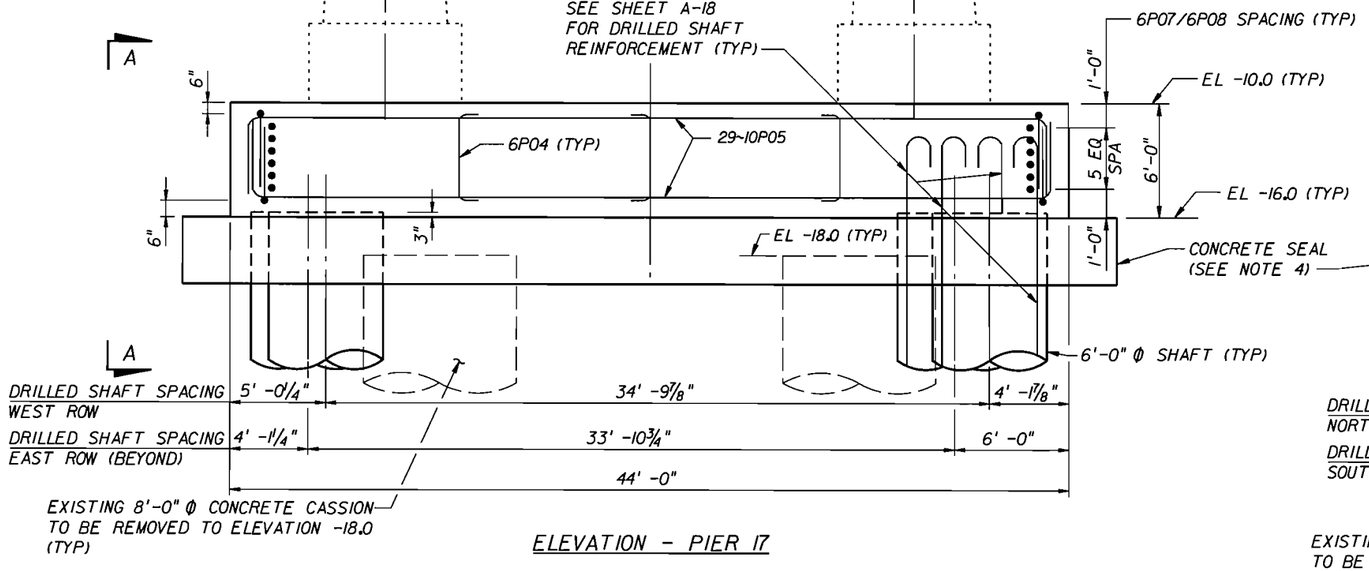
SHEET NO. B-56B

•DGN$SPECIFICATION•••••••

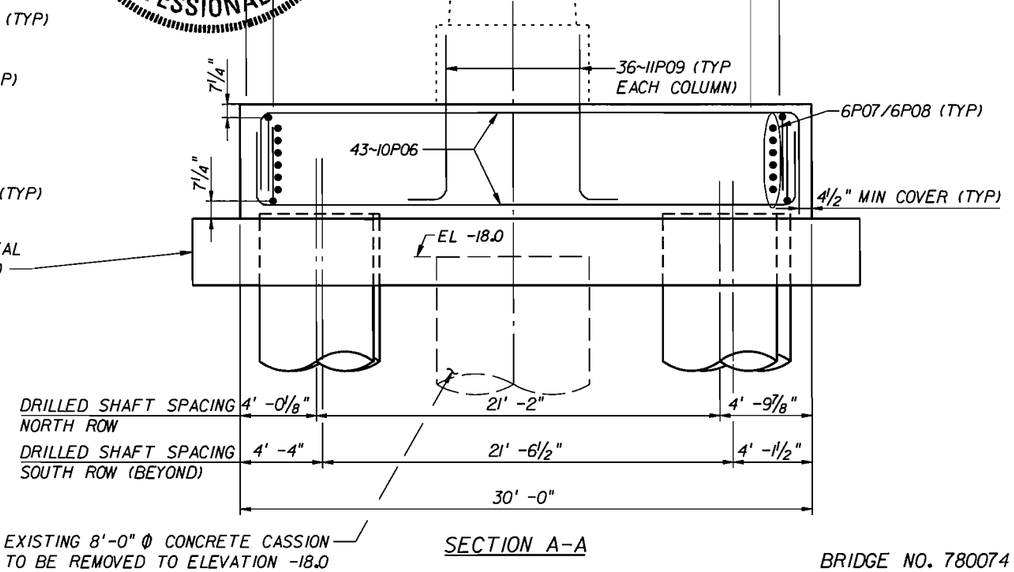
•DD-MMM-YYYY HH:MMM•



PLAN - PIER 17



ELEVATION - PIER 17



SECTION A-A

NOTES:

1. DETAILS SHOWN THIS SHEET DEPICT THE MODIFIED SUBMERGED FOUR SHAFT PIER FOOTING USED TO SUPPORT THE PIER COLUMN AT PIER 17.
2. 10P06 AND 10P05 BARS MAY BE SHIFTED SLIGHTLY IN THE VICINITY OF THE DRILLED SHAFTS AND PIER COLUMNS TO AVOID CONFLICTS WITH THE SHAFT VERTICAL REINFORCEMENT.
3. PROVISIONS FOR MASS CONCRETE SHALL APPLY TO CONCRETE FOR PIERS 12-14 AND 17-19 FOOTINGS.
4. NON-REINFORCED, CLASS III (SEAL) CONCRETE SEALS SHALL BE 3'-6" THICK FOR PIERS 12-14 AND 17-19. CONTRACTOR MAY PROVIDE ALTERNATE DESIGN FOR SEALS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

AB

RICHARD R. WALLACE
Florida PE No. 24066
RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/20/11

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT - NEW SHEET (PER RFI'S 187, 188, & 190)			

	NAMES	DATES
DRAWN BY	PAW	05-03
CHECKED BY	GBL	06-03
DESIGNED BY	GBL	03-03
CHECKED BY	PAW	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

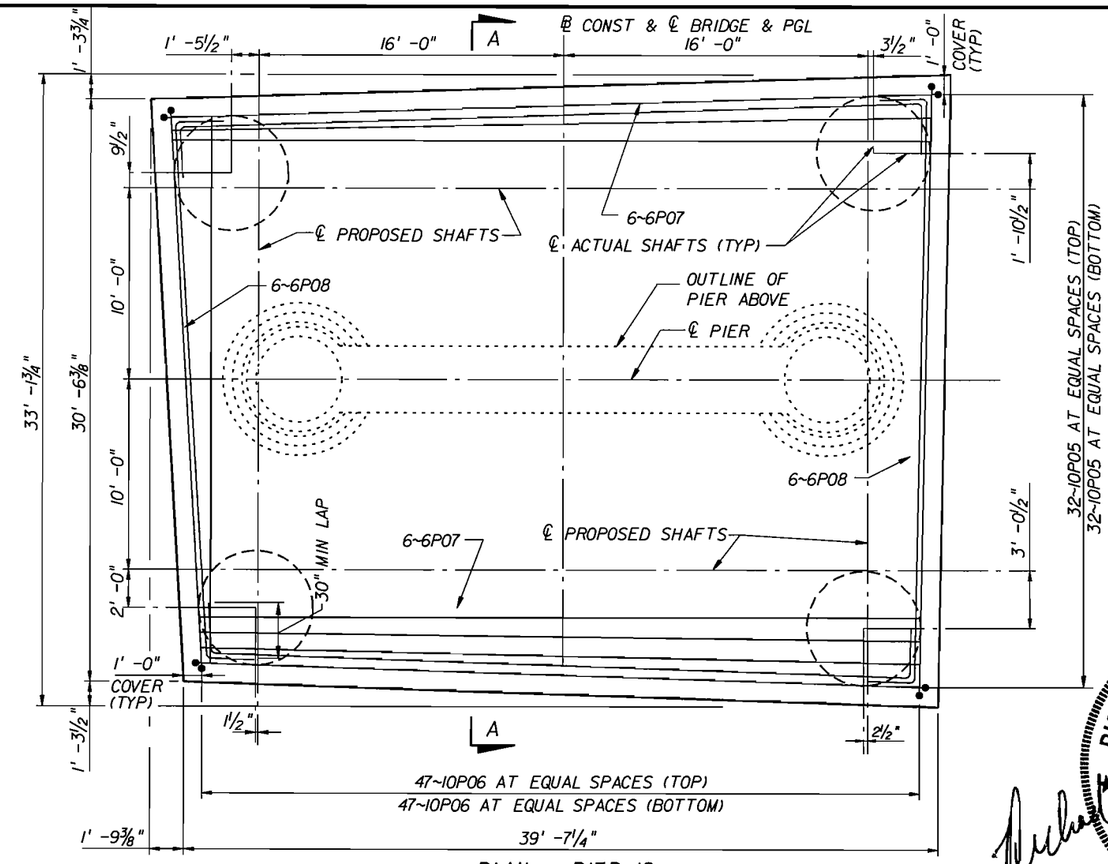
SHEET TITLE: FOOTING REINFORCEMENT DETAILS MODIFIED PIER 17

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-56C

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



PLAN - PIER 18

DIRECTION OF STATIONING

NOTES:

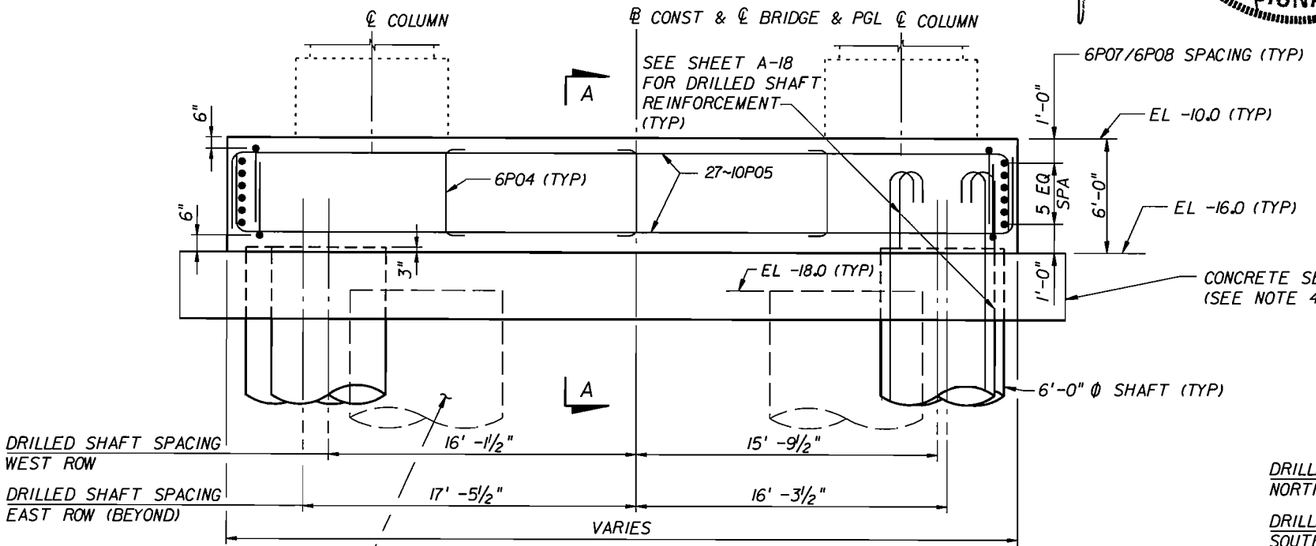
1. DETAILS SHOWN THIS SHEET DEPICT THE TYPICAL SUBMERGED FOUR SHAFT PIER FOOTING USED TO SUPPORT PIER 18.
2. 10P06 AND 10P05 BARS MAY BE SHIFTED SLIGHTLY IN THE VICINITY OF THE DRILLED SHAFTS AND PIER COLUMNS TO AVOID CONFLICTS WITH THE SHAFT VERTICAL REINFORCEMENT.
3. PROVISIONS FOR MASS CONCRETE SHALL APPLY TO CONCRETE FOR PIERS 12-14 AND 17-19 FOOTINGS.
4. NON-REINFORCED, CLASS III (SEAL) CONCRETE SEALS SHALL BE 3'-6" THICK FOR PIERS 12-14 AND 17-19. CONTRACTOR MAY PROVIDE ALTERNATE DESIGN FOR SEALS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

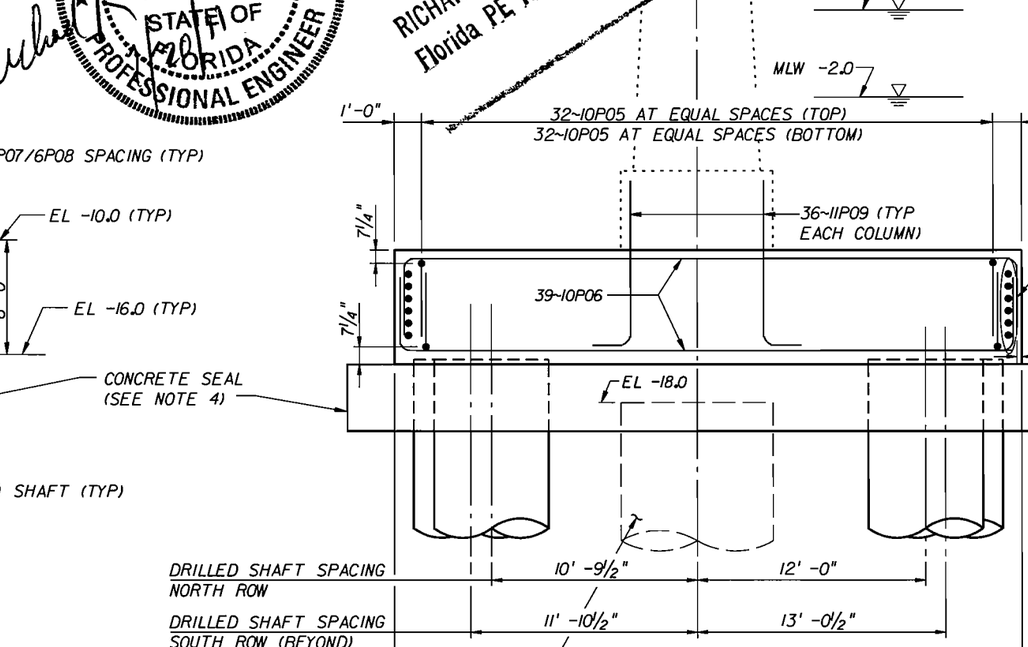
AB

RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE Florida PE No. 24066



ELEVATION - PIER 18



SECTION A-A

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT - NEW SHEET (PER RFI'S 175, 179, 181, 184, & 287)			

	NAMES	DATES
DRAWN BY	PAW	05-03
CHECKED BY	GBL	06-03
DESIGNED BY	GBL	03-03
CHECKED BY	PAW	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

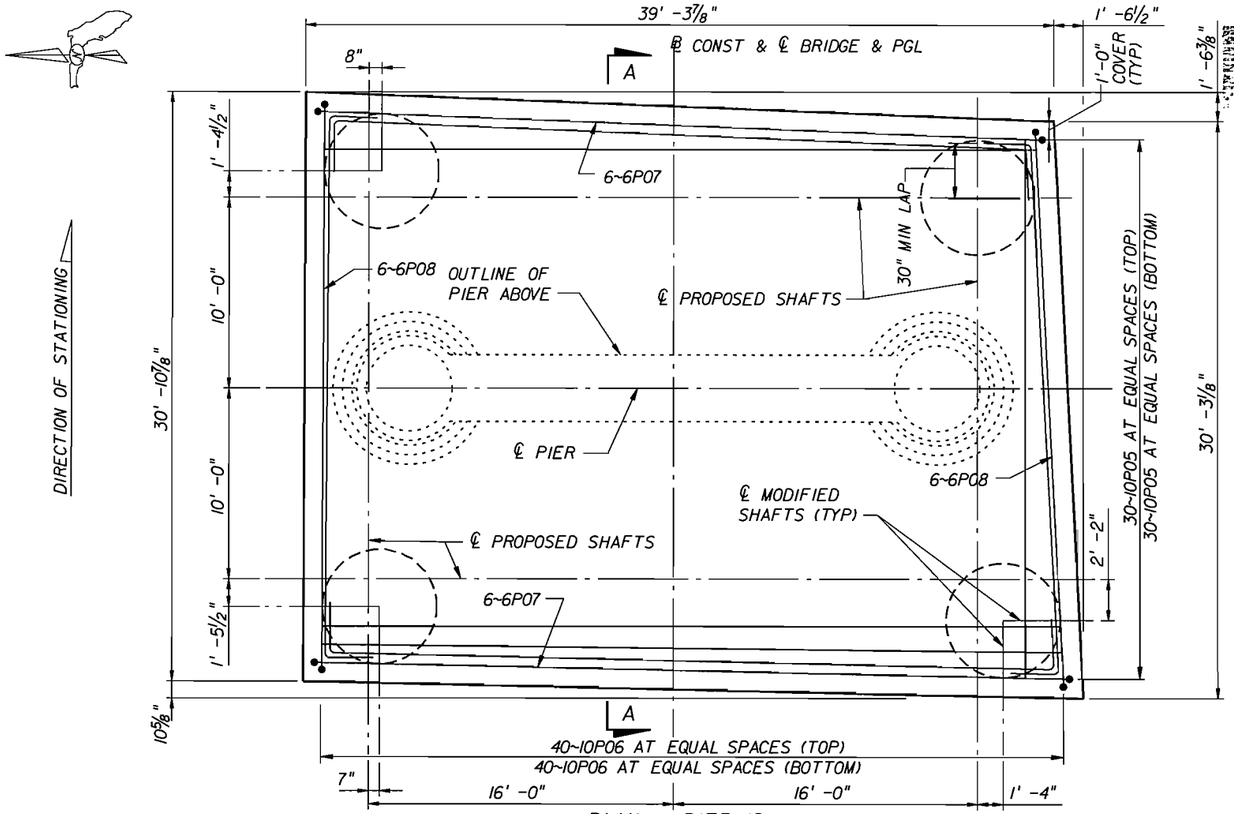
SHEET TITLE: FOOTING REINFORCEMENT DETAILS MODIFIED PIER 18

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

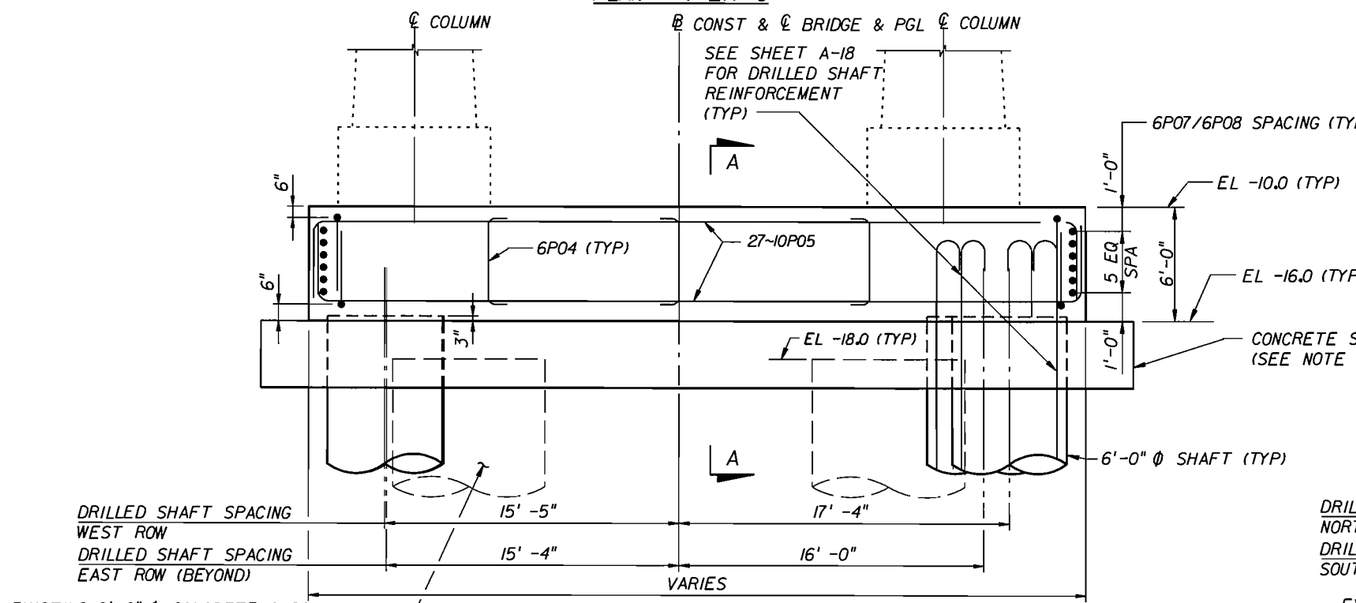
SHEET NO. B-56D

•DGN$SPECIFICATION•••••••

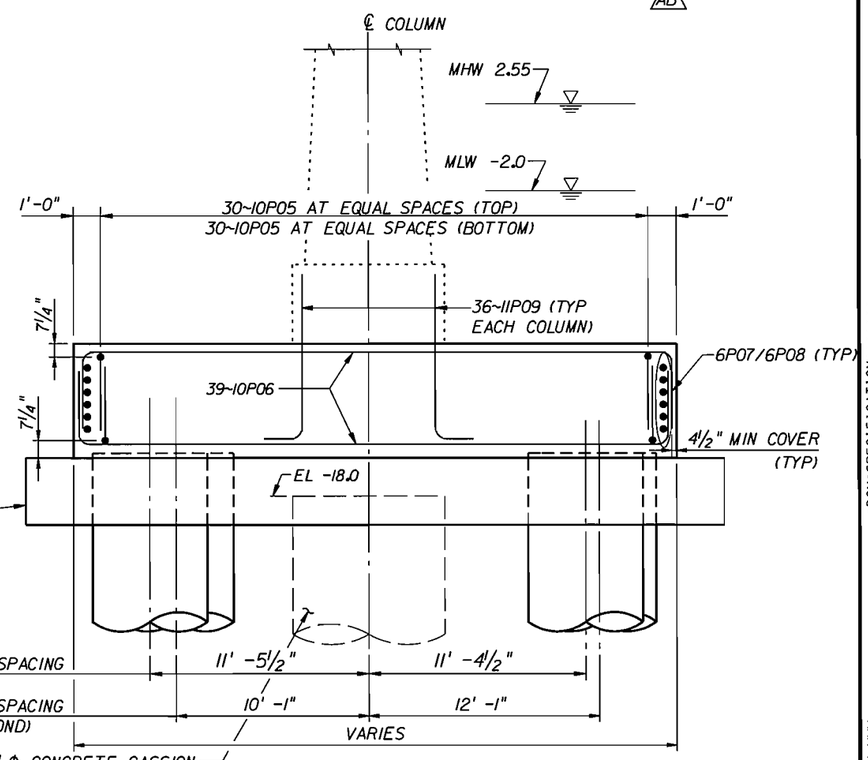
•DD-MMM-YYYY HH:MMM•



PLAN - PIER 19



ELEVATION - PIER 19



SECTION A-A

DIRECTION OF STATIONING

RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida PE No. 24066

NOTES:

1. DETAILS SHOWN THIS SHEET DEPICT THE TYPICAL SUBMERGED FOUR SHAFT PIER FOOTING USED TO SUPPORT PIER 19.
2. 10P06 AND 10P05 BARS MAY BE SHIFTED SLIGHTLY IN THE VICINITY OF THE DRILLED SHAFTS AND PIER COLUMNS TO AVOID CONFLICTS WITH THE SHAFT VERTICAL REINFORCEMENT.
3. PROVISIONS FOR MASS CONCRETE SHALL APPLY TO CONCRETE FOR PIERS 12-14 AND 17-19 FOOTINGS.
4. NON-REINFORCED, CLASS III (SEAL) CONCRETE SEALS SHALL BE 3'-6" THICK FOR PIERS 12-14 AND 17-19. CONTRACTOR MAY PROVIDE ALTERNATE DESIGN FOR SEALS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

AB

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	PAW	05-03
CHECKED BY	GBL	06-03
DESIGNED BY	GBL	03-03
CHECKED BY	PAW	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

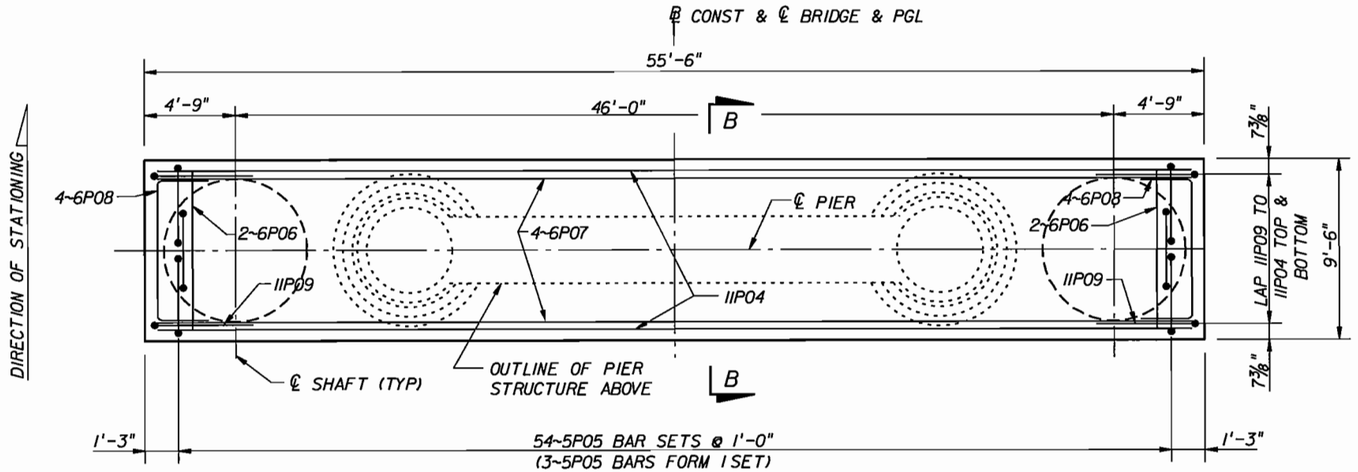
SHEET TITLE: FOOTING REINFORCEMENT DETAILS MODIFIED PIER 19

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-56E

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



PLAN - PIERS 6-11 & 20-24

NOTE: FOOTING DIMENSIONS & SHAFT SPACING FOR PIERS 20, 21, & 23 HAVE BEEN REVISED. SEE SHEETS B-57A THRU B-57C FOR MODIFIED DETAILS.

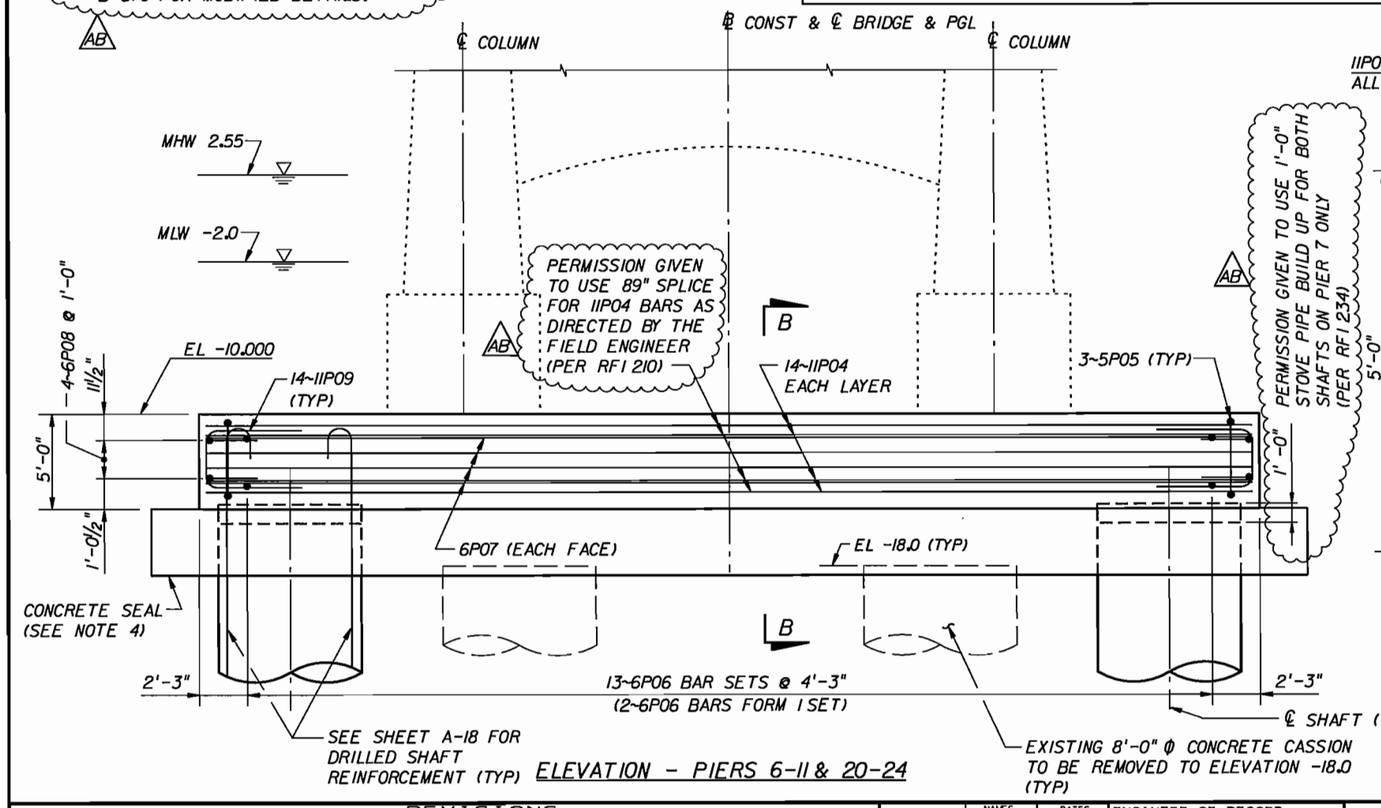
AB

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AB AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

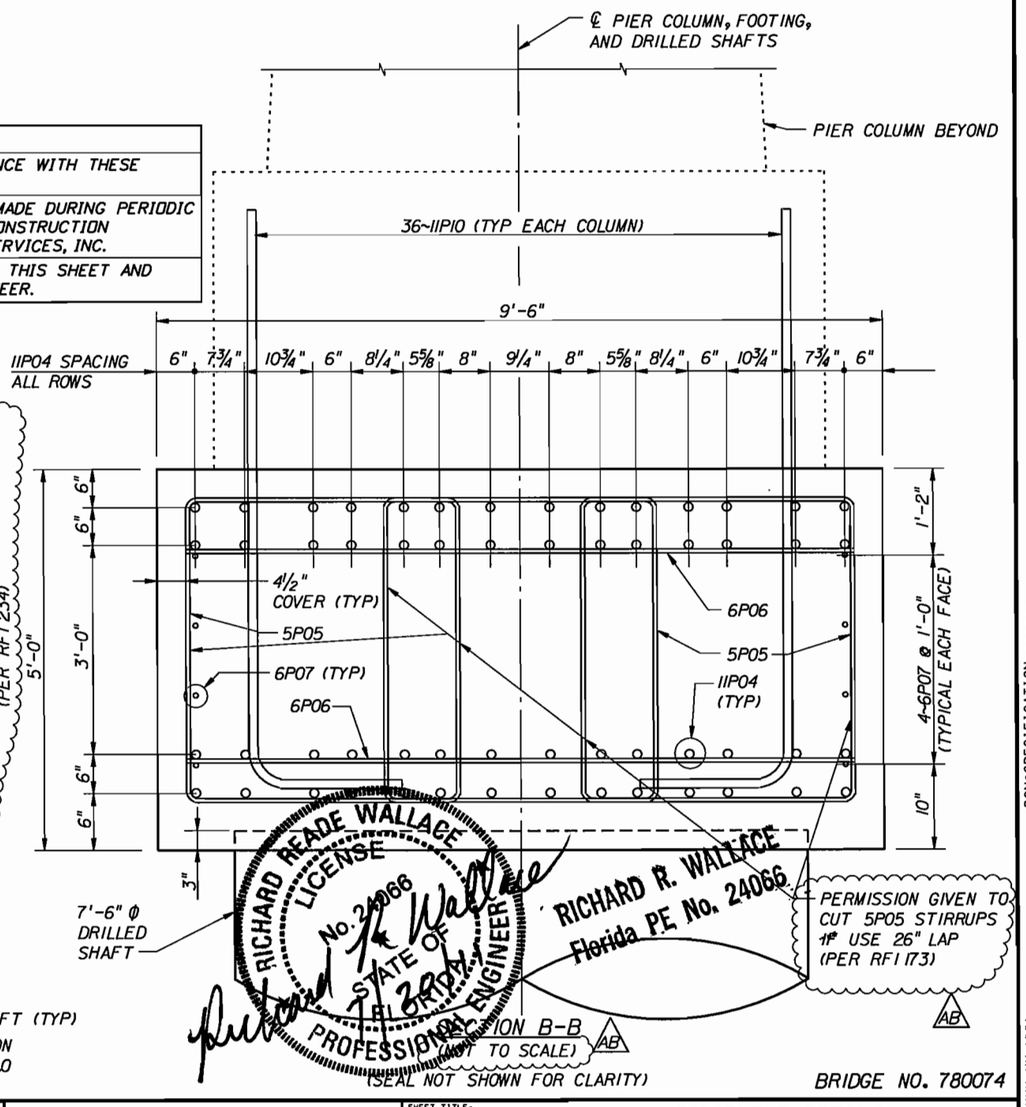
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.



ELEVATION - PIERS 6-11 & 20-24

NOTES:

1. THE INFORMATION PRESENTED ON THIS SHEET DEPICTS THE TYPICAL SUBMERGED TWO SHAFT PIER FOOTING USED TO SUPPORT THE PIER COLUMNS.
2. 5P05, 11P04, AND 6P06 BARS MAY BE SHIFTED SLIGHTLY IN VICINITY OF DRILLED SHAFTS AND PIER COLUMNS TO AVOID CONFLICTS WITH REINFORCEMENT IN THOSE ELEMENTS.
3. PROVISIONS FOR MASS CONCRETE SHALL APPLY TO CONCRETE COLUMNS AND FOOTINGS FOR PIERS 6-10 AND 20-24.
4. NON-REINFORCED, CLASS III (SEAL) CONCRETE SEALS SHALL BE 3'-6" THICK FOR PIERS 6-11 AND 20-24. CONTRACTOR MAY PROVIDE ALTERNATE DESIGN FOR SEALS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.



RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE Florida PE No. 24066

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	PAW	03-03
CHECKED BY	GBL	06-03
DESIGNED BY	PAW	03-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD: RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

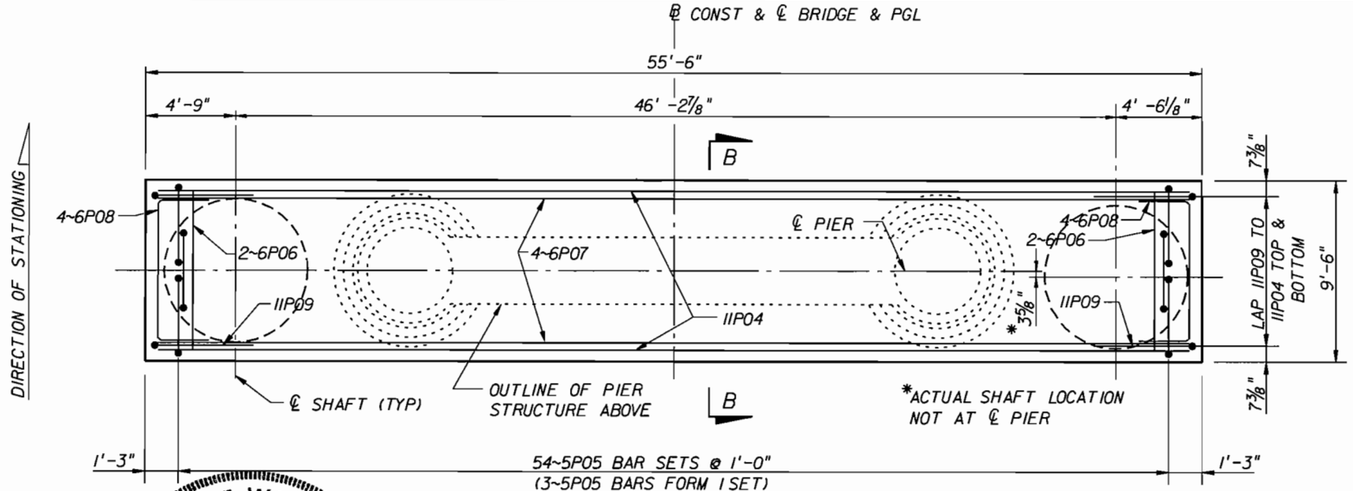
SHEET TITLE: FOOTING REINFORCEMENT DETAILS PIERS 6-11, 20-24

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-57

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM•



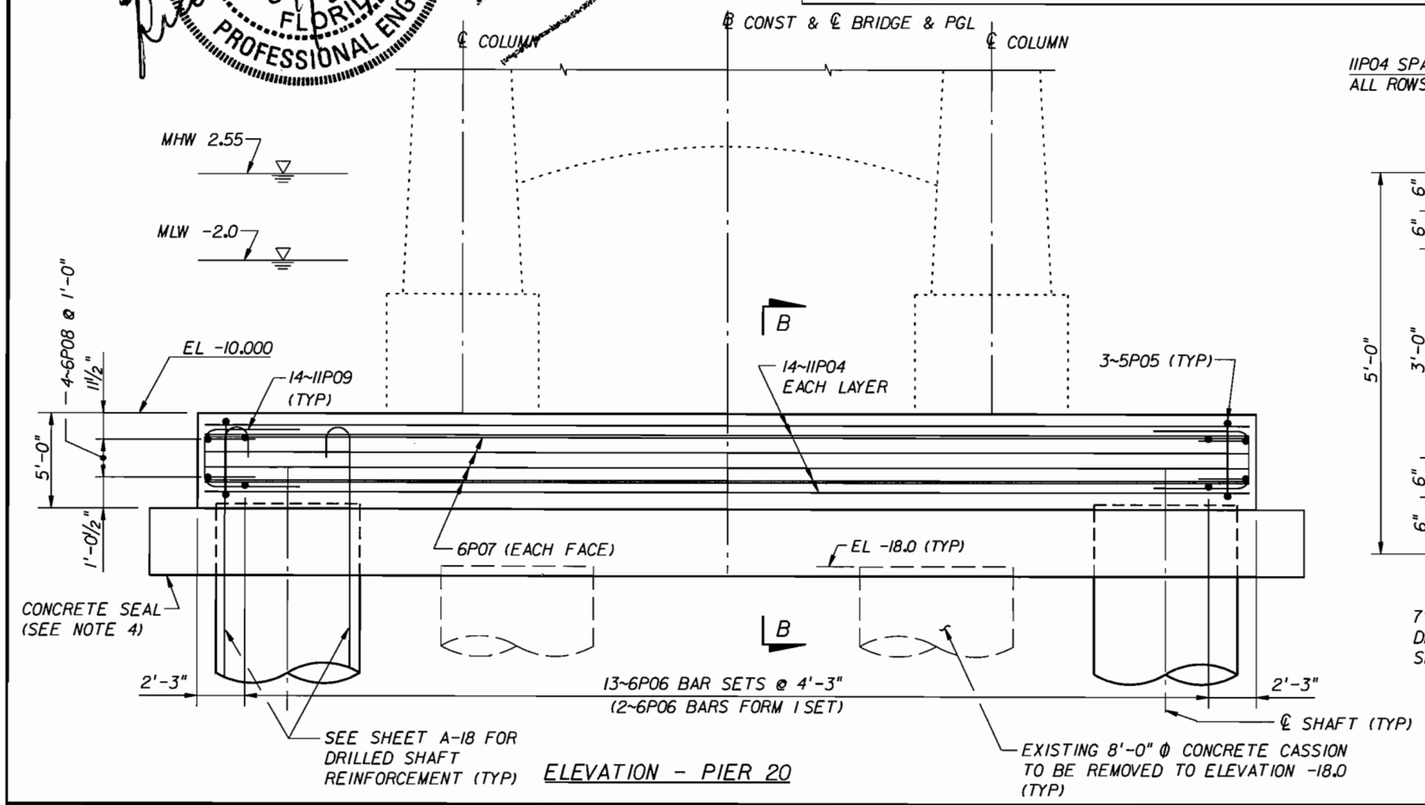
RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida P.E. No. 24066

LAMS

ELEVATION - PIER 20

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.



NOTES:

1. THE INFORMATION PRESENTED ON THIS SHEET DEPICTS THE MODIFIED SUBMERGED TWO SHAFT PIER FOOTING USED TO SUPPORT THE PIER COLUMNS AT PIER 20.
2. 5P05, 11P04, AND 6P06 BARS MAY BE SHIFTED SLIGHTLY IN VICINITY OF DRILLED SHAFTS AND PIER COLUMNS TO AVOID CONFLICTS WITH REINFORCEMENT IN THOSE ELEMENTS.
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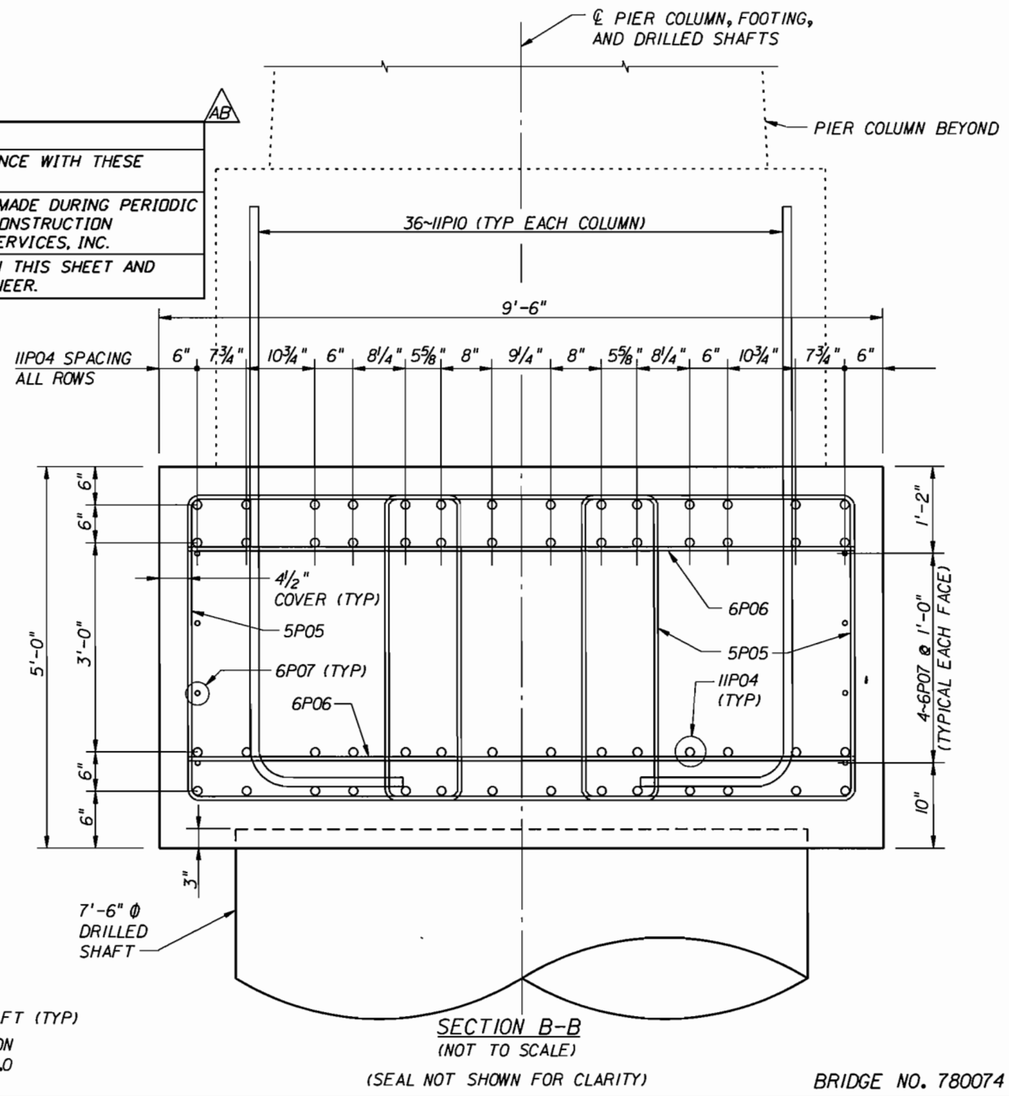


SECTION B-B
(NOT TO SCALE)

(SEAL NOT SHOWN FOR CLARITY)

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT - NEW SHEET (PER RFI 158)			

	NAMES	DATES
DRAWN BY	PAW	03-03
CHECKED BY	GBL	06-03
DESIGNED BY	PAW	03-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

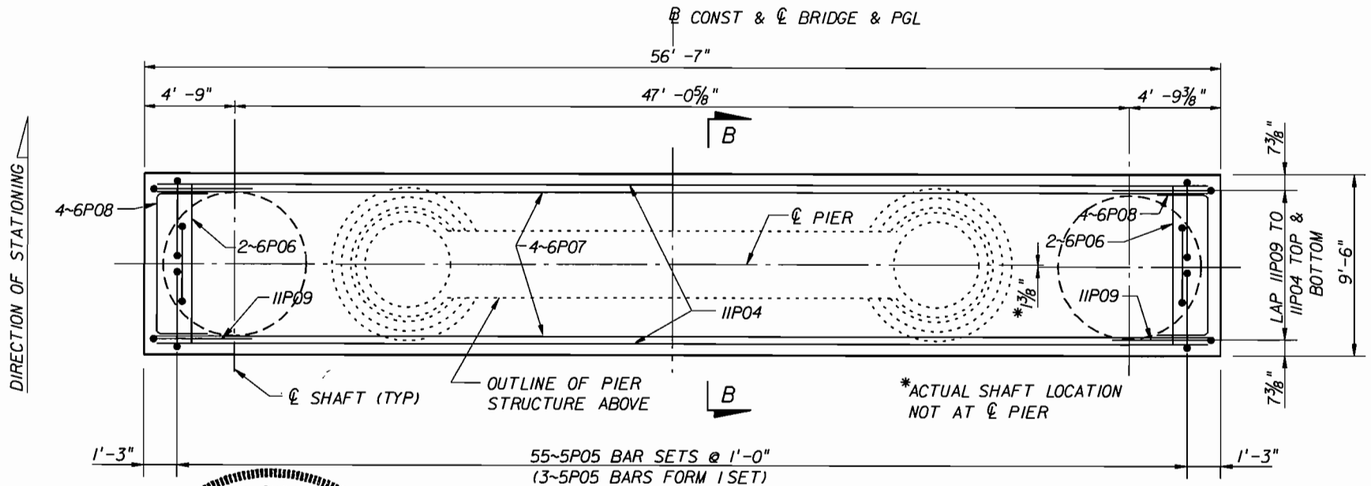
SHEET TITLE: FOOTING REINFORCEMENT DETAILS MODIFIED PIER 20

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-57A

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

PLAN - PIER 21

RICHARD R. WALLACE
Florida P.E. No. 24066

AS-BUILT

AB

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

NOTES:

1. THE INFORMATION PRESENTED ON THIS SHEET DEPICTS THE MODIFIED SUBMERGED TWO SHAFT PIER FOOTING USED TO SUPPORT THE PIER COLUMNS AT PIER 21.
2. 5P05, IIP04, AND 6P06 BARS MAY BE SHIFTED SLIGHTLY IN VICINITY OF DRILLED SHAFTS AND PIER COLUMNS TO AVOID CONFLICTS WITH REINFORCEMENT IN THOSE ELEMENTS.
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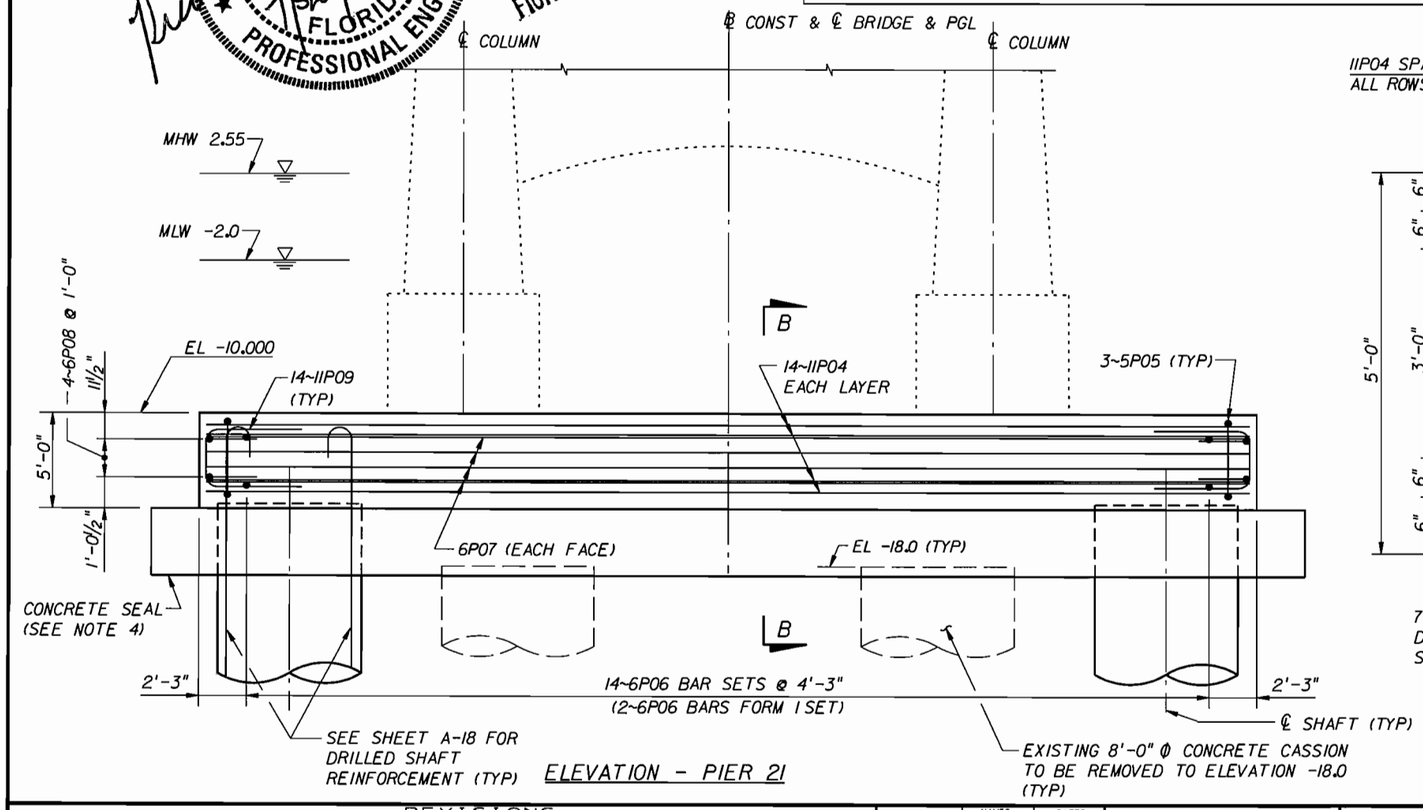
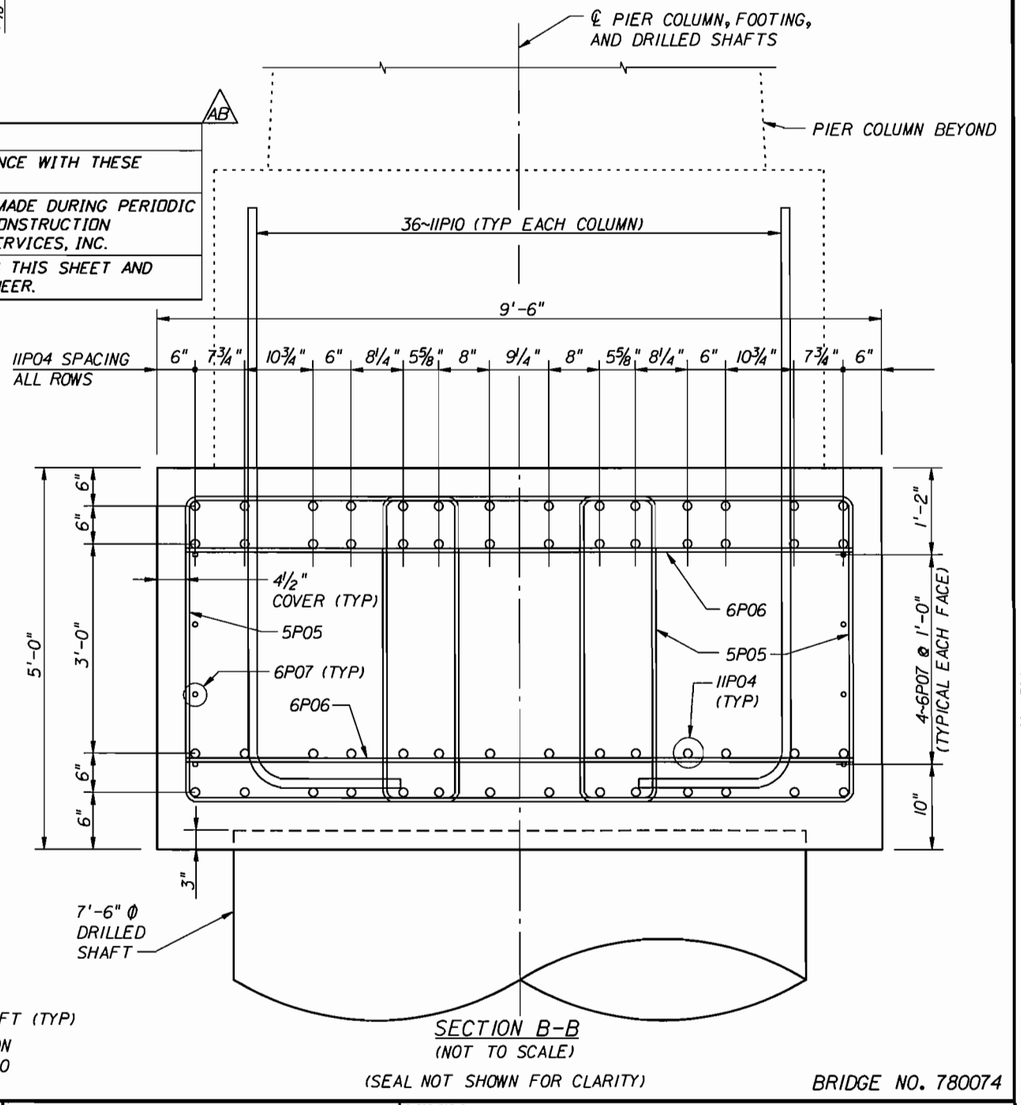


ELEVATION - PIER 21



SECTION B-B
(NOT TO SCALE)
(SEAL NOT SHOWN FOR CLARITY)

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT - NEW SHEET (PER RFI 159)			

	NAMES	DATES
DRAWN BY	PAW	03-03
CHECKED BY	GBL	06-03
DESIGNED BY	PAW	03-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

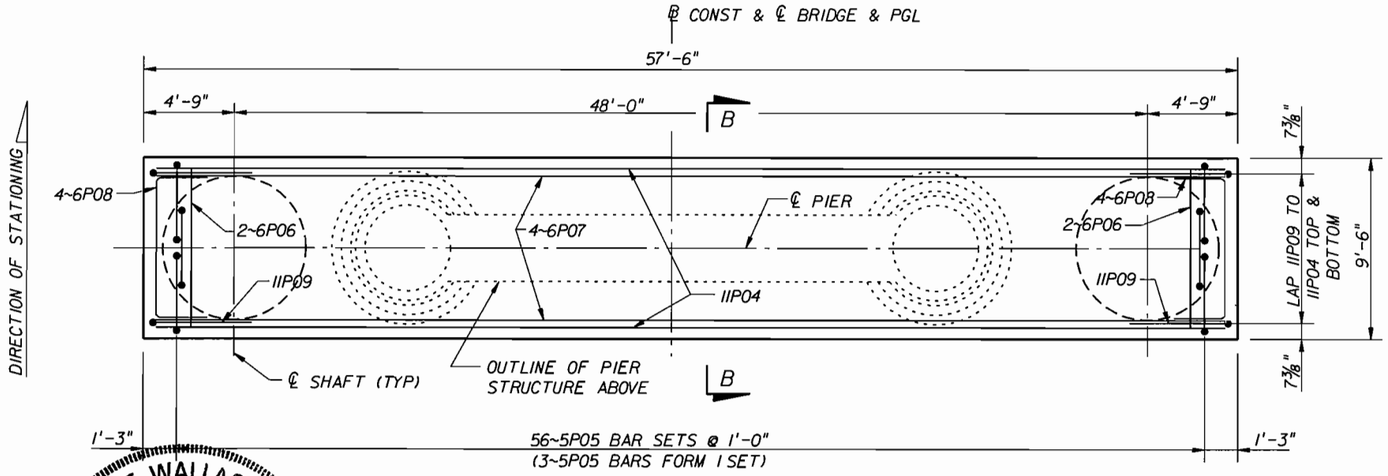
SHEET TITLE: FOOTING REINFORCEMENT DETAILS MODIFIED PIER 21

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-57B

•DGN$SPECIFICATION•••••••

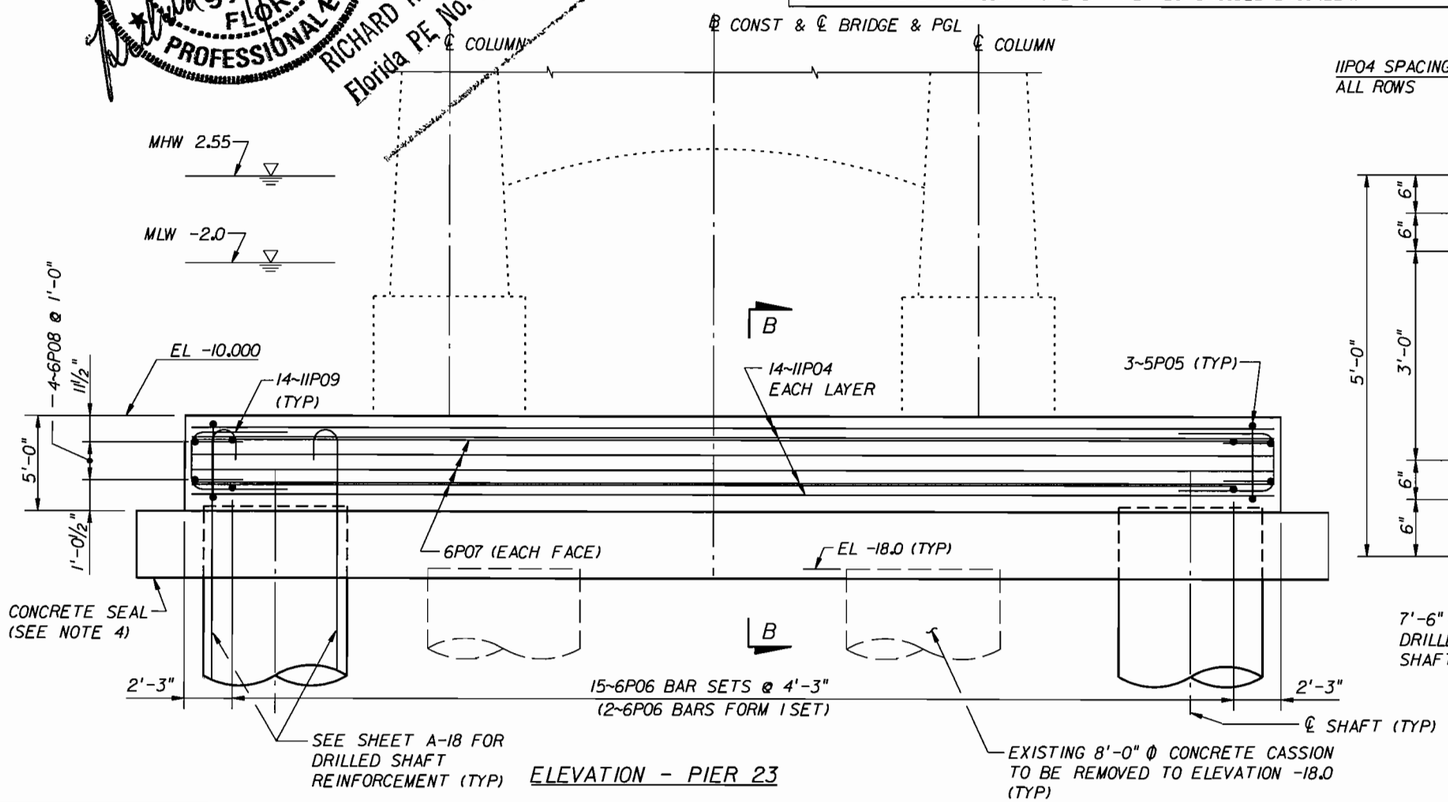
•DD-MMM-YYYY HH:MMM•



PLAN - PIER 23

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER
RICHARD R. WALLACE Florida PE No. 24066



ELEVATION - PIER 23

NOTES:

1. THE INFORMATION PRESENTED ON THIS SHEET DEPICTS THE MODIFIED SUBMERGED TWO SHAFT PIER FOOTING USED TO SUPPORT THE PIER COLUMNS AT PIER 23.
2. 5P05, IIP04, AND 6P06 BARS MAY BE SHIFTED SLIGHTLY IN VICINITY OF DRILLED SHAFTS AND PIER COLUMNS TO AVOID CONFLICTS WITH REINFORCEMENT IN THOSE ELEMENTS.
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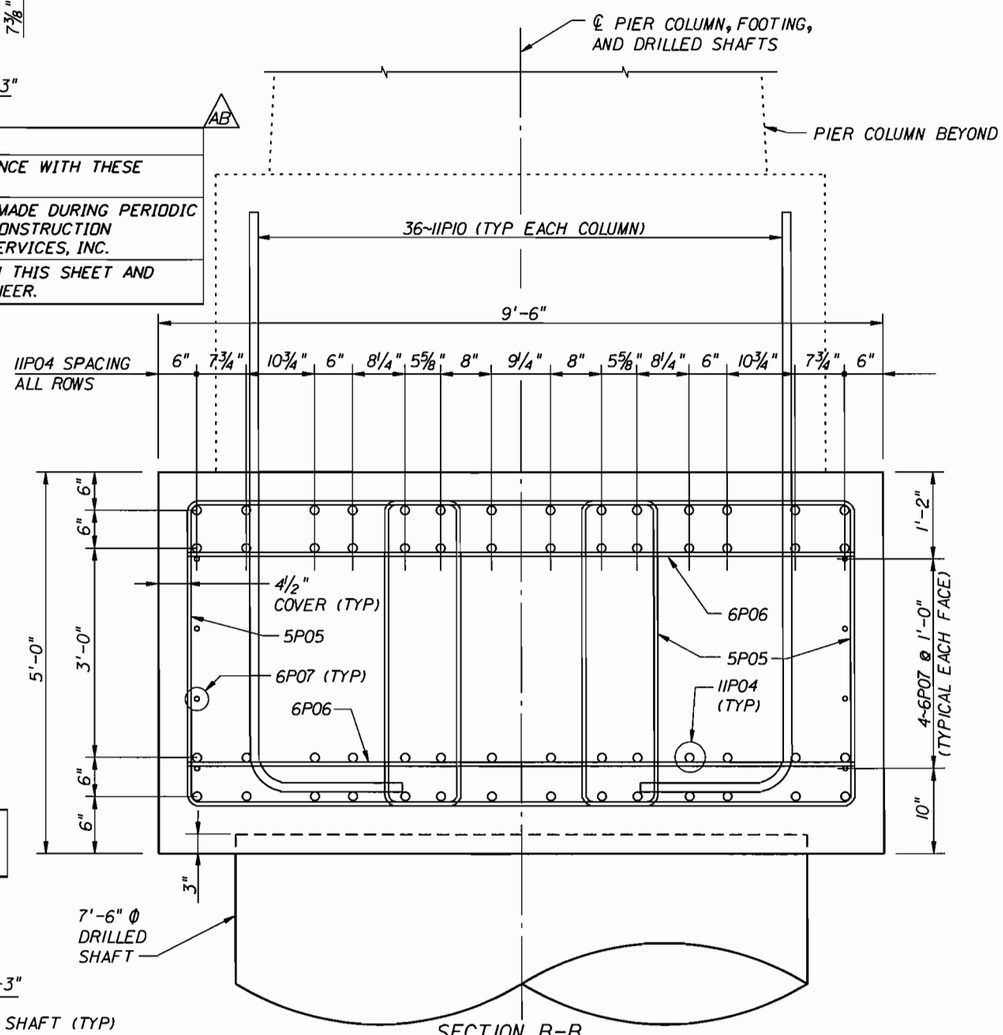


SECTION B-B
(NOT TO SCALE)

(SEAL NOT SHOWN FOR CLARITY)

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
7-20-11	RRW	AB AS-BUILT - NEW SHEET (PER DOCUMENT DATED 1-12-2007)			

	NAMES	DATES
DRAWN BY	PAW	03-03
CHECKED BY	GBL	06-03
DESIGNED BY	PAW	03-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005820
Peter A. Winkler, Florida PE No. 56720

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

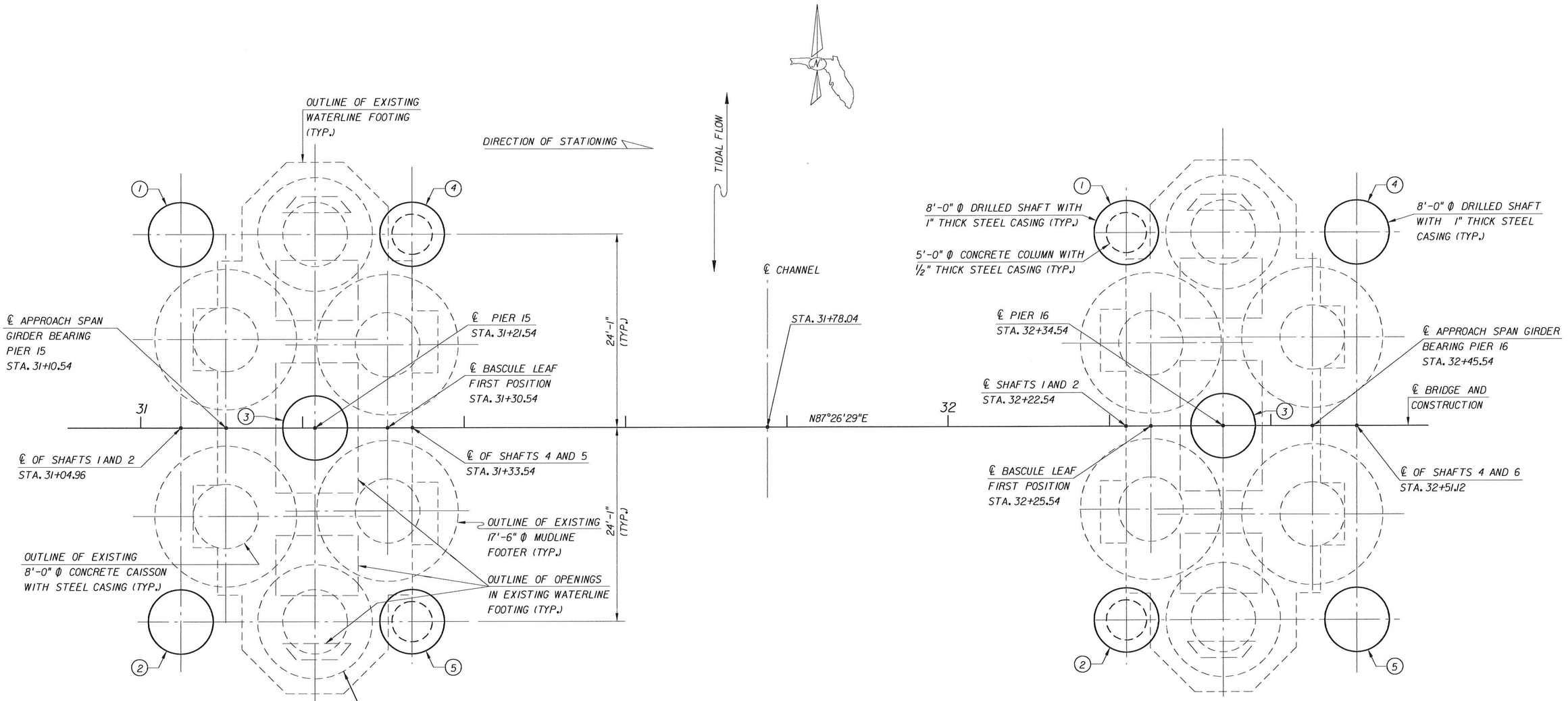
SHEET TITLE:
FOOTING REINFORCEMENT DETAILS MODIFIED PIER 23

PROJECT NAME:
PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO.
B-57C

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



NOTES:

1. FOR STANDARD PENETRATION TEST (SPT) BORING LOCATIONS SEE SHEETS B-10 AND B-27.

2. FOR DRILLED SHAFT DATA AND DETAILS SEE SHEET B-29.

3. REMOVAL AND RESTORATION OF PARTIAL EXISTING PIER WALL AND FOOTING ARE ANTICIPATED FOR INSTALLATION OF DRILLED SHAFTS 4 & 5 AT PIER 15 AND 1 & 2 AT PIER 16. SEE SHEET BP12 FOR DETAILS.

LEGEND:

- ◌ 5'-0" Ø CONCRETE COLUMN WITH ½" THICK STEEL CASING ON 8'-0" DRILLED SHAFT.
- ◯ 8'-0' Ø DRILLED SHAFT WITH 1" THICK STEEL CASING.
- (#) DRILLED SHAFT NUMBER

GARY ALAN KLEVENS LICENSE No 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/19/11

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

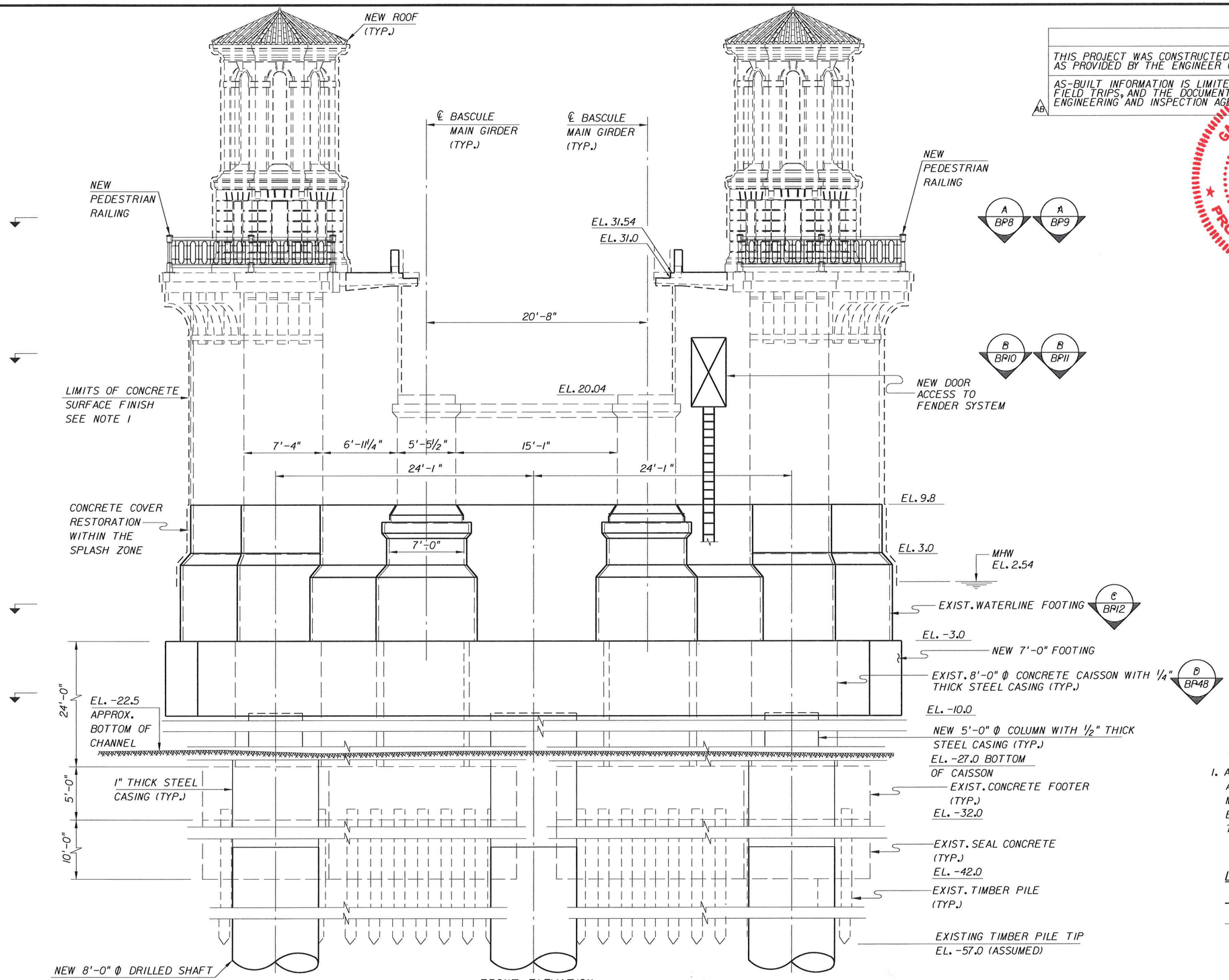
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: FOUNDATION LAYOUT FOR PIERS 15 AND 16

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. BP3

7/19/2011 3:36:58 PM $FILEABBREV$



FRONT ELEVATION

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

AB

GARY ALAN KLEVENS LICENSE NO 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 07/20/11

NOTES:

1. APPLY CONCRETE SURFACE FINISH TO ALL EXTERIOR SURFACES ABOVE THE MEAN HIGH WATER LINE AS SEEN IN ANY ELEVATION AND AT THE DIRECTION OF THE ENGINEER.

LEGEND:

——— NEW

— — — EXISTING

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: FRONT ELEVATION OF BASCULE PIERS

PROJECT NAME: PERMANENT BRIDGE REPAIR OF BRIDGE OF LIONS REHABILITATION

SHEET NO. BP5

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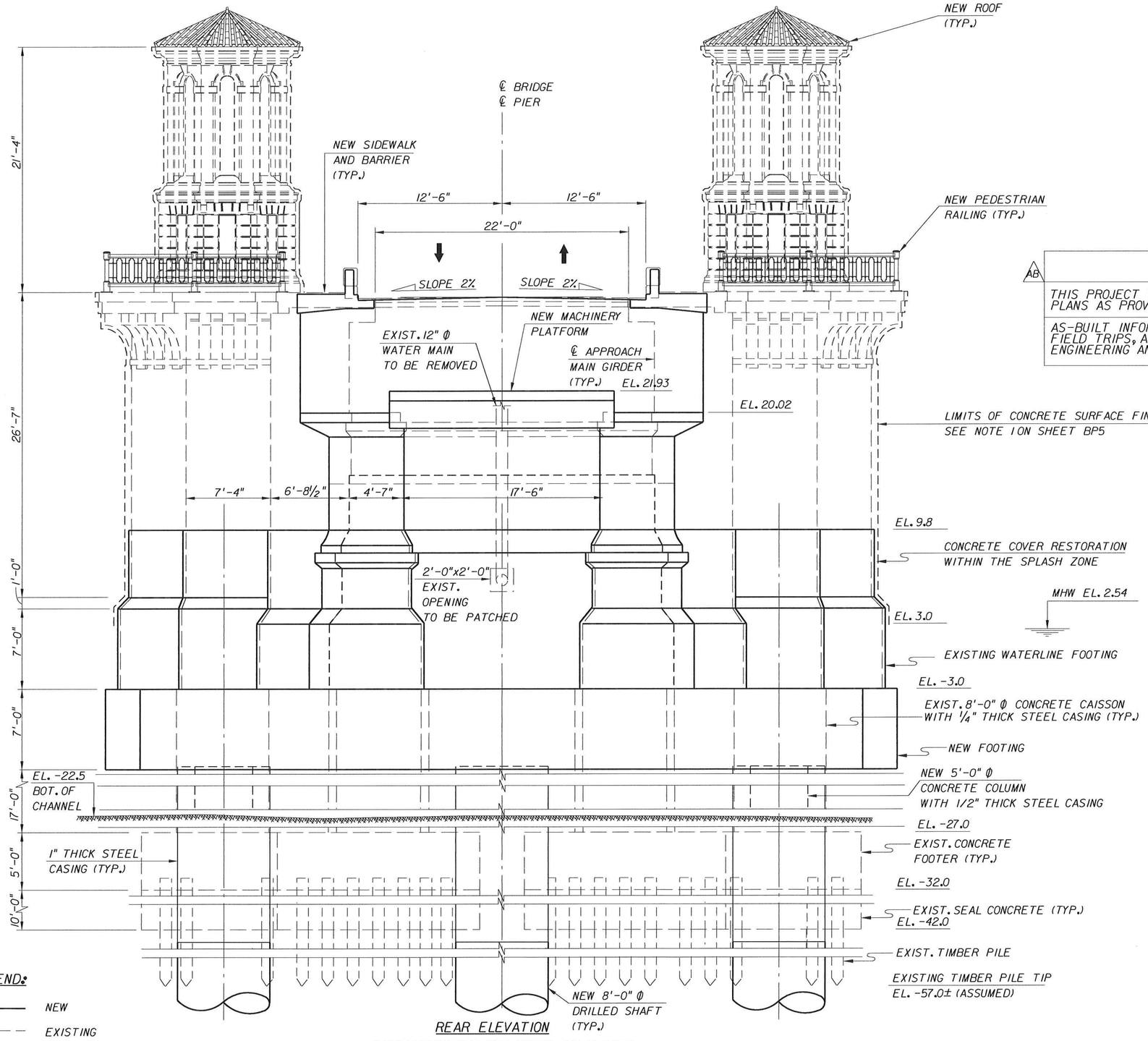


REAR ELEVATION

(SUPERSTRUCTURE NOT SHOWN FOR CLARITY)

LEGEND:

——— NEW

— — — EXISTING

AB AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, LAS CONSTRUCTION SERVICES, INC.

GARY ALAN KLEVENS LICENSE No. 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 6/17/11

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE:
REAR ELEVATION OF BASCULE PIERS

PROJECT NAME:
PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. BP6

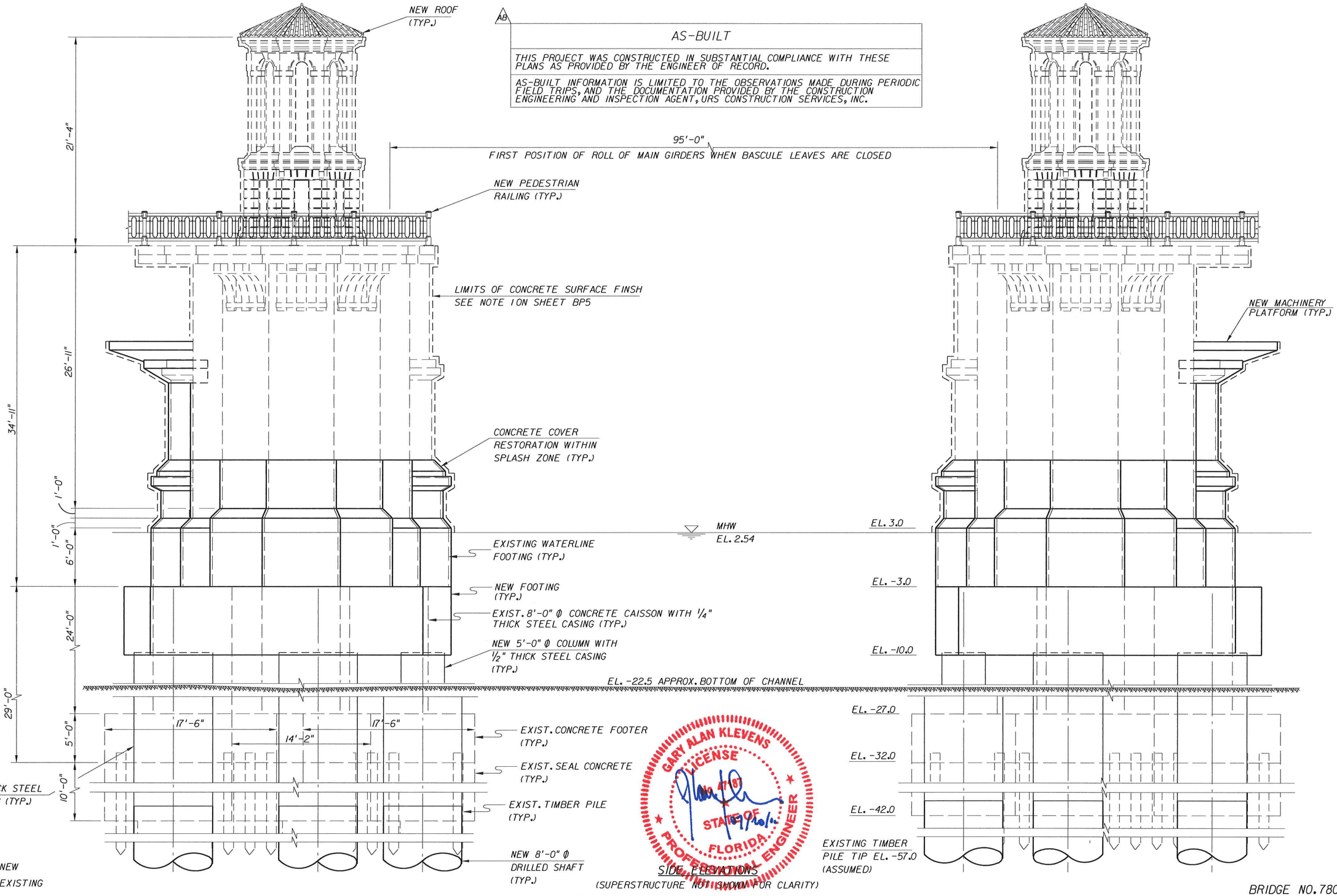
7/19/2011 3:41:19 PM $FILEABBREV$

AB

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.



LEGEND:

——— NEW

– – – EXISTING

SIDE ELEVATIONS

(SUPERSTRUCTURE NOT SHOWN FOR CLARITY)

GARY ALAN KLEVENS LICENSE No. 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 7/19/11

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE:
SIDE ELEVATIONS OF BASCULE PIERS

PROJECT NAME:
PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. BP7

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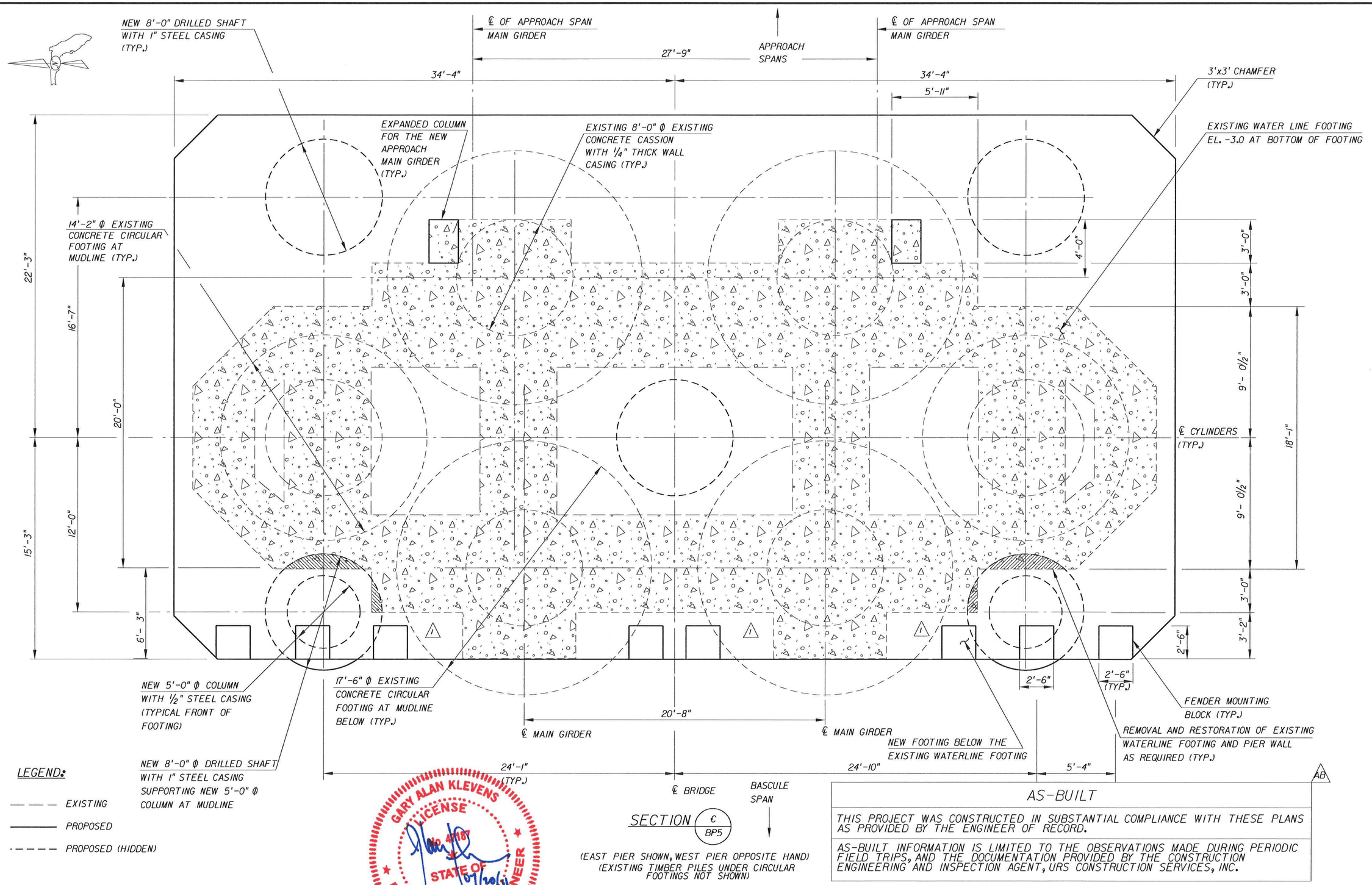


SECTION ℄ BP5

(EAST PIER SHOWN, WEST PIER OPPOSITE HAND)
(EXISTING TIMBER PILES UNDER CIRCULAR FOOTINGS NOT SHOWN)

GARY ALAN KLEVENS LICENSE No. 47187 STATE OF FLORIDA PROFESSIONAL ENGINEER 07/20/11

AB

AS-BUILT

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.

AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
03/19/04	RWM	1 ADDED FENDER MOUNTING BLOCKS			
07/20/11	JH	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	CLP	08/03
CHECKED BY	RWM	08/03
DESIGNED BY	JH	08/03
CHECKED BY	RWM	08/03
APPROVED BY	G.A. KLEVENS P.E.	

ENGINEER OF RECORD:
LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Klevens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: BASCULE PIER NEW WATERLINE FOOTING

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. BP12

7/19/2011 4:05:56 PM $FILEABBREVs

PILE DATA TABLE

INSTALLATION CRITERIA								DESIGN CRITERIA							PILE CUT-OFF ELEVATION
PIER OR BENT NO.	PILE SIZE (IN)	REQ'D * DRV. RESIST (TONS)	TENSION CAPACITY (TONS)	MIN ** TIP ELEV (FT)	TEST PILE LENGTH (FT)	REQ'D JET ELEV (FT)	REQ'D *** PREFORM ELEV (FT)	FACT'D DES LOAD (TONS)	DOWN DRAG (TONS)	TOTAL SCOUR RESIST (TONS)	NET SCOUR RESIST (TONS)	LONG-TERM SCOUR ELEV (FT)	20-YEAR SCOUR ELEV (FT)	Ø	
BENT 4	24	169	56	-65	85	N/A	-64 (3)	113	N/A	4.8	4.8	N/A	-9.13	0.7	1.939
BENT 5	24	162	56	-72	N/A	N/A	N/A	113	N/A	0	0	N/A	-16.77	0.7	4.354
BENT 6	24	167	58	-75	105	N/A	N/A	113	N/A	3.3	3.3	N/A	-19.90	0.7	6.769
BENT 7	24	167	58	-80	N/A	N/A	N/A	113	N/A	3.3	3.3	N/A	-24.01	0.7	9.184
BENT 8	24	163	49	-77	100	N/A	N/A	113	N/A	1.1	1.1	N/A	-21.11	0.7	11.563
BENT 9	24	163	49	-78	N/A	N/A	N/A	113	N/A	1.1	1.1	N/A	-22.24	0.7	14.133
BENT 10	24	165	59	-81	120	N/A	N/A	113	N/A	1.9	1.9	N/A	-25.54	0.7	16.697
BENT 11	24	165	59	-84	N/A	N/A	N/A	113	N/A	1.9	1.9	N/A	-28.85	0.7	19.155
BENT 12	24	170	55	-88	130	N/A	N/A	113	N/A	5.8	5.8	N/A	-32.15	0.7	21.611
BENT 13	24	170	55	-86	N/A	N/A	N/A	113	N/A	5.8	5.8	N/A	-30.45	0.7	23.727
BENT 14	24	167	56	-84	130	N/A	N/A	113	N/A	3.9	3.9	N/A	-28.40	0.7	24.186
BENT 17	24	175	55	-90	135	N/A	N/A	113	N/A	9.1	9.1	N/A	-34.44	0.7	24.147
BENT 18	24	165	59	-87	N/A	N/A	N/A	113	N/A	1.9	1.9	N/A	-31.91	0.7	23.680
BENT 19	24	170	44	-88	110	N/A	N/A	113	N/A	5.5	5.5	N/A	-32.86	0.7	21.589
BENT 20	24	170	44	-87	N/A	N/A	N/A	113	N/A	5.5	5.5	N/A	-31.57	0.7	19.133
BENT 21	24	170	57	-87	120	N/A	-65 (3)	113	N/A	5.4	5.4	N/A	-31.39	0.7	16.578
BENT 22	24	170	57	-89	N/A	N/A	-65 (3)	113	N/A	5.4	5.4	N/A	-33.78	0.7	14.023
BENT 23	24	170	57	-82	115	N/A	-65 (3)	113	N/A	5.4	5.4	N/A	-26.77	0.7	11.468
BENT 24	24	176	58	-76	N/A	N/A	N/A	113	N/A	9.9	9.9	N/A	-20.33	0.7	9.012
BENT 25	24	168	58	-69	110	N/A	N/A	113	N/A	4.1	4.1	N/A	-13.09	0.7	6.550

* REQUIRED DRIVING RESISTANCE = $\frac{\text{FACTORED DESIGN LOAD + NET SCOUR + DOWNDRAG}}{\emptyset}$

** MINIMUM TIP ELEVATION IN REQUIRED FOR LATERAL STABILITY.
(3) *** SEE NOTE 14.

DRILLED SHAFT DATA TABLE

INSTALLATION CRITERIA					DESIGN CRITERIA					TOP OF SHAFT ELEVATION		
PIER OR BENT NO.	SHAFT SIZE (IN)	TIP ELEV (FT)	MIN TIP ELEV (FT)	MIN ROCK SOCKET LENGTH (FT)	FACT'D DESIGN LOAD (TONS)	DOWN DRAG (TONS)	LONG-TERM SCOUR ELEV (FT)	20-YEAR SCOUR ELEV (FT)	Ø	DRILLED SHAFT NO. 1 (FT)	DRILLED SHAFT NO. 2 (FT)	DRILLED SHAFT NO. 3 (FT)
END BENT 1	36	-72	-72	N/A	180	N/A	N/A	1.62	0.55	4.442	4.202	3.962
BENT 2	36	-72	-72	N/A	180	N/A	N/A	0.29	0.55	5.160	4.920	4.680
BENT 3	36	-72	-72	N/A	180	N/A	N/A	-9.61	0.55	6.194	5.954	5.714
BENT 26	36	-91	-84	N/A	192	N/A	N/A	-12.27	0.55	10.799	10.733	10.667
BENT 27	36	-91	-84	N/A	192	N/A	N/A	-10.70	0.55	9.399	9.333	9.267
END BENT 28	36	-91	-84	N/A	192	N/A	N/A	-6.27	0.55	7.997	8.177	8.357

NOTES:

1. FOR BENTS 4-14 AND 17-25, ALL PILES SHALL BE 24" SQUARE PRESTRESSED CONCRETE PILES.
2. FOR PRESTRESSED CONCRETE PILE DETAILS, SEE SHEETS A-14 THRU A-16.
3. SEE SHEET CL-6 FOR BENT 15 AND 16 PILE DATA TABLE.
4. A DYNAMIC LOAD TEST SHALL BE PERFORMED ON ALL TEST PILES AS PER SECTION 455 OF THE SPECIFICATIONS. THE DYNAMIC LOAD TEST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR BID ITEM 455-137 (DYNAMIC TEST LOAD).
5. THE PENETRATION REQUIREMENTS SHALL BE ACHIEVED AS PER SECTION 455-5.8 OF THE FDOT 455 SPECIFICATIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO DRIVING PILES AND INSTALLING DRILLED SHAFTS. FOR ADDITIONAL UTILITY INFORMATION, SEE UTILITY ADJUSTMENT SHEETS.
7. THE CONTRACTOR SHOULD ANTICIPATE THAT SET-CHECKS AND RE-DRIVES MAY BE REQUIRED TO REACH THE REQUIRED DRIVING RESISTANCE. PAYMENT FOR SET-CHECKS AND RE-DRIVES AND THE TIME INVOLVED IN WAITING TO PERFORM THEM SHALL BE MADE AS PROVIDED IN SECTION 455-5.10.4.
8. JETTING WILL NOT BE PERMITTED FOR THIS PROJECT.
9. REFER TO SPECIFICATION SECTION 455-2 (AND THE TECHNICAL SPECIAL PROVISIONS, SECTION 455-2.11, OSTERBERG CELL LOAD TESTING OF DRILLED SHAFTS (TEMPORARY BRIDGE) PREPARED FOR THIS PROJECT FOR SHAFT TESTING PROCEDURES. THE COST OF ALL TEST EQUIPMENT, LABOR, AND MATERIALS SHALL BE INCLUDED IN PAY ITEM 455-101-1 "LOAD TEST (OSTERBERG CELL) (LESS THAN FIVE CELLS)".
10. "NON-PRODUCTION" TEST SHAFTS SHALL BE CONSTRUCTED AND REINFORCED TO THE SAME SPECIFICATIONS AS THE PRODUCTION SHAFTS, WITH THE EXCEPTIONS NOTED IN THE TECHNICAL SPECIAL PROVISIONS FOR OSTERBERG CELL LOAD TESTING OF DRILLED SHAFTS (TEMPORARY BRIDGE), SECTION 455-2.11 STATIC COMPRESSION LOAD TESTS, PREPARED FOR THIS PROJECT. THE REQUIREMENTS OF SPECIFICATION 455-18 TEST HOLES SHALL APPLY, UNO.
11. THE CONTRACTOR SHALL DRILL ONE PILOT HOLE (STANDARD PENETRATION TEST [SPT] BORING) AT ONE DRILLED SHAFT LOCATION PER FOUNDATION UNIT, AT LEAST 14 DAYS BEFORE THE EXCAVATION OF THE FOUNDATION UNIT SHAFTS BEGIN. THE COST SHALL BE INCLUDED WITH THE RESPECTIVE DRILLED SHAFT. DETAILED REQUIREMENTS OF THE PILOT HOLE PROGRAM (INCLUDING THE LOCATIONS AT WHICH PILOT HOLES ARE TO BE DRILLED, THE MINIMUM BORING TERMINATION ELEVATIONS, AND THE LOWEST ELEVATION AT WHICH SPT SAMPLING SHALL COMMENCE), ARE PRESENTED IN THE TECHNICAL SPECIAL PROVISIONS, SECTION 455-15.6, DRILLED SHAFT PILOT HOLES (PERMANENT BRIDGE) PREPARED FOR THIS PROJECT.
12. TIP ELEVATION SHOWN IN THE TABLE IS THE ELEVATION TO WHICH THE SHAFT SHALL BE CONSTRUCTED UNLESS LOAD TEST DATA OR OTHER GEOTECHNICAL DATA OBTAINED DURING CONSTRUCTION ALLOWS THE ENGINEER TO AUTHORIZE A DIFFERENT TIP ELEVATION. HOWEVER, MINIMUM TIP ELEVATION IS THE HIGHEST ELEVATION THAT THE SHAFT TIP SHALL BE CONSTRUCTED TO.
13. FOR ADDITIONAL NOTES ON DRILLED SHAFT INSTALLATION, SEE SHEET B-29 & B-29A FOR THE PERMANENT BRIDGE.
(3) 14. THE CONTRACTOR SHALL USE SPECIAL EQUIPMENT AND/OR METHODS (I.E., CORE BARRELS, ROCK AUGERS, PUNCHES, DRILL BITS, ETC.) AS NEEDED, TO FACILITATE PREFORMING. FURTHERMORE, HARD LAYERS MAY BE ENCOUNTERED ABOVE THE REQUIRED MINIMUM TIP ELEVATIONS (AND PREFORMING MAY BE NECESSARY TO ACHIEVE THE REQUIRED MINIMUM TIP ELEVATIONS) AT PILE BENT LOCATIONS OTHER THAN THOSE WHICH HAVE REQUIRED PREFORM ELEVATIONS LISTED IN THE PILE DATA TABLE.

NOT APPLICABLE - BRIDGE REMOVED

BRIDGE NO. TEMP 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
4-9-04	JRH	(3) ADDED PREFORM ELEVATIONS & NOTE 14			

	NAMES	DATES
DRAWN BY	JKP	04-03
CHECKED BY	GBL	04-03
DESIGNED BY	GBL	04-03
CHECKED BY	RGW	04-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Robert G. Woodruff, Florida PE No. 57099

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

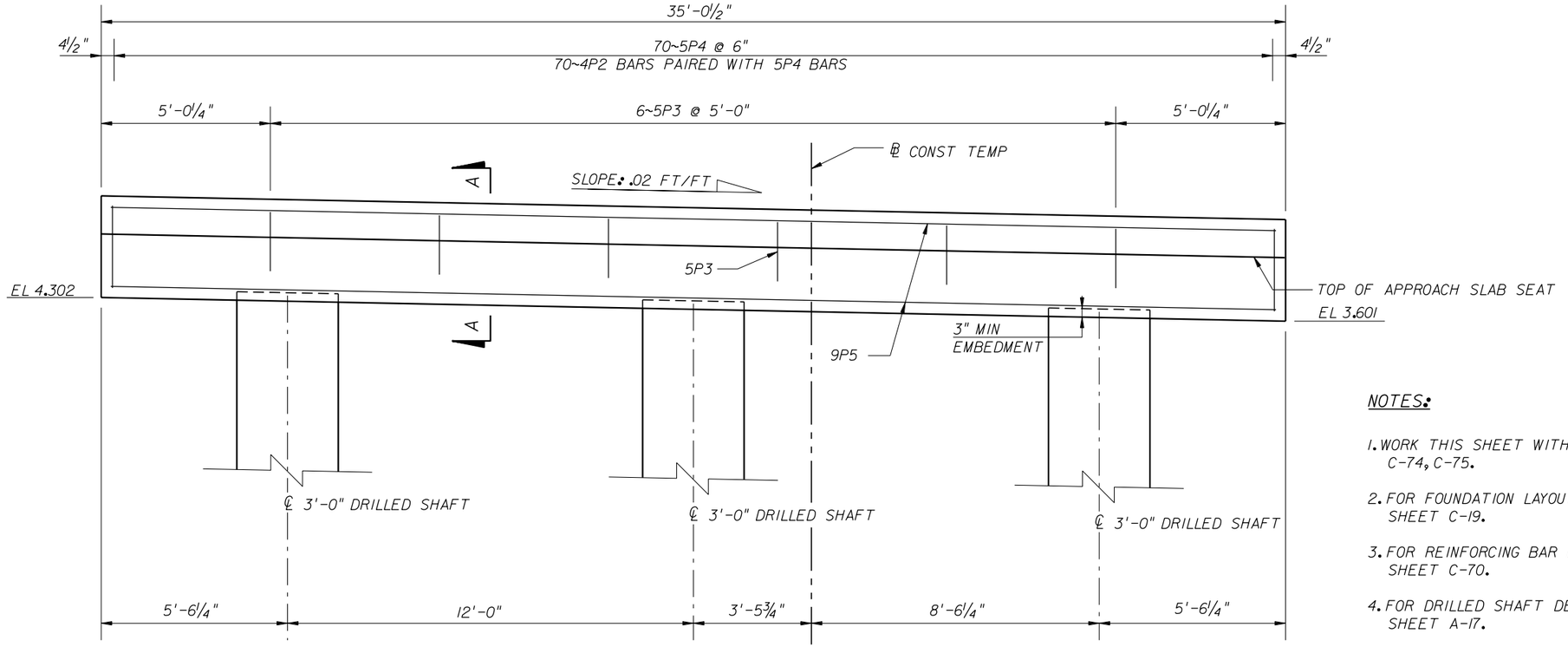
SHEET TITLE: PILE DATA AND SHAFT DATA

PROJECT NAME: TEMPORARY BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. C-24

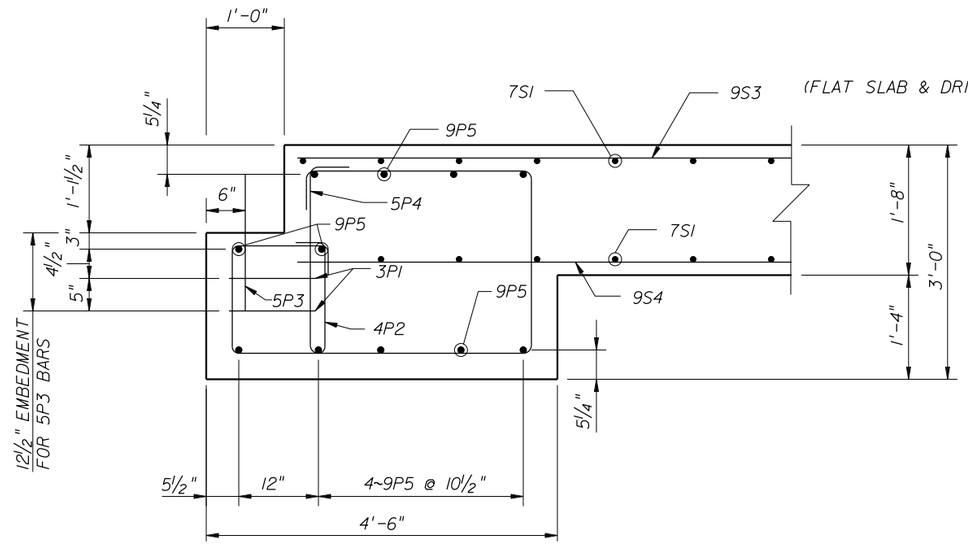
•DGN:SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•



NOTES:

1. WORK THIS SHEET WITH C-42 AND C-74, C-75.
2. FOR FOUNDATION LAYOUT SEE SHEET C-19.
3. FOR REINFORCING BAR LIST SEE SHEET C-70.
4. FOR DRILLED SHAFT DETAILS SEE SHEET A-17.

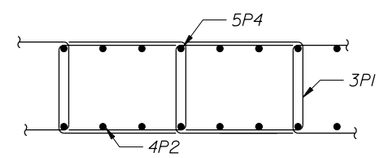


ELEVATION OF END BENT 1

(FLAT SLAB & DRILLED SHAFT REINFORCEMENT OMITTED FOR CLARITY)
(LOOKING AHEAD STATION)

SECTION A-A

(BETWEEN SHAFTS)



DETAIL OF 3PI PLACEMENT

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS II (BRIDGE DECK) CONCRETE (SUPERSTRUCTURE)	CY	8.5
REINFORCING STEEL (SUPERSTRUCTURE)	LBS	2550
3'-0" DRILLED SHAFT	*	*

* SEE SUMMARY OF BRIDGE PAY ITEMS

NOT APPLICABLE - BRIDGE REMOVED

BRIDGE NO. TEMP 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JKP	02-03
CHECKED BY	RGW	03-03
DESIGNED BY	JKP	02-03
CHECKED BY	RGW	02-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
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904-256-2500 FL Cert. No. EB0005620
Robert G. Woodruff, Florida PE No. 57099

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

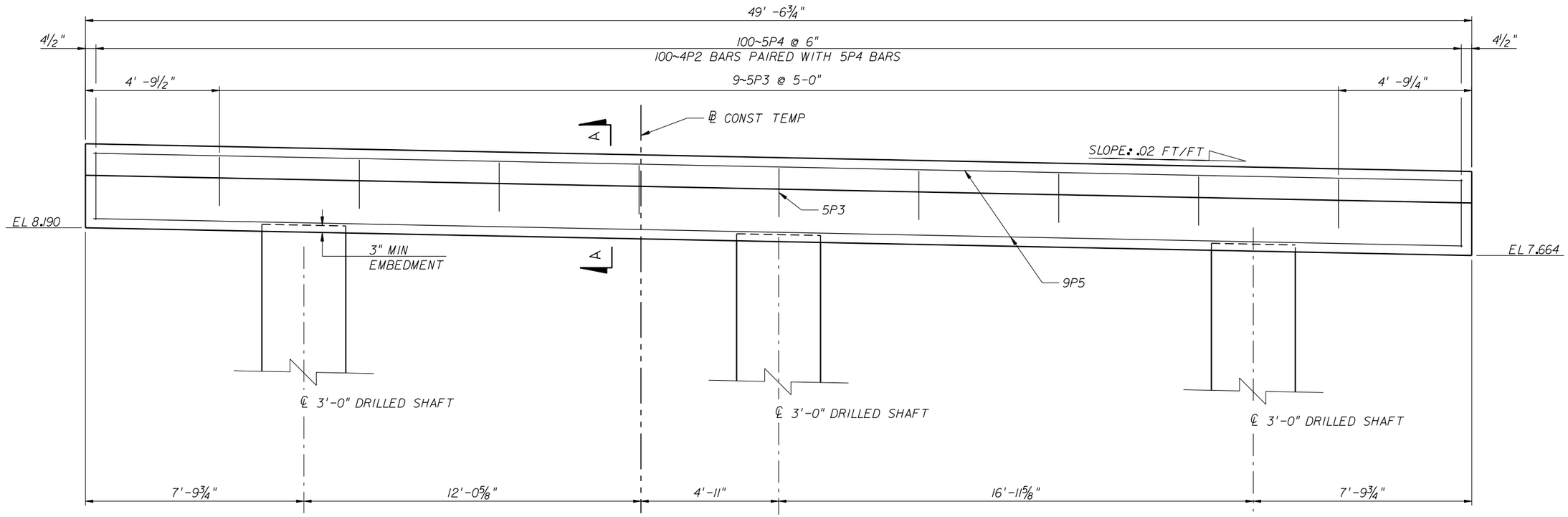
SHEET TITLE: END BENT 1

PROJECT NAME: TEMPORARY BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. C-25

•DGN:SPECIFICATION•••••••

•DD-MMM-YYYY HH:MMM•

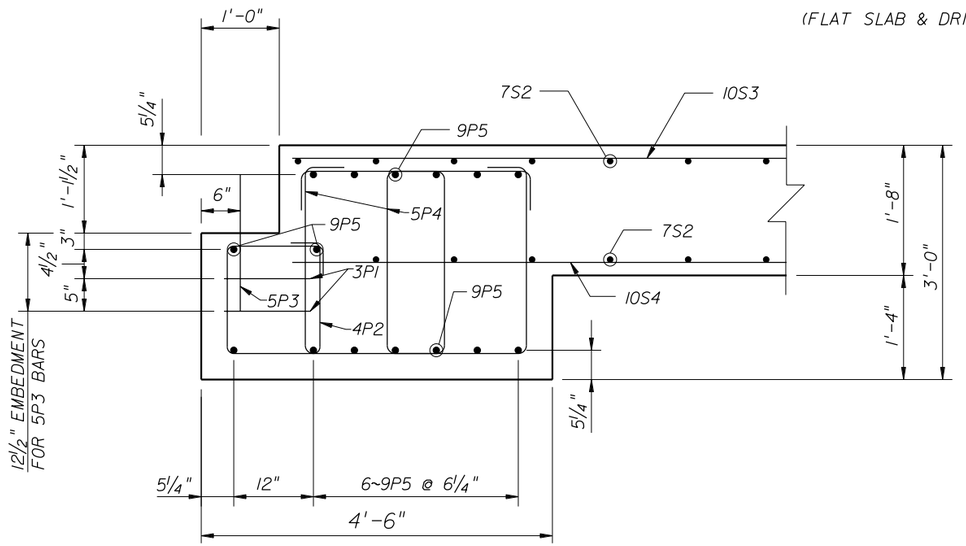


ELEVATION OF END BENT 28

(DIMENSIONS ALONG SKEW)

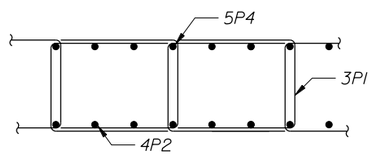
(FLAT SLAB & DRILLED SHAFT REINFORCEMENT OMITTED FOR CLARITY)

(LOOKING BACK STATION)



SECTION A-A

(BETWEEN SHAFTS)



DETAIL OF 3P1 PLACEMENT

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS II (BRIDGE DECK) CONCRETE (SUPERSTRUCTURE)	CY	12.1
REINFORCING STEEL (SUPERSTRUCTURE)	LBS	5033
3'-0" DRILLED SHAFT	*	*

* SEE SUMMARY OF BRIDGE PAY ITEMS

NOTES:

1. WORK THIS SHEET WITH C-52 AND C-74, C-75.
2. FOR FOUNDATION LAYOUT SEE SHEET C-23.
3. FOR REINFORCING BAR LIST SEE SHEET C-70.
4. FOR DRILLED SHAFT DETAILS SEE SHEET A-17.

NOT APPLICABLE - BRIDGE REMOVED

BRIDGE NO. TEMP 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JKP	02-03
CHECKED BY	RGW	03-03
DESIGNED BY	JKP	02-03
CHECKED BY	RGW	02-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Robert G. Woodruff, Florida PE No. 57099

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

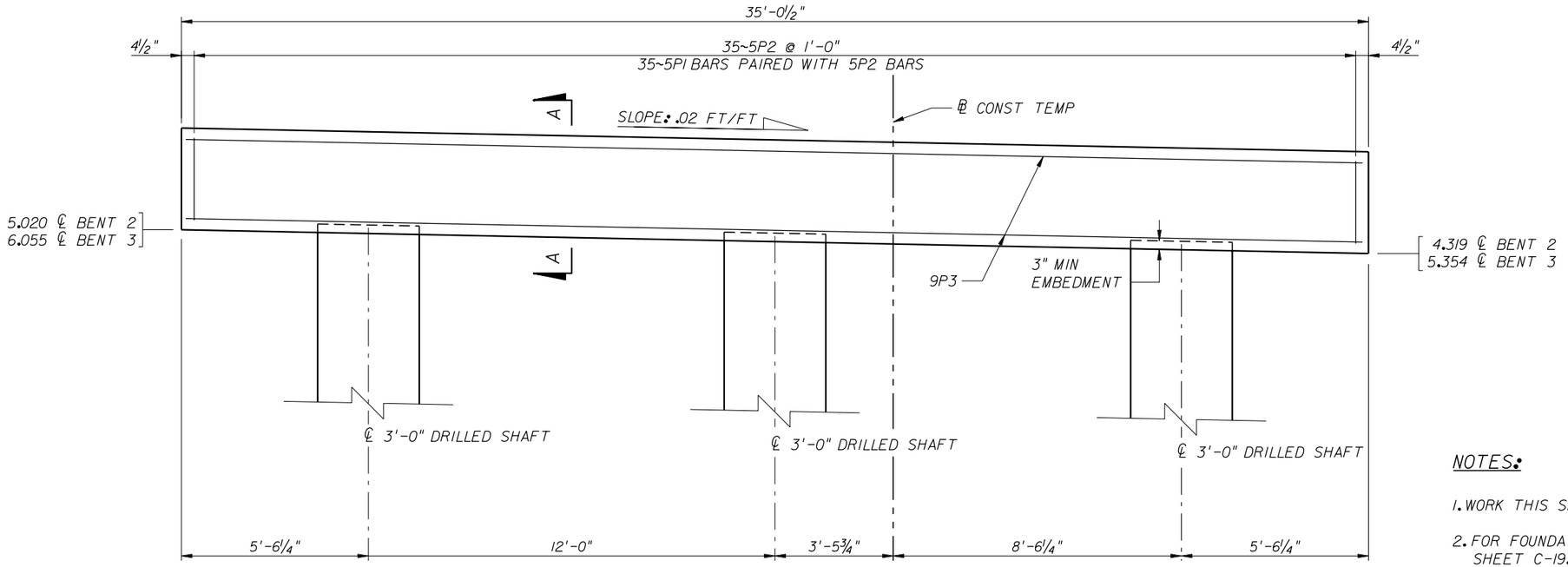
SHEET TITLE: END BENT 28

PROJECT NAME: TEMPORARY BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. C-26

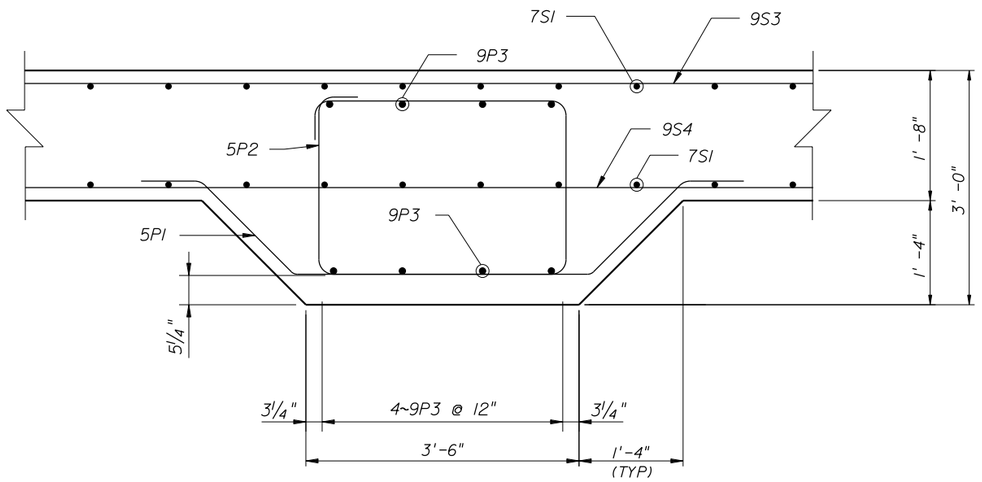
•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM•



SECTION THROUGH PIERS 2 & 3

(FLAT SLAB & DRILLED SHAFT REINFORCEMENT OMITTED FOR CLARITY)
(LOOKING AHEAD STATION)



SECTION AA

(BETWEEN SHAFTS)

NOTES:

1. WORK THIS SHEET WITH C-42.
2. FOR FOUNDATION LAYOUT SEE SHEET C-19.
3. FOR REINFORCING BAR LIST SEE SHEET C-70.
4. FOR DRILLED SHAFT DETAILS SEE SHEET A-17.

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS II (BRIDGE DECK) CONCRETE (SUPERSTRUCTURE)	CY	16.7
REINFORCING STEEL (SUPERSTRUCTURE)	LBS	4360
3'-0" DRILLED SHAFT	*	*

* SEE SUMMARY OF BRIDGE PAY ITEMS

NOT APPLICABLE - BRIDGE REMOVED

BRIDGE NO. TEMP 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JKP	03-03
CHECKED BY	RGW	03-03
DESIGNED BY	JKP	02-03
CHECKED BY	RGW	02-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
RS+H
Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. South
Jacksonville, Florida 32256-0597
904-256-2500 FL Cert. No. EB0005620
Robert G. Woodruff, Florida PE No. 57099

FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

SHEET TITLE:
FLAT SLAB INTERGRAL BENTS
BENTS 2-3

PROJECT NAME:
TEMPORARY BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO.
C-27

•DGN$SPECIFICATION•••••••

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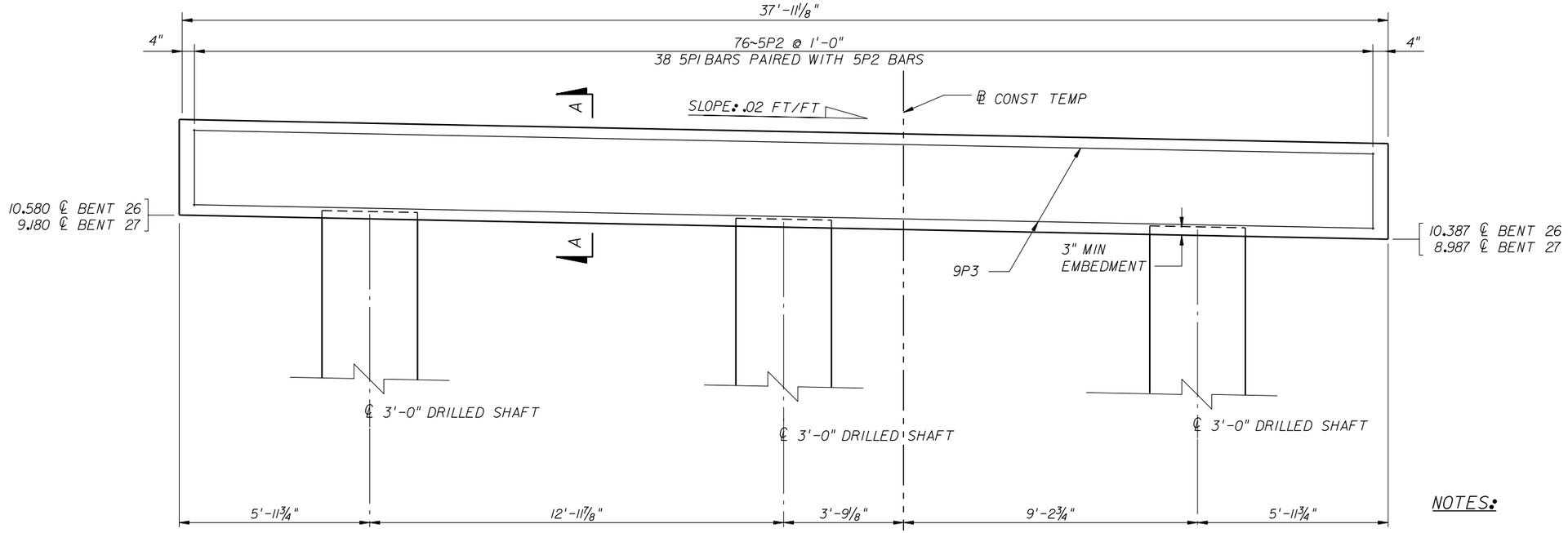
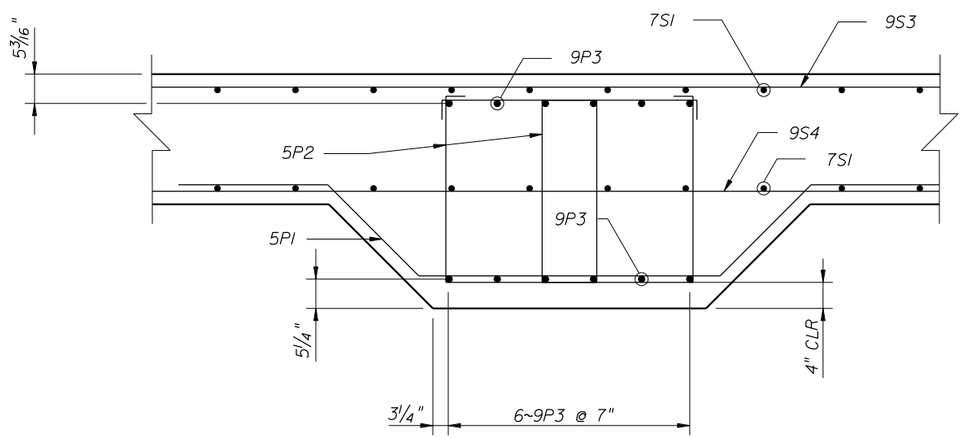


SECTION THROUGH PIERS 26 & 27

(DIMENSION ALONG SKEW)
(FLAT SLAB & DRILLED SHAFT REINFORCEMENT OMITTED FOR CLARITY)
(LOOKING AHEAD STATION)

NOTES:

1. WORK THIS SHEET WITH C-52.
2. FOR FOUNDATION LAYOUT SEE SHEET C-23.
3. FOR REINFORCING BAR LIST SEE SHEET C-70.
4. FOR DRILLED SHAFT DETAILS SEE SHEET A-17.



SECTION A-A

(BETWEEN SHAFTS)

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CLASS II (BRIDGE DECK) CONCRETE (SUPERSTRUCTURE)	CY	18.1
REINFORCING STEEL (SUPERSTRUCTURE)	LBS	5552
3'-0" DRILLED SHAFT	*	*

* SEE SUMMARY OF BRIDGE PAY ITEMS

NOT APPLICABLE - BRIDGE REMOVED

BRIDGE NO. TEMP 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JKP	03-03
CHECKED BY	RGW	03-03
DESIGNED BY	JKP	02-03
CHECKED BY	RGW	02-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
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FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR AIA	ST. JOHNS	210255-1-52-01

SHEET TITLE:
FLAT SLAB INTERGRAL BENTS
BENTS 26-27

PROJECT NAME:
TEMPORARY BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO.
C-28

•DGN$SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM•

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY 6
DRILLED SHAFT (36" Ø)	FT	6219 AB 2
DRILLED SHAFT (60" Ø)	FT	51 *
DRILLED SHAFT (72" Ø) **	FT	2217 2
DRILLED SHAFT (90" Ø) **	FT	2080 2
DRILLED SHAFT (96" Ø) **	FT	1202
PERMANENT CASING (60" Ø)	FT	82
PERMANENT CASING (96" Ø)	FT	330
LOAD TEST (1 @ 72" Ø SHAFT AND 1 @ 90" Ø SHAFT)	EA	2 6
UNCLASSIFIED SHAFT EXCAVATION (36" Ø)	FT	6207 AB 2
UNCLASSIFIED SHAFT EXCAVATION (72" Ø)	FT	1946
UNCLASSIFIED SHAFT EXCAVATION (90" Ø)	FT	1973 2
UNCLASSIFIED SHAFT EXCAVATION (96" Ø)	FT	1125

NOTES:

1. WORK THIS SHEET WITH SHEET B-29A.
2. TIP ELEVATION SHOWN IN THE TABLE IS THE ELEVATION TO WHICH THE SHAFT SHALL BE CONSTRUCTED UNLESS LOAD TEST DATA OR OTHER GEOTECHNICAL DATA OBTAINED DURING CONSTRUCTION ALLOWS THE ENGINEER TO AUTHORIZE A DIFFERENT TIP ELEVATION. HOWEVER, MINIMUM TIP ELEVATION IS THE HIGHEST ELEVATION THAT THE SHAFT TIP SHALL BE CONSTRUCTED TO. MINIMUM TIP ELEVATION IS BASED ON LATERAL LOAD RESISTANCE REQUIRED FOR VESSEL IMPACT WITH 50% OF 100 YR. PREDICTED SCOUR DEPTH.
3. REFER TO SPECIFICATION SECTION 455-2 (AND THE TECHNICAL SPECIAL PROVISIONS, SECTION 455-2JI, OSTERBERG CELL LOAD TESTING OF DRILLED SHAFTS (PERMANENT BRIDGE) PREPARED FOR THIS PROJECT FOR SHAFT TESTING PROCEDURES. THE COST OF ALL TEST EQUIPMENT, LABOR, AND MATERIALS SHALL BE INCLUDED IN PAY ITEM 455-101-1 "LOAD TEST (OSTERBERG CELL) (LESS THAN FIVE CELLS)".
4. "NON-PRODUCTION" TEST SHAFTS SHALL BE CONSTRUCTED AND REINFORCED TO THE SAME SPECIFICATIONS AS THE PRODUCTION SHAFTS, WITH THE EXCEPTIONS NOTED IN THE TECHNICAL SPECIAL PROVISIONS FOR OSTERBERG CELL LOAD TESTING OF DRILLED SHAFTS (PERMANENT BRIDGE), SECTION 455-2JI STATIC COMPRESSION LOAD TESTS, PREPARED FOR THIS PROJECT. THE REQUIREMENTS OF SPECIFICATION 455-18 TEST HOLES SHALL APPLY, UNO.
5. ALL DRILLED SHAFTS (TEST AND PRODUCTION) SHALL HAVE CROSS-HOLE SONIC LOGGING (CSL) ACCESS TUBES INSTALLED IN ACCORDANCE WITH THE TECHNICAL SPECIAL PROVISIONS FOR CSL TESTING OF DRILLED SHAFTS PREPARED FOR THIS PROJECT. SEE SHEETS A-17 THRU A-20 FOR LOCATIONS AND REQUIREMENTS. IN ADDITION, THE CONTRACTOR SHALL MAKE ALL NECESSARY ACCOMMODATIONS FOR THE CEI TO FACILITATE INSPECTION AND CSL TESTING OF ALL DRILLED SHAFTS. THE COST FOR ALL MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION AND TESTING OF THE CSL SYSTEM SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED IN THE COST OF THE DRILLED SHAFT, PER LINEAR FOOT.
6. QUANTITIES IN THE TABLE INCLUDE TEST SHAFT LENGTHS.

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER.

AB

ACTUAL TIP DATA COLLECTED 8/06 THRU 12/06 AB

PIER 13 SHAFT 1, MIN. TIP ELEV. = -104 AB

DRILLED SHAFT INSTALLATION TABLE										
INSTALLATION CRITERIA					DESIGN CRITERIA					
PIER OR BENT NO.	SHAFT SIZE Ø (IN)	TIP ELEV. (FT)	MIN. TIP ELEV. (FT)	MIN. ROCK SOCKET LENGTH (FT)	FACTORED DESIGN LOAD (TONS)	DOWN DRAG (TONS)	LONG-TERM SCOUR ELEV. (FT)	100 YR. SCOUR ELEV. (FT)	Ø	TOP OF SHAFT ELEV. (FT)
WEST ABUTMENT 1	36	-80	-80 ~~N/A~~	N/A	115	N/A	N/A	-41.2	0.55	-4.25
PIER 2	36	-88	-85 ~~N/A~~	N/A	163	N/A	N/A	-23.2	0.55	-7.75
PIER 3	36	-88	-85 ~~N/A~~	N/A	163	N/A	N/A	-25.0	0.55	-9.75
PIER 4	36	-88	-85 ~~N/A~~	AB N/A	163	N/A	N/A	-26.4	0.55	-9.75
PIER 5	36	-88	-85 ~~N/A~~	N/A	163	N/A	N/A	-26.9	0.55	-9.75
PIER 6	90	-101	-100	N/A	569	N/A	N/A	-34.4	0.55	-14.75
PIER 7	90	-108	-100	N/A	569	N/A	N/A	-37.3	0.55	-14.75
PIER 8	90	-100	-100	N/A	569	N/A	N/A	-36.8	0.55	-14.75
PIER 9	90	-100	-100	N/A	569	N/A	N/A	-37.9	0.55	-14.75
PIER 10	90	-109	-100	AB N/A	569	N/A	N/A	-39.2	0.55	-14.75
PIER 11	90	-110	-105 ≥110	N/A	569	N/A	N/A	-43.9	0.55	-14.75
PIER 12	72	-109	-100 ≥105	N/A	395	N/A	N/A	-48.5	0.55	-15.75
PIER 13	72	-105	-100 ≥105	N/A	395	N/A	N/A	-47.8	0.55	-15.75
PIER 14	72	-106	-100 ≥105	N/A	395	N/A	N/A	-50.3	0.55	-15.75
PIER 15 SHAFTS 1, 2, & 3	96	-135	-135	N/A	910	N/A	N/A	-46.1	0.55	-9.75
PIER 15 SHAFTS 4 & 5*	96	-135	-135	N/A	910	N/A	N/A	-46.1	0.55	-22.5
PIER 16 SHAFTS 1 & 2*	96	-135	-135	N/A	910	N/A	N/A	-50.3	0.55	-22.5
PIER 16 SHAFTS 3, 4, & 5	96	-135	-135	N/A	910	N/A	N/A	-50.3	0.55	-9.75
PIER 17	72	-105	-105	AB N/A	395	N/A	N/A	-56.9	0.55	-15.75 2
PIER 18	72	-105	-100 ≥105	N/A	395	N/A	N/A	-50.5	0.55	-15.75
PIER 19	72	-105	-100 ≥105	N/A	395	N/A	N/A	-48.3	0.55	-15.75
PIER 20	90	-110	-105 ≥110	N/A	569	N/A	N/A	-45.2	0.55	-14.75
PIER 21	90	-110	-105 ≥110	N/A	569	N/A	N/A	-44.8	0.55	-14.75
PIER 22	90	-110	-110	AB N/A	569	N/A	N/A	-51.6	0.55	-14.75
PIER 23	90	-110	-105 ≥110	N/A	569	N/A	N/A	-42.0	0.55	-14.75
PIER 24	90	-103	-95 ≥100	N/A	569	N/A	N/A	-32.3	0.55	-14.75
EAST ABUTMENT 25	36	-97	-97 ~~N/A~~	N/A	205	N/A	N/A	-37.8	0.55	-8.75
EAST SEAWALL	36	-75	-75 ~~N/A~~	N/A	135	N/A	N/A	-14.0	0.55	-8.75

* DUE TO HORIZONTAL CHANNEL CLEARANCE CONFLICTS, A 5'-0" Ø CONCRETE COLUMN SHALL BE INSTALLED FROM ELEVATION -22.5 TO ELEVATION -9.75 AT PIER 15 SHAFTS 4 & 5 AND AT PIER 16 SHAFTS 1 & 2. (SEE SHEET A-19 FOR DETAILS). THE 5'-0" Ø CONCRETE COLUMN SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 455 AND PAID FOR UNDER PAY ITEM 455-88-6, DRILLED SHAFT (60" Ø).

** FOR ALL DRILLED SHAFTS 72" IN DIAMETER AND LARGER, THE CONTRACTOR SHALL FOLLOW ALL PROVISIONS OF THE SPECIFICATIONS FOR PLACEMENT AND MONITORING OF MASS CONCRETE. (SEE NOTE 7 ON B-29A)

RICHARD READE WALLACE LICENSE No. 24066 STATE OF FLORIDA PROFESSIONAL ENGINEER

RICHARD R. WALLACE
Florida PE No. 24066

BRIDGE NO. 780074

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
4-2-04	BMS	2 REVISED ESTIMATED QUANTITIES & DRILLED SHAFT TABLE	7-20-11	RRW	AB AS-BUILT
12-04-06	BMS	6 REVISED QUANTITIES			

	NAMES	DATES
DRAWN BY	GBL	11-03
CHECKED BY	JPT	11-03
DESIGNED BY	PAW	02-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

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LICHTENSTEIN CONSULTING ENGINEERS, INC.
2700 W. Cypress Creek Rd., Suite D-140
Fort Lauderdale, Florida 33309
Authorization No. 00006065
G. Alan Kievens, P.E.
P.E. License No. 47187

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: DRILLED SHAFT DATA (1 OF 2)

PROJECT NAME: PERMANENT BRIDGE BRIDGE OF LIONS REHABILITATION

SHEET NO. B-29

•DGN:SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM•

DRILLED SHAFT INSTALLATION NOTES:

1. WORK THIS SHEET WITH SHEET B-29.

2. THE CONTRACTOR SHALL DRILL ONE PILOT HOLE (STANDARD PENETRATION TEST [SPT] BORING) AT ONE DRILLED SHAFT LOCATION PER FOUNDATION UNIT, AT LEAST 14 DAYS BEFORE THE EXCAVATION OF THE FOUNDATION UNIT SHAFTS BEGIN. THE COST SHALL BE INCLUDED WITH THE RESPECTIVE DRILLED SHAFT. DETAILED REQUIREMENTS OF THE PILOT HOLE PROGRAM (INCLUDING THE LOCATIONS AT WHICH PILOT HOLES ARE TO BE DRILLED, THE MINIMUM BORING TERMINATION ELEVATIONS, AND THE LOWEST ELEVATION AT WHICH SPT SAMPLING SHALL COMMENCE), ARE PRESENTED IN THE TECHNICAL SPECIAL PROVISIONS, SECTION 455-15.6, DRILLED SHAFT PILOT HOLES (PERMANENT BRIDGE) PREPARED FOR THIS PROJECT.

3. PERMANENT DRILLED SHAFTS FOR FOUNDATIONS SHALL NOT BE CONSTRUCTED UNTIL THE ENGINEER EVALUATES THE SPT BORING DATA, SAMPLES, AND RELEVANT OSTERBERG CELL LOAD TEST RESULTS. THE CONTRACTOR SHALL ANTICIPATE 14 DAYS FOR RESULTS FROM THE TIME THE ENGINEER RECEIVES THE SPT BORING DATA AND SAMPLES, OR FROM THE TIME THE MOST RECENT RESULTS FROM THE OSTERBERG CELL LOAD TEST ARE OBTAINED, WHICHEVER IS LATER.

4. LAYERS OF VERY HARD MATERIALS (SUCH AS COQUINA, CEMENTED SOILS/SHELL, BOULDERS, MAN-MADE OBSTRUCTIONS, AND LIMESTONE ROCK) MAY BE ENCOUNTERED AT THIS SITE. SUCH MATERIALS MAY MAKE SHAFT EXCAVATIONS AND/OR CASING INSTALLATION DIFFICULT. THE CONTRACTOR SHALL EXPECT TO ENCOUNTER THESE TYPES OF MATERIALS AT ALL SHAFT LOCATIONS AND SHALL USE SPECIALIZED EQUIPMENT AND/OR PROCEDURES, AS NECESSARY, TO FACILITATE SHAFT EXCAVATION AND/OR CASING INSTALLATION. THE CASING TIPS SHALL BE REINFORCED, AS NECESSARY, AND THE CASING THICKNESS SHALL BE ADEQUATE TO PREVENT CASING DAMAGE/DEFORMATION DURING INSTALLATION THROUGH HARD LAYERS.

⚠1 5. THE DESIGN FOR THE THICKNESS OF ALL FOUNDATION SEALS FOR APPROACH PIERS AND ABUTMENTS, AS SHOWN IN THE PLANS, IS BASED ON A TOP OF WATER ELEVATION OF +2.55 (MEAN HIGH WATER) AND ASSUMES CLEAN CONTACT SURFACES BETWEEN THE SEAL AND SHEET PILE COFFERDAM AND DRILLED SHAFTS. PLAN QUANTITIES ARE BASED ON THE THICKNESS SHOWN AND HAVING A PLAN AREA EQUAL TO THE AREA OF THE FOUNDATION, PLUS 2'-6" AROUND THE PERIMETER OF THE FOUNDATION. THE PLAN THICKNESS SHALL BE CONSIDERED TO BE THE REQUIRED SEAL THICKNESS, UNLESS THE CONTRACTOR PROVIDES AN ALTERNATE DESIGN FOR THE SEALS AND/OR METHOD OF PROVIDING A "DRY HOLE". SHOP DRAWINGS AND DESIGN CALCULATIONS FOR ANY ALTERNATIVE TO THE SEALS SHOWN, SHALL BE SUBMITTED, SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER, FOR REVIEW BY THE ENGINEER. THE COST OF ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT AND MAINTAIN THE SEALS DURING CONSTRUCTION OF THE SUBSTRUCTURE COMPONENTS, SHALL BE INCLUDED IN THE COST OF PAY ITEM 400-3-20, CLASS III CONCRETE (SEAL), PER CUBIC YARD. PAYMENT SHALL BE BASED ON PLAN QUANTITIES, EVEN IF THE CONTRACTOR ELECTS TO USE AN ALTERNATIVE DESIGN FOR DEWATERING OF THE FOUNDATION AREAS, OR USES QUANTITIES OF MATERIAL WHICH DIFFER FROM THE PLAN QUANTITIES. IF THE CONTRACTOR ELECTS TO USE A PERMANENT SEAL HAVING GREATER CROSS-SECTIONAL AREA (THICKNESS x WIDTH) THAN SHOWN IN THE PLANS, HE SHALL BE RESPONSIBLE FOR THE COST OF ANY ADDITIONAL HYDRAULIC MODELING AND ANALYSIS NEEDED TO ASSESS SCOUR IMPACTS.

6. AT THE ENGINEER'S DISCRETION, SHAFTS MAY BE INSPECTED PRIOR TO PLACEMENT OF CONCRETE USING METHODS AND SHAFT INSPECTION DEVICE (SID) THAT COMPLY WITH SECTION 455-15.11.3. CONTRACTOR SHALL PROVIDE SAFE ACCESS FOR INSPECTION PERSONNEL AND PROVIDE ASSISTANCE WHEN REQUESTED BY THE ENGINEER.

7. CONCRETE FOR ALL DRILLED SHAFTS, 72" DIAMETER AND LARGER, SHALL BE CONSIDERED TO BE MASS CONCRETE AND SHALL COMPLY WITH THE PROVISIONS OF SPECIFICATION SECTION 346-3.3, AS EXPANDED BY SPECIAL PROVISION 346-3.3.1. NO CONCRETE SHALL BE PLACED FOR DRILLED SHAFTS AT PIERS 6 THRU 24 UNTIL THE MASS CONCRETE MIX DESIGN AND MASS CONCRETE MONITORING PLAN FOR THE DRILLED SHAFTS HAVE BEEN APPROVED BY THE ENGINEER AND IMPLEMENTED. THE MASS CONCRETE MONITORING PLAN SHALL BE SPECIFIC FOR EACH OF THE SHAFT DIAMETERS, AND SHALL CONSIDER THE EFFECT OF SOIL INSULATION FOR THE PORTION OF THE SHAFTS BELOW THE MUDLINE VS THE NON-INSULATED PORTION OF THE SHAFTS IN WATER. IF INTERNAL COOLING TUBES ARE TO BE PROVIDED FOR CIRCULATION OF WATER DURING CURING, THE CONTRACTOR SHALL WAIT UNTIL INITIAL SET OF THE CONCRETE HAS OCURRED BEFORE COOLING WATER IS PUMPED INTO AND CIRCULATED IN THE TUBES.

8. COFFERDAMS SHALL BE REQUIRED FOR THE PERMANENT BRIDGE AT ALL PIERS, ABUTMENTS AND SEAWALLS, AS NECESSARY TO CONSTRUCT THE SUBSTRUCTURE COMPONENTS "IN THE DRY". THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL COFFERDAMS, SHORING AND BRACING. SHOP DRAWINGS AND DESIGN CALCULATIONS FOR THE COFFERDAMS, SHALL BE SUBMITTED TO THE ENGINEER, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER. THE COST OF THE COFFERDAMS SHALL INCLUDE THE DESIGN AND INSTALLATION, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO CONSTRUCT AND MAINTAIN THE COFFERDAMS DURING CONSTRUCTION OF THE SUBSTRUCTURE COMPONENTS. COFFERDAMS SHALL BE PAID FOR AS "EACH", UNDER THE FOLLOWING PAY ITEM NUMBERS & DESCRIPTIONS:

400-95	COFFERDAM, PIER	(21 EACH)
400-95-1	COFFERDAM, BASCULE PIER	(2 EACH)
400-95-3	COFFERDAM, SPECIAL (ABUTMENTS & SEAWALLS)	(2 EACH)

9. NO SHAFT CONSTRUCTION SHALL BEGIN WITHIN 30 FEET OF ANOTHER SHAFT WHICH IS UNDER CONSTRUCTION OR ANOTHER SHAFT WHICH HAS BEEN COMPLETED WITHIN THE PREVIOUS 12 HOURS.

10. ALL DRILLED SHAFTS ON THIS PROJECT SHALL BE CONSTRUCTED USING WET METHODS WITH MINERAL SLURRY. DESANDING EQUIPMENT WITH DRILLING TANKS SHALL BE PROVIDED TO CLEAN THE SLURRY FOR REUSE. THE DESANDING EQUIPMENT SUPPLIED BY THE CONTRACTOR SHALL BE EQUIPPED WITH SUITABLE SCREENS AND CYCLONE SEPARATORS AND SHALL HAVE ADEQUATE CAPACITY TO DESAND THE VOLUMES OF SLURRY REQUIRED FOR THE PROJECT. NO SLURRY OR CONTAMINATED WATER SHALL BE DISCHARGED INTO THE RIVER. NO CASINGS SHALL PERMANENTLY PENETRATE BELOW THE 100-YR SCOUR ELEVATION REPORTED IN THE DRILLED SHAFT INSTALLATION TABLE ON SHEET B-29, WITHOUT THE ENGINEER'S APPROVAL.

AB ADDITIONAL CLARIFICATION ON MAXIMUM TIP ELEVATION (RFI 005 - 1/7/2005)

11. ALL COSTS ASSOCIATED WITH THE MATERIALS FOR AND INSTALLATION OF THE STEEL CASINGS FOR THE DRILLED SHAFT INSTALLATION FOR THE ABUTMENTS, SEAWALL, AND APPROACH SPAN PIERS SHALL BE CONSIDERED INCIDENTAL TO, AND INCLUDED WITH, THE COST OF THE DRILLED SHAFT CONCRETE.

12. SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT DISCHARGE OF SLURRY OR EXCAVATED MATERIALS INTO THE WATERWAY DURING THE EXCAVATION OPERATIONS. A RECEPTICAL SHALL BE PROVIDED AROUND THE TOP OF THE DRILLED SHAFT CASING TO COLLECT AND CONTAIN MATERIALS EXCAVATED FROM THE DRILLED SHAFTS FOR TRANSPORT BY BARGE OR CONDUIT, AND DISPOSED OF SATISFACTORILY IN APPROVED OFF-SITE AREAS PROVIDED BY THE CONTRACTOR.

13. CARE SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT DISCHARGE OF SLURRY OR CONCRETE INTO THE WATERWAY DURING THE CONCRETING OPERATION. THE CONTRACTOR SHALL PROVIDE A RECEPTACLE AROUND THE TOP OF THE DRILLED SHAFT CASING TO COLLECT ALL SLURRY AND/OR CONCRETE DISCHARGED FROM THE SHAFT DURING THE CONCRETING OPERATION.

14. TURBIDITY BARRIERS (CURTAINS) SHALL BE USED DURING DRILLED SHAFT EXCAVATION IN WATER UNLESS SHEET PILE COFFERDAMS ARE IN PLACE AND ADEQUATELY ISOLATE TURBIDTY FROM THE RIVER.

15. THE CONTRACTOR SHOULD NOTE THAT THE POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER IS AT ELEVATION +20.0 FEET. THE APPROXIMATE ELEVATION OF THE TOP OF THE FLORIDIAN AQUIFER IS ELEVATION -175 (MSL).

16. FOUNDATION SEALS SHALL BE REQUIRED AT ALL PIERS, ABUTMENTS AND SEAWALLS. ADDITIONALLY, THE CONTRACTOR IS ADVISED THAT THE EXTRACTION OF TIMBER PILING AT THE EXISTING ABUTMENTS MAY CAUSE INCREASED GROUNDWATER FLOW, POSSIBLY RESULTING IN THE NEED TO BACKFILL PILE HOLES WITH SAND OR CLAY SLURRY TO SLOW WATER FLOW INTO THE EXCAVATION. DEWATERING OF THE EXCAVATIONS, INCLUDING ALL PROVISIONS FOR MANAGEMENT OF GROUNDWATER SHALL BE INCLUDED IN THE COST OF THE COFFERDAMS FOR EACH SUBSTRUCTURE UNIT.

RICHARD R. WALLACE
Florida PE No. 24066

RICHARD READE WALLACE
LICENSED
No. 24066
STATE OF FLORIDA
PROFESSIONAL ENGINEER

AS-BUILT
THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD.
AS-BUILT INFORMATION IS LIMITED TO THE OBSERVATIONS MADE DURING PERIODIC FIELD TRIPS, AND THE DOCUMENTATION PROVIDED BY THE CONSTRUCTION ENGINEERING AND INSPECTION AGENT, URS CONSTRUCTION SERVICES, INC.
IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED ON THIS SHEET AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER. AB

BRIDGE NO. 780074

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
3-19-04	JKP	⚠1 MODIFIED NOTE 5.			
7-20-11	RRW	AB AS-BUILT			

	NAMES	DATES
DRAWN BY	GBL	11-03
CHECKED BY	JPT	11-03
DESIGNED BY	PAW	02-03
CHECKED BY	GBL	03-03
APPROVED BY	D.T. SWEENEY	

ENGINEER OF RECORD:
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904-256-2500 FL Cert. No. EB0005820
Jeffrey P. Toussant, Florida PE No. 36367

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR A1A	ST. JOHNS	210255-1-52-01

SHEET TITLE: DRILLED SHAFT DATA (2 OF 2)

PROJECT NAME: PERMANENT BRIDGE
BRIDGE OF LIONS REHABILITATION

SHEET NO. B-29A

•DGN:SPECIFICATION•••••••

•DD-MMM-YYYY HH:MM•

COMPONENTS OF CONTRACT PLANS INCLUDE

ROADWAY PLANS
SIGNING AND PAVEMENT MARKING PLANS
SIGNALIZATION PLANS
LIGHTING PLANS
STRUCTURE PLANS
A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1 - 1A	KEY SHEETS
2 - 4A	SUMMARY OF PAY ITEMS
5 - 12	TYPICAL SECTIONS
13 - 14	SUMMARY OF QUANTITIES
15 - 18	SUMMARY OF DRAINAGE STRUCTURES
19 - 20	OPTIONAL MATERIALS TABULATION
21	SURVEY LAYOUT
22 - 24	PROJECT LAYOUT
25	CURVE DATA TABLE
26 - 28	REFERENCE POINTS
29 - 41	ROADWAY PLAN
42	BRIDGE APPROACH DETAIL
43 - 54	ROADWAY PROFILE
55 - 56	CURB RETURN PROFILES
57 - 61	PARKING LOT SITE PLANS
62	DRAINAGE DETAILS
62A	DRAINAGE STRUCTURE MODIFICATION
63 - 66, 66A, 67 - 97	DRAINAGE STRUCTURES
98	CROSS SECTION PATTERN SHEET
99	ROADWAY SOIL SURVEY
100 - 133	CROSS SECTIONS
134 - 160, 160A, 160B, 161, 162, 162B, 163-165	TRAFFIC CONTROL PLANS
166 - 190	UTILITY ADJUSTMENTS
191	SWPPP

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS DATED JANUARY 2000, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2000, AS AMMENDED BY CONTRACT DOCUMENTS.

Computation Book CB#1 - Bridge Items

REVISIONS

SEE SHEET 1A.

Computation Book CB#2 - Roadway Items

Shop Drawing Index - See Sheet 1A

Fieldbooks & Binders

FB01	Miscellaneous Roadway Items	B17	Signing & Pavement Markings
FB02	Miscellaneous Roadway Items	B17A	Temporary Striping
FB03	Miscellaneous Roadway Items	B18	Lighting Items
FB06	Miscellaneous Roadway Items	B25	Additional Length of Drilled Shafts
FB07	Sodding (Temp)	B26	Sod & Finish Soil Layer
FBO8	Ground Cover & Shrubs	B27	Earthwork
FBO9	Miscellaneous Bridge Items	FBC1	Miscellaneous Roadway Items
B01	MOT Items & Field Office		
B02	Grassing Items		
B03	Striping (Temporary)		
B04	Off Duty Police Officer		
B08a	Pipe Storm Sewer Culvert		
B09	Disputes Review Board & Partnering		
B10	Trainee Manhours		
B13	Riprap (Bank & Shore) and Bedding Stone		
B16	Signalization		

William R. Adams III, P.E.

P.E. No.: 45794

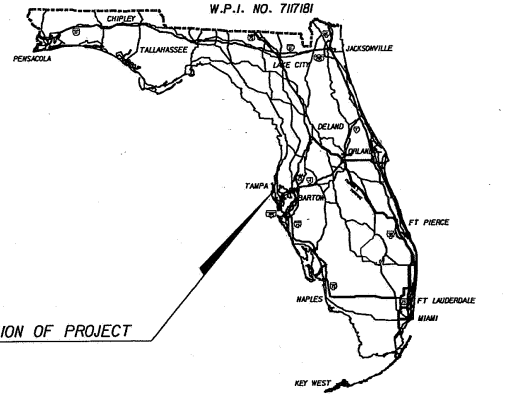
As Built Data Only
William R. Adams, III
3/13/2006

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

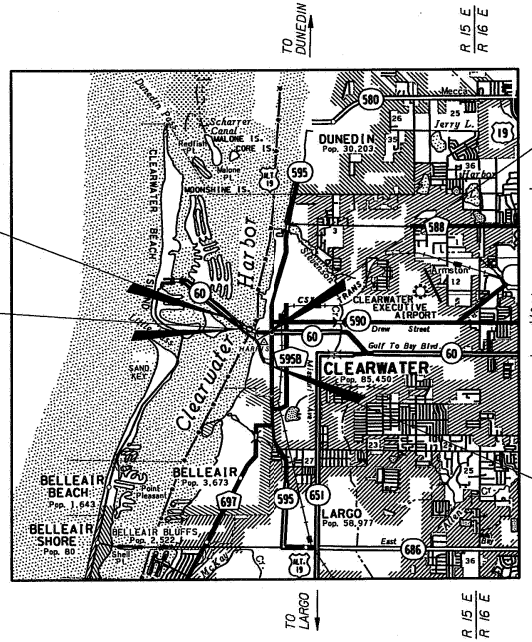
FINAL AS-BUILT PLANS
~~CONTRACT PLANS~~

FINANCIAL PROJECT ID 257093-1-52-01
STATE PROJECT NO. 15220-3599
(FEDERAL FUNDS)
PINELLAS COUNTY (15220)
STATE ROAD NO. 60 (MEMORIAL CAUSEWAY)
BRIDGE REPLACEMENT

W.P.I. NO. 7117181



LOCATION OF PROJECT



BEGIN PROJECT
STA 17+65.80
@ CONST SR 60
(MEMORIAL CAUSEWAY)
MP = 1.206
BEGIN BRIDGE
STA 27+33.00

T 28 S
T 29 S

END BRIDGE
STA 50+73.00

END PROJECT
STA 65+43.35
@ CONST SR 60
(CHESTNUT ST.)
MP = 2.111

1 MILE
1" = 3000'

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:
DAVID B. MONEY
HDR
2202 N. WESTSHORE BOULEVARD
SUITE 250
TAMPA, FLORIDA 33607-5711

PLANS PREPARED BY :

ENGINEER OF RECORD:
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(813) 282-2300
www.hdrinc.com
License No. 4213

VENDOR NO: F-470-680-568-006

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NOTE: THIS PROJECT TO BE LET TO CONTRACT WITH FINANCIAL PROJECT ID 257093-1-56-01 (UTILITY PLAN) AND 257093-1-56-02 (UTILITY PLAN)

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

REVISIONS 5, 6, 7, 9, 10, 12, 16, 18, 19, 21, 22, 24, 25, 28, 30

ENGINEER OF RECORD:
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Tallahassee, FL 32312-5998
(850)422-0000 Fax (850)422-3373

Contractors: PCL Civil Constructors Inc.
CEI: Parsons Brinckerhoff Construction Services
Sr. Project Engineer: William R. Adams III, P.E.
Project Engineer: Butch Weber, P.E.
District Secretary: Don Skelton, P.E.
Date Work Started: February 27, 2002
Date Work Final Accepted: February 14, 2006

LENGTH OF PROJECT

	LINEAR FT.	MILES
ROADWAY	2437.55	0.461
BRIDGES	2340.00	0.443
NET LENGTH OF PROJ.	4777.55	0.904
EXCEPTIONS		
GROSS LENGTH OF PROJ.	4777.55	0.904

FDOT PROJECT MANAGER : JAMAL NAGAMIA

KEY SHEET REVISIONS

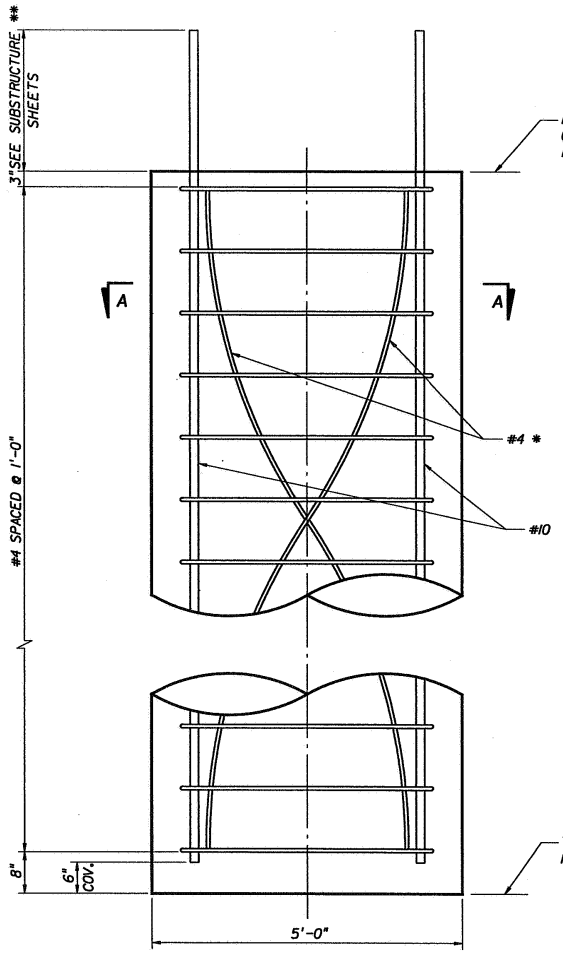
DATE	BY	DESCRIPTION
6/25/01	DBM	1 REVISED INDEX TO SHOW SHEET 4A
7/8/02	DBM	1 REVISED INDEX TO SHOW SHEETS 160A, 160B
12/9/02	DBM	18 ADDED SHEET 162B
05/13/03	EBS	18 MOVED REVISIONS 1 THRU 1A TO SHEET 1A.

ROADWAY PLANS
ENGINEER OF RECORD: DAVID B MONEY, P.E.
P.E. NO.: 47022
2/7/06

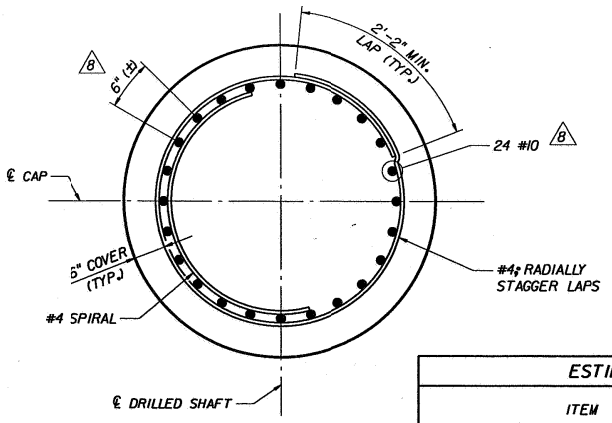
FISCAL YEAR	SHEET NO.
02	1

C:\TMP\keysrd01.02.04.05.dgn 2:38:16 PM 1/20/2006

1/20/2006 2:38:16 PM C:\TMP\keysrd01.02.04.05.dgn



ELEVATION-60" Ø DRILLED SHAFT



SECTION A-A

ESTIMATED QUANTITIES			
ITEM	UNIT	QUANTITY	
		BRIDGE	RAMP
DRILLED SHAFT	L.F.	~~1,761~~	83
UNCLASSIFIED SHAFT EXCAVATION	L.F.	~~1,435~~	85
CORE (SHAFT EXCAVATION)	L.F.	~~140~~	10

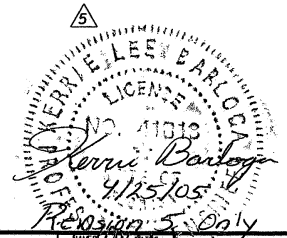
5

* FIELD BEND TWO #4 BARS AT THE RATE OF ONE COMPLETE REVOLUTION PER 20 FEET OF SHAFT INSIDE VERTICAL REINFORCING. TIE AT INTERSECTION WITH VERTICAL BARS. USE MIN. LAP SPLICE 1'-0" AS NECESSARY.

** SEE SHEETS C-18 & C-20 FOR PLACEMENT OF DOWELS.

NOTES:

1. DRILLED SHAFTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR DRILLED SHAFTS UNDER BID ITEM NO. 455-88-6. COMPENSATION FOR ADDITIONAL COST FOR MATERIALS AND CONSTRUCTION OF DRILLED SHAFTS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS. SEE SUMMARY OF QUANTITIES AND SPECIFICATIONS. 1
2. CONCRETE SHALL BE POURED CONTINUOUSLY FROM TIP ELEVATION TO SHAFT HEAD ELEVATION OF DRILLED SHAFT.
3. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER PLANS AND CONSTRUCTION PROCEDURES FOR REVIEW AND APPROVAL AT LEAST 30 DAYS PRIOR TO BEGINNING CONSTRUCTION.
8 4. A LENGTH OF LAP SPLICE IN #10 BARS: 6'-0".



REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/01	TV	1 REVISED BID ITEM NUMBER			
06/02	TV	8 REVISED REINFORCING AND NOTE			
5/03/02	VAZ	5 REVISIONS FOR SUBSTRUCTURE VECP			

	NAME	DATE
DRAWN BY	JSR	6/00
CHECKED BY	DET	6/00
DESIGNED BY	TV	6/00
CHECKED BY	PRS	6/00
APPROVED BY	TV	

ENGINEER OF RECORD:
HDR Engineering, Inc.
2202 N. West Shore Boulevard
Suite 250
Tampa, FL 33607-5755
(813) 282-2300
www.hdrinc.com
License No. 4213

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	PINELLAS	257093-1-52-01

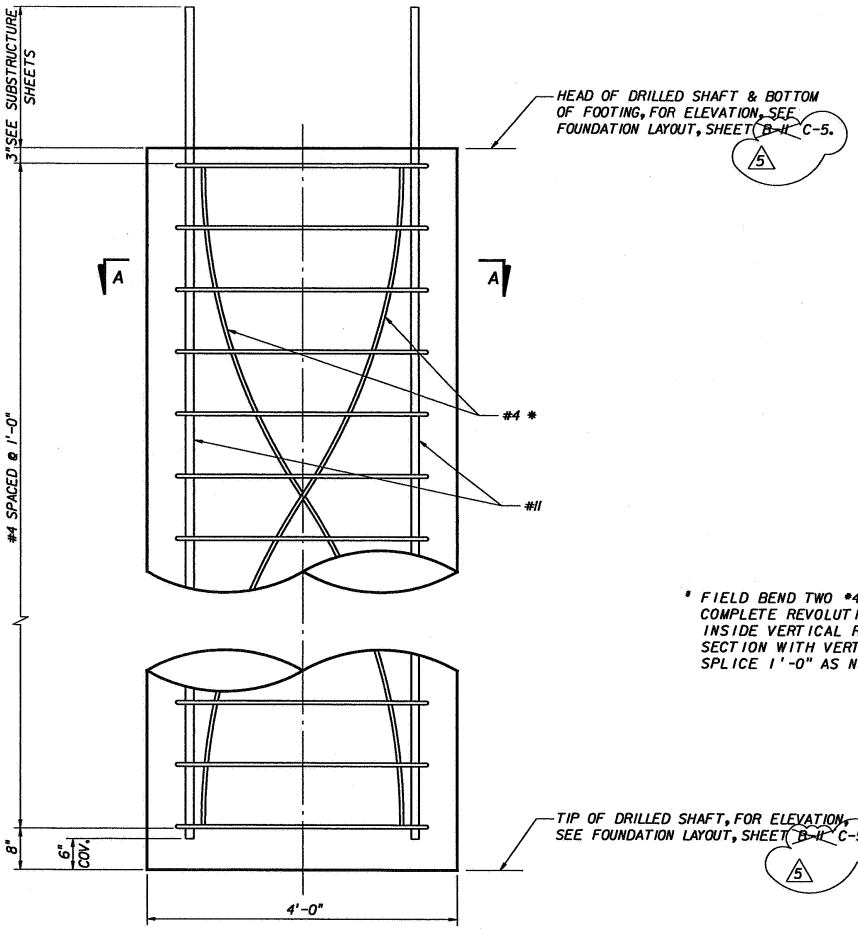
SHEET TITLE: 60" Ø DRILLED SHAFTS

PROJECT NAME: MEMORIAL CAUSEWAY BRIDGE

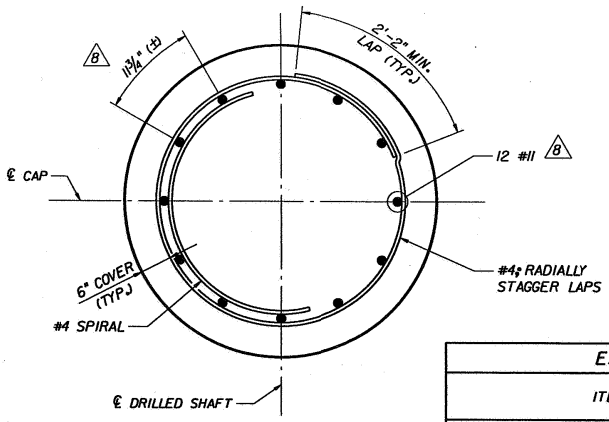
SHEET NO. A-7

$$$$$$$SYTIME$$$$$$$$TIME$

$USERNAME$ $$$$$$$DOINSPECIFICATION$$$$$$$



ELEVATION-48" Ø DRILLED SHAFT



SECTION A-A

ESTIMATED QUANTITIES			
ITEM	UNIT	QUANTITY	
		BRIDGE	RAMP
DRILLED SHAFT	L.F.	~~338~~	173
UNCLASSIFIED SHAFT EXCAVATION	L.F.	~~388~~	189
CORE (SHAFT EXCAVATION)	L.F.	~~40~~	20

5

* FIELD BEND TWO #4 BARS AT THE RATE OF ONE COMPLETE REVOLUTION PER 20 FEET OF SHAFT INSIDE VERTICAL REINFORCING. TIE AT INTERSECTION WITH VERTICAL BARS. USE MIN. LAP SPLICE 1'-0" AS NECESSARY.

NOTES:

1. DRILLED SHAFTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR DRILLED SHAFTS UNDER BID ITEM NO. 455-88-5. COMPENSATION FOR ADDITIONAL COST FOR MATERIALS AND CONSTRUCTION OF DRILLED SHAFTS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS. SEE SUMMARY OF QUANTITIES AND SPECIFICATIONS. 1
2. CONCRETE SHALL BE POURED CONTINUOUSLY FROM TIP ELEVATION TO SHAFT HEAD ELEVATION OF DRILLED SHAFT.
3. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER PLANS AND CONSTRUCTION PROCEDURES FOR REVIEW AND APPROVAL AT LEAST 30 DAYS PRIOR TO BEGINNING CONSTRUCTION.
4. LENGTH OF LAP SPLICE IN #11 BARS: 7'-0"
5. 5 WORK THIS SHEET WITH SHEETS C-6 THRU C-8 AS NOTED ON THOSE SHEETS.

Terri Barlow 4/25/05 Revised 5 only

4-25-05

REVISIONS						
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
06/01	TV	1 REVISED BID ITEM NUMBER			
06/02	TV	8 REVISED REINFORCING AND NOTE			
5/03/02	VAZ	5 REVISIONS FOR SUBSTRUCTURE VECP			

	NAMES	DATES
DRAWN BY	SDS	
CHECKED BY	DET	
DESIGNED BY	TV	
CHECKED BY	PRS	
APPROVED BY	TV	

ENGINEER OF RECORD:
HDR Engineering, Inc.
2202 N. West Shore Boulevard
Suite 250
Tampa, FL 33607-5755
(813) 282-2300
www.hdrinc.com
License No. 4213

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	PINELLAS	257093-1-52-01

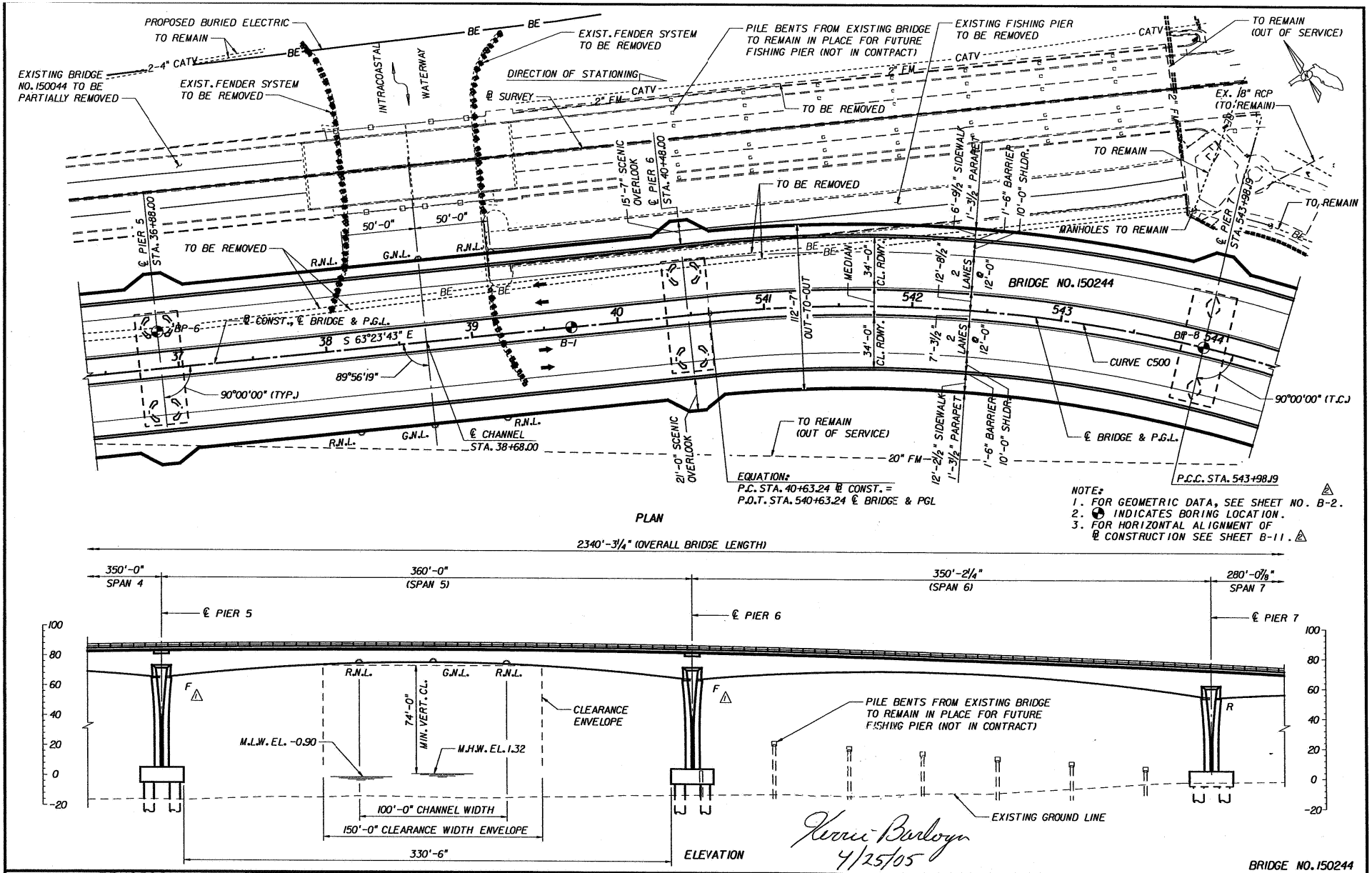
SHEET TITLE: 48" Ø DRILLED SHAFTS

PROJECT NAME: MEMORIAL CAUSEWAY BRIDGE

SHEET NO. A-8

$$$$$$$$USERNAME$$$$$$$$DGNSPECIFICATION$$$$$$$$

$$$$$$$$STIME$$$$$$$$$$TIME$



REVISIONS		
DATE	BY	DESCRIPTION
12/14/04	CWN	⚠1 Revised as noted.
3/15/05	CAB	⚠2 Revised sheet reference.

	NAMES	DATES
DRAWN BY	CAB	11-15-04
CHECKED BY	CWN	11-15-04
DESIGNED BY	YG	11-15-04
CHECKED BY	KLB	11-15-04
APPROVED BY	Phil Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS
Yves Gauthier, P.E.
Florida License No. 36086
Certificate of Authorization No. 4838
3500 Financial Plaza, Suite 300
Tallahassee, Fl. 32312-5598
(850)422-0000 Fax (850)422-3373

LOGO: PCL CONSTRUCTION LEADERS — PARSONS

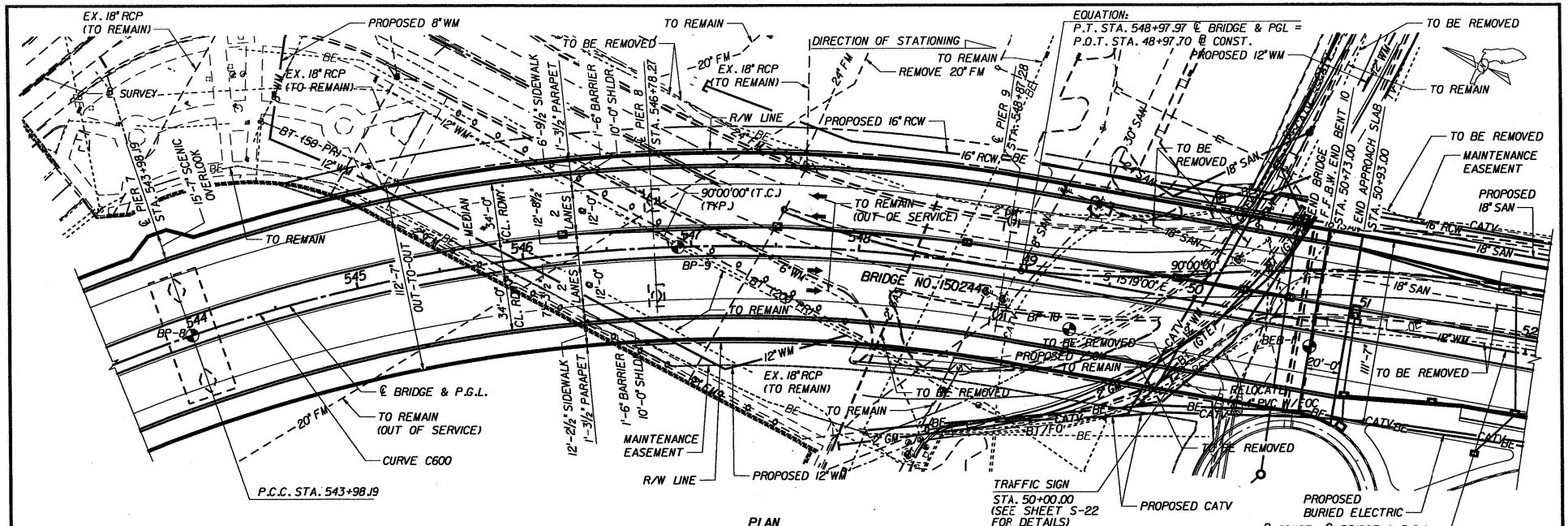
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	PINELLAS	257093-1-52-01

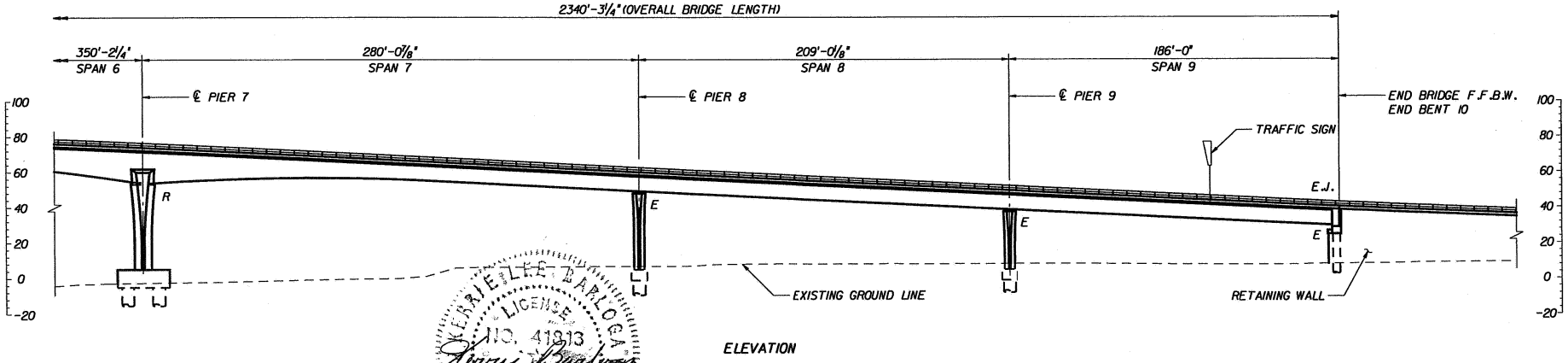
SHEET TITLE: PLAN AND ELEVATION FOR ℄ BRIDGE (SHEET 1 OF 2)

PROJECT NAME: MEMORIAL CAUSEWAY BRIDGE

SHEET NO. B-13



NOTE:
1. FOR NOTES, SEE SHEET B-13.
2. FOR HORIZONTAL ALIGNMENT OF ℄ CONSTRUCTION SEE SHEET NO. B-12.



BRIDGE NO. 150244

REVISIONS			Names	Dates
Date	By	Description	Drawn by	JMH 03/03
			Checked by	SGS 03/03
			Designed by	JL 03/03
			Checked by	KLB 3/15/05
			Approved by	Yves Gauthier, P.E.

ENGINEER OF RECORD:
PARSONS
Kerrie L. Bailoga, P.E.
Florida License No. 41813
Certificate of Authorization No. 6838
3500 Financial Plaza, Suite 300
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(850)422-0000 Fax (850)422-3373

LOGO: PCL CONSTRUCTION LEADERS — PARSONS

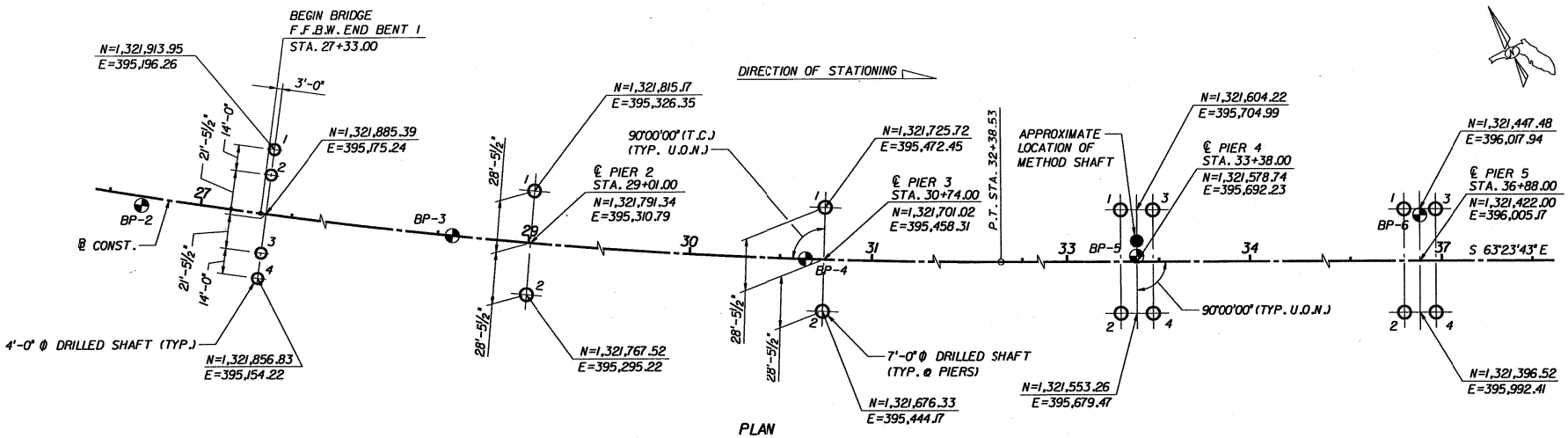
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	PINELLAS	257093-1-52-01

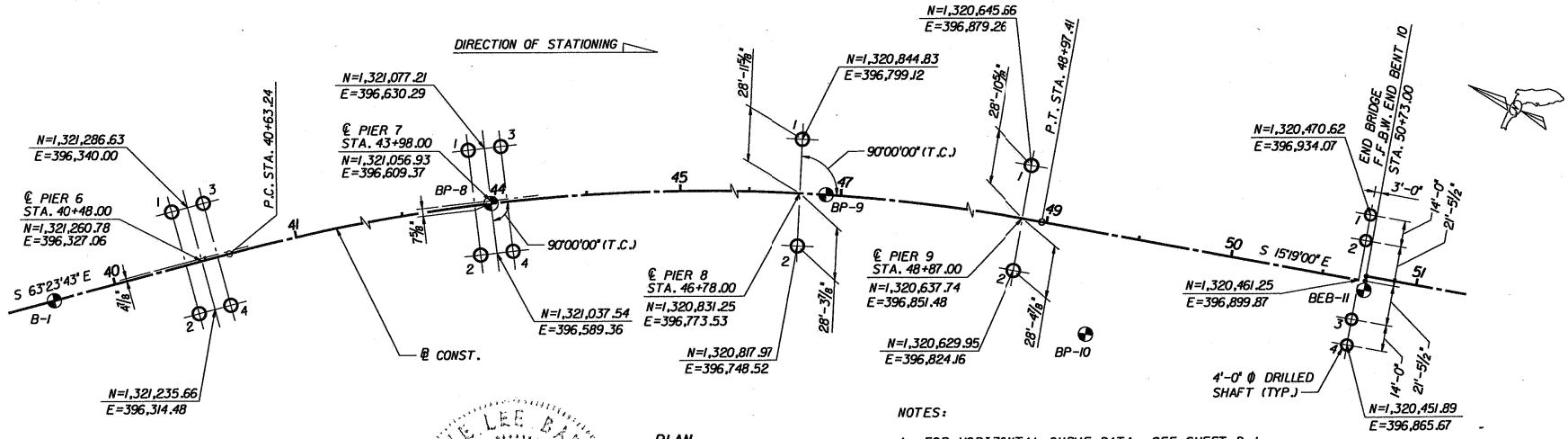
SHEET TITLE: PLAN AND ELEVATION FOR ℄ BRIDGE (SHEET 2 OF 2)

PROJECT NAME: MEMORIAL CAUSEWAY BRIDGE

SHEET NO. B-14



PLAN



PLAN

NOTES:

1. FOR HORIZONTAL CURVE DATA, SEE SHEET B-1.
2. FOR DRILLED SHAFT DATA, SEE SHEET B-17.
3. FOR PIERS 4, 5, 6 & 7 LAYOUT DIMENSIONS, SEE SHEET B-17.
4. ◓ INDICATES BORING LOCATION.
5. FOR UTILITY LOCATIONS, SEE SHEET B-16.

BRIDGE NO. 150244

KERRIE LEE BARLOGA — LICENSE NO. [illegible] — STATE OF FLORIDA — PROFESSIONAL ENGINEER
3/25/05

REVISIONS				Names	Dates
Date	By	Description	Drawn by	JMH	03/02
			Checked by	SGS	03/02
			Designed by	JL	03/02
			Checked by	KLB	3/15/05
			Approved by	Yves Gauthier, P.E.	

ENGINEER OF RECORD:
PARSONS
Kerrie L. Barloga, P.E.
Florida License No. 49813
Certificate of Authorization No. 6638
3500 Financial Plaza, Suite 300
Tallahassee, Fl. 32312-5598
(850)422-0000 Fax (850)422-3373

LOGO: PCL CONSTRUCTION LEADERS — PARSONS

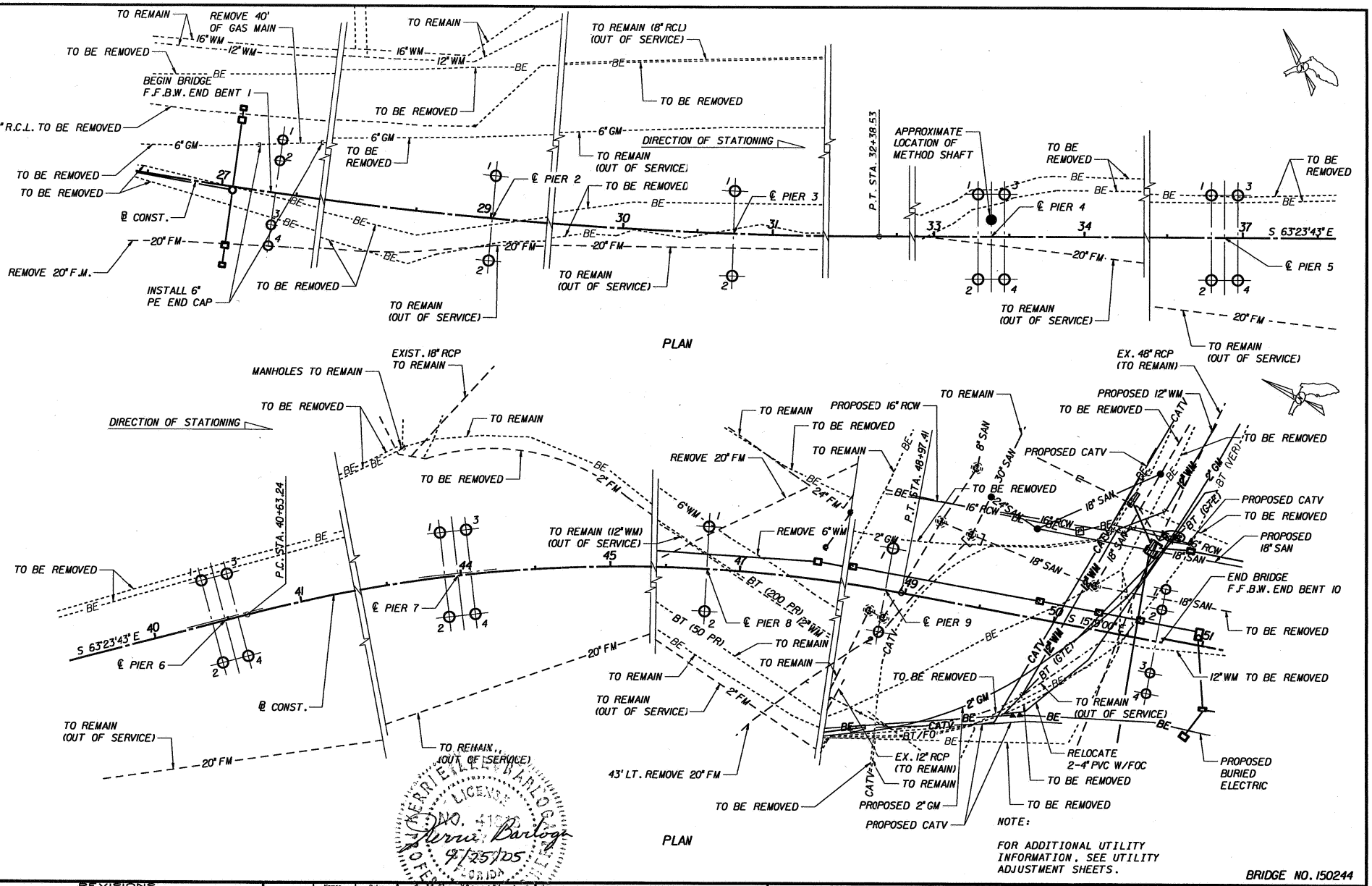
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	PINELLAS	257093-1-52-01

SHEET TITLE: FOUNDATION LAYOUT (SHEET 1 OF 3)

PROJECT NAME: MEMORIAL CAUSEWAY BRIDGE

SHEET NO. B-15



BRIDGE NO. 150244

REVISIONS		
Date	By	Description

	Names	Dates
Drawn by	JMH	03/02
Checked by	SGS	03/02
Designed by	JL	03/02
Checked by	KLB	3/15/05
Approved by	Yves Gauthier, P.E.	

ENGINEER OF RECORD:
PARSONS
Kerrie L. Barlage, P.E.
Florida License No. 41813
Certificate of Authorization No. 4838
3500 Financial Plaza, Suite 300
Tallahassee, Fl. 32312-5598
(850)422-0000 Fax (850)422-3373

LOGO:
PCL CONSTRUCTION LEADERS
PARSONS

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	PINELLAS	257093-1-52-01

SHEET TITLE: FOUNDATION LAYOUT (SHEET 2 OF 3)

PROJECT NAME: MEMORIAL CAUSEWAY BRIDGE

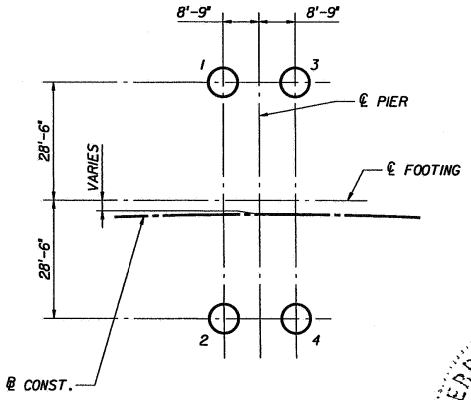
SHEET NO. 8-16

DRILLED SHAFT DATA TABLE

INSTALLATION CRITERIA					DESIGN CRITERIA		
PIER OR BENT	SHAFT SIZE (IN.)	TIP ELEV. (FT.)	MIN. TIP ELEV. (FT.)	MIN. UNCASED ROCK SOCKET LENGTH (FT.)	FACTORED DESIGN LOAD (KIPS)	DOWNDRAG (KIPS)	APPROX. 100 YR. SCOUR ELEV. (FT.)
E.B.1	48	-	-10	14	1686	260	N/A
PIER 2	84	-	-49	26	6109	N/A	N/A
PIER 3	84	-	-53	28	6003	N/A	N/A
PIER 4	84	-	-53	48	12460	N/A	-25
PIER 5	84	-	-58	44	9074	N/A	-32
PIER 6	84	-	-68	47	9098	N/A	-36
PIER 7	84	-	-58	60	12450	N/A	-30
PIER 8	84	-	-48	36	6767	N/A	N/A
PIER 9	84	-	-43	28	6761	N/A	N/A
E.B.10	48	-	-10	13	1686	240	N/A

TOP OF DRILLED SHAFT ELEVATIONS

PIER OR BENT	ELEVATION
E.B.1	29.74
PIER 2	-0.90
PIER 3	-0.90
PIER 4	-2.90
PIER 5	-2.90
PIER 6	-2.90
PIER 7	-2.90
PIER 8	-0.90
PIER 9	-0.90
E.B.10	24.73



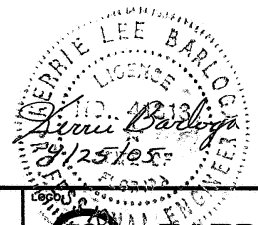
PIERS 4, 5, 6 AND 7

DRILLED SHAFT INSTALLATION NOTES:

1. ONE 84 INCH DIAMETER METHOD SHAFT SHALL BE CONSTRUCTED AT THE SITE. THE METHOD SHAFT SHALL BE CONSTRUCTED TO THE DEPTH SPECIFIED BY THE ENGINEER AT A NON-PRODUCTION SHAFT LOCATION AS SHOWN ON THE FOUNDATION LAYOUT SHEET.
2. TIP ELEVATION - THE ELEVATION TO WHICH THE SHAFT SHALL BE CONSTRUCTED WILL BE DETERMINED FROM LOAD TEST DATA, ROCK CORES, OR OTHER GEOTECHNICAL INFORMATION OBTAINED DURING CONSTRUCTION. THIS INFORMATION WILL BE PROVIDED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY THE ENGINEER.
3. MIN. TIP ELEVATION - THE HIGHEST ELEVATION THAT THE SHAFT TIP MAY BE CONSTRUCTED IF ADJUSTMENTS ARE MADE TO THE TIP ELEVATIONS SPECIFIED.
4. SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT DISCHARGE OF SLURRY OR EXCAVATED MATERIALS INTO THE INTRACOASTAL WATERWAY DURING THE EXCAVATION PROCEDURES. MATERIALS EXCAVATED FROM THE DRILLED SHAFTS SHALL BE COLLECTED, LOADED ON A BARGE AND DISPOSED OF AT AN OFFSITE LOCATION PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
5. SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT DISCHARGE OF SLURRY OR CONCRETE INTO THE INTRACOASTAL WATERWAY DURING THE CONCRETE OPERATIONS. THE CONTRACTOR SHALL PROVIDE A SUITABLE RECEPTACLE AROUND THE TOP OF THE CASING TO COLLECT SLURRY AND/OR CONCRETE DISCHARGED FROM THE SHAFT DURING CONCRETE OPERATIONS.
6. SLURRY AS DESCRIBED IN STANDARD SPECIFICATION 455-15.11.5 WILL INCLUDE NATURAL SLURRY (SLURRY FORMED FROM WATER AND NATURAL MATERIAL IN THE HOLE) FOR THE PURPOSES OF THE TIME OF EXCAVATION.
7. THE SLUMP LOST TEST DESCRIBED IN STANDARD SPECIFICATION 346-3.2 SHALL BE PERFORMED AT THE PLANT.
8. PILOT HOLES SHALL BE PERFORMED PRIOR TO SHAFT EXCAVATION. THE PILOT HOLES SHALL BE SPT SAMPLED AT 2.5 FOOT INTERVALS FROM THE TOP OF THE ROCK LAYER OR FROM THE SCOUR ELEVATION TO A MINIMUM OF 5 FEET BELOW THE TIP ELEVATION SHOWN IN THE DRILLED SHAFT DATA TABLE. WHEN SCOUR IS ANTICIPATED, PILOT HOLES SHALL BE SPT SAMPLED FROM THE SCOUR ELEVATION. ANY ROCK ENCOUNTERED ABOVE THE SCOUR ELEVATION SHALL NOT BE USED WHEN DETERMINING THE SOCKET LENGTH. ROCK CORING SHALL BE PERFORMED AT ONE PILOT HOLE LOCATION PER INTERIOR PIER AS DIRECTED BY THE ENGINEER
9. THE ROCK SOCKET SHALL BE DEFINED AS THE UNCASED PORTION OF THE SHAFT BELOW THE SCOUR ELEVATION.
10. MINIMUM TIP ELEVATIONS PROVIDED IN THE DRILLED SHAFT DATA TABLES ARE PROVIDED TO MAINTAIN LATERAL STABILITY.
11. CROSS HOLE SONIC LOGGING SHALL BE CONDUCTED IN ACCORDANCE WITH THE TECHNICAL SPECIAL PROVISION AT PRODUCTION SHAFTS LOCATED WITHIN PIERS 2 THROUGH 9.
12. SOCKET MATERIALS INCLUDE HIGHLY WEATHERED TO SLIGHTLY WEATHERED LIMESTONES AND INDURATED CLAYS.

NOTE:

FOR HORIZONTAL CURVE DATA, SEE SHEET B-1.



BRIDGE NO. 150244

REVISIONS			Drawn by	Checked by	Designed by	Checked by	Approved by
Date	By	Description	Names	JMH	SGS	JL	KLB
			Dates	03/02	03/02	03/02	3/15/05

ENGINEER OF RECORD: PARSONS
Derrie L. Barlow, P.E.
Florida License No. 42131
Certificate of Authorization No. 1838
3500 Financial Plaza, Suite 300
Tallahassee, Fl. 32312-5598
(850)422-0200 Fax (850)422-3373

Lead: PCL CONSTRUCTION LEADERS — PARSONS

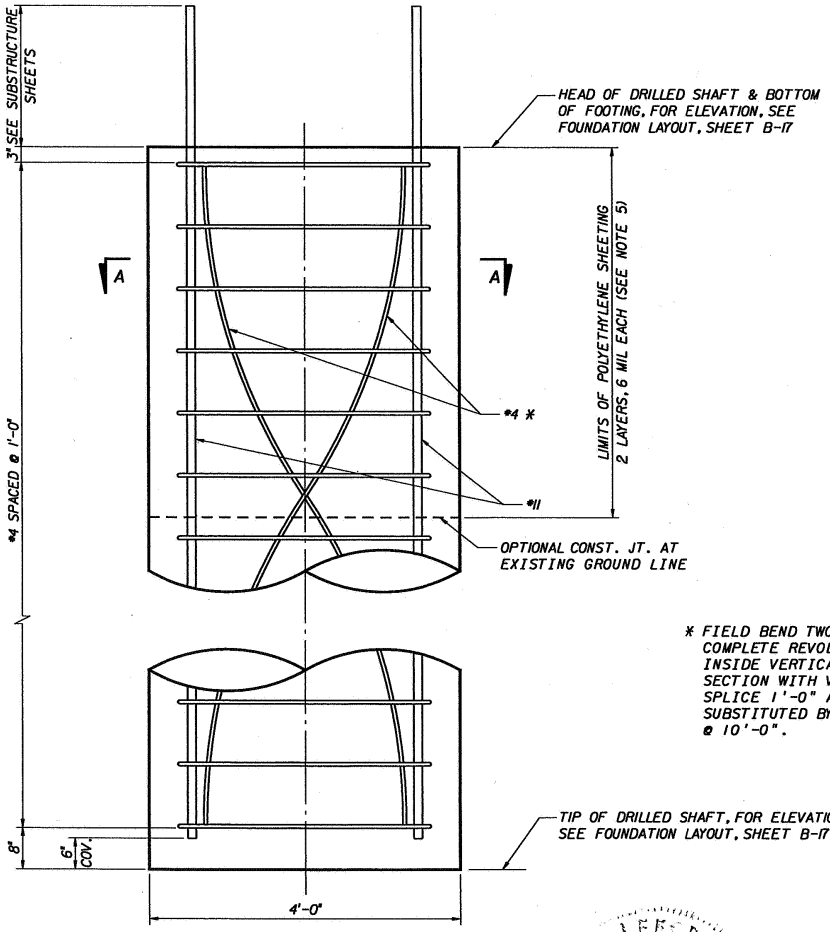
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
60	PINELLAS	257093-1-52-01

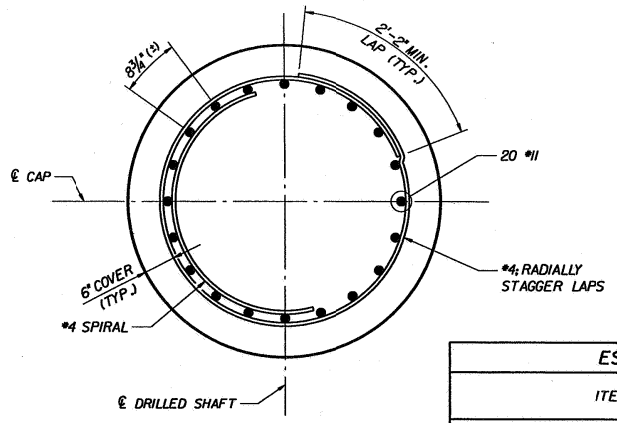
SHEET TITLE: FOUNDATION LAYOUT (SHEET 3 OF 3)

PROJECT NAME: MEMORIAL CAUSEWAY BRIDGE

SHEET NO. B-17



ELEVATION-48" Ø DRILLED SHAFT



SECTION A-A

ESTIMATED QUANTITIES			
ITEM	UNIT	QUANTITY	
		BRIDGE	RAMP
DRILLED SHAFT	L.F.	538	173
UNCLASSIFIED SHAFT EXCAVATION	L.F.	388	189
CORE (SHAFT EXCAVATION)	L.F.	40	20

* FIELD BEND TWO #4 BARS AT THE RATE OF ONE COMPLETE REVOLUTION PER 20 FEET OF SHAFT INSIDE VERTICAL REINFORCING. TIE AT INTERSECTION WITH VERTICAL BARS. USE MIN. LAP SPLICE 1'-0" AS NECESSARY. THIS MAY BE SUBSTITUTED BY #8 INTERNAL HOOPS SPACED @ 10'-0".

NOTES:

1. DRILLED SHAFTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR DRILLED SHAFTS UNDER BID ITEM NO. 455-88-5. COMPENSATION FOR ADDITIONAL COST FOR MATERIALS AND CONSTRUCTION OF DRILLED SHAFTS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS. SEE SUMMARY OF QUANTITIES AND SPECIFICATIONS.
2. CONCRETE SHALL BE POURED CONTINUOUSLY FROM TIP ELEVATION TO SHAFT HEAD ELEVATION OF DRILLED SHAFT.
3. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER PLANS AND CONSTRUCTION PROCEDURES FOR REVIEW AND APPROVAL AT LEAST 30 DAYS PRIOR TO BEGINNING CONSTRUCTION.
4. LENGTH OF LAP SPLICE IN #11 BARS: 7'-0".
5. IN ACCORDANCE WITH SECTION 459 OF THE STANDARD SPECIFICATIONS.

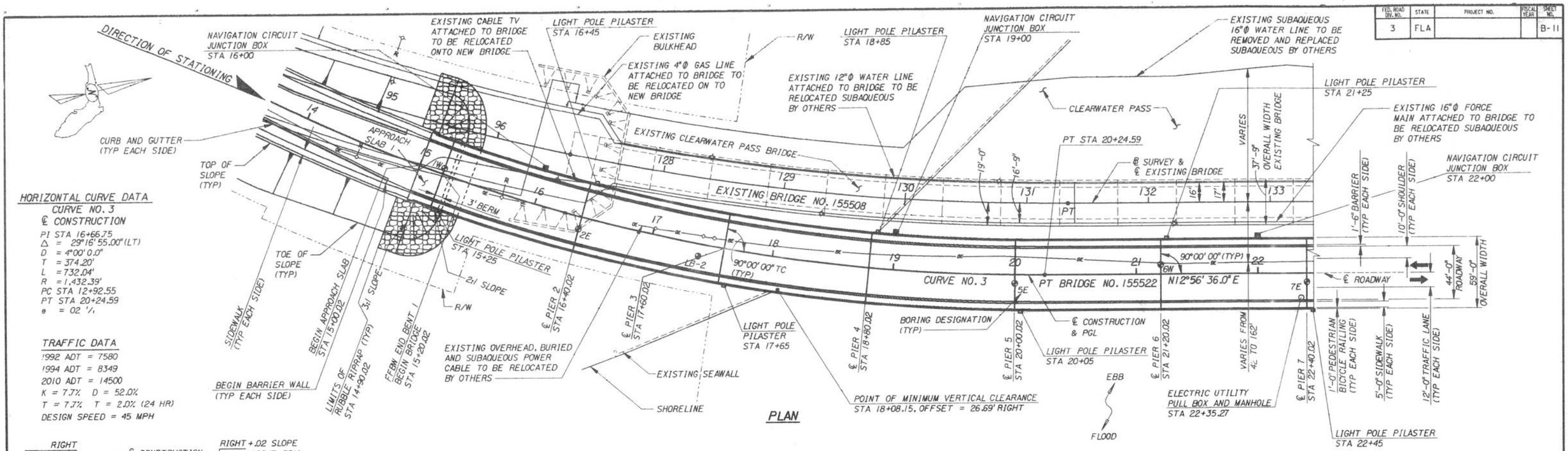
Terrie Barlage
4/25/05

BRIDGE NO. 150244

REVISIONS							
Date	By	Description		Names	Dates	ENGINEER OF RECORD: PARSONS Terrie L. Barlage, P.E. Florida License No. 48013 Certificate of Authorization No. 1838 3500 Financial Plaza, Suite 300 Tallahassee, Fl. 32312-5598 (850)422-0200 Fax (850)422-3373	LOGO: PCL CONSTRUCTION LEADERS PARSONS
			Drawn by	JWH	03/02		
			Checked by	SGS	03/02		
			Designed by	VAZ	03/02		
			Checked by	KLB	3/15/05		
			Approved by	Yves Gauthier, P.E.			

FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET TITLE: 48" Ø DRILLED SHAFTS	
ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PROJECT NAME: MEMORIAL CAUSEWAY BRIDGE	SHEET NO. B-18
60	PINELLAS	257093-1-52-01		

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-11

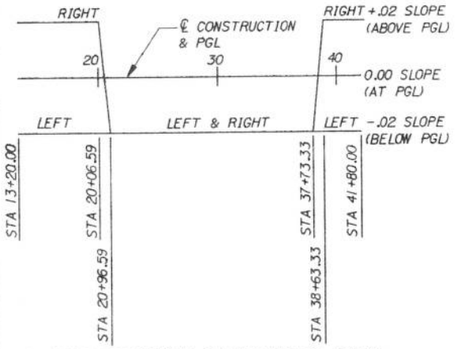


PLAN

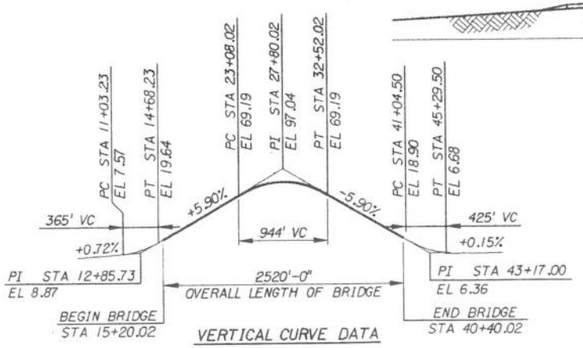
HORIZONTAL CURVE DATA
CURVE NO. 3
℄ CONSTRUCTION
PI STA 16+66.75
Δ = 29°16' 55.00" (LT)
D = 4°00' 0.0"
T = 374.20'
L = 732.04'
R = 1,432.39'
PC STA 12+92.55
PT STA 20+24.59
e = 02 1/2

TRAFFIC DATA
1992 ADT = 7580
1994 ADT = 8349
2010 ADT = 14500
K = 7.7% D = 52.0%
T = 7.7% T = 2.0% (24 HR)
DESIGN SPEED = 45 MPH

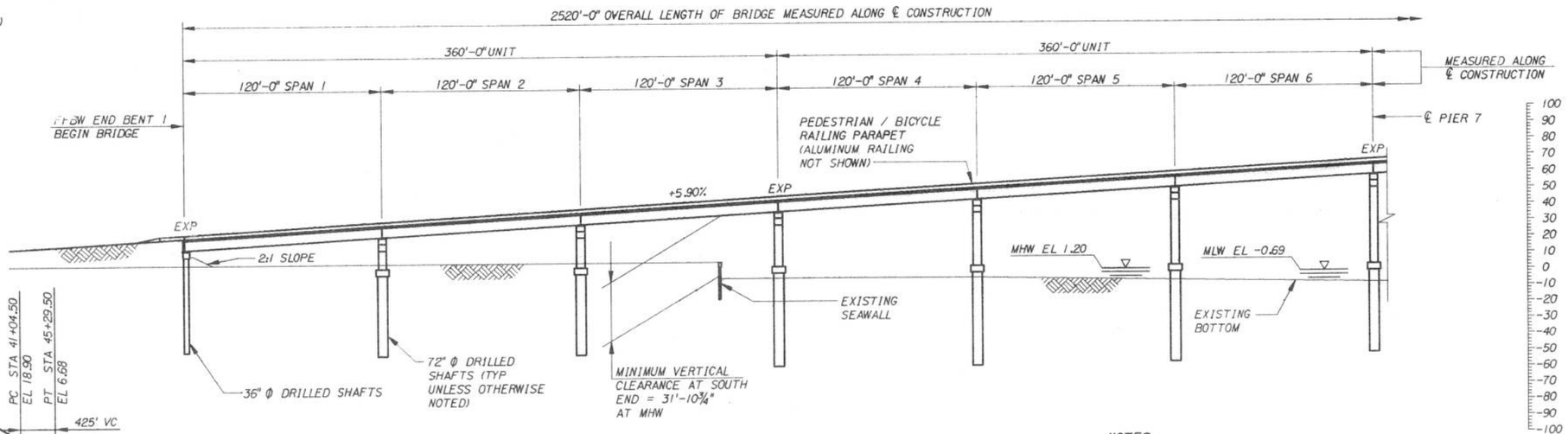
NOTE: REFER TO STATE PROJECTS NO. 15140-6518 AND 15140-6519 FOR ADDITIONAL UTILITY CONDUITS TO BE INSTALLED WITH BRIDGE.



SUPERELEVATION TRANSITION DATA



VERTICAL CURVE DATA



ELEVATION
LOOKING WEST
(EXISTING BRIDGE AND OVERHEAD LIGHTING NOT SHOWN FOR CLARITY)

NOTES:
1. ELEVATIONS ARE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
2. BEARING DESIGNATION: EXP = EXPANSION JOINT IN DECK SLAB.
3. FFBW INDICATES FRONT FACE OF BACKWALL.
4. MHW IS DESIGN HIGH WATER.
5. ⊕ INDICATES A SOIL BORING LOCATION.
6. EXISTING BRIDGE NO. 155508 IS TO BE REMOVED (88,176 SF). SEE BRIDGE DEMOLITION PLANS.

BRIDGE NO. 155522

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KBD/RLL	12-93
Checked by	DBT	12-93
Designed by	KBD	12-93
Checked by	RJH	12-93
Approved by	T. C. WHITE	

ENGINEER OF RECORD:
DAVID VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street, Suite 1
Tampa, Florida 33609

LOGO: DAVID VOLKERT & ASSOCIATES, INC.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
———	PINELLAS	15140-3518

SHEET TITLE: PLAN AND ELEVATION, SPANS 1 THRU 6
Drawing No.
PROJECT NAME: CLEARWATER PASS BRIDGE
Index No.

FED.-ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-12

PROVIDE 2'-0" OPENING IN PEDESTRIAN/BICYCLE RAILING FOR ACCESS LADDER, STATIONS 28+40.19 TO 28+42.19

DIRECTION OF STATIONING

EXISTING CABLE TV ATTACHED TO BRIDGE TO BE RELOCATED ONTO NEW BRIDGE

EXISTING 4"Ø GAS LINE ATTACHED TO BRIDGE TO BE RELOCATED ONTO NEW BRIDGE

LIGHT POLE PILASTER STA 23+65

℄ SURVEY & ℄ EXISTING BRIDGE

VARIES

CLEARWATER PASS

EXISTING 12"Ø WATER LINE ATTACHED TO BRIDGE TO BE RELOCATED SUBAQUEOUS BY OTHERS

NAVIGATION CIRCUIT JUNCTION BOX STA 25+00

16'-9" 19'-0"

LIGHT POLE PILASTER STA 26+05

NAVIGATION CIRCUIT JUNCTION BOX STA 25+16

STA 27+80.02 ℄ CONSTRUCTION
STA 29+00.00 ℄ REALIGNED CHANNEL

15°00'00" 28

℄ REALIGNED CHANNEL

℄ GREEN NAVIGATION LIGHT STA 27+87.92

LIGHT POLE PILASTER STA 28+45

LIGHT POLE PILASTER STA 30+85

PROPOSED FENDER SYSTEM, FOR DETAILS, SEE SHEETS B-57 & B-58

EXISTING SUBAQUEOUS 16"Ø WATER LINE TO BE REMOVED AND REPLACED SUBAQUEOUS BY OTHERS

R/W

EXISTING CLEARWATER PASS BRIDGE

37'-9" OVERALL WIDTH EXISTING BRIDGE

LIGHT POLE PILASTER STA 33+25

134 135 136 137 138 139 140 141 142 143 144

EXISTING BRIDGE NO. 155508

75°00'00"

23 24 25 26 27 29 28 29 30 31 32 33

7E 8W 9E 10W 11E 12E 13W 14E 15W 16E

BRIDGE NO. 155522

N12°56'36.0"E

44'-0" ROADWAY

59'-0" OUT-TO-OUT

℄ CONSTRUCTION & PGL

℄ PIER 7 STA 22+40.02

TRAFFIC RAILING BARRIER (TYP)

LIGHT POLE PILASTER STA 22+45

℄ PIER 8 STA 23+60.02

VARIES FROM 42' TO 162'

PEDESTRIAN / BICYCLE RAILING (TYP)

℄ PIER 9 STA 24+80.02

5'-0" SIDEWALK (TYP EACH SIDE)

LIGHT POLE PILASTER STA 24+85

℄ PIER 10 STA 26+00.02

℄ PIER 11 STA 27+20.02

PROVIDE 2'-0" OPENING IN PEDESTRIAN/BICYCLE RAILING FOR ACCESS LADDER, STATIONS 27+17.85 TO 27+19.85

LIGHT POLE PILASTER STA 27+25

90'-0" HORIZONTAL CLEARANCE TO FACE OF FENDERS

EBB 30 FLOOD

℄ PIER 12 STA 28+40.02

℄ GREEN NAVIGATION LIGHT STA 27+72.12

ELECTRIC UTILITY PULL BOX AND MANHOLE STA 29+64.77

℄ PIER 13 STA 29+60.02

BORING DESIGNATION (TYP)

LIGHT POLE PILASTER STA 29+65

EXISTING SUBAQUEOUS POWER CABLE TO BE RELOCATED BY OTHERS

℄ PIER 14 STA 30+80.02

EXISTING 16"Ø FORCE MAIN ATTACHED TO BRIDGE TO BE RELOCATED SUBAQUEOUS BY OTHERS

℄ PIER 15 STA 32+00.02

LIGHT POLE PILASTER STA 32+05

℄ PIER 16 STA 33+20.02

FOR COMPLETE ROADWAY WIDTHS SEE SHEET B-11

PLAN

NOTE: FOR 5 ADDITIONAL NAVIGATION CIRCUIT JUNCTION BOXES AT SPANS 10, 11 AND 12, SEE LIGHTING PLANS.

NOTE: REFER TO STATE PROJECTS NO. 15140-6518 AND 15140-6519 FOR ADDITIONAL UTILITY CONDUITS TO BE INSTALLED WITH BRIDGE.

2520'-0" OVERALL LENGTH OF BRIDGE MEASURED ALONG ℄ CONSTRUCTION

360'-0" UNIT | 360'-0" UNIT | 360'-0" UNIT

℄ PIER 7 | 120'-0" SPAN 7 | 120'-0" SPAN 8 | 120'-0" SPAN 9 | 120'-0" SPAN 10 | 120'-0" SPAN 11 CHANNEL SPAN | 120'-0" SPAN 12 | 120'-0" SPAN 13 | 120'-0" SPAN 14 | 120'-0" SPAN 15 | MEASURED ALONG ℄ CONSTRUCTION | ℄ PIER 16

100 90 80 70 60 50 40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100

EXP EXP EXP EXP

74'-4½" MINIMUM VERTICAL CLEARANCE ABOVE MHW AT FENDER

FOR NAVIGATION LIGHT DETAILS, SEE LIGHTING PLANS.

PEDESTRIAN / BICYCLE RAILING PARAPET (ALUMINUM RAILING NOT SHOWN)

MHW EL 1.20

MLW EL -0.69

EXISTING BOTTOM

72" Ø DRILLED SHAFTS (TYP)

℄ REALIGNED CHANNEL

FENDER SYSTEM SHOWN IS A SECTION VIEW

ELEVATION

LOOKING WEST

(EXISTING BRIDGE AND OVERHEAD LIGHTING NOT SHOWN FOR CLARITY)

NOTES:

FOR NOTES, SEE SHEET B-11.

BRIDGE NO. 155522

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KBD/RLL	12-93
Checked by	DBT	12-93
Designed by	KBD	12-93
Checked by	RJH	12-93
Approved by	T. C. WHITE	

ENGINEER OF RECORD:
DAVID VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street, Suite 1
Tampa, Florida 33609

LOGO: DAVID VOLKERT & ASSOCIATES, INC.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
———	PINELLAS	15140-3518

SHEET TITLE: PLAN AND ELEVATION, SPANS 7 THRU 15

Drawing No.

PROJECT NAME: CLEARWATER PASS BRIDGE

Index No.

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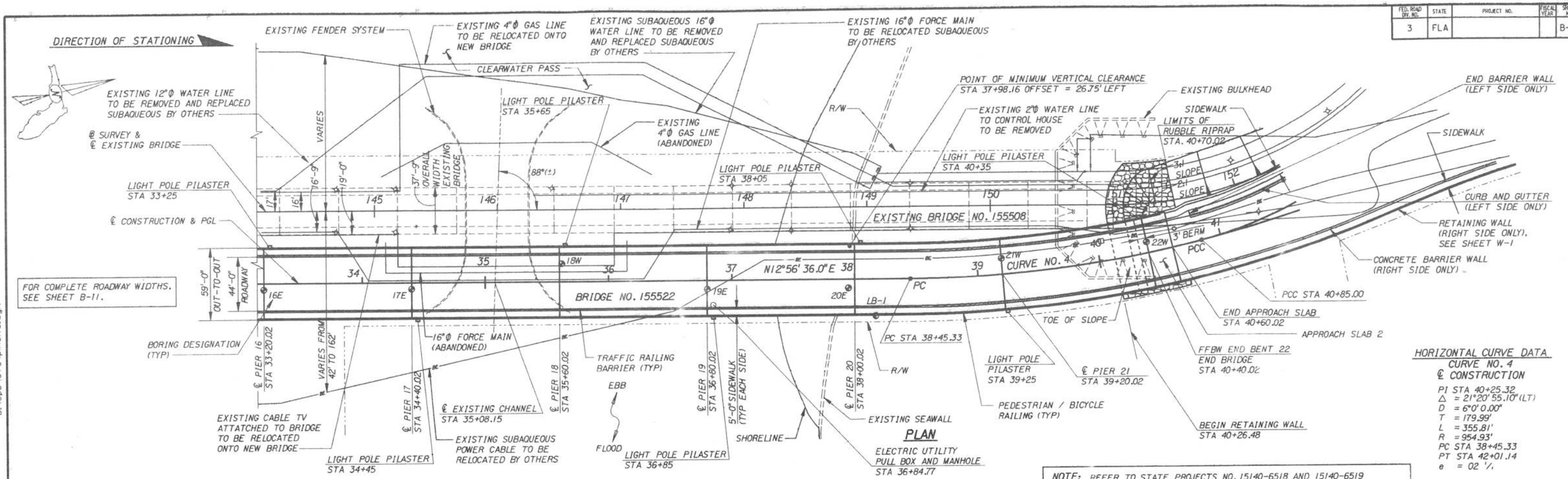
Fri Dec 10 05:04:58 1993

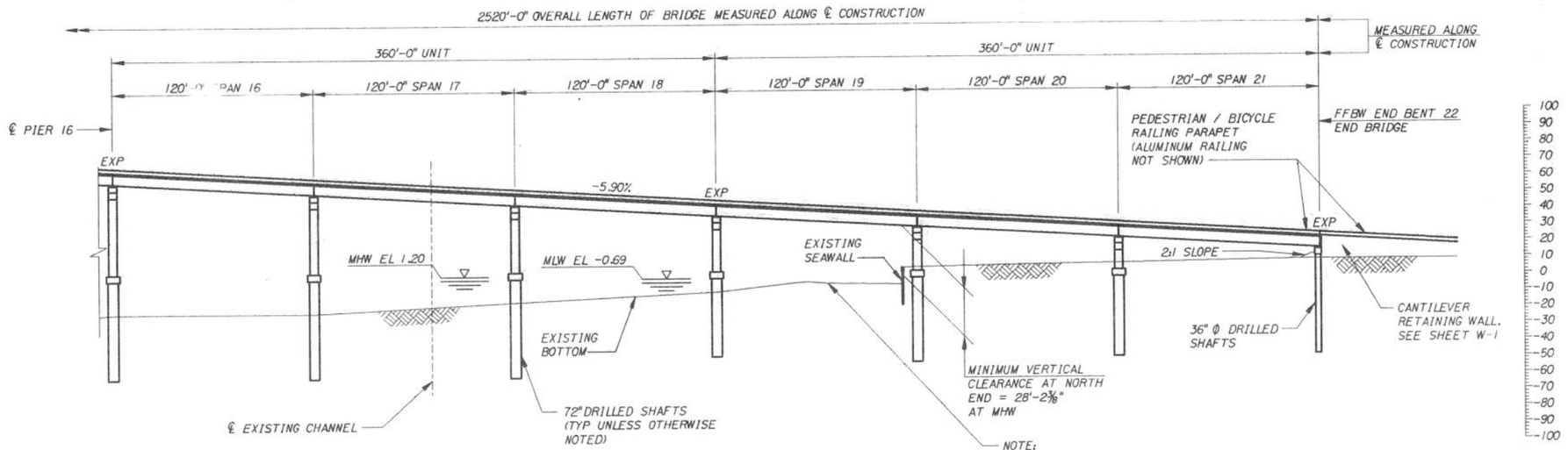
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-13



HORIZONTAL CURVE DATA
CURVE NO. 4
℄ CONSTRUCTION

PI STA 40+25.32
△ = 21°20'55.10"(LT)
D = 6°0'0.00"
T = 179.99'
L = 355.81'
R = 954.93'
PC STA 38+45.33
PT STA 42+01.14
e = 02 1/2

NOTE: REFER TO STATE PROJECTS NO. 15140-6518 AND 15140-6519 FOR ADDITIONAL UTILITY CONDUITS TO BE INSTALLED WITH BRIDGE.



ELEVATION
LOOKING WEST
(EXISTING BRIDGE AND OVERHEAD LIGHTING NOT SHOWN FOR CLARITY)

NOTES:
FOR NOTES, SEE SHEET B-11.

BRIDGE NO. 155522

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KBD/RLL	12-93
Checked by	DBT	12-93
Designed by	KBD	12-93
Checked by	RJH	12-93
Approved by	T. C. WHITE	

ENGINEER OF RECORD:
DAVID VOLKERT & ASSOCIATES, INC.
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Tampa, Florida 33609

LOGO: DAVID VOLKERT & ASSOCIATES, INC.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
———	PINELLAS	15140-3518

SHEET TITLE: PLAN AND ELEVATION, SPANS 16 THRU 21
Drawing No.
PROJECT NAME: CLEARWATER PASS BRIDGE
Index No.

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Fri Dec 10 05:08:04 1993

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-19

EQUATION
STA 96+61.40 BK
STA 127+21.94 AH

DIRECTION OF STATIONING

BORING DESIGNATION (TYP)

CURVE NO. 1

FFBW END BENT 1
STA 15+20.02

5 ~ 36"Ø DRILLED SHAFTS AT END BENT 1

EXISTING BULKHEAD TO BE REMOVED AS REQUIRED FOR NEW PIER CONSTRUCTION. SEE DEMOLITION PLANS

℄ PIER 2
STA 16+40.02

EXISTING CABLE TV ATTACHED TO BRIDGE TO BE RELOCATED ONTO NEW BRIDGE

TYP AT PIERS 2 THROUGH 5

EXISTING BENT NUMBER (TYP)

EXISTING 20" SQUARE PILE @ 1:10 BATTER (TYP)

EXISTING 20" SQUARE PRESTRESSED CONCRETE PLUMB PILE (TYP)

℄ PIER 3
STA 17+60.02

90°00'00" TC (TYP)

℄ PIER 4
STA 18+80.02

LB-2

SHAFT NUMBER (TYP)

SHIFT EXISTING RIPRAP ALONG SEAWALL AS REQUIRED

CURVE NO. 3

EXISTING SEAWALL

EXISTING SHORELINE

EXISTING SUBAQUEOUS 16"Ø WATER LINE TO BE REMOVED AND REPLACED SUBAQUEOUS

PT STA 131+33.79

VARIES FROM 20' TO 132'

EXISTING 12"Ø WATER LINE ATTACHED TO BRIDGE TO BE REPLACED SUBAQUEOUS

℄ SURVEY & ℄ EXISTING BRIDGE

EXISTING 4"Ø GAS LINE ATTACHED TO BRIDGE TO BE REPLACED ONTO NEW BRIDGE

N12°56'36.0"E

PT STA 20+24.59

℄ PIER 5
STA 20+00.02

VARIES FROM 42' TO 152'

℄ PIER 6
STA 21+20.02

90°00'00" (TYP)

℄ PIER 7
STA 22+40.02

N12°56'36.0"E

EXISTING 16"Ø FORCE MAIN ATTACHED TO BRIDGE TO BE REPLACED SUBAQUEOUS

MATCHLINE "A" SEE THIS SHEET

℄ CONSTRUCTION & PGL

EXISTING SUBAQUEOUS POWER CABLE TO BE RELOCATED (SEE NOTE 9 ON SHEET B-20)

TYP AT PIERS 6 THROUGH 20

FOUNDATION LAYOUT - PARTIAL PLAN

STA 27+80.02 ℄ CONSTRUCTION
STA 29+00.00 ℄ REALIGNED CHANNEL

TOWER BENT (TYP)

4 PILE BENT (TYP)

EXISTING 4 H-PILE GROUP FOR CRUTCH BENT (2 PLUMB & 2 @ 1:10 BATTER TYP)

DIRECTION OF STATIONING

℄ REALIGNED CHANNEL

EXISTING 12"Ø WATER LINE ATTACHED TO BRIDGE TO BE REPLACED SUBAQUEOUS

EXISTING SUBAQUEOUS 16"Ø WATER LINE TO BE REMOVED AND REPLACED SUBAQUEOUS

EXISTING 4"Ø GAS LINE ATTACHED TO BRIDGE TO BE REPLACED ONTO NEW BRIDGE

MATCHLINE "A" SEE THIS SHEET

MATCHLINE "B" SEE THIS SHEET B-9

℄ PIER 8
STA 23+60.02

℄ PIER 9
STA 24+80.02

℄ PIER 10
STA 26+00.02

℄ PIER 11
STA 27+20.02

℄ PIER 12
STA 28+40.02

℄ PIER 13
STA 29+60.02

℄ PIER 14
STA 30+80.02

℄ PIER 15
STA 32+00.02

EXISTING CABLE TV ATTACHED TO BRIDGE TO BE RELOCATED ONTO NEW BRIDGE

BORING DESIGNATION (TYP)

75°00'00.0"

WIRE ROPE (TYP)

3-PILE CLUSTER (TYP)

FENDER SYSTEM

90'-0"

TEST HOLE (SEE NOTES)

EXISTING 16"Ø FORCE MAIN ATTACHED TO BRIDGE TO BE REPLACED SUBAQUEOUS

EXISTING SUBAQUEOUS POWER CABLE TO BE RELOCATED

FOUNDATION LAYOUT - PARTIAL PLAN

HORIZONTAL CURVE DATA

CURVE NO. 1
℄ SURVEY

P.I. = STA 95+96.12
Δ = 29°16'55.00"(LT)
D = 3°00'0.0"
T = 498.94'
L = 976.06'
R = 1,909.86'
P.C. = STA 90+97.18
P.O.C. = STA 96+61.40 BK
= STA 127+21.94 AH
P.T. = STA 131+33.79

CURVE NO. 3
℄ CONSTRUCTION

PI STA 16+66.75
Δ = 29°16'55.00"(LT)
D = 4°00'0.0"
T = 374.20'
L = 732.04'
R = 1,432.39'
PC STA 12+92.55
PT STA 20+24.59
e = 02 1/2

NOTES:

1. FOR NOTES, SEE SHEET B-20.
2. FOR STATION OF EXISTING BENTS, SEE SHEET B-20.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KBD/RLL	12-93
Checked by	DBT	12-93
Designed by	EWB	12-93
Checked by	KBD	12-93
Approved by	T.C. WHITE	

ENGINEER OF RECORD:
DAVID VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street, Suite 1
Tampa, Florida 33609

LOGO: DAVID VOLKERT & ASSOCIATES, INC.

SEAL:

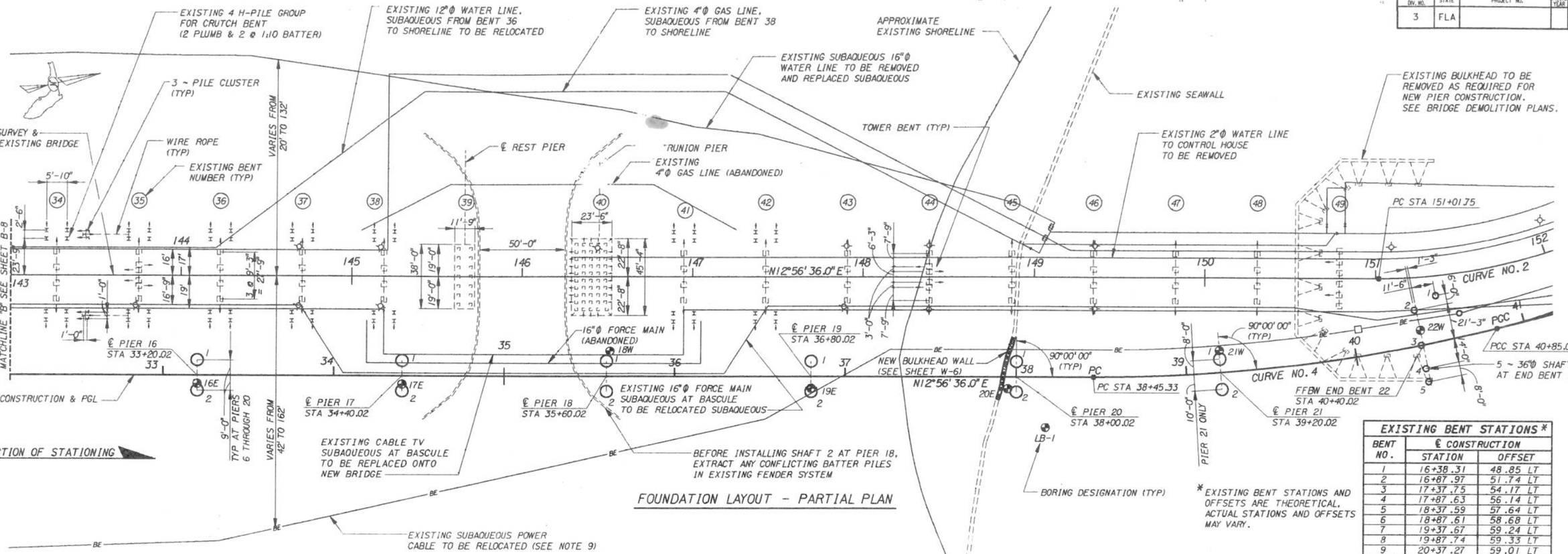
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
———	PINELLAS	15140-3518

SHEET TITLE: FOUNDATION LAYOUT, SHEET 1 OF 2
Drawing No.

PROJECT NAME: CLEARWATER PASS BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-20



FOUNDATION LAYOUT - PARTIAL PLAN

EXISTING BENT STATIONS *		
BENT NO.	℄ CONSTRUCTION STATION	OFFSET
1	16+38.31	48.85 LT
2	16+87.97	51.74 LT
3	17+37.75	54.17 LT
4	17+87.63	56.14 LT
5	18+37.59	57.64 LT
6	18+87.61	58.68 LT
7	19+37.67	59.24 LT
8	19+87.74	59.33 LT
9	20+37.27	59.01 LT
10	20+85.27	59.00 LT
11	21+33.27	↑
12	21+81.27	
13	22+29.27	
14	22+77.27	
15	23+25.27	
16	23+73.27	
17	24+21.27	
18	24+69.27	
19	25+17.27	
20	25+65.27	
21	26+13.27	
22	26+61.27	
23	27+09.27	
24	27+57.27	
25	28+05.27	
26	28+53.27	
27	29+01.27	
28	29+49.27	
29	29+97.27	
30	30+45.27	
31	30+93.27	
32	31+41.27	
33	31+89.27	
34	32+37.27	
35	32+85.27	
36	33+33.27	
37	33+81.27	
38	34+29.27	
39	34+77.27	
40	35+56.35	
41	36+05.06	
42	36+53.06	
43	37+01.06	
44	37+49.06	
45	37+97.06	↓
46	38+45.06	59.00 LT
47	38+96.15	57.73 LT
48	39+46.98	53.90 LT
49	39+97.23	47.54 LT

* EXISTING BENT STATIONS AND OFFSETS ARE THEORETICAL. ACTUAL STATIONS AND OFFSETS MAY VARY.

HORIZONTAL CURVE DATA

CURVE NO. 2 ℄ SURVEY

PI STA 151+35.02
Δ = 12°15' 13.00" (LT)
D = 18°28' 57.03"
T = 33.28'
L = 66.30'
R = 310.00'
PC STA 151+01.75
PT STA 151+68.05

CURVE NO. 4 ℄ CONSTRUCTION

PI STA 40+25.32
Δ = 21°20' 55.10" (LT)
D = 6°0' 0.00"
T = 179.99'
L = 355.81'
R = 954.93'
PC STA 38+45.33
PT STA 42+01.14
e = 02 1/2"

NOTES:

1. THE CONTRACTOR SHALL CUT A PILOT HOLE AT EACH SHAFT LOCATION, OR AS OTHERWISE DIRECTED BY THE ENGINEER, AND THE RESULTS SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH THE TECHNICAL SPECIAL PROVISIONS.
2. PAYMENT FOR PILOT HOLES IS INCLUDED IN BID ITEM NO. 455-111, CORE (SHAFT EXCAVATION).
3. DRILLED SHAFTS SHALL BE INSTALLED TO ACHIEVE THE AUTHORIZED MINIMUM TIP ELEVATIONS. AUTHORIZED MINIMUM TIP ELEVATIONS WILL BE PROVIDED TO THE CONTRACTOR BY THE DEPARTMENT SUBSEQUENT TO THE PILOT HOLE WORK IN ACCORDANCE WITH THE TECHNICAL SPECIAL PROVISIONS. DRILLED SHAFTS SHALL BE EXTENDED DEEPER IF SO DIRECTED BY THE ENGINEER.
4. THE EXPECTED TIP ELEVATIONS, AS INDICATED IN THE TABLE ON THIS SHEET, AND THE ASSOCIATED ESTIMATED QUANTITIES PRESENTED ON SHEETS B-21 AND B-22 ARE PRESENTED FOR THE ESTABLISHMENT OF CONTRACT UNIT PRICES. ALTHOUGH THE EXPECTED TIP ELEVATIONS SHOWN ARE BELIEVED TO BE REPRESENTATIVE FOR THE PROJECT, THE AUTHORIZED MINIMUM TIP ELEVATIONS MAY BE OF GREATER OR LESSER DEPTH.
5. ALL SHAFTS SHALL BE PLUMB.
6. CARE MUST BE TAKEN TO PREVENT CONTAMINATION OF THE SURROUNDING WATER BY DRILL CUTTINGS AND WASHINGS. MATERIALS SHALL BE DISPOSED OF OFF-SITE. APPROPRIATE FLOATING TURBIDITY BARRIERS SHALL BE PROVIDED. PAYMENT FOR FLOATING TURBIDITY BARRIERS INCLUDED IN ROADWAY ITEMS.
7. EXCAVATE A 72" Ø TEST HOLE TO AN ELEVATION OF -76.0' ADJACENT TO PIER 14, IN THE POSITION INDICATED IN THE FOUNDATION LAYOUT PLAN, OR AS OTHERWISE DIRECTED BY THE ENGINEER. FOR A TEST HOLE LOCATED WITHIN THE WATERWAY, THAT PORTION OF THE HOLE ABOVE THE PREDICTED SCOUR ELEVATION SHALL BE FILLED WITH SOIL CHARACTERISTICLY SIMILAR TO THE WATERWAY BOTTOM.
8. ● INDICATES A SOIL BORING LOCATION.
9. SUBAQUEOUS POWER CABLE WILL BE TEMPORARILY SHIFTED BY OTHERS TO CLEAR FOUNDATIONS AS REQUIRED.
10. TEMPORARY OR PERMANENT CASING MAY BE REQUIRED. THERE IS NO SEPARATE PAY ITEM FOR CASING AND ALL COSTS SHALL BE INCLUDED IN THE PRICE OF THE DRILLED SHAFTS.

DRILLED SHAFT INSTALLATION TABLE

BENT OR PIER	SHAFT SIZE	DESIGN LOAD	EXPECTED TIP ELEVATION	PREDICTED SCOUR ELEVATION	TOP ELEVATION
1	36"Ø	350 TONS	-47.0	-----	VARIES *
2	72"Ø	860 TONS	-50.0	-----	0.500
3	↑	870 TONS	-50.0	-----	-1.500
4		880 TONS	-58.0	-12.4	-1.690
5		890 TONS	-58.0	-17.9	↑
6		910 TONS	-56.0	-25.5	
7		920 TONS	-51.0	-25.5	
8		950 TONS	-57.0	-30.8	
9		980 TONS	-56.0	-23.9	
10		1000 TONS	-55.0	-26.2	
11		1010 TONS	-53.0	-25.7	
12		1010 TONS	-53.0	-25.7	
13		1000 TONS	-62.0	-33.5	
14		980 TONS	-66.0	-33.5	
15		950 TONS	-76.0	-33.1	
16		920 TONS	-60.0	-33.1	
17		910 TONS	-60.0	-33.1	
18		890 TONS	-60.0	-33.1	↓
19		870 TONS	-48.0	-20.2	-1.690
20	↓	870 TONS	-52.0	-----	-3.000
21	72"Ø	870 TONS	-49.0	-----	-5.000
22	36"Ø	350 TONS	-48.0	-----	VARIES *

* SEE INDIVIDUAL END BENT DRAWINGS

PREDICTED SCOUR ELEVATIONS APPLY TO BOTH THE 100 YEAR AND THE 500 YEAR EVENT.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KBD/RLL	12-93
Checked by	DBT	12-93
Designed by	EWB	12-93
Checked by	KBD	12-93
Approved by	T. C. WHITE	

ENGINEER OF RECORD:
DAVID VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street, Suite 1
Tampa, Florida 33609

LOGO: DAVID VOLKERT & ASSOCIATES, INC.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
———	PINELLAS	15140-3518

SHEET TITLE: FOUNDATION LAYOUT, SHEET 2 OF 2
Drawing No.
PROJECT NAME: CLEARWATER PASS BRIDGE
Index No.

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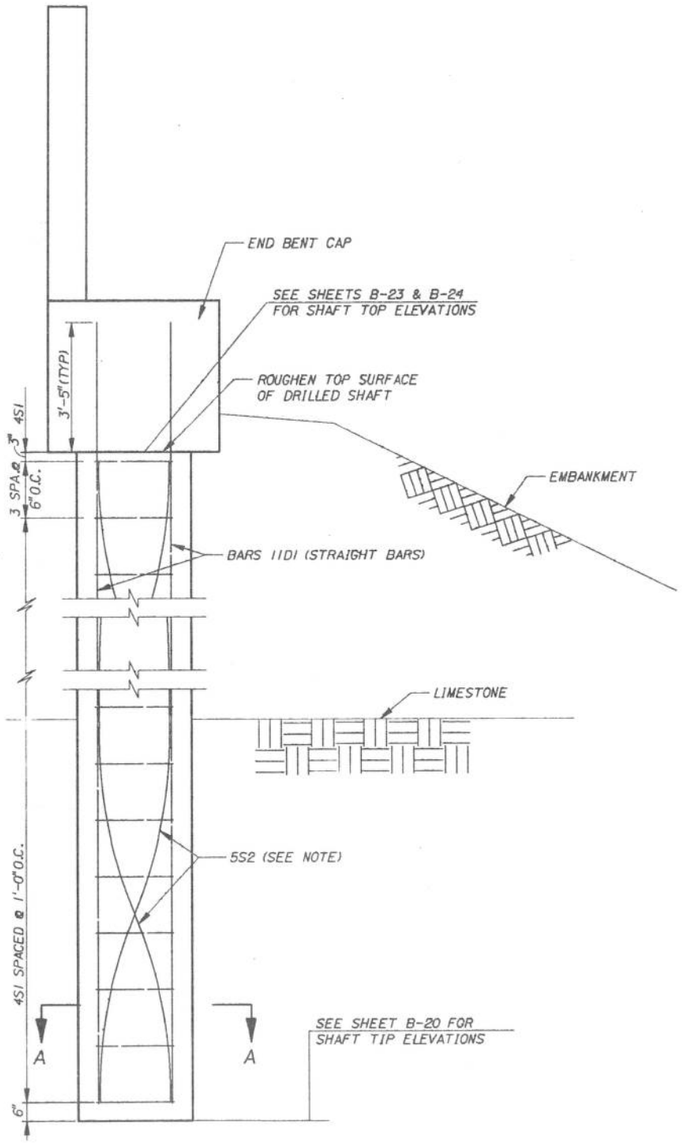
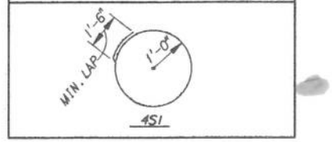
Fri Dec 10 05:55:10 1993

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-21



ELEVATION AT END BENT

BENDING DIAGRAMS



NOTE:
BEND TWO 5S2 #5 BARS AT THE RATE OF ONE COMPLETE REVOLUTION PER 20' OF SHAFT. PLACE TWO SETS OF BARS INSIDE VERTICAL REINFORCING STARTING OPPOSITE EACH OTHER. EACH SET HAS TWO BARS LAP SPLICED 2'-0". TIE AT INTERSECTION WITH VERTICAL BARS.

BILL OF REINFORCEMENT

BENT	SHAFT	4SI (SEE DIAGRAM) #4 BAR		5S2 (SEE DIAGRAM) #5 BAR		11DI (STRAIGHT) #11 BAR	
		NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
1	1	60	7'-10"	2	58'-9"	8	60'-6"
	2	60	7'-10"	2	58'-8"	8	60'-5"
	3	60	7'-10"	2	59'-2"	8	60'-11"
	4	61	7'-10"	2	59'-8"	8	61'-4"
	5	61	7'-10"	2	59'-9"	8	61'-5"
22	1	61	7'-10"	2	59'-9"	8	61'-5"
	2	61	7'-10"	2	59'-10"	8	61'-6"
	3	61	7'-10"	2	60'-3"	8	61'-11"
	4	61	7'-10"	2	60'-6"	8	62'-2"
	5	62	7'-10"	2	60'-8"	8	62'-4"

NOTE: QUANTITIES ARE GIVEN PER BENT.

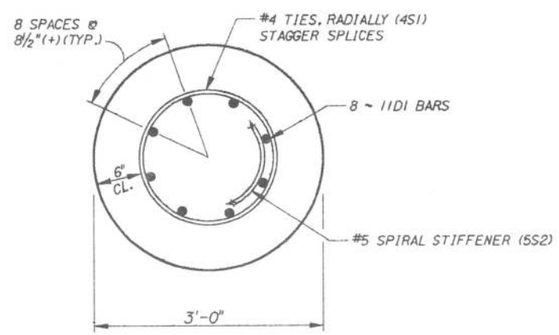
ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
DRILLED SHAFT (36" DIAMETER)	LF	585
CORE	LF	595
UNCLASSIFIED SHAFT EXCAVATION (36" DIAMETER)	LF	535
UNCLASSIFIED SHAFT EXCAVATION (EXTRA DEPTH)	LF	20

36"Ø DRILLED SHAFT QUANTITIES PER LF

ITEM	UNIT	QUANTITY
CLASS IV CONCRETE (DRILLED SHAFT)	CY	0.3
* REINFORCING STEEL	LB	52

* INCLUDES ALLOWANCE FOR 11DI BARS EXTENDING INTO CAP.



SECTION A-A

NOTES:

1. SLURRY TANKS ADEQUATE TO CONTAIN ALL FLUIDS SHALL BE USED IF SLURRY IS EMPLOYED IN THE DRILLING PROCESS.
2. DRILLED SHAFTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR DRILLED SHAFTS (36"Ø) UNDER ITEM NO. 455-88-3. COMPENSATION FOR ADDITIONAL COST FOR MATERIALS AND CONSTRUCTION OF DRILLED SHAFTS SHALL BE PAID FOR UNDER APPROPRIATE ITEMS. SEE SUMMARY OF QUANTITIES AND SPECIFICATIONS.
3. CONCRETE FOR DRILLED SHAFTS SHALL BE CLASS IV (DRILLED SHAFT).
4. FOR ADDITIONAL NOTES, SEE SHEET B-20.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	RLL	12-93
Checked by	KBD	12-93
Designed by	EWB	12-93
Checked by	KBD	12-93
Approved by	T. C. WHITE	

ENGINEER OF RECORD:
DAVID VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street, Suite 1
Tampa, Florida 33609

LOGO: DAVID VOLKERT & ASSOCIATES, INC.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
———	PINELLAS	15140-3518

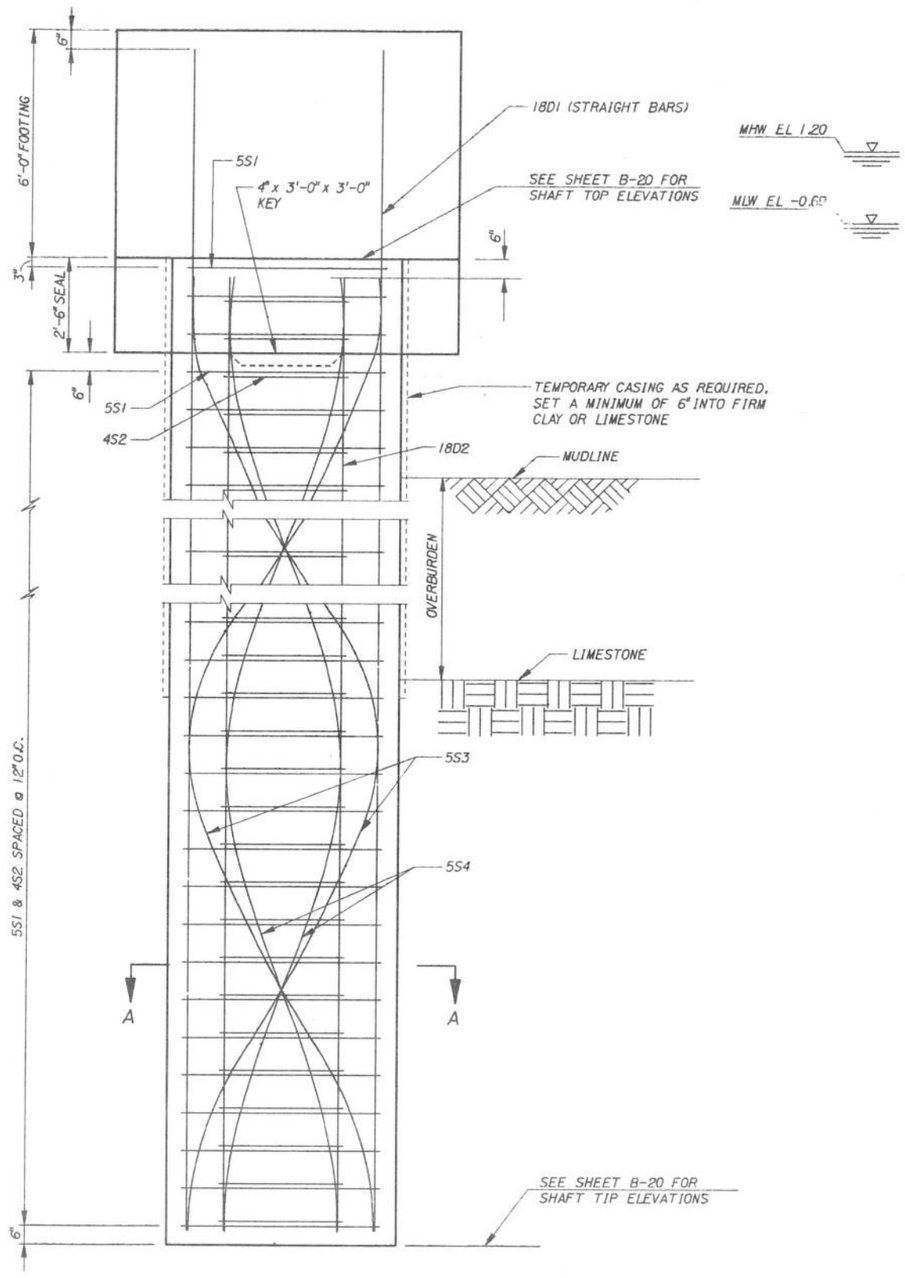
SHEET TITLE: 36 "Ø DRILLED SHAFTS

Drawing No.

PROJECT NAME: CLEARWATER PASS BRIDGE

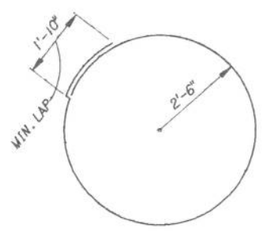
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-22

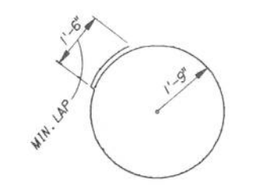


ELEVATION AT PIER

BENDING DIAGRAMS

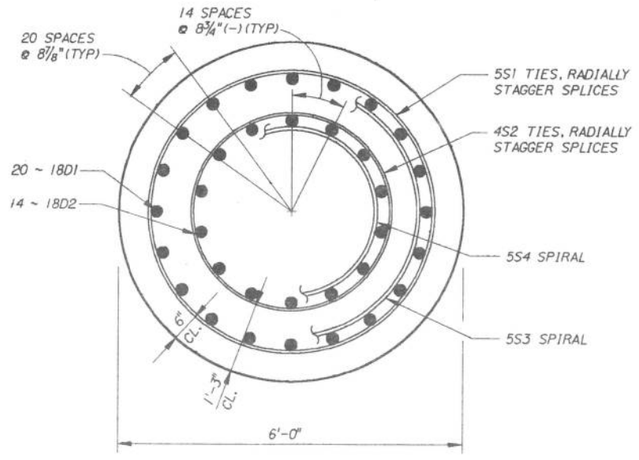


5S1



4S2

NOTE:
BEND 5S3 & 5S4 BARS AT THE RATE OF ONE COMPLETE REVOLUTION PER 30' OF SHAFT. PLACE TWO 5S3 OR 5S4 BARS INSIDE VERTICAL REINFORCING STARTING OPPOSITE EACH OTHER. LAP SPLICE 2'-1" AS NECESSARY. TIE AT INTERSECTIONS WITH VERTICAL BARS. LENGTHS IN BILL OF REINFORCEMENT DO NOT INCLUDE LAP SPLICES OF 5S3 AND 5S4 BARS.



SECTION A-A

BILL OF REINFORCEMENT

PIER	5S1 (SEE DIAGRAM) #5 BAR		4S2 (SEE DIAGRAM) #4 BAR		5S3 (SEE NOTE) #5 BAR		5S4 (SEE NOTE) #5 BAR		18D1 (STRAIGHT) #18 BAR		18D2 (STRAIGHT) #18 BAR	
	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
2	102	17'- 7"	100	12'- 6"	4	54'- 9"	4	52'- 0"	40	55'- 6"	28	49'- 6"
3	98	17'- 7"	96	12'- 6"	4	52'- 6"	4	49'-10"	40	53'- 6"	28	47'- 6"
4	114	17'- 7"	112	12'- 6"	4	61'- 2"	4	58'- 1"	40	61'- 4"	28	55'- 4"
5	114	17'- 7"	112	12'- 6"	4	61'- 2"	4	58'- 1"	40	61'- 4"	28	55'- 4"
6	110	17'- 7"	108	12'- 6"	4	59'- 0"	4	56'- 0"	40	59'- 4"	28	53'- 4"
7	100	17'- 7"	98	12'- 6"	4	53'- 5"	4	50'- 9"	40	54'- 4"	28	48'- 4"
8	112	17'- 7"	110	12'- 6"	4	60'- 1"	4	57'- 1"	40	60'- 4"	28	54'- 4"
9	110	17'- 7"	108	12'- 6"	4	59'- 0"	4	56'- 0"	40	59'- 4"	28	53'- 4"
10	108	17'- 7"	106	12'- 6"	4	57'-10"	4	54'-11"	40	58'- 4"	28	52'- 4"
11	104	17'- 7"	102	12'- 6"	4	55'- 8"	4	52'-10"	40	56'- 4"	28	50'- 4"
12	104	17'- 7"	102	12'- 6"	4	55'- 8"	4	52'-10"	40	56'- 4"	28	50'- 4"
13	122	17'- 7"	120	12'- 6"	4	65'- 7"	4	62'- 3"	40	65'- 4"	28	59'- 4"
14	130	17'- 7"	128	12'- 6"	4	70'- 0"	4	66'- 6"	40	69'- 4"	28	63'- 4"
15	150	17'- 7"	148	12'- 6"	4	81'- 1"	4	77'- 0"	40	79'- 4"	28	73'- 4"
16	118	17'- 7"	116	12'- 6"	4	63'- 5"	4	60'- 2"	40	63'- 4"	28	57'- 4"
17	118	17'- 7"	116	12'- 6"	4	63'- 5"	4	60'- 2"	40	63'- 4"	28	57'- 4"
18	118	17'- 7"	116	12'- 6"	4	63'-'5"	4	60'- 2"	40	63'- 4"	28	57'- 4"
19	94	17'- 7"	92	12'- 6"	4	50'- 2"	4	47'- 7"	40	51'- 4"	28	45'- 4"
20	100	17'- 7"	98	12'- 6"	4	53'- 1"	4	50'- 5"	40	54'- 0"	28	48'- 0"
21	90	17'- 7"	88	12'- 6"	4	47'- 7"	4	45'- 2"	40	49'- 0"	28	43'- 0"

NOTE: QUANTITIES ARE GIVEN PER PIER (2 SHAFTS).

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
DRILLED SHAFT (72" DIAMETER)	LF	2188
TEST HOLE (72" DIAMETER)	LF	47
CORE	LF	2274
UNCLASSIFIED SHAFT EXCAVATION (72" DIAMETER)	LF	1794
UNCLASSIFIED SHAFT EXCAVATION (EXTRA DEPTH)	LF	80

72" Ø DRILLED SHAFT QUANTITIES PER LF

ITEM	UNIT	QUANTITY
CLASS IV CONCRETE (DRILLED SHAFT)	CY	1.0
* REINFORCING STEEL	LB	515

* INCLUDES ALLOWANCE FOR 18D1 BARS EXTENDING INTO CAP.

NOTES:

1. SLURRY TANKS ADEQUATE TO CONTAIN ALL FLUIDS SHALL BE USED IF SLURRY IS EMPLOYED IN THE DRILLING PROCESS.
2. DRILLED SHAFTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR DRILLED SHAFTS (72" Ø) UNDER ITEM NO. 455-88-7. COMPENSATION FOR ADDITIONAL COST FOR MATERIALS AND CONSTRUCTION OF DRILLED SHAFTS SHALL BE PAID FOR UNDER APPROPRIATE ITEMS. SEE SUMMARY OF QUANTITIES AND SPECIFICATIONS.
3. CONCRETE FOR DRILLED SHAFTS SHALL BE CLASS IV (DRILLED SHAFT).
4. FOR ADDITIONAL NOTES, SEE SHEET B-20.
5. IF OVERALL LENGTH OF 18D1 OR 18D2 BARS EXCEEDS 60', ONE MECHANICAL REINFORCING STEEL SPLICE PER BAR MAY BE USED INSTEAD OF A FULL LENGTH BAR. STAGGER SPLICES IN ADJACENT BARS IN THE SAME RING OF REINFORCING 8'-0" MINIMUM.
6. MECHANICAL REINFORCING STEEL SPLICES SHALL DEVELOP IN TENSION OR COMPRESSION AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE BAR. SHOP DRAWINGS SHALL BE PROVIDED FOR THE MECHANICAL SPLICES, INCLUDING TEST REPORTS FROM A LABORATORY CERTIFIED BY THE FDOT. WHEN REQUESTED BY THE ENGINEER, UP TO TWO FIELD SPLICES OUT OF EACH 100, OR PORTION THEROF, TO BE PLACED IN THE WORK AND CHOSEN AT RANDOM BY THE ENGINEER, SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER TO BE TESTED TO 125 PERCENT OF THE YIELD STRENGTH OF THE BAR.

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	RLL	12-93
Checked by	KBD	12-93
Designed by	EWB	12-93
Checked by	KBD	12-93
Approved by	T. C. WHITE	

ENGINEER OF RECORD:
DAVID VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street, Suite 1
Tampa, Florida 33609

LOGO: DAVID VOLKERT & ASSOCIATES, INC.

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
———	PINELLAS	15140-3518

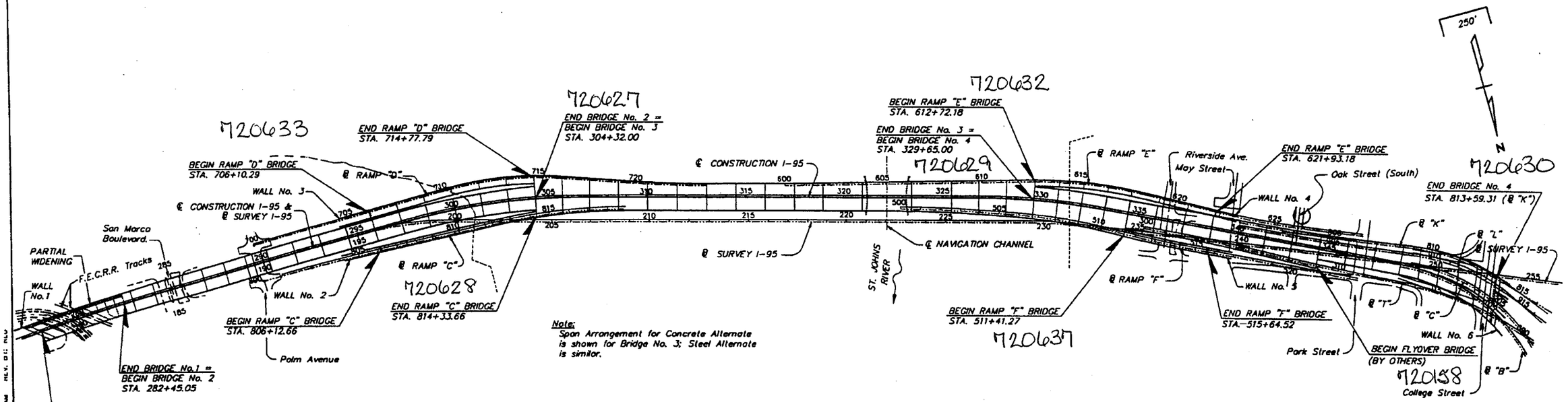
SHEET TITLE: 72" Ø DRILLED SHAFTS
Drawing No.
PROJECT NAME: CLEARWATER PASS BRIDGE
Index No.

s:\cpb\std\shaft72.dgn
Fri Dec 10 06:01:45 1993

3 | FLA | 72

FULLER WARREN BRIDGE REPLACEMENT
STRUCTURAL PLANS

PROJECT NO. 72020-3485



Note:
Span Arrangement for Concrete Alternate is shown for Bridge No. 3; Steel Alternate is similar.

THE FISCAL YEAR FOR THIS ENTIRE PROJECT HAS BEEN REVISED TO 1996.

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	RLG	10-93
Checked by	SLW	1-94
Designed by	ROS	10-93
Checked by	SLW	11-93
Approved by	D.W. Browning	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: KEY MAP

Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

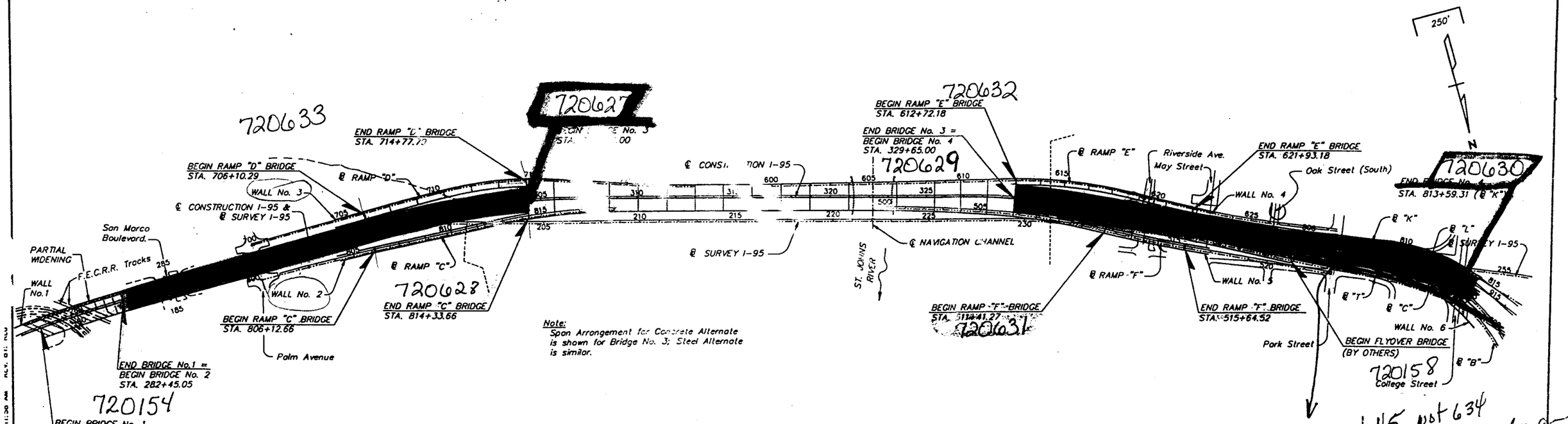
Index No.

NAME: M:\18414\HAGAR\... DATE: SEP 14, 1993 TIME: 11:30 AM REV. DT: NLV

FDA ROAD DIST. NO.	STATE	PROJECT NO.	PAGE NO.
3	FLA.	72020-3485	S

FULLER WARREN BRIDGE REPLACEMENT
STRUCTURAL PLANS

PROJECT NO. 72020-3485



Note:
Span Arrangement for Concrete Alternate is shown for Bridge No. 3; Steel Alternate is similar.

720645 not 634
Project under I-10/I-95 also.

THE FISCAL YEAR FOR THIS ENTIRE PROJECT HAS BEEN REVISED TO 1996.

REVISIONS						
No.	By	Description	Date	By	Description	

	Names	Dates
Drawn by	RLG	10-93
Checked by	SLW	1-94
Designed by	RDS	10-93
Checked by	SLW	11-93
Approved by	D.W. Browning	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO
9	DUVAL	72020-3485

SHEET TITLE: KEY MAP

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Drawing No.

Index No.

MYMD\DRAWING DATE: SEP 24, 1993 TIME: 11:20 AM PLOT BY: MAW

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
1A - 1H	SUMMARY OF PAY ITEMS
2 - 5	SUPPLEMENTAL DRAINAGE MAP
6 - 11	TYPICAL SECTIONS
12 - 13	SUMMARY OF QUANTITIES
14 - 19	SUMMARY OF DRAINAGE STRUCTURES
20 - 21	PROJECT LAYOUT/GENERAL NOTES
22	REFERENCE TIES
23 - 41	ROADWAY PLANS(1"=20')
42 - 69	ROADWAY PROFILES
70 - 71	GEOMETRIC LAYOUT
72 - 83	GEOMETRIC PLANS(1"=40')
84	CURVE & COORDINATE DATA
85 - 86	RAMP DETAILS
87 - 133	DRAINAGE STRUCTURES
134 - 135	POND DETAILS
136 - 137	DRAINAGE DETAILS
138 - 141	PAVEMENT JOINT DETAILS
142 - 143	CROSS SECTION PATTERN
144 - 155	SOIL BORING LOCATIONS
156 - 215	ROADWAY CROSS SECTIONS
216	TCP GENERAL NOTES
217 - 218	TCP PHASE NOTES
219	TCP QUANTITIES
220	MOT VARIABLE MESSAGES
221 - 313	TCP PLANS
314 - 349	DETOUR PLANS AND DETAILS
350 - 368	UTILITY ADJUSTMENT PLANS
369 - 387	CLEARING AND GRUBBING PLANS
388-406	STORMWATER POLLUTION PREVENTION PLANS
407-408	APPROACH SLABS
409-415	INTERIM STANDARDS

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS (BOOKLET DATED JANUARY, 1994).

REVISIONS

ROADWAY PLANS SHT. NOS. 1,13 & 382 (10/04/95)
SIGNING & MARKING PLANS SHT. NOS. S-1, S-22 & S-23 (10/04/95)
SIGNALIZATION PLANS SHT. NOS. T-1, T-2, T-4, T-7, T-11 & T-15 (10/04/95)
LIGHTING PLANS SHT. NOS. L-1, L-3 & L-22 (10/04/95)
GRAVITY SEWER & FORCE MAIN PLANS SHT. NOS. U1, U2 & U3 (10/04/95)
STRUCTURAL PLANS SHT. NOS. A8 & W7 (10/04/95)
ROADWAY PLANS SHT. NOS. 13, 216, 219, 315, 357 (11/09/95)
STRUCTURAL PLANS SHT. NOS. A47, A48 & A49 (11/09/95)
ADDED STATE PROJECT NO. 72020-6485 (11/09/95)
ROADWAY PLANS SHT. NOS. 1, (ADDED SHT 1A - 1H) (11/17/95)
ROADWAY PLANS SHT. NOS. 1, 1H, 357 (12/11/95)
CHANGED STATE PROJECT NO. 72020-6485 TO 72020-6526 (12/11/95)
ROADWAY PLANS SHT. NOS. 28 (2/5/96)
STRUCTURAL PLANS SHT. NOS. A4, A9, A10, A47, A49, C2, H1, W4, W11, W13 (2/5/96)
ROADWAY PLANS SHT. NOS. 1A, 1C, 1D, 1E, 1F, 216 (2/15/96)
ROADWAY PLANS SHT. NOS. 1A, 1B, 1D, 1E, 1F (2/20/96)
STRUCTURAL PLANS SHT. NOS. A47 (2/20/96)
ROADWAY PLANS SHT. NOS. 1, 34, 35, 112, 115, 118 (05/17/97)
STRUCTURAL PLANS SHT. NOS. A31A, D28, D29, D30, D31, D35, D36, D50, D51, F27, F28, F29, F36, F37, F38, F39, F40, F41, F44, F45, F65, K8 (05/17/97)
ADDED TEMPORARY SIGNALIZATION AND SIGNING PLANS (7/11/97)
REVISED TEMPORARY SIGNALIZATION AND SIGNING PLAN SHEETS 2-5, 8, 12, 17, 20-23, 27, 31, 34, AND 36 (8/27/97)
REVISED BEAM REINFORCING - SHEETS D81, D82, D83 AND D84 (2/6/98)
INCLUDED #6 BARS - SHEETS D81 AND D84 (3/20/98)
REVISED FENDER SYSTEM - SHEETS A17, A18, AND A19 (4/3/98)
REVISED BAR LISTS - SHEETS D20, D89-D96, F30 AND F108-F118 (4/28/98)
REVISED STRAND PATTERN TYPE - SHEET J24 (11/11/98)
REVISED SUPERSTURCTURE REINFORCING - SHEETS F70, F71, F72, F81 AND F123 (3/5/99)
REVISED SURVEILLANCE SYSTEM - SHEETS L1, 2, L3, L5-L13 -- ELIMINATED SHEETS P1-P11 (3/31/99)
STRUCTURAL PLANS SHEET NO. D85
19 STRUCTURAL PLAN SHEET NOS. C50, C51, C52, D14 & H20 (7/22/99)

⚠ ROADWAY PLANS
SIGNING AND MARKING PLANS
SIGNALIZATION PLANS
LIGHTING PLANS
INTERSTATE SURVEILLANCE AND CONTROL SYSTEM
⚠ STRUCTURAL PLANS
A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT SET OF PLANS

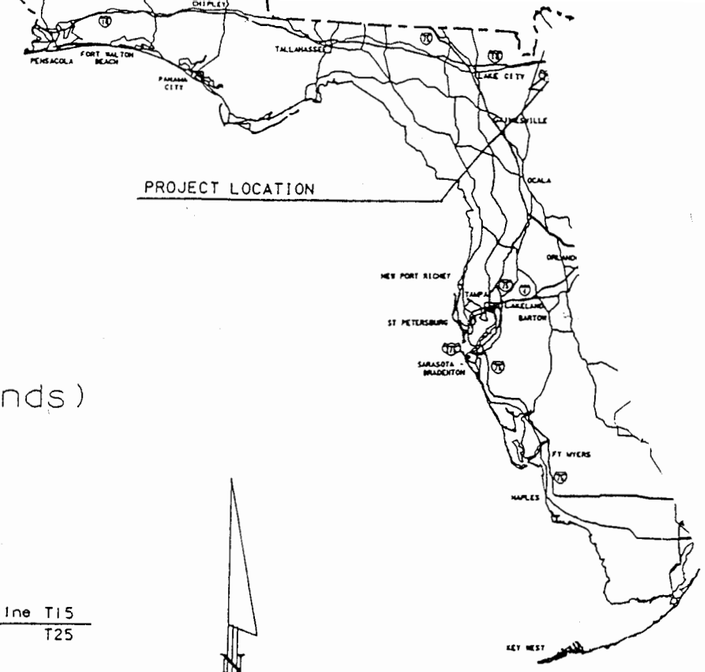
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

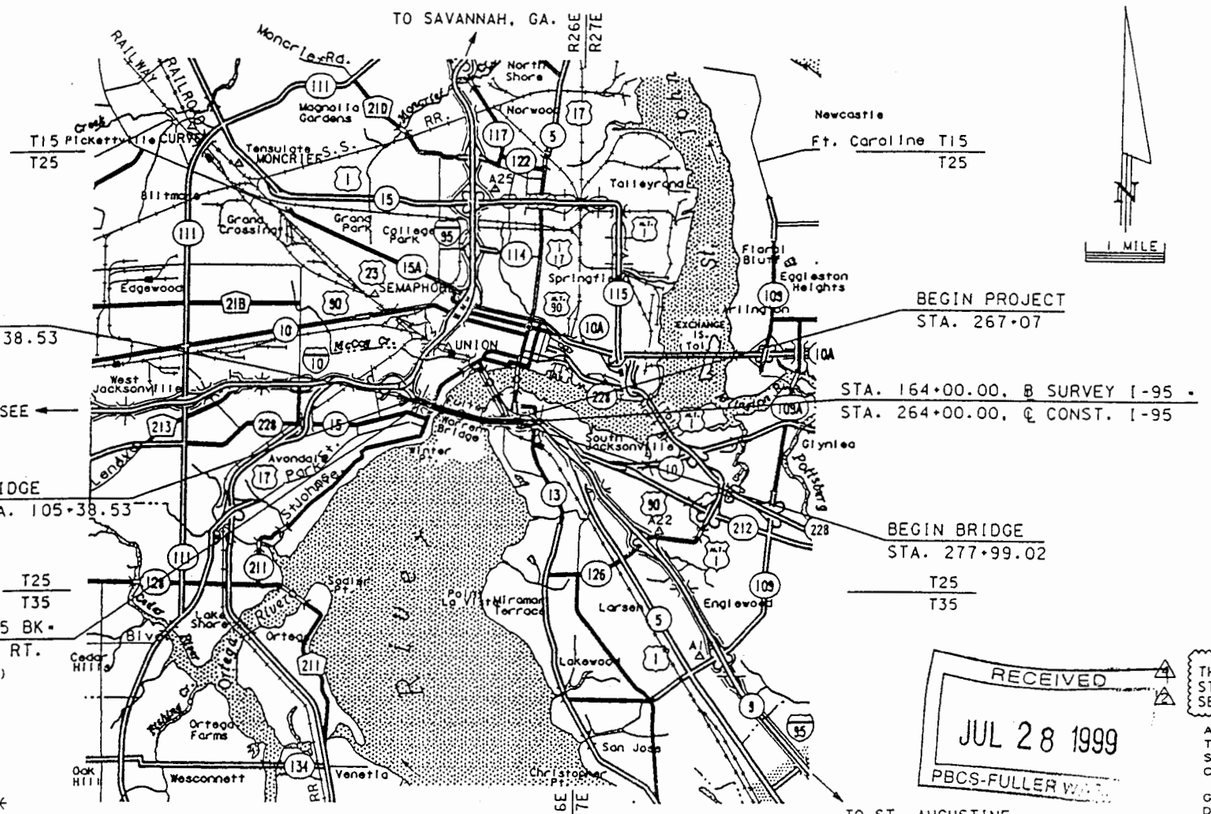
PLANS OF PROPOSED

STATE HIGHWAY

FULLER WARREN BRIDGE

STATE PROJECT NO. 72020-3485 (Federal Funds)





LENGTH OF PROJECT

	LINEAR FT.	MILES
ROADWAY	1092.02	0.207
BRIDGES	7589.51	1.437
NET LENGTH OF PROJ.	8681.53	1.644
EXCEPTIONS	—	—
GROSS LENGTH OF PROJ.	8681.53	1.644

FDOT PROJECT MANAGER : EUGENE HAGAN JR. P.E.

REVISIONS			
DATE	BY		DESCRIPTION
10-04-95	LAK	⚠	REVISED NO. OF SHEETS
11-09-95	LAK	⚠	ADDED NOTE DELETED UTILITY PLANS, ADDED UTILITY PLANS TO 72020-6485
11-17-95	LAK	⚠	DELETED SUM. OF PAY ITEMS FROM CONTRACT PLANS ADD SUMMARY OF PAY ITEMS TO ROADWAY PLANS
12-11-95	LAK	⚠	REVISED PROJECT NO.

RECEIVED
JUL 28 1999
PBCS-FULLER WARREN

ROADWAY PLANS
ENGINEER OF RECORD
RODGER P. SCHMIDT, P.E.

DRAINAGE PLANS
ENGINEER OF RECORD
LYNN A. KENDRICK, P.E.

PLANS PREPARED BY :
HNTB
5850 T.G. LEE BOULEVARD
SUITE 600
ORLANDO, FLORIDA 32822
(407) 859-8380

THIS PROJECT TO BE LET TO CONTRACT WITH STATE PROJECT NO. 72020-6526 GRAVITY SEWER & FORCE MAIN RELOCATION PLANS.

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

GOVERNING SPECIFICATIONS: STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, DATED 1991 SUPPLEMENTS AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

ROADWAY PLANS APPROVED BY: RODGER P. SCHMIDT, P.E.
DATE: 6/29/95
P.E. NO.: 40234

ROADWAY PLANS APPROVED BY: LYNN KENDRICK, P.E.
DATE: 9/22/95
P.E. NO.: 22919

213246515201

GENERAL SHEETS

A11

A1 Key Map
A2 Index of Sheets(1)
A3 Index of Sheets(2)
A4 General Notes (1)
A5 General Notes (2)
A6 Plan & Elevation Data (1)
A7 Plan & Elevation Data (2)
A8 Miscellaneous Details
A9 Composite Neoprene Bearing Pads (1)
A10 Composite Neoprene Bearing Pads (2)
A11 Expansion Joints
A12 Modular Expansion Joints (1)
A13 Modular Expansion Joints Data
A14 Light Pole Pilaster
A15 Navigational Light System Details
A16 NOT USED
A17 Plan of Fender System
A17A Elevations of Fender System
A18 Connection Details for Fender System - 1
A18A Connection Details for Fender System - 2
A19 Connection Details for Fender System - 3
A20 Traffic Railing Barrier
A21 Standard Bar Bending Details
A22 Prestressed Concrete Piles (1)
A23 Prestressed Concrete Piles (2)
A24 Drilled Shaft Details (1)
A25 Drilled Shaft Details (2)
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720154

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720627

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NAME: G:\JOBS\1611\ECHPROD\FENDER REVISION\BRDOIB.DWG DATE: MAY 8, 2002 TIME: 4:00 PM REV. BY: JAL

REVISIONS

Date	By	Description	Date	By	Description
5/8/02	JAL	26 Revised Titles and added Sheets A17A & A18A			

	Names	Dates
Drawn by	DCB	10-93
Checked by	SLW	1-94
Designed by	RDS	10-93
Checked by	SLW	1-94
Approved by	D. W. Browning	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: INDEX OF SHEETS (1)

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Drawing No.

Index No.

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DIV. NO.			YEAR	NO.
3	FLA.		95	A3

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I-95 S.B. DETOUR OVER COLLEGE STREET — 720158 JTA Bridge Widened temp. than to be deleted

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Date	By	Description	Date	By	Description
5/15/00	MDC	20 INDEX REVISED			

	Names	Dates
Drawn by	SCG	1-95
Checked by	SLW	1-94
Designed by	RDS	10-93
Checked by	SLW	1-94
Approved by	D. W. Browning	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL: M. Caulfield 5/15/00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: INDEX OF SHEETS (2)
Drawing No.
PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER
Index No.

NAME: M:\1641\Sheet 20\BRD01C.DWG DATE: MAY 03, 2000 TIME: 9:49 AM REV. BY: RLG

FED. ROAD NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	A24

BBCI:

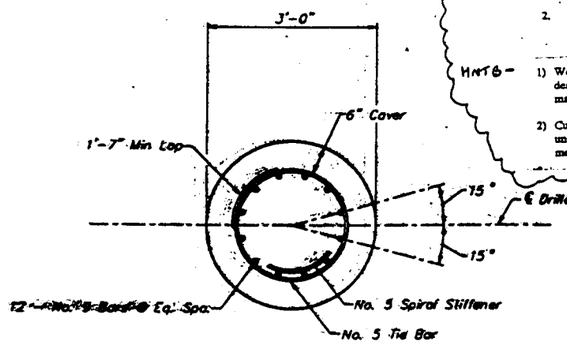
1. Construct end bent drill shafts in two stages, first stage construct drill shafts to natural ground using approved construction methods, second stage extend to grade rebar cages using mechanical splices, form and four drill shafts to grade.
2. Cut drill shafts vertical rebar approximately 6 each (3 each on opposite sides) for the removal of zipper casing (when the casing is below the top of the rebar cage). Extend rebar cage to grade with mechanical splices after casing removal.

HNTB -

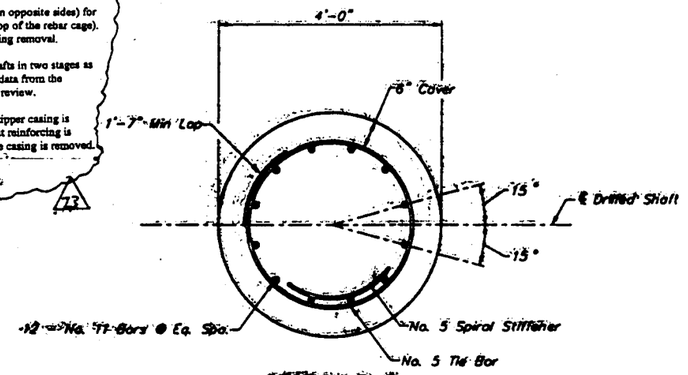
1) We have no objection to BBCI constructing the end bent drill shafts in two stages as described in their 1/31/97 letter to you. We suggest that design data from the manufacturer for the mechanical splice be provided to FBCS for review.
2) Cutting vertical bars in the drilled shafts in order to remove the zipper casing is undesirable, but we have no objection to doing it provided the cut reinforcing is mechanically spliced and extended to the planned length after the casing is removed.

Miscellaneous Changes

13



SECTION A-A



SECTION B-B

NOTES

1. Reinforcing Steel shall be Grade 60.
2. Concrete for Drilled Shafts shall be Class IV (Drilled Shaft), f'c = 4,000 p.s.i.
3. Drilled Shafts shall be paid for at the Contract Unit Price per linear foot for Drilled Shafts under Item No. 455-88-3 (36"ø), 455-88-5 (48"ø), or 455-88-7 (72"ø). See Summary of Quantities and Specifications.
4. The Contractor shall submit plans, showing method of Constructing the Drilled Shaft Foundations, to the Engineer for Approval.
5. For Shaft Elevations, see Drilled Shaft Installation Data on the Foundation Layout Sheet.
6. Bar Extensions for Embedment into Footing are to be included in the cost of Drilled Shaft Item, but are not included in Quantities Per Lin. Ft. Shown Below.

36"ø DRILLED SHAFT QUANTITIES PER LIN. FT.

Class IV Concrete = 0.28 Cu.Yds./Lin. Ft.
Reinforcing Steel = 58.2 Lbs./Lin. Ft. for top 7 ft.
51.2 Lbs./Lin. Ft. for Remainder of shaft

48"ø DRILLED SHAFT QUANTITIES PER LIN. FT.

Class IV Concrete = 0.47 Cu.Yds./Lin. Ft.
Reinforcing Steel = 87.2 Lbs./Lin. Ft. for top 7 ft.
77.4 Lbs./Lin. Ft. for remainder of shaft

72"ø DRILLED SHAFT QUANTITIES PER LIN. FT.

Class IV Concrete = 1.05 Cu.Yds./Lin. Ft.
Reinforcing Steel = 184.4 Lbs./Lin. Ft. for top 7 ft.
(Type A) 169.0 Lbs./Lin. Ft. for remainder of shaft

Reinforcing Steel = 311.4 Lbs./Lin. Ft. for top 7 ft.
(Type B) 296.0 Lbs./Lin. Ft. for remainder of shaft

To repair small underwater concrete spalls on the 72 inch drilled shafts in the river Balfour Beatty Construction, Inc. proposes the following procedure:

1. Throughly clean the affected area with high pressure air or water.
2. Chip and remove any loose material to achieve a clean rough surface.
3. Place either the product "Plug-Crete" or "Dam-It" into the afftected area (literature and product data attached). The material has a fast set time and will be hand placed by a diver.
4. These products require no special curing procedures.

15

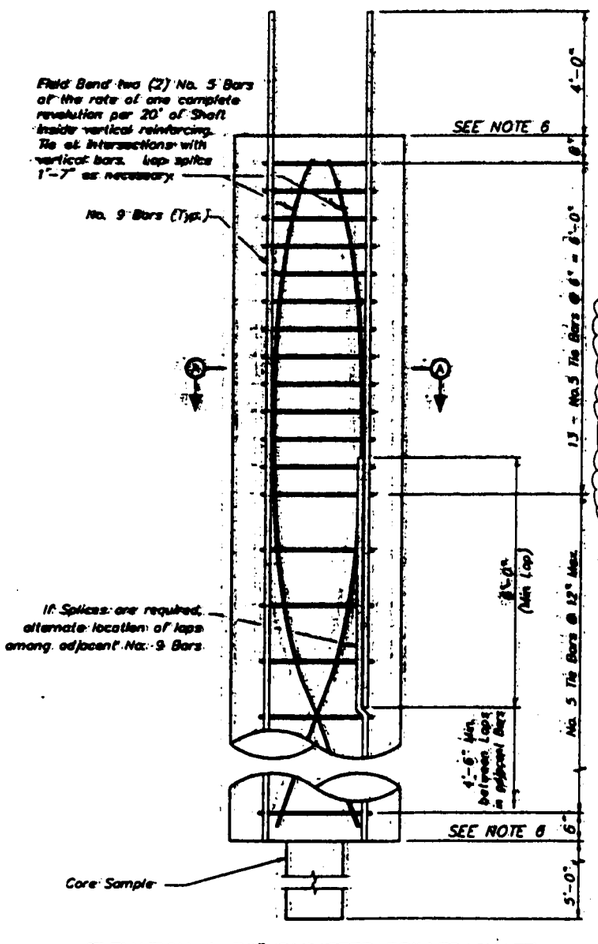
The 36 and 48 inch diameter drilled shafts on land were poured to a height above the cut off elevations to insure the integrity of the shaft concrete.

Balfour Beatty Construction, Inc. proposes to use the same method that is currently being utilized on the 36 inch drilled shafts located on bridge #2 for the remaining 36 inch and 48 inch drilled shafts located on land. This method is as follows:

1. Cut the shaft off one foot above the cut-off elevation.
2. Remove and clean out the remaining concrete around the reinforcing steel to the cut-off elevation.
3. Mechanically splice a three foot piece of rebar to the top of the reinforcing steel that extends out of the drilled shaft using an approved mechanical coupling device.
4. Form and pour the footing as originally planned.

REINFORCING STEEL - LAND DRILLED SHAFTS

23



ELEVATION - 36" DIAMETER DRILLED SHAFT

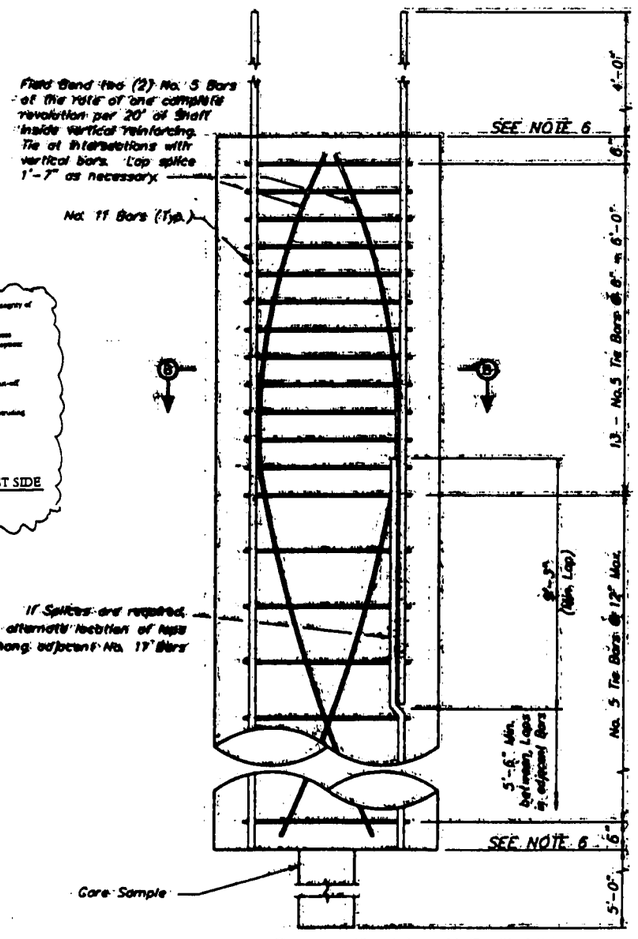
The 36 inch drilled shafts on the east side of the river were poured high to ensure the integrity of the concrete at the cut-off elevation of the shaft.

In an attempt to minimize potential damage to the shafts during the removal of this excess concrete, Balfour Beatty Construction, Inc. would like to propose the following as an option:

1. Cut the shaft off 1.0 foot above the cut-off elevation.
2. Remove and clean out the remaining concrete around the rebar to the cut-off elevation.
3. Mechanically splice a 3.0 foot piece of rebar to the reinforcing steel protruding from the drilled shaft.
4. Form the footing as originally planned.

REINFORCING STEEL - 36" DRILLED SHAFTS, EAST SIDE

23



ELEVATION - 48" DIAMETER DRILLED SHAFT

REVISIONS						Name	Date
Date	By	Description	Date	By	Description	Detailed by	LJS 1-94
7-15-01	SH	23 AS-BUILT				Checked by	DMW 5-95
						Designed by	HDR 1-94
						Detailed by	DMH 2-94
						Approved by	D. W. Browning

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: DRILLED SHAFT DETAILS (1)

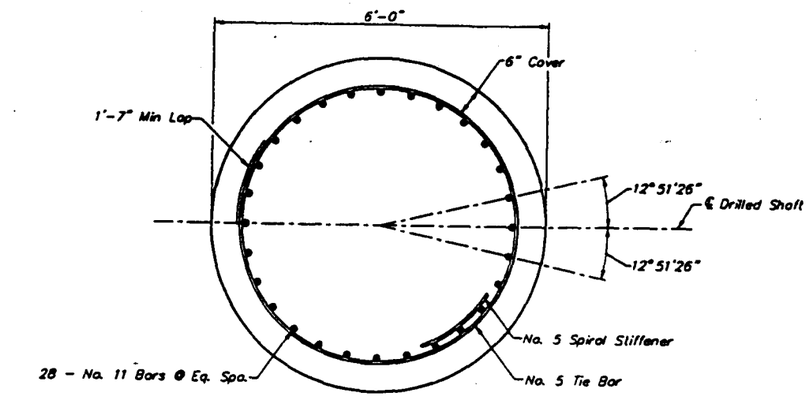
Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

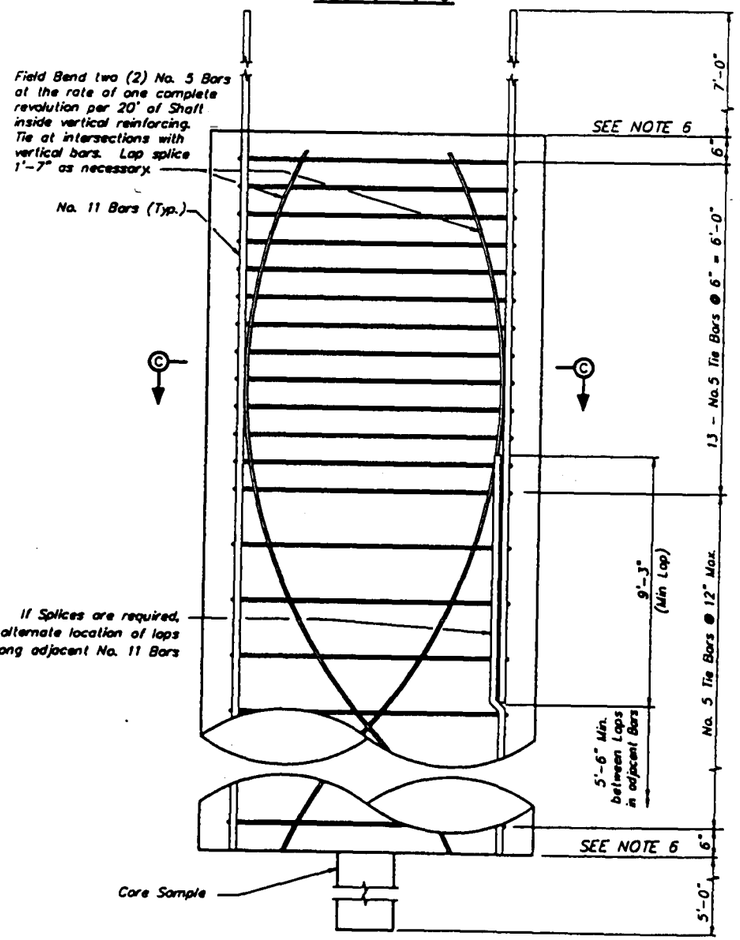
Index No.

NAME: M:\1641\GEN\GERAL\PRO298.DWG DATE: AUG 31, 1995 TIME: 8:58 AM REV. BY: RLG

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	A25

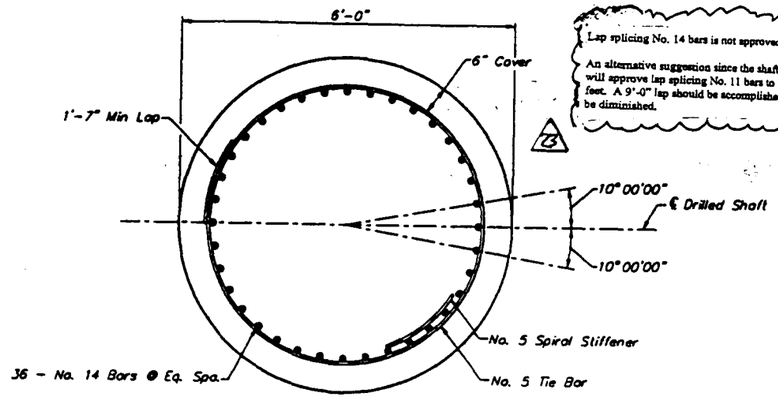


SECTION C-C

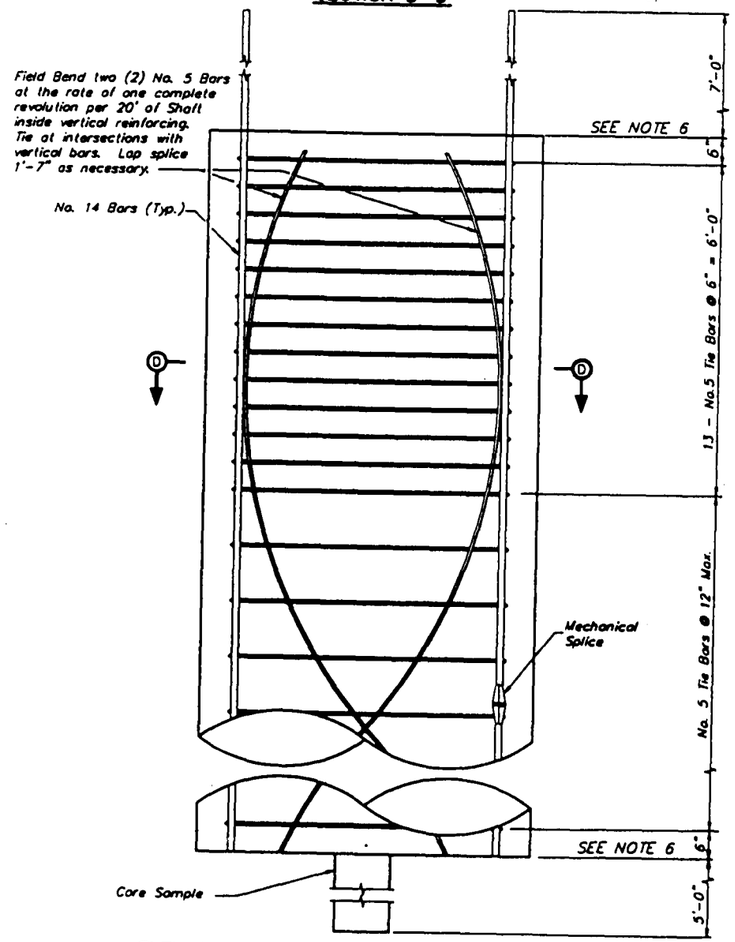


ELEVATION - 72" DIAMETER DRILLED SHAFT

Type A



SECTION D-D

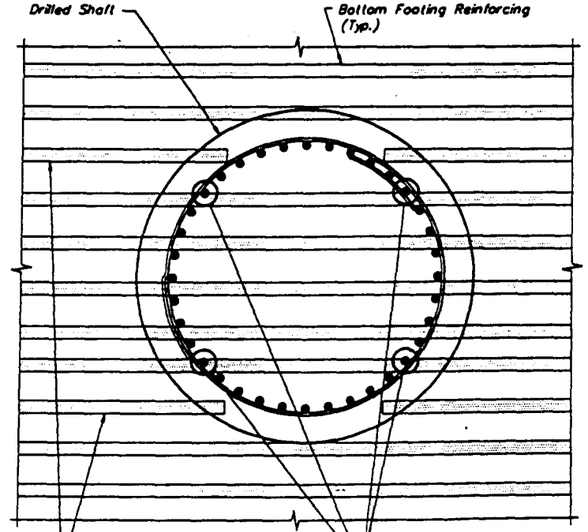


ELEVATION - 72" DIAMETER DRILLED SHAFT

Type B

Lap splicing No. 14 bars is not approved.

An alternative suggestion since the shaft is only six feet longer than it's original length we will approve lap splicing No. 11 bars to the bottom of the cage to extend it the additional six feet. A 9'-0" lap should be accomplished to the inside so clear distance between bars will not be diminished.



PLAN

(TYPICAL SHAFT/FOOTING REINFORCING INTERACTION)

Below procedure Note 3 used at following locations

Pier 28 - Shaft 9

Pier 30 Shaft 1, 2, 16

NOTES

(1.) The Contractor Shall Adjust Footing Reinforcement where possible to avoid conflicts with the Drilled Shaft Reinforcing. Minimum Bar Spacing shall be three (3) times Bar Diameter and Shall Not Exceed Reinforcing Spacing Shown on Pier Footing Reinforcing by 1".

(2.) The Contractor Shall Be Permitted to Field Cut Footing or Drilled Shaft Bars only as indicated on This Sheet. No Adjacent Footing Bars or Drilled Shaft Bars may be cut. No more than four (4) Drilled Shaft Bars may be cut in any given shaft.

* To Be Field Cut and only if there is an Unavoidable Conflict Between Shaft and Footing Reinforcing and Field Adjustment Is Not An Option.

For Additional Notes see Sheet A24.

(3.) Drilled Shaft Repair Procedure - Approved March 23, 1998
Bridge No. 3
(1) Several of the drilled shafts appear to have irregular surface
(a) Install the shaft cut-off box over the shaft to be repaired.
(b) Seal and dewater the box to an elevation lower than affected area
(c) Chip and clean the affected area to obtain flat even surface
(d) Place "Stayform" expanded metal around shaft to repair.
(e) Place class III drilled shaft concrete - dewater for 24 hours
(f) Remove the box and continue with slab construction

REVISIONS

Date	By	Description	Date	By	Description
7-15-01	SH	23 AS-BUILT			

	Names	Dates
Drawn by	LJS	1-94
Checked by	DMW	5-95
Designed by	HDR	1-94
Checked by	DMW	2-94
Approved by	D. W. Browning	

HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

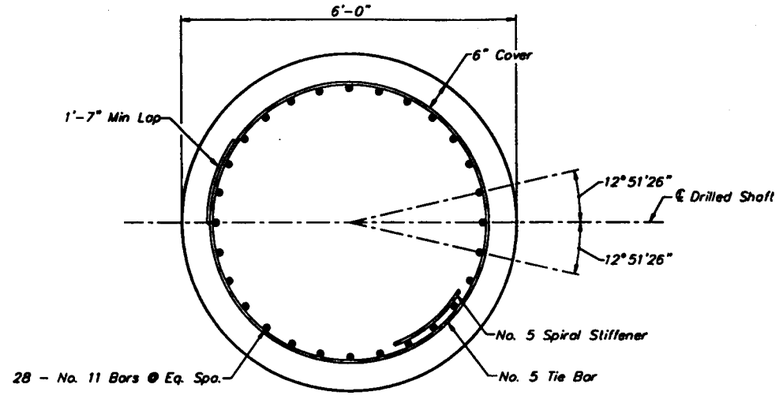
SHEET TITLE: DRILLED SHAFT DETAILS (2)

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

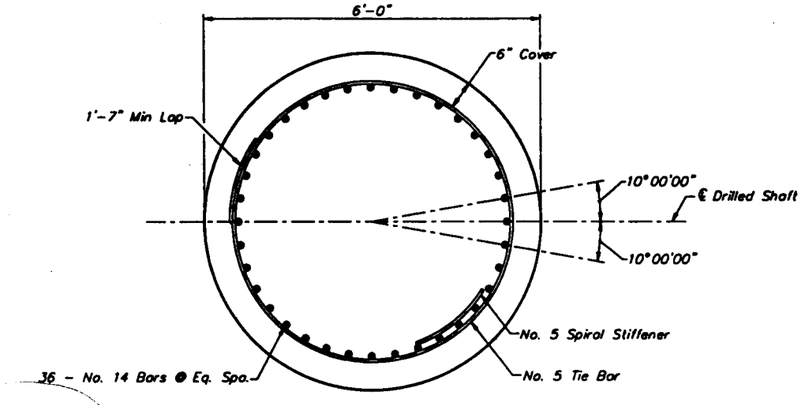
INDEX NO.

NAME: M:\1841\DGN\B28C.DGN DATE: AUG 31, 1995 TIME: 7:50 AM REV. BY: RLG

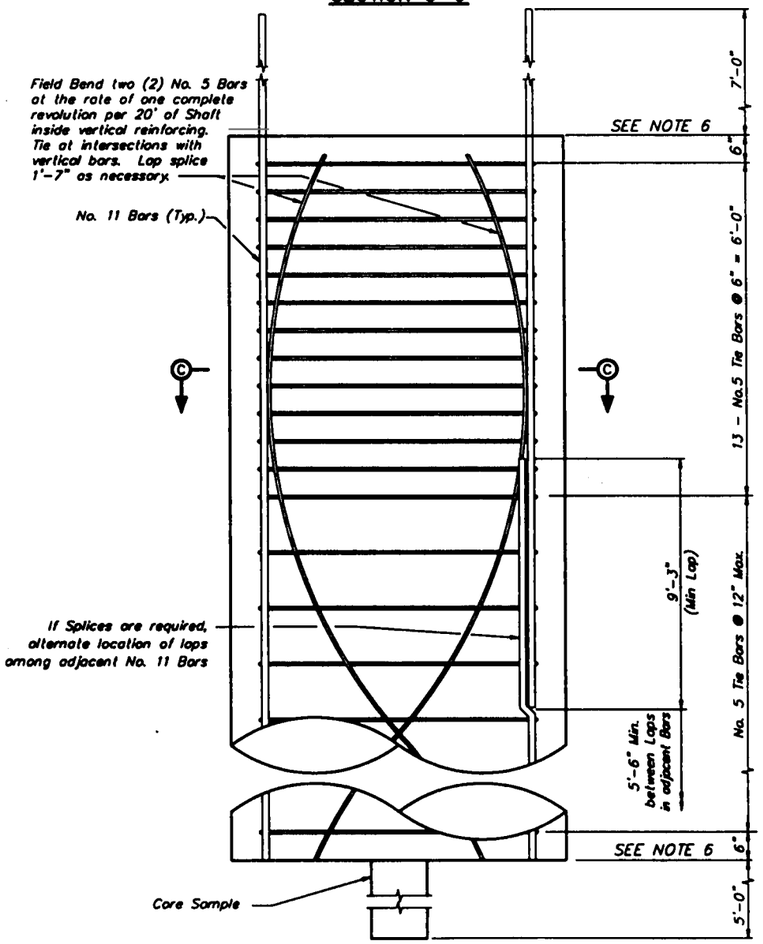
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	A25



SECTION C-C

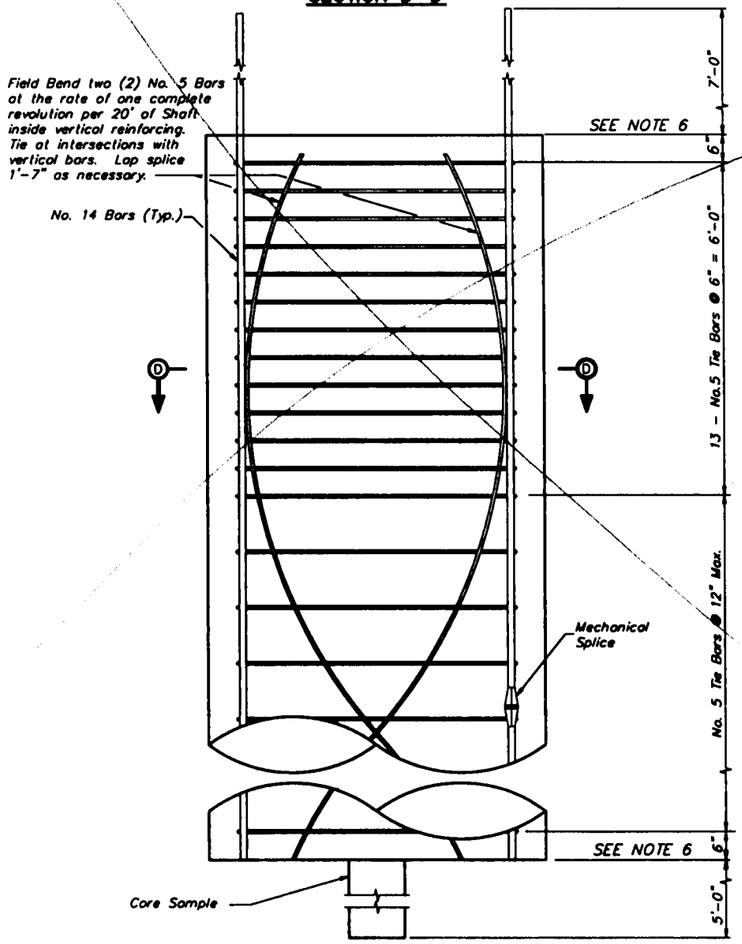


SECTION D-D



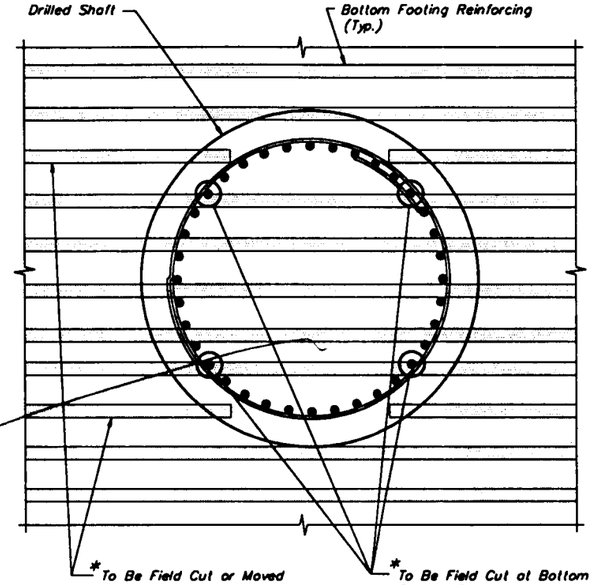
ELEVATION - 72" DIAMETER DRILLED SHAFT

Type A



ELEVATION - 72" DIAMETER DRILLED SHAFT

Type B



PLAN

(TYPICAL SHAFT/FOOTING REINFORCING INTERACTION)

NOTES

(1.) The Contractor Shall Adjust Footing Reinforcement where possible to avoid conflicts with the Drilled Shaft Reinforcing. Minimum Bar Spacing shall be three (3) times Bar Diameter and Shall Not Exceed Reinforcing Spacing Shown on Pier Footing Reinforcing by 1".

(2.) The Contractor Shall Be Permitted to Field Cut Footing or Drilled Shaft Bars only as indicated on This Sheet. No Adjacent Footing Bars or Drilled Shaft Bars may be cut. No more than four (4) Drilled Shaft Bars may be cut in any given shaft.

*To Be Field Cut and only if there is an Unavoidable Conflict Between Shaft and Footing Reinforcing and Field Adjustment Is Not An Option.

For Additional Notes see Sheet A24.

NAME: j4114\DGN\BRD29C.DWG DATE: AUG 31, 1995 TIME: 7:50 AM REV. BY: RLG

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	LJS	1-94
						Checked by	DMW	5-95
						Designed by	HDR	1-94
						Checked by	DMM	2-94
						Approved by	D. W. Browning	

HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: DRILLED SHAFT DETAILS (2)

Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
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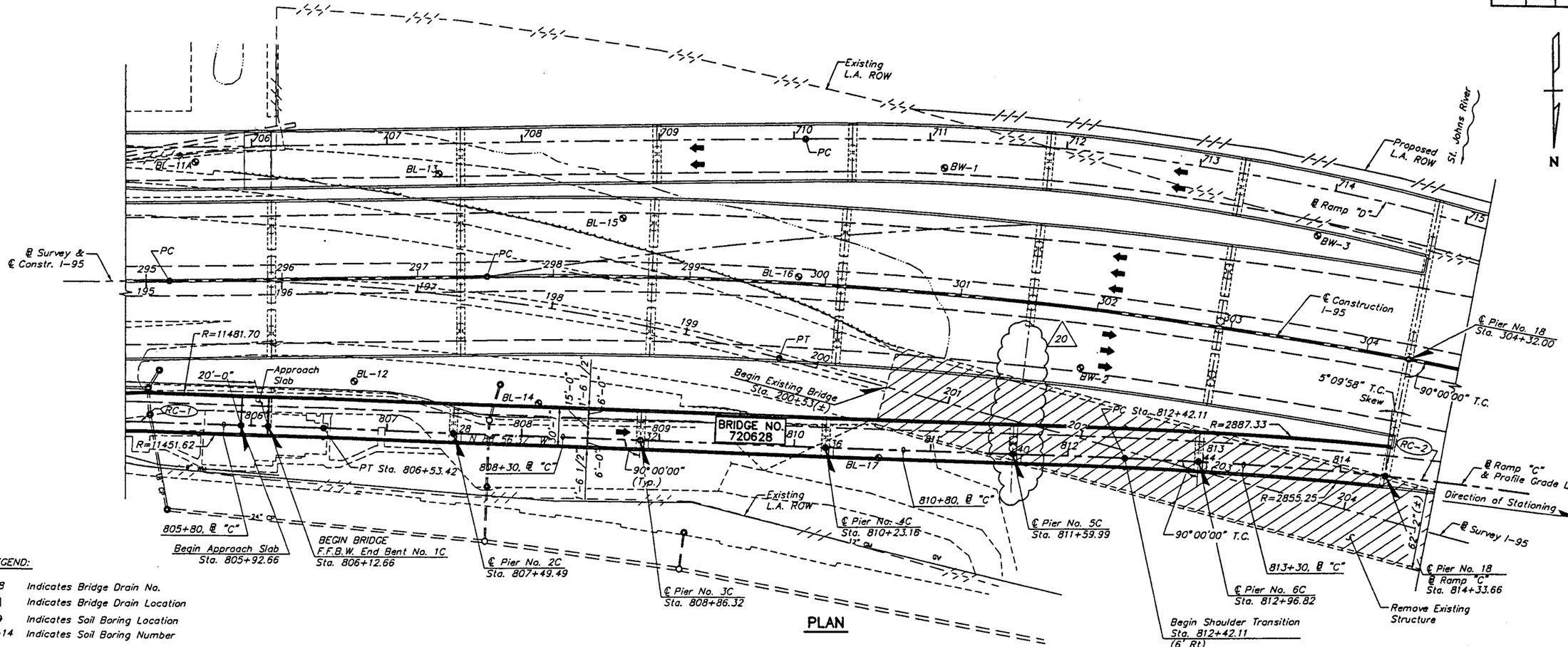
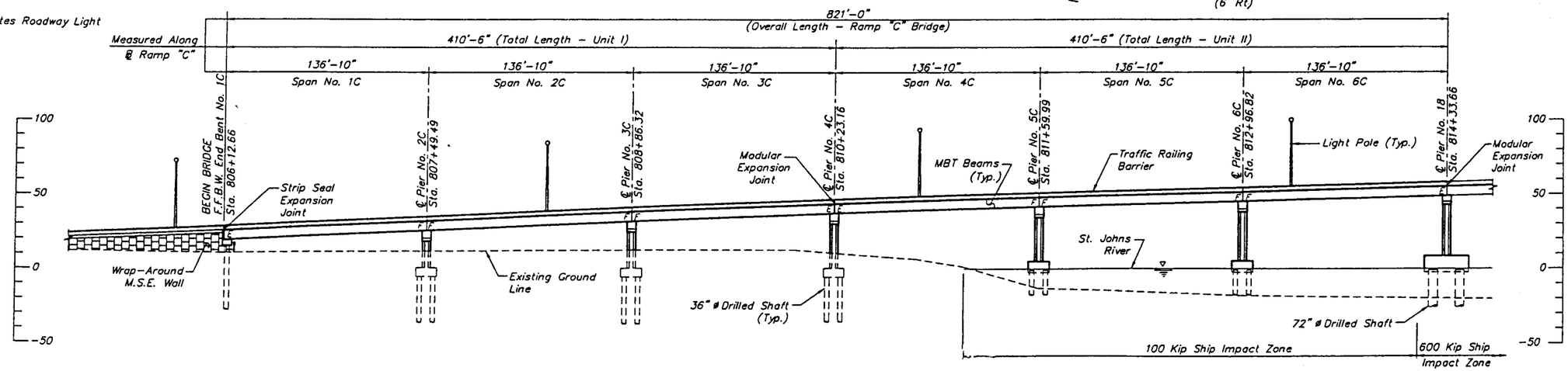


LEGEND:

- 28 Indicates Bridge Drain No.
- ▯ Indicates Bridge Drain Location
- ⊗ Indicates Soil Boring Location
- BL-14 Indicates Soil Boring Number
- Indicates Roadway Light

PLAN



ELEVATION

(Main Line Bridge, Ramp "D" Bridge, and Existing Bridge not shown for Clarity)

[redacted]

NOTES:

See Sheet A4 & A5 for Structural Notes

See Sheets A6 & A7 for Horizontal & Vertical Curve Data and Traffic Data.

See Sheet A7 for St. Johns River Elevations.

Dimensions shown on Plan View (Bridge Width, etc.) are Measured radial/normal to the associated ℄/℄.

For Shoulder Transition see Roadway Plans.

See General Sheets for Bridge Drain Locations and Drainage Details.

BRIDGE NO. 720628

REVISIONS						
Date	By	Description	Date	By	Description
5/15/00	MDC	20 TEMPORARY PIERS REMOVED			

	Names	Dates
Drawn by	BDV/CSD	8-93
Checked by	LDP	11-93
Designed by	MJL/HDR	9-93
Checked by	DMM	12-93
Approved by	S.M. JARRETT	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL: M. Caudill 5-15-00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020 - 3485

SHEET TITLE: PLAN AND ELEVATION RAMP "C" BRIDGE

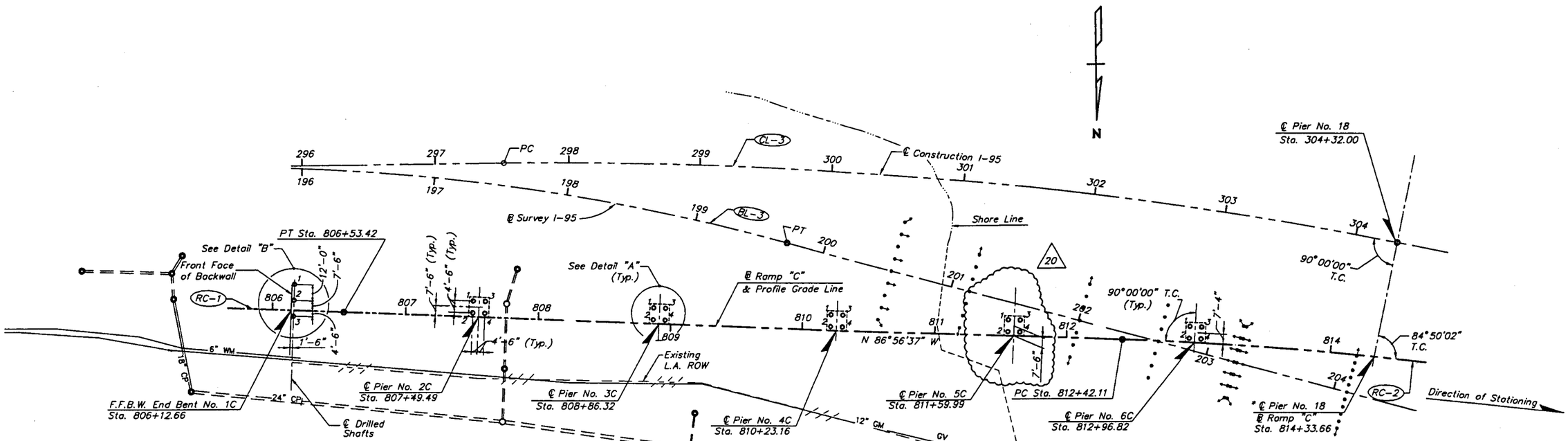
Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

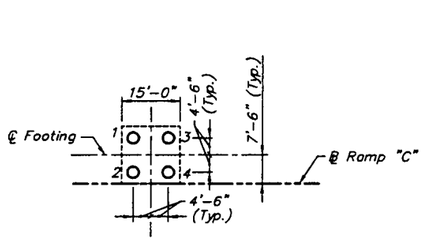
Index No.

NAME: M:\16414\REVISION 20\DWG-G01.DWG DATE: MAY 3, 2000 TIME: 1:56 PM REV. BY: RLG

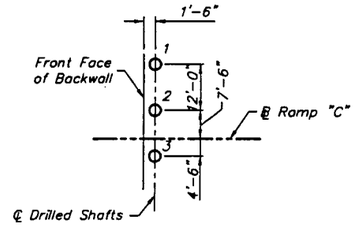
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	G2



PLAN



DETAIL "A"



DETAIL "B"

ACTUAL AS-BUILT SEE SHEET No. G2A

DRILLED SHAFT INSTALLATION TABLE

END BENT or PIER NO.	SHAFT DIAMETER (INCHES)	DESIGN LOAD (TONS)	MINIMUM TIP ELEVATION (FT)	100 YEAR SCOUR ELEVATION (FT)
1C	36	250	-35	
2C	36	400	-35	
3C	36	400	-35	
4C	36	400	-35	
5C	36	450	-48	-36
6C	36	450	-56	-42
18	*	*	*	*

20

* For Foundation Layout and Drilled Shaft Installation Data for Pier No. 18, See Sheet D4 or E4.

ACTUAL AS-BUILT SEE SHEET No. G2A

TABLE OF DRILLED SHAFT TOP ELEVATIONS

SHAFT NO.	END BENT NO. 1C	PIER NO. 2C THRU PIER 4C	PIER NO. 5C	PIER NO. 6C
1.	14.15	-4.25	-0.83	-0.83
2.	13.91	-4.25	-0.83	-0.83
3.	13.68	-4.25	-0.83	-0.83
4.	–	-4.25	-0.83	-0.83

20

This memorandum is provided to confirm my recommendations from earlier today regarding Shaft No. 2 at Pier 6C. As reported by Chuck Iley, the initial installation of this shaft could not be completed because the drilling tools could advance no closer than 5 feet to the casing tip due to suspected deformation of the casing. At the time this problem was encountered, the casing tip was at elevation -61.02.

Considering the inability to advance the drill tools to the bottom of the casing, it will be necessary to backfill the excavation, extract the existing casing and replace it with another casing. Since it is very likely that the replacement casing will be slightly offset from the original casing alignment, we must assume a reduced friction resistance within the depth of the original casing. To compensate for this reduced friction, it is recommended that the shaft penetration be increased an additional 7 feet to a revised tip elevation at -68. With the exception of the revised shaft tip elevation, the procedures for installation of this shaft should be the same as those for the original shaft, and the final casing tip elevation -42 remains unchanged.

Please contact me if you have any questions regarding the above recommendations, or if further problems are encountered at this shaft.

To: Pom Chaktaphak, P.E. PBC:
From: Ray Castelli, P.E.
Date: March 9, 2001
Subject: Fuller Warren Bridge
36-inch Diameter Drilled Shafts
Pier 6C, Shaft No. 2

23

NOTES

LEGEND

- O Proposed Drilled Shaft
- ←e Existing Jacketed Steel Pile with Batter Direction

1. For Horizontal Curve Data see Sheet A7.
2. Plan location of Drilled Shafts is given at Bottom of Caps.
3. All Drilled Shafts at the End Bent shall be installed Prior to the Installation of MSE Walls.
4. Drilled Shafts shall be Installed to the Minimum Tip Elevations shown in the Drilled Shaft Installation Table.
5. For Drilled Shaft Reinf. Details and associated notes see Sheet A24.

20

6. The portion of End Bent drilled shafts exposed above the existing ground shall be wrapped with 6 mil. thickness polyethylene plastic film. See General Notes, Sheet A4.
7. The Foundations shall be constructed in the Phases outlined in the Sequence of Construction drawings.

REVISIONS						
Date	By	Description	Date	By	Description
5/15/00	MDC	20 TEMPORARY PIERS REMOVED			
6/4/01	SH	23 AS-BUILT			

	Names	Dates
Drawn by	SCG/CSD	10-93
Checked by	TQT	7-94
Designed by	TQT/RMS	7-94
Checked by	LDP/TQT	7-94

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL M. Castelli 5-15-00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020 – 3485

SHEET TITLE: FOUNDATION LAYOUT RAMP "C" BRIDGE
Drawing No.
PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER
Index No.

DWG DATE: MAY 10, 2000 TIME: 12:19 PM REV. BY: RLG
ME: M:\16414\RAMPC\L

No. Sheets this set	State	Project No.	Sheet No.
3	FLA.		95 G2

AS-BUILT

DRILLED SHAFT PAY QUANTITIES - RAMP "C" BRIDGE

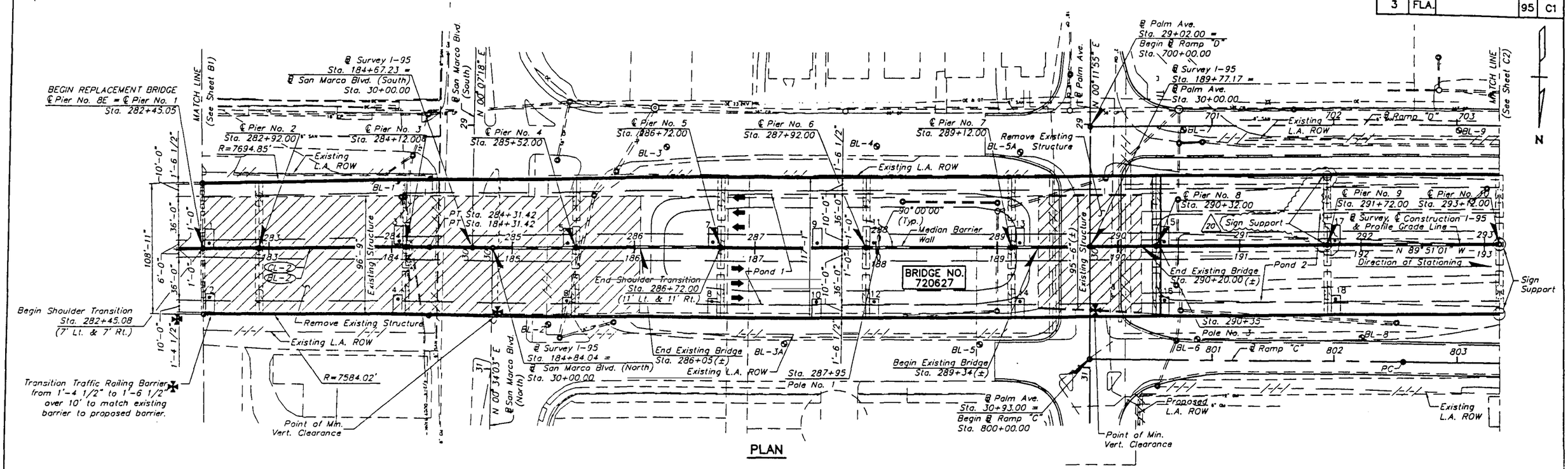
		DESIGN CONDITIONS								AS-BUILT CONDITIONS							
PIER NO.	SHAFT NO.	SHAFT SIZE	AXIAL LOAD	100-YR SCOUR EL.	CUT-OFF ELEV.	PLAN TIP ELEV.	AUTH TI ELEV.	EXTRA DEPTH	SHAFT LENGTH	FINISH DATE	GROUND ELEV.	AUTH TI ELEV.	ACTU TI ELEV.	UNCLAS EXCAV.	EXTRA DEPTH	SHAFT LENGTH	COMMENTS
		in	tons	ft	ft	ft	ft	ft	ft		ft	ft	ft	ft	ft	ft	
1C	1	36	250	N/A	14.15	-35.0	-36.0	1.0	50.15	4/17/00	11	-36	-36.43	46.00	1.00	50.15	
1C	2	36	250	N/A	13.91	-35.0	-35.0	0.0	48.91	5/2/00	11	-41	-41.26	46.00	6.00	54.91	
1C	3	36	250	N/A	13.68	-35.0	-35.0	0.0	48.68	5/4/00	11	-35	-35.08	46.00	0.00	48.68	
2C	1	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	4/12/00	-4.75	-39	-39.27	30.25	4.00	34.75	
2C	2	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	4/17/00	-4.75	-39	-39.18	30.25	4.00	34.75	
2C	3	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	4/13/00	-4.75	-39	-39.00	30.25	4.00	34.75	
2C	4	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	4/11/00	-4.75	-39	-42.18	30.25	4.00	34.75	
3C	1	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/16/00	-4.75	-39	-48.16	30.25	4.00	34.75	
3C	2	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/18/00	-4.75	-39	-39.36	30.25	4.00	34.75	
3C	3	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/15/00	-4.75	-39	-39.1	30.25	4.00	34.75	
3C	4	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/19/00	-4.75	-39	-39.02	30.25	4.00	34.75	
4C	1	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/15/00	-4.75	-39	-40.4	30.25	4.00	34.75	
4C	2	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/16/00	-4.75	-39	-35.59	30.25	4.00	34.75	
4C	3	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/17/00	-4.75	-39	-39.02	30.25	4.00	34.75	
4C	4	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/18/00	-4.75	-39	-39.15	30.25	4.00	34.75	
5C	1	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17	3/22/01	-6.25	-64.00	-68.68	34.75	23.00	63.17	By Ray
5C	2	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17	4/2/01	-6.25	-64.00	-64.63	34.75	23.00	63.17	By Ray
5C	3	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17	3/24/01	-6.25	-64.00	-64.07	34.75	23.00	63.17	By Ray
5C	4	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17	4/5/01	-6.25	-64.00	-65.25	34.75	23.00	63.17	By Ray
5C	5	36	450	-36	-0.83	-48.0	-48.0	0.0	47.17			-56.00					Deleted
5C	6	36	450	-36	-0.83	-48.0	-48.0	0.0	47.17			-56.00					Deleted
5C	7	36	450	-36	-0.83	-48.0	-48.0	0.0	47.17			-56.00					Deleted
5C	8	36	450	-36	-0.83	-48.0	-48.0	0.0	47.17			-56.00					Deleted
5C	9	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17			-50.00					Deleted
5C	10	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17			-50.00					Deleted
5C	11	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17			-50.00					Deleted
5C	12	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17			-50.00					Deleted
6C	1	36	450	-42	-0.83	-56.0	-61.0	5.0	60.17	3/2/01	-18.5	-61.0	-61.01	37.50	5.00	60.17	
6C	2	36	450	-42	-0.83	-56.0	-61.0	5.0	60.17	3/8/01	-18.5	-68.0	-68.82	37.50	12.00	67.17	By Ray
6C	3	36	450	-42	-0.83	-56.0	-61.0	5.0	60.17	3/7/01	-18.5	-61.0	-61.14	37.50	5.00	60.17	
6C	4	36	450	-42	-0.83	-56.0	-61.0	5.0	60.17	3/13/01	-18.5	-61.0	-61.27	37.50	5.00	60.17	
TOTAL	31							85.0	1331.5					790.00	174.00	1071.10	
									1246.5								

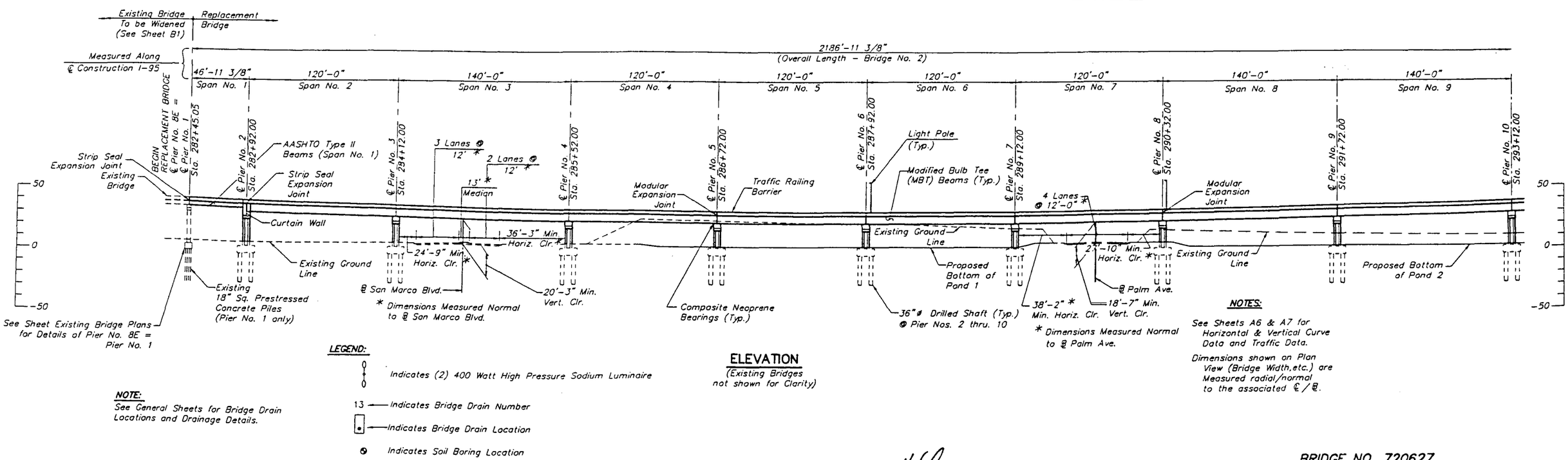
△23

REVISIONS					
Date	By	Description	Date	By	Description
7-21-01	SH	△23 AS-BUILT			

SHEET TITLE: FOUNDATION LAYOUT RAMP "C" BRIDGE	Drawing No.
PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER	Index No.

DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	C1





NOTES:

See Sheets A6 & A7 for Horizontal & Vertical Curve Data and Traffic Data.

Dimensions shown on Plan View (Bridge Width, etc.) are Measured radial/normal to the associated ℄/℄.

ELEVATION
(Existing Bridges not shown for Clarity)

LEGEND:

- Indicates (2) 400 Watt High Pressure Sodium Luminaire
- 13 — Indicates Bridge Drain Number
- Indicates Bridge Drain Location
- Indicates Soil Boring Location

NOTE:
See General Sheets for Bridge Drain Locations and Drainage Details.

NAME: M:\1614\REVISION20\2BRDG2A.DWG DATE: MAY 3, 2000 TIME: 10:53 AM REV. BY: RLG

REVISIONS

Date	By	Description	Date	By	Description
5/15/00	MDC	20 ADD SIGN SUPPORT AT PIER 9			

	Names	Dates
Drawn by	SPJ	8-94
Checked by	PLS	8-94
Designed by	MJL/HDR	9-93
Checked by	DMM	12-93
Approved by	M. D. Caulfield	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL: M. Caulfield 5/15/00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

BRIDGE NO. 720627

SHEET TITLE: PLAN AND ELEVATION (1) BRIDGE NO. 2

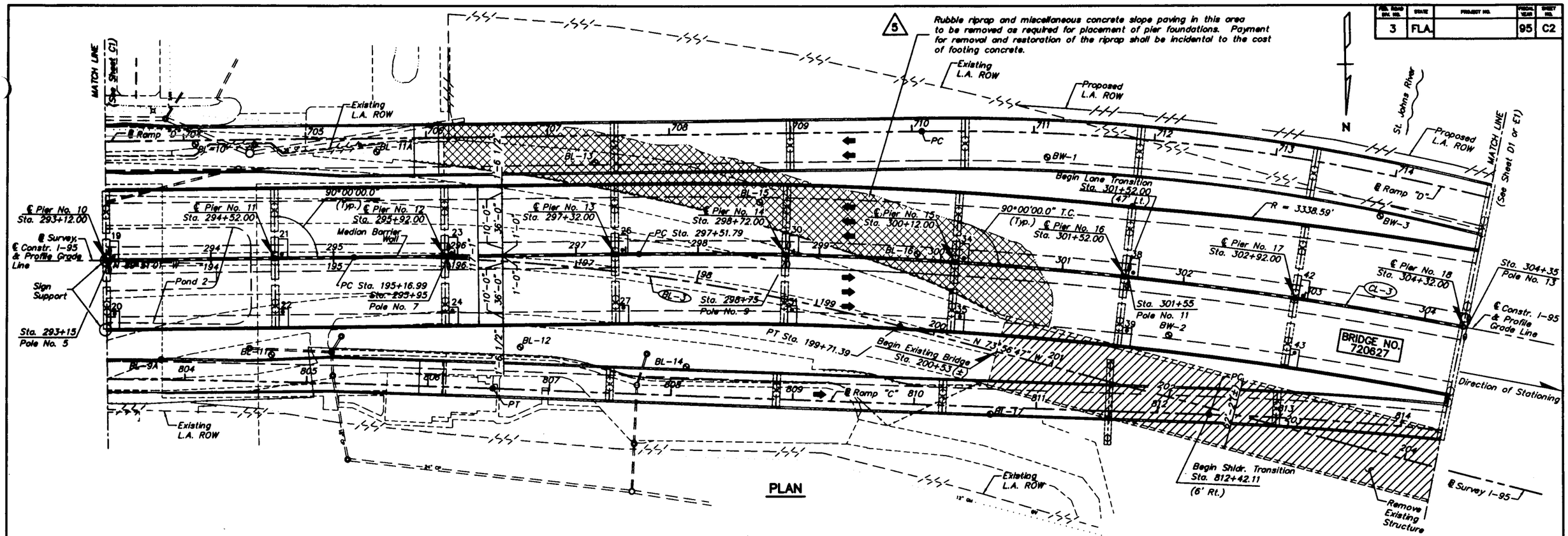
PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Drawing No.

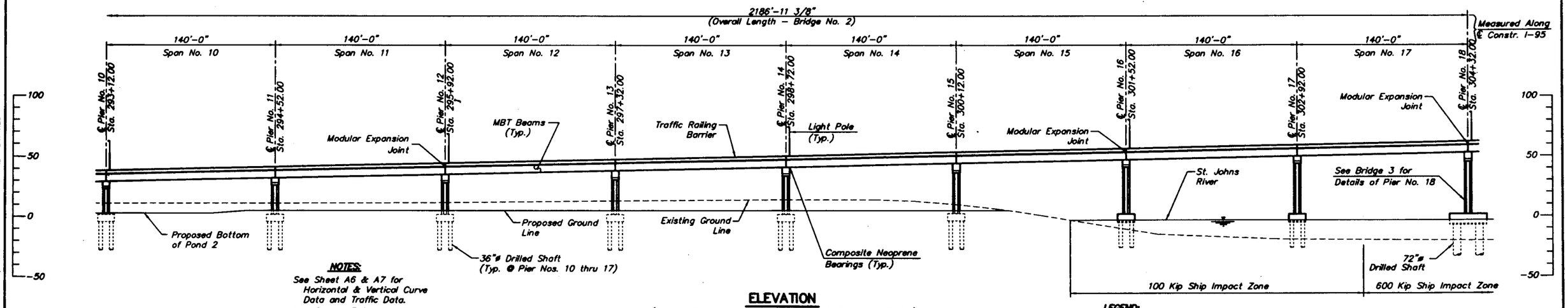
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	C2

5 Rubble riprap and miscellaneous concrete slope paving in this area to be removed as required for placement of pier foundations. Payment for removal and restoration of the riprap shall be incidental to the cost of footing concrete.



PLAN



ELEVATION

(Existing Bridge and Ramp Bridges not shown for Clarity)

NOTES:

See Sheet A6 & A7 for Horizontal & Vertical Curve Data and Traffic Data.

See Sheet A7 for Elevation of St. Johns River

Dimensions shown on Plan View (Bridge Width, etc.) are Measured radial/normal to the associated ℄/℄.

⊛ indicates Soil Boring Location.

NOTE:

See General Sheets for Bridge Drain Locations and Drainage Details.

LEGEND:

Indicates (2) 400 Watt High Pressure Sodium Luminaire

27 — Indicates Bridge Drain Number

Indicates Bridge Drain Location

⊛ Indicates Soil Boring Location

BRIDGE NO. 720627

REVISIONS						
Date	By	Description	Date	By	Description
2/5/96	DMW	5 Added note identifying rubble riprap.			

	Name	Date
Drawn by	BDV	7-93
Checked by	LDP	11-93
Designed by	MJL/HDR	9-93
Checked by	DMM	12-93
Approved by	M. D. Caulfield	

HNTB HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: PLAN AND ELEVATION (2) BRIDGE NO. 2

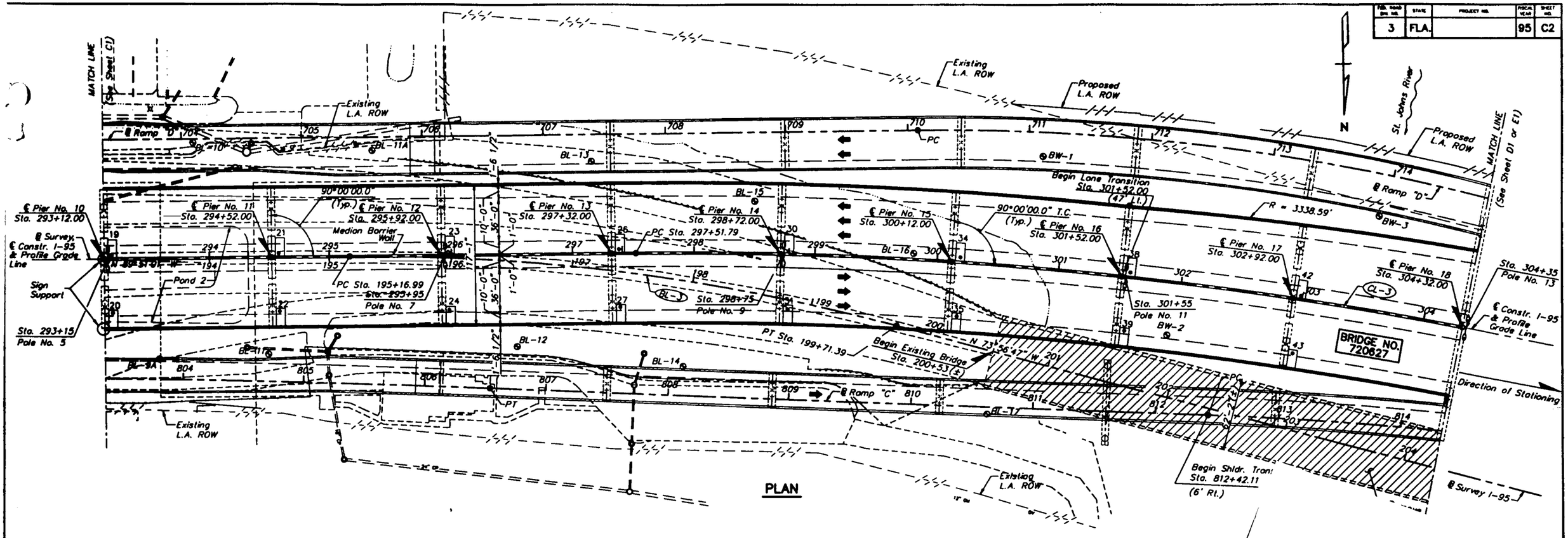
Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

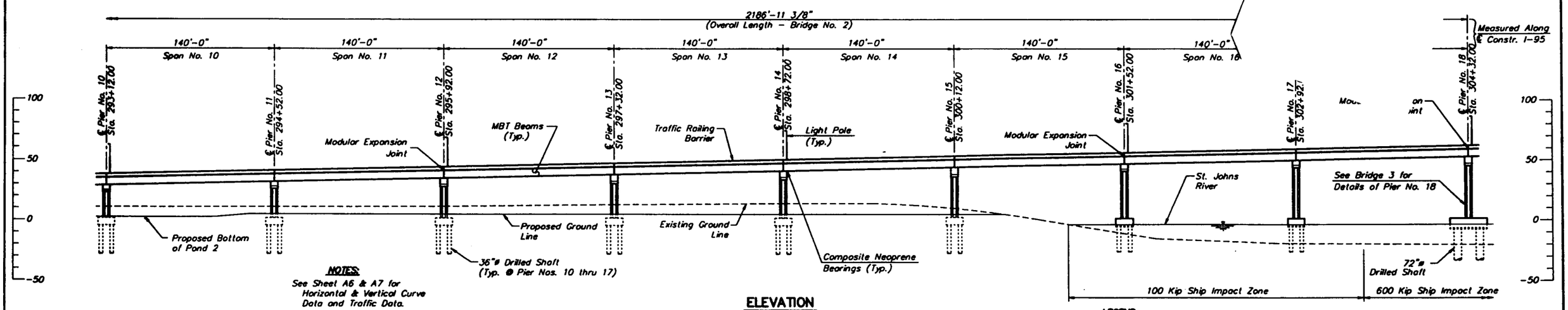
Index No.

FILE NAME: M:\hntb\BR2\720627\DGN\720627B.DWG DATE: FEB 07, 1996 TIME: 12:43 PM REV. BY: RLG

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	C2



PLAN



ELEVATION

(Existing Bridge and Ramp Bridges not shown for Clarity)

NOTES:

See Sheet A6 & A7 for Horizontal & Vertical Curve Data and Traffic Data.

See Sheet A7 for Elevation of St. Johns River

Dimensions shown on Plan View (Bridge Width, etc.) are Measured radial/normal to the associated ℄ / @ .

⊛ indicates Soil Boring Location.

NOTE:

See General Sheets for Bridge Drain Locations and Drainage Details.

LEGEND:

- Indicates (2) 400 Watt High Pressure Sodium Luminaire
- 27 — Indicates Bridge Drain Number
- Indicates Bridge Drain Location
- ⊛ Indicates Soil Boring Location

BRIDGE NO. 720627

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	BDV	7-93
Checked by	LDP	11-93
Designed by	M.R./HDR	9-93
Checked by	DMM	12-93
Approved by	M. D. Caulfield	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

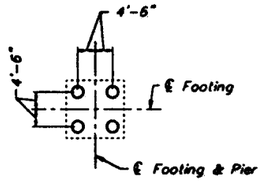
ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: PLAN AND ELEVATION (2) BRIDGE NO. 2

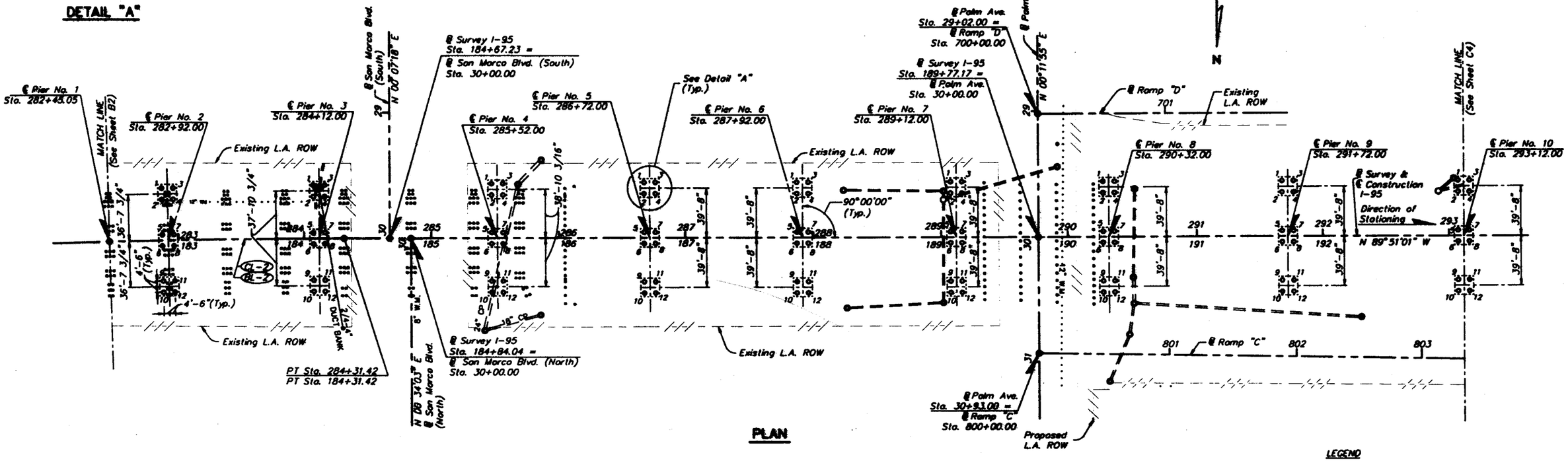
Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Index No.



DETAIL "A"



PLAN

DRILLED SHAFT INSTALLATION TABLE

PIER No.	SHAFT DIAMETER (INCHES)	DESIGN LOAD (TONS)	MINIMUM TIP ELEVATION (FT)	100 YR. SCOUR ELEVATION (FT)
2	36	450	-35	
3	36	↓	↓	
4	36			
5	36			
6	36			
7	36			
8	36			
9	36			
10	36			
11	36			
12	36			
13	36			
14	36	450	-35	
15	36	550	-37	
16	36	550	-51	-36
17	36	550	-58	-42
18	*	*	*	*

*For Foundation Layout Installation Data for Pier No. 18, see Sheet D4 or E4.

TABLE OF DRILLED SHAFT TOP ELEVATIONS

SHAFT No.	PIER 2 THRU 14	PIER 15	PIERS 16 & 17
1	-4.250	-0.830	-0.830
2	↓	↓	↓
3			
4		-0.830	
5		-4.250	
6		↓	
7			
8			
9			
10			
11			
12	-4.250	-4.250	-0.830

LEGEND

⊙ Proposed Drilled Shaft

⊶ Existing Pile with Batter Direction

NOTES

1. For Horizontal Curve Data see Sheet A7.
2. Plan location of Drilled Shafts is given at Bottom of Caps.
3. Drilled Shafts shall be installed to the Minimum Tip Elevations Shown in the Drilled Shaft Installation Table.
4. Existing Piles at Pier No. 2 shall be completely extracted.
5. For Drilled Shaft reinforcing details and associated notes, see Sheet A24.
6. The foundations shall be constructed in the Phases outlined in the Sequence of Construction drawings.

REVISIONS					
Date	No.	Description	Date	No.	Description

	Name	Date
Drawn by	SPJ	4-94
Checked by	PLS	7-94
Designed by	MLR/MDR	9-93
Checked by	DMM	12-93
Approved by	M. D. Caulfield	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

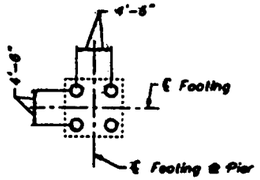
ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: FOUNDATION LAYOUT (1) BRIDGE NO. 2

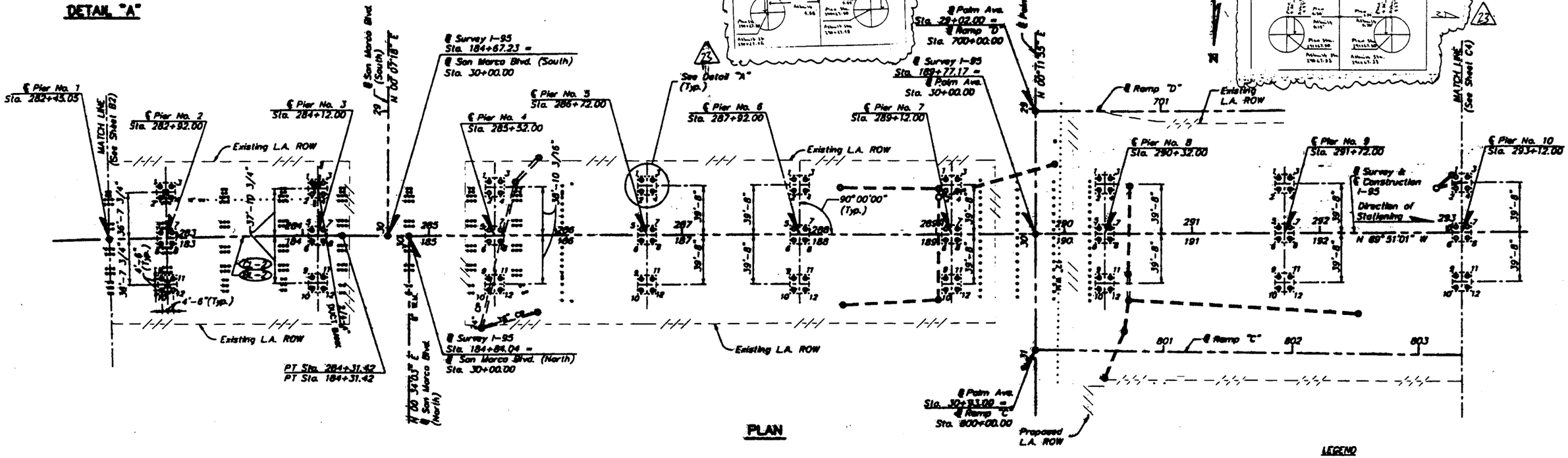
PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Drawing No.

Sheet No.



DETAIL "A"



PLAN

DRILLED SHAFT INSTALLATION TABLE

PIER No.	SHAFT DIAMETER (INCHES)	DESIGN LOAD (TONS)	MINIMUM TIP ELEVATION (FT)	100 YR. SCOUR ELEVATION (FT)
2	36	450	-35	
3	36	↓	↓	
4	36			
5	36			
6	36			
7	36			
8	36			
9	36			
10	36			
11	36			
12	36			
13	36	↓	↓	
14	36	450	-35	
15	36	550	-37	
16	36	550	-51	-36
17	36	550	-59	-42
18	*	*	*	*

*For Foundation Layout Installation Data for Pier No. 18, see Sheet D4 or E4.

TABLE OF DRILLED SHAFT TOP ELEVATIONS

SHAFT No.	PIER 2 THRU 14	PIER 15	PIERS 16 & 17
1	-4.250	-0.830	-0.830
2	↓	↓	↓
3			
4		-0.830	
5		-4.250	
6		↓	
7			
8			
9			
10			
11			
12	-4.250	-4.250	-0.830

LEGEND

- O Proposed Drilled Shaft
- ⊶ Existing Pile with Batter Direction

NOTES

1. For Horizontal Curve Data see Sheet A7.
2. Plan location of Drilled Shafts is given at Bottom of Caps.
3. Drilled Shafts shall be installed to the Minimum Tip Elevations Shown in the Drilled Shaft Installation Table.
4. Existing Piles at Pier No. 2 shall be completely extracted.
5. For Drilled Shaft reinforcing details and associated notes, see Sheet A24.
6. The foundations shall be constructed in the Phases outlined in the Sequence of Construction drawings.

13 This is in response to your Letter No. PB-114-97 dated, April 9th, 1997, regarding ~~the above mentioned subject~~. Your request to cast the footing of Pier 4 South in Bridge No. 2 on four drilled shafts which were cast 10-inches north of the plan location is approved. The footing and the column dowels will be placed in the correct plan location.

REVISIONS

Date	By	Description	Date	By	Description
7-15-97	SH	13 AS-BUILT			

	Name	Date
Drawn by	SPV	4-94
Checked by	PLS	7-94
Designed by	M.L./MDR	9-93
Checked by	DMM	12-93
Approved by	M. D. Caulfield	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: FOUNDATION LAYOUT (1) BRIDGE NO. 2

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Drawing No.

Index No.

REVISIONS

Date	By	Description
7/10/01	SH	AS-BUILT

FULLER WARREN BRIDGE

DRILLED SHAFT PAY QUANTITIES - BRIDGE NO. 2

		DESIGN CONDITIONS								AS-BUILT CONDITIONS							
PIER NO.	SHAFT NO.	SHAFT SIZE	AXIAL LOAD	100-YR SCOUR EL	CUT-OFF ELEV.	PLAN TIP ELEV.	AUTH TIP ELEV.	EXTRA DEPTH	SHAFT LENGTH	FINISH DATE	GROUND ELEV.	AUTH TIP ELEV.	ACTU TIP ELEV.	UNCLAS EXCAV.	EXTRA DEPTH	SHAFT LENGTH	COMMENTS
		in	tons	ft	ft	ft	ft	ft	ft		ft	ft	ft	ft	ft	ft	
2	1	36	450	N/A	-4.25	-35	-35	0	30.75	02/18/97	-4.75	-35.00	-35.00	30.25	0.00	30.75	
2	2	36	450	N/A	-4.25	-35	-35	0	30.75	02/14/97	-4.75	-35.00	-35.16	30.25	0.00	30.75	
2	3	36	450	N/A	-4.25	-35	-35	0	30.75	02/13/97	-4.75	-35.00	-35.10	30.25	0.00	30.75	
2	4	36	450	N/A	-4.25	-35	-35	0	30.75	02/19/97	-4.75	-35.00	-35.16	30.25	0.00	30.75	
2	5	36	450	N/A	-4.25	-35	-35	0	30.75	07/08/00	-4.75	-35.00	-35.00	30.25	0.00	30.75	
2	6	36	450	N/A	-4.25	-35	-35	0	30.75	07/10/00	-4.75	-35.00	-35.13	30.25	0.00	30.75	
2	7	36	450	N/A	-4.25	-35	-35	0	30.75	07/07/00	-4.75	-35.00	-35.80	30.25	0.00	30.75	
2	8	36	450	N/A	-4.25	-35	-35	0	30.75	07/11/00	-4.75	-35.00	-36.23	30.25	0.00	30.75	
2	9	36	450	N/A	-4.25	-35	-35	0	30.75	04/07/01	-4.75	-35.00	-35.15	30.25	0.00	30.75	
2	10	36	450	N/A	-4.25	-35	-35	0	30.75	04/13/01	-4.75	-35.00	-35.42	30.25	0.00	30.75	
2	11	36	450	N/A	-4.25	-35	-35	0	30.75	04/10/01	-4.75	-35.00	-35.37	30.25	0.00	30.75	
2	12	36	450	N/A	-4.25	-35	-35	0	30.75	04/16/01	-4.75	-35.00	-35.20	30.25	0.00	30.75	
3	1	36	450	N/A	-4.25	-35	-35	0	30.75	02/14/97	-4.75	-35.00	-35.10	30.25	0.00	30.75	
3	2	36	450	N/A	-4.25	-35	-35	0	30.75	02/19/97	-4.75	-35.00	-35.00	30.25	0.00	30.75	
3	3	36	450	N/A	-4.25	-35	-35	0	30.75	02/18/97	-4.75	-35.00	-35.00	30.25	0.00	30.75	
3	4	36	450	N/A	-4.25	-35	-35	0	30.75	02/13/97	-4.75	-35.00	-35.03	30.25	0.00	30.75	
3	5	36	450	N/A	-4.25	-35	-35	0	30.75	07/14/00	-4.75	-35.00	-35.39	30.25	0.00	30.75	
3	6	36	450	N/A	-4.25	-35	-35	0	30.75	07/14/00	-4.75	-35.00	-35.23	30.25	0.00	30.75	
3	7	36	450	N/A	-4.25	-35	-35	0	30.75	07/15/00	-4.75	-35.00	-35.40	30.25	0.00	30.75	
3	8	36	450	N/A	-4.25	-35	-35	0	30.75	07/12/00	-4.75	-35.00	-35.18	30.25	0.00	30.75	
3	9	36	450	N/A	-4.25	-35	-35	0	30.75	04/09/01	-4.75	-35.00	-35.34	30.25	0.00	30.75	
3	10	36	450	N/A	-4.25	-35	-35	0	30.75	04/10/01	-4.75	-35.00	-35.26	30.25	0.00	30.75	
3	11	36	450	N/A	-4.25	-35	-35	0	30.75	04/13/01	-4.75	-35.00	-35.16	30.25	0.00	30.75	
3	12	36	450	N/A	-4.25	-35	-35	0	30.75	04/11/01	-4.75	-35.00	-36.59	30.25	0.00	30.75	
4	1	36	450	N/A	-4.25	-35	-35	0	30.75	02/05/97	-4.75	-35.00	-35.04	30.25	0.00	30.75	
4	2	36	450	N/A	-4.25	-35	-35	0	30.75	02/06/97	-4.75	-35.00	-35.00	30.25	0.00	30.75	
4	3	36	450	N/A	-4.25	-35	-35	0	30.75	02/07/97	-4.75	-35.00	-35.10	30.25	0.00	30.75	
4	4	36	450	N/A	-4.25	-35	-35	0	30.75	02/04/97	-4.75	-35.00	-35.00	30.25	0.00	30.75	
4	5	36	450	N/A	-4.25	-35	-35	0	30.75	08/17/00	-4.75	-35.00	-35.44	30.25	0.00	30.75	
4	6	36	450	N/A	-4.25	-35	-35	0	30.75	08/16/00	-4.75	-38.00	-38.23	30.25	3.00	33.75	
4	7	36	450	N/A	-4.25	-35	-35	0	30.75	08/18/00	-4.75	-35.00	-35.37	30.25	0.00	30.75	
4	8	36	450	N/A	-4.25	-35	-35	0	30.75	08/19/00	-4.75	-35.00	-36.47	30.25	0.00	30.75	
4	9	36	450	N/A	-4.25	-35	-35	0	30.75	04/17/01	-4.75	-35.00	-35.20	30.25	0.00	30.75	
4	10	36	450	N/A	-4.25	-35	-35	0	30.75	04/19/01	-4.75	-35.00	-35.07	30.25	0.00	30.75	
4	11	36	450	N/A	-4.25	-35	-35	0	30.75	04/20/01	-4.75	-35.00	-35.05	30.25	0.00	30.75	
4	12	36	450	N/A	-4.25	-35	-35	0	30.75	04/23/01	-4.75	-35.00	-35.14	30.25	0.00	30.75	
5	1	36	450	N/A	-4.25	-35	-35	0	30.75	01/28/97	-4.75	-35.00	-35.27	30.25	0.00	30.75	
5	2	36	450	N/A	-4.25	-35	-35	0	30.75	01/27/97	-4.75	-35.00	-35.72	30.25	0.00	30.75	
5	3	36	450	N/A	-4.25	-35	-35	0	30.75	01/22/97	-4.75	-35.00	-35.20	30.25	0.00	30.75	
5	4	36	450	N/A	-4.25	-35	-35	0	30.75	01/24/97	-4.75	-35.00	-35.10	30.25	0.00	30.75	
5	5	36	450	N/A	-4.25	-35	-35	0	30.75	08/11/00	-4.75	-35.00	-35.00	30.25	0.00	30.75	
5	6	36	450	N/A	-4.25	-35	-35	0	30.75	08/08/00	-4.75	-35.00	-35.52	30.25	0.00	30.75	
5	7	36	450	N/A	-4.25	-35	-35	0	30.75	08/09/00	-4.75	-35.00	-35.78	30.25	0.00	30.75	
5	8	36	450	N/A	-4.25	-35	-35	0	30.75	08/05/00	-4.75	-35.00	-35.48	30.25	0.00	30.75	
5	9	36	450	N/A	-4.25	-35	-35	0	30.75	04/20/01	-4.75	-35.00	-35.33	30.25	0.00	30.75	
5	10	36	450	N/A	-4.25	-35	-35	0	30.75	04/23/01	-4.75	-35.00	-35.19	30.25	0.00	30.75	
5	11	36	450	N/A	-4.25	-35	-35	0	30.75	04/17/01	-4.75	-35.00	-35.02	30.25	0.00	30.75	
5	12	36	450	N/A	-4.25	-35	-35	0	30.75	04/19/01	-4.75	-35.00	-35.20	30.25	0.00	30.75	
6	1	36	450	N/A	-4.25	-35	-35	0	30.75	2/3/97	-4.75	-35.00	-35.20	30.25	0	30.75	
6	2	36	450	N/A	-4.25	-35	-35	0	30.75	1/22/97	-4.75	-35.00	-35.20	30.25	0	30.75	
6	3	36	450	N/A	-4.25	-35	-35	0	30.75	1/21/97	-4.75	-35.00	-35.15	30.25	0	30.75	
6	4	36	450	N/A	-4.25	-35	-35	0	30.75	1/24/97	-4.75	-35.00	-35.24	30.25	0	30.75	
6	5	36	450	N/A	-4.25	-35	-35	0	30.75	7/29/00	-4.75	-35.00	-35.47	30.25	0	30.75	
6	6	36	450	N/A	-4.25	-35	-35	0	30.75	7/31/00	-4.75	-35.00	-35.24	30.25	0	30.75	
6	7	36	450	N/A	-4.25	-35	-35	0	30.75	7/20/00	-4.75	-35.00	-37.1	30.25	0	30.75	
6	8	36	450	N/A	-4.25	-35	-35	0	30.75	7/28/00	-4.75	-35.00	-35	30.25	0	30.75	ily with log estimated elevations.
6	9	36	450	N/A	-4.25	-35	-35	0	30.75	4/24/01	-4.75	-35.00	-35.23	30.25	0	30.75	
6	10	36	450	N/A	-4.25	-35	-35	0	30.75	4/25/01	-4.75	-37.50	-37.51	30.25	2.5	33.25	
6	11	36	450	N/A	-4.25	-35	-35	0	30.75	4/27/01	-4.75	-36.00	-36.02	30.25	1	31.75	
6	12	36	450	N/A	-4.25	-35	-35	0	30.75	4/30/01	-4.75	-35.00	-35.24	30.25	0	30.75	
7	1	36	450	N/A	-4.25	-35	-35	0	30.75	1/21/97	-4.75	-38.00	-38.55	30.25	3.00	33.75	Extra Auth. RJC
7	2	36	450	N/A	-4.25	-35	-35	0	30.75	2/3/97	-4.75	-35.00	-35.02	30.25	0.00	30.75	
7	3	36	450	N/A	-4.25	-35	-35	0	30.75	1/27/97	-4.75	-42.00	-42.30	30.25	7.00	37.75	7' per criteria
7	4	36	450	N/A	-4.25	-35	-35	0	30.75	1/23/97	-4.75	-37.00	-38.18	30.25	2.00	32.75	Extra Auth. RJC
7	5	36	450	N/A	-4.25	-35	-35	0	30.75	7/19/00	-4.75	-35.00	-35.49	30.25	0.00	30.75	
7	6	36	450	N/A	-4.25	-35	-35	0	30.75	7/27/00	-4.75	-35.00	-35.19	30.25	0.00	30.75	
7	7	36	450	N/A	-4.25	-35	-35	0	30.75	8/1/00	-4.75	-35.00	-36.67	30.25	0.00	30.75	
7	8	36	450	N/A	-4.25	-35	-35	0	30.75	8/3/00	-4.75	-35.00	-35.90	30.25	0.00	30.75	
7	9	36	450	N/A	-4.25	-35	-35	0	30.75	4/24/01	-4.75	-43.00	-43.31	30.25	8.00	38.75	
7	10	36	450	N/A	-4.25	-35	-35	0	30.75	4/30/01	-4.75	-42.00	-42.50	30.25	7.00	37.75	
7	11	36	450	N/A	-4.25	-35	-35	0	30.75	4/24/01	-4.75	-41.78	-41.00	30.25	6.78	37.53	
7	12	36	450	N/A	-4.25	-35	-35	0	30.75	5/25/01	-4.75	-41.50	-42.12	30.25	6.50	37.25	
8	1	36	450	N/A	-4.25	-35	-43	8	38.75	1/9/97	-4.75	-53.00	-53.46	30.25	18.00	48.75	Extra Auth. RJC
8	2	36	450	N/A	-4.25	-35	-43	8	38.75	1/13/97	-4.75	-53.00	-53.3	30.25	18.00	48.75	Extra Auth. RJC
8	3	36	450	N/A	-4.25	-35	-43	8	38.75	1/16/97	-4.75	-43.00	-43.06	30.25	8.00	38.75	Extra Auth. RJC
8	4	36	450	N/A	-4.25	-35	-43	8	38.75	1/14/97	-4.75	-45.00	-45.07	30.25	10.00	40.75	Extra Auth. RJC
8	5	36	450	N/A	-4.25	-35	-35	0	30.75	8/22/00	-4.75	-42.00	-42.47	30.25	7.00	37.75	
8	6	36	450	N/A	-4.25	-35	-35	0	30.75	8/25/00	-4.75	-43.00	-43.74	30.25	8.00	38.75	
8	7	36	450	N/A	-4.25	-35	-35	0	30.75	8/23/00	-4.75	-35.00	-38.6	30.25	0.00	30.75	
8	8	36	450	N/A	-4.25	-35	-35	0	30.75	8/28/00	-4.75	-42.00	-42.27	30.25	7.00	37.75	
8	9	36	450	N/A	-4.25	-35	-35	0	30.75	5/2/01	-4.75	-35.00	-39.53	30.25	0.00	30.75	
8	10	36	450	N/A	-4.25	-35	-35	0	30.75	5/1/01	-4.75	-35.00	-39.2	30.25	0.00	30.75	
8	11	36	450	N/A	-4.25	-35	-35	0	30.75	5/3/01	-4.75	-35.00	-37.4	30.25	0.00	30.75	
8	12	36	450	N/A	-4.25	-35	-35	0	30.75	5/4/01	-4.75	-41	-41.37	30.25	6	36.75	
9	1	36	450	N/A	-4.25	-35	-43	8	38.75	1/16/97	-4.75	-43.00	-43.07	30.25	8.00	38.75	
9	2	36	450	N/A	-4.25	-35	-43	8	38.75	1/14/97	-4.75	-43.00	-45.10	30.25	8.00	38.75	
9	3	36	450	N/A	-4.25	-35	-43	8	38.75	1/15/97	-4.75	-45.00	-45.40	30.25	10.00	40.75	Extra Auth. RJC
9	4	36	450	N/A	-4.25	-35	-43	8	38.75	1/17/97	-4.75	-43.00	-43.50	30.25	8.00	38.75	
9	5	36	450	N/A	-4.25	-35	-36	1	31.75	8/30/00	-4.75	-36	-36.88	30.25	1	31.75	
9	6	36	450	N/A	-4.25	-35	-36	1	31.75	9/1/00	-4.75	-37.5	-37.56	30.25	2.5	33.25	
9	7	36	450	N/A	-4.25	-35	-36	1	31.75	8/29/00	-4.75	-36	-37.87	30.25	1	31.75	
9	8	36	450	N/A	-4.25	-35	-36	1	31.75	8/31/00	-4.75	-37	-37.68	30.25	2	32.75	
9	9	36	450	N/A	-4.25	-35	-36	1	31.75	5/4/01	-4.75	-36	-39.55	30.25	1	31.75	
9	10	36	450	N/A	-4.25	-35	-36	1	31.75	5/7/01	-4.75	-36	-40.08	30.25	1	31.75	
9	11	36	450	N/A	-4.25	-35	-36	1	31.75	5/2/01	-4.75	-36	-40.48	30.25	1	31.75	
9	12	36	450	N/A	-4.25	-35	-36	1	31.75	5/3/01	-4.75	-36	-40.37	30.25	1	31.75	
								72	1548					1452.00	170.28	1646.28	

AS-BUILT

STATE	FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT	STRUCTURES DESIGN OFFICE
COUNTY	DUVAL
PROJECT NO.	72020-3485
PROJECT NAME	I-95 OVER THE ST. JOHNS RIVER
SHEET TITLE	FOUNDATION LAYOUT (2) BRIDGE NO. 2
Drawing No.	
Sheet No.	

AS-BUILT

FED. ROAD DIST. NO.	3
STATE	FLA
PROJECT NO.	95
PROJECT NO.	C4-A

Date	By	Description
11-12-01	KSH	AS-BUILTS

REVISIONS

FULLER WARREN BRIDGE

DRILLED SHAFT PAY QUANTITIES - BRIDGE NO. 2

		DESIGN CONDITIONS								AS-BUILT CONDITIONS							
PIER NO.	SHAFT NO.	SHAFT SIZE	AXIAL LOAD	100-YR SCOUR EL	CUT-OFF ELEV.	PLAN TIP ELEV.	AUTH TIP ELEV.	EXTRA DEPTH	SHAFT LENGTH	FINISH DATE	GROUND ELEV.	AUTH TIP ELEV.	ACTU TIP ELEV.	UNCLAS EXCAV.	EXTRA DEPTH	SHAFT LENGTH	COMMENTS
		in	tons	ft	ft	ft	ft	ft	ft		ft	ft	ft	ft	ft	ft	
10	1	36	450	N/A	-4.25	-35	-38	3	33.75	1/10/97	-4.75	-38.00	-38.08	30.25	3.00	33.75	
10	2	36	450	N/A	-4.25	-35	-38	3	33.75	12/11/96	-4.75	-39.30	39.60	30.25	4.30	35.05	Auth. by RJC
10	3	36	450	N/A	-4.25	-35	-38	3	33.75	1/15/97	-4.75	-38.00	-38.20	30.25	3.00	33.75	
10	4	36	450	N/A	-4.25	-35	-38	3	33.75	1/7/97	-4.75	-38.00	-38.02	30.25	3.00	33.75	
10	5	36	450	N/A	-4.25	-35	-38	3	33.75	9/8/00	-4.75	-38.00	-47.68	30.25	3.00	33.75	
10	6	36	450	N/A	-4.25	-35	-38	3	33.75	9/12/00	-4.75	-38.00	-45.35	30.25	3.00	33.75	
10	7	36	450	N/A	-4.25	-35	-38	3	33.75	9/11/00	-4.75	-38.00	-45.49	30.25	3.00	33.75	
10	8	36	450	N/A	-4.25	-35	-38	3	33.75	9/13/00	-4.75	-38.00	-44.80	30.25	3.00	33.75	
10	9	36	450	N/A	-4.25	-35	-38	3	33.75	5/11/01	-4.75	-38.00	-38.75	30.25	3.00	33.75	
10	10	36	450	N/A	-4.25	-35	-38	3	33.75	5/10/01	-4.75	-38.00	-39.42	30.25	3.00	33.75	
10	11	36	450	N/A	-4.25	-35	-38	3	33.75	5/16/01	-4.75	-38.00	-40.50	30.25	3.00	33.75	
10	12	36	450	N/A	-4.25	-35	-38	3	33.75	5/21/01	-4.75	-38.00	-41.01	30.25	3.00	33.75	
11	1	36	450	N/A	-4.25	-35	-42	7	37.75	12/12/96	-4.75	-42.00	-43.45	30.25	7.00	37.75	
11	2	36	450	N/A	-4.25	-35	-42	7	37.75	3/6/97	-4.75	-43.00	-43.20	30.25	8.00	38.75	Extra 1' per RJC
11	3	36	450	N/A	-4.25	-35	-42	7	37.75	3/5/97	-4.75	-42.00	-42.00	30.25	7.00	37.75	
11	4	36	450	N/A	-4.25	-35	-42	7	37.75	3/4/97	-4.75	-53.00	-53.20	30.25	18.00	48.75	Extra 11' per RJC
11	5	36	450	N/A	-4.25	-35	-42	7	37.75	10/9/00	-4.75	-42.00	-46.92	30.25	7.00	37.75	
11	6	36	450	N/A	-4.25	-35	-42	7	37.75	10/12/00	-4.75	-42.00	-46.74	30.25	7.00	37.75	
11	7	36	450	N/A	-4.25	-35	-42	7	37.75	10/5/00	-4.75	-42.00	-48.27	30.25	7.00	37.75	
11	8	36	450	N/A	-4.25	-35	-42	7	37.75	10/10/00	-4.75	-42.00	-45.67	30.25	7.00	37.75	
11	9	36	450	N/A	-4.25	-35	-42	7	37.75	5/24/01	-4.75	-42.00	-44.00	30.25	7.00	37.75	
11	10	36	450	N/A	-4.25	-35	-42	7	37.75	5/30/01	-4.75	-42.00	-44.30	30.25	7.00	37.75	
11	11	36	450	N/A	-4.25	-35	-42	7	37.75	6/1/01	-4.75	-42.00	-44.17	30.25	7.00	37.75	
11	12	36	450	N/A	-4.25	-35	-42	7	37.75	6/4/01	-4.75	-42.00	-44.34	30.25	7.00	37.75	
12	1	36	450	N/A	-4.25	-35	-40	5	35.75	12/4/96	-4.75	-40.00	-46.10	30.25	5.00	35.75	
12	2	36	450	N/A	-4.25	-35	-40	5	35.75	12/5/96	-4.75	-40.00	-40.00	30.25	5.00	35.75	
12	3	36	450	N/A	-4.25	-35	-40	5	35.75	12/3/96	-4.75	-42.67	-43.25	30.25	7.67	38.42	Auth. by RJC
12	4	36	450	N/A	-4.25	-35	-40	5	35.75	11/25/96	-4.75	-40.00	-41.10	30.25	5.00	35.75	
12	5	36	450	N/A	-4.25	-35	-40	5	35.75	10/13/00	-4.75	-40.00	-41.96	30.25	5.00	35.75	
12	6	36	450	N/A	-4.25	-35	-40	5	35.75	10/19/00	-4.75	-40.00	-41.61	30.25	5.00	35.75	
12	7	36	450	N/A	-4.25	-35	-40	5	35.75	10/17/00	-4.75	-40.00	-40.99	30.25	5.00	35.75	
12	8	36	450	N/A	-4.25	-35	-40	5	35.75	10/21/00	-4.75	-40.00	-40.18	30.25	5.00	35.75	
12	9	36	450	N/A	-4.25	-35	-40	5	35.75	6/5/01	-4.75	-40.00	-47.65	30.25	5.00	35.75	
12	10	36	450	N/A	-4.25	-35	-40	5	35.75	6/6/01	-4.75	-43.00	-47.58	30.25	8.00	38.75	Auth. by RJC
12	11	36	450	N/A	-4.25	-35	-40	5	35.75	6/7/01	-4.75	-42.00	-47.49	30.25	7.00	37.75	
12	12	36	450	N/A	-4.25	-35	-40	5	35.75	6/8/01	-4.75	-40.00	-47.63	30.25	5.00	35.75	
13	1	36	450	N/A	-4.25	-35	-42	7	37.75	10/18/96	-4.75	-42.00	-42.70	30.25	7.00	37.75	
13	2	36	450	N/A	-4.25	-35	-42	7	37.75	10/22/96	-4.75	-42.00	-42.19	30.25	7.00	37.75	
13	3	36	450	N/A	-4.25	-35	-42	7	37.75	10/24/96	-4.75	-42.00	-42.18	30.25	7.00	37.75	
13	4	36	450	N/A	-4.25	-35	-42	7	37.75	10/25/96	-4.75	-42.00	-43.40	30.25	7.00	37.75	
13	5	36	450	N/A	-4.25	-35	-42	7	37.75	10/24/00	-4.75	-42.00	-43.03	30.25	7.00	37.75	
13	6	36	450	N/A	-4.25	-35	-42	7	37.75	10/26/00	-4.75	-42.00	-42.04	30.25	7.00	37.75	
13	7	36	450	N/A	-4.25	-35	-42	7	37.75	10/25/00	-4.75	-43.00	-43.02	30.25	8.00	38.75	Auth. by RJC
13	8	36	450	N/A	-4.25	-35	-42	7	37.75	10/27/00	-4.75	-42.00	-42.11	30.25	7.00	37.75	
13	9	36	450	N/A	-4.25	-35	-42	7	37.75	6/12/01	-4.75	-42.00	-46.34	30.25	7.00	37.75	
13	10	36	450	N/A	-4.25	-35	-42	7	37.75	6/19/01	-4.75	-42.00	-43.85	30.25	7.00	37.75	
13	11	36	450	N/A	-4.25	-35	-42	7	37.75	6/14/01	-4.75	-49.00	-49.38	30.25	14.00	44.75	Auth. by RJC
13	12	36	450	N/A	-4.25	-35	-42	7	37.75	6/15/01	-4.75	-42.00	-43.90	30.25	7.00	37.75	
14	1	36	450	N/A	2.25	-35	-41	6	43.25	10/31/96	1.75	-41.00	-41.26	36.75	6.00	43.25	
14	2	36	450	N/A	2.25	-35	-41	6	43.25	10/30/96	1.75	-41.00	-41.05	36.75	6.00	43.25	
14	3	36	450	N/A	2.25	-35	-41	6	43.25	11/4/96	1.75	-41.00	-41.07	36.75	6.00	43.25	
14	4	36	450	N/A	2.25	-35	-41	6	43.25	11/2/96	1.75	-41.00	-41.02	36.75	6.00	43.25	
14	5	36	450	N/A	2.25	-35	-41	6	43.25	10/31/00	1.75	-41.00	-46.38	36.75	6.00	43.25	
14	6	36	450	N/A	2.25	-35	-41	6	43.25	11/1/00	1.75	-47.50	-48.41	36.75	12.50	49.75	Per Ray Castelli
14	7	36	450	N/A	2.25	-35	-41	6	43.25	10/30/00	1.75	-41.00	-47.96	36.75	6.00	43.25	
14	8	36	450	N/A	2.25	-35	-41	6	43.25	11/2/00	1.75	-41.00	-41.09	36.75	6.00	43.25	
14	9	36	450	N/A	2.25	-35	-41	6	43.25	6/18/01	1.75	-42.00	-43.76	36.75	7.00	44.25	Per Ray Castelli
14	10	36	450	N/A	2.25	-35	-41	6	43.25	6/25/01	1.75	-50.00	-55.56	36.75	15.00	52.25	Per Ray Castelli
14	11	36	450	N/A	2.25	-35	-41	6	43.25	7/11/01	1.75	-41.00	-48.80	36.75	6.00	43.25	
14	12	36	450	N/A	2.25	-35	-41	6	43.25	7/2/01	1.75	-41.00	-48.69	36.75	6.00	43.25	
15	1	36	550	N/A	-0.83	-37	-42	5	41.17	3/26/99	-8	-55.00	-69.70	29.00	18.00	54.17	
15	2	36	550	N/A	-0.83	-37	-42	5	41.17	3/12/99	-1	-57.00	-59.30	36.00	20.00	56.17	Per Ray Castelli
15	3	36	550	N/A	-0.83	-37	-42	5	41.17	3/26/99	-8	-55.00	-69.70	29.00	18.00	54.17	
15	4	36	550	N/A	-0.83	-37	-42	5	41.17	3/23/99	-4	-55.00	-90.15	33.00	18.00	54.17	
15	5	36	550	N/A	-4.25	-37	-42	5	37.75	10/15/96	-4.75	-42.00	-42.22	32.25	5.00	37.75	
15	6	36	550	N/A	-4.25	-37	-42	5	37.75	10/12/96	-4.75	-42.00	-42.23	32.25	5.00	37.75	
15	7	36	550	N/A	-4.25	-37	-42	5	37.75	11/18/96	-4.75	-42.00	-41.92	32.25	4.92	37.67	Bottom Above Auth Tip
15	8	36	550	N/A	-4.25	-37	-42	5	37.75	11/19/96	-4.75	-42.00	-42.00	32.25	5.00	37.75	
15	9	36	550	N/A	-4.25	-37	-42	5	37.75	7/2/01	-4.75	-48.00	-52.55	32.25	11.00	43.75	Per Ray Castelli
15	10	36	550	N/A	-4.25	-37	-42	5	37.75	6/25/01	-4.75	-55.00	-55.56	32.25	18.00	50.75	Per Ray Castelli
15	11	36	550	N/A	-4.25	-37	-42	5	37.75	6/21/01	-4.75	-42.00	-46.07	32.25	5.00	37.75	
15	12	36	550	N/A	-4.25	-37	-42	5	37.75	7/11/01	-4.75	-42.00	-53.04	32.25	5.00	37.75	
16	1	36	550	N/A	-0.83	-51	-54	3	53.17	2/15/99	-17.5	-54.00	-72.15	33.50	3.00	53.17	See PBDN 7130
16	2	36	550	N/A	-0.83	-51	-54	3	53.17	2/18/99	-18.5	-54.00	-71.00	32.50	3.00	53.17	See PBDN 7130
16	3	36	550	N/A	-0.83	-51	-54	3	53.17	2/24/99	-16.5	-54.00	-72.65	34.50	3.00	53.17	See PBDN 7130
16	4	36	550	N/A	-0.83	-51	-54	3	53.17	2/22/99	-14	-54.00	-71.20	37.00	3.00	53.17	See PBDN 7130
16	5	36	550	N/A	-0.83	-51	-54	3	53.17	2/16/99	-16.5	-54.00	-70.75	34.50	3.00	53.17	See PBDN 7130
16	6	36	550	N/A	-0.83	-51	-54	3	53.17	2/19/99	-14	-54.00	-71.50	37.00	3.00	53.17	See PBDN 7130
16	7	36	550	N/A	-0.83	-51	-54	3	53.17	2/24/99	-16	-54.00	-70.53	35.00	3.00	53.17	See PBDN 7130
16	8	36	550	N/A	-0.83	-51	-54	3	53.17	2/22/99	-13.5	-54.00	-71.60	37.50	3.00	53.17	See PBDN 7130
16	9	36	550	N/A	-0.83	-51	-54	3	53.17	2/23/99	-13	-54.00	-72.05	38.00	3.00	53.17	See PBDN 7130
16	10	36	550	N/A	-0.83	-51	-54	3	53.17	2/19/99	-11.5	-54.00	-71.70	39.50	3.00	53.17	See PBDN 7130
16	11	36	550	N/A	-0.83	-51	-54	3	53.17	2/26/99	-16	-54.00	-70.51	35.00	3.00	53.17	See PBDN 7130
16	12	36	550	N/A	-0.83	-51	-54	3	53.17	3/1/99	-16	-54.00	-71.29	35.00	3.00	53.17	See PBDN 7130
17	1	36	550	N/A	-0.83	-59	-63	4	62.17	12/14/98	-19.5	-63.00	-76.10	39.50	4.00	62.17	Additional depth required
17	2	36	550	N/A	-0.83	-59	-63	4	62.17	12/29/98	-19.5	-63.00	-99.30	39.50	4.00	62.17	due to contractor
17	3	36	550	N/A	-0.83	-59	-63	4	62.17	1/9/99	-19.5	-63.00	-93.10	39.50	4.00	62.17	diffiulties. Authorized
17	4	36	550	N/A	-0.83	-59	-63	4	62.17	1/15/99	-19.5	-63.00	-71.78	39.50	4.00	62.17	tip elevation used to
17	5	36	550	N/A	-0.83	-59	-63	4	62.17	12/30/98	-19.5	-63.00	-96.15	39.50	4.00	62.17	calculate shaft lengths.
17	6	36	550	N/A	-0.83	-59	-63	4	62.17	1/20/99	-19.5	-63.00	-73.82	39.50	4.00	62.17	
17	7	36	550	N/A	-0.83	-59	-63	4	62.17	1/9/99	-19.5	-63.00	-96.30	39.50	4.00	62.17	
17	8	36	550	N/A	-0.83	-59	-63	4	62.17	1/18/99	-19.5	-63.00	-74.32	39.50	4.00	62.17	
17	9	36	550	N/A	-0.83	-59	-63	4	62.17	1/21/99	-19.5	-63.00	-73.70	39.50	4.00	62.17	
17	10	36	550	N/A	-0.83	-59	-63	4	62.17	1/4/99	-20	-63.00	-76.30	39.00	4.00	62.17	
17	11	36	550	N/A	-0.83	-59	-63	4	62.17	1/15/99	-19.5	-63.00	-90.57	39.50	4.00	62.17	
17	12	36	550	N/A	-0.83	-59	-63	4	62.17	1/18/99	-19.5	-63.00	-72.59	39.50	4.00	62.17	
TOTAL	192								7133.76					6084.50	771.67	7353.43	

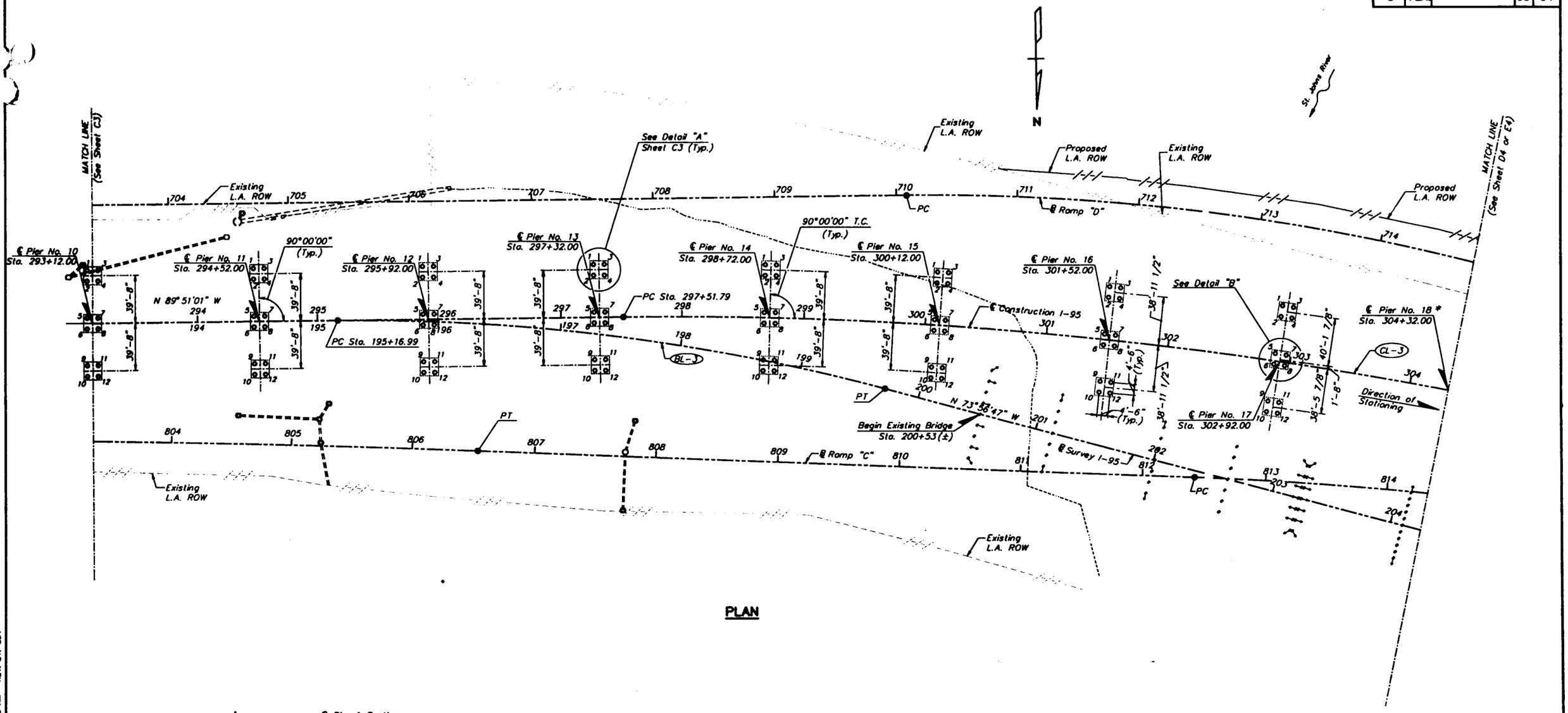
AS-BUILT

AS-BUILT

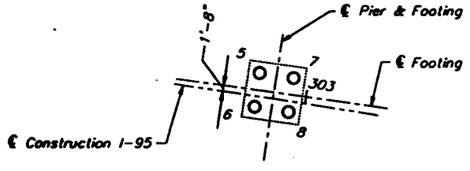
STATE	FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT	STRUCTURES DESIGN OFFICE
COUNTY	DUVAL
PROJECT NO.	72020-3485
PROJECT NAME	I-95 OVER THE ST. JOHNS RIVER
SHEET TITLE	FOUNDATION LAYOUT (2) BRIDGE NO. 2
SHEET NO.	9

FED. ROAD DIST. NO.	STATE		SHEET NO.
3	FLA		95 C4-8

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	C4



PLAN



DETAIL "B"

NOTES

1. For Horizontal Curve Data see Sheet A7.
2. Plan location of Drilled Shafts is given at Bottom of Caps.
3. Drilled Shafts shall be installed to the Minimum Tip Elevations Shown in the Drilled Shaft Installation Table.
4. For Drilled Shaft Installation Table, See Sheet C3.
5. For Drilled Shaft reinforcing details and associated notes, see Sheet A24.
* 6. For Foundation layout and installation data for Pier 18, see Sheet D4 or E4.
7. The foundations shall be constructed in the Phases outlined in the Sequence of Construction drawings.

LEGEND

O Proposed Drilled Shaft

Existing Pile with Batter Direction

Existing Jacketed Steel Pile with Batter Direction

REVISIONS						
Date	By	Description	Date	By	Description	

	Name	Date
Drawn by	SPJr.	4-94
Checked by	PLS	7-94
Designed by	MJL/HDR	9-93
Checked by	DMM	12-93
Approved by	M. D. Caulfield	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: FOUNDATION LAYOUT (2) BRIDGE NO. 2

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Drawing No.

Index No.

PLOT NAME: M:\...\C4.DGN PLOTTED: AUG 27, 1993 TIME: 8:55 AM REV. BY: MJV

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A3 Index of Sheets(2)
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A5 General Notes (2)
A6 Plan & Elevation Data (1)
A7 Plan & Elevation Data (2)
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A9 Composite Neoprene Bearing Pads (1)
A10 Composite Neoprene Bearing Pads (2)
A11 Expansion Joints
A12 Modular Expansion Joints (1)
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720629

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BRIDGE NO. 1 - PARTIAL WIDENING

720154

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B4 End Bent Details
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B6 Pier No. 12E
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B9 Construction Data
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B12 Superstructure Section
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B15 Framing Plan
B16 AASHTO Type II Beams
B17 Typical Notes & Details for AASHTO Type II Prestressed Beams
B18 Girder Details (1)
B19 Girder Details (2)
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BRIDGE NO. 2

720627

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C64 Reinforcing Bar List (12)
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BRIDGE NO. 3 - CONCRETE ALTERNATE

720629

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D84 Post-Tensioned MBT Beams, Bending Bar Details
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E96 Camber Diagram & Values (1)
E97 Camber Diagram & Values (2)
E98 Camber Diagram & Values (3)
E99 Camber Diagram & Values (4)
E100 Camber Diagram & Values (5)
E101 Camber Diagram & Values (6)
E102 Camber Diagram & Values (7)
E103 Camber Diagram & Values (8)
E104 Camber Diagram & Values (9)
E105 Camber Diagram & Values (10)
E106 Camber Diagram & Values (11)
E107 Camber Diagram & Values (12)
E108 Camber Diagram & Values (13)
E109 Camber Diagram & Values (14)
E110 Camber Diagram & Values (15)
E111 Camber Diagram & Values (16)
E112 Pot Bearing Details (1)
E113 Pot Bearing Details (2)
E114 Pot Bearing Details (3)
E115 Reinforcing Bar List (1)
E116 Reinforcing Bar List (2)
E117 Reinforcing Bar List (3)
E118 Reinforcing Bar List (4)
E119 Reinforcing Bar List (5)
E120 Reinforcing Bar List (6)
E121 Reinforcing Bar List (7)
E122 Reinforcing Bar List (8)
E123 Reinforcing Bar List (9)
E124 Reinforcing Bar List (10)

NAME: G:\JOBS\1611\ECHPROD\FENDER REVISION\BRDOIB.DWG DATE: MAY 8, 2002 TIME: 4:00 PM REV. BY: JAL

REVISIONS

Date	By	Description	Date	By	Description
5/8/02	JAL	26 Revised Titles and added Sheets A17A & A18A			

	Names	Dates
Drawn by	DCB	10-93
Checked by	SLW	1-94
Designed by	RDS	10-93
Checked by	SLW	1-94
Approved by	D. W. Browning	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: INDEX OF SHEETS (1)

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Drawing No.

Index No.

FED. ROAD NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	A24

BBCI:

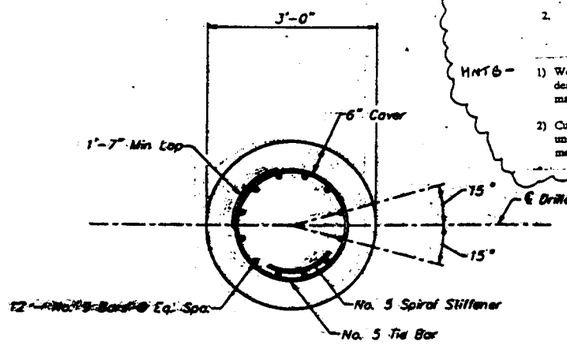
1. Construct end bent drill shafts in two stages, first stage construct drill shafts to natural ground using approved construction methods, second stage extend to grade rebar cages using mechanical splices, form and four drill shafts to grade.
2. Cut drill shafts vertical rebar approximately 6 each (3 each on opposite sides) for the removal of zipper casing (when the casing is below the top of the rebar cage). Extend rebar cage to grade with mechanical splices after casing removal.

HNTB -

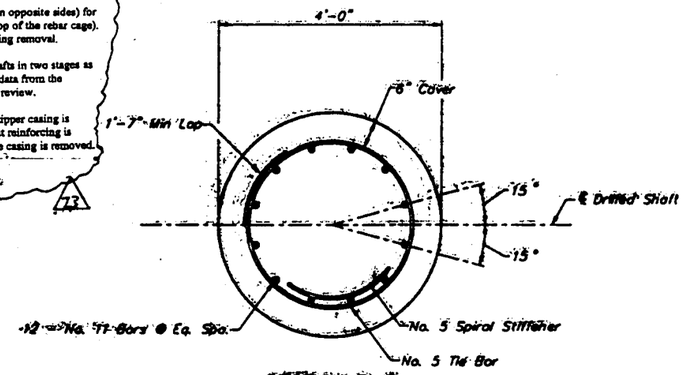
1) We have no objection to BBCI constructing the end bent drill shafts in two stages as described in their 1/31/97 letter to you. We suggest that design data from the manufacturer for the mechanical splice be provided to FBCS for review.
2) Cutting vertical bars in the drilled shafts in order to remove the zipper casing is undesirable, but we have no objection to doing it provided the cut reinforcing is mechanically spliced and extended to the planned length after the casing is removed.

Miscellaneous Changes

13



SECTION A-A



SECTION B-B

NOTES

1. Reinforcing Steel shall be Grade 60.
2. Concrete for Drilled Shafts shall be Class IV (Drilled Shaft), f'c = 4,000 p.s.i.
3. Drilled Shafts shall be paid for at the Contract Unit Price per linear foot for Drilled Shafts under Item No. 455-88-3 (36"ø), 455-88-5 (48"ø), or 455-88-7 (72"ø). See Summary of Quantities and Specifications.
4. The Contractor shall submit plans, showing method of Constructing the Drilled Shaft Foundations, to the Engineer for Approval.
5. For Shaft Elevations, see Drilled Shaft Installation Data on the Foundation Layout Sheet.
6. Bar Extensions for Embedment into Footing are to be included in the cost of Drilled Shaft Item, but are not included in Quantities Per Lin. Ft. Shown Below.

36"ø DRILLED SHAFT QUANTITIES PER LIN. FT.

Class IV Concrete = 0.28 Cu.Yds./Lin. Ft.
Reinforcing Steel = 58.2 Lbs./Lin. Ft. for top 7 ft.
51.2 Lbs./Lin. Ft. for Remainder of shaft

48"ø DRILLED SHAFT QUANTITIES PER LIN. FT.

Class IV Concrete = 0.47 Cu.Yds./Lin. Ft.
Reinforcing Steel = 87.2 Lbs./Lin. Ft. for top 7 ft.
77.4 Lbs./Lin. Ft. for remainder of shaft

72"ø DRILLED SHAFT QUANTITIES PER LIN. FT.

Class IV Concrete = 1.05 Cu.Yds./Lin. Ft.
Reinforcing Steel = 184.4 Lbs./Lin. Ft. for top 7 ft.
(Type A) 169.0 Lbs./Lin. Ft. for remainder of shaft

Reinforcing Steel = 311.4 Lbs./Lin. Ft. for top 7 ft.
(Type B) 296.0 Lbs./Lin. Ft. for remainder of shaft

To repair small underwater concrete spalls on the 72 inch drilled shafts in the river Balfour Beatty Construction, Inc. proposes the following procedure:

1. Throughly clean the affected area with high pressure air or water.
2. Chip and remove any loose material to achieve a clean rough surface.
3. Place either the product "Plug-Crete" or "Dam-It" into the afftected area (literature and product data attached). The material has a fast set time and will be hand placed by a diver.
4. These products require no special curing procedures.

15

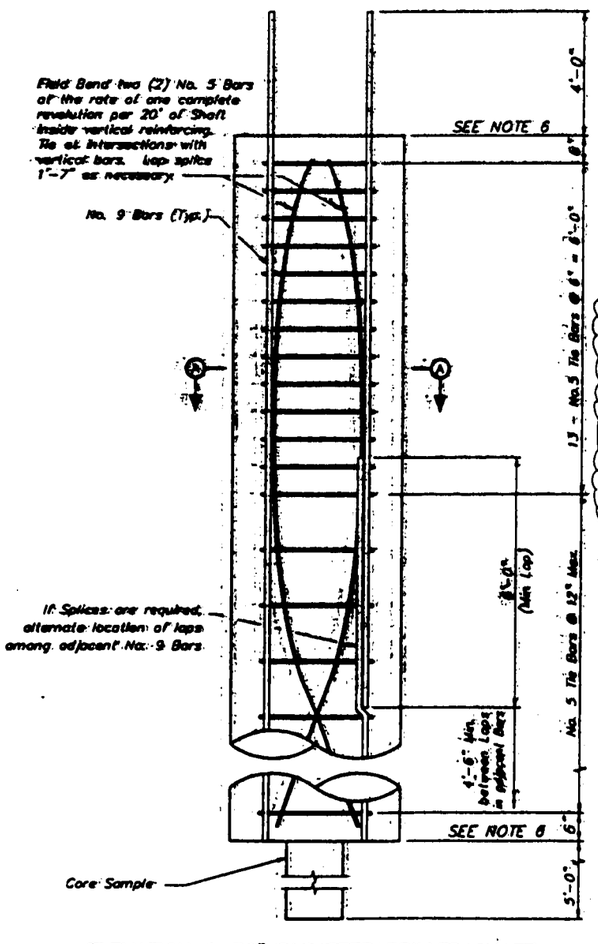
The 36 and 48 inch diameter drilled shafts on land were poured to a height above the cut off elevations to insure the integrity of the shaft concrete.

Balfour Beatty Construction, Inc. proposes to use the same method that is currently being utilized on the 36 inch drilled shafts located on bridge #2 for the remaining 36 inch and 48 inch drilled shafts located on land. This method is as follows:

1. Cut the shaft off one foot above the cut-off elevation.
2. Remove and clean out the remaining concrete around the reinforcing steel to the cut-off elevation.
3. Mechanically splice a three foot piece of rebar to the top of the reinforcing steel that extends out of the drilled shaft using an approved mechanical coupling device.
4. Form and pour the footing as originally planned.

REINFORCING STEEL - LAND DRILLED SHAFTS

23



ELEVATION - 36" DIAMETER DRILLED SHAFT

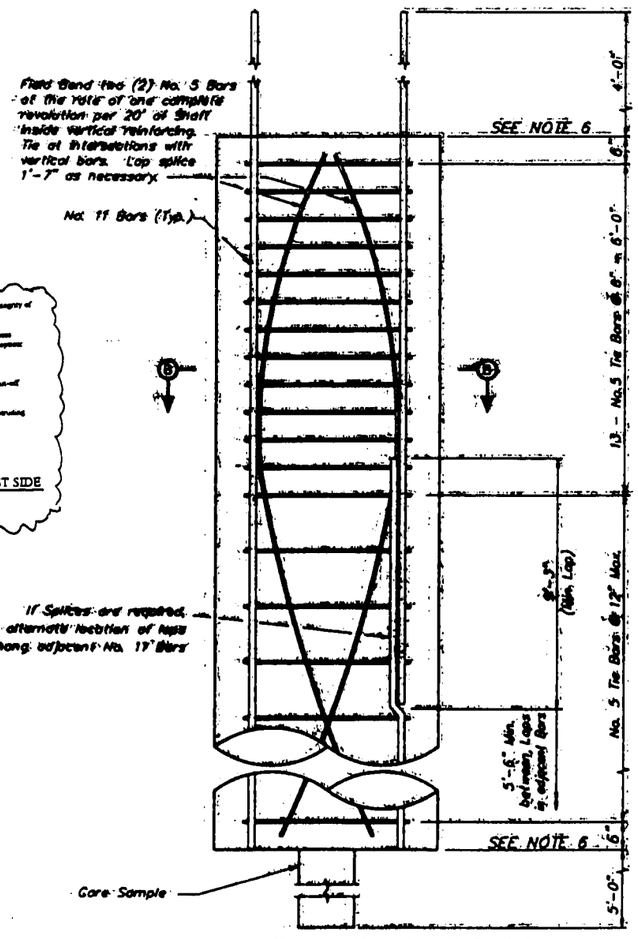
The 36 inch drilled shafts on the east side of the river were poured high to ensure the integrity of the concrete at the cut-off elevation of the shaft.

In an attempt to minimize potential damage to the shafts during the removal of this excess concrete, Balfour Beatty Construction, Inc. would like to propose the following as an option:

1. Cut the shaft off 1.0 foot above the cut-off elevation.
2. Remove and clean out the remaining concrete around the rebar to the cut-off elevation.
3. Mechanically splice a 3.0 foot piece of rebar to the reinforcing steel protruding from the drilled shaft.
4. Form the footing as originally planned.

REINFORCING STEEL - 36" DRILLED SHAFTS, EAST SIDE

23



ELEVATION - 48" DIAMETER DRILLED SHAFT

REVISIONS						Name	Date
Date	By	Description	Date	By	Description	Detailed by	LJS 1-94
7-15-01	SH	23 AS-BUILT				Checked by	DMW 5-95
						Designed by	HDR 1-94
						Detailed by	DMH 2-94
						Approved by	D. W. Browning

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: DRILLED SHAFT DETAILS (1)

Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Index No.

NAME: M:\1641\GEN\GERAL\PRO298.DWG DATE: AUG 31, 1995 TIME: 8:58 AM REV. BY: RLG

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
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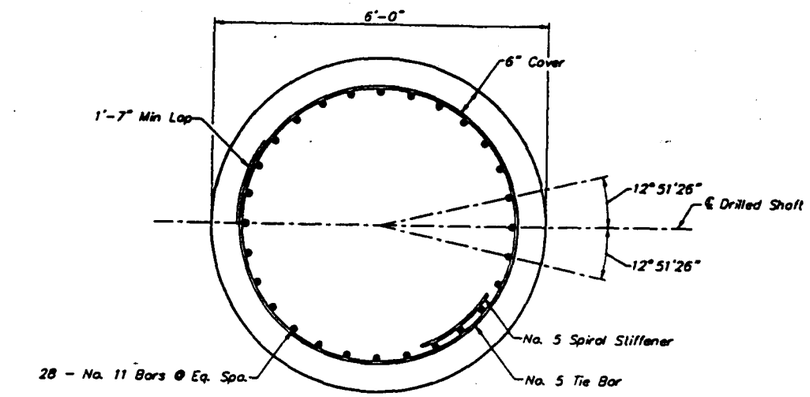
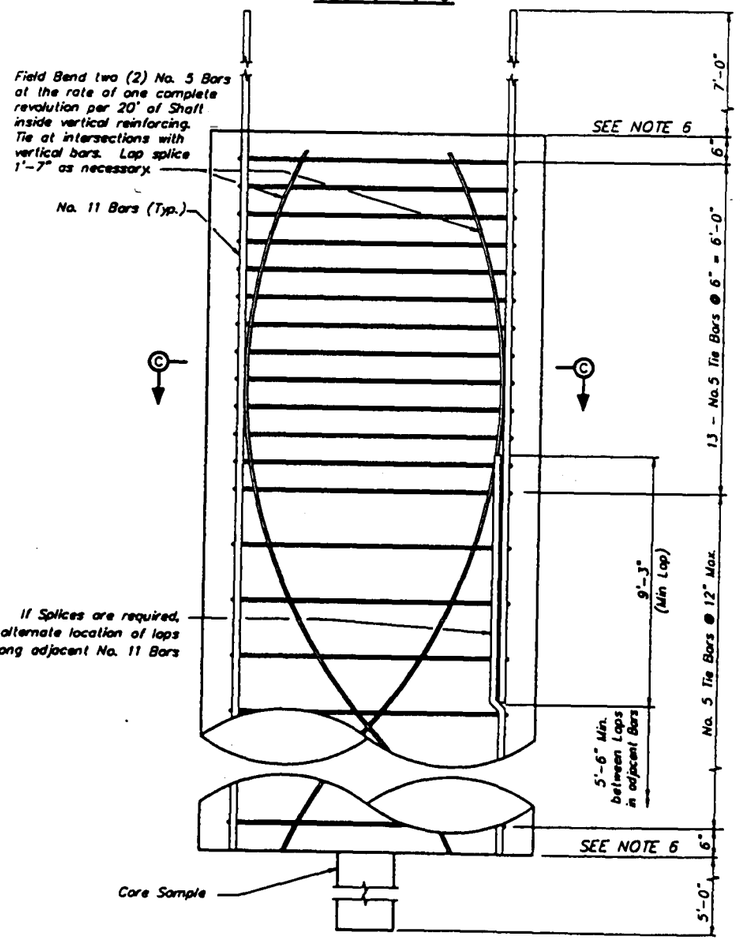
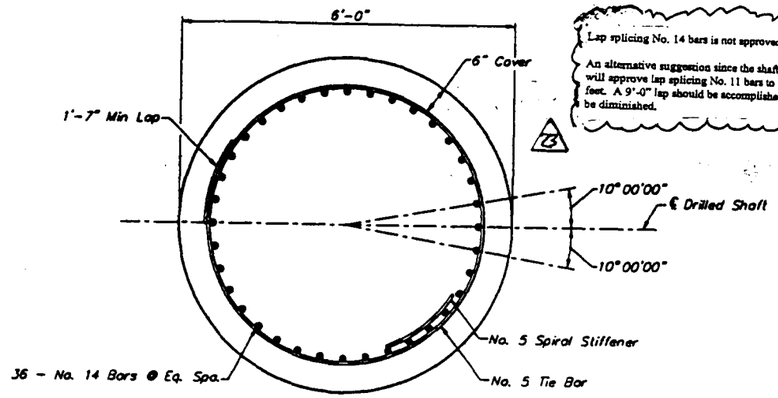


SECTION C-C

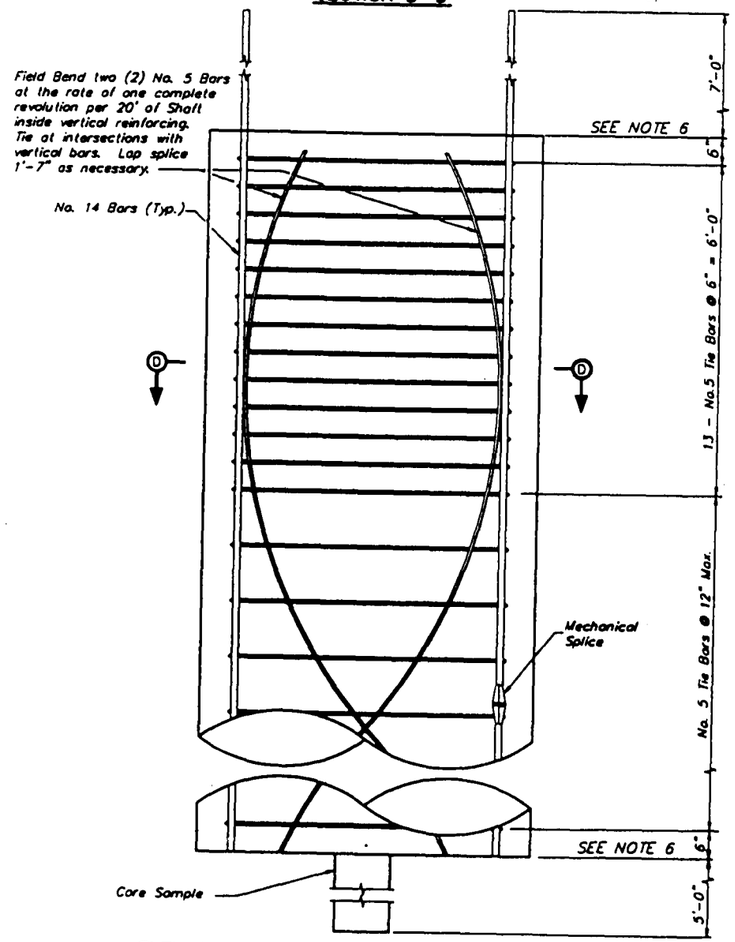


ELEVATION - 72" DIAMETER DRILLED SHAFT

Type A



SECTION D-D

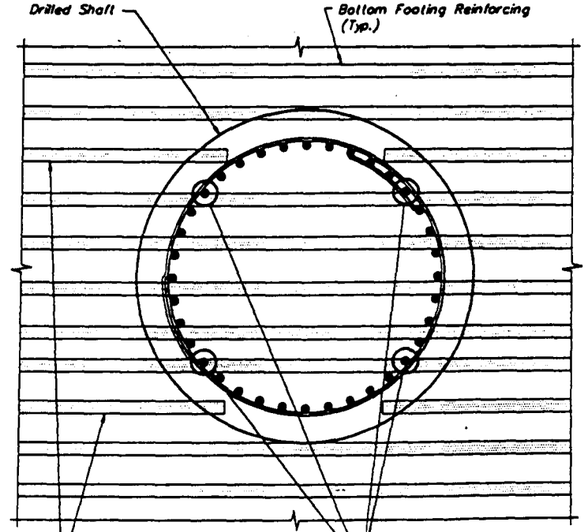


ELEVATION - 72" DIAMETER DRILLED SHAFT

Type B

Lap splicing No. 14 bars is not approved.

An alternative suggestion since the shaft is only six feet longer than it's original length we will approve lap splicing No. 11 bars to the bottom of the cage to extend it the additional six feet. A 9'-0" lap should be accomplished to the inside so clear distance between bars will not be diminished.



PLAN

(TYPICAL SHAFT/FOOTING REINFORCING INTERACTION)

Below procedure Note 3 used at following locations

Pier 28 - Shaft 9

Pier 30 Shaft 1, 2, 16

NOTES

(1.) The Contractor Shall Adjust Footing Reinforcement where possible to avoid conflicts with the Drilled Shaft Reinforcing. Minimum Bar Spacing shall be three (3) times Bar Diameter and Shall Not Exceed Reinforcing Spacing Shown on Pier Footing Reinforcing by 1".

(2.) The Contractor Shall Be Permitted to Field Cut Footing or Drilled Shaft Bars only as indicated on This Sheet. No Adjacent Footing Bars or Drilled Shaft Bars may be cut. No more than four (4) Drilled Shaft Bars may be cut in any given shaft.

* To Be Field Cut and only if there is an Unavoidable Conflict Between Shaft and Footing Reinforcing and Field Adjustment Is Not An Option.

For Additional Notes see Sheet A24.

(3.) Drilled Shaft Repair Procedure - Approved March 23, 1998
Bridge No. 3
(1) Several of the drilled shafts appear to have irregular surface
(a) Install the shaft cut-off box over the shaft to be repaired.
(b) Seal and dewater the box to an elevation lower than affected area
(c) Chip and clean the affected area to obtain flat even surface
(d) Place "Stayform" expanded metal around shaft to repair.
(e) Place class III drilled shaft concrete - dewater for 24 hours
(f) Remove the box and continue with slab construction

REVISIONS

Date	By	Description	Date	By	Description
7-15-01	SH	23 AS-BUILT			

	Names	Dates
Drawn by	LJS	1-94
Checked by	DMW	5-95
Designed by	HDR	1-94
Checked by	DMW	2-94
Approved by	D. W. Browning	

HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: DRILLED SHAFT DETAILS (2)

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

INDEX NO.

NAME: M:\1841\DGN\B28C.DGN DATE: AUG 31, 1995 TIME: 7:50 AM REV. BY: RLG

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
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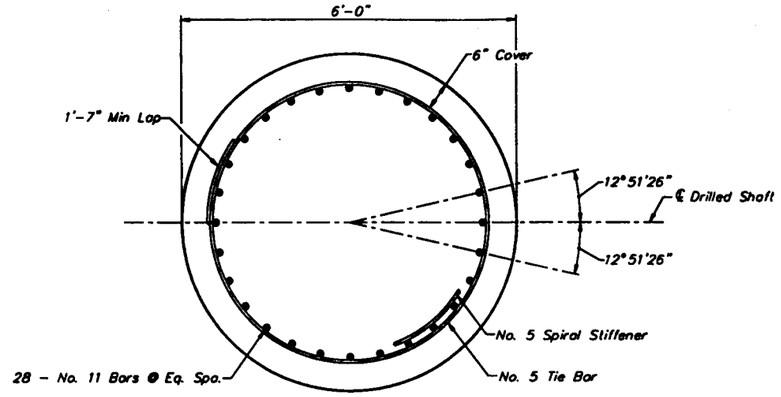
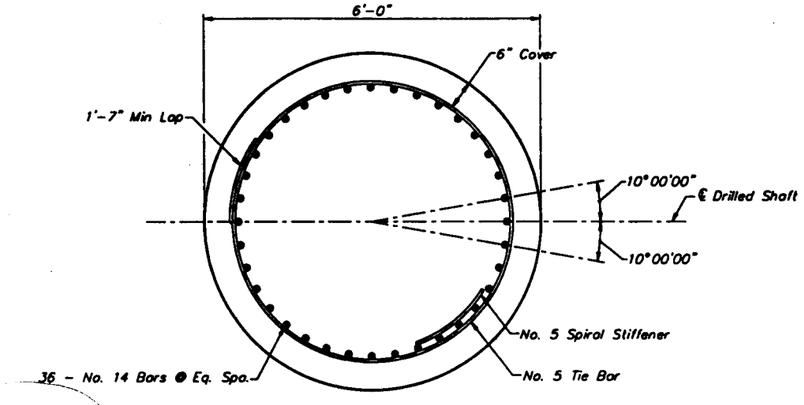
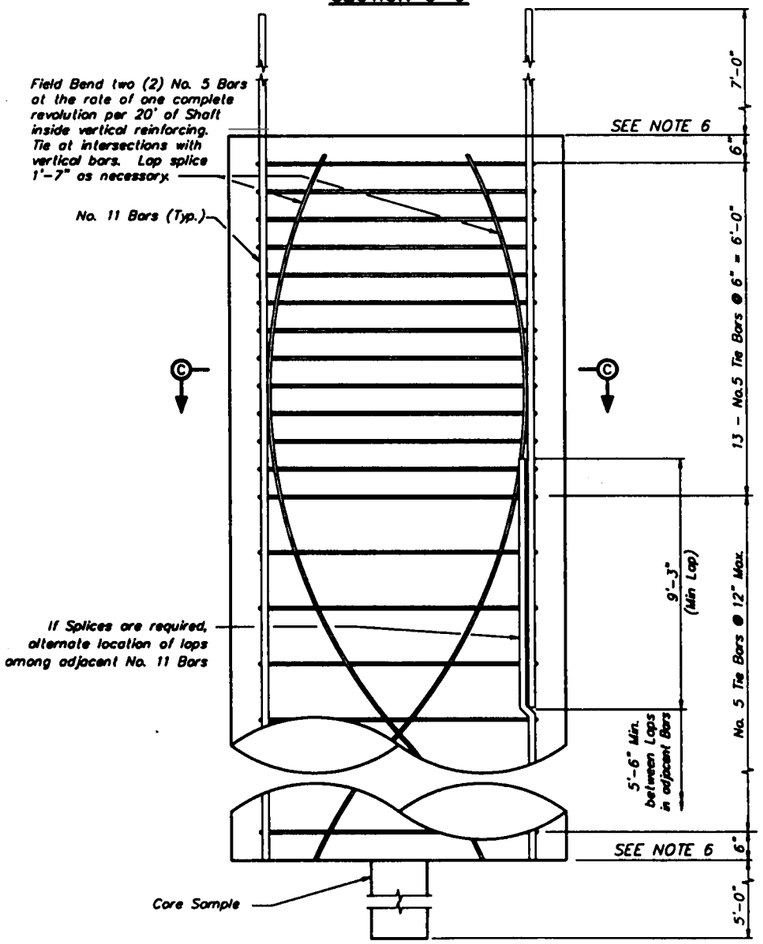


SECTION C-C

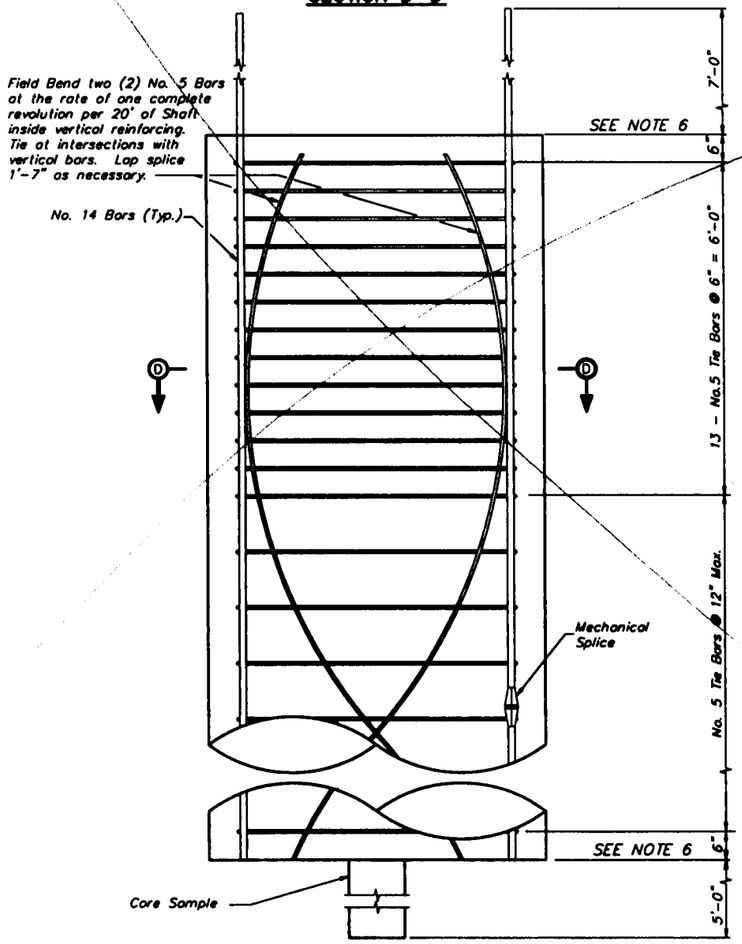


SECTION D-D



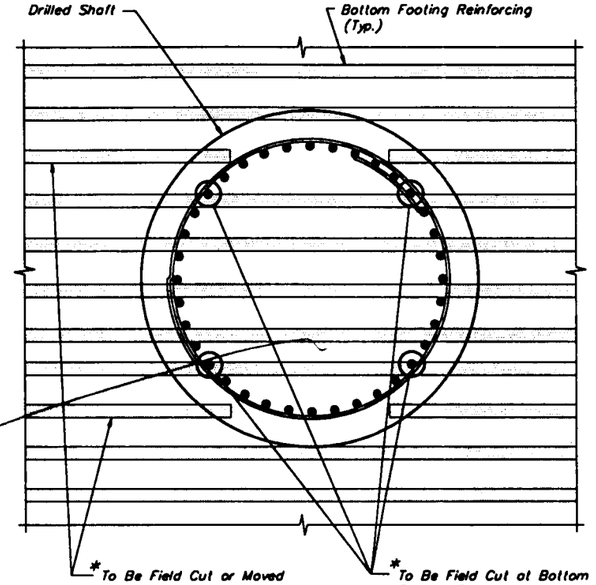
ELEVATION - 72" DIAMETER DRILLED SHAFT

Type A



ELEVATION - 72" DIAMETER DRILLED SHAFT

Type B



PLAN

(TYPICAL SHAFT/FOOTING REINFORCING INTERACTION)

NOTES

(1.) The Contractor Shall Adjust Footing Reinforcement where possible to avoid conflicts with the Drilled Shaft Reinforcing. Minimum Bar Spacing shall be three (3) times Bar Diameter and Shall Not Exceed Reinforcing Spacing Shown on Pier Footing Reinforcing by 1".

(2.) The Contractor Shall Be Permitted to Field Cut Footing or Drilled Shaft Bars only as indicated on This Sheet. No Adjacent Footing Bars or Drilled Shaft Bars may be cut. No more than four (4) Drilled Shaft Bars may be cut in any given shaft.

*To Be Field Cut and only if there is an Unavoidable Conflict Between Shaft and Footing Reinforcing and Field Adjustment Is Not An Option.

For Additional Notes see Sheet A24.

NAME: j4114\DGN\BRD29C.DWG DATE: AUG 31, 1995 TIME: 7:50 AM REV. BY: RLG

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	LJS	1-94
						Checked by	DMW	5-95
						Designed by	HDR	1-94
						Checked by	DMM	2-94
						Approved by	D. W. Browning	

HNTB

HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION

STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

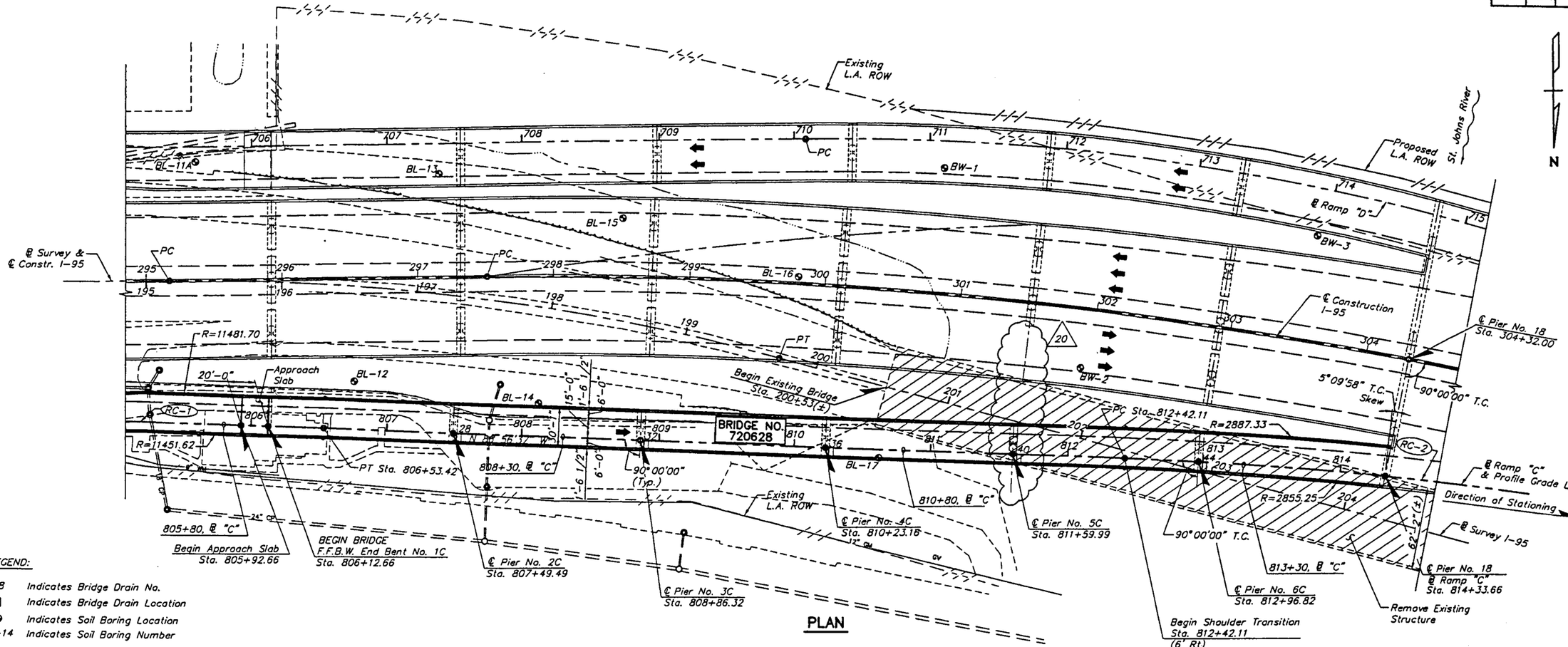
SHEET TITLE: DRILLED SHAFT DETAILS (2)

Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Index No.

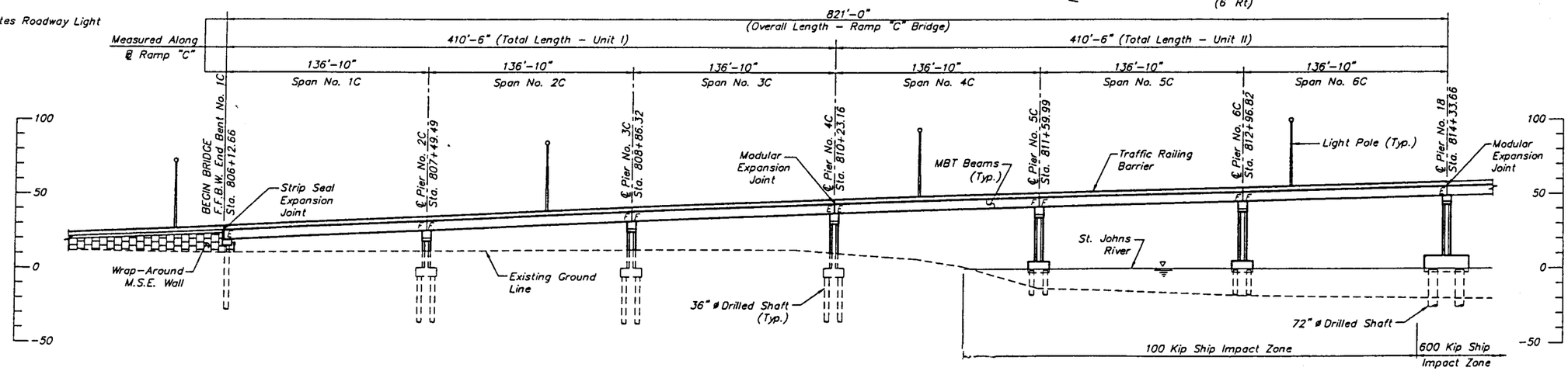
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	G1



LEGEND:

- 28 Indicates Bridge Drain No.
- ▯ Indicates Bridge Drain Location
- ⊗ Indicates Soil Boring Location
- BL-14 Indicates Soil Boring Number
- Indicates Roadway Light

PLAN



ELEVATION

(Main Line Bridge, Ramp "D" Bridge, and Existing Bridge not shown for Clarity)

[redacted]

NOTES:

See Sheet A4 & A5 for Structural Notes

See Sheets A6 & A7 for Horizontal & Vertical Curve Data and Traffic Data.

See Sheet A7 for St. Johns River Elevations.

Dimensions shown on Plan View (Bridge Width, etc.) are Measured radial/normal to the associated ℄/℄.

For Shoulder Transition see Roadway Plans.

See General Sheets for Bridge Drain Locations and Drainage Details.

BRIDGE NO. 720628

REVISIONS						
Date	By	Description	Date	By	Description
5/15/00	MDC	20 TEMPORARY PIERS REMOVED			

	Names	Dates
Drawn by	BDV/CSD	8-93
Checked by	LDP	11-93
Designed by	MJL/HDR	9-93
Checked by	DMM	12-93
Approved by	S.M. JARRETT	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL: M. Caudill 5-15-00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020 - 3485

SHEET TITLE: PLAN AND ELEVATION RAMP "C" BRIDGE

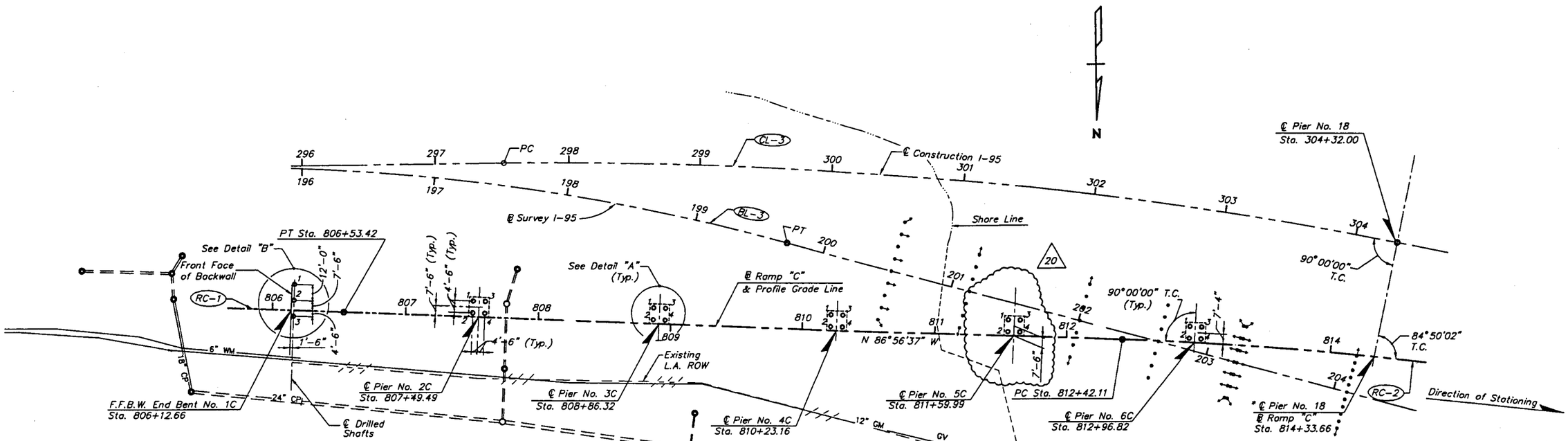
Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

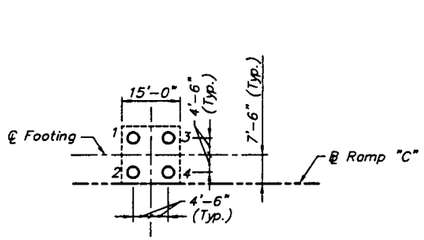
Index No.

NAME: M:\16414\REVISION 20\DWG-G01.DWG DATE: MAY 3, 2000 TIME: 1:56 PM REV. BY: RLG

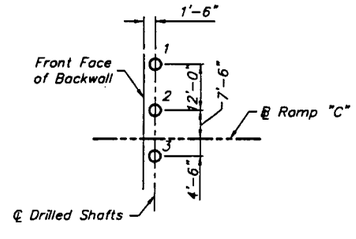
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	G2



PLAN



DETAIL "A"



DETAIL "B"

ACTUAL AS-BUILT SEE SHEET No. G2A

DRILLED SHAFT INSTALLATION TABLE

END BENT or PIER NO.	SHAFT DIAMETER (INCHES)	DESIGN LOAD (TONS)	MINIMUM TIP ELEVATION (FT)	100 YEAR SCOUR ELEVATION (FT)
1C	36	250	-35	
2C	36	400	-35	
3C	36	400	-35	
4C	36	400	-35	
5C	36	450	-48	-36
6C	36	450	-56	-42
18	*	*	*	*

20

* For Foundation Layout and Drilled Shaft Installation Data for Pier No. 18, See Sheet D4 or E4.

ACTUAL AS-BUILT SEE SHEET No. G2A

TABLE OF DRILLED SHAFT TOP ELEVATIONS

SHAFT NO.	END BENT NO. 1C	PIER NO. 2C THRU PIER 4C	PIER NO. 5C	PIER NO. 6C
1.	14.15	-4.25	-0.83	-0.83
2.	13.91	-4.25	-0.83	-0.83
3.	13.68	-4.25	-0.83	-0.83
4.	–	-4.25	-0.83	-0.83

20

This memorandum is provided to confirm my recommendations from earlier today regarding Shaft No. 2 at Pier 6C. As reported by Chuck Iley, the initial installation of this shaft could not be completed because the drilling tools could advance no closer than 5 feet to the casing tip due to suspected deformation of the casing. At the time this problem was encountered, the casing tip was at elevation -61.02.

Considering the inability to advance the drill tools to the bottom of the casing, it will be necessary to backfill the excavation, extract the existing casing and replace it with another casing. Since it is very likely that the replacement casing will be slightly offset from the original casing alignment, we must assume a reduced friction resistance within the depth of the original casing. To compensate for this reduced friction, it is recommended that the shaft penetration be increased an additional 7 feet to a revised tip elevation at -68. With the exception of the revised shaft tip elevation, the procedures for installation of this shaft should be the same as those for the original shaft, and the final casing tip elevation -42 remains unchanged.

Please contact me if you have any questions regarding the above recommendations, or if further problems are encountered at this shaft.

To: Pom Chaktaphak, P.E. PBC:
From: Ray Castelli, P.E.
Date: March 9, 2001
Subject: Fuller Warren Bridge
36-inch Diameter Drilled Shafts
Pier 6C, Shaft No. 2

23

NOTES

LEGEND

- O Proposed Drilled Shaft
- ←e Existing Jacketed Steel Pile with Batter Direction

1. For Horizontal Curve Data see Sheet A7.
2. Plan location of Drilled Shafts is given at Bottom of Caps.
3. All Drilled Shafts at the End Bent shall be installed Prior to the Installation of MSE Walls.
4. Drilled Shafts shall be Installed to the Minimum Tip Elevations shown in the Drilled Shaft Installation Table.
5. For Drilled Shaft Reinf. Details and associated notes see Sheet A24.

20

6. The portion of End Bent drilled shafts exposed above the existing ground shall be wrapped with 6 mil. thickness polyethylene plastic film. See General Notes, Sheet A4.
7. The Foundations shall be constructed in the Phases outlined in the Sequence of Construction drawings.

REVISIONS						
Date	By	Description	Date	By	Description
5/15/00	MDC	20 TEMPORARY PIERS REMOVED			
6/4/01	SH	23 AS-BUILT			

	Names	Dates
Drawn by	SCG/CSD	10-93
Checked by	TQT	7-94
Designed by	TQT/RMS	7-94
Checked by	LDP/TQT	7-94

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL M. Castelli 5-15-00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020 – 3485

SHEET TITLE: FOUNDATION LAYOUT RAMP "C" BRIDGE
Drawing No.
PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER
Index No.

DWG DATE: MAY 10, 2000 TIME: 12:19 PM REV. BY: RLG
ME: M:\16414\RAMPC\L

No. Sheets this set	State	Project No.	Sheet No.
3	FLA.		95 G2

AS-BUILT

DRILLED SHAFT PAY QUANTITIES - RAMP "C" BRIDGE

		DESIGN CONDITIONS								AS-BUILT CONDITIONS							
PIER NO.	SHAFT NO.	SHAFT SIZE	AXIAL LOAD	100-YR SCOUR EL.	CUT-OFF ELEV.	PLAN TIP ELEV.	AUTH TI ELEV.	EXTRA DEPTH	SHAFT LENGTH	FINISH DATE	GROUND ELEV.	AUTH TI ELEV.	ACTU TI ELEV.	UNCLAS EXCAV.	EXTRA DEPTH	SHAFT LENGTH	COMMENTS
		in	tons	ft	ft	ft	ft	ft	ft		ft	ft	ft	ft	ft	ft	
1C	1	36	250	N/A	14.15	-35.0	-36.0	1.0	50.15	4/17/00	11	-36	-36.43	46.00	1.00	50.15	
1C	2	36	250	N/A	13.91	-35.0	-35.0	0.0	48.91	5/2/00	11	-41	-41.26	46.00	6.00	54.91	
1C	3	36	250	N/A	13.68	-35.0	-35.0	0.0	48.68	5/4/00	11	-35	-35.08	46.00	0.00	48.68	
2C	1	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	4/12/00	-4.75	-39	-39.27	30.25	4.00	34.75	
2C	2	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	4/17/00	-4.75	-39	-39.18	30.25	4.00	34.75	
2C	3	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	4/13/00	-4.75	-39	-39.00	30.25	4.00	34.75	
2C	4	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	4/11/00	-4.75	-39	-42.18	30.25	4.00	34.75	
3C	1	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/16/00	-4.75	-39	-48.16	30.25	4.00	34.75	
3C	2	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/18/00	-4.75	-39	-39.36	30.25	4.00	34.75	
3C	3	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/15/00	-4.75	-39	-39.1	30.25	4.00	34.75	
3C	4	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/19/00	-4.75	-39	-39.02	30.25	4.00	34.75	
4C	1	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/15/00	-4.75	-39	-40.4	30.25	4.00	34.75	
4C	2	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/16/00	-4.75	-39	-35.59	30.25	4.00	34.75	
4C	3	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/17/00	-4.75	-39	-39.02	30.25	4.00	34.75	
4C	4	36	400	N/A	-4.25	-35.0	-39.0	4.0	34.75	5/18/00	-4.75	-39	-39.15	30.25	4.00	34.75	
5C	1	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17	3/22/01	-6.25	-64.00	-68.68	34.75	23.00	63.17	By Ray
5C	2	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17	4/2/01	-6.25	-64.00	-64.63	34.75	23.00	63.17	By Ray
5C	3	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17	3/24/01	-6.25	-64.00	-64.07	34.75	23.00	63.17	By Ray
5C	4	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17	4/5/01	-6.25	-64.00	-65.25	34.75	23.00	63.17	By Ray
5C	5	36	450	-36	-0.83	-48.0	-48.0	0.0	47.17			-56.00					Deleted
5C	6	36	450	-36	-0.83	-48.0	-48.0	0.0	47.17			-56.00					Deleted
5C	7	36	450	-36	-0.83	-48.0	-48.0	0.0	47.17			-56.00					Deleted
5C	8	36	450	-36	-0.83	-48.0	-48.0	0.0	47.17			-56.00					Deleted
5C	9	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17			-50.00					Deleted
5C	10	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17			-50.00					Deleted
5C	11	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17			-50.00					Deleted
5C	12	36	250	-36	-0.83	-41.0	-43.0	2.0	42.17			-50.00					Deleted
6C	1	36	450	-42	-0.83	-56.0	-61.0	5.0	60.17	3/2/01	-18.5	-61.0	-61.01	37.50	5.00	60.17	
6C	2	36	450	-42	-0.83	-56.0	-61.0	5.0	60.17	3/8/01	-18.5	-68.0	-68.82	37.50	12.00	67.17	By Ray
6C	3	36	450	-42	-0.83	-56.0	-61.0	5.0	60.17	3/7/01	-18.5	-61.0	-61.14	37.50	5.00	60.17	
6C	4	36	450	-42	-0.83	-56.0	-61.0	5.0	60.17	3/13/01	-18.5	-61.0	-61.27	37.50	5.00	60.17	
TOTAL	31							85.0	1331.5					790.00	174.00	1071.10	
									1246.5								

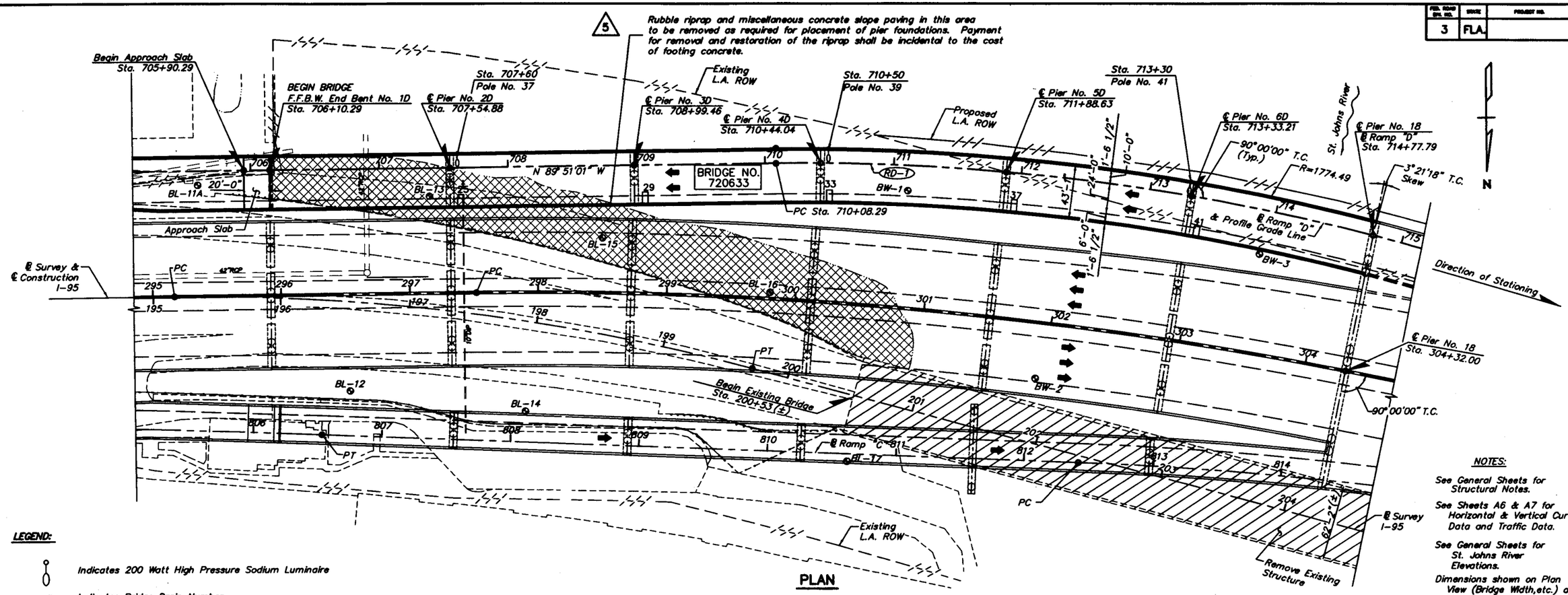
△23

REVISIONS					
Date	By	Description	Date	By	Description
7-21-01	SH	△23 AS-BUILT			

SHEET TITLE: FOUNDATION LAYOUT RAMP "C" BRIDGE	Drawing No.
PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER	Index No.

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	H1

5 Rubble riprap and miscellaneous concrete slope paving in this area to be removed as required for placement of pier foundations. Payment for removal and restoration of the riprap shall be incidental to the cost of footing concrete.



PLAN

LEGEND:

- Indicates 200 Watt High Pressure Sodium Luminaire
- 37 — Indicates Bridge Drain Number
- Indicates Bridge Drain Location
- BL-12 — Indicates Soil Boring Number
- Indicates Soil Boring Location

NOTES:

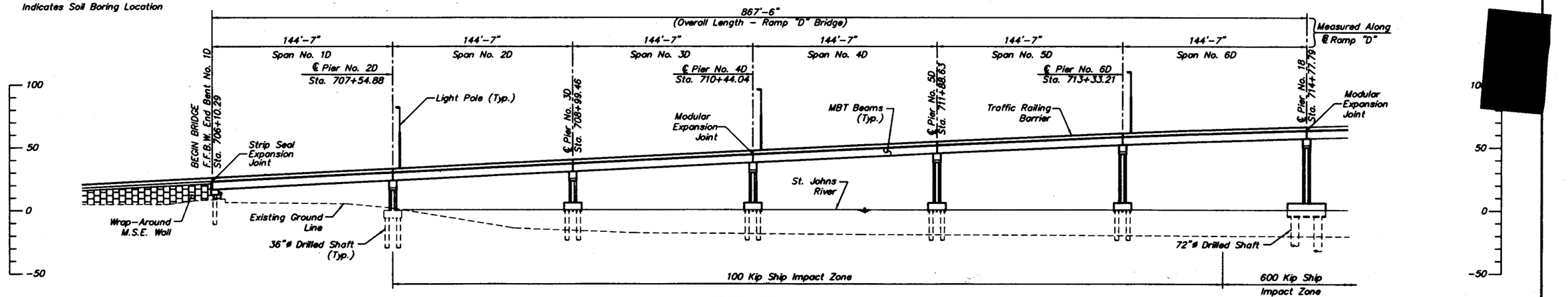
See General Sheets for Structural Notes.

See Sheets A6 & A7 for Horizontal & Vertical Curve Data and Traffic Data.

See General Sheets for St. Johns River Elevations.

Dimensions shown on Plan View (Bridge Width, etc.) are Measured radial/normal to the associated ℄/℄.

For shoulder transitions see Roadway Plans.



ELEVATION

(Main Line Bridge, Ramp "C" Bridge, and Existing Bridge not shown for Clarity)

BRIDGE NO. 720633

REVISIONS						
Date	By	Description	Date	By	Description
2/5/96	DMW	5 Added note identifying rubble riprap.			

	Name	Date
Drawn by	SPJr	8-93
Checked by	PLS	11-93
Designed by	MJL/HDR	9-93
Checked by	DMM	12-93
Approved by	M.D. Caulfield	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: PLAN AND ELEVATION RAMP "D" BRIDGE

Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Index No.

NAME: M:\16414\RAMPs_..._/2A.DWG DATE: FEB 07, 1996 TIME: 1:03 PM REV. BY: RLG

FULLER WARREN BRIDGE

DRILLED SHAFT PAY QUANTITIES - RAMP "D" BRIDGE

		DESIGN CONDITIONS								AS-BUILT CONDITIONS							
PIER NO.	SHAFT NO.	SHAFT SIZE	AXIAL LOAD	100-YR SCOUR EL.	CUT-OFF ELEV.	PLAN TIP ELEV.	AUTH TIP ELEV.	EXTRA DEPTH	SHAFT LENGTH	FINISH DATE	GROUND ELEV.	AUTH TIP ELEV.	ACTU TIP ELEV.	UNCLAS EXCAV.	EXTRA DEPTH	SHAFT LENGTH	COMMENTS
		in	tons	ft	ft	ft	ft	ft	ft		ft	ft	ft	ft	ft	ft	
EB1D	1	36	450	N/A	14.302	-35	-35	0	49.302	12/5/96	3.87	-35.00	-36.23	38.87	0.00	49.30	
EB1D	2	36	450	N/A	14.062	-35	-35	0	49.062	3/7/97	10.00	-36.00	-36.10	45.00	1.00	50.06	Extra 1' per RJC
EB1D	3	36	450	N/A	13.822	-35	-35	0	48.822	3/10/97	10.00	-39.00	-39.00	45.00	4.00	52.82	Extra 4' per RJC
EB1D	4	36	450	N/A	13.582	-35	-35	0	48.582	3/11/97	10.00	-35.00	-35.00	45.00	0.00	48.58	
2D	1	36	450	N/A	-4.25	-35	-42	7	37.75	11/22/96	-4.75	-42.00	-42.40	30.25	7.00	37.75	
2D	2	36	450	N/A	-4.25	-35	-42	7	37.75	11/26/96	-4.75	-42.00	-42.80	30.25	7.00	37.75	
2D	3	36	450	N/A	-4.25	-35	-42	7	37.75	11/21/96	-4.75	-42.00	-42.10	30.25	7.00	37.75	
2D	4	36	450	N/A	-4.25	-35	-42	7	37.75	12/3/96	-4.75	-42.00	-43.40	30.25	7.00	37.75	
3D	1	36	550	N/A	-0.83	-37	-53	16	52.17	4/12/99	-4.00	-53.00	-71.00	33.00	16.00	52.17	
3D	2	36	550	N/A	-0.83	-37	-53	16	52.17	4/9/99	-4.00	-53.00	-81.50	33.00	16.00	52.17	
3D	3	36	550	N/A	-0.83	-37	-53	16	52.17	4/13/99	-5.50	-53.00	-71.10	31.50	16.00	52.17	
3D	4	36	550	N/A	-0.83	-37	-53	16	52.17	4/7/99	-4.00	-53.00	-70.10	33.00	16.00	52.17	
4D	1	36	550	-36	-0.83	-51	-55	4	54.17	3/30/99	-11.00	-55.00	-69.72	40.00	4.00	54.17	
4D	2	36	550	-36	-0.83	-51	-55	4	54.17	4/2/99	-11.00	-55.00	-69.63	40.00	4.00	54.17	
4D	3	36	550	-36	-0.83	-51	-55	4	54.17	3/31/99	-11.00	-55.00	-69.92	40.00	4.00	54.17	
4D	4	36	550	-36	-0.83	-51	-55	4	54.17	4/1/99	-11.00	-55.00	-70.90	40.00	4.00	54.17	
5D	1	36	550	-36	-0.83	-51	-54	3	53.17	2/8/99	-18.50	-54.00	-94.34	32.50	3.00	53.17	
5D	2	36	550	-36	-0.83	-51	-54	3	53.17	2/26/99	-16.50	-54.00	-70.72	34.50	3.00	53.17	PBDN 7130
5D	3	36	550	-36	-0.83	-51	-54	3	53.17	2/18/99	-17.00	-54.00	-72.40	34.00	3.00	53.17	PBDN 7130
5D	4	36	550	-36	-0.83	-51	-54	3	53.17	3/1/99	-17.00	-54.00	-70.92	34.00	3.00	53.17	PBDN 7130
6D	1	36	550	-42	-0.83	-59	-59	0	58.17	1/20/99	-20.00	-59.00	-72.08	39.00	0.00	58.17	
6D	2	36	550	-42	-0.83	-59	-59	0	58.17	12/28/98	-19.50	-59.00	-99.70	39.50	0.00	58.17	
6D	3	36	550	-42	-0.83	-59	-59	0	58.17	1/25/99	-19.50	-59.00	-74.82	39.50	0.00	58.17	
6D	4	36	550	-42	-0.83	-59	-59	0	58.17	1/13/99	-20.00	-59.00	-71.70	39.00	0.00	58.17	
TOTAL	24							120	1217.5					877.37	125.00	1222.49	
									1097.5								

△3

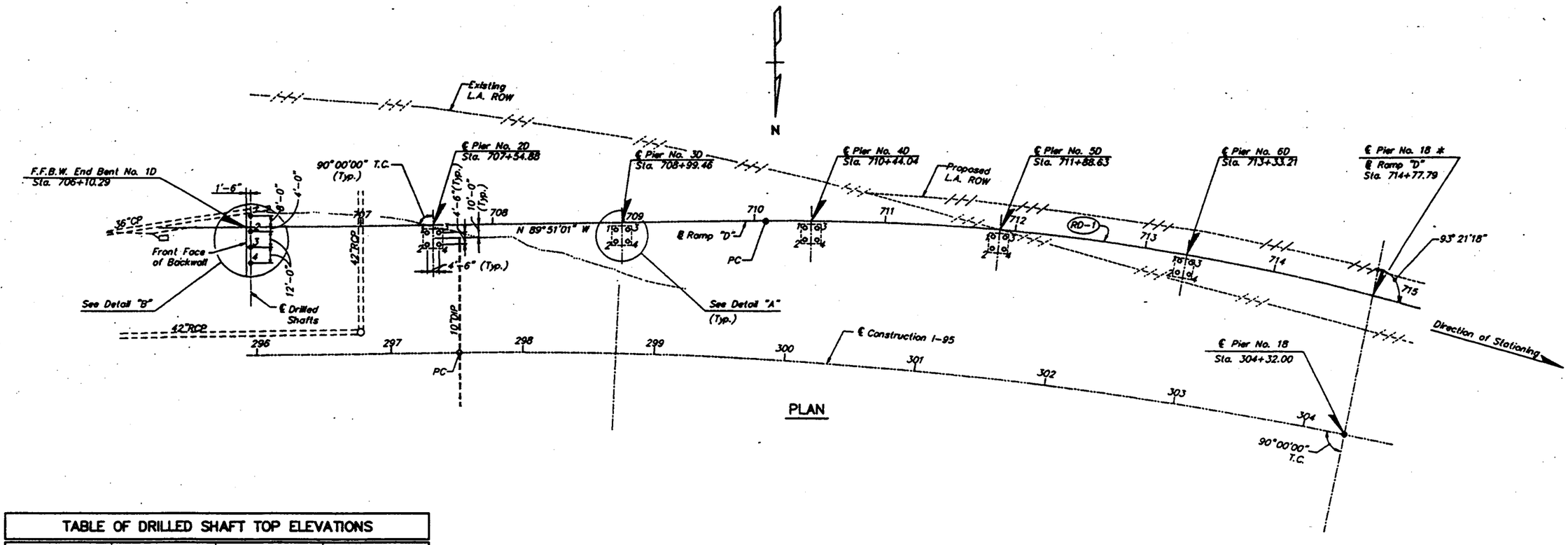
PARSONS BRINCKERHOFF

6/8/99

REVISIONS

Date	By	Description	Date	By	Description
7/20/99	SA	△3 AS-BUILT			

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	H2



PLAN

TABLE OF DRILLED SHAFT TOP ELEVATIONS

SHAFT No.	END BENT NO. 1D	PIER 2D	PIER NOS. 3D THRU 6D
1	14.302	-4.250	-0.830
2	14.062		
3	13.822		
4	13.582	-4.250	-0.830

DRILLED SHAFT INSTALLATION TABLE

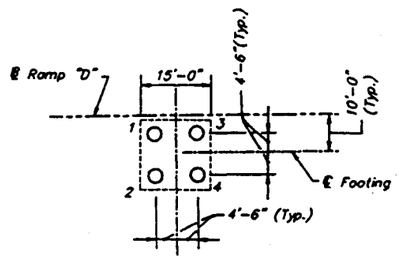
PIER No.	SHAFT DIAMETER (INCHES)	DESIGN LOAD (TONS)	MINIMUM TIP ELEVATION (FT)	100 YEAR SCOUR ELEVATION (FT.)
EB1D	36	450	-35	
2D	36	450	-35	
3D	36	550	-37	
4D	36	550	-51	-36
5D	36	550	-51	-36
6D	36	550	-59	-42
1B	*	*	*	*

* For Foundation Layout And Installation Data For Pier No. 1B, See Sheet D4 or E4.

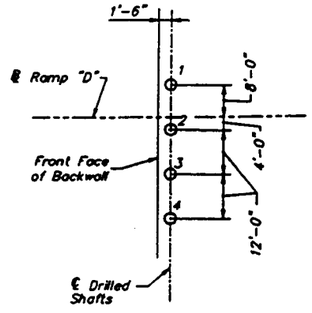
This is in response to your letter number PB-297-96 dated, August 26th, 1996, in regard to your request to construct a construction joint at elevation 5.50 feet for shaft numbers 2 and 3 at Ramp D, End Bent D1. Your request is approved.

Ramp D, End Bent D1

13



DETAIL "A"



DETAIL "B"

LEGEND

o Proposed Drilled Shaft.

NOTES

1. For Horizontal Curve Data see Sheet A7.
2. Plan location of Drilled Shafts is given at Bottom of Caps.
3. All Drilled Shafts at the End Bent shall be installed Prior to the installation of MSE Walls.
4. Drilled Shafts shall be installed to the Minimum Tip Elevations shown in the Drilled Shaft Installation Table.
5. For Drilled Shafts reinforcing details and associated notes, See Sheet A24.
6. The portion of End Bent Drilled Shafts exposed above the existing ground shall be wrapped with 6 mil. thickness Polyethylene Plastic film. See General Notes, Sheets A4.
7. The Foundations shall be constructed in the Phases outlined in the Sequence of Construction drawings.

REVISIONS					
Date	By	Description	Date	By	Description
7-15-01	SH	13 AS-BUILT			

	Names	Dates
Drawn by	SCG	10-93
Checked by	LDP	11-93
Designed by	MJL/MDR	9-93
Checked by	DMM	12-93
Approved by	M.D. Caulfield	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: FOUNDATION LAYOUT RAMP "D" BRIDGE

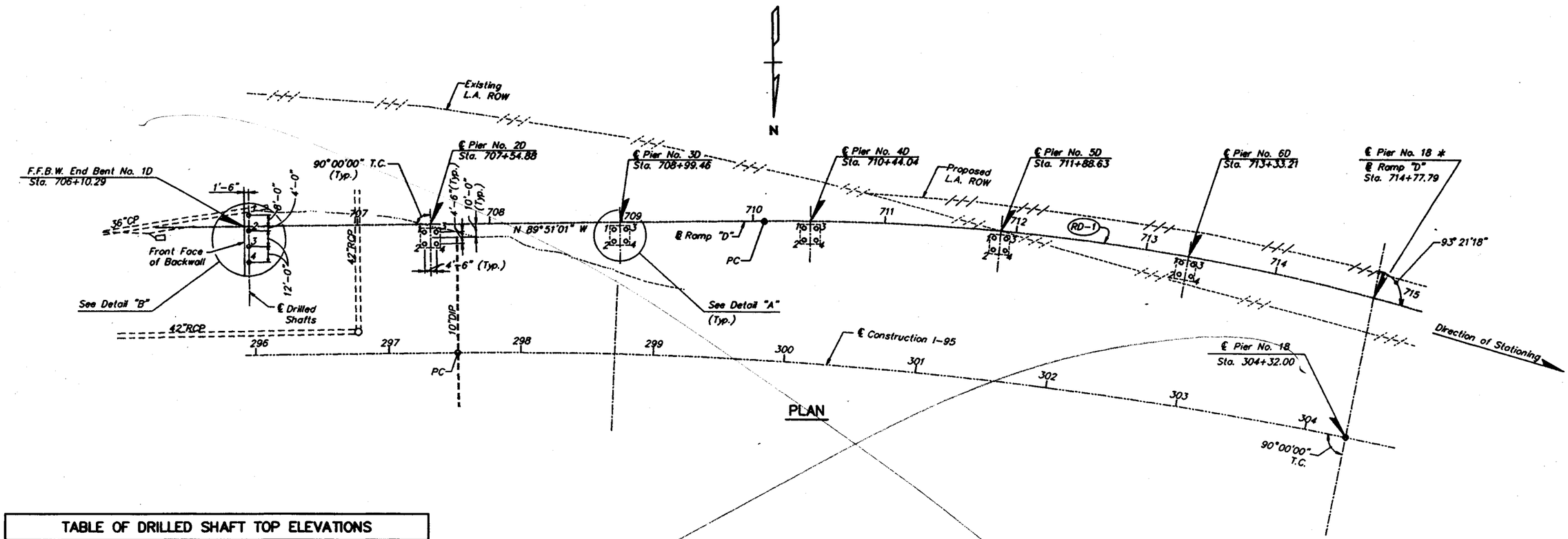
PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Drawing No.

Index No.

NAME: M:\1641\RAMPD\pw\RD04A.DWG DATE: SEP 02, 1995 TIME: 10:34 AM REV. BY: RLG

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.		95	H2



PLAN

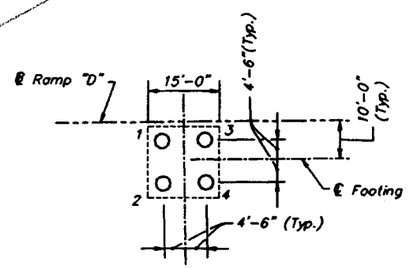
TABLE OF DRILLED SHAFT TOP ELEVATIONS

SHAFT No.	END BENT NO. 1D	PIER 2D	PIER NOS. 3D THRU 6D
1	14.302	-4.250	-0.830
2	14.062	↕	↕
3	13.822	↕	↕
4	13.582	-4.250	-0.830

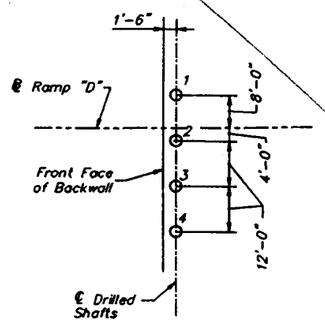
DRILLED SHAFT INSTALLATION TABLE

PIER No.	SHAFT DIAMETER (INCHES)	DESIGN LOAD (TONS)	MINIMUM TIP ELEVATION (FT)	100 YEAR SCOUR ELEVATION (FT.)
EB1D	36	450	-35	
2D	36	450	-35	
3D	36	550	-37	
4D	36	550	-51	-36
5D	36	550	-51	-36
6D	36	550	-59	-42
18	*	*	*	*

* For Foundation Layout And Installation Data For Pier No. 18, See Sheet D4 or E4.



DETAIL "A"



DETAIL "B"

LEGEND

o Proposed Drilled Shaft.

NOTES

1. For Horizontal Curve Data see Sheet A7.
2. Plan location of Drilled Shafts is given at Bottom of Caps.
3. All Drilled Shafts at the End Bent shall be installed Prior to the Installation of MSE Walls.
4. Drilled Shafts shall be Installed to the Minimum Tip Elevations shown in the Drilled Shaft Installation Table.
5. For Drilled Shafts reinforcing details and associated notes, See Sheet A24.
6. The portion of End Bent Drilled Shafts exposed above the existing ground shall be wrapped with 6 mil. thickness Polyethylene Plastic film. See General Notes, Sheets A4.
7. The Foundations shall be constructed in the Phases outlined in the Sequence of Construction drawings.

NAME: N:\16414\...\DBR004A.DWG DATE: SEP 02, 1995 TIME: 10:34 AM REV. BY: RLG

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	SCG	10-93
Checked by	LDP	11-93
Designed by	MJL/HDR	9-93
Checked by	DMM	12-93
Approved by	M.D. Caulfield	

HNTB
HOWARD NEEDLES TAMMEN & BERGENDOFF

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
9	DUVAL	72020-3485

SHEET TITLE: FOUNDATION LAYOUT RAMP "D" BRIDGE

Drawing No.

PROJECT NAME: I-95 OVER THE ST. JOHNS RIVER

Index No.

THIS CONTRACT PLAN SET INCLUDES:

ROADWAY PLANS
SUMMARY OF PAY ITEMS (07 SHEETS)
SIGNING AND PAVEMENT MARKING PLANS
ROADWAY LIGHTING PLANS
STRUCTURE PLANS
A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT SET OF PLANS

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION	FIELD BOOK NO.
1	Key Sheet	
2-5	Typical Sections	
6-7	Typical Section Details	
8	Summary of Quantities	06547, 05710
9	Summary of Drainage Structures	
10-11	Project Layout	
12	Curve Data Sheet	
13-18	Roadway Plan/Profiles	06553
19-21	Roadway Profiles	
22-24	Intersection Layout/Detail	
25	Parking Lot/Ditch Detail	06547
26-34B	Drainage Structures	
35	Special Drainage Details	
35A-35B	Shore Protection Details (Added by SA #18)	
36	Roadway Soil Survey Sheet	
37-64	Cross Sections	
65-67	Ditch Cross Sections	
68-70	Traffic Control Typical Sections	
71-82C	Traffic Control Plan	
83-88	Utility Adjustments	
89	Approach Slabs	
90-91	Foundation Investigation Spt. Borings	
92-93	Typical Environmental Control Plan	
94	Storm Water Pollution Prevention Plan	
95	Mitigation Plan	
96	Stabilization/Structural Practices	
97	Landscaping Tabulation of Quantities	06547
98	Landscaping Notes/Details	
99-101	Landscaping Plan	
S-1*	Key Sheet - Signing and Pavement Marking Plans	
L-1*	Key Sheet - Lighting Plans	
A-1*	Key Sheet - Structure Plans	
R-1*	Key Sheet - Old WB Bridge Rehabilitation	

* A Detailed Index of these Sections appears on the Key Sheet for Each Component.

REVISIONS

ROADWAY SHEETS 1,10 (REVISION 2-8-94).
STRUCTURE SHEETS A-4 (REVISION 2-8-94).
C.E.S. UNSTRUNG S.P.N. 10130-3544 & 10130-3501 (REVISION 2-15-94)
C.E.S. - DESIGN GROUP 20 CHANGED PAY ITEMS 583-4, 583-5, ADDED 709-12, DESIGN GROUP 30 DELETED 709-12, CHANGED 711-1, DESIGN GROUP 40 DELETED 510-1 AA, 510-1 AB (REVISION 2-15-94).
ROADWAY SHEETS 8, 9, 14, 17, 24. (REVISION 2-15-94).
SIGNING PAVEMENT MARKING SHEETS S-2, S-3 (REVISION 2-15-94).
LIGHTING SHEETS L-2 ALTERNATE NO. 1, L-2 ALTERNATE NO. 2 (REVISION 2-15-94).
C.E.S. - DESIGN GROUP 20 CHANGED PAY ITEM 109-71 (REVISION 2-24-94).
STRUCTURE SHEETS A-4 THRU A-7, A-7A, B-1, B-2, B-19, B-20, B-22, B-25, B-57, C-1, C-2,C-20, C-21, C-23, C-26, C-67 (REVISION 3-18-94).
ROADWAY 1, 2, 4, 5, 8, 18, 71, 74, 77, 95 (REVISION 3-18-94).
C.E.S. - DESIGN GROUP 10 DELETED 506-2 AA, 506-2 AB. ADDED 459-71 AA, 459-71 AB
C.E.S. - DESIGN GROUP 20 ADDED 102-74-2, 102-76, 102-82, 102-83, 102-92-3, 102-92-4, 102-92-5, 400-1-15, CHANGED 102-81-1, 102-78, 709-12, 709-82-61 (REVISION 3-18-94)
ROADWAY SHEET NO. 1 (REVISION 4-11-94)
C.E.S. - DESIGN GROUP 10 ADDED 110-81 (REVISION 4-11-94)
STRUCTURE SHEETS A-3, A-4, B-85 (REVISION 4-18-94)
C.E.S. - DESIGN GROUP 10 DELETED 110-81, ADDED 110-81 AA, 110-81 AB, 400-149 AA, 400-149 AB, 400-154 AA, 400-154 AB (REVISION 4-18-94).
ROADWAY SHEETS NO. 8,11,16 END PROP. WESTBOUND BRIDGE ADJUSTED (REVISION 9-14-94)
REVISED SHEET NOS. 71,75,76,79,80 FOR DETOUR #1 & ADDED PROFILE SHEET NO. 82A (10-24-94)
REVISED SHEET NOS. 73,74,77,78,81,82 FOR DETOUR #2 & ADDED PROFILE SHEET NO. 82B (11-18-94)
REVISIONS TO OUTFALL DITCH AT MARINE RESERVE PARKING LOT. SHEET NO. 25 (12-18-94)
REVISIONS TO CURVE DATA SHEET FOR COORDINATES. SHEET 12 (01-05-95)
DRAINAGE REVISIONS FOR MARINE RESERVE PARKING LOT.SHEET 9,17,20,23,25 56,57,58. ADDED SHEETS 20A,34A & 34B(1-10-95)
REVISIONS TO FRONTAGE ROAD #1 MILLING & RESURFACING LIMITS. SHEET NOS. 14,15,43 THROUGH 50. (1-13-95)
REVISIONS TO SLOPE FOR RE WALL & MILLING & RESURFACING LIMITS FOR WB ROADWAY. SHEET NO. 3 (1-15-95)
REVISED RIP-RAP LIMITS. SHEET NO. 25 (1-18-95)
REVISED TEMP. PAVT. WIDENING & TEMP. BARRIER WALL. SHEET NO. 73 & 77 (1-18-95)
REVISED VERTICAL CURVE LENGTH. SHEET NO. 19 (1-20-95)
REVISED VERTICAL CURVE GRADES & LENGTH. SHEET NO. 14,15,16,17 (2-8-95)
REVISED LIGHTING PLANS SHEET L-1 THROUGH L-17.(2-13-95)
REVISED BRIDGE SHEET NOS. A-2,B-36,B-39,B-39A,B-40,B-40A,B41,B-41A,B-89,B-90 (3-2-95)
TEMPORARY LIGHTING PLANS SHEET L-17 THROUGH L-20.DELETED TEMP. PAVT. CROSSOVERS FROM SHEET 77(3-18-95)
REVISED SHEET 9. REVISED QUANTITIES FOR DRAINAGE STRUCTURES S-7,S-8,S-9,S-11,S-12,S-17 (5-12-95)
REVISED SHEET 15. REVISED APPROACH SLAB STATION & LOCATION OF DRAINAGE STRUCTURE S-9 (5-12-95)
REVISED SHEET 28. MODIFIED EMBANKMENT SLOPES @ STA 467-35.00, REVISED LENGTHS OF 18" CMP'S FOR DRAINAGE STRUCTURES S-8,S-9. RELOCATED S-9 FROM STA 470-91 TO STA 470-50 (5-12-95)
REVISED SHEET 29 & 31. REVISED LENGTHS OS 18" CMP'S FOR DRAINAGE STR. S-11,S-12. RELOCATED S-17 FROM STA 124-97.50 TO STA 125-00 (5-12-95)
REVISED SHEET 48. ADDED SHLDR. GUTTER @ STA 468+00 (5-12-95)
REVISED SHEET 29: CHANGED GRATE EL. FOR S-10, S-11, S-12, (6-2-95)
REVISED SHEET 30: CHANGED STATION LOCATION OF S-14 & GRATE EL. (6-2-95).REVISED EMBANKMENT AT STA 123+84.61 & REVISED PG EL. AT STA 123+60.00.(7-20-95)
SHEET 33: REVISED LT. DITCH EL. AT STA 128+00 & ADDED MISC. ASPHALT.(7-20-95)
SHEET 31: REVISED GRATE RL. FOR S-15.(7-21-95)
SHEET 77: REVISED TEMP. BARRIER WALL AND ADDED TEMP. PAVT. NEAR DETOUR 3 (8-31-95)
SHEET NOS. 8,12,16,17,23,31,53,54,55,56; MODIFIED FRONTAGE RD. NO.2 AND EXTENDED GUARDRAIL LIMITS (12-95)
SHEET NOS. 8,17,49,50,51,56,57,59,60,77,81,82,& 82C ; MODIFIED GUARDRAIL LENGHT, EARTHWORK QUANTITIES, CROSS SECTIONS AND TRAFFIC CONTROL PLANS
SHEETS 9,25,35,47,62,63; MODIFIED USE OF RIP-RAP

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

~~PLANS OF PROPOSED~~ *FINAL PLANS*

STATE HIGHWAY

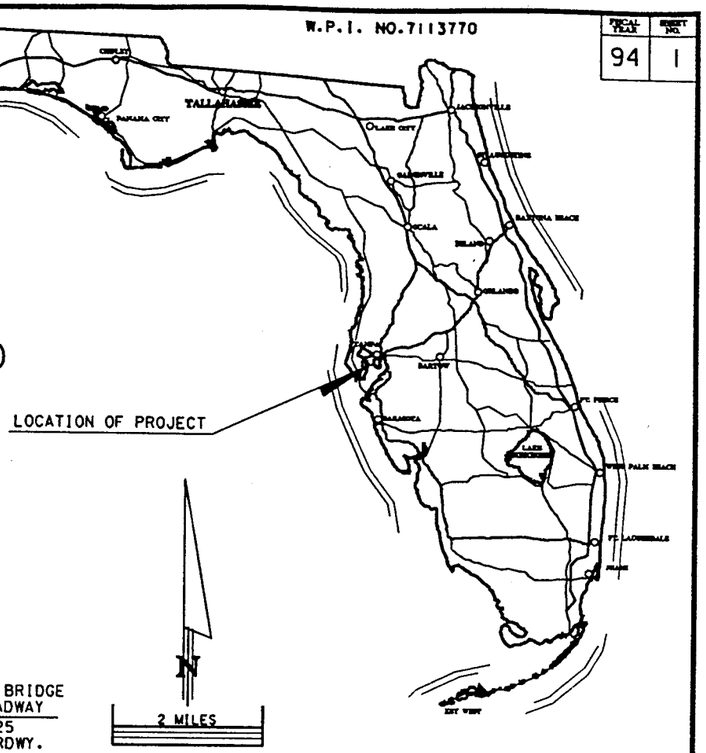
STATE PROJECT NO. 10130-3544 (FEDERAL FUNDS)

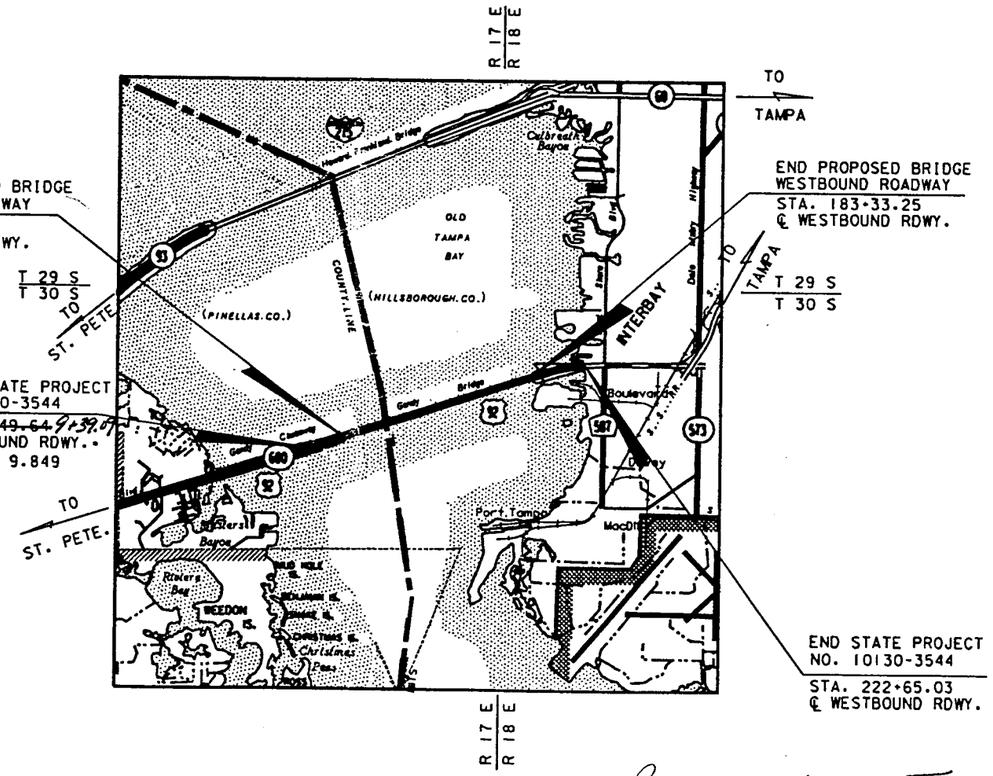
PINELLAS & HILLSBOROUGH COUNTIES

STATE ROAD NO. 600

W.P.I. NO. 7113770

FISCAL YEAR	SHEET NO.
94	1





NOTE: LENGTH OF PROJECT BASED ON ℄ WESTBOUND RDWY. STATIONING

LENGTH OF PROJECT

	LINEAR FT.	MILES
ROADWAY	7248.89	1.373
BRIDGES	13866.50	2.626
NET LENGTH OF PROJ.	21115.39	3.999
EXCEPTIONS	--------	------
GROSS LENGTH OF PROJ.	21115.39	3.999

FDOT PROJECT MANAGER : RANDY SANBORN P.E.

REVISIONS		
DATE	BY	DESCRIPTION
2-8-94	JJR	REMOVED NOTE, LOWER RIGHT; REVISED NUMBER OF PAY ITEM SHEETS.
3-18-94	JJR	REVISED NUMBER OF PAY ITEM SHEETS.
10-24-94	PNC	ADDED SHEET NO. 82A
11-18-94	PNC	ADDED SHEET NO. 82B
1-10-95	PNC	ADDED SHEET NOS. 20A,34A&34B
1-26-96	NJR	ADDED SHEET NO. 82C

ROADWAY PLANS APPROVED BY: _____
DATE: _____
P.E. NO.: _____

ROADWAY PLANS
ENGINEER OF RECORD

DAVID C. BULLARD
PROFESSIONAL ENGINEER NO. 10087

PLANS PREPARED BY :

BEISWENGER, HOCH & ASSOCIATES, INC.
1408 NORTH WESTSHORE BOULEVARD
TAMPA, FL. 33607 SUITE 900

CONTRACTOR:	Misener Marine Const., Inc.
PRIME CONSULTANT:	PBS&J Construction Serv., Inc.
SUBCONSULTANT:	Williams Earth Sciences, Inc.
DISTRICT SECRETARY:	William McDaniel
RESIDENT ENGINEER:	Marty R. Sanchez
PROJECT MANAGER:	Marc J. Knapp
PROJECT ENGINEER:	Gary M. Granata
DATE WORK STARTED:	August 20, 1994
DATE WORK COMPLETE:	March 28, 1997
DATE WORK ACCEPTED:	MARCH 28, 1997

RECEIVED
DEC 24 1998
District 7 Bridge Structures & Facilities

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			A-4

GENERAL NOTES-COMMON (CONT'D)

FOUNDATION: Foundations at all Piers are supported on concrete drilled shafts. Foundations at abutments only are supported on 18" square prestressed concrete piles. Drilled Shafts shall be constructed to provide a minimum service load capacity as given in Sheet No. A-5 on the Drill Shaft Installation Table.
End Bent piles shall be driven to provide a minimum service load capacity of 90 Tons (180 Kips), times the appropiate factor of safety in accordance with Section 312.2 of the Supplemental Specification 455. ⚠

END BENT CONSTRUCTION: End Bent Piles are to be driven before proprietary wall installation. The exposed portion of these piles, above the existing ground and below the bottom of the end bent cap, shall be wrapped with two independent wrappings of 6 mil. thickness polyethylene plastic, in accordance with Section 459 of the Supplemental Specifications. The polyethylene sheeting in concrete piles shall be paid for at the contract unit price per square yard under Item No. 459-71. ⚠

FOOTING CONSTRUCTION: All pier footing excavation in dry land shall be dewatered prior to placing reinforcement and concrete. Footing concrete shall be placed in the dry. Dewatering shall continuously maintain the water surface a minimum of one foot below the bottom of the footing from one hour before concrete placement commences to six hours after all concrete in the footing has been cast. No separate payment will be made for dewatering.
Seal concrete for footings over water shall be used. Payment shall be made in accordance with article 400-21 of the Standard Specifications.

ANCHOR BOLTS: Shall be ASTM A-307 or ASTM A-709 Gr.36 unless otherwise noted. All bearing plates, anchor bolts, nuts and washer shall be hot-dip galvanized in accordance with Standard Specification 962-7.

DIMENSIONS: All dimensions are measured horizontally and vertically unless otherwise noted.

UTILITIES: See Utility Plans for the location of existing utilities.

CHAMFER: All exposed edges and corners of concrete shall be chamfered ¾", unless otherwise noted.

ELEVATIONS: All Elevations are referred to National Geodetic Vertical Datum (NGVD) of 1929.

NEOPRENE PADS: Composite neoprene bearing pads as designated in the plans, shall be furnished and installed by the Contractor.

STAY-IN-PLACE DECK FORMS: Stay-in-place deck forms shall not be allowed.

DECK FINISHING: All deck slabs shall be finished and grooved according to the Specification Section 400-15.2.5 Class 4 Floor Finish.

PENETRANT SEALER: All concrete surfaces of substructure over the waterway up to 12 feet above El. 1.50 shall be sealed with a high performance penetrant sealer. ⚠3
Materials and labor for the placement of the penetrant sealer shall be paid for under pay items 400-149 Penetrant Sealer and 400-154 Cleaning and Sealing Concrete Surfaces.

PIERS DUCTS AND SHEAR KEYS: The caps of piers have to be provided with ducts in size and numbers as shown in the substructure plans for the future symmetrical widening of the bridge. The end sides of each cap will have shear keys according to the plans. For additional information refer to Pier drawings.

BID ITEM NOTES

1. For summary of bridge pay items see print of computer output.
2. Payment for incidental items not specifically covered in the individual bid items shall be included in the contract unit prices for bid items.
3. Bid Item No. 400-7 includes 178 S.Y. of approach slab grooving.
4. Total plan area of approach slabs required is 252 S.Y. Details of approach slabs and payment are included in the roadway plans and Finish Grade Elevation Sheets.
5. The contractor shall bid on the common items and only one of the following alternates:
   a) Florida Bulb-T Beams (FBT) with Drop-in-beams in Channel Unit.
   b) Simple span AASHTO Beams in low approaches and over water except Channel Unit of 3 spans. This unit is the same for both alternates, FBT with Drop-in beams.

~~⚠2 6. Bid Item 506-2 (Bridge Drainage Piping) includes 1,403 LF (each alternate) of 4"Ø P.V.C. Pipe.~~

⚠ **NOTE: DEMOLITION OF EXISTING WESTBOUND BRIDGE, RENOVATION OF A PORTION OF THE BRIDGE AS A FISHING PIER AND CONSTRUCTION OF REEFS WILL BE INCLUDED IN A SEPARATE CONTRACT S.P.N. 10130-3501.**

DRILLED SHAFT GENERAL NOTES

⚠2 1. All drilled shafts shall be built by a suitable method chosen by the contractor and approved by the Engineer.

2. Preliminary drilled shaft tip elevations are shown in Sheet No. A-5. Final drilled elevations may be modified after results of the load test program and other soil investigation and they may vary significantly from those shown in the plans. The contractor shall provide equipment capable of drilling to elevation -80 ft. or deeper.

⚠3 3. The contractor's attention is called to the fact that some of the drilled shafts for the piers may be installed through part of the removed old bridge substructure as well as the debris thereof. The contractor shall submit to the engineer the sequence of removing or drilling through the piles or any other obstacles for the construction of the drilled shafts. Should removal be required, the contractor will be compensated under pay item number 110-81, Piling Removal and Disposal. Compensation will be made per each for each drilled shaft location where the conflict occurs. Compensation shall include all costs associated with removal as well as standby time for the drilled shaft crew. These costs shall include, but not be limited to, direct cost, field and office overhead costs and acceleration. No additional compensation in dollars or time will be made for drilling through piling or other obstacles.

4. Vertical reinforcement and spiral reinforcement shall be spliced using mechanical couplers capable of developing 125% fy of the bar. Mechanical couplers shall be staggered 2'-0" between vertical bars. Proposed couplers shall be submitted for approval by the engineer.

5. All spiral reinforcement shall begin and end with 1½ closed turns.

6. The spacing of the vertical bars at footing level shall be set with a template.

7. The vertical reinforcement (as a unit) and spiral reinforcement may be adjusted slightly, within specified tolerances, to clear both column and footing reinforcement.

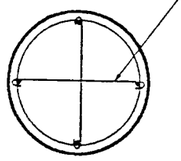
8. For Drilled Shaft Installation Tables for both alternates, see Sheet No. A-5.

⚠2 9. Estimated casing tip elevations are shown in sheet No. A-5. Final end of casing elevations may be modified depending upon local soil conditions. Permanent casing is not required in this project.

⚠2 10. The cost of performing Test Holes shall be paid under Items 455-91-5, 455-91-7 and 455-91-16 for shafts of 48", 72" and 84" diameter, respectively. The cost of Unclassified Shaft Excavation shall be paid for under Items 455-122-5, 455-122-7 and 455-122-15 for 48", 72" and 84" shaft diameter, respectively. Item 455-111 Includes the quantity for a 5' core shaft at the bottom of each drilled shaft excavation.

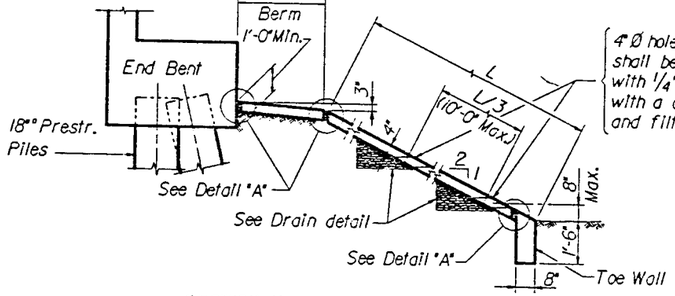
ESTIMATED QUANTITIES ⚠2

ITEM	UNIT	ALTERNATE 1			ALTERNATE 2		
		48"	72"	84"	48"	72"	84"
Test Holes	LF	50	50	50	50	50	50
Unclass. Shaft Excav.	LF	8766	3744	1644	9711	5616	1644
Core (Shaft Excav.)	LF	1920			2295		

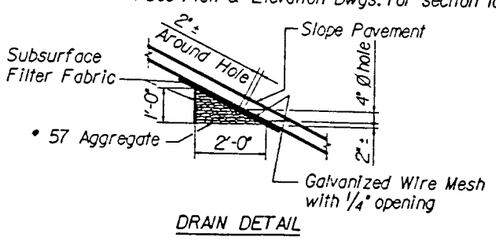


*8 bars to be used as temporary stiffeners. These bars to be placed with close tolerance to prevent ovaling of cage before footing reinforcement is placed. These temporary stiffeners required only in top 6' of drilled shaft.

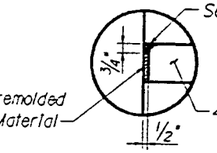
TEMPORARY CAGE STIFFENER DETAILS
N. T. S.



SECTION X - X (NORMAL TO END BENT)
(See Plan & Elevation Dwgs. for section location.)

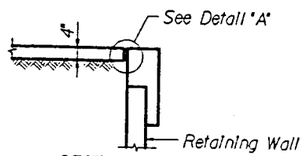


DRAIN DETAIL

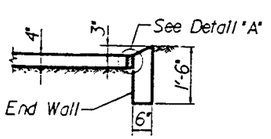


DETAIL "A"

Details of joint at End Bent applies at all contacting surfaces of slope Pavements with End Bents, Proprietary Walls, End Walls, Toe Walls and both edges of Berm.



SECTION Y - Y



SECTION Z - Z

SECTION AT LATERAL EDGE OF SLOPE PAVEMENT
(See Plan & Elevation Dwgs. for section location.)

SLOPE PAVEMENT DETAILS

Cost of making holes, wire, filter fabric and aggregate to be included in the cost of Concrete Slope Pavement (4" thick). Slope pavement shall be tooled with a double ¼" radius tool at 2 ft± intervals along the slope at 4 ft± across the slope. Construction joints will be permitted at joints as directed by the Engineer.

REVISIONS

Date	By	Description	Date	By	Description
⚠1 2-8-94	J.O.C.	Add Note for S.P.N. 10130-3501.	⚠2 4-18-94	L.M.V.	Omit concrete admixture note and add penetrant sealer note.
⚠2 3-18-94	L.M.V.	Add note for casing, test holes, shaft excavation & omit note for Bridge Drainage Pipe.	⚠3 13		
18					
⚠3 4-18-94	L.M.V.	Revise drilled shaft note.			

	Names	Dates
Drawn by	X.M.	1-93
Checked by	L.M.V.	8-93
Designed by	B.O.K.	1-93
Checked by	L.M.V.	8-93
Approved by	S. H. W.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
1190 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: GENERAL NOTES - COMMON (2)
PROJECT NAME: WESTBOUND CANDY BRIDGE
Drawing No.
Index No.

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DRILLED SHAFT INSTALLATION TABLE I - ALTERNATE I

PIER NO.	NO. REQ'D.	DIA.	DESIGN LOAD (KIP)	MIN. TIP EL (FT.)	SCOUR EL (FT.)	QUANTITY L.F.
2			809	-61	N.A.	238
3			918	-52	-29	202
4			1026	-47	-32	182
5			1026	-48	-34	186
6			1046	-55	-38	214
7			1026	-52	-36	202
8			1026	-41	-28	158
9			1011	-41	-19	158
10			1084	-31	-20	118
11			1015	-42	-27	162
12			1084	-38	-25	146
13			956	-52	-16	202
14			1084	-26	-13	98
15			1015	-32	-17	122
16			1084	-21	-9	78
17	4	48"	956	-30	-16	114
18			1084	-36	-20	138
19			1015	-22	-10	82
20			1084	-57	-10	222
21			956	-29	-16	110
22			1084	-30	-16	114
23			1015	-41	-9	158
24			1084	-21	-9	78
25			956	-32	-19	122
26			1084	-24	-11	90
27			1015	-42	-10	162
28			1084	-47	-20	182
29			956	-37	-11	142
30			1084	-38	-21	146
31			1015	-35	-13	134
32			1084	-32	-11	122
33			956	-24	-11	90

TYPE I

PIER NO.	NO. REQ'D.	DIA.	DESIGN LOAD (KIP)	MIN. TIP EL (FT.)	SCOUR EL (FT.)	QUANTITY L.F.
34			1084	-22	-9	82
35			1015	-25	-12	94
36			1084	-33	-19	126
37			956	-35	-21	134
38			1084	-41	-22	158
39			1015	-46	-22	178
40			1084	-45	-22	174
41			956	-57	-21	222
42			1084	-50	-22	194
43	4	48"	1015	-42	-18	162
44			1084	-38	-21	146
45			956	-44	-21	170
46			1084	-41	-22	158
47			1015	-40	-22	154
48			1084	-44	-20	170
49			956	-56	-22	218
50			1084	-61	-20	238
51			1015	-47	-23	182
52			1084	-46	-23	178
53			956	-47	-23	182
54			1237	-42	-23	162
55	4	72"	1168	-46	-18	178
56			1237	-36	-22	138
57			1109	-41	-23	158
58			1237	-32	-19	122
59			1168	-32	-20	122
60			1237	-33	-20	118
61	4	72"	1109	-35	-22	126
62			1237	-46	-30	170
63			1168	-47	-29	174
64			1237	-36	-23	130
65			1109	-39	-25	142

TYPE I

PIER NO.	NO. REQ'D.	DIA.	DESIGN LOAD (KIP)	MIN. TIP EL (FT.)	SCOUR EL (FT.)	QUANTITY L.F.
66			1237	-41	-27	150
67			1168	-68	-26	258
68			1237	-45	-31	166
69			1109	-41	-31	150
70			1353	-65	-32	246
71			1284	-73	-40	278
72			1353	-70	-38	266
73	4	84"	1154	-67	-42	254
74			1873	-64	-42	242
75			1873	-61	-33	230 ✓
76			1154	-53	-29	198
77			1353	-39	-25	142
78			1284	-39	-25	142
79			1353	-53	-34	198 ✓
80			1109	-59	-28	222
81			1237	-51	-32	190
82			1168	-48	-35	178
83	4	72"	1237	-50	-36	186
84			1109	-67	-39	254 ✓
85			1237	-53	-35	198
86			1168	-56	-33	210
87			1237	-70	-31	266
88			1109	-61	-32	230
89			1237	-59	-35	222
90			1015	-57	-30	222
91			1084	-61	-28	238
92	4	48"	956	-61	-22	238
93			1084	-61	-22	238
94			1015	-68	-20	266
95			1084	-64	-21	250
96			883	-76	N.A.	298
97			809	-76	N.A.	298

TYPE I

TOTAL DRILLED SHAFTS ALTERNATE 1

48" 10,040 L.F.
72" 4,620 L.F.
84" 2,196 L.F.

TOTAL DRILLED SHAFTS ALTERNATE 2

48" ~~11,197~~ L.F.
72" ~~6,900~~ L.F.
84" 2,196 L.F.

NOTES: 1) For "Drilled Shaft General Notes," see Sheet No. A-4.
2) Design Loads are Service Loads for DL and LL after future symmetrical widening as the maximum axial load per one shaft.

Gandy Bridge Repalcement
State Project No. 10130-3544
DRILLED SHAFT AS-BUILT DATA

PIER #	ACTUAL TIP ELEVATIONS Shaft #1	Shaft #2	Shaft #3	Shaft #4	PIER #	ACTUAL TIP ELEVATIONS Shaft #1	Shaft #2	Shaft #3	Shaft #4
2W	-49.3	-55.6	-49.0	-49.6	50W	-46.2	-43.4	-40.0	-61.1
3W	-52.0	-52.5	-58.4	-52.0	51W	-47.0	-47.4	-47.2	-47.6
4W	-48.0	-47.3	-48.2	-47.6	52W	-46.3	-46.1	-46.3	-47.9
5W	-56.5	-48.4	-49.3	-49.2	53W	-48.0	-48.2	-47.8	-47.8
6W	-55.0	-55.4	-55.0	-55.3	54W	-42.0	-42.0	-41.8	-42.0
7W	-52.3	-52.3	-52.4	-51.8	55W	-58.9	-65.6	-46.0	-46.2
8W	-41.4	-42.0	-41.5	-42.5	56W	-50.8	-50.1	-41.3	-52.4
9W	-41.5	-41.4	-41.1	-41.0	57W	-41.0	-41.4	-41.1	-41.0
10W	-33.1	-32.2	-33.1	-32.2	58W	-32.1	-32.2	-33.8	-32.0
11W	-42.3	-42.0	-42.0	-42.0	59W	-39.1	-42.0	-38.3	-37.7
12W	-38.2	-38.1	-38.4	-38.3	60W	-33.3	-33.0	-52.5	-33.3
13W	-51.8	-52.4	-52.4	-52.1	61W	-35.1	-35.2	-35.2	-35.0
14W	-27.1	-26.5	-26.0	-26.1	62W	-46.5	-45.5	-44.4	-46.0
15W	-32.1	-32.3	-33.0	-32.8	63W	-50.7	-47.3	-47.3	-58.4
16W	-25.5	-25.4	-25.7	-25.7	64W	-44.7	-39.7	-46.1	-36.0
17W	-30.5	-30.2	-30.1	-30.3	65W	-39.1	-57.4	-39.0	-39.9
18W	-36.3	-36.2	-36.2	-36.1	66W	-41.6	-41.2	-41.5	-43.2
19W	-22.4	-22.7	-22.6	-22.5	67W	-52.8	-63.8	-43.0	-64.8
20W	-30.4	-30.7	-30.1	-30.4	68W	-45.0	-46.8	-68.3	-80.2
21W	-29.6	-29.2	-29.8	-29.5	69W	-84.7	-85.3	-86.7	-63.8
22W	-30.2	-30.6	-32.3	-30.1	70W	-66.2	-65.3	-65.7	-65.8
23W	-41.0	-41.2	-41.3	-41.8	71W	-73.1	-73.8	-73.7	-73.5
24W	-22.9	-23.5	-23.1	-22.5	72W	-71.0	-69.8	-70.6	-70.4
25W	-32.6	-33.4	-33.0	-33.0	73W	-67.0	-67.4	-67.5	-67.2
26W	-24.7	-30.5	-24.4	-24.1	74W	-64.0	-64.1	-64.0	-64.0
27W	-43.5	-41.5	-41.9	-41.7	75W	-63.6	-62.7	-61.7	-61.4
28W	-47.2	-47.5	-47.4	-47.6	76W	-54.9	-58.3	-58.3	-54.7
29W	-42.1	-37.5	-37.4	-37.8	77W	-43.5	-44.7	-40.1	-43.2
30W	-38.3	-38.4	-38.4	-38.2	78W	-44.4	-41.4	-45.7	-40.8
31W	-34.9	-35.4	-35.3	-35.1	79W	-53.7	-53.3	-54.0	-54.8
32W	-37.0	-37.6	-37.0	-32.4	80W	-70.0	-60.0	-58.8	-59.0
33W	-23.9	-24.0	-24.0	-24.0	81W	-50.7	-57.6	-51.0	-51.0
34W	-22.5	-22.8	-22.6	-22.6	82W	-48.1	-48.0	-48.2	-48.1
35W	-27.0	-25.1	-33.0	-25.8	83W	-50.4	-50.7	-50.7	-50.2
36W	-33.6	-33.4	-35.5	-33.8	84W	-67.0	-67.1	-67.0	-67.7
37W	-34.8	-46.7	-35.5	-45.7	85W	-53.1	-53.6	-52.7	-53.3
38W	-41.0	-41.7	-41.3	-47.7	86W	-56.0	-56.8	-56.3	-56.0
39W	-46.9	-46.3	-45.5	-46.0	87W	-70.3	-70.0	-70.0	-74.6
40W	-45.1	-45.2	-45.5	-45.2	88W	-61.1	-61.2	-60.9	-72.1
41W	-57.2	-57.2	-57.4	-57.4	89W	-59.2	-59.8	-58.9	-59.2
42W	-50.5	-50.0	-50.4	-50.1	90W	-58.6	-58.1	-59.4	-58.9
43W	-41.8	-42.2	-42.0	-42.0	91W	-62.1	-61.6	-61.6	-67.7
44W	-38.0	-38.0	-38.2	-38.0	92W	-61.0	-62.0	-62.3	-68.9
45W	-44.3	-44.5	-44.0	-44.2	93W	-61.8	-61.9	-61.6	-61.3
46W	-41.0	-41.1	-41.0	-41.2	94W	-68.4	-68.3	-68.4	-68.2
47W	-40.1	-40.1	-40.2	-40.2	95W	-65.2	-64.7	-65.0	-72.8
48W	-44.1	-44.1	-44.7	-44.0	96W	-76.1	-76.2	-76.4	-75.8
49W	-38.0	-31.2	-56.1	-56.7	97W	-76.4	-76.2	-77.1	-76.6

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	G.E.	1-93
Checked by	B.O.K.	1-93
Designed by	B.O.K.	1-93
Checked by	S.S.	1-93
Approved by	S.H.W.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
1950 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: DRILLED SHAFT INSTALLATION TABLES
PROJECT NAME: WESTBOUND GANDY BRIDGE
Drawing No.
Index No.

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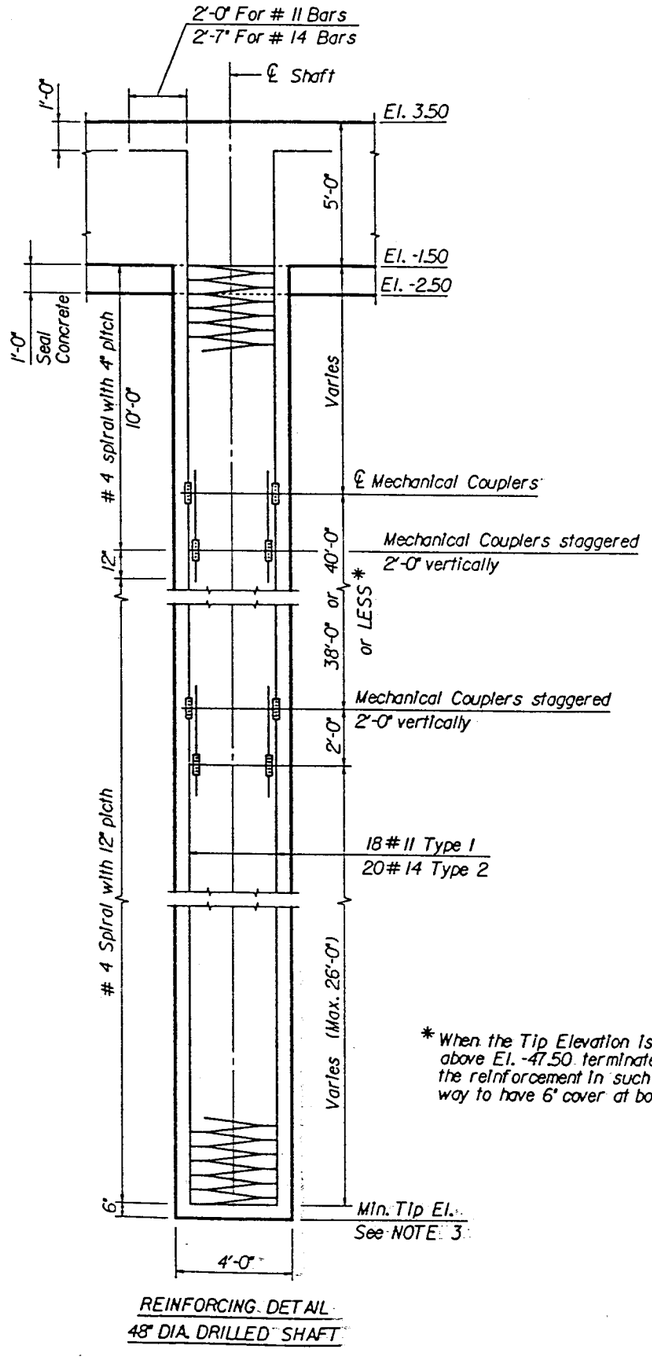
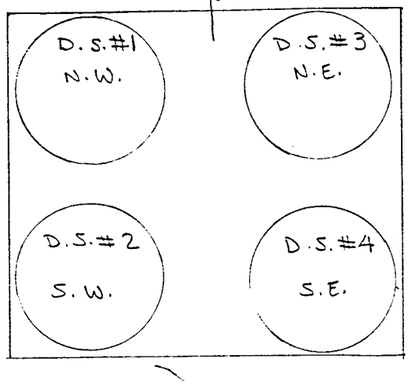
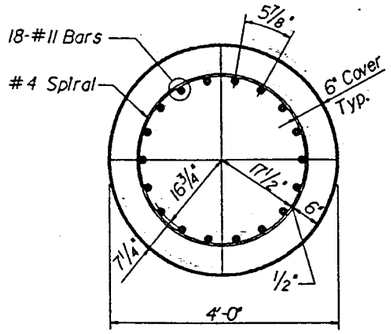


REINFORCING DETAIL
48" DIA. DRILLED SHAFT

* When the Tip Elevation is above El. -47.50 terminate the reinforcement in such a way to have 6" cover at bottom.

DRILLED SHAFT NUMBERING SEQUENCE





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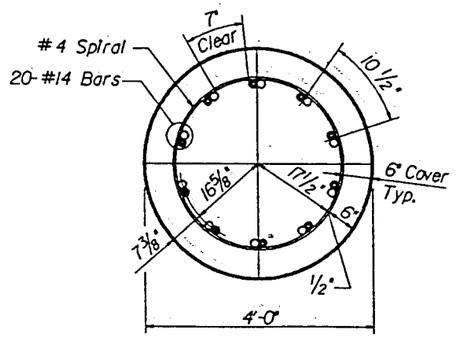

TYPE 2
(ALTERNATE 2 ONLY)

DRILLED SHAFT SCHEDULE		
ALT.	PIER NOS.	No. of D. S. Dia. & Type/Pier
1	2-W thru 53-W & 90-W thru 97-W	4 - 4' Ø Type 1
	54-W thru 59-W	4 - 6' Ø Type 2
	60-W thru 69-W & 80-W thru 89-W	4 - 6' Ø Type 1
	70-W thru 79-W	4 - 7' Ø Type 1
2	2-W thru 79-W & 128-W thru 138-W	3 - 4' Ø Type 2
	80-W thru 87-W	4 - 6' Ø Type 2
	88-W thru 102-W & 113-W thru 127-W	4 - 6' Ø Type 3
	103-W thru 112-W	4 - 7' Ø Type 1

NOTES: 1) For "Drilled Shaft General Notes", see Sheet No. A-4.
2) For "Drilled Shaft Installation Tables", see Sheet No. A-5.
3) For Minimum Tip Elevation, see Sheet No. A-5.
4) —▭— Denotes mechanical coupler.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	4-93
Checked by	B.O.K.	4-93
Designed by	B.O.K.	4-93
Checked by	S.S.	5-93
Approved by	S.H.W.	

ENGINEER OF RECORD:
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CONSULTING ENGINEERS & PLANNERS

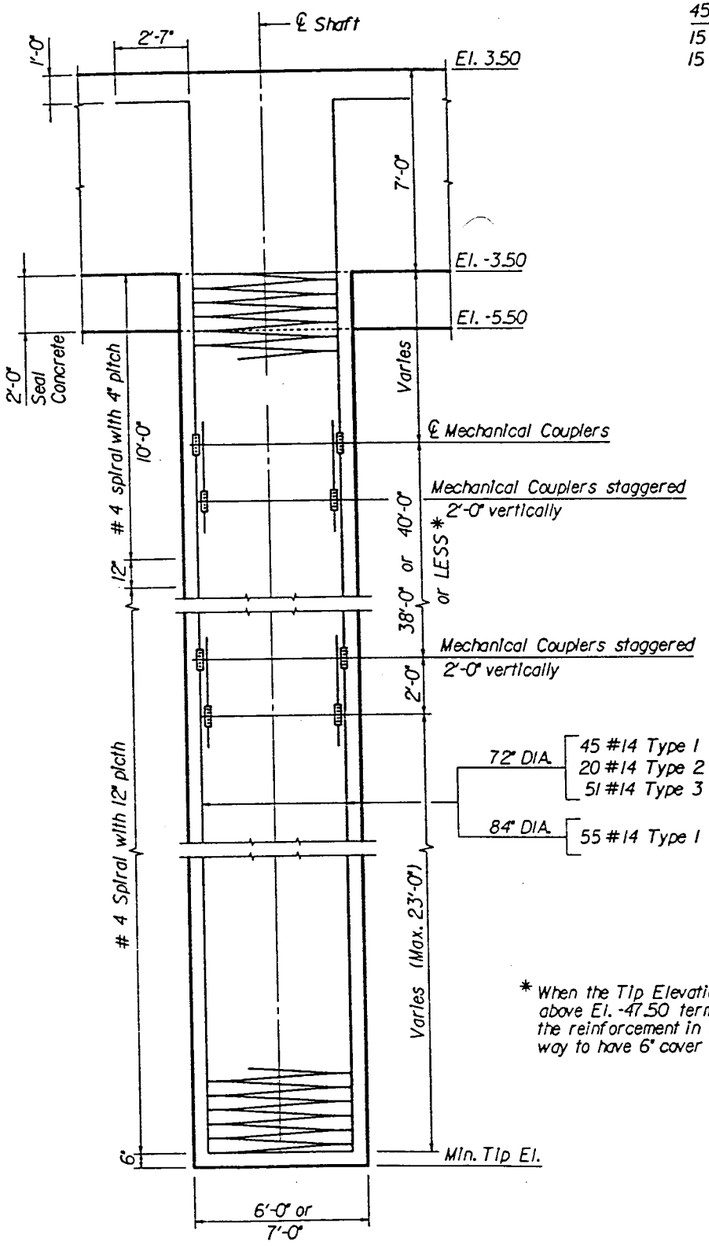
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

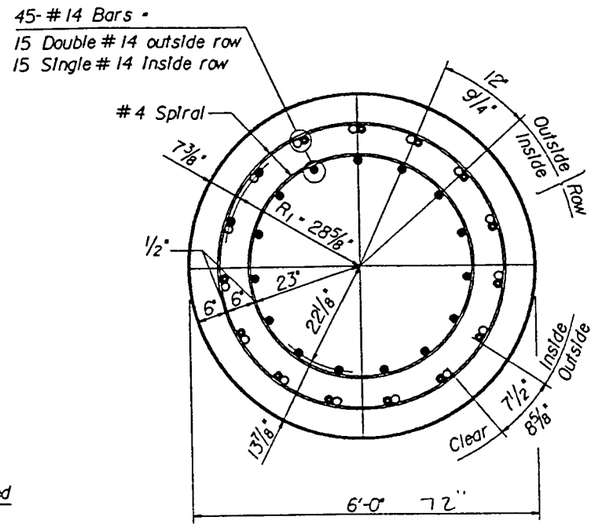
SHEET TITLE: DRILLED SHAFT REINFORCING (1)
Drawing No.
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIST. NO.	STATE	PROJECT NO.		SHEET NO.
3	FLA.			A-7



* When the Tip Elevation is above El. -47.50 terminate the reinforcement in such a way to have 6" cover at bottom.

REINFORCING DETAIL
72" DIA. DRILLED SHAFT &
84" DIA. DRILLED SHAFT



TYPE 1
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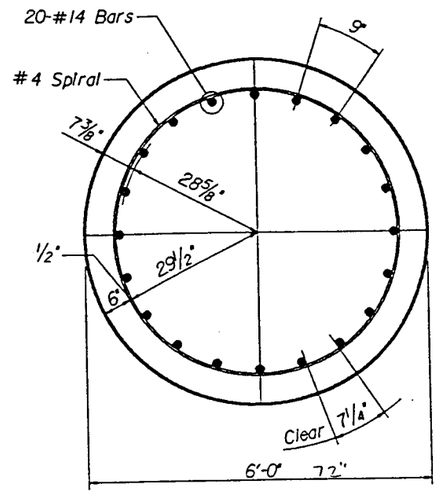

TYPE 2
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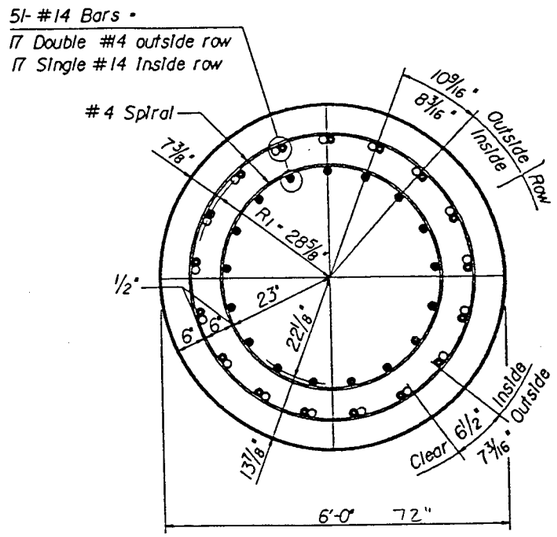

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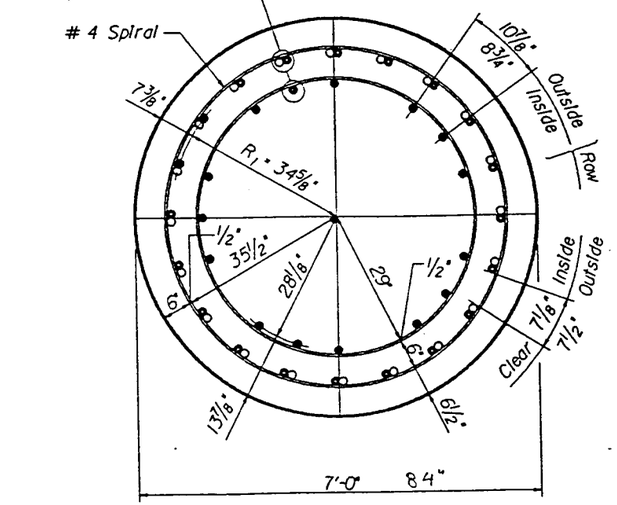

TYPE 1
(ALTERNATES 1 & 2 ONLY)

NOTE: Work this sheet in conjunction with Sheet No. A-6.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	4-93
Checked by	B.O.K.	4-93
Designed by	B.O.K.	4-93
Checked by	S.S.	5-93
Approved by	S.H.W.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
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BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

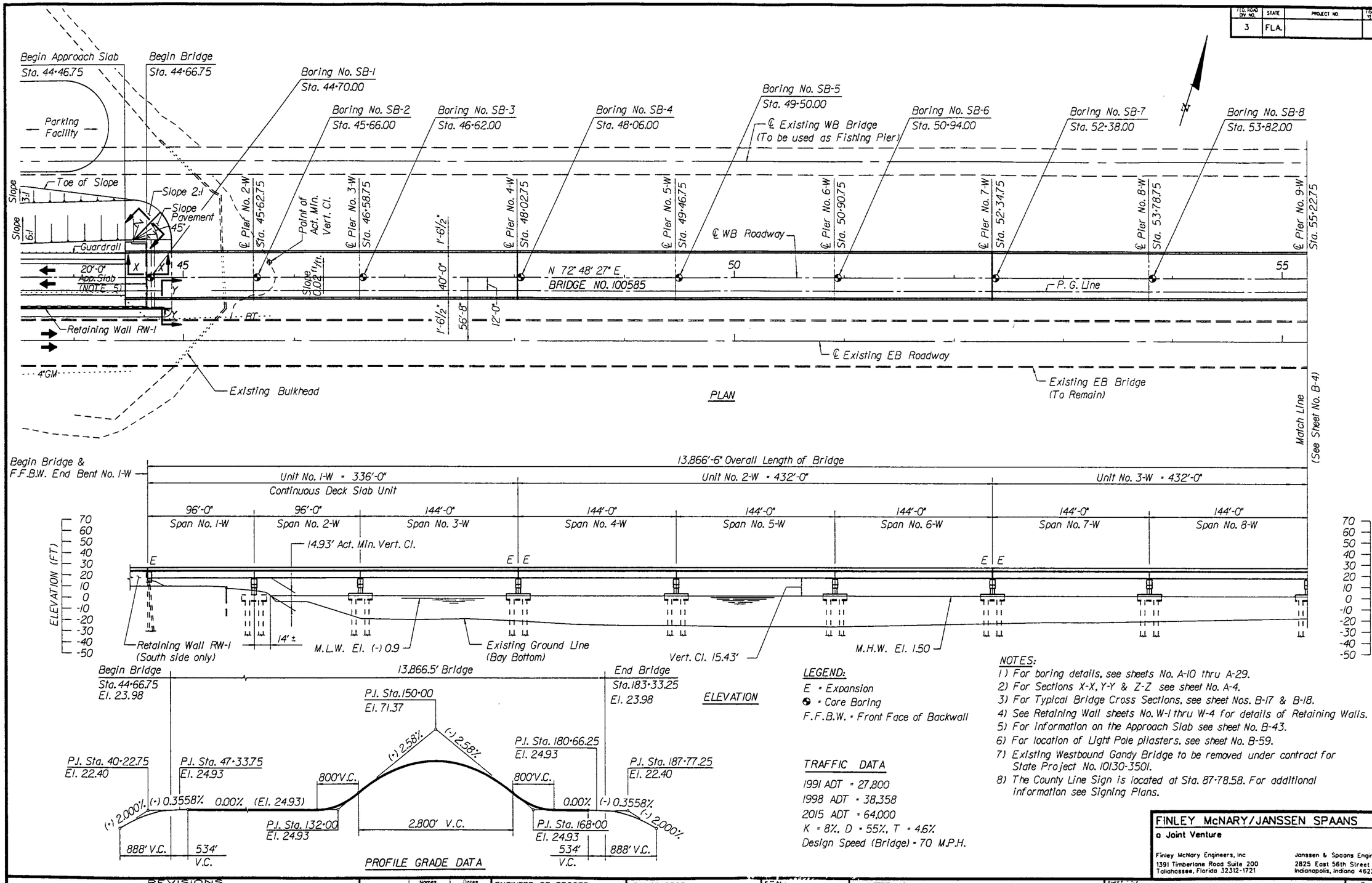
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: DRILLED SHAFT REINFORCING (2)
PROJECT NAME: WESTBOUND GANDY BRIDGE
Drawing No.
Index No.

S:\BRIDGE\BGANDY\SBDRSH2.DGN S:\BRIDGE\BGANDY\SBDRSH2.PRF 8/29/93 09:39:04

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-3



LEGEND:

E = Expansion
◒ = Core Boring
F.F.B.W. = Front Face of Backwall

TRAFFIC DATA

1991 ADT = 27,800
1998 ADT = 38,358
2015 ADT = 64,000
K = 8%, D = 55%, T = 4.6%
Design Speed (Bridge) = 70 M.P.H.

NOTES:

1) For boring details, see sheets No. A-10 thru A-29.
2) For Sections X-X, Y-Y & Z-Z see sheet No. A-4.
3) For Typical Bridge Cross Sections, see sheet Nos. B-17 & B-18.
4) See Retaining Wall sheets No. W-1 thru W-4 for details of Retaining Walls.
5) For information on the Approach Slab see sheet No. B-43.
6) For location of Light Pole pilasters, see sheet No. B-59.
7) Existing Westbound Gandy Bridge to be removed under contract for State Project No. 10130-3501.
8) The County Line Sign is located at Sta. 87+78.58. For additional information see Signing Plans.

REVISIONS					
Date	By	Description	Date	By	Description
1/95	H.D.R.	VALUE ENGINEERING CHANGE			

	Names	Dates
Drawn by	CWN	1/95
Checked by	J.L.S.	1/95
Designed by	B.F.H.	1/95
Checked by	H.D.R.	1/95
Approved by	R.CRAIG FINLEY JR.,P.E.	

FINLEY McNARY/JANSSEN SPAANS
a Joint Venture
Finley McNary Engineers, Inc
1391 Timberlane Road Suite 200
Tallahassee, Florida 32312-1721
Janssen & Spaans Engineers, Inc.
2825 East 56th Street
Indianapolis, Indiana 46220

ENGINEER OF RECORD:
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North Miami Beach, Fl. 33162

CONTRACTOR:
misner marine construction, inc.
5440 West Tyson Avenue
Post Office Box 13427
Tampa, Florida 33681-3427

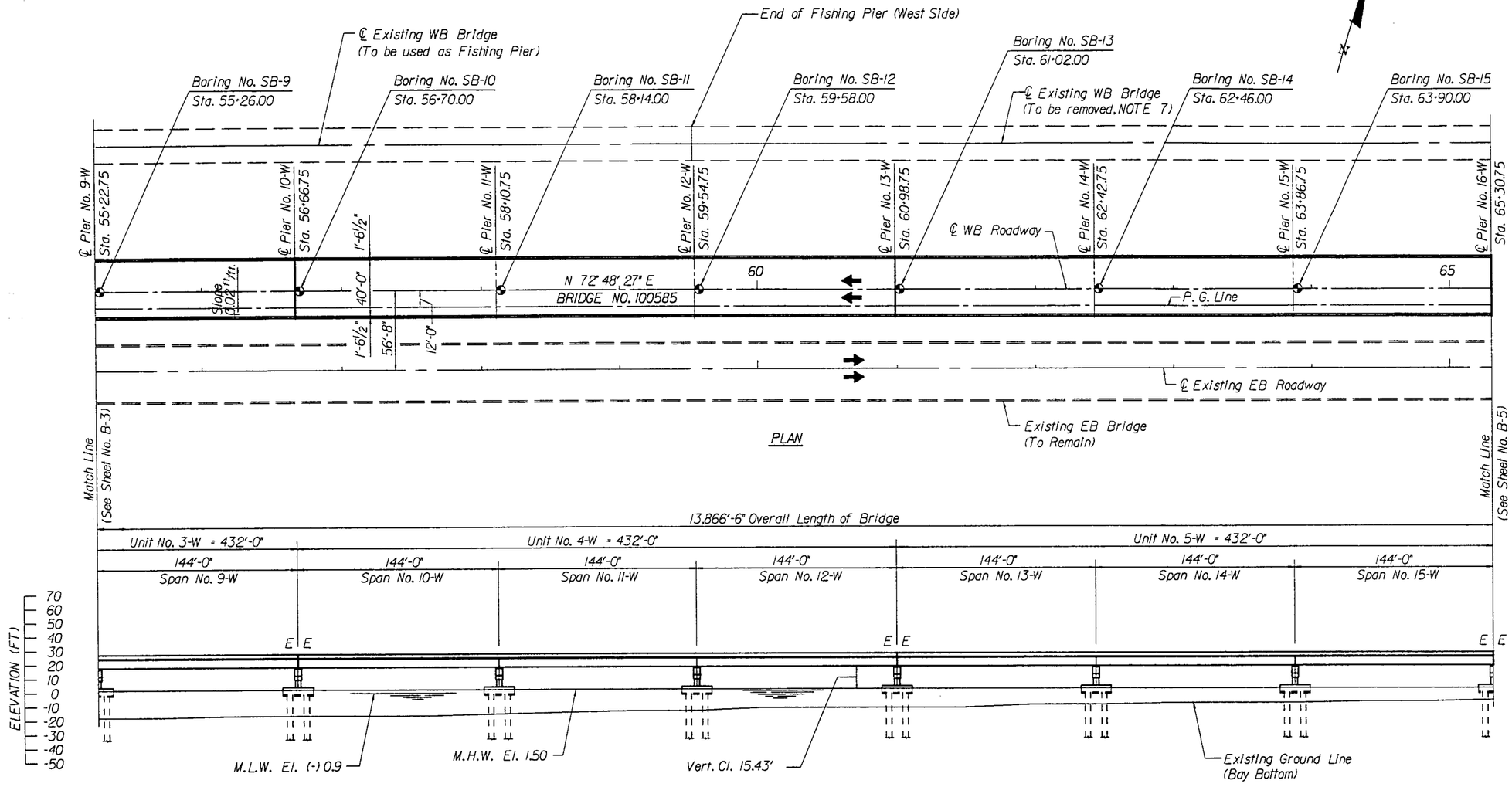
SEAL:
4-19-95

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (1)
Drawing No. FM/JS-7
PROJECT NAME: WESTBOUND GANDY BRIDGE
BRIDGE NO. 100585
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-4



LEGEND:
E = Expansion
◔ = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

FINLEY McNARY/JANSSEN SPAANS
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2825 East 56th Street
Indianapolis, Indiana 46220

REVISIONS

Date	By	Description	Date	By	Description
1/95	H.D.R.	VALUE ENGINEERING CHANGE			

	Names	Dates
Drawn by	C.W.N.	1/95
Checked by	J.L.S	1/95
Designed by	B.F.H.	1/95
Checked by	H.D.R.	1/95
Approved by	R.CRAIG FINLEY JR.P.E.	

ENGINEER OF RECORD:
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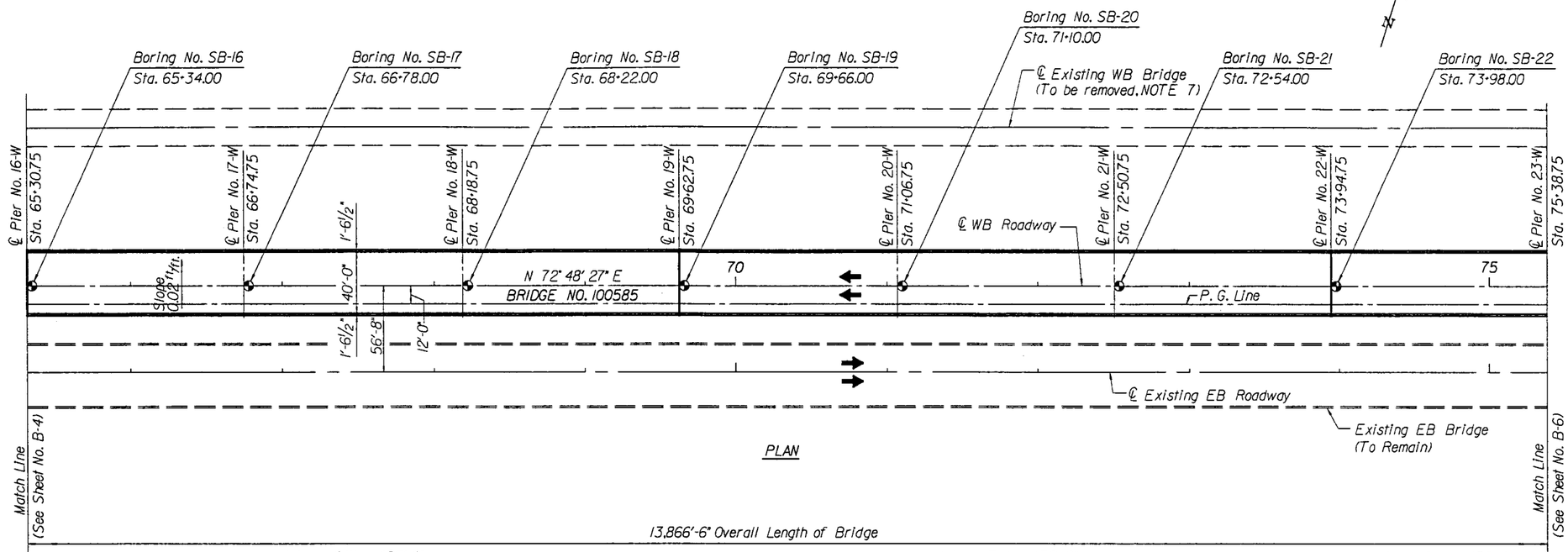
SEAL:
4-19-95

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (2)
Drawing No. FM/JS-8
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-5



LEGEND:
E = Expansion
◔ = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

FINLEY McNARY/JANSSEN SPAANS
a Joint Venture

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Tallahassee, Florida 32312-1721

Janssen & Spaans Engineers, Inc.
2825 East 56th Street
Indianapolis, Indiana 46220

REVISIONS					
Date	By	Description	Date	By	Description
1/95	H.D.R.	VALUE ENGINEERING CHANGE			

	Names	Dates
Drawn by	C.W.N.	1/95
Checked by	J.L.S.	1/95
Designed by	B.F.H.	1/95
Checked by	H.D.R.	1/95
Approved by	R.CRAIG FINLEY JR.,P.E.	

ENGINEER OF RECORD:
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North Miami Beach, Fl. 33162

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misner marine construction, inc.
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Post Office Box 13427
Tampa, Florida 33681-3427

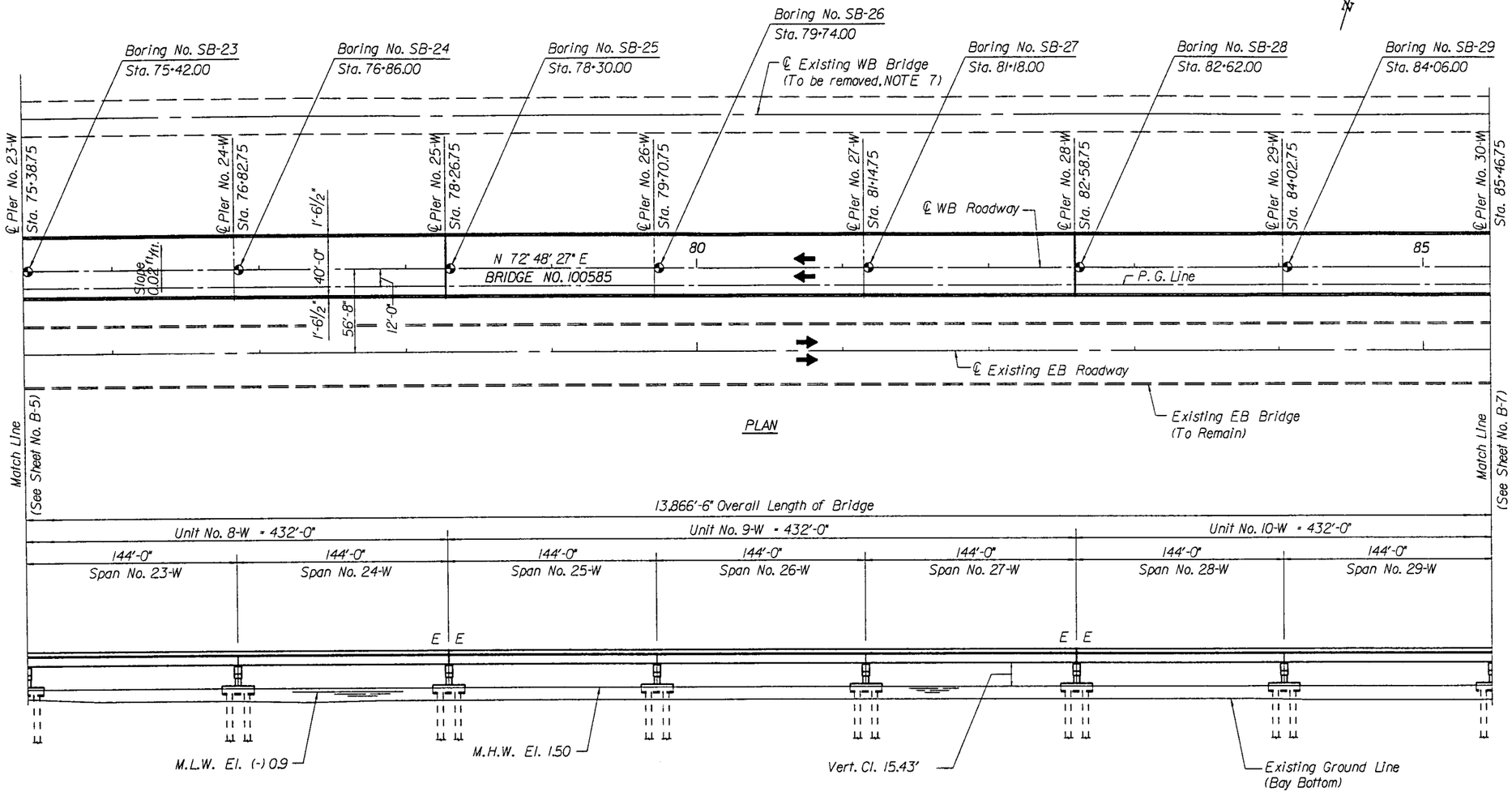
SEAL:
4-19-95

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (3)
Drawing No. FM/JS-9
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-6



ELEVATION

NOTE: For Plan and Elevation Notes, see Sheet B-3.

LEGEND:
E = Expansion
= Core Boring

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Tallahassee, Florida 32312-1721

Janssen & Spaans Engineers, Inc.
2825 East 56th Street
Indianapolis, Indiana 46220

REVISIONS					
Date	By	Description	Date	By	Description
1/95	H.D.R.	VALUE ENGINEERING CHANGE			

	Names	Dates
Drawn by	C.W.N.	1/95
Checked by	J.L.S.	1/95
Designed by	B.F.H.	1/95
Checked by	H.D.R.	1/95
Approved by	R.CRAIG FINLEY JR.,P.E.	

ENGINEER OF RECORD:
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misner marine construction, inc.
5440 West Tyson Avenue
Post Office Box 13427
Tampa, Florida 33681-3427

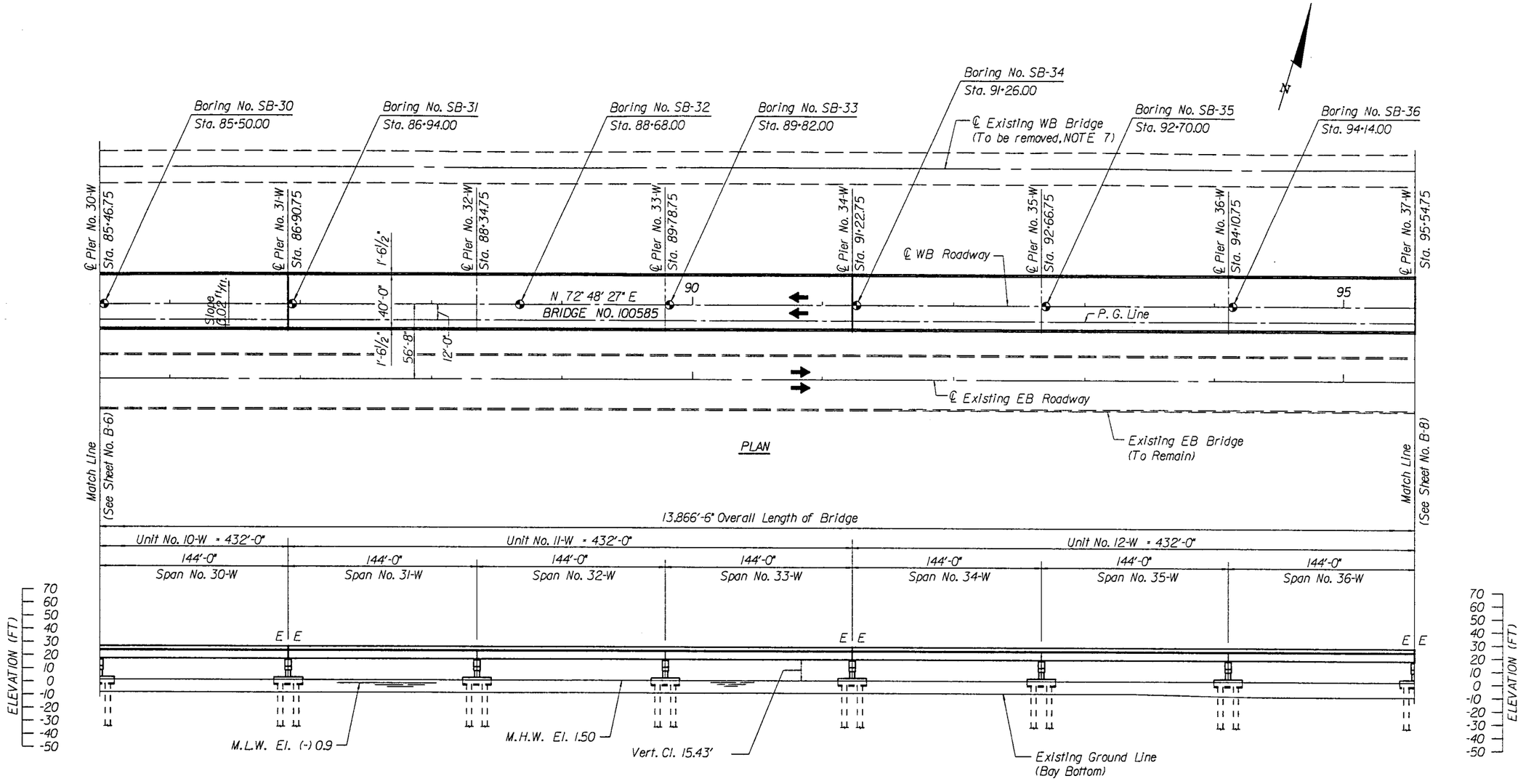
SEAL:
4-19-95

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (4)
Drawing No. FM/JS-10
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-7



ELEVATION

LEGEND:
E = Expansion
◒ = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

FINLEY McNARY/JANSSEN SPAANS
a Joint Venture

Finley McNary Engineers, Inc
1391 Timberlane Road Suite 200
Tallahassee, Florida 32312-1721

Janssen & Spaans Engineers, Inc.
2825 East 56th Street
Indianapolis, Indiana 46220

REVISIONS					
Date	By	Description	Date	By	Description
1/95	H.D.R.	VALUE ENGINEERING CHANGE			

	Names	Dates
Drawn by	C.W.N.	1/95
Checked by	J.L.S.	1/95
Designed by	B.F.H.	1/95
Checked by	H.D.R.	1/95
Approved by	R.CRAIG FINLEY JR.,P.E.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
1190 N.E. 163rd. Street Suite 203
North Miami Beach, Fl. 33162

CONTRACTOR:
misner marine construction, inc.
5440 West Tyson Avenue
Post Office Box 13427
Tampa, Florida 33681-3427

SEAL:
4-19-95

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

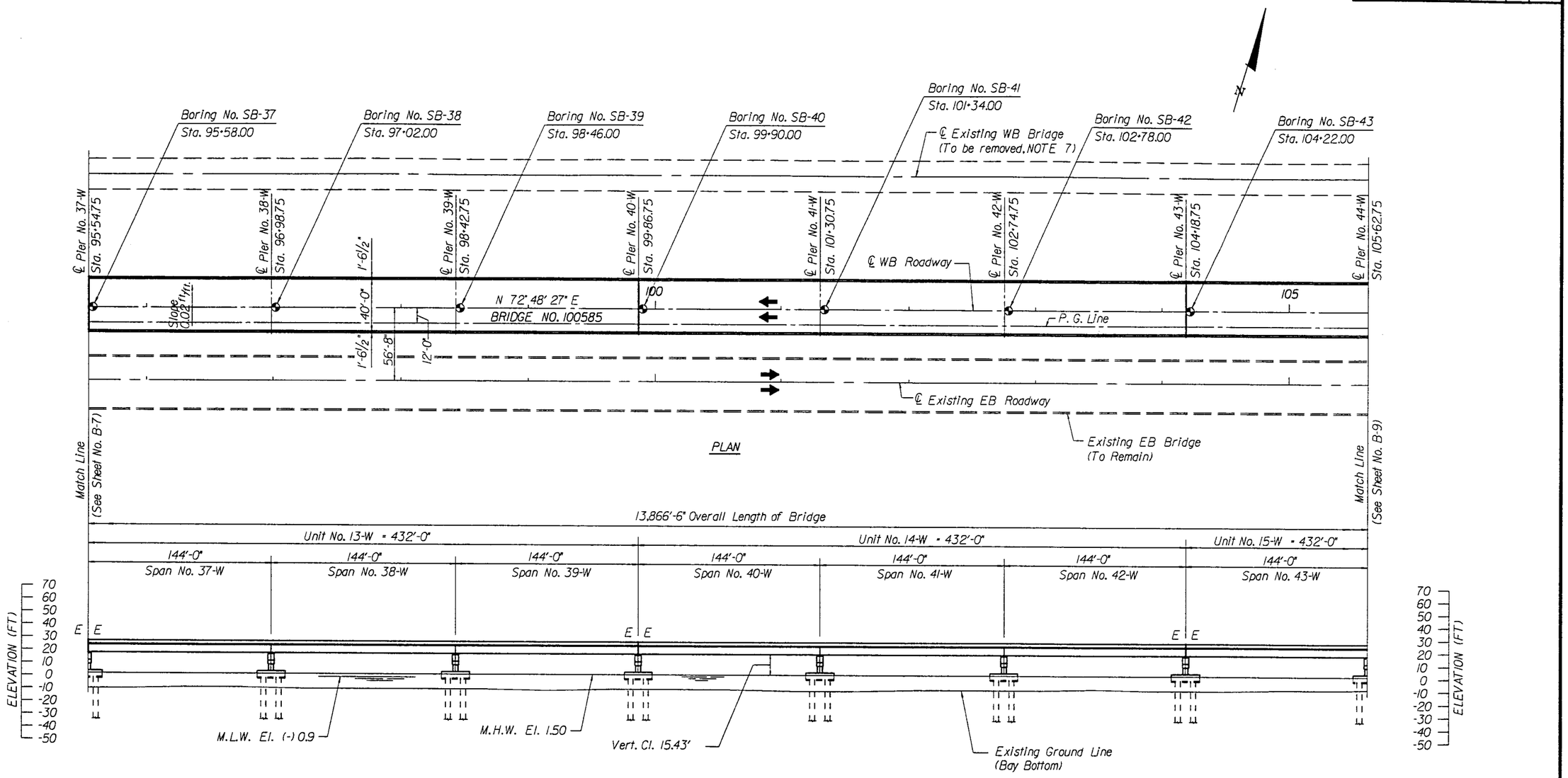
SHEET TITLE:
PLAN AND ELEVATION (5)

Drawing No.
FM/JS-11

PROJECT NAME:
WESTBOUND GANDY BRIDGE

Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-8



ELEVATION

LEGEND:
E - Expansion
- Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

FINLEY McNARY/JANSSEN SPAANS
a Joint Venture

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Tallahassee, Florida 32312-1721

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2825 East 56th Street
Indianapolis, Indiana 46220

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Date	By	Description	Date	By	Description
1/95	H.D.R.	VALUE ENGINEERING CHANGE			

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Tampa, Florida 33681-3427

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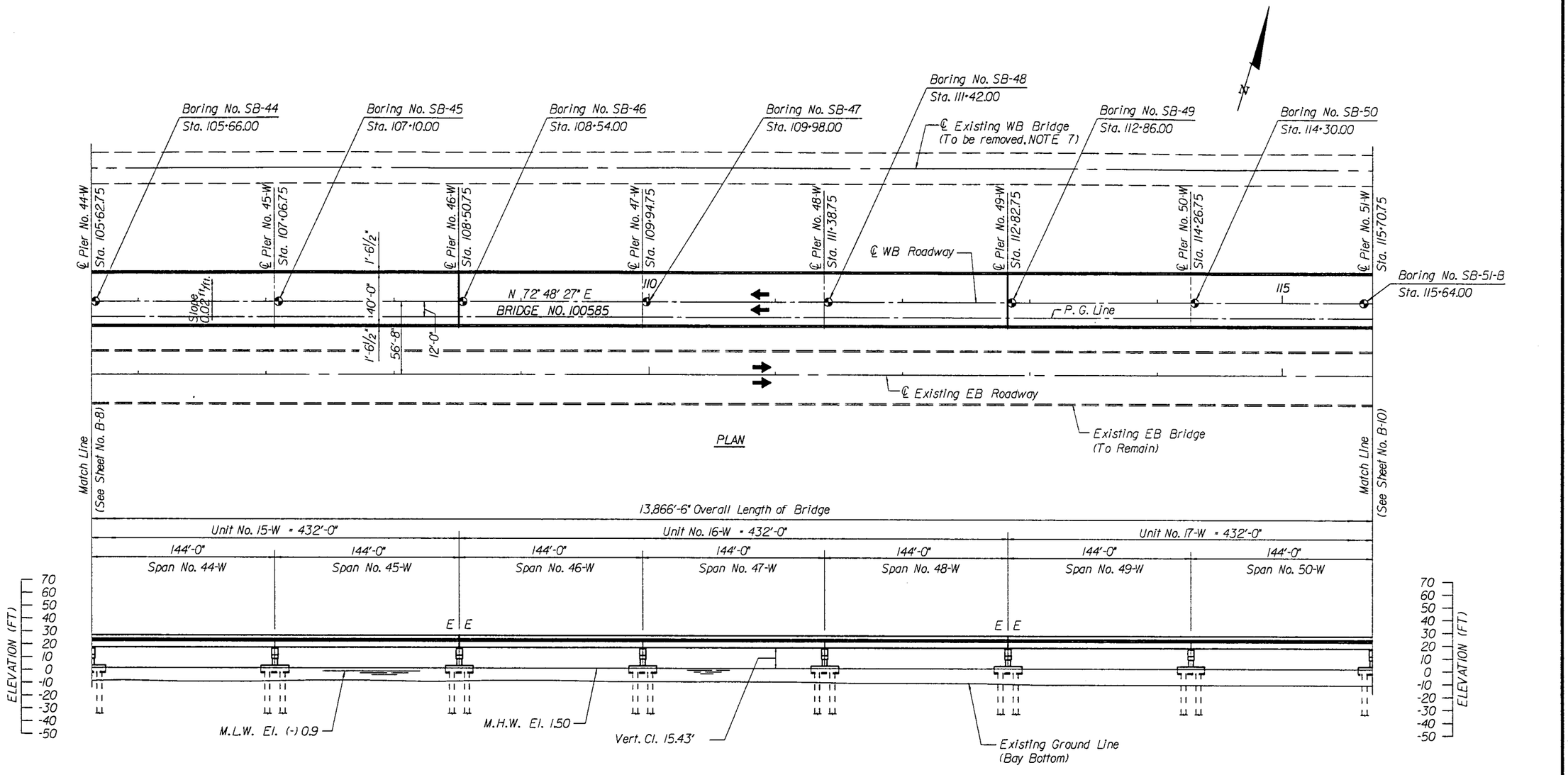
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (6)
Drawing No. FM/JS-12
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-9



ELEVATION

LEGEND:
E = Expansion
⊕ = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

FINLEY McNARY/JANSSEN SPAANS
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Indianapolis, Indiana 46220

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Date	By	Description	Date	By	Description
1/95	H.D.R.	VALUE ENGINEERING CHANGE			

	Names	Dates
Drawn by	C.W.N.	1/95
Checked by	J.L.S.	1/95
Designed by	B.F.H.	1/95
Checked by	H.D.R.	1/95
Approved by	R.CRAIG FINLEY JR.,P.E.	

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SEAL:
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FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

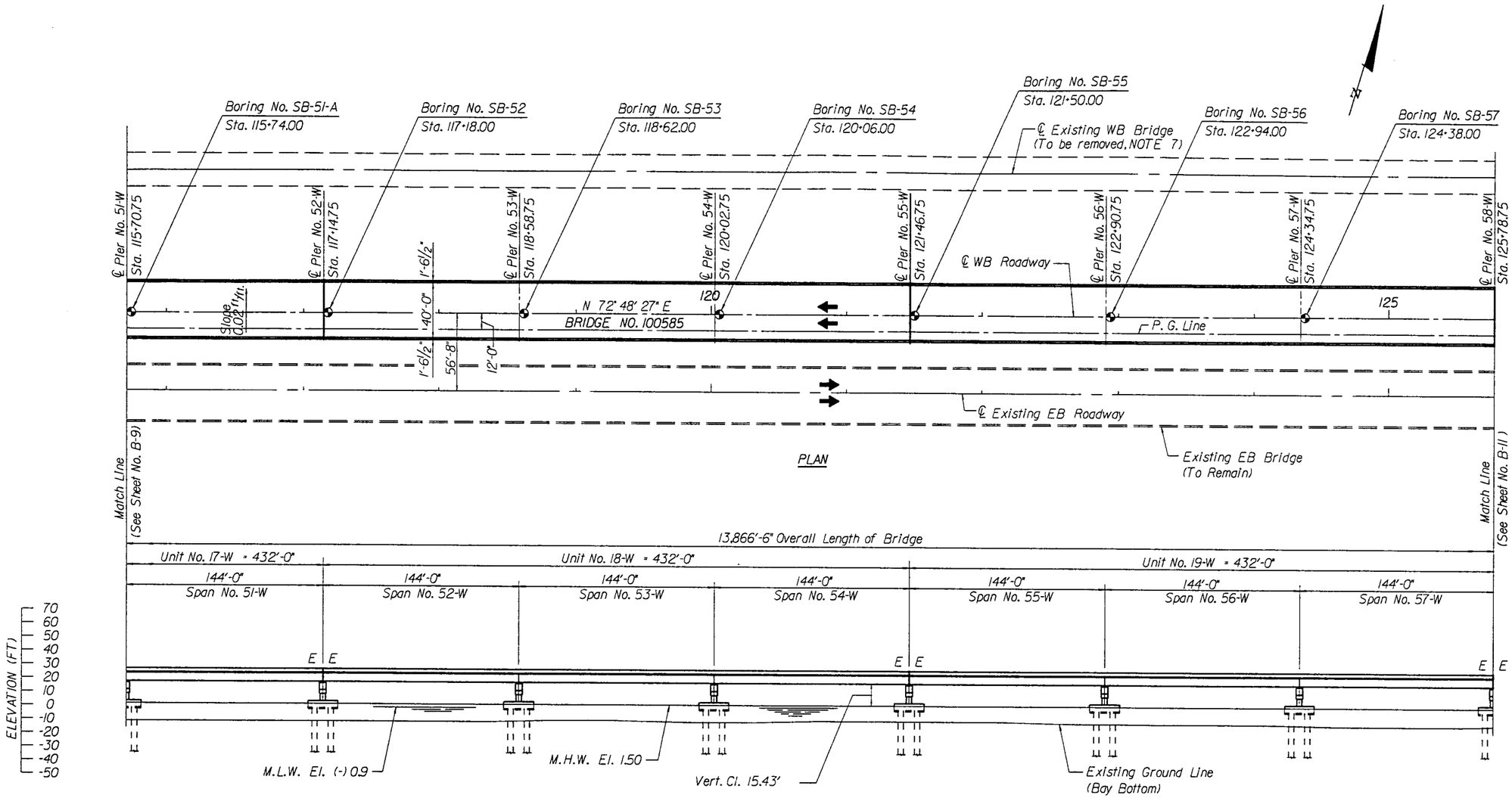
SHEET TITLE: PLAN AND ELEVATION (7)

Drawing No. FM/JS-13

PROJECT NAME: WESTBOUND GANDY BRIDGE

Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-10



ELEVATION

LEGEND:
E = Expansion
⊕ = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

FINLEY McNARY/JANSSEN SPAANS
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Indianapolis, Indiana 46220

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Date	By	Description	Date	By	Description
1/95	H.D.R.	VALUE ENGINEERING CHANGE			

	Names	Dates
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Checked by	J.L.S.	1/95
Designed by	B.F.H.	1/95
Checked by	H.D.R.	1/95
Approved by	R.CRAIG FINLEY JR., P.E.	

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misner marine construction, inc.
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FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

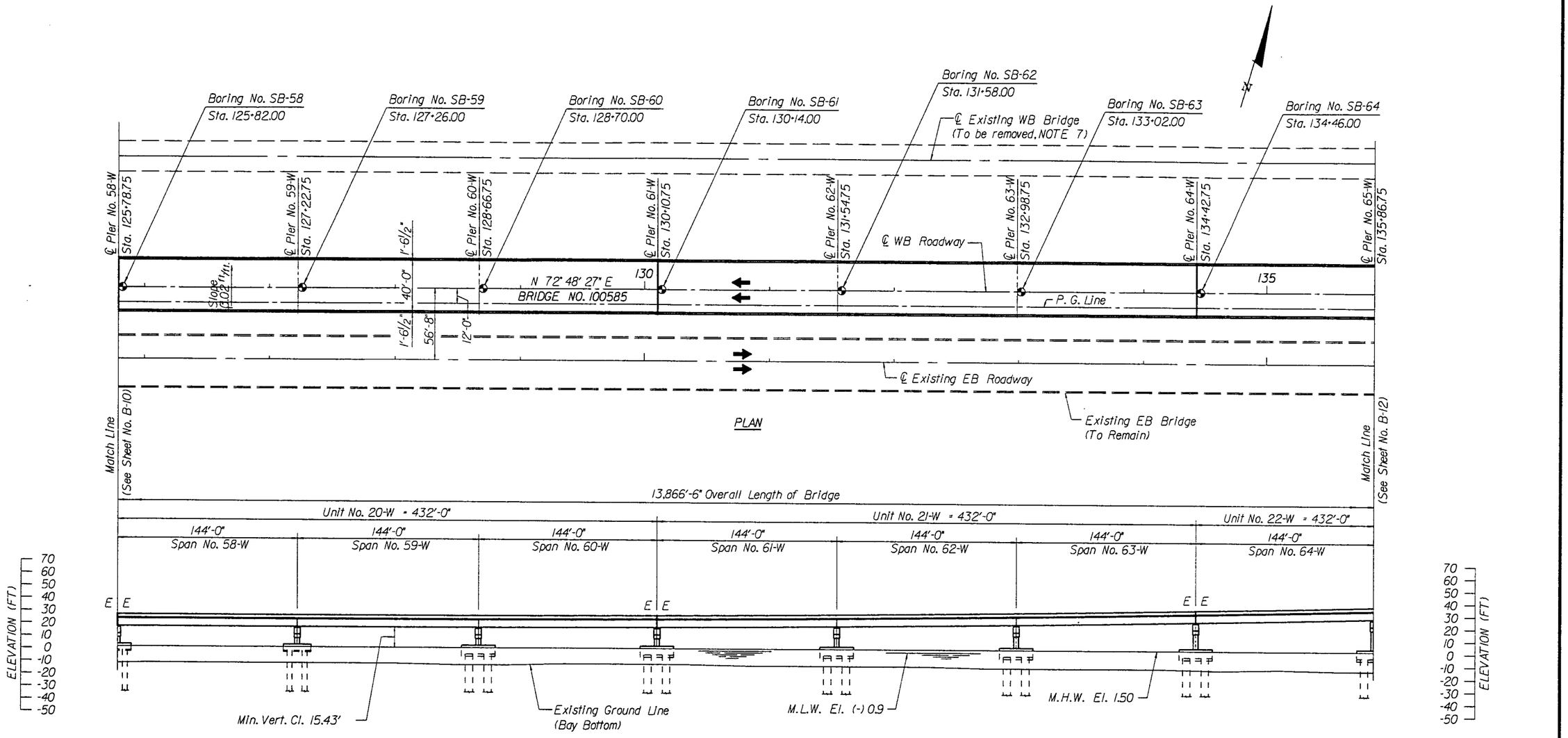
SHEET TITLE:
PLAN AND ELEVATION (8)

Drawing No.
FM/JS-14

PROJECT NAME:
WESTBOUND GANDY BRIDGE

Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-11



ELEVATION

LEGEND:
E = Expansion
◒ = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

FINLEY McNARY/JANSSEN SPAANS
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Indianapolis, Indiana 46220

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1/95	H.D.R.	VALUE ENGINEERING CHANGE			

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Checked by	H.D.R.	1/95
Approved by	R.CRAIG FINLEY JR.,P.E.	

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SEAL:
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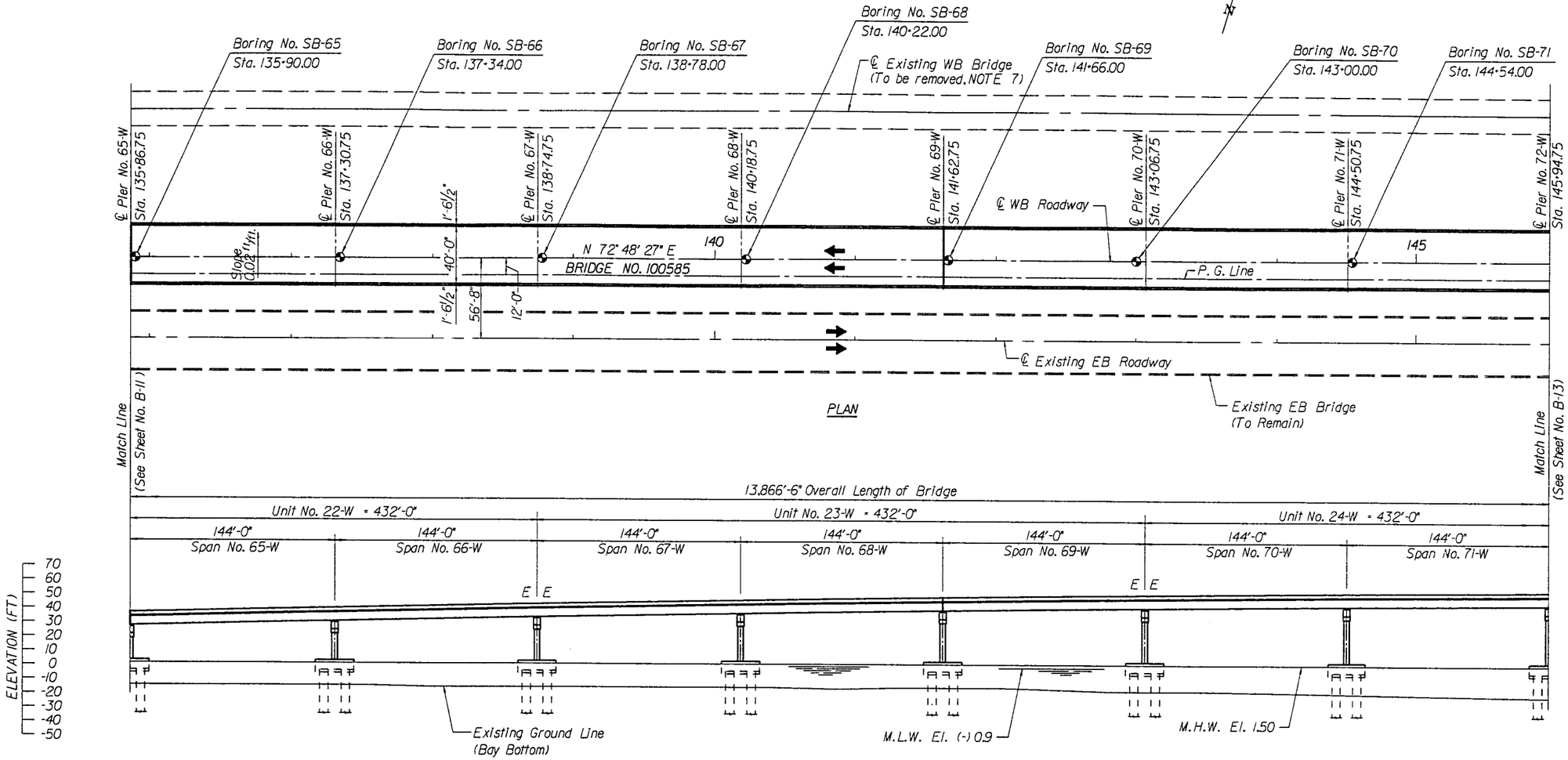
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (9)
Drawing No. FM/JS-15
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-12



LEGEND:
E = Expansion
F = Fixed
● = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

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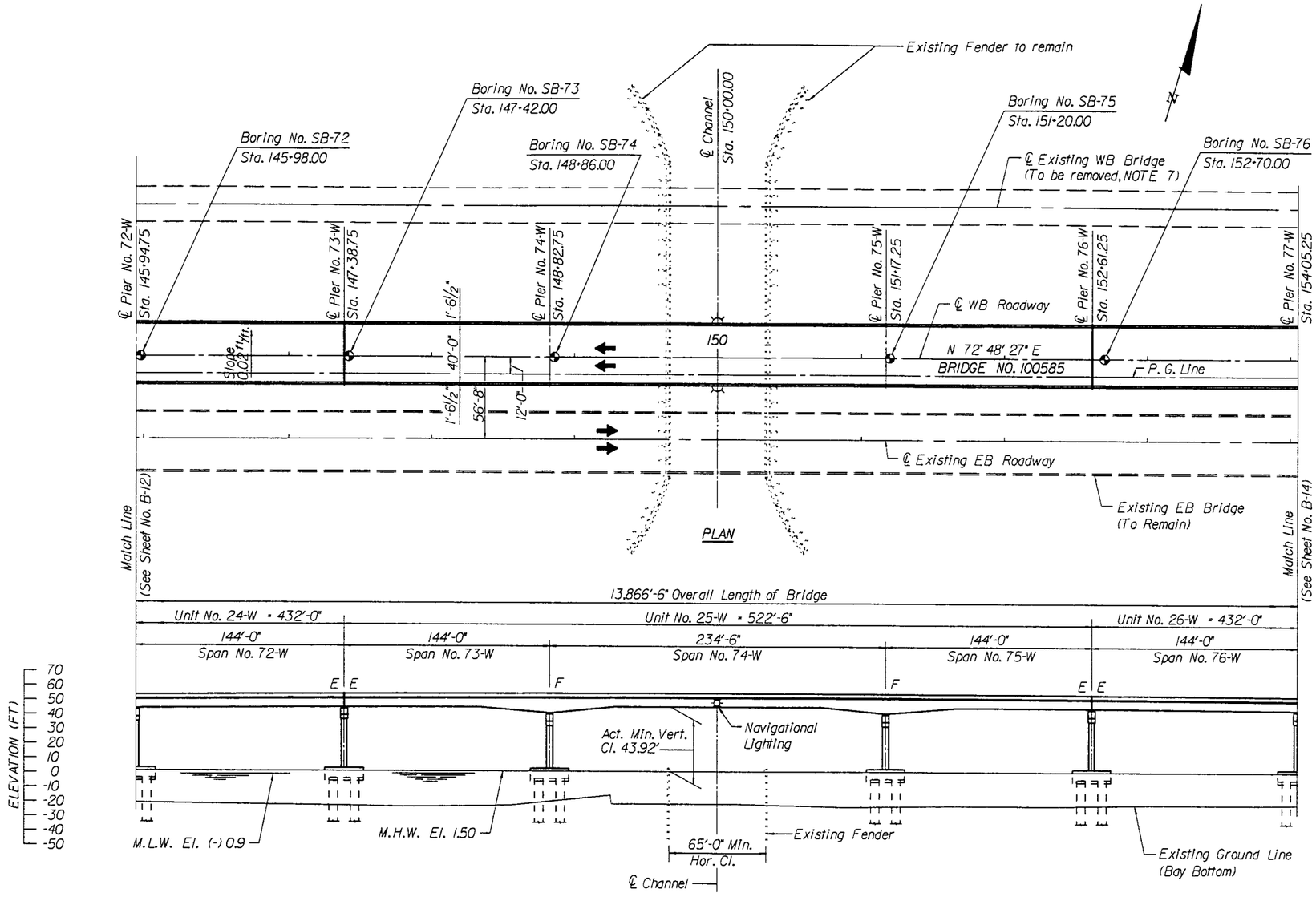
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (10)
Drawing No. FM/JS-16
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

F.D. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-13



LEGEND:
E = Expansion
F = Fixed
⊕ = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

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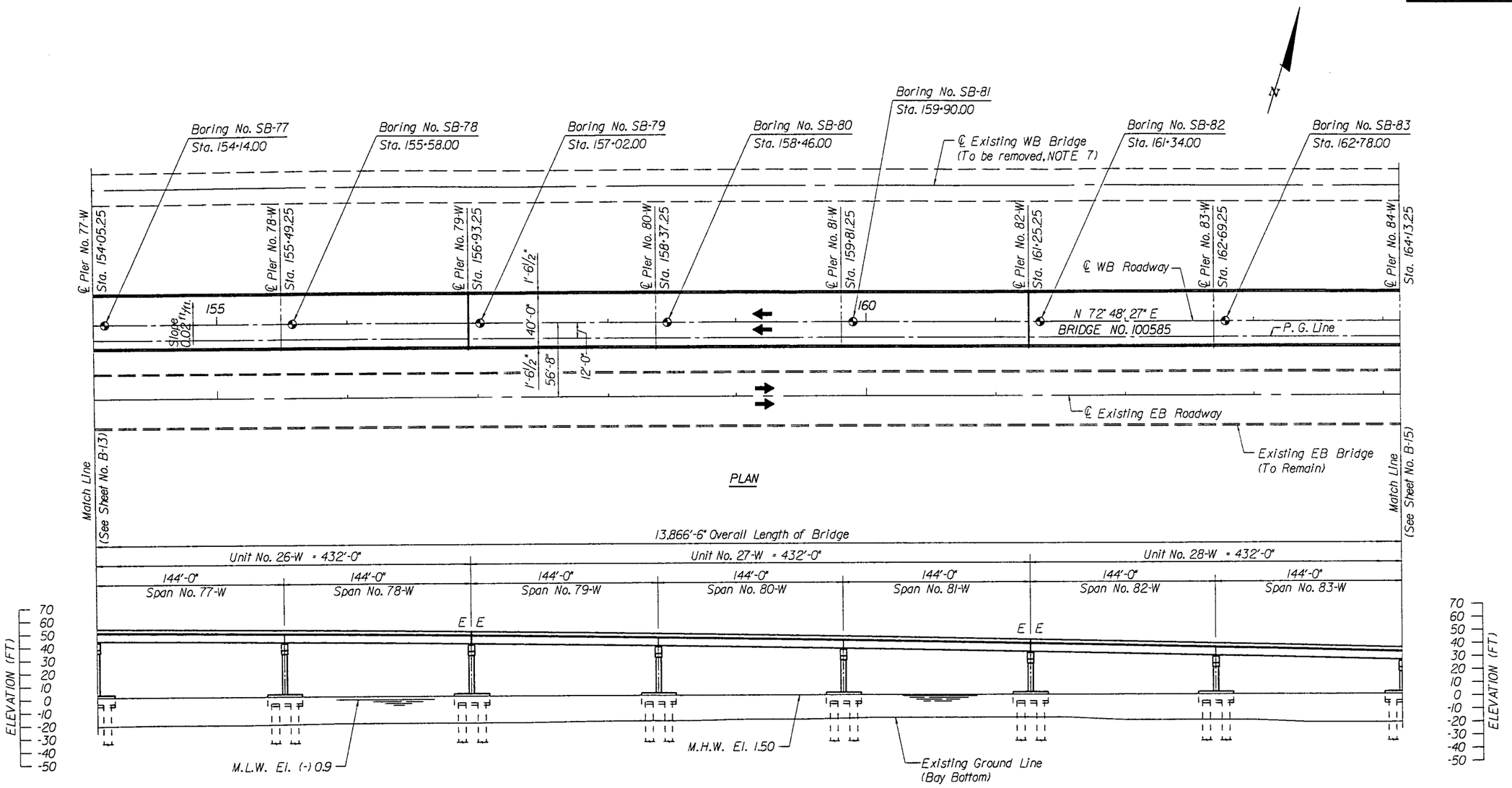
4-19-95

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (11)
Drawing No. FM/JS-17
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-14



NOTE: For Plan and Elevation Notes, see Sheet B-3.

LEGEND:
E = Expansion
◉ = Core Boring

FINLEY McNARY/JANSSEN SPAANS
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2825 East 56th Street
Indianapolis, Indiana 46220

REVISIONS					
Date	By	Description	Date	By	Description
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5440 West Tyson Avenue
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Tampa, Florida 33681-3427

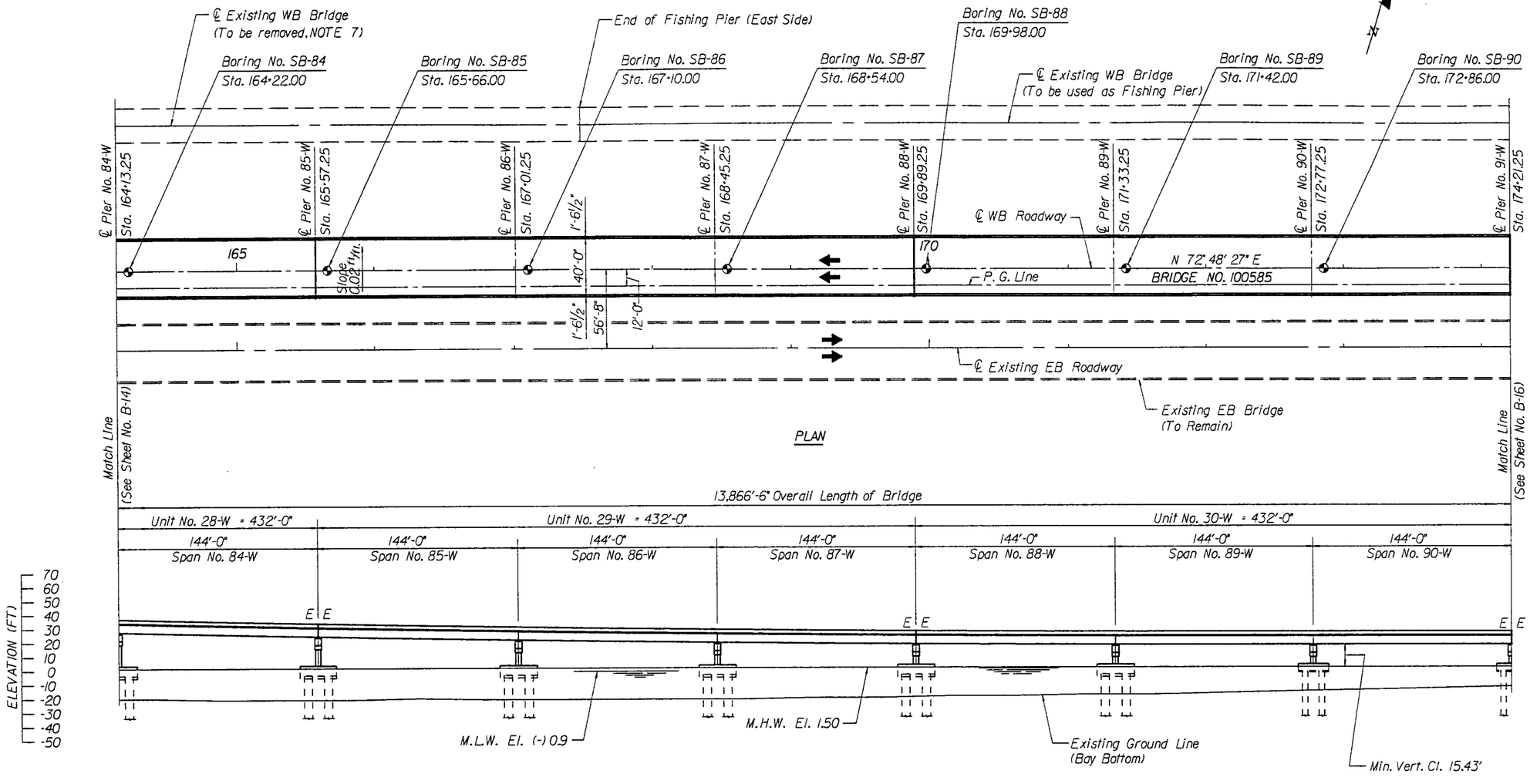
SEAL:
4-19-95

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (12)
Drawing No. FM/JS-18
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-15



ELEVATION

LEGEND:
E = Expansion
⊕ = Core Boring

NOTE: For Plan and Elevation Notes, see Sheet B-3.

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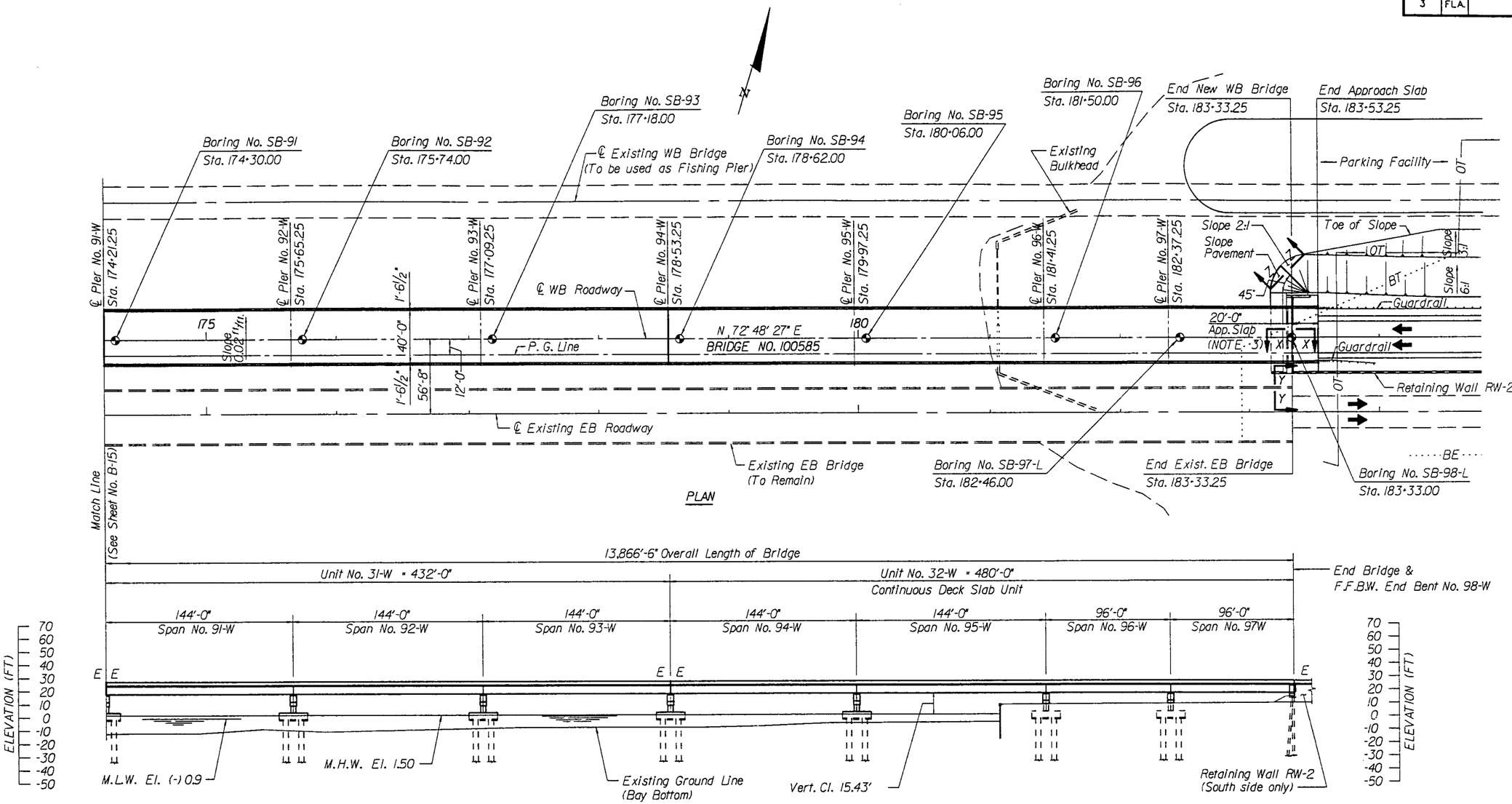
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: PLAN AND ELEVATION (13)
Drawing No. FM/JS-19
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YR.	SHEET NO.
3	FLA.			B-16



PLAN

ELEVATION

NOTE: For Plan and Elevation Notes, see Sheet B-3.

LEGEND:
E = Expansion
⊕ = Core Boring
F.F.B.W. = Front Face of Backwall

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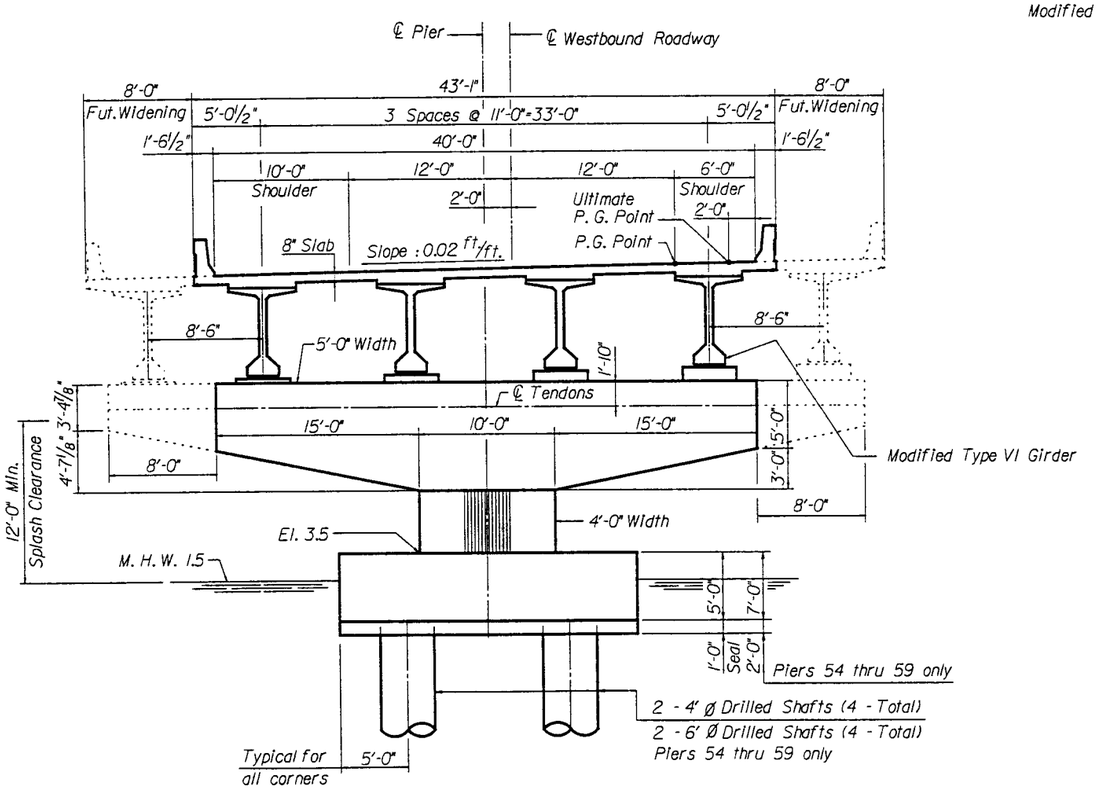
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

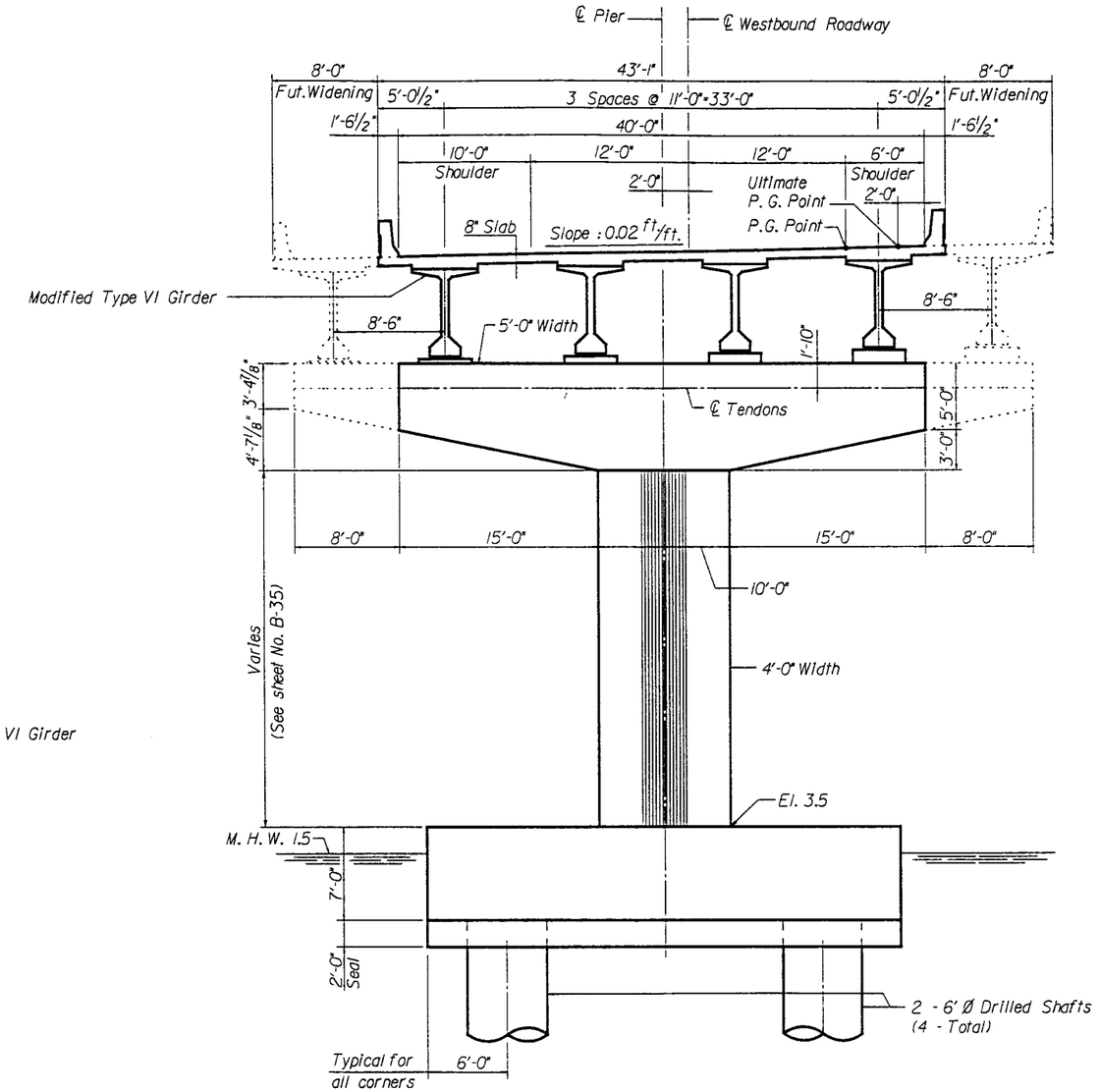
SHEET TITLE: PLAN AND ELEVATION (14)
Drawing No. FM/JS-20
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-17



LOW-LEVEL PIERS

(Piers 2 through 59 and 90 through 97)



MEDIUM-LEVEL PIERS

(Piers 60 through 69 and 80 through 89)

NOTES: 1) Solid lines denote construction of 40' roadway.
Dashed lines denote future widening to 56' roadway.
2) Future Bridge Widening "NOT IN CONTRACT".
For Pier Ducts and Shear Keys, see sheet No. A-1 and Pier Drawings.

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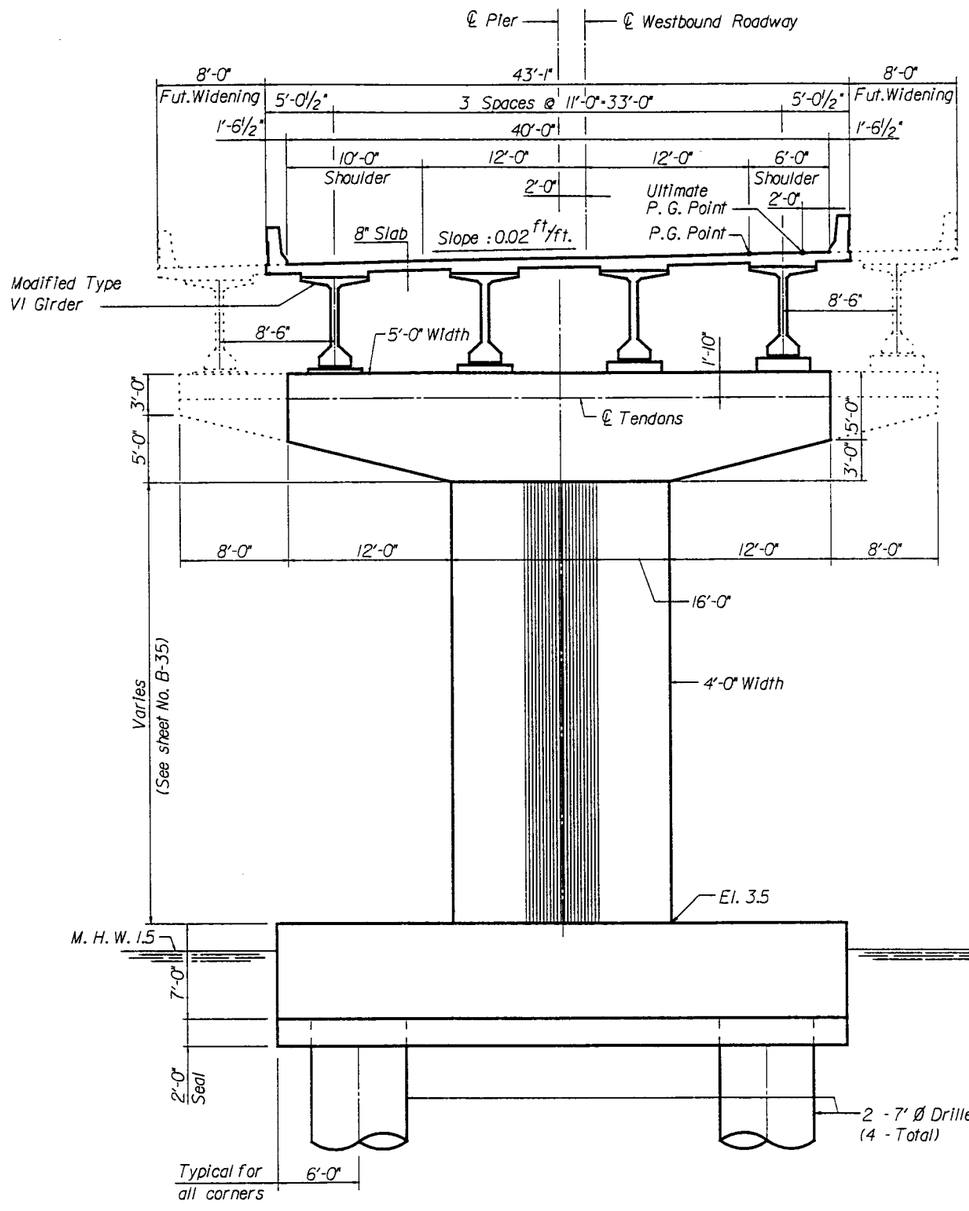
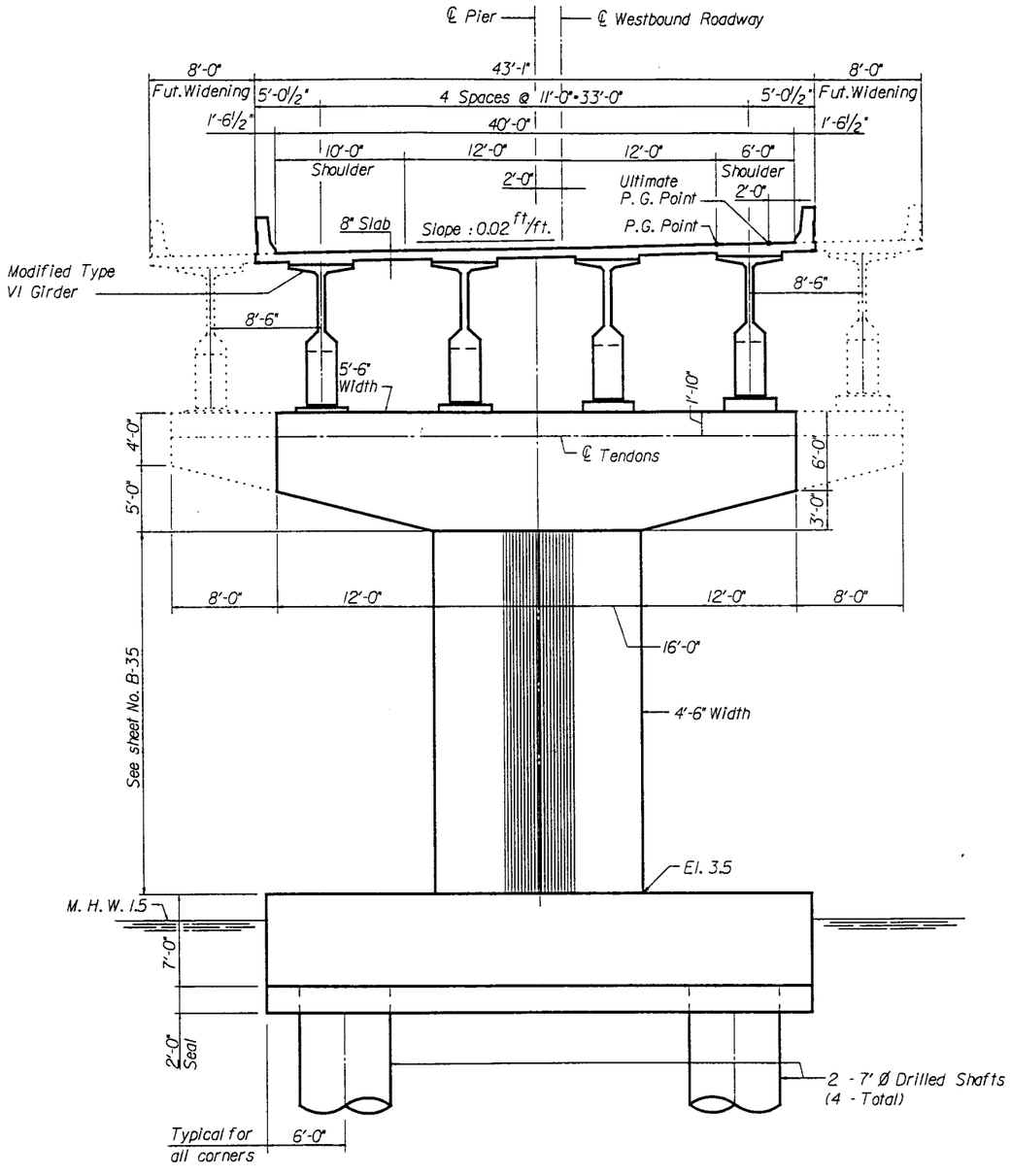
ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: TYPICAL CROSS-SECTIONS (1)
Drawing No. FM/JS-21
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			8-18



HIGH-LEVEL PIERS
(Piers 70 through 73 and 76 through 79)



CHANNEL PIERS
(Piers 74 and 75)

NOTES: 1) Solid lines denote construction of 40' roadway.
Dashed lines denote future widening to 56' roadway.
2) Future Bridge Widening "NOT IN CONTRACT".
For Pier Ducts and Shear Keys, see sheet No. A-4 and Pier Drawings.

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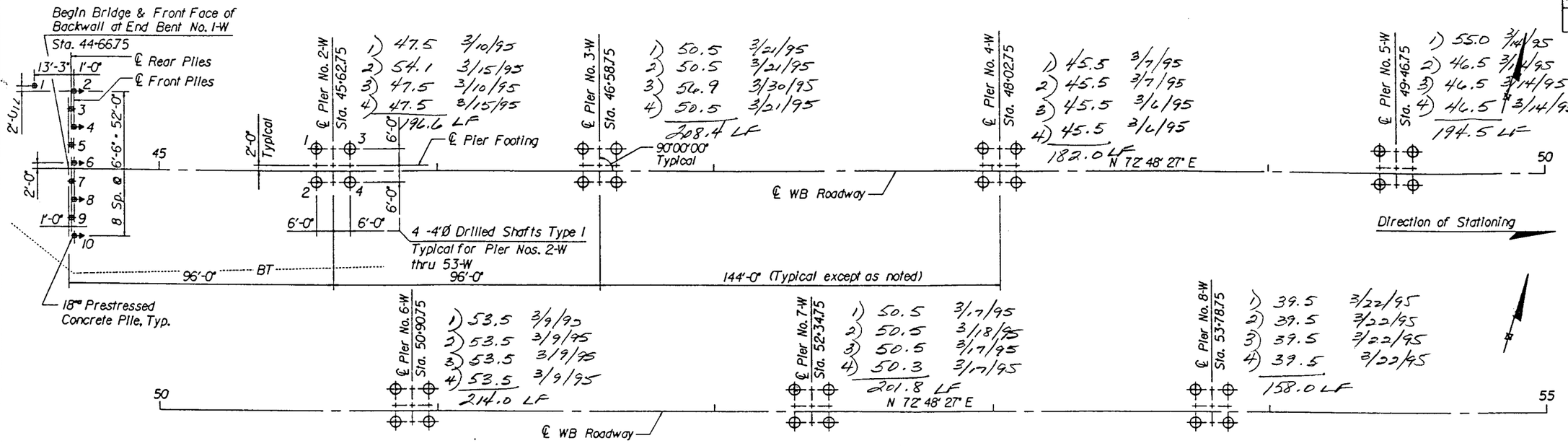
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: TYPICAL CROSS-SECTIONS (2)
Drawing No. FM/JS-22
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-19



PLAN

NOTES FOR FOUNDATION LAYOUT

1. 18" Square Prestressed Concrete Piles for End Bents only. For Pile details see Sheet Nos. A-30 and A-31.
   ⊕ Denotes plumb Pile.
   ⊕→ Denotes Piles battered 2" per foot in the direction shown.
2. Drive one test pile in the position of a permanent plumb pile, a length of 84 ft. The test pile shall be dynamically monitored using the Pile Driver Analyzer.
3. All piers are supported on Concrete Drilled Shafts.
4. See Sheet No. A-3 for general notes about "FOUNDATION".
5. See Sheet No. A-4 for "DRILLED SHAFT GENERAL NOTES".
6. See Sheet No. A-5 for "DRILLED SHAFT INSTALLATION TABLES".
7. Each pile or drilled shaft number is to be prefixed by the respective End Bent or Pier number. Thus Drilled Shaft 1 of Pier No. 2 would be logged as 2-W (1).
8. See Sheet Nos. A-6 & A-7 for details of 4'Ø, 6'Ø and 7'Ø Drilled Shafts.

ALTERNATE 1

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	1-93
Checked by	B.O.K.	9-93
Designed by	S.S.	1-93
Checked by	B.O.K.	9-93
Approved by	S.H.W.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
1190 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: FOUNDATION LAYOUT (1)
Drawing No.
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

S:\BRIDGE\BGANDY\A\FLLDGN S:\BRIDGE\BGANDY\A\FLI.PRF 8/24/93 14:29:44

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			8-20

Match Line (See sheet No. B-19)

℄ Pier No. 16-W Sta. 65+30.75

2'-0" Typical

6'-0" 6'-0" 6'-0" 6'-0"

1 2 3 4

℄ Pier Footing

4 -4'Ø Drilled Shafts Type I Typical for Pier Nos. 2-W thru 53-W

1) 24.0
2) 23.9
3) 24.2
4) 24.2
96.3 LF 4/14/95

℄ Pier No. 17-W Sta. 66+74.75

90°00'00" Typical

1) 28.5
2) 28.5
3) 28.5
4) 28.5
114.0 LF 4/7/95

℄ Pier No. 18-W Sta. 68+18.75

1) 34.5
2) 34.5
3) 34.5
4) 34.5
138.0 LF 4/11/95

℄ Pier No. 19-W Sta. 69+62.75

℄ WB Roadway

N 72° 48' 27" E

144'-0" (Typical)

70

Direction of Stationing

℄ Pier No. 20-W Sta. 71+06.75

℄ Pier No. 21-W Sta. 72+50.75

℄ Pier No. 22-W Sta. 73+94.75

70

℄ WB Roadway

N 72° 48' 27" E

75

Direction of Stationing

℄ Pier No. 23-W Sta. 75+38.75

℄ Pier No. 24-W Sta. 76+82.75

℄ Pier No. 25-W Sta. 78+26.75

℄ Pier No. 26-W Sta. 79+70.75

Test Shafts

75

℄ WB Roadway

N 72° 48' 27" E

80

Direction of Stationing

℄ Pier No. 27-W Sta. 81+14.75

℄ Pier No. 28-W Sta. 82+58.75

℄ Pier No. 29-W Sta. 84+02.75

Match Line (See sheet No. B-21)

80

℄ WB Roadway

N 72° 48' 27" E

85

Direction of Stationing

PLAN

NOTE: For "NOTES FOR FOUNDATION LAYOUT", see Sheet No. B-19.

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	1-93
Checked by	B.O.K.	9-93
Designed by	S.S.	1-93
Checked by	B.O.K.	9-93
Approved by	S.H.W.	

ENGINEER OF RECORD:

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1190 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

ALTERNATE I

SHEET TITLE: FOUNDATION LAYOUT (2)

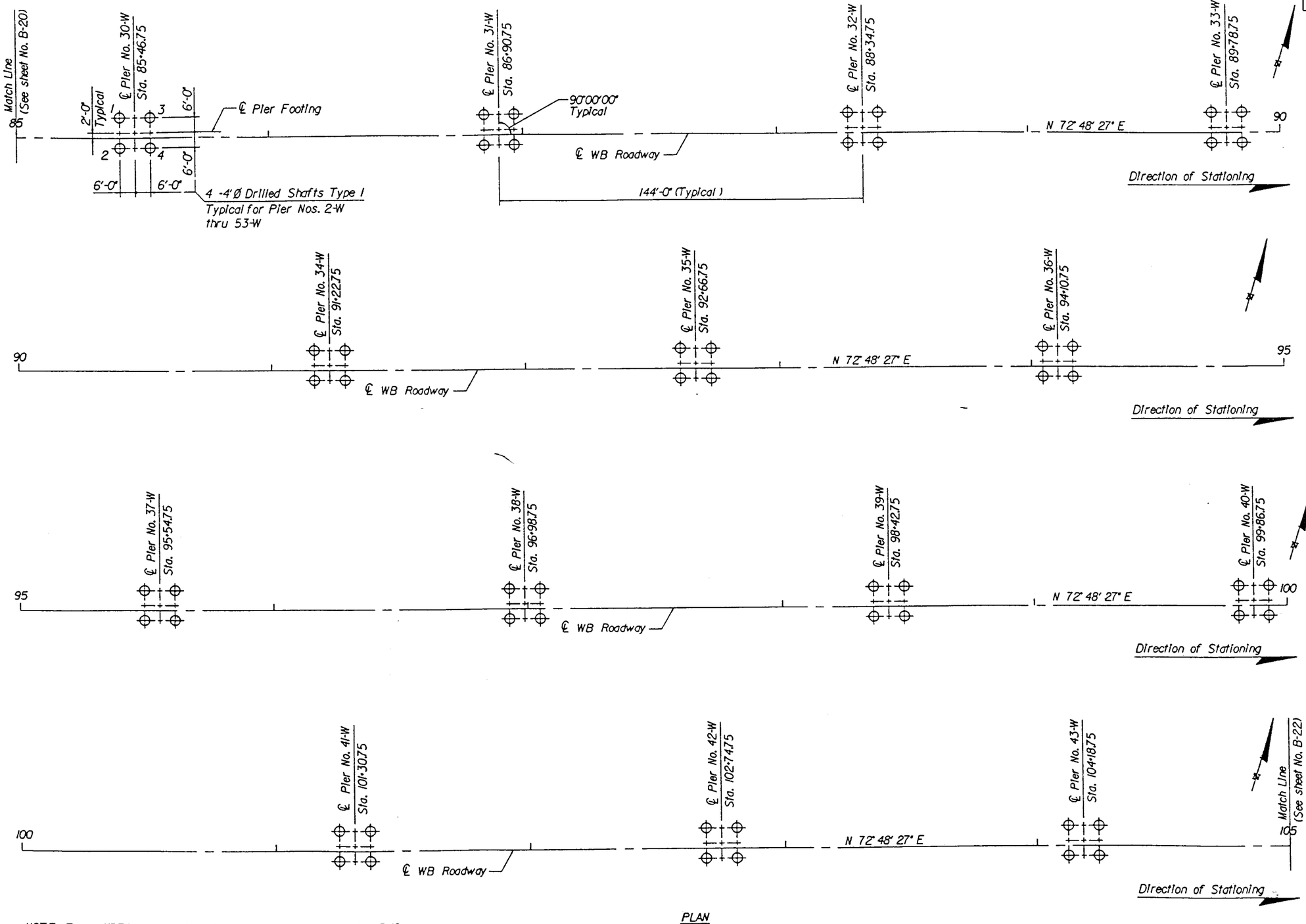
Drawing No.

PROJECT NAME: WESTBOUND GANDY BRIDGE

Index No.

S:\BRIDGE\BGANDY\A1\FL2.DGN S:\BRIDGE\BGANDY\A1\FL2.PRF 10/19/93 03:06:14

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-21



PLAN

NOTE: For "NOTES FOR FOUNDATION LAYOUT", see Sheet No. B-19.

ALTERNATE I

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	1-93
Checked by	B.O.K.	9-93
Designed by	S.S.	1-93
Checked by	B.O.K.	9-93
Approved by	S.H.W.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
1190 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

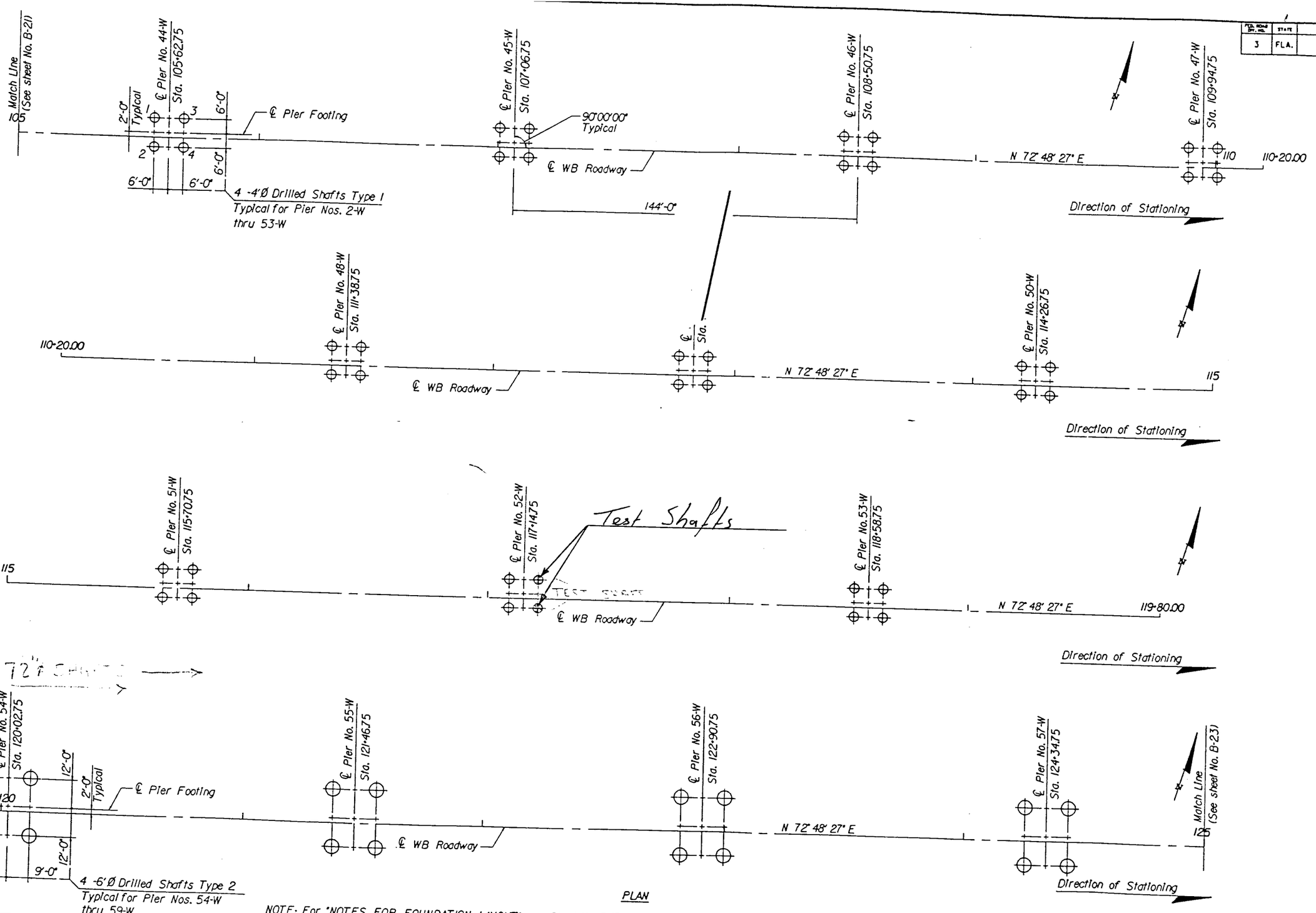
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: FOUNDATION LAYOUT (3)
Drawing No.
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

S:\BRIDGE\BGANDY\AI\FL3.DGN S:\BRIDGE\BGANDY\AI\FL3.PRF 10/19/93 03:06:50

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-22



PLAN

NOTE: For "NOTES FOR FOUNDATION LAYOUT", see Sheet No. B-19.

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	1-93
Checked by	B.O.K.	9-93
Designed by	S.S.	1-93
Checked by	B.O.K.	9-93
Approved by	S.H.W.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
1190 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

ALTERNATE I

SHEET TITLE: FOUNDATION LAYOUT (4)

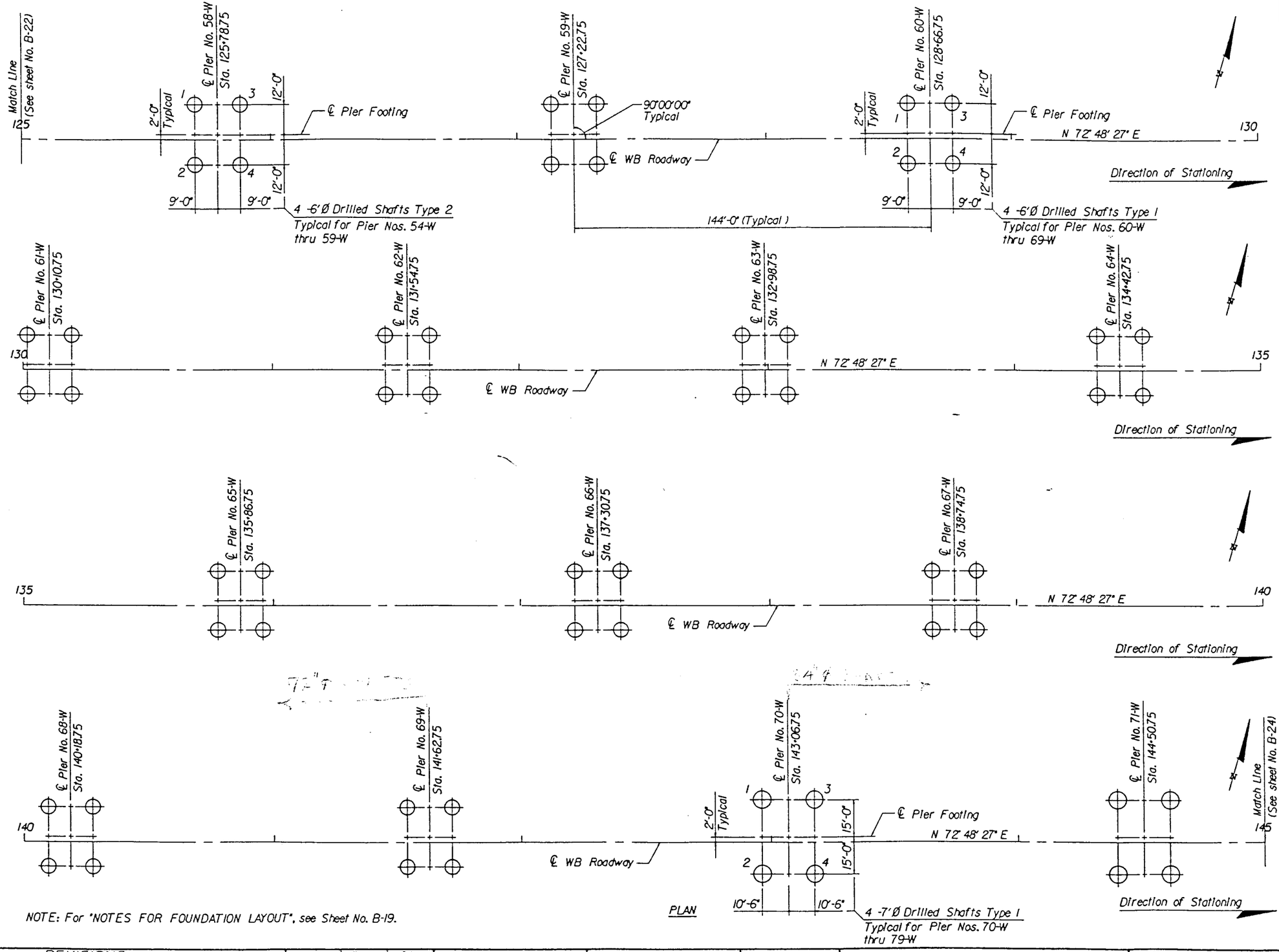
Drawing No.

PROJECT NAME: WESTBOUND GANDY BRIDGE

Index No.

S:\BRIDGE\BGANDY\AI\FL4.DGN S:\BRIDGE\BGANDY\AI\FL4.PRF 11/22/93 19:44:43

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-23



PLAN

NOTE: For "NOTES FOR FOUNDATION LAYOUT", see Sheet No. B-19.

ALTERNATE I

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	1-93
Checked by	B.O.K.	9-93
Designed by	S.S.	1-93
Checked by	B.O.K.	9-93
Approved by	S.H.W.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
1190 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

SHEET TITLE: FOUNDATION LAYOUT (5)
Drawing No.
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

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FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-24

Match Line (See sheet No. B-23)

145

℄ Pier No. 72-W Sta. 145+94.75

2'-0" Typical

1 2 3 4

15'-0" 15'-0"

10'-6" 10'-6"

℄ Pier Footing

4 -7'Ø Drilled Shafts Type I Typical for Pier Nos. 70-W thru 79-W

℄ Pier No. 73-W Sta. 147+38.75

90°00'00" Typical

℄ WB Roadway

℄ Pier No. 74-W Sta. 148+82.75

N 72° 48' 27" E

℄ Channel

150

Direction of Stationing

144'-0" (Typical except as noted)

234'-6"

℄ Pier No. 75-W Sta. 151+17.25

150

℄ Pier No. 76-W Sta. 152+61.25

℄ WB Roadway

N 72° 48' 27" E

℄ Pier No. 77-W Sta. 154+05.25

155

234'-6"

Direction of Stationing

℄ Pier No. 78-W Sta. 155+49.25

℄ Pier No. 79-W Sta. 156+93.25

℄ Pier #83-W Sta. 162+69.25

155

N 72° 48' 27" E

℄ WB Roadway

2'-0" Typical

℄ Pier No. 80-W Sta. 158+37.25

1 2 3 4

12'-0" 12'-0"

9'-0" 9'-0"

℄ Pier Footing

4 -6'Ø Drilled Shafts Type I Typical for Pier Nos. 80-W thru 89-W

℄ Pier No. 81-W Sta. 159+81.25

160

Direction of Stationing

9.07' 8.93'

11.96' 11.05'

10.89'

11.87'

9.16' 8.93'

℄ Footing

℄ Pier No. 82-W Sta. 161+25.25

℄ Pier No. 83-W Sta. 162+69.25

160

℄ WB Roadway

N 72° 48' 27" E

℄ Pier No. 84-W Sta. 164+13.25

Match Line (See sheet No. B-25)

165

Direction of Stationing

PLAN

NOTE: For 'NOTES FOR FOUNDATION LAYOUT', see Sheet No. B-19.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	1-93
Checked by	B.O.K.	9-93
Designed by	S.S.	1-93
Checked by	B.O.K.	9-93
Approved by	S.H.W.	

ENGINEER OF RECORD:

BEISWENGER, HOCH & ASSOCIATES, INC.
1190 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10130-3544

ALTERNATE I

SHEET TITLE: FOUNDATION LAYOUT (6)

Drawing No.

PROJECT NAME: WESTBOUND GANDY BRIDGE

Index No.

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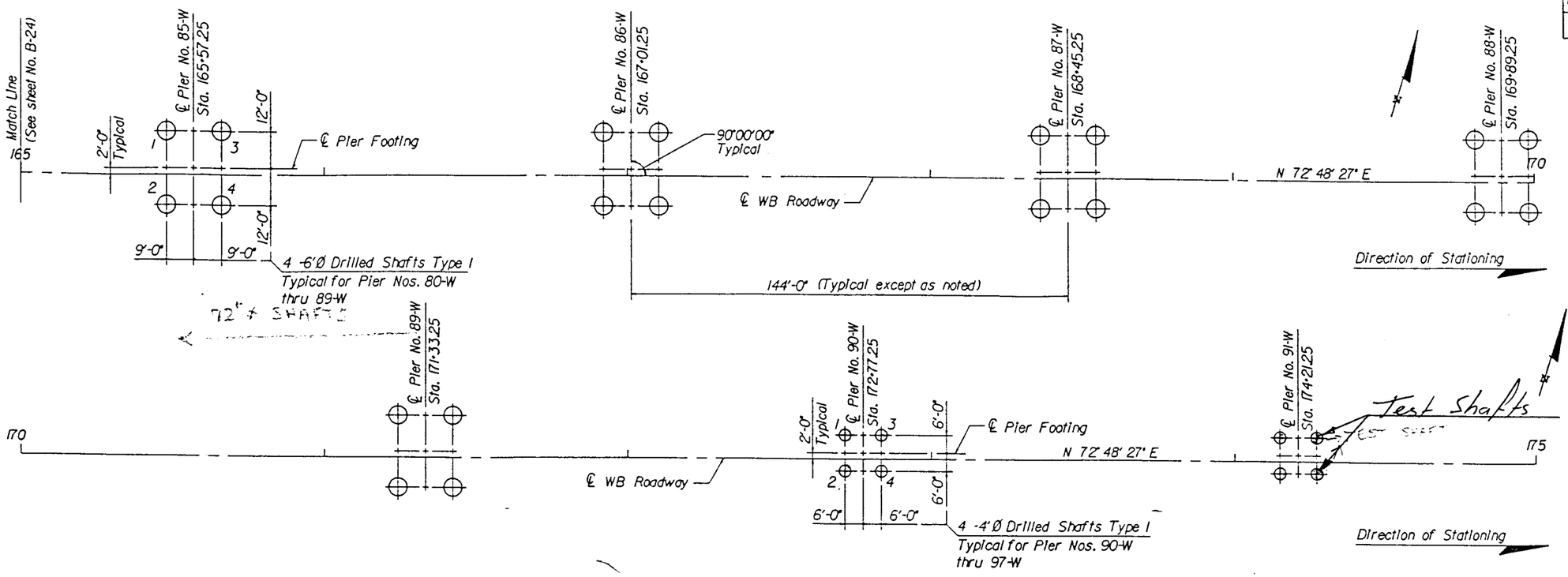
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-25



NOTE: For "NOTES FOR FOUNDATION LAYOUT" see Sheet No. B-19.

PLAN

ALTERNATE I

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.A.P.	1-93
Checked by	B.O.K.	9-93
Designed by	S.S.	1-93
Checked by	B.O.K.	9-93
Approved by	S.H.W.	

ENGINEER OF RECORD:
BEISWENGER, HOCH & ASSOCIATES, INC.
1190 N.E. 163rd Street Suite 203
North Miami Beach, FL 33162

BEISWENGER, HOCH & ASSOCIATES, INC.
CONSULTING ENGINEERS & PLANNERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 600	PINELLAS/HILLSBOROUGH	10030-3544

SHEET TITLE: FOUNDATION LAYOUT (7)
Drawing No.
PROJECT NAME: WESTBOUND GANDY BRIDGE
Index No.

S:\BRIDGE\BGANDY\AI\FL7.DGN S:\BRIDGE\BGANDY\AI\FL7.PRF 11/22/93 19:46:09

OCT 30 2003

DESIGN/BUILD TEAM

PCL CIVIL CONSTRUCTORS, INC.

JMI ENGINEERS, INC.

PARSONS

TAMPA BAY ENGINEERING, INC.

PROFESSIONAL SERVICE INDUSTRIES, INC.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

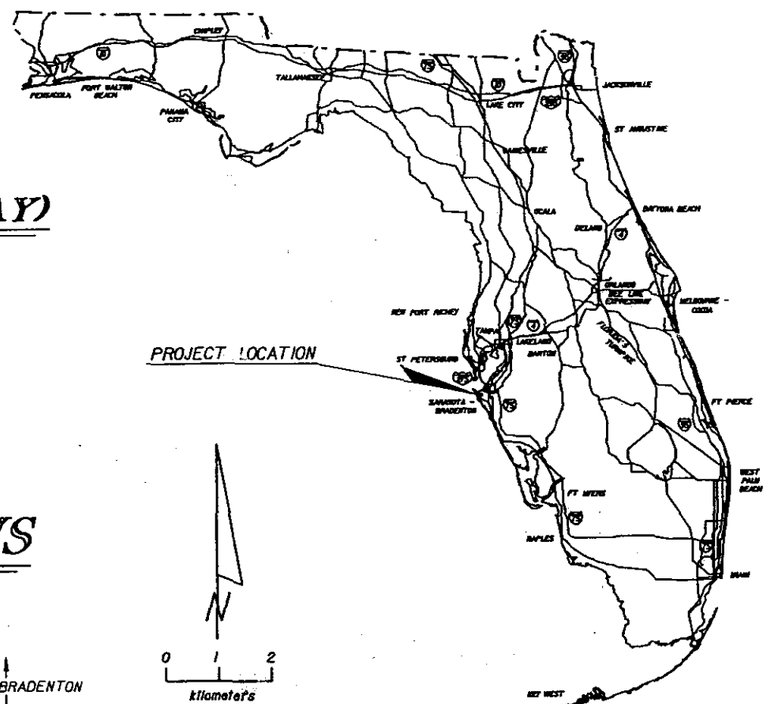
FINAL "AS BUILT" PLANS

~~DESIGN/BUILD PLANS~~

STATE ROAD NO. 789 (RINGLING CAUSEWAY)

FINANCIAL PROJECT ID 197942-1-52-01
STATE PROJECT NO. 17030-3509
(FEDERAL FUNDS)
SARASOTA COUNTY

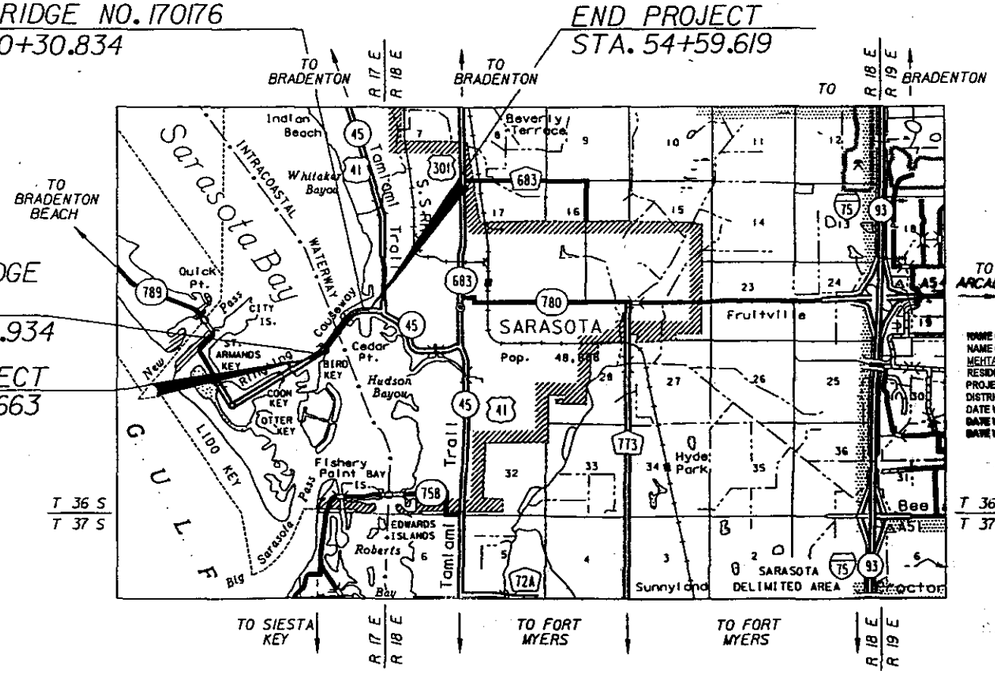
W.P.I. NO. 1119232



FINAL STRUCTURES PLANS

END BRIDGE NO. 170176
STA. 50+30.834

END PROJECT
STA. 54+59.619



BEGIN BRIDGE NO. 170176
STA. 40+86.934

BEGIN PROJECT
STA. 38+70.663
(K.P. 1.899)

Revisions (05/02):
B-1 THRU B-9
B-13
B-15
B-16
B-21
B-22
B-24
B-26 THRU B-32
B-34 THRU B-38
B-40
B-41
B-43 THRU B-55
B-57
B-59
B-61 THRU 70
B-73
B-75
B-77 THRU B-80
B-82
B-83
B-91 THRU B-99
B-102 THRU B-106
B-109 THRU B-111
B-113
B-115
B-117
B-118
B-120
B-123 THRU B-127

Revisions (07/02):
B-3
B-5
B-6
B-7
B-8
B-11
B-29 THRU B-31
B-40
B-41
B-43
B-53
B-57
B-98

Revisions (08/02):
SW-2, SW-3
SW-5 THRU SW-8
SW-11

Revisions (11/02):
B-107
B-122A

Revisions (01/03):
B-1, B-2
B-27A, B-27B
B-40, B-41
B-45 THRU B-47U, B-51 THRU B-54
B-56 THRU B-57A, B-60, B-66
B-67 THRU B-70E
B-72A THRU B-72J
B-74A THRU B-74G
B-79A, B-79F
B-80 THRU B-91, B-97A
B-98 THRU B-99B
B-93
B-102
B-123 THRU B-126
B-128 THRU B-154
SW-6

Revisions (02/03):
SW-2
SW-3

Revisions (03/03):
B-11
B-72A THRU B-72G
B-72J

COMPONENTS OF CONTRACT PLANS SET

BRIDGE DRAWING PLANS
LIGHTING PLANS
SEAWALL PLANS
ROADWAY PLANS
SIGNING AND PAVEMENT MARKING PLANS
RETAINING WALL PLANS
TEMPORARY WALL PLANS

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
ROADWAY AND TRAFFIC DESIGN STANDARDS
DATED JANUARY 2000, AND
STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE
CONSTRUCTION DATED 2000,
AS AMENDED BY CONTRACT DOCUMENTS.

NAME OF CONTRACTOR: PCL CIVIL CONSTRUCT., INC.
NAME OF CONSULTANTS INVOLVED: RS&H CS, TYLI, MEHTA, & INFRASTRUCTURE
RESIDENT ENGINEER: MARY ELLEN MAURER
PROJECT ADMINISTRATOR: ALBERT ROSENSTEIN
DISTRICT SECRETARY: RICK LANGLEY
DATE WORK STARTED: AUGUST 1, 2001
DATE WORK SUBSTANTIALLY ACCEPTED: 12/2003
DATE WORK FINAL ACCEPTANCE OR COMPLETED: 12/2003

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD. THESE PLANS REFLECT "AS BUILT" CONDITIONS AND NO CHANGES WERE MADE TO THE ORIGINAL PLANS.
Mark Mann 3/7/04

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD. IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED IN BLACK INK REVISIONS AND BEAR THE SEAL, SIGNATURE AND DATE OF THE RESPONSIBLE ENGINEER.
MAR 2 2004
By 750.00

3/21/03

1/14/04

Engineer of Record: John W. Jordan, Jr.
P.E. No.: 50894

JMI Engineers, Inc.
1424 Piedmont Drive East, Suite 100
Tallahassee, FL 32308
License No: 5991

CONSTRUCTION LEADERS

PCL CIVIL CONSTRUCTORS, INC.
9900 WEST SAMPLE ROAD, SUITE 203
CORAL SPRINGS, FLORIDA 33065
TEL: (954) 345-1725
FL. LIC. # C011358

Bridge 170176

SHEET No. 1

08/18/03 040500 PW F:\PROJECTS\FDOT\RINGLING_DESIGN_BUILD\structures\superstructure\worklinks

BEGIN BRIDGE
STA. 40+86.934

BEGIN APP. SLAB
STA. 40+80.934

Direction of Stationing

SEAWALL SEE ROADWAY PLANS

WETLAND JURISDICTIONAL BOUNDARY (MEAN HIGH WATER)

TEST SHAFT

R/W

MATCH LINE STA. 41+60.000

39

N 59°01'50" E

400 WM

150 GM

BT

P.C. 30 GM

40

℄ CONSTRUCTION AND P.G.L.

CURVE NO. 2

356.000

San MH

BE

BE-CATV

350 SAN

℄ SURVEY S.R. 789

10

N 59°01'50" E

℄ CURVE NO. 1

M.H.

2.4 CONC. SW

CATV

BRIDGE NO. 170176

POND NO. 1

R/W

MATCH LINE STA. 41+60.000

32.390 m
16.195 m
460 TRAFFIC BARRIER
360 PLINTH
1.800 m SHOULDER
7.200 m ROADWAY
1.500 m BICYCLE LANE
1.500 m SHOULDER
3.070 m SIDEWALK

460 TRAFFIC BARRIER
360 PLINTH
610 MEDIAN BARRIER
1.800 m SHOULDER
7.200 m ROADWAY
1.500 m BICYCLE LANE
1.500 m SHOULDER
3.070 m SIDEWALK

P-1
OB-1
OB-2
T-1

PLAN

CURVE DATA
℄ SURVEY S.R. 789 CURVE NO. 1

P.I. STA. 10+92.012
Δ= 20°17'40" LT
T = 73.545
L = 145.548
R = 410.913
P.C. STA. 10+18.467
P.T. STA. 11+64.015

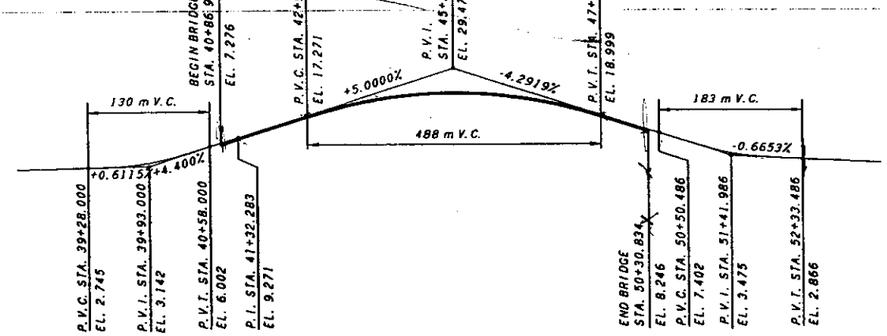
CURVE DATA
℄ CONST. CURVE NO. 2

P.I. STA. 40+63.827
Δ= 20°17'40" LT
T = 95.753
L = 189.500
R = 535.000
P.C. STA. 39+68.074
P.T. STA. 41+57.574
e = 0.03

TRAFFIC DATA

1999 AADT = 34,000
2003 AADT = 38,000
2023 AADT = 57,800
K = 10.1%, D = 51.9%, T = 6.8% (24hr)
DESIGN HOUR T = 4.00%

DESIGN SPEED = 80 KM/H
POSTED SPEED = 45 MPH



VERTICAL GEOMETRY ALONG PROFILE GRADE LINE

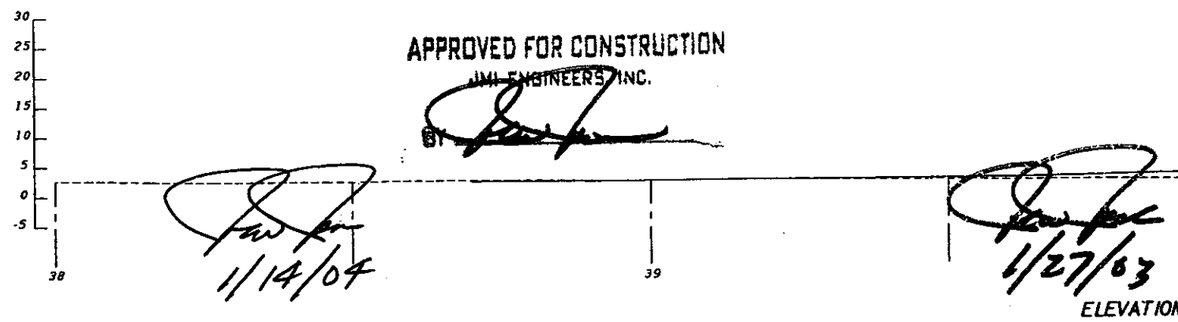
LEGEND

- DENOTES SEAGRASS AREAS.
- P-1 DENOTES BORING NO. AND LOCATION
- OB-2 DENOTES BORINGS PROVIDED WITH ~~DESIGN / BUILD~~ RFQ.
- E DENOTES EXPANSION

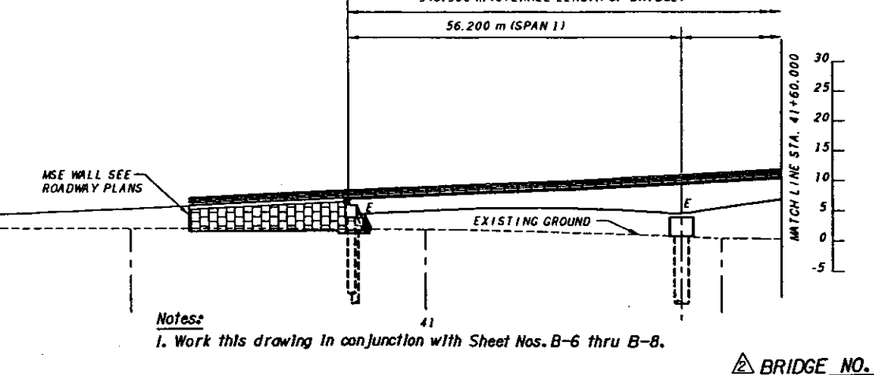
APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY

1/14/04

1/27/03



ELEVATION



Notes:
1. Work this drawing in conjunction with Sheet Nos. B-6 thru B-8.

2 BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
05/02	EBS	1. As Noted.			
07/02	EBS	2. Revised & Added Bridge Number. Added MSE Wall and Seawall Reference.			

	NAMES	DATES
DRAWN BY	DLH	10/09/00
CHECKED BY	EBS	10/09/00
DESIGNED BY	MF	10/09/00
CHECKED BY	JWJ	10/09/00
APPROVED BY	J.W. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS
JOHN W. JORDAN JR., PE
FLORIDA LICENSE NO. 50894
CERTIFICATE OF AUTHORIZATION NO. 8115
1424 PIEDMONT DRIVE EAST, SUITE 100
TALLAHASSEE, FL 32308 TEL: 850-385-7450

LOGO:
PCL CONSTRUCTION LEADERS
JMI ENGINEERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE:
GENERAL PLAN AND ELEVATION 1 OF 4

PROJECT NAME:
STATE ROAD 789 (RINGLING CSWY)
OVER INTRACOASTAL WATERWAY
2 BRIDGE NO. 170176

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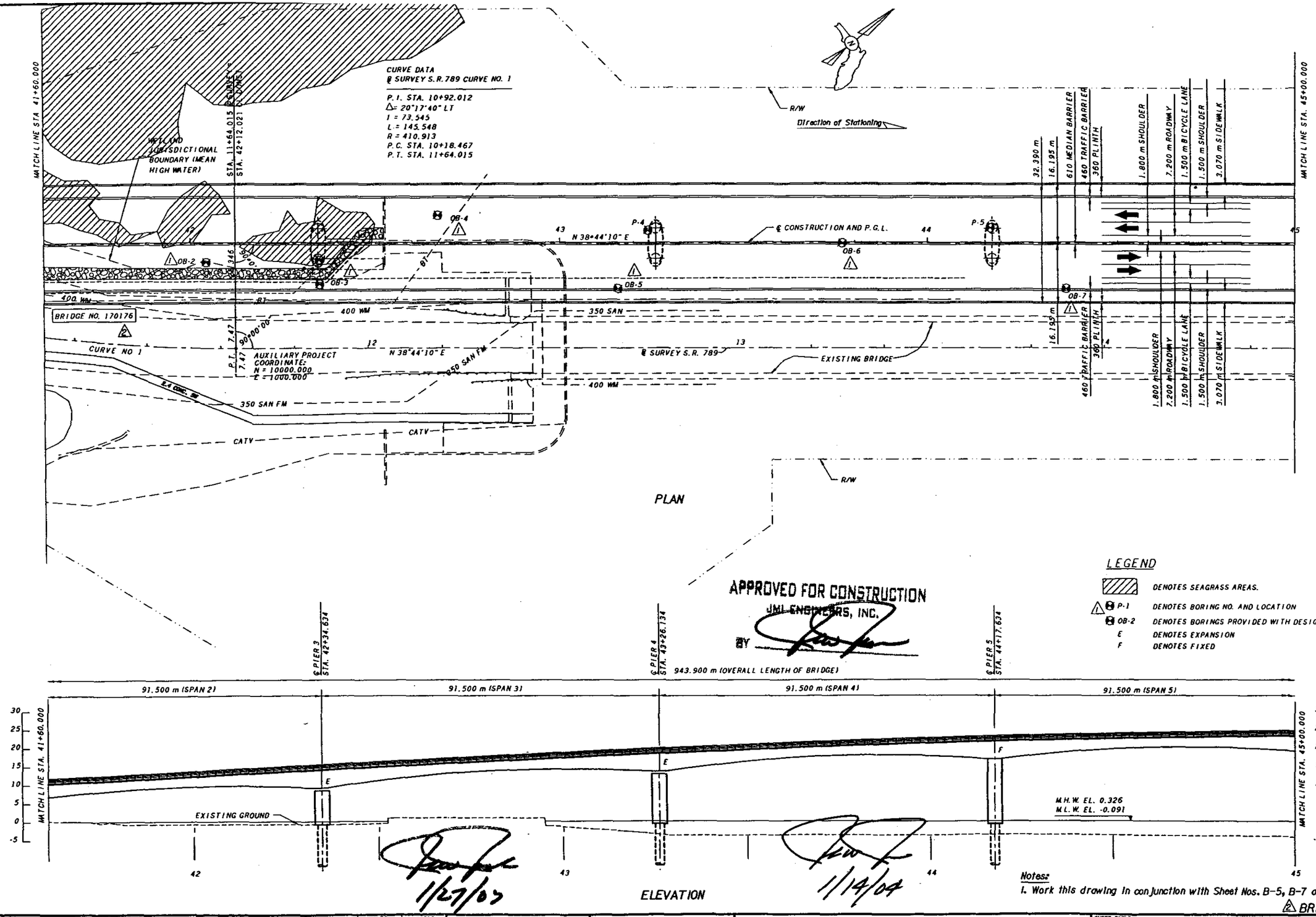

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY

LEGEND

- DENOTES SEAGRASS AREAS.
- P-1 DENOTES BORING NO. AND LOCATION
- OB-2 DENOTES BORINGS PROVIDED WITH DESIGN / BUILD RFQ.
- E DENOTES EXPANSION
- F DENOTES FIXED

Notes:
1. Work this drawing in conjunction with Sheet Nos. B-5, B-7 and B-8.

2 BRIDGE NO. 170176

1/27/03 1/14/04

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
05/02	EBS	1. As Noted.			
07/02	EBS	2. Revised & Added Bridge Number.			

	NAMES	DATES
DRAWN BY	DLH	10/09/00
CHECKED BY	EBS	10/09/00
DESIGNED BY	MF	10/09/00
CHECKED BY	JWJ	10/09/00
APPROVED BY	J.W. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS
JOHN W. JORDAN JR., PE
FLORIDA LICENSE NO. 50894
CERTIFICATE OF AUTHORIZATION NO. 8115
1424 PIEDMONT DRIVE EAST, SUITE 100
TALLAHASSEE, FL 32308 TEL: 850-385-7450

LOGO:
CONSTRUCTION LEADERS ENGINEERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: GENERAL PLAN AND ELEVATION 2 OF 4

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY
2 BRIDGE NO. 170176

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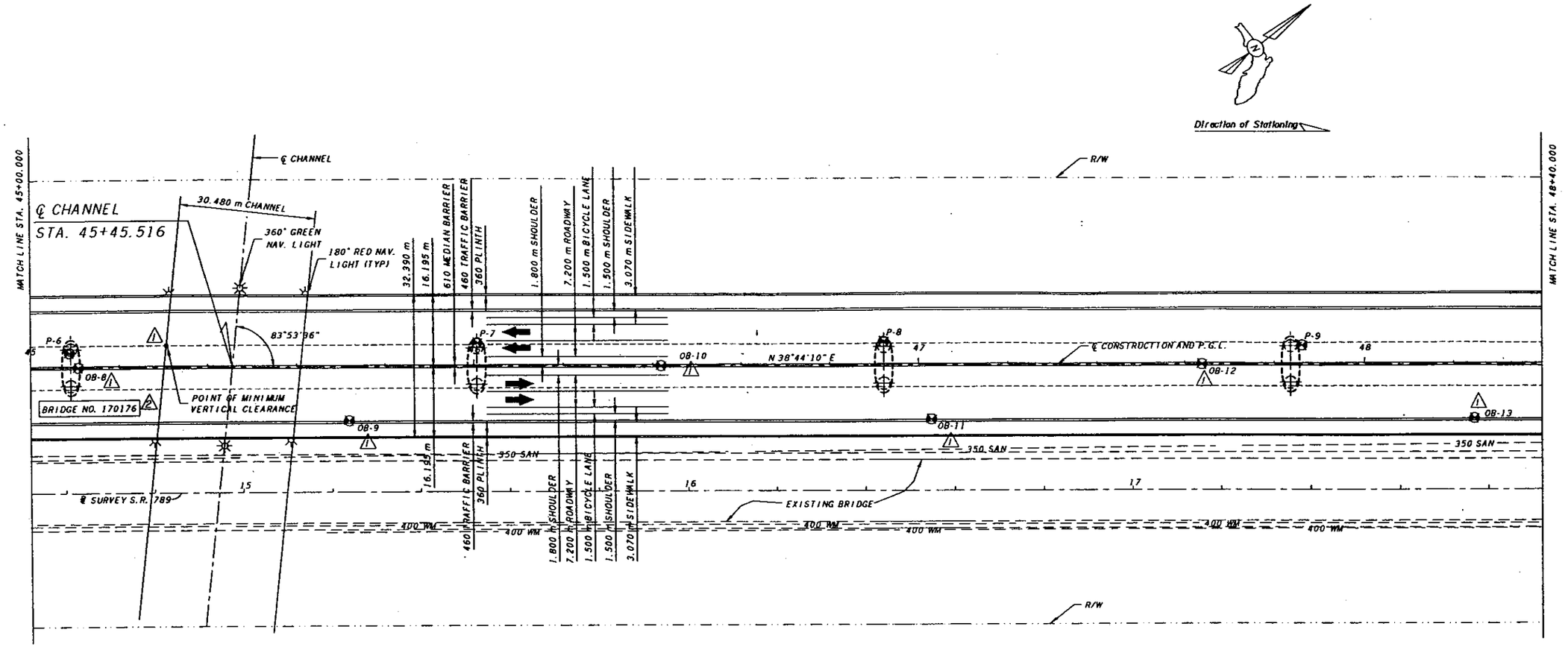
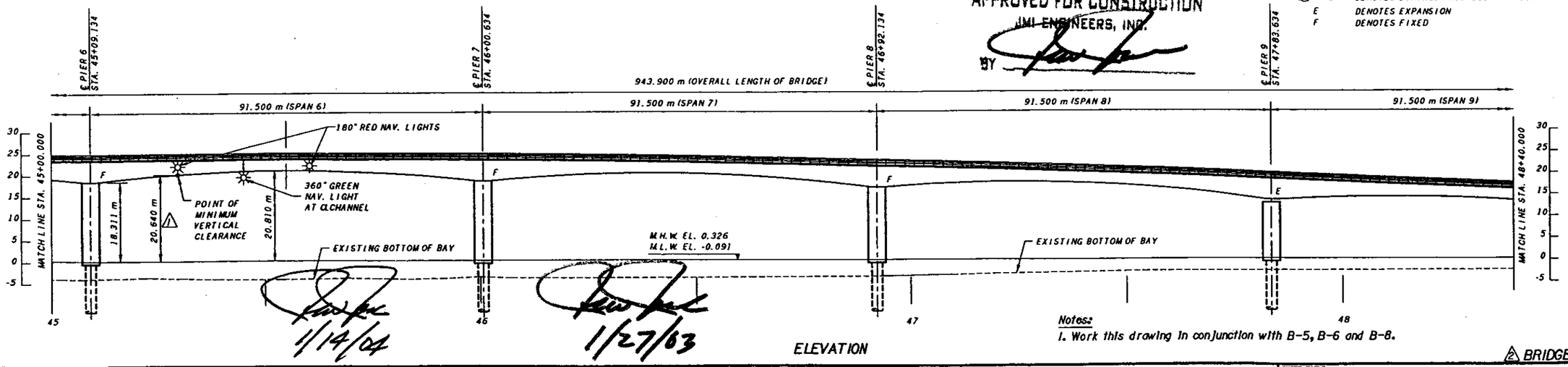


PLAN



ELEVATION

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY
1/14/04
1/27/03

LEGEND

- △ P-1 — DENOTES BORING NO. AND LOCATION
- OB-2 — DENOTES BORINGS PROVIDED WITH DESIGN / BUILD RFQ.
- E — DENOTES EXPANSION
- F — DENOTES FIXED

Notes:
1. Work this drawing in conjunction with B-5, B-6 and B-8.

△ BRIDGE NO. 170176

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
05/02	EBS	1. Revised Min. Vert. Clr. location and height and boring callout.			
07/02	EBS	2. Revised & Added Bridge Number.			

	NAMES	DATES
DRAWN BY	DLH	10/09/00
CHECKED BY	EBS	10/09/00
DESIGNED BY	MF	10/09/00
CHECKED BY	JWJ	10/09/00
APPROVED BY	J.W. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS
JOHN W. JORDAN JR., PE
FLORIDA LICENSE NO. 50894
CERTIFICATE OF AUTHORIZATION NO. 8115
1424 PIEDMONT DRIVE EAST, SUITE 100
TALLAHASSEE, FL 32308 TEL: 850-385-7450

LOGO:
PCL CONSTRUCTION LEADERS ENGINEERS
JMI

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: GENERAL PLAN AND ELEVATION 3 OF 4

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY △ BRIDGE NO. 170176

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CURVE DATA ℄ SURVEY S.R. 789 CURVE NO. 3
P.I. STA. 21+80.446
Δ= 51°20'54" RT
T = 209.877
L = 391.276
R = 436.596
P.C. STA. 19+70.569
P.T. STA. 23+61.845

CURVE DATA ℄ CONST. CURVE NO. 4
P.I. STA. 52+05.781
Δ= 51°20'54" RT
T = 257.181
L = 479.466
R = 535.000
P.C. STA. 49+48.600
P.T. STA. 54+28.066
e = 0.03

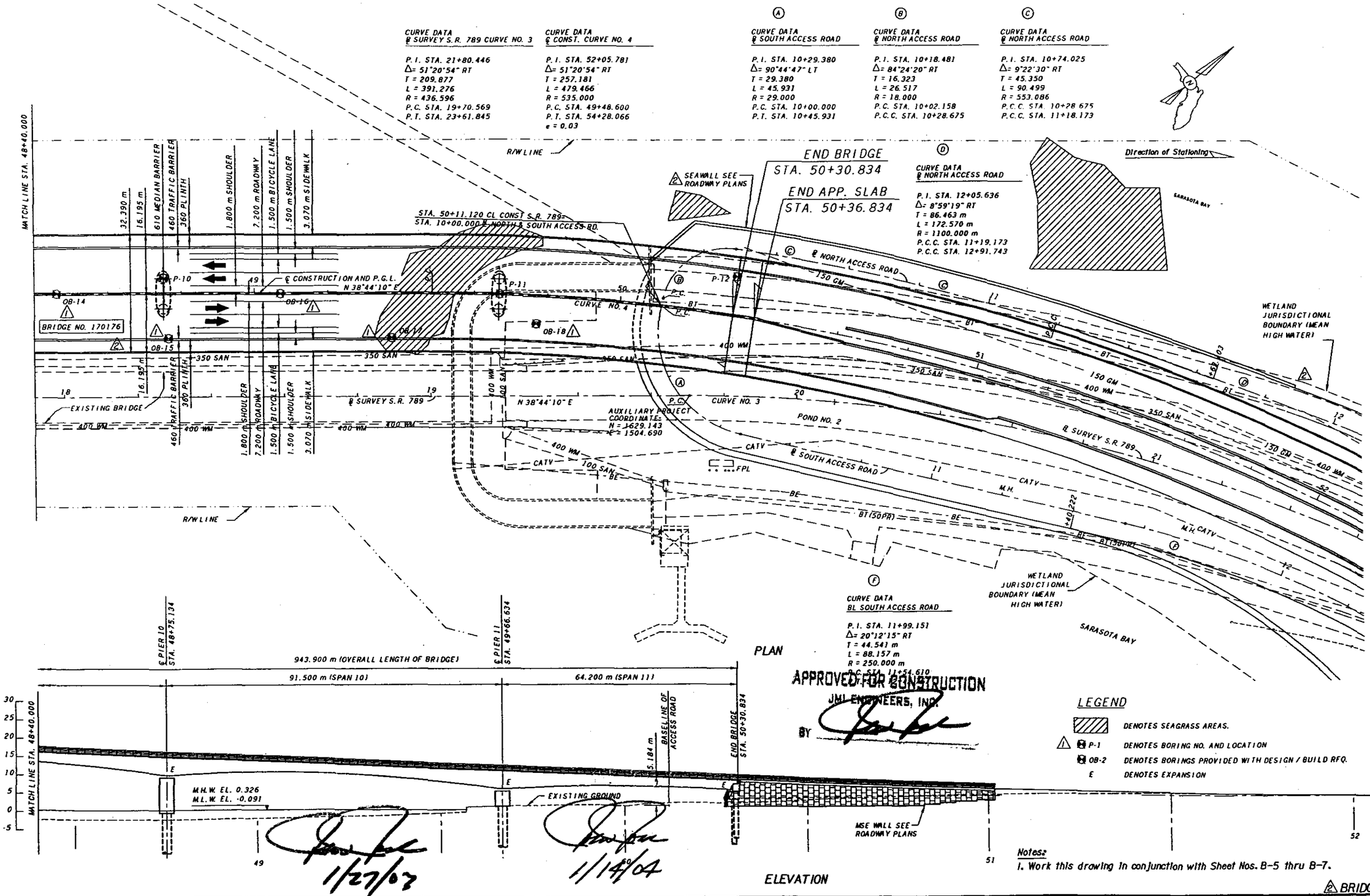
Ⓐ CURVE DATA ℄ SOUTH ACCESS ROAD
P.I. STA. 10+29.380
Δ= 90°44'47" LT
T = 29.380
L = 45.931
R = 29.000
P.C. STA. 10+00.000
P.T. STA. 10+45.931

Ⓑ CURVE DATA ℄ NORTH ACCESS ROAD
P.I. STA. 10+18.481
Δ= 84°24'20" RT
T = 16.323
L = 26.517
R = 18.000
P.C. STA. 10+02.158
P.C.C. STA. 10+28.675

Ⓒ CURVE DATA ℄ NORTH ACCESS ROAD
P.I. STA. 10+74.025
Δ= 9°22'30" RT
T = 45.350
L = 90.499
R = 553.086
P.C.C. STA. 10+28.675
P.C.C. STA. 11+18.173

Ⓓ CURVE DATA ℄ NORTH ACCESS ROAD
P.I. STA. 12+05.636
Δ= 8°59'19" RT
T = 86.463 m
L = 172.570 m
R = 1100.000 m
P.C.C. STA. 11+19.173
P.C.C. STA. 12+91.743

Ⓕ CURVE DATA BL SOUTH ACCESS ROAD
P.I. STA. 11+99.151
Δ= 20°12'15" RT
T = 44.541 m
L = 88.157 m
R = 250.000 m
P.C. STA. 11+54.610



PLAN

ELEVATION

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY

1/27/04
1/14/04

LEGEND

	DENOTES SEAGRASS AREAS.
△ P-1	DENOTES BORING NO. AND LOCATION
OB-2	DENOTES BORINGS PROVIDED WITH DESIGN / BUILD RFQ.
E	DENOTES EXPANSION

Notes:
1. Work this drawing in conjunction with Sheet Nos. B-5 thru B-7.

2 BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
05/02	EBS	1. As Noted.			
07/02	EBS	2. Revised & Added Bridge Number. Added MSE Wall and Seawall Reference.			

	NAMES	DATES
DRAWN BY	DLH	10/09/00
CHECKED BY	EBS	10/09/00
DESIGNED BY	MF	10/09/00
CHECKED BY	JWJ	10/09/00
APPROVED BY	J.W. JORDAN, P.E.	

ENGINEER OF RECORD: JMI ENGINEERS
JOHN W. JORDAN JR., PE
FLORIDA LICENSE NO. 50894
CERTIFICATE OF AUTHORIZATION NO. 8115
1424 PIEDMONT DRIVE EAST, SUITE 100
TALLAHASSEE, FL 32308 TEL: 850-385-7450

LOGO: PCL CONSTRUCTION LEADERS / JMI ENGINEERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: GENERAL PLAN AND ELEVATION 4 OF 4

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY
2 BRIDGE NO. 170176

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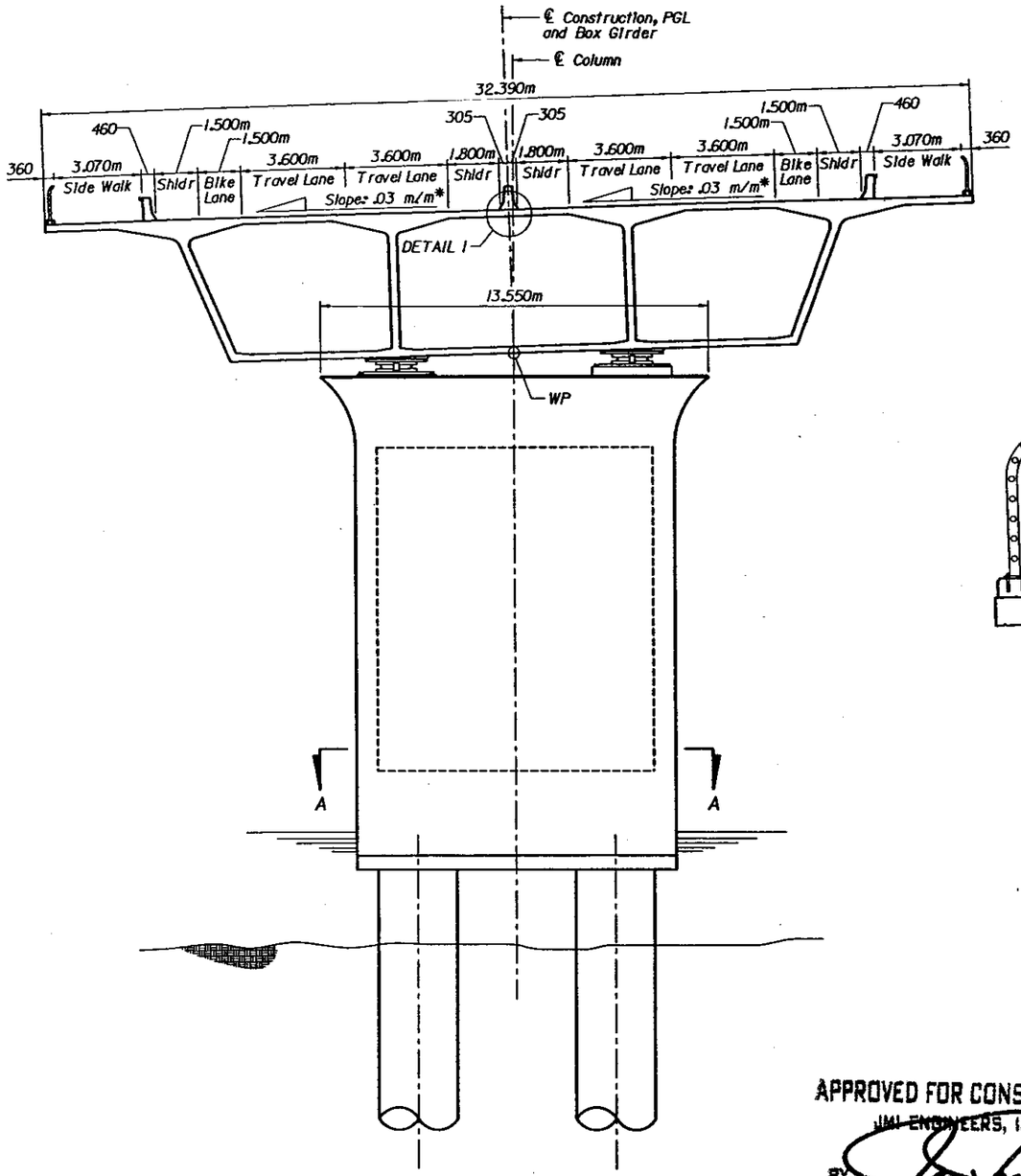
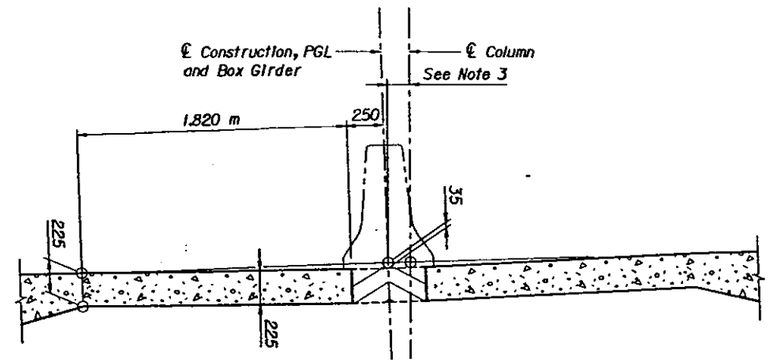
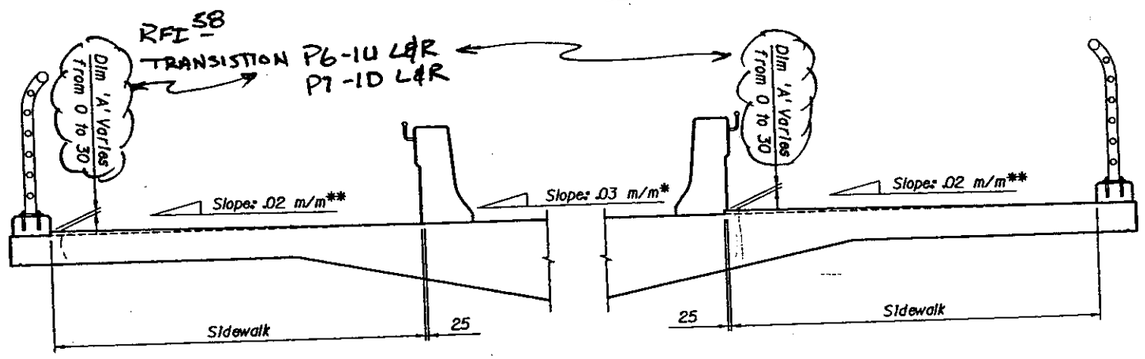


TYPICAL BRIDGE SECTION
STA. 40+86.934 TO STA. 44+69.884 (Looking Upstation)
STA. 46+39.884 TO STA. 50+30.834 (Looking Downstation)

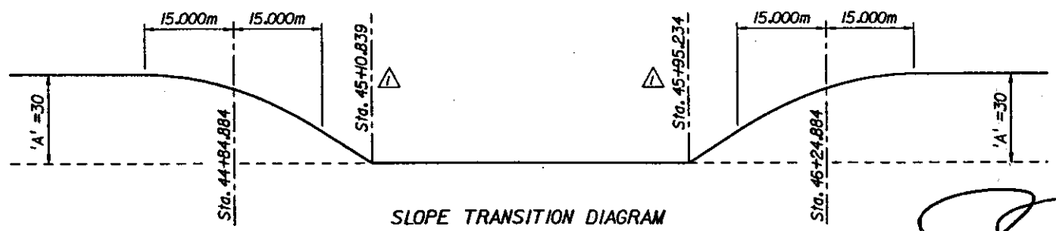
* Slope varies between STA. 44+69.884 to STA. 46+39.884.
** Slope matches travel lanes between STA. 45+08.217 to STA. 46+01.551.



DETAIL I



ELEVATION



SLOPE TRANSITION DIAGRAM

SIDEWALK DETAIL

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY _____

1/27/03

1/14/04

Notes:
1. Work this drawing in conjunction with Sheet No. B-10.
2. For Foundation Layouts see Sheet Nos. B-15 thru B-21.
3. For Offset Dimension See Sheet Nos. B-15 thru B-21.
4. WP denotes Working Point.

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
05/02	JMH	1. Revised Sidewalk Detail Sta.			
0104	JJ	AS BUILTS			

	NAMES	DATES
DRAWN BY	DLH	08/01
CHECKED BY	EBS	08/01
DESIGNED BY	MF	08/01
CHECKED BY	JWJ	08/01
APPROVED BY	J.W. JORDAN, P.E.	

ENGINEER OF RECORD: JMI ENGINEERS
JOHN W. JORDAN JR., PE
FLORIDA LICENSE NO. 50894
CERTIFICATE OF AUTHORIZATION NO. 8115
1424 PIEDMONT DRIVE EAST, SUITE 100
TALLAHASSEE, FL 32308 TEL: 850-385-7450

LOGO: PCL CONSTRUCTION LEADERS — JMI ENGINEERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: TYPICAL BRIDGE SECTION 1 OF 2

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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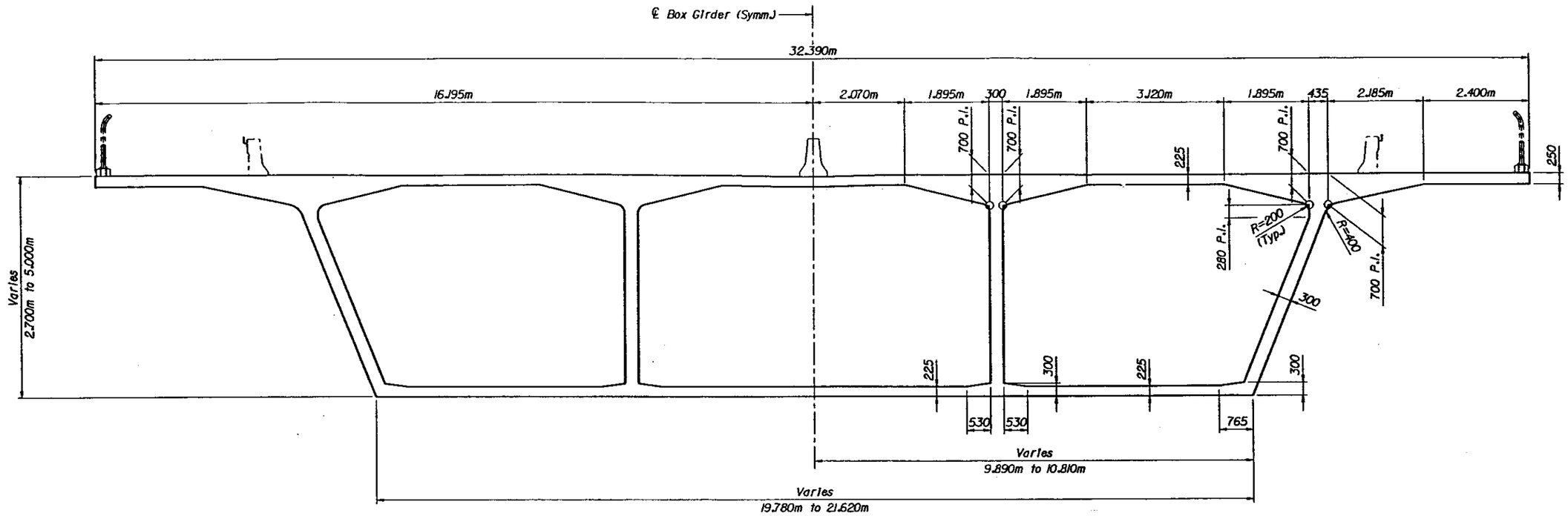
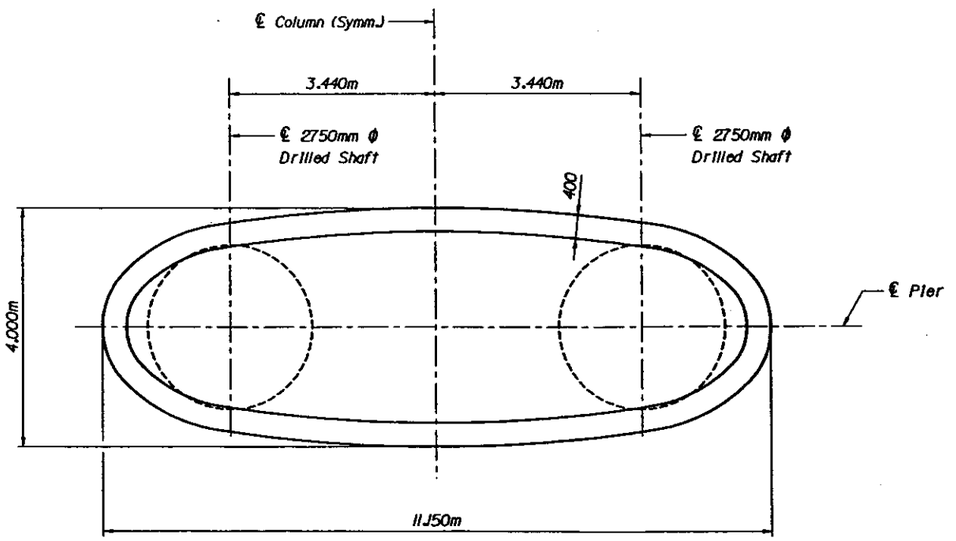


TYPICAL SUPERSTRUCTURE SECTION



TYPICAL SUBSTRUCTURE SECTION A-A

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY

11/27/03

11/14/04

Notes:
1. Work this drawing in conjunction with Sheet No. B-9.

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JMH	09/01
CHECKED BY	EBS	09/01
DESIGNED BY	JL	09/01
CHECKED BY	JWJ	09/01
APPROVED BY	J.W. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS
JOHN W. JORDAN JR., PE
FLORIDA LICENSE NO. 50054
CERTIFICATE OF AUTHORIZATION NO. 8115
1424 PIEDMONT DRIVE EAST, SUITE 100
TALLAHASSEE, FL 32308 TEL: 850-385-7450

LOGO:
PCL CONSTRUCTION LEADERS
JMI ENGINEERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: TYPICAL BRIDGE SECTION 2 OF 2

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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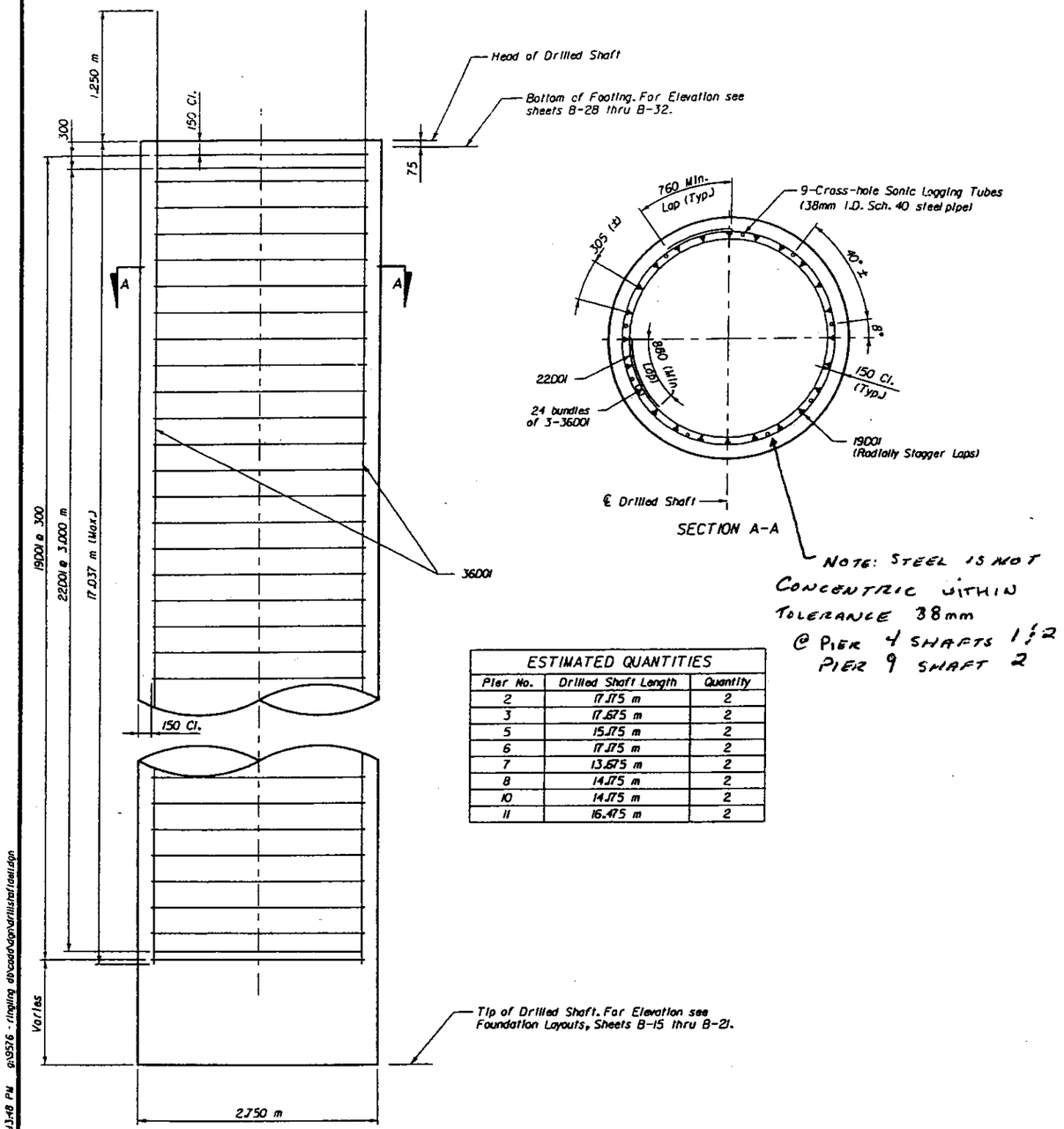
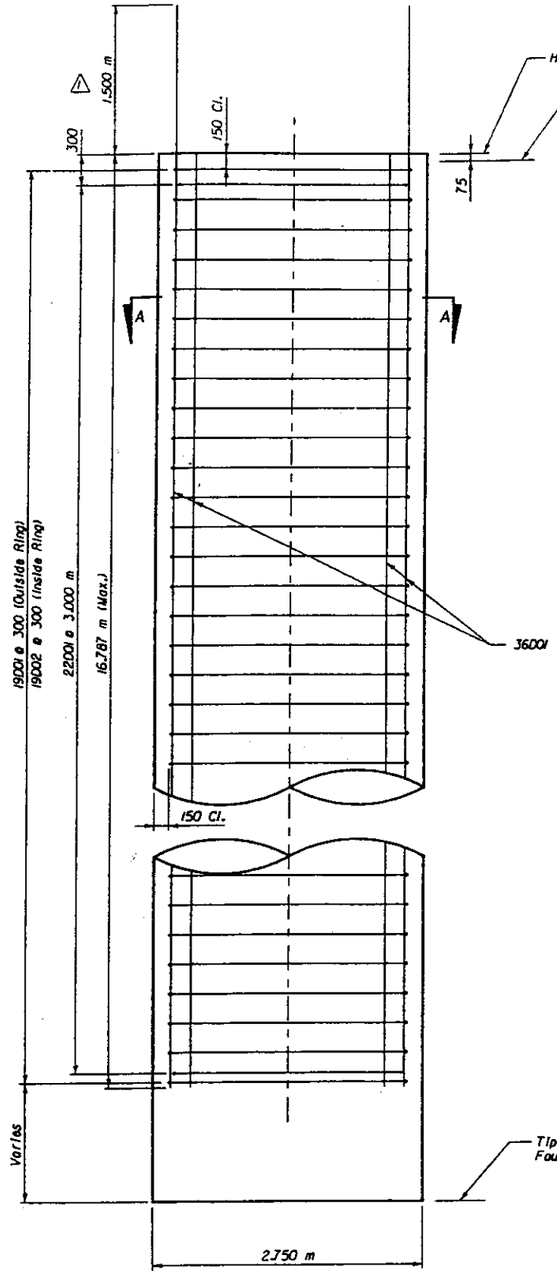
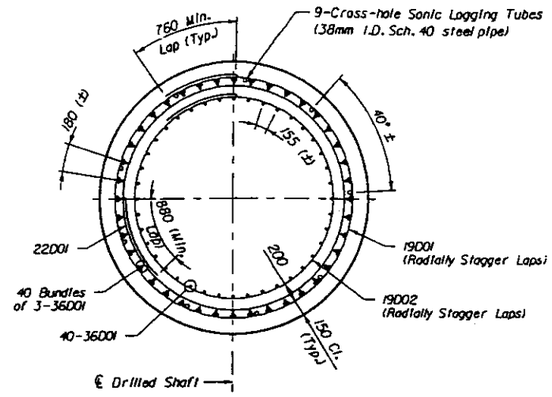


NOTE: STEEL IS NOT CONCENTRIC WITHIN TOLERANCE 38mm @ PIER 4 SHAFTS 1 & 2 PIER 9 SHAFT 2

ESTIMATED QUANTITIES		
Pier No.	Drilled Shaft Length	Quantity
2	17.175 m	2
3	17.675 m	2
5	15.175 m	2
6	17.175 m	2
7	13.675 m	2
8	14.175 m	2
10	14.175 m	2
11	16.475 m	2

ELEVATION - 2.750m Ø DRILLED SHAFT
(For all Piers except Piers 4 & 9)





ESTIMATED QUANTITIES		
Pier No.	Drilled Shaft Length	Quantity
4	18.675 m	2
9	14.675 m	2

ELEVATION - 2.750m Ø DRILLED SHAFT
(For Piers 4 & 9 only)

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
11/27/03

Notes:
1. Concrete shall be poured continuously from tip elevation to shaft head elevation of drilled shaft.
2. Concrete shall be Class IV, 28 MPa.

Philip M. Hartsfield 11/15/04

Philip M. Hartsfield IV 11/27/03

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
5/21/02	CWN	Added dimension.			
0104	JJ	AS BUILTS			

	NAMES	DATES
DRAWN BY	JLS	11/20/01
CHECKED BY	CWN	11/20/01
DESIGNED BY	DCG	11/20/01
CHECKED BY	PMH	11/20/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD. PARSONS

LOGO. PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

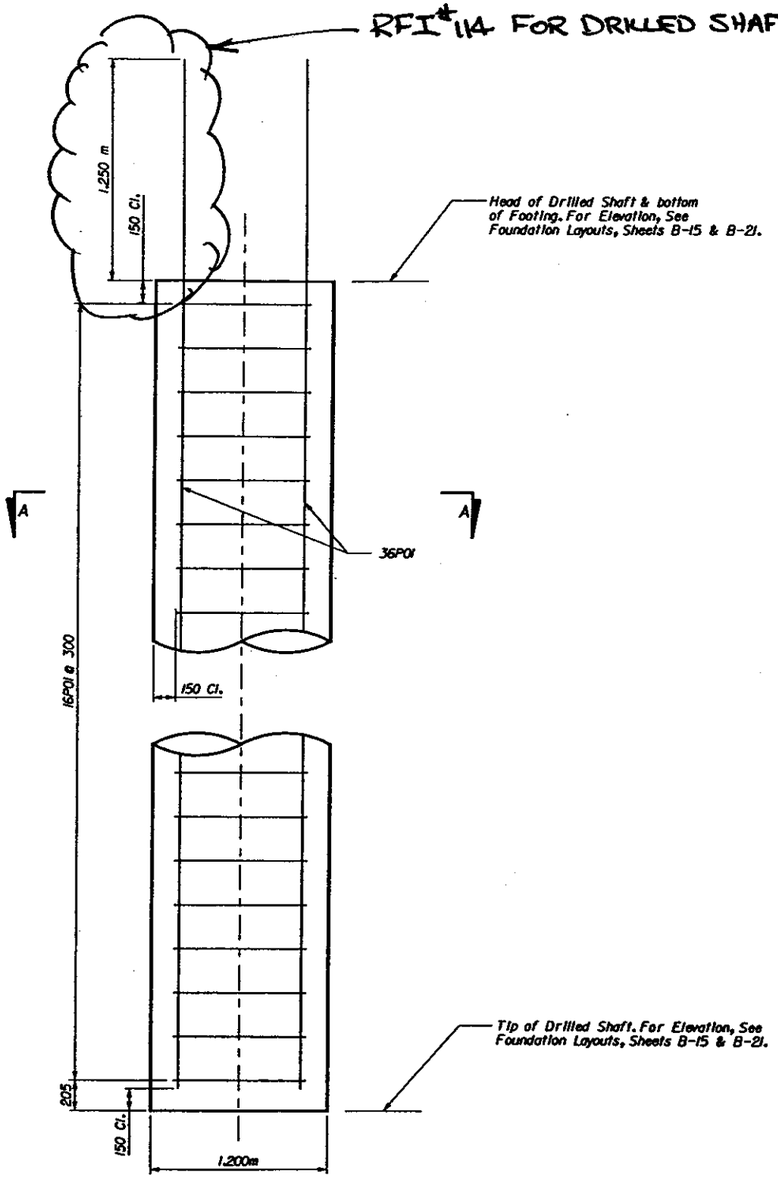
ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: 2.750m Ø DRILLED SHAFT

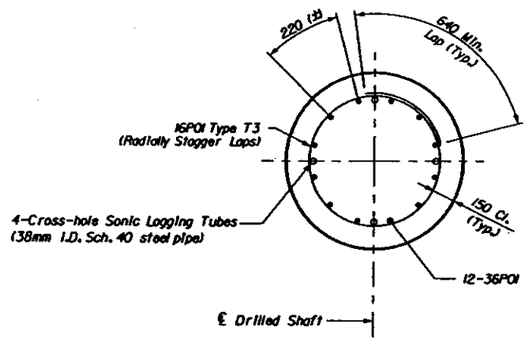
PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

PARSONS - 01/27/2003 04:13:48 PM gb9576 - ringling dbcad\dgn\drillshaftdetail.dgn

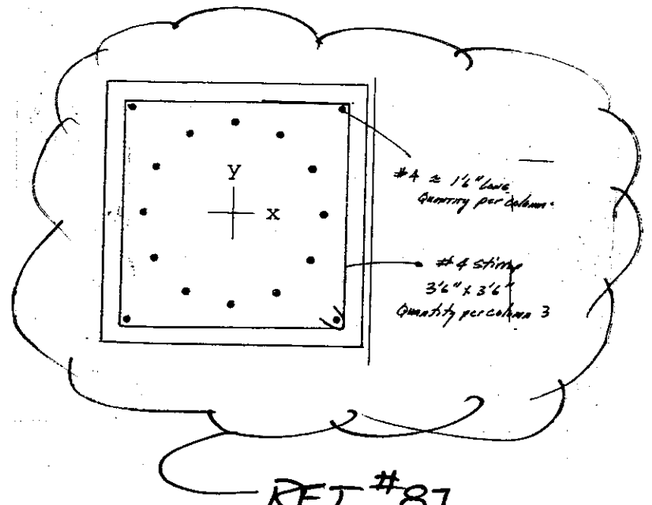
RFI #114 FOR DRILLED SHAFT #1, DEVELOPMENT LENGTH EQUALS 1.070 M.



ELEVATION - 1.200m ⌀ DRILLED SHAFT



SECTION A-A



RFI #87
ABUT #1 (PIER #1) TOP 2' FORMED SQUARE, ADD ADD'L. REBAR AS NOTED ABOVE.

ESTIMATED QUANTITIES / END BENT 1		
Drilled Shaft No.	Drilled Shaft Length	Quantity
1	13.991 m	1
2	14.111 m	1
3	14.471 m	1
4	14.591 m	1

ESTIMATED QUANTITIES / END BENT 12		
Drilled Shaft No.	Drilled Shaft Length	Quantity
1	14.060 m	1
2	13.940 m	1
3	13.580 m	1
4	13.460 m	1

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY
1/27/03

Notes:
1. Concrete shall be poured continuously from tip elevation to shaft head elevation of drilled shaft.
2. Concrete shall be Class IV, 28 MPa.

Philip M Hartsfield 11/15/01

Philip M Hartsfield 11/27/03

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
01 04	JJ	AS BUILTS			

	NAMES	DATES
DRAWN BY	JLS	11/14/01
CHECKED BY	CWN	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY		

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

BRIDGE NO. 170176

SHEET TITLE: 1.200m ⌀ DRILLED SHAFT

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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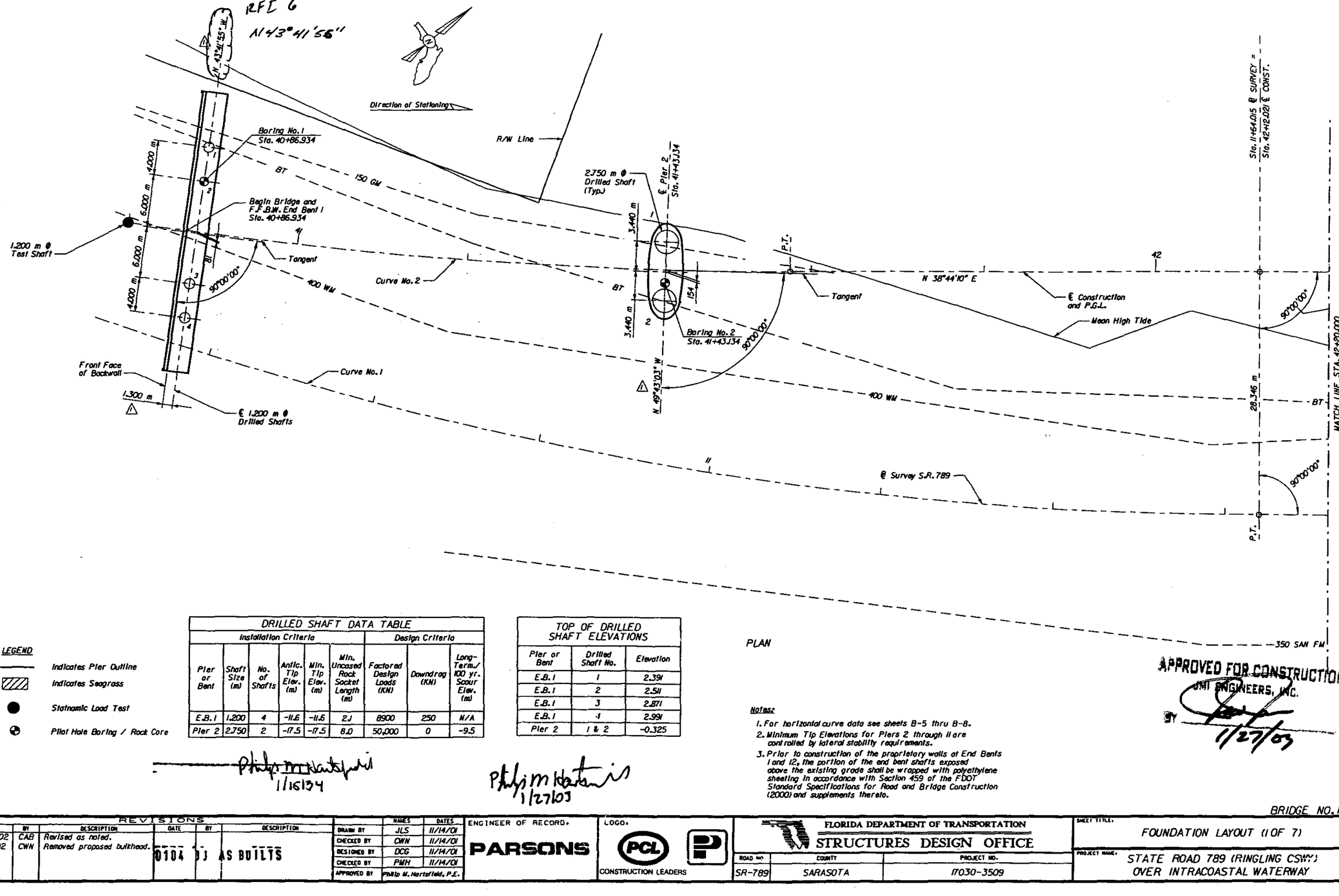
RFI #6
N 43°41'56" W



PLAN

LEGEND

- Indicates Pier Outline
- Indicates Seagrass
- Statnamic Load Test
- Pilot Hole Boring / Rock Core

DRILLED SHAFT DATA TABLE

	Installation Criteria						Design Criteria		
Pier or Bent	Shaft Size (m)	No. of Shafts	Antic. Tip Elev. (m)	Min. Tip Elev. (m)	Min. Uncased Rock Socket Length (m)	Factored Design Loads (KN)	Downdrag (KN)	Long-Term / 100 yr. Scour Elev. (m)
E.B.1	1.200	4	-11.6	-11.6	2.1	8900	250	N/A
Pier 2	2.750	2	-17.5	-17.5	8.0	50,000	0	-9.5

TOP OF DRILLED SHAFT ELEVATIONS

Pier or Bent	Drilled Shaft No.	Elevation
E.B.1	1	2.391
E.B.1	2	2.511
E.B.1	3	2.871
E.B.1	4	2.991
Pier 2	1 & 2	-0.325

Notes:

1. For horizontal curve data see sheets B-5 thru B-8.
2. Minimum Tip Elevations for Piers 2 through 11 are controlled by lateral stability requirements.
3. Prior to construction of the proprietary walls at End Bents 1 and 12, the portion of the end bent shafts exposed above the existing grade shall be wrapped with polyethylene sheeting in accordance with Section 459 of the FDOT Standard Specifications for Road and Bridge Construction (2000) and supplements thereto.

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY
1/27/03

Philip M. Hartsfield
1/16/04

Philip M. Hartsfield
1/27/03

BRIDGE NO. 170176

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2/20/02	CAB	Revised as noted.			
5/21/02	CWH	Removed proposed bulkhead.	0104	DJ	AS BUILTS

	NAMES	DATES
DRAWN BY	JLS	11/14/01
CHECKED BY	CWH	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

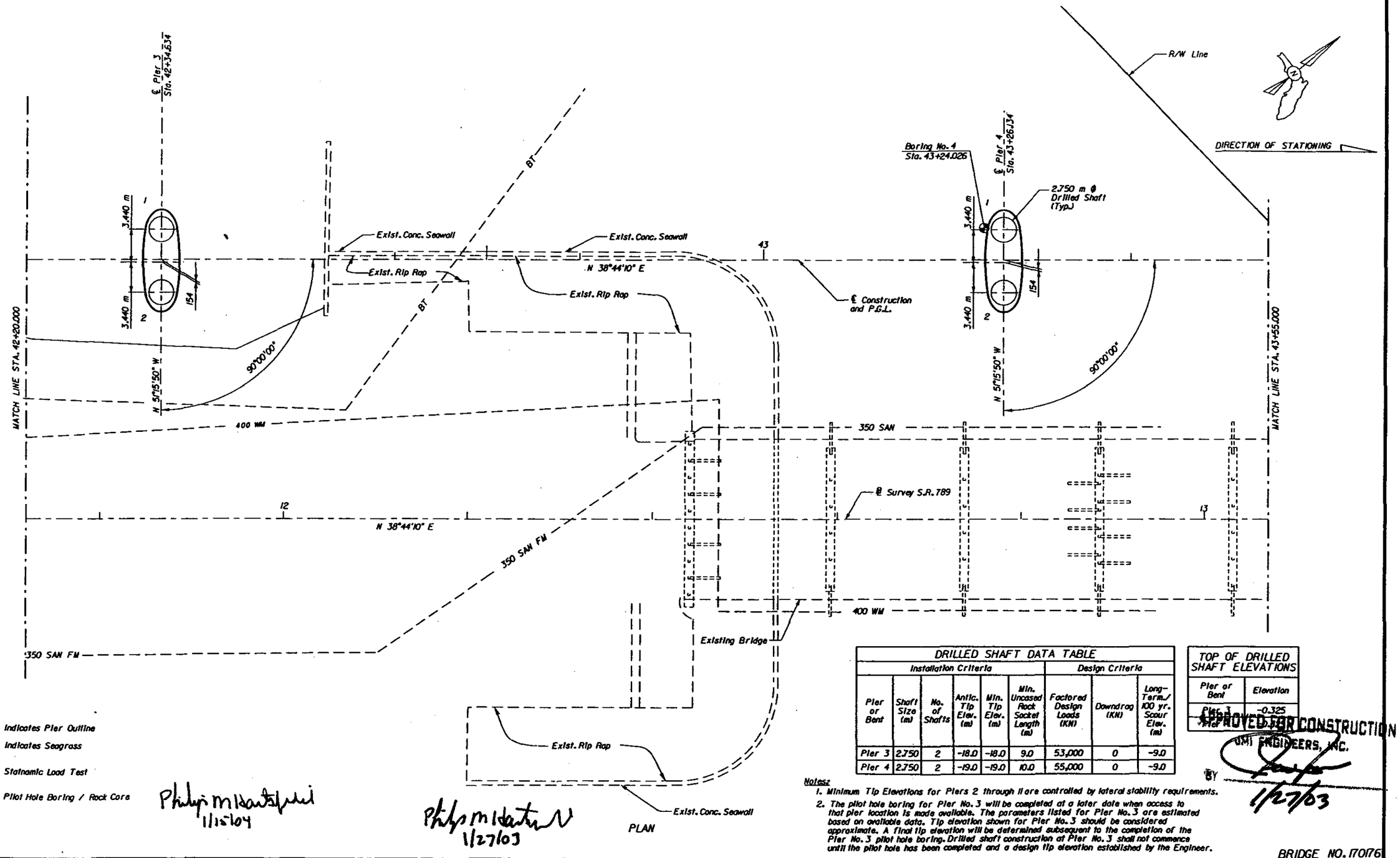
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: FOUNDATION LAYOUT (1 OF 7)

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

PARSONS - 01/27/2003 04:35:58 PM g:\9576 - ringling db\cadd\dgn\foundlay1.dgn



LEGEND

- Indicates Pier Outline
- Indicates Seagrass
- Statnamic Load Test
- Pilot Hole Boring / Rock Core

Philip M Hartsfield 11/15/04

Philip M Hartsfield 1/27/03

DRILLED SHAFT DATA TABLE

Installation Criteria						Design Criteria		
Pier or Bent	Shaft Size (m)	No. of Shafts	Antic. Tip Elev. (m)	Min. Tip Elev. (m)	Min. Uncased Rock Socket Length (m)	Factored Design Loads (KN)	Downdrag (KN)	Long-Term./ 100 yr. Scour Elev. (m)
Pier 3	2.750	2	-18.0	-18.0	9.0	53,000	0	-9.0
Pier 4	2.750	2	-19.0	-19.0	10.0	55,000	0	-9.0

TOP OF DRILLED SHAFT ELEVATIONS

Pier or Bent	Elevation
Pier 3	-0.325
Pier 4	-0.325

APPROVED FOR CONSTRUCTION
UMI ENGINEERS, INC.
BY
1/27/03

Notes:
1. Minimum Tip Elevations for Piers 2 through 11 are controlled by lateral stability requirements.
2. The pilot hole boring for Pier No. 3 will be completed at a later date when access to that pier location is made available. The parameters listed for Pier No. 3 are estimated based on available data. Tip elevation shown for Pier No. 3 should be considered approximate. A final tip elevation will be determined subsequent to the completion of the Pier No. 3 pilot hole boring. Drilled shaft construction at Pier No. 3 shall not commence until the pilot hole has been completed and a design tip elevation established by the Engineer.

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
5/21/02	CWN	Removed proposed bulkhead.			

	NAMES	DATES
DRAWN BY	JLS	11/14/01
CHECKED BY	CWN	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Phillip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: FOUNDATION LAYOUT (2 OF 7)

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

01/27/2003 04:35:59 PM gs9576 - ringling drbase\dgn\foundlay2.dgn
PARSONS

LEGEND

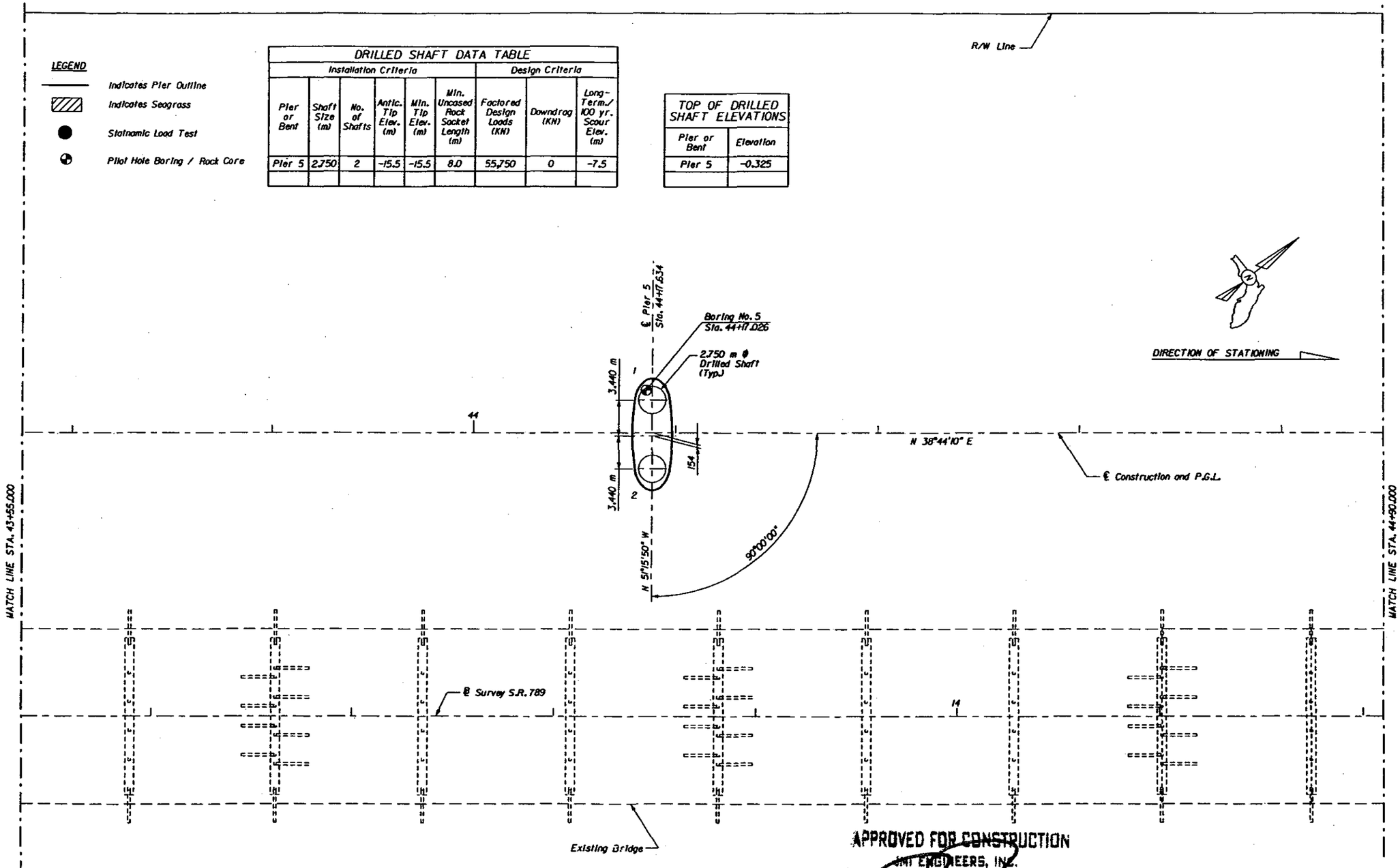
- Indicates Pier Outline
- Indicates Seagrass
- Statnamic Load Test
- Pilot Hole Boring / Rock Core

DRILLED SHAFT DATA TABLE

Installation Criteria						Design Criteria		
Pier or Bent	Shaft Size (m)	No. of Shafts	Antic. Tip Elev. (m)	Min. Tip Elev. (m)	Min. Uncased Rock Socket Length (m)	Factored Design Loads (KN)	Downdrag (KN)	Long-Term./ 100 yr. Scour Elev. (m)
Pier 5	2.750	2	-15.5	-15.5	8.0	55,750	0	-7.5

TOP OF DRILLED SHAFT ELEVATIONS

Pier or Bent	Elevation
Pier 5	-0.325



PLAN

Philip M Hartsfield
1/15/04

Philip M Hartsfield
1/27/03

APPROVED FOR CONSTRUCTION
[illegible] ENGINEERS, INC.
BY
1/27/03

Notes:
1. Minimum Tip Elevations for Piers 2 through 11 are controlled by lateral stability requirements.

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JLS	11/14/01
CHECKED BY	CWN	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: FOUNDATION LAYOUT (3 OF 7)

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY.) OVER INTRACOASTAL WATERWAY

PARSONS - 01/27/2003 04:44:00 PM gs9576 - ringling db\eastbridge\foundlay3.dgn

LEGEND

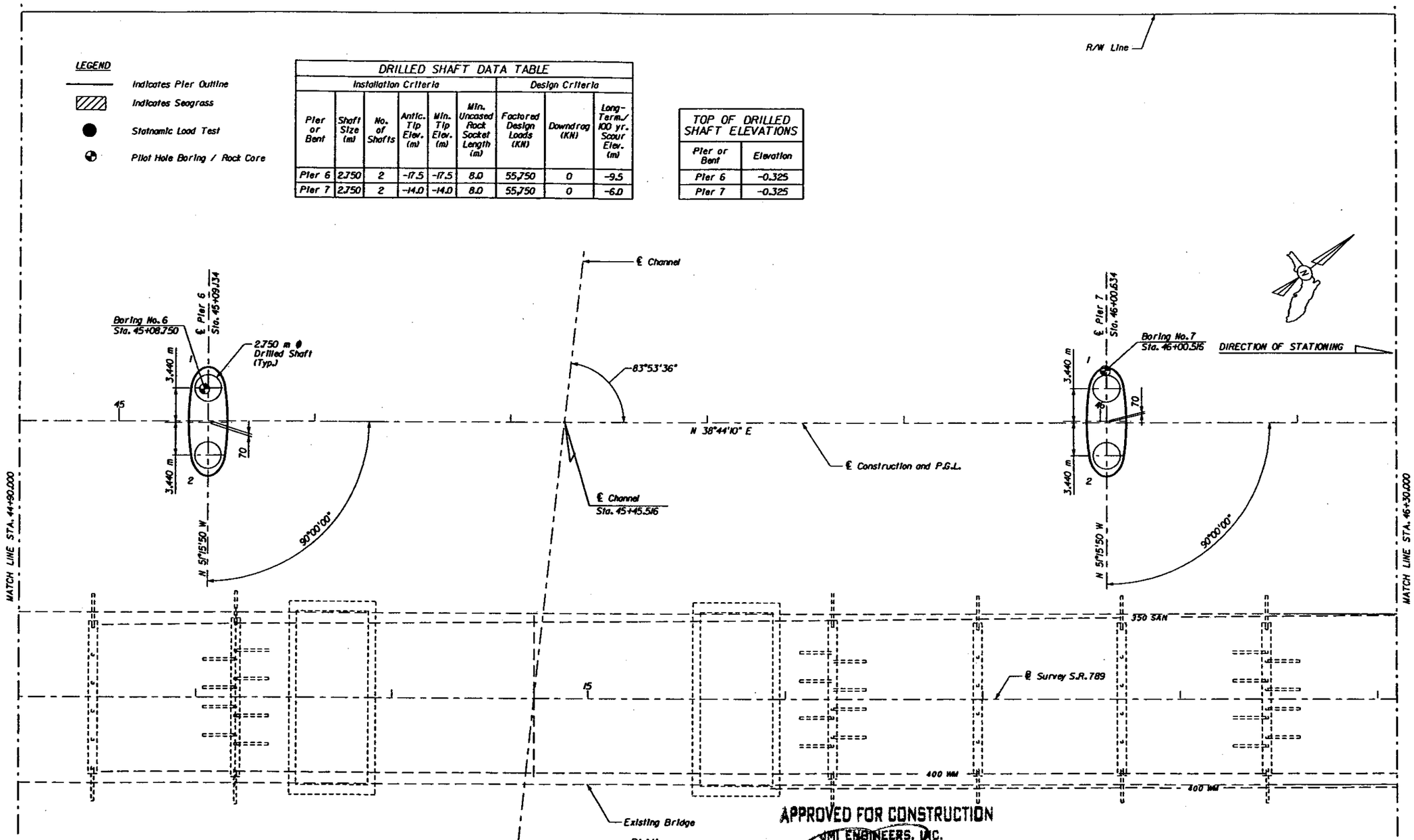
- Indicates Pier Outline
- Indicates Seagrass
- Statnamic Load Test
- Pilot Hole Boring / Rock Core

DRILLED SHAFT DATA TABLE

Pier or Bent	Installation Criteria: Shaft Size (m)	No. of Shafts	Antic. Tip Elev. (m)	Min. Tip Elev. (m)	Min. Uncased Rock Socket Length (m)	Design Criteria: Factored Design Loads (KN)	Downdrag (KN)	Long-Term/ 100 yr. Scour Elev. (m)
Pier 6	2.750	2	-17.5	-17.5	8.0	55,750	0	-9.5
Pier 7	2.750	2	-14.0	-14.0	8.0	55,750	0	-6.0

TOP OF DRILLED SHAFT ELEVATIONS

Pier or Bent	Elevation
Pier 6	-0.325
Pier 7	-0.325



APPROVED FOR CONSTRUCTION
JMT ENGINEERS, INC.
BY
11/27/03

Philip M Hartsfield
1/15/04

Philip M Hartsfield
11/27/03

Notes:
1. Minimum Tip Elevations for Piers 2 through 11 are controlled by lateral stability requirements.

BRIDGE NO. 170176

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JLS	11/14/01
CHECKED BY	CWN	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: FOUNDATION LAYOUT (4 OF 7)

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

PARSONS - 01/27/2003 04:40:01 PM gb9576 - ringling dbcad\dgn\foundlayt.dgn

LEGEND

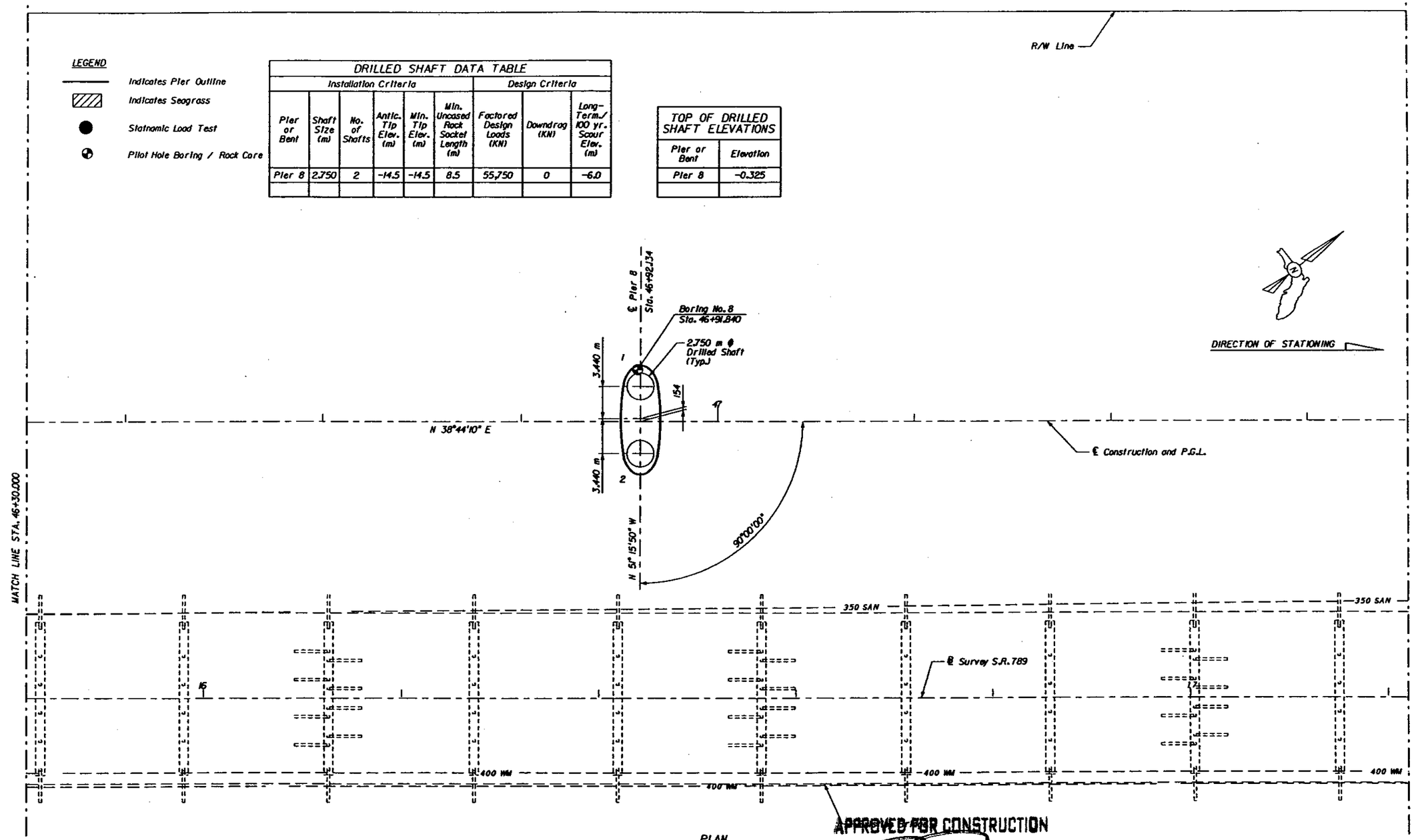
- Indicates Pier Outline
- Indicates Seagrass
- Statnamic Load Test
- Pilot Hole Boring / Rock Core

DRILLED SHAFT DATA TABLE

Installation Criteria						Design Criteria		
Pier or Bent	Shaft Size (m)	No. of Shafts	Antic. Tip Elev. (m)	Min. Tip Elev. (m)	Min. Uncased Rock Socket Length (m)	Factored Design Loads (KN)	Downdrag (KN)	Long-Term./ 100 yr. Scour Elev. (m)
Pier 8	2.750	2	-14.5	-14.5	8.5	55,750	0	-6.0

TOP OF DRILLED SHAFT ELEVATIONS

Pier or Bent	Elevation
Pier 8	-0.325



PLAN

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY
1/27/03

Philip M Hartsfield
1/15/04

Philip M Hartsfield
1/27/03

Notes:
1. Minimum Tip Elevations for Piers 2 through 11 are controlled by lateral stability requirements.

BRIDGE NO. 170176

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JLS	11/14/01
CHECKED BY	CWN	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: FOUNDATION LAYOUT (5 OF 7)

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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LEGEND

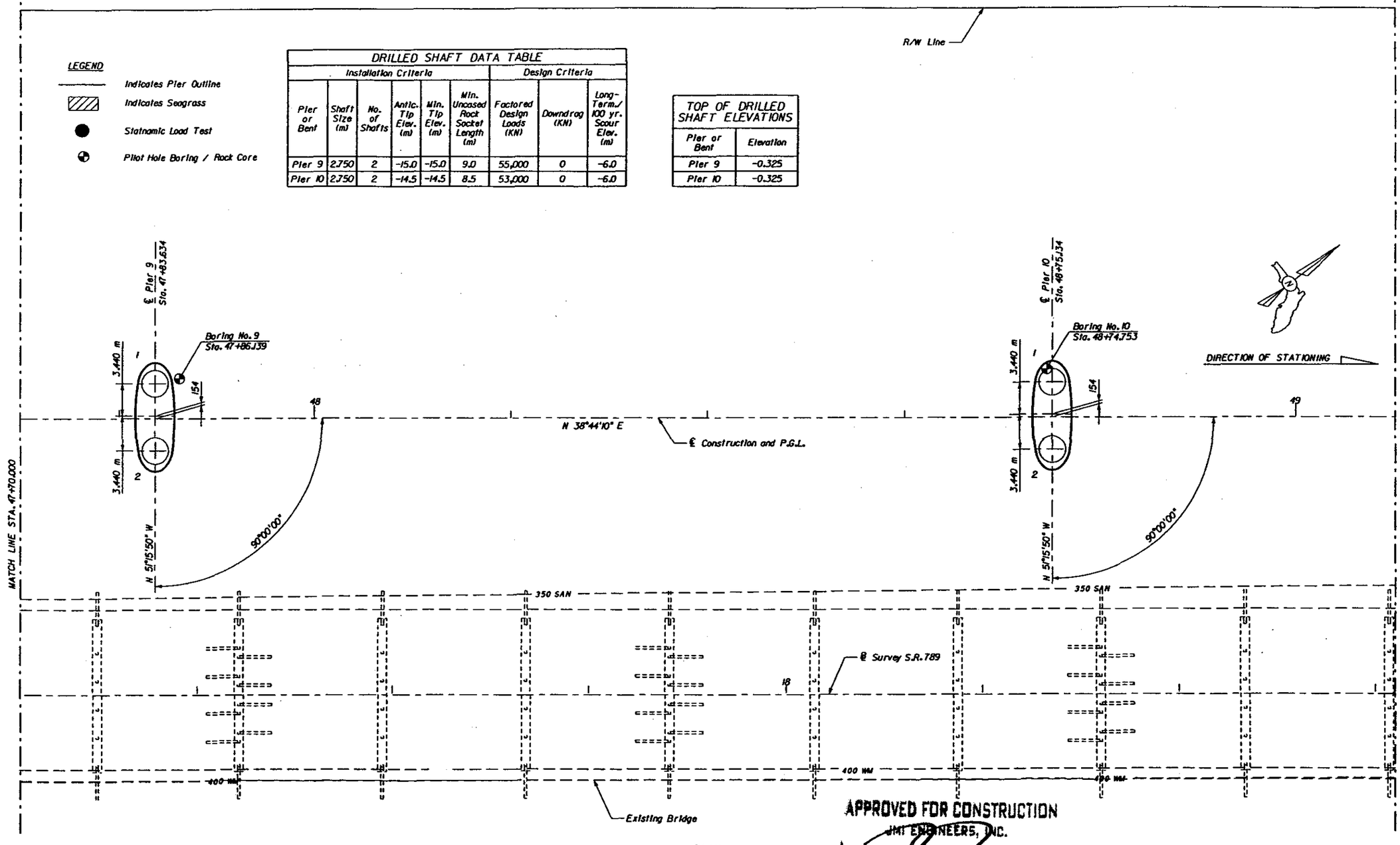
- Indicates Pier Outline
- Indicates Seagrass
- Statnamic Load Test
- Pilot Hole Boring / Rock Core

DRILLED SHAFT DATA TABLE

Installation Criteria						Design Criteria		
Pier or Bent	Shaft Size (m)	No. of Shafts	Antic. Tip Elev. (m)	Min. Tip Elev. (m)	Min. Uncased Rock Socket Length (m)	Factored Design Loads (KN)	Downdrag (KN)	Long-Term / 100 yr. Scour Elev. (m)
Pier 9	2.750	2	-15.0	-15.0	9.0	55,000	0	-6.0
Pier 10	2.750	2	-14.5	-14.5	8.5	53,000	0	-6.0

TOP OF DRILLED SHAFT ELEVATIONS

Pier or Bent	Elevation
Pier 9	-0.325
Pier 10	-0.325



PLAN

APPROVED FOR CONSTRUCTION
JMT ENGINEERS, INC.
1/27/03

Notes:
1. Minimum Tip Elevations for Piers 2 through 11 are controlled by lateral stability requirements.

Philip M Hartsfield
1/15/04

Philip M Hartsfield
1/27/03

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	JLS	11/14/01
CHECKED BY	CWH	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: FOUNDATION LAYOUT (6 OF 7)

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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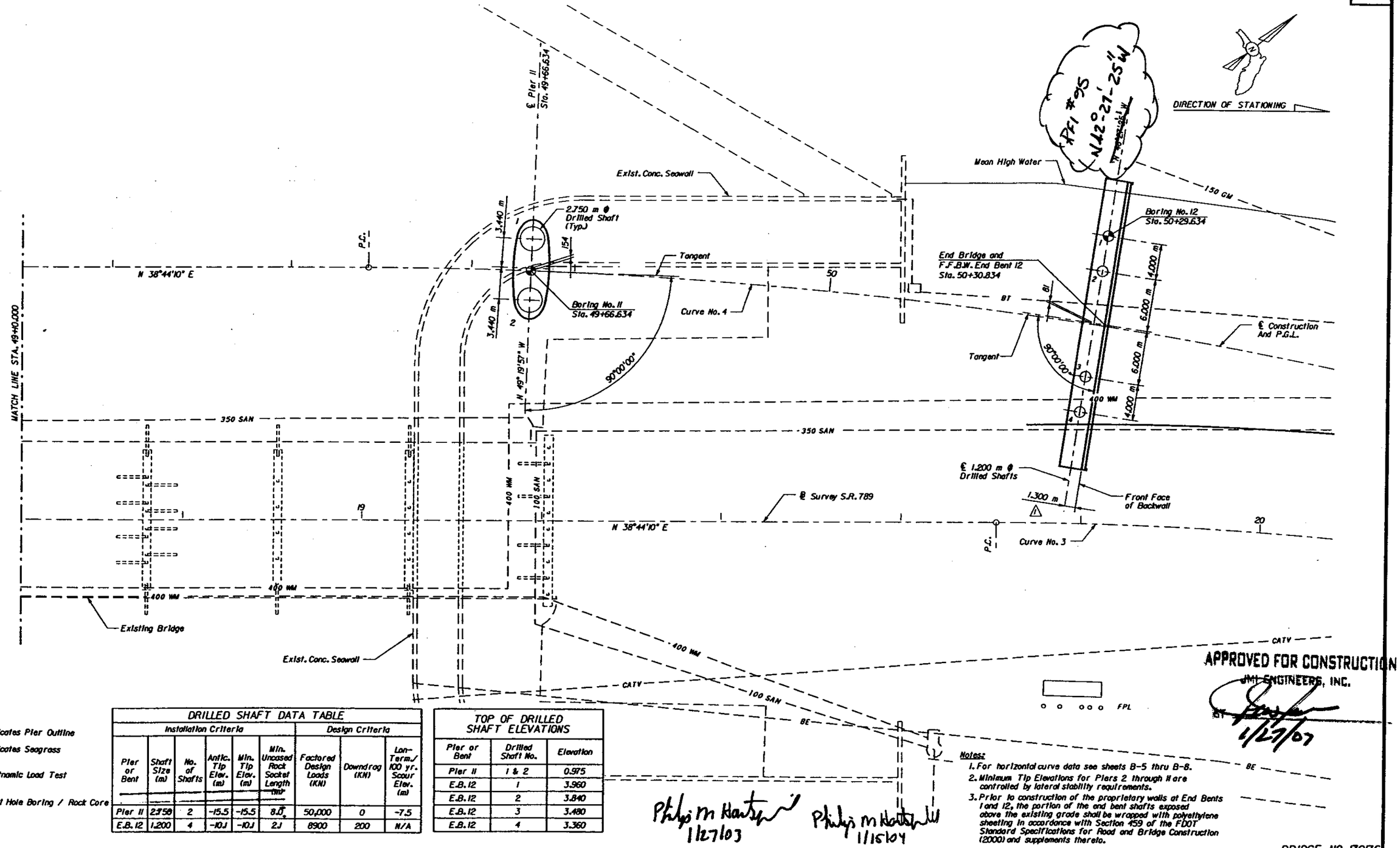

LEGEND

- Indicates Pier Outline
- Indicates Seagrass
- Statnamic Load Test
- Pilot Hole Boring / Rock Core

DRILLED SHAFT DATA TABLE

Installation Criteria						Design Criteria		
Pier or Bent	Shaft Size (m)	No. of Shafts	Antic. Tip Elev. (m)	Min. Tip Elev. (m)	Min. Uncased Rock Socket Length (m)	Factored Design Loads (KN)	Downdrag (KN)	Lon-Term/ 100 yr. Scour Elev. (m)
Pier II	2.750	2	-15.5	-15.5	8.0	50,000	0	-7.5
E.B. 12	1.200	4	-10.1	-10.1	2.1	8900	200	N/A

TOP OF DRILLED SHAFT ELEVATIONS

Pier or Bent	Drilled Shaft No.	Elevation
Pier II	1 & 2	0.975
E.B. 12	1	3.960
E.B. 12	2	3.840
E.B. 12	3	3.480
E.B. 12	4	3.360

Philip M. Hartsfield 1/27/03

Philip M. Hartsfield 1/15/04

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY _____ 1/27/07

Notes:

1. For horizontal curve data see sheets B-5 thru B-8.
2. Minimum Tip Elevations for Piers 2 through 11 are controlled by lateral stability requirements.
3. Prior to construction of the proprietary walls at End Bents 1 and 12, the portion of the end bent shafts exposed above the existing grade shall be wrapped with polyethylene sheeting in accordance with Section 459 of the FDOT Standard Specifications for Road and Bridge Construction (2000) and supplements thereto.

BRIDGE NO. 170176

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2/20/02	CAB	Revised as noted.	0104	JJ	AS BUILTS
5/21/02	CWN	Removed proposed bulkhead.			

	NAMES	DATES
DRAWN BY	JLS	11/14/01
CHECKED BY	CWN	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD.
PARSONS

LOGO.
PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: FOUNDATION LAYOUT (7 OF 7)

PROJECT NAME: STATE ROAD 789 (P.RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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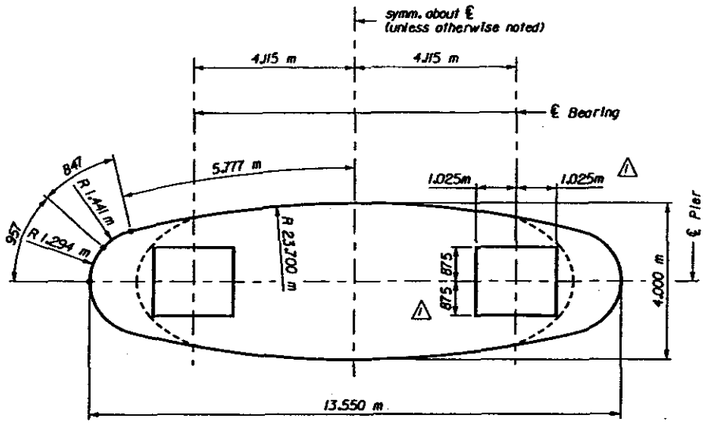
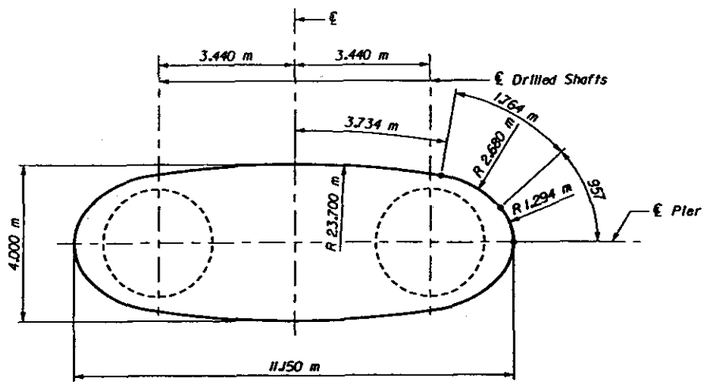
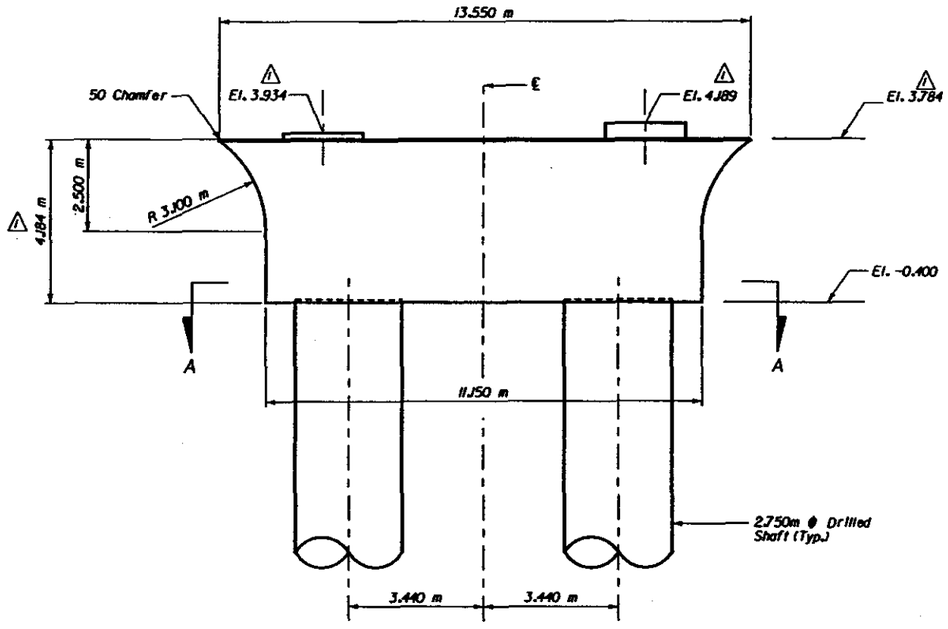


PLAN

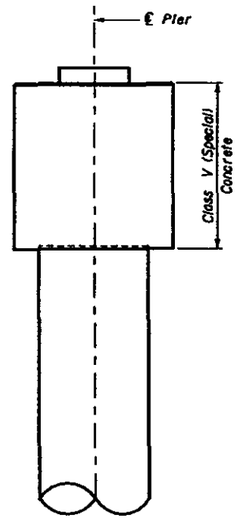


SECTION A-A

ESTIMATED QUANTITIES	
Concrete	Quantity
Class V (Special) (41 MPa)	157.40 Cu. m.



ELEVATION
(LOOKING UP-STATION)



SIDE VIEW

APPROVED FOR CONSTRUCTION
DMI ENGINEERS, INC.
BY
1/27/03

Notes:
1. Concrete Quantity is for pier only and does not include seal or drilled shafts.

Philip M Hartsfield
1/27/03

Philip M Hartsfield
1/15/04

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2/20/02	CAB	Revised as noted.			

	NAMES	DATES
DRAWN BY	STP	11/14/01
CHECKED BY	CWH	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: PIER 2 DIMENSIONS

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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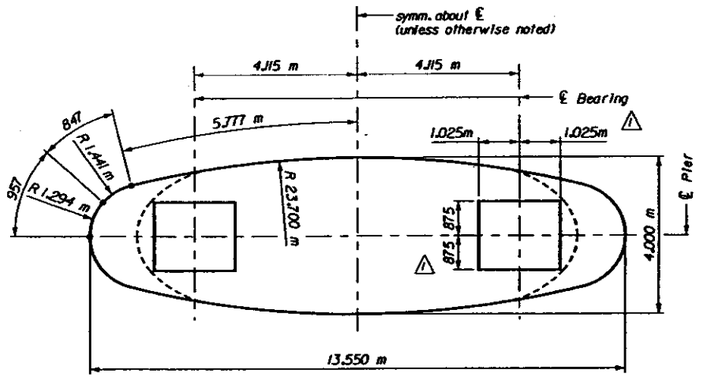
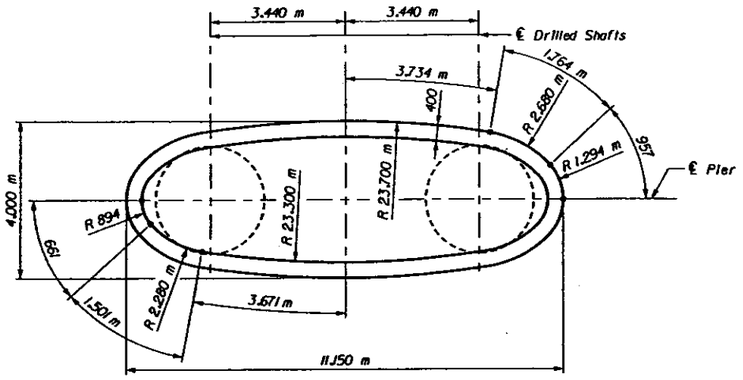
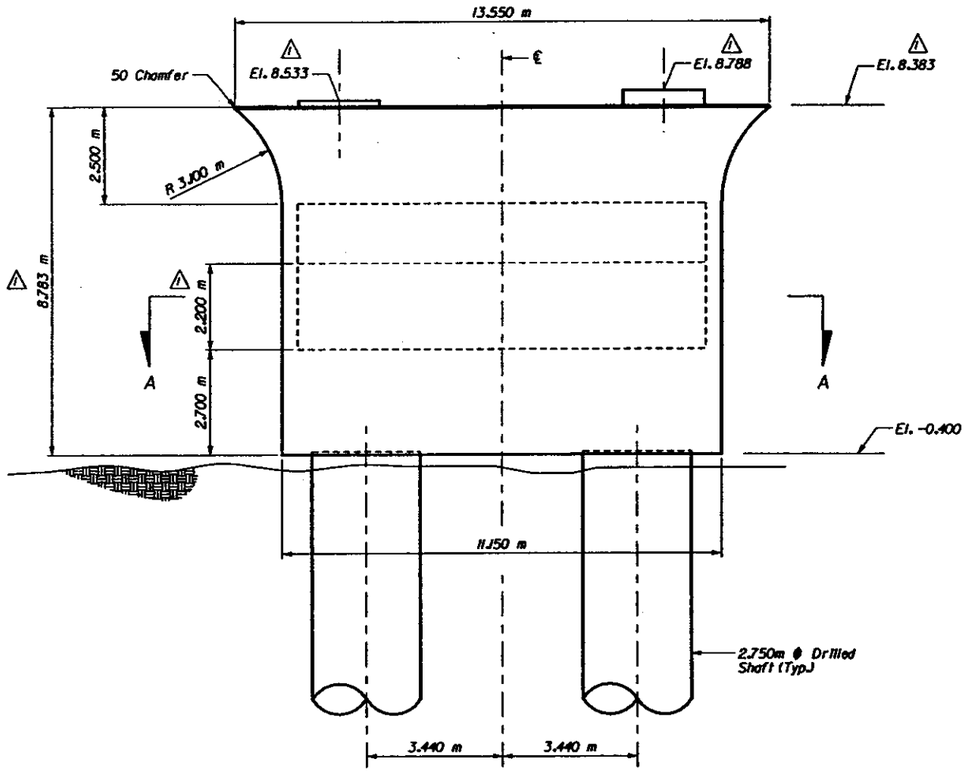


PLAN

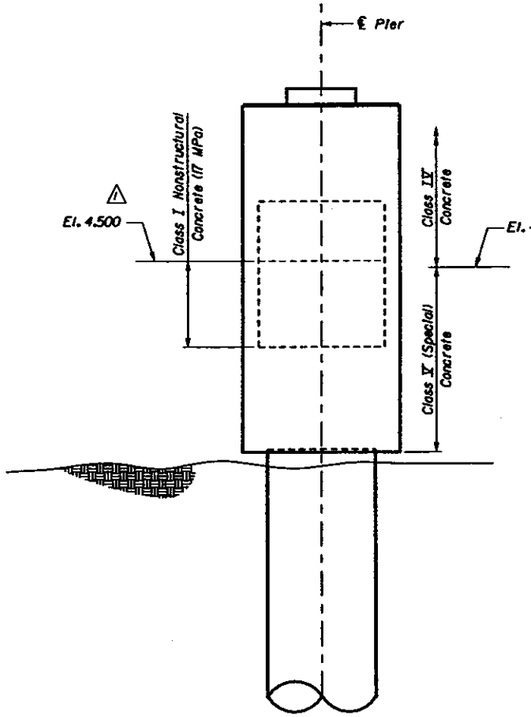


SECTION A-A



ELEVATION
(LOOKING UP-STATION)

M.H.W. EL. 0.326



SIDE VIEW

ESTIMATED QUANTITIES	
Concrete	Quantity
Class I (21 MPa)	6132 Cu. m.
Class IV (38 MPa)	119.48 Cu. m.
Class V (Special) (41 MPa)	121.43 Cu. m.

APPROVED FOR CONSTRUCTION
JMT ENGINEERS, INC.
BY
4/27/03

Notes:
1. Concrete Quantity is for pier only and does not include seal or drilled shafts.

Philip M Hartsfield 1/27/03

Philip M Hartsfield 1/15/04

BRIDGE NO. 170176

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2/20/02	CAB	Revised as noted.			
7/18/02	CWN	Revised concrete class, added elevation.			

	NAMES	DATES
DRAWN BY	STP	11/14/01
CHECKED BY	CWN	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: PIER 3 DIMENSIONS

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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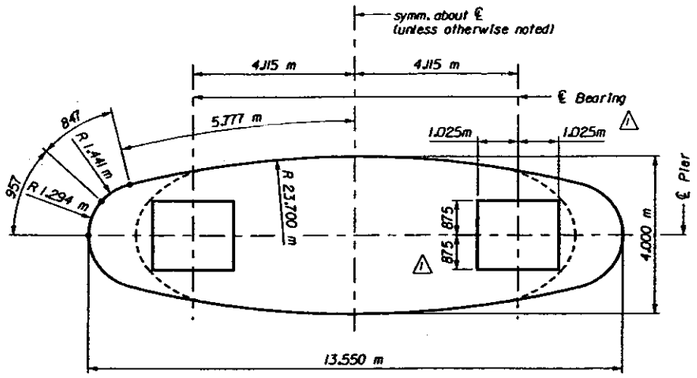
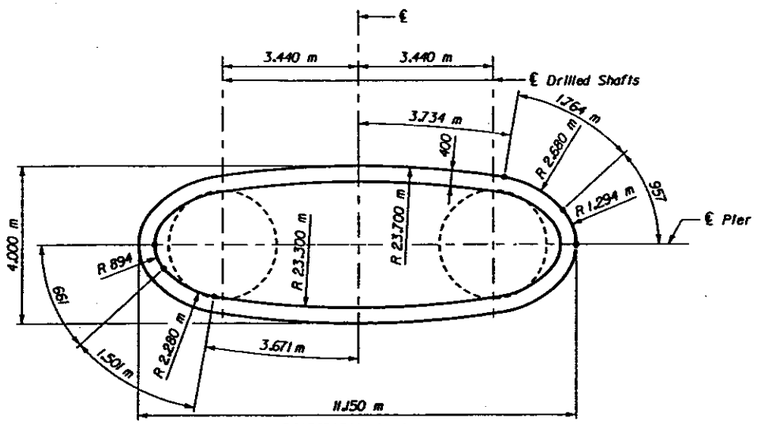
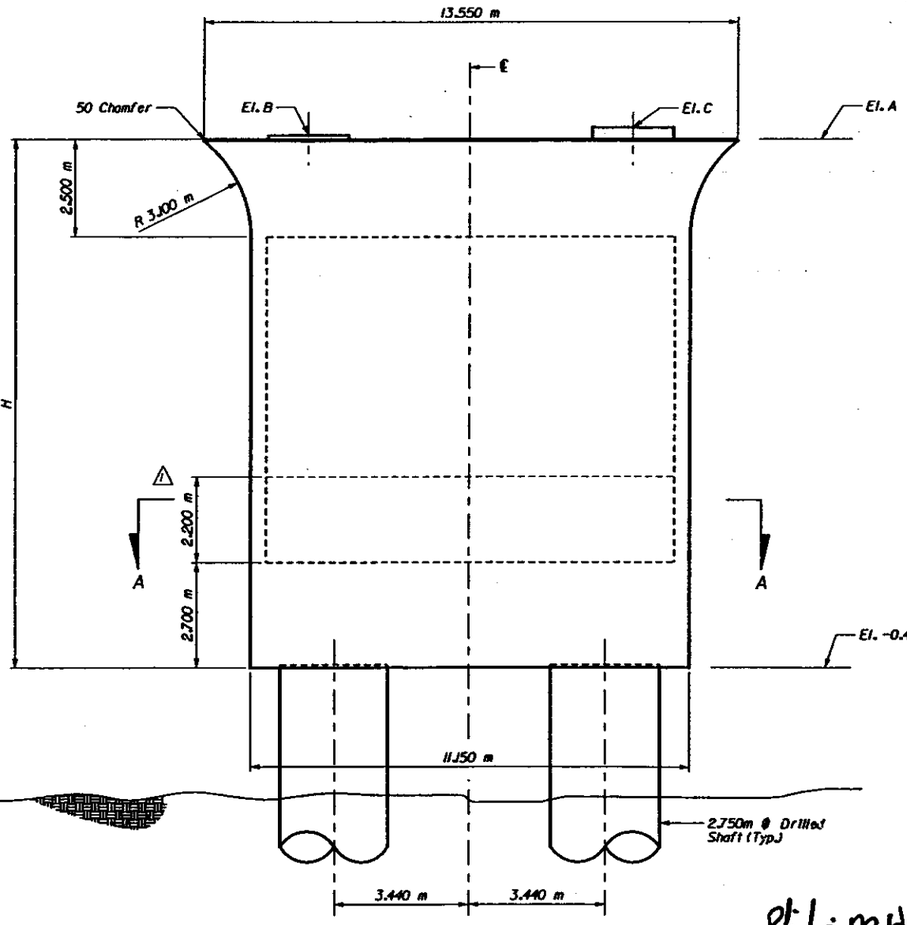


PLAN

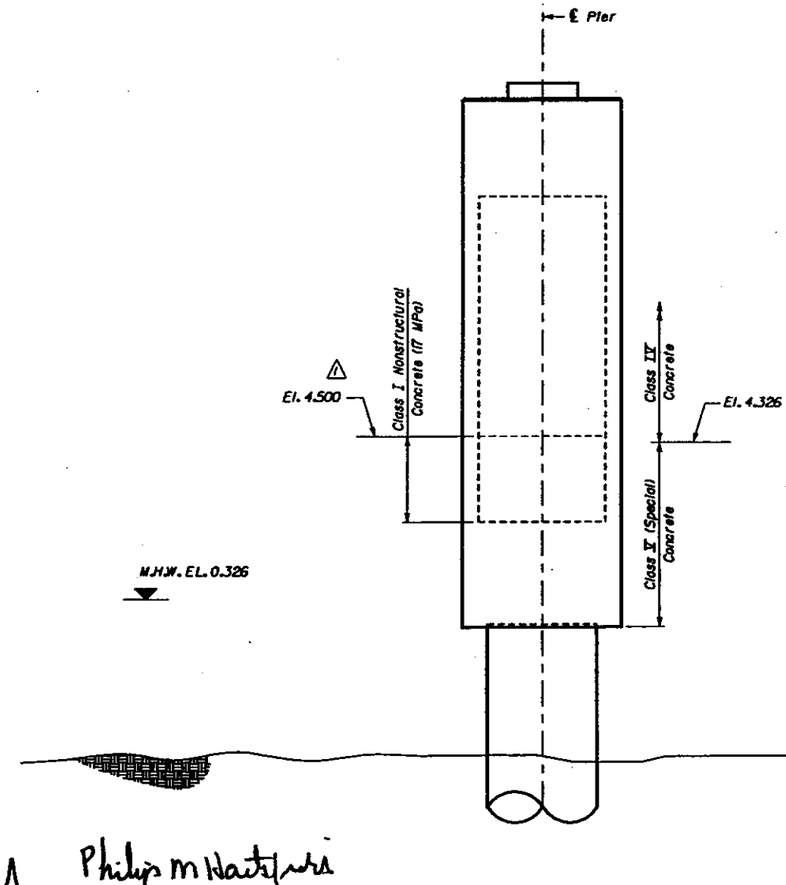


SECTION A-A



ELEVATION (LOOKING UP-STATION)

Philip M Hartsfield 11/27/03



Philip M Hartsfield 11/15/04

SIDE VIEW

PIER DIMENSIONS

Pier	El. A	El. B	El. C	H
4	12.868	13.018	13.277	13.268
9	12.870	13.278	13.020	13.270
10	8.928	9.333	9.078	9.328

ESTIMATED QUANTITIES

Pier	Concrete	Quantity
4	Class I (21 MPa)	61.12 Cu. m.
	Class IV (38 MPa)	163.75 Cu. m.
	Class V (Special) (41 MPa)	121.43 Cu. m.
9	Class I (21 MPa)	61.12 Cu. m.
	Class IV (38 MPa)	163.75 Cu. m.
	Class V (Special) (41 MPa)	121.43 Cu. m.
10	Class I (21 MPa)	61.12 Cu. m.
	Class IV (38 MPa)	124.85 Cu. m.
	Class V (Special) (41 MPa)	121.43 Cu. m.

APPROVED FOR CONSTRUCTION
UMI ENGINEERS, INC.
BY
11/27/03

Notes:
1. Concrete Quantity is for pier only and does not include seal or drilled shafts.

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2/20/02	CAB	Revised as noted.			
7/18/02	CWH	Revised concrete class and compressive strength.			

	NAMES	DATES
DRAWN BY	STP	11/14/01
CHECKED BY	CWH	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PWH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: PIERS 4, 9 & 10 DIMENSIONS

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

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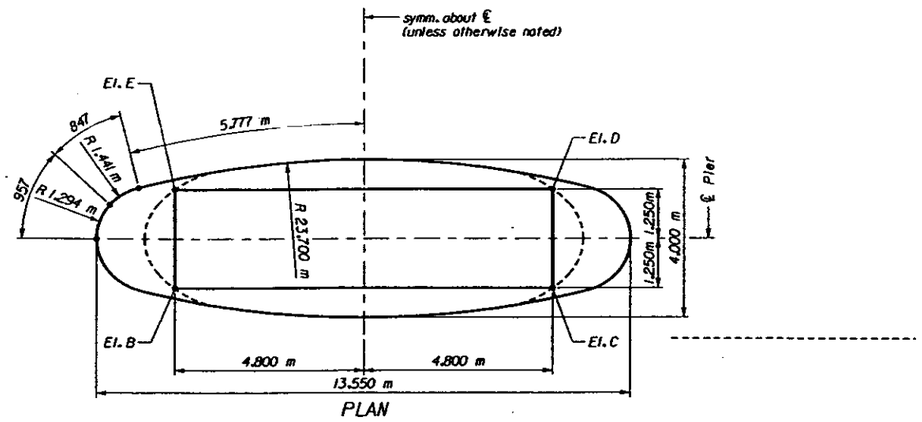
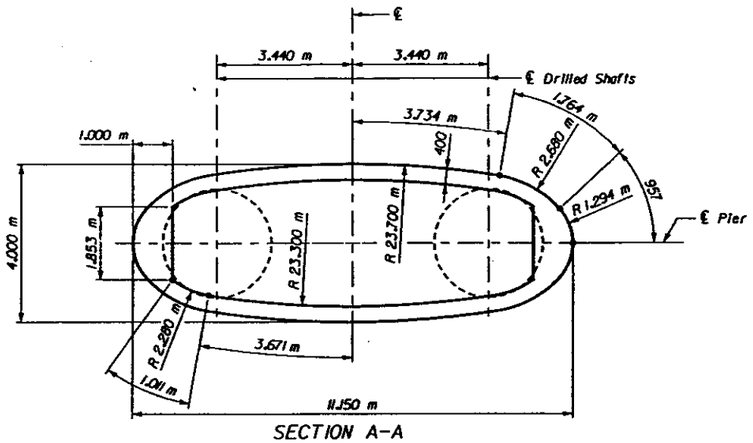
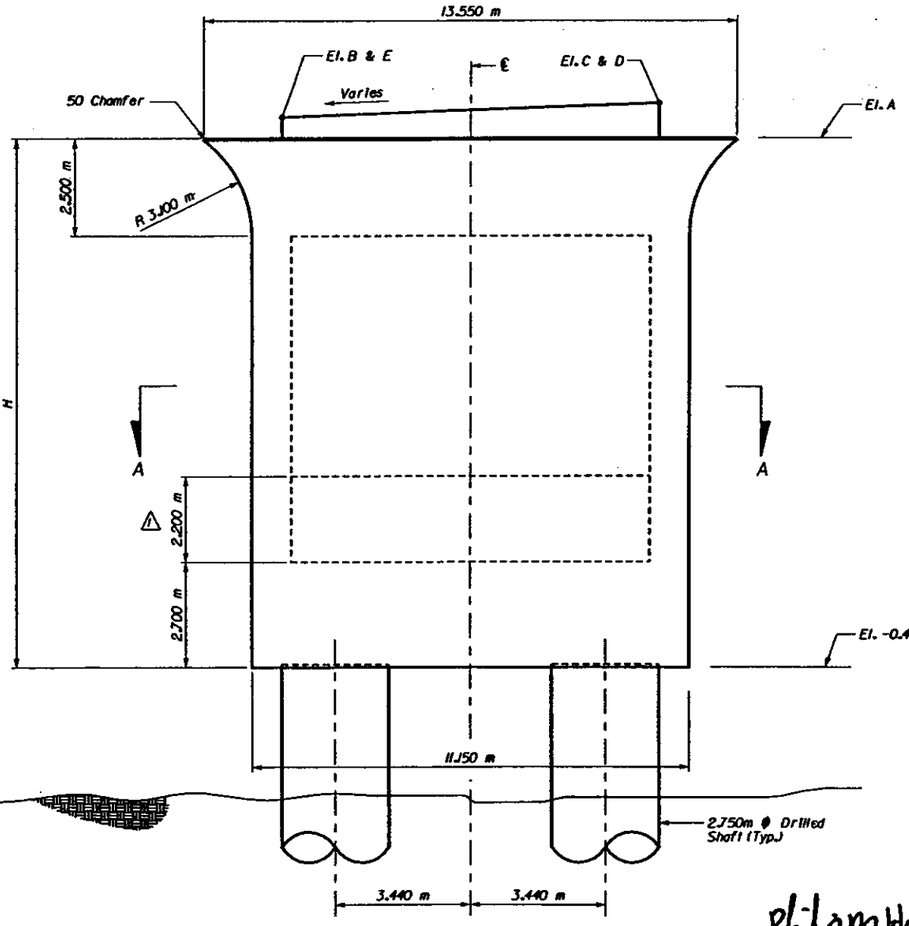


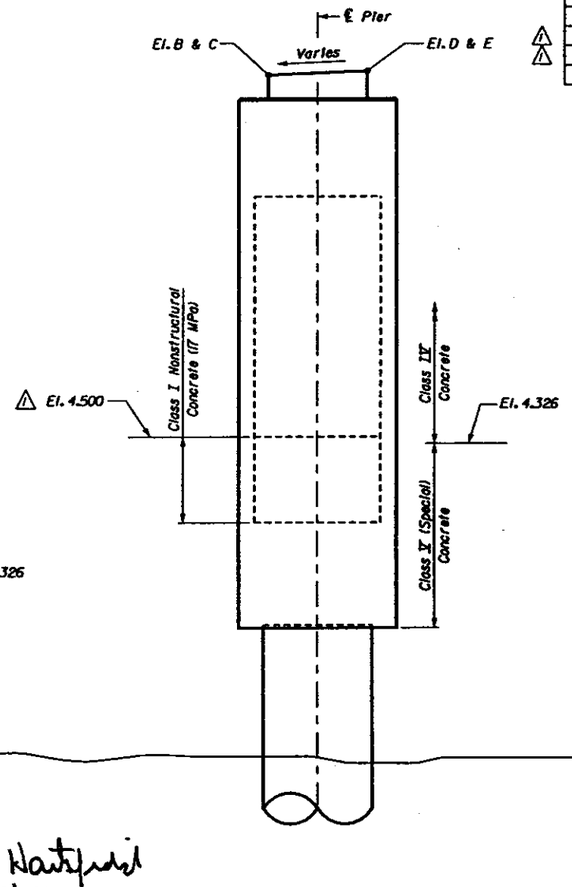
PLAN



SECTION A-A



ELEVATION



SIDE VIEW

PIER DIMENSIONS

Pier	El. A	El. B	El. C	El. D	El. E	H
5	16.190	16.725	17.013	17.078	16.790	16.590
6	17.853	18.388	18.576	18.598	18.410	18.253
7	17.853	18.598	18.410	18.388	18.576	18.253
8	16.190	17.078	16.790	16.725	17.013	16.590

ESTIMATED QUANTITIES

Pier	Concrete	Quantity
5 & 8	Class I (21 MPa)	57.76 Cu. m.
	Class IV (38 MPa)	226.67 Cu. m.
	Class V (Special) (41 MPa)	124.50 Cu. m.
6 & 7	Class I (21 MPa)	57.76 Cu. m.
	Class IV (38 MPa)	243.86 Cu. m.
	Class V (Special) (41 MPa)	124.50 Cu. m.

APPROVED FOR CONSTRUCTION
JMI ENGINEERS, INC.
BY
11/27/03

Notes:
1. Concrete Quantity is for pier only and does not include seat or drilled shafts.

Philip M Hatfield 11/27/03

Philip M Hatfield 11/15/04

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2/20/02	CAB	Revised as noted.			
7/16/02	CWH	Revised concrete class and compressive strength.			

	NAMES	DATES
DRAWN BY	STP	11/20/01
CHECKED BY	CWH	11/20/01
DESIGNED BY	DCG	11/20/01
CHECKED BY	PWH	11/20/01
APPROVED BY	Philip M. Horisfield, P.E.	

ENGINEER OF RECORD: PARSONS

LOGO: PCL CONSTRUCTION LEADERS

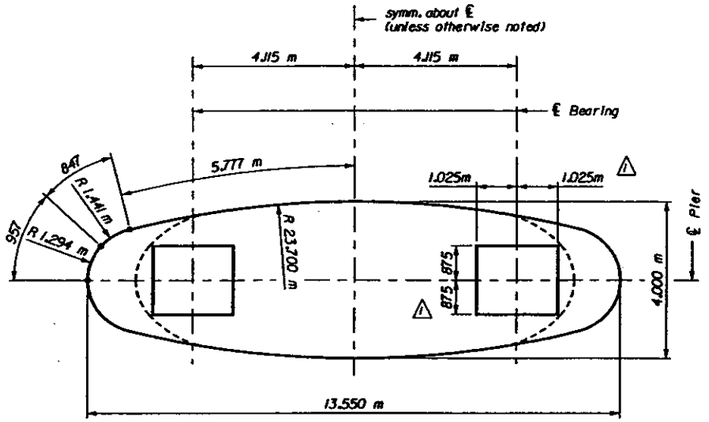
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

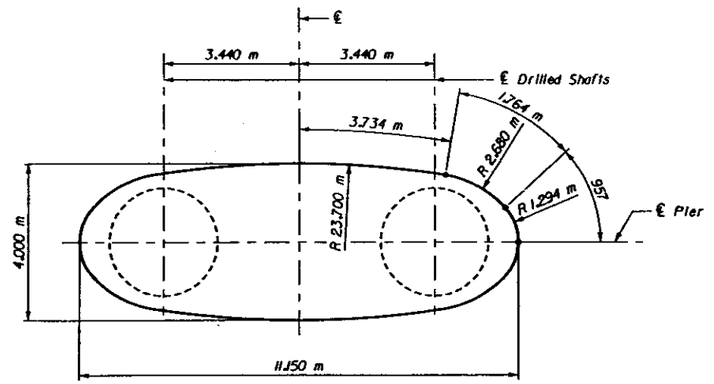
SHEET TITLE: PIERS 5 THRU 8 DIMENSIONS

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

PARSONS - 01/27/2003 04:47 PM gb9576 - ringling dbcaseldgn\sheet5-8.dgn



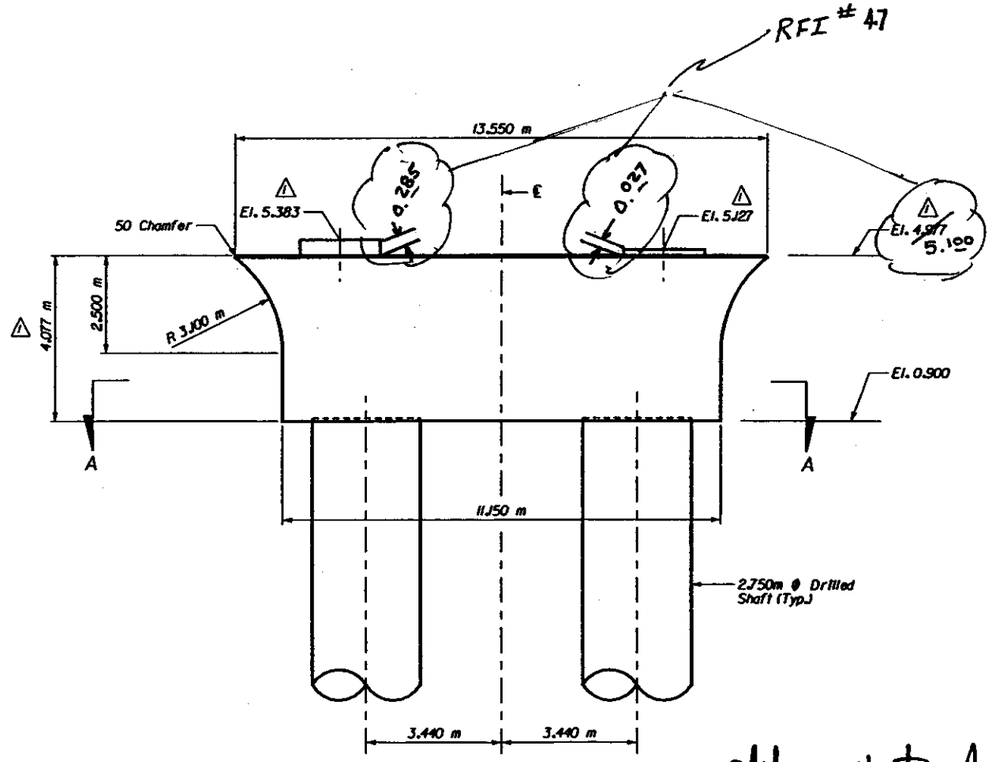
PLAN



SECTION A-A

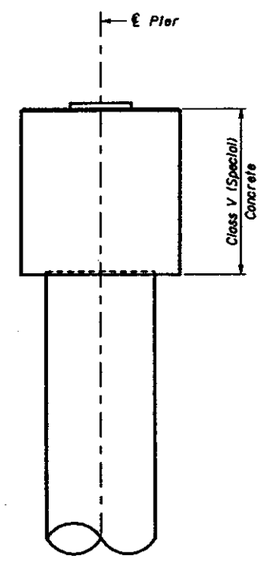
ESTIMATED QUANTITIES	
Concrete	Quantity
Class V (Special) (41 MPa)	163.32 Cu. m. ⚠

RFI # 47



ELEVATION
(LOOKING UP-STATION)

M.H.W. EL. 0.326



SIDE VIEW

APPROVED FOR CONSTRUCTION
JMT ENGINEERS, INC.
1/27/03

Notes:
1. Concrete Quantity is for pier only and does not include drilled shafts.

Philip M Hartsfield 1/27/03

Philip M Hartsfield 1/15/04

BRIDGE NO. 170176

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
2/20/02	CAB	Revised as noted.			
0104	JJ	AS BUILTS			

	NAMES	DATES
DRAWN BY	STP	11/14/01
CHECKED BY	CWN	11/14/01
DESIGNED BY	DCG	11/14/01
CHECKED BY	PMH	11/14/01
APPROVED BY	Philip M. Hartsfield, P.E.	

ENGINEER OF RECORD. PARSONS

LOGO. CONSTRUCTION LEADERS

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-789	SARASOTA	17030-3509

SHEET TITLE: PIER II DIMENSIONS

PROJECT NAME: STATE ROAD 789 (RINGLING CSWY) OVER INTRACOASTAL WATERWAY

PARSONS - 01/27/2003 04:44:04 PM pw9576 - ringling dhoedt\sprite\ell.dgn

THIS CONTRACT PLAN SET INCLUDES

ROADWAY PLANS
SIGNING AND PAVEMENT MARKING PLANS
LANDSCAPE PLANS
STRUCTURE PLANS

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT SET OF PLANS

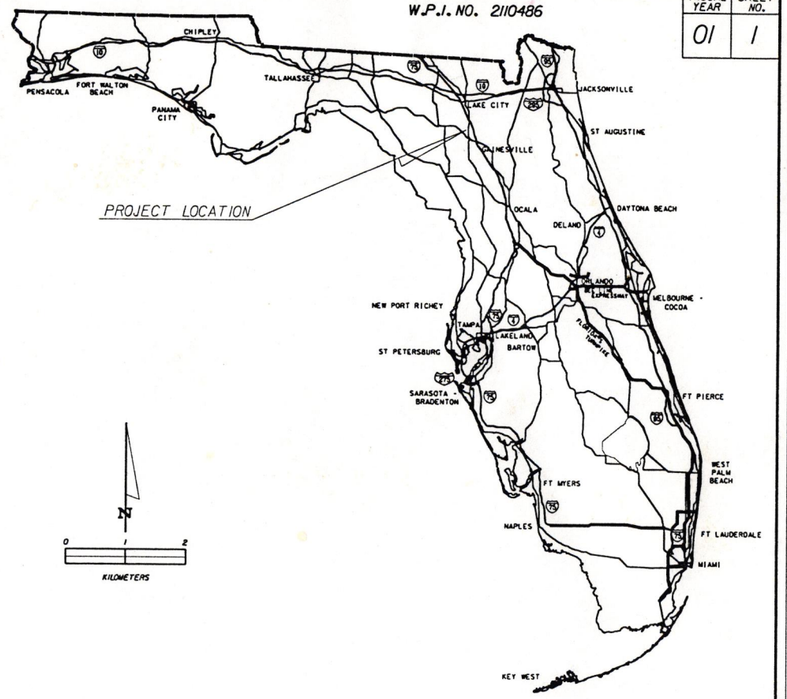
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

CONTRACT PLANS

FINANCIAL PROJECT ID 207784-1-52-01
STATE PROJECT NO. 26020-3532
(FEDERAL FUNDS)
ALACHUA COUNTY
STATE ROAD NO. 25

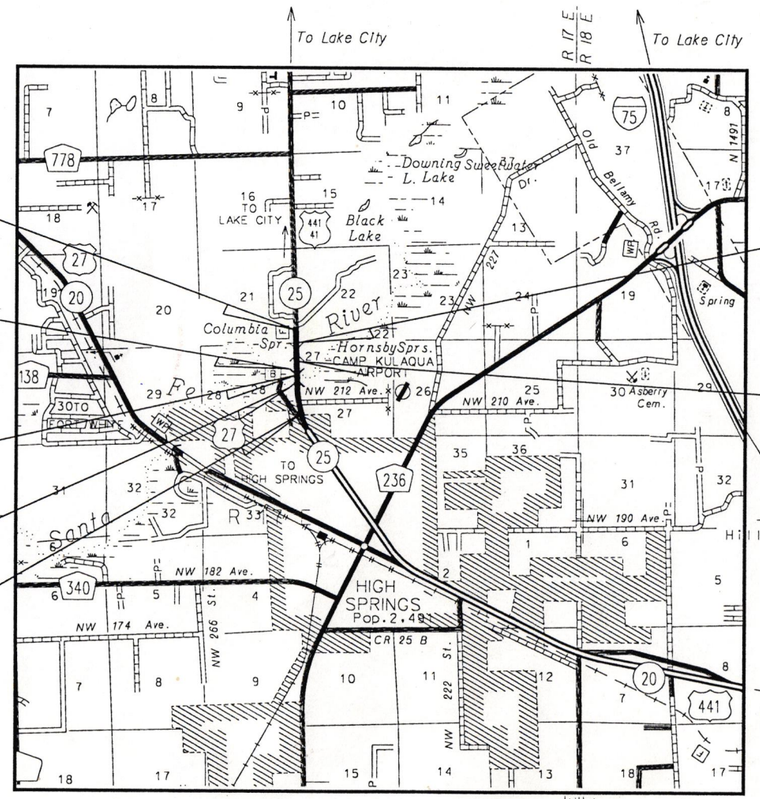
W.P.I. NO. 2110486

FISCAL YEAR	SHEET NO.
01	1



INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-3	SUMMARY OF PAY ITEMS
4	BOX CULVERT DATA SHEET
5	DRAINAGE MAP
6-8	TYPICAL SECTIONS
9	GENERAL AND PAY ITEM NOTES
10-11	SUMMARY OF QUANTITIES
12	SUMMARY OF DRAINAGE STRUCTURES
13	OPTIONAL MATERIALS
14-17	ROADWAY PLAN & PROFILES
18	SPECIAL DRIVEWAY DETAIL
19-20	DRAINAGE STRUCTURE SHEETS
21-22	SOIL DATA
23-32	CROSS SECTIONS
33-48	TRAFFIC CONTROL PLAN SHEETS
49-52	UTILITY ADJUSTMENTS
53-54	ENVIRONMENTAL CONTROL PLAN



End Project
Sta. 3+83.253
MP=0.129
kp=0.383

End Bridge
Sta. 0+15.000

Equation:
Sta. 0+00.000 AH =
Sta. 426+34.924 BK

T 7 S
T 8 S

Begin Bridge
Sta. 425+37.524

Begin Project
Sta. 421+47.439
MP=26.191
kp=42.141

End Bridge Culvert
Sta. 2+75.849

Begin Bridge Culvert
Sta. 2+65.683

T 7 S
T 8 S

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:

FRED WRIGHT
FLORIDA DEPARTMENT OF TRANSPORTATION
1636 LAKE JEFFERY ROAD
LAKE CITY, FLORIDA 32055
(904) 752-3300

PLANS PREPARED BY
LOCHRANE ENGINEERING, INC.
408 WEST UNIVERSITY AVENUE - SUITE 306
GAINESVILLE, FLORIDA 32601 (352) 335-1845
VENDOR NO. 592036861.002

NOTE: THIS PROJECT WAS DESIGNED TO MEET FDOT R-R-R CRITERIA

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

Final Plans Documents
Computation Book 1- 2
Field Book 8152-751 (Concrete thickness and cover verification)
Field Book 8152-752 (Final Measurements)

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
ROADWAY AND TRAFFIC DESIGN STANDARDS
DATED JANUARY 2000, AND
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE
CONSTRUCTION DATED 2000,
AS AMENDED BY CONTRACT DOCUMENTS

REVISIONS
FINANCIAL PROJECT ID 207784-1-52-01
Structure Sheet B-8 (Revised 11-09-00)
Roadway Sheets 1, 2 & 34 (Revised 1-10-01)
Landscape Sheets L-1, L-3 & L-4 (Revised 1-10-01)

CONSTRUCTION NOTES
Name of Contractor: **Anderson Columbia CO.,Inc.**
Name of Consultants
involved: **None**
District Secretary: **Aauge Schroder**
Resident Engineer: **Sharon L. Griffiths**
Project Engineer: **Michael Sandow**
Project Manager: **Freddie Wright**

LENGTH OF PROJECT	METERS
ROADWAY	758.338
BRIDGES	112.400
NET LENGTH OF PROJ.	870.738
EXCEPTIONS	0.000
GROSS LENGTH OF PROJ.	870.738

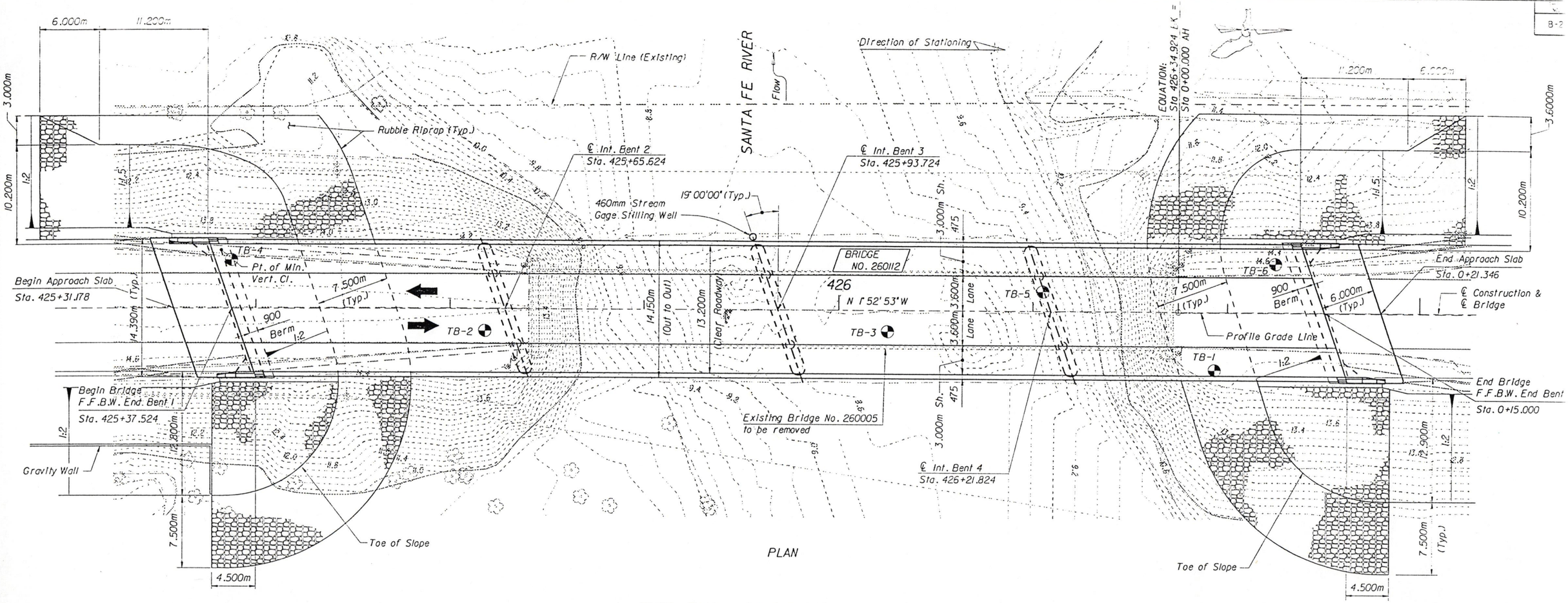
FDOT PROJECT MANAGER : FREDDIE WRIGHT

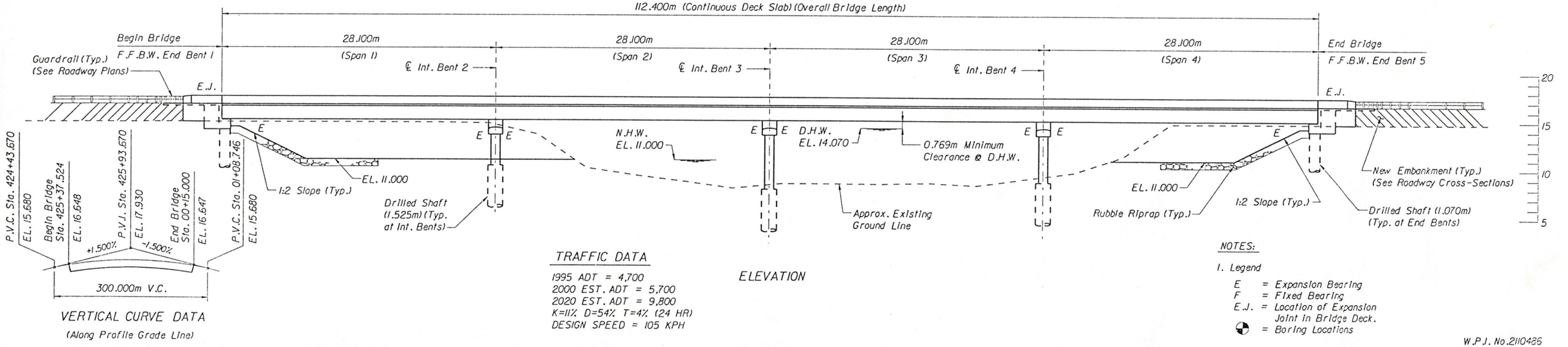
NOTE: THIS IS A METRIC UNIT PROJECT

Bridge No. 260112

REVISIONS		
DATE	BY	DESCRIPTION

ROADWAY PLANS
ENGINEER OF RECORD: WILLIAM P. NAIAN P.E.
DATE: 12-19-01
P.E. NO.: 47078





VERTICAL CURVE DATA
(Along Profile Grade Line)

ELEVATION

TRAFFIC DATA

1995 ADT = 4,700
2000 EST. ADT = 5,700
2020 EST. ADT = 9,800
K=11% D=54% T=4% (24 HR)
DESIGN SPEED = 105 KPH

NOTES:

1. Legend
   - E = Expansion Bearing
   - F = Fixed Bearing
   - E.J. = Location of Expansion Joint in Bridge Deck.
   - ◒ = Boring Locations

W.P.I. No. 2110486

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KGB	3/99
Checked by	MJM	4/99
Designed by	MJM	5/99
Checked by	KTK	6/99
Approved by	K.T. Kelley	

ENGINEER OF RECORD:
RALPH WHITEHEAD ASSOCIATES, INC.
3733 University Boulevard West
Suite 305
Jacksonville, FL 32217-2103
904.730.9777
Web Site: www.rwhitehead.com

LOGO:

SEAL:
5/19/00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
25	ALACHUA	207784-1-52-01

SHEET TITLE: PLAN AND ELEVATION
Drawing No.
PROJECT NAME: SR 25 (US 441) OVER SANTA FE RIVER
BRIDGE NO. 260112
Index No.

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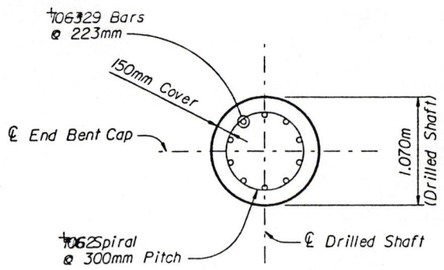
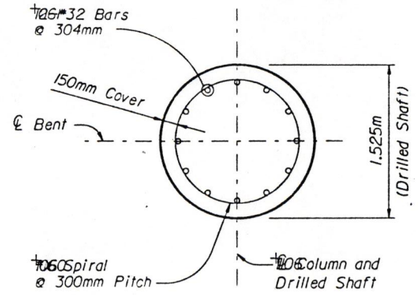
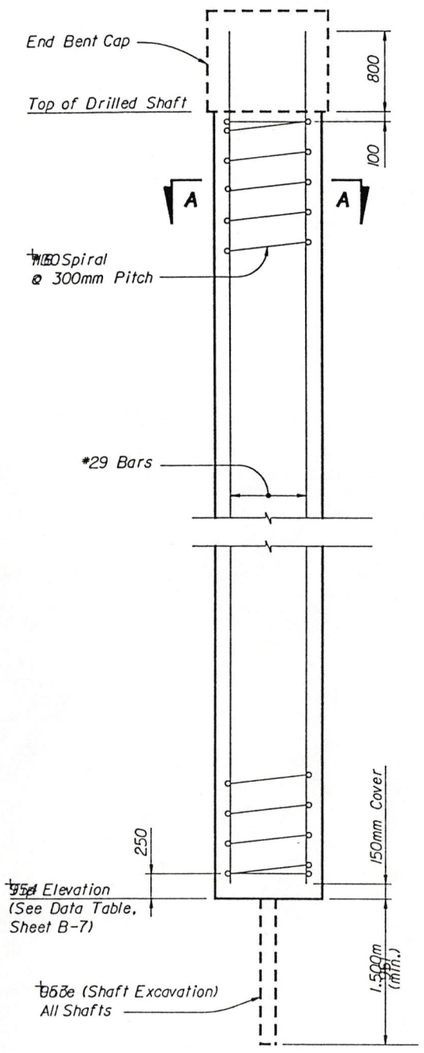


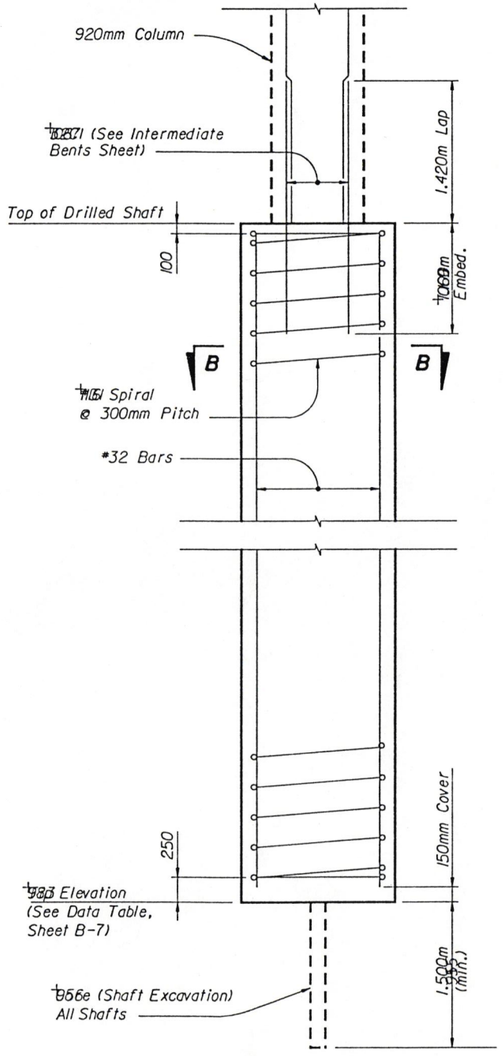


SECTION A-A



END BENT
#5 #5 DRILLED SHAFT

SECTION B-B



INTERMEDIATE BENT
#5 #5 DRILLED SHAFT

ESTIMATED QUANTITIES							
ITEM	UNIT	QUANTITY					
		End Bent 1	Bent 2	Bent 3	Bent 4	End Bent 5	TOTAL
Drilled Shaft (1070mm Dia.) Item No. 2455-88-4	MI	33.9	-	-	-	38.7	72.6
Drilled Shaft (1525mm Dia.) Item No. 2455-88-6	MI	-	25.4	20.8	22.4	-	68.6
Core (Shaft Excavation) Item No. 2455-111	MI	4.5	3.0	3.0	3.0	4.5	18.0
Unclassified Shaft Excavation (1070mm Dia.) Item No. 2455-122-4	MI	33.9	-	-	-	38.7	72.6
Unclassified Shaft Excavation (1525mm Dia.) Item No. 2455-122-6	MI	-	25.4	20.8	22.4	-	68.6

* Extra Depth Excavation and Drilled Shaft Sidewall Overreaming shown are contingency items and are for bidding purposes only.

DRILLED SHAFT INSTALLATION NOTES:

1. The Contractor may elect to use mineral slurry and/or casing to maintain the open hole. If mineral slurry is used, adequate water tanks, slurry tanks and desanding equipment is required.
2. Artesian conditions were not noted by the driller during drilling. However, based on review of the St. Johns River Water Management District potentiometric map of the Upper Floridian Aquifer for the project area, the potential artesian head elevation is estimated to be +10m NGVD. The Contractor shall be prepared to use temporary casing or other methods as necessary to control artesian water levels up to elevation +10m NGVD. The cost of the artesian water level control shall be included in Pay Item 2455-122 - Unclassified Shaft Excavation.
3. The Contractor shall take special precaution to prevent discharge of the slurry or excavated material into the waterway during the excavation operations. Materials excavated from the drilled shafts shall be collected and disposed of satisfactorily in off site areas provided by Contractor.
4. All shafts shall be inspected prior to placement of concrete using the Department's shaft inspection device (SID) in accordance with Section 455-15.11.3
5. Special precaution shall be taken by the Contractor to prevent discharge of slurry or concrete into the waterway during concreting operations. The Contractor shall provide a receptacle around the top of the casing to collect all slurry and/or concrete discharged from the shaft during concreting operations.
6. The Contractor shall employ turbidity control measures (i.e. containment boxes/collars, casings, culvert pipes, cofferdams, etc.) which satisfy the minimum requirements of the permitting agency(s). Standard floating silt curtains will not be sufficient. The Contractor shall submit turbidity control plans to the engineer for approval prior to starting any work related to drilled shaft excavation. The cost of drilled shaft excavation and turbidity control measures shall be included in Pay Item 2455-122 Unclassified Excavation Shaft.
7. Coring shall be performed in accordance with ASTM D-2113 Standard Practice for Diamond Core Drilling for site investigation, except that the single-tube core barrel will not be allowed for coring and retrieving the undisturbed sample produced during the core (shaft excavation). The core barrel shall meet or exceed the standards of ASTM D-2113 Section 4.3.5 and the Diamond Core Drill Manufacturer's Association (DCDMA) standards for core barrels. Cores are required at each shaft location to a minimum depth of 1.5m from the bottom of the drilled shaft excavation. Payment for coring will be made under Pay Item 2455-111 Core Shaft Excavation.
8. The Contractor shall take steps necessary to prevent damage to drilled shafts that have been constructed previously. The Contractor shall not vibrate any casing within 9.1 meters of the freshly drilled shaft up to 10 hours after the concrete placement.
9. The Contractor will construct a reinforced test shaft for each diameter drilled shaft in the location determined by the Engineer.

NOTES:

1. Concrete for Drilled Shafts shall be Class IV (Drilled Shaft).
2. Reinforcing Steel shall conform to ASTM A615M-96a Grade 420.
3. The Contractor shall perform a 100mm to 150mm diameter core from 1.500m to 6.000m below the shaft excavation as directed by the Engineer. A minimum of 1.500m length core is required for each shaft.
4. If splices are required for vertical reinforcement, alternate locations such that the maximum number of bars spliced at any given section does not exceed 50% of total number of bars.
5. Minimum lap splice for #6 spiral shall be 520mm.

DRILLED SHAFT QUANTITIES PER LINEAR METER			
ITEM	UNIT	QUANTITY	
		1070mm	1525mm
Class IV Concrete (Drilled Shaft)	M3	0.90	1.83
Reinforcing Steel	KG	68.0	101.7

NOTE: Quantities shown for Reinforcing Steel do not include lap slices for Vertical Bars or Spiral Bars

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KMR	6/99
Checked by	KTK	6/99
Designed by	DMW	6/99
Checked by	KTK	6/99
Approved by	K.T. Kelley	

ENGINEER OF RECORD:
RALPH WHITEHEAD ASSOCIATES, INC.
3733 University Boulevard West
Suite 305
Jacksonville, FL 32217-2103
904.730.9777
Web Site: www.rwhitehead.com

LOGO:

SEAL:
6/19/00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
25	ALACHUA	207784-1-52-01

SHEET TITLE: DRILLED SHAFT DETAILS

Drawing No.

PROJECT NAME: SR 25 (US 441) OVER SANTA FE RIVER BRIDGE NO. 260112

Index No.

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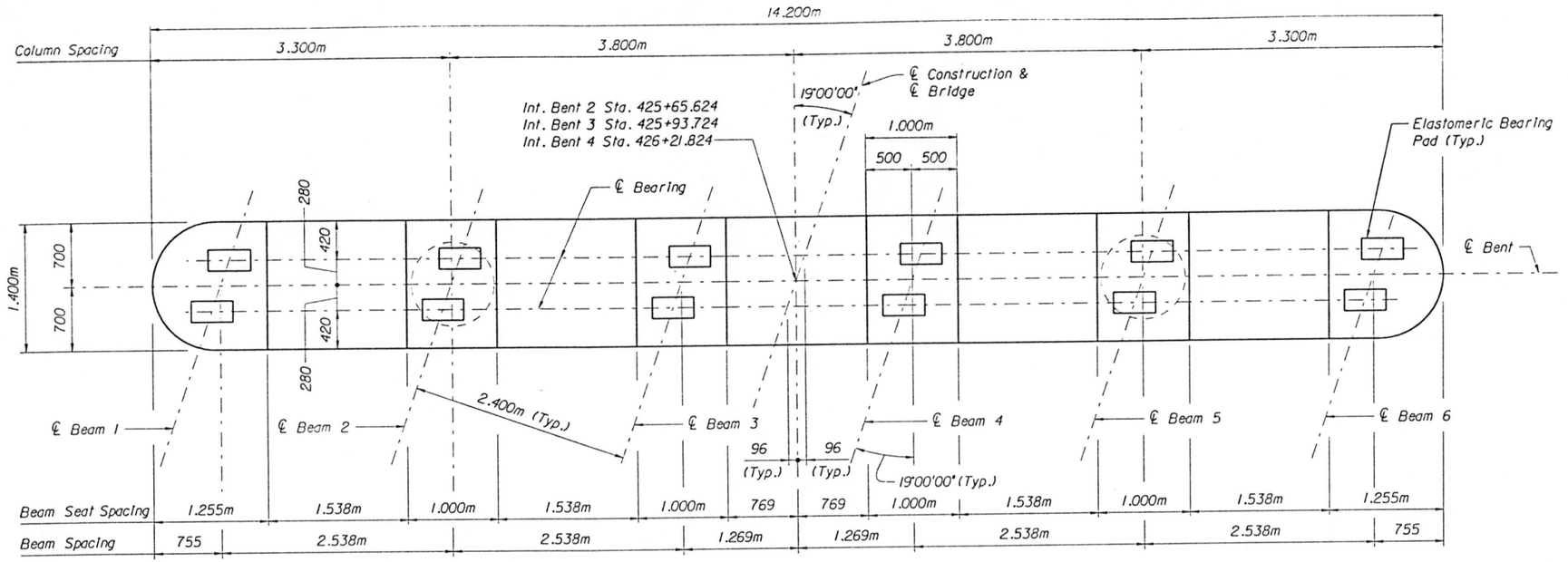
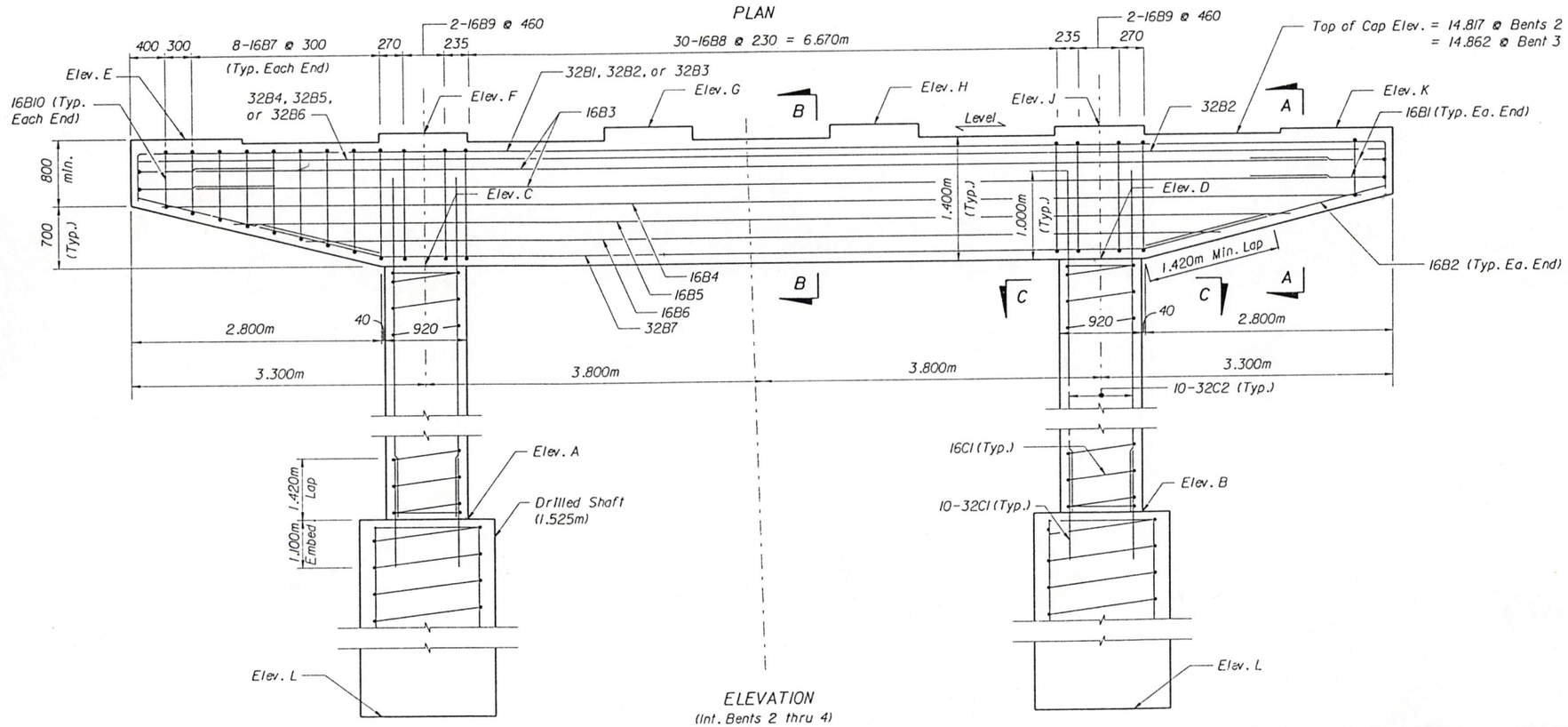


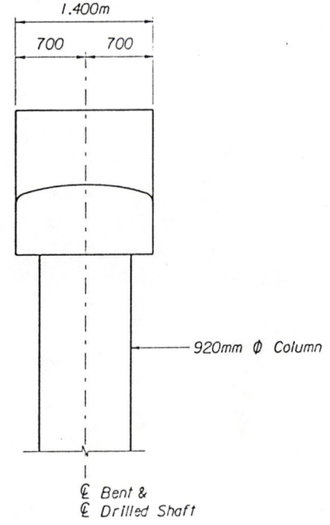
NOTES:

1. All Bearing Surfaces shall be finished level.
2. For Sections and other details, see Sheet B-14.
2. For Drilled Shaft Details, see Sheet B-8.
4. For Reinforcing Bar List, see Sheet B-22.
5. Lap 16B Bars a Minimum of 725mm

PLAN



ELEVATION
(Int. Bents 2 thru 4)



SECTION A-A

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KGB	5/99
Checked by	MJM	5/99
Designed by	MJM	5/99
Checked by	KGB	5/99
Approved by	K.T. Kelley	

ENGINEER OF RECORD:
RALPH WHITEHEAD ASSOCIATES, INC.
3733 University Boulevard West
Suite 305
Jacksonville, FL 32217-2103
904.730.9777
Web Site: www.rwhitehead.com

LOGO:

SEAL:
6/19/00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
25	ALACHUA	207784-1-52-01

SHEET TITLE: INTERMEDIATE BENTS

Drawing No.: -

PROJECT NAME: SR 25 (US 441) OVER SANTA FE RIVER
BRIDGE NO. 260112

Index No.:

10 NOV 99
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FISCAL YEAR	SHEET NO.
99	1

THIS CONTRACT PLAN SET INCLUDES

ROADWAY PLANS
SIGNING AND PAVEMENT MARKING PLANS
STRUCTURE PLANS

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT SET OF PLANS

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2, 2A, 2B	SUMMARY OF PAY ITEMS
3 - 4	TYPICAL SECTIONS
5 - 6	SUMMARY OF QUANTITIES
7	GENERAL NOTES
8 - 14	ROADWAY PLAN & PROFILES
15 - 20	DRAINAGE STRUCTURES
21 - 34	ROADWAY SOIL SURVEY
35 - 92	CROSS SECTIONS
93 - 99	TRAFFIC CONTROL SHEETS
100 - 103	EROSION CONTROL SHEETS
104	STORM WATER POLLUTION PREVENTION PLAN

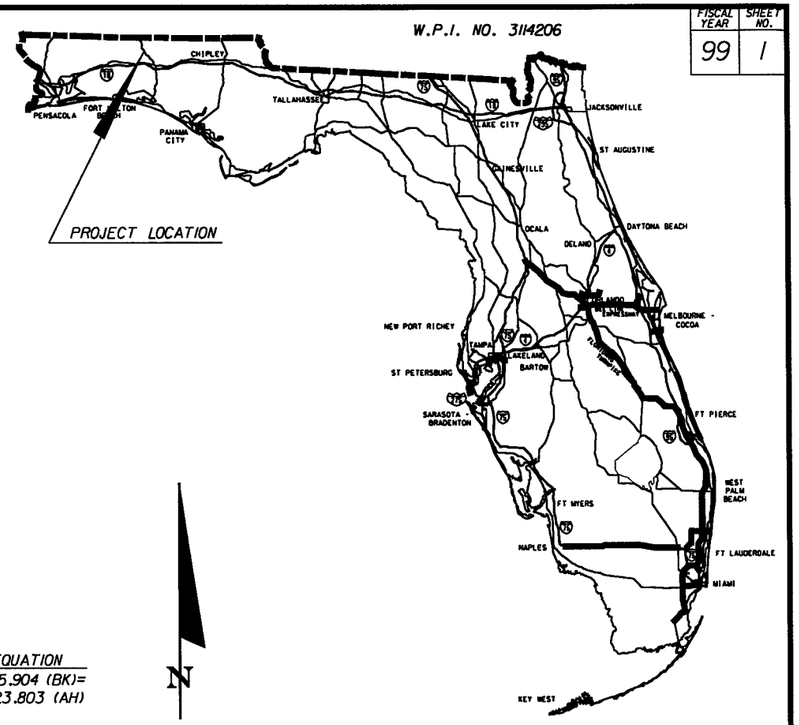
Roadway Computation Book
Bridge Computation Book
Field Book 01 - Bridge Final Measurements
Field Book 02 - Roadway Final Measurements

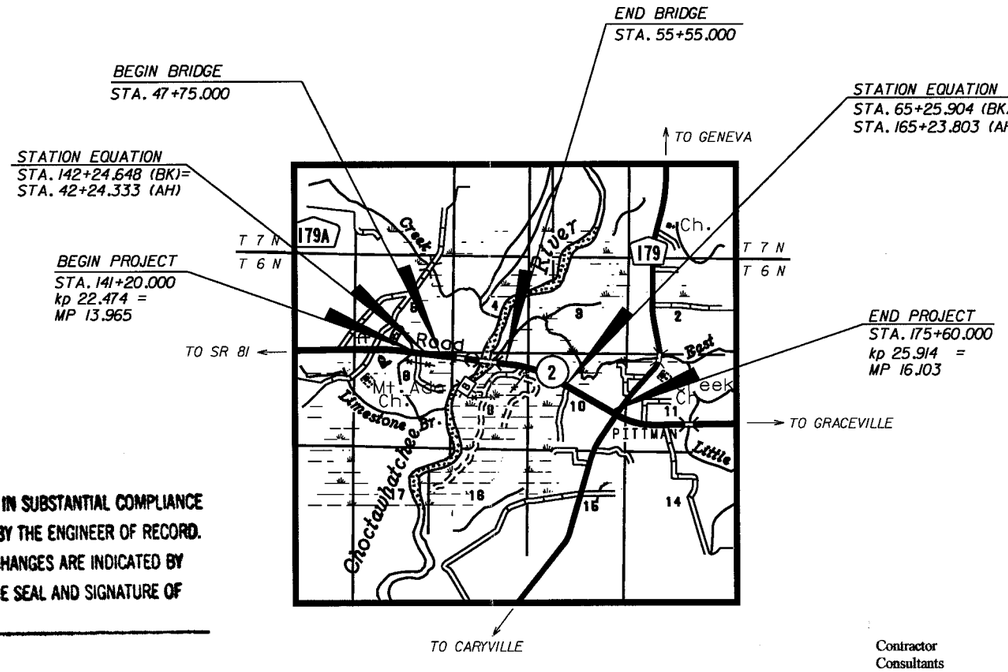
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

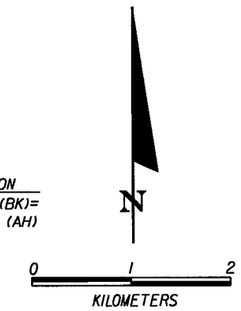
FINAL PLANS
STATE HIGHWAY

W.P.I. NO. 3114206

FP-ID NO. 219154-1-52-01
STATE PROJECT NO. 52050-3524
HOLMES COUNTY
STATE ROAD NO. 2







ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO

JOHN W. (WALLY) JORDAN, JR., P.E.
(850) 385-7450

PLANS PREPARED BY

JMI ENGINEERS
1424 PIEDMONT DRIVE EAST
SUITE 100
TALLAHASSEE, FL 32312
(850) 385-7450
VENDOR NO. VF-V30337209

THIS PROJECT WAS CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THESE PLANS AS PROVIDED BY THE ENGINEER OF RECORD. IF CHANGES WERE MADE, THOSE CHANGES ARE INDICATED BY BLACK INK REVISION AND BEAR THE SEAL AND SIGNATURE OF THE RESPONSIBLE ENGINEER. _____

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS (BOOKLET DATED JANUARY, 1998).

REVISIONS

Structure Sheet B-1 (Revised 4-29-99)
Roadway Sheets 2 & 5 (Revised 6-1-99)
Structure Sheets B-26 & B-29 (Revised 1-26-00)
Structure Sheet B-35 (Revised 4-12-00)

Gilleon B. McCarty 11/14/01

LENGTH OF PROJECT IS BASED ON ℄ CONSTRUCTION

LENGTH OF PROJECT	METERS
ROADWAY	2 662.416
BRIDGES	780.00
NET LENGTH OF PROJ.	3 442.416
EXCEPTIONS	-
GROSS LENGTH OF PROJ.	3 442.416

Contractor	F & W Construction Company, Inc.
Consultants	Metric Engineering, Inc.
District Secretary	Edward Prescott
Resident Engineer	Steve Potter
Project Manager	Keith Hinson
Project Engineer	Herman Green

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

GOVERNING SPECIFICATIONS: STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, DATED 1999, SUPPLEMENTS AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

NOTE: THIS IS A METRIC UNIT PROJECT

REVISIONS		
DATE	BY	DESCRIPTION

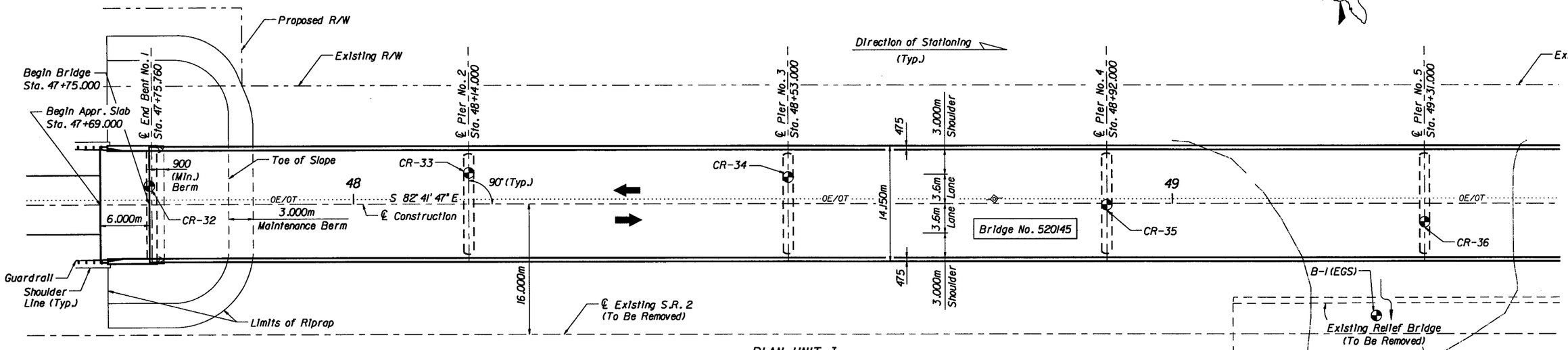
ROADWAY PLANS ENGINEER OF RECORD: JOHN W. (WALLY) JORDAN, JR., P.E.
DATE: 4/12/00
P.E. NO.: 50894

FDOT PROJECT MANAGER : BILL PAXTON, P.E.

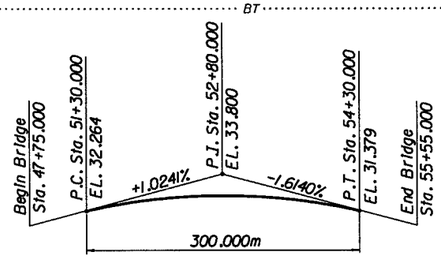
S.R. 2 CHOCTAWHATCHEE RIVER BRIDGE REPLACEMENT

J:\JMI Jobs\ - Tallahassee - 12 APR 100 12:11:22 a:\952\drawing\roadway\working\keysrd01.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-8



PLAN-UNIT 1



VERTICAL CURVE DATA

(Along ℄ Construction)

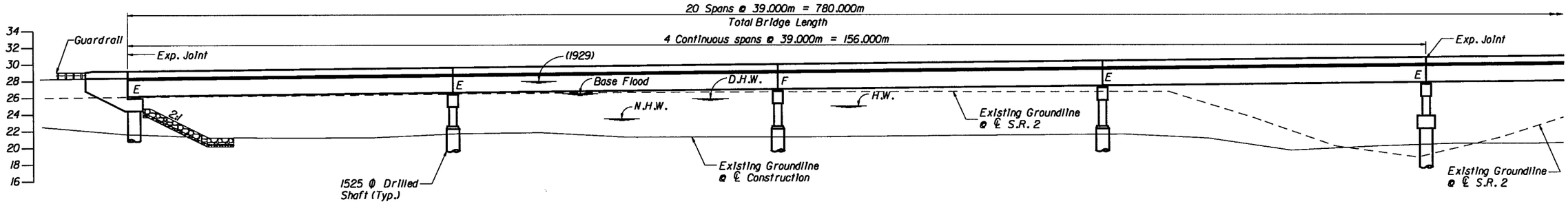
TRAFFIC DATA

1993 ADDT = 900
1997 EST. ADT = 1050
2007 EST. ADT = 1450
2017 EST. ADT = 1850
K30 = 14%
D30 = 60%
T = 17% (24 HR.)
T = 9% (DESIGN HR.) DT
T = 7% (DESIGN HR. HEAVY) DHT
T = 2% (DESIGN HR. MEDIUM) DMT

DESIGN SPEED 110 km/h

WATER ELEVATIONS

N.H.W. = 23.700m
H.W. = 25.210m
D.H.W. (50yr.) = 26.100m
Base Flood = 26.700m
(1929) = 28.190m



ELEVATION-UNIT 1

Joe W. Jordan
2/12/99

Note :
For Adjustment and Relocation of Utilities, see Roadway Plans.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TGA	4-98
Checked by	EP	4-98
Designed by	EP	4-98
Checked by	JWJ	4-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

LOGO: JMI ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 2	HOLMES	52050-3524

SHEET TITLE: PLAN AND ELEVATION I

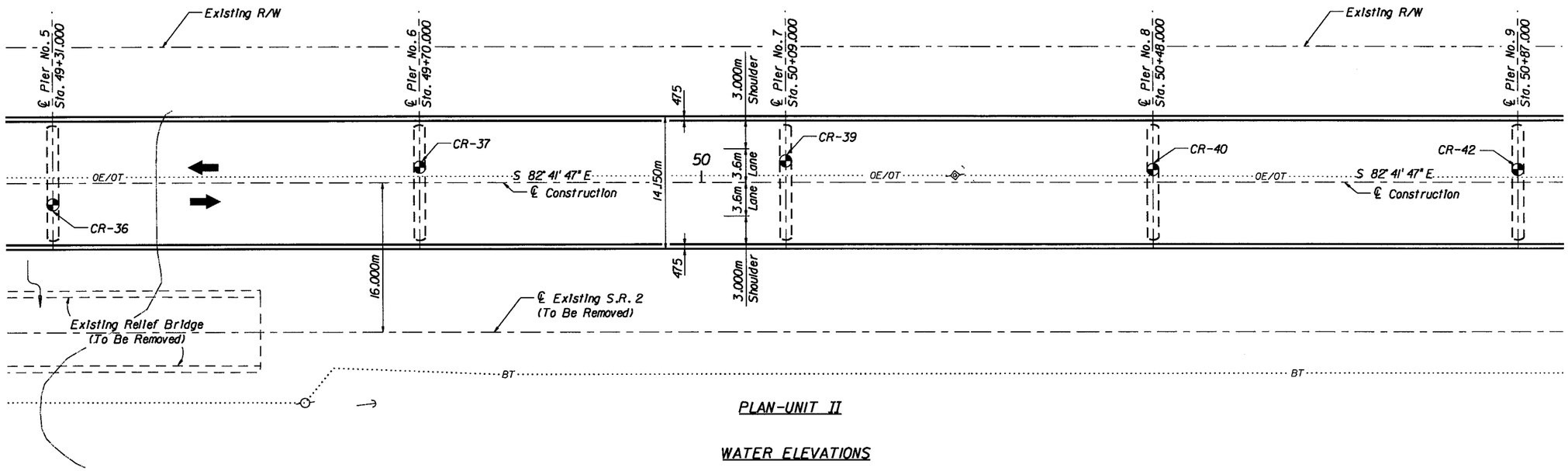
PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

JMI Engineers - Tallahassee - 12 FEB 99 16:57:41 a:\952\drawing\bridge\working\gnpe.dgn

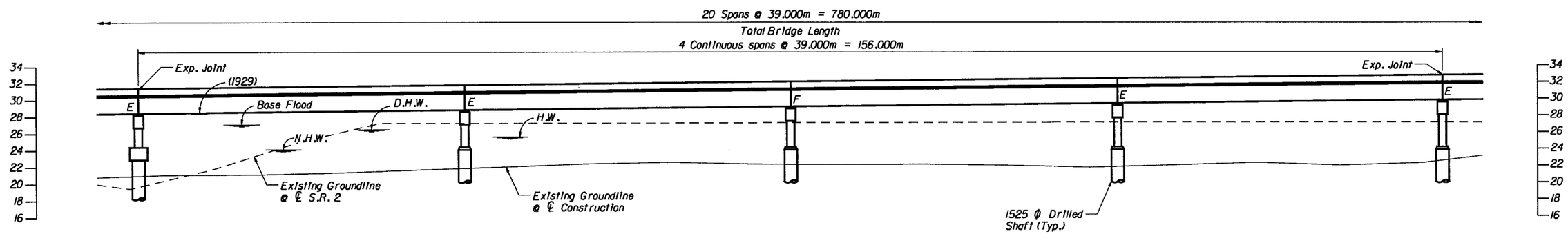
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-9



PLAN-UNIT II

WATER ELEVATIONS

N.H.W.	= 23.700m
H.W.	= 25.210m
D.H.W. (50yr.)	= 26.100m
Base Flood	= 26.700m
(1929)	= 28.190m



ELEVATION-UNIT II

2/12/99

Note :

For Adjustment and Relocation of Utilities, see Roadway Plans.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TGA	4-98
Checked by	EP	4-98
Designed by	EP	4-98
Checked by	JWJ	4-98
Approved by	J. JORDAN, P.E.	

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Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

LOGO: JMI ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 2	HOLMES	52050-3524

SHEET TITLE: PLAN AND ELEVATION II

PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

JMI Engineers - Tallahassee - 10 FEB 99 09:01:48 o:\952\drawing\bridge\working\vgnpe.dgn

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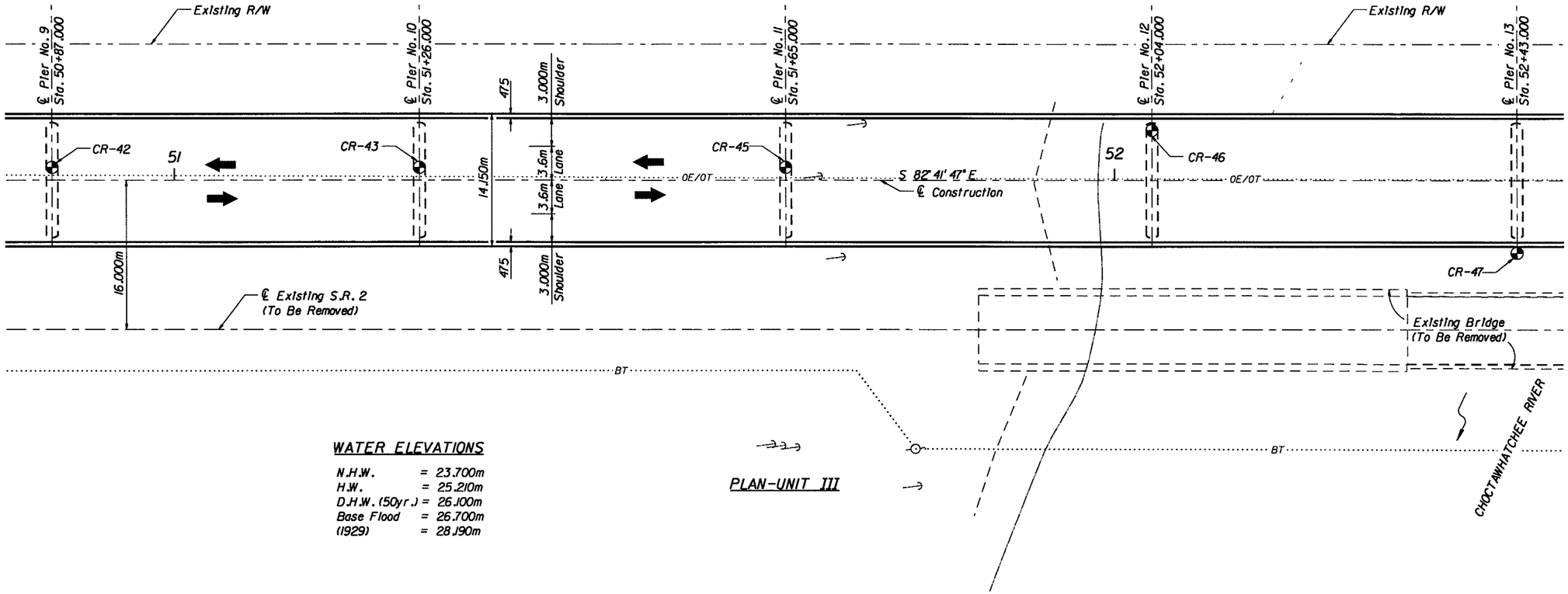
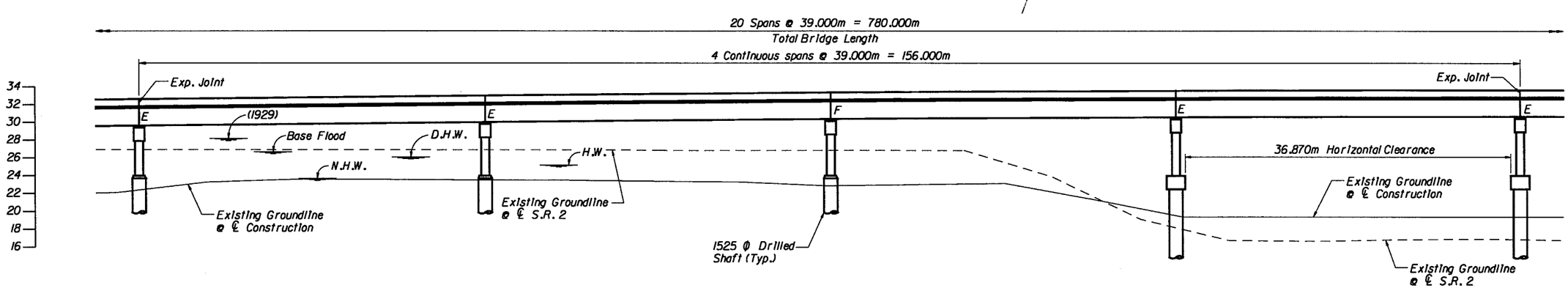


WATER ELEVATIONS

N.H.W.	= 23.700m
H.W.	= 25.210m
D.H.W. (50yr.)	= 26.100m
Base Flood	= 26.700m
(1929)	= 28.190m

PLAN-UNIT III



ELEVATION-UNIT III

Note :

For Adjustment and Relocation of Utilities, see Roadway Plans.

2/12/99

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TGA	4-98
Checked by	EP	4-98
Designed by	EP	4-98
Checked by	JWJ	4-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

LOGO: JMI ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 2	HOLMES	52050-3524

SHEET TITLE: PLAN AND ELEVATION III

PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

JMI Engineers - Tallahassee - $DATE$ $TIME$ $FILE$

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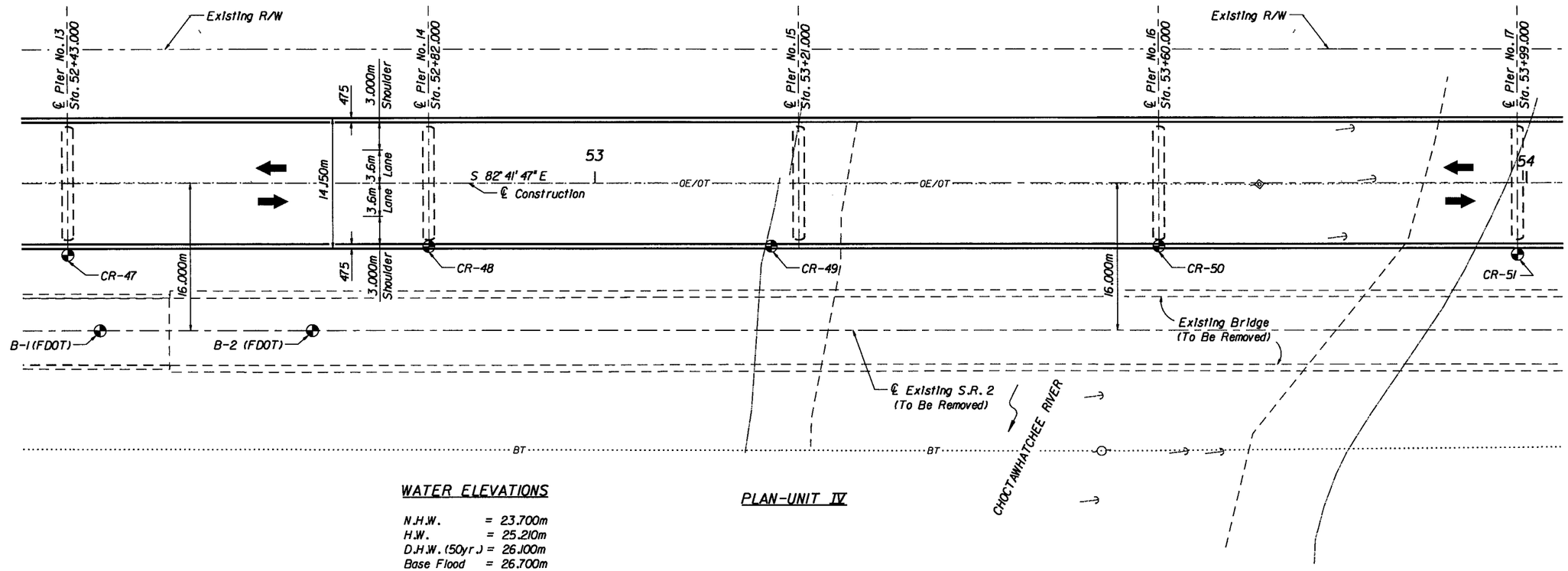
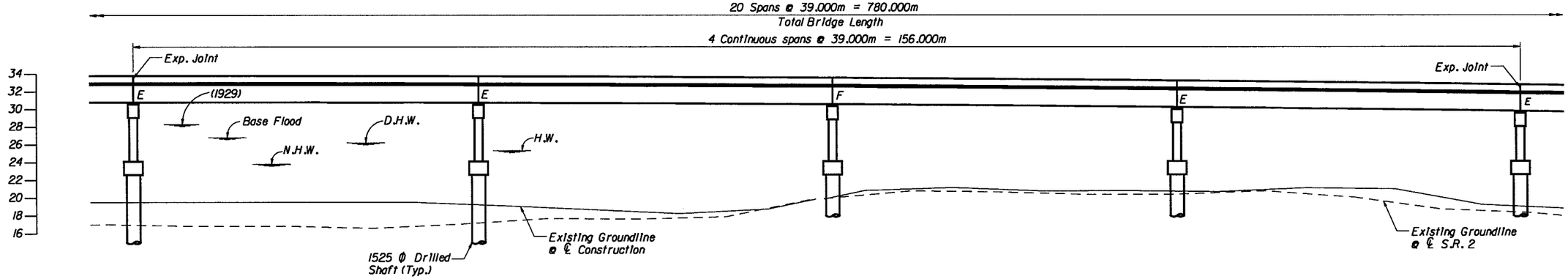


WATER ELEVATIONS

N.H.W.	= 23.700m
H.W.	= 25.210m
D.H.W. (50yr.)	= 26.100m
Base Flood	= 26.700m
(1929)	= 28.190m

PLAN-UNIT IV



ELEVATION-UNIT IV

2/12/99

Note :

For Adjustment and Relocation of Utilities, see Roadway Plans.

JMI Engineers - Tallahassee - 12 FEB 99 16:58:12 o:\952\drawing\bridge\working\gnpe.dgn

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TGA	4-98
Checked by	EP	4-98
Designed by	EP	4-98
Checked by	JWJ	4-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

LOGO: JMI ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 2	HOLMES	52050-3524

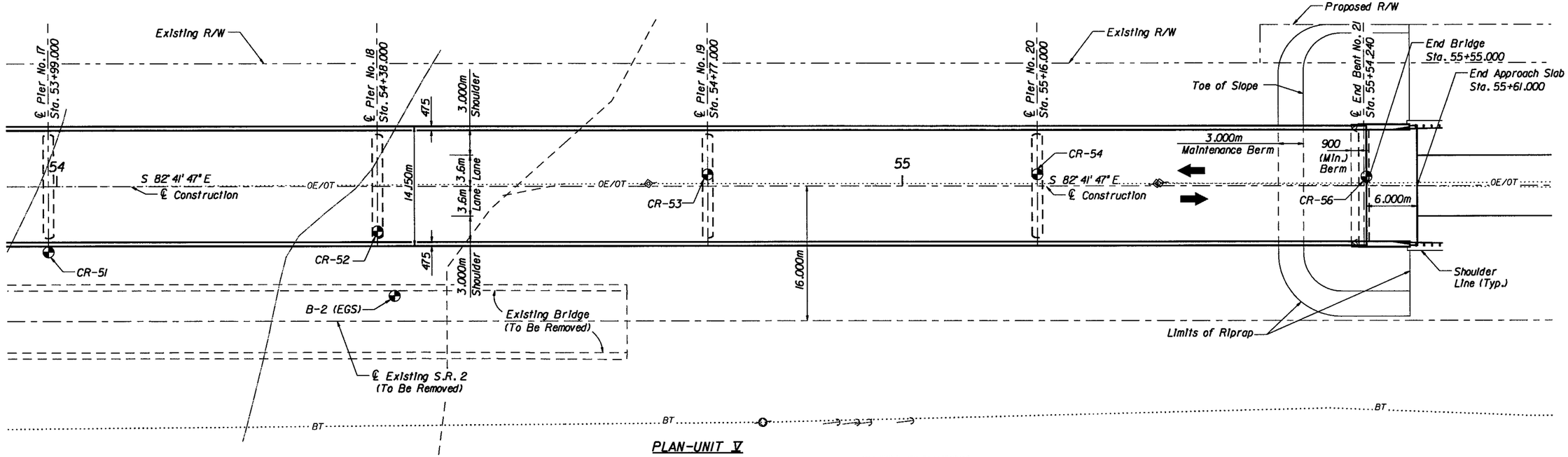
SHEET TITLE: PLAN AND ELEVATION IV

Drawing No.

PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Index No.

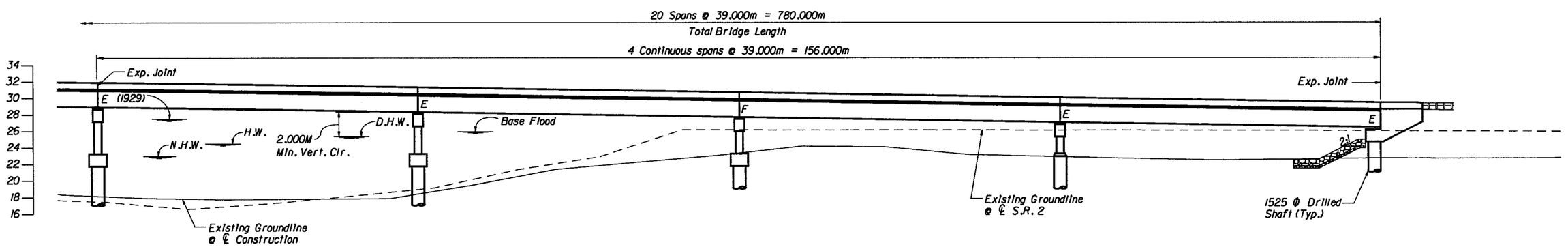
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-12



PLAN-UNIT V

WATER ELEVATIONS

N.H.W.	= 23.700m
H.W.	= 25.210m
D.H.W. (50yr.)	= 26.100m
Base Flood	= 26.700m
(1929)	= 28.190m



ELEVATION-UNIT V

Note :

For Adjustment and Relocation of Utilities, see Roadway Plans.

2/12/99

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TGA	4-98
Checked by	EP	4-98
Designed by	EP	4-98
Checked by	JWJ	4-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

LOGO: JMI ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 2	HOLMES	52050-3524

SHEET TITLE: PLAN AND ELEVATION V

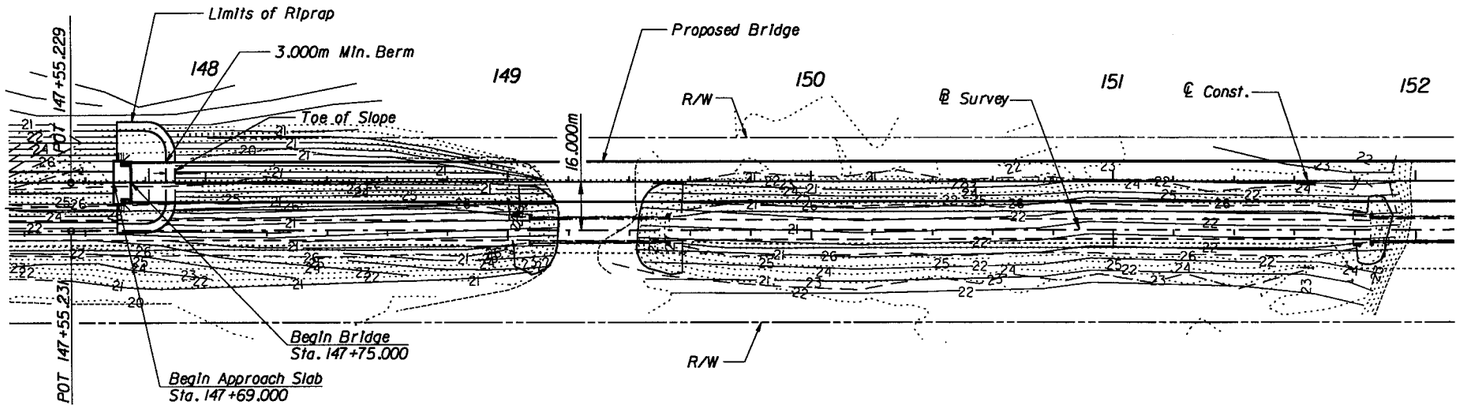
Drawing No.

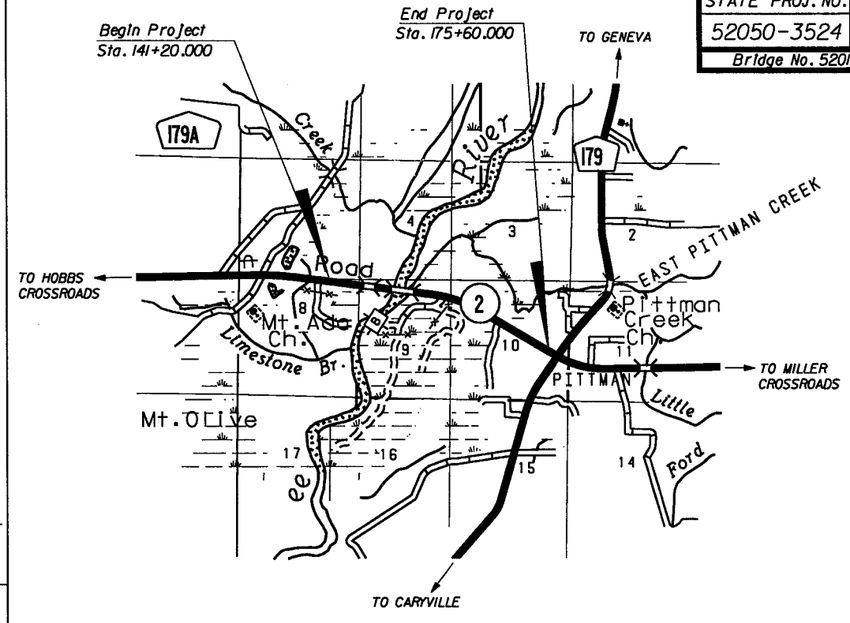
PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Index No.

JMI Engineers - Tallahassee - 12 FEB 99 16:58:44 a:\9520\drawing\bridge\working\gnpadgn

STATE PROJ. NO.	SHEET NO.
52050-3524	B-13
Bridge No. 520145	





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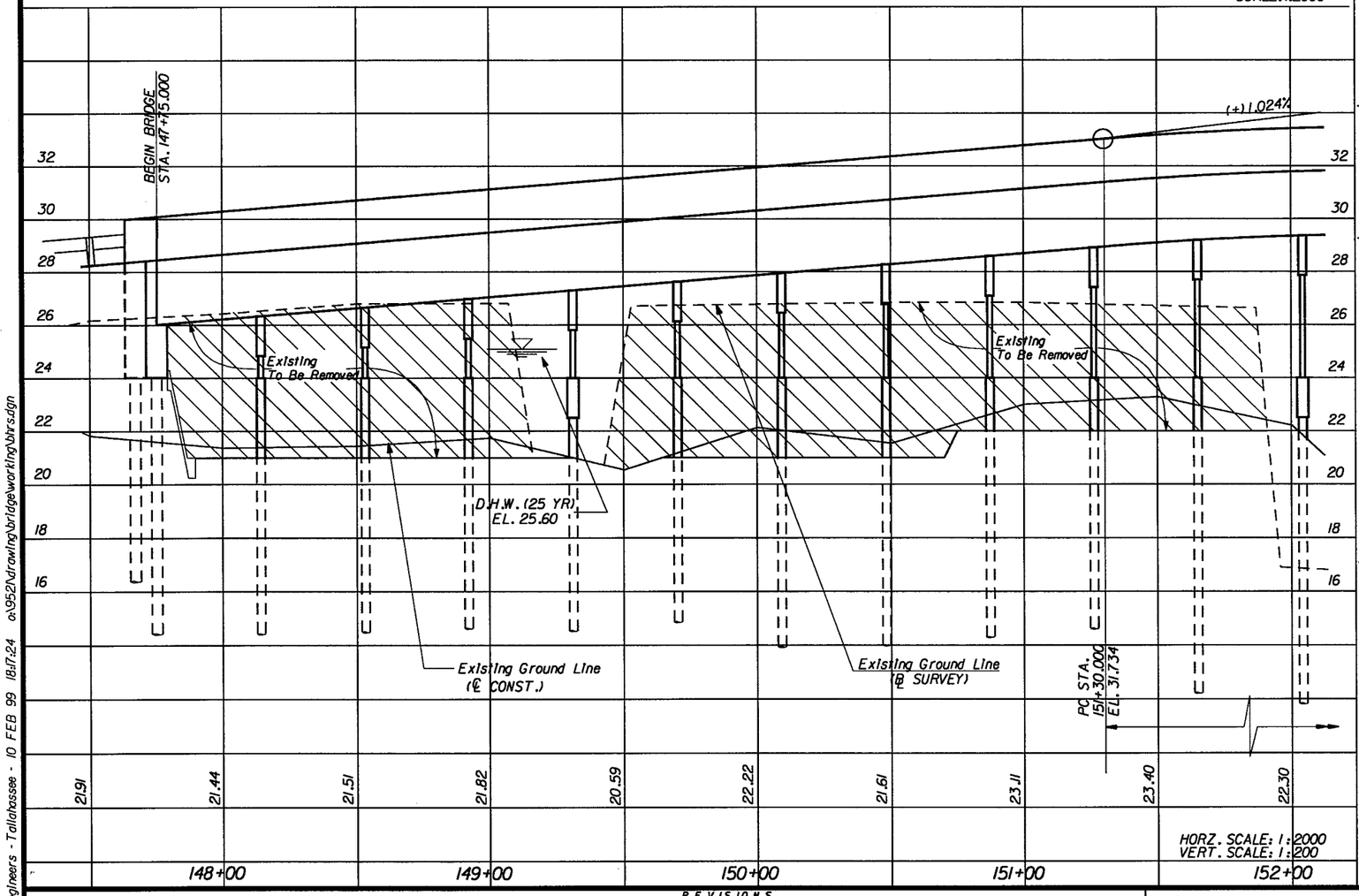


EXISTING STRUCTURES

(REFERENCE)	(1)& (2)	(3)& (4)	(5)	(6)	ASSUMED CONFIGURATION
FOUNDATION	Pile Bent	Pile Bent			2-1520 Dia. Pile Bent
OVERALL LENGTH	45.72	281.94			780.00
SPAN LENGTH	15.24	15.24 & 22.86			39.00
TYPE CONSTRUCTION	I Beam	I Beam			Conc. Beams
AREA OF OPENING @ H.W.					
ROADWAY WIDTH	7.31	7.31			14.15
ELEV. LOW MEMBER	25.30	25.60			Varies

HYDRAULIC DESIGN DATA

NOTE: The hydraulic data is shown for informational purposes only to indicate the flood discharges and water surface elevations which may be anticipated in any given year. This data was generated using highly variable factors determined by a study of the watershed. Many judgements and assumptions are required to establish these factors. The resultant hydraulic data is sensitive to changes, particularly antecedent conditions, urbanization, channelization and land use. Users of this data are cautioned against the assumption of precision which cannot be obtained.

DEFINITIONS:
Design Flood: The flood utilized to assure a desired level of hydraulic performance.
Base Flood: The flood having a 1% chance of being exceeded in any year. (100 Year Frequency)
Overtopping Flood: The flood which causes flow over the highway, over a watershed divide or thru emergency relief structures.
Greatest Flood: The most severe flood which can be predicted where overtopping is not practicable.

WATER SURFACE ELEVATIONS: N.H.W. (Non-Tidal) 23.70 M.H.W. _____ M.L.W. _____

FLOOD DATA:	MAX. EVENT OF RECORD (1929)	DESIGN FLOOD (1)		BASE FLOOD	☒ OVERTOPPING FLOOD ☐ GREATEST FLOOD
(2) STAGE ELEV. NGVD (M)	28.19	25.60	26.10	26.70	25.70
DISCHARGE (CM/S)	5542	2580	3310	4230	2400
AVERAGE VELOCITY (M/S)	0.37	0.73	0.82	0.71	0.71
EXCEEDANCE PROB. (%)	0.0045	0.04	0.02	0.01	0.044
FREQUENCY (YR.)	220	25	50	100	22.5

HYDRAULIC RECOMMENDATIONS

1. BEGIN BRIDGE STATION 147+75 END BRIDGE STATION 155+55 SKEW ANGLE 0
2. CHANNEL SECTION: ℄ STATION – BOTTOM WIDTH – ELEV. Varies (3) SIDE SLOPE –
3. LIMITS OF CHANNEL EXCAVATION: RT. Remove Existing Causeway (3) LT. Remove Existing Causeway (3)
4. CLEARANCE: NAVIGATION: HORIZ. (1) N/A VERT. N/A ABOVE EL. N/A DRIFT: HORIZ. 22.8 VERT. 2.0 ABOVE EL. 26.1
5. SCOUR PREDICTION: Maximum Scour Depth occurs prior to road overtopping. Use Alt. 2x 50 Year Main Channel Scour Elevation of 7.4 for both Foundation Design and Check Elevations for all Bents.
6. SLOPE PROTECTION: STD FDOT Rubble Riprap 1V :2H w 3m horizontal extension wmin = 27kg, w50 = 136kg, wmax = 318kg; sg = 2.3
7. DECK DRAINAGE: 0.1 m Scuppers at 3 m cc except eliminate Scuppers on Center Main Channel and both Abutment Spans
8. OTHER:

Patrick W. Parks 2-12-99

REMARKS: (1) There are no navigation requirements not satisfied by Drift. Minimum Drift Clearance in overbank area 0.6m above 25.6 (25 yr); In River Zone 0.6m over 26.1 (50 yr)
(2) Flood stage varies across floodplain. Stage shown is Main Channel Not, considering local drawdown except "overtopping" where the stage is the flood stage at the overtopping location.
(3) Remove Existing Causeway to: El 21.0 147+80 – 150+70
El 22.0 150+75 – 152+00, 154+75 – 155+50

REVISIONS												
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

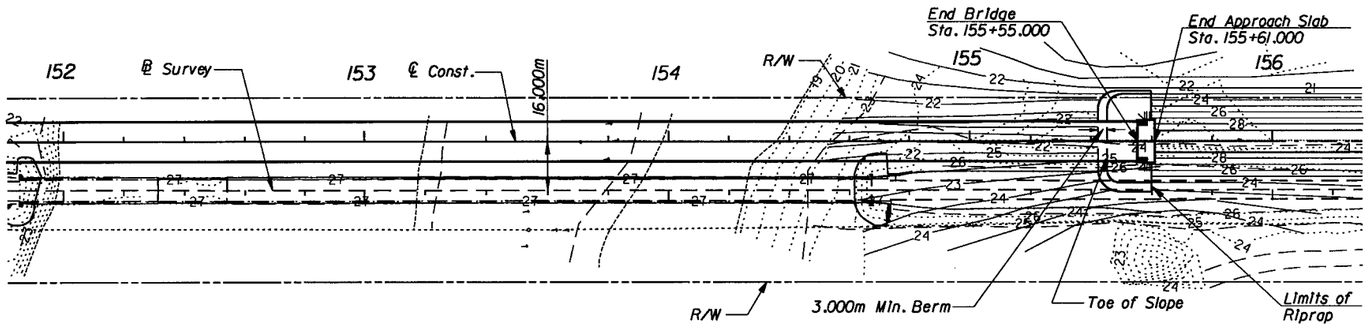
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

FLORIDA DEPARTMENT OF TRANSPORTATION

BRIDGE HYDRAULIC RECOMMENDATIONS I
S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

JMI Engineers - Tallahassee - 10 FEB 99 18:17:24 o:\952\drawing\bridge\working\bhrs.dgn

STATE PROJ. NO.	SHEET NO.
52050-3524	B-14
Bridge No. 520145	



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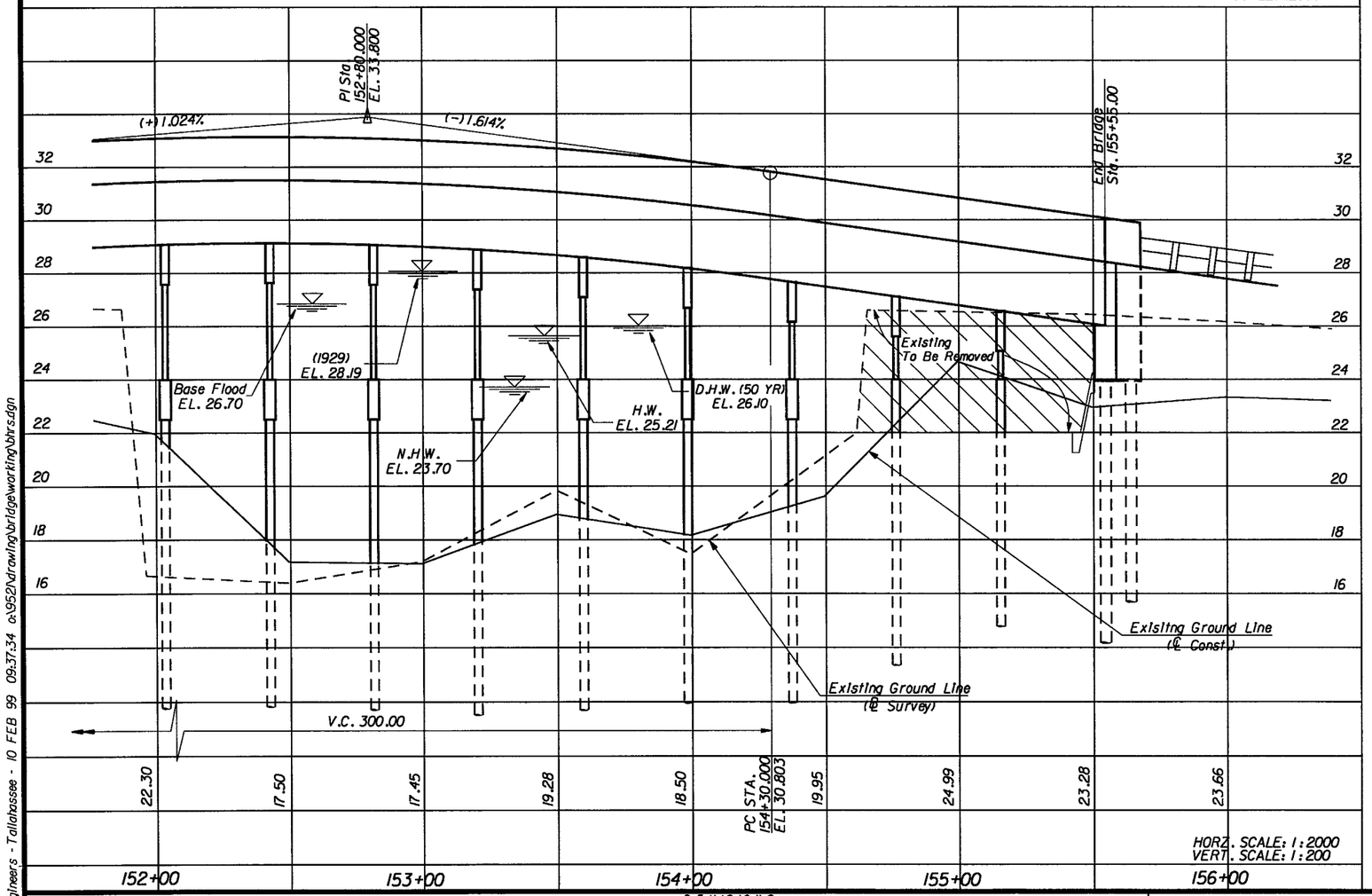

Patrick W. Price
2-12-99

REVISIONS											
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

FLORIDA DEPARTMENT OF TRANSPORTATION

BRIDGE HYDRAULIC RECOMMENDATIONS II
S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

JMI Engineers - Tallahassee - 10 FEB 99 09:37:34 o:\952\drawing\bridge\working\bhrs.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
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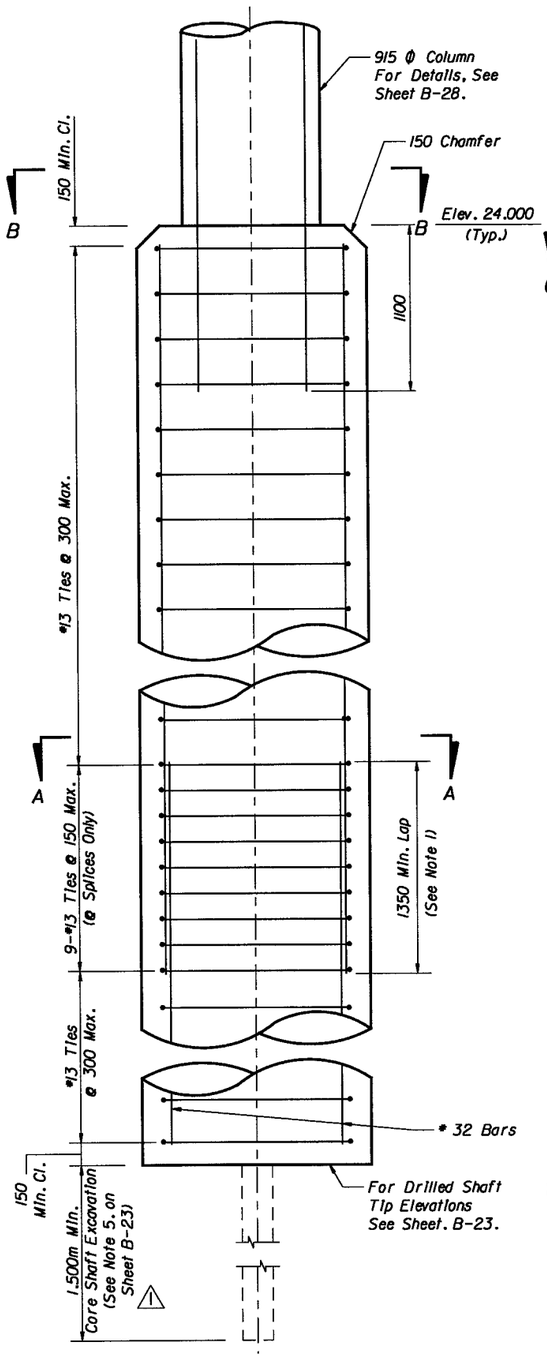
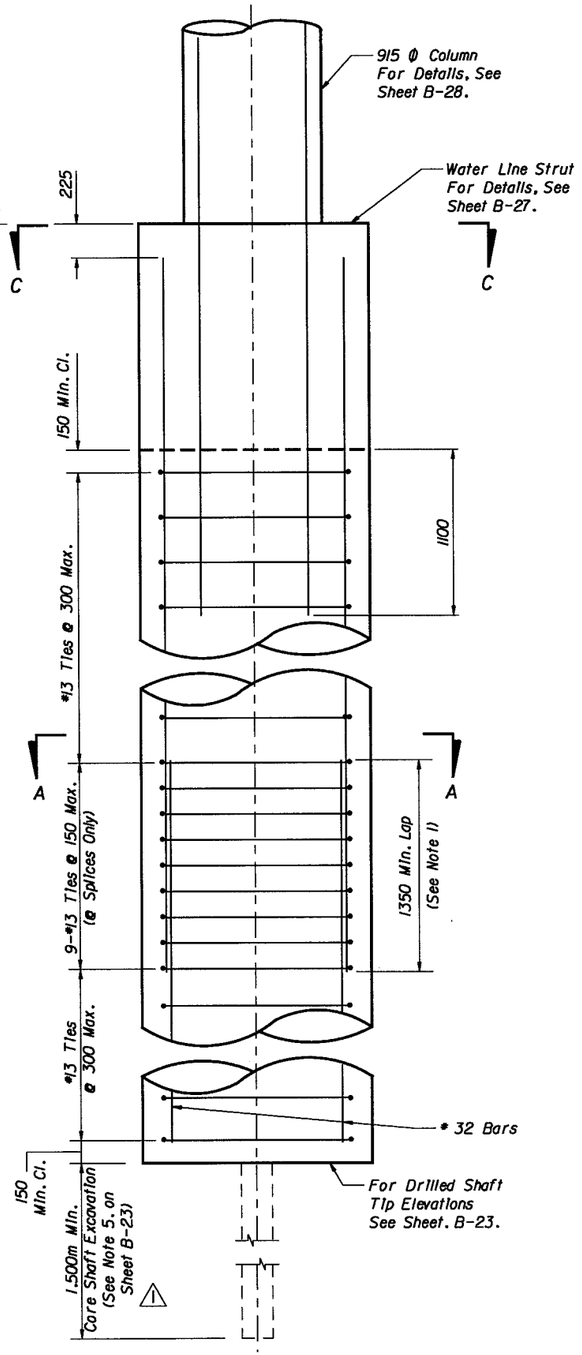


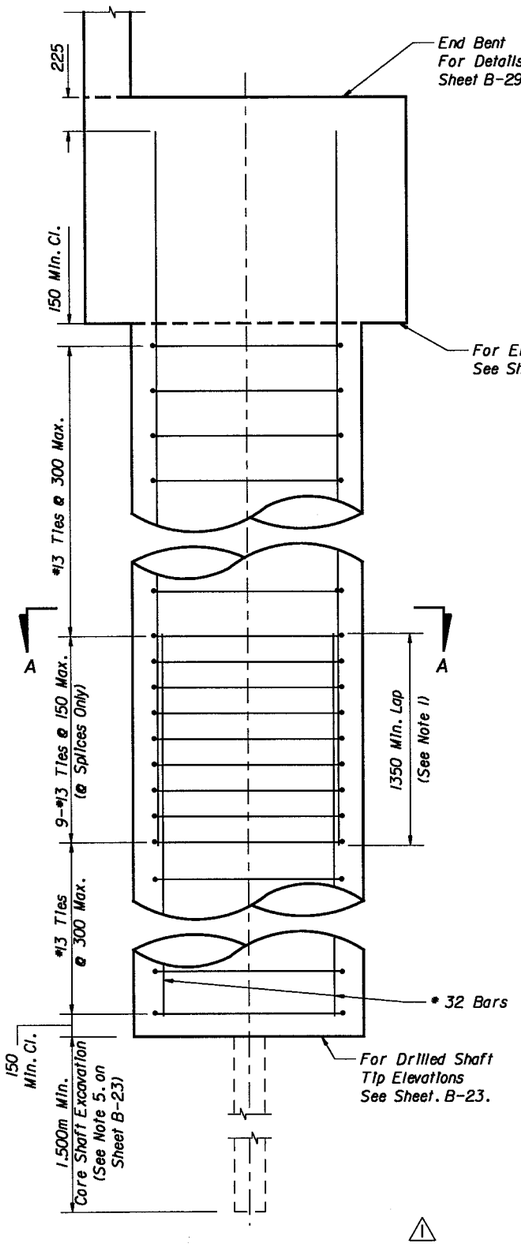
DRILLED SHAFT DETAIL WITH COLUMN

Piers 2-4, 6-11, & 20



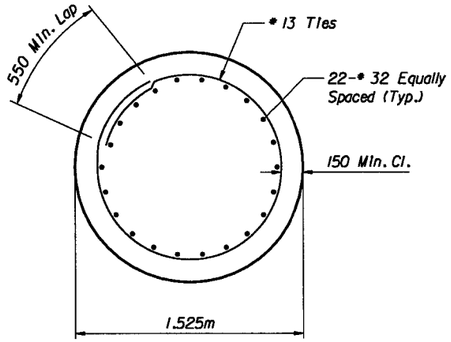
DRILLED SHAFT DETAIL WITH STRUT & COLUMN

Piers 5 & 12-19

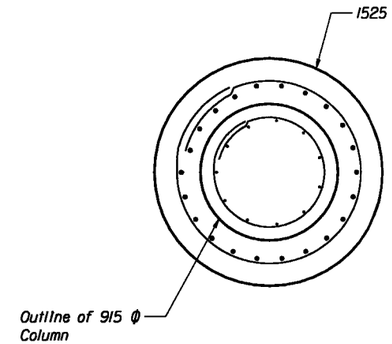


DRILLED SHAFT DETAIL @ END BENT

End Bents 1 & 21



SECTION A-A



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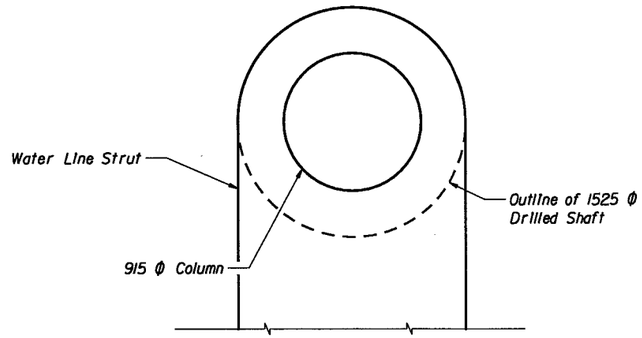


SECTION C-C

Note :

1. Alternate Lap Splice so that a maximum of 50% of the reinforcement is spliced at the same location.

REVISIONS					
Date	By	Description	Date	By	Description
1/26/00	SGS	⚠ Added Detail @ End Bent			

	Names	Dates
Drawn by	TGA	7-98
Checked by	EP	7-98
Designed by	SL	7-98
Checked by	JWJ	7-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

LOGO: JMI ENGINEERS

SEAL: 1/26/00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R.2	HOLMES	52050-3524

SHEET TITLE: DRILLED SHAFT DETAILS

Drawing No.

PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Index No.

JMI Engineers - Tallahassee - 26 JAN 100 15:34:18 a:\952\drawing\bridge\final\drilled.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-23

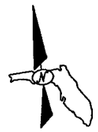
DRILLED SHAFT INSTALLATION TABLE

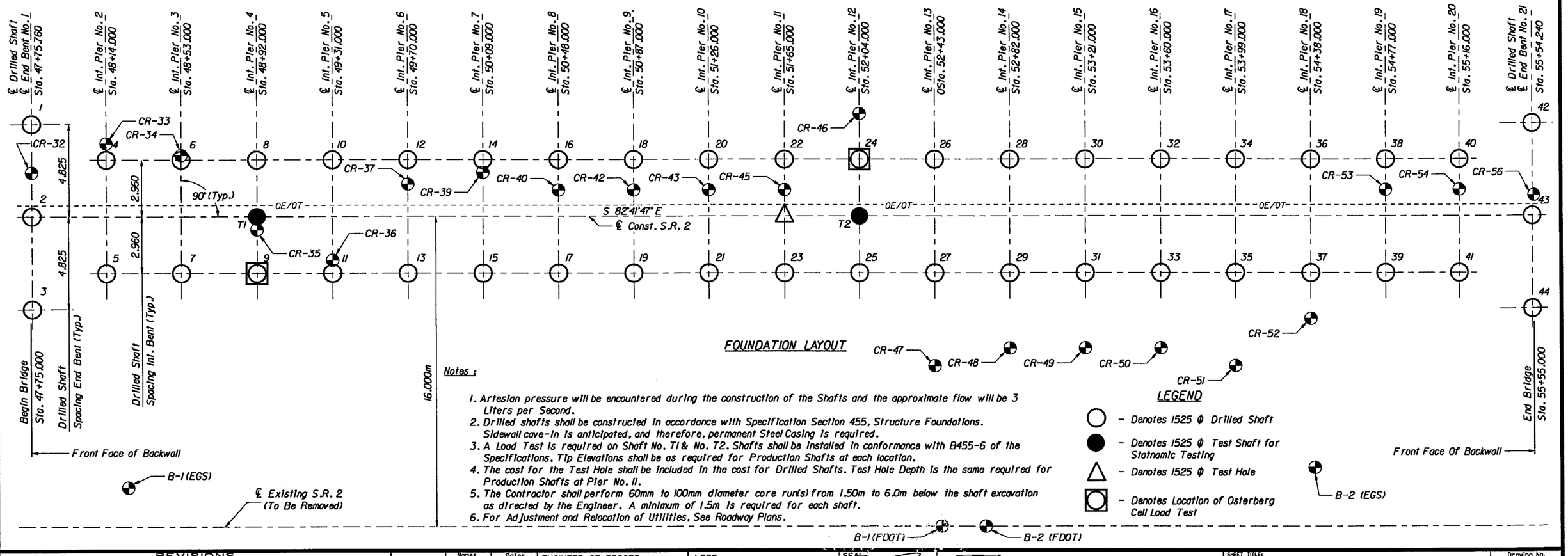
INSTALLATION CRITERIA					DESIGN CRITERIA			INSTALLATION CRITERIA					DESIGN CRITERIA		
BENT or PIER NUMBER	RECOMMENDED SHAFT SIZE (METERS)	TIP ELEVATION * (METERS NGVD)	MINIMUM TIP ELEVATION ** (METERS NGVD)	MINIMUM SOCKET LENGTH (METERS)	FACTORED DESIGN LOAD (kN)	DOWN DRAG (kN)	100 YEAR SCOUR ELEVATION (METERS NGVD)	BENT or PIER NUMBER	RECOMMENDED SHAFT SIZE (METERS)	TIP ELEVATION * (METERS NGVD)	MINIMUM TIP ELEVATION ** (METERS NGVD)	MINIMUM SOCKET LENGTH (METERS)	FACTORED DESIGN LOAD (kN)	DOWN DRAG (kN)	100 YEAR SCOUR ELEVATION (METERS NGVD)
BENT NO. 1	1.525	4.300	4.300	12.400	3,600	N/A	16.700	PIER NO.12	1.525	-2.200	-2.000	8.700	7,400	N/A	9.600
PIER NO. 2	1.525	-0.300	-0.100	9.700	7,400	N/A	9.600	PIER NO.13	1.525	-1.300	-1.300	10.900	7,400	N/A	9.600
PIER NO. 3	1.525	-1.900	-1.900	11.500	7,400	N/A	9.600	PIER NO.14	1.525	-0.600	-0.500	10.100	7,400	N/A	9.600
PIER NO. 4	1.525	-3.400	-3.100	12.700	7,400	N/A	9.600	PIER NO.15	1.525	-0.800	-0.600	10.200	7,400	N/A	9.600
PIER NO. 5	1.525	0.700	1.000	8.600	7,400	N/A	9.600	PIER NO.16	1.525	-1.300	-1.300	10.900	7,400	N/A	9.600
PIER NO. 6	1.525	-1.300	-1.000	10.600	7,400	N/A	9.600	PIER NO.17	1.525	0.600	0.600	9.000	7,400	N/A	9.600
PIER NO. 7	1.525	-0.200	0.200	9.400	7,400	N/A	9.600	PIER NO.18	1.525	-0.900	-0.900	10.500	7,400	N/A	9.600
PIER NO. 8	1.525	-1.600	-1.500	11.100	7,400	N/A	9.600	PIER NO.19	1.525	0.200	0.200	9.400	7,400	N/A	9.600
PIER NO. 9	1.525	0.200	0.200	9.400	7,400	N/A	9.600	PIER NO.20	1.525	-1.500	-1.500	11.100	7,400	N/A	9.600
PIER NO.10	1.525	-0.900	-0.900	10.500	7,400	N/A	9.600	BENT NO.21	1.525	4.100	4.100	11.400	3,600	N/A	15.500
PIER NO.11	1.525	-1.900	-1.900	11.500	7,400	N/A	9.600								

Notes for Drilled Shafts :

*Tip Elevation ** – *the elevation to which the shaft shall be constructed unless test load data, rock cores or other geotechnical data obtained during construction allows the Engineer to authorize a different tip elevation. (Based on Axial Load Analysis)*

*Min. Tip Elevation *** – *the highest elevation that the shaft tip may be constructed if adjustments are made to the tip elevation specified. (Based on Lateral Load Analysis)*





FOUNDATION LAYOUT

Notes :

1. *Artesian pressure will be encountered during the construction of the Shafts and the approximate flow will be 3 Liters per Second.*
2. *Drilled shafts shall be constructed in accordance with Specification Section 455, Structure Foundations. Sidewall cave-in is anticipated, and therefore, permanent Steel Casing is required.*
3. *A Load Test is required on Shaft No. T1 & No. T2. Shafts shall be installed in conformance with B455-6 of the Specifications. Tip Elevations shall be as required for Production Shafts at each location.*
4. *The cost for the Test Hole shall be included in the cost for Drilled Shafts. Test Hole Depth is the same required for Production Shafts at Pier No. 11.*
5. *The Contractor shall perform 60mm to 100mm diameter core run(s) from 1.50m to 6.0m below the shaft excavation as directed by the Engineer. A minimum of 1.5m is required for each shaft.*
6. *For Adjustment and Relocation of Utilities, See Roadway Plans.*

LEGEND

- ○ – *Denotes 1525 ϕ Drilled Shaft*
- ● – *Denotes 1525 ϕ Test Shaft for Statnamic Testing*
- △ – *Denotes 1525 ϕ Test Hole*
- ▣ – *Denotes Location of Osterberg Cell Load Test*

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	TGA	7-98
Checked by	EP	7-98
Designed by	EP	7-98
Checked by	JWJ	7-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
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LOGO: JMI ENGINEERS

SEAL: 3/21/99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R.2	HOLMES	52050-3524

SHEET TITLE: FOUNDATION LAYOUT

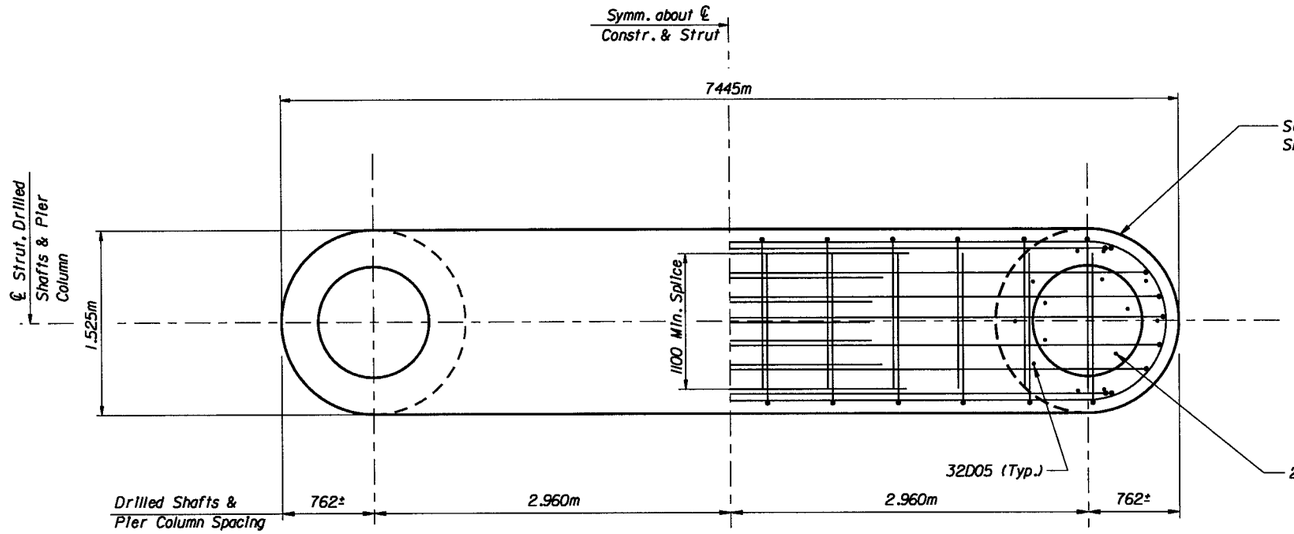
PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Drawing No.

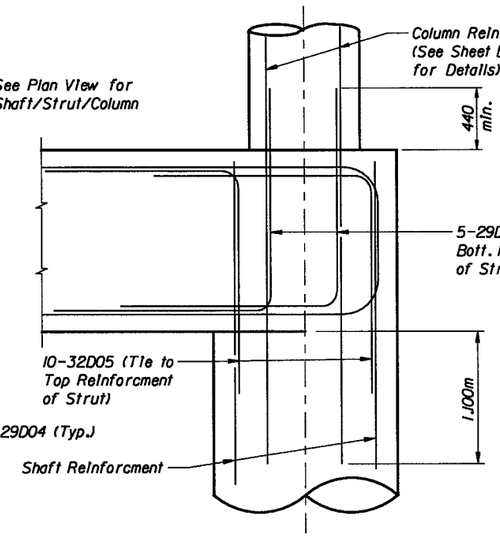
Index No.

JMI Engineers - Tallahassee - 19 MAR 99 08:54:56 a:\952\drawing\bridge\working\found.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-27



PLAN

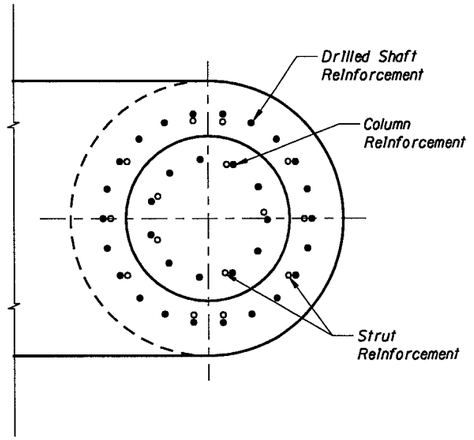


STRUT CONNECTION DETAIL

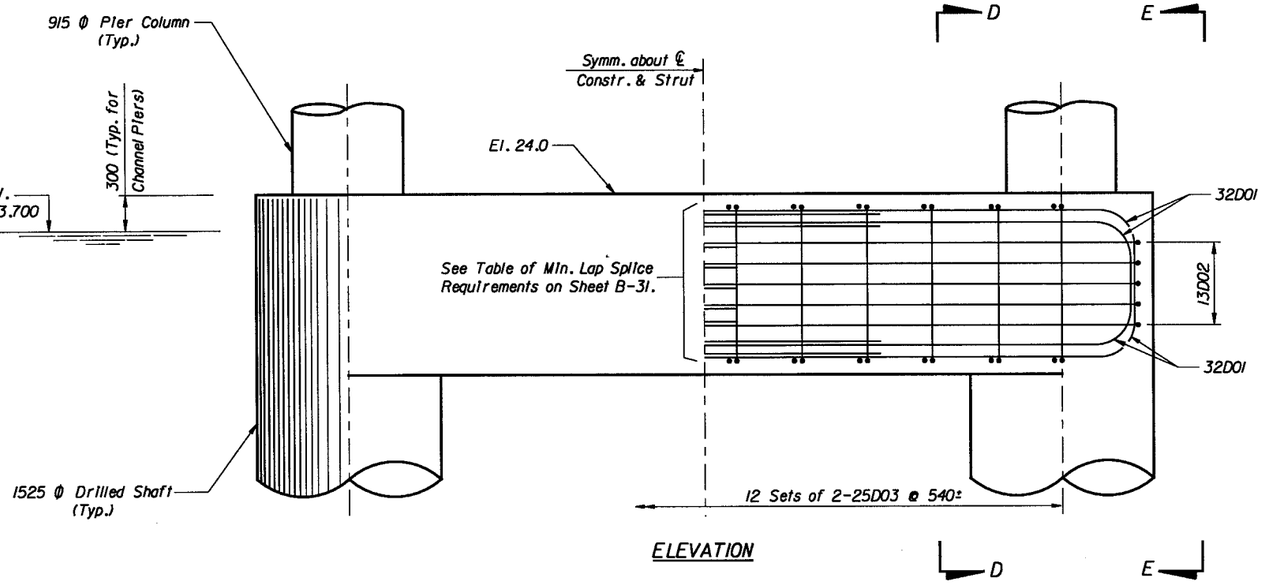
* ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Class IV Concrete (Substructure-Mass)	m^3	16.3
Reinforcing Steel (Substructure)	kg	2362

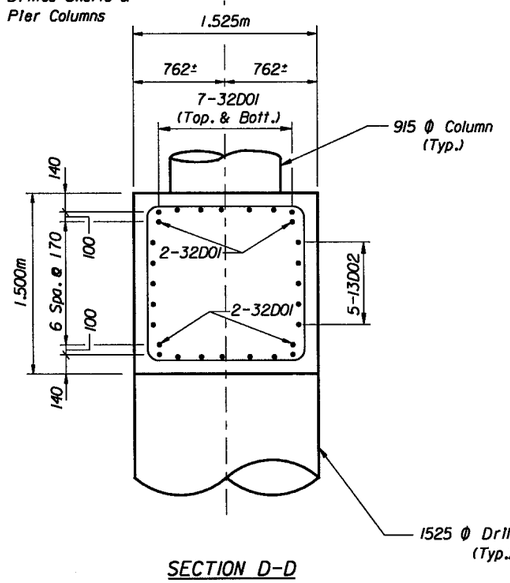
* Quantities are for one Strut only.



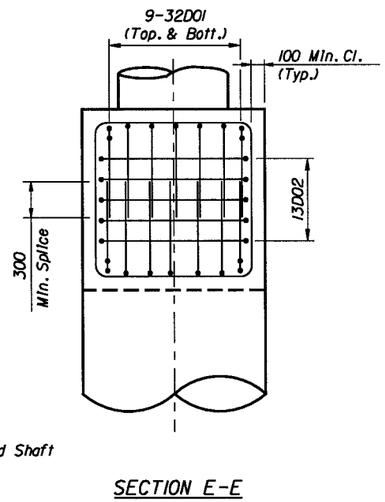
PLAN - SHAFT/STRUT/COLUMN REINFORCMENT DETAIL



ELEVATION



SECTION D-D



SECTION E-E

2/12/99

Notes:

1. Water Line Struts are located at Piers 5 and 12 through 19.
2. Strut shall be constructed as a Mass Concrete Member. Measures shall be taken to cope with the generation of heat and attendant volume change so as to minimize cracking. Mass Concrete Member excludes shafts and columns.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TGA	7-98
Checked by	EP	7-98
Designed by	SL	7-98
Checked by	JWJ	7-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
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LOGO: JMI ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R.2	HOLMES	52050-3524

SHEET TITLE: WATER LINE STRUT DETAILS FOR PIER NOS. 5 AND 12 - 19

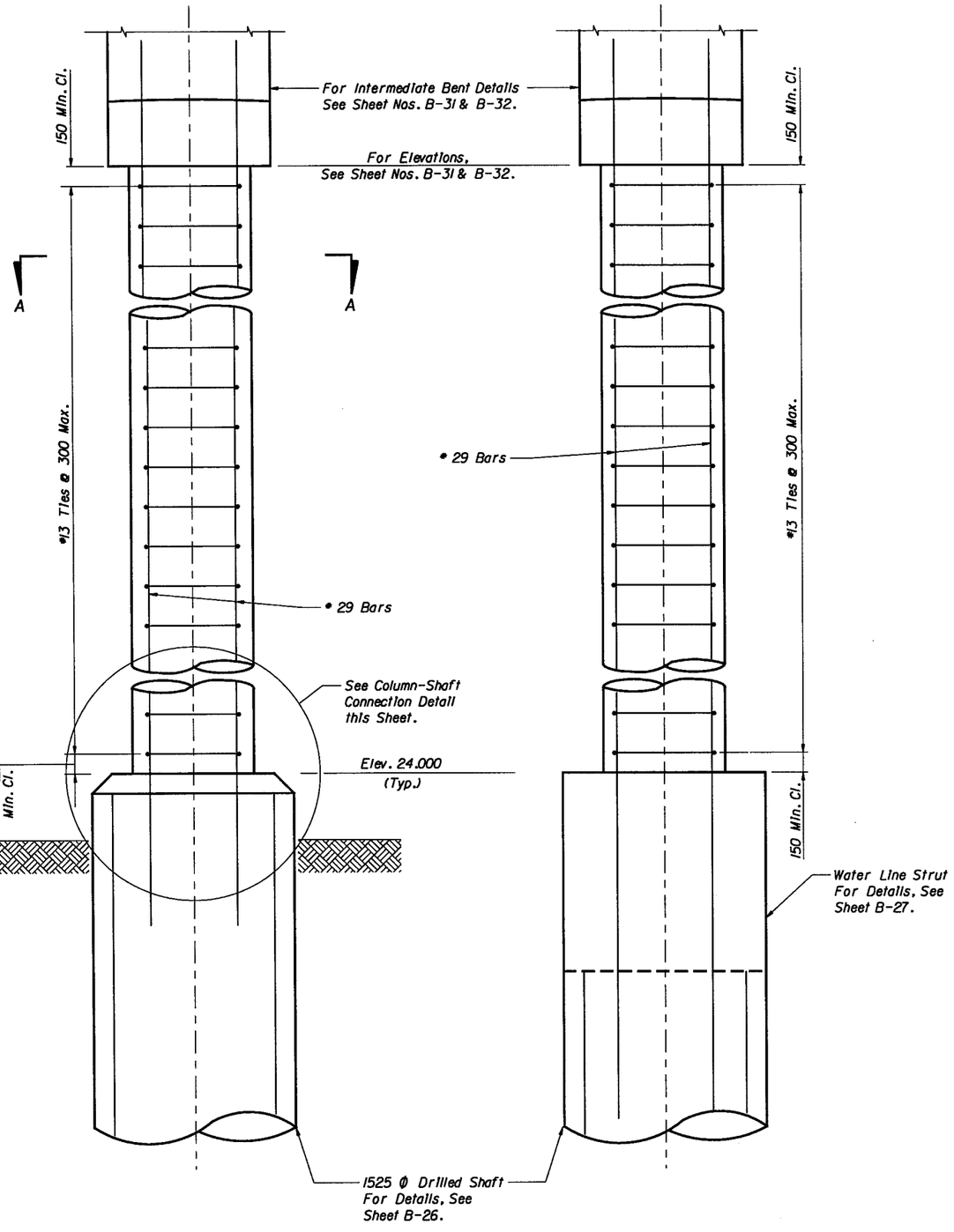
Drawing No.

PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Index No.

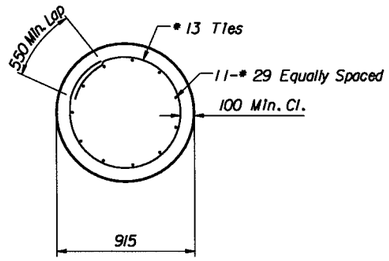
JMI Engineers - Tallahassee - 10 FEB 99 18:20:05 a:\9521\drawing\bridge\working\strutdet.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-28



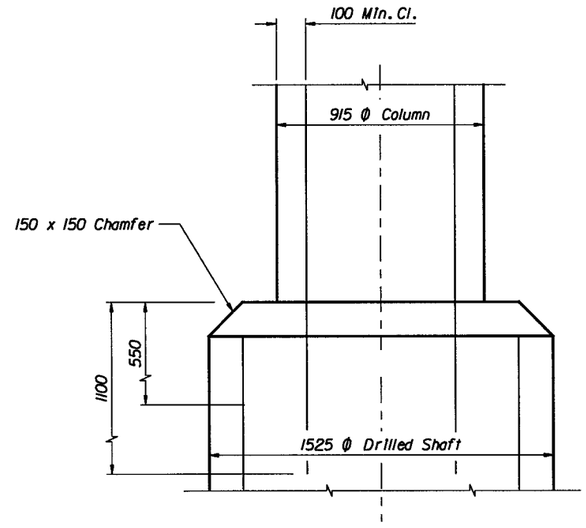
COLUMN DETAIL WITH DRILLED SHAFT
Piers 2-4, 6-11, & 20

COLUMN DETAIL WITH STRUT & DRILLED SHAFT
Piers 5 & 12-19



SECTION A-A

COLUMN			REINFORCEMENT		
Location	Length (m)	Concrete Quantity (m^3)	Column Bars * 29 (m)	Ties * 13	Quantity (Kg)
Pier No.2	0.921	1.211	3.420	8	405
Pier No.3	1.320	1.736	3.820	10	456
Pier No.4	1.719	2.261	4.220	12	507
Pier No.5	2.119	2.786	6.120	16	730
Pier No.6	2.518	3.312	5.020	18	614
Pier No.7	2.918	3.837	5.420	20	665
Pier No.8	3.317	4.362	5.815	24	721
Pier No.9	3.716	4.887	6.215	26	772
Pier No.10	4.116	5.412	6.615	28	822
Pier No.11	4.479	5.890	6.980	30	869
Pier No.12	4.692	6.171	8.690	32	1066
Pier No.13	4.772	6.276	8.770	32	1075
Pier No.14	4.716	6.202	8.715	32	1068
Pier No.15	4.526	5.923	8.525	32	1047
Pier No.16	4.203	5.527	8.205	30	1005
Pier No.17	3.729	4.904	7.730	26	940
Pier No.18	3.141	4.130	7.140	22	862
Pier No.19	2.511	3.303	6.510	18	780
Pier No.20	1.882	2.475	5.880	14	698
Total		80.6			15103



COLUMN - SHAFT CONNECTION DETAIL
Piers 2-4, 6-11, & 20

2/12/99

JMI Engineers - Tallahassee - 10 FEB 99 18:21:52 o:\952\drawing\bridge\working\columndgn

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TGA	7-98
Checked by	EP	7-98
Designed by	EP	7-98
Checked by	JWJ	7-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
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FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R.2	HOLMES	52050-3524

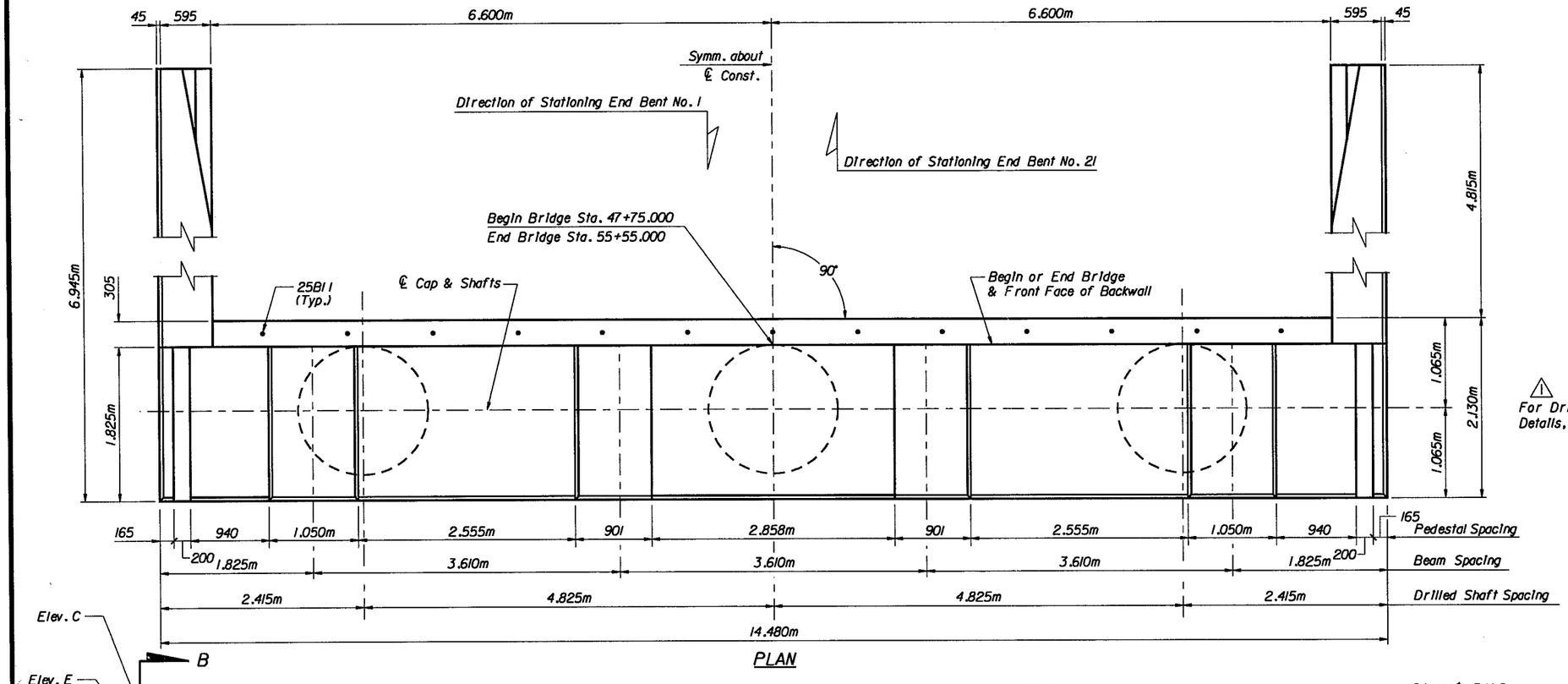
SHEET TITLE: COLUMN DETAILS

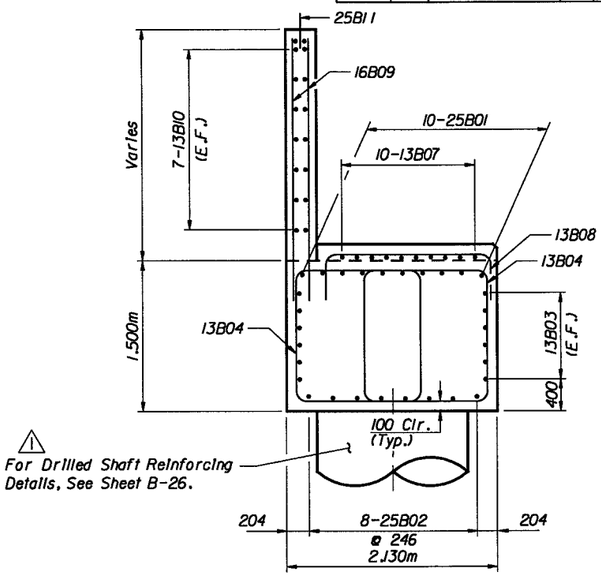
PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-29





SECTION A-A

BENT PEDESTAL ELEVATIONS		
Location	Bent No. 1 47+75.000	Bent No. 21 55+55.000
Pedestal 1	26.127	26.874
Pedestal 2	26.199	26.946
Seismic Restrainer	26.414	27.161
Pedestal 3	26.199	26.946
Pedestal 4	26.127	26.874

BENT CONSTRUCTION ELEVATIONS		
Location	Bent No. 1 47+75.000	Bent No. 21 55+55.000
Elev. (A)	26.027	26.774
Elev. (B)	24.527	25.274
Elev. (C)	28.497	29.242
Elev. (D)	28.448	29.164
Elev. (E)	28.237	28.982
Elev. (F)	28.324	29.069
Elev. (G)	28.192	28.937

ESTIMATED QUANTITIES				
ITEM		UNIT	QUANTITY	
			END BENT 1	END BENT 21
Class IV Conc. Substr.-Mass	Cap	m^3	46.264	46.264
Class IV Conc. Substructure	Cheek walls	m^3	1.614	1.612
	Back wall	m^3	8.982	8.974
	Wing walls	m^3	16.272	16.272
	Barrier transition	m^3	3.702	3.702
	Pedestals	m^3	3.062	3.062
	Total	m^3	33.6	33.6
Reinforcing Steel (Substructure)		kg	4885	4885

Notes :

1. This Sheet Is to be used with Sheet B-30.
2. (E.F.) denotes Each Face
3. Bent shall be constructed as a Mass Concrete Member. Measures shall be taken to cope with the generation of heat and attendant volume change so as to minimize cracking. Mass Concrete Member excludes wingwalls, shafts, pedestals, backwall, cheekwall and barrier transitions.

REVISIONS					
Date	By	Description	Date	By	Description
1/26/00	SGS	⚠1 Added Reinforcing Note			

	Names	Dates
Drawn by	TGA	7-98
Checked by	EP	7-98
Designed by	SL	7-98
Checked by	JWJ	7-98
Approved by	J. JORDAN, P.E.	

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JMI ENGINEERS, INC.
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LOGO: JMI ENGINEERS

SEAL: 1/26/00

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R.2	HOLMES	52050-3524

SHEET TITLE: END BENT NOS. 1 AND 21

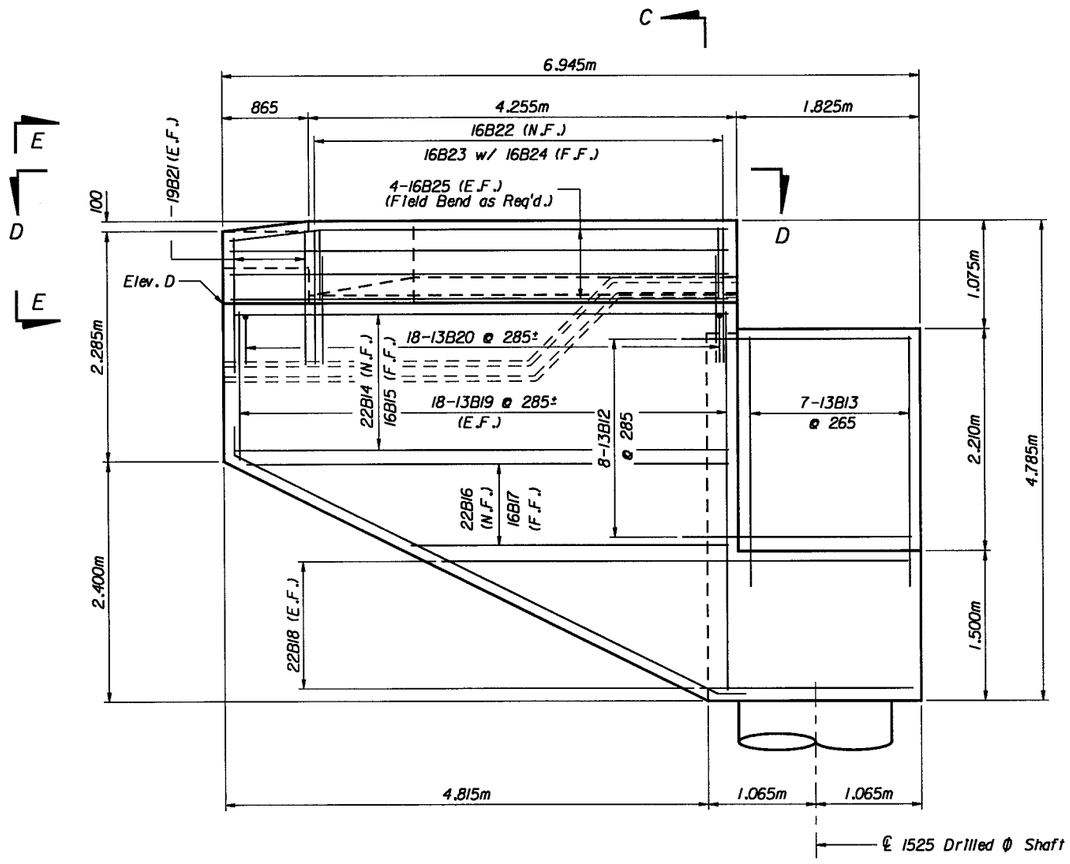
Drawing No.

PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

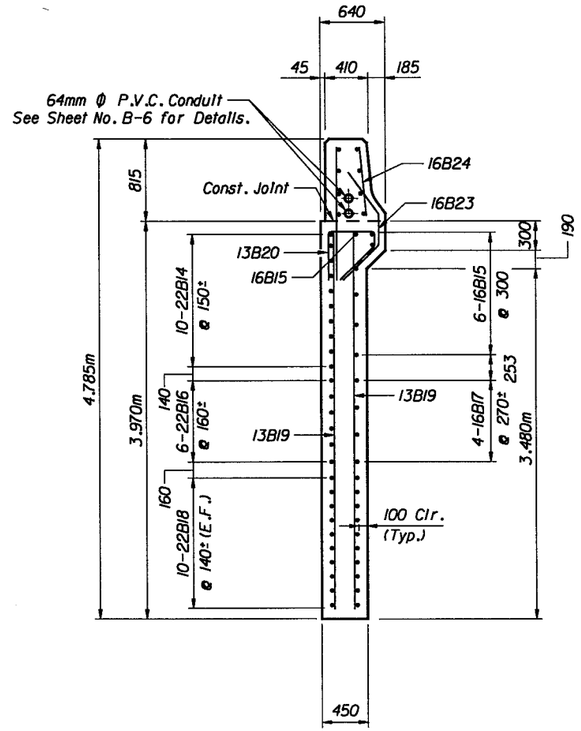
Index No.

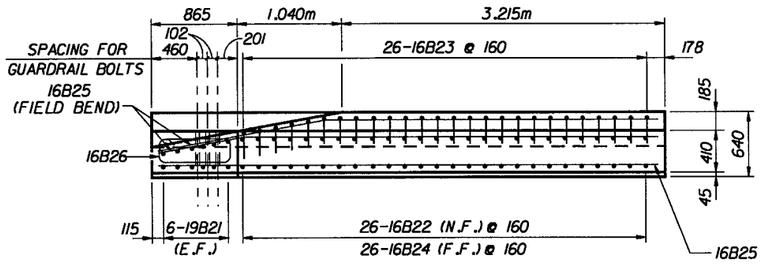
JMI Engineers - Tallahassee - 26 JAN 100 14:49:04 a:\952\drawing\bridge\Final\eb1&21.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-30

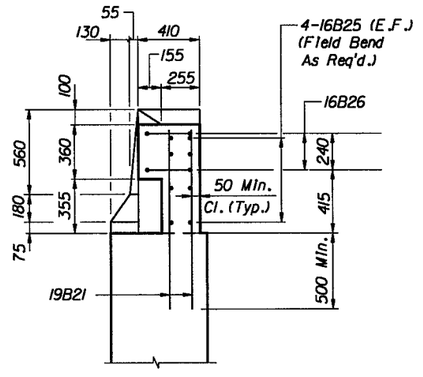


ELEVATION B-B





SECTION D-D



SECTION C-C

SECTION E-E

Notes :

1. This sheet is to be used in conjunction with Sheet B-29.
2. (E.F.) denotes Each Face.
3. (N.F.) denotes Near Face.
4. (F.F.) denotes Far Face.

2/12/99

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	TGA	7-98
Checked by	EP	7-98
Designed by	EP	7-98
Checked by	JWJ	7-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
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SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R.2	HOLMES	52050-3524

SHEET TITLE: END BENT DETAILS

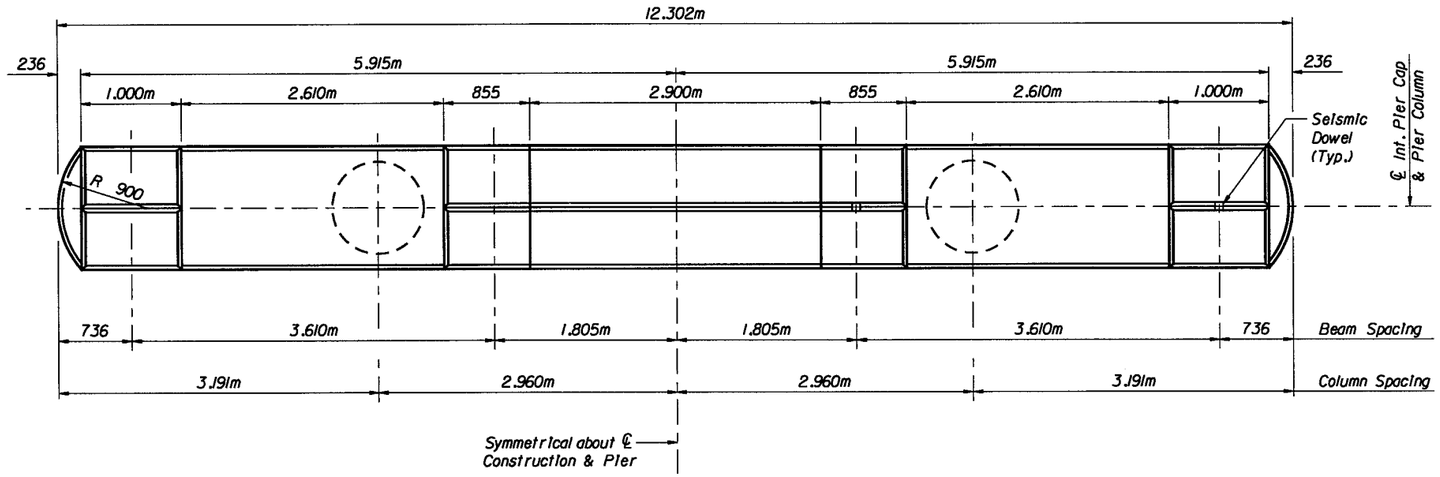
Drawing No.

PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Index No.

JMI Engineers - Tallahassee - 10 FEB 99 (8:24.3) o:\952\drawing\bridge\working\ebdetails.dgn

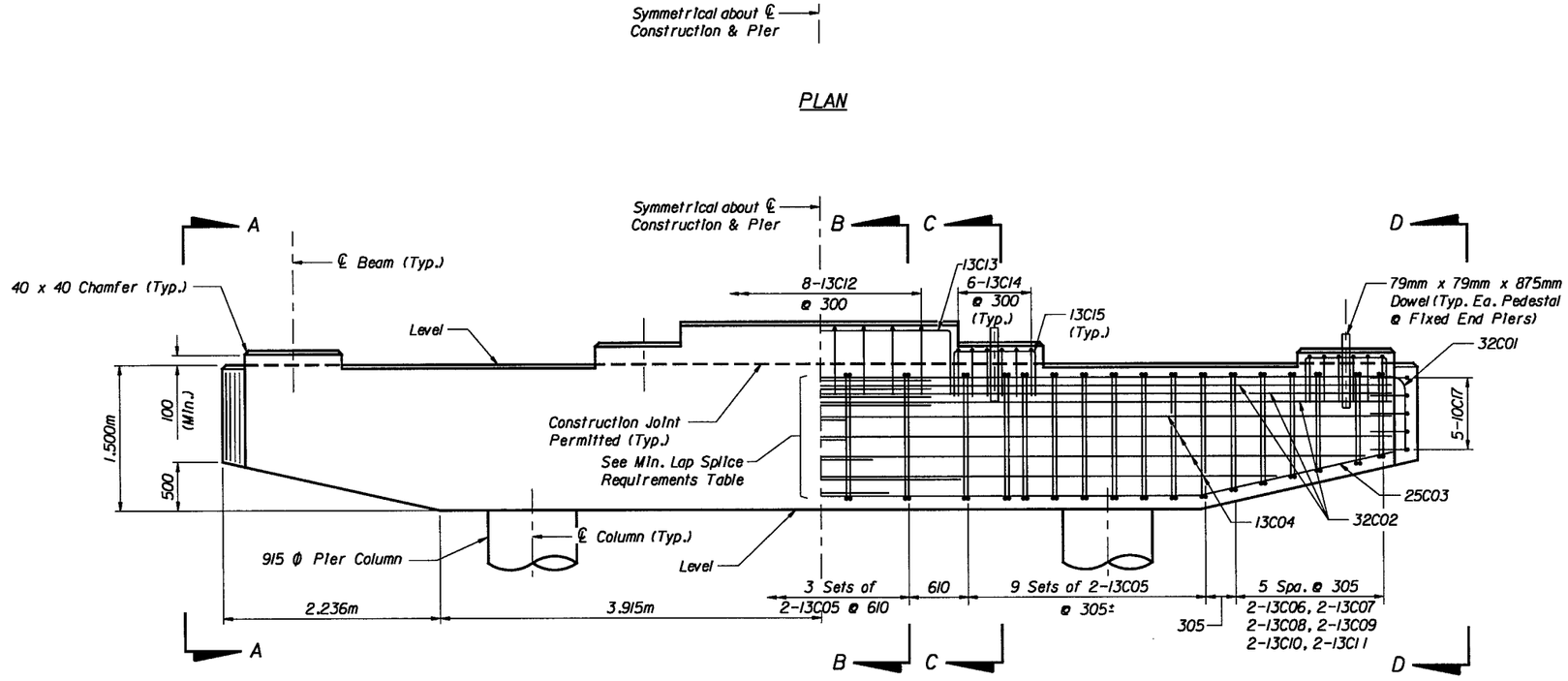
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-31



PLAN

*ESTIMATED QUANTITIES			
ITEM		UNIT	QUANTITY
			INT. BENT
Class IV Conc.	Cap	m^3	20.76
Substr.-Mass			
Class IV Conc.	Pedestals **	m^3	0.68
Substructure	Column	m^3	***
Reinforcing Steel (Substructure)		kg	37.33

* Quantities are for one bent.
** Pedestal concrete volume is an average per bent.
*** See sheet B-28 for column quantities.



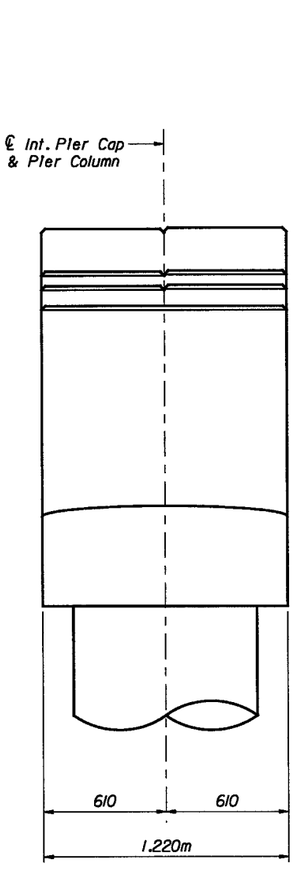
ELEVATION

Min. Lap Splice Requirements	
Bar Type	Min. Splice Length
# 32	2.300m
# 25	1.450m
# 13	0.550m

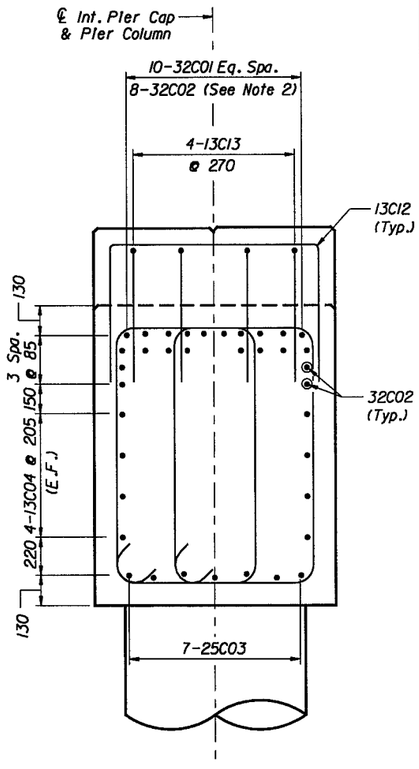
2/12/99

Notes :

1. Refer to Sheet B-32 for SECTION C-C, D-D and for pedestal elevations.
2. Bars 32C02 shall be aligned with Bars 32C01 as shown.
3. Refer to Sheet B-32 and B-36 for seismic dowel details.
4. Bent shall be constructed as a Mass Concrete Member. Measures shall be taken to cope with the generation of heat and attendant volume change so as to minimize cracking. Mass Concrete Member excludes columns and pedestals.



SECTION A-A



SECTION B-B

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TGA	7-98
Checked by	EP	7-98
Designed by	SL	7-98
Checked by	JWJ	7-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

LOGO: JMI ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R.2	HOLMES	52050-3524

SHEET TITLE: INTERMEDIATE PIER NOS. 2 THRU 20
Drawing No.
PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER
Index No.

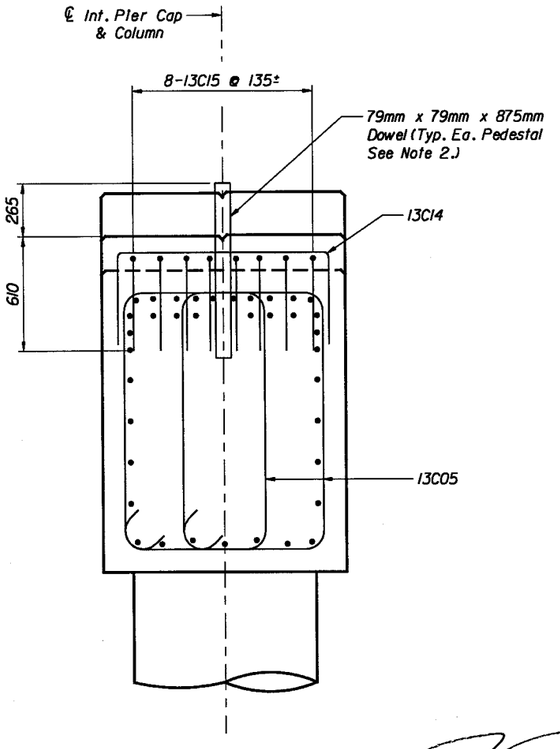
JMI Engineers - Tallahassee - 10 FEB 99 18:25:13 a:\9952\drawing\bridge\working\Intb2-20.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	52050-3524		B-32

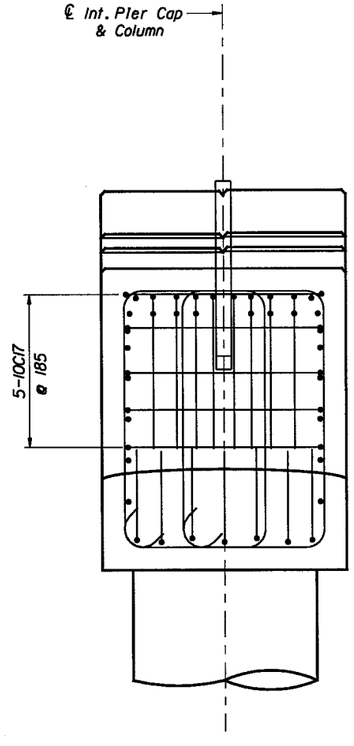
BENT CONSTRUCTION ELEVATIONS

Bent Location		Ped. (1)	Ped. (2)	Seismic Restrainer	Ped. (3)	Ped. (4)	Top of Cap	Bott. of Cap
Pier No.2	DN Station	26.521	26.593	26.808	26.593	26.521	26.421	24.921
	UP Station	26.526	26.599	26.814	26.599	26.526		
Pier No.3	DN Station	26.920	26.992	27.207	26.992	26.920	26.820	25.320
	UP Station	26.926	26.998	27.213	26.998	26.926		
Pier No.4	DN Station	27.319	27.392	27.607	27.392	27.319	27.219	25.719
	UP Station	27.325	27.397	27.612	27.397	27.325		
Pier No.5	DN Station	27.719	27.791	28.006	27.791	27.719	27.619	26.119
	UP Station	27.725	27.797	28.012	27.797	27.725		
Pier No.6	DN Station	28.118	28.190	28.405	28.190	28.118	28.018	26.518
	UP Station	28.124	28.196	28.411	28.196	28.124		
Pier No.7	DN Station	28.518	28.590	28.805	28.590	28.518	28.418	26.918
	UP Station	28.523	28.595	28.810	28.595	28.523		
Pier No.8	DN Station	28.917	28.989	29.204	28.989	28.917	28.817	27.317
	UP Station	28.923	28.995	29.210	28.995	28.923		
Pier No.9	DN Station	29.316	29.388	29.603	29.388	29.316	29.216	27.716
	UP Station	29.322	29.394	29.609	29.394	29.322		
Pier No.10	DN Station	29.716	29.788	30.003	29.788	29.716	29.616	28.116
	UP Station	29.738	29.811	30.026	29.811	29.738		
Pier No.11	DN Station	30.079	30.151	30.366	30.151	30.079	29.979	28.479
	UP Station	30.083	30.155	30.370	30.155	30.083		

Bent Location		Ped. (1)	Ped. (2)	Seismic Restrainer	Ped. (3)	Ped. (4)	Top of Cap	Bott. of Cap
Pier No.12	DN Station	30.292	30.365	30.580	30.365	30.292	30.192	28.692
	UP Station	30.294	30.367	30.582	30.367	30.294		
Pier No.13	DN Station	30.372	30.444	30.659	30.444	30.372	30.272	28.772
	UP Station	30.372	30.444	30.659	30.444	30.372		
Pier No.14	DN Station	30.318	30.390	30.605	30.390	30.318	30.216	28.716
	UP Station	30.316	30.388	30.603	30.388	30.316		
Pier No.15	DN Station	30.130	30.202	30.417	30.202	30.130	30.026	28.526
	UP Station	30.126	30.199	30.414	30.199	30.126		
Pier No.16	DN Station	29.809	29.881	30.096	29.881	29.809	29.703	28.203
	UP Station	29.803	29.875	30.090	29.875	29.803		
Pier No.17	DN Station	29.353	29.425	29.640	29.425	29.353	29.229	27.729
	UP Station	29.329	29.401	29.616	29.401	29.329		
Pier No.18	DN Station	28.750	28.822	29.037	28.822	28.750	28.641	27.141
	UP Station	28.741	28.813	29.028	28.813	28.741		
Pier No.19	DN Station	28.120	28.193	28.408	28.193	28.120	28.011	26.511
	UP Station	28.111	28.184	28.399	28.184	28.111		
Pier No.20	DN Station	27.491	27.563	27.778	27.563	27.491	27.382	25.882
	UP Station	27.482	27.554	27.769	27.554	27.482		



SECTION C-C

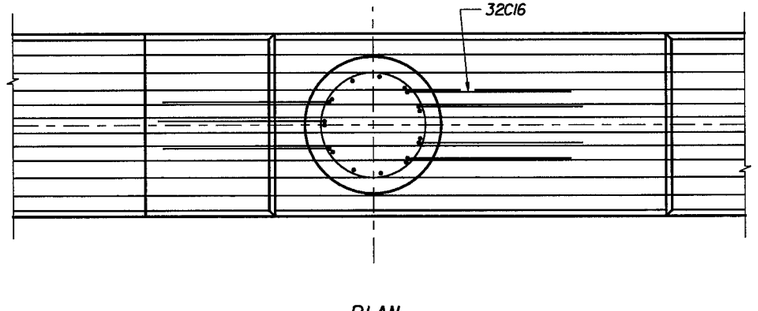


SECTION D-D

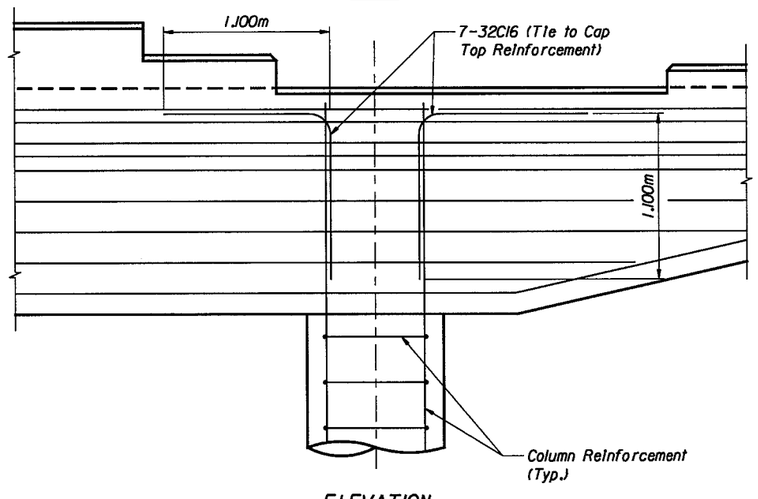
2/12/99

Notes:

1. Use this Sheet in conjunction with Sheet B-31.
2. Seismic Dowels in Bents 3, 7, 11, 15, & 19, only.



PLAN



ELEVATION
COLUMN-CAP CONNECTION DETAIL

REVISIONS						
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	TGA	7-98
Checked by	EP	7-98
Designed by	SL	7-98
Checked by	JWJ	7-98
Approved by	J. JORDAN, P.E.	

ENGINEER OF RECORD:
JMI ENGINEERS, INC.
1424 Piedmont Drive East
Tallahassee, Florida 32312
Tel: 850-385-7450 Fax: 850-385-3545

LOGO: JMI ENGINEERS

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R.2	HOLMES	52050-3524

SHEET TITLE: INTERMEDIATE PIER DETAILS

PROJECT NAME: S.R. 2 BRIDGE OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

JMI Engineers - Tallahassee - 10 FEB 99 18:26:45 a:\952\drawing\bridge\working\nb2-202.dgn

Fri Mar 26 09:59:14 1999
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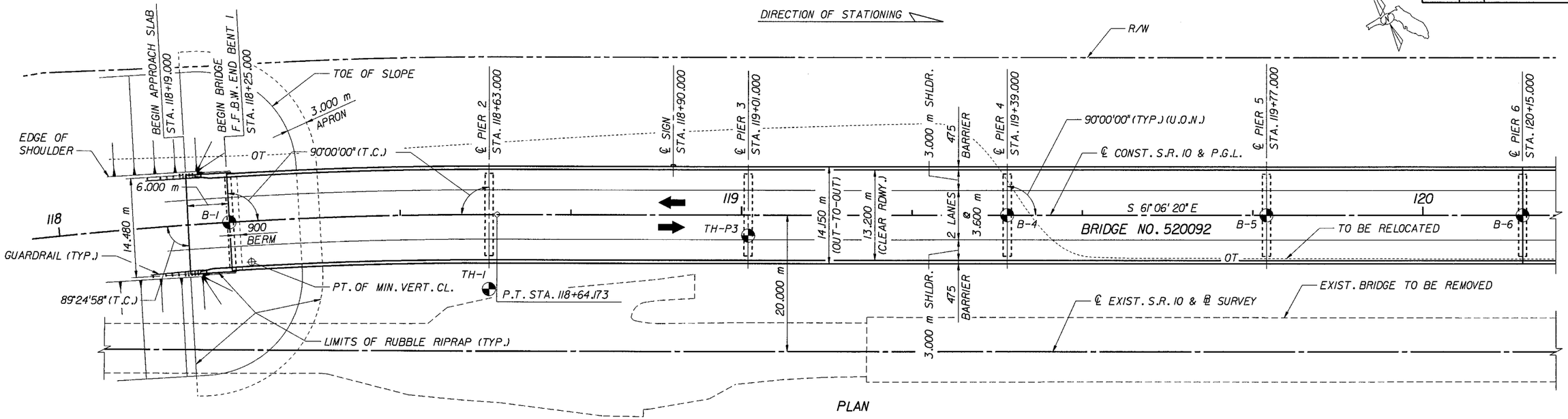
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-8



PLAN

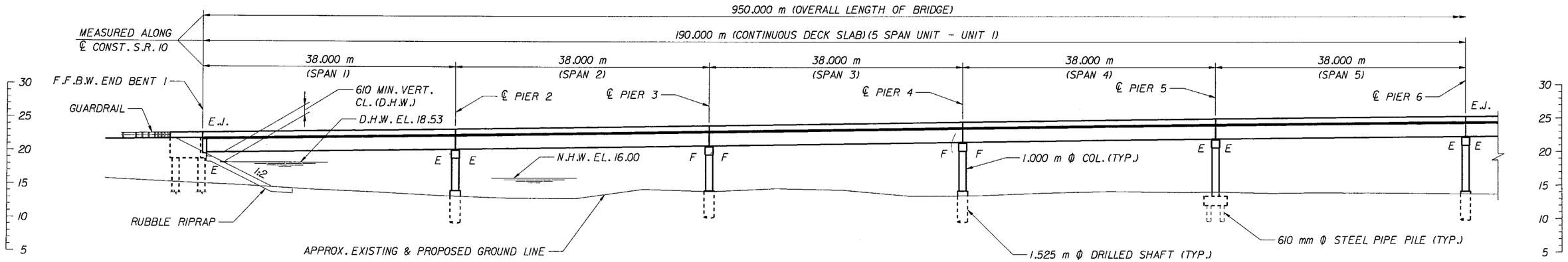
NOTES:

1. BEARING DESIGNATIONS:
   E = EXPANSION BEARING
   F = FIXED BEARING

2. E.J. INDICATES LOCATION OF EXPANSION JOINTS IN BRIDGE DECK.

3. ◔ INDICATES BORING LOCATIONS, FOR BORING INFORMATION, SEE REPORT OF SPT BORINGS FOR STRUCTURES, SHEETS B-15 THRU B-41.

4. FOR GEOMETRIC DATA, SEE SHEET B-13.



ELEVATION

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JSR	3/99
Checked by	DET	3/99
Designed by	DLC	3/99
Checked by	PRS	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO: HDR Engineering, Inc. Tampa, Florida

SEAL: Wayman Bell 3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: PLAN AND ELEVATION (SHEET 1 OF 5)

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

Fri Mar 26 09:19:29 1999
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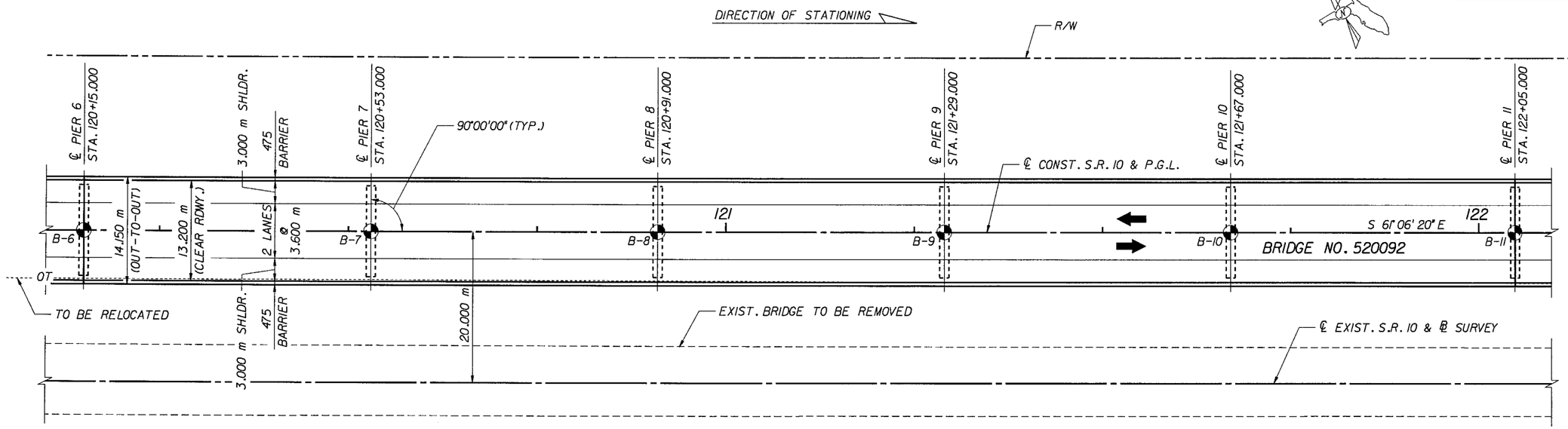
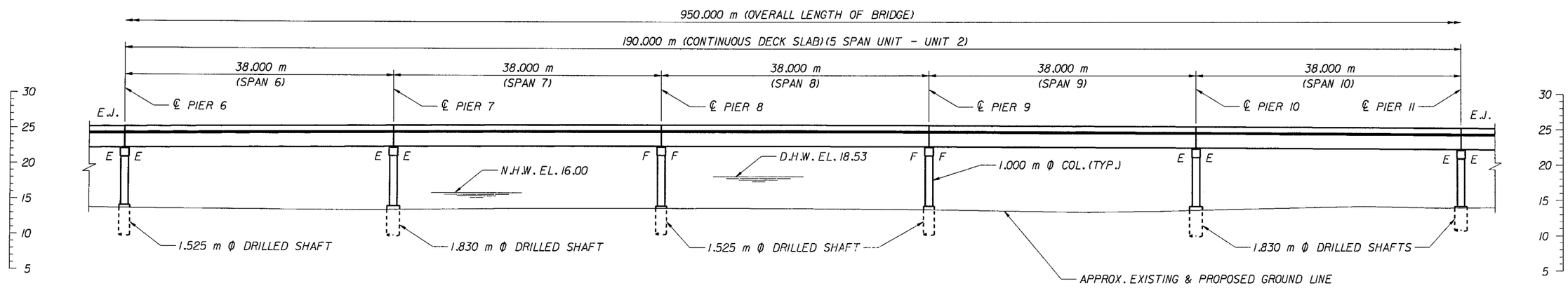
3	FLA.			B-9



PLAN

NOTES:

1. FOR NOTES, SEE SHEET B-8.
2. FOR GEOMETRIC DATA, SEE SHEET B-13.



ELEVATION

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JSR	3/99
Checked by	DET	3/99
Designed by	DLC	3/99
Checked by	PRS	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO: HDR Engineering, Inc. Tampa, Florida

SEAL: 3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: PLAN AND ELEVATION (SHEET 2 OF 5)

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

Fri Mar 26 09:19:42 1999
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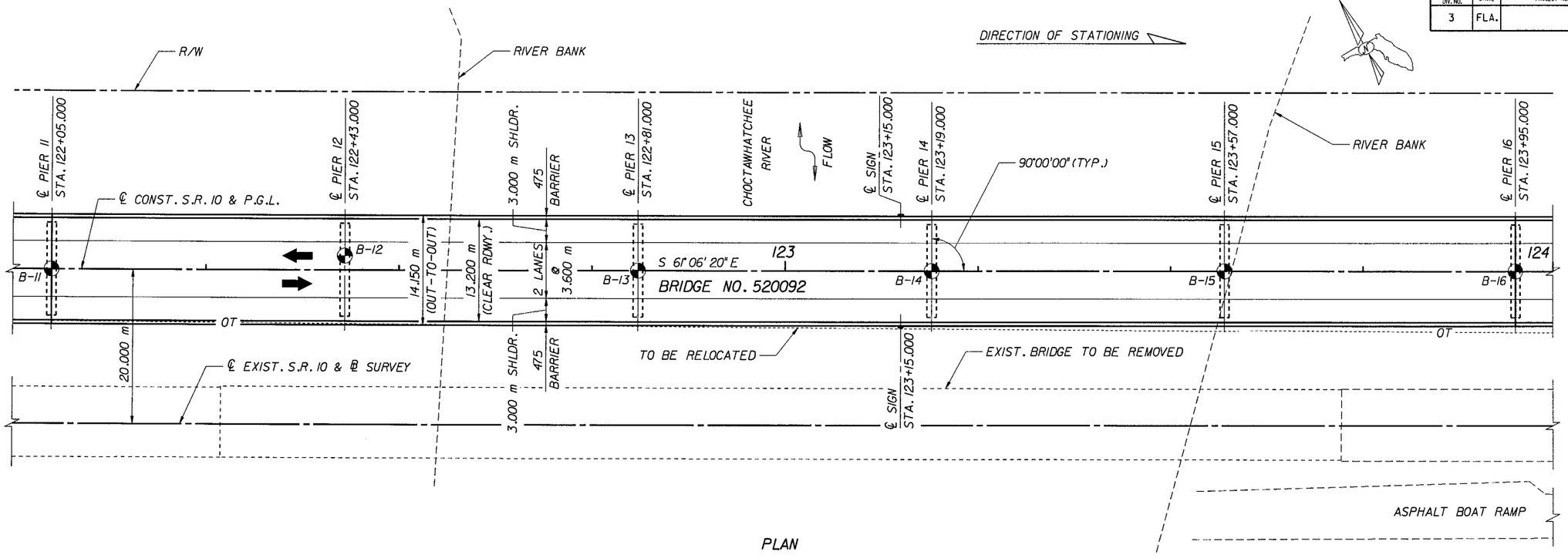
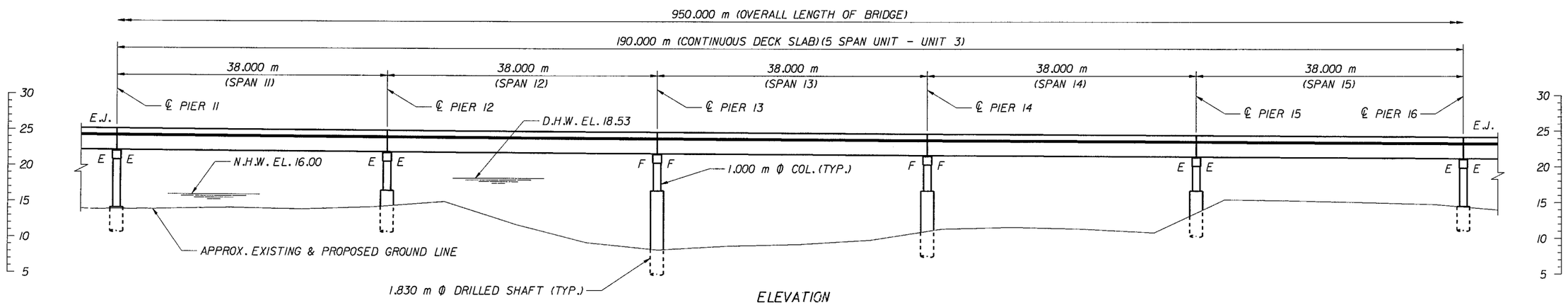


PLAN

NOTES:

1. FOR NOTES, SEE SHEET B-8.
2. FOR GEOMETRIC DATA, SEE SHEET B-13.



ELEVATION

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JSR	3/99
Checked by	DET	3/99
Designed by	DLC	3/99
Checked by	PRS	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO: HDR Engineering, Inc. Tampa, Florida

SEAL: Wayne Bolly 3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: PLAN AND ELEVATION (SHEET 3 OF 5)

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

Fri Mar 26 09:19:54 1999
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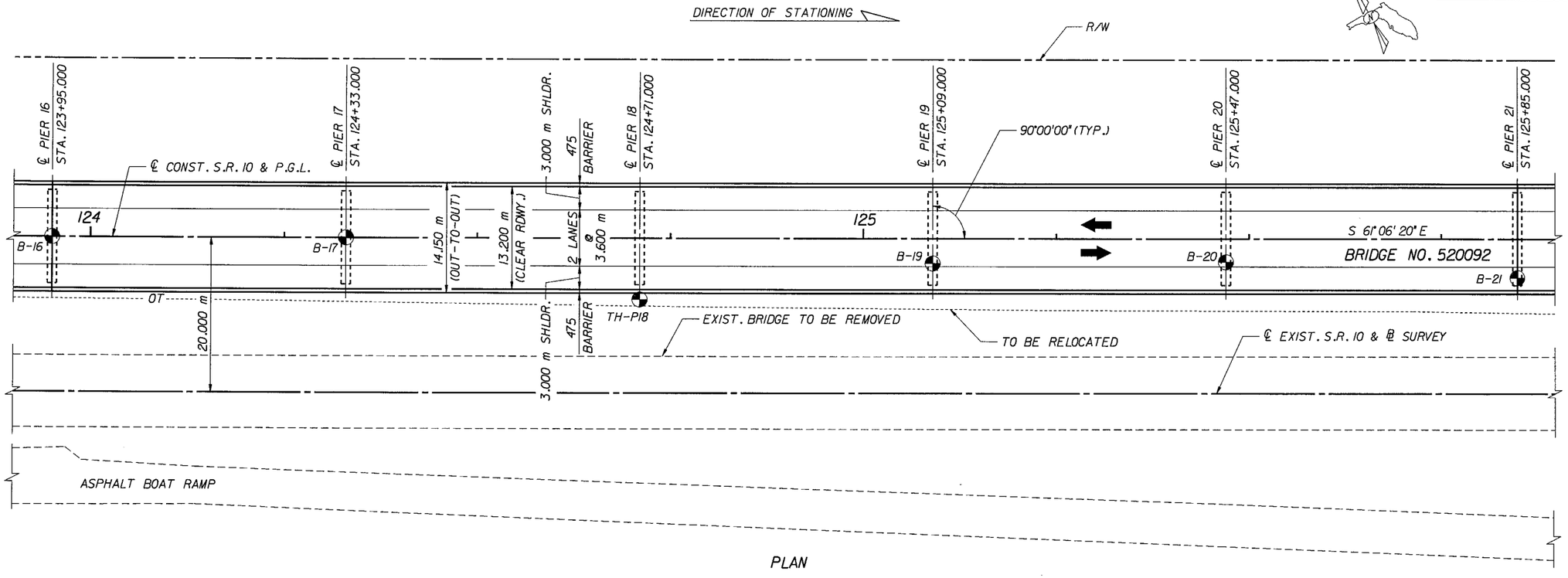
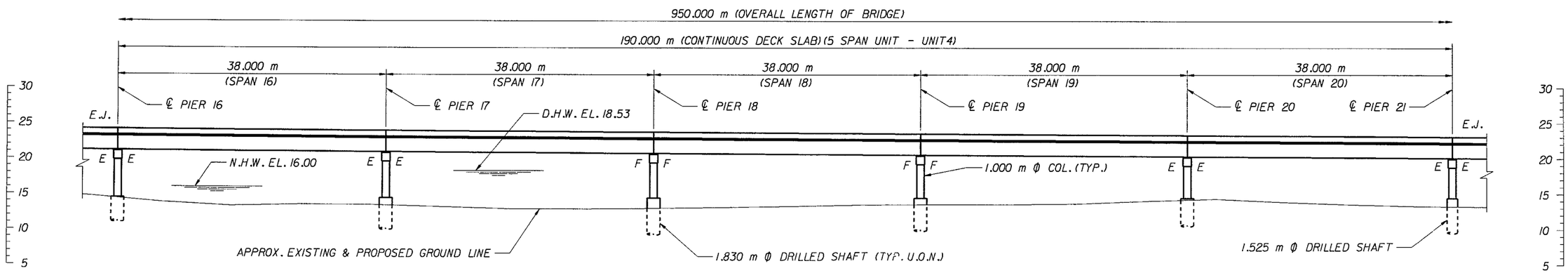
3	FLA.			B-11



PLAN

NOTES:

1. FOR NOTES, SEE SHEET B-8.
2. FOR GEOMETRIC DATA, SEE SHEET B-13.



ELEVATION

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JSR	3/99
Checked by	DET	3/99
Designed by	DLC	3/99
Checked by	PRS	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO:
HDR Engineering, Inc.
Tampa, Florida

SEAL:
Wayne Bell
3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: PLAN AND ELEVATION (SHEET 4 OF 5)

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

Fri Mar 26 09:20:07 1999
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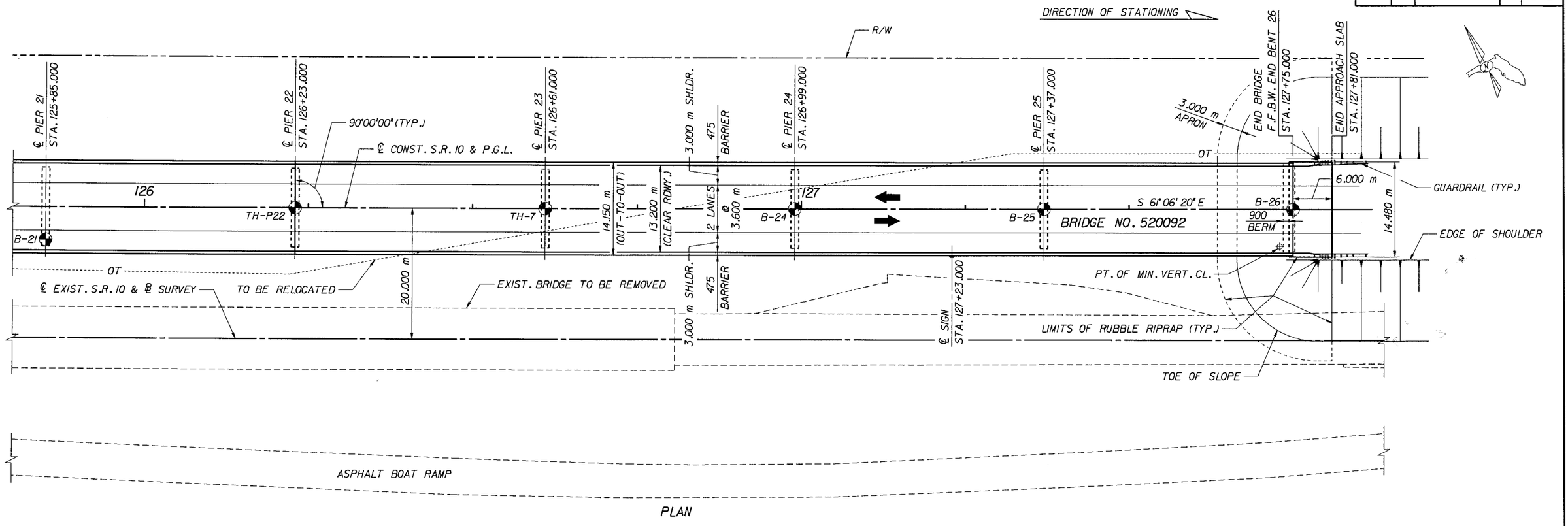
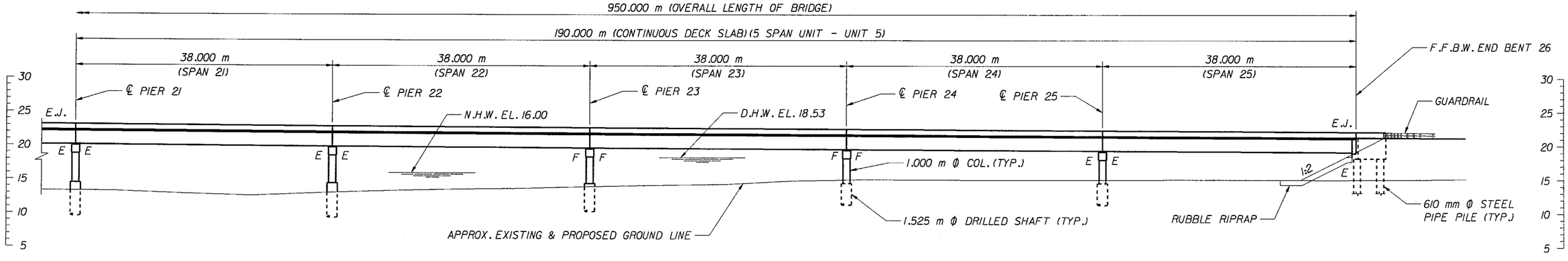
3	FLA.			B-12



PLAN

NOTES:

1. FOR NOTES, SEE SHEET B-8.
2. FOR GEOMETRIC DATA, SEE SHEET B-13.



ELEVATION

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JSR	3/99
Checked by	DET	3/99
Designed by	DLC	3/99
Checked by	PRS	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO: HDR Engineering, Inc. Tampa, Florida

SEAL: Wayne Bolt 3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: PLAN AND ELEVATION (SHEET 5 OF 5)

Drawing No.

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER

Index No.

Fri Mar 26 09:21:06 1999

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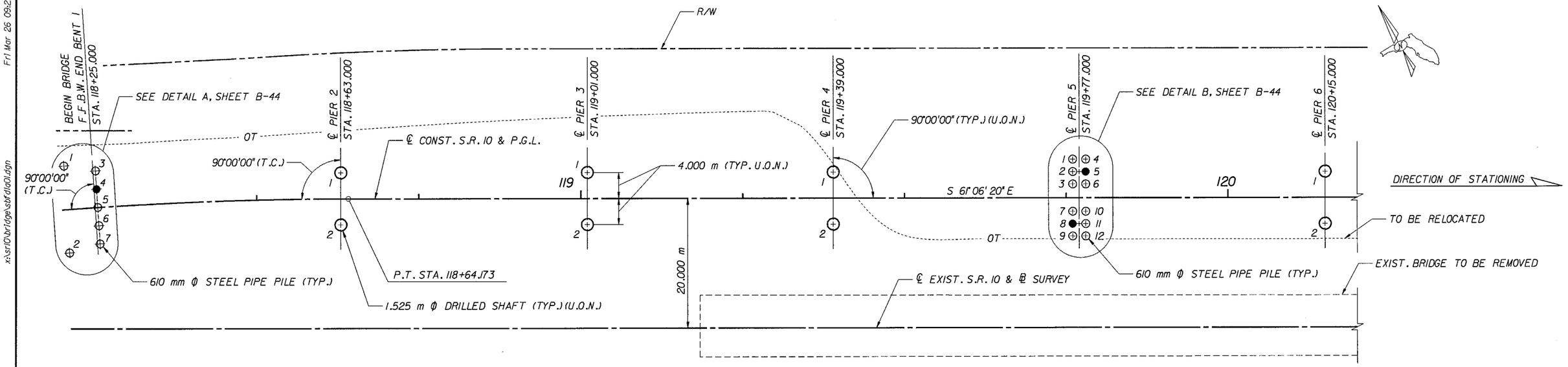
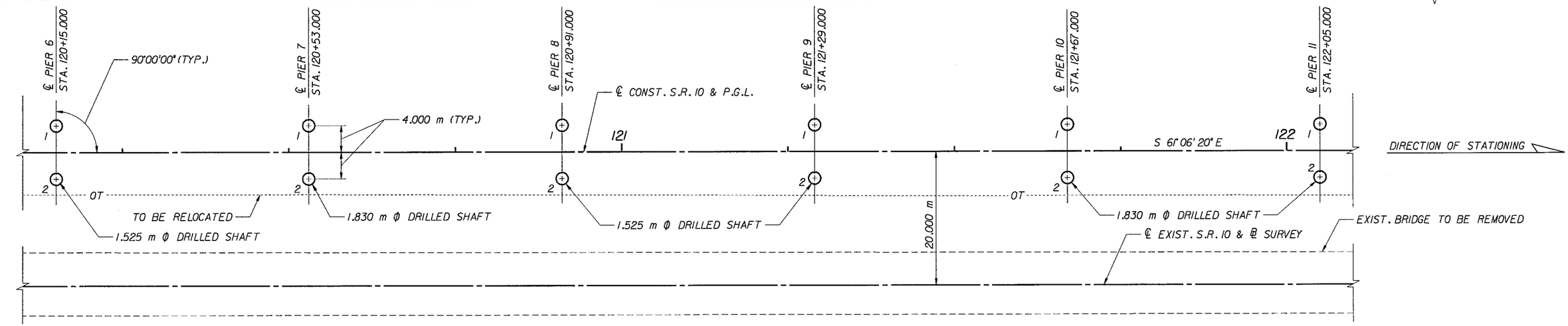
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-42



PLAN



PLAN

NOTES:

1. FOR NOTES, STEEL PIPE PILE & DRILLED SHAFT DATA, SEE SHEETS B-45 AND B-46.
2. FOR HORIZONTAL CURVE DATA, SEE SHEET B-13.
3. ● DENOTES STEEL PIPE TEST PILE.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JSR	3/99
Checked by	DET	3/99
Designed by	DLC	3/99
Checked by	GET	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO:
HDR Engineering, Inc.
Tampa, Florida

SEAL:
Wayne Bolt
3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: FOUNDATION LAYOUT (SHEET 1 OF 3)

Drawing No.

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER

Index No.

Fri Mar 26 09:21:18 1999
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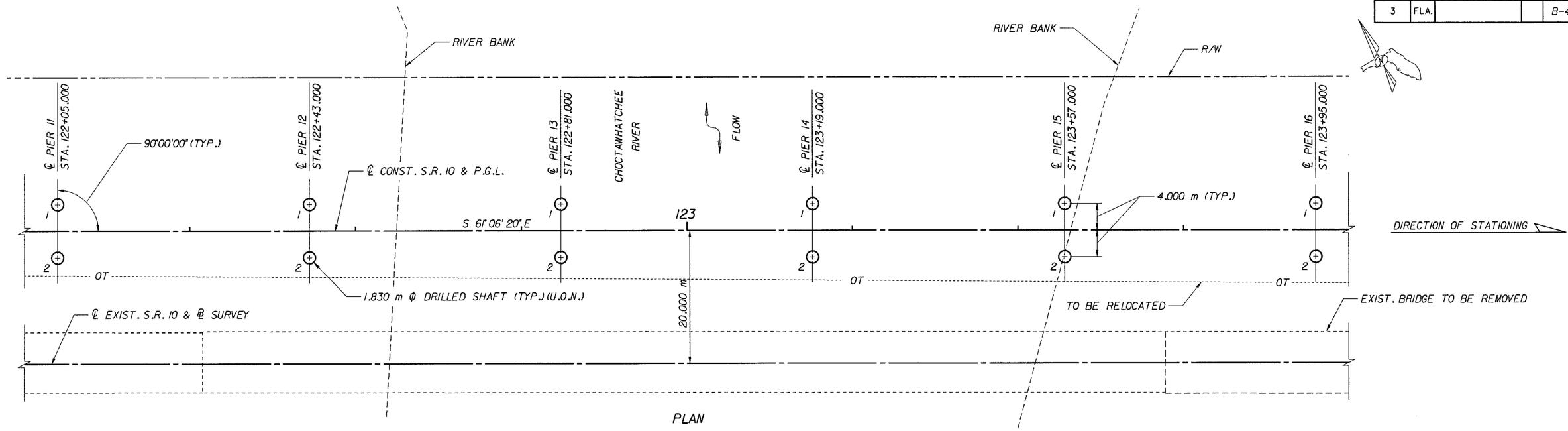
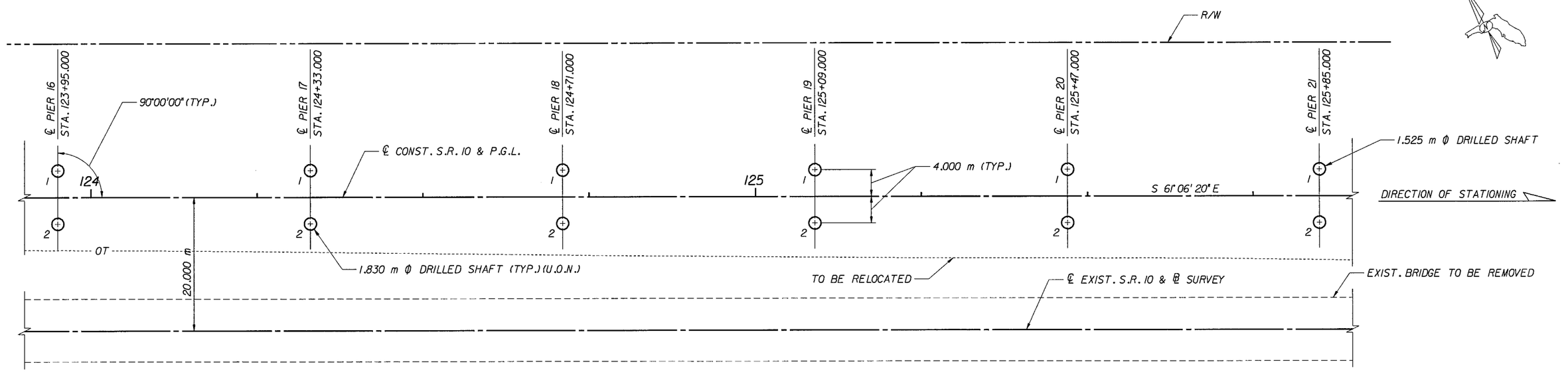
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-43



PLAN



PLAN

NOTE:

FOR NOTES, STEEL PIPE PILE & DRILLED SHAFT DATA, SEE SHEETS B-45 AND B-46.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JSR	3/99
Checked by	DET	3/99
Designed by	DLC	3/99
Checked by	GET	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO: HDR Engineering, Inc. Tampa, Florida

SEAL: Wayman Bolly 3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: FOUNDATION LAYOUT (SHEET 2 OF 3)

Drawing No.

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER

Index No.

Fri Mar 26 09:21:29 1999
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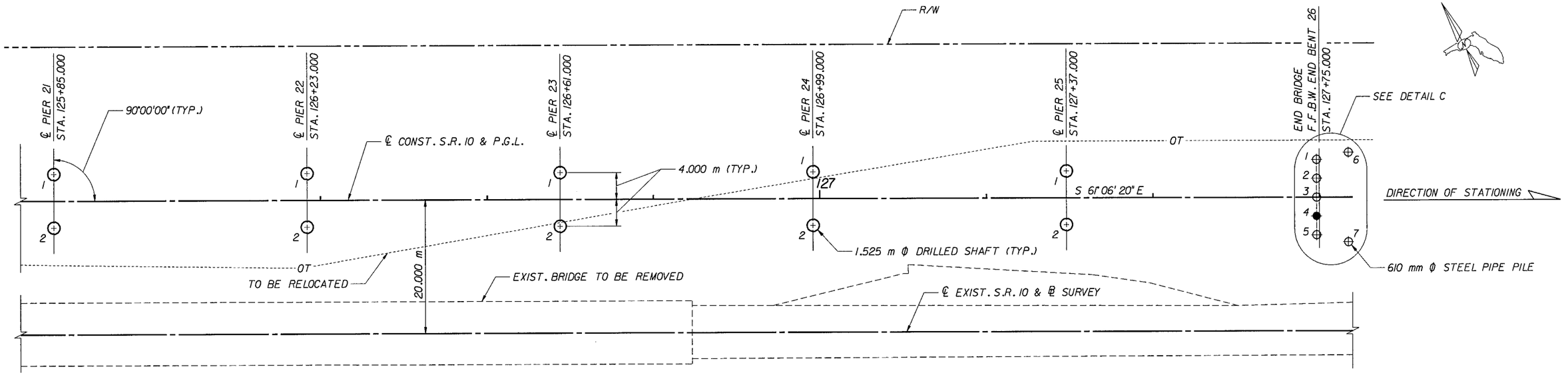

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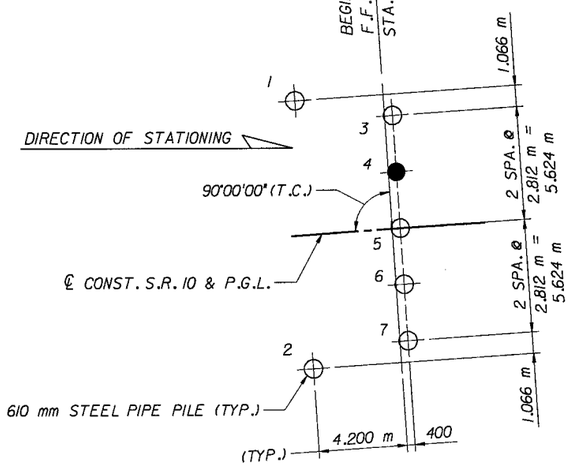

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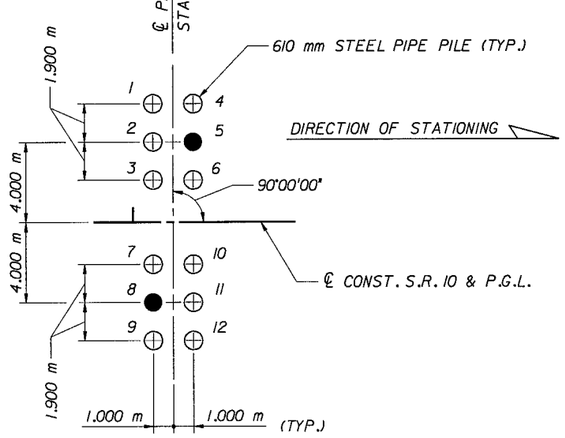

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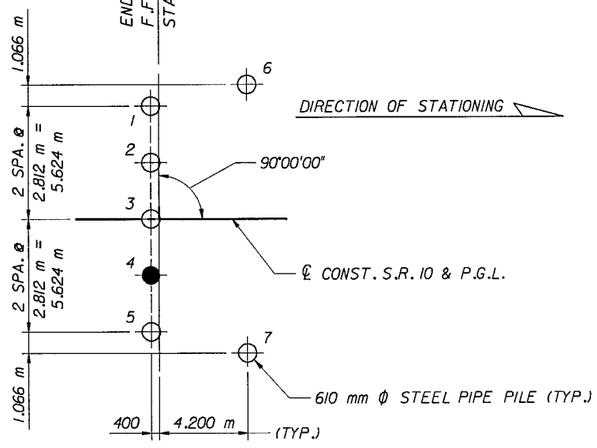

DETAIL C

NOTES:

1. FOR NOTES, STEEL PIPE PILE & DRILLED SHAFT DATA, SEE SHEETS B-45 AND B-46.
2. ● DENOTES STEEL PIPE TEST PILE.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JSR	3/99
Checked by	DET	3/99
Designed by	DLC	3/99
Checked by	GET	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO:
HDR Engineering, Inc.
Tampa, Florida

SEAL:
Wayman Dally
3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: FOUNDATION LAYOUT (SHEET 3 OF 3)
Drawing No.
PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER
Index No.

Fri Mar 26 09:21:41 1999
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DRILLED SHAFT DATA TABLE

INSTALLATION CRITERIA						DESIGN CRITERIA				
PIER	SHAFT SIZE (mm)	SHAFT TIP ELEVATION (m)	BEGIN SOCKET ELEVATION (m)	ROCK SOCKET LENGTH (m)	ANTICIPATED CASING TIP ELEVATION (m)	FACTORED DESIGN LOAD (kN)	DOWNDRAG (kN)	LONG TERM SCOUR ELEVATION (m)	100-YEAR SCOUR ELEVATION (m)	Ø
2	1525	-9.50	+0.30	9.80	+3.30	7700	N/A	10.1	10.1	0.55
3	1525	-4.00	+1.52	5.52	+1.90	7700	N/A	10.1	10.1	0.55
4	1525	-6.00	-0.91	5.09	-0.48	7700	N/A	10.1	10.1	0.55
6	1525	-7.50	+4.88	12.38	+7.19	7700	N/A	10.1	10.1	0.55
7	1830	-7.00	-1.52	5.48	-1.52	7700	N/A	10.1	10.1	0.55
8	1525	-2.00	+6.10	8.10	+6.28	7700	N/A	10.1	10.1	0.55
9	1525	-6.00	+3.05	9.05	+3.08	7700	N/A	10.1	10.1	0.55
10	1830	-11.00	-2.74	8.26	+9.08	7700	N/A	1.6	1.6	0.55
11	1830	-10.00	-2.74	7.26	+3.93	7700	N/A	1.6	1.6	0.55
12	1830	-5.00	+1.52	6.52	+5.19	7700	N/A	1.6	1.6	0.55
13	1830	-7.00	-2.44	4.56	-0.64	7700	N/A	1.6	1.6	0.55
14	1830	-6.00	0.00	6.00	+1.86	7700	N/A	1.6	1.6	0.55
15	1830	-12.50	-3.35	9.15	-3.35	7700	N/A	1.6	1.6	0.55
16	1830	-11.50	-5.49	6.01	-3.59	7700	N/A	1.6	1.6	0.55
17	1830	-12.50	-7.32	5.18	-7.32	7700	N/A	1.6	1.6	0.55
18	1830	-6.50	+5.18	11.68	+5.35	7700	N/A	10.1	10.1	0.55
19	1830	-20.50	-0.30	20.20	-0.30	7700	N/A	10.1	10.1	0.55
20	1830	-9.00	-5.49	3.51	-5.00	7700	N/A	10.1	10.1	0.55
21	1525	-7.00	+6.10	13.10	+7.88	7700	N/A	10.1	10.1	0.55
22	1525	-9.00	+6.40	15.40	+6.50	7700	N/A	10.1	10.1	0.55
23	1525	-3.50	+5.49	8.99	+6.42	7700	N/A	10.1	10.1	0.55
24	1525	-7.50	+2.74	10.24	+2.87	7700	N/A	10.1	10.1	0.55
25	1525	-9.00	+1.22	10.22	+1.28	7700	N/A	10.1	10.1	0.55

TOP OF DRILLED SHAFT ELEVATIONS

PIER	ELEVATION
2	14.150
3	14.150
4	14.150
6	14.150
7	14.150
8	14.150
9	14.150
10	14.150
11	14.150
12	16.600
13	16.600
14	16.600
15	16.600
16	14.500
17	14.500
18	14.500
19	14.500
20	14.500
21	14.500
22	14.500
23	14.500
24	14.500
25	14.500

NOTES:

1. THE ROCK SOCKET LENGTH, NOTED ABOVE, IS THE DISTANCE FROM THE BEGIN ROCK SOCKET ELEVATION TO THE BOTTOM OF THE EXCAVATION. CASING SHALL NOT EXTEND BEYOND THE BEGIN SOCKET ELEVATION WITHOUT ADJUSTMENTS TO SHAFT TIP ELEVATION. FIELD ADJUSTMENTS TO THE SHAFT TIP ELEVATION OR ROCK SOCKET LENGTH SHALL BE APPROVED BY THE DISTRICT GEOTECHNICAL ENGINEER.

2. OUT OF POSITION, REINFORCED TEST SHAFTS SHALL BE CONSTRUCTED AT THE CENTERLINE OF CONSTRUCTION AT PIERS 2, 13 AND 19. TEST SHAFTS SHALL BE CONSTRUCTED IN THE SAME MANNER AND TO THE SAME REQUIREMENTS AS PRODUCTION SHAFTS. SEE ALSO SHEETS LT-1 THRU LT-5 FOR ADDITIONAL DETAILS.

3. THE DEPARTMENT'S SHAFT INSPECTION DEVICE (SID) SHALL BE USED TO INSPECT THE BOTTOMS OF THE DRILLED SHAFTS. ALL COSTS RELATED TO THE INSPECTION DEVICE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR BID ITEM NUMBERS 2455-88-6 (1525 mm Ø DRILLED SHAFT) AND 2455-88-7 (1830 mm Ø DRILLED SHAFT).

4. A SLUMP LOSS TEST FOR THE DRILLED SHAFT CONCRETE MIX SHALL BE PERFORMED AT THE JOB SITE IN ACCORDANCE WITH SECTION 346 OF THE SPECIFICATIONS.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	DET	3/99
Checked by	JWB	3/99
Designed by	DLC	3/99
Checked by	GET	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO: HDR Engineering, Inc. Tampa, Florida

SEAL: 3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: DRILLED SHAFT DATA SHEET

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER

Drawing No.

Index No.

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DRILLED SHAFT GENERAL NOTES

1. IT IS ANTICIPATED A MINERAL SLURRY WILL BE REQUIRED TO MAINTAIN STABILITY OF THE EXCAVATION. THEREFORE DESANDING EQUIPMENT WITH HOLDING TANKS SHALL BE PROVIDED TO CLEAN THE SLURRY FOR REUSE. THE DESANDING EQUIPMENT SUPPLIED BY THE CONTRACTOR SHALL BE EQUIPPED WITH SUITABLE SCREEN AND CYCLONE SEPARATORS AND SHALL HAVE ADEQUATE CAPACITY TO DESAND THE VOLUMES OF SLURRY REQUIRED FOR THE PROJECT.

2. SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT DISCHARGE OF SLURRY OR EXCAVATED MATERIALS INTO THE RIVER OR RIVER FLOOD PLAIN DURING THE EXCAVATION OPERATION. MATERIALS EXCAVATED FROM THE DRILLED SHAFTS SHALL BE COLLECTED AND DISPOSED OF SATISFACTORILY IN OFFSITE UPLAND AREAS PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

3. SPECIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT DISCHARGE OF SLURRY OR CONCRETE INTO THE RIVER OR RIVER FLOOD PLAIN DURING THE CONCRETE PLACING OPERATION. THE CONTRACTOR SHALL PROVIDE A SUITABLE RECEPTACLE AROUND THE TOP OF THE CASING TO COLLECT SLURRY AND/OR CONCRETE DISCHARGED FROM THE SHAFT DURING THE PLACEMENT OF CONCRETE.

4. PRELIMINARY DRILLED SHAFT TIP ELEVATIONS ARE SHOWN IN THE DRILLED SHAFT DATA TABLE ON SHEET B-45. FINAL DRILLED SHAFT TIP ELEVATIONS MAY BE MODIFIED AFTER THE RESULTS OF THE LOAD TEST PROGRAM AND OTHER SOIL INVESTIGATIONS AND THEY MAY VARY SIGNIFICANTLY FROM THOSE SHOWN IN THE DRILLED SHAFT DATA TABLE.

5. THE SPACING OF THE VERTICAL COLUMN REINFORCING BARS AT THE TOP OF THE DRILLED SHAFT SHALL BE SET WITH A TEMPLATE.

6. DRILLED SHAFTS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR METER FOR DRILLED SHAFTS UNDER PAY ITEM NUMBERS 2455-88-6 (1525 mm Ø DRILLED SHAFT) AND 2455-88-7 (1830 mm Ø DRILLED SHAFT). COMPENSATION FOR ADDITIONAL COST FOR MATERIALS AND CONSTRUCTION OF DRILLED SHAFTS SHALL BE PAID FOR UNDER THE APPROPRIATE ITEMS. SEE SUMMARY OF QUANTITIES AND SPECIFICATIONS.

7. CONCRETE FOR DRILLED SHAFTS SHALL BE CLASS IV (DRILLED SHAFTS). CONCRETE SHALL BE POURED CONTINUOUSLY FROM THE TIP ELEVATION TO THE TOP OF DRILLED SHAFT ELEVATION.

8. REINFORCING STEEL SHALL CONFORM TO ASTM A615M, GRADE 420.

9. THE COST OF FURNISHING AND INSTALLATION OF MECHANICAL COUPLERS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR BID ITEM NUMBERS 2455-88-6 (1525 mm Ø DRILLED SHAFT) AND 2455-88-7 (1830 mm Ø DRILLED SHAFT).

10. ALL MECHANICAL REINFORCING CONNECTIONS SHALL DEVELOP AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE BAR. MECHANICAL SPLICES SHALL BE SELECTED FROM THE DEPARTMENT'S QUALIFIED PRODUCTS LIST. MECHANICAL COUPLERS FOR THE VERTICAL BARS SHALL BE STAGGERED 600 mm.

11. PERMANENT CASING SHALL BE PAID FOR PER LINEAR METER FOR CASING UNDER PAY ITEM NUMBERS 2455-107-6 (1525 mm Ø CASING) AND 2455-107-7 (1830 mm Ø CASING). PAYMENT LENGTH FOR PERMANENT CASING SHALL BE MEASURED FROM THE ANTICIPATED CASING TIP ELEVATION AS SHOWN IN THE DRILLED SHAFT DATA TABLE ON SHEET B-45 TO THE TOP OF SHAFT ELEVATION.

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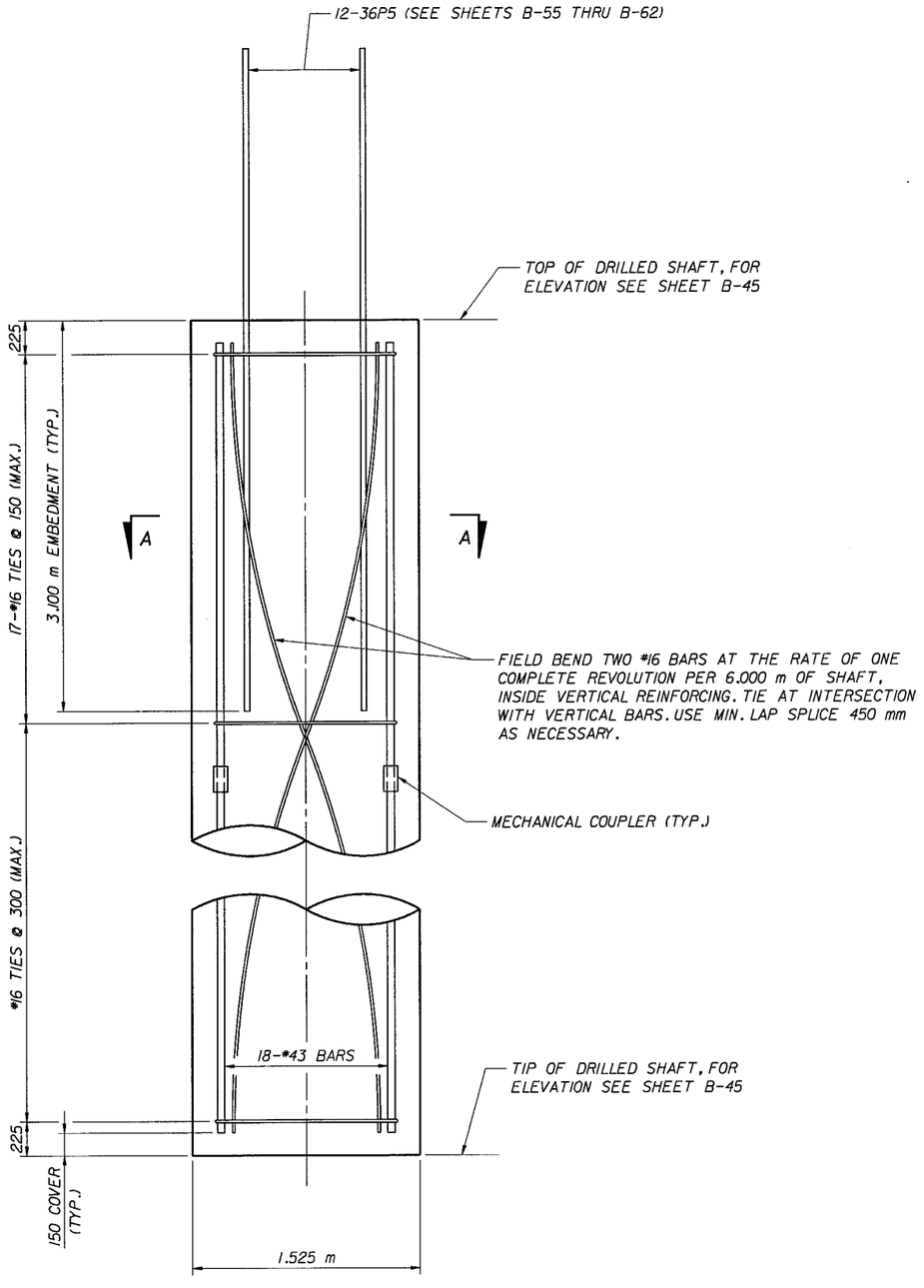
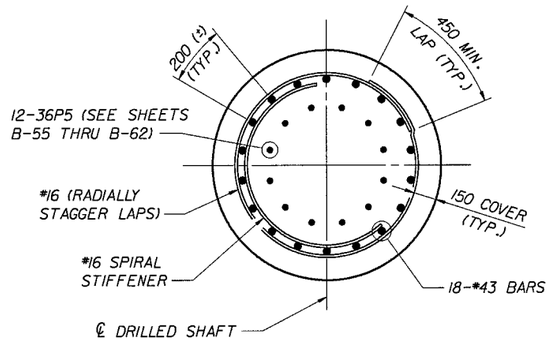


1.525 m DRILLED SHAFT ELEVATION



SECTION A-A

DRILLED SHAFT QUANTITIES (PER LIN. METER)*		
ITEM	UNIT	QUANTITY
CLASS IV CONCRETE (DRILLED SHAFT)	m^3	1.83
REINFORCING STEEL (SUBSTRUCTURE)	kg	227

* QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
DRILLED SHAFT (1525 mm DIA.)	m	456.8
UNCLASSIFIED SHAFT EXCAVATION (1525 mm DIA.)	m	447.0
UNCLASSIFIED EXTRA DEPTH EXCAVATION (1525 mm DIA.)	m	64.7
DRILLED SHAFT SIDEWALL OVERREAMING	m	21.6
CORE (SHAFT EXCAVATION)	m	281.8
CASING (1525 mm DIA.)	m	222.4

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	DET	3/99
Checked by	JVD	3/99
Designed by	DLC	3/99
Checked by	GET	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO:
HDR Engineering, Inc.
Tampa, Florida

SEAL:
Wayne Bolby
3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: 1.525 m ∅ DRILLED SHAFT
Drawing No.

PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER
Index No.

Fri Mar 26 09:22:46 1999
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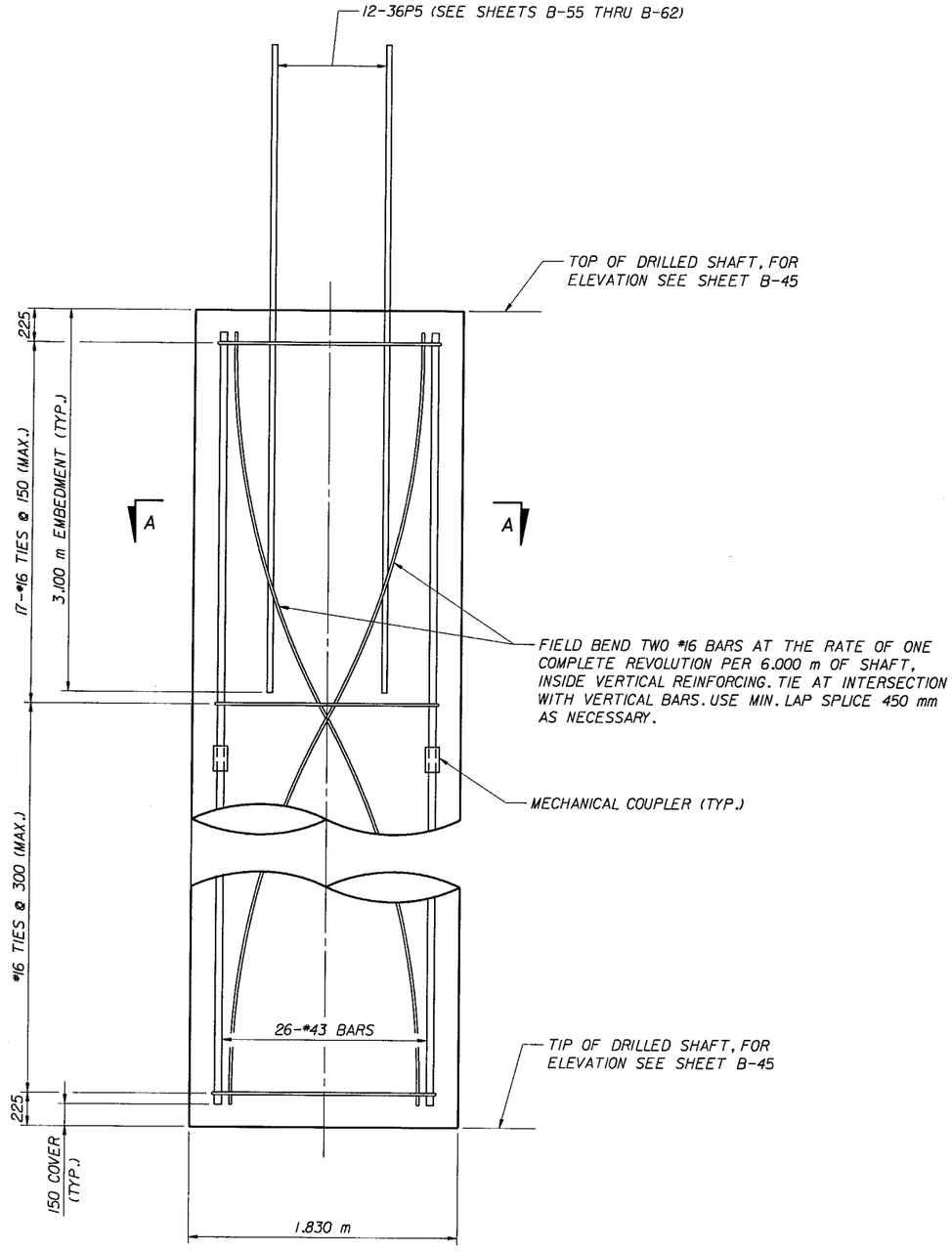
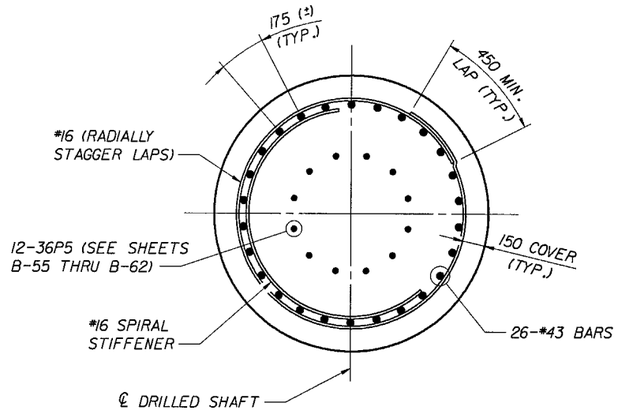
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-50



1.830 m DRILLED SHAFT ELEVATION



SECTION A-A

DRILLED SHAFT QUANTITIES (PER LIN. METER)*		
ITEM	UNIT	QUANTITY
CLASS IV CONCRETE (DRILLED SHAFT)	m^3	2.63
REINFORCING STEEL (SUBSTRUCTURE)	kg	323

* QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
DRILLED SHAFT (1830 mm DIA.)	m	599.7
UNCLASSIFIED SHAFT EXCAVATION (1830 mm DIA.)	m	552.6
UNCLASSIFIED EXTRA DEPTH EXCAVATION (1830 mm DIA.)	m	56.3
DRILLED SHAFT SIDEWALL OVERREAMING	m	18.7
CORE (SHAFT EXCAVATION)	m	259.6
CASING (1830 mm DIA.)	m	355.3

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	DET	3/99
Checked by	JVD	3/99
Designed by	DLC	3/99
Checked by	GET	3/99
Approved by	JWB	

ENGINEER OF RECORD:
HDR ENGINEERING, INC.
5100 W. Kennedy Boulevard
Suite No. 300
Tampa, Florida 33609-1840

LOGO: HDR Engineering, Inc. Tampa, Florida

SEAL: 3-26-99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
10	HOLMES	220784-2-52-01

SHEET TITLE: 1.830 m ϕ DRILLED SHAFT
Drawing No.
PROJECT NAME: S.R. 10 OVER CHOCTAWHATCHEE RIVER
Index No.

THIS CONTRACT PLAN SET INCLUDES:
ROADWAY PLANS
SUMMARY OF PAY ITEMS (7 SHEETS)
SIGNING AND PAVEMENT MARKING PLANS
BRIDGE STRUCTURE PLANS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

FINAL PLANS

PLANS OF PROPOSED

STATE HIGHWAY

STATE PROJ. NO. 47010-3519 (FEDERAL FUNDS)
STATE PROJ. NO. 56010-3520 (FEDERAL FUNDS)

470052

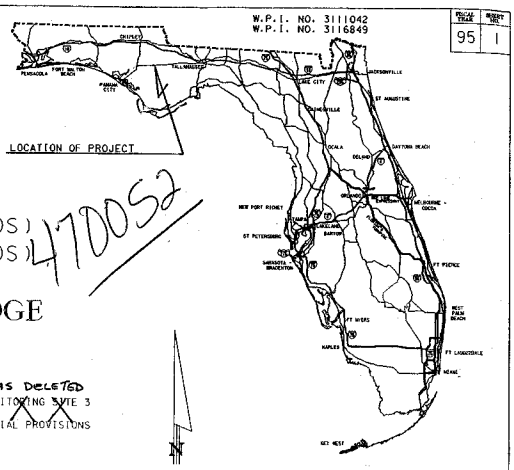
CALHOUN COUNTY AND LIBERTY COUNTY

S.R. 20 APALACHICOLA RIVER BRIDGE

STRUCTURE NO. 470029 (EXISTING)
STRUCTURE NO. 470052 (NEW)

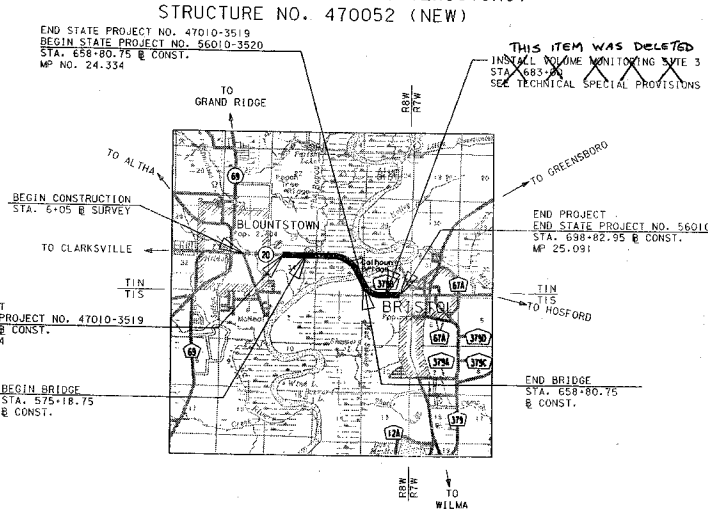
W.P.I. NO. 3111042
W.P.I. NO. 3116849

FISCAL YEAR 95 | SHEET NO. 1



INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	OMITTED
3-8	DRAINAGE MAPS
9	TYPICAL SECTIONS
10-11	SUMMARY OF QUANTITIES
12-15	SUMMARY OF DRAINAGE STRUCTURES
16-23	ROADWAY PLANS - PROFILES
24-25	GEOMETRIC LAYOUT
26-27	DRAINAGE STRUCTURES
28-29	POND DETAIL SHEETS
30-35	DETAILS
36-53	ROADWAY SOIL SURVEY
54-87	ROADWAY CROSS SECTIONS
88	CROSS SECTION LAYOUT SHT.(RET. POND 1)
89-94	POND CROSS SECTIONS
95-100	TRAFFIC CONTROL PLANS
101-108	UTILITY ADJUSTMENT PLANS
109-110	APPROACH SLAB DETAIL
111-121	STORMWATER POLLUTION PREVENTION PLAN



100 % PLANS
MARCH, 1995

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS (BOOKLET DATED JANUARY, 1994).

REVISIONS
BRIDGE PLAN SHEET NO. A-27, B-1, B-2, B-3, B-22, B-32, B-36, B-37, B-60, C-1, C-27, C-28, D-1, D-13, LT-15, LT-16, LT-18, LT-23, LT-24, LT-29. (REVISED 5/24/95)
CES (BRIDGE) (REVISED 5/24/95)
BRIDGE PLAN SHEET NO. B-121, B-122, B-123, B-124, B-125, B-126 (REVISED 6/8/95)
CES (BRIDGE - PAGE 1 OF 3) (REVISED 6/8/95)
ROADWAY PLANS SHEET NO. 10, 11, 28, 28A, 76, 77, 78, 87, 88, 88A, 88B, 88C, 88D, 89, 89A, 90, 90A, 91, 91A, 92, 92A, 93, 93A, 94 (REVISED 4/23/97)
ROADWAY PLANS SHEET NO. 10, 11, 14, 15, 21, 22, 27, 28, 28A, 32, 33, 76, 77, 78, 87-94 (88A, 88D - VOID) 106, 107, 119, 121 (REVISED 6/9/97)
ROADWAY PLANS SHEET NO. 9, 10, 11, 14, 15, 21, 27, 28, 94A ADDED, 33, 73-76, 87, 106, 119, 121 S-2, S-3, S-6 (REVISED 3/16/98)

CONTRACTOR:	ODEBRECHT OF FLORIDA
DESIGN CONSULTANT:	HNTB AND FDOT
CEI CONSULTANTANT:	PBCS
DISTRICT SECRETARY:	EDWARD PRESCOTT
RESIDENT ENGINEER:	BRYAN SBTOCK
PROJECT ENGINEER:	MARCUS KELLY
WORK ACCEPTED:	2/16/99
WORK WAS COMPLETED:	2/16/99
WORK CONDITIONALLY ACCEPTED:	2/16/99
WORK WAS ACCEPTED:	3/18/99

PLANS PREPARED BY :

HOWARD NEEDLES TAMMEN & BERGENDOFF
5850 T.G. LEE BOULEVARD
SUITE 600
ORLANDO, FLORIDA 32822
(407) 859-8380

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

GOVERNING SPECIFICATIONS: STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, DATED 1991 AND SUPPLEMENTS THERETO AS NOTED IN THE SPECIAL PROVISIONS FOR THIS PROJECT.

LENGTH OF PROJECT

	47010-3519		56010-3520		TOTAL	
	LINEAR FT.	MILES	LINEAR FT.	MILES	LINEAR FT.	MILES
ROADWAY	1618.75	0.306	4002.20	0.758	5620.95	1.064
BRIDGES	8362.00	1.584	0.00	0.00	8362.00	1.584
NET LENGTH OF PROJ.	9980.75	1.890	4002.20	0.758	13982.95	2.648
EXCEPTIONS						
GROSS LENGTH OF PROJ.	9980.75	1.890	4002.20	0.758	13982.95	2.648

FDOT PROJECT MANAGER : BRIAN A. BLANCHARD, P.E.

J.V. Moulton
3/1/99

DATE	BY	DESCRIPTION
3/1/99		

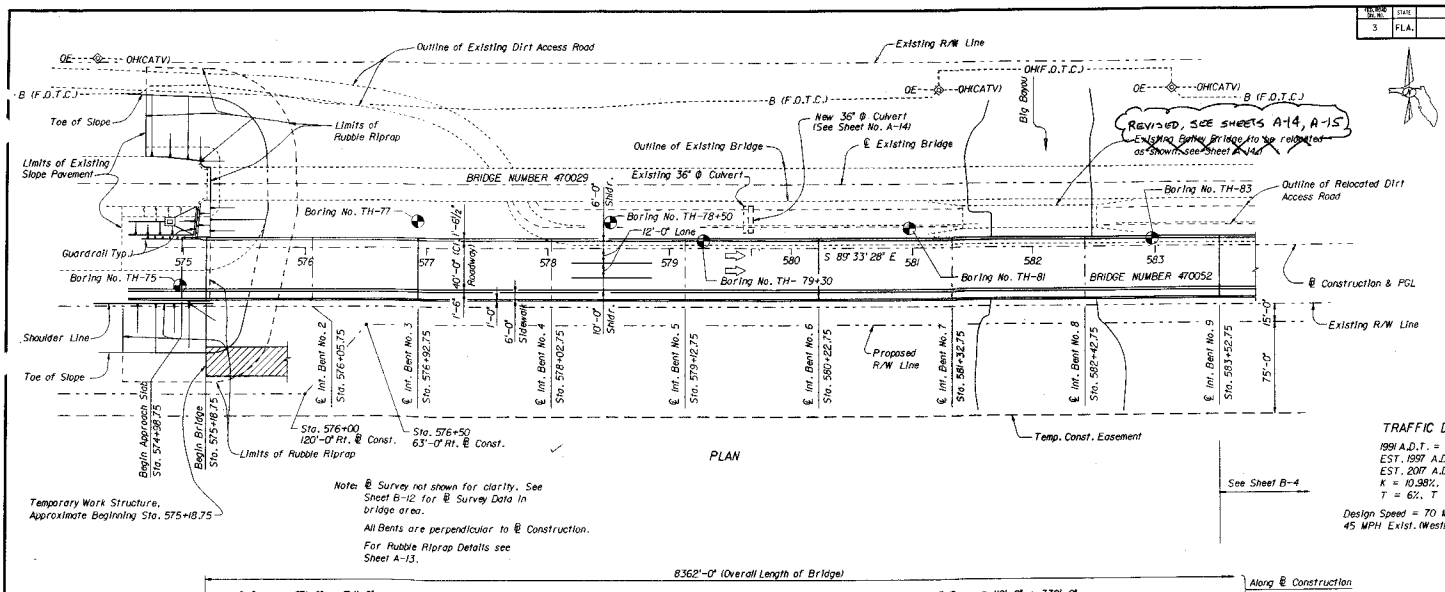
Bryan E. Stock 3/2/99

5/7/98

ROADWAY PLANS APPROVED BY: YASSI MYERS, P.E.
DATE:
P.E. NO.:

DWGPROS 10x8
BMEDEXTBOX\Header.dgn

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-3



PLAN

Temporary Work Structure, Approximate Beginning Sta. 575+18.75

Note: ℄ Survey not shown for clarity. See Sheet B-12 for ℄ Survey Data in bridge area.

All Bents are perpendicular to ℄ Construction.

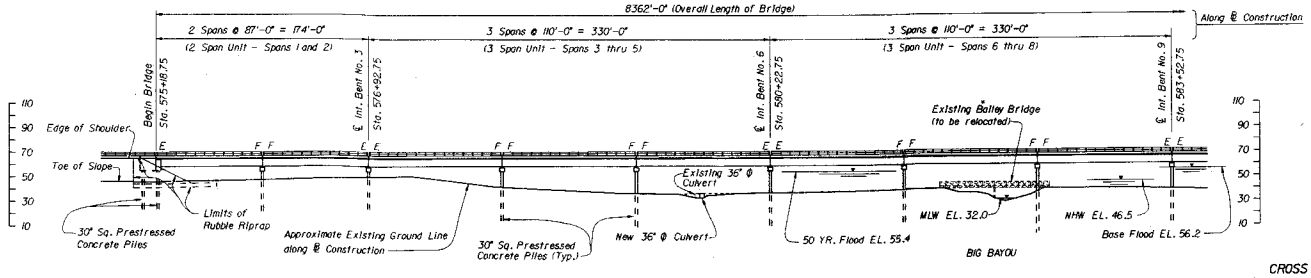
For Rubble Riprap Details see Sheet A-13.

See Sheet B-4

TRAFFIC DATA

1991 A.D.T. = 7,800
EST. 1997 A.D.T. = 9,600
EST. 2017 A.D.T. = 16,950
K = 10.98%, D=50%
T = 6%, T = 11% (24 HR.)

Design Speed = 70 MPH Prop. (Eastbound)
45 MPH Exist. (Westbound)



ELEVATION

Note: Elevation View of Existing Bridge and Temporary Work Structure not shown for clarity.

CROSS REFERENCES:

For Vertical Curve and Superelevation Data see Sheet B-13.

For Horizontal Alignment and Curve Data see Sheet B-12.

REVISIONS						
Date	By	Description	Date	By	Description
5/24/95	JLF	Added Traffic Data			
5/14/97	mkd	FINAL AS BUILTS			

Name	Date
Drawn by: JLF	5-94
Checked by: CEB	2-95
Designed by: JLF	5-94
Checked by: CEB	2-95
Approved by: HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

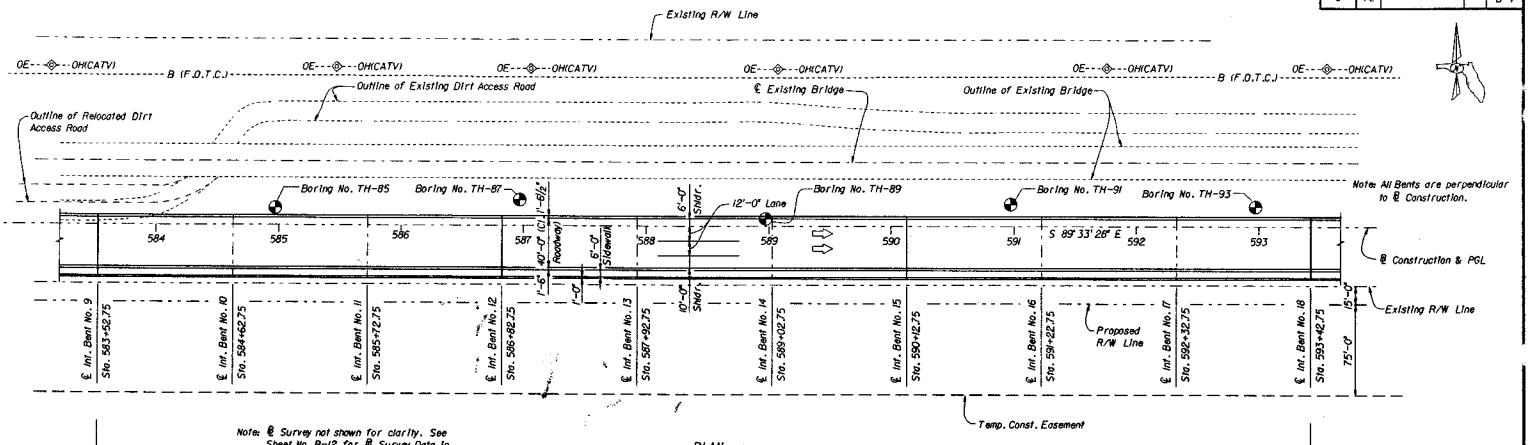
ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 10F 9)

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

strdgnfile@pond.dgn
Wed May 24 14:37:05 1995

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FL			B-4



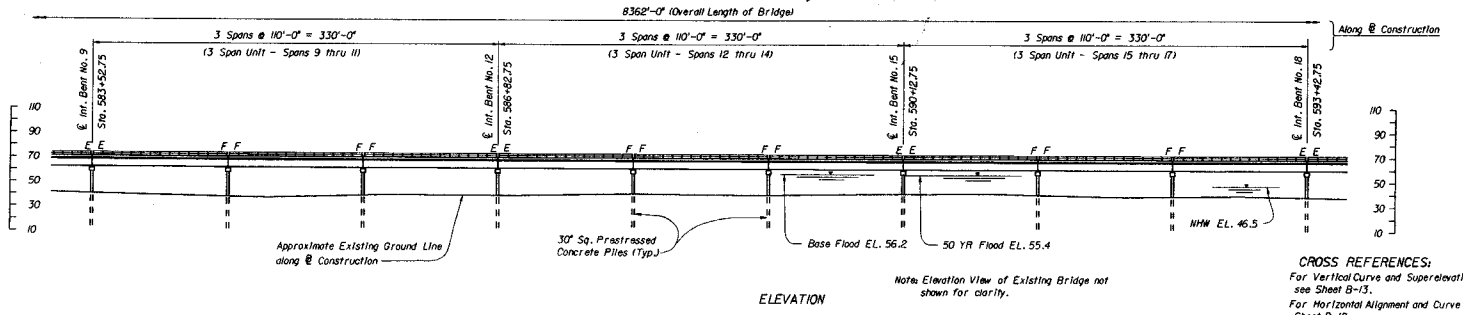
Note: ℄ Survey not shown for clarity. See Sheet No. B-12 for ℄ Survey Data in bridge area.

All Bents are perpendicular to ℄ Construction.

PLAN

See Sheet No. B-3

See Sheet B-5



ELEVATION

Note: Elevation View of Existing Bridge not shown for clarity.

CROSS REFERENCES:

For Vertical Curve and Superelevation Data see Sheet B-13.

For Horizontal Alignment and Curve Data see Sheet B-12.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JLF	5-94
Checked by	CEB	2-95
Designed by	JLF	5-94
Checked by	CEB	2-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

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SEAL:

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STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 2 OF 9)

PROJECT TITLE: SR 20 OVER APALACHICOLA RIVER

Mon Nov 13 11:24:3 1995 /usr5/proj/str80/pland.dgn

DIST.	ROAD NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
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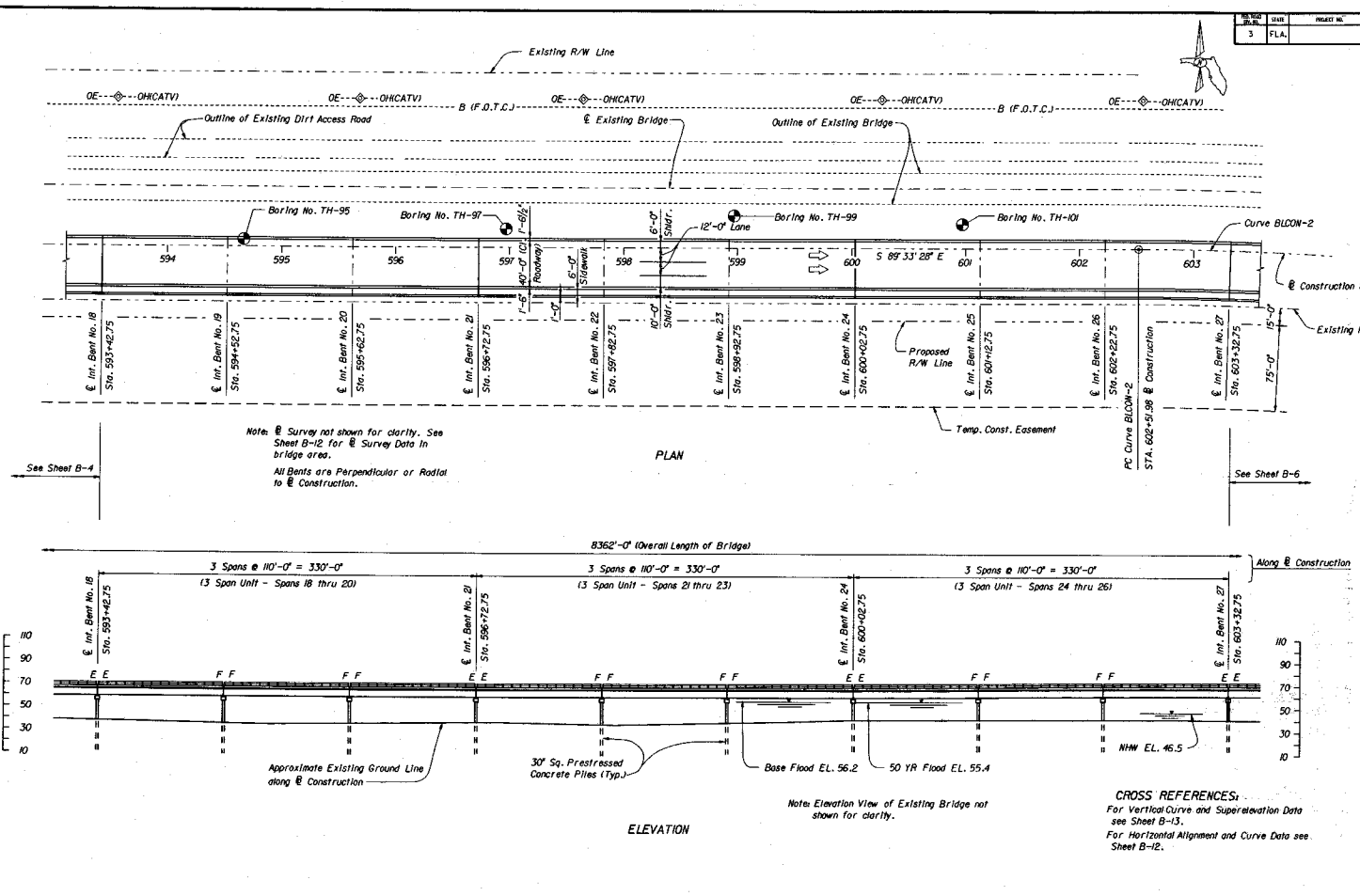

REVISIONS					
Date	By	Description	Date	By	Description

	Name	Dates
Drawn by	JLF	5-94
Checked by	CEB	2-95
Designed by	JLF	5-94
Checked by	CEB	2-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
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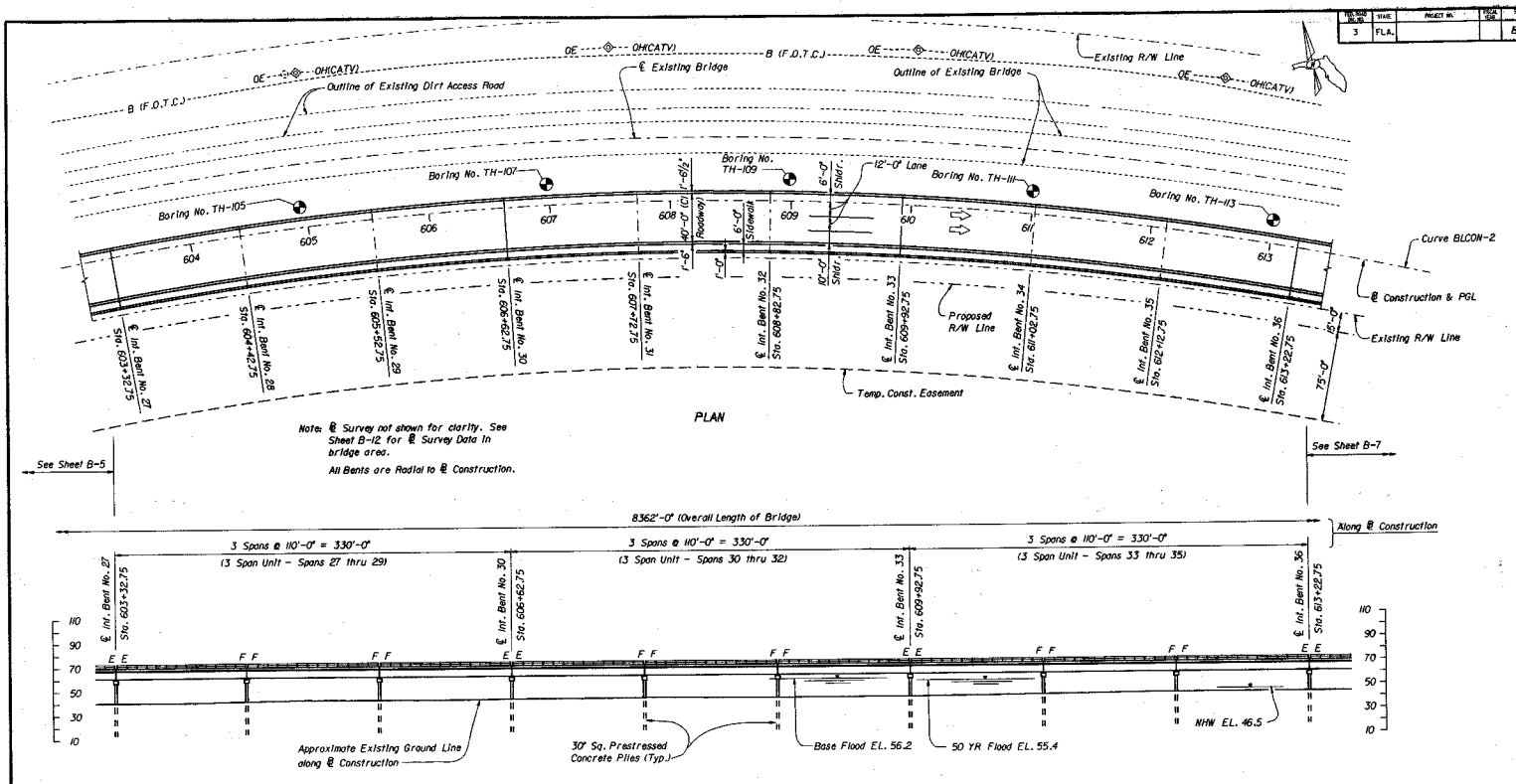
ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 58010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 3 OF 9)

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

Mon Mar 13 11:33:53 c:\str5\proj\sr20\panel.dgn

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	SHT. NO.
3	FLA.			B-6



CROSS REFERENCES:
For Vertical Curve and Superelevation Data see Sheet B-13.
For Horizontal Alignment and Curve Data see Sheet B-12.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	JLF	5-94
						Checked by	CEB	2-95
						Designed by	JLF	5-94
						Checked by	CEB	2-95
						Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

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STRUCTURES DESIGN OFFICE

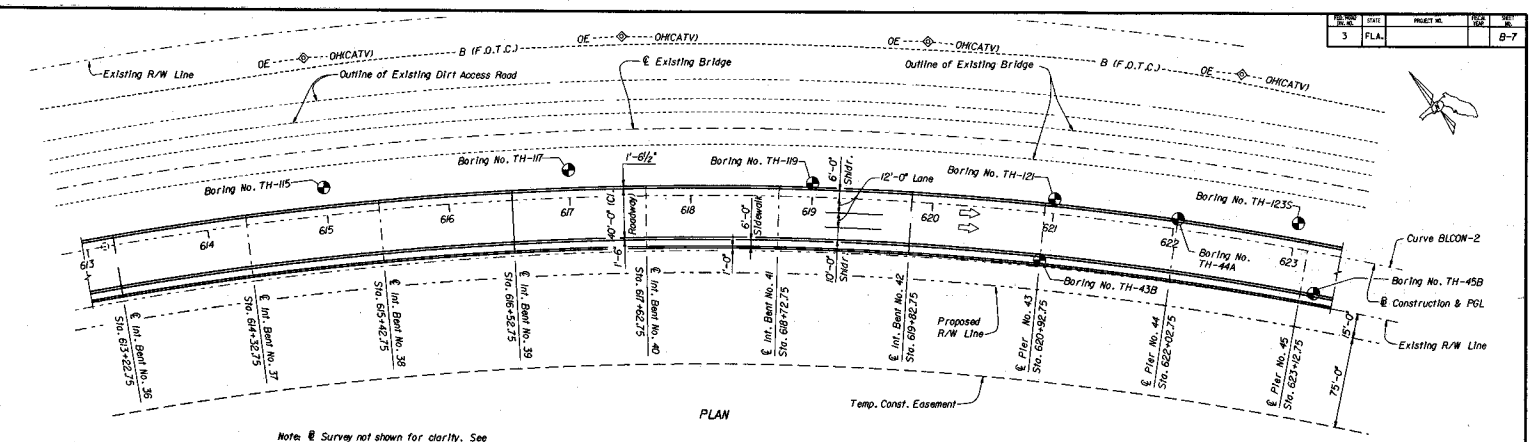
ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 4 OF 9)

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

Mon Mar 13 07:34:55 1995 cad5/prod1/st20/pmeet.dgn

FED.ROAD NO.	STATE	PROJECT NO.	FED.AID NO.	SHEET NO.
3	FLA.			B-7



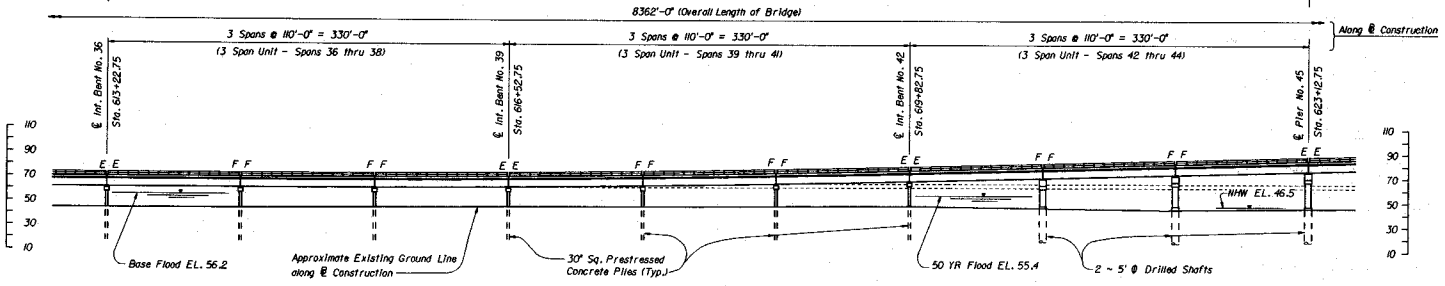
PLAN

Note: ℄ Survey not shown for clarity. See Sheet B-12 for ℄ Survey Data in bridge area.

All Piers & Bents are Radial to ℄ Construction.

See Sheet B-6

See Sheet B-8



EXPANDED ELEVATION

Note: Existing Substructure not shown for clarity.

CROSS REFERENCES:
For Vertical Curve and Superelevation Data see Sheet B-13.
For Horizontal Alignment and Curve Data see Sheet B-12.

REVISIONS

Date	By	Description	Date	By	Description

	Notes	Dates
Drawn by	JLF	1-94
Checked by	CEB	2-95
Designed by	JLF	5-94
Checked by	CEB	2-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

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STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 5 OF 9)

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

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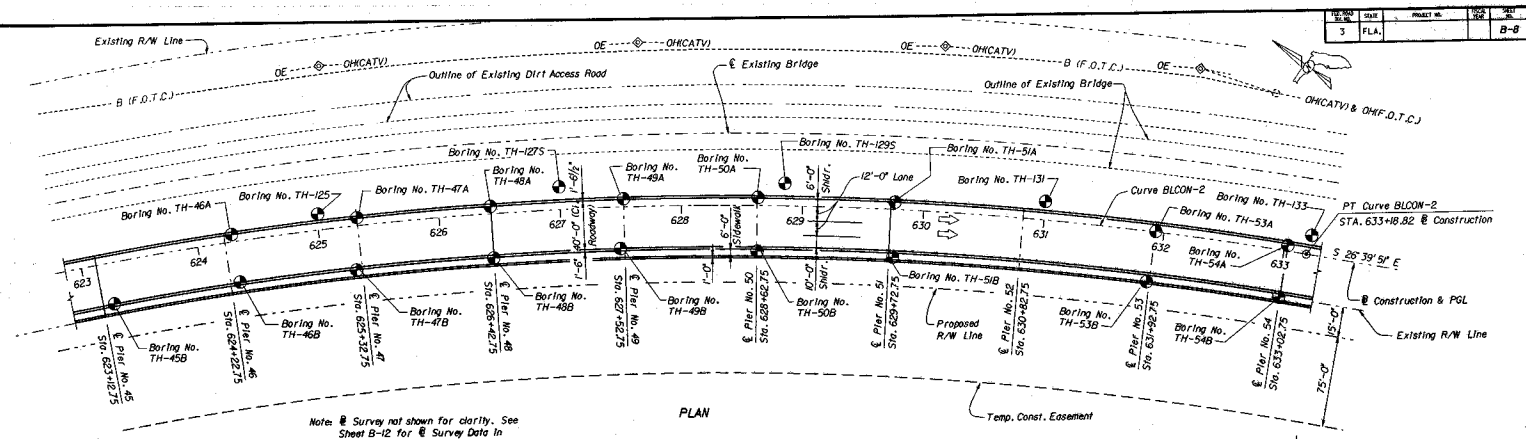
Mon Mar 13 17:36:16

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-8



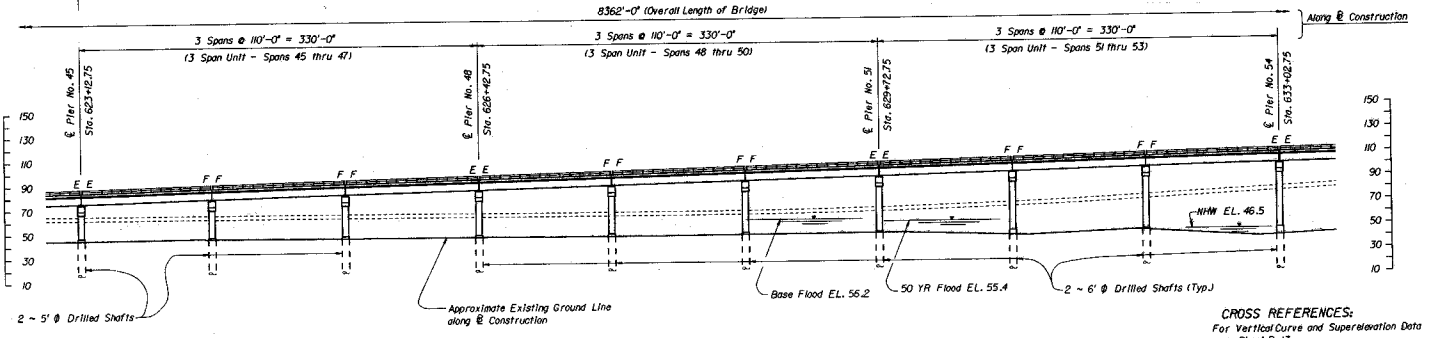
PLAN

Note: ℄ Survey not shown for clarity. See Sheet B-12 for ℄ Survey Data in Data in bridge area.

All Piers are Radial to ℄ Construction.

See Sheet B-7

See Sheet B-9



EXPANDED ELEVATION

Note: Existing Substructure not shown for clarity.

CROSS REFERENCES:

For Vertical Curve and Superelevation Data see Sheet B-13.

For Horizontal Alignment and Curve Data see Sheet B-12.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JLF	5-94
Checked by	CEB	2-95
Designed by	JLF	5-94
Checked by	CEB	2-95
Approved by	MTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

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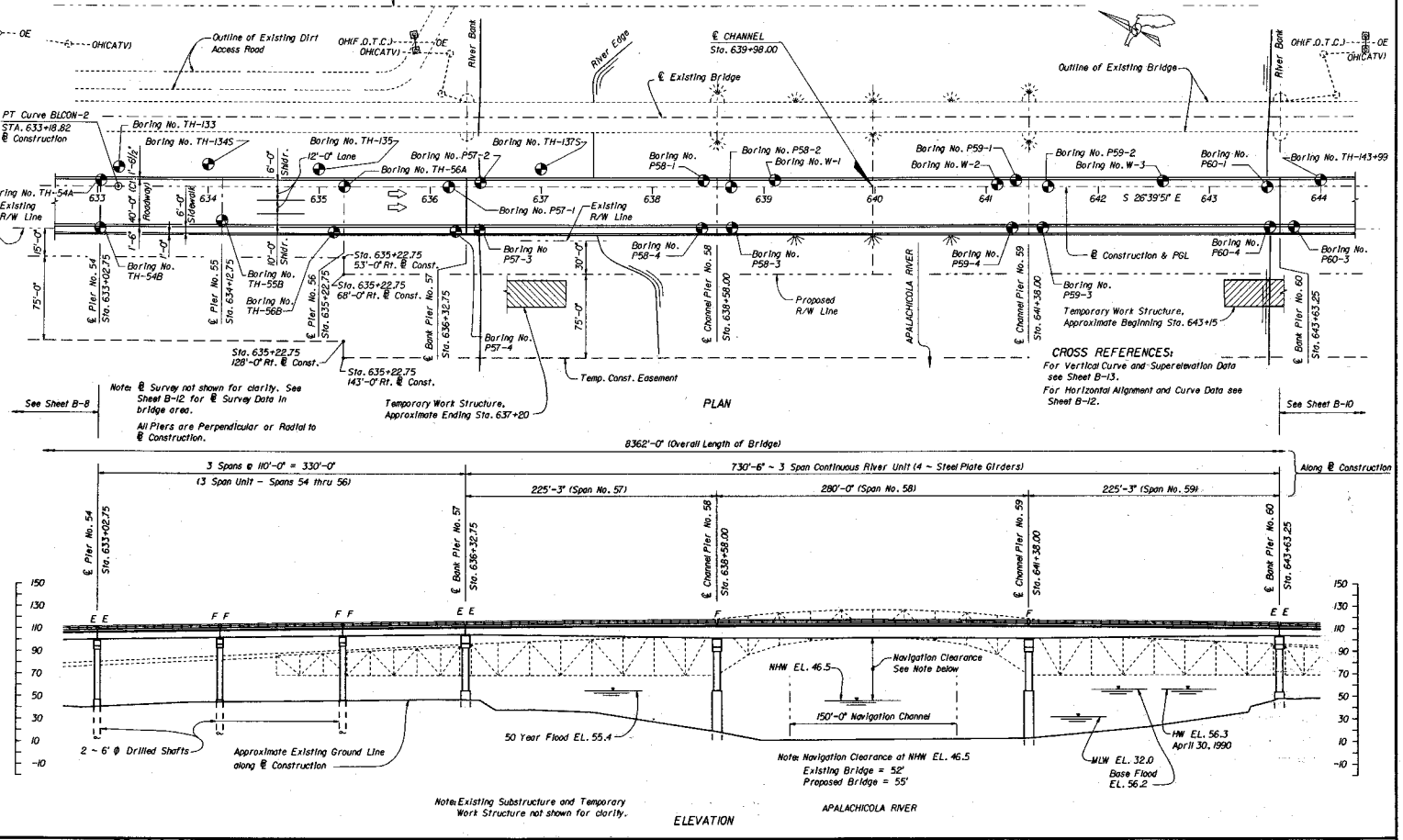
ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 6 OF 9)

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

Mon Mar 13 15:57:37 1995 c:\pw\15\0\0\0\2\2\0\2.mesa.dgn

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-9



REVISIONS						Names	Dates
Date	By	Description	Date	By	Description	Drawn by JLF	5-94
						Checked by CEB	2-95
						Designed by JLF	5-94
						Checked by CEB	2-95
						Approved by HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

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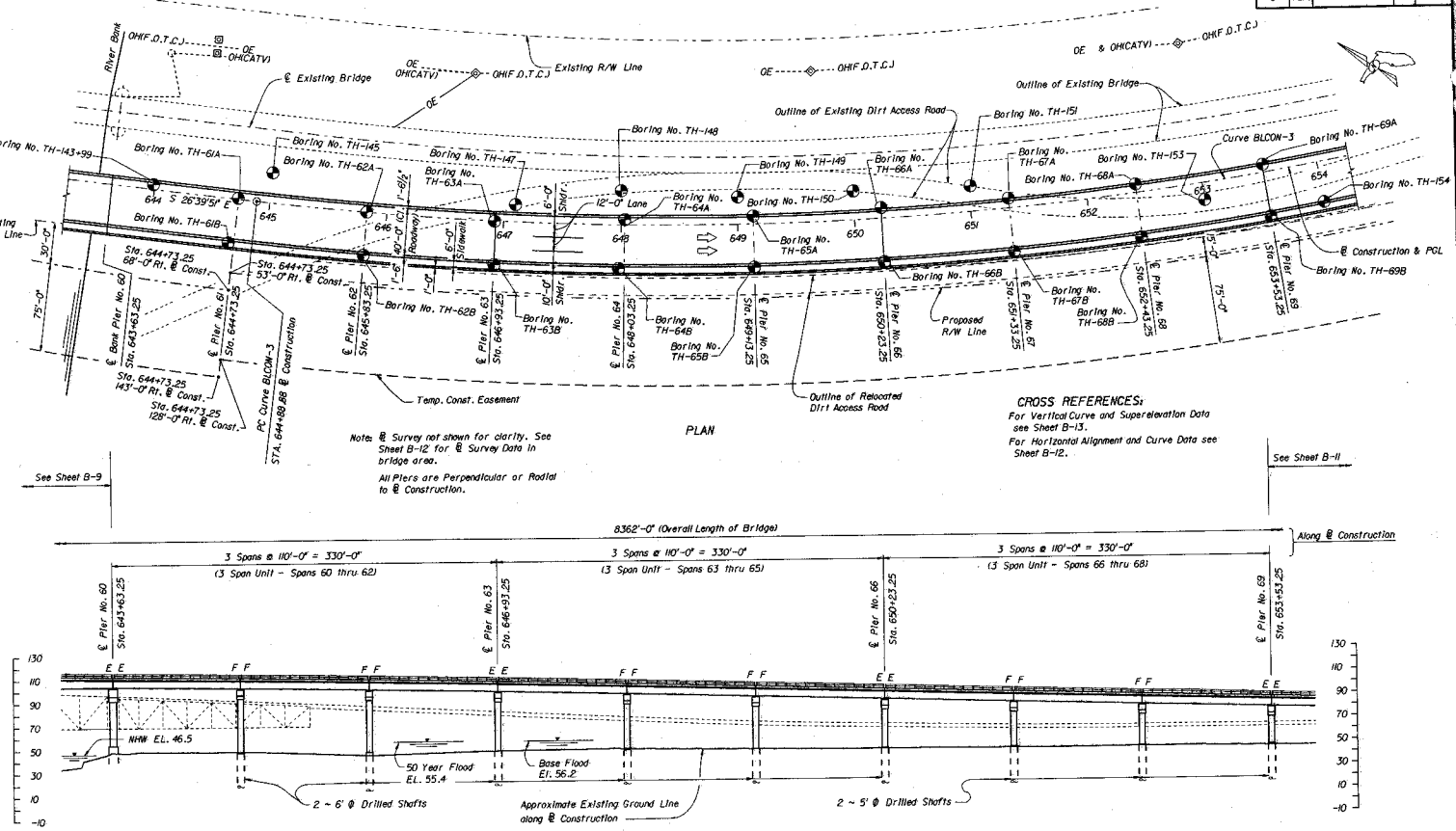
ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 7 OF 9)

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

Wed Mar 15 13:57:59 ... Astrid\plotfiles\panel.sav

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-10



REVISIONS					
Date	By	Description	Date	By	Description

	Name	Date
Drawn by	JLF	5-94
Checked by	CEB	2-95
Designed by	JLF	5-94
Checked by	CEB	2-95
Approved by	MTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 8 OF 9)

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

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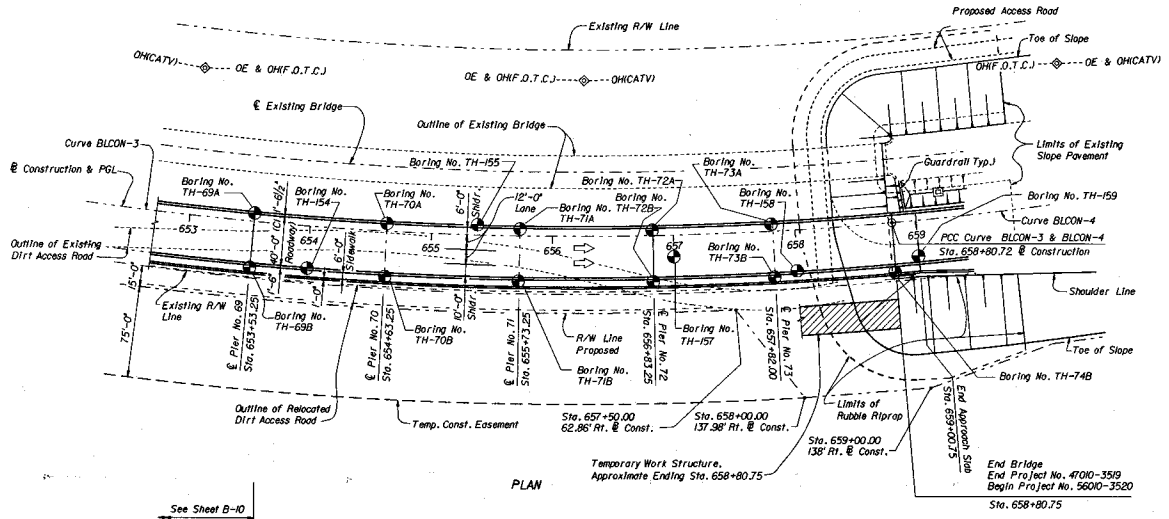


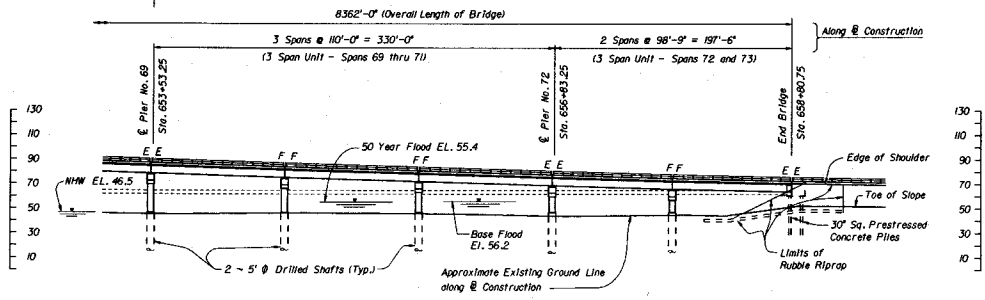
PLAN

Note: ℄ Survey not shown for clarity. See Sheet B-12 for ℄ Survey Data in bridge area.

All Piers & FFBW End Bent No. 74 are Radial to ℄ Construction.

For Rubble Riprap Details see Sheet A-13.

See Sheet B-10



EXPANDED ELEVATION

Note: Existing Substructure and Temporary Work Structure not shown for clarity.

CROSS REFERENCES:

For Vertical Curve and Superelevation Data see Sheet B-13.

For Horizontal Alignment and Curve Data see Sheet B-12.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JLF	1-94
Checked by	CEB	2-95
Designed by	JLF	5-94
Checked by	CEB	2-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

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STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: PLAN AND ELEVATION (SHEET 9 OF 9)

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

Mon Mar 13 11:44:45 1995 /usr5/proj1/sr20/pmmd.dgn

GENERAL NOTES

1. The shafts shall be constructed using the wet construction method with mineral slurry in conjuction with permanent casing as shown in the plans or temporary casing as necessary and desanding equipment with holding tanks. The desanding equipment supplied by the Contractor shall be equipped with suitable screen and cyclone separators and shall have adequate capacity to desand the volumes of slurry required for the project.

2. Special precautions shall be taken by the Contractor to prevent discharge of slurry or excavated materials into the river or river flood plain during the excavation operation. The Contractor shall provide a suitable receptacle around the top of the casing to collect slurry and/or concrete discharge from the shaft during the placement of concrete. Materials excavated from the drilled shafts shall be collected and disposed of satisfactorily in offsite upland areas provided by the Contractor and approved by the Engineer.

3. One or more test holes shall be performed for each shaft size. See Load Test Plans.

4. For the Drilled Shaft Test Holes and Production Shafts, it is the intention of the Department to utilize a Shaft Inspection Device (SID) in accordance with the provisions of Section B455 of the Supplemental Specifications and the Technical Special Provisions.

5. The spacing of the vertical bars at footing level shall be set with a template.

6. Permanent casing is required only for Alt. AB, Piers 57, 58, 59, 60 and for Alt. AA Piers 58 and 59. If the Contractor intends to use permanent casing at other Piers he must reestablish the minimum Tip elevations to be approved by the Engineer.

7. The cost of temporary casing shall be included in the bid price for Unclassified Shaft Excavation.

8. Minimum Tip Elevations are designated in the Plans. Adjustment of minimum Tip Elevations as a result of the Load Test Program lies solely with the Department. Adjustment of minimum Tip Elevations by the Department, either to higher or lower elevations, will be paid for at the Contract Unit Price for the applicable Drilled Shaft Items based on the quantity provided; no additional costs over and above the cost of the applicable items will be incurred by the Department for adjustment of minimum Tip Elevations.

9. Construct Drilled Shafts in accordance with the provisions of the Supplemental Specification B455, Structures Foundations and Technical Special Provisions.

10. Reference Load Test Sheets for Load Test Requirements.

11. To the reinforcement shown in the Plan details, provide additional reinforcement in the form of ties, spacers and stiffener bars as necessary to facilitate handling and to insure proper alignment and location of reinforcement cage during cage and concrete placement operations. Additional reinforcement required to facilitate handling and to insure a proper alignment and location will be at no additional cost to the Department.

12. Note that Grade 75 ksi number 18 bars are specified for the 9 foot diameter Drilled Shafts Alternate AB. The delivery time for these bars may be longer than usual and the Contractor should schedule his work accordingly.

13. Welding per ANSI/AWS D1.4 of the Reinforcement, excluding the primary reinforcement, for the purpose of increasing rebar cage stiffness for handling is permitted.

14. Lap splices shown may be substituted with Mechanical Splices. These Splices must develop 125% of bar yield strength.

15. The Permanent Casing Tip Elevations shown for the 7' Ø and 9' Ø Drilled Shafts may not be lowered without approval by the Engineer.

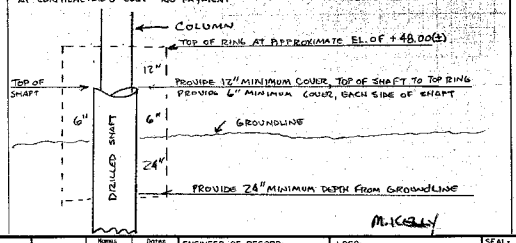
16. Note that all Drilled Shafts on the LT Sheets are Designated 'Test Holes' and no separate payment will be made for those as per Subarticle B455-12.7. Specific Pay Items exist for the Load Test Equipment and Performance.

17. The plans provide for permanent casing to be installed to estimated elevations at Pier Nos. 58 and 59 in Alternate AA and Pier Nos. 57, 58, 59 & 60 in Alternate AB. This casing is provided to reach the interface of the limerock and the overburden soils to provide support of the overburden soils. It is possible that sporadic caving of the materials below the permanent casing may occur.

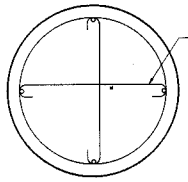
* THE CONTRACTOR'S METHODS OF DRILLED SHAFT CONSTRUCTION RESULTED IN IRREGULAR SURFACES AT THE TOP OF SHAFT. THE ENGINEER AUTHORIZED A "RING" TO BE CONSTRUCTED, AS SHOWN IN DETAIL BELOW, AT NO ADDITIONAL COST TO THE DEPARTMENT, TO EVEN-OUT THE IRREGULAR SURFACES AND PROVIDE CONTINUITY.

DRILLED SHAFT RING - TYPICAL SECTION
PROVIDE MINIMUM COVER AS FOLLOWS.
(MAY USE REJECTED CONCRETE (CLASS IV) AT CONTRACTOR'S COST - NO PAYMENT -

ACCEPTABLE METHOD TO MEET NEATLINE DIMENSIONS SHOWN IN PLANS, AND CORRECT IR-REGULARITIES.



M.K.Gray



No. 8 Bars to be used as temporary stiffeners. These Bars to be placed with close tolerance to prevent swaling of cage before footing reinforcement is placed. These temporary stiffeners required only in top 6 ft. of Drilled Shaft.

TEMPORARY CAGE STIFFENER DETAILS

J. V. Mallon
3/1/99

REVISIONS						
Date	By	Description	Date	By	Description
5/24/98	JP	Revised Note 1			
12/1/99	MKL	FINAL AS-BUILT			

	Name	Dates
Drawn by	JP	10-94
Checked by	HTB	10-94
Designed by	HTB	8-94
Checked by	CEB	3-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

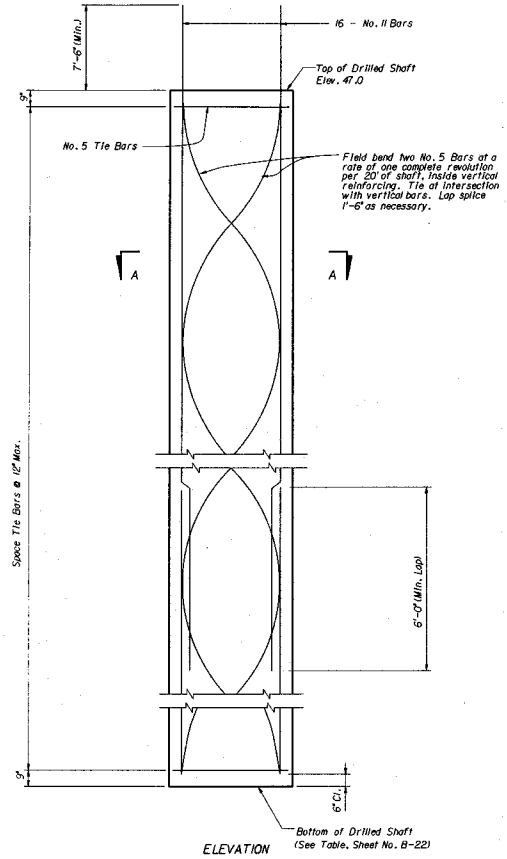
ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: DRILLED SHAFT GENERAL NOTES

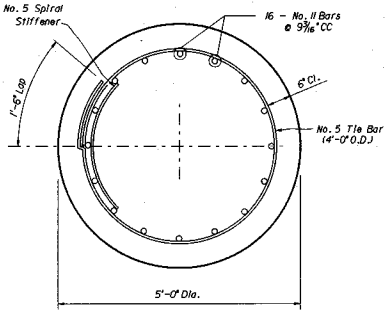
PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

Tru May 25, 10:24:44 1999 S:\struct\plotting\dsh1.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-33



ELEVATION



SECTION A-A

DRILLED SHAFT QUANTITIES PER LIN. FT.		
ITEM	UNIT	QUANTITY
Class IV Concrete (Drilled Shaft)	C.Y.	7.27
Reinforcing Steel (Substructure)	LB.	96.12

Note: Quantities shown for Reinforcing Steel does not include lap splices for No. 11 Vertical Bars & No. 5 Spiral Bars.

NOTES:
1. Concrete for Drilled Shafts shall be Class IV (Drilled Shaft).
2. Reinforcing Steel shall conform to ASTM A-615 Grade 60.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JP	9-94
Checked by	HTB	9-94
Designed by	HTB	8-94
Checked by	CEB	3-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

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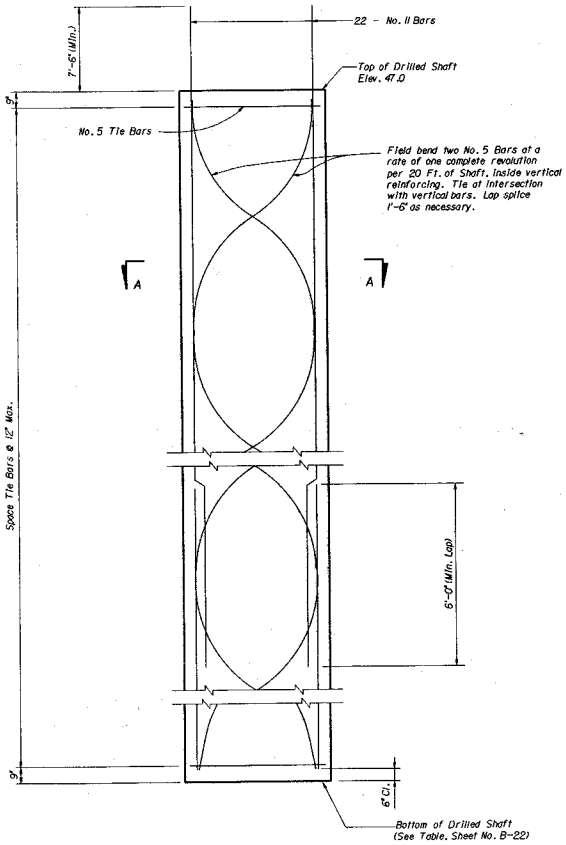
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

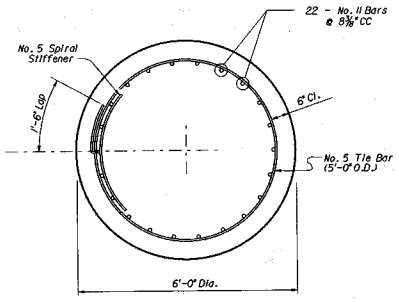
SHEET TITLE: 5 FT. Ø DRILLED SHAFTS PIER NOS. 43 TO 47 & 67 TO 73

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

Tue Mar 14 09:56:56 1995 /usr5/pw1/st20/drilled.dgn



DRILLED SHAFT ELEVATION



SECTION A-A

DRILLED SHAFT QUANTITIES PER LIN. FT.		
ITEM	UNIT	QUANTITY
Class IV Concrete (Drilled Shaft)	C.Y.	1.047
Reinforcing Steel (Substructure)	LB.	133.27

Note: Quantities shown for Reinforcing Steel does not include lap splices for No. 11 Vertical Bars & No. 5 Spiral Bars.

NOTES:

1. Concrete for Drilled Shafts shall be Class IV (Drilled Shaft).
2. Reinforcing Steel shall conform to ASTM A-615 Grade 60.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	JP	9-94
Checked by	HTB	9-94
Designed by	HTB	8-94
Checked by	CEB	3-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

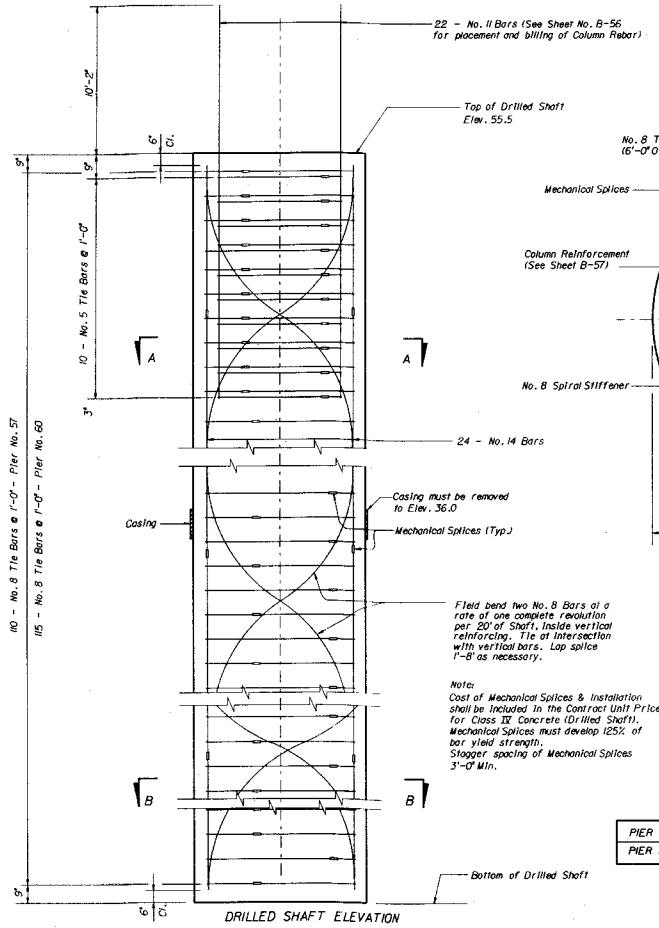
ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

SHEET TITLE: 6 FT. Ø DRILLED SHAFTS PIER NOS. 48 TO 56 & 61 TO 66

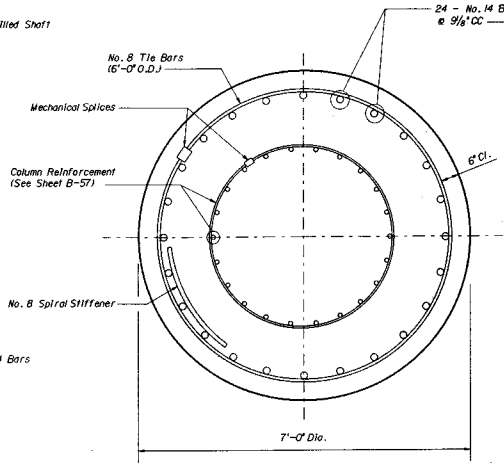
PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

Tue Mar 14 09:59:52 1995 usr5/proj/sr20/b34drlshf.dgn

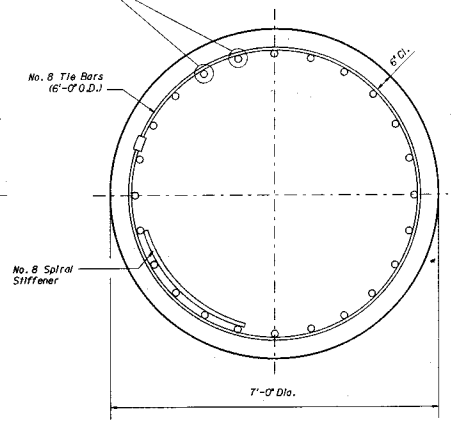
FED. ROAD DIV. NO.	STATE	PROJECT NO.	PROJ. SEQ.	SHEET NO.
3	FLA.			B-37



DRILLED SHAFT ELEVATION



SECTION A-A



SECTION B-B

Note:
Cost of Mechanical Splices & Installation shall be included in the Contract Unit Price for Class IV Concrete (Drilled Shaft). Mechanical Splices must develop 125% of bar yield strength. Stagger spacing of Mechanical Splices 3'-0" Min.

	MINIMUM BOTTOM SHAFT ELEVATION	ESTIMATED BOTTOM CASING ELEVATION
PIER NO. 57	-55.0	-20.0
PIER NO. 60	-65.0	-32.0

DRILLED SHAFT QUANTITIES PER LIN. FT.

ITEM	UNIT	QUANTITY
Class IV Concrete (Drilled Shaft)	C.Y.	1.425
Reinforcing Steel (Substructure)	LB.	232.1

Note: Reinforcing Steel quantity does not include Spiral Stiffener or Mechanical Splices.

NOTES:
1. Concrete for Drilled Shafts shall be Class IV (Drilled Shaft).
2. Reinforcing Steel shall conform to ASTM A-615 Grade 60.
3. Mechanical Splices must develop 125% of Bar Yield Strength.
4. Permanent Casings required.
5. Two - 20 Foot cores will be required at bottom of each 7 Ft.Φ Shaft.

ALTERNATE AB

REVISIONS					
Date	By	Description	Date	By	Description
5/24/95	JLF	Changed Casing Removal Elev. 30.0 to Elev. 36.0			

	Name	Date
Drawn by	JP	2-95
Checked by	HTB	2-95
Designed by	HTB	2-95
Checked by	CEB	3-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

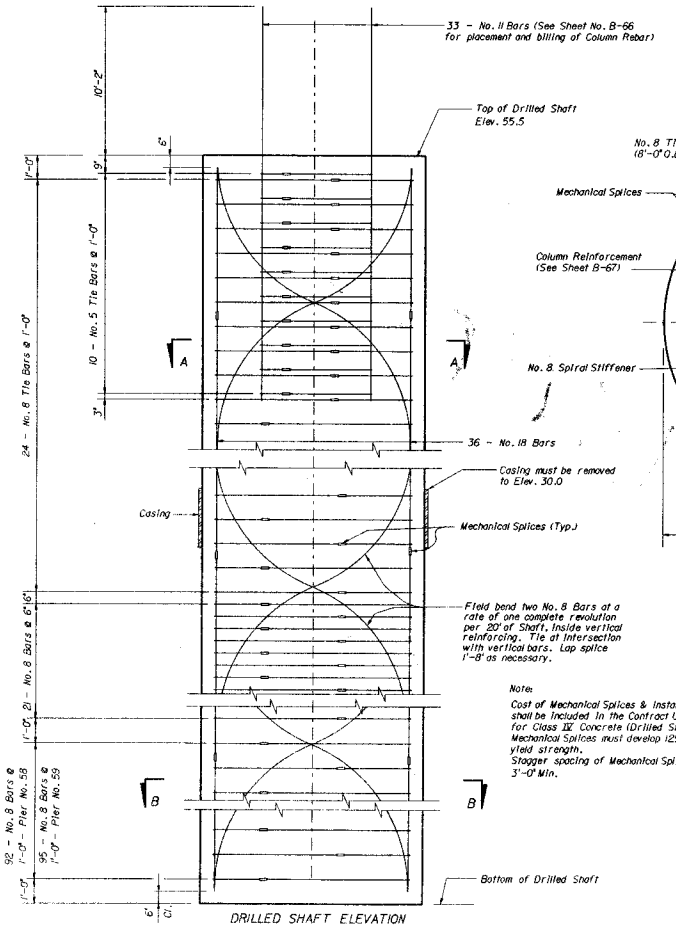
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	47010-3519 & 56010-3520

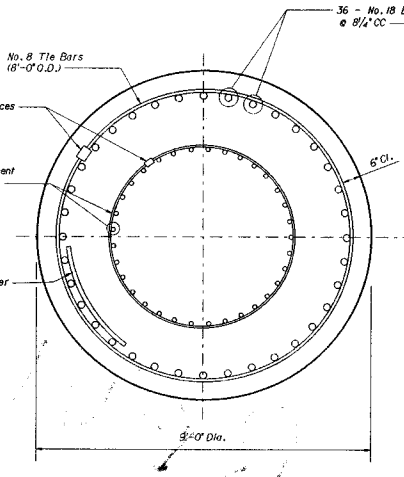
SHEET TITLE: 7 FT. Φ DRILLED SHAFTS PIER NOS. 57 AND 60

PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

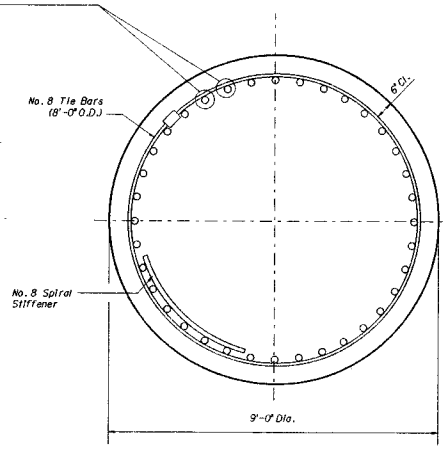
Mon May 08 15:07:19 95 I:\sdg\pl\feadrill\drill1.sgp



DRILLED SHAFT ELEVATION



SECTION A-A



SECTION B-B

Note:
Cost of Mechanical Splices & Installation shall be included in the Contract Unit Price for Class IV Concrete (Drilled Shaft). Mechanical Splices must develop 125% of bar yield strength. Stagger spacing of Mechanical Splices 3'-0" Min.

	MINIMUM BOTTOM SHAFT ELEVATION	ESTIMATED BOTTOM CASING ELEVATION
PIER NO. 58	-72.0	-26.0
PIER NO. 59	-75.0	-28.0

DRILLED SHAFT QUANTITIES PER LIN. FT.

ITEM	UNIT	QUANTITY
Class IV Concrete (Drilled Shaft)	C.Y.	2.356
Reinforcing Steel (Substructure)	LB.	56.7

Note: Reinforcing Steel quantity does not include Spiral Stiffener or Mechanical Splices.

NOTES:

1. Concrete for Drilled Shafts shall be Class IV (Drilled Shaft).
2. Reinforcing Steel shall conform to ASTM A-615 Grade 60 except No. 18 Bars shall be Grade 75.
3. Mechanical Splices must develop 125% of Bar Yield Strength.
4. Permanent Casing required.
5. Three - 20 foot deep cores will be required at bottom of each 9 Ft. Ø Shaft.

ALTERNATE AB

REVISIONS					
Date	By	Description	Date	By	Description

	Name	Dates
Drawn by	JP	2-95
Checked by	HTB	2-95
Designed by	HTB	2-95
Checked by	CEB	3-95
Approved by	HTB	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
CENTRAL OFFICE
605 Suwannee Street, MS 33
Tallahassee, Florida 32399-0450

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

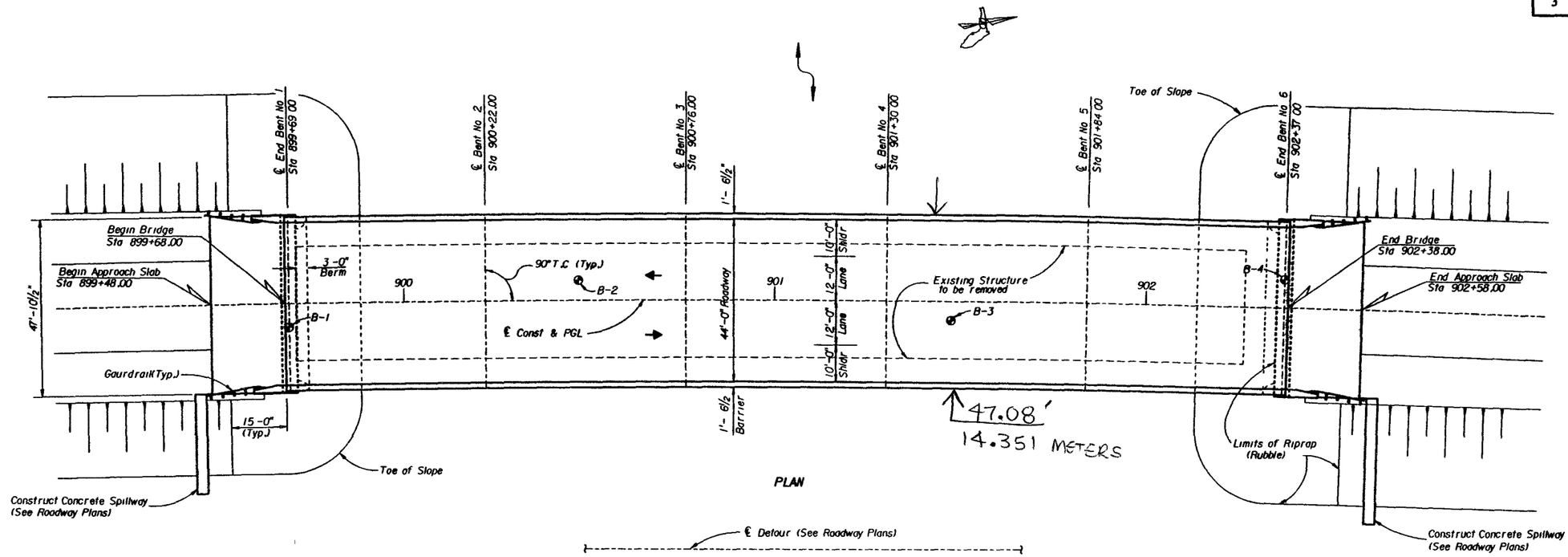
ROAD NO.	COUNTY	PROJECT NO.
20	CALHOUN & LIBERTY	4/0110-3519 & 5600-3520

SHEET TITLE: 9 FT. Ø DRILLED SHAFTS PIER NOS. 58 AND 59

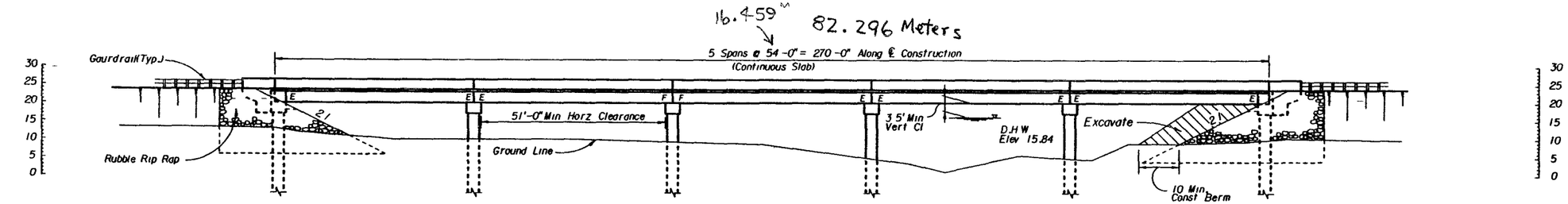
PROJECT NAME: SR 20 OVER APALACHICOLA RIVER

File: 801_14 09/08/95 10:05 c:\sdf\proj\sr20\alt1dsf.dgn

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-2



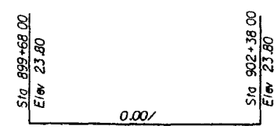
PLAN



ELEVATION

HORIZONTAL CURVE DATA

P.I Sta 907+70.79
Δ = 29°24'00"
D = 1°00'00"
T = 1503.18'
L = 2940.00
R = 5729.61'
e = 0.033 /FT



PROFILE GRADE

TRAFFIC DATA

ADT 1990 - 5990
ADT 2005 - 9300
K=12.6/
D=58.0/
T=5.0/
DESIGN SPEED - 65 MPH

NOTES

1 For Riprap details see Sheet B-1
2 See Sheet B-4 and B-5 for location of borings

BRIDGE NO 590048

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KMH	12/91
Checked by	PWG	12/91
Designed by	DKS	12/91
Checked by	PWG	12/91
Approved by		

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
DISTRICT 3
U.S. 90 East
Chipley, Florida 32428-9990

LOGO:

SEAL:

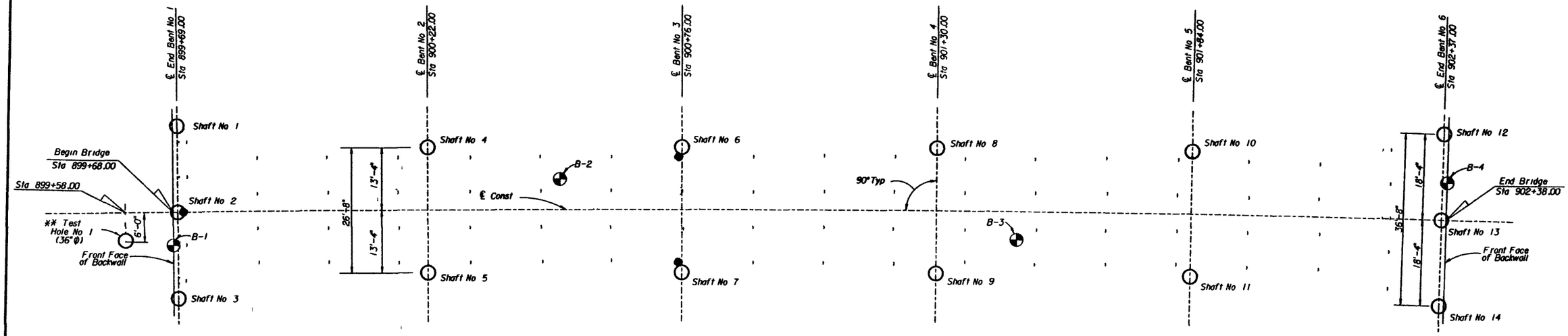
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO	COUNTY	PROJECT NO.
SR-61	WAKULLA	59010-3519

SHEET TITLE: GENERAL PLAN AND ELEVATION SHEET
Drawing No.
PROJECT NAME: SR-61 OVER LOST CREEK
Index No.

Tue Jul 27 06:02:03 1993 s:\2\pro\59010\1519\plan.dgn

FED. ROAD PROJ. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-6

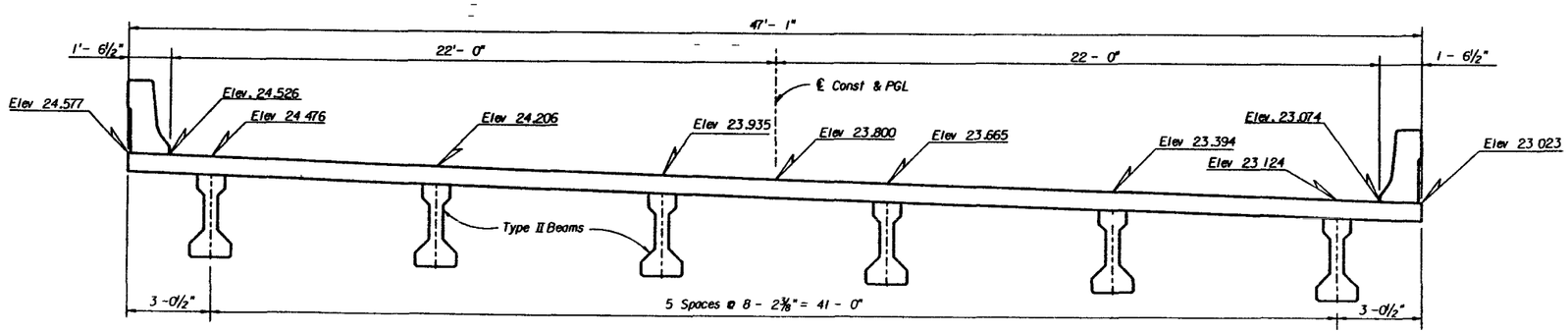


** NOTE: Test Hole location is subject to revision by the Engineer prior to commencement of work

LEGEND

- ○ Denotes 36" Dia Drilled Shaft
- ● * Denotes Existing Pile to be extracted prior to Drilled Shaft Construction
- ◌ * Denotes Existing Pile to be removed 2' below natural ground

* To be paid for under Item 110-3 (Removal of Existing Structures)



SECTION THRU SUPERSTRUCTURE
(Showing Finish Grade Elevations)

NOTES

1. See Sheet B-2 For Horizontal Curve Data
2. See sheets B-4 and B-5 for location of borings
3. Scour has been considered in the design with scour elevations of El_{500} and El_{100} as in the table below. Under no circumstances shall the shafts be installed to tip elevations above the minimum tip elevation required
4. The Test Shaft shall be reinforced. Cost of reinforcing cage to be include under Item No 455-91-3
5. The slump loss test as described in Section 346-3.2 of the Concrete Specification shall be performed at the job site

DRILLED SHAFT INSTALLATION TABLE

BENT	DESIGN LOAD (TONS)	REQUIRED TIP ELEV (FT.)	EL_{500} ① (FT.)	EL_{100} ② (FT.)
1	138	-23.00	*	*
2	226	-34.00	-2.2	-0.6
3	226	-34.00	-2.9	-1.3
4	226	-32.60	-7.1	-5.5
5	226	-32.40	-6.9	-5.3
6	138	-25.00	*	*

① Anticipated scour elevation for 500-Yr frequency
② Anticipated scour elevation for 100-Yr frequency
* No scour anticipated at End Bents

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KMH	12/91
Checked by	PWG	12/91
Designed by	DKS	12/91
Checked by	PWG	12/91
Approved by		

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
DISTRICT 3
U.S. 90 East
Chipley, Florida 32428-9990

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-61	WAKULLA	59010-3519

SHEET TITLE:
FOUNDATION LAYOUT AND FINISH GRADE ELEVATIONS

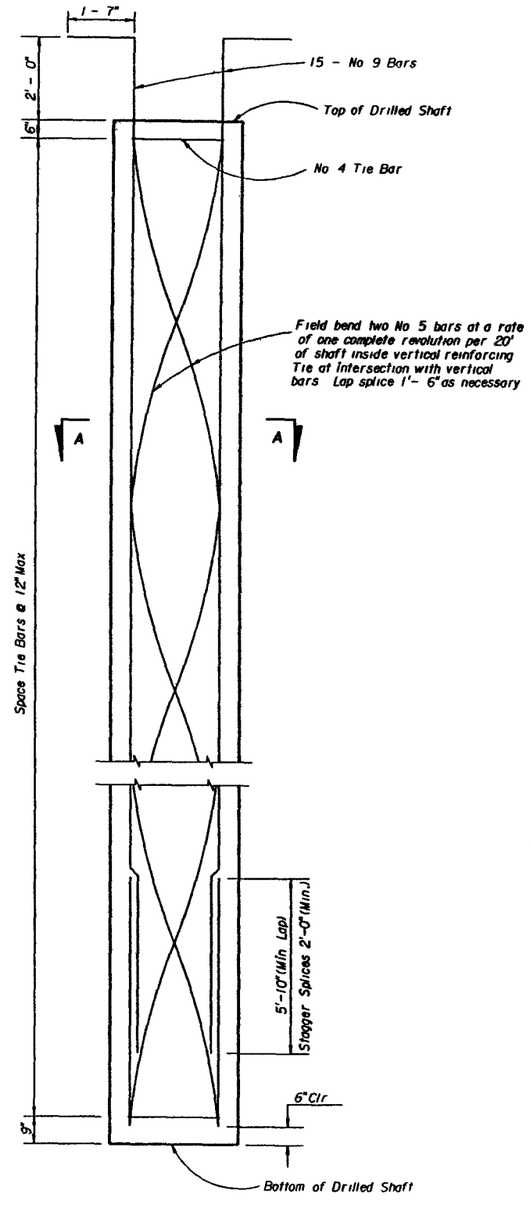
PROJECT NAME:
SR-61 OVER LOST CREEK

Drawing No.

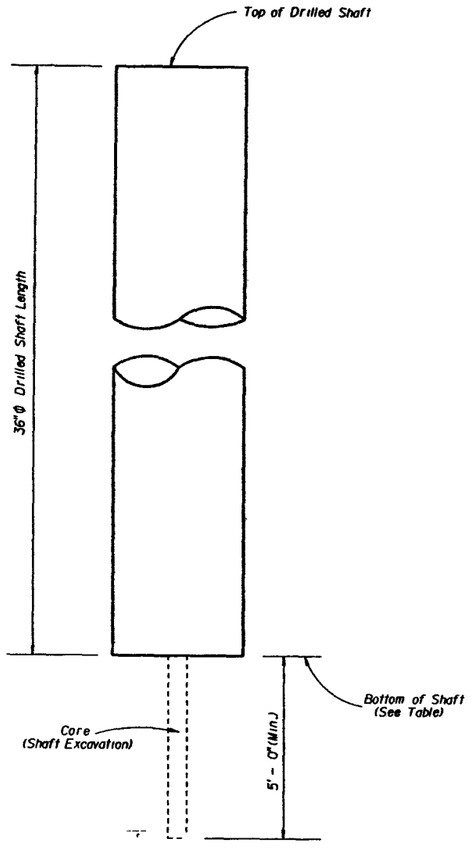
Index No.

Tue Jul 27 06:03:05 1993 .ust2/proj/59010/1519/layout.dgn

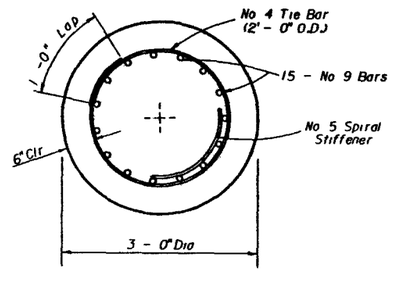
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-7



DRILLED SHAFT ELEVATION



DRILLED SHAFT DETAIL



SECTION A-A

TABLE OF ELEVATION AND SHAFT LENGTHS			
Shaft No	Top of Shaft Elev.	Bottom of Shaft Elev.	Length Per Shaft (Ft.)
1	17.023	-23.000	40.023
2	16.418	-23.000	39.418
3	15.813	-23.000	38.813
4	16.887	-34.000	50.887
5	16.007	-34.000	50.007
6	16.887	-34.000	50.887
7	16.007	-34.000	50.007
8	16.887	-32.600	49.487
9	16.007	-32.600	48.607
10	16.887	-32.400	49.287
11	16.007	-32.400	48.407
12	17.023	-25.000	42.023
13	16.418	-25.000	41.418
14	15.813	-25.000	40.813
TEST HOLE NO 1	17.000	-34.000	51.000

DRILLED SHAFT QUANTITIES PER LIN. FT.		
ITEM	UNIT	QUANTITY
Class III Concrete (Drilled Shaft)	C.Y.	0.26
*Reinforcing Steel (Substructure)	LB	58

*Quantity does not include lapsplice for No 9 vertical bars

NOTES:

1 Concrete for Drilled Shafts shall be Class III (Drilled Shaft)
2 Reinforcing Steel shall conform to ASTM A-615 Grade 60
3 The contractor shall perform a 4 to 6 inch diameter core run and/or a Standard Penetration Test boring continuous sampling for a minimum depth of 5 feet below the bottom of the drilled shaft excavation or as directed by the Engineer To be paid for under Item No 455-111 Any additional coring which exceeds the plan quantity will be paid at the contract price for coring
4 The contractor is required to construct an out of position test hole to demonstrate the adequacy of his construction technique and equipment The test hole location is indicated on the foundation layout sheet The test hole length is 51' with cutoff at elevation = 17.00' to be paid for under Item No 455-91-3

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Drilled Shaft (36"Φ) Item No 455-88-3	L F	640.08
Unclassified Shaft Excavation (36"Φ) Item No 455-122-3	L F	570.05
Extra Depth Excavation (36 Φ) Item No 455-125-3 *	L F	57.05
Core (Shaft Excavation) Item No 455-111	L F	70.00
Test Holes Item No 455-91-3	L F	51.00
Drilled Shaft Sidewall Overreaming Item No 455-124 *	L F	57.05
Class III Misc Item No 400-3-15 *	C.Y.	16.78

* Extra Depth Excavation Drilled Shaft Sidewall Overreaming and Class III Drilled Shaft Concrete are contingency items and are shown for bidding purposes only

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KMH	1/92
Checked by	PWG	1/92
Designed by	DKS	1/92
Checked by	PWG	1/92
Approved by		

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
DISTRICT 3
U.S. 90 East
Chipley, Florida 32428-9990

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR-61	WAKULLA	59010-3519

SHEET TITLE: DRILLED SHAFT DETAILS

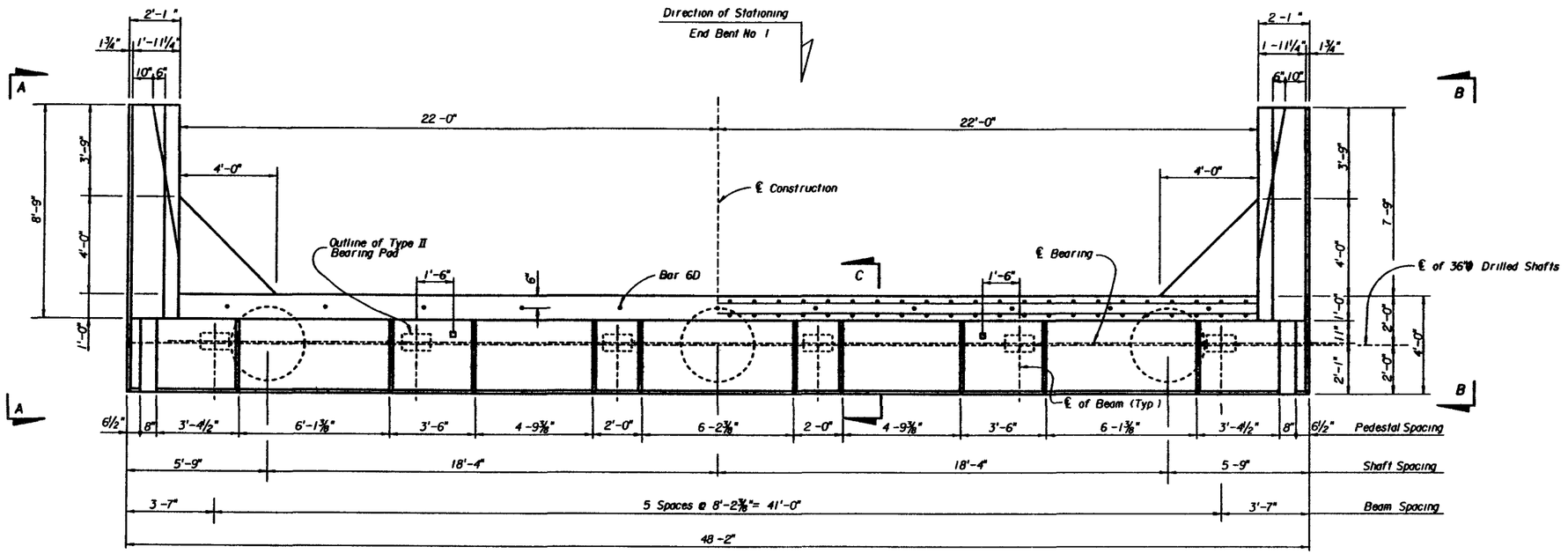
PROJECT NAME: SR-61 OVER LOST CREEK

Drawing No.

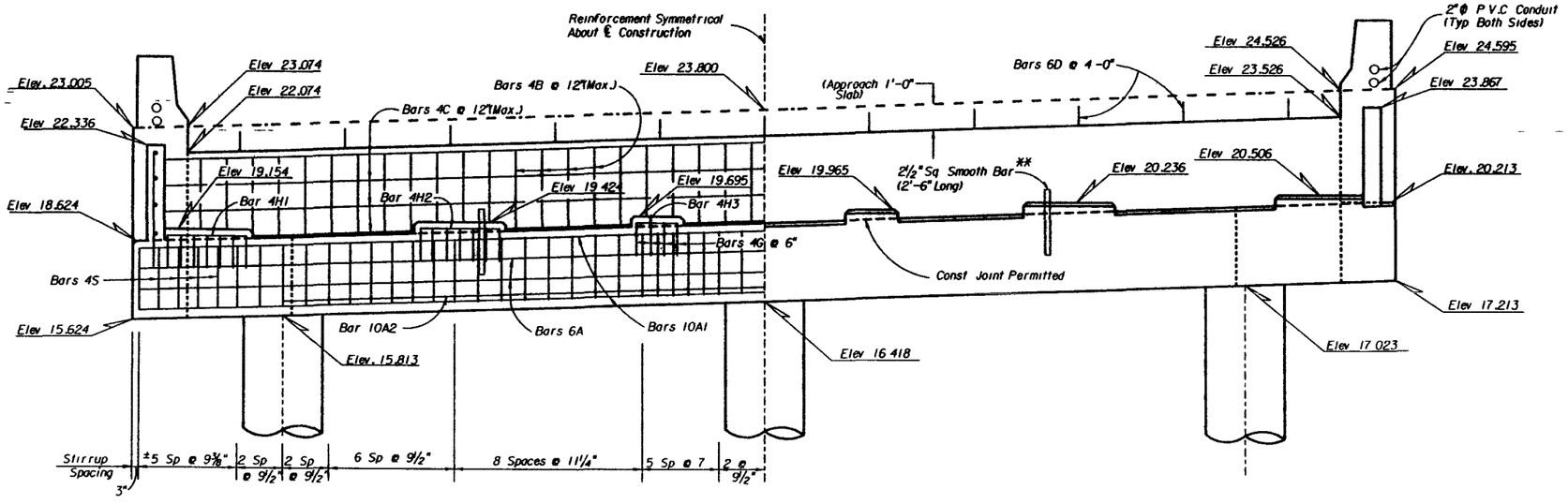
Index No.

/usr2/proj/59010/1519/shaft.dgn
Tue Jul 27 06:04:05 1993

FED. ROAD DES. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-8



PLAN



ELEVATION

CONCRETE BREAKDOWN (C.Y.)

Cap	25.85
Walls	11.53
Wing Post	2.39

*** ESTIMATED QUANTITIES**

ITEM	UNIT	QUANTITY
Class II Concrete (Substructure)	C.Y.	39.77
Reinforcing Steel (Substructure)	LB	5453

* Estimated Quantities are for one Bent only

** The cost of the 2½"Sq Bars to be included in the cost of Item No 460-2-15 (Structural Steel Misc.)

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	DKS	11/91
Checked by	PWG	11/91
Designed by	DKS	11/91
Checked by	PWG	11/91
Approved by		

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
DISTRICT 3
U.S. 90 East
Chipley, Florida 32428-9990

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
SR 61	WAKULLA	59010-3519

SHEET TITLE: END BENT NO. 1

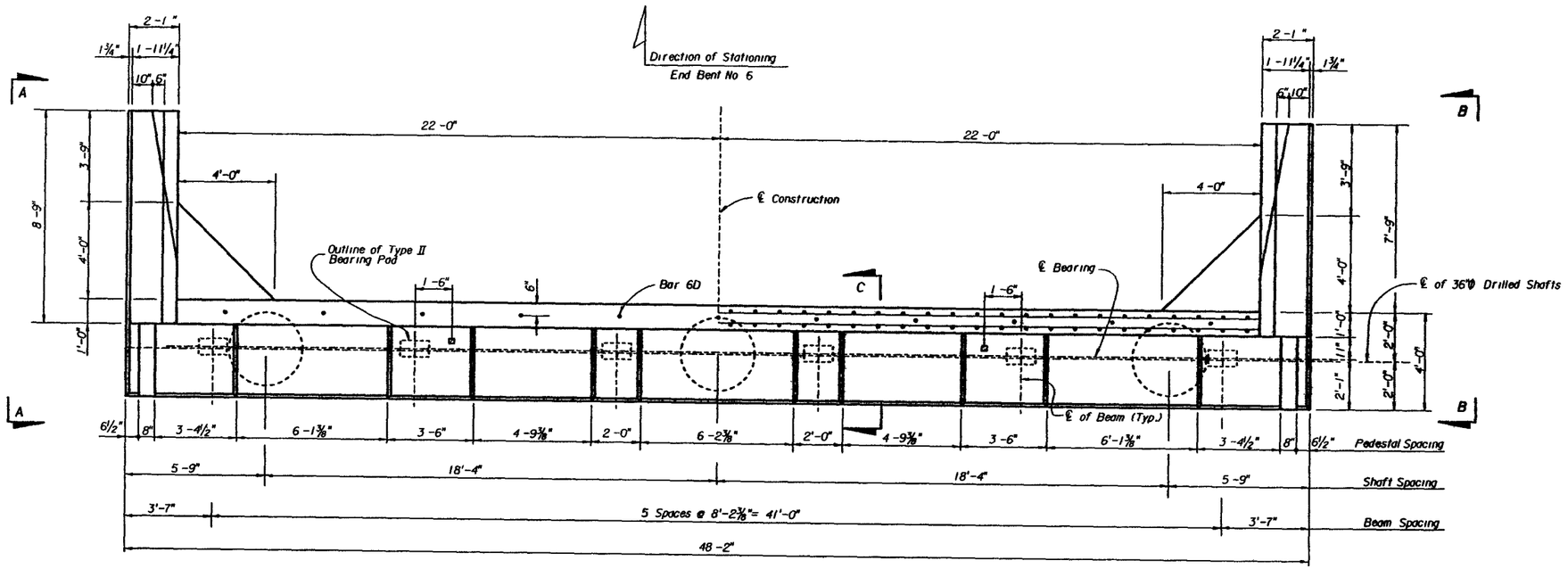
PROJECT NAME: SR-61 OVER LOST CREEK

Drawing No.

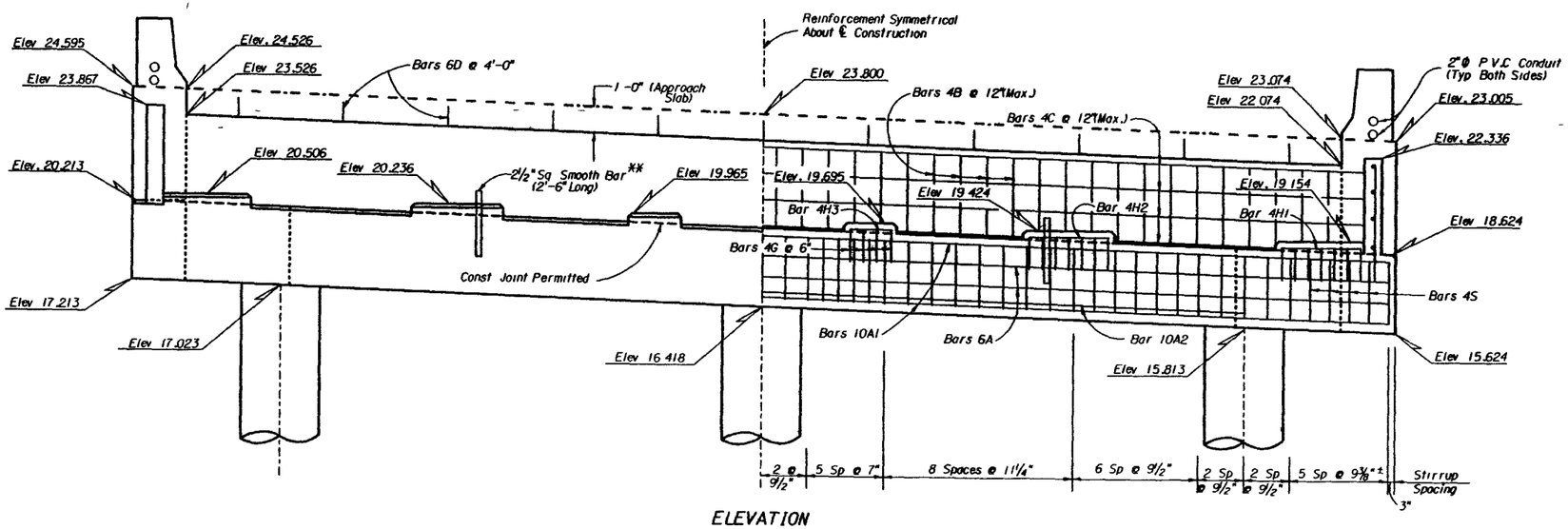
Index No.

Tue Jul 27 06:07:30 1993 /usr2/proj/59010/1519/endbent.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-9



PLAN



ELEVATION

CONCRETE BREAKDOWN (C.Y.)

Cap	25.85
Walls	11.53
Wing Post	2.39

* ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Class II Concrete (Substructure)	C.Y.	39.77
Reinforcing Steel (Substructure)	LB	5453

* Estimated Quantities are for one Bent only

** The cost of the 2½ Sq Bars to be included in the cost of Item No 460-2-15 (Structural Steel Misc.)

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	DKS	11/91
Checked by	PWG	11/91
Designed by	DKS	11/91
Checked by	PWG	11/91
Approved by		

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
DISTRICT 3
U.S. 90 East
Chipley, Florida 32428-9990

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO
SR 61	WAKULLA	59010-3519

SHEET TITLE: END BENT NO. 6

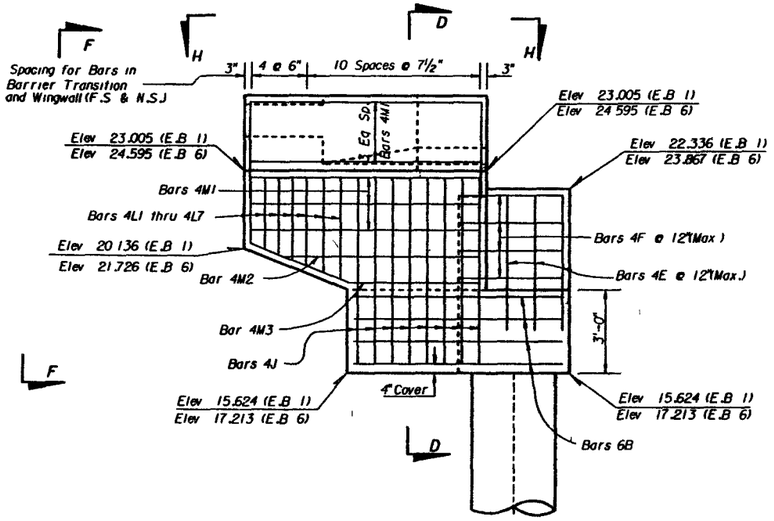
Drawing No.

PROJECT NAME: SR-61 OVER LOST CREEK

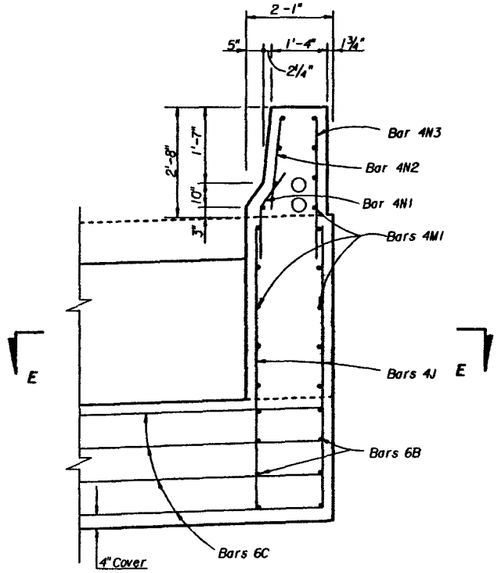
Index No.

Tue Jul 27 06:05:13 1993 /usr2/oro/59010/1519/endbent.dgn

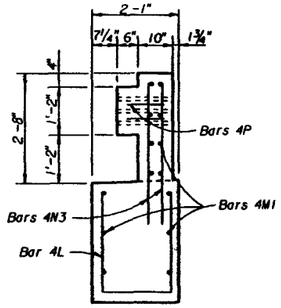
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-10



VIEW A-A



SECTION D-D



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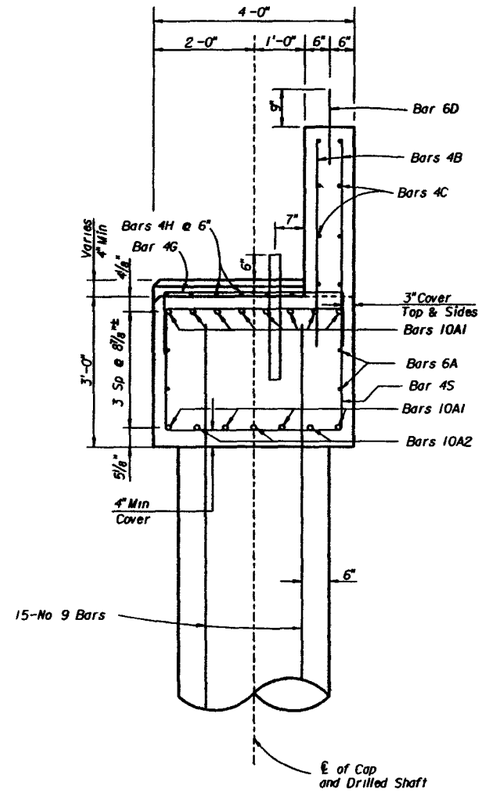

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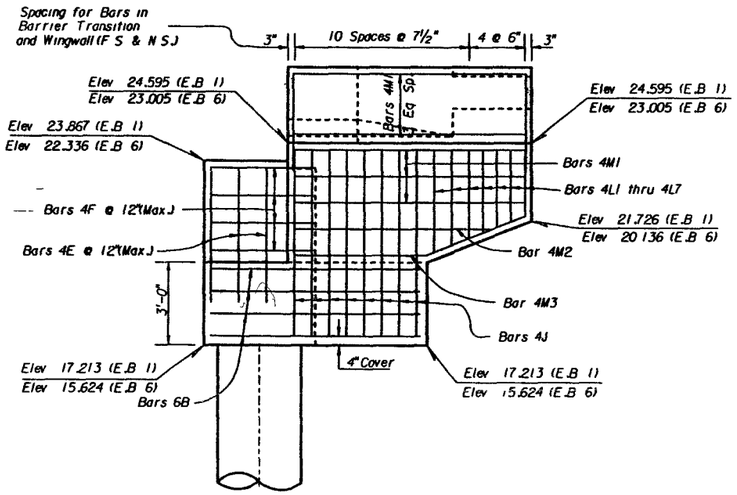
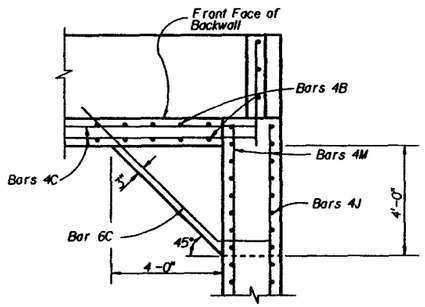
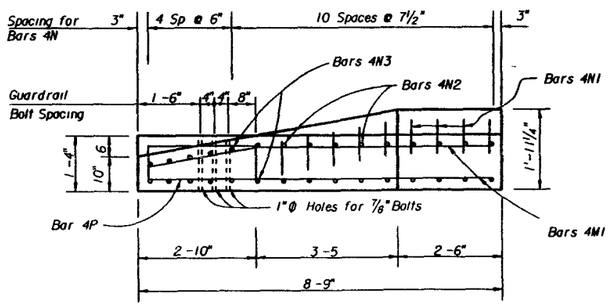


VIEW B-B



SECTION E-E



VIEW H-H

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	DKS	1/92
Checked by	PWG	1/92
Designed by	DKS	1/92
Checked by	PWG	1/92
Approved by		

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
DISTRICT 3
U.S. 90 East
Chipley, Florida 32428-9990

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO
SR-61	WAKULLA	59010-3519

SHEET TITLE: END BENT DETAILS

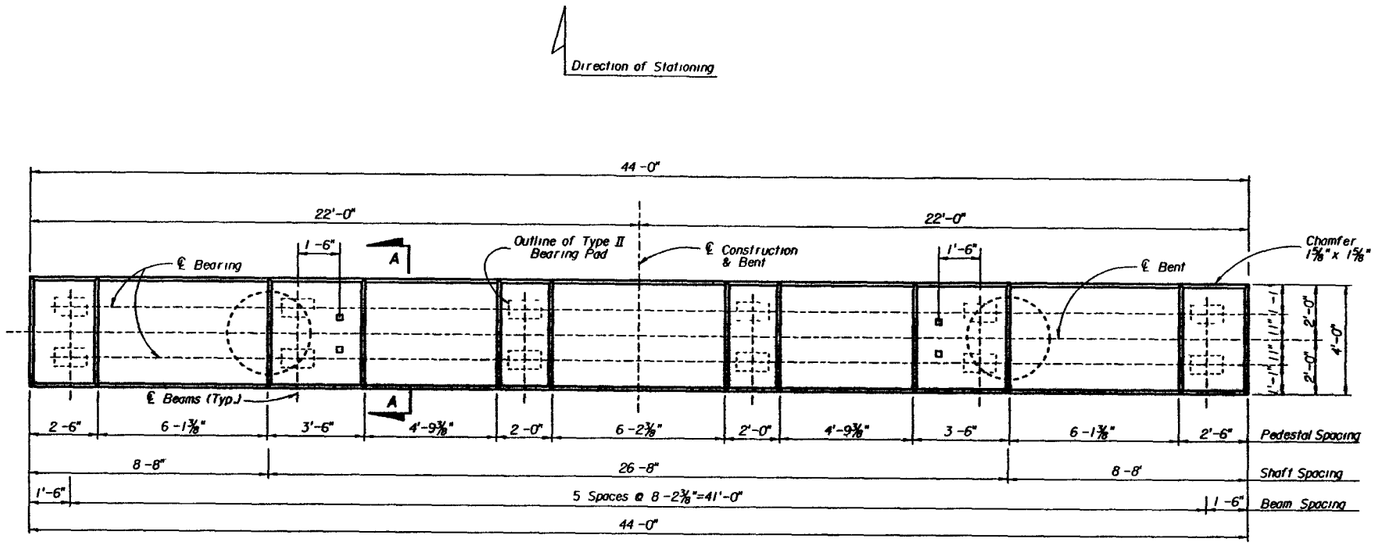
PROJECT NAME: SR-61 OVER LOST CREEK

Drawing No.

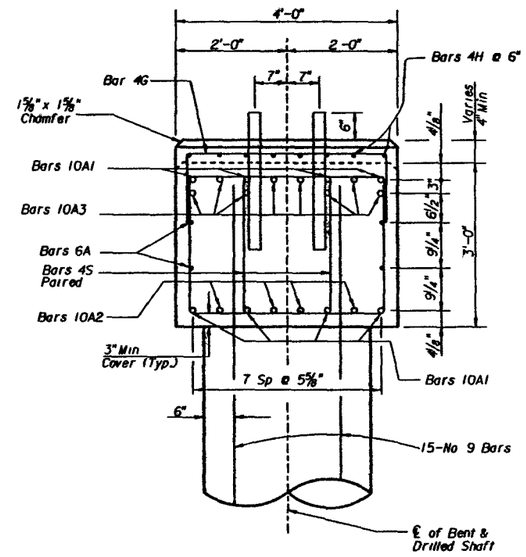
Index No.

Tue Jul 27 06:05:22 1993 /usr2/proj/59010/15/9/endbent.dgn

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA			B-11



PLAN



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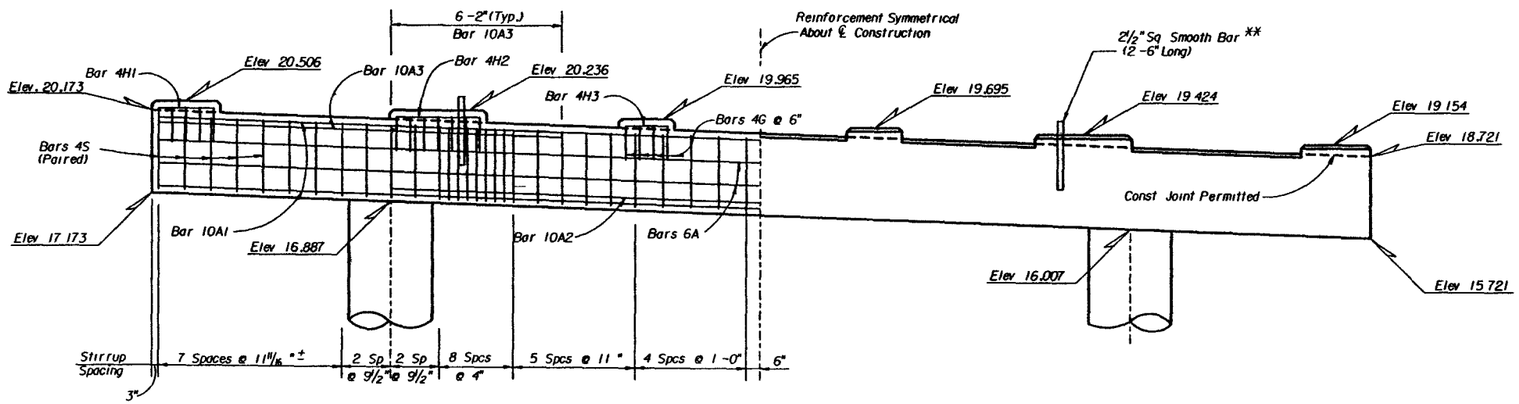


ELEVATION

* ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Class II Concrete (Substructure)	C.Y.	20.46
Reinforcing Steel (Substructure)	LB	4346

* Estimated Quantities are for one Bent only

** The cost of the 2½" Sq Bars to be included in the cost of Item No 460-2-15 (Structual Steel Misc.)

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	KMH	12/91
Checked by	PWG	12/91
Designed by	DKS	12/91
Checked by	PWG	12/91
Approved by		

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
DISTRICT 3
U.S. 90 East
Chipley, Florida 32428-9998

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO	COUNTY	PROJECT NO.
SR-61	WAKULLA	59010-3519

SHEET TITLE: INTERMEDIATE BENTS

Drawing No.

PROJECT NAME: SR 61 OVER LOST CREEK

Index No.

/usr2/proj/59010/1519/ibent.dgn
Tue Jul 27 06:08:31 1993

FISCAL YEAR	SHEET NO.
99	1

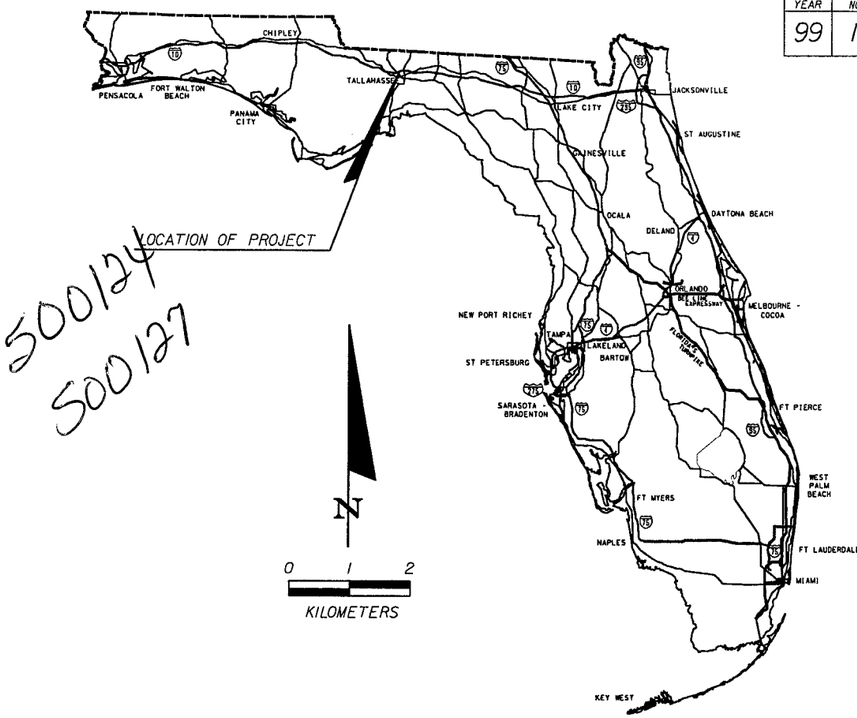
THIS CONTRACT PLAN SET INCLUDES

ROADWAY PLANS
SUMMARY OF PAY ITEMS (5 SHEETS)
SIGNING AND PAVEMENT MARKING PLANS
STRUCTURE PLANS

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT SET OF PLANS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
FINAL
CONTRACT PLANS

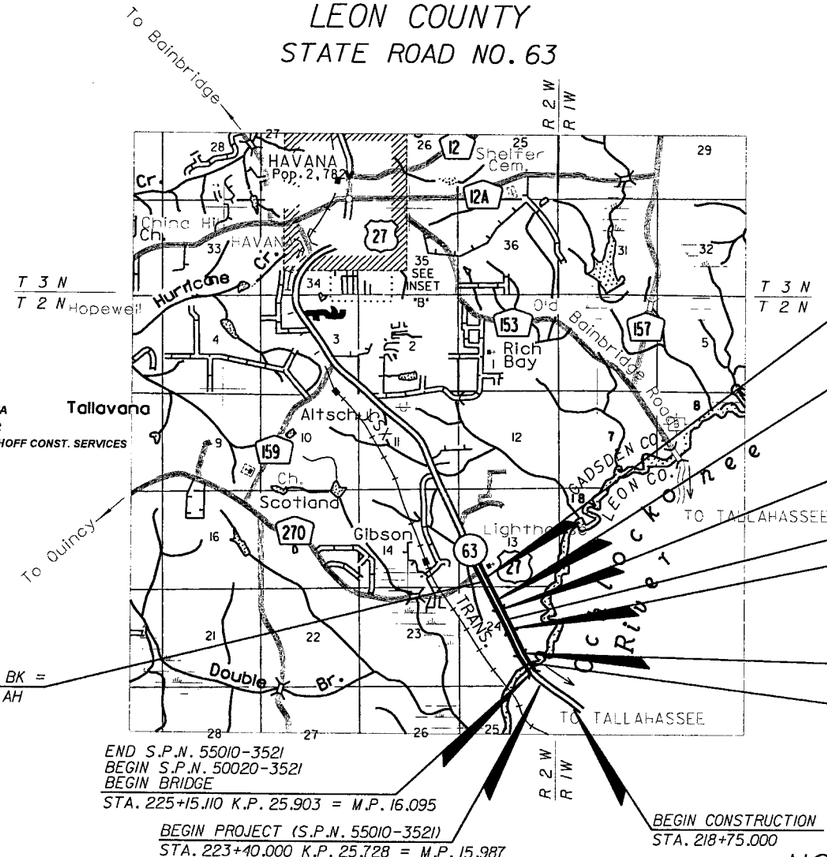
FINANCIAL PROJECT ID. 218944-1-52-01
STATE PROJECT NO. 50020-3521
GADSDEN COUNTY
FINANCIAL PROJECT ID. 218944-1-52-02
STATE PROJECT NO. 55010-3521
LEON COUNTY
STATE ROAD NO. 63



500124
500127

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	TYPICAL SECTIONS
3 - 5	SUMMARY OF QUANTITIES
6	DETAILS
7 - 7A	SUMMARY OF DRAINAGE STRUCTURES
8	PROJECT LAYOUT & GEOMETRY
9 - 14	PLAN AND PROFILE
15 - 17	DRAINAGE STRUCTURES
18A,18 - 29	ROADWAY SOIL SURVEY
30 - 42	CROSS SECTIONS
43 - 49	TRAFFIC CONTROL SHEETS
50 - 55	UTILITY ADJUSTMENTS
56	APPROACH SLABS
57 - 59	STORM WATER POLLUTION PROTECTION PLAN
60 - 61	GEOGRID DATA - NICOLON MIRAFI GROUP
62 - 71	GEOGRID DATA - TENSAR, SIERRA



STA. EQN 238+77.325 BK =
238+96.320 AH

END S.P.N. 55010-3521
BEGIN S.P.N. 50020-3521
BEGIN BRIDGE
STA. 225+15.110 K.P. 25.903 = M.P. 16.095

BEGIN PROJECT (S.P.N. 55010-3521)
STA. 223+40.000 K.P. 25.728 = M.P. 15.987

BEGIN CONSTRUCTION
STA. 218+75.000

END CONSTRUCTION
STA. 241+74.000

END PROJECT (S.P.N. 50020-3521)
STA. 236+89.492
K.P. 27.077 = M.P. 16.825

END BRIDGE
STA. 234+13.920
NB BRIDGE No. 500125
SB BRIDGE No. 500126

BEGIN BRIDGE
STA. 232+02.060

END BRIDGE
STA. 229+31.020
NB BRIDGE No. 500124
SB BRIDGE No. 500127

ROADWAY PLANS
ENGINEER OF RECORD

RICHARD C. WELCH, P.E.
1711 SOUTH 5TH STREET
JACKSONVILLE BEACH, FL. 32250

PLANS PREPARED BY

CONNELLY & WICKER INC.
1711 SOUTH 5TH STREET
JACKSONVILLE BEACH, FL. 32250
VENDOR * 592343737001

CONTRACTOR:	ANDERSON COLUMBIA
DESIGN CONSUTANT:	CONNELLY & WICKER
CEI:	PARSONS BRINCKERHOFF CONST. SERVICES
DISTRICT SECRETARY:	EDWARD PRESCOTT
RESIDENT ENGINEER:	BRYAN ESTOCK
PROJECT ENGINEER:	TY SMITH
WORK COMPLETED:	11/15/2001
WORK CONDITIONALLY ACCEPTED:	11/15/2001
WORK ACCEPTED:	11/15/2001

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS (BOOKLET DATED JANUARY, 1998).

THIS SET OF PLANS TO BE LET WITH FINANCIAL PROJECT ID.'S:
218944-1-56-01
218944-1-56-02

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

GOVERNING SPECIFICATIONS: STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, DATED 1999 SUPPLEMENTS AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

REVISIONS

3/19/99 RW REVISED NOTES ON SHEETS 4, 8, 43, 56, 61, 63 & A-6
4/15/99 DM REVISED NOTES 10 AND 11 ON SHEET B-34
4/15/99 DM REVISED NOTE 10 ON SHEET C-25

Bryan Estock 12/3/01

LENGTH OF PROJECT	METERS
ROADWAY	721.722
BRIDGES	627.770
NET LENGTH OF PROJ.	1349.492
EXCEPTIONS	0000.000
GROSS LENGTH OF PROJ.	1349.492

NOTE: THIS IS A METRIC UNIT PROJECT

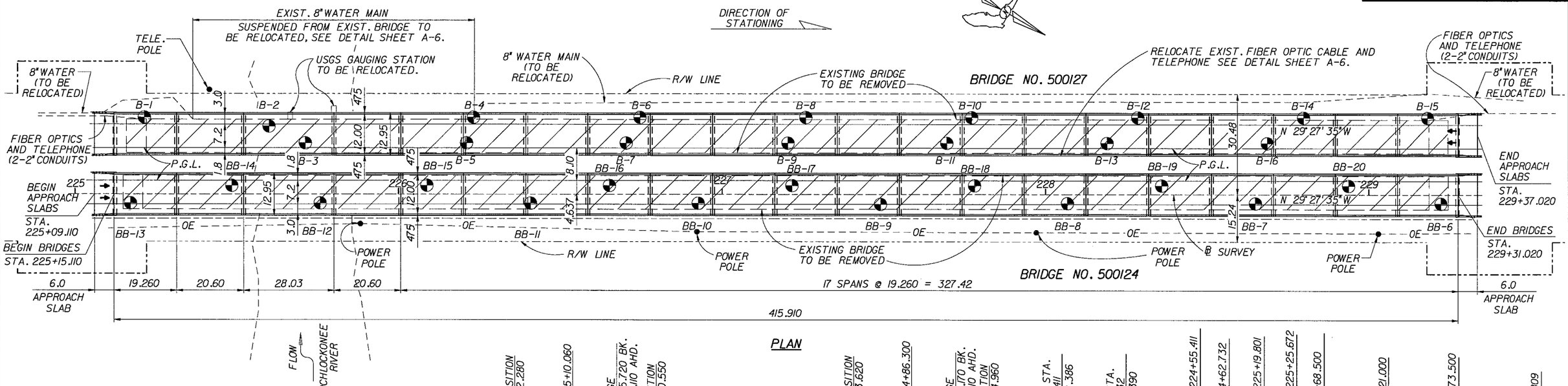
REVISIONS		
DATE	BY	DESCRIPTION

ROADWAY PLANS APPROVED BY: [signature]
DATE: 4/15/99
P.E. NO.: 40279

DESCRIPTION OF PROJECT:
S.R. 63 (U.S. 27), FROM OCHLOCKONEE BRIDGES TO BRIDGE No'S 500008, 500060, 500061, 500062.

FDOT PROJECT MANAGER : KIM WOLIVER, P.E. (PBS&J)

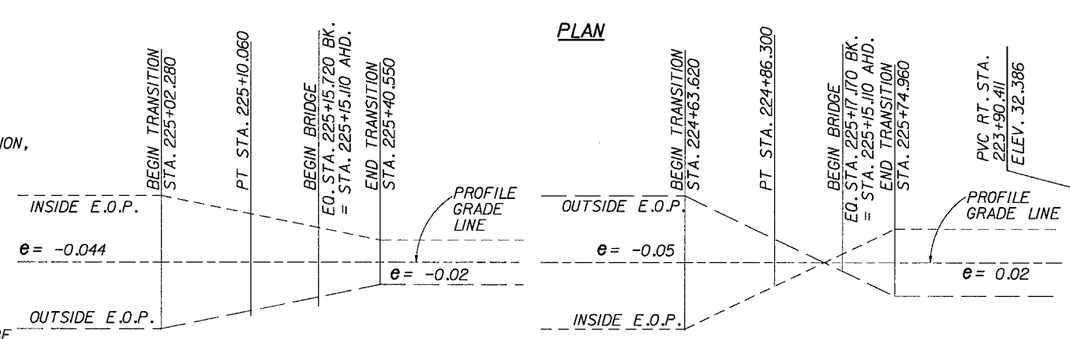
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	50020-3521		B-1



S.R. 63 TRAFFIC DATA
DESIGN SPEED 90 km/h

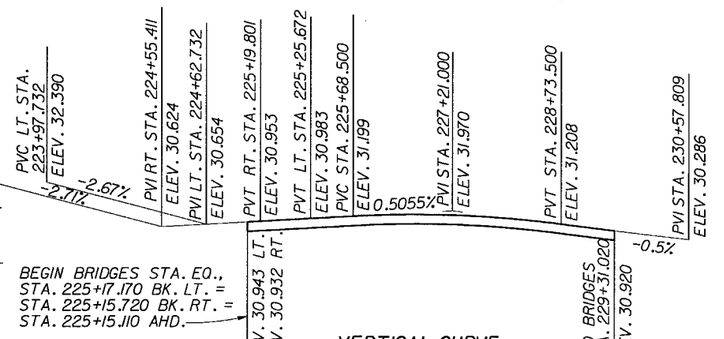
1990 FADT	= 12,400
1996 EST. ADT	= 14,800
2001 EST. ADT	= 17,150
2006 EST. ADT	= 19,600
2016 EST. ADT	= 24,450
K = 11.70%	
D = 50.16%	
T = 11% (24 HR.)	
T = 5% DES. HR.	
T = 4% DES. HR. HEAVY	
T = 1% DES. HR. MEDIUM	

1. FOR LIMITS OF RIPRAP SCOUR PROTECTION, SEE SHEET B-31.
2. APPROX. AREA OF EXIST. BRIDGES & APPROACH SLABS TO BE REMOVED = 8 468.8 m2.
3. SEE SHEETS B-4 THRU B-14 FOR BORING LOGS.
4. FOR APPROACH SLABS & GUARDRAIL SEE ROADWAY PLANS.
5. EXIST. POWER POLES WITH OVERHEAD ELECTRIC ARE TO BE REMOVED PRIOR TO CONSTRUCTION BY OTHERS.
6. ALL UTILITIES ARE EXIST. AND SHALL BE RELOCATED AS CALLED OUT ON PLAN.

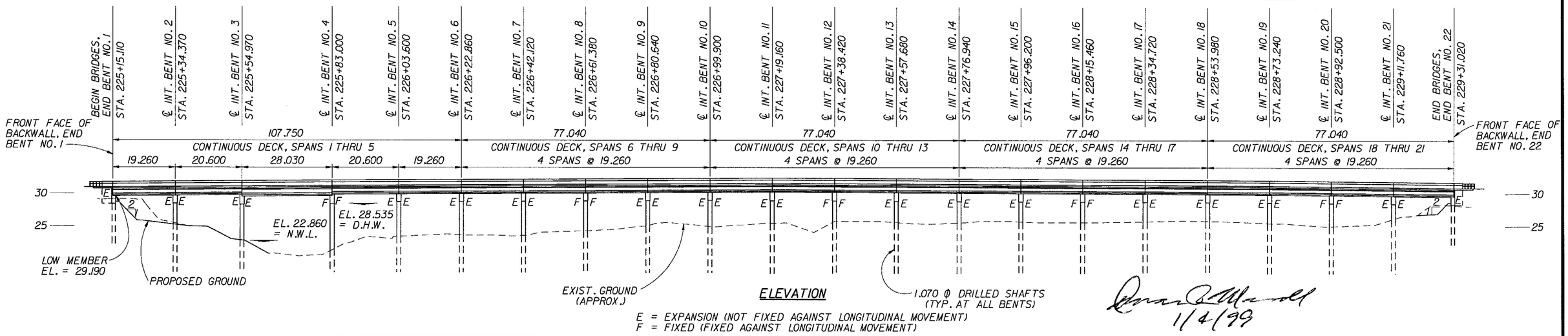


SUPERELEVATION TRANSITION DIAGRAM
BRIDGE NO. 500124

SUPERELEVATION TRANSITION DIAGRAM
BRIDGE NO. 500127



VERTICAL CURVE
PROFILE GRADE LINE
BRIDGE NO'S. 500124 & 500127



ELEVATION

E = EXPANSION (NOT FIXED AGAINST LONGITUDINAL MOVEMENT)
F = FIXED (FIXED AGAINST LONGITUDINAL MOVEMENT)

1/4/99

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.D.L.	9/98
Checked by	L.W.M.	9/98
Designed by	D.R.M.	9/98
Checked by	W.H.M.	9/98
Approved by	D.R.MERRELL	

ENGINEER OF RECORD:
DUANE R. MERRELL
P.O. Box 51343
Jacksonville Beach, Florida
32240-1343

LOGO:
Connelly & Wicker Inc.
Consulting Engineers
Jacksonville Beach, Florida

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-52-01

SHEET TITLE: PLAN AND ELEVATION

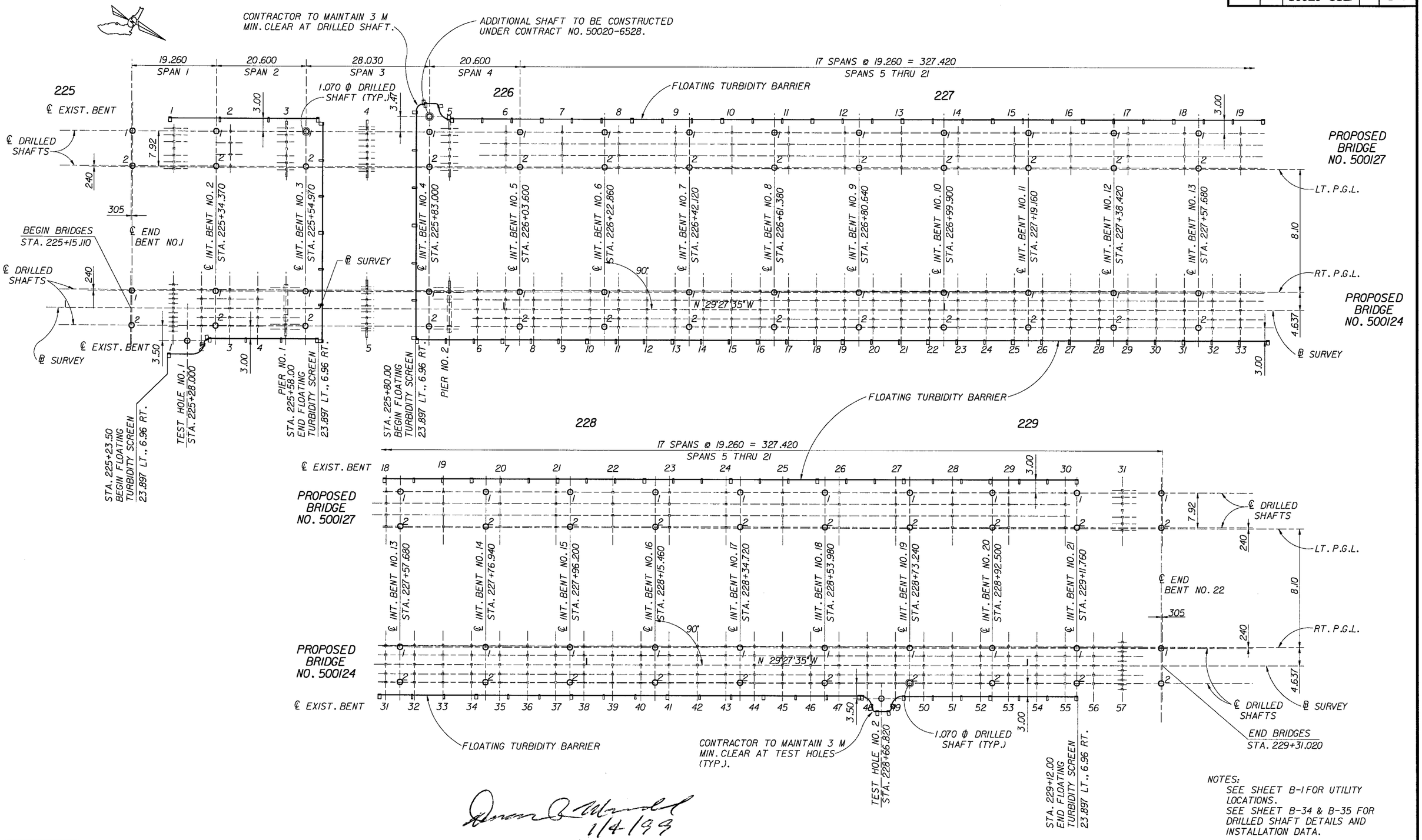
PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER BRIDGE NO'S. 500124 & 500127

Drawing No.

Index No.

J:\92\9208-7\STRUCT\MAIN\PLELDGN 8DEC98 9:12:50 SCALE:600 USER:

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	50020-3521		B-15



NOTES:
SEE SHEET B-1 FOR UTILITY LOCATIONS.
SEE SHEET B-34 & B-35 FOR DRILLED SHAFT DETAILS AND INSTALLATION DATA.

Duane R. Merrell
1/4/99

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.D.L.	9/98
Checked by	L.W.M.	9/98
Designed by	D.R.M.	9/98
Checked by	W.H.M.	9/98
Approved by	D.R.MERRELL	

ENGINEER OF RECORD:
DUANE R. MERRELL
P.O. Box 51343
Jacksonville Beach, Florida
32240-1343

LOGO: Connelly & Wicker Inc. Consulting Engineers
Jacksonville Beach, Florida

SEAL:

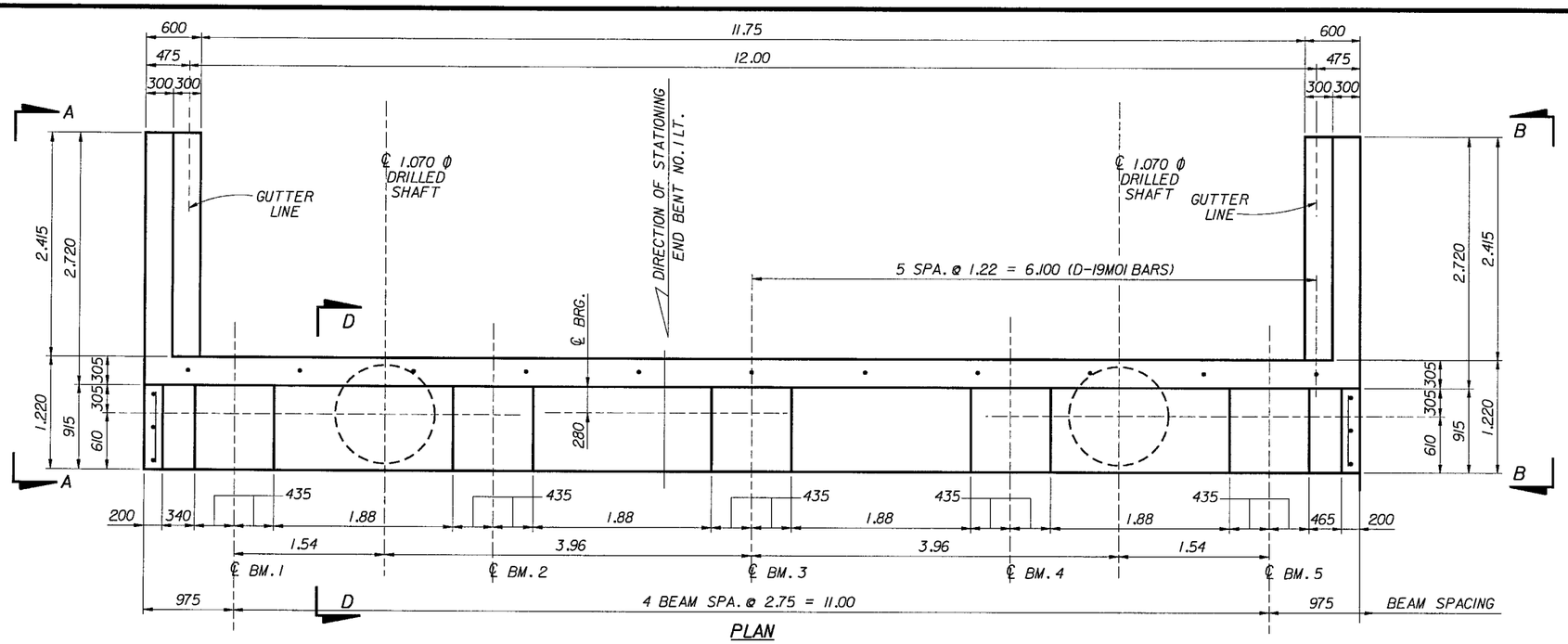
FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-52-01

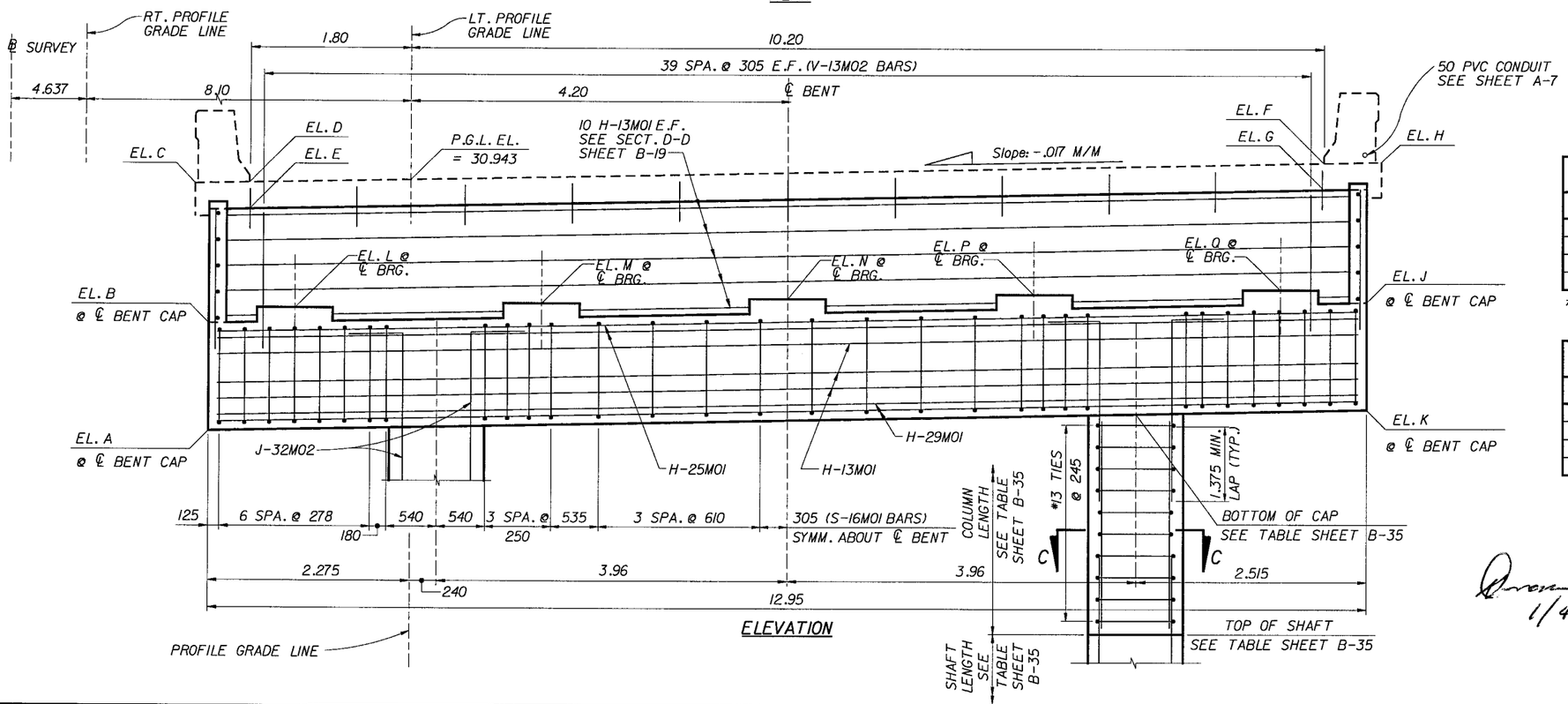
SHEET TITLE: FOUNDATION PLAN & TURBIDITY BARRIER LOCATIONS
Drawing No.
PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER BRIDGE NOS. 500124 & 500127
Index No.

C98 13:47:27 SCALE:400 USER:
STRUCT\MAINFDLOD

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	50020-3521		B-16



PLAN



ELEVATION

ELEVATIONS	
LOCATION	E. B. NO. 1 LT.
EL. A	28.093
EL. B	29.313
EL. C	30.904
EL. D	30.912
EL. E	30.607
EL. F	31.116
EL. G	30.811
EL. H	31.124
EL. J	29.530
EL. K	28.310
EL. L	29.494
EL. M	29.540
EL. N	29.586
EL. P	29.632
EL. Q	29.678

UNLESS OTHERWISE NOTED ALL ELEVATIONS ARE TAKEN AT THE FRONT FACE OF THE BACKWALL

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Class IV Concrete (Substructure)	m3	34.6
Reinforcing Steel (Substructure) *	kg	3 353

* Includes 313 kg for column steel, see estimated quantities (per lin. meter) sheet B-34.

BREAKDOWN OF CONCRETE QUANTITIES		
ITEM	UNIT	QUANTITY
Shaft Cap & Wing Footing	m3	23.5
Back Wall	m3	5.2
Wing Wall & Cheek Wall (both sides)	m3	2.4
Columns (3.898)	m3	3.5

Duane R. Merrell
1/4/99

NOTES:
FOR VIEWS A-A, B-B & SECTION D-D SEE SHEET NO. B-19.
FOR SECTION C-C SEE SHEET NO. B-34.
FOR PEDESTAL REINFORCING SEE SHEET NO. B-18.

J:\92\9208\STRUCTMAIN\EBNT1LT.DGN 8DEC98 15:19:36 SCALE:.30 USER:

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.D.L.	9/98
Checked by	L.W.M.	9/98
Designed by	D.R.M.	9/98
Checked by	W.H.M.	9/98
Approved by	D.R.MERRELL	

ENGINEER OF RECORD:
DUANE R. MERRELL
P.O. Box 51343
Jacksonville Beach, Florida
32240-1343

LOGO:
Connelly & Wicker Inc.
Consulting Engineers
Jacksonville Beach, Florida

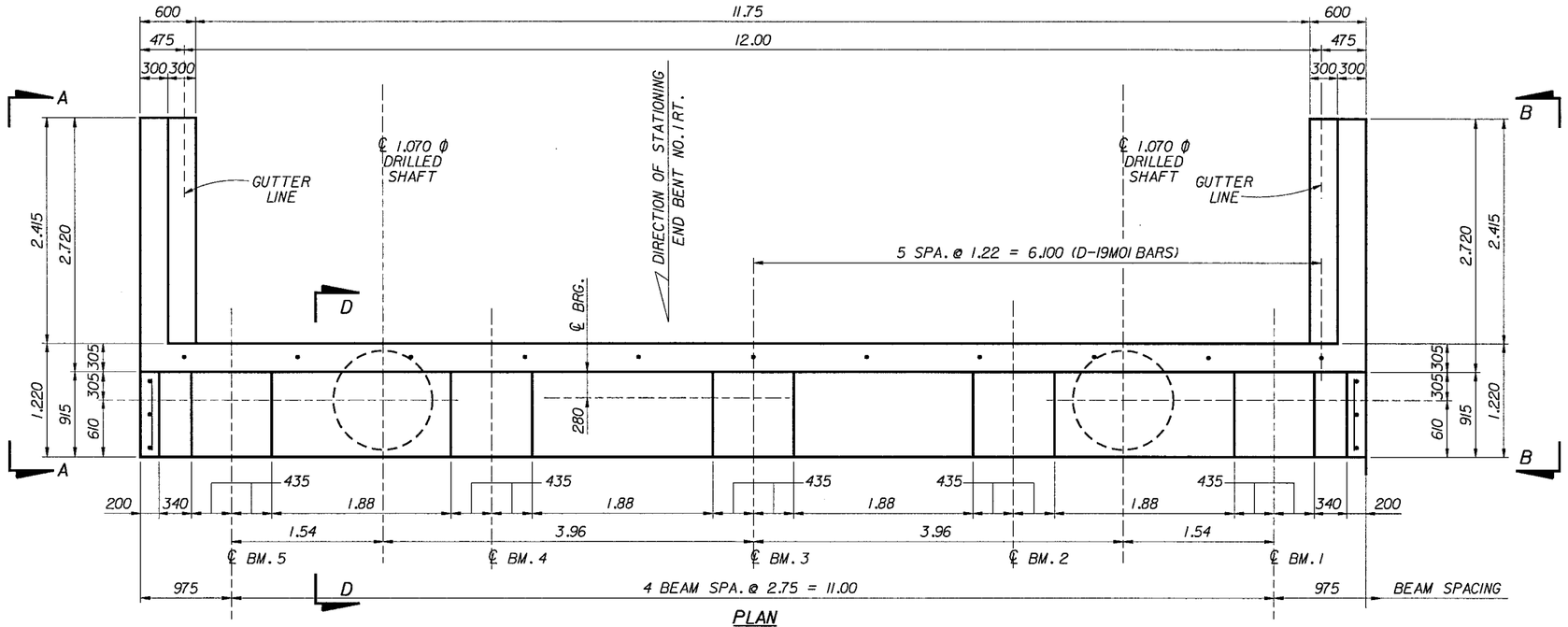
SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

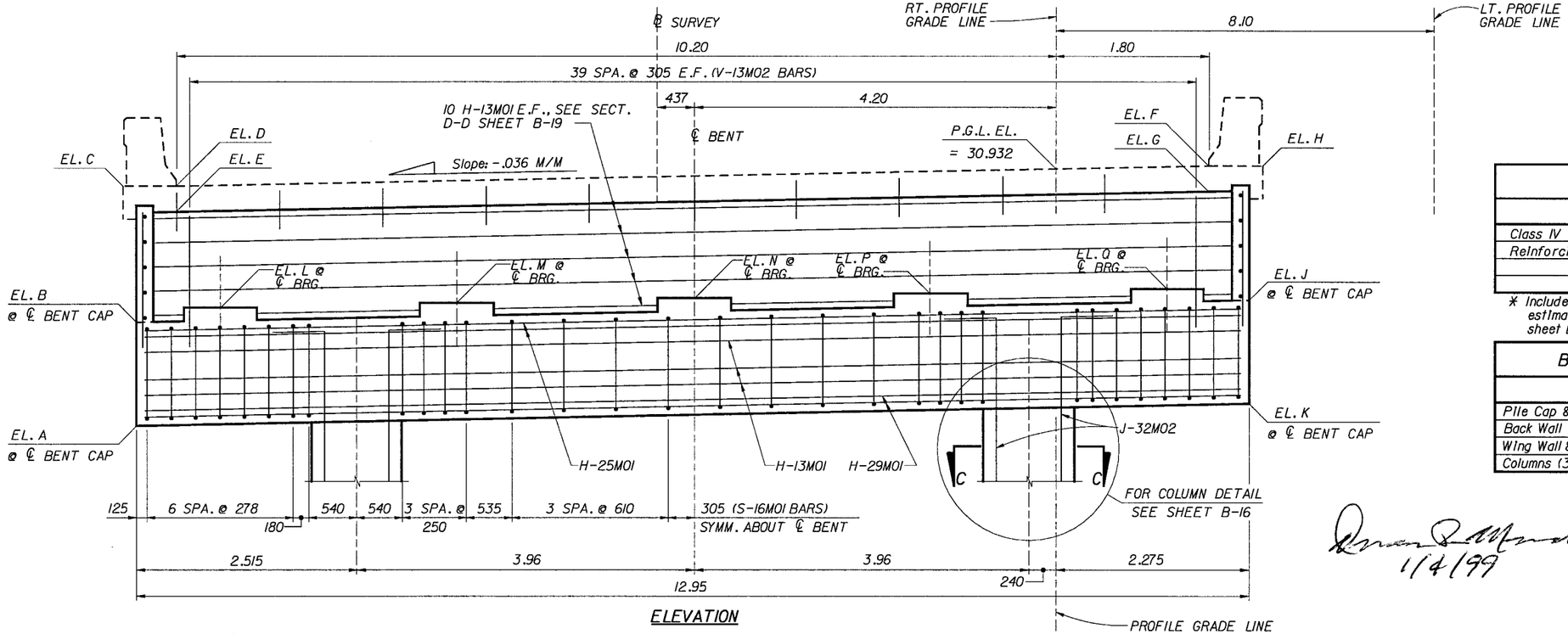
ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-52-01

SHEET TITLE: END BENT NO. 1 LT.
Drawing No.
PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER BRIDGE NO. 500127
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	50020-3521		B-17



PLAN



ELEVATION

ELEVATIONS	
LOCATION	E. B. NO. 1 RT.
EL. A	27.742
EL. B	28.962
EL. C	30.551
EL. D	30.567
EL. E	30.262
EL. F	30.996
EL. G	30.691
EL. H	31.013
EL. J	29.422
EL. K	28.202
EL. L	29.160
EL. M	29.258
EL. N	29.356
EL. P	29.453
EL. Q	29.551

UNLESS OTHERWISE NOTED ALL ELEVATIONS ARE TAKEN AT THE FRONT FACE OF THE BACKWALL

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Class IV Concrete (Substructure)	m3	34.2
Reinforcing Steel (Substructure) *	kg	3 317

* Includes 277 kg for column steel, see estimated quantities (per lin. meter) sheet B-34.

BREAKDOWN OF CONCRETE QUANTITIES		
ITEM	UNIT	QUANTITY
Pile Cap & Wing Footing	m3	23.5
Back Wall	m3	5.2
Wing Wall & Cheek Wall (both sides)	m3	2.4
Columns (3.443)	m3	3.1

Duane R. Merrell
1/4/99

NOTES:
FOR PEDESTAL REINFORCING SEE SHEET B-18.
FOR VIEWS A-A, B-B & SECTION D-D SEE SHEET NO. B-19.
FOR SECTION C-C SEE SHEET NO. B-34.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.D.L.	9/98
Checked by	L.W.M.	9/98
Designed by	D.R.M.	9/98
Checked by	W.H.M.	9/98
Approved by	D.R.MERRELL	

ENGINEER OF RECORD:
DUANE R. MERRELL
P.O. Box 51343
Jacksonville Beach, Florida
32240-1343

LOGO:
Connelly & Wicker Inc. Consulting Engineers
Jacksonville Beach, Florida

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-52-01

SHEET TITLE: END BENT NO. 1 RT.

Drawing No.

PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER BRIDGE NO. 500124

Index No.

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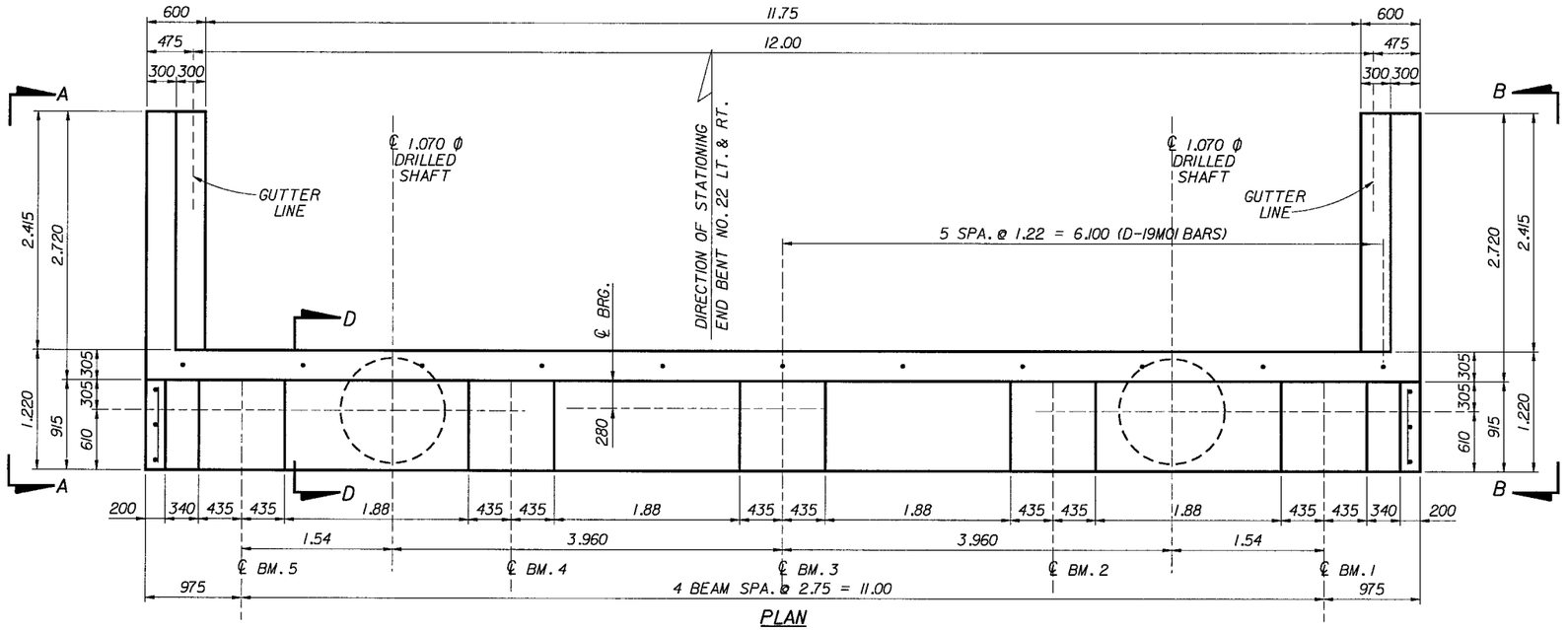
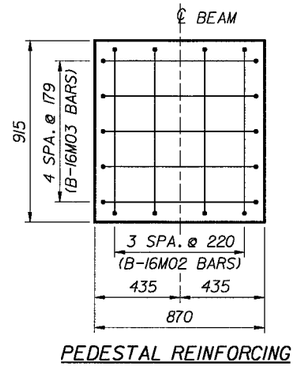
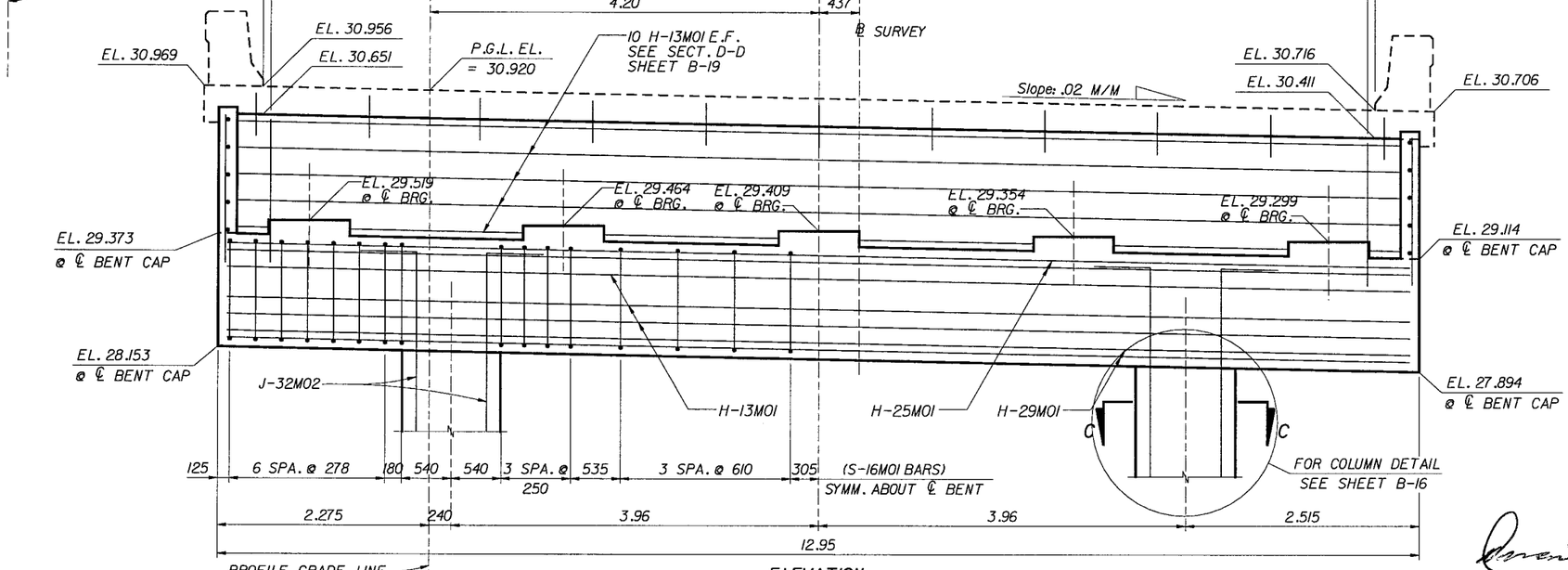
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	50020-3521		B-18



PLAN



PEDESTAL REINFORCING



ELEVATION

NOTE: UNLESS NOTED OTHERWISE ALL ELEVATIONS ARE TAKEN AT THE FRONT FACE OF BACKWALL.

ESTIMATED QUANTITIES *		
ITEM	UNIT	QUANTITY
Class IV Concrete (Substructure)	m3	34.2
Reinforcing Steel (Substructure) **	kg	3 326

* Quantities shown are for one end bent only (2 req'd.)
** Includes 286 kg for column steel, see estimated quantities (per lin. meter) sheet B-34.

BREAKDOWN OF CONCRETE QUANTITIES		
ITEM	UNIT	QUANTITY
Pile Cap & Wing Footing	m3	23.5
Back Wall	m3	5.1
Wing Wall & Cheek Wall (both sides)	m3	2.4
Columns (3.548)	m3	3.2

Duane R. Merrell
1/4/99

NOTES:
FOR VIEWS A-A, B-B & SECTION D-D SEE SHEET NO. B-19.
FOR SECTION C-C SEE SHEET NO. B-34.

J:\92\9208-7\STRUCT\MAIN\EBNT22.DGN 8DEC98 15:29:46 SCALE:30 USER:

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.D.L.	9/98
Checked by	L.W.M.	9/98
Designed by	D.R.M.	9/98
Checked by	W.H.M.	9/98
Approved by	D.R. MERRELL	

ENGINEER OF RECORD:
DUANE R. MERRELL
P.O. Box 51343
Jacksonville Beach, Florida
32240-1343

LOGO: Connelly & Wicker Inc. Consulting Engineers, Jacksonville Beach, Florida

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-52-01

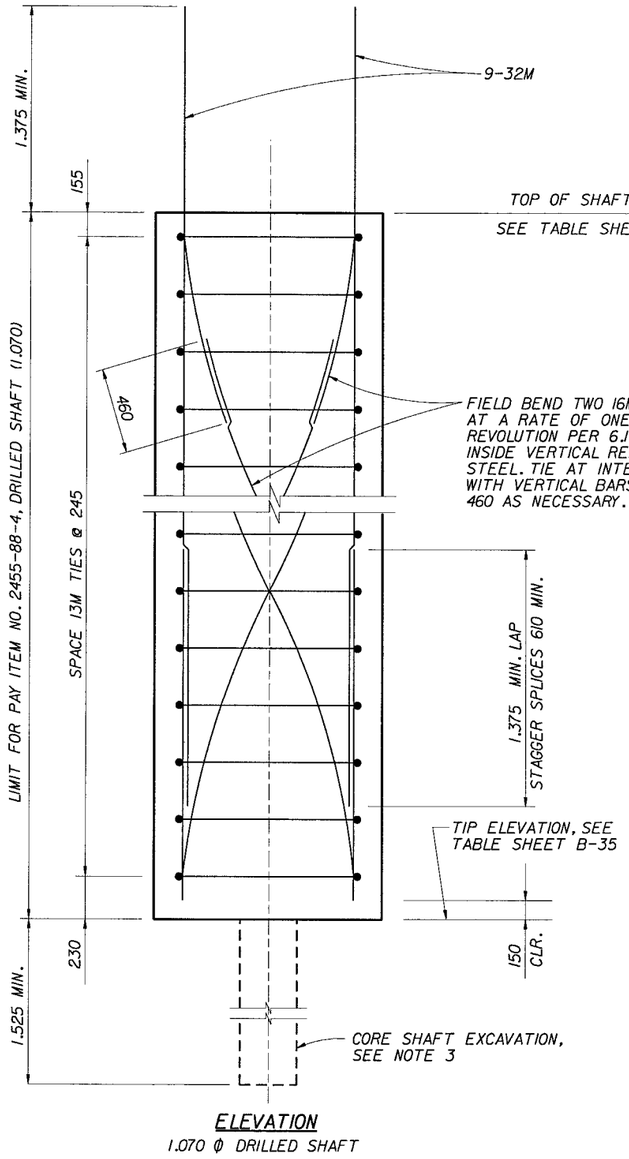
SHEET TITLE: END BENT NO. 22 RT.
END BENT NO. 22 LT. OPPOSITE HAND

Drawing No.

PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER
BRIDGE NO'S. 500124 & 500127

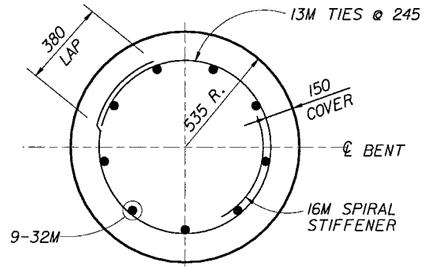
Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	50020-3521		B-34



ELEVATION

1.070 ϕ DRILLED SHAFT



SECTION C-C

1.070 ϕ DRILLED SHAFT

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Drilled Shaft (1.070) Item No. 2455-88-4	m	1418.3
Core Shaft Excavation Item No. 2455-111	m	238.0
Unclassified Shaft Excavation (1.070) Item No. 2455-122-4	m	1279.4
Drilled Shaft Sidewall Overreaming (1.070) Item No. 2455-124 *	m	141.9
Extra Depth Excavation (1.070) Item No. 2455-125-4 *	m	141.9

* Drilled Shaft Sidewall Overreaming and Extra Depth Excavation are contingency items and are for bidding purposes only.

NOTES:

1. CONCRETE FOR DRILLED SHAFTS SHALL BE CLASS IV (DRILLED SHAFT).
2. REINFORCING STEEL SHOWN SHALL CONFORM TO ASTM A-615M, GRADE 420 (Fy = 400MPa) AND SHALL BE PAID FOR UNDER PAY ITEM NO. 2455-88-4, DRILLED SHAFT.
3. THE CONTRACTOR SHALL PERFORM A 100 TO 150 DIAMETER SHAFT CORE AND/OR A STANDARD PENETRATION TEST BORING, CONTINUOUS SAMPLING, FOR A MINIMUM DEPTH OF 1.525 METERS BELOW THE BOTTOM OF THE DRILLED SHAFT EXCAVATION OR AS DIRECTED BY THE ENGINEER. THE CORE BARREL SHOULD BE DESIGNED SO THAT THE SAMPLE OF MATERIAL CORED CAN BE REMOVED FROM THE SHAFT EXCAVATION AND CORE BARREL IN AN UNDISTURBED STATE AND IN SUFFICIENT LENGTH TO PROVIDE CORE SAMPLES UP TO A DEPTH OF 6.1 METERS BELOW THE BOTTOM OF THE DRILLED SHAFT EXCAVATION.
4. THE CONTRACTOR IS REQUIRED TO CONSTRUCT TWO OUT OF POSITION TEST HOLES TO DEMONSTRATE THE ADEQUACY OF CONSTRUCTION METHODS AND EQUIPMENT. THE TEST HOLE LOCATIONS SHALL BE AS LOCATED ON THE FOUNDATION LAYOUT SHEET OR AS DIRECTED BY THE ENGINEER AND SHALL BE REINFORCED. THE TEST HOLE LENGTHS ARE SHOWN IN THE TABLE. IF THE TEST HOLES ARE RELOCATED FROM THOSE SHOWN, THE ELEVATIONS AND SHAFT LENGTHS MAY VARY FROM THOSE SHOWN IN THE TABLE.
5. DRILLED SHAFTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION SECTION 455, STRUCTURES FOUNDATIONS - DRILLED SHAFTS.
6. THE MINIMUM TIP ELEVATIONS SHOWN IN THE TABLE ARE BASED ON THE BORING LOGS. THE ACTUAL GROUND LINE AND ROCK LINE ELEVATIONS MAY VARY. THE CONTRACTOR SHALL MAINTAIN THE MINIMUM ROCK SOCKET LENGTH AS NOTED ON THESE PLANS. MINIMUM ROCK SOCKET LENGTH SHOWN IS THAT REQUIRED TO RESIST LATERAL LOADS AND/OR TO DEVELOP AXIAL CAPACITY.
7. SLURRY TANKS AND DE-SANDING EQUIPMENT SHALL BE REQUIRED, AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 455.
8. SLUMP LOSS TEST SHALL BE PERFORMED AT THE SITE.
9. CORING SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D 2113 STANDARD PRACTICE FOR DIAMOND CORE DRILLING FOR SITE INVESTIGATION, EXCEPT THAT A SINGLE-TUBE CORE BARREL WILL NOT BE ALLOWED FOR CORING AND RETRIEVING THE UNDISTURBED SAMPLES PRODUCED DURING THE CORE (SHAFT EXCAVATION).
10. A BORING USING STANDARD PENETRATION TESTING AND ROCK CORING, IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION'S "SOILS AND FOUNDATION MANUAL" (TOPIC NO.: 675-020-012-d), SHALL BE PERFORMED AT EACH OF THE SHAFTS FOR BENTS 1 AND 10 OF STRUCTURE NO. 500127. THE CONTRACTOR SHALL SUPPLY THESE TESTS AT NO ADDITIONAL COST PER METER TO THE DEPARTMENT ABOVE THAT BID FOR CORE (SHAFT EXCAVATION). THE COST OF ROTARY WASHING TO THE SCOUR ELEVATION SHALL BE INCLUDED IN THE COST OF CORE (SHAFT EXCAVATION). THE ESTIMATED LENGTH OF THE BORINGS (EXCLUDING THE ROTARY WASHING LENGTH) AT EACH BENT IS 31.0 METERS.
11. AT THE DIRECTION OF THE ENGINEER, SHAFTS WILL BE INSPECTED PRIOR TO PLACEMENT OF CONCRETE USING THE DEPARTMENT'S SHAFT INSPECTION DEVICE (SID).

ESTIMATED QUANTITIES (PER LIN. METER)		
ITEM	UNIT	QUANTITY
Class IV Concrete (Drilled Shaft)	m3	0.899
Reinforcing Steel (Drilled Shaft)	kg	80.56

Quantity does not include lap splice for No. 32 Vertical Bars. These Quantities are provided for information only. The cost of Concrete and Reinforcing steel shall be included in the Contract Unit Price for Drilled Shafts.

J:\92\9208-7\STRUCT\MAIN\DRSHFT1.DGN 31DEC98 6:17:06 SCALE:20 USER:

REVISIONS					
Date	By	Description	Date	By	Description
4/99	DRM	REVISED NOTES 10 AND 11			

	Names	Dates
Drawn by	E.D.L.	4/99
Checked by	L.W.M.	4/99
Designed by	D.R.M.	4/99
Checked by	W.H.M.	4/99
Approved by	D.R.MERRELL	

ENGINEER OF RECORD:
DUANE R. MERRELL
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32240-1343

LOGO:
Connelly & Wicker Inc. Consulting Engineers
Jacksonville Beach, Florida

SEAL:
4/15/99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-52-01

SHEET TITLE: DRILLED SHAFT DETAILS

Drawing No.

PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER BRIDGE NO'S. 500124 & 500127

Index No.

FISCAL YEAR	SHEET NO.
99	1

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
PLANS OF PROPOSED

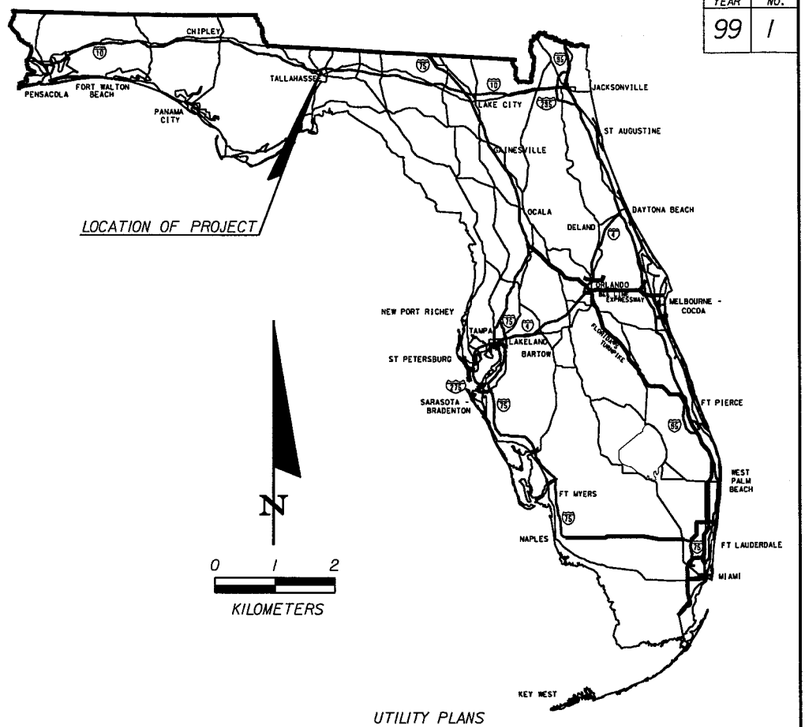
U.S.G.S. GAUGING STATION INSTALLATION PROJECT

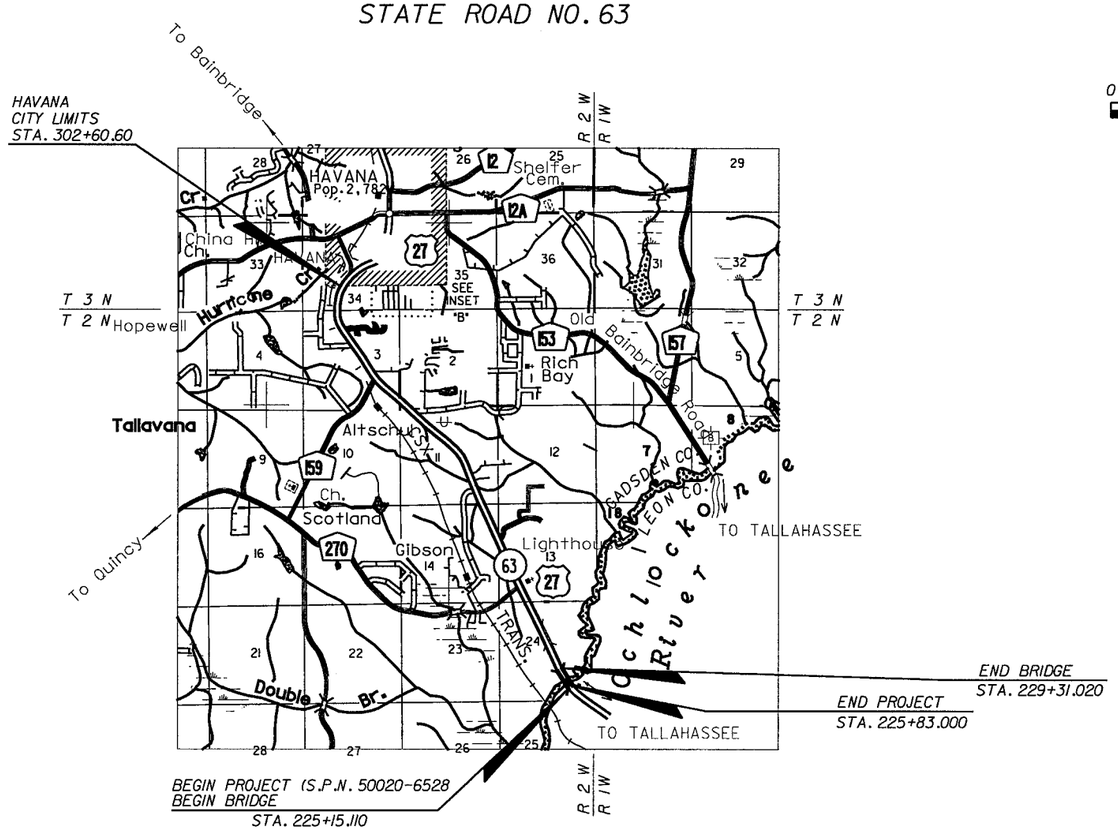
FINANCIAL PROJECT ID. 218944-1-56-02

STATE PROJECT NUMBER 50020-6528

GADSDEN COUNTY

STATE ROAD NO. 63





INDEX OF UTILITY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	GAUGING STATION LOCATION, BENT NO. 4 LEFT
3	1.070 Ø DRILLED SHAFT DETAILS
4	PRESTRESSED CONCRETE PILES (1 OF 3)
5	PRESTRESSED CONCRETE PILES (2 OF 3)
6	PRESTRESSED CONCRETE PILES (3 OF 3)

UTILITY PLANS
ENGINEER OF RECORD

DUANE R. MURRELL, P.E.
1711 SOUTH 5TH STREET
JACKSONVILLE BEACH, FL. 32250

PLANS PREPARED BY

CONNELLY & WICKER INC.
1711 SOUTH 5TH STREET
JACKSONVILLE BEACH, FL. 32250
VENDOR # 592343737001

THIS UTILITY CONTRACT PLAN SET TO BE LET WITH FINANCIAL PROJECT ID.S:
218944-1-52-01
218944-1-52-02
218944-1-56-01

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

GOVERNING SPECIFICATIONS: STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, DATED 1999 SUPPLEMENTS AND SPECIAL PROVISIONS THERETO IF NOTED IN THE CONTRACT SPECIFICATIONS FOR THIS PROJECT.

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS (BOOKLET DATED JANUARY, 1998).

REVISIONS

LENGTH OF PROJECT	
	METERS
ROADWAY	0000.000
BRIDGES	67.890
NET LENGTH OF PROJ.	67.890
EXCEPTIONS	0000.000
GROSS LENGTH OF PROJ.	67.890

FDOT PROJECT MANAGER : KIM WOLIVER, P.E. (PBS&J)

NOTE: THIS IS A METRIC UNIT PROJECT

REVISIONS		
DATE	BY	DESCRIPTION

ROADWAY PLANS APPROVED BY: _____

DATE: 1/4/99

P.E. NO.: 36843

DESCRIPTION OF PROJECT:
INSTALLATION OF U.S.G.S. GAUGING STATION ON BRIDGE NO. 500127 AT STA. 225+83.000 S.R. 63 (GADSDEN CO.)

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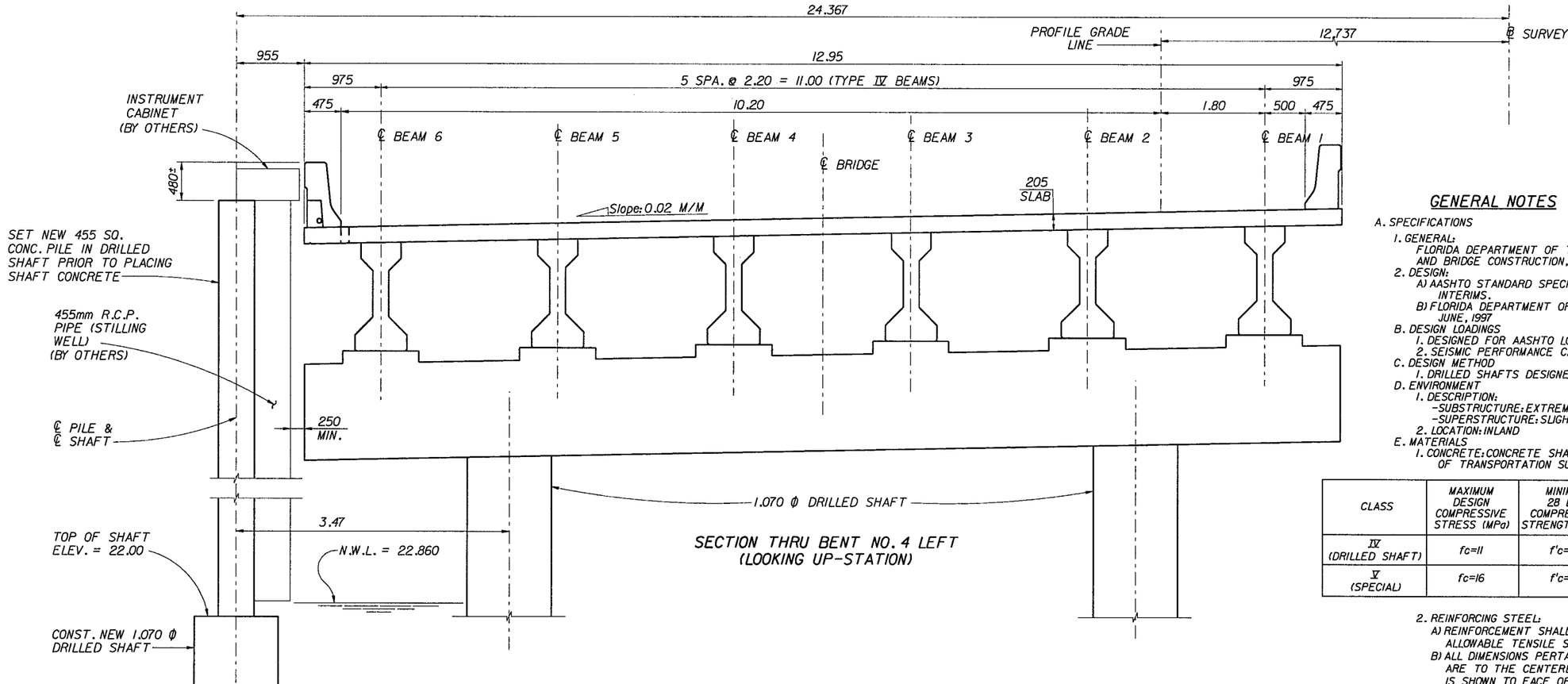
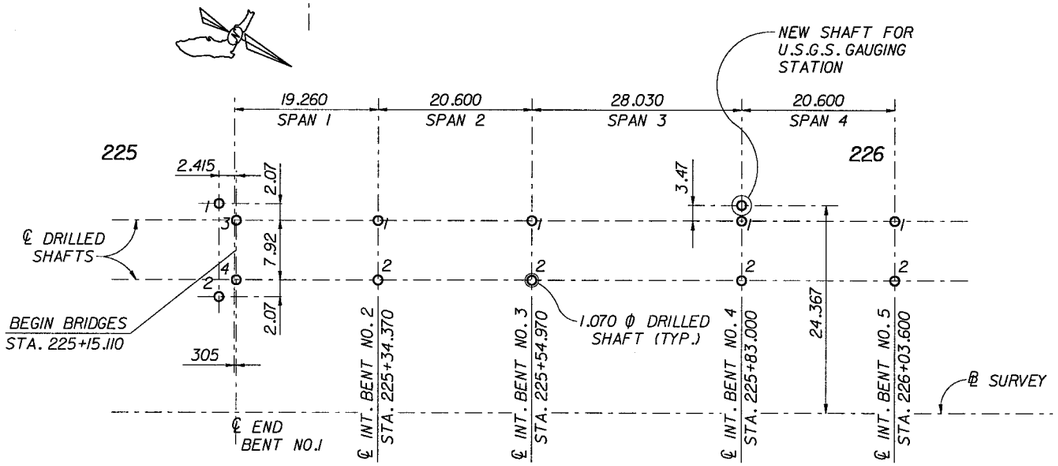
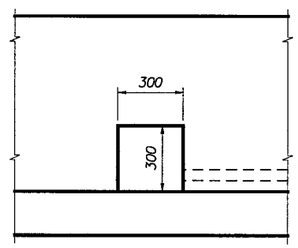
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	50020-6528		2



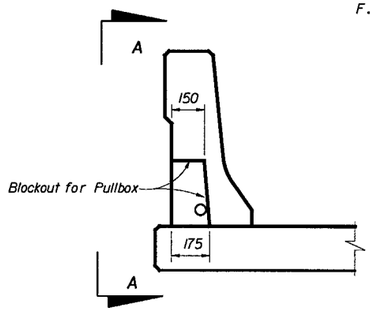
SECTION THRU BENT NO. 4 LEFT
(LOOKING UP-STATION)



PARTIAL DRILLED SHAFT LOCATION PLAN, BRIDGE NO. 500127



VIEW A-A



SECTION THRU BARRIER AT PULLBOX

NOTE:
Shift vertical reinforcement to avoid pullbox. Cut off horizontal reinforcement to provide 50 clearance.

GENERAL NOTES

A. SPECIFICATIONS
1. GENERAL:
FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1999 AND SUPPLEMENTS THERETO.
2. DESIGN:
A) AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1992 AND APPLICABLE INTERIMS.
B) FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN GUIDELINES, JUNE, 1997
B. DESIGN LOADINGS
1. DESIGNED FOR AASHTO LOAD COMBINATION GROUP II.
2. SEISMIC PERFORMANCE CATEGORY A.
C. DESIGN METHOD
1. DRILLED SHAFTS DESIGNED BY THE SERVICE LOAD METHOD.
D. ENVIRONMENT
1. DESCRIPTION:
-SUBSTRUCTURE: EXTREMELY AGGRESSIVE (SOIL PH = 4.5)
-SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
2. LOCATION: INLAND
E. MATERIALS
1. CONCRETE: CONCRETE SHALL BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION SECTION 346.

CLASS	MAXIMUM DESIGN COMPRESSIVE STRESS (MPa)	MINIMUM 28 DAY COMPRESSIVE STRENGTH (MPa)	DESIGN MODULUS OF ELASTICITY (GPa)	LOCATION OF CONCRETE IN STRUCTURE
IV (DRILLED SHAFT)	fc=11	f'c=28	22.8	DRILLED SHAFTS
V (SPECIAL)	fc=16	f'c=41	27.6	PRESTRESSED PILING

2. REINFORCING STEEL:
A) REINFORCEMENT SHALL BE ASTM A615M, GRADE 420 (FY = 400 MPa) ALLOWABLE TENSILE STRESS (fs = 160 MPa)
B) ALL DIMENSIONS PERTAINING TO THE LOCATION OF REINFORCING STEEL ARE TO THE CENTERLINE OF BAR EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.
C. REINFORCEMENT DETAIL DIMENSIONS ARE OUT TO OUT OF BARS.
D. CONCRETE COVERS SHALL BE:
- SUPERSTRUCTURE (CIP): 50mm EXCEPT AS NOTED ON PLANS
- SUBSTRUCTURE (CIP): 100mm EXCEPT AS NOTED BELOW
- SUBSTRUCTURE CAST AGAINST EARTH: 115mm
- TOP SURFACE OF BENT CAPS: 75mm
F. DATUM
ALL ELEVATIONS ARE REFERRED TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 TRANSLATED DIRECTLY FROM ENGLISH TO SI UNITS.

PAY ITEM NOTES:

1. PAY ITEM NO. 2455-3-2 PILING FURNISHED (PRESTRESSED CONCRETE) (455 SQ.) SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO SET NEW PILE IN DRILLED SHAFT PRIOR TO PLACING SHAFT CONCRETE AND HOLDING PILE IN PLACE UNTIL SHAFT CONCRETE HAS CURED FOR 72 HOURS.
2. PAY ITEM 2102-1 INCLUDES ANY MOT ACTIVITIES NOT COVERED BY FINANCIAL PROJECT ID. 918944-1-52-01 & 918944-1-52-02 MOT.

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REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.D.L.	10/98
Checked by	D.R.M.	10/98
Designed by	D.R.M.	10/98
Checked by	D.R.M.	10/98
Approved by	D.R. MERRELL	

ENGINEER OF RECORD:
DUANE R. MERRELL
P.O. Box 51343
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32240-1343

LOGO:
Connelly & Wicker Inc.
Consulting Engineers
Jacksonville Beach, Florida

SEAL:

Duane R. Merrell 1/4/99

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-56-02

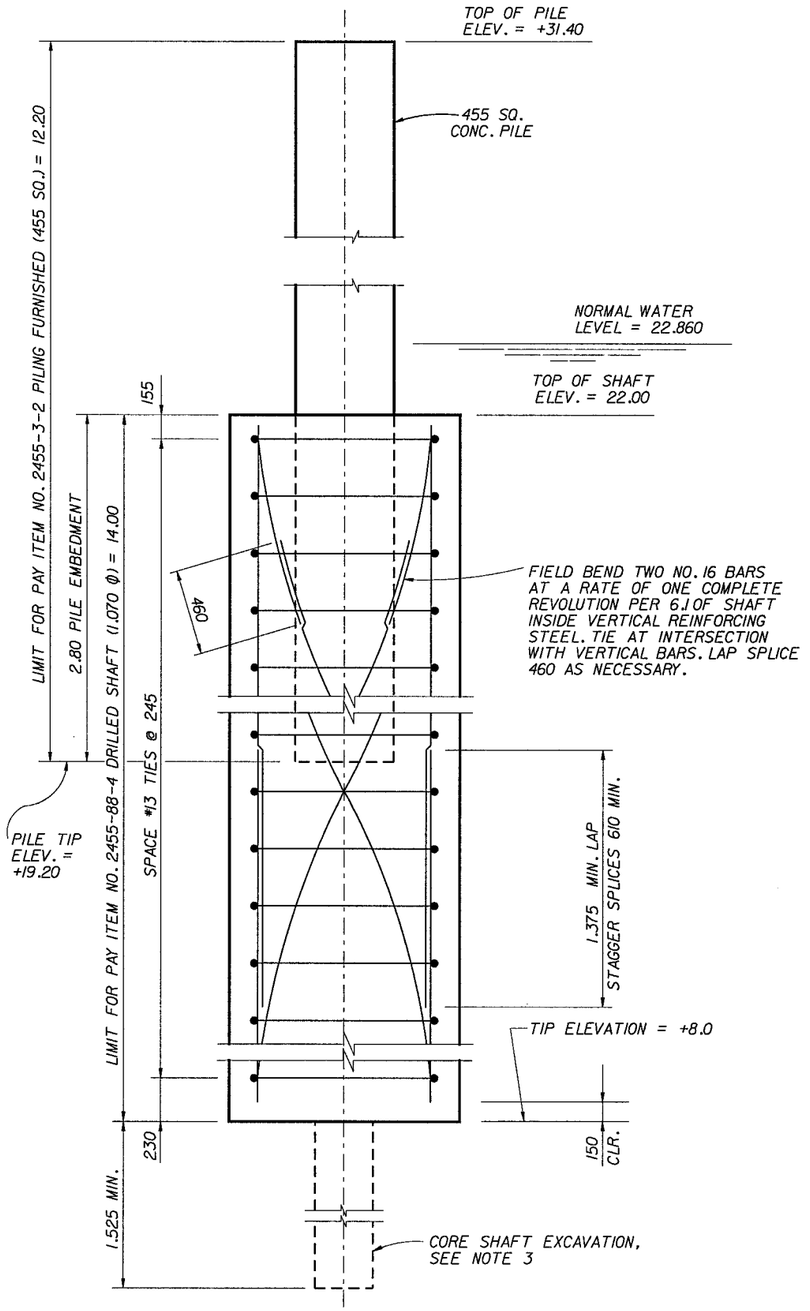
SHEET TITLE: GAUGING STATION LOCATION BENT NO. 4 LEFT

Drawing No.

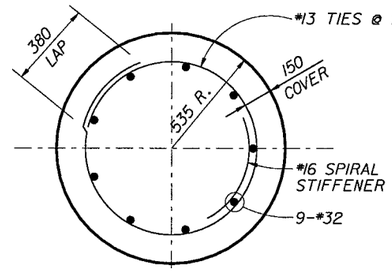
PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER BRIDGE NO. 500127

Index No.

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	50020-6528		3



ELEVATION
1.070 Ø DRILLED SHAFT



SECTION C-C
1.070 Ø DRILLED SHAFT

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
Piling Furnished (Prestressed Concrete) (455mm Sq.) Item No. 2455-3-2	m	12.20
Drilled Shaft (1.070) Item No. 2455-88-4	m	14.00
Core Shaft Excavation Item No. 2455-111	m	1.5
Unclassified Shaft Excavation (1.070) Item No. 2455-122-4	m	14.00
Drilled Shaft Sidewall Overreaming (1.070) Item No. 2455-124 *	m	1.4
Extra Depth Excavation (1.070) Item No. 2455-125-4 *	m	1.4

* Drilled Shaft Sidewall Overreaming and Extra Depth Excavation are contingency items and are for bidding purposes only.

NOTES:

1. CONCRETE FOR DRILLED SHAFTS SHALL BE CLASS IV (DRILLED SHAFT).
2. REINFORCING STEEL SHOWN SHALL CONFORM TO ASTM A-615M, GRADE 420 (Fy = 400MPa) AND SHALL BE PAID FOR UNDER PAY ITEM NO. 2455-88-4, DRILLED SHAFT.
3. THE CONTRACTOR SHALL PERFORM A 100 TO 150 DIAMETER SHAFT CORE AND/OR A STANDARD PENETRATION TEST BORING, CONTINUOUS SAMPLING, FOR A MINIMUM DEPTH OF 1.525 METERS BELOW THE BOTTOM OF THE DRILLED SHAFT EXCAVATION OR AS DIRECTED BY THE ENGINEER. THE CORE BARREL SHOULD BE DESIGNED SO THAT THE SAMPLE OF MATERIAL CORED CAN BE REMOVED FROM THE SHAFT EXCAVATION AND CORE BARREL IN AN UNDISTURBED STATE AND IN SUFFICIENT LENGTH TO PROVIDE CORE SAMPLES UP TO A DEPTH OF 6.1 METERS BELOW THE BOTTOM OF THE DRILLED SHAFT EXCAVATION.
4. DRILLED SHAFTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION SECTION B455, STRUCTURES FOUNDATIONS - DRILLED SHAFTS.
5. THE MINIMUM TIP ELEVATION SHOWN IS BASED ON THE BORING LOGS. THE ACTUAL GROUND LINE AND ROCK LINE ELEVATION MAY VARY. THE CONTRACTOR SHALL MAINTAIN THE MINIMUM ROCK SOCKET LENGTH AS NOTED ON THESE PLANS. MINIMUM ROCK SOCKET LENGTH SHOWN IS THAT REQUIRED TO RESIST LATERAL LOADS AND/OR TO DEVELOP AXIAL CAPACITY.
6. SLURRY TANKS AND DE-SANDING EQUIPMENT SHALL BE REQUIRED, AS DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH SECTION B455.
7. SLUMP LOSS TEST SHALL BE PERFORMED AT THE SITE.
8. CORING SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D 2113 STANDARD PRACTICE FOR DIAMOND CORE DRILLING FOR SITE INVESTIGATION, EXCEPT THAT A SINGLE-TUBE CORE BARREL WILL NOT BE ALLOWED FOR CORING AND RETRIEVING THE UNDISTURBED SAMPLES PRODUCED DURING THE CORE (SHAFT EXCAVATION).
9. SHAFT WILL BE INSPECTED PRIOR TO PLACEMENT OF CONCRETE, USING THE DEPARTMENT'S SHAFT INSPECTION DEVICE (SID) IN ACCORDANCE WITH SECTION B455-3.11.3.

DRILLED SHAFT INSTALLATION TABLE				
TOP OF SHAFT ELEVATION	MIN. TIP ELEVATION	SHAFT LENGTH	SCOUR ELEVATION	MIN. ROCK SOCKET LENGTH
+22.00	+8.00	14.00	+15.849	1.0

For Soil Profile, Refer to Boring B-3 on Sheet B-11 of 50020-3521.

ESTIMATED QUANTITIES (PER LIN. METER)		
ITEM	UNIT	QUANTITY
Class IV Concrete (Drilled Shaft)	m3	0.899
Reinforcing Steel (Drilled Shaft)	kg	80.56

Quantity does not include lap splice for No. 32 Vertical Bars. These Quantities are provided for information only. The cost of Concrete and Reinforcing steel shall be included in the Contract Unit Price for Drilled Shafts.

Duane R. Merrell
1/4/99

J:\96\960I-2\SBDRSHFT.DGN 4JAN99 16:18:04 SCALE:20 USER:

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.D.L.	10/98
Checked by	D.R.M.	10/98
Designed by	D.R.M.	10/98
Checked by	D.R.M.	10/98
Approved by	D.R.MERRELL	

ENGINEER OF RECORD:
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Jacksonville Beach, Florida

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-56-02

SHEET TITLE: DRILLED SHAFT DETAILS
Drawing No.
PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER BRIDGE NO. 500127
Index No.

DRILLED SHAFT INSTALLATION TABLE (BRIDGE NO. 500124)

PIER OR BENT	SOIL PROFILE	DRILLED SHAFT SIZE (m)	DRILLED SHAFT NUMBER	FACTORED DESIGN LOAD (kN)	BOTTOM OF CAP ELEV. * (m)	TOP OF SHAFT ELEV. ** (m)	TIP ELEV. (m)	MIN. TIP ELEV. (m)	COLUMN LENGTH (m)	SHAFT LENGTH (m)	SCOUR ELEV. (m)	MIN. ROCK SOCKET LENGTH (m)
END BENT 1	BB-13	1.070	1	1633	+28.112	+26.250	+11.3	+11.3	1.862	14.95	+16.764	5.5
			2		+27.831	+26.250	+11.3	+11.3	1.581	14.95	+16.764	5.5
INT. BENT 2	BB-14	1.070	1	2812	+28.200	+26.250	+14.0	+14.0	1.95	12.25	+19.690	5.5
			2		+28.011	+26.250	+14.0	+14.0	1.761	12.25	+19.690	5.5
INT. BENT 3	BB-14	1.070	1	3687	+28.066	+26.250	+10.3	+10.3	1.816	15.95	+15.849	5.5
			2		+27.907	+26.250	+10.3	+10.3	1.657	15.95	+15.849	5.5
INT. BENT 4	BB-12	1.070	1	3687	+28.204	+26.250	+10.3	+10.3	1.954	15.95	+15.849	5.5
			2		+28.046	+26.250	+10.3	+10.3	1.796	15.95	+15.849	5.5
INT. BENT 5	BB-15	1.070	1	2812	+28.533	+26.250	+14.0	+14.0	2.283	12.25	+19.690	5.5
			2		+28.375	+26.250	+14.0	+14.0	2.125	12.25	+19.690	5.5
INT. BENT 6	BB-11	1.070	1	2547	+28.608	+26.250	+14.0	+14.0	2.358	12.25	+19.690	5.5
			2		+28.450	+26.250	+14.0	+14.0	2.20	12.25	+19.690	5.5
INT. BENT 7	BB-11	1.070	1	2958	+28.665	+26.250	+14.0	+14.0	2.415	12.25	+19.690	5.5
			2		+28.507	+26.250	+14.0	+14.0	2.257	12.25	+19.690	5.5
INT. BENT 8	BB-16	1.070	1	2679	+28.710	+26.250	+12.0	+12.0	2.460	14.25	+19.690	2.0
			2		+28.551	+26.250	+12.0	+12.0	2.301	14.25	+19.690	2.0
INT. BENT 9	BB-10	1.070	1	2958	+28.742	+26.250	+9.0	+12.0	2.492	17.25	+19.690	2.0
			2		+28.583	+26.250	+9.0	+12.0	2.333	17.25	+19.690	2.0
INT. BENT 10	BB-10	1.070	1	2547	+28.762	+26.250	+9.0	+12.0	2.512	17.25	+19.690	2.0
			2		+28.603	+26.250	+9.0	+12.0	2.353	17.25	+19.690	2.0
INT. BENT 11	BB-17	1.070	1	2958	+28.770	+26.250	+9.3	+12.0	2.520	16.95	+19.690	2.0
			2		+28.611	+26.250	+9.3	+12.0	2.361	16.95	+19.690	2.0
INT. BENT 12	BB-9	1.070	1	2679	+28.765	+26.250	+12.0	+12.0	2.515	14.25	+19.690	2.0
			2		+28.607	+26.250	+12.0	+12.0	2.357	14.25	+19.690	2.0
INT. BENT 13	BB-9	1.070	1	2958	+28.749	+26.250	+12.0	+12.0	2.499	14.25	+19.690	2.0
			2		+28.590	+26.250	+12.0	+12.0	2.340	14.25	+19.690	2.0
INT. BENT 14	BB-18	1.070	1	2547	+28.720	+26.250	+9.3	+12.0	2.470	16.95	+19.690	2.0
			2		+28.561	+26.250	+9.3	+12.0	2.311	16.95	+19.690	2.0
INT. BENT 15	BB-18	1.070	1	2958	+28.679	+26.250	+9.0	+12.0	2.429	17.25	+19.690	2.0
			2		+28.520	+26.250	+9.0	+12.0	2.270	17.25	+19.690	2.0
INT. BENT 16	BB-8	1.070	1	2679	+28.625	+26.250	+9.3	+12.0	2.375	16.95	+19.690	2.0
			2		+28.467	+26.250	+9.3	+12.0	2.217	16.95	+19.690	2.0
INT. BENT 17	BB-19	1.070	1	2958	+28.560	+26.250	+8.3	+12.0	2.310	17.95	+19.690	2.0
			2		+28.401	+26.250	+8.3	+12.0	2.151	17.95	+19.690	2.0
INT. BENT 18	BB-19	1.070	1	2547	+28.482	+26.250	+8.3	+12.0	2.232	17.95	+19.690	2.0
			2		+28.324	+26.250	+8.3	+12.0	2.074	17.95	+19.690	2.0
INT. BENT 19	BB-7	1.070	1	2958	+28.392	+26.250	+9.0	+12.0	2.142	17.25	+19.690	2.0
			2		+28.234	+26.250	+9.0	+12.0	1.984	17.25	+19.690	2.0
INT. BENT 20	BB-20	1.070	1	2679	+28.296	+26.250	+9.0	+12.0	2.046	17.25	+19.690	2.0
			2		+28.137	+26.250	+9.0	+12.0	1.887	17.25	+19.690	2.0
INT. BENT 21	BB-20	1.070	1	2958	+28.199	+26.250	+9.0	+12.0	1.949	17.25	+19.690	2.0
			2		+28.041	+26.250	+9.0	+12.0	1.791	17.25	+19.690	2.0
END BENT 22	BB-6	1.070	1	1633	+28.103	+26.250	+10.6	+10.6	1.853	15.65	+16.307	5.5
			2		+27.945	+26.250	+10.6	+10.6	1.695	15.65	+16.307	5.5
TEST HOLE 1	BB-14	1.070	———	———	———	+26.250	+8.3	+8.3	———	18.25	15.849	3.0
TEST HOLE 2	BB-7	1.070	———	———	———	+26.250	+9.0	+12.0	———	17.25	19.690	3.0

TIP ELEVATION - THE ELEVATION TO WHICH THE SHAFT SHALL BE CONSTRUCTED UNLESS TEST LOAD DATA, ROCK CORES OR OTHER GEOTECHNICAL DATA OBTAINED DURING CONSTRUCTION ALLOWS THE ENGINEER TO AUTHORIZE A DIFFERENT TIP ELEVATION.

MINIMUM TIP ELEVATION - THE HIGHEST ELEVATION THAT THE SHAFT TIP MAY BE CONSTRUCTED IF ADJUSTMENTS ARE MADE TO THE TIP ELEVATION SPECIFIED.

DUANE R. MERRELL
1/4/99

DRILLED SHAFT INSTALLATION TABLE (BRIDGE NO. 500127)

PIER OR BENT	SOIL PROFILE	DRILLED SHAFT SIZE (m)	DRILLED SHAFT NUMBER	FACTORED DESIGN LOAD (kN)	BOTTOM OF CAP ELEV. * (m)	TOP OF SHAFT ELEV. ** (m)	TIP ELEV. (m)	MIN. TIP ELEV. (m)	COLUMN LENGTH (m)	SHAFT LENGTH (m)	SCOUR ELEV. (m)	MIN. ROCK SOCKET LENGTH (m)
END BENT 1	B-2	1.070	1	1633	+28.268	+26.250	+9.0	+9.0	2.018	17.25	+16.764	1.0
			2		+28.136	+26.250	+9.0	+9.0	1.886	17.25	+16.764	1.0
INT. BENT 2	B-2	1.070	1	2812	+28.261	+26.250	+10.3	+12.0	2.011	15.95	+19.690	2.0
			2		+28.221	+26.250	+10.3	+12.0	1.971	15.95	+19.690	2.0
INT. BENT 3	B-2	1.070	1	3687	+28.018	+26.250	+6.6	+6.6	1.768	19.65	+15.849	2.0
			2		+28.079	+26.250	+6.6	+6.6	1.829	19.65	+15.849	2.0
INT. BENT 4	B-3	1.070	1	3687	+28.046	+26.250	+10.3	+10.3	1.796	15.95	+15.849	5.5
			2		+28.204	+26.250	+10.3	+10.3	1.954	15.95	+15.849	5.5
INT. BENT 5	B-4	1.070	1	2812	+28.375	+26.250	+14.0	+14.0	2.125	12.25	+19.690	5.5
			2		+28.533	+26.250	+14.0	+14.0	2.283	12.25	+19.690	5.5
INT. BENT 6	B-5	1.070	1	2547	+28.450	+26.250	+14.0	+14.0	2.200	12.25	+19.690	5.5
			2		+28.608	+26.250	+14.0	+14.0	2.358	12.25	+19.690	5.5
INT. BENT 7	B-5	1.070	1	2958	+28.507	+26.250	+14.0	+14.0	2.257	12.25	+19.690	5.5
			2		+28.665	+26.250	+14.0	+14.0	2.415	12.25	+19.690	5.5
INT. BENT 8	B-7	1.070	1	2679	+28.551	+26.250	+14.0	+14.0	2.301	12.25	+19.690	5.5
			2		+28.710	+26.250	+14.0	+14.0	2.460	12.25	+19.690	5.5
INT. BENT 9	B-6	1.070	1	2958	+28.583	+26.250	+12.0	+12.0	2.333	14.25	+19.690	2.0
			2		+28.742	+26.250	+12.0	+12.0	2.492	14.25	+19.690	2.0
INT. BENT 10	B-8	1.070	1	2547	+28.604	+26.250	+4.0	+12.0	2.354	22.25	+19.690	0.0 ***
			2		+28.762	+26.250	+4.0	+12.0	2.512	22.25	+19.690	0.0 ***
INT. BENT 11	B-9	1.070	1	2958	+28.611	+26.250	+14.0	+14.0	2.361	12.25	+19.690	5.5
			2		+28.770	+26.250	+14.0	+14.0	2.520	12.25	+19.690	5.5
INT. BENT 12	B-9	1.070	1	2679	+28.607	+26.250	+14.0	+14.0	2.357	12.25	+19.690	5.5
			2		+28.765	+26.250	+14.0	+14.0	2.515	12.25	+19.690	5.5
INT. BENT 13	B-11	1.070	1	2958	+28.590	+26.250	+12.0	+12.0	2.340	14.25	+19.690	2.0
			2		+28.749	+26.250	+12.0	+12.0	2.549	14.25	+19.690	2.0
INT. BENT 14	B-11	1.070	1	2547	+28.561	+26.250	+12.0	+12.0	2.311	14.25	+19.690	2.0
			2		+28.720	+26.250	+12.0	+12.0	2.470	14.25	+19.690	2.0
INT. BENT 15	B-10	1.070	1	2958	+28.520	+26.250	+11.6	+12.0	2.270	14.65	+19.690	2.0
			2		+28.679	+26.250	+11.6	+12.0	2.429	14.65	+19.690	2.0
INT. BENT 16	B-13	1.070	1	2679	+28.467	+26.250	+7.0	+12.0	2.217	19.25	+19.690	2.0
			2		+28.625	+26.250	+7.0	+12.0	2.375	19.25	+19.690	2.0
INT. BENT 17	B-12	1.070	1	2958	+28.401	+26.250	+6.6	+12.0	2.151	19.65	+19.690	2.0
			2		+28.560	+26.250	+6.6	+12.0	2.310	19.65	+19.690	2.0
INT. BENT 18	B-12	1.070	1	2547	+28.324	+26.250	+6.6	+12.0	2.074	19.65	+19.690	2.0
			2		+28.482	+26.250	+6.6	+12.0	2.232	19.65	+19.690	2.0
INT. BENT 19	B-16	1.070	1	2958	+28.234	+26.250	+8.0	+12.0	1.984	18.25	+19.690	2.0
			2		+28.392	+26.250	+8.0	+12.0	2.142	18.25	+19.690	2.0
INT. BENT 20	B-14	1.070	1	2679	+28.137	+26.250	+12.0	+12.0	1.887	14.25	+19.690	2.0
			2		+28.296	+26.250	+12.0	+12.0	2.046	14.25	+19.690	2.0
INT. BENT 21	B-15	1.070	1	2958	+28.041	+26.250	+10.0	+12.0	1.791	16.25	+19.690	2.0
			2		+28.199	+26.250	+10.0	+12.0	1.949	16.25	+19.690	2.0
END BENT 22	B-15	1.070	1	1633	+27.945	+26.250	+8.6	+8.6	1.695	17.65	+16.307	1.0
			2		+28.103	+26.250	+8.6	+8.6	1.853	17.65	+16.307	1.0

* BOTTOM OF CAP MEASURED AT ℄ COLUMN & ℄ BENT
** TOP OF SHAFT SET AT 26.250 TO MAINTAIN ELEVATION ABOVE NORMAL HIGH WATER

*** DRILLED SHAFTS THAT TERMINATE IN SOIL SHALL BE CONSTRUCTED TO PROVIDE A MINIMUM OF 15.7 METERS OF UNCASED SHAFT LENGTH.

ACCEPTANCE OF SHAFTS TERMINATING IN SOIL SHALL BE BASED ON AN AVERAGE SPT N-VALUE OF 28.5 FOR A CONTINUOUS SAMPLING SPT FROM GROUND LEVEL TO 1.5 METERS BELOW FINAL TIP ELEVATION. IN CALCULATING THE AVERAGE N-VALUE, NO INDIVIDUAL N-VALUE SHALL EXCEED 50.

J:\92\9208-7\STRUCT\MAIN\DRSHFT2.DGN 29DEC98 13:23:02 SCALE:20 USER:

REVISIONS

Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	E.D.L.	10/98
Checked by	L.W.M.	10/98
Designed by	D.R.M.	10/98
Checked by	W.H.M.	10/98
Approved by	D.R.MERRELL	

ENGINEER OF RECORD:
DUANE R. MERRELL
P.O. Box 51343
Jacksonville Beach, Florida
32240-1343

LOGO:
Connelly & Wicker Inc.
Consulting Engineers
Jacksonville Beach, Florida

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 63	GADSDEN	218944-1-52-01

SHEET TITLE: DRILLED SHAFT INSTALLATION TABLES

Drawing No.

PROJECT NAME: SR 63 OVER OCHLOCKONEE RIVER BRIDGE NO'S. 500124 & 500127

Index No.

THIS CONTRACT PLAN SET INCLUDES:

ROADWAY PLANS
SUMMARY OF PAY ITEMS (4 SHEETS)
SIGNING AND PAVEMENT MARKING PLANS
STRUCTURE PLANS
LOAD TEST PLANS

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-3	TYPICAL SECTIONS
4	MISCELLANEOUS DETAILS
5	SUMMARY OF QUANTITIES
6	SUMMARY OF DRAINAGE STRUCTURES
7-9	PLAN AND PROFILE
10-11	DRAINAGE STRUCTURES
12	SOIL SURVEY
13-21	CROSS SECTIONS
22-27	TRAFFIC CONTROL PLANS
28-30	UTILITY ADJUSTMENT
31-32	APPROACH SLAB
33-37	STORM WATER POLLUTION PREVENTION PLAN

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS (BOOKLET DATED JANUARY, 1992).

NOTE:
REMOVAL OF THE EXISTING VICTORY BRIDGE AND CONSTRUCTION OF THE NEW BRIDGE OVER THE WESTERN FLOOD PLAIN MAY INVOLVE WORK IN WET GROUND CONDITIONS. THE CONTRACTOR WILL NEED TO BUILD A TEMPORARY WORK STRUCTURE AND SHALL CONFORM TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION PERMIT FOR CONSTRUCTING THE WORK BRIDGE. THE CONTRACTOR SHALL REMOVE ANY SUCH ITEMS AFTER THEIR USE AS DIRECTED BY THE ENGINEER. NO DIRECT PAYMENT WILL BE MADE FOR ITEMS USED TO FACILITATE CONSTRUCTION AND THE SUBSEQUENT REMOVAL OF THESE ITEMS. THIS SHALL BE INCIDENTAL TO THE CONTRACT.

REVISIONS

LOAD TEST PLAN SHEETS LT-1 THRU LT-9 (REVISED 3/16/94)
ROADWAY C.E.S. SHEET 01 (REVISED 3/16/94)
ROADWAY C.E.S. SHEETS 01 AND 02 (REVISED 3/30/94)
BRIDGE C.E.S. SHEET 01 (REVISED 4/11/94)
STRUCTURE PLAN SHEET B-1 (REVISED 4/11/94)
BRIDGE C.E.S. (REVISED 4-18-94)

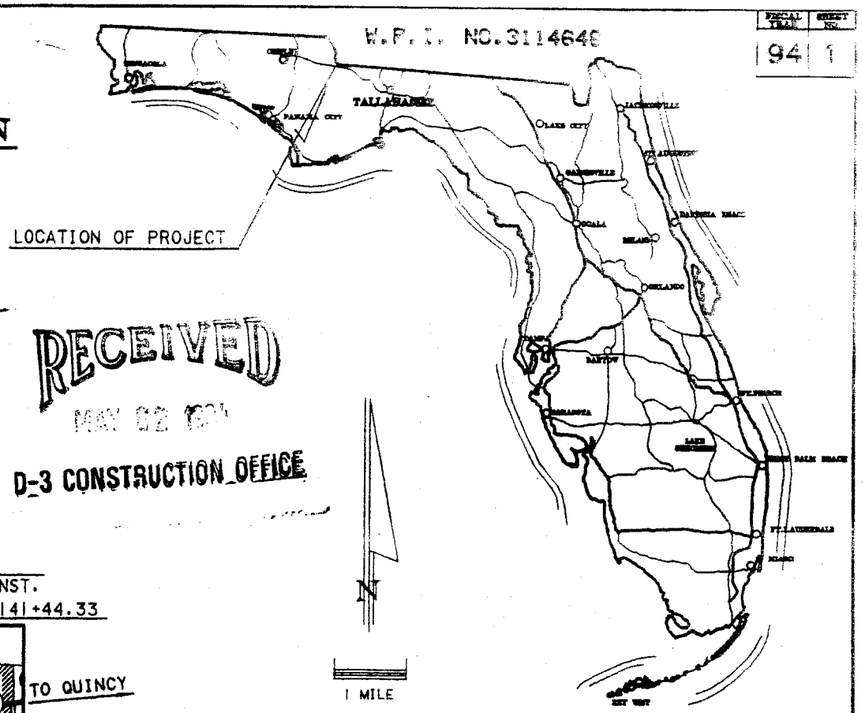
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

FM 219313

PLANS OF PROPOSED
STATE HIGHWAY

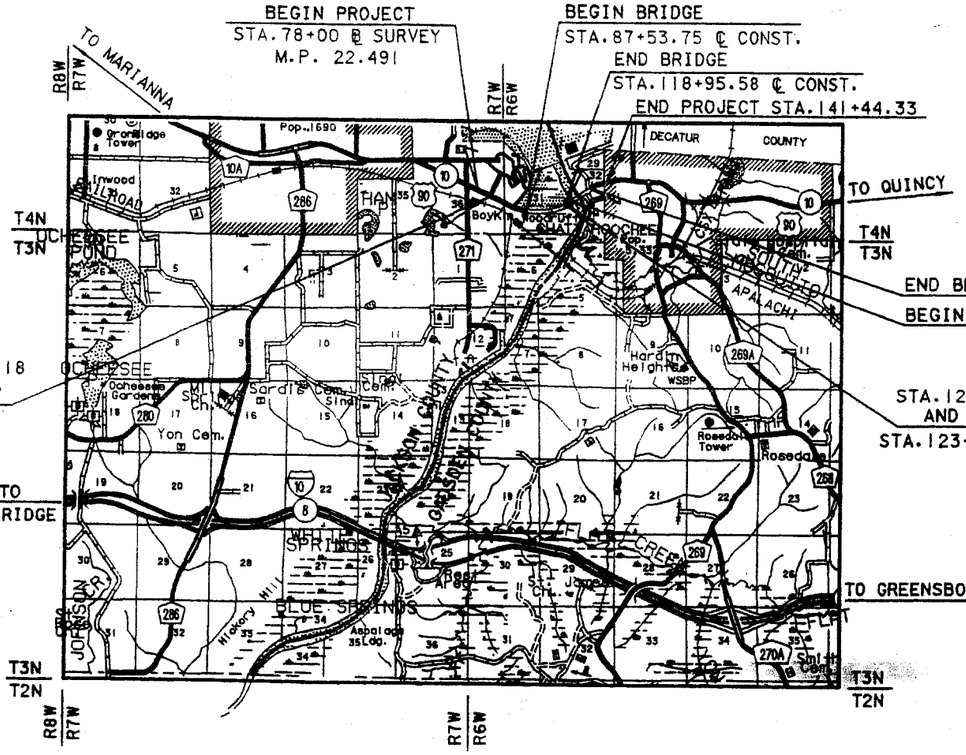
W.P.I. NO. 3114648

FISCAL YEAR	SHEET NO.
94	1



RECEIVED
MAY 02 1994
D-3 CONSTRUCTION OFFICE

STATE PROJ. NO. 53020-3540
JACKSON AND GADSDEN COUNTIES
STATE ROAD NO. 10



LENGTH OF PROJECT		
	LINEAR FT.	MILES
ROADWAY	1634.99	0.309
BRIDGES	4777.83	0.905
NET LENGTH OF PROJ.	6412.82	1.214
EXCEPTIONS	-	-
GROSS LENGTH OF PROJ.	6412.82	1.214

PROJECT MANAGER: BRIAN BLANCHARD, P.E.

PLANS PREPARED BY:
H.W. LOCHNER, INC.
9721 EXEC. CTR. DR. N.
ST. PETERSBURG, FL. 33702

ROADWAY PLANS
ENGINEER OF RECORD:
HUGH T. WILLIAMS, P.E.
FL. P.E. NO. 23034

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

GOVERNING SPECIFICATIONS, STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, DATED 1991 AND SUPPLEMENTS THERETO IF NOTED IN THE SPECIAL PROVISIONS FOR THIS PROJECT.

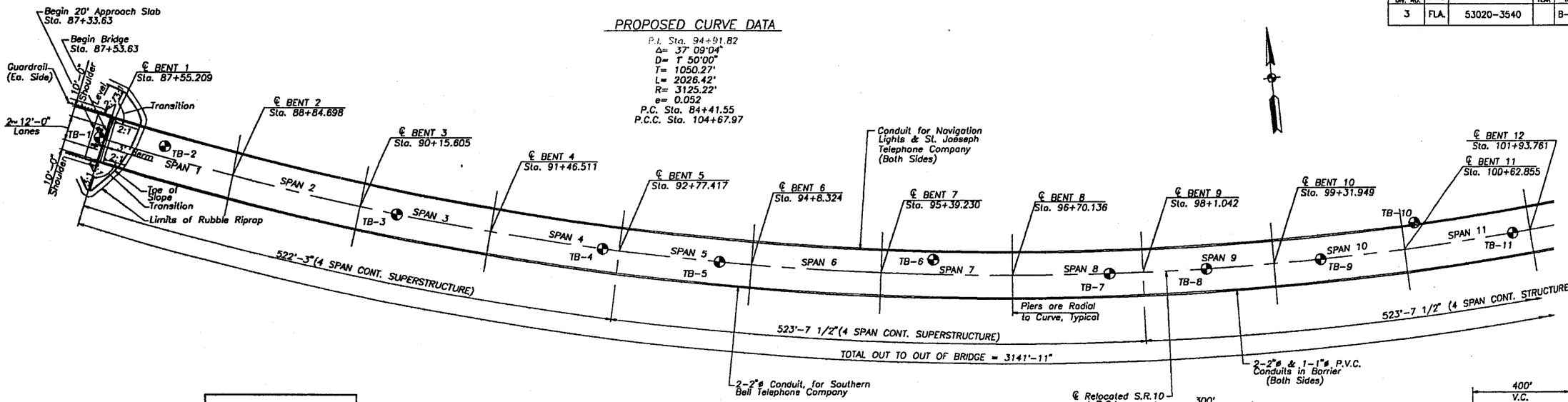
REVISIONS		
DATE	BY	DESCRIPTION
2/94	WK	ADDED LOAD TEST PLANS
4/94	HW	REVISED NOTE

RECYCLED PAPER

ROADWAY PLANS APPROVED BY: HUGH T. WILLIAMS, P.E.
FL. P.E. NO. 23034 DATE: DEC. 29, 1993

S.R. 10 (U.S. 90) VICTORY BRIDGE REPLACEMENT AND APALACHICOLA RIVER BRIDGE WIDENING

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	53020-3540		B-2A



PROPOSED CURVE DATA

P.I. Sta. 94+91.82
Δ= 37° 09'04"
D= 1° 50'00"
T= 1050.27'
L= 2026.42'
R= 3125.22'
e= 0.052
P.C. Sta. 84+41.55
P.C.C. Sta. 104+67.97

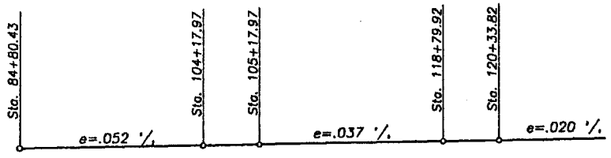
BORING HOLE LOCATIONS		
BORING NO.	STA.	OFFSET
TB-1	87+48	0
TB-2	88+75	10'LT
TB-3	90+38	0
TB-4	92+60	0
TB-5	93+75	0
TB-6	95+50	15'LT
TB-7	97+68	0
TB-8	98+64	0
TB-9	99+70	0
TB-10	100+75	25'LT
TB-11	101+75	0
TB-12	102+75	0

S.R.10 TRAFFIC DATA

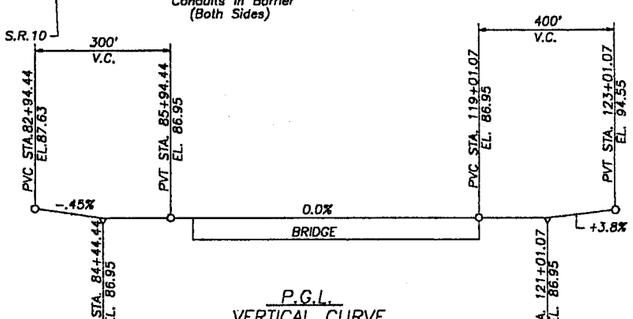
1990 ADT = 6350
1996 ADT = 7600
2016 ADT = 12,500
K= 12%
D= 58%
T= 9%
Design Speed = 60 mph

PLAN VIEW

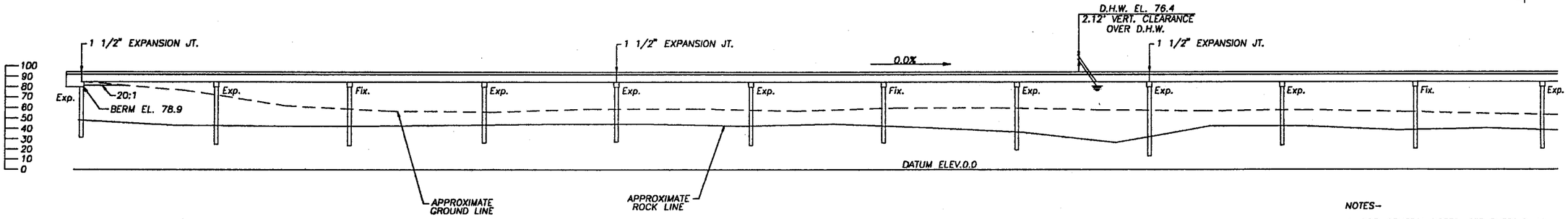
(DIMENSIONS TAKEN ALONG ℄ RELOC. S.R.10)



SUPERELEVATION DIAGRAM



P.G.L. VERTICAL CURVE DATA



ELEVATION

NOTES-

1. FOR GENERAL NOTES, SEE SHEET B-1A
2. FOR MINIMUM DRILLED SHAFT TIP ELEVATION, SEE SHEET B-6A

BRIDGE NO. 530111

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TAL	11-9-94
Checked by	HHJ	11-9-94
Designed by		
Checked by		
Approved by	HHJ	11-9-94

ENGINEER OF RECORD:
JOINT VENTURE
FINLEY McNARY ENG. & JANSSEN & SPAANS ENG.

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 10	JACKSON/GADSDEN	53020-3540

SHEET TITLE: GENERAL PLAN & ELEVATION
Drawing No.
PROJECT NAME: S.R.10 OVER THE WESTERN FLOOD PLAIN
Index No.

E:\094\094K02A

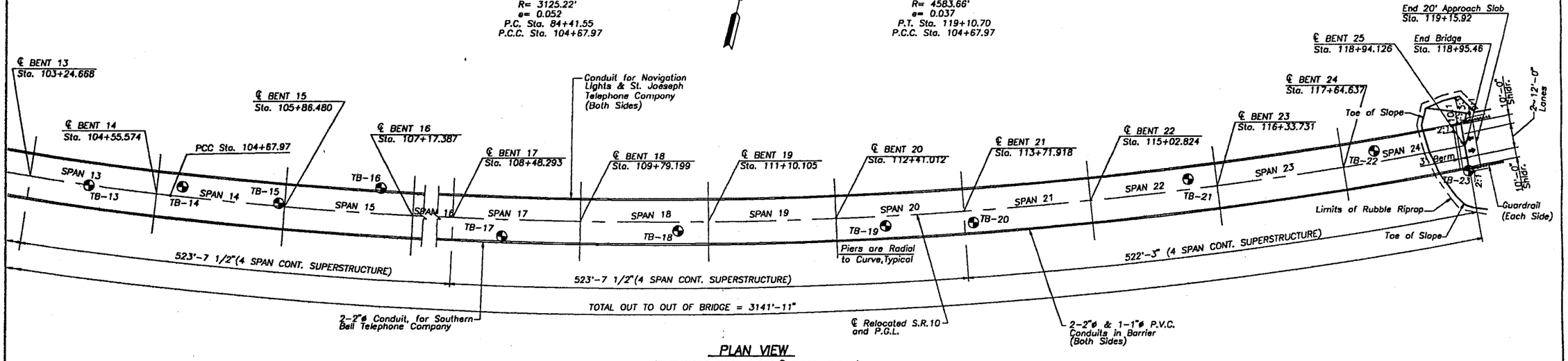
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	53020-3540		B-3A

PROPOSED CURVE DATA

P.I. Sta. 94+91.82
Δ= 37° 09'04"
D= 1° 50'00"
T= 1050.27'
L= 2026.42'
R= 3125.22'
e= 0.052
P.C. Sta. 84+41.55
P.C.C. Sta. 104+67.97

PROPOSED CURVE DATA

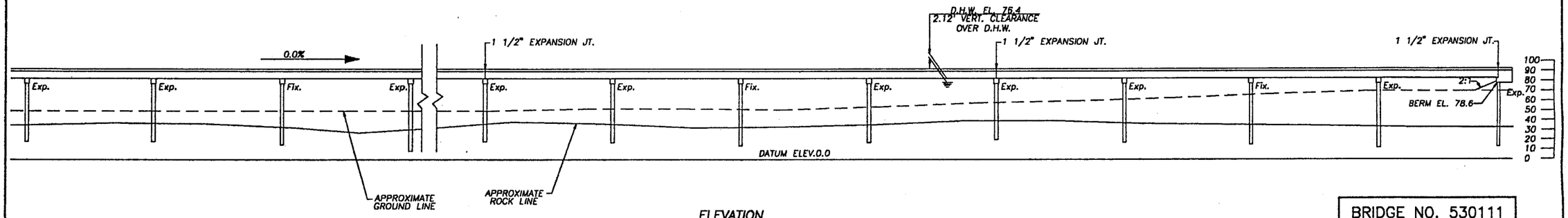
P.I. Sta. 111+95.35
Δ= 18° 02'03"
D= 1° 15'00"
T= 727.38'
L= 1442.73'
R= 4583.66'
e= 0.037
P.T. Sta. 119+10.70
P.C.C. Sta. 104+67.97



PLAN VIEW

(DIMENSIONS TAKEN ALONG ℄ RELOC. S.R.10)

BORING HOLE LOCATIONS		
BORING NO.	STA.	OFFSET
TB-13	103+85	0
TB-14	104+80	10'LT
TB-15	105+80	3'LT
TB-16	106+80	25'LT
TB-17	108+89	17'RT
TB-18	110+80	10'RT
TB-19	112+90	11'RT
TB-20	113+80	12'RT
TB-21	116+04.5	10'LT
TB-22	117+91	12'LT
TB-23	118+93	25'RT



ELEVATION

BRIDGE NO. 530111

NOTES-

1. FOR GENERAL NOTES, SEE SHEET B-1A
2. FOR MINIMUM DRILLED SHAFT TIP ELEVATION, SEE SHEET B-6A

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TAL/REM	11-9-94
Checked by	HHJ	11-9-94
Designed by		
Checked by		
Approved by	HHJ	11-9-94

ENGINEER OF RECORD:
JOINT VENTURE
FINLEY McNARY ENG. & JANSSEN & SPAANS ENG.

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 10	JACKSON/GADSDEN	53020-3540

SHEET TITLE: GENERAL PLAN & ELEVATION
Drawing No.
PROJECT NAME: S.R.10 OVER THE WESTERN FLOOD PLAIN
Index No.

E:\094\094K03A

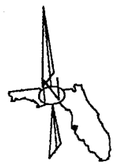
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	53020-3540		B-5A

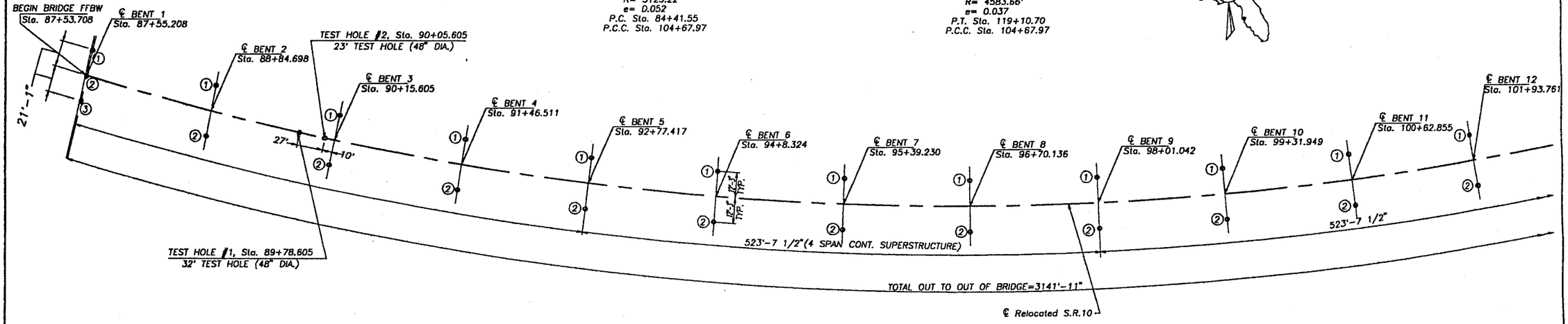
PROPOSED CURVE DATA

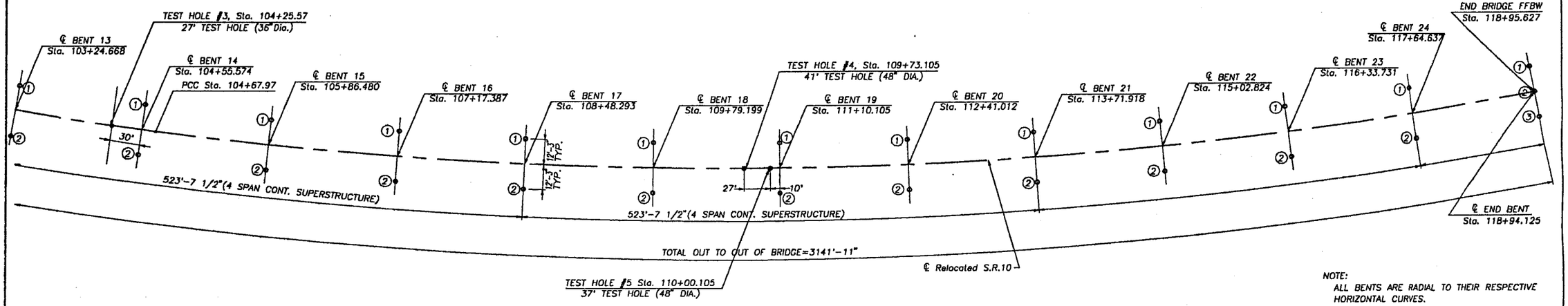
P.I. Sta. 94+91.82
Δ= 37° 09'04"
D= T 50'00"
T= 1050.27'
L= 2028.42'
R= 3125.22'
e= 0.052
P.C. Sta. 84+41.55
P.C.C. Sta. 104+67.97

PROPOSED CURVE DATA

P.I. Sta. 111+95.35
Δ= 18° 02'03"
D= T 15'00"
T= 727.38'
L= 1442.73'
R= 4583.66'
e= 0.037
P.T. Sta. 119+10.70
P.C.C. Sta. 104+67.97







NOTE:
ALL BENTS ARE RADIAL TO THEIR RESPECTIVE HORIZONTAL CURVES.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TAL	11-9-94
Checked by	HHJ	11-9-94
Designed by		
Checked by		
Approved by	HHJ	11-9-94

ENGINEER OF RECORD:
JOINT VENTURE
FINLEY McNARY ENG. &
JANSSEN & SPAANS ENG.

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 10	JACKSON/GADSDEN	53020-3540

SHEET TITLE: FOUNDATION LAYOUT
Drawing No.

PROJECT NAME: S.R.10 OVER THE WESTERN FLOOD PLAIN
Index No.

E:\094\094KFTG

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			B-6

DRILLED SHAFT INSTALLATION TABLE

BENT	SOIL PROFILE	SHAFT SIZE (INCHES)	NUMBER OF SHAFTS	DEAD LOAD (TONS)	LIVE LOAD (TONS)	TOTAL DESIGN LOAD (TONS)	MINIMUM TIP ELEVATION (FT.)	SCOUR ELEVATION (FT.)	* MINIMUM ROCK SOCKET LENGTH (FT.)
END BENT 1 CAP	A	36	2	231	75	306	31.438	74	10
END BENT 1 WINGWALL	A	36	2	42	0	42	31.665	74	10
BENT 2	A	36	2	388	75	463	26.735	59	15
BENT 3	A	36	2	388	75	463	25.735	51	15
BENT 4	A	36	2	388	75	463	25.735	49	15
BENT 5	A	36	2	388	75	463	26.735	49	15
BENT 6	A	36	2	388	75	463	27.735	49	15
BENT 7	A	36	2	388	75	463	27.735	48	15
BENT 8	A	36	2	388	75	463	25.735	47	15
BENT 9	A	36	2	388	75	463	27.735	48	15
BENT 10	A	36	2	388	75	463	24.735	48	15
BENT 11	A	36	2	388	75	463	19.735	47	10
BENT 12	A	36	2	388	75	463	9.735	46	10
BENT 13	A	36	2	388	75	463	25.735	47	15
BENT 14	A	36	2	388	75	463	25.735	45	12
BENT 15	B	36	3	359	58	417	21.735	40	15
BENT 16	B	36	3	359	58	417	23.735	41	12
BENT 17	B	36	3	359	58	417	20.735	40	12
BENT 18	B	36	3	359	58	417	20.735	40	12
BENT 19	B	36	3	359	58	417	22.735	40	12
BENT 20	B	36	3	359	58	417	22.009	40	12
BENT 21	B	36	3	359	58	417	18.035	39	12
BENT 22	B	36	3	359	58	417	11.035	40	12
BENT 23	B	36	3	359	58	417	17.035	41	12
BENT 24	C	36	2	388	75	463	24.035	42	10
BENT 25	C	36	2	388	75	463	22.035	44	10
BENT 26	C	36	2	388	75	463	18.035	46	10
BENT 27	C	36	2	388	75	463	19.035	45	10
BENT 28	C	36	2	388	75	463	21.035	43	10
BENT 29	C	36	2	388	75	463	24.035	45	10
BENT 30	C	36	2	388	75	463	24.035	48	10
BENT 31	C	36	2	388	75	463	22.035	51	10
BENT 32	C	36	2	388	75	463	21.035	54	10
BENT 33	C	36	2	388	75	463	20.035	57	10
BENT 34	C	36	2	388	75	463	18.035	60	10
END BENT 35 CAP	C	36	2	250	75	325	7.227	69	10
END BENT 35 WINGWALL	C	36	2	42	0	42	7.407	69	10

NOTES:

1.) Drilled Shafts will be constructed in accordance with Supplemental Specification Section 455, Structures Foundations.

2.) Sidewall cave should be anticipated during Drilling and, therefore, Temporary Steel Casings are required. Site Conditions indicated that the Wet Construction Method will be required for Shaft Construction.

3.) The Geotechnical Investigation advised that the casing could not be sealed into the Impermeable Stratum and, therefore, the shafts would need to be drilled in a wet condition. The Report noted that ground water would be controlled by setting the casing on top of rock so that the Artesian Head stabilizes within the casing. The Rock Socket is then drilled, the Reinforcing Steel Cage set, and Concrete poured by Tremie or Pump methods. The casing can be pulled after fresh concrete, free of rock cuttings, flows out of the top of the casings. This Installation shall be in accordance with FDOT Supplemental Specification 455.

4.) The Florida Department of Transportation has prepared the load test program for the drilled shafts. For details, See Sheets LT-1 through LT-9 and the special provisions.

5.) Maximum axial load for axial capacity = Dead Load + Live Load. Maximum axial load for Horizontal capacity = Dead Load Only.

6.) The Dead Load and Total Design Load shown is the maximum for a particular bent configuration. The Actual Dead Load for a specific bent may be slightly less depending upon its shaft length when compared with the maximum length. A 3'ϕ shaft weighs about 0.5 tons per foot.

* The Minimum Pile Tip Elevation is based on the Boring Logs. The actual ground line and rock line elevations may vary. The Contractor shall maintain the minimum rock socket length as noted on these plans. Socket lengths are subject to change, dependent upon the Load Test Program results. Minimum Rock Socket length shown is that required to resist Lateral Loads.

REVISIONS						
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	

	Names	Dates
Drawn by	W.R.A.	9/93
Checked by	J.H.M.	9/93
Designed by	J.H.M.	9/93
Checked by	R.C.S.	9/93
Approved by	C.F.C.	

ENGINEER OF RECORD:
LOCHNER
H.W. LOCHNER, INC.
CONSULTING ENGINEERS AND PLANNERS

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 10	JACKSON/GADSDEN	53020-3540

SHEET TITLE: DRILLED SHAFT INSTALLATION TABLE

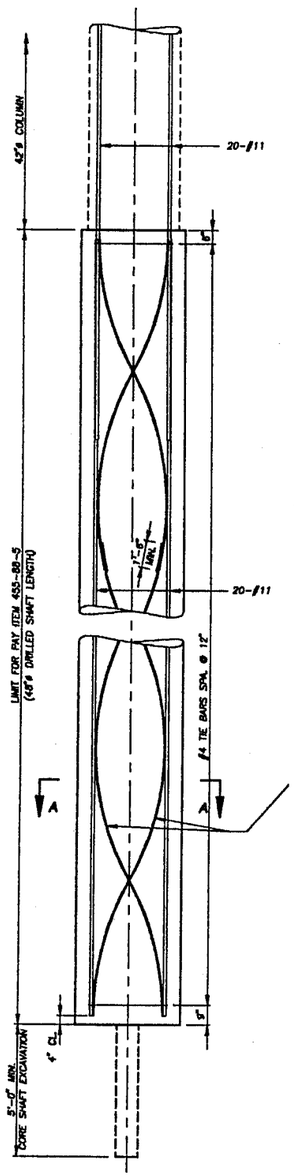
Drawing No. 0F

PROJECT NAME: S.R. 10 OVER THE WESTERN FLOODPLAIN

Index No.

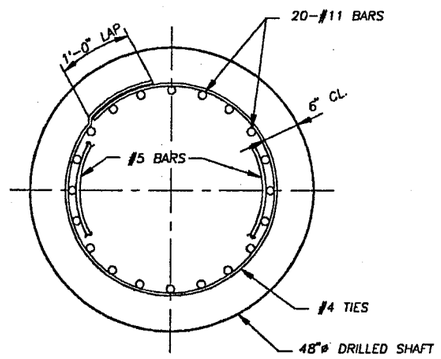
VICTPL2.DGN

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	53020-3540		B-7A



ELEVATION

FIELD BEND TWO #5 BARS AT A RATE OF ONE COMPLETE REVOLUTION PER 20 FEET OF SHAFT INSIDE VERTICAL REINFORCING STEEL. TIE AT INTERSECTION WITH VERTICAL BARS. LAP SPLICE 1'-6" AS NECESSARY.



SECTION A-A

DRILLED SHAFT INSTALLATION TABLE

BENT	SOIL PROFILE	SIZE (INCHES)	SHAFT NO. OF SHAFTS	DEAD LOAD (TONS)	LIVE LOAD (TONS)	TOTAL DESIGN LOAD (TONS)	MIN. TIP ELEV. (FT.)	SCOUR ELEV. (FT.)	MIN. ROCK SOCKET LENGTH (FT.)
END BENT 1 CAP	A	48	3	241	60	301	26.438	74	15
BENT 2	A	48	2	452	133	585	26.343	59	15
BENT 3	A	48	2	452	133	585	25.735	51	15
BENT 4	A	48	2	452	133	585	26.962	49	15
BENT 5	A	48	2	452	133	585	27.735	49	15
BENT 6	A	48	2	452	133	585	25.860	49	15
BENT 7	A	48	2	452	133	585	26.294	48	15
BENT 8	A	48	2	452	133	585	15.754	47	15
BENT 9	A	48	2	452	133	585	11.369	48	15
BENT 10	A	48	2	452	133	585	23.534	48	15
BENT 11	B	48	2	452	133	585	21.584	47	15
BENT 12	B	48	2	452	133	585	19.028	46	15
BENT 13	B	48	2	452	133	585	17.735	47	15
BENT 14	B	48	2	452	133	585	19.441	45	15
BENT 15	B	48	2	452	133	585	15.741	40	15
BENT 16	B	48	2	452	133	585	9.476	41	15
BENT 17	C	48	2	452	133	585	18.641	40	13
BENT 18	C	48	2	452	133	585	18.734	40	13
BENT 19	C	48	2	452	133	585	15.528	40	13
BENT 20	C	48	2	452	133	585	17.857	40	13
BENT 21	C	48	2	452	133	585	21.035	39	13
BENT 22	C	48	2	452	133	585	19.542	40	13
BENT 23	C	48	2	452	133	585	17.871	41	13
BENT 24	C	48	2	452	133	585	15.871	42	13
END BENT 2 CAP	C	48	3	241	60	301	4.227	69	13

FOR TOP OF SHAFT ELEVATION AND ESTIMATED SHAFT LENGTH SEE DWG. B-15A.

DRILLED SHAFT QUANTITIES PER LIN. FT.

ITEM	UNIT	QUANTITY
CLASS IV CONCRETE (DRILLED SHAFT)	CYS.	0.465
REINFORCING STEEL (SUBSTRUCTURE)	LBS.	115.310

THESE QUANTITIES ARE PROVIDED FOR INFORMATION ONLY.

NOTES:

1. DRILLED SHAFTS WILL BE CONSTRUCTED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION SECTION 455, STRUCTURES FOUNDATIONS.
2. THE FLORIDA DEPARTMENT OF TRANSPORTATION HAS PREPARED THE LOAD TEST PROGRAM FOR THE DRILLED SHAFTS. FOR DETAILS, SEE SHEETS LT-1 THROUGH LT-9 AND THE SPECIAL PROVISIONS.
3. MAXIMUM AXIAL LOAD FOR AXIAL CAPACITY = DEAD LOAD + LIVE LOAD. MAXIMUM AXIAL LOAD FOR HORIZONTAL CAPACITY = DEAD LOAD ONLY.
4. THE DEAD LOAD AND TOTAL DESIGN LOAD SHOWN IS THE MAXIMUM FOR A PARTICULAR BENT CONFIGURATION. THE ACTUAL DEAD LOAD FOR A SPECIFIC BENT MAY BE SLIGHTLY LESS DEPENDING UPON ITS SHAFT LENGTH WHEN COMPARED WITH THE MAXIMUM LENGTH. A 4' DIAMETER SHAFT WEIGHS ABOUT 0.94 TONS PER FOOT.
5. CONCRETE FOR DRILLED SHAFTS SHALL BE CLASS IV (DRILLED SHAFT).
6. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60.
7. THE CONTRACTOR SHALL PERFORM A 4 TO 6 INCH DIAMETER SHAFT CORE AND/OR A STANDARD PENETRATION TEST BORING, CONTINUOUS SAMPLING, FOR A MINIMUM DEPTH OF 5 FEET BELOW THE BOTTOM OF THE DRILLED SHAFT EXCAVATION OR AS DIRECTED BY THE ENGINEER.
8. THE CONTRACTOR IS REQUIRED TO CONSTRUCT FIVE OUT OF POSITION TEST HOLES TO DEMONSTRATE THE ADEQUACY OF CONSTRUCTION METHODS AND EQUIPMENT. THESE TEST HOLES WILL BE USED IN THE LOAD TEST PROGRAM. FOR DETAILS, SEE LOAD TEST PLANS. THE TEST HOLE LOCATIONS ARE LOCATED ON THE FOUNDATION LAYOUT SHEET. THE TEST HOLE LENGTH IS SHOWN ON THE FOUNDATION LAYOUT SHEET AND SHALL BE PAID FOR UNDER ITEM NO. 455-91-3. IF THE TEST HOLE IS RELOCATED FROM THAT SHOWN, THE ELEVATIONS AND SHAFT LENGTH MAY VARY FROM THAT SHOWN IN TABLE.
9. THE MINIMUM PILE TIP ELEVATION IS BASED ON THE BORING LOGS. THE ACTUAL GROUND LINE AND ROCK LINE MAY VARY. THE CONTRACTOR SHALL MAINTAIN THE MINIMUM ROCK SOCKET LENGTH AS NOTED ON THESE PLANS. SOCKET LENGTHS ARE SUBJECT TO CHANGE, DEPENDENT UPON THE LOAD TEST PROGRAM RESULTS. MINIMUM ROCK SOCKET LENGTH SHOWN IS THAT REQUIRED TO RESIST LATERAL LOADS.
10. THIS SHEET REPLACES DRAWINGS B-6 AND B-7 OF THE CONTRACT PLANS.

REVISIONS							Names	Dates
Date	By	Description	Date	By	Description	Drawn by	TAL	11-9-94
						Checked by	HHJ	11-9-94
						Designed by		
						Checked by		
						Approved by	HHJ	11-9-94

ENGINEER OF RECORD:
JOINT VENTURE
FINLEY McNARY ENG. & JANSSEN & SPAANS ENG.

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 10	JACKSON/GADSDEN	53020-3540

SHEET TITLE: 48"ø DRILLED SHAFT DETAILS

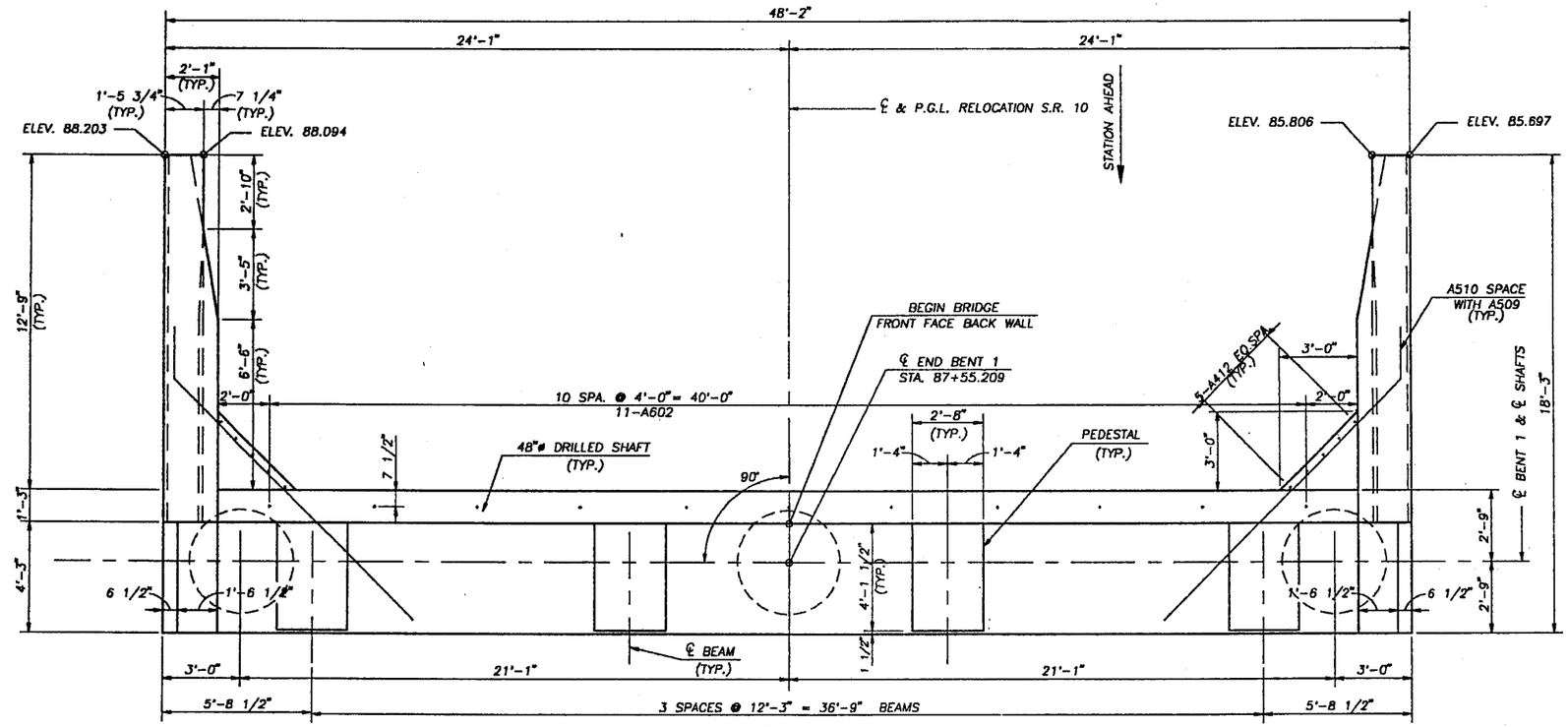
PROJECT NAME: S.R.10 OVER THE WESTERN FLOOD PLAIN

Drawing No.

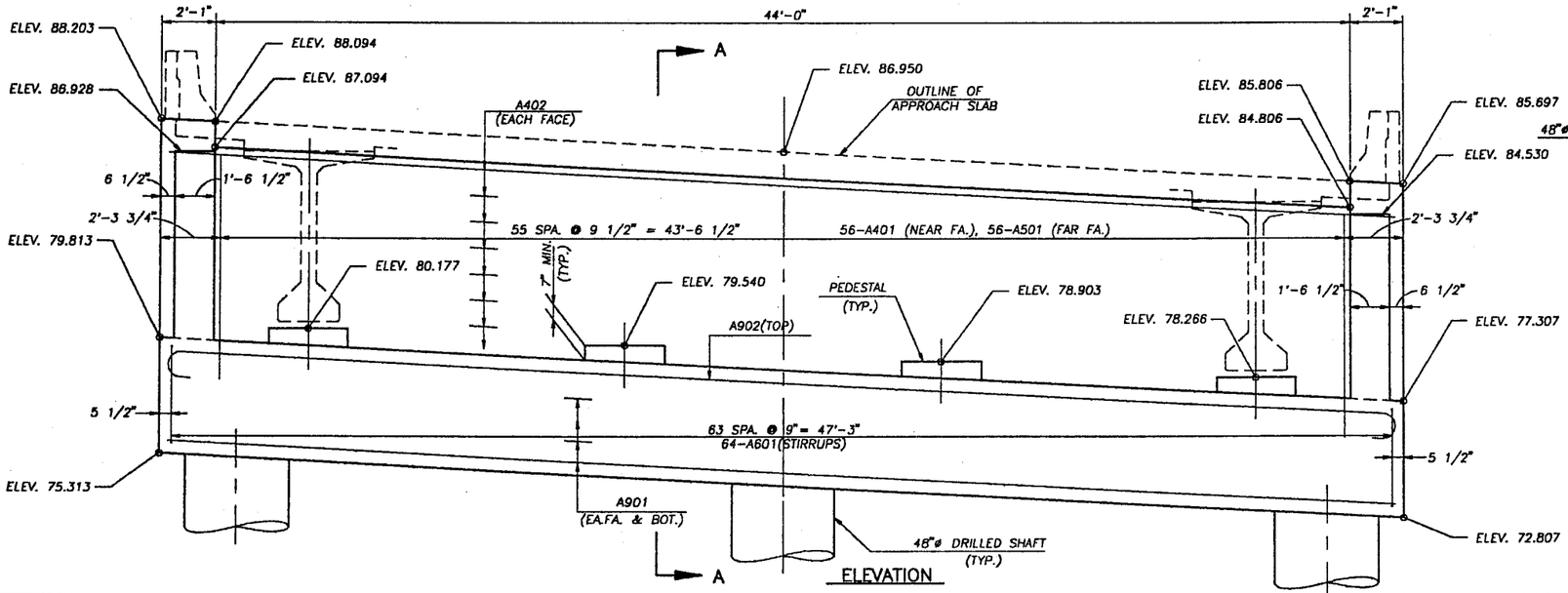
Index No.

E:\094\094GDRS

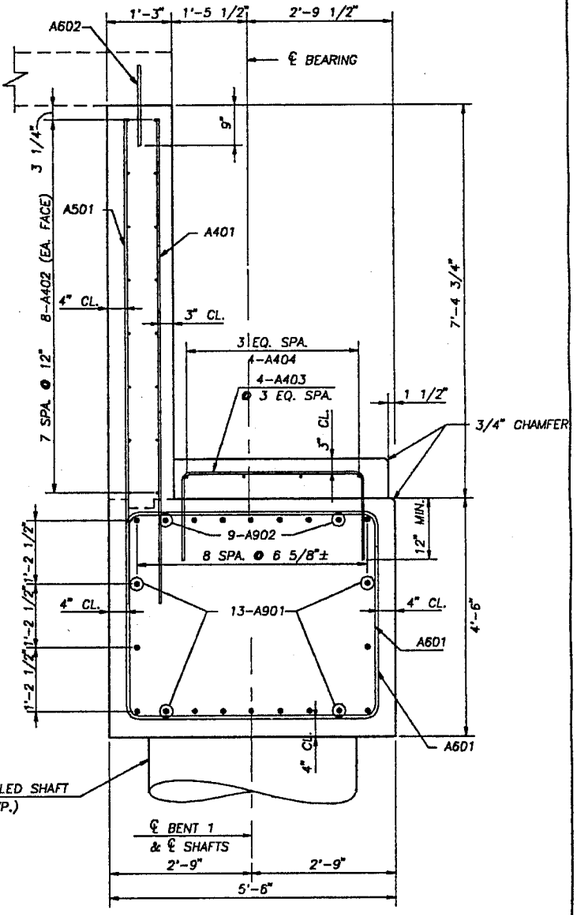
FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	53020-3540		B-8A



PLAN



ELEVATION



SECTION A-A

NOTES:

1. FOR REINFORCING BAR LIST, SEE SHEET B-10A.
2. FOR WINGWALL DETAILS, SEE SHEET B-10A.
3. FOR QUANTITIES, SEE SHEET B-10A.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TAL	11-9-94
Checked by	HHJ	11-9-94
Designed by		
Checked by		
Approved by	HHJ	11-9-94

ENGINEER OF RECORD:
JOINT VENTURE
FINLEY McNARY ENG. & JANSSEN & SPAANS ENG.

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 10	JACKSON/GADSDEN	53020-3540

SHEET TITLE: END BENT 1 DETAILS

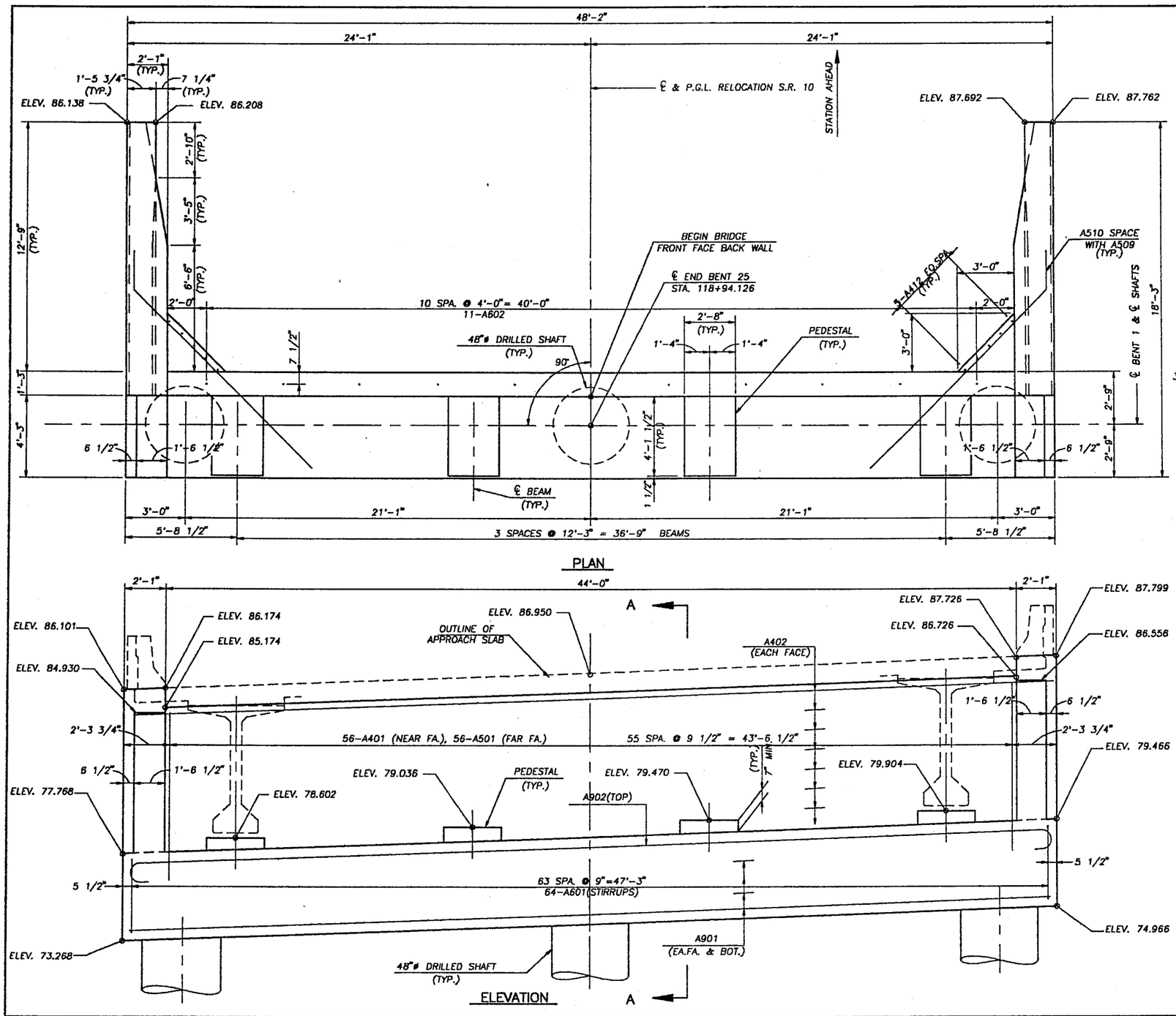
Drawing No.

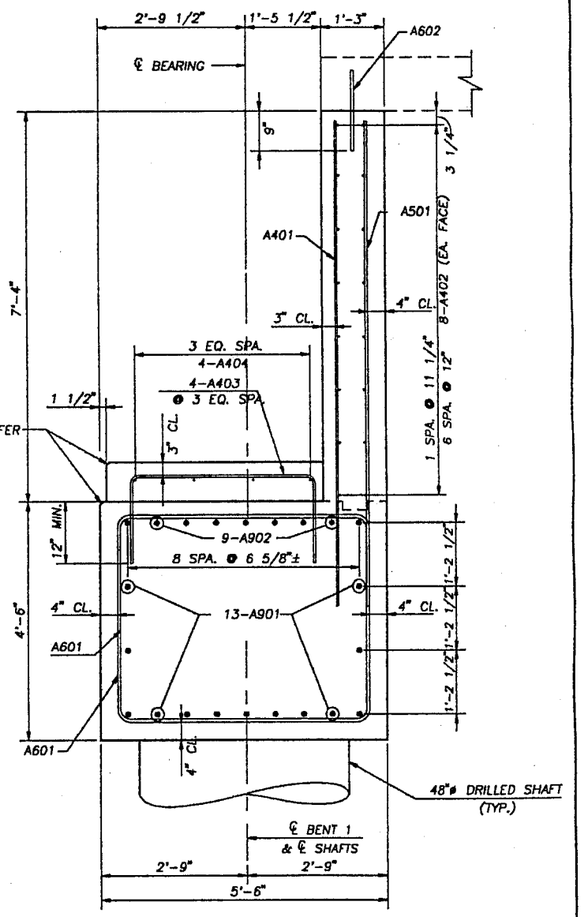
PROJECT NAME: S.R.10 OVER THE WESTERN FLOOD PLAIN

Index No.

E:\094\094FBT1

FED. ROAD DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.	53020-3540		B-9A





NOTES:

1. FOR REINFORCING BAR LIST, SEE SHEET B-10A.
2. FOR WINGWALL DETAILS, SEE SHEET B-10A.
3. FOR QUANTITIES, SEE SHEET B-10A.

REVISIONS					
Date	By	Description	Date	By	Description

	Names	Dates
Drawn by	TAL	11-9-94
Checked by	HHJ	11-9-94
Designed by		
Checked by		
Approved by	HHJ	11-9-94

ENGINEER OF RECORD:
JOINT VENTURE
FINLEY McNARY ENG. & JANSSEN & SPAANS ENG.

LOGO:

SEAL:

FLORIDA DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN OFFICE

ROAD NO.	COUNTY	PROJECT NO.
S.R. 10	JACKSON/GADSDEN	53020-3540

SHEET TITLE: END BENT 25 DETAILS

Drawing No.

PROJECT NAME: S.R.10 OVER THE WESTERN FLOOD PLAIN

Index No.

E:\094\094FBT2

APPENDIX B

FDOT INSPECTION REPORTS

Bridge inspection reports are in alphabetical order as seen in Table 4.1. Reports were not available for Overland Bridge and Victory Bridge.

BRIDGE NO.	780074	FLORIDA DEPARTMENT OF TRANSPORTATION ********** UNDERWATER BRIDGE INSPECTION REPORT	LOCATION	SR-A1A (BRIDGE OF LIONS) OVER MATANZAS RIVER
COUNTY SECTION NO.	78040000		INSPECTION DATE	02/22/16
STATE ROAD NO.	SR-A1A		LEAD INSPECTOR	Keith, Hoogland, CBI 00341
U.S. ROAD NO.	N/A		MILE POST NO.	16.693

Routine Underwater Bridge Inspection Report
BOLTUNDERWATER SERVICES, INC.
for
BURGESS & NIPLE, INC.

Structure/Roadway Identification:

District (2): 02
County (3): St. John's
Feature Intersected (6): Matanzas River IWW
Facility Carried (7): SR-A1A (Bridge of Lions)

Underwater Inspection Details:

Special Crew Hours: 24.0
Max. Depth: 40' at Bent 8
Type of Dive Insp.: Level II (SCUBA)
Type of Boat Used: 23' Skiff
Water Type/Marine Growth: Salt/Tidal – Oysters

Previous Inspection:

Lead Diver:	C.B.I. No.:	Inspection Date:
Durbin, James	00465	02/19/14

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Hoogland, Keith S.	C.B.I. Diver-Inspector	00341/Lead	Dive	KAH
Payne, Timothy N.	Diver-Inspector		Dive	
Jensen, Denise R.	Diver-Inspector		Tend	
Belangia, Korye A.	Diver		Tend	

PILES/COLUMNS
ELEMENT: 205 R/CONCRETE **102: ea.**

NOTE: The intermediate bents are multi-column piers. Abutments 1 and 25 each with two reinforced concrete piles, Bents 2 through 9 and 12 through 20 have two concrete columns above the footings. Bents 2 through 6 and Bents 15 through 18 have submerged footings supported by two drilled shaft reinforced concrete columns. Bents 7, 8, 9, 12, 13 and 14 have submerged footing supported by four drilled shafts reinforced concrete columns. Bascule Piers 10 and 11 with submerged footings supported by eleven reinforced concrete drilled shafts. Piers 19 and 20 have no visible drilled shafts. Exposed drill shafts have the steel casing in place from the footing to the groundline.

Condition State:	QTY:	Recommended Feasible Action:
CS-1	102	Do Nothing

Some columns above the footings have minor areas of peeling exterior coating, up to 8" H x 5" W x ¼" D – NO CHANGE.

NOTE: The opening in form on the SW quadrant of drilled shaft 9-3 was not found this inspection.

INCIDENTAL:
The SW and NW drilled shafts on Pier 10, NE and SE on Pier 11 have larger round steel casings extending up from the groundline to within 6' of the bottom of the footing.

Cleaning Log: Strips were cleaned on Piers 2-1, 2-2, 5-2, 6-2 and 17-2.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

BRIDGE NO.	780074	FLORIDA DEPARTMENT OF TRANSPORTATION ********** BRIDGE INSPECTION REPORT	LOCATION	SR-A1A (BRIDGE OF LIONS) OVER MATANZAS RIVER IWW
COUNTY SECTION NO.	78040000		INSPECTION DATE	2/19/16
STATE ROAD NO.	SR-A1A		LEAD INSPECTOR	Roger Aker, CBI 00401
U.S. ROAD NO.	N/A		MILE POST NO.	16.693

SOUNDINGS PROFILE

Bridge No: 780074
County Section No: 78040000
State Road No: A1A
U.S. Road No:

Location: SR-A1A (Bdg. of Lions) over Matanzas River IWW
Inspection Date: 02/23/2016
Inspector: P. Sawyer

PROFILE COMPARISON REPORT

Bent No.	Date Groundline Recorded 08/23/2011						Date Groundline Recorded 02/19/2014						Date Groundline Recorded 02/23/2016					
	Action		Critical		Lead Line Measurement		Action		Critical		Lead Line Measurement		Action		Critical		Lead Line Measurement	
	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
1					0.00	0.00					0.00	0.00					0.00	0.00
2					22.10	13.70					14.70	12.90					17.50	16.40
3					35.00	27.60					18.40	27.00					27.90	29.80
4					29.80	36.29					32.00	32.20					32.20	33.20
5					31.90	34.39					33.00	32.90					33.40	35.00
6					37.60	36.29					33.00	35.10					32.90	36.00
7					39.70	37.40					36.70	34.10					38.70	37.90
8					37.20	36.69					35.50	34.30					38.40	38.80
9					36.00	34.79					35.00	32.20					37.20	39.90
10					21.70	32.80					25.20	29.40					27.20	31.30
11					28.20	28.99					21.30	24.00					25.30	26.60
12					35.10	33.50					30.90	27.50					32.60	33.30
13					33.00	30.80					28.50	27.60					31.20	32.10
14					29.10	32.80					27.70	29.10					30.80	33.10
15					28.60	31.29					27.40	26.80					28.50	28.80
16					23.00	27.09					21.60	24.00					24.10	25.80
17					21.60	20.10					19.20	20.70					22.80	22.20
18					17.90	19.39					17.00	19.00					18.90	21.30
19					16.60	20.10					10.70	15.60					17.10	20.20
20					13.30	20.00					13.90	15.70					16.10	19.10

Comments:
Waterline reference at Column 2-1 outside top offset +7.5 elevation.
All measurements are negative elevations calculated from 0.0 elevation.

Comments:
Waterline reference at Column 2-1 outside top offset +7.5 elevation.
All measurements are negative elevations calculated from 0.0 elevation.

Comments:
An FDOT 4in. aluminum disk has been set in a 3ft. x 3ft. concrete pile located on the southeast fender system south of Pier 10, having an elevation of 3.92ft. (NAVD88). Hydrographic measurements were made with a Reson 7125 multibeam sounder configured with a 400 KHz transducer.

BRIDGE NO.	780074	FLORIDA DEPARTMENT OF TRANSPORTATION ********** BRIDGE INSPECTION REPORT	LOCATION	SR-A1A (BRIDGE OF LIONS) OVER MATANZAS RIVER IWW
COUNTY SECTION NO.	78040000		INSPECTION DATE	2/19/16
STATE ROAD NO.	SR-A1A		LEAD INSPECTOR	Roger Aker, CBI 00401
U.S. ROAD NO.	N/A		MILE POST NO.	16.693

SOUNDINGS PROFILE

Bridge No: 780074
County Section No: 78040000
State Road No: A1A
U.S. Road No:

Location: SR-A1A (Bdg. of Lions) over Matanzas River IWW
Inspection Date: 02/23/2016
Inspector: P. Sawyer

PROFILE COMPARISON REPORT

Bent No.	Date Groundline Recorded 08/23/2011							Date Groundline Recorded 02/19/2014							Date Groundline Recorded 02/23/2016						
	Action		Critical		Lead Line Measurement		Bent No.	Action		Critical		Lead Line Measurement		Bent No.	Action		Critical		Lead Line Measurement	
	Left	Right	Left	Right	Left	Right		Left	Right	Left	Right	Left	Right		Left	Right	Left	Right	Left	Right
21					9.90	17.60	21					10.80	15.30	21					13.40	17.30
22					9.40	12.20	22					9.00	10.80	22					11.40	12.20
23					7.00	8.39	23					7.60	8.10	23					0.00	0.00
24					6.00	6.49	24					5.70	4.80	24					0.00	0.00
25					0.00	0.00	25					0.00	0.00	25					0.00	0.00

Comments:
Waterline reference at Column 2-1 outside top offset +7.5 elevation.
All measurements are negative elevations calculated from 0.0 elevation.

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Waterline reference at Column 2-1 outside top offset +7.5 elevation.
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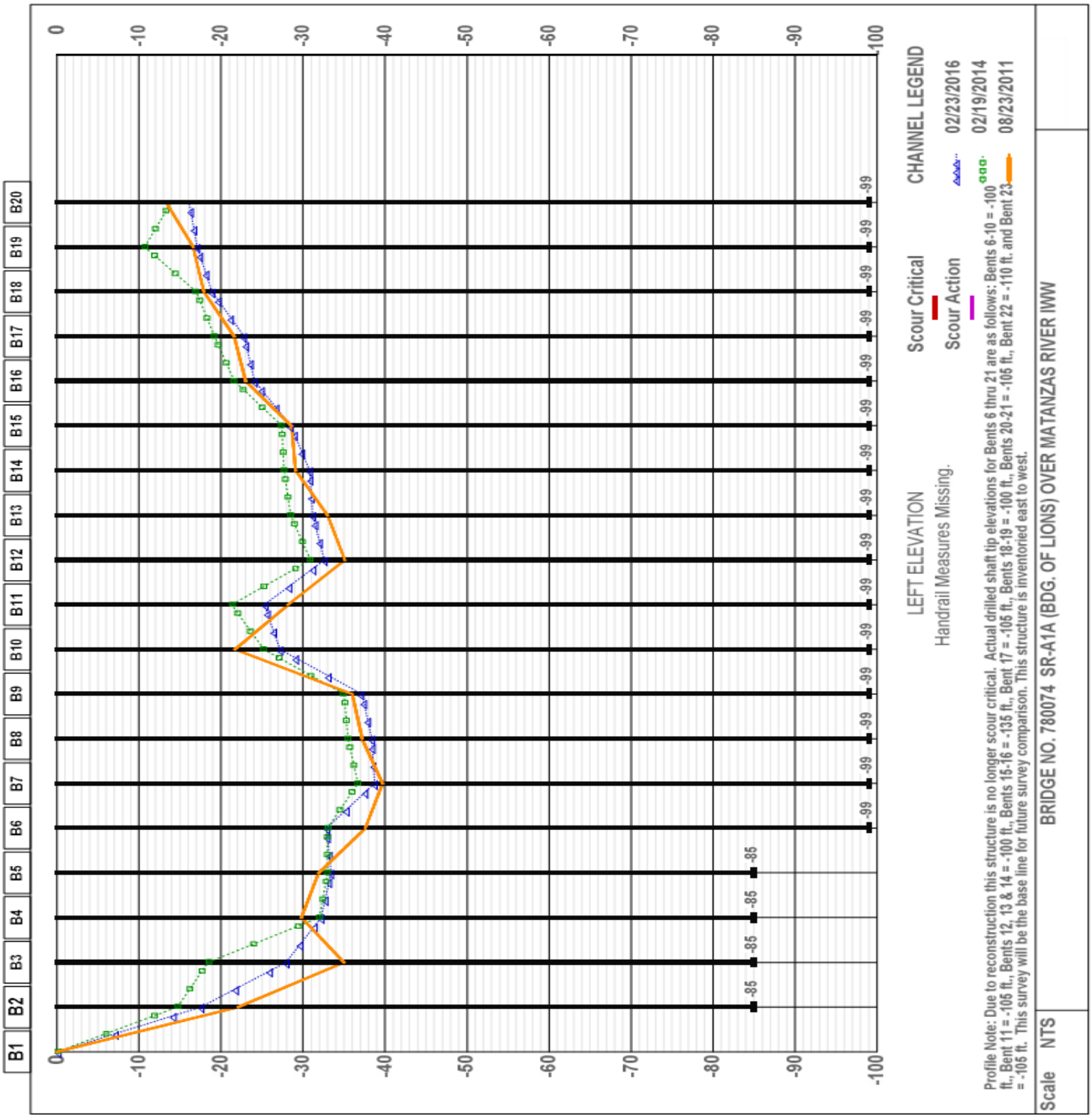
Comments:
An FDOT 4in. aluminum disk has been set in a 3ft. x 3ft. concrete pile located on the southeast fender system south of Pier 10, having an elevation of 3.92ft. (NAVD88). Hydrographic measurements were made with a Reson 7125 multibeam sounder configured with a 400 KHz transducer.

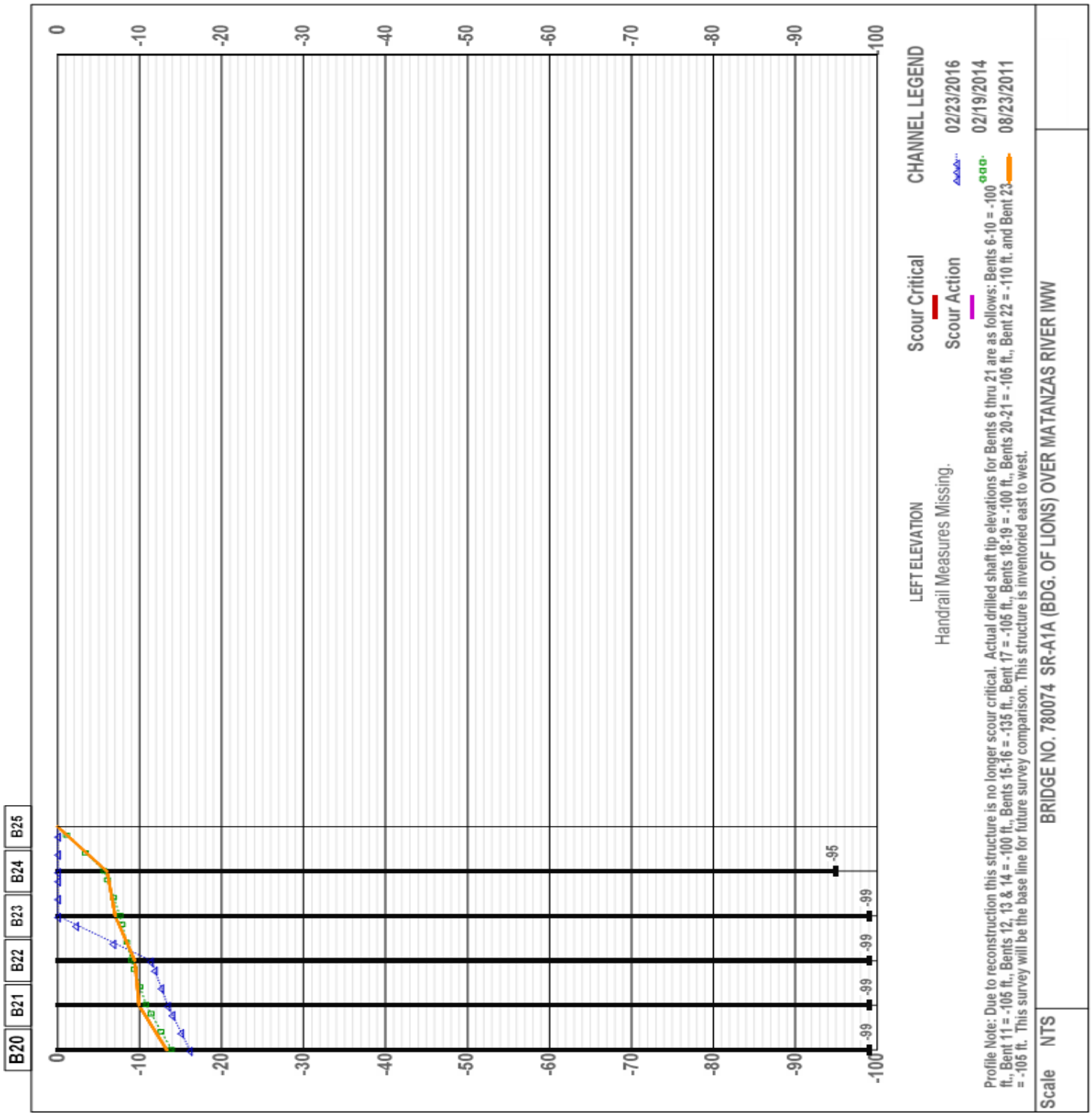
BRIDGE NO.	780074	FLORIDA DEPARTMENT OF TRANSPORTATION ********** BRIDGE INSPECTION REPORT	LOCATION	SR-A1A (BRIDGE OF LIONS) OVER MATANZAS RIVER IWW
COUNTY SECTION NO.	78040000		INSPECTION DATE	2/19/16
STATE ROAD NO.	SR-A1A		LEAD INSPECTOR	Roger Aker, CBI 00401
U.S. ROAD NO.	N/A		MILE POST NO.	16.693

SOUNDINGS PROFILE



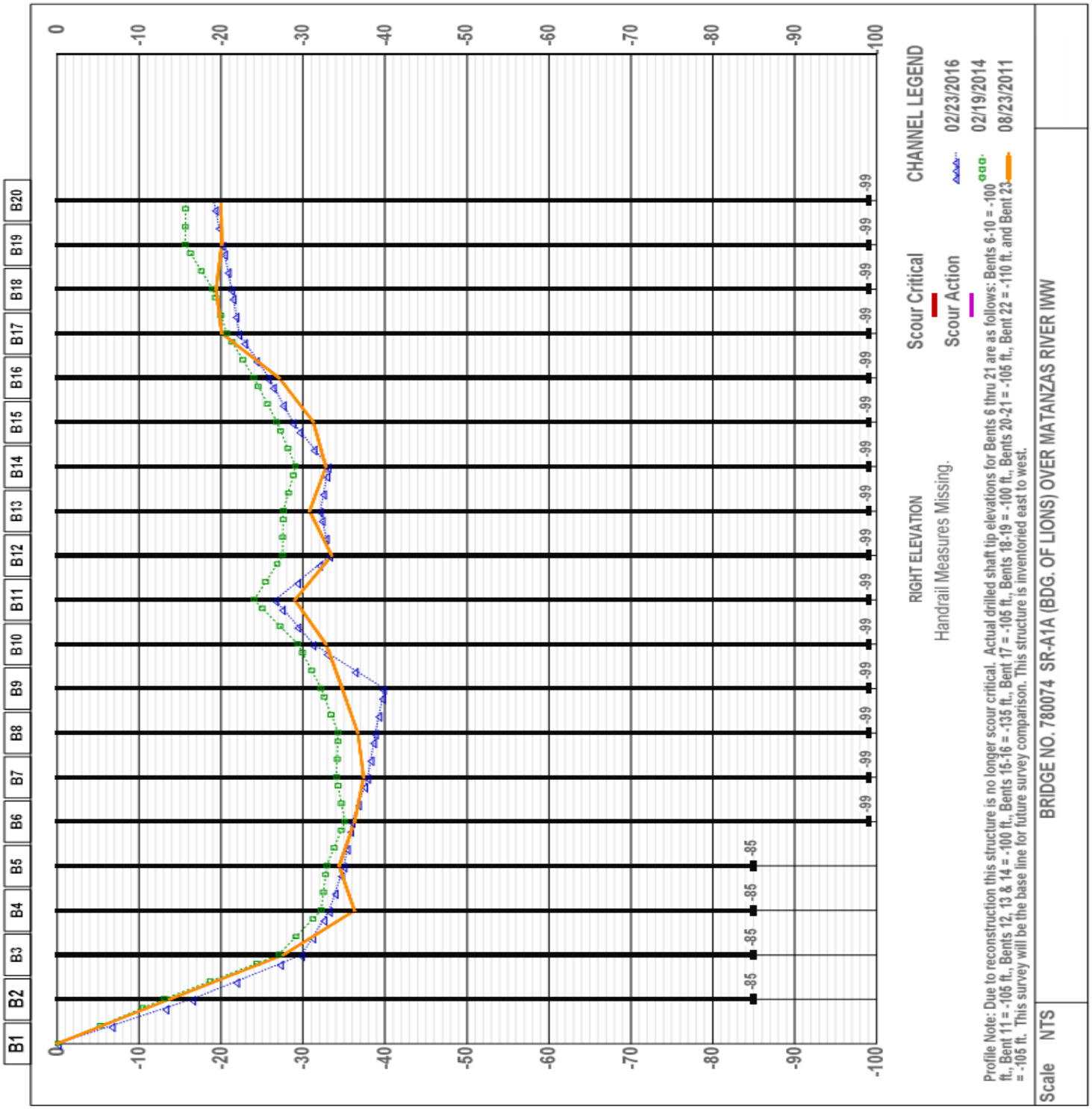
BRIDGE NO.	780074	FLORIDA DEPARTMENT OF TRANSPORTATION ********** BRIDGE INSPECTION REPORT	LOCATION	SR-A1A (BRIDGE OF LIONS) OVER MATANZAS RIVER IWW
COUNTY SECTION NO.	78040000		INSPECTION DATE	2/19/16
STATE ROAD NO.	SR-A1A		LEAD INSPECTOR	Roger Aker, CBI 00401
U.S. ROAD NO.	N/A		MILE POST NO.	16.693

SOUNDINGS PROFILE



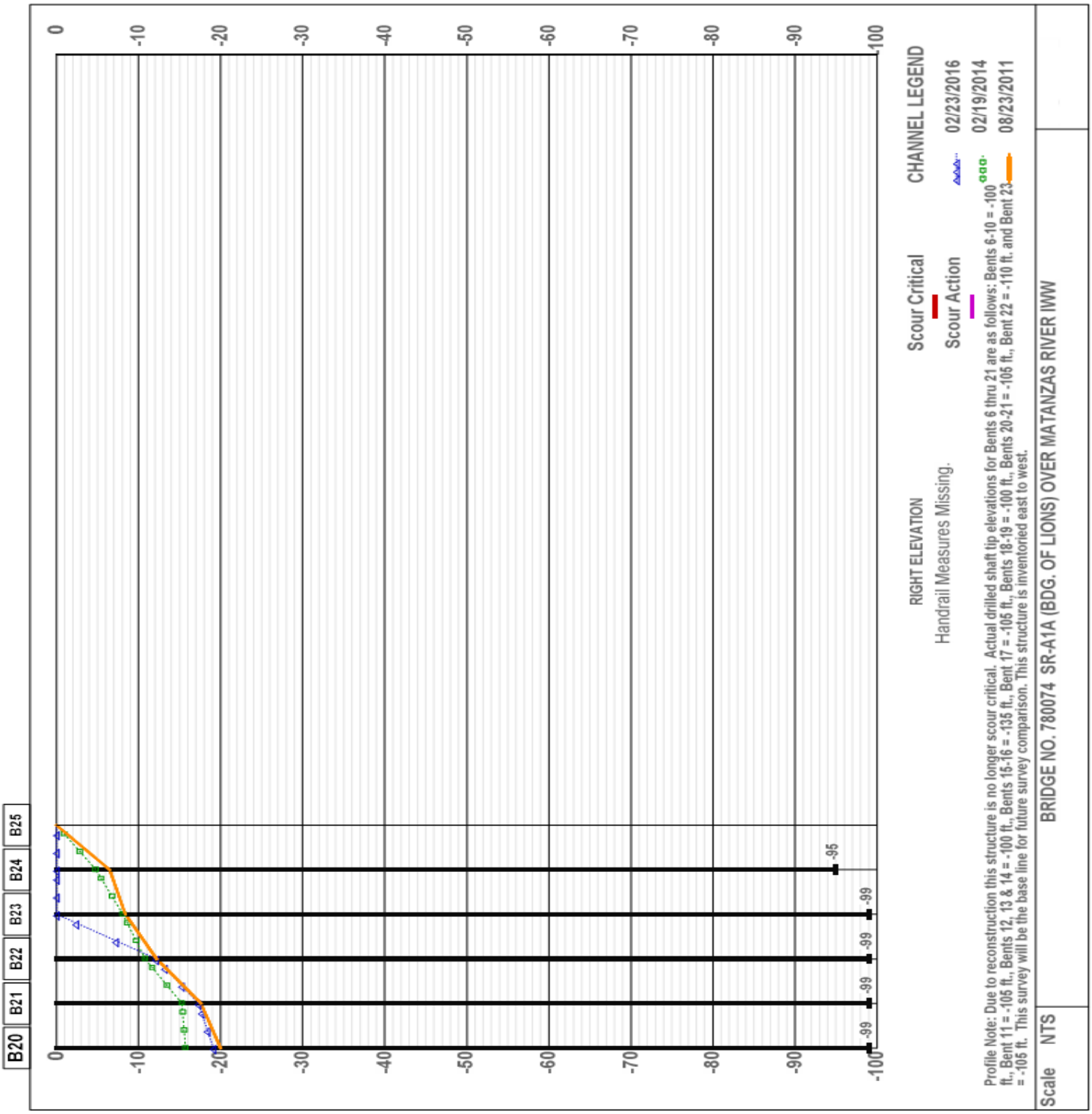
BRIDGE NO.	780074	FLORIDA DEPARTMENT OF TRANSPORTATION ********** BRIDGE INSPECTION REPORT	LOCATION	SR-A1A (BRIDGE OF LIONS) OVER MATANZAS RIVER IWW
COUNTY SECTION NO.	78040000		INSPECTION DATE	2/19/16
STATE ROAD NO.	SR-A1A		LEAD INSPECTOR	Roger Aker, CBI 00401
U.S. ROAD NO.	N/A		MILE POST NO.	16.693

SOUNDINGS PROFILE



BRIDGE NO.	780074	FLORIDA DEPARTMENT OF TRANSPORTATION ********** BRIDGE INSPECTION REPORT	LOCATION	SR-A1A (BRIDGE OF LIONS) OVER MATANZAS RIVER IWW
COUNTY SECTION NO.	78040000		INSPECTION DATE	2/19/16
STATE ROAD NO.	SR-A1A		LEAD INSPECTOR	Roger Aker, CBI 00401
U.S. ROAD NO.	N/A		MILE POST NO.	16.693

SOUNDINGS PROFILE



Routine Underwater Bridge Inspection Report
BOLT UNDERWATER SERVICES, INC.
for
KISINGER CAMPO & ASSOCIATES, CORP.

NBI Structure ID. (8): **150244** Underwater Date (93): 12/03/15

Structure/Roadway Identification:

District (2):	07
County (3):	Pinellas
Feature Intersected (6):	Clearwater Harbor
Facility Carried (7):	SR-60

Underwater Inspection Details:

Special Crew Hours:	6.0
Max. Depth:	16ft. at Footing 6
Type of Dive Insp.:	Level II (SCUBA)
Type of Boat Used:	23ft. Skiff
Water Type/Marine Growth:	Salt/Tidal – Barnacles/Oysters

Previous Inspection:

Lead Diver:	C.B.I. No.:	Inspection Date:
Griswold, Mollie A.	00366	12/09/13

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Hoogland, Keith S.	C.B.I. Diver-Inspector	00341/Lead	Dive	KSH
Salazar, Pete Jr.	Diver-Inspector		Dive	
Jensen, Denise R.	Diver		Tend	

PILES/COLUMNS
ELEMENT: 205 R/CONCRETE **9**: ea.

NOTE: This quantity includes the nine drilled shafts with casings that are visible under footings 5, 6 and 7. Only the SW column is visible under Footing 7 (all four are exposed on Footings 5 and 6).

Condition State:	QTY:	Recommended Feasible Action:
CS-1	**9**	**Do Nothing**

The steel casings are still in-place from the footing to the groundline. The steel has light pitting and light corrosion.

Cleaning Log: No cleaning was done due to steel casings being in place.

SUBMERGED FOOTING
ELEMENT: 220 R/CONCRETE **3**: ea.

Condition State:	QTY:	Recommended Feasible Action:
CS-2	**3**	**Do Nothing**

The pre-cast footer slabs utilized at bottom forms are broken up with exposed rebar and are on the channel bottom or hanging between the footer and channel bottom.

There footings have vertical cracks up to full height x *1/32in.* on the sides of the footings – INCREASE.

Piers 5, 6 and 7 have impact spalls up to 5ft. H x 24in. W x ½in. D, primarily at the corners, extending up from the top of the marine growth.

Footing 5 east face, 29ft. from the north end, void, 4in. H x 2in. W, 7ft. below the top of the footing and a ruler can penetrate vertically up to 30in.

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Cleaning Log: Strips on Footing 7 were cleaned.

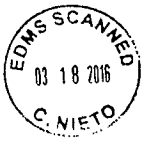
This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

CHANNEL
ELEMENT: 290 1: ea.

Condition State:	QTY:	Recommended Feasible Action:
CS-2	1	Do Nothing

There is pre-cast slab concrete debris and rebar under the footer which is broken and hanging down or accumulated on the channel bottom. There is a possible chance of previous slab debris moving.

INSPECTION NOTES: Divers inspected nine concrete drilled shafts in Bents 5 through 7, Footings and Channel.
STRUCTURE NOTES: Structure inventoried west to east.



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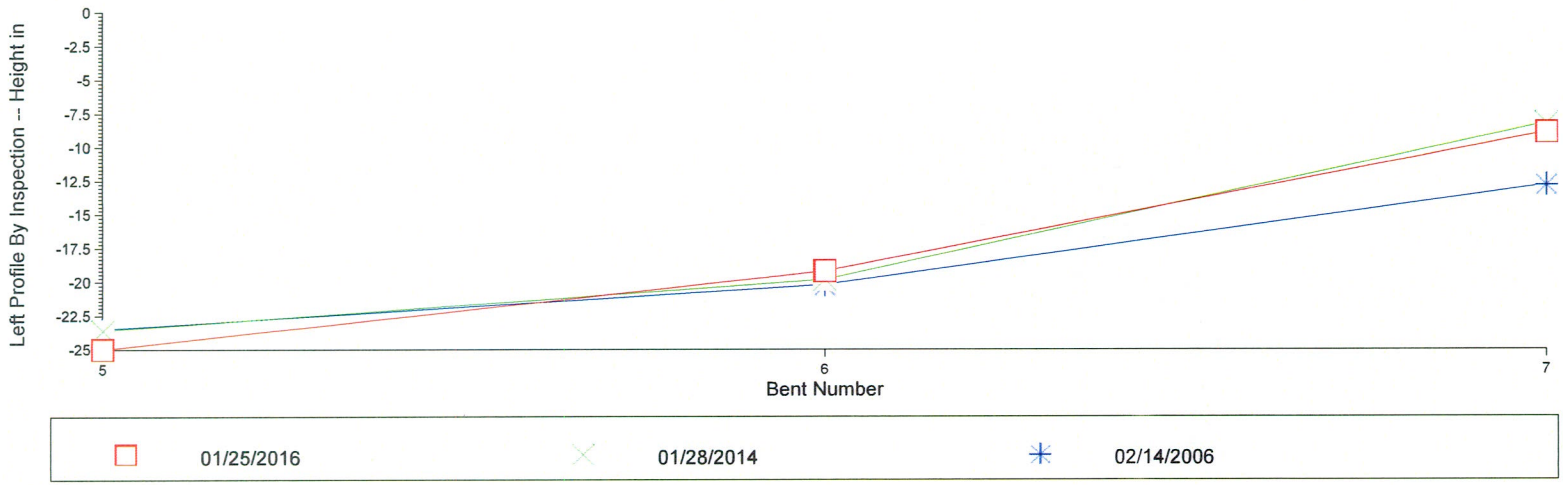
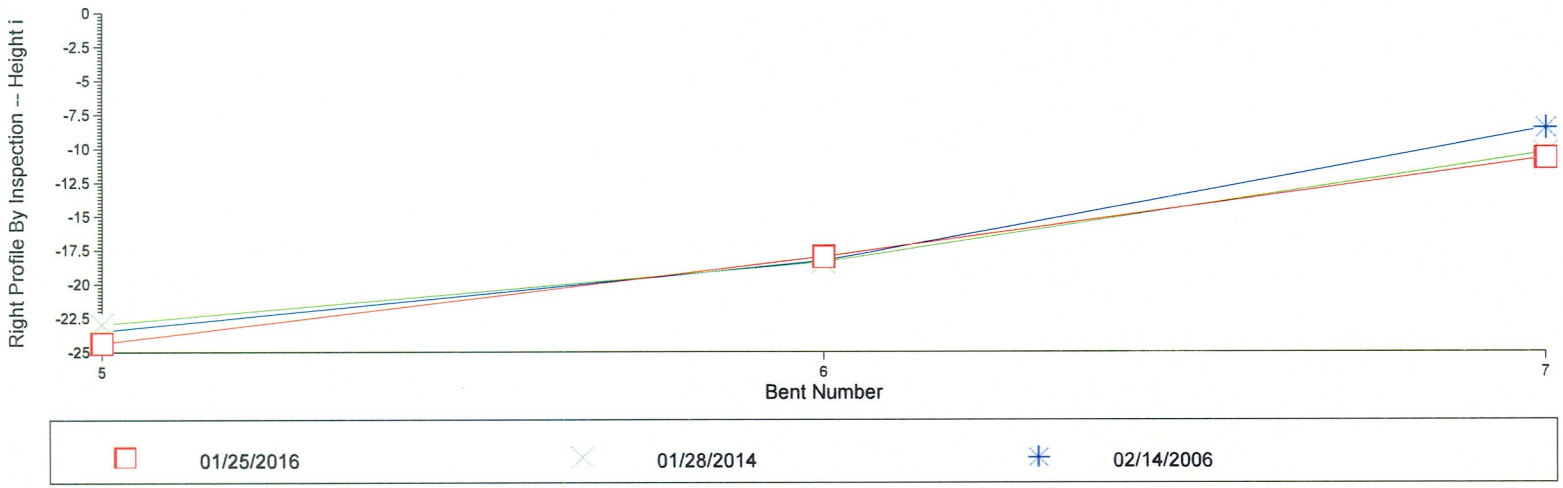
FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Bridge Profile Report

REPORT ID: INVT016
Structure #: 150244

DATE PRINTED: 03/02/2016





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03 18 2016
C. NIETO

Profile Data - Numerical Summary

Inspection Date and Key: 01/25/2016 LBMN

Bent #	Left Height	Right Height
5	25	24.4
6	19.2	18
7	8.9	10.7

(All Heights Are In Feet)

Air Temp: 1
Profile Notes:
Profile Reference: Top of Pier 5 footer
Waterline: 6.1ft.
Pier 4 is dry on the left and right sides.

Inspection Date and Key: 01/28/2014 QKTE

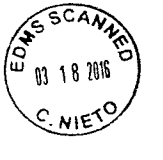
Bent #	Left Height	Right Height
5	23.6	23
6	19.8	18.4
7	8.2	10.3

Air Temp: 1
Profile Notes:
Profile Reference: Top of Pier 5 footer
Waterline: 5ft.
Pier 4 is dry on the left and right side.

Inspection Date and Key: 02/14/2006 JARY

Bent #	Left Height	Right Height
5	23.5	23.5
6	20.2	18.3
7	12.8	8.5

Air Temp:
Profile Notes:
Profile Reference: Top of Pier 5 Footing
Channel Depth: 17.5FT



Routine Underwater Bridge Inspection Report
BOLT UNDERWATER SERVICES, INC.
for
KISINGER CAMPO & ASSOCIATES, CORP.

NBI Structure ID. (8): **155522** Underwater Date (93): 12/30/16

Structure/Roadway Identification:

District (2): 01
County (3): Pinellas
Feature Intersected (6): Clearwater Pass Bridge
Facility Carried (7): CR 183 & 699 (Gulf Blvd.)

Underwater Inspection Details:

Special Crew Hours: 23.2
Max. Depth: 35ft. at Bent 15
Type of Dive Insp.: Level II (SCUBA)
Type of Boat Used: 23ft. Skiff
Water Type/Marine Growth: Salt – Barnacles/Oysters

Previous Inspection:

Lead Diver:	C.B.I. No.:	Inspection Date:
Hoogland, Keith S.	00341	12/12/14

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Hitch, Victoria G.	C.B.I. Diver-Inspector	00414/Lead	Tend	
Hoogland, Keith S.	C.B.I. Diver-Inspector	00341	Dive	
Jensen, Denise R.	Diver-Inspector		Dive	
Brewer, James D.	Diver		Dive	
Goldman, Derek B.	Diver		Tend	

CHANNEL
ELEMENT: 8290 **1** EA.

NO NOTES.

RE CONC SUB PILE CAP/FTG
ELEMENT: 220 **432** FT.

CS-2 1130
The footings have vertical cracks up to 3ft. 6in. L x 1/32in. W, in the following locations:

Footing	Number of cracks North side	Number of cracks South side	Quantity
4	3	1	4FT.
5	0	0	0FT.
6	0	2	2FT.
7	0	4	4FT.
8	0	1	1FT.
9	0	3	3FT.
10	0	0	0FT.
11	1	3	4FT.
12	0	3	3FT.
13	0	4	4FT.
14	0	1	1FT.
15	0	1	1FT.
16	0	1	1FT.
17	1	3	4FT.
18	2	3	5FT.

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CS-3 1080
Footing 17: North face, 3ft. from east end, 4ft. below top of footing, void, 6in. H x 6in. W x 4in. D.

INCIDENTAL:
There are minor washouts between the footing and seal, and portions of the seal are missing. Approximate footing thickness is 6ft.

Cleaning Log: Footing 5 and 6 were cleaned.

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RE CONC COLUMN
ELEMENT: 205 28 EA.

NOTE: There are no columns (shafts) visible under the footings at Pier 4 and Pier 19.
The columns on Piers 5 through Pier 18 have steel casings in place. On several of the columns, the bottom edge of the casings are visible up to 4ft. above the groundline. The concrete is irregular with no exposed steel. Refer to Element 8290 for the distance of the casings to the groundline.

CS-2 6000
Scour dishes/irregular bottom around the columns were up to 5ft. deep and extending up to 6ft. out from the columns.

Distance from bottom of casings to groundline:

Column	2009	2014	2016
8-1	N/A	12in	19in.
8-2	N/A	14in.	14in.
9-1	N/A	4ft.	4ft.
9-2	28in.	34in.	3ft. 6in.
10-1	12in.	18in.	28in.
10-2	6in.	20in.	28in.
13-1	11in.	16in.	14in.
13-2	6in.	12in.	17in.
14-1	22in.	3ft. 8in.	3ft. 6in.
14-2	8in.	22in.	20in.
15-1	–	–	7in.
15-2	8in.	0in.	3ft. 6in.

Changes greater than 24in. in the above measurements may be due to strong currents and loose channel bottom.

INCIDENTAL:
The steel casings have some areas of light corrosion and minor pitting up to 1/16in. deep.

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Cleaning Log: No cleaning due to steel casings on the visible shafts.

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PS FENDER/DOLPHIN
ELEMENT: 8387 502 FT.

NOTE: This element represents the epoxy jackets on the east plumb and batter piles, approximately 8ft. 3in. below the bottom wale.

CS-3 1080
North Fender:
West end 1st batter pile on NW edge at top of marine growth, spall, 30in. H x 6in. W x *3in. D* (below this spall there is a sound epoxy patch). INCREASE. 1FT.

The connecting hardware holes have spalls up to 8in. diameter x 1in. deep (approximately 10 per side). 20FT.

CS-4 1110
South Fender:
3rd plumb pile from the east at groundline on the south face is fractured, up to 24in. high and extending into the west and east faces. 1FT.

5th plumb pile from the east at groundline on all four faces is fractured, up to 18in. high. *One piece of pre-stress cable has up to 100% section loss.* INCREASE. 1FT.

3rd batter pile from east at groundline on the south face is fractured up to 18in. high. NEW. 1FT.

INCIDENTAL:
Connecting hardware has minor to moderate corrosion.

Several of the lower wales have areas that are deteriorated up to 10% due to marine borer activity, with areas up to 20% section loss typically at the connecting hardware.

INSPECTION NOTES: Divers inspected Channel, Footings, Piers 5 through 18 with twenty-eight drill shaft casings, Jackets and Fender System.
STRUCTURE NOTES: Structure inventoried south to north.

PHOTO LOG:
No. 1: Structure ID.
No. 2: East elevation
No. 3, 4: South fender 5th plum pile from east, fractured pile with exposed cable
No. 5: South fender 3rd batter pile from east, fractured pile
No. 6: Typical corrosion on lower connecting hardware
No. 7, 8: Fender lower wales, typical section loss
No. 9, 10: North fender west batter, NW corner, spall
No. 11, 12: Typical spall on fender pile at lower bolts
No. 13, 14: Footing 17 north face, void

EDMS SCANNED 03 10 2017 C. NIETO

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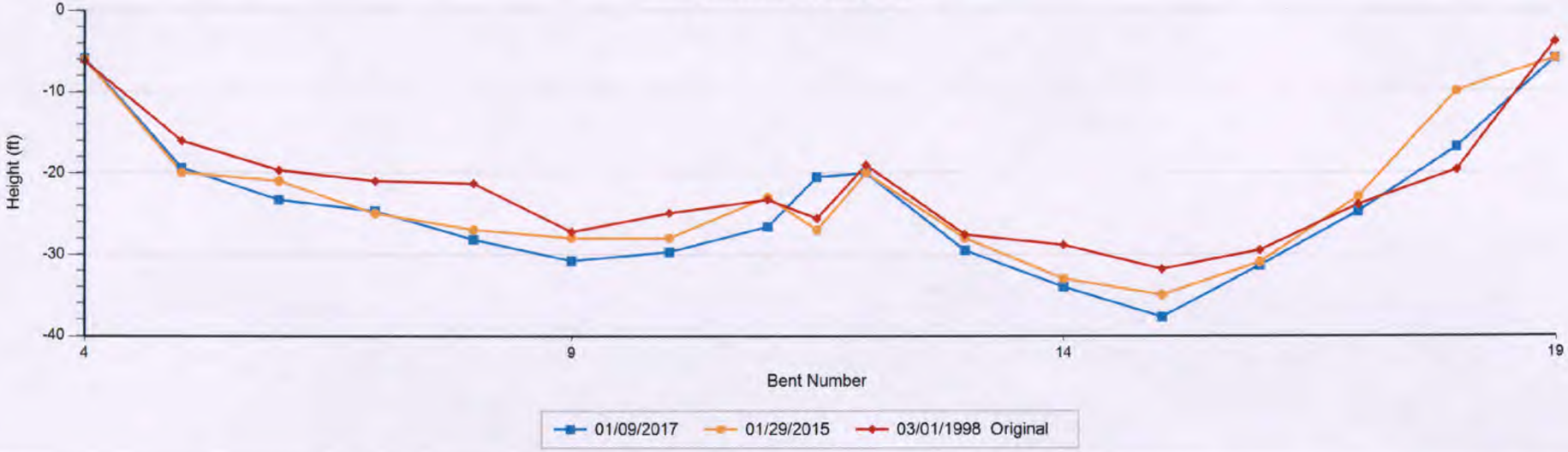
REPORT ID : INSP005
Structure ID : 155522

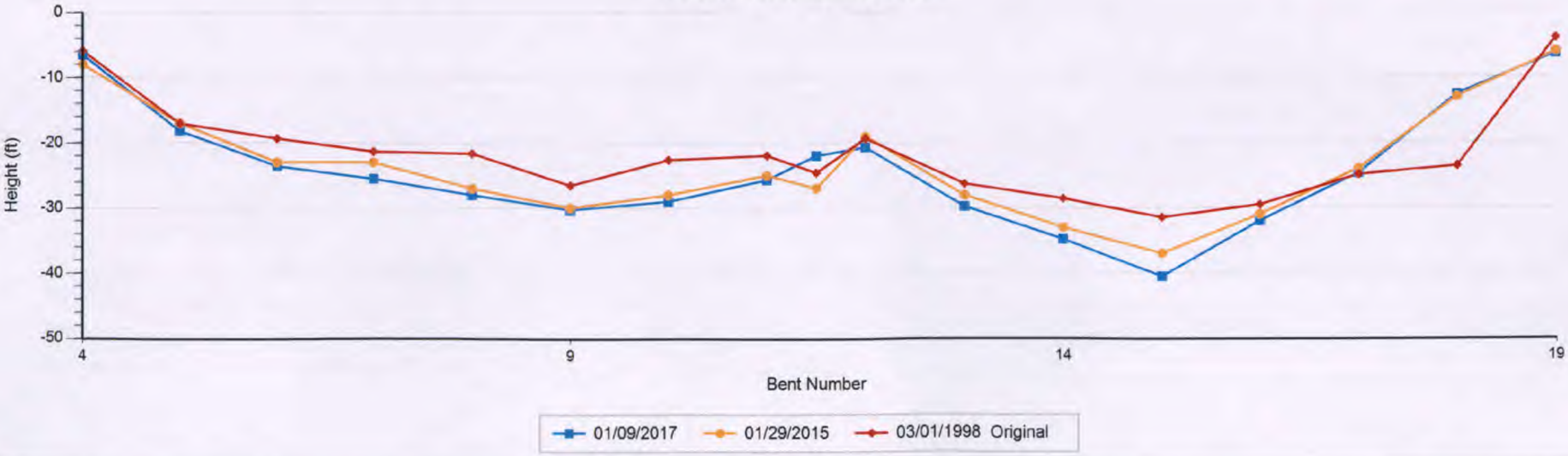
FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Bridge Profile Report
Bridge Profile

DATE PRINTED: 2/17/2017 8:27:19 AM

Left Profile by Inspection



Right Profile by Inspection



EDMS SCANNED
03 10 2017
C. NIETO

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REPORT ID : INSP005
Structure ID : 155522

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Bridge Profile Report
Bridge Profile

DATE PRINTED: 2/17/2017 8:27:19 AM

Profile Data - Numerical Summary

Inspection Date and Key: 1/9/2017 WULU

(All Heights are in Feet)

Bent #	Left Height	Right Height
4	5.90	6.50
5	19.40	18.20
6	23.30	23.60
7	24.70	25.50
8	28.20	28.00
9	30.80	30.30
10	29.70	29.00
11	26.60	25.70
11.5	20.50	22.00
12	20.00	20.70
13	29.50	29.70
14	34.00	34.80
15	37.70	40.50
16	31.40	32.00
17	24.80	24.70
18	16.90	12.60
19	6.00	6.30

Air Temp:

Profile Notes:

Profiles referenced to top of Footer 12.
Waterline = 3.2ft.
*Some measurements have 2ft. or greater differences from the previous inspection. This condition is possibly due to strong currents and a loose channel bottom.

Inspection Date and Key: 1/29/2015 NBCM

Bent #	Left Height	Right Height
4	6.00	8.00
5	20.00	17.00

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REPORT ID : INSP005
Structure ID : 155522

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Bridge Profile Report
Bridge Profile

DATE PRINTED: 2/17/2017 8:27:19 AM

Profile Data - Numerical Summary

(All Heights are in Feet)

Bent #	Left Height	Right Height
6	21.00	23.00
7	25.00	23.00
8	27.00	27.00
9	28.00	30.00
10	28.00	28.00
11	23.00	25.00
11.5	27.00	27.00
12	20.00	19.00
13	28.00	28.00
14	33.00	33.00
15	35.00	37.00
16	31.00	31.00
17	23.00	24.00
18	10.00	13.00
19	6.00	6.00

Air Temp: 1

Profile Notes:

Profiles referenced to top of Footer 12.
Waterline = 4ft.
Some measurements have 2ft. or greater differences from the previous inspection. This condition is possibly due to strong currents and a loose channel bottom.

Inspection Date and Key: 3/1/1998 STRT

(Original Inspection)

4	6.23	5.91
5	16.08	17.06
6	19.69	19.36
7	21.00	21.33

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REPORT ID : INSP005
Structure ID : 155522

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Bridge Profile Report
Bridge Profile

DATE PRINTED: 2/17/2017 8:27:19 AM

Profile Data - Numerical Summary

(All Heights are in Feet)

Bent #	Left Height	Right Height
8	21.33	21.65
9	27.23	26.57
10	24.93	22.64
11	23.29	21.98
11.5	25.59	24.61
12	19.03	19.36
13	27.56	26.25
14	28.87	28.54
15	31.82	31.50
16	29.53	29.53
17	23.95	24.93
18	19.69	23.62
19	3.94	3.94

Air Temp:
Profile Notes:

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BRIDGE NO.	720633	FLORIDA DEPARTMENT OF TRANSPORTATION ********** UNDERWATER BRIDGE INSPECTION REPORT	LOCATION	I-95 SB Off Ramp over St. Johns River
COUNTY SECTION NO.	72020065		INSPECTION DATE	08/10/15
STATE ROAD NO.	N/A		LEAD INSPECTOR	Qualls, Dion C. CBI 00470
U.S. ROAD NO.	I-95		MILE POST NO.	0.016

BOLT UNDERWATER SERVICES, INC.
for
BURGESS & NIPLE, INC.

Structure/Roadway Identification:

District (2): 02 State
County (3): Duval
Feature Intersected (6): St. Johns River
Facility Carried (7): I-95 SB Off Ramp

Underwater Inspection Details:

Special Crew Hours: 6.0
Max. Depth: 18' at Bent 6
Type of Dive Insp.: Level II (SCUBA)
Type of Boat Used: 23' Skiff
Water Type/Marine Growth: Brackish/Tidal – Barnacles/Oysters

Prev. Inspection:

Lead Diver:	C.B.I. No.:	Inspection Date:
Hitch, Victoria G.	00414	08/26/13

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Qualls, Dion C.	C.B.I. Diver-Inspector	00470/Lead	Dive/Tend	
Hoogland, Keith S.	C.B.I. Diver-Inspector	00341	Tend	
Salazar, Pete Jr.	Diver-Inspector		Dive/Tend	
Payne, Timothy N.	Diver-Inspector		Tend	

PILES/COLUMNS
ELEMENT: 205 R/CONCRETE **13**: ea.
NBI: **8**

NOTE: Piers 4, 5 and 6 each have four 36" drilled shafts. The steel drilled shaft casings remain in-place. One pile is partially visible under Footing 3. Pier 7 is a shared pier also Pier 1 of Structure No. 720629 (this Pier was quantified and evaluated with Structure No. 720269).

Condition State:	QTY:	Recommended Feasible Action:
CS-1	**13**	**Do Nothing**

Cleaning Log: No cleaning due to steel casings in place.

SUBMERGED FOOTING
ELEMENT: 220 R/CONCRETE **4**: ea.
NBI: **8**

NOTE: The waterline footings are constructed by precast concrete forms 18" thick, then sealed with 6" of concrete seal. The footing thickness is 6' and the combined total thickness is 8' Piers 3, 4, 5 and 6 were evaluated under this element. Pier 7 is a shared pier and also Pier 1 of Structure No. 720629 (this Pier was quantified and evaluated with Structure No. 720629).

Condition State:	QTY:	Recommended Feasible Action:
CS-1	**4**	**Do Nothing**

Several footings have areas of precast slabs that are hanging and broken down at the edges and undersides with exposed rebar
– *INCREASE.*

Cleaning Log: Random strips on Footing 5 were cleaned.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

CHANNEL
ELEMENT: 290 **1**: ea.
NBI: **7**

NOTE: This structure joins the main river crossing, Structure No. 720629 over the St. Johns River.

Condition State:	**QTY:**	**Recommended Feasible Action:**
CS-2	**1**	**Do Nothing**

There is construction debris on the channel bottom below the footings – *NEW.*

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

BRIDGE NO.	720633	FLORIDA DEPARTMENT OF TRANSPORTATION ********** UNDERWATER BRIDGE INSPECTION REPORT	LOCATION	I-95 SB Off Ramp over St. Johns River
COUNTY SECTION NO.	72020065		INSPECTION DATE	08/10/15
STATE ROAD NO.	N/A		LEAD INSPECTOR	Qualls, Dion C. CBI 00470
U.S. ROAD NO.	I-95		MILE POST NO.	0.016

SUB STRUCTURE ELEMENTS INSPECTED

Elements of the substructure inspected include the following:

- Bent 3 with one footing and one visible pile
- Bents 4 through 6 each with four drilled shafts and one footing
- Bent 7 – This Bent is common with Structure No. 720629; bent quantity is listed with that report
- Channel

INSPECTION CONDITIONS

Arrive on site:	12:00	Growth:	Barnacles/Oysters
Visibility:	12”	Water Type:	Brackish/Tidal
Water Temp.:	88°F	Wind:	Light
Air Temp.:	90°F	Weather:	Cloudy
Year Built:	2003	Current:	Strong
Bottom:	Mud/Sand		

Top of footing to waterline: 5’ at Footing 6-1
Top of footing to top of marine growth: 4’ 6” at Footing 6-1

Travel: 24.0 Field: 6.0 Report: 1.0

EQUIPMENT USED

SCUBA	Chipping Hammers	U/W Lights
Dive Flag	Rulers	Digital Depth Monitor
1 Vehicle	23’ Boat & Motor	

INSPECTION NOTES:
STRUCTURE NOTES: Bridge inventoried east to west on south to north route.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

BRIDGE NO.	720628	FLORIDA DEPARTMENT OF TRANSPORTATION ********** UNDERWATER BRIDGE INSPECTION REPORT	LOCATION	I-95 NB On Ramp over St. Johns River
COUNTY SECTION NO.	72020064		INSPECTION DATE	08/10/15
STATE ROAD NO.	N/A		LEAD INSPECTOR	Qualls, Dion C. CBI 00470
U.S. ROAD NO.	I-95		MILE POST NO.	0.11

BOLT UNDERWATER SERVICES, INC.
for
BURGESS & NIPLE, INC.

Structure/Roadway Identification:

District (2): 02 State
County (3): Duval
Feature Intersected (6): St. Johns River
Facility Carried (7): I-95 NB On Ramp

Underwater Inspection Details:

Special Crew Hours: 8.0
Max. Depth: 18' at Bent 6
Type of Dive Insp.: Level II (SCUBA)
Type of Boat Used: 23' Skiff
Water Type/Marine Growth: Brackish/Tidal – Barnacles/Oysters

Prev. Inspection:

Lead Diver:	C.B.I. No.:	Inspection Date:
Hitch, Victoria G.	00414	08/26/13

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Qualls, Dion C.	C.B.I. Diver-Inspector	00470/Lead	Dive/Tend	
Hoogland, Keith S.	C.B.I. Diver-Inspector	00341	Tend	
Salazar, Pete Jr.	Diver-Inspector		Dive/Tend	
Payne, Timothy N.	Diver-Inspector		Tend	

PILES/COLUMNS
ELEMENT: 205 R/CONCRETE **8**: ea.
NBI: **8**

NOTE: Piers 5 and 6 each have 4 reinforced concrete drilled shafts below the waterline which are visible.

Condition State:	QTY:	Recommended Feasible Action:
CS-1	**8**	**Do Nothing**

There are steel casings on the drilled shafts below the footings – *NO CHANGE.*

Cleaning Log: Column 5-1 was cleaned.

SUBMERGED FOOTING
ELEMENT: 220 R/CONCRETE **2**: ea.
NBI: **8**

NOTE: The waterline footings are constructed by precast concrete forms 18" thick, then sealed with 6" of concrete seal. The footing thickness is 6' and the combined total thickness is 8'. Divers will be required to inspect the waterline footings of this structure at Piers 5 and 6. Pier 7 of this structure is a shared pier and is Pier 1 of Structure No. 720629 (this Pier is quantified and evaluated under Structure No. 720629).

Condition State:	QTY:	Recommended Feasible Action:
CS-1	**2**	**Do Nothing**

The footings have areas of precast slabs that are broken and hanging down at the edges and undersides with exposed rebar – *INCREASE.*

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

CHANNEL
ELEMENT: 290 **1**: ea.
NBI: **8**

NOTE: This structure joins the main river crossing, Bridge 720629 over St. Johns River. Only Spans 5 and 6 are over water.

Condition State:	**QTY:**	**Recommended Feasible Action:**
CS-2	**1**	**Do Nothing**

There is construction debris on the channel bottom below the footings – *NEW.*

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

BRIDGE NO.	720628	FLORIDA DEPARTMENT OF TRANSPORTATION ********** UNDERWATER BRIDGE INSPECTION REPORT	LOCATION	I-95 NB On Ramp over St. Johns River
COUNTY SECTION NO.	72020064		INSPECTION DATE	08/10/15
STATE ROAD NO.	N/A		LEAD INSPECTOR	Qualls, Dion C. CBI 00470
U.S. ROAD NO.	I-95		MILE POST NO.	0.11

SUB STRUCTURE ELEMENTS INSPECTED

Elements of the substructure inspected include the following:

- Bents 5 and 6 each with four drilled shafts and one footing
- Bent 7 – This bent is common with Structure No. 720629; bent quantity is listed with that report.
- Channel

INSPECTION CONDITIONS

Arrive on site:	12:30	Growth:	Barnacles
Visibility:	12in.	Water Type:	Brackish/Tidal
Water Temp.:	88°F	Wind:	Light
Air Temp.:	90°F	Weather:	Cloudy
Year Built:	2003	Current:	Strong
Bottom:	Mud/Sand		

Top of footing to waterline: 5’ at Footing 5-1
Top of footing to top of marine growth: 4’ 6” at Footing 5-1

Travel: 24.0 Field: 8.0 Report: 1.0

EQUIPMENT USED

SCUBA	Chipping Hammers	U/W Lights
Dive Flag	Rulers	Digital Depth Monitor
1 Vehicle	23’ Boat & Motor	

INSPECTION NOTES:
STRUCTURE NOTES: Bridge east to west on south to north route.

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BRIDGE NO.	720633	FLORIDA DEPARTMENT OF TRANSPORTATION ********** UNDERWATER BRIDGE INSPECTION REPORT	LOCATION	I-95 SB Off Ramp over St. Johns River
COUNTY SECTION NO.	72020065		INSPECTION DATE	08/10/15
STATE ROAD NO.	N/A		LEAD INSPECTOR	Qualls, Dion C. CBI 00470
U.S. ROAD NO.	I-95		MILE POST NO.	0.016

BOLT UNDERWATER SERVICES, INC.
for
BURGESS & NIPLE, INC.

Structure/Roadway Identification:

District (2): 02 State
County (3): Duval
Feature Intersected (6): St. Johns River
Facility Carried (7): I-95 SB Off Ramp

Underwater Inspection Details:

Special Crew Hours: 6.0
Max. Depth: 18' at Bent 6
Type of Dive Insp.: Level II (SCUBA)
Type of Boat Used: 23' Skiff
Water Type/Marine Growth: Brackish/Tidal – Barnacles/Oysters

Prev. Inspection:

Lead Diver:	C.B.I. No.:	Inspection Date:
Hitch, Victoria G.	00414	08/26/13

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Qualls, Dion C.	C.B.I. Diver-Inspector	00470/Lead	Dive/Tend	
Hoogland, Keith S.	C.B.I. Diver-Inspector	00341	Tend	
Salazar, Pete Jr.	Diver-Inspector		Dive/Tend	
Payne, Timothy N.	Diver-Inspector		Tend	

PILES/COLUMNS
ELEMENT: 205 R/CONCRETE **13**: ea.
NBI: **8**

NOTE: Piers 4, 5 and 6 each have four 36" drilled shafts. The steel drilled shaft casings remain in-place. One pile is partially visible under Footing 3. Pier 7 is a shared pier also Pier 1 of Structure No. 720629 (this Pier was quantified and evaluated with Structure No. 720269).

Condition State:	QTY:	Recommended Feasible Action:
CS-1	**13**	**Do Nothing**

Cleaning Log: No cleaning due to steel casings in place.

SUBMERGED FOOTING
ELEMENT: 220 R/CONCRETE **4**: ea.
NBI: **8**

NOTE: The waterline footings are constructed by precast concrete forms 18" thick, then sealed with 6" of concrete seal. The footing thickness is 6' and the combined total thickness is 8' Piers 3, 4, 5 and 6 were evaluated under this element. Pier 7 is a shared pier and also Pier 1 of Structure No. 720629 (this Pier was quantified and evaluated with Structure No. 720629).

Condition State:	QTY:	Recommended Feasible Action:
CS-1	**4**	**Do Nothing**

Several footings have areas of precast slabs that are hanging and broken down at the edges and undersides with exposed rebar
– *INCREASE.*

Cleaning Log: Random strips on Footing 5 were cleaned.

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CHANNEL
ELEMENT: 290 **1**: ea.
NBI: **7**

NOTE: This structure joins the main river crossing, Structure No. 720629 over the St. Johns River.

Condition State:	**QTY:**	**Recommended Feasible Action:**
CS-2	**1**	**Do Nothing**

There is construction debris on the channel bottom below the footings – *NEW.*

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

BRIDGE NO.	720633	FLORIDA DEPARTMENT OF TRANSPORTATION ********** UNDERWATER BRIDGE INSPECTION REPORT	LOCATION	I-95 SB Off Ramp over St. Johns River
COUNTY SECTION NO.	72020065		INSPECTION DATE	08/10/15
STATE ROAD NO.	N/A		LEAD INSPECTOR	Qualls, Dion C. CBI 00470
U.S. ROAD NO.	I-95		MILE POST NO.	0.016

SUB STRUCTURE ELEMENTS INSPECTED

Elements of the substructure inspected include the following:

- Bent 3 with one footing and one visible pile
- Bents 4 through 6 each with four drilled shafts and one footing
- Bent 7 – This Bent is common with Structure No. 720629; bent quantity is listed with that report
- Channel

INSPECTION CONDITIONS

Arrive on site:	12:00	Growth:	Barnacles/Oysters
Visibility:	12”	Water Type:	Brackish/Tidal
Water Temp.:	88°F	Wind:	Light
Air Temp.:	90°F	Weather:	Cloudy
Year Built:	2003	Current:	Strong
Bottom:	Mud/Sand		

Top of footing to waterline: 5’ at Footing 6-1
Top of footing to top of marine growth: 4’ 6” at Footing 6-1

Travel: 24.0 Field: 6.0 Report: 1.0

EQUIPMENT USED

SCUBA	Chipping Hammers	U/W Lights
Dive Flag	Rulers	Digital Depth Monitor
1 Vehicle	23’ Boat & Motor	

INSPECTION NOTES:
STRUCTURE NOTES: Bridge inventoried east to west on south to north route.

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All Elements

UNIT: 0-MAIN SPAN SUBSTRUCTURE

ELEMENT/ENV: 205/4 R/Conc Column **468 ea.** **ELEM CATEGORY:** Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability.	455 ea.
2	Minor cracks, spalls and scaling may be present but there is no exposed reinforcing or surface evidence of rebar corrosion.	13 ea.

ELEMENT INSPECTION NOTES:

NOTE: This element represents 96 R/Conc Columns and 372 drilled shaft columns in the west approach, east approach and main span.

CS1: The following was noted by the underwater inspectors:
There are no visible columns under Footing 2 due to rock rubble.

The majority of the columns have steel casings in-place. Some of the steel casings are covered with a grout coating up to 1in thick. The exposed portions of the steel casings have minor pitting and corrosion.

Several of the exposed portions of the concrete columns have areas of honeycombing up to 1ft x 1ft x 1in

There are several columns with no casings visible or only partial casings remain The exposed concrete is in good condition except as noted below. Many of the concrete columns have been gouged by the burning method used to remove casings. The following list is columns with no visible casings:
4-4, 6-2, 14-4, 26-1, 33-3, 33-4, 40-1, 40-2, 42-2, 42-4, 45-1, 45-2, 45-3, 45-4, 46-1, 46-2, 47-2, 47-4, 48-4, 50-1, 50-2, 50-4, 51-1, 52-1, 52-4, 53-2, 53-3, 53-4, 71-1, 71-4, 75-4, 76-2, 77-4, 78-2, 79-2, 85-2, 85-3, 87-1, 87-2, 90-1, 92-2, 93-3, 93-4, 95-2 and 95-4.

CS2: There are voids in the columns under the footings. Refer to Underwater Table 1 for size and locations.

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Elements

Inspection Date: 1/14/2015LBGO

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0-MAIN S	580/4	Navigational Lights	0	.	1	100.	0	.	0	.	0	.	1 ea.

Notes NOTE: This element represents the two swing lights attached to the structure at the centerline of the channel (Span 74).

CS2: Span 74 south and north navigational lights have one of two bulbs missing. Refer to Photo 7. P3WO

CORRECTIVE ACTION TAKEN:
The locking arms for the navigational lights have been repaired.
Install one bulb in the south and north navigational lights - repair not evident. Repeat recommendation.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0-MAIN S	205/4	R/Conc Column	455	97.22	13	2.78	0	.	0	.	0	.	468 ea.

Notes NOTE: This element represents 96 R/Conc Columns and 372 drilled shaft columns in the west approach, east approach and main span.

CS1: The following was noted by the underwater inspectors:
There are no visible columns under Footing 2 due to rock rubble.

The majority of the columns have steel casings in-place. Some of the steel casings are covered with a grout coating up to 1in thick. The exposed portions of the steel casings have minor pitting and corrosion.

Several of the exposed portions of the concrete columns have areas of honeycombing up to 1ft x 1ft x 1in

There are several columns with no casings visible or only partial casings remain The exposed concrete is in good condition except as noted below. Many of the concrete columns have been gouged by the burning method used to remove casings. The following list is columns with no visible casings:
4-4, 6-2, 14-4, 26-1, 33-3, 33-4, 40-1, 40-2, 42-2, 42-4, 45-1, 45-2, 45-3, 45-4, 46-1, 46-2, 47-2, 47-4, 48-4, 50-1, 50-2, 50-4, 51-1, 52-1, 52-4, 53-2, 53-3, 53-4, 71-1, 71-4, 75-4, 76-2, 77-4, 78-2, 79-2, 85-2, 85-3, 87-1, 87-2, 90-1, 92-2, 93-3, 93-4, 95-2 and 95-4.

CS2: There are voids in the columns under the footings. Refer to Underwater Table 1 for size and locations.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0-MAIN S	215/4	R/Conc Abutment	118	100.	0	.	0	.	0	.	0	.	118 lf.

Notes CS1: The top of the southwest cheek wall and the south end of Abutment 1 backwall has a 1ft x 8in delaminating repair - DECREASE. Refer to Photo 8. P3WO

CORRECTIVE ACTION TAKEN:
Repair SPL-DEL in top of the south cheek wall & south face of Abutment 1 backwall - repaired.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0-MAIN S	220/4	R/C Sub Pile Cap/Ftg	69	71.88	14	14.58	13	13.54	0	.	0	.	96 ea.

Notes CS1: It appears that several forms around the footings "bulged" during construction.

The following was noted by the underwater inspectors:
There are minor washouts between the footings and seals. In some areas, portions of the seal have fallen off and the bottom edges of the footings are rounded. At Piers 54 through 89 (larger footers) below the poured seal, there are precast collars on the columns and a precast slab with beams running between the shafts.

Several of the footings have vertical cracks from the top down, up to 2ft long x 1/32in wide.

CS2 & CS3: There are spalls with exposed steel and delaminations in the footing. Refer to Table 2 for sizes and locations, and Photos 9 and 10. P3WO

CORRECTIVE ACTION TAKEN:
Repair 15 deficiencies listed in Table 2 of the 1-31-13 report - repair not evident. Repeat recommendation.

The following deficiencies were not found during the underwater inspection (12/08/14):
Footing 3, spall, northwest corner 30in below top of footing.
Footing 6, crack, southeast corner 20in below top of footing is a form line, previously reported as a crack.
Footing 87, spall/failed patch at the top northeast corner.

EDMS SCANNED
MAR 13 2015
C. NIETO

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TABLE 1
Underwater Inspection
ELEMENT: 205 R/Conc Column

BENT/ SHAFT	LOCATION	DEFICIENCY	SIZE	STATUS	REPAIR
45-3	North quadrant just below footing/seal	Void	30in H x 18in W x 3in D		No
46-1	SW at bottom of footing	Void	3ft H x 16in W x 1in D		No
49-1	SW quadrant 3ft 3in below footing/seal	Void	33in H x 14in W x 3in D (partially buried)		No
49-2	SW quadrant 3ft below footing/seal	Void	3in H x 6in W x 3½in D (appears to be a cut hole in casing)		No
71-1	South quadrant 12in below jacket	Void	5in diameter x 3in deep	NEW	No
71-4	West quadrant 3ft below the collar	Void	14in H x 14in W x 2in D	INCREASE	No
72-1	SW quadrant 5ft 6in below footing	Voids/Honey-combing	Up to 18in diameter x 2in deep in an area 5ft H x 4ft W	INCREASE	No
74-2	South quadrant 7ft below footing	Void	12in H x 4in W x 2½in D	NEW	No
75-3	South and SW quadrant 2ft below footing	Void/Honey-combing	Intermittent up to 7ft H x 4in W x 2in D	INCREASE	No
75-4	North quadrant 32in below footing	Void/ Honey-combing	Intermittent up to 9in H x 4in W x 3in D -	NEW	No
84-1	NE quadrant 4ft below collar	Void	2in H x 9in W x 2in D		No
84-2	NE quadrant 5ft below collar	Void	2in H x 9in W x 2in D		No
84-3	East quadrant 10ft below footing	Void	8in H x 3in W x 3in D	NEW	No
84-4	NE quadrant 10ft below collar	2 Voids	Up to 14in H x 5in W x 4in D		No
86-2	NE quadrant 5ft below collar	Void	15in H x 4in W x 3in D		No
	NE quadrant 7ft below collar	Void	9in H x 7in W x 3in D extends into groundline		No
95-1	NE quadrant 12in below footing/seal	Void	32in H x 12in W x 2in D		No
95-2	NW quadrant just below footing/seal	Void	12in H x 20in W x 2in D		No
72-2	SE quadrant 4ft below footing	Void	2ft H x 18in W x 3in D	NEW	No

EDMS SCANNED
MAR 13 2015
C. NIETO

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

Routine Underwater Bridge Inspection Report
BOLT UNDERWATER SERVICES, INC.
for
VOLKERT, INC.

NBI Structure No. (8): **100585** Underwater Date (93): 12/08/14

Structure/Roadway Identification:

District (2):	7
County (3):	Hillsborough
Feature Intersected (6):	Tampa Bay
Facility Carried (7):	US-92 (SR-600)

Underwater Inspection Details:

Special Crew Hours:	113.4
Max. Depth:	24ft.
Type of Dive Insp.:	SCUBA
Type of Boat Used:	21ft. & 23ft. Boats
Water Type/Marine Growth:	Salt/Tidal – Barnacles/Oysters

Previous Inspection:

Lead Diver:	C.B.I. No.:	Inspection Date:
Hays, Stephen F.	00438	12/10/12

Inspection Personnel:

Field Personnel:	Title	C.B.I. No.:	Duty:	Signature:
Elborne, Paul R.	C.B.I. Diver-Inspector	00469/Lead	Dive/Tend	PRE
Young, Ryan C.	Diver-Inspector		Dive/Tend	
Payne, Timothy N.	Diver-Inspector		Dive/Tend	
Ivey, Jonathan J.	Diver-Inspector		Dive/Tend	
Davis, Chris S.	Diver		Dive/Tend	

PILES/COLUMNS
ELEMENT: 205 R/CONCRETE **372**: ea.

NOTE: There are no columns visible under Footing 2 due to rock rubble.

Condition State: **QTY:** **Recommended Feasible Action:**
CS-1 **354** **Do Nothing**
The majority of the columns have steel casings in place. Some of the steel casings are covered with a grout coating up to 1in. thick. The exposed steel casings have minor to moderate corrosion and pitting.

Several of the exposed portions of the concrete columns have areas of voids/honeycombing with no exposed steel up to 12in. H x 12in. W x 1in. D.

There are several columns with no casings visible or only partial casings remaining. The exposed concrete is in good condition except as noted below. Many of the concrete columns have been gouged by the burning method used to remove the casings. The following is a list of columns with no visible casings: 4-4, 6-2, 14-1 *NEW*, 14-2 *NEW*, 14-3 *NEW*, 14-4, 26-1, 33-3, 33-4, 40-1, 40-2, 42-2, 42-4, 45-1, 45-2, 45-3, 45-4, 46-1, 46-2, 47-2, 47-4, 48-4, 50-1, 50-2, 50-4, 51-1, 52-1, 52-4, 53-2, 53-3, 53-4, 71-1, 71-4, 75-4, 76-2, 77-4, 78-2, 79-2, 85-2, 85-3, 87-1, 87-2, 90-1, 92-2, 93-3, 93-4, 95-2, and 95-4.

CS-2 **18** **Do Nothing**

Bent/ Shaft	Location	Deficiency	Size
45-3	North quadrant just below footing/seal	Void	30in. H x 18in. W x 3in. D
46-1	SW at bottom of footing	Void	3ft. H x 16in. W x 1in. D
49-1	SW quadrant 3ft. 3in. below footing/seal	Void	33in. H x 14in. W x 3in. D (partially buried)
49-2	SW quadrant 3ft. below footing/seal	Void	3in. H x 6in. W x 3½in. D (appears to be a cut hole in casing)
71-1	South quadrant 12in. below jacket	Void	5in. diameter x 3in. deep - *NEW*
71-4	West quadrant 3ft. below the collar	Void	14in. H x 14in. W x 2in. D - *INCREASE*
72-1	SW quadrant 5ft. 6in. below footer	Voids/Honeycombing	Up to 18in. diameter x 2in. deep in an area 5ft. H x 4ft. W - *INCREASE*

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.

EDMS MAY 13 2015

PILES/COLUMNS CONTINUED

Bent/ Shaft	Location	Deficiency	Size
72-2	SE quadrant 4ft. below footer	Void	2ft. H x 18in. W x 3in. D - *NEW*
74-2	South quadrant 7ft. below footer	Void	12in. H x 4in. W x 2½in. D - *NEW*
75-3	South and SW quadrant 2ft. below footer	Void/Honeycombing	Intermittent up to 7ft. H x 4in. W x 2in. D - *INCREASE*
75-4	North quadrant 32in. below footer	Void/ Honeycombing	Intermittent up to 9in. H x 4in. W x 3in. D - *NEW*
84-1	NE quadrant 4ft. below collar	Void	2in. H x 9in. W x 2in. D
84-2	NE quadrant 5ft. below collar	Void	2in. H x 9in. W x 2in. D
84-3	East quadrant 10ft. below footer	Void	8in. H x 3in. W x 3in. D - *NEW*
84-4	NE quadrant 10ft. below collar	2 Voids	Up to 14in. H x 5in. W x 4in. D
86-2	NE quadrant 5ft. below collar	Void	15in. H x 4in. W x 3in. D
	NE quadrant 7ft. below collar	Void	9in. H x 7in. W x 3in. D extends into groundline
95-1	NE quadrant 12in. below footing/seal	Void	32in. H x 12in. W x 2in. D
95-2	NW quadrant just below footing/seal	Void	12in. H x 20in. W x 2in. D

NOTE: Columns 14-1, 14-2, 14-3, 14-4, 85-3 and deficiencies were cleaned.

JACKETS
ELEMENT: 298 PILE JACKET BARE **7**: ea.

NOTE: The following shafts have larger casings (approximately 8ft. diameter) extending down from the footing/seal 5ft. to 8ft. These larger casings are possibly jackets installed during construction, they are as follows: 71-1, 71-2, 71-3, 72-4, 76-4, 85-3 and 87-3.

Condition State:	QTY:	Recommended Feasible Action:
CS-1	7	Do Nothing

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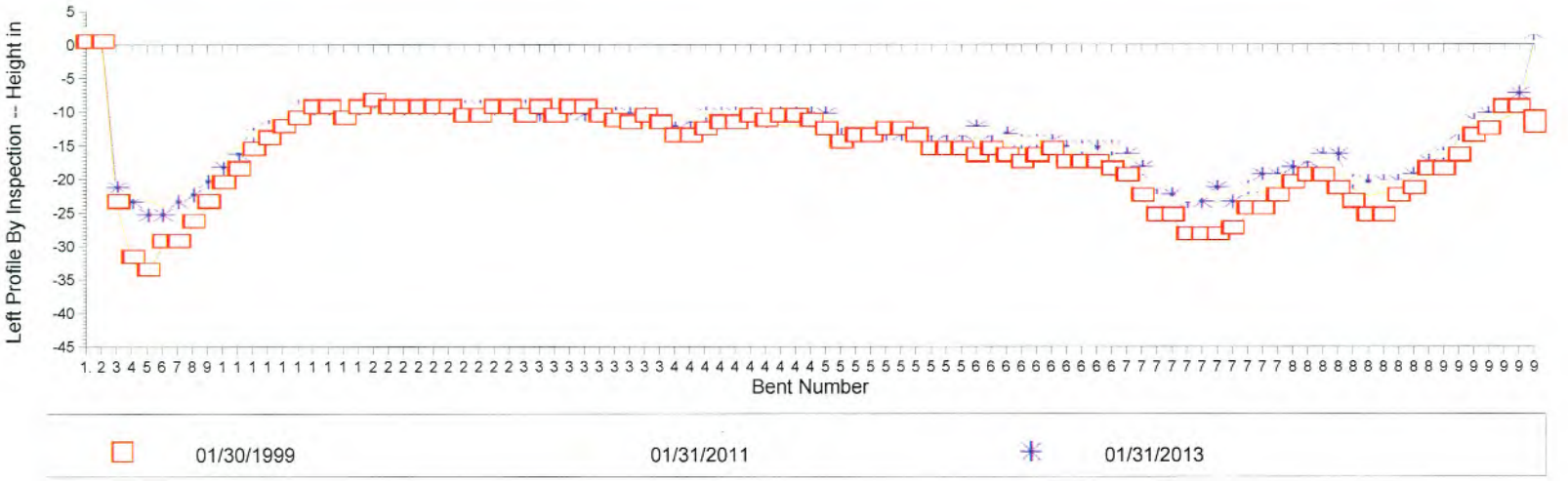

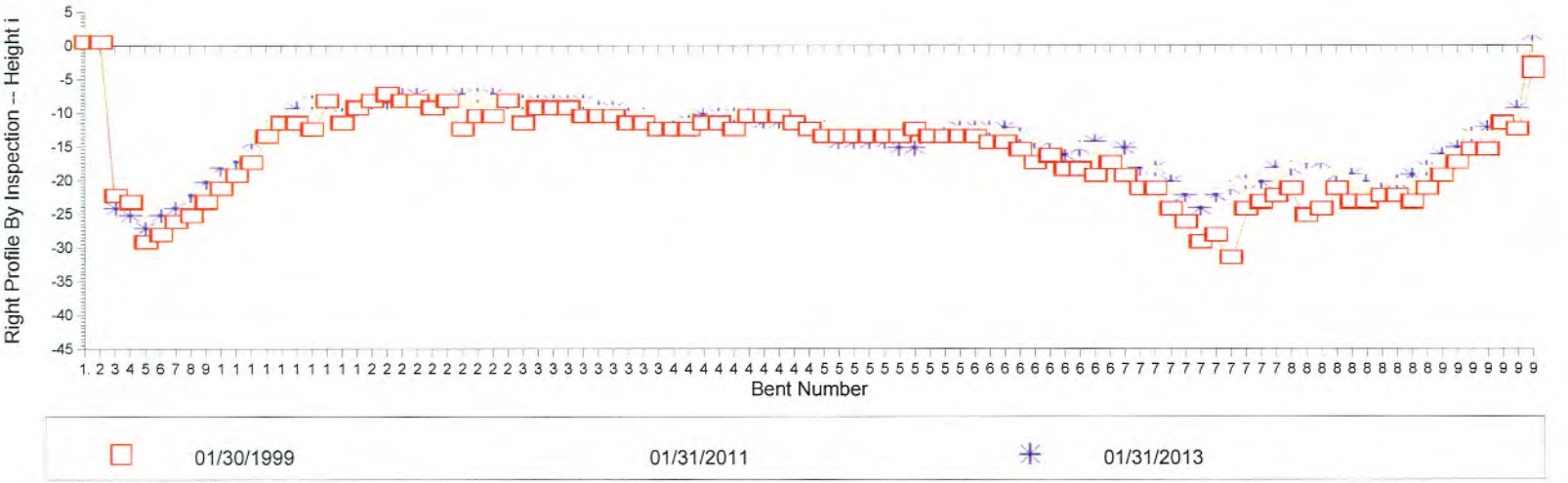

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MAR 13 2015
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Profile Data - Numerical Summary

Inspection Date and Key: 01/31/2013 GLWK

(All Heights Are In Feet)

Bent #	Left Height	Right Height
1.5	-1	-1
2	-1	-1
3	22	25
4	24	26
5	26	28
6	26	26
7	24	25
8	23	23
9	21	21
10	19	19
11	17	18
12	14	15
13	13	13
14	12	12
15	10	10
16	10	9
17	10	9
18	11	11
19	10	10
20	9	9
21	10	9
22	10	8
23	10	8
24	10	9
25	10	9
26	10	8
27	10	8
28	10	8
29	10	9
30	10	9
31	11	9
32	10	9
33	10	9
34	11	9

Profile Data - Numerical Summary

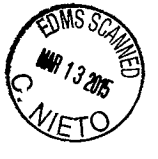
Inspection Date and Key: 01/31/2013 GLWK

Bent #	Left Height	Right Height	(All Heights Are In Feet)
35	10	10	
36	11	10	
37	11	11	
38	11	11	
39	12	12	
40	13	13	
41	12	12	
42	11	11	
43	11	11	
44	11	11	
45	11	11	
46	12	12	
47	11	12	
48	11	12	
49	11	13	
50	11	13	
51	13	15	
52	13	15	
53	13	15	
54	14	15	
55	14	16	
56	13	16	
57	14	14	
58	14	14	
59	14	13	
60	13	13	
61	14	13	
62	14	13	
63	15	14	
64	15	15	
65	15	15	
66	16	17	
67	16	16	
68	16	15	

Profile Data - Numerical Summary

Inspection Date and Key: 01/31/2013 GLWK

Bent #	Left Height	Right Height	(All Heights Are In Feet)
69	16	18	
70	17	16	
71	19	19	
72	22	19	
73	23	21	
74	24	23	
74.5	24	25	
75	22	23	
76	24	22	
77	22	21	
78	20	21	
79	20	19	
80	19	19	
81	18	18	
82	17	18	
83	17	20	
84	21	20	
85	21	21	
86	21	21	
87	21	21	
88	20	20	
89	18	19	
90	17	17	
91	14	16	
92	12	14	
93	11	13	
94	10	12	
95	8	10	



Profile Data - Numerical Summary

Inspection Date and Key: 01/31/2013 GLWK

Bent #	Left Height	Right Height	(All Heights Are In Feet)
95.5	-1	-1	

Air Temp: 1
Profile Notes:
Measurements referenced from the top of Footer 3.
Waterline = 4.0ft.
Measurements showing a -1 indicates that location was dry during this inspection.

Inspection Date and Key: 01/31/2011 ZLOL

1.5	-1	-1
2	-1	-1
3	23.7	23.6
4	23.5	24.1
5	23	25.6
6	24	24.6
7	23	23.6
8	21.5	22.6
9	20	20.6
10	18	18.6
11	16.5	17.6
12	14.5	15.1
13	13.5	13.1
14	12	12.6
15	10.5	11.1
16	10	9.6
17	10	9.1
18	10.5	11.6
19	10	9.6
20	9.5	8.6
21	10	8.6
22	10	9.1
23	10	9.1
24	10	9.1
25	10	9.1

Profile Data - Numerical Summary

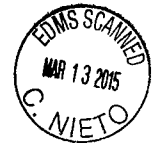
Inspection Date and Key: 01/31/2011 ZLOL

Bent #	Left Height	Right Height	(All Heights Are In Feet)
26	10.5	9.1	
27	10.5	8.6	
28	10	9.1	
29	10	9.1	
30	10.5	9.6	
31	10.5	9.6	
32	10	9.6	
33	10	9.6	
34	10	9.6	
35	10	10.6	
36	11.5	10.6	
37	12	11.6	
38	12	11.1	
39	12	12.1	
40	12	13.1	
41	12	12.6	
42	11.5	12.1	
43	11.5	11.6	
44	11.5	11.6	
45	11.5	11.1	
46	11.5	10.1	
47	12	10.1	
48	12	10.6	
49	12	12.6	
50	12	13.1	
51	13	13.6	
52	13	13.6	
53	13	13.1	
54	13	13.6	
55	14	13.6	
56	13	13.6	
57	14	13.6	
58	14	14.1	
59	14	13.6	

Profile Data - Numerical Summary

Inspection Date and Key: 01/31/2011 ZLOL

Bent #	Left Height	Right Height	(All Heights Are In Feet)
60	14	13.6	
61	14	13.6	
62	15	14.1	
63	15.5	14.6	
64	15.5	15.1	
65	16	15.1	
66	17	16.1	
67	16.5	16.1	
68	17.5	16.1	
69	16.5	17.1	
70	18	18.1	
71	20	18.6	
72	22	19.6	
73	24.5	22.1	
74	24	22.6	
74.5	23.5	24.6	
75	23.5	22.6	
76	23	22.1	
77	22.5	21.6	
78	22	20.6	
79	21	20.1	
80	21	19.1	
81	18	18.1	
82	18	18.1	
83	20.5	20.1	
84	21.5	21.1	
85	22.5	22.1	
86	22	21.1	
87	22	21.6	
88	21	21.6	
89	19.5	19.6	
90	17.5	18.1	
91	14	17.1	
92	13	14.6	



Profile Data - Numerical Summary

Inspection Date and Key: 01/31/2011 ZLOL

Bent #	Left Height	Right Height	(All Heights Are In Feet)
93	12	14.6	
94	11	12.1	
95	10	11.1	
95.5	-1	-1	

Air Temp:

Profile Notes:

Measurements referenced from the top of Footer 3.
Waterline = 4.0ft.
Measurements showing a -1 indicates that location was dry during this inspection.

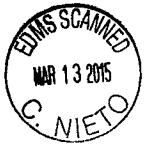
Inspection Date and Key: 01/30/1999 YMYR

1.5	0.03	0.03
2	0.03	0.03
3	23.95	22.97
4	32.15	23.95
5	34.12	29.86
6	29.86	28.87
7	29.86	26.9
8	26.9	25.92
9	23.95	23.95
10	21	21.98
11	19.03	20.01
12	16.08	18.04
13	14.44	14.11
14	12.8	12.14
15	11.48	12.14
16	9.84	13.12
17	9.84	8.86
18	11.48	12.14
19	9.84	9.84
20	8.86	8.86
21	9.84	7.87
22	9.84	8.86

Profile Data - Numerical Summary

Inspection Date and Key: 01/30/1999 YMYR

Bent #	Left Height	Right Height	(All Heights Are In Feet)
23	9.84	8.86	
24	9.84	9.84	
25	9.84	8.86	
26	11.15	13.12	
27	11.15	11.15	
28	9.84	11.15	
29	9.84	8.86	
30	11.15	12.14	
31	9.84	9.84	
32	11.15	9.84	
33	9.84	9.84	
34	9.84	11.15	
35	11.15	11.15	
36	11.81	11.15	
37	12.14	12.14	
38	11.15	12.14	
39	12.14	13.12	
40	14.11	13.12	
41	14.11	13.12	
42	13.12	12.14	
43	12.14	12.14	
44	12.14	13.12	
45	11.15	11.15	
46	11.81	11.15	
47	11.15	11.15	
48	11.15	12.14	
49	11.81	13.12	
50	13.12	14.11	
51	15.09	14.11	
52	14.11	14.11	
53	14.11	14.11	
54	13.12	14.11	
55	13.12	14.11	
56	14.11	13.12	



Profile Data - Numerical Summary

Inspection Date and Key: 01/30/1999 YMYR

Bent #	Left Height	Right Height
57	16.08	14.11
58	16.08	14.11
59	16.08	14.11
60	17.06	14.11
61	16.08	15.09
62	17.06	15.09
63	18.04	16.08
64	17.06	18.04
65	16.08	17.06
66	18.04	19.03
67	18.04	19.03
68	18.04	20.01
69	19.03	18.04
70	20.01	20.01
71	22.97	21.98
72	25.92	21.98
73	25.92	24.93
74	28.87	26.9
74.5	28.87	29.86
75	28.87	28.87
76	27.89	32.15
77	24.93	24.93
78	24.93	23.95
79	22.97	22.97
80	21	21.98
81	20.01	25.92
82	20.01	24.93
83	21.98	21.98
84	23.95	23.95
85	25.92	23.95
86	25.92	22.97
87	22.97	22.97
88	21.98	23.95
89	19.03	21.98

Profile Data - Numerical Summary

Inspection Date and Key: 01/30/1999 YMYR

Bent #	Left Height	Right Height	(All Heights Are In Feet)
90	19.03	20.01	
91	17.06	18.04	
92	14.11	16.08	
93	13.12	16.08	
94	9.84	12.14	
95	9.84	13.12	
95.5	11.48	3.28	

Air Temp:

Profile Notes:

Soundings referenced from top of FOOTINGS.
The soundings at spans 1.5 and 95.5 refer to the toe of bulkheads.
The original soundings are from 11/1996

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Routine Underwater Bridge Inspection Report
BOLT UNDERWATER SERVICES, INC.
for
KISINGER CAMPO & ASSOCIATES, CORP.

NBI Structure ID. (8): **170176** Underwater Date (93): 12/01/15

Structure/Roadway Identification:		**Underwater Inspection Details:**	
District (2):	01	Special Crew Hours:	33.1
County (3):	Sarasota	Max. Depth:	13ft. at Pier 6
Feature Intersected (6):	Intracoastal Waterway	Type of Dive Insp.:	Level II (SCUBA)
Facility Carried (7):	SR-789 / John Ringling Cswy.	Type of Boat Used:	23ft. Skiff
		Water Type/Marine Growth:	Salt/Tidal – Barnacles/Oysters

Previous Inspection:

Lead Diver:	**C.B.I. No.:**	**Inspection Date:**
Hitch, Victoria G.	00414	12/13/13

Inspection Personnel:

Field Personnel:	**Title**	**C.B.I. No.:**	**Duty:**	**Signature:**
Hoogland, Keith S.	C.B.I. Diver-Inspector	00341/Lead	Dive	KLH
Salazar, Pete Jr.	Diver-Inspector		Dive	
Jensen, Denise R.	Diver-Inspector		Tend	
Ulrich, Kenneth	FDOT/ QA			

PILES/COLUMNS
ELEMENT: 205 R/CONCRETE **14**: ea.

NOTE: This element represents the visible columns under Piers 4 through 10.

Condition State:	**QTY:**	**Recommended Feasible Action:**
CS-1	**14**	**Do Nothing**

The columns have steel casings that extend from the pier wall into the groundline and have several areas of light corrosion with no pitting.

Cleaning Log: No cleaning due to steel casings in-place.

PIER WALLS
ELEMENT: 210 R/CONCRETE **312** lf.

NOTE: The pier walls extend approximately 4ft. into the marine growth and appear to have a precast slab on the bottom.

Condition State:	**QTY:**	**Recommended Feasible Action:**
CS-1	**312**	**Do Nothing**

There are vertical cracks in several locations, up to 5ft. L x 1/32in. W, extending up to 12in. into the marine growth.

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Cleaning Log: Strips on Pier 7 were cleaned.

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

CHANNEL
ELEMENT: 290 **1**: ea.

NOTE: Divers inspected the west and east seawalls (this includes both steel and concrete sheet piles) under the structure to the first bend or 30ft. out from the structure.

Condition State:	**QTY:**	**Recommended Feasible Action:**
CS-1	**1**	**Do Nothing**

There is scattered rock rubble along both seawalls.

The coating on the steel sheet piles have *12in.* diameter areas of light corrosion and *minor blisters* in the splash zone – INCREASE.

East seawall, 6ft. north of the second cap joint to the south of the structure, 5in. below cap (in concrete sheet pile), spall, 18in. H x 8in. W x 5in. D.

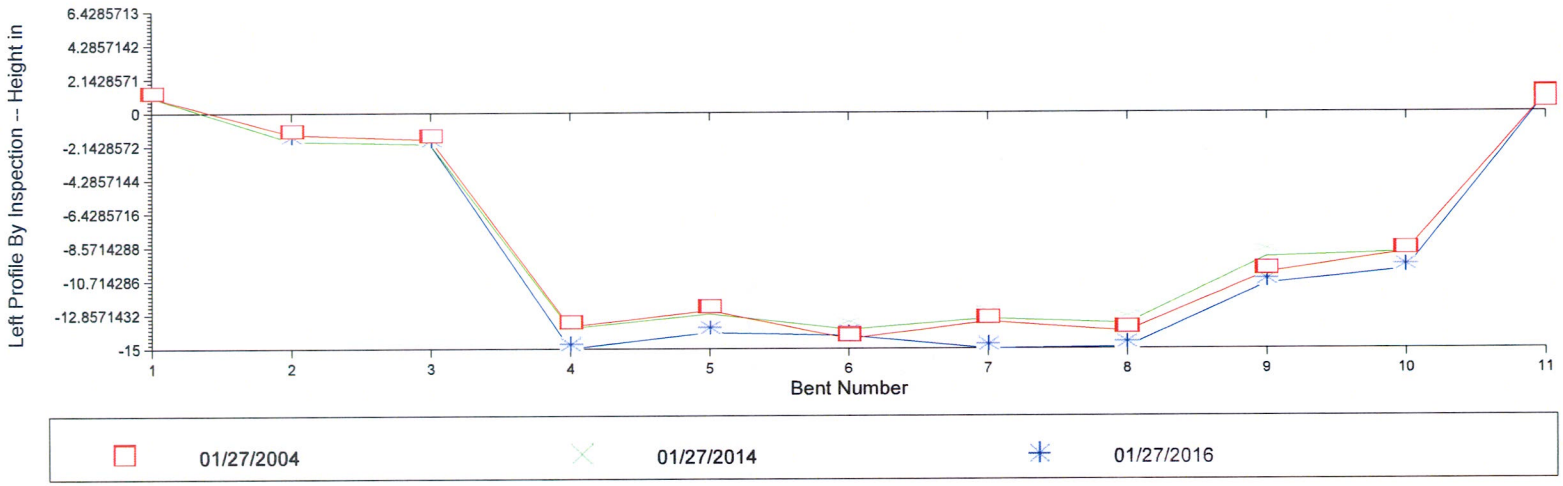
INSPECTION NOTES: Divers inspected Bents 4 through 10 each with two drilled shafts, Pier Walls 4 through 10 and Channel.
STRUCTURE NOTES: Structure inventoried west to east.

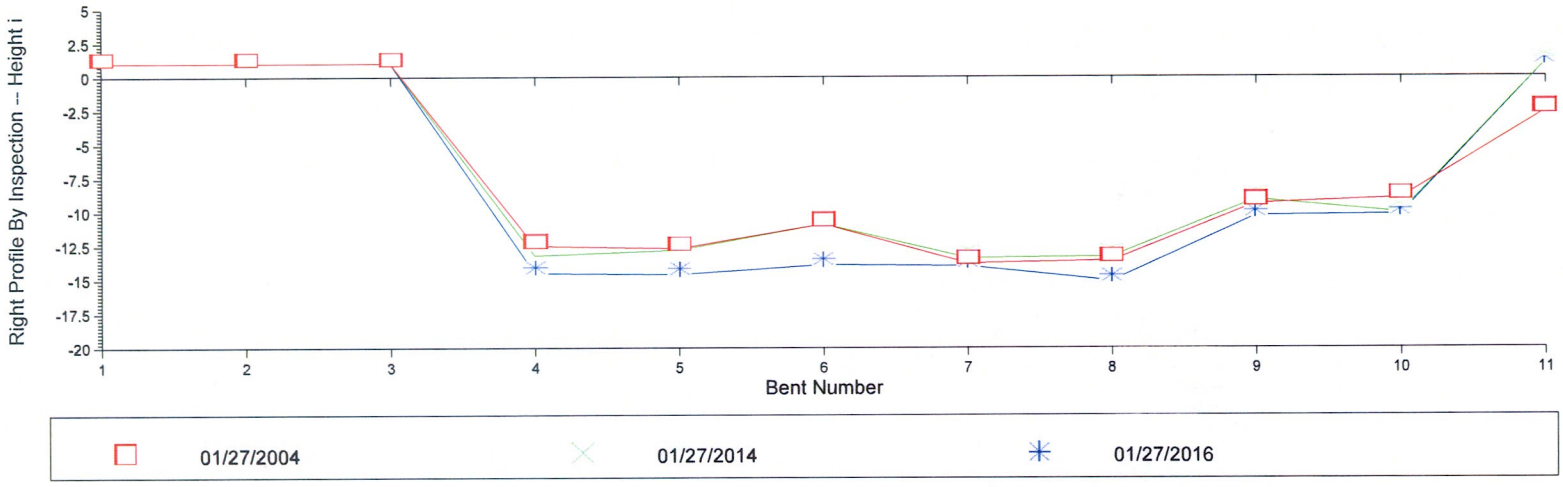
This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes.

FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Bridge Profile Report

REPORT ID: INVT016
Structure #: 170176

DATE PRINTED: 03/02/2016





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Profile Data - Numerical Summary

Inspection Date and Key: 01/27/2016 OHKU

Bent #	Left Height	Right Height
1	-1	-1
2	1.8	-1
3	2	-1
4	15	14.5
5	14	14.6
6	14.2	13.9
7	15	14
8	14.9	15.1
9	10.9	10.3
10	10	10.2
11	-1	-1

(All Heights Are In Feet)

Air Temp: 1
Profile Notes:
Measurementa are referenced from the top of the marine growth on the columns.
Waterline to top of marine growth: 1.2ft.

Note: -1 indicates area out of water.

Inspection Date and Key: 01/27/2014 RGWV

Bent #	Left Height	Right Height
1	-1	-1
2	1.8	-1
3	2	-1
4	13.7	13.2
5	12.8	12.8
6	13.8	10.9
7	13.1	13.4
8	13.4	13.3
9	9.2	9.1
10	8.9	10.1

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Profile Data - Numerical Summary

Inspection Date and Key: 01/27/2014 RGWV

Bent #	Left Height	Right Height	(All Heights Are In Feet)
11	-1	-1	

Air Temp: 1
Profile Notes:
Measurementa are referenced from the top of the marine growth on the columns.
Waterline to top of marine growth: 1.2ft.

NOTE: -1 indicates area out of water.

Inspection Date and Key: 01/27/2004 QPJC

Bent #	Left Height	Right Height
1	-1	-1
2	1.4	-1
3	1.7	-1
4	13.6	12.5
5	12.6	12.7
6	14.4	10.9
7	13.3	13.8
8	13.9	13.6
9	10.2	9.4
10	8.9	9
11	-1	2.6

Air Temp:
Profile Notes:
Measurements recorded with fathometer and referenced from top of marine growth.

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Elements

Inspection Date: 4/25/2016FCRX

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	12/3	Bare Concrete Deck	0	.	17120	100.	0	.	0	.	0	.	**17120 sf.**

Notes There is minor amounts of dirt and debris reappearing along both barriers, but does not pose a problem at this time.

There are insignificant size map pattern type cracks in the deck top throughout most spans. The deck top surface exhibits insignificant size transverse cracks located near/over Piers 2, 3 and 4, adjacent to the control joints. Some diagonal and longitudinal cracks propagate from the transverse cracks over the piers.

The deck underside between the girders is not visible for inspection due to steel stay-in-place forms. There are insignificant size transverse cracks (some with efflorescence) in the deck underside of the overhangs, over the intermediate piers.

Previously requested repair (remove dirt and debris from shoulder areas along both bridge barriers) was effectively completed.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	301/3	Pourable Joint Seal	81	88.04	11	11.96	0	.	0	.	0	.	**92 lf.**

Notes There are minor surface spalls at the lip of the joint, random locations over both abutments. The joints exhibit dirt and debris, mostly in the outside emergency lanes.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	331/3	Conc Bridge Railing	738	100.	0	.	0	.	0	.	0	.	**738 lf.**

Notes There are random insignificant size vertical cracks in the barrier walls exhibiting efflorescence, typically located midway between the control joints.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	109/3	P/S Conc Open Girder	2213	100.	0	.	0	.	0	.	0	.	**2213 lf.**

Notes The grouted joint between the poured beam ends of the fascia beams exhibit minor spalling due to independent movement of the beams. Also, several of the poured beam ends have minor cracking in the lower portion adjacent to the bottom flange.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	310/3	Elastomeric Bearing	48	100.	0	.	0	.	0	.	0	.	**48 ea.**

Notes

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	205/3	R/Conc Column	6	100.	0	.	0	.	0	.	0	.	**6 ea.**

Notes Diver's were required to inspect columns of Piers 3 and 4 during this routine inspection.

There are minor honeycomb areas in Columns 3-1 and 4-1, up to 12 in. x 4 in. x 3/4 in. deep. These areas are at or near the groundline. Poses no problem.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	215/3	R/Conc Abutment	97	98.98	1	1.02	0	.	0	.	0	.	**98 lf.**

Notes

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	234/3	R/Conc Cap	146	99.32	1	.68	0	.	0	.	0	.	**147 lf.**

Notes The caps of Piers 2, 3 and 4 have insignificant size vertical cracks which extend down from the top of the cap. These cracks are typically located along both sides of the beam seats of Girders 2 and 5 over the drilled shafts.

There is a water level gauge attached to the outside barrier face and Pier Cap 3 on left side of structure. The attaching hardware type could not be determined at this time.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	396/3	Other Abut Slope Pro	23229	99.91	21	.	0	.	0	.	0	.	**23250 sf.**

Notes The slopes at both abutments are protected by loose rubble rip-rap. There are several random areas adjacent to the abutment caps that have missing rubble exposing minor undermined areas along the caps, with the worst area along Abutment 5. Poses no problem at this time.

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Elements

Inspection Date: 4/25/2016FCRX

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	290/3	Channel	1	100.	0	.	0	.	0	.	0	.	1 ea.

Notes There is up to a 4 ft. wide x 18 in. deep eroded area around the base of Column 2-2. Posing no problem at this time.

See Bridge Profile Comparison Report attached.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	321/3	R/Conc Approach Slab	2	100.	0	.	0	.	0	.	0	.	2 ea.

Notes The approach roadway asphalt is up to 3/4 in. lower than the approach slabs. This condition is causing a slight live load impact to the structure. See Photo 1 attached for typical view. Poses no problem at this time.

There are numerous insignificant size map pattern type cracks in the South approach slab. The North slab exhibits similar cracks, but to a lessor degree.

Previously requested repairs (remove dirt and vegetation from joints along base of Southwest, Southeast, Northwest and Northeast wingwalls and seal) was effectively completed.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	475/3	R/Conc Walls	53	100.	0	.	0	.	0	.	0	.	53 lf.

Notes

Total Number of Elements: 12

Inspection Information

Inspection Date: 04.25.2016 **Type:** Regular NBI

Inspector: MT238JD-P - James Durbin

Inspection Notes: Sufficiency Rating Calculation Accepted by mt238cw-P at 2016-04-27 11:54:02
Divers were required to inspect Piers 3 and 4 at the time of this inspection.

Structure Notes

1) On 9/22/03, load rating updated to reflect posting value change to 99 tons. (Rick Vallier)
2) A new Photo Inventory will be required April, 2018, unless upgrades/reconstruction alter structure or approach roadway prior to 2018.
3) Divers are sometimes required, due to high water levels, Element 205, Piers 3 and 4.
4) Utility attached to this structure, see Element 234 for details.

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Bridge No:	260112		
County Section No:	26020000	Location:	SR25 - US441 / Sante Fe River
State Road No:	25	Inspection Date:	04/25/2016
U.S. Road No:	441/41	Inspector:	J. Durbin

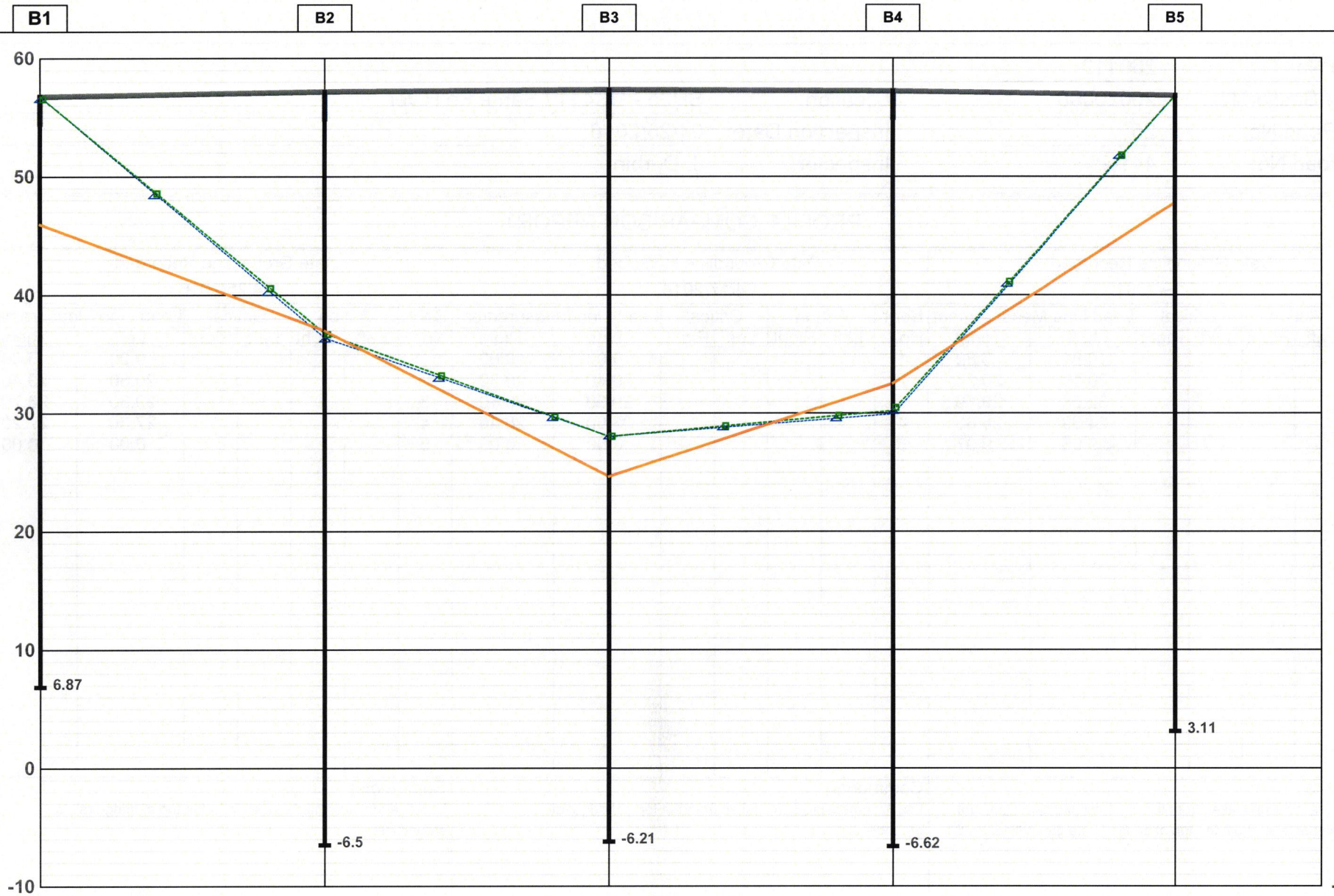
PROFILE COMPARISON REPORT

Date Groundline Recorded 12/19/2001							Date Groundline Recorded 04/17/2014							Date Groundline Recorded 04/25/2016						
Bent	Action		Critical		Lead Line Measurement		Bent	Action		Critical		Lead Line Measurement		Bent	Action		Critical		Lead Line Measurement	
No.	Left	Right	Left	Right	Left	Right	No.	Left	Right	Left	Right	Left	Right	No.	Left	Right	Left	Right	Left	Right
1					10.81	5.89	1					0.00	0.00	1					0.00	0.00
2					20.19	20.85	2					20.40	20.30	2					20.80	20.40
3					32.68	29.19	3					29.30	29.10	3					29.30	28.70
4					24.69	25.63	4					27.00	28.40	4					27.30	27.20
5					9.06	9.07	5					0.00	0.00	5					0.00	0.00

Comments:
All original calculations taken from the 2001 construction plans. All measurements taken from the top of bridge rail to groundline. KMB 05/2002

Comments:
Leadline measurements taken from the top of bridge rail to groundline.

Comments:
Leadline measurements taken from the top of bridge rail to groundline.



LEFT ELEVATION

Scour Critical

Scour Action

CHANNEL LEGEND

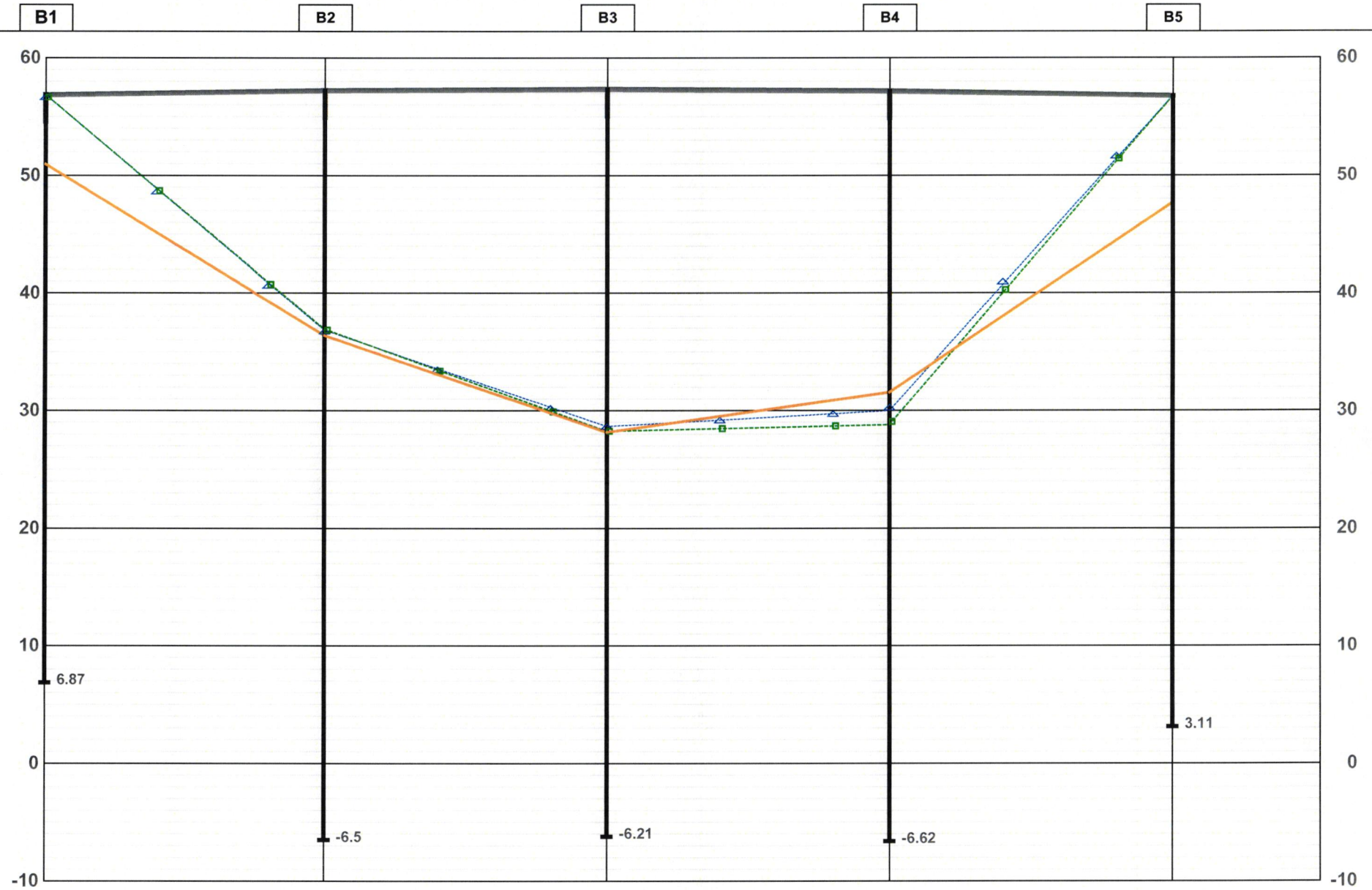
04/25/2016

04/17/2014

12/19/2001

Profile Note: All original calculations taken from the 2001 construction plans. Plans are metric. All calculations converted to english. All measurements taken from the top of bridge rail to groundline. KMB 05/2002

Scale NTS	BRIDGE NO. 260112 SR25 - US441 / SANTE FE RIVER	Page 2 of 3



RIGHT ELEVATION

Scour Critical

Scour Action

CHANNEL LEGEND

04/25/2016

04/17/2014

12/19/2001

Profile Note: All original calculations taken from the 2001 construction plans. Plans are metric. All calculations converted to english. All measurements taken from the top of bridge rail to groundline. KMB 05/2002

Scale NTS	BRIDGE NO. 260112 SR25 - US441 / SANTE FE RIVER	Page 3 of 3

FLORIDA DEPARTMENT OF TRANSPORTATION
BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR/Bridge Profile Report
Inspection

Structure ID: 520145

DISTRICT: D3 - Chipley **INSPECTION DATE: 1/19/2017 XPPU**

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
UNIT 0	205 / 2	Re Conc Column	37	64.91	20	35.09	0	.	0	.	57 each
UNIT 0	1130 / 2	Cracking (RC and Other)	0	.	12	100	0	.	0	.	12 each
UNIT 0	6000 / 2	Scour	0	.	8	100	0	.	0	.	8 each

Element Inspection Notes:

205 / 2 Condition State 2
NEW:
1) The left and right columns at bent 15 exhibits minor scaling up to the high water mark.
2) The underwater report noted up to 3.0 ft. of local scour at bents 12, 13, 14 & 15.

NO CHANGE:
1) The bottom of several pier columns exhibit vertical cracks up to 0.025 inch wide X 1.5 ft. long with efflorescence, in the drilled shaft casing.
2) The left and right columns at bents 12, 13 and 14 exhibit minor scaling up to the high water mark.

1130 / 2 -

6000 / 2 _

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
UNIT 0	215 / 2	Re Conc Abutment	91.86	100	0	.	0	.	0	.	91.86 ft

Element Inspection Notes:

215 / 2 <none>

SUBSTRUCTURE : Substructure

Str Unit	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	T Qty
UNIT 0	234 / 2	Re Conc Pier Cap	523.72	68.22	244	31.78	0	.	0	.	767.72 ft
UNIT 0	1080 / 2	Delamination/Spall/Patched Area	0	.	4	100	0	.	0	.	4 ft
UNIT 0	1130 / 2	Cracking (RC and Other)	0	.	240	100	0	.	0	.	240 ft

Element Inspection Notes:

234 / 2 Condition State 2
NO CHANGE:
1) Several intermediate bent caps exhibit random cracks up to 0.025 inch wide in the near and far faces.
2) There is evidence of bat infestation over bent caps 5, 9, 13, and 17.
3) The near face of intermediate cap 5 exhibits a diagonal crack up to 0.040 inch wide X 3.0 ft. long.
4) The far face of intermediate cap 15 between girders 2 and 3 exhibits a spall, 4.0 ft. long X 1.2 ft. high X 0.6 ft. deep, with no exposed steel.
5) There are diagonal cracks up to 0.040 inch wide X 5.0 ft. long, in the near right and far right faces of bent cap 19.

1080 / 2 -

1130 / 2 -

SUBSTRUCTURE : Substructure

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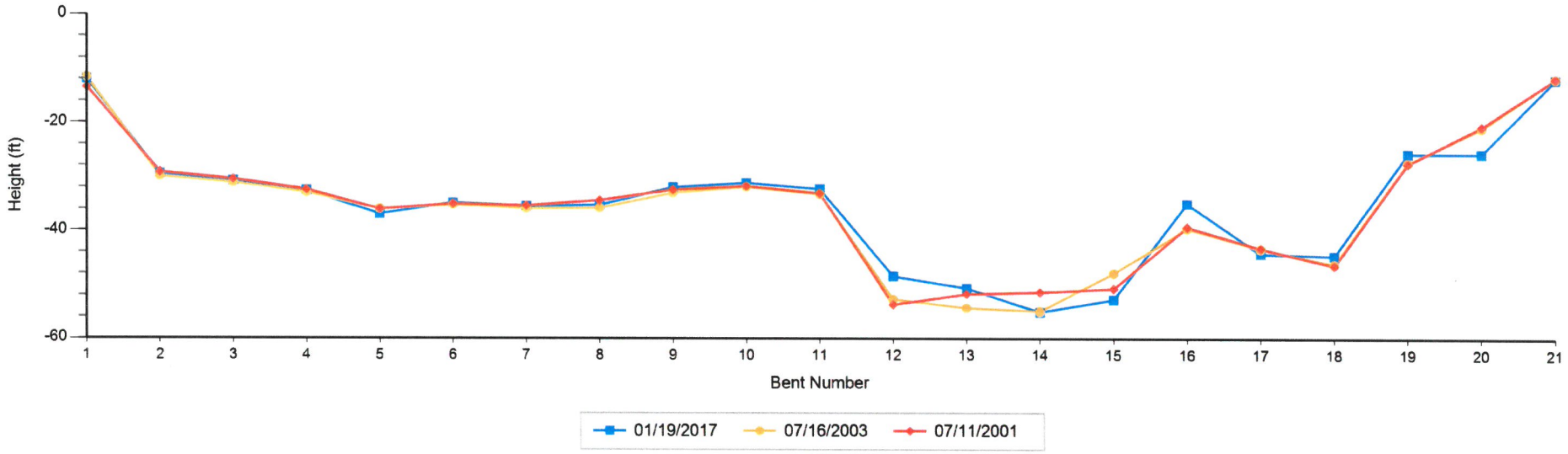
FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM

Inspection/CIDR/Bridge Profile Report

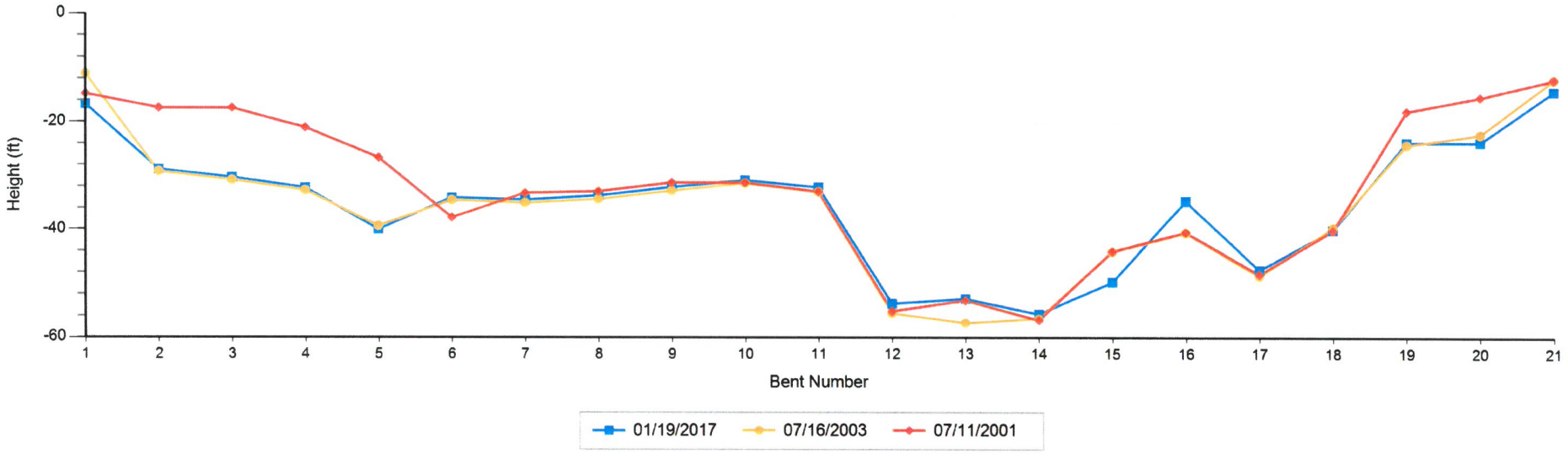
Bridge Profile

DATE PRINTED: 2/1/2017 10:22:33 AM

Left Profile by Inspection



Right Profile by Inspection



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FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR/Bridge Profile Report
Bridge Profile

DATE PRINTED: 2/1/2017 10:22:33 AM

Profile Data - Numerical Summary

Inspection Date and Key: 1/19/2017 XPPU

(All Heights are in Feet)

Bent #	Left Height	Right Height
1	12.00	16.70
2	29.50	28.80
3	30.80	30.30
4	32.60	32.20
5	37.00	40.00
6	34.90	34.00
7	35.50	34.40
8	35.30	33.60
9	32.00	32.00
10	31.20	30.70
11	32.30	32.00
12	48.50	53.70
13	50.70	52.80
14	55.10	55.60
15	52.80	49.70
16	35.00	34.50
17	44.30	47.40
18	44.70	39.90
19	25.70	23.50
20	25.70	23.50
21	12.00	14.00

Air Temp: 70

Profile Notes:

GROUND LINE MEASUREMENTS FROM TOP OF BARRIER WALL.
WATER LINE MEASUREMENTS FROM TOP OF BARRIER WALL AT BENT 13.
LEFT SIDE - 46.1 FT. RIGHT SIDE - 46.0 FT.

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FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR/Bridge Profile Report
Bridge Profile

DATE PRINTED: 2/1/2017 10:22:33 AM

Profile Data - Numerical Summary

Inspection Date and Key: 7/16/2003 UWIL

Bent #	Left Height	Right Height
1	11.60	11.10
2	30.00	29.20
3	31.20	30.80
4	33.00	32.70
5	36.00	39.30
6	35.30	34.50
7	36.00	35.00
8	35.90	34.30
9	33.10	32.70
10	32.00	31.30
11	33.30	32.90
12	52.80	55.50
13	54.40	57.30
14	55.00	56.50
15	48.00	44.10
16	39.70	40.50
17	43.40	48.60
18	46.30	39.50
19	27.40	24.00
20	21.00	22.00
21	11.80	11.80

(All Heights are in Feet)

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Inspection/CIDR/Bridge Profile Report
Bridge Profile

DATE PRINTED: 2/1/2017 10:22:33 AM

Profile Data - Numerical Summary

Air Temp: 88

Profile Notes:

Water line measurements from top of barrier wall at bent no. 13.
44.0 Left 44.0 Right
Ground line measurements from top of barrier wall.

Inspection Date and Key: 7/11/2001 GEUL

Bent #	Left Height	Right Height
		(All Heights are in Feet)
1	13.45	14.76
2	29.20	17.39
3	30.51	17.39
4	32.48	21.00
5	36.09	26.57
6	35.10	37.73
7	35.43	33.14
8	34.45	32.81
9	32.48	31.17
10	31.82	31.17
11	33.14	32.81
12	53.81	55.12
13	51.84	53.15
14	51.51	56.76
15	50.85	43.96
16	39.37	40.35
17	43.31	48.23
18	46.59	40.03
19	27.56	17.72
20	20.67	15.09

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FLORIDA DEPARTMENT OF TRANSPORTATION BRIDGE MANAGEMENT SYSTEM
Inspection/CIDR/Bridge Profile Report
Bridge Profile

DATE PRINTED: 2/1/2017 10:22:33 AM

Profile Data - Numerical Summary

Bent #	Left Height	Right Height
21	11.81	11.81

(All Heights are in Feet)

Air Temp:

Profile Notes:

WATER LINE MEASUREMENTS FROM TOP OF BARRIER WALL AT BENT NO. 13
15.4 LEFT 15.5 RIGHT.
GROUND LINE MEASUREMENTS FROM TOP OF BARRIER WALL.

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Inspector Recommendations

UNIT: UNIT 0 DECKS

ELEMENT/ENV:304/3 Open Expansion Joint ELEM CATEGORY: Joints

CONDITION STATE (3)		Priority
2	**34 lf.**	3

WORK ORDER RECOMMENDATION:

Epoxy inject the loose sounding armor over bents 16 and 21. Area marked in wht. paint.

Structure Notes

This structure replaced bridge number 610003.

INSPECTION NOTES: KMZQ 4/11/2016

Sufficiency Rating Calculation Accepted by mt338gb-P at 2016-05-02 20:02:06

Previous comments > Sufficiency Rating Calculation Accepted by mt338gm-P at 2014-05-14 08:36:17
Sufficiency Rating Calculation Accepted by mt338dr-P at 2012-05-24 15:13:17
Previous comments > Sufficiency Rating Calculation Accepted by mt338wd-P at 2010-06-29 13:55:13
MT338WD inspection comments - The Divers reported there were no significant underwater deficiencies noted on this inspection.
Sufficiency Rating Calculation Accepted by mt338jb-P at 2008-07-28 13:34:52
Sufficiency Rating Calculation Accepted by mt338pg-P at 2006-08-23 15:28:19
MT338DR-P element inspection comments -
Structure 520149 - DATE 08/22/2006 -
Previous comments > Sufficiency Rating Calculation Accepted by mt338wd-P at 2005-01-11 07:33:32
Sufficiency Rating Calculation Accepted by mt338dr-P at 2003-01-14 06:53:52
MT338EP-P inspection comments -
Structure 520149 - DATE 2003-01-08 -
Previous comments > MT338LH inspection comments -
Structure 520149 - DATE 2/13/01 -
Previous comments > Sufficiency Rating Calculation Accepted by mt338jm at 2/14/01 12:15:49

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Elements

Inspection Date: 4/11/2016 KMZQ

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
UNIT 0	234/3	R/Conc Cap	0	.	1009	100.	0	.	0	.	0	.	1009 lf.

Notes CORRECTIVE ACTION: The overgrown vegetation at bent 16 has been removed.

Condition State 2
NO CHANGE:
1) Several intermediate bent caps exhibit random cracks up to 0.050 inch wide cracks with efflorescence.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
UNIT 0	396/3	Other Abut Slope Pro	15242	100.	0	.	0	.	0	.	0	.	15242 sf.

Notes < none >

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
UNIT 0	290/3	Channel	1	100.	0	.	0	.	0	.	0	.	1 ea.

Notes < none >

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
UNIT 0	321/3	R/Conc Approach Slab	0	.	2	100.	0	.	0	.	0	.	2 ea.

Notes Condition State 2
NO CHANGE:
1) The are sealed and unsealed full length random cracks up to 0.050 inch wide in both approach slabs.

NOTE: The roadway and approach slab transitions are rough, due to minor settlement in the roadway asphalt.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
UNIT 0	475/3	R/Conc Walls	60	100.	0	.	0	.	0	.	0	.	60 lf.

Notes CORRECTIVE ACTION: The poured seal adjacent to the wing walls has been repaired.

Total Number of Elements: 12

Inspection Information

Inspection Date: 04.11.2016 **Type:** Regular NBI

Inspector: MT338GB-P - Glen Borges

Inspection Notes: Sufficiency Rating Calculation Accepted by mt338gb-P at 2016-05-02 20:02:06

Previous comments > Sufficiency Rating Calculation Accepted by mt338gm-P at 2014-05-14 08:36:17
Sufficiency Rating Calculation Accepted by mt338dr-P at 2012-05-24 15:13:17
Previous comments > Sufficiency Rating Calculation Accepted by mt338wd-P at 2010-06-29 13:55:13
MT338WD inspection comments - The Divers reported there were no significant underwater deficiencies noted on this inspection.
Sufficiency Rating Calculation Accepted by mt338jb-P at 2008-07-28 13:34:52
Sufficiency Rating Calculation Accepted by mt338pg-P at 2006-08-23 15:28:19
MT338DR-P element inspection comments -
Structure 520149 - DATE 08/22/2006 -
Previous comments > Sufficiency Rating Calculation Accepted by mt338wd-P at 2005-01-11 07:33:32
Sufficiency Rating Calculation Accepted by mt338dr-P at 2003-01-14 06:53:52
MT338EP-P inspection comments -
Structure 520149 - DATE 2003-01-08 -
Previous comments > MT338LH inspection comments -
Structure 520149 - DATE 2/13/01 -
Previous comments > Sufficiency Rating Calculation Accepted by mt338jm at 2/14/01 12:15:49

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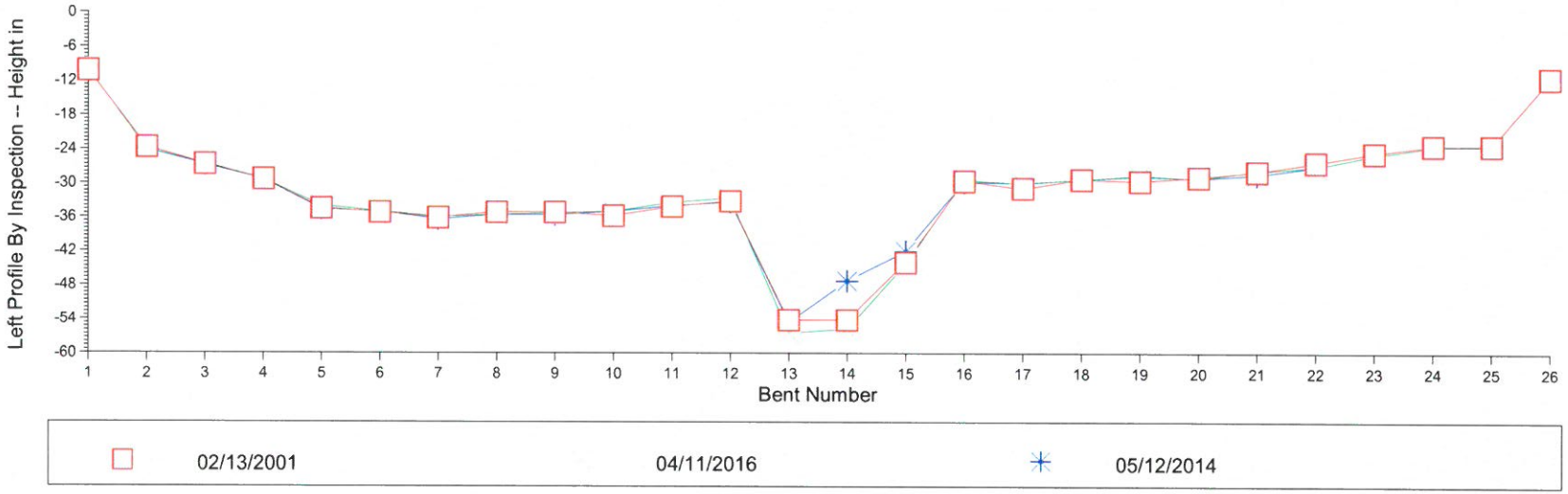
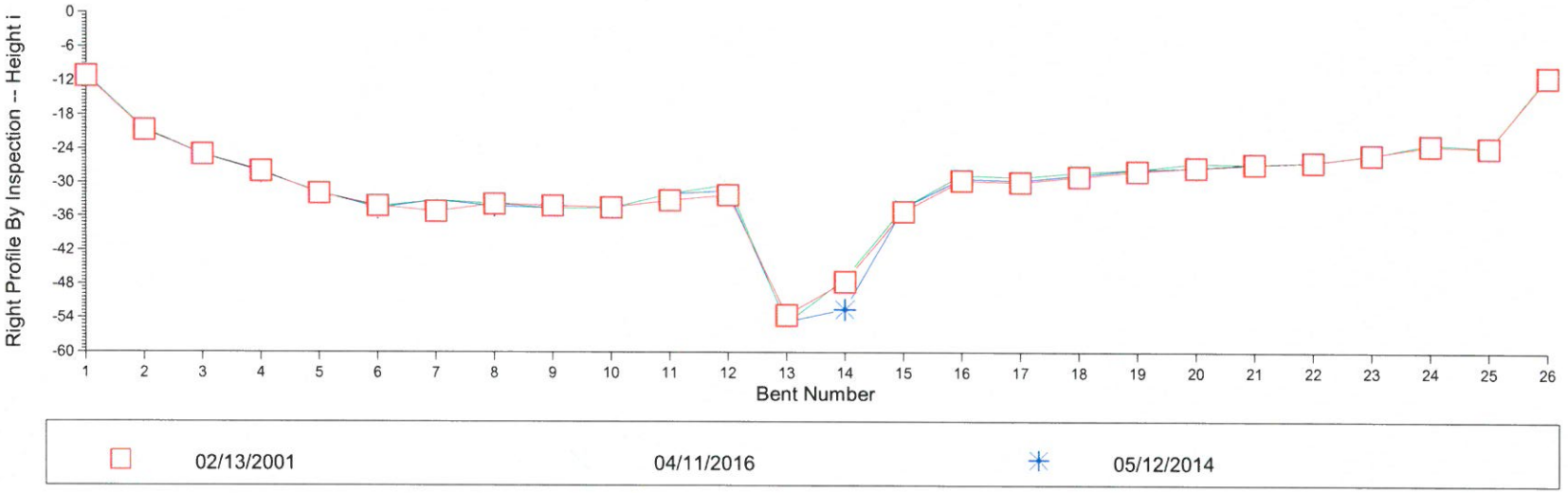

Left Profile By Inspection -- Height in
0
-6
-12
-18
-24
-30
-36
-42
-48
-54
-60
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
Bent Number
02/13/2001
04/11/2016
05/12/2014


Right Profile By Inspection -- Height i
0
-6
-12
-18
-24
-30
-36
-42
-48
-54
-60
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
Bent Number
02/13/2001
04/11/2016
05/12/2014

Profile Data - Numerical Summary

Inspection Date and Key: 04/11/2016 KMZQ

Bent #	Left Height	Right Height
1	10	11
2	24.1	20.5
3	26.5	25
4	29.3	28
5	34	31.7
6	35	34.3
7	36	33.2
8	35.6	33.8
9	35.3	34.6
10	35	34.6
11	33.4	32
12	32.6	30.3
13	56.5	55
14	55.8	47
15	44.3	34.4
16	29.4	28.6
17	30	29
18	29.3	28.1
19	28.6	27.6
20	29.1	26.5
21	27.8	26.7
22	27	26.2
23	25	25
24	23.5	23
25	23.3	23.6
26	11.5	11

(All Heights Are In Feet)

Air Temp: 75

Profile Notes:

GROUNDLINE MEASUREMENTS FROM TOP OF BARRIERWALL.
WATERLINE MEASUREMENTS FROM TOP OF BARRIERWALL AT BENT 13.
Left = 31.0 ft. Right = 31.0 ft.

Profile Data - Numerical Summary

Inspection Date and Key: 05/12/2014 ODZR

Bent #	Left Height	Right Height
1	10	11
2	24.1	20.7
3	26.7	25
4	29.3	28.1
5	34.6	31.7
6	35	34.6
7	36.4	33.2
8	35.6	34.2
9	35.6	34.6
10	35	34.6
11	34	32
12	33.3	31.4
13	54.6	54.7
14	47.3	52.5
15	42	34.5
16	29.7	29.2
17	29.9	29.6
18	29.3	28.6
19	28.7	27.6
20	29.1	27.3
21	28.4	26.7
22	27	26.3
23	25	25
24	23.5	23
25	23.3	23.6
26	11.5	11

(All Heights Are In Feet)

Air Temp: 75

Profile Notes:

GROUNDLINE MEASUREMENTS FROM TOP OF BARRIERWALL.
WATERLINE MEASUREMENTS FROM TOP OF BARRIERWALL AT BENT 13.
Left = 32.5 ft. Right = 32.5 ft.

Profile Data - Numerical Summary

Inspection Date and Key: 02/13/2001 BVTL

Bent #	Left Height	Right Height
1	10.17	11.15
2	23.62	20.67
3	26.57	24.93
4	29.2	27.89
5	34.45	31.82
6	35.1	34.12
7	36.09	35.1
8	35.1	33.79
9	35.1	34.12
10	35.76	34.45
11	34.12	33.14
12	33.14	32.15
13	54.13	53.48
14	54.13	47.57
15	43.96	35.1
16	29.53	29.53
17	30.84	29.86
18	29.2	28.87
19	29.53	27.89
20	28.87	27.23
21	27.89	26.57
22	26.25	26.25
23	24.61	24.93
24	23.29	23.29
25	23.29	23.62
26	11.48	11.15

(All Heights Are In Feet)

Air Temp:

Profile Notes:

GROUND LINE MEASUREMENTS FROM TOP OF BARRIER WALL.
WATER LINE MEASUREMENTS FROM TOP OF BARRIER WALL AT BENT NO. 13
11.1 LEFT 11.1 RIGHT.

All Elements

UNIT: 0 SUBSTRUCTURE

ELEMENT/ENV: 388/3 R/Conc Fender/Dolphi 10 lf. **ELEM CATEGORY:** Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	The element shows little or no deterioration. There may be discoloration, efflorescence, and/or superficial cracking but without affect on strength and/or serviceability. Random open joints may exist.	10 lf.

ELEMENT INSPECTION NOTES:

NOTE: There is an abandoned test drilled shaft, at the right side of pier 59, that is serving as a dolphin.

ELEMENT/ENV: 396/3 Other Abut Slope Pro 24240 sf. **ELEM CATEGORY:** Substructure

CONDITION STATE (4)	DESCRIPTION	QUANTITY
1	There is little or no deterioration. Surface defects only are in evidence. Random open joints may exist.	24240 sf.

ELEMENT INSPECTION NOTES:

< none >

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Elements

Inspection Date: 10/1/2015CAGR

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	207/3	P/S Conc Holl Pile	184	89.76	16	7.8	5	2.44	0	.	0	.	**205 ea.**

Notes Condition State 2
NEW:
1) The near face of pile 20-5 exhibits a full length longitudinal crack up to 0.025 inch wide.
2) The left and far face of pile 24-2, adjacent to the ground line, exhibits a minor area of honey combing with no exposed steel.
3) Pile 30-1 exhibits a wrap around crack up to 0.020 inch wide adjacent to the splice area.

NO CHANGE:
1) The following piles exhibit minor spalls with no exposed steel:
A) 5-5, near face
B) 21-4 right face
C) 23-3, far right face
D) 23-4, near right face
E) 36-3, near right face

2) The following piles exhibit random cracks, up to 0.025 inch wide, near the splice area:
A) 18-1, left face
B) 19-3, left face
C) 20-2, left face (full length)
D) 21-1, left face with discoloration
E) 21-2, all faces
F) 21-4, right face
G) 27-3, near and far face
H) 29-5, near and far face

Condition State 3
NEW:
1) The piles in bent 22 exhibit loss of ground line up to 6.7 ft. since the 2013 inspection.
(See Photo 4)

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	210/3	R/Conc Pier Wall	0	.	156	100.	0	.	0	.	0	.	**156 lf.**

Notes Condition State 2
NEW:
1) The pier walls exhibit minor to moderate scaling up to the high water mark.

NO CHANGE:
1) There is a section of seal concrete 0.8 ft. thick under the pier wall at pier 59. This section has separated from the wall concrete and dropped down exposing the reinforcing steel underwater. (Photo could not taken at time of inspection due to high water and visibility)

NOTE: This should be monitored during routine inspections.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	215/3	R/Conc Abutment	100	100.	0	.	0	.	0	.	0	.	**100 lf.**

Notes < none >

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Elements

Inspection Date: 10/1/2015CAGR

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	234/3	R/Conc Cap	3293	98.51	50	1.49	5	.	0	.	0	.	3348 lf.

Notes CORRECTIVE ACTION: The overgrown vegetation has been removed from the near end of the structure.

Condition State 2
NO CHANGE:
1) The right face of intermediate cap 65 exhibits a transverse crack up to 0.025 inch wide.
2) Several intermediate bent caps exhibits a minor build-up of bat guano.

Condition State 3
NO CHANGE:
1) The right end of cap 47 exhibits a delamination 5.0 ft. long X 0.4 ft. high X 2.0 ft. deep.
(See Photo 5)

NOTE: The delamination on cap 47 has been smeared with epoxy.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	298/3	Pile Jacket Bare	1	100.	0	.	0	.	0	.	0	.	1 ea.

Notes NOTE: There is a concrete jacket on pile 22-4.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	388/3	R/Conc Fender/Dolphi	10	100.	0	.	0	.	0	.	0	.	10 lf.

Notes NOTE: There is an abandoned test drilled shaft, at the right side of pier 59, that is serving as a dolphin.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	396/3	Other Abut Slope Pro	24240	100.	0	.	0	.	0	.	0	.	24240 sf.

Notes < none >

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	290/3	Channel	1	100.	0	.	0	.	0	.	0	.	1 ea.

Notes < none >

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	321/3	R/Conc Approach Slab	0	.	2	100.	0	.	0	.	0	.	2 ea.

Notes Condition State 2
NEW:
1) Both approach slabs exhibit random cracks up to 0.030 inch wide.

NO CHANGE:
1) There is a full length longitudinal crack up to 0.025 inch wide in the safety lane of the near approach slab and the left travel lane of the far approach slab.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	475/3	R/Conc Walls	57	100.	0	.	0	.	0	.	0	.	57 lf.

Notes CORRECTIVE ACTION: The open joint adjacent to the near left wing wall has been repaired.

Total Number of Elements: 20

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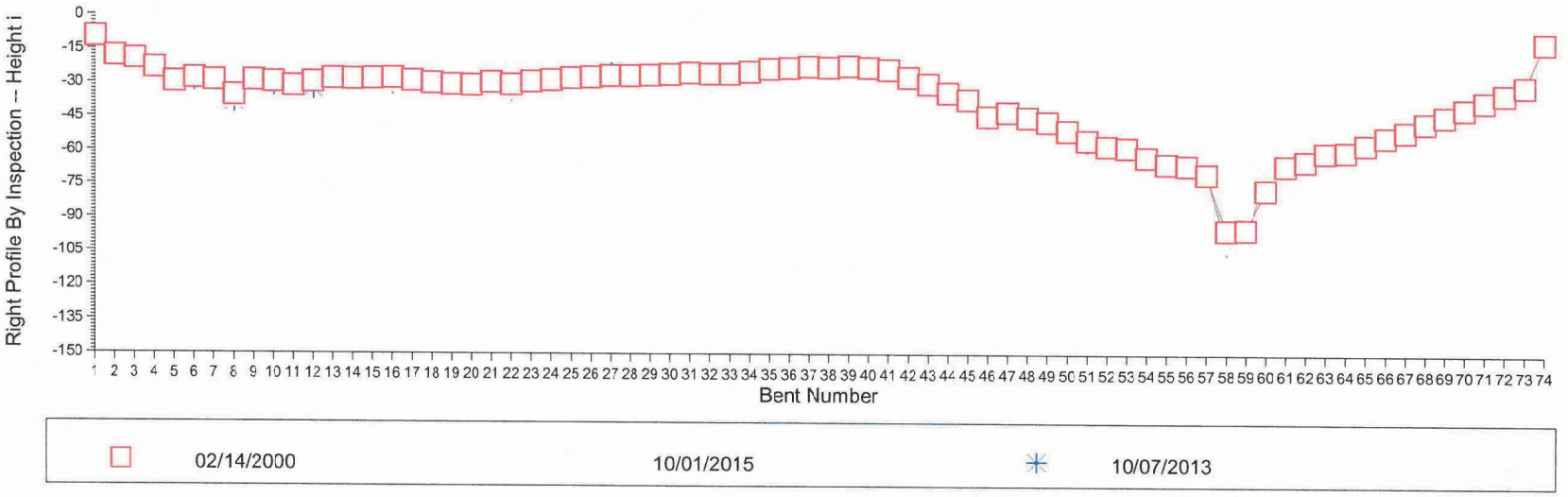
Left Profile By Inspection -- Height in
0
-15
-30
-45
-60
-75
-90
-105
-120
-135
-150
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
Bent Number
02/14/2000
10/01/2015
10/07/2013


Right Profile By Inspection -- Height i
0
-15
-30
-45
-60
-75
-90
-105
-120
-135
-150
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74
Bent Number
02/14/2000
10/01/2015
10/07/2013

Profile Data - Numerical Summary

Inspection Date and Key: 10/01/2015 CAGR

Bent #	Left Height	Right Height
1	9	9.5
2	19.4	18
3	20.8	22.3
4	25.6	23.7
5	30.9	32.1
6	30.2	27.6
7	29.8	28.5
8	32.3	36
9	30.7	31.7
10	28	29.7
11	32.2	31.5
12	30.5	29.6
13	29.3	27.5
14	27.2	31
15	28.5	28.3
16	27	29.2
17	28.9	28.5
18	31	32.5
19	29.8	30
20	27	34
21	29.4	28.5
22	32.7	32.5
23	30.4	28.5
24	29.3	30.8
25	29.7	27.5
26	27.5	29.9
27	29.7	28.7
28	29	28.5
29	29.3	26.5
30	29	28.1
31	28.6	25.3
32	28.5	27.8
33	28	27.5

(All Heights Are In Feet)

Profile Data - Numerical Summary

Inspection Date and Key: 10/01/2015 CAGR

Bent #	Left Height	Right Height	(All Heights Are In Feet)
34	27.5	27	
35	36.7	23	
36	26	25.6	
37	26.4	22.5	
38	26.5	25	
39	25.8	21.5	
40	26.6	24.9	
41	28.3	23.5	
42	30.3	28.9	
43	34.2	30	
44	38	37.2	
45	44.4	39	
46	44.5	43.2	
47	46	42	
48	48	47	
49	51.4	47	
50	54	52.9	
51	56	54.5	
52	60.5	57	
53	61.5	60.5	
54	64.4	64.6	
55	66.7	65	
56	68	68.2	
57	68	69	
58	103	100	
59	101	98.7	
60	66.2	69.7	
61	67	66.5	
62	62.7	66.1	
63	57.3	64.1	
64	57	62.5	
65	54.5	56	
66	51	55.8	

Profile Data - Numerical Summary

Inspection Date and Key: 10/01/2015 CAGR

Bent #	Left Height	Right Height
67	47.2	53
68	44.6	49.3
69	41.9	44.3
70	38	43.1
71	34.8	36.8
72	31.6	35.9
73	29	30.5
74	11	11

(All Heights Are In Feet)

Air Temp: 72

Profile Notes:

GROUND LINE MEASUREMENTS FROM TOP OF BARRIERWALL.
WATER LINE MEASUREMENTS FROM TOP OF BARRIERWALL AT BENT 59.
LEFT = 82.0 FT. RIGHT = 83.0 FT.

Inspection Date and Key: 10/07/2013 FWWP

Bent #	Left Height	Right Height
1	9	9.5
2	19.4	18
3	20.8	22.3
4	25.6	23.6
5	30.9	32.1
6	30.2	29
7	27.5	28.5
8	32.3	38.3
9	31	31.7
10	28	31
11	28	31.5
12	30.5	32.5
13	28.4	27.5
14	27.2	31
15	28.6	28.3
16	27	30.2
17	29	28.5
18	31	32.5

Profile Data - Numerical Summary

Inspection Date and Key: 10/07/2013 FWWP

(All Heights Are In Feet)

Bent #	Left Height	Right Height
19	31	30
20	27	34.1
21	29.5	28.5
22	26	33
23	30.4	28.5
24	30	30.9
25	29.4	27.5
26	27.5	29.6
27	29.4	25.6
28	28.2	28.5
29	29.4	26.5
30	29	28.2
31	28.6	25.3
32	28.5	27.9
33	28.3	27.5
34	27.5	26.9
35	26.9	23
36	26	25.8
37	26.4	22.5
38	26.5	25
39	25.8	21.5
40	27.2	24.8
41	28.3	23.5
42	30.3	28.9
43	34.3	30
44	38	37
45	40.7	39
46	44.5	44.5
47	46	42
48	48	47
49	51.4	47
50	54	52.9
51	56	55.2

Profile Data - Numerical Summary

Inspection Date and Key: 10/07/2013 FWWP

Bent #	Left Height	Right Height	(All Heights Are In Feet)
52	60.5	57	
53	61.5	60.5	
54	64.7	64.6	
55	66.7	65	
56	68	68.2	
57	68	69	
58	103.5	100.7	
59	101	98.7	
60	66.2	69.7	
61	67	66.5	
62	62.7	66.1	
63	57.3	63	
64	58	62.5	
65	54.5	56	
66	51	55.8	
67	47.2	50.5	
68	44.6	49.3	
69	41.6	44.3	
70	38	43.1	
71	34.8	36.8	
72	31.6	35.9	
73	29	30.5	
74	11	11	

Air Temp: 88
Profile Notes:
GROUND LINE MEASUREMENTS FROM TOP OF BARRIERWALL.
WATER LINE MEASUREMENTS FROM TOP OF BARRIERWALL AT BENT 59.
LEFT = 83.8 RIGHT = 84.6

Inspection Date and Key: 02/14/2000 PQZM

1	9.19	9.51
2	19.36	18.04
3	19.36	19.36

Profile Data - Numerical Summary

Inspection Date and Key: 02/14/2000 PQZM

Bent #	Left Height	Right Height
4	26.25	23.29
5	30.84	29.53
6	29.53	27.89
7	28.22	28.87
8	33.46	35.43
9	29.53	28.87
10	29.53	29.53
11	28.54	31.17
12	27.89	29.53
13	27.56	27.89
14	27.89	28.22
15	27.23	27.89
16	27.23	27.56
17	27.23	28.87
18	26.9	29.86
19	27.56	30.51
20	27.89	30.84
21	25.92	29.53
22	26.9	30.51
23	26.9	29.2
24	27.23	28.54
25	27.23	27.56
26	27.89	27.23
27	27.89	26.57
28	28.54	26.57
29	28.54	26.25
30	28.54	25.92
31	27.89	25.26
32	28.54	25.59
33	28.22	25.59
34	27.89	24.61
35	27.56	23.29
36	26.9	22.97

(All Heights Are In Feet)

Profile Data - Numerical Summary

Inspection Date and Key: 02/14/2000 PQZM

Bent #	Left Height	Right Height	(All Heights Are In Feet)
37	26.9	22.31	
38	28.54	22.64	
39	26.57	21.98	
40	27.23	22.64	
41	28.87	23.62	
42	30.84	26.9	
43	34.45	29.86	
44	38.39	33.79	
45	40.68	36.75	
46	43.96	44.29	
47	46.26	42.32	
48	48.56	44.62	
49	51.84	46.59	
50	54.46	50.52	
51	56.76	54.79	
52	59.38	57.41	
53	62.01	58.07	
54	64.63	62.34	
55	66.93	65.29	
56	67.59	65.94	
57	69.88	69.88	
58	95.14	94.82	
59	94.16	94.49	
60	70.21	76.77	
61	66.27	65.94	
62	64.3	63.98	
63	59.71	60.04	
64	57.74	59.71	
65	54.79	56.43	
66	51.84	53.15	
67	48.23	50.52	
68	45.28	46.59	
69	41.99	43.64	

Profile Data - Numerical Summary

Inspection Date and Key: 02/14/2000 PQZM

Bent #	Left Height	Right Height
70	38.71	40.35
71	35.1	37.07
72	31.5	33.79
73	28.87	30.18
74	11.15	10.83

(All Heights Are In Feet)

Air Temp: 68

Profile Notes:

GROUNDLINE MEASUREMENT FROM TOP OF CONCRETE RAIL.
WATERLINE MEASUREMENT FROM TOP OF CONCRETE RAIL AT BENT 59.
Left = 24 Right = 24

Inspector Recommendations

UNIT: 0 SUBSTRUCTURE

ELEMENT/ENV:396/4 Other Abut Slope Pro ELEM CATEGORY: Substructure

CONDITION STATE (4)		Priority
2	**1410 sf.**	3

WORK ORDER RECOMMENDATION:

Remove overgrown vegetation from the near and far slope protections.

Structure Notes

PRIOR BRIDGE# = 590007
Revised 11/03/06

INSPECTION NOTES: GZTZ 6/21/2016

Sufficiency Rating Calculation Accepted by mt338gb-P at 2016-06-28 16:36:45
An underwater inspection was not needed due to low water depth.

Previous comments > Sufficiency Rating Calculation Accepted by knvolss-P at 2014-07-30 14:50:38
UW NOT REQUIRED PER LEAD INSPECTOR
Sufficiency Rating Calculation Accepted by knvolwc-P at 2012-07-30 16:22:20
UW TANK = 8/1/12
Sufficiency Rating Calculation Accepted by KN338CD-P at 2010-08-03 11:50:27
LOW WATER - DIVE NOT NEEDED
Sufficiency Rating Calculation Accepted by KN338CD-P at 2008-08-19 16:46:54
LOW WATER - DIVE NOT NEEDED
Sufficiency Rating Calculation Accepted by kn338cd-P at 2006-09-19 15:39:54
LOW WATER - DIVE NOT NEEDED
Sufficiency Rating Calculation Accepted by kn338cd-P at 2004-10-08 16:21:56
LOW WATER - DIVE NOT NEEDED
Sufficiency Rating Calculation Accepted by kn338mv-P at 2002-10-18 13:54:31
KN338MV-P inspection comments - LOW WATER - DIVE NOT NEEDED
Structure 590048 - Date 2002-10-08
Sufficiency Rating Calculation Accepted by mt338ep at 11/1/00 13:01:42
MT338EP inspection comments - Structure 590048 - Date 10/25/00
MT338CT inspection comments - Structure 590048 - Date 11/16/1998

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Elements

Inspection Date: 6/21/2016GZTZ

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	321/4	R/Conc Approach Slab	0	.	2	100.	0	.	0	.	0	.	**2 ea.**

Notes Condition State 2
NO CHANGE:
1) The near and far approach slabs exhibit sealed and unsealed longitudinal cracks up to 0.020 inch wide.

Span Id	Elem/Env	Description	Qty1	%1	Qty2	%2	Qty3	%3	Qty4	%4	Qty5	%5	T Qty
0	475/4	R/Conc Walls	35	97.22	1	2.78	0	.	0	.	0	.	**36 lf.**

Notes Condition State 2
NEW:
1) The near right wingwall exhibits a minor spall with no exposed steel adjacent to the strip seal joint.

Total Number of Elements: 12

Inspection Information

Inspection Date: 06.21.2016 **Type:** Regular NBI

Inspector: MT338GB-P - Glen Borges

Inspection Notes: Sufficiency Rating Calculation Accepted by mt338gb-P at 2016-06-28 16:36:45
An underwater inspection was not needed due to low water depth.

Previous comments > Sufficiency Rating Calculation Accepted by knvolss-P at 2014-07-30 14:50:38
UW NOT REQUIRED PER LEAD INSPECTOR
Sufficiency Rating Calculation Accepted by knvolwc-P at 2012-07-30 16:22:20
UW TANK = 8/1/12
Sufficiency Rating Calculation Accepted by KN338CD-P at 2010-08-03 11:50:27
LOW WATER - DIVE NOT NEEDED
Sufficiency Rating Calculation Accepted by KN338CD-P at 2008-08-19 16:46:54
LOW WATER - DIVE NOT NEEDED
Sufficiency Rating Calculation Accepted by kn338cd-P at 2006-09-19 15:39:54
LOW WATER - DIVE NOT NEEDED
Sufficiency Rating Calculation Accepted by kn338cd-P at 2004-10-08 16:21:56
LOW WATER - DIVE NOT NEEDED
Sufficiency Rating Calculation Accepted by kn338mv-P at 2002-10-18 13:54:31
KN338MV-P inspection comments - LOW WATER - DIVE NOT NEEDED
Structure 590048 - Date 2002-10-08
Sufficiency Rating Calculation Accepted by mt338ep at 11/1/00 13:01:42
MT338EP inspection comments - Structure 590048 - Date 10/25/00
MT338CT inspection comments - Structure 590048 - Date 11/16/1998

Structure Notes

PRIOR BRIDGE# = 590007
Revised 11/03/06

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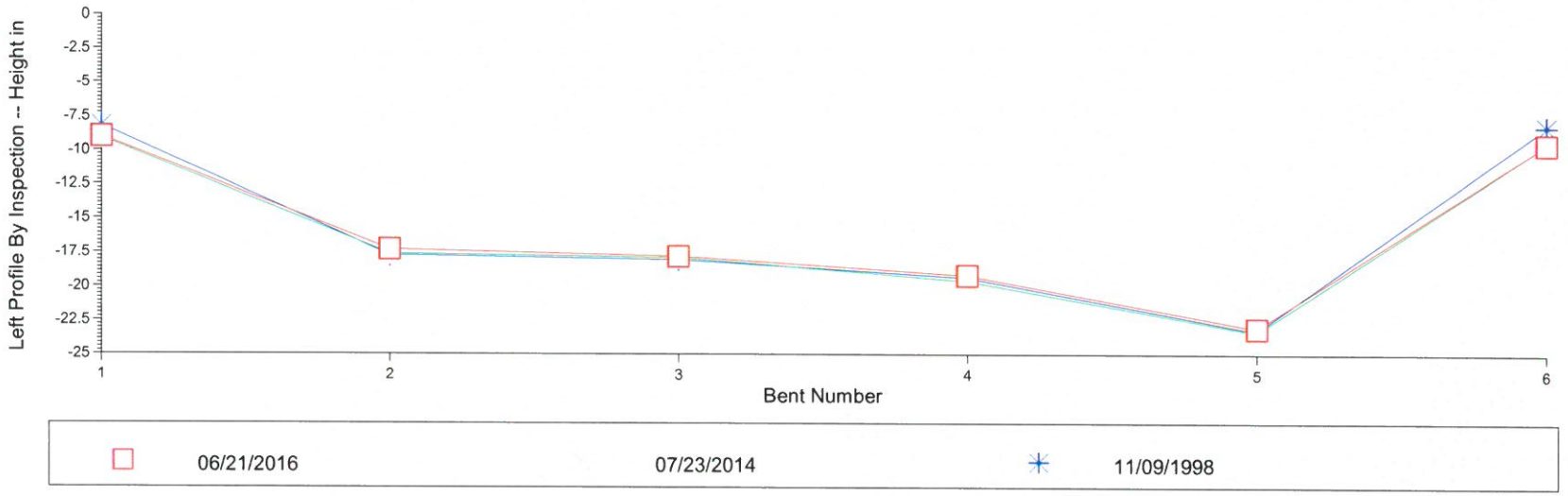
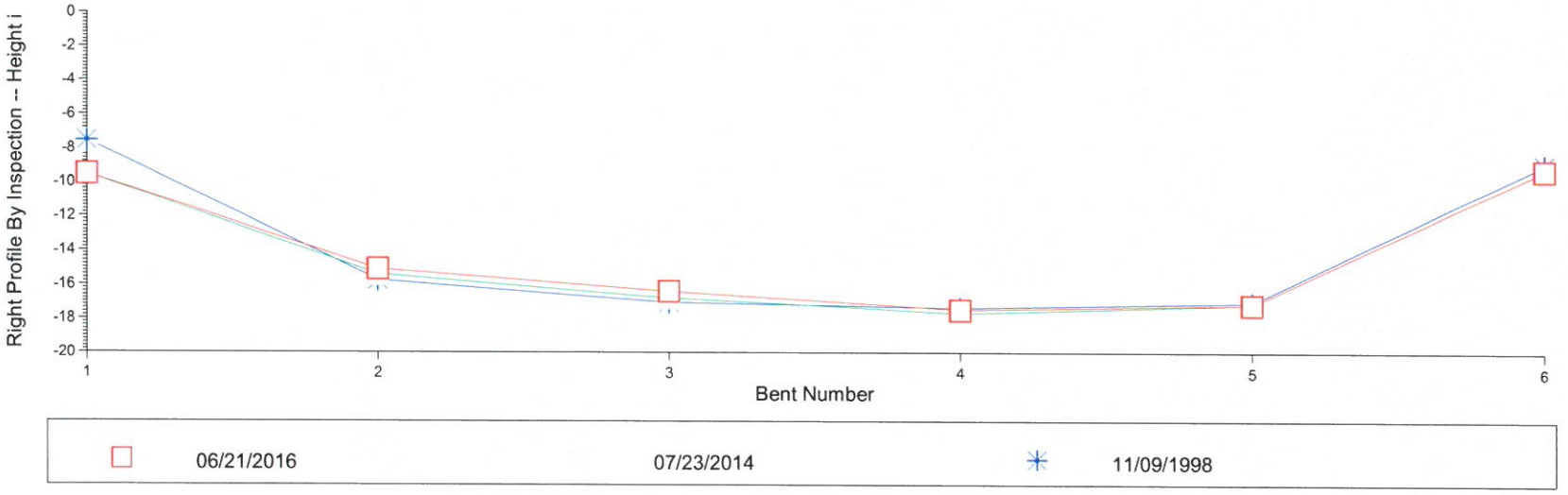

Left Profile By Inspection -- Height in
0
-2.5
-5
-7.5
-10
-12.5
-15
-17.5
-20
-22.5
-25
1
2
3
4
5
6
Bent Number
06/21/2016
07/23/2014
11/09/1998


Right Profile By Inspection -- Height i
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
1
2
3
4
5
6
Bent Number
06/21/2016
07/23/2014
11/09/1998

Profile Data - Numerical Summary

Inspection Date and Key: 06/21/2016 GZTZ

Bent #	Left Height	Right Height
1	9	9.5
2	17.3	15.1
3	17.8	16.4
4	19.2	17.5
5	23.1	17.2
6	9.5	9.2

(All Heights Are In Feet)

Air Temp: 90

Profile Notes:

GROUND LINE MEASUREMENTS FROM TOP OF BARRIERWALL.
WATER LINE MEASUREMENTS FROM TOP OF BARRIERWALL AT BENT 4.
LEFT = 17.0 RIGHT = 15.8

Inspection Date and Key: 07/23/2014 MMRM

Bent #	Left Height	Right Height
1	9.1	9.5
2	17.6	15.4
3	17.9	16.8
4	19.6	17.7
5	23.4	17.2
6	9.5	9.2

Air Temp:

Profile Notes:

Waterway Measurements: Top of rail to water line at Bent 5; 18.0 ft left and 16.6 ft right.
Groundline Measurements from top of rail.

Inspection Date and Key: 11/09/1998 YHYO

Bent #	Left Height	Right Height
1	8.2	7.55
2	17.72	15.75
3	18.04	17.06
4	19.36	17.39
5	23.29	17.06

Profile Data - Numerical Summary

Inspection Date and Key: 11/09/1998 YHYO	Bent #	Left Height	Right Height	(All Heights Are In Feet)
	6	8.2	8.86	

Air Temp: 0

Profile Notes:

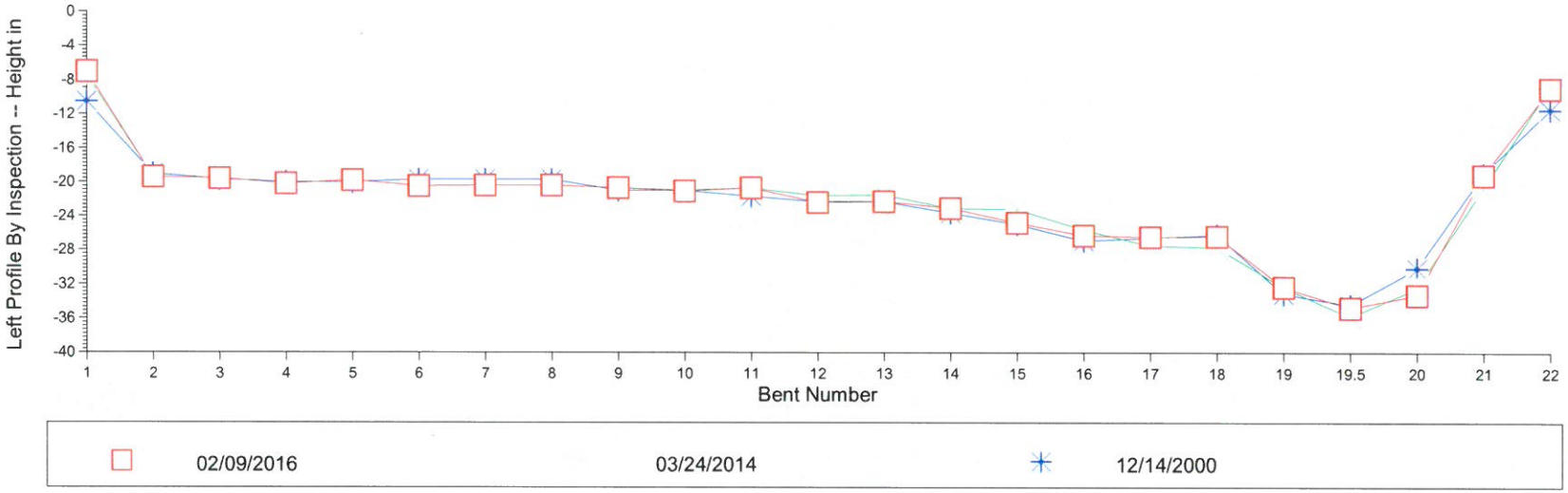
GROUND LINE MEASUREMENTS FROM TOP OF BARRIER RAIL.
WATER LINE MEASUREMENTS FROM TOP OF BARRIER RAIL AT BENT NO. 4.
LEFT 5.4 RIGHT 4.9

INSPECTION NOTES: UWCP 2/9/2016

Sufficiency Rating Calculation Accepted by mt338gb-P at 2016-02-25 14:27:18

Previous comments > Sufficiency Rating Calculation Accepted by mt338gm-P at 2014-03-31 17:15:41
MT338GM - Inspection Comments - The underwater inspection could not be preformed due to unsafe / high water conditions.
Previous comments > Sufficiency Rating Calculation Accepted by mt338jb-P at 2012-04-05 13:46:43
Sufficiency Rating Calculation Accepted by mt338gm-P at 2010-05-18 07:57:16
Previous comments >Sufficiency Rating Calculation Accepted by mt338jb-P at 2008-06-04 13:52:15
Sufficiency Rating Calculation Accepted by mt338jb-P at 2006-07-31 15:46:55
Previous comments > On the day of inspection Sam Weed was notified about the boiling spring at drill shaft 2-20 and he is going to have it sealed off in the near future.
Sufficiency Rating Calculation Accepted by mt338dr-P at 2004-08-24 06:22:19
MT338DR-P-inspection comments-
Structure 500124- DATE 8/23/04-
Previous comments > Sufficiency Rating Calculation Accepted by mt338dr-P at 2002-11-06 07:46:32
MT338EP-P inspection comments -
Structure 500124 - DATE 2002-11-05 -
Previous comments > Sufficiency Rating Calculation Accepted by mt338wd at 12/26/00 14:12:12
MT338TK inspection comments - This structure was inspected north to south. At time of inspection the structure was carrying north and south bound traffic. Upon completion of Bridge Number 500127, the structure will carry north bound traffic only. The Inspector 50 was not used due to temporary barricades on center line of structure.
Structure 500124 - DATE 12/14/2000 -

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.


Left Profile By Inspection -- Height in
0
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-8
-12
-16
-20
-24
-28
-32
-36
-40
1
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10
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12
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16
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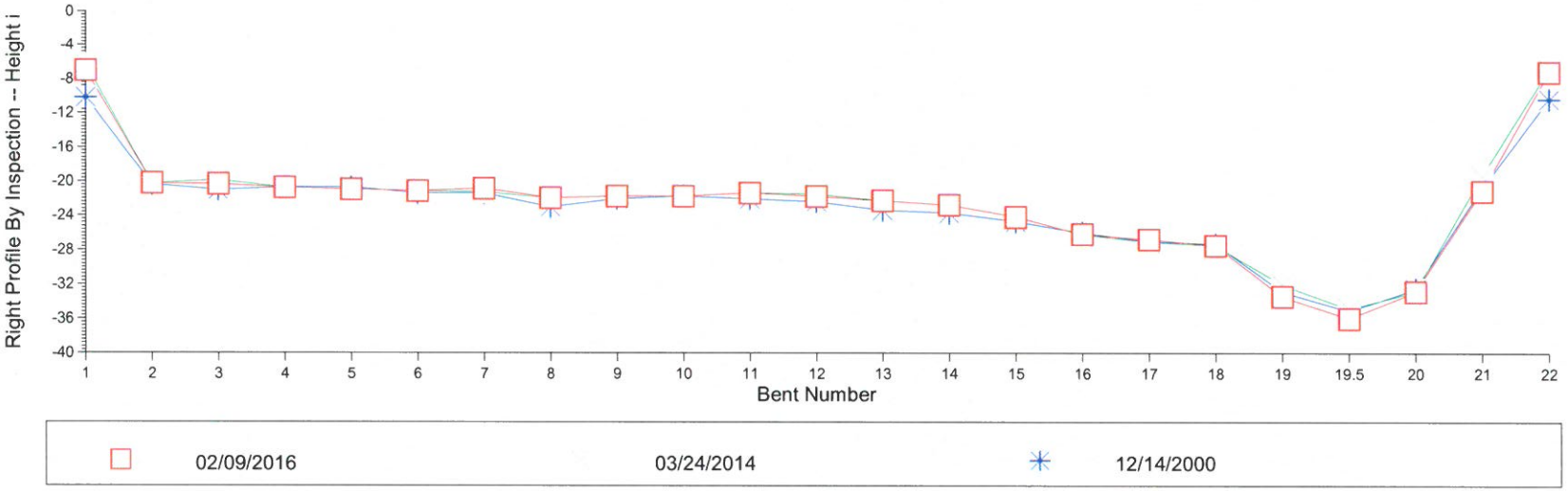
18
19
19.5
20
21
22
Bent Number
02/09/2016
03/24/2014
12/14/2000


Right Profile By Inspection -- Height i
0
-4
-8
-12
-16
-20
-24
-28
-32
-36
-40
1
2
3
4
5
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19.5
20
21
22
Bent Number
02/09/2016
03/24/2014
12/14/2000

Profile Data - Numerical Summary

Inspection Date and Key: 02/09/2016 UWCP

Bent #	Left Height	Right Height
1	7	7
2	19.4	20.2
3	19.6	20.3
4	20.2	20.7
5	19.8	20.9
6	20.5	21.1
7	20.4	20.8
8	20.4	21.9
9	20.7	21.7
10	21.1	21.7
11	20.7	21.3
12	22.4	21.7
13	22.3	22.2
14	23.1	22.7
15	24.8	24.1
16	26.3	26.1
17	26.5	26.7
18	26.4	27.4
19	32.4	33.4
19.5	34.8	36
20	33.3	32.8
21	19.2	21
22	9	7

(All Heights Are In Feet)

Air Temp: 55

Profile Notes:

GROUNDLINE MEASUREMENTS FROM TOP OF BARRIER WALL.
WATERLINE MEASUREMENTS FROM TOP OF BARRIER WALL AT BENT 19.5.
LEFT = 20.7 FT RIGHT = 21.4 FT

Inspection Date and Key: 03/24/2014 SILC

Bent #	Left Height	Right Height
1	7.3	6.3
2	19.4	20.2
3	19.6	19.8

Profile Data - Numerical Summary

Inspection Date and Key: 03/24/2014 SILC

Bent #	Left Height	Right Height
4	20.2	20.7
5	19.8	20.9
6	20.5	21.1
7	20.4	21.2
8	20.4	21.9
9	20.7	21.7
10	21	21.7
11	20.7	21.3
12	21.6	21.4
13	21.5	22.2
14	23.1	22.7
15	23.2	24.1
16	25.6	26.1
17	27.5	27
18	27.7	27.4
19	32.4	32
19.5	35.8	34.8
20	32.5	32.8
21	20.7	19.2
22	8.8	6.7

(All Heights Are In Feet)

Air Temp: 73

Profile Notes:

GROUNDLINE MEASUREMENT FROM TOP OF BARRIER WALL.
WATERLINE MEASUREMENT FROM TOP OF BARRIER WALL AT BENT 19.5.
LEFT = 22.1 FT RIGHT = 21.3 FT

Inspection Date and Key: 12/14/2000 AVRY

Bent #	Left Height	Right Height
1	10.5	10.17
2	19.03	20.34
3	19.69	21
4	20.01	20.67
5	20.01	20.67
6	19.69	21.33

Profile Data - Numerical Summary

Inspection Date and Key: 12/14/2000 AVRY

Bent #	Left Height	Right Height
7	19.69	21.33
8	19.69	22.97
9	21	21.98
10	21	21.65
11	21.65	21.98
12	22.31	22.31
13	22.31	23.29
14	23.62	23.62
15	24.93	24.61
16	26.9	25.92
17	26.57	26.9
18	26.25	27.23
19	33.14	32.81
19.5	34.45	35.1
20	30.18	32.48
21	19.03	20.67
22	11.48	10.17

(All Heights Are In Feet)

Air Temp: 55

Profile Notes:

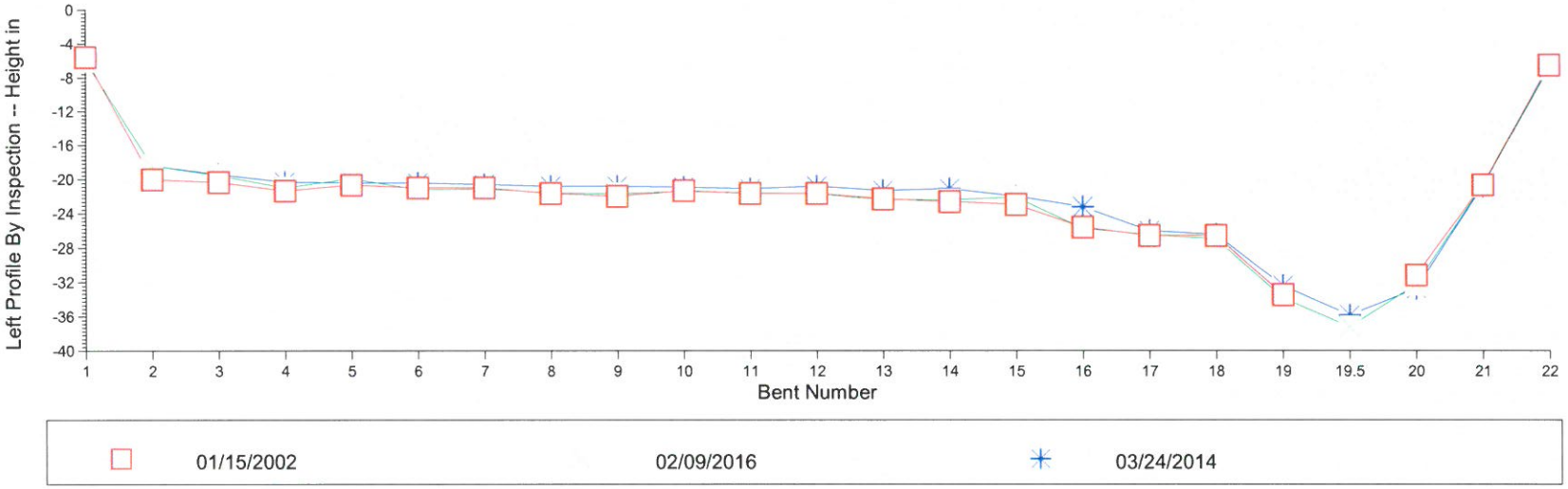
GROUND LINE MEASUREMENTS FROM TOP OF BARRIER WALL.
WATER LINE MEASUREMENT FROM TOP OF BARRIER WALL AT MID-SPAN 19.
LEFT SIDE - 10.5 RIGHT SIDE - 10.7

INSPECTION NOTES: DQZH 2/9/2016

Sufficiency Rating Calculation Accepted by mt338gb-P at 2016-02-25 15:13:31

Previous comments > Sufficiency Rating Calculation Accepted by mt338gm-P at 2014-04-02 09:16:24
MT338GM - Inspection Comments - The underwater inspection could not be preformed due to unsafe / high water conditions.
Previous comments > Sufficiency Rating Calculation Accepted by mt338jb-P at 2012-04-17 14:23:03
Sufficiency Rating Calculation Accepted by mt338gm-P at 2010-05-18 08:22:50
Previous comments >Sufficiency Rating Calculation Accepted by mt338pg-P at 2008-06-04 15:49:44
Sufficiency Rating Calculation Accepted by mt338jb-P at 2006-07-24 14:38:27
Sufficiency Rating Calculation Accepted by mt338wb-P at 2004-08-26 12:50:59
MT338WD inspection comments - DATE 2004-08-25
Previous comments > Sufficiency Rating Calculation Accepted by mt338wb-P at 2002-12-16 14:16:51
MT338AS-P inspection comments -
Structure 500127 - DATE 2002-12-16 -
Previous comments > Sufficiency Rating Calculation Accepted by mt338wd at 1/23/02 08:40:47
MT338TK inspection comments -
Structure 500127 - DATE 1/15/02 -
Previous comments >

This report contains information relating to the physical security of a structure and depictions of the structure. This information is confidential and exempt from public inspection pursuant to sections 119.071(3)(a) and 119.071(3)(b), Florida Statutes. Only the cover page of this report may be inspected and copied.


Left Profile By Inspection -- Height in
0
-4
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-40
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19.5
20
21
22
Bent Number
01/15/2002
02/09/2016
03/24/2014

Right Profile By Inspection -- Height i
0
-4
-8
-12
-16
-20
-24
-28
-32
-36
-40
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14
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16
17
18
19
19.5
20
21
22
Bent Number
01/15/2002
02/09/2016
03/24/2014

Profile Data - Numerical Summary

Inspection Date and Key: 02/09/2016 DQZH

Bent #	Left Height	Right Height
1	6	8
2	18.4	18.6
3	19.5	19.4
4	21	19.3
5	19.9	20.5
6	21.2	20.3
7	21.1	20.3
8	21.6	20.7
9	21.7	20.9
10	21.4	20.9
11	21.6	21
12	21.7	20.9
13	22.4	21
14	22.4	21.1
15	22.1	22
16	25.7	22.8
17	26.5	24.4
18	26.9	27.2
19	33.8	34
19.5	37.2	35.6
20	32.2	32.8
21	20.7	19.9
22	7	9.5

(All Heights Are In Feet)

Air Temp: 55

Profile Notes:

GROUND LINE MEASUREMENTS FROM TOP OF BARRIER WALL.
WATER LINE MEASUREMENTS FROM TOP OF BARRIER WALL AT BENT 19.5
LEFT = 21.3 FT RIGHT = 20.8 FT

Inspection Date and Key: 03/24/2014 QDGG

Bent #	Left Height	Right Height
1	6	8.3
2	18.4	19.9
3	19.4	20.8

Profile Data - Numerical Summary

Inspection Date and Key: 03/24/2014 QDGG

Bent #	Left Height	Right Height
4	20.3	21
5	20.4	21
6	20.4	21
7	20.6	21
8	20.8	21.6
9	20.8	21.6
10	20.9	21.6
11	21.1	21.6
12	20.8	21.4
13	21.3	22.4
14	21.1	22.5
15	22	23.3
16	23.2	22.9
17	26	24.8
18	26.4	26.6
19	32.4	33.3
19.5	35.8	34.8
20	32.7	33
21	20.8	20.8
22	6.8	9.5

(All Heights Are In Feet)

Air Temp: 73

Profile Notes:

GROUND LINE MEASUREMENTS FROM TOP OF BARRIER WALL.
WATER LINE MEASUREMENTS FROM TOP OF BARRIER WALL AT BENT 19.5
LEFT = 21.9 FT RIGHT = 21.3 FT

Inspection Date and Key: 01/15/2002 VNOH

1	5.58	7.87
2	20.01	18.37
3	20.34	19.69
4	21.33	21
5	20.67	20.67
6	21	20.67

Profile Data - Numerical Summary

Inspection Date and Key: 01/15/2002 VNOH

Bent #	Left Height	Right Height
7	21	20.67
8	21.65	21
9	21.98	21.33
10	21.33	21
11	21.65	21.33
12	21.65	21.33
13	22.31	21.65
14	22.64	21.33
15	22.97	22.31
16	25.59	22.97
17	26.57	24.61
18	26.57	26.25
19	33.46	33.46
20	31.17	30.84
21	20.67	20.01
22	6.56	9.84

(All Heights Are In Feet)

Air Temp: 65

Profile Notes:

GROUND LINE MEASUREMENTS FROM TOP OF BARRIER WALL.
WATER LINE MEASUREMENT FROM TOP OF BARRIER WALL AT BENT 19.
LEFT SIDE - 10.2 RIGHT SIDE - 10.2

APPENDIX C

Photoshopped Images with Originals

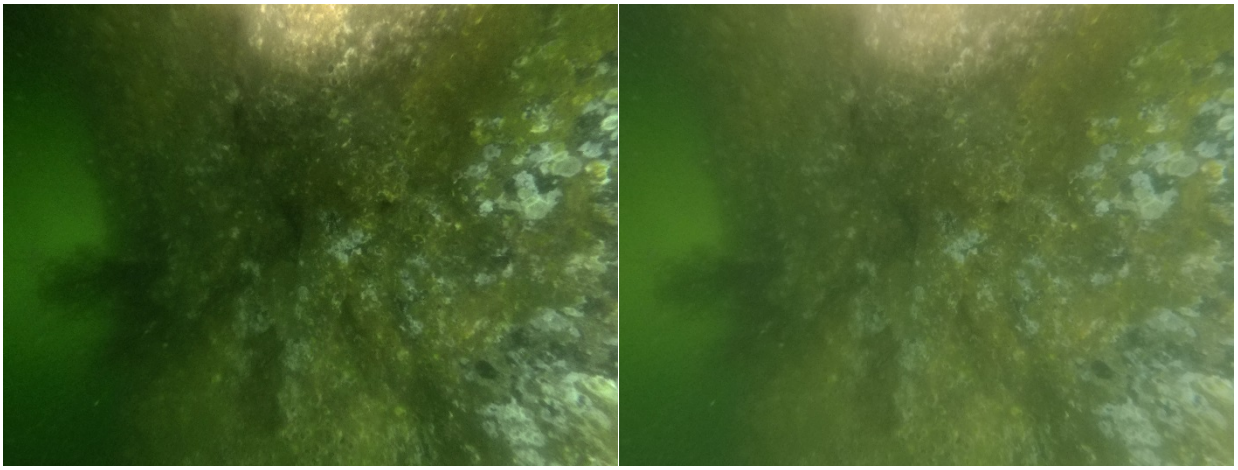

Figure C.1 Figure 4.20 Photoshopped (left), original (right)

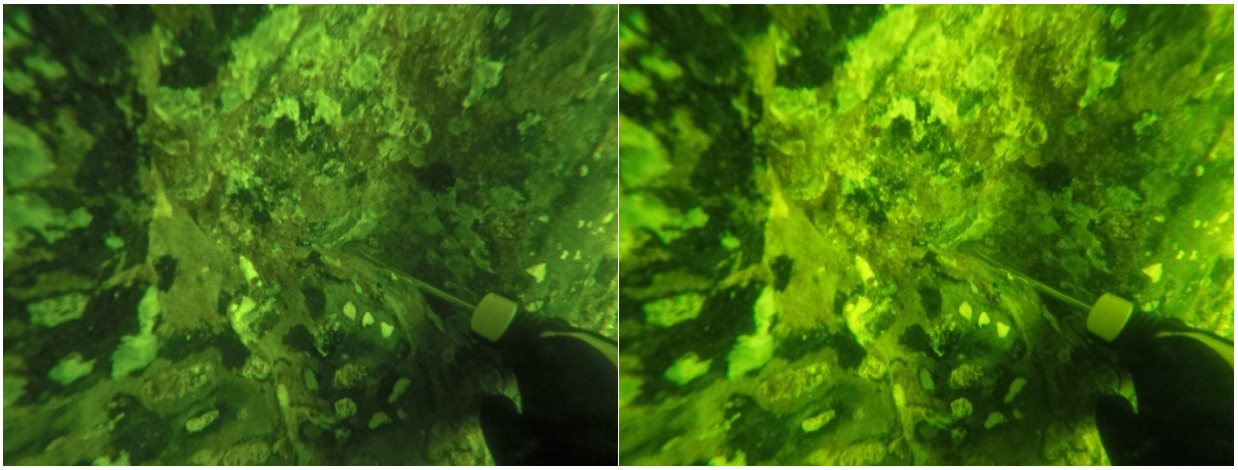

Figure C.2 Figure 4.22 Photoshopped (left), original (right)

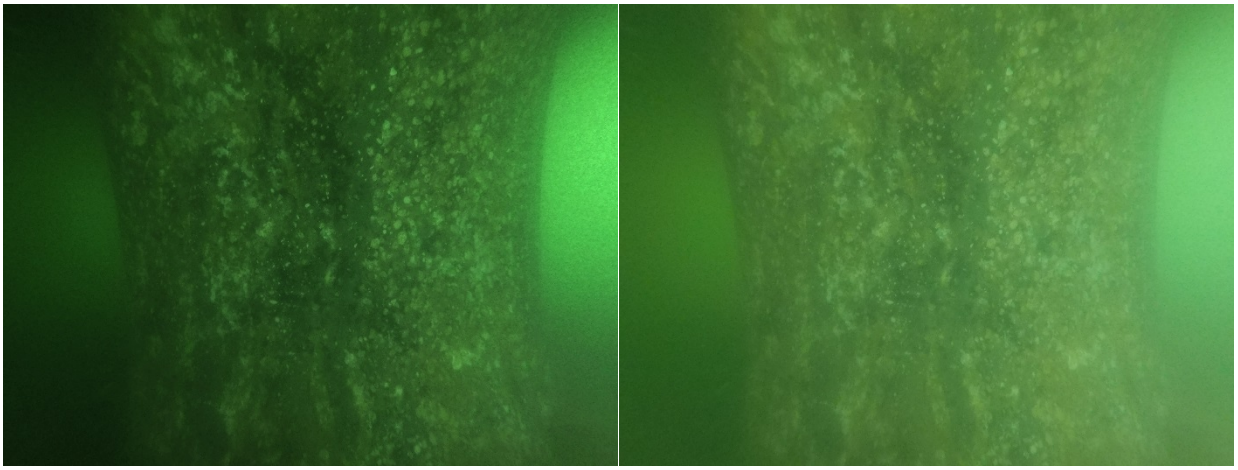

Figure C.3 Figure 4.23(a) Photoshopped (left), original (right)

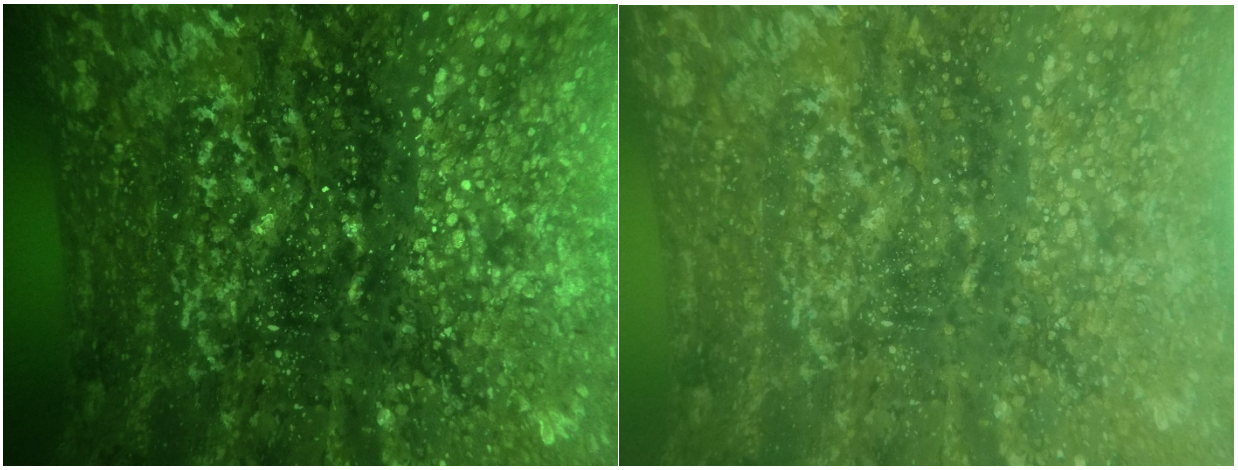

Figure C.4 Figure 4.23(b) Photoshopped (left), original (right)

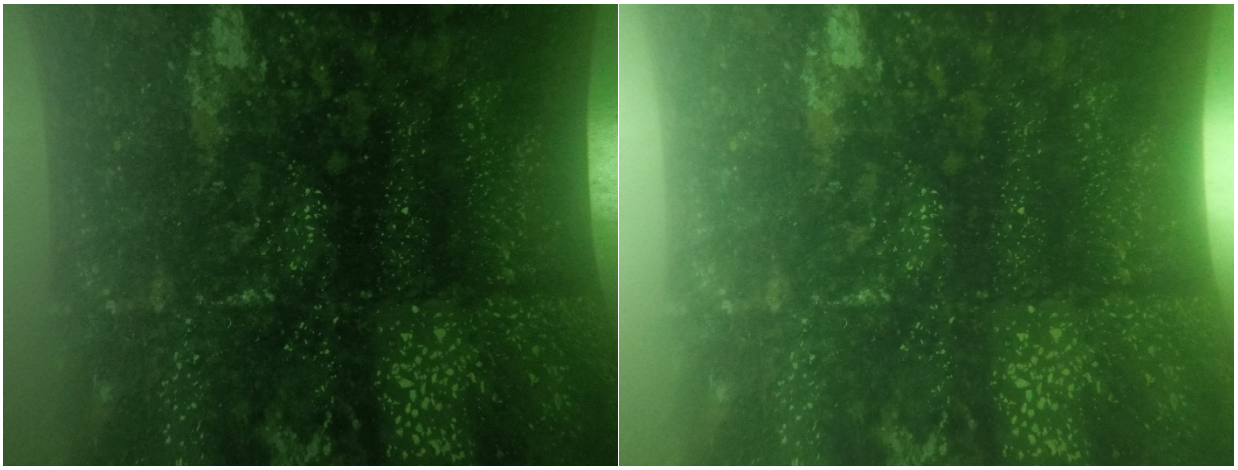

Figure C.5 Figure 4.24(a) Photoshopped (left), original (right)

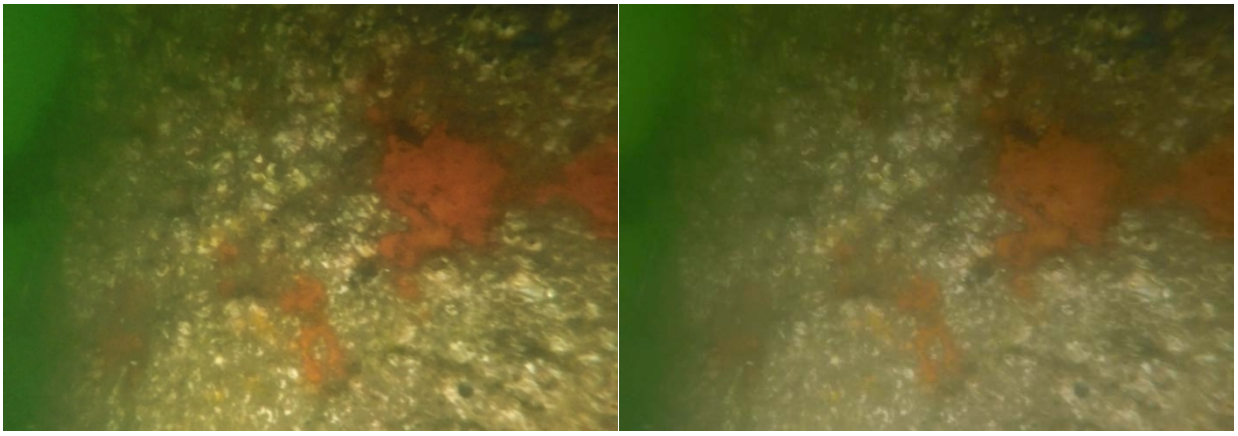

Figure C.6 Figure 4.27 (left image) Photoshopped (left), original (right)

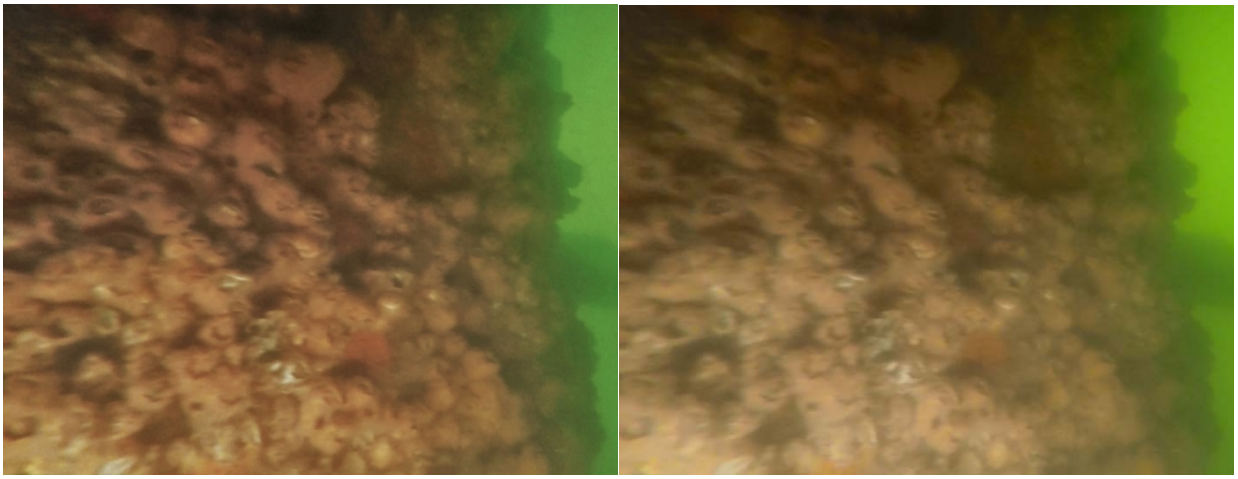

Figure C.7 Figure 4.27 (right image) Photoshopped (left), original (right)

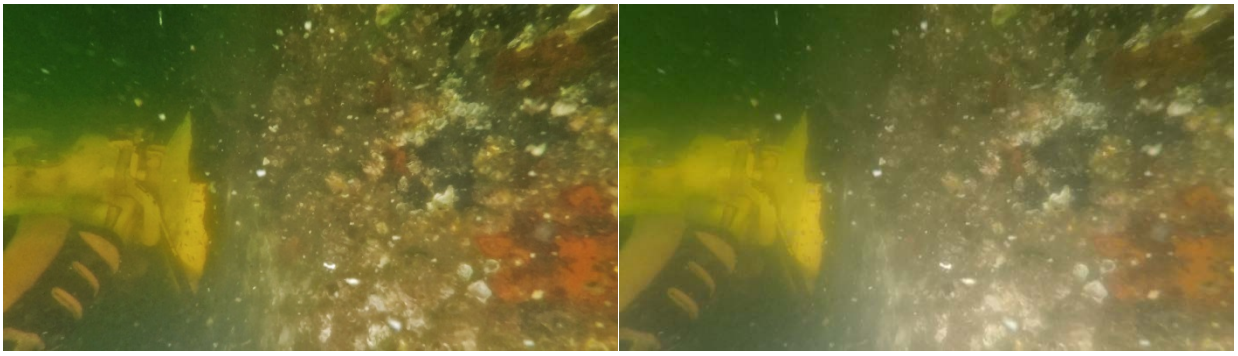

Figure C.8 Figure 4.28 Photoshopped (left), original (right)

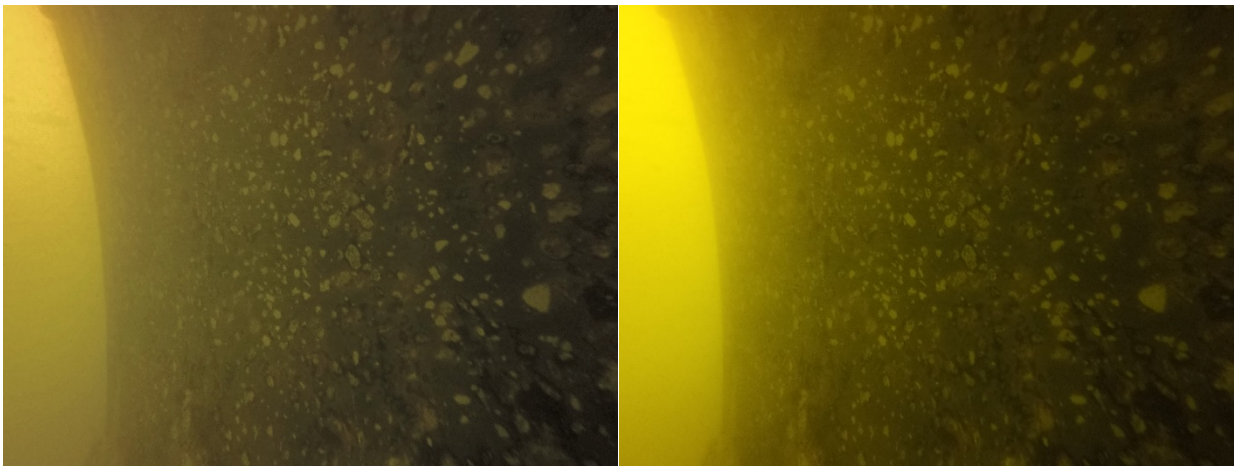

Figure C.9 Figure 4.30 (left image) Photoshopped (left), original (right)

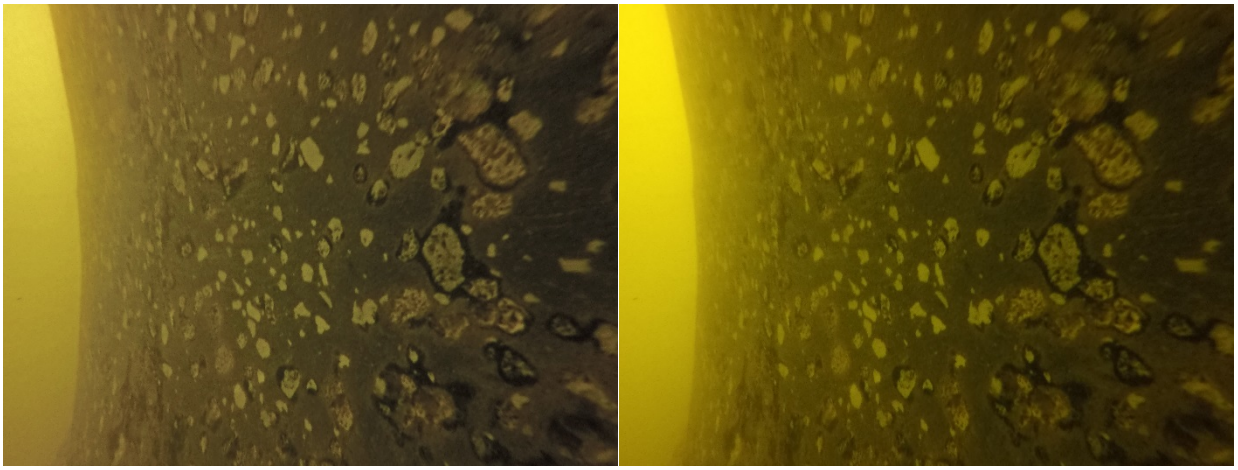

Figure C.10 Figure 4.30 (right image) Photoshopped (left), original (right)

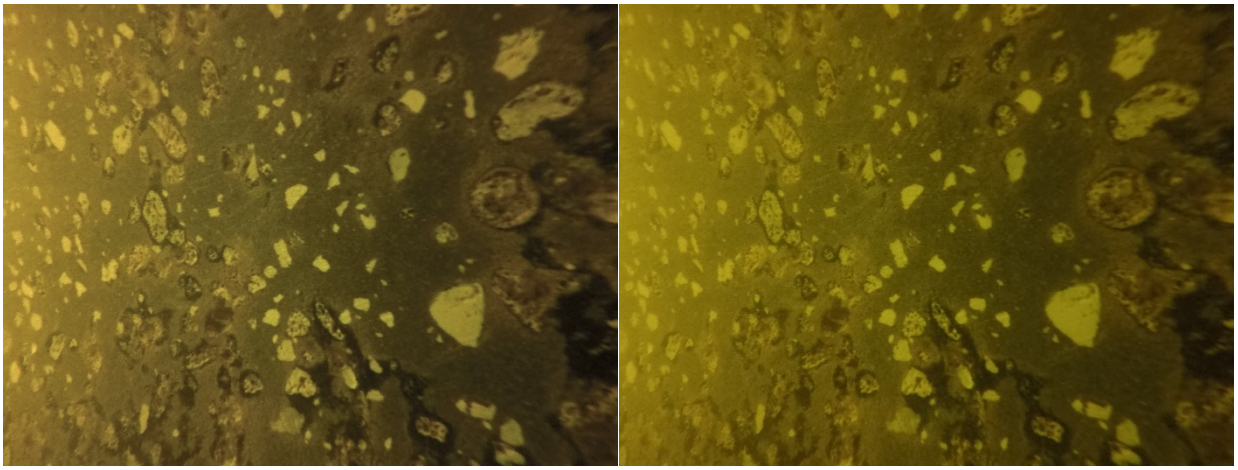

Figure C.11 Figure 4.31 (left image) Photoshopped (left), original (right)

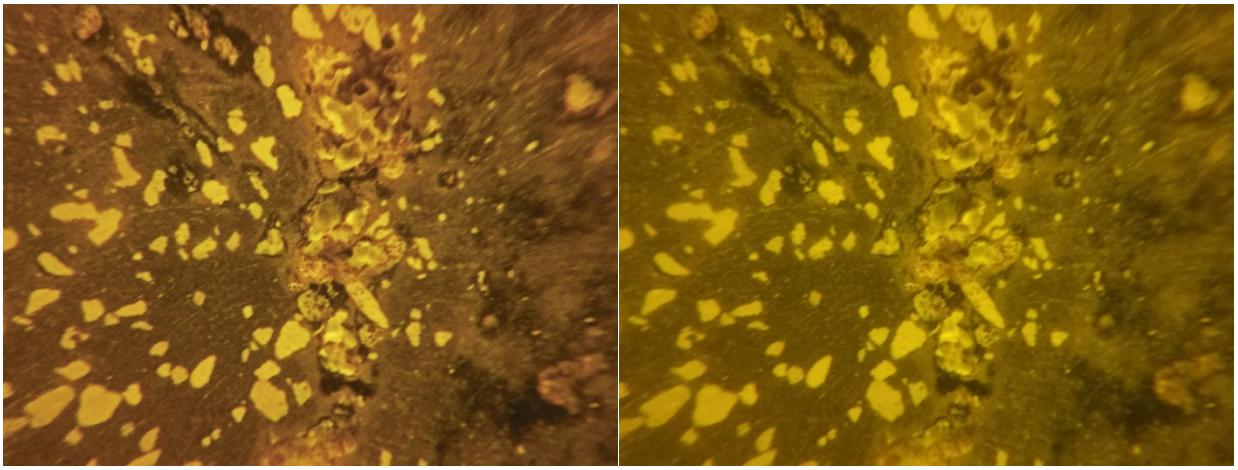

Figure C.12 Figure 4.31 (right image) Photoshopped (left), original (right)

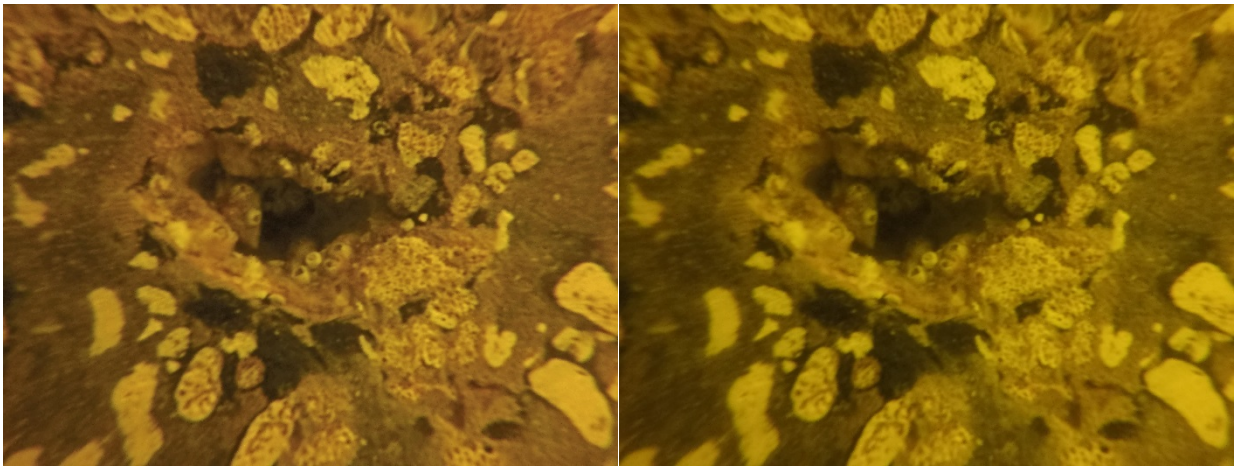

Figure C.13 Figure 4.32 (left image) Photoshopped (left), original (right)

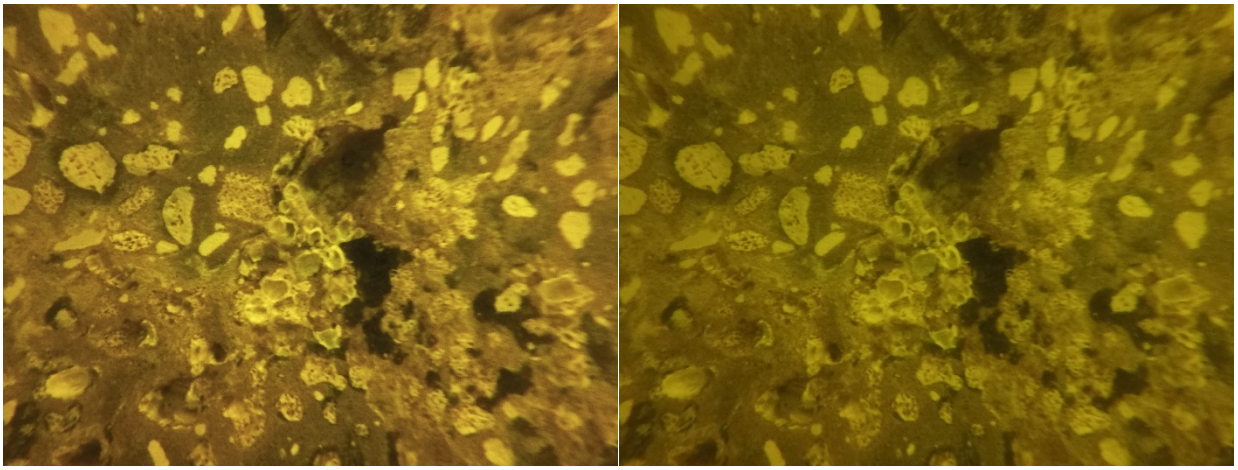

Figure C.14 Figure 4.32 (right image) Photoshopped (left), original (right)

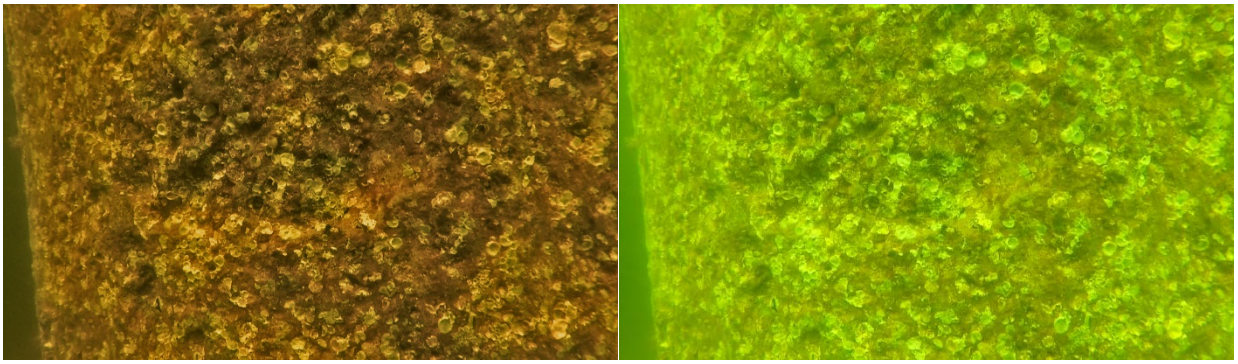

Figure C.15 Figure 4.33 Photoshopped (left), original (right)

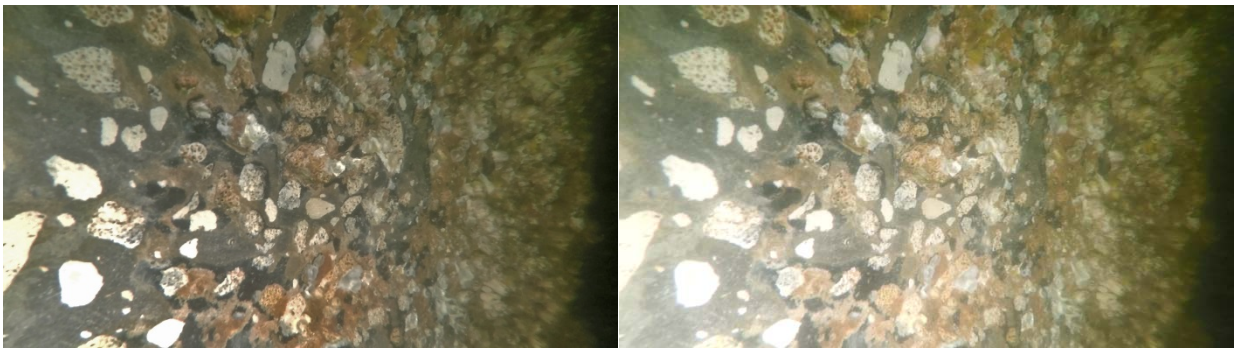

Figure C.16 Figure 4.34 Photoshopped (left), original (right)

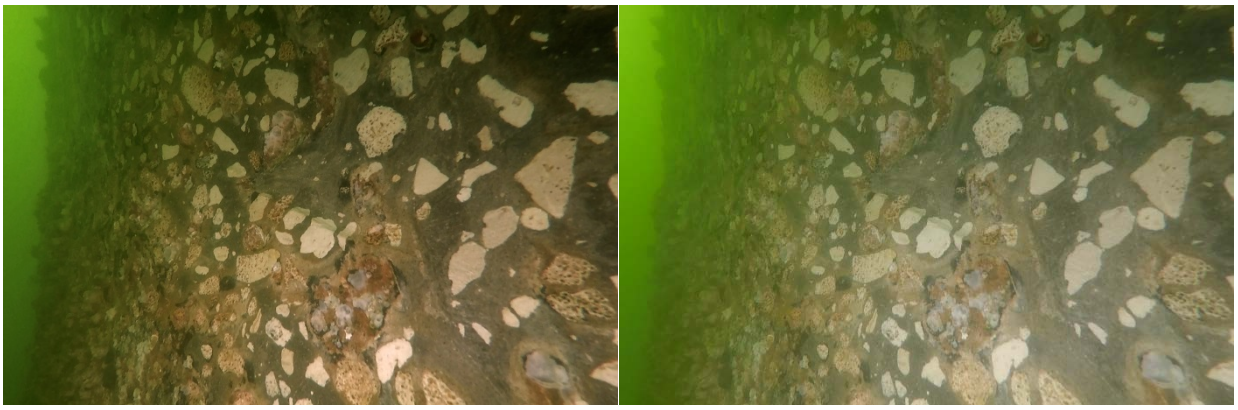

Figure C.17 Figure 4.35 Photoshopped (left), original (right)

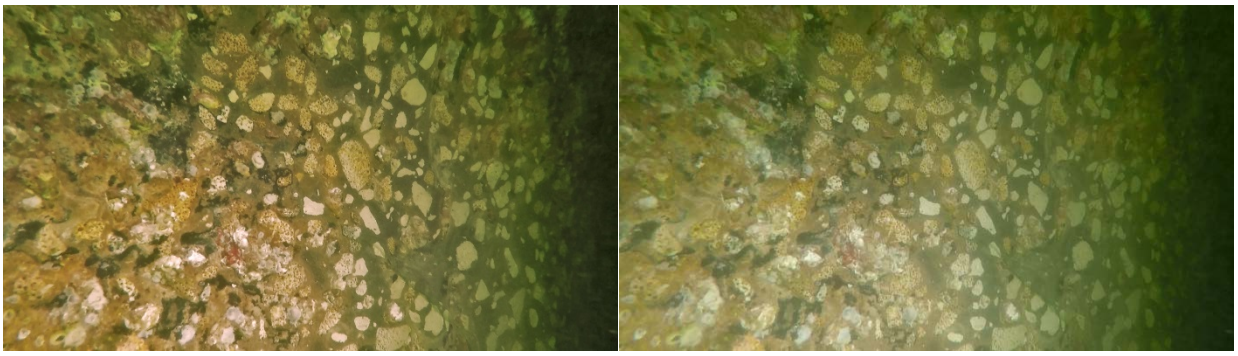

Figure C.18 Figure 4.36 Photoshopped (left), original (right)

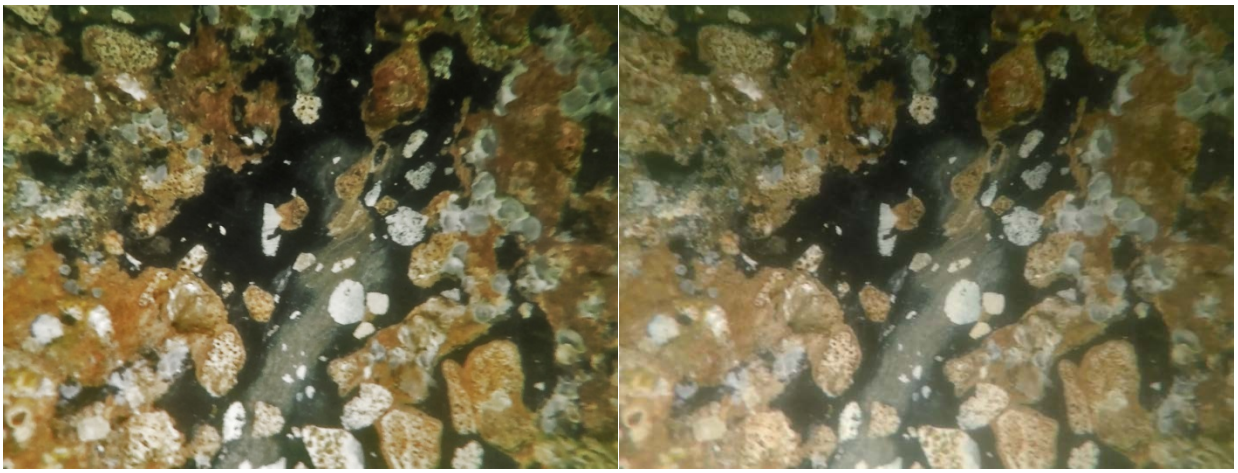

Figure C.19 Figure 4.37 Photoshopped (left), original (right)

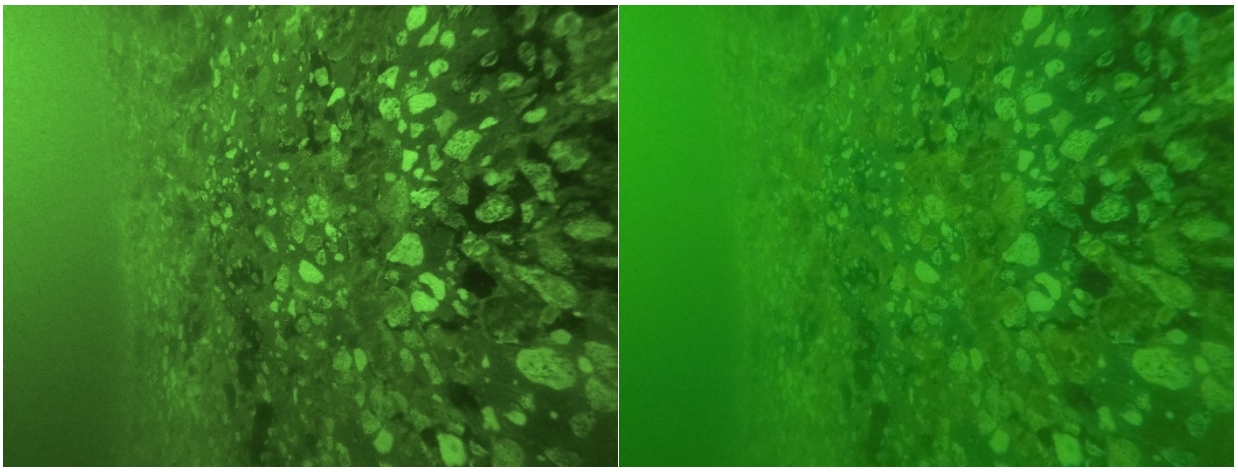

Figure C.20 Figure 4.38 (left image) Photoshopped (left), original (right)

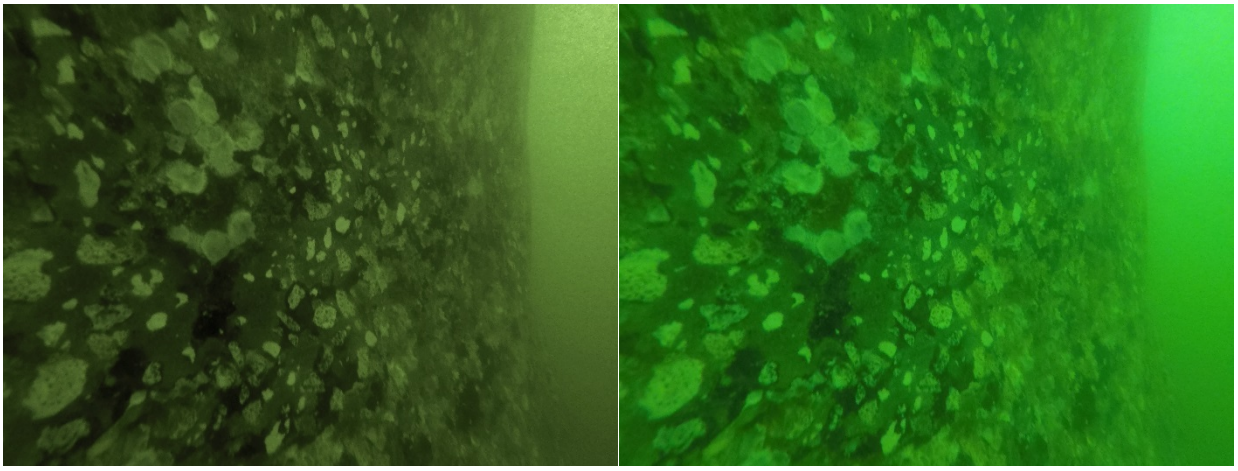

Figure C.21 Figure 4.38 (right image) Photoshopped (left), original (right)

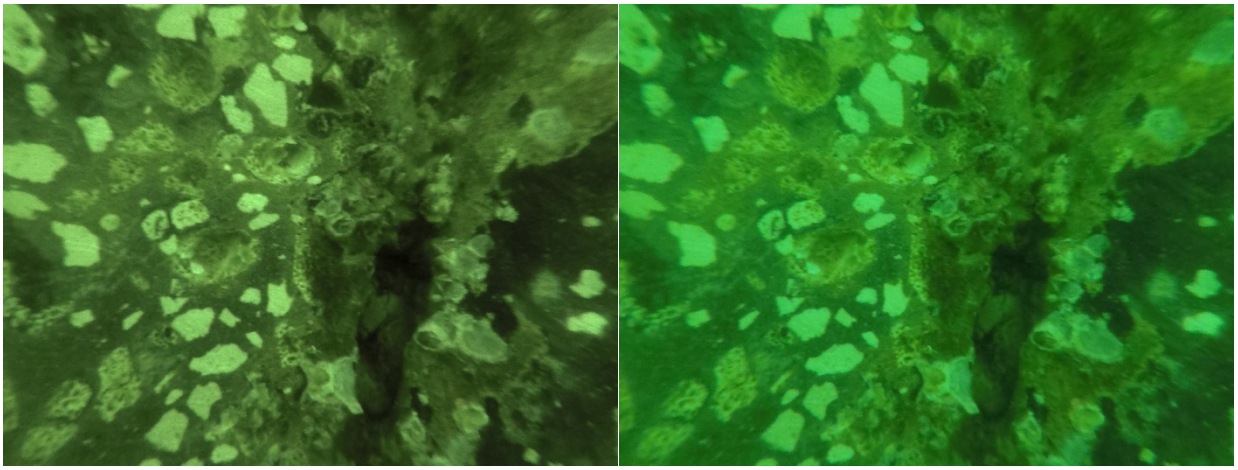

Figure C.22 Figure 4.39 Photoshopped (left), original (right)

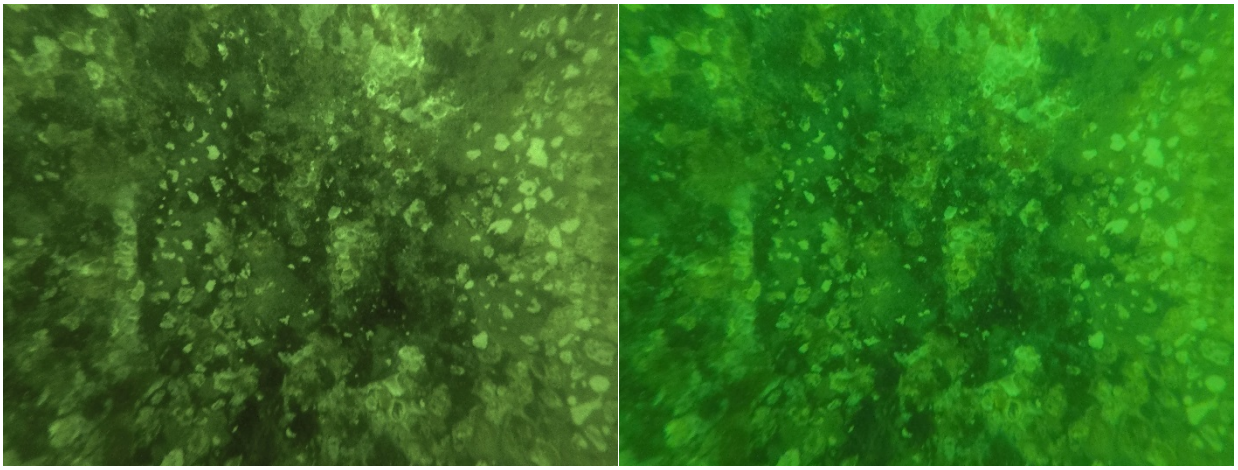

Figure C.23 Figure 4.40 (left image) Photoshopped (left), original (right)

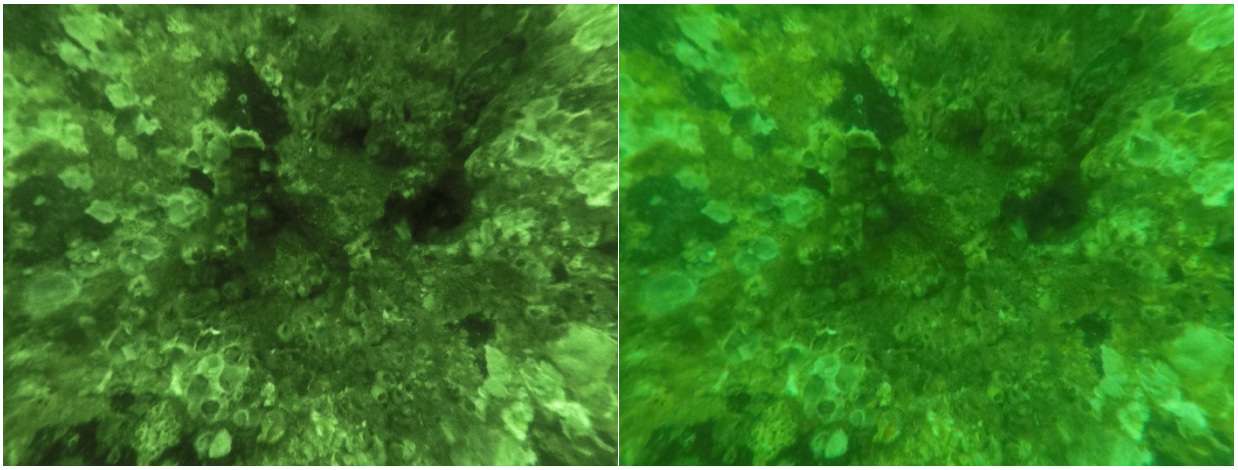

Figure C.24 Figure 4.40 (right image) Photoshopped (left), original (right)

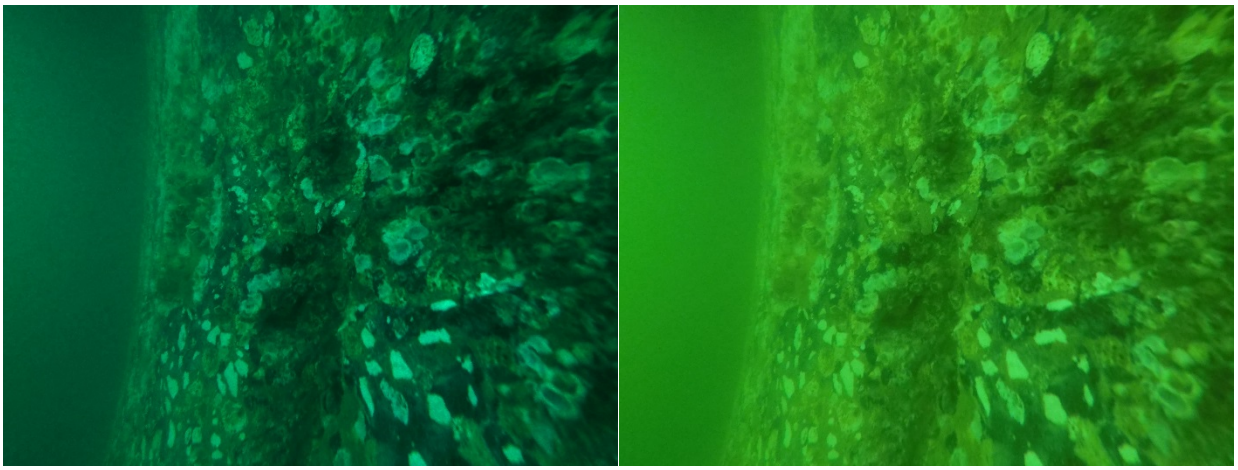

Figure C.25 Figure 4.41 Photoshopped (left), original (right)