



CITY OF TAMPA

Pam Iorio, Mayor

CONTRACT ADMINISTRATION DEPARTMENT

David L. Vaughn, AIA, Director

ADDENDUM NO. 4

DATE: December 14, 2006

Contract 6-C-57; Tampa Riverwalk – Segment 8 (FKA 2A) – Under Platt Street Bridge
Project PW7329

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

Item 1: The Bid Date for the above referenced project is hereby changed to January 9, 2007.

Item 2: The bidder may enter bid prices for its choice of one of the two alternate pile systems specified.

Item 3: Replace Proposal Pages P-3R and P-4R with the enclosed pages marked “(Addendum 4)”.

Item 4: Add Special Provisions Section 16.02.

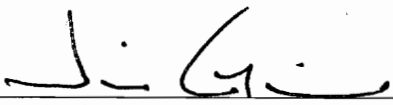
Item 5: Add Drawing Sheets S-1, S-4, S-4A revised, S-4B, and S-4C.

Clarification: A summary description of addendum items is enclosed.

This addendum shall be included in and attached to the inside cover of the Contract Documents by and upon which bids are submitted.

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect.

Questions may be directed to Jim Greiner, P.E.; Telephone (813) 274-8598, fax (813) 274-8080, or e-mail Jim.Greiner@tampagov.net.



Jim Greiner, P.E., Contract Manager
Contract Administration Department

Item No.	Description	Unit	Approx. Quantity	Unit Price in Words	Unit Price	Total Computed Price
101-1	MOBILIZATION	LS	1		\$	\$
SP-02.14	PROJECT VIDEO TAPING	LS	1		\$	\$
SP-08.07	RIP RAP (RUBBLE)	TON	41.0		\$	\$
SP-08.10	FLOATING TURBIDITY BARRIER	LF	259.0		\$	\$
SP-15.02-1	CLASS IV CONCRETE (SUPERSTRUCTURE)	CY	49.3		\$	\$
SP-15.02-2	CLASS IV CONCRETE (SUBSTRUCTURE)	CY	148.6		\$	\$
SP-15.02-3	PRECAST SLABS	SF	3442.1		\$	\$
SP-15.02-4	REINFORCING STEEL (SUPERSTRUCTURE)	LB	3800		\$	\$
SP-15.02-5	REINFORCING STEEL (SUBSTRUCTURE)	LB	18300		\$	\$
SP-15.03-1	CONCRETE SUB-SLAB (6" THICK)	SY	51		\$	\$
SP-15.03-2	SUBGRADE COMPACTION	SY	59		\$	\$
SP-15.03-3	CONCRETE EDGE BEAM (1'-6" WIDTH)	LF	51		\$	\$
SP-17.01	GRANITE PAVERS (FURNISH & INSTALL)	SF	3790		\$	\$
SP-17.02	GUARDRAIL (FURNISH & INSTALL)	LF	425		\$	\$
SP-17.03	BOLLARD (LIGHTED) (FURNISH & INSTALL)	EA	26		\$	\$
SP-17.04	LIGHT POLE (FURNISH & INSTALL)	EA	2.0		\$	\$
SP-17.05	BENCH (FURNISH & INSTALL)	EA	3.0		\$	\$
SP-17.06	WASTE RECEPTACLE (FURNISH & INSTALL)	EA	1.0		\$	\$
SP-17.07	TRENCH DRAIN SYSTEM (FURNISH & INSTALL)	EA	1.0		\$	\$
* SP-25.01	PANEL BOARD	EA	1		\$	\$
SP-25.02	CONDUIT (FURNISH & INSTALL) (1" PVC)	LS	1		\$	\$
SP-25.03	CONDUIT (FURNISH & INSTALL) (3/4" PVC)	LS	1		\$	\$

Item No.	Description	Unit	Approx. Quantity	Unit Price in Words	Unit Price	Total Computed Price
SP-25.04	CONDUCTOR (FURNISH & INSTALL) (#8)	LS	1	\$	\$	\$
SP-25.05	CONDUCTOR (FURNISH & INSTALL) (#6)	LS	1	\$	\$	\$
SP-25.06	CONDUCTOR (FURNISH & INSTALL) (#10)	LS	1	\$	\$	\$
SP-25.07	CONTACTORS	EA	1	\$	\$	\$
SP-25.08	TIMERS	EA	1	\$	\$	\$
* SP-25.09	SS ENCLOSURE WITH CONCRETE PAD	EA	1	\$	\$	\$
SP-25.10	DOWN LIGHT (FIXTURE TYPE 'C') (FURNISH & INSTALL)	EA	4	\$	\$	\$
SP-25.11	PVC JUNCTION BOX (FURNISH & INSTALL)	LS	1	\$	\$	\$
Total Base Bid						
SP-16.01-1	MICRO PILES (MOBILIZATION & DEMOBILIZATION)	LS	1	\$	\$	\$
SP-16.01-2	MICRO PILES (FURNISH & INSTALL)	EA	25	\$	\$	\$
SP-16.01-3	MICRO PILES (REDRILLING)	LF	100.0	\$	\$	\$
SP-16.01-4	MICRO PILES - PROOF LOAD TEST	EA	1.0	\$	\$	\$
SP-16.01-5	MICRO PILES - VERIFICATION LOAD TEST	EA	1	\$	\$	\$
SP-16.01-6	MICRO PILES - GROUT OVERRUNS	BAG	100	\$	\$	\$
Total Alternate A - Micropiles						
SP-16.02-1	STEEL PIPE PILING (9-5/8-inch O.D.)	LF	1380	\$	\$	\$
SP-16.02-2	TEST PILES	EA	2	\$	\$	\$
SP-16.02-3	DYNAMIC LOAD TEST	EA	2	\$	\$	\$
* SP-16.02-4	PREDRILLING	LF	60	\$	\$	\$
SP-16.02-5	STEEL PIPE PILING (MOBILIZATION & DEMOB.)	LS	1	\$	\$	\$
Total Alternate B - Pipe Piles						
TOTAL = Base Bid + (Alt A OR Alt B)						\$

SP-16.02 PIPE PILE FOUNDATIONS:**1.0 DESCRIPTION**

This work shall consist of furnishing and driving foundation pipe piles of the type and dimensions designated in the contract documents, in conformance with the requirements of Section 455-1 through 455-12 of the FDOT Standard Specifications (2004). All piling shall conform to and be installed in accordance with these specifications; at the location; and to the elevation, penetration, and the required ultimate bearing capacity shown in the contract documents or as directed by the Engineer.

This specification also covers providing test piles and the dynamic monitoring of them by the Engineer using a pile driving analyzer (PDA). The production pile lengths shown in the contract documents are for estimating purposes only and the actual pile lengths to be furnished for production piles shall be determined by the Engineer, based on the results of the dynamic monitoring.

2.0 MATERIALS

Furnish materials new and without defects. Remove defective materials from the jobsite at no additional cost. Materials for the pipe piles shall consist of the following:

Steel Pipe: The steel pipe shall conform to the following Standard Specification of the American Society for Testing and Materials: ASTM A252 Grade 3 – Standard Specification for Welded and Seamless Steel Pipe Piles. The pipes shall have an outside diameter and a minimum nominal wall thickness as shown in the contract documents.

Grout: Neat cement or sand/cement mixture with a minimum 3-day compressive strength of 2,000 pounds per square inch (psi) and a 28-day compressive strength of 4,000 psi per AASHTO T106/ASTM C109.

Admixtures for Grout: Admixtures shall conform to the requirements of ASTM C494/AASHTO 194. Admixtures that control bleed, improve flowability, reduce water content, and retard set may be used in the grout, subject to the review and acceptance of the Engineer. Admixtures shall be compatible with the grout and mixed in accordance with the manufacturer's recommendations. Accelerators are not permitted. Admixtures containing chlorides are not permitted.

Cement: All cement shall be Portland cement conforming to ASTM C150/AASHTO 85, Types II, III or V.

Fine Aggregate: If sand/cement grout is used, sand shall conform to ASTM C144/AASHTO 45.

Reinforcing Bars: Reinforcing steel shall be deformed bars in accordance with ASTM A615, Grade 60.

PVC Sheathing (Casing): Smooth plastic sheathing shall be Polyvinyl Chloride (PVC), Schedule 40, manufactured from a Type I Polyvinyl Chloride (PVC) compound with a Cell Classification of 12454 per ASTM D1784. The sheathing shall be manufactured in strict compliance to ASTM D1785 and D2665 (where applicable).

Water: Water used in the grout mix shall be potable, clean, and free from substances that may be injurious to cement and steel.

3.0 CONSTRUCTION REQUIREMENTS

3.1 Predrilling to Facilitate Driving: Any pile that can not be driven to the required minimum tip elevation indicated in the plans, will require predrilling through the inside of the pile to a depth below the pile tip sufficient to allow the pile to be driven to the minimum tip elevation and the required ultimate bearing capacity.

3.2 Splicing of Piles: All splices of the pipe piling shall be welded in accordance with Section 455-8.4 of the FDOT Standard Specifications (2004) and AWS D1.1.

3.3 PVC Sheathing (Casing): The PVC sheathing shall be installed as one continuous piece (without joints), except where the overhead clearance (under the Platt Street Bridge) renders that impractical. In that case the joints shall be located beneath the mudline. The sheathing and joints (where permitted) shall be watertight.

3.4 Grouting: The grouting equipment used shall produce a grout free of lumps and undispersed cement. The Contractor shall have means and methods of measuring the grout quantity and pumping pressure during the grouting operations. The grout pump shall be equipped with a pressure gauge to monitor grout pressures. A second pressure gauge shall be placed at the point of injection into the pile top. The pressure gauges shall be capable of measuring pressures of at least 150 psi or twice the actual grout pressures used, whichever is greater. The grout shall be kept in agitation prior to mixing. Grout shall be placed within one hour of batching.

The grouting equipment shall be sized to enable each pile to be grouted in one continuous operation. Accumulations of loose material in the piles shall be removed before the grout is placed. The grout shall be injected and injection shall continue until uncontaminated grout flows from the top of the pile. The tremie pipe shall always extend at least 5 feet below the level of the existing grout.

No grout shall be placed until all driving within a radius of 15 feet (4600 mm) of the pile has been completed, or all driving within the above limits shall be discontinued until the grout in the last pile cast has set for at least two days.

3.5 Grout Testing: The Contractor shall provide a qualified professional soils/materials testing firm, approved by the Engineer, to perform grout testing as described herein. Grout samples shall be taken directly from the discharge of the mixer delivering grout to the grout pump.

The grout shall be tested for compressive strength in accordance with AASHTO T106/ASTM C109 at a frequency of no less than one set of three, 2-inch grout cubes from each grout plant each day of operation or per every 10 piles, whichever occurs more frequently. The compressive strength shall be the average of the 3 cubes tested.

Grout consistency as measured by grout density shall be determined per ASTM C 188/AASHTO T 133 or API RP-13B-1 at a frequency of at least one test per pile, conducted just prior to the start of pile grouting. The Baroid Mud Balance used in accordance with API RP-13B-1 is an approved device for determining the grout density of neat cement grout. The measured grout density shall be between 115 pounds per cubic foot (lb/ft³) and 120 lb/ft³.

The Contractor shall provide grout cube compressive strength and grout density test results to the Engineer within 24 hours of testing.

4.0 METHOD OF MEASUREMENT

The quantity to be paid for will be the length, in feet, of 9 $\frac{5}{8}$ -inch, outside diameter (O.D.), open-end, steel pipe pile with minimum 0.50-inch wall thickness furnished, driven and accepted according to the authorized lengths, including any additions and excluding any deletions thereto, as approved by the Engineer.

5.0 BASIS OF PAYMENT

Steel Pipe Piling (9 $\frac{5}{8}$ -inch O.D.): Price and payment will be full compensation for all labor, equipment and materials required for furnishing and installing steel pipe piles including welded splices, cutoffs, grouting, placing reinforcing steel, and the PVC sheathing for corrosion protection, as shown in the plans. Payment will be made in two increments: 70% of the unit price for Steel Pipe Piles for each foot fabricated and accepted as stockpiled materials, and 30% of the unit price for Steel Pipe Piles for the entire authorized length upon completion of driving.

Test Piles: Price and payment will be full compensation for all labor, equipment, materials and incidentals required to complete all the work of this item, including furnishing and installing steel pipe piles including welded splices, cutoffs, grouting, placing reinforcing steel, and the PVC sheathing for corrosion protection, as shown in the plans. Payment will be made in two increments: 70% of the unit price for Test Piles for each foot fabricated and accepted as stockpiled materials, and 30% of the unit price for Test Piles for the entire authorized length upon completion of driving.

Dynamic Load Tests: Price and payment will be full compensation for all labor, equipment and materials required to perform the work.

Predrilling: Price and payment will be full compensation for all labor, equipment and materials required to perform the work when authorized by the Engineer.

Payment Items: Payment will be made under:

<u>Item No.</u>	<u>Description</u>	
SP-16.02-1	Steel Pipe Piling (9 $\frac{5}{8}$ -inch O.D.)	Per Linear Foot
SP-16.02-2	Test Piles	Per Each
SP-16.02-3	Dynamic Load Tests	Per Each
SP-16.02-4(*)	Predrilling	Per Linear Foot
SP-16.02-5	Mobilization	Lump Sum

(*) Contingency Item

GENERAL NOTES

STANDARD SPECIFICATIONS :

FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2004 EDITION) WITH APPROVED SUPPLEMENTS THERE TO.

DESIGN SPECIFICATIONS :

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) - "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" (2002 EDITION), AND APPLICABLE INTERIMS. AASHTO - "GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES" (AUGUST 1997). FDOT - "STRUCTURES DESIGN GUIDELINES FOR LOAD FACTOR DESIGN" (JAN., 2000) CITY OF TAMPA - "TAMPA CENTRAL BUSINESS DISTRICT RIVERWALK DESIGN STANDARDS" (JUNE 1989).

DESIGN LOADS:

SELF WEIGHT (CONCRETE): BASED ON 150 PCF
SUPERIMPOSED DEAD LOAD:
35 PSF (PAVERS & MORTAR BED)
LIVE LOAD:
100 PSF (PEDESTRIAN)

PILES:

- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO ORDERING MATERIAL AND BEGINNING ANY WORK.
- IF EXISTING CONDITIONS DO NOT PERMIT THE INSTALLATION OF WORK IN ACCORDANCE WITH THE DETAILS AS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND PROVIDE A SKETCH OF THE EXISTING CONDITIONS ALONG WITH A PROPOSED SOLUTION. FINAL INSTALLATION SHALL BE AS REQUIRED BY THE ENGINEER.
- THESE PLANS DETAIL 2 ALTERNATIVE FOUNDATIONS AS THE CONTRACTOR'S OPTION FOR CONSTRUCTION:
A.L.T. A: MICRO PILES
A.L.T. B: STEEL PIPE PILES
SEE SHEETS SA-A, SA-B AND SA-C AND THE PROJECT'S "SPECIFIC PROVISIONS" FOR ADDITIONAL INFORMATION.
- THE MICROPILE ALTERNATIVE IS SHOWN ON OTHER SHEETS IN THESE PLANS FOR ILLUSTRATIVE PURPOSES ONLY.

CONCRETE :

- ALL CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 346 OF THE STANDARD SPECIFICATIONS.
- CALCIUM NITRITE SHALL BE USED IN ALL SUPERSTRUCTURE AND SUBSTRUCTURE CONCRETE COMPONENTS.

CLASS	MINIMUM 28-DAY COMPRESSIVE STRENGTH (PSI)	DESIGN UNIT WEIGHT INCL REINFORCING (PCF)	LOCATION OF CONCRETE IN STRUCTURE
IV	$f'_c = 5,500$	150	SUPERSTRUCTURE PRECAST
IV	$f'_c = 5,500$	150	CAST-IN-PLACE SUPERSTRUCTURE, SUBSTRUCTURE & COPING

INDEX OF STRUCTURAL PLAN SHEETS:

- S-1 GENERAL NOTES AND INDEX OF DRAWINGS
- S-2 PLAN AND ELEVATION
- S-2A APPROACH DETAILS
- S-3 CONSTRUCTION SEQUENCE
- S-4 REPORT OF CORE BORINGS
- S-4A A.L.T. A: MICROPILE FOUNDATION.
- S-4B A.L.T. B: PIPE PILE FOUNDATION (1 OF 2)
- S-4C A.L.T. B: PIPE PILE FOUNDATION (2 OF 2)
- S-5 SUPERSTRUCTURE / SEGMENT PLAN
- S-6 WALKWAY SECTION UNDER PLATT STREET BRIDGE
- S-7 ABUTMENT 1 PLAN AND ELEVATION (GEOMETRY)
- S-8 ABUTMENT 1 (REINFORCING)
- S-9 BENT 2 (LT) AND 2 (RT) PLAN AND SECTION (GEOMETRY)
- S-10 BENT 3 AND 4 PARTIAL PLAN AND SECTION (REINFORCING)
- S-11 BENT 3 AND 4 PARTIAL PLAN AND SECTION (GEOMETRY)
- S-12 BENT 3 AND 4 PARTIAL PLAN AND SECTION (REINFORCING)
- S-13 BENT 3 AND 4 PARTIAL PLAN AND SECTION (GEOMETRY)
- S-14 BENT 3 AND 4 PARTIAL PLAN AND SECTION (REINFORCING)
- S-15 SECTIONS: BENTS 2, 3 & 4
- S-16 UNIT 1 (SEGMENT) DETAILS (GEOMETRY)
- S-17 UNIT 1 (SEGMENT) DETAILS (REINFORCING)
- S-18 UNIT 1 (SEGMENT) DETAILS (GEOMETRY)
- S-19 UNIT 1 (SEGMENT) DETAILS (REINFORCING)
- S-20 UNIT 2 (SEGMENT) DETAILS (GEOMETRY)
- S-21 UNIT 2 (SEGMENT) DETAILS (REINFORCING)
- S-22 UNIT 3 (SEGMENT) & SLAB DETAILS (GEOMETRY)
- S-23 UNIT 3 (SEGMENT) DETAILS (REINFORCING)
- S-24 UNIT 4 (SEGMENT) DETAILS (GEOMETRY)
- S-25 UNIT 4 (SEGMENT) DETAILS (REINFORCING)
- S-26 COPING LAYOUT AT UNIT 1
- S-27 COPING LAYOUT AT UNIT 2
- S-28 COPING LAYOUT AT UNIT 3 & 4
- S-29 MISCELLANEOUS DETAILS
- S-30 BAR BENDING DETAILS
- S-31 REINFORCING BAR LIST (1)
- S-32 REINFORCING BAR LIST (2)
- S-33 REINFORCING BAR LIST (3)
- S-34 REINFORCING BAR LIST (4)
- S-35 REINFORCING BAR LIST (5)
- S-36 REINFORCING BAR LIST (6)
- S-37 REINFORCING BAR LIST (7)
- S-38 REINFORCING BAR LIST (8)
- S-39 REINFORCING BAR LIST (9)

ALL ELEVATIONS ARE BASED ON THE NGVD 29 DATUM.

CONCRETE (CONTINUED):

- THE CONCRETE TOPPING SHALL CONTAIN "FIBERMESH" REINFORCEMENT, (ALL OTHER CONCRETE SEE TABLE THIS SHEET).
- FIBERS SHALL BE 3/4 INCH COLLATED, FIBRILLATED POLYPROPYLENE FIBERS.
- THE FIBERS SHALL COMPLY WITH ASTM C 1116 "STANDARD SPECIFICATION FOR FIBER-REINFORCED CONCRETE AND SHOTCRETE, TYPE III SYNTHETIC FIBER-REINFORCED CONCRETE OR SHOTCRETE."
- THE FIBERS SHALL BE USED PER THE SUPPLIER'S RECOMMENDATIONS AND WITHIN THE TIME AS SPECIFIED IN ASTM C94 "STANDARD SPECIFICATION FOR READY-MIXED CONCRETE."
- PROVIDE A MINIMUM DOSAGE RATE OF 1-1/2 POUNDS PER CUBIC YARD.

REINFORCING STEEL :

ALL REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60.

CONCRETE COVER :

CONCRETE COVERS SHOWN IN THESE PLANS DO NOT INCLUDE PLACEMENT AND FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER". SEE FDOT STANDARD SPECIFICATIONS FOR ALLOWABLE TOLERANCES.

ENVIRONMENT :

SUPERSTRUCTURE - CORROSIVE (EXTREMELY AGGRESSIVE)
SUBSTRUCTURE - CORROSIVE (EXTREMELY AGGRESSIVE)
LOCATION - COASTAL

DESIGN METHOD :

STRENGTH DESIGN METHOD (LOAD FACTOR DESIGN).

CONCRETE DETAILS :

- PROVIDE 3/4 INCH CHAMFERS ON ALL EXPOSED EDGES EXCEPT AS OTHERWISE NOTED.
- CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT LOCATIONS INDICATED ON PLANS. ADDITIONAL CONSTRUCTION JOINTS OR ALTERATIONS TO THOSE SHOWN SHALL REQUIRE WRITTEN APPROVAL OF THE ENGINEER.
- ALL DIMENSIONS PERTAINING TO LOCATIONS OF REINFORCING ARE TO THE CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.
- REINFORCEMENT DETAIL DIMENSIONS ARE OUT TO OUT OF BARS.
- CLR DENOTES "CLEAR"
 - EF DENOTES "EACH FACE"
 - EW DENOTES "EACH WAY"
 - FS DENOTES "FAR SIDE"
 - NS DENOTES "NEAR SIDE"
 - OC DENOTES "ON CENTER"
 - U DENOTES "TOP & BOTTOM"
 - U & B DENOTES "UPPER & BOTTOM"
 - U/B DENOTES "UNLESS OTHERWISE NOTED"
 - FBW DENOTES "FRONT FACE OF BACK WALL"

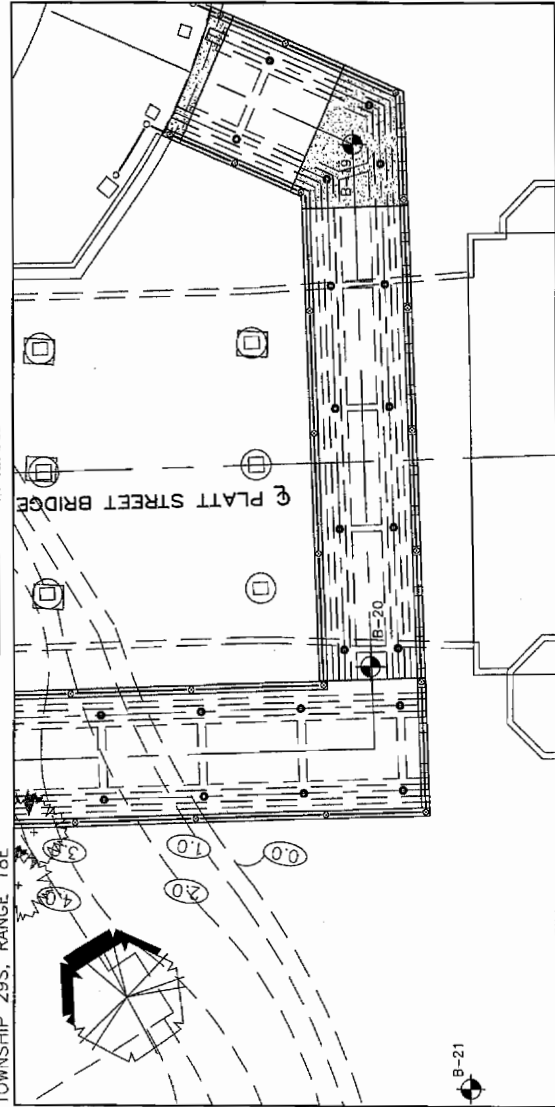
CONSTRUCTION NOTES:

- THE WATER ELEVATION AT THIS SITE FLUCTUATES TIDALLY, MEAN HIGH WATER, EL. 1.54. IF THE CONTRACTOR SHOULD BE AWARE OF THIS VARIANCE, MEAN LOW WATER, THE CONTRACTOR SHALL BE PREPARED TO CONSTRUCT THIS BRIDGE WITH THE APPROPRIATE EQUIPMENT AND METHODS.
- PAYMENT FOR INCIDENTAL ITEMS NOT SPECIFICALLY COVERED IN THE INDIVIDUAL BID ITEMS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICES FOR THE BID ITEMS.

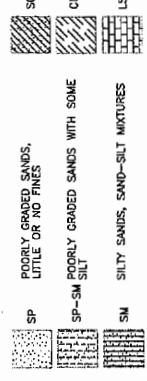
URS	URS Corporation 7700 West Country Campbell Causeway Fort Worth, Texas 76117 Engineering Business No. 00000002	CITY OF TAMPA DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION	TAMPA RIVERWALK - SEGMENT 2A GENERAL NOTES & INDEX OF DRAWINGS
PROJECT NO. _____ SHEET NO. _____ OF _____ DATE _____	DRAWN BY _____ CHECKED BY _____ DESIGNED BY _____ APPROVED BY _____	PROJECT NO. _____ SHEET NO. _____ OF _____ DATE _____	PROJECT NO. _____ SHEET NO. _____ OF _____ DATE _____

SECTION 24,
TOWNSHIP 29S, RANGE 18E

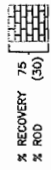
BORING LOCATION PLAN



LEGEND



ROCK CORING DATA
% RECOVERY 75 (30)
% ROD



BORING NUMBER AND APPROXIMATE LOCATION
GSE -200
% PASSING No. 200 U.S. SIEVE
LIQUID LIMIT
PLASTICITY INDEX
MEAN SEA LEVEL
NATURAL MOISTURE CONTENT (%)
WATER LEVEL
STANDARD PENETRATION RESISTANCE IN BLOWS PER FOOT (1.5 FEET SPOON ASTM D1586)
WEIGHT OF ROD
WH WEIGHT OF HAMMER
WH UNIFIED SOIL CLASSIFICATION
(SP)
CORRECTED UNCONFINED COMPRESSIVE STRENGTH (psf)
qt
SPLUTTING TENSILE STRENGTH (psi)

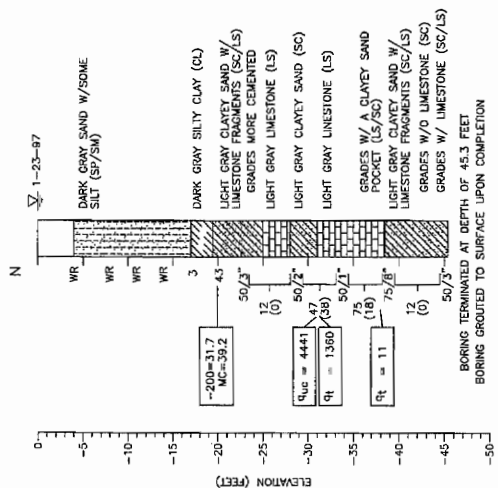
ENGINEERING CLASSIFICATION
GRANULAR MATERIALS:
RELATIVE DENSITY
VERY LOOSE
LOOSE
MEDIUM DENSE
DENSE
VERY DENSE
SILTS AND CLAYS:
CONSISTENCY
VERY SOFT
SOFT
FIRM
STIFF
VERY STIFF
HARD

SET (BLOWS/FOOT)
LESS THAN 4
4 - 10
10 - 30
30 - 50
GREATER THAN 50

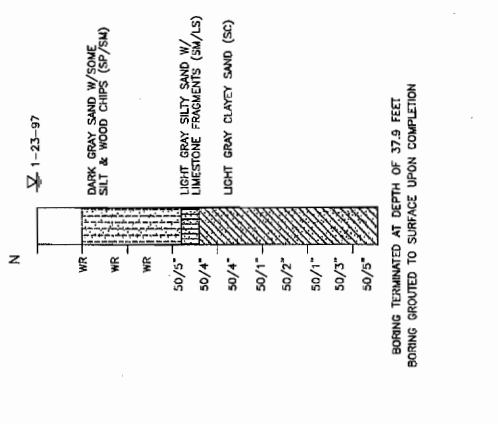
ENVIRONMENTAL CLASSIFICATION
SUBSTRUCTURE: EXTREMELY AGGRESSIVE
WATER: CHLORIDES 15,800 ppm
SULFATES 2,480 ppm
CHLORIDES

SUPERSTRUCTURE: EXTREMELY AGGRESSIVE
CHLORIDES

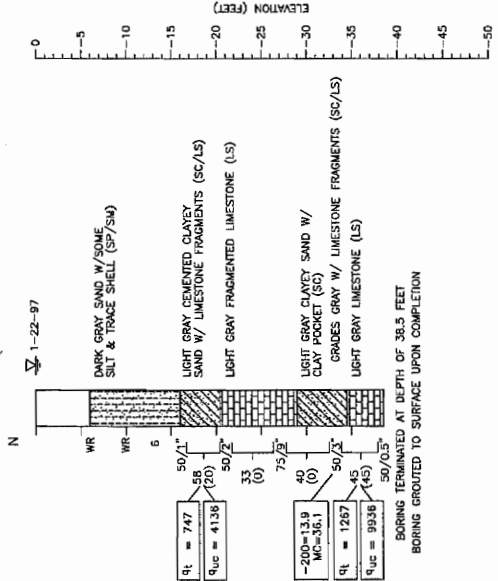
B-21
CSE: APPROX. -4.0 FT



B-20
CSE: APPROX. -5.0 FT



B-19
CSE: APPROX. -6.0 FT



NOTES:
1. WATER SURFACE ELEVATION ASSUMED AS ELEVATION 0
MSL DURING FIELD EXPLORATION PROGRAM.
2. THE CONTRACTOR SHOULD ANTICIPATE THE POSSIBILITY OF ENCOUNTERING HARD CHERK DURING MICHPALE CONSTRUCTION.

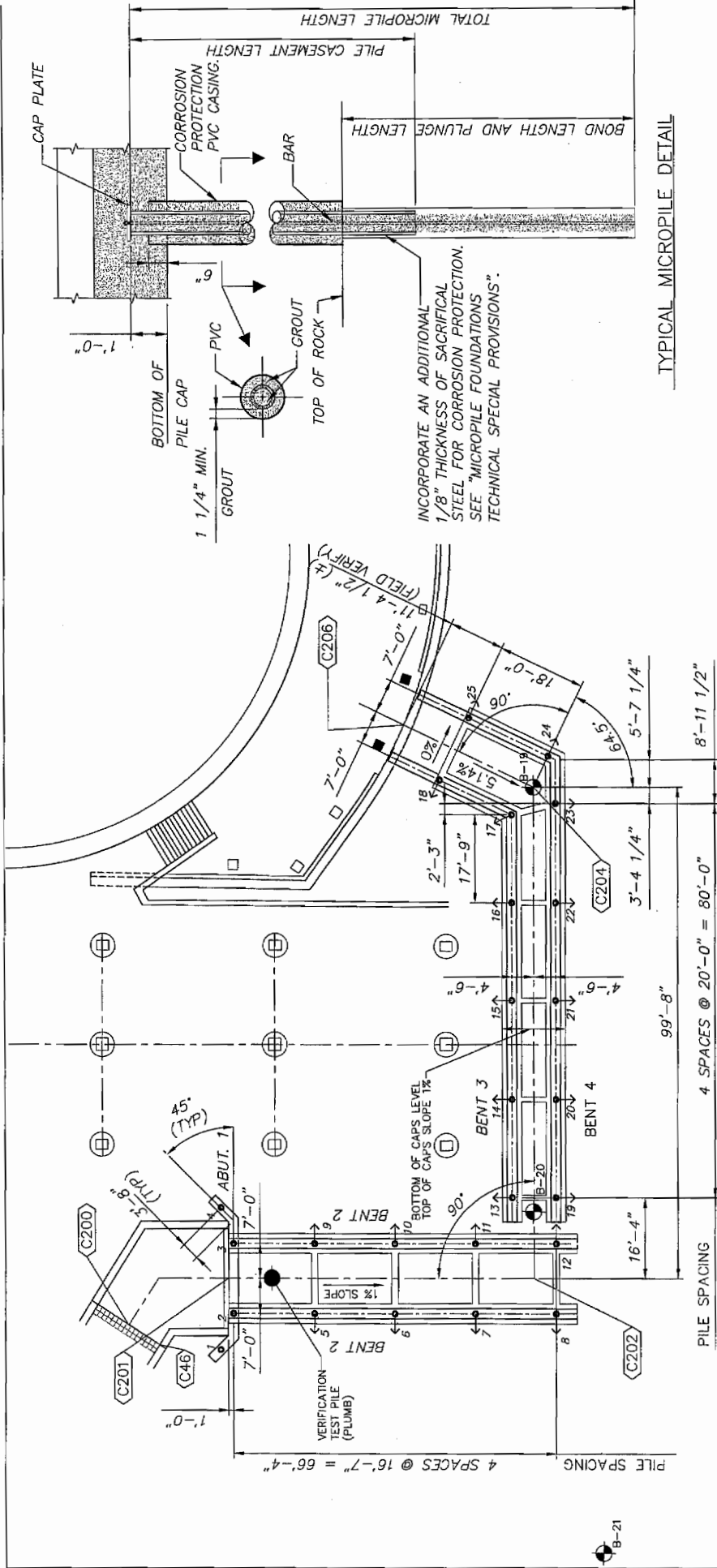
URS Corporation Southern
7650 West Courtney Campbell Causeway
Jacksonville, FL 32211
Engineering Business No. 02020022

URS

CITY OF TAMPA
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

TAMPA RIVERWALK - SEGMENT 2A
REPORT OF CORE BORINGS

DATE: 05/20/04
PROJECT: TAMPA RIVERWALK - SEGMENT 2A
DRAWING: S-4



NOTES:

1. SEE SHEET S-1 FOR PILE NOTES.
2. SEE SHEETS S-9 THRU S-14 & S-15 FOR BENT SECTIONS & DETAILS.
3. MICROPILES SHALL BE DESIGNED FOR A MINIMUM 50 TON SERVICE LOAD CAPACITY, (DL=36 TONS, LL=14 TONS) PER PILE.

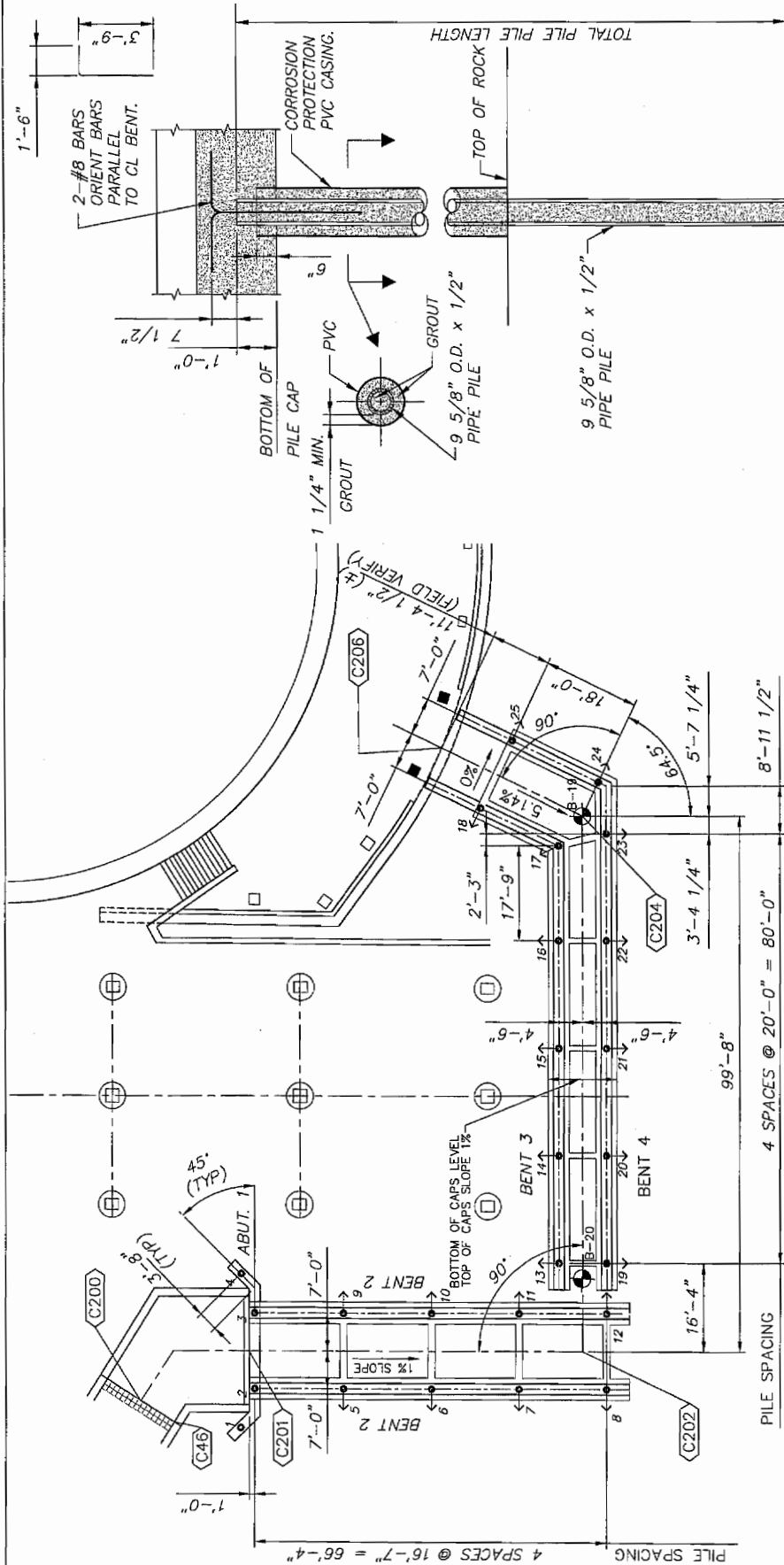
LEGEND:

- ⊙ DENOTES BATTERED PILE
- ↘ (BATTER OF PILES SHALL BE 1:20)

FOUNDATION LAYOUT PLAN.

LEGEND:

- DESIGNATES WORKPOINT COORDINATE. REFER TO SHEET S-2 FOR "X" AND "Y" COORDINATES.



- NOTES:**
1. SEE SHEET S-1 FOR PILE NOTES.
 2. SEE SHEETS S-9 THRU S-14 & S-15 FOR BENT SECTIONS & DETAILS.
 3. SEE SHEET S-4C FOR PIPE PILE DATA TABLE AND INSTALLATION NOTES.

LEGEND:

⬇ DENOTES BATTERED PILE
 ⬇ (BATTER OF PILES SHALL BE 1:20)

LEGEND:

⬇ DESIGNATES WORKPOINT COORDINATE.
 REFER TO SHEET S-2 FOR "X" AND "Y" COORDINATES.

TYPICAL PIPE PILE DETAIL

FOUNDATION LAYOUT PLAN

<p>URS Corporation Southern 7650 West Courtney Campbell Causeway Jacksonville, Florida 32217 Engineering Business No. 00000002</p>		<p>CITY OF TAMPA DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION</p>		<p>TAMPA RIVERWALK - SEGMENT 2A ALT. B: PIPE PILE FOUNDATION (1 OF 2)</p>		<p>DESIGNED BY: [] DRAWN BY: [] CHECKED BY: [] DATE: []</p>		<p>SCALE: []</p>
<p>PROJECT NO. [] DRAWING NO. []</p>		<p>DATE: []</p>		<p>PROJECT NAME: []</p>		<p>PROJECT NO.: []</p>		<p>SCALE: []</p>
<p>PROJECT NO. []</p>		<p>DATE: []</p>		<p>PROJECT NAME: []</p>		<p>PROJECT NO.: []</p>		<p>SCALE: []</p>

PIPE PILE DATA TABLE

BENT #	INSTALLATION CRITERIA						DESIGN CRITERIA							
	PILE SIZE (in)	ULTIMATE BEARING CAPACITY (tons)	TENSION CAPACITY (tons)	MIN TIP ELEV. (ft)	TEST PILE LENGTH (ft)	REQ'D JET ELEV. (ft)	REQ'D PREFORM ELEV. (ft)	FACTORED DESIGN LOAD (tons)	DOWNDRAG (tons)	TOTAL SCOUR RESISTANCE (tons)	NET SCOUR RESISTANCE (tons)	LONG-TERM SCOUR RESISTANCE (tons)	100-YEAR SCOUR ELEV. (m)	Ø
ALL PILES	9 5/8	120	N/A	-28	75	N/A	N/A	72	N/A	N/A	N/A	-16	-16	0.6

PILE INSTALLATION NOTES

- FOUNDATION INSTALLATION PROCEDURES AND EQUIPMENT SHALL BE IN ACCORDANCE WITH SECTION 455 OF THE FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2004).
- ALL PILES ARE TO BE 9 5/8 INCH OUTSIDE DIAMETER, OPEN-END, STEEL PIPE PILES WITH A MINIMUM WALL THICKNESS OF 0.50 INCHES. PILES SHALL CONFORM TO ASTM A-252, GRADE 3.
- PILES #5 AND #21 SHALL BE DESIGNATED AS TEST PILES AND SHALL BE DYNAMICALLY MONITORED BY THE ENGINEER USING A PILE DRIVING ANALYZER (PDA). DYNAMIC TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 455 OF THE FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2004). RESULTS OF THE DYNAMIC TESTING WILL BE USED TO DEVELOP AUTHORIZED PILE LENGTHS AND INSTALLATION CRITERIA FOR THE REMAINDER OF THE PILES ON THE PROJECT.
- THE MINIMUM TIP ELEVATION IS ESTABLISHED FOR LATERAL STABILITY. THE PILES SHALL BE INSTALLED TO THE MINIMUM TIP ELEVATION SHOWN UNLESS MODIFIED DURING THE TEST PILE PROGRAM BY THE ENGINEER.
- TO ACHIEVE THE REQUIRED TIP ELEVATION, IT IS POSSIBLE THAT A DRIVING RESISTANCE HIGHER THAN THAT REQUIRED FOR LOAD CAPACITY MAY BE ENCOUNTERED IN SOME LOCATIONS.
- ANY PILE THAT CANNOT BE DRIVEN TO THE REQUIRED MINIMUM TIP ELEVATION, WILL REQUIRE PREDRILLING THROUGH THE INSIDE OF THE PILE TO A DEPTH BELOW THE PILE TIP SUFFICIENT TO ALLOW THE PILE TO BE DRIVEN TO THE MINIMUM TIP ELEVATION AND THE REQUIRED ULTIMATE BEARING CAPACITY.
- THE ESTIMATED PRODUCTION PIPE PILE LENGTH IS 60' PER PILE.

 <p>URS Corporation Southern 7600 Woodloch Forest Dr. Richmond, VA 23292 (813) 286-1111 Engineering Business No. 00000002</p>		<p>CITY OF TAMPA DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION</p>		<p>TAMPA RIVERWALK - SEGMENT 2A ALT. B: PIPE PILE FOUNDATION (2 OF 2)</p>		<p>DESIGNED BY: [] CHECKED BY: [] DATE: []</p>		<p>PROJECT NO.: S4C</p>	
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**TAMPA RIVERWALK SEGMENT 2A UNDER PLATT STREET BRIDGE
ADDENDUM 4: SUMMARY OF CHANGES**

The following is provided as a summary of the changes to the contract documents for Addendum 4, which incorporates a pipe pile foundation as an alternative for the Contractors' consideration.

PLAN SHEETS:

SHEET NUMBER	DESCRIPTION
S-1	1. General Notes – Piles: These notes have been revised 2. Index of Structural Plan Sheets: Revised to include Sheets S-4, S-4A, S-4B & S-4C
S-4	Sheet Number was revised to S-4 (from S-4A)
S-4A	1. Sheet Number was revised to S-4A (from S-4) 2. Sheet Title was changed to "Alt. A: Micropile Foundation" 3. Miscellaneous call-outs were added to the "Typical Micropile Detail" (for "grout" and "casing") 4. Note 1 was changed 5. Note 3 was added
S-4B	This new sheet was added for "Alt. B: Pipe Pile Foundation (1 of 2)"
S-4C	This new sheet was added for "Alt. B: Pipe Pile Foundation (2 of 2)"

TECHNICAL SPECIAL PROVISIONS:

A new Technical Special Provision has been generated for the Pipe Pile Alternative:
Section SP-16.02 Pipe Pile Foundations

New Pay Items have been generated for the Pipe Pile Alternative:

<u>Item No.</u>	<u>Description</u>	
SP-16.02-1	Steel Pipe Piling (9 ⁵ / ₈ -inch O.D.)	Per Linear Foot
SP-16.02-2	Test Piles	Per Each
SP-16.02-3	Dynamic Load Tests	Per Each
SP-16.02-4(*)	Predrilling	Per Linear Foot
SP-16.02-5	Steel Pipe Piling (Mobilization)	Per Lump Sum

(*) Contingency Item

ESTIMATED QUANTITIES (PIPE PILE ALTERNATIVE):

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>
SP-16.02-1	Steel Pipe Piling (9 ⁵ / ₈ -inch O.D.)	1380 Linear Feet
SP-16.02-2	Test Piles	2 Each
SP-16.02-3	Dynamic Load Tests	2 Each
SP-16.02-4(*)	Predrilling	60 Linear Feet
SP-16.02-5	Steel Pipe Piling (Mobilization)	1 Lump Sum

(*) Contingency Item