CITY OF RIVIERA BEACH, PALM BEACH COUNTY, FLORIDA PALM BEACH ISLES BRIDGES

#1 - GRAND BAHAMA LN.

#2 - ISLAND DRIVE EASTBOUND (EXIT)

#3 - ISLAND DRIVE WESBOUND (ENTRANCE)

CITY PROJECT #: 18097 DATE: MAY 2020

> -PROJECT LOCATION #1 GRAND BAHAMA LN. BRIDGE

PROJECT LOCATION ISLAND DRIVE BRIDGES

	l	PALM BEACH I	SLES BRIDGES
INDEX OF SHEET			
DRAWING	NUMBERS	LOCATION	PLAN DESCRIPTION
CIVIL PLANS			
G-01	1		Cover
G-02	2		Legend and Abbreviations
G-03 to G-04	3 thru 4		General Notes
G-05 to G-08	5 thru 8		Storm Water Pollution Prevention Notes
G-09 to G-10	9 thru 10		Typical Sections
V-01	11	Grand Bahama Ln.	Existing Conditions Plan - Grand Bahama Lane
V-02	12	Island Dr.	Existing Conditions Plan - Island Drive
C-01	13	Grand Bahama Ln.	Plan and Profile - Grand Bahama Lane
C-02	14	Island Dr. (Exit)	Plan and Profile - Island Drive Eastbound
C-03	15	Island Dr. (Entrance)	Plan and Profile - Island Drive Westbound
C-04	16		Grading Tables
C-05	17	Grand Bahama Ln.	Bridge Deck Grading Plan and Sections
C-06	18	Island Dr. (Exit)	Bridge Deck Grading Plan and Sections
C-07	19	Island Dr. (Entrance)	Bridge Deck Grading Plan and Sections
C-08	20	Island Dr.	Bridge Deck Grading Tables
D-01 to D-03	21 thru 23		Paving, Grading and Drainage Details
D-04	24		Approach Slab Details
D-05 to D-08	25 thru 28		Concrete Pavement Details
U-01	29	Grand Bahama Ln.	Utility Plan and Profile
U-02	30	Island Dr. (Exit)	Utility Plan and Profile
U-03	31	Island Dr. (Entrance)	Utility Plan and Profile
U-04 to U-06	32 thru 34		Utility Details
LANDSCAPIN	G PLANS		
L-01	35	Grand Bahama Ln.	Landscaping Plan
L-02	36	Grand Bahama Ln.	Irrigation Plan
L-03 to L-04	37 thru 38	Island Dr.	Landscaping Plan
L-05 to L-06	39 thru 40	Island Dr.	Irrigation Plan
L-07	41	Island Dr.	Landscape Specifications
			•
BRIDGE PLAN	S (See Brid	ge Plan Sets)	
B1-1 thru B1-17	1 thru 17	Grand Bahama Ln.	Grand Bahama Lane Bridges
B2-1 thru B2-20	1 thru 20	Island Dr.	Island Drive Bridges



LOCATION MAP NOT TO SCALE

SECTIONS 22 & 27, TOWNSHIP 42, RANGE 43

MAYOR Ronnie L. Felder

CITY COUNCIL MEMBERS

Councilwoman Shirley D. Lanier Tradrick McCoy KaShamba Miller-Anderson Councilwoman

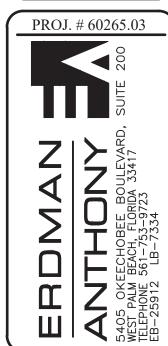
Dr. Julia Botel Chairperson Tem Douglas A. Lawson Chair Pro

CITY STAFF

Jonathan E. Evans City Manager Terrence N. Bailey, PE Public Works Director

City Engineer

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DANA I GILLETTE FL PE 41913

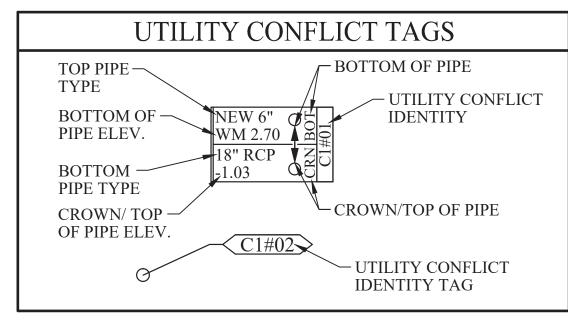
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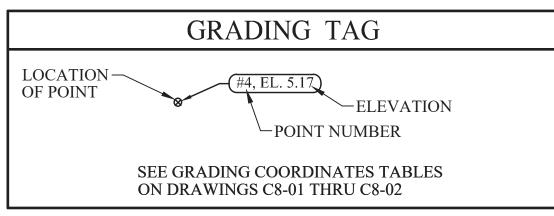
G-01

Sheet <u>1</u> of <u>41</u>

TO THE NGVD 1929 DATUM. NAVD 1988 ELEVATIONS ARE 1.516 FEET LOWER.

	LEGEN	ND SYMBOLS
EXISTING	PROPOSED	DESCRIPTION
X		ANTENNA
•		BENCHMARK
		INLET/CATCH BASIN
©	0	CLEANOUT STORM OR SANITARY
O		CATV SERVICE BOX SYMBOL
4		FLOOD LIGHT (PRIVATE)
©	•	FIRE HYDRANT
\prec		GUY ANCHOR
		GUY POLE
<u> </u>		MAIL BOX
W		METER WATER
STM	•	MANHOLE DRAINAGE
S		MANHOLE SANITARY
W		MONITORING WELL
\triangle		TELEPHONE BOOTH
0		TELEPHONE SERVICE BOX
		GAS VALVE W/COVER
\bowtie	×	VALVE
•		CONTROL SURVEY POINT
\odot		POST
@		SHRUB (DECID)
		SERVICE CABINET
- ₩		POWER POLE W/TRANSFORMER
Ø		UTILITY POLE
ELEC		ELECTRIC METER
E		ELECTRIC PULL BOX
		PILE
0\$		HOME LIGHT (PRIVATE)
ф—O		STREET LIGHT (ON WOOD POLE)
0—0		STREET LIGHT (CONC. OR METAL)
*		SPRINKLER HEAD
\bigcirc		TREE (UNKOWN)
		TREE (OAK)
*		TREE (PALM)
*		TREE (PALM CLUSTER)
*		TREE (PINE)
		TREE (SEAGRAPE)
		TREE (EXOTIC)
**************************************		TREE (GUMBO)
		TREE (MANGO)
10" 000	10" HDDE	TEXT DEPICTING EXISTING
18" RCP	18" HDPE	VERSES PROPOSED
	TEST HOLE NUN INVENTORY ON	MBER (SEE TEST HOLE I DWG. V7-01)
•	LOCATION OF T	·



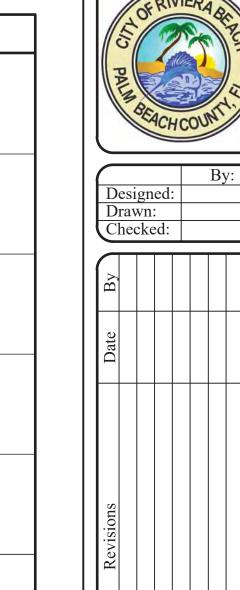


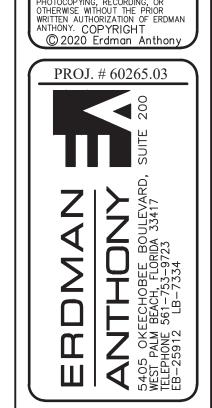
EXISTING	G FEATURES
LINE STYLES	DESCRIPTION
—— — — E — — — — — — — — — — — — — — —	BURIED ELECTRIC
— — — BFO — — — BFO — — —	BURIED FIBER OPTIC
	BURIED TELEPHONE (1" COPPER CABLE)
	BURIED TELEVISION CABLE
—— — — FM — — — — FM — — ——	FORCE MAIN SANITARY
XXXXXX	FENCE
	2" GAS MAIN
—— — OE — — — OE — — —	OVERHEAD ELECTRIC
—— — — — — — — — — — — — — — — — — — —	OVERHEAD WIRES (MISC)
	RIGHT-OF-WAY/PROPERTY LINE
	UTILITY EASEMENT LINE
	WOOD/HEDGE LINE
<i>ED−1</i>	STORM INLET, STORM MANHOLE AND STORM DRAINAGE PIPE
FIRE HYDRANT GATE VALVE 6" WM W	FIRE HYDRANT, GATE VALVE AND WATER MAIN
\$\frac{11-08}{5} \\ \frac{1}{5} \\ \frac{8" SAN}{5} \\ \frac{8" SAN}{5} \\ \frac{1}{5} \\	SANITARY MANHOLE, SANITARY PIPE AND LATERAL
\times	PIPE TO BE REMOVED
+++++M-++	PIPES TO BE ABANDONED AND GROUTED IN PLACE

PROPOSEI	O FEATURES
LINE STYLES	DESCRIPTION
18" STRM EXFILTRATION TRENCH	PERF. HDPE = PERFORATED HDPE ADS N-12 STORM SEWER PIPE AND EXFILTRATION TRENCH
CLEANOUT 6 (\$11-08) (\$s-8" SAN - ss	SAN = 8" PVC (CLASS 150, DR 18) SANITARY PIPE LAT = 6" PVC (CLASS 150, DR 18) SANITARY LATERAL WITH CLEANOUT
2' WIDE VALLEY GUTTER CURB 18" STRM DS-41 18" STRM	STRM = HDPE ADS N-12 STORM DRAINAGE PIPE INLET (STRUCTURE NUMBER) AND VALLEY GUTTER
SINGLE WM BOX 6" TEE 6" WM 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	WM = PVC WATER MAIN (CLASS 150, DR 18) FIRE HYDRANT AND GATE VALVE WATER SERVICES (WS) WITH WATER METER BOXES
2' WIDE VALLEY GUTTER CURB © DRIVEWAY DRIVEWAY ROAD	CONCRETE DRIVEWAY APRON AND VALLEY GUTTER CURB, CENTERLINE DRIVEWAY FOR CROSS SECTION LOCATION

ABI	BREVIATIONS AND ACRONYMS:
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
API APPROX	AMERICAN PETROLEUM INSTITUTE APPROXIMATELY
A.R.V.	AIR RELEASE VALVE
ASB BFP	ASBUILT BACKFLOW PREVENTER
BLDG	BUILDING
BLVD BOP	BOULEVARD BOTTOM OF PIPE
BOT	BOTTOM
BV C/L	BUTTERFLY VALVE CENTER LINE
CI	CAST IRON
CJ CLF	CONSTRUCTION JOINT CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CA CONC	CONCRETE ASBESTOS CONCRETE
CONST	CONSTRUCTION
CONT CORP	CONTINUOUS CORPORATION
CRN	CROWN
CTRS CTV	CENTERS CABLE TELEVISION
CY	CUBIC YARDS
DBI DBL	DITCH BOTTOM INLET DOUBLE
DHW	DESIGN HIGH WATER
DIA DIP	DIAMETER DUCTILE IRON PIPE
DWG	DRAWING
E EA	EAST EACH
ELEC	ELECTRIC
EL EP	ELEVATION EDGE OF PAVEMENT
EQ	EQUAL
EXIST EQ SP	EXISTING EQUALLY SPACED
ETC	ET CETERA
EXST FDOT	EXISTING FLORIDA DEPARTMENT OF TRANSPORTATION
FED SPEC	FEDERAL SPECIFICATION
FM FT	FORCE MAIN FEET OR FOOT
GALV GV	GALVANIZED GATE VALVE
H/C	HANDICAPPED
HDPE HORIZ	HIGH DENSITY POLYETHYLENE HORIZONTAL
H.P.	HIGH POINT
ID INV	INSIDE DIAMETER INVERT
L	LENGTH
LAT LF	LATERAL LINEAR FEET
LP	LIQUID PETROLEUM
LWPT MAX	LOW POINT MAXIMUM
MFGR	MANUFACTURER
MH MIN	MANHOLE MINIMUM
NAVD	NORTH AMERICAN VERTICAL DATUM
NFPA NGVD	NATIONAL FIRE PROTECTION ASSOCIATION NATIONAL GEODETIC VERTICAL DATUM 1929
NO.	NUMBER
OC OD	ON CENTER OUTSIDE DIAMETER
ORB	OFFICIAL RECORD BOOK
P/L PB	PROPERTY LINE PLAT BOOK
PBC	PALM BEACH COUNTY DECORDS
PBCR PBCWUD	PALM BEACH COUNTY RECORDS PALM BEACH COUNTY WATER UTILITIES DEPARTMENT
PCF PG	POUNDS PER CUBIC FOOT PAGE
PG PLUGV	PAGE PLUG VALVE
P.O.C.	POINT ON CURVE POINT LO LINE
P.O.L. PROP	PROPOSED PROPOSED
P.R.C. PVC	POINT OF REVERSE CURVE POLYVINYL CHLORIDE
PVC PVMT.	POLY VIN Y L CHLORIDE PAVEMENT
P.V.I.	POINT OF VERTICAL INTERSECTION RADIUS
RBOC	REMOVED BY OTHER CONCTRACT
R/W R.C.	RIGHT OF WAY REVERSE CROWN
RCP	REINFORCED CONCRETE PIPE
REQD RP BFP	REQUIRED REDUCED PRESSURE BACKFLOW PREVENTER
	LES COLS INSCORE SITCH ECUI INSTITUTENTE

SAN	SANITARY
SCH	SCHEDULE
SECT	SECTIONAL
SEP	SEPARATION
SF	SQUARE FEET
S.F.W.M.D.	SOUTH FLORIDA WATER MANAGEMENT DISTRICT
SP	SAMPLE POINT
SPECS	SPECIFICATIONS
STD	STANDARD
STRM	STORM
STRUCT	STRUCTURE
SWPPP	STORM WATER PREVENTION PLAN
TEL	TELEPHONE
TEMP.	TEMPORARY
T.G.	TOP OF GRATE
TOC	TOP OF CONCRETE
T.O.P.	TOP OF PIPE
TYP	TYPICAL
UE	UTILITY EASEMENT
VERT	VERTICAL
WTR	WATER
W	WEST
W/	WITH
WM	WATER MAIN
WS	WATER SERVICE
WUD	WATER UTILITIES DEPARTMENT





CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES
LEGEND AND

DANA I GILLETTE FL PE 41913

Drawing Reference
Number

G-02

Sheet 2 of 41

GENERAL

- 1. DISCREPANCIES IF ANY, SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER/ENGINEER BEFORE WORK COMMENCES.
- 2. FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL NOT BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER/ENGINEER. CONTRACTOR MAY FIELD ADJUST LOCATIONS OF PROPOSED FACILITIES TO AVOID CONFLICTS WITH CITY APPROVAL.
- 3. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL TERMS AND CONDITIONS, DIVISION 1 THRU 16 OF THE PROJECT SPECIFICATIONS AND ALL CITY, COUNTY, STATE AND FEDERAL LAWS, CODES AND ORDINANCES WHERE APPLICABLE. IN THE EVENT OF A CONFLICT BETWEEN THE GENERAL NOTES AND CONSTRUCTION SPECIFICATIONS IN THESE PLANS AND THE CONTRACT DOCUMENTS AND SPECIFICATIONS IN THE SPECIFICATION BOOKLET, THE CONTRACTOR SHALL SUBMIT WRITTEN REQUEST FOR CLARIFICATION TO THE ENGINEER.
- 4. ALL WORK SHALL COMPLY WITH THE CONDITIONS OF ANY PERMITS THAT HAVE BEEN ISSUED FOR THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR COMPLETING AND SUBMITTING ANY REQUIRED DOCUMENTS TO THE PERMIT AGENCIES PRIOR TO CONSTRUCTION, DURING CONSTRUCTION, AND AT THE COMPLETION OF CONSTRUCTION.
- 5. THE CONTRACTOR SHALL GAIN COMPLETE FAMILIARITY WITH THE PROJECT SITE INCLUDING ACCESS LIMITATIONS, SUBSURFACE SOIL CONDITIONS AND GROUNDWATER LEVELS AS REFERENCED IN THE GEOTECHNICAL REPORT.
- 6. THE CONTRACTOR SHALL PROVIDE FOR ALL REQUIRED CLEARING AND GRUBBING. RUBBLE, DEBRIS AND OTHER UNUSABLE OR UNSUITABLE MATERIAL SHALL BE REMOVED AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
- 7. WORK WITHIN CITY RIGHT-OF-WAY MAY REQUIRE A CITY PERMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING AND PAYING FOR SUCH A PERMIT, UNLESS NOTED OTHERWISE.
- 8. WORK SHALL COMPLY WITH THE STATE OF FLORIDA "TRENCH SAFETY ACT" OF OCTOBER 1, 1990.
- 9. SHOP DRAWINGS FOR ALL CONSTRUCTION MATERIALS SHALL BE SUBMITTED TO THE OWNER/ENGINEER FOR REVIEW AND APPROVAL BEFORE STARTING WORK.
- 10. THE CONTRACTOR SHALL PROVIDE VERTICAL AND HORIZONTAL AS-BUILT LOCATION INFORMATION SIGNED AND SEALED BY A LICENSED FLORIDA PROFESSIONAL LAND SURVEYOR FOR ALL WORK AND FOR ALL PIPES ENCOUNTERED DURING CONSTRUCTION THAT ARE TO REMAIN.
- 11. ALL CONCRETE EXCEPT PAVEMENT SHALL BE MINIMUM 3000 PSI PER CITY
- 12. THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.
- 13. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL BY THE ENGINEER A VIDEO RECORD OF THE ROUTE AND WORK AREAS BEFORE CONSTRUCTION IS STARTED. PLANTS, DRIVEWAYS, MAILBOXES, FRONT VIEW OF BUILDINGS ON BOTH SIDES OF THE STREET SHALL BE INCLUDED. PAYMENT FOR VIDEO RECORD OF THE ROUTE SHALL BE AS PART OF THE PRICE FOR MOBILIZATION; A COPY OF THE RECORD SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PAYMENT.
- 14. COST OF INSTALLATION FOR INSTALLING DRAINAGE, WATER AND SANITARY PIPES SHALL BE INCLUDED IN THE UNIT PRICE FOR THE RESPECTIVE PIPES AND SHALL NOT BE ADDED TO THE COST OF EXCAVATION.
- 15. THE CONTRACTOR SHALL PROVIDE A VIDEO OF DRAINAGE INSTALLATION IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS.
- 16. ALL AREAS IMPACTED BY THE CONSTRUCTION EFFORT SHALL BE RESTORED TO ITS ORIGINAL OR BETTER CONDITION. EXISTING MAIL BOXES SHALL BE REINSTALLED. EXISTING VEGETATION ON PRIVATE PROPERTY IMPACTED BY THE CONSTRUCTION SHALL BE REMOVED, PRESERVED, AND REINSTALLED IF POSSIBLE, OR REPLACED WITH SIMILAR MATERIAL IF NOT POSSIBLE. THE CONTRACTOR SHALL COORDINATE WITH EACH PROPERTY OWNER REGARDING ANY FEATURES (SUCH AS BUSHES, TREES, SCULPTURES, YARD ART, ETC.) LOCATED WITHIN THE RIGHT OF WAY THAT WILL BE REMOVED BY THE CONSTRUCTION EFFORT AND ALLOW THE PROPERTY OWNER A MINIMUM OF 21 DAYS TO REMOVE THE FEATURE. THE CONTRACTOR SHALL COORDINATE WITH EACH PROPERTY OWNER REGARDING ANY FEATURES LOCATED OUTSIDE THE RIGHT OF WAY ON PRIVATE PROPERTY THAT WILL BE IMPACTED BY THE CONSTRUCTION EFFORT TO COORDINATE THE REMOVAL, STORAGE, MAINTENANCE, REINSTALLATION, REPLACEMENT, ETC.
- 17. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH THE RESIDENTS AND PROPERTY OWNERS ON A DAILY BASIS. CONTRACTOR SHALL PREPARE AND IMPLEMENT A DETAILED COMMUNITY OUTREACH PROGRAM AND SUBMIT TO THE CITY FOR REVIEW AND APPROVAL. OUTREACH SHALL ADDRESS OVERALL PROJECT SCHEDULE AND IMPACTS, SPECIFIC IMPACTS TO SPECIFIC PROPERTIES, UTILITY OUTAGES, ACCESS LIMITATIONS, WORK ON PRIVATE PROPERTY (BETWEEN THE RIGHT OF WAY LINE AND THE LIMITS OF CONSTRUCTION), AND RESTORATION OF PRIVATE PROPERTY (LANDSCAPING, DRIVEWAYS, MAILBOXES, ETC.). COST SHALL BE INCIDENTAL TO AND INCLUDED IN THE WORK.
- 18. REQUIREMENTS FOR PROVIDING NOTICE OF SERVICE DISRUPTION INCLUDING DOOR HANGERS, PUBLIC NOTICES, ETC. SHALL BE AS DIRECTED BY THE UTILITY PROVIDER AND SHALL BE IMPLEMENTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

GENERAL (CONT'D.)

- 19. CONTRACTOR TO ENSURE THAT NO ENCROACHMENT OUTSIDE THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS OCCURS WITHOUT PRIOR WRITTEN APPROVAL/CONSENT OF THE PROPERTY OWNER.
- 20. THE CONTRACTOR IS RESPONSIBLE FOR SECURING AT THEIR EXPENSE SPACE FOR THEIR VEHICLES, EQUIPMENT, PARKING, ETC. SHORT TERM STOPPING OR PARKING OF A VEHICLE OR PLACING ANYTHING ELSE NEXT TO THE WORK AREA THAT CREATES A CHANNEL EFFECT WHICH CAN ADVERSELY AFFECT TRAFFIC FLOW. THEREFORE, ALL CONSTRUCTION EQUIPMENT SHALL BE PLACED A MINIMUM OF 15 FEET FROM THE TRAVEL LANE WHEN NOT IN USE. OVERNIGHT STORAGE WILL BE IN AN APPROPRIATELY SIGNED AND BARRICADED AREA.
- 21. LIGHT POLES SHOWN TO BE RELOCATED ON THE PLANS ARE OWNED, OPERATED AND MAINTAINED BY FPL. THE LOCATION OF THE RELOCATED LIGHT POLES SHOWN ON THE PLANS IS APPROXIMATE; THE CONTRACTOR SHALL CONFIRM SITE CONDITIONS AND DETERMINE THEIR FINAL LOCATION. THE CONTRACTOR SHALL COORDINATE WITH FPL REGARDING THE RELOCATIONS AND INCLUDE ALL COSTS ASSOCIATED WITH THE RELOCATION.
- 22. CONTRACTOR IS RESPONSIBLE FOR ALL EXISTING UTILITIES SHOWN AND NOT SHOWN ON THE PLANS. CONTRACTOR SHALL OBTAIN ADDITIONAL SURVEY AND SUBSURFACE UTILITY LOCATES AS THEY DEEM NECESSARY TO LOCATE EXISTING FACILITIES AT THE CONTRACTOR'S COST.
- 23. REQUESTS FOR ADDITIONAL INFORMATION OR CHANGE ORDER REQUESTS, ETC. MUST BE REVIEWED BY THE CITY. THE CONTRACTOR SHALL ALLOW TEN BUSINESS DAYS FOR CITY REVIEW OF SUCH ITEM.
- 24. PRIOR TO THE PREWORK MEETING AND PRIOR TO ANY WORK, CONTRACTOR SHALL SUBMIT A DETAILED SCHEDULE, A DETAILED MAINTENANCE OF TRAFFIC PLAN, THAT INCLUDES THE LIMITS OF EACH PROPOSED PHASE IF THEY DIFFER FROM THOSE SHOWN ON SHEET U0-01, TEMPORARY PAVEMENT DETAILS, AND A DETAILED CONSTRUCTION WORK ZONE PLAN INDICATING CONTRACTOR STORAGE AND PARKING, ETC. A PHASE MAY NOT BY LONGER THAN 1900 FEET AND NO MORE THAN TWO PHASES MAY BE UNDER CONSTRUCTION AT ANY ONE TIME, AND EACH PHASE MUST BE UNDER CONSTRUCTION FOR NO LONGER THAN 20 CALENDAR DAYS. THE COST OF ALL ELEMENTS ARE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE INCLUDED IN THE UNIT PRICE FOR MAINTENANCE OF TRAFFIC.

GRADING

- 1. ELEVATIONS SHOWN ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD) 1929, WHICH IS 1.516' ABOVE THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.
- 2. GRADES SHOWN ON THE PLANS ARE FINISHED GRADES UNLESS NOTED OTHERWISE. ALL AREAS SHALL BE SLOPED AS NECESSARY TO DRAIN.
- 3. NO EXCAVATION SHALL BE MADE WITHIN FIVE (5) FEET OF ANY FOUNDATION THAT SUPPORTS SIGNAL POLES, TRAFFIC SIGNAL DISPLAYS OR SIGNS BY MAST ARMS OR SIGNAL SPAN AND UTILITY POLES. EXCAVATION WITHIN EIGHT (8) FEET, BUT MORE THAN FIVE (5) FEET SHALL REQUIRE ADDITIONAL SUPPORT (DOWN GUY, HEAD GUY, BASE GUY, ETC.). THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY PERSONNEL IN ADVANCE OF WORK IN THE PROPOSED AREA AND ARRANGE FOR THE STABILIZATION OF THE AFFECTED UTILITY.

DRAINAGE

- 1. REINFORCED CONCRETE PIPE (RCP) SHALL BE ASTM C-76, CLASS III, IN ACCORDANCE WITH SECTION 449 OF THE FDOT STANDARD SPECIFICATIONS.
- 2. CORRUGATED METAL PIPE (CMP) SHALL BE IN ACCORDANCE WITH SECTION 943 OF THE FDOT STANDARD SPECIFICATIONS AND SHALL RECEIVE BITUMINOUS COATING TREATMENT.
- 3. HIGH DENSITY POLYETHYLENE PIPE (HDPE) SHALL BE ADVANCED DRAINAGE SYSTEMS ADS N-12 PIPE OR APPROVED EQUAL AND SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 948.
- 4. ALL DRAINAGE PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC.
- 5. FILTER FABRIC SHALL BE AS MANUFACTURED BY MIRAFI OR APPROVED EQUIVALENT IN ACCORDANCE WITH SECTION 985 OF THE FDOT STANDARD SPECIFICATIONS.
- 6. THE DRAINAGE SYSTEM SHALL BE FULLY CLEANED IN ITS ENTIRETY (INCLUDING THE EXISTING OUTFALL PIPES TO REMAIN) BEFORE FINAL ACCEPTANCE.
- 7. ALL HDPE DRAINAGE PIPE SHALL BE SOLID EXCEPT FOR PIPE IN EXFILTRATION TRENCHES WHERE ALL HDPE PIPE SHALL BE PERFORATED. EXFILTRATION TRENCHES ARE DENOTED "TRENCH" ON THE PLAN AND PROFILES AND ARE DETAILED ON DRAWING C7-02.

PAVEMENTS

- . SUBGRADE SHALL BE STABILIZED IN ACCORDANCE WITH SECTION 160 OF THE FDOT STANDARD SPECIFICATIONS.
- 2. CONCRETE SHALL BE CLASS I, 4,000 PSI MINIMUM COMPRESSIVE STRENGTH, UNLESS NOTED OTHERWISE. REINFORCING SHALL BE GRADE 60 DEFORMED STEEL BARS IN ACCORDANCE WITH ASTM A-615.
- 3. EXISTING ASPHALT SHALL BE SAWCUT ALONG A STRAIGHT LINE IN AREAS WHERE IT IS TO BE REMOVED.
- 4. DRIVEWAYS SHALL BE REPLACED IN A MATERIAL THAT MATCHES THE EXISTING DRIVEWAY. DRIVEWAYS SHALL BE RECONSTRUCTED TO THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS. THE CONTRACTOR

PAVEMENTS (CONT'D.)

SHALL VERIFY THE DRIVEWAY MATERIAL PRIOR TO BIDDING TO CONFIRM THE MATERIAL TO BE REPLACED. THE CONTRACTOR SHALL COORDINATE WITH EACH PROPERTY OWNER REGARDING THE DRIVEWAY RECONSTRUCTION INCLUDING THE SCHEDULE, MATERIAL, SLOPE, ANY OTHER CONCERNS EACH OWNER MAY HAVE. THIS IS PARTICULARLY IMPORTANT FOR THOSE HOMES WITH UNIQUE AND DIFFICULT TO MATCH DRIVEWAY MATERIALS. THEREFORE, THE CONTRACTOR MAY RECONSTRUCT A SHORTER LENGTH OF DRIVEWAY THAN SHOWN ON THE PLANS AS AGREED WITH THE HOMEOWNER PROVIDED THAT THE DRIVEWAY SLOPES FROM THE HOUSE TO THE ROADWAY AT A MINIMUM OF 0.5% AND A MAXIMUM OF 14% AND THAT THE CHANGE IS APPROVED BY THE CITY. THE AS-BUILTS SHALL DOCUMENT THE LIMITS OF DRIVEWAY RECONSTRUCTION AND THE DRIVEWAY MATERIAL. ANY OTHER DRIVEWAY AREAS DAMAGED BY THE CONSTRUCTION EFFORT SHALL ALSO BE RECONSTRUCTED.

UTILITIES

- 1. ALL CONCERNED UTILITY SERVICE PROVIDERS SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO INITIATING CONSTRUCTION WORK.
- 2. THE LOCATIONS AND SIZES OF EXISTING UTILITIES DEPICTED ON THE PLANS ARE APPROXIMATE AND BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN. ADDITIONAL UTILITIES NOT SHOWN ON THE PLANS MAY BE PRESENT.
- 3. EXISTING UNDERGROUND UTILITIES SHALL BE ACCURATELY LOCATED ELECTRONICALLY AND/OR BY HAND EXCAVATION IN COORDINATION WITH APPLICABLE UTILITY COMPANIES PRIOR TO BEGINNING WORK.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES AND COSTS ASSOCIATED WITH HOLDING UTILITY LINES AND/OR POLES AS REQUIRED.
- 5. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES (SUCH AS CATV, BURIED TELEPHONE, BURIED ELECTRIC, GAS, WATER, SEWER, ETC.) AT ALL TIMES DURING CONSTRUCTION INCLUDING PROVIDING DIRECT SUPPORT AND/OR SHORING OF EXCAVATED AREAS. IF THE CONTRACTOR ELECTS TO REPLACE PORTIONS OF THE EXISTING UTILITY LINES IN LIEU OF SUPPORTING, IT WILL BE AT THE CONTRACTOR'S EXPENSE. SHOULD ANY EXISTING FACILITIES NEED TO BE ADJUSTED OR RELOCATED IN ORDER TO COMPLETE THE PROJECT, CONTRACTOR SHALL COORDINATE WITH THE FACILITY OWNER AND COMPLETE THE ADJUSTMENT OR RELOCATION. COST SHALL BE INCIDENTAL TO THE WORK AND INCLUDED IN THE MOBILIZATION.
- 6. EXISTING UTILITY AND/OR LIGHT POLES TO BE RELOCATED SHALL BE RELOCATED BY THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE POLE OWNER REGARDING THE RELOCATION. COST SHALL BE INCIDENTAL TO THE WORK AND INCLUDED IN THE MOBILIZATION.
- 7. EXISTING VALVE BOXES AND MANHOLE COVERS LOCATED WITHIN WORK AREAS SHALL BE ADJUSTED BY CONTRACTOR AS REQUIRED.
- 8. CONTRACTOR TO DEVELOP GROUT PLAN SHOWING PORT/FILL LOCATIONS AND GROUT VOLUME ESTIMATES FOR SUBMITTAL TO AND APPROVAL BY THE CITY. CONTRACTOR TO SUBMIT PUMP TICKETS FOR THE GROUT TO THE CITY.
- 9. CONTRACTOR SHALL LOCATE ALL METERS (DOMESTIC AND IRRIGATION) AND SHOW LOCATIONS ON AS-BUILT DRAWINGS. CONTRACTOR SHALL INSTALL NEW WATER SERVICE LINES FROM THE NEW WATER MAIN TO THE EXISTING METERS. CONTRACTOR SHALL INSTALL NEW METER BOXES AT THE EXISTING METERS. CONTRACTOR SHALL INSTALL 1" POLYETHYLENE TUBING FOR LINES SERVING A SINGLE METER AND 1.5" POLYETHYLENE TUBING FOR LINES SERVING TWO METERS. THE SERVICE LINE SIZES SHOWN ON THESE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION AND ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIAL OR INSTALLING PIPE. LINES THAT ARE CALLED OUT FOR SPECIFIC SIZES SHALL BE SHOWN ON THE PLANS.
- 10. WATER MAINS AND FORCE MAINS SHOWN ON THE PLANS ARE BASED ON CITY GEOGRAPHIC INFORMATION SYSTEM (GIS) RECORDS AND THEREFORE ARE APPROXIMATE. LIMITED SUBSURFACE UTILITY LOCATIONS WERE OBTAINED AS SHOWN ON THE TEST HOLE INVENTORY PREPARED BY KEITH & ASSOCIATES SHOWN ON THE EXISTING CONDITIONS PLANS. CONTRACTOR SHALL LOCATE ALL FACILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS.
- 11. CONTRACTOR SHALL INSTALL NEW SEWER LATERAL FROM THE NEW GRAVITY MAIN TO THE EXISTING SEWER LATERAL CONNECTING AT THE RIGHT OF WAY LINE. CONTRACTOR SHALL REPLACE ANY SEWER LATERALS DAMAGED DURING THIS WORK ON PRIVATE PROPERTY.
- 12. CONTRACTOR SHALL INSTALL A SEWER CLEAN OUT AT THE RIGHT OF WAY LINE. IF THERE IS AN EXISTING SEWER CLEAN OUT AT OR NEAR THE RIGHT OF WAY LINE, THE EXISTING CLEAN OUT MAY REMAIN.
- 13. SEWER LATERALS SHOWN ON THE PLANS ARE BASED ON CITY GEOGRAPHIC INFORMATION SYSTEM (GIS) RECORDS AND THEREFORE ARE APPROXIMATE. CONTRACTOR SHALL LOCATE ALL SEWER LATERALS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONFIRM THAT THE LATERAL DISCOVERED IS ACTIVE AS SOME LOTS MAY HAVE AN OLD, ABANDONED LATERAL AS WELL AS THE CURRENT ACTIVE LATERAL. CONTRACTOR SHALL CONFIRM THE DEPTH OF THE LATERAL AND EVALUATE ANY CROSSINGS WITH THE LATERAL PIPE AND NOTIFY THE ENGINEER OF ANY CONFLICTS.
- 14. GRAVITY SEWER PIPE LENGTHS SHOWN ON THE PLANS ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.

UTILITIES (CONT'D.)

15. PRIOR TO THE PREWORK MEETING AND PRIOR TO ANY WORK, CONTRACTOR SHALL SUBMIT A DETAILED MAINTENANCE OF UTILITY PLAN INDICATING HOW UTILITY SERVICE WILL BE MAINTAINED THROUGHOUT CONSTRUCTION. THE COST OF MAINTAINING UTILITY SERVICE, INCLUDING BYPASS PUMPING, FITTINGS, TEMPORARY FACILITIES, ETC. ARE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE INCLUDED IN THE UNIT PRICES FOR PIPE.

WATER AND SEWER MAINS

- 1. PVC PIPE SHALL BE CLASS 150 (DR 18) IN ACCORDANCE WITH AWWA C900.
- 2. FITTINGS SHALL BE PVC, MECHANICAL JOINT TYPE, MEETING THE REQUIREMENTS OF AWWA C900.
- 3. PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH AWWA M23.
- 4. WATER MAINS MAY BE DEFLECTED AS NECESSARY AT PIPE JOINTS TO ACHIEVE THE DESIGN ALIGNMENT. FITTINGS SHALL BE USED WHEN DEFLECTION EXCEEDS 75% OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION. THE MAXIMUM DEFLECTION USED IN DESIGN IS 3.0°.
- 5. WATER MAINS SHALL BE MECHANICALLY RESTRAINED AT ELBOWS, VALVES, TEES AND DEAD ENDS IN ACCORDANCE WITH THE UTILITY COMPANY DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- 6. WATER MAINS SHALL BE PLACED WITH A CONTINUOUS 10 GAUGE, THWN INSULATED, STRANDED COPPER LOCATOR WIRE SECURED TO THE TOP OF THE PIPE. WIRE SHALL BE CONTINUOUS FROM VALVE BOX TO VALVE BOX, WRAPPED TWICE AROUND EACH PIPE JOINT AND EXTENDED SUFFICIENTLY INTO EACH VALVE BOX OR CONCRETE COLLAR TO PERMIT ATTACHING LOCATOR DEVICES.
- 7. WATER MAINS SHALL HAVE A MINIMUM COVER OF 24-INCHES UNLESS OTHERWISE NOTED. FORCE MAINS SHALL HAVE A MINIMUM COVER OF 24-INCHES UNLESS OTHERWISE NOTED.
- 8. WATER MAINS SHALL BE FLUSHED AFTER INSTALLATION WITH AN APPROVED POLYURETHANE PIG IN ACCORDANCE WITH A FILLING/FLUSHING PLAN DEVELOPED BY THE CONTRACTOR AND APPROVED BY THE OWNER/ENGINEER.
- 9. WATER MAINS SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH ANSI/AWWA C600, C603, OR C605 AS APPROPRIATE.
- 10. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH ANSI/AWWA C651 AND BACTERIOLOGICALLY TESTED FOR TWO CONSECUTIVE DAYS. TEST REPORTS SHALL BE SUBMITTED TO THE OWNER/ENGINEER WITH CHAIN OF CUSTODY. CONNECTION TO THE EXISTING SYSTEM WILL NOT BE ALLOWED PRIOR TO HEALTH DEPARTMENT OR FDEP APPROVAL OF CERTIFICATION AS APPLICABLE.
- 11. WATER MAIN VALVES SHALL BE RESILIENT SEAT TYPE GATE VALVES IN ACCORDANCE WITH AWWA C509 OR C515.
- 12. ALL CONNECTIONS AND TAPS SHALL BE LOCATED AT LEAST 24 INCHES FROM A FITTING OR BELL AND MINIMUM 18" BETWEEN SUCCESSIVE TAPS.
- 13. NEW WATERLINE SHALL BE INSTALLED TESTED AND APPROVED BY PALM BEACH COUNTY HEALTH DEPARTMENT, BEFORE SERVICES ARE TRANSFERRED TO THE NEW MAIN.
- 14. CONNECTIONS TO EXISTING WATER MAINS SHALL BE MADE UNDER THE DIRECT SUPERVISION OF THE UTILITY COMPANY. PIPES AND FITTINGS USED TO COMPLETE THE CONNECTIONS SHALL RECEIVE CHLORINATION TREATMENT. EXISTING VALVES SHALL BE OPERATED BY UTILITY COMPANY PERSONNEL OR UNDER THEIR DIRECT SUPERVISION. TAPPING SLEEVES AND VALVES SHALL BE PRESSURE TESTED PRIOR TO INSTALLATION. IF CUSTOMER SERVICES MUST BE INTERRUPTED, THE UTILITY COMPANY SHALL BE INFORMED AT LEAST 72 HOURS IN ADVANCE TO MAKE THE NECESSARY NOTIFICATIONS. CUSTOMER SERVICES SHOULD NOT BE INTERRUPTED FOR MORE THAN 4 HOURS.
- 15. POLYETHYLENE SERVICE TUBING SHALL BE COPPER TUBE SIZE (CTS), SDR 9, RATED FOR 200 PSI IN ACCORDANCE WITH ASTM D2737 AND AWWA C901.
- 16. COUPLINGS AND FITTINGS FOR POLYETHYLENE TUBING SHALL BE GRIP-JOINT TYPE AS MANUFACTURED BY FORD OR APPROVED EQUIVALENT.
- 17. GRAVITY SEWER MAINS SHALL BE PVC CLASS C-900 (SDR 26) AND SHALL BE GREEN IN COLOR.
- 18. ALL SANITARY MANHOLE TOPS ARE TO BE READ "SANITARY".
- 19. NEW AND EXISTING GRAVITY SEWER MAINS ARE TO BE TESTED VIA TELEVISION INSPECTION AND SEWER LAMPING BEFORE PAVING IS ALLOWED.
- 20. ALL POTABLE WATER PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH F.A.C. 62-555.320(21)(b)3. USING BLUE AS THE PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR WILL BE WHITE OR BLACK WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO. THE PIPE WALL, PIPE STRIPED DURING THE MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING AND AFTER INSTALLATION OF THE PIPE, THE TAPE OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE.
- 21. ALL MANHOLES TO REMAIN SHALL BE RAISED TO FINISH GRADE.



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CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES

DANA I GILLETTE FL PE 41913

Drawing Reference
Number

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Sheet 3 of 41

WATER AND SEWER MAINS (CONT'D.)

- 22. WATER MAIN SHALL BE TESTED UNDER CONSTANT PRESSURE OF 150 P.S.I. FOR A MINIMUM TEST PERIOD OF 2 HOURS AND SHALL NOT EXCEED THE LEAKAGE REQUIREMENTS AS PER A.N.S.I./A.W.W.A. SPECIFICATIONS OF C-600-05 LEAKAGE FORMULA: $Q = (SD\sqrt{P})/148,000$
 - Q = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
 - D = DIAMETER OF THE PIPE TESTED, IN INCHES
 - S = TOTAL LENGTH OF PIPE TESTED, IN FEET.
 - P = AVERAGE TEST PRESSURE, IN POUNDS PER SQUARE INCH.
- 23. ALL FIRE HYDRANTS REMOVED SHALL BE SALVAGED AND DELIVERED TO THE RIVIERA BEACH UTILITY DEPARTMENT.
- 24. WATER SERVICE LINES SHALL CONNECT TO THE EXISTING WATER METER. SEWER SERVICE LINES SHALL CONNECT TO THE EXISTING SEWER LATERAL. MAINTAIN 3' SEPARATION BETWEEN WATER AND SEWER SERVICE LINES. WHERE EXISTING WATER METERS AND SEWER SERVICE LINES ARE LOCATED CLOSER TO EACH OTHER THAN 3', MAINTAIN THE 3' SEPARATION UNTIL WITHIN 5' OF THE WATER METER.
- 25. ANY DUCTILE IRON PIPE INSTALLED SHALL BE POLYETHYLENE ENCASED.

PIPE HANDLING AND STORAGE

- HANDLING: PIPE, FITTINGS AND ACCESSORIES SHALL BE CAREFULLY INSPECTED BEFORE AND AFTER INSTALLATION. PIPE AND FITTINGS SHALL BE FREE FROM CRACKS AND CHIPS. ITEMS FOUND TO BE DEFECTIVE SHALL BE REJECTED. PIPE SEGMENTS SHALL BE CAREFULLY LOWERED INTO TRENCHES WITH THE PROPER EQUIPMENT. PIPE, FITTINGS AND ACCESSORIES SHALL NOT BE DROPPED OR DUMPED INTO TRENCHES UNDER ANY CIRCUMSTANCES.
- 2. STORAGE: PIPE SHOULD BE STORED AT THE JOB SITE IN UNIT PACKAGES PROVIDED BY THE MANUFACTURER. CAUTION SHOULD BE EXERCISED TO AVOID COMPRESSION DAMAGE OR DEFORMATION TO BELL ENDS OF THE PIPE. PIPE SHOULD BE STORED IN SUCH A WAY AS TO PREVENT SAGGING OR BENDING AND PROTECTED FROM EXPOSURE TO DIRECT SUNLIGHT BY COVERING WITH AN OPAQUE MATERIAL THAT PERMITS ADEQUATE AIR CIRCULATION ABOVE AND AROUND THE PIPE. GASKETS SHOULD BE STORED IN A COOL, DARK PLACE OUT OF THE DIRECT RAYS OF THE SUN, IN THE ORIGINAL PACKAGING.

PIPE INSTALLATION

- BELL-AND-SPIGOT PIPE SHALL BE PLACED WITH THE BELL END POINTING IN THE DIRECTION OF PIPE LAYING. PIPE SHALL BE GRADED IN STRAIGHT LINES, TAKING CARE TO PREVENT THE FORMATION OF ANY DIPS OR LOW POINTS. PIPE SHALL NOT BE LAID WHEN THE CONDITIONS OF TRENCH OR WEATHER ARE UNSUITABLE. AT THE END OF EACH WORK DAY, OPEN ENDS OF PIPE SHALL BE CLOSED TEMPORARILY WITH WOOD BLOCKS OR BULKHEADS.
- PIPE SHALL BE SUPPORTED AT ITS PROPER ELEVATION AND GRADE, TAKING CARE TO SECURE FIRM AND UNIFORM SUPPORT. WOOD SUPPORT BLOCKING SHALL NOT BE PERMITTED. THE FULL LENGTH OF EACH SECTION OF PIPE AND FITTINGS SHALL REST SOLIDLY ON THE PIPE BED, WITH RECESSED EXCAVATION TO ACCOMMODATE BELLS, JOINTS AND COUPLINGS. ANCHORS AND SUPPORTS SHALL BE PROVIDED WHERE NECESSARY AND WHERE INDICATED ON THE DRAWINGS FOR FASTENING WORK INTO PLACE. FITTINGS SHALL BE INDEPENDENTLY SUPPORTED.
- PIPE SEGMENTS SHALL BE OF SHORT LENGTHS IN AND OUT OF EACH RIGID JOINT OR RIGID STRUCTURE. WITH SUFFICIENT LENGTH PROVIDED FOR PROPER INSTALLATION OF JOINTING MATERIAL. BLOCKING OR WEDGING BETWEEN BELLS AND SPIGOTS SHALL NOT BE PERMITTED.
- PIPE SHALL BE CUT BY MEANS OF SAWS, POWER DRIVEN ABRASIVE WHEELS OR PIPE CUTTERS, TO PRODUCE A SQUARE CUT. WEDGE-TYPE ROLLER CUTTERS SHALL NOT BE PERMITTED. END OF PIPE SHALL BE BEVELED AFTER CUTTING USING A BEVELING TOOL, PORTABLE TYPE SANDER OR ABRASIVE DISC.

WATER/SEWER SEPARATION STATEMENT

- 1. WATER/SEWER SEPARATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND THE SPECIFIC CONDITIONS OUTLINED IN THE APPLICABLE PERMIT(S) FOR THE PROJECT.
- 2. HORIZONTAL SEPARATION: WATERMAINS SHALL BE LAID TO PROVIDE A PREFERRED HORIZONTAL DISTANCE OF 10' FROM THE OUTSIDE OF THE WATER MAIN TO THE OUTSIDE OF THE OTHER PIPE WITH MINIMUM HORIZONTAL SEPARATION DISTANCES AS FOLLOWS:
 - A. 3' MINIMUM TO ANY STORM SEWER
 - B. 6' MINIMUM TO ANY GRAVITY SANITARY SEWER (MAY BE REDUCED TO 3' MINIMUM IF THE BOTTOM OF THE WATER MAIN IS AT LEAST 6" ABOVE THE TOP OF THE SEWER)
 - C. 6' MINIMUM TO ANY WASTEWATER FORCE MAIN
- 3. VERTICAL SEPARATION: WATERMAINS SHALL BE LAID TO PROVIDE A PREFERRED VERTICAL DISTANCE OF 12" FROM THE OUTSIDE OF THE WATER MAIN TO THE OUTSIDE OF THE OTHER PIPE WITH MINIMUM VERTICAL SEPARATION DISTANCES AS FOLLOWS:
 - A. 6" IF THE WATER MAIN IS ABOVE A GRAVITY SANITARY SEWER OR STORM SEWER
 - B. 12" IF THE WATER MAIN IS BELOW A GRAVITY SANITARY SEWER OR STORM SEWER
 - C. 12" IF THE WATER MAIN IS ABOVE OR BELOW A WASTEWATER FORCE MAIN

WATER/SEWER SEPARATION STATEMENT (CONT'D.)

4. *NOTE: CENTER 1-FULL LENGTH OF WATER MAIN PIPE AT CROSSINGS; ALTERNATIVELY ARRANGE PIPES SO JOINTS ARE AT LEAST 3 FEET FROM JOINTS IN VACUUM, STORM OR STORM FORCE MAINS. AT LEAST 6 FEET FROM JOINTS IN GRAVITY OR PRESSURE SEWERS, WASTEWATER FORCE MAINS OR RECLAIMED WATER.

SURVEY NOTES

1. THE CENTERLINE OF ROAD/BASELINE AND RIGHT-OF-WAY (R/W) GEOMETRY FOR EACH ROAD ON SINGER ISLAND WERE BASED ON LINEWORK PROVIDED BY THE SURVEYOR IN A FILE CALLED "PLATS AND BASELINES.DWG". ADDITIONAL CURVES WERE ADDED TO THE CENTERLINE OF ROAD AT THE INTERSECTION OF ARDMORE WAY AND MORSE BOULEVARD TO PROVIDE A SMOOTH TRANSITION FROM THE 30' R/W TO 40' R/W.

DEMOLITION NOTES

EXISTING GAVE VALVE STEMS AND COVERS OF WATERMAIN TO BE ABANDONED SHALL BE REMOVED AND RETURNED TO THE CITY.

INTERRUPTION OF EXISTING UTILITIES

ANY CONSTRUCTION WORK THAT REQUIRES INTERRUPTION OF SERVICE TO ANY CUSTOMER SHALL BE DONE SO WITH A MINIMUM OF 5 CALENDAR DAYS (UNDER SOME CIRCUMSTANCES THE UTILITY MAY APPROVE LESS) NOTICE TO, AND WRITTEN APPROVAL BY THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL ARRANGE A MEETING WITH THE LOCAL JURISDICTIONAL AGENCIES AND OTHER GOVERNING AGENCIES, AND OTHER AFFECTED UTILITIES PRIOR TO SCHEDULING THE SHUTDOWN TO ASSESS THE SCOPE OF WORK. ALL SYSTEM SHUT DOWNS SHALL BE SCHEDULED BY THE CONTRACTOR AT SUCH TIME THAT SYSTEM DEMAND IS LOW. THIS GENERALLY REQUIRES NIGHT TIME WORK BY THE CONTRACTOR AND REQUIRES FULL TIME INSPECTION BY A REPRESENTATIVE OF THE UTILITY. ALL COST OF OVERTIME WORK BY THE REPRESENTATIVE OF THE UTILITY SHALL BE BORNE BY THE CONTRACTOR.

TESTING

- AT THE CONTRACTORS EXPENSE, BACKFILL COMPACTION TESTS SHALL BE CONDUCTED BY AN INDEPENDENT TESTING LAB. FOR TYPICAL PIPE TRENCHES, DENSITY TESTS SHALL BE PERFORMED AT 500 FEET (MAXIMUM) INTERVALS. FOR OPEN-CUT PIPE TRENCHES ACROSS ROADS AND DRIVEWAYS, DENSITY TESTS SHALL BE PERFORMED AT 50 FEET (MAXIMUM) INTERVALS. TESTS SHALL BE CONDUCTED AT THE TOP OF PIPE AND FOR EVERY SIX-INCH (6") LAYER TO FINISHED GRADE. CERTIFIED TEST REPORTS SHALL BE PROVIDED TO THE OWNER/ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE TESTING LAB AS NECESSARY DURING THE PROGRESS OF WORK.
- 2. TESTING SHALL BE PERFORMED FOR THE FOLLOWING ITEMS WITH CERTIFIED REPORTS PROVIDED TO THE OWNER/ENGINEER FOR REVIEW/APPROVAL:
 - -BACKFILL GRADATION AND COMPACTION.
 - -SUBGRADE STABILIZATION AND COMPACTION.
 - -BASE COURSE COMPOSITION AND COMPACTION. -ASPHALT COMPOSITION/GRADATION AND COMPACTION.
 - -CONCRETE BREAK STRENGTH.

MAINTENANCE OF TRAFFIC

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER MAINTENANCE AND SAFE CONTROL OF VEHICULAR AND PEDESTRIAN TRAFFIC AT ALL TIMES FOR THE DURATION OF CONSTRUCTION ACTIVITIES. DETAILED MAINTENANCE OF TRAFFIC PLANS FOR ALL PHASES OF THE WORK SHALL BE SUBMITTED TO THE OWNER/ENGINEER PRIOR TO THE BEGINNING OF CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL EMPLOY VARIABLE MESSAGE BOARDS FROM INSTALLATION OF FIRST LIFT OF ASPHALT UNTIL ONE WEEK AFTER FINAL STRIPING OF SECOND LIFT NOTIFYING RESIDENTS OF CHANGED TRAFFIC PATTERN. CONTRACTOR SHALL IMPLEMENT ONE WAY STREET PATTERN DURING CONSTRUCTION AND PROVIDE APPROPRIATE SIGNAGE AS NEEDED.

CITY OF RIVIERA BEACH WATER AND SEWER AS-BUILTS

1. AT THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE A CERTIFIED AS-BUILT SURVEY. THE SURVEY SHALL BE DELIVERED IN ONE (1) REPRODUCIBLE MYLAR COPY, THREE BLUE LINE COPIES AND ONE (1) ELECTRONIC FILE IN AN APPROVED CADD FORMAT ON CD-ROM. THE AS-BUILT SURVEY SHALL BE PREPARED IN PLAN AND PROFILE FORMAT BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA AND SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE FLORIDA ADMINISTRATIVE CODE AND CHAPTER 472 OF THE FLORIDA STATUTES. THE DRAWINGS SHALL BE AT A SCALE COMPARABLE THE THE DESIGN DRAWINGS PREPARED BY THE ENGINEER AND SHALL REFERENCE THE BASELINE OF SURVEY APPEARING ON THE ENGINEERING DRAWINGS. THE HORIZONTAL AND VERTICAL LOCATIONS OF ROADWAYS, PARKING AREAS, DRAINAGE FACILITIES, WATER MAINS, SEWER MAINS AND APPURTENANCES SHALL BE ACCURATELY DEPICTED TO SCALE AND SHALL BE IDENTIFIED RELATIVE TO THE BASELINE AND ANY READILY IDENTIFIABLE PERMANENT OR SEMI-PERMANENT REFERENCE POINTS EXISTING AFTER COMPLETION OF CONSTRUCTION.

CITY OF RIVIERA BEACH (CONT'D.) WATER AND SEWER AS-BUILTS

LOCATIONS SHALL BE ESTABLISHED AT INTERVALS NOT EXCEEDING ONE HUNDRED FEET (100') AS MEASURED ALONG ROADWAYS AND/OR UTILITY WATER/SEWER MAINS. PROFILES SHALL ACCURATELY REFLECT THE VERTICAL LOCATIONS OF ALL PIPES AND THE FINISHED GRADES OVER THEM. PIPE SIZE AND MATERIAL SHALL BE IDENTIFIED ON BOTH THE PLAN AND PROFILE VIEWS. UNDERGROUND UTILITIES CROSSING THE MAINS OR PARALLELING THEM WITHIN TWENTY FEET (20') SHALL BE IDENTIFIED BY TYPE, SIZE AND MATERIAL AND SHALL BE ACCURATELY SHOWN BOTH HORIZONTALLY AND VERTICALLY. SURVEY DRAWINGS PROVIDED SHALL BEAR THE ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE SURVEYOR.

- 2. ADDITIONAL AS-BUILT DATA MAY BE REQUIRED IN ACCORDANCE WITH SOUTH FLORIDA WATER MANAGEMENT DISTRICT AND PALM BEACH COUNTY HEALTH DEPARTMENT PERMITS FOR THIS PROJECT.
- 3. CERTIFICATION: CERTIFIED AS-BUILTS ARE TO BE PROVIDED BY A STATE OF FLORIDA LICENSED LAND SURVEYOR. CERTIFIED AS-BUILTS SHALL ACCURATELY REFLECT ALL FIELD DESIGN REVISIONS MADE DURING THE CONSTRUCTION PROCESS. ALL REQUIRED AS-BUILT INFORMATION SHALL BE CLEARLY SHOWN ON THE ORIGINAL DESIGN DRAWINGS APPROVED FOR CONSTRUCTION BY THE CITY OF RIVIERA BEACH. A NEW SET OF AUTOCAD PREPARED DRAWINGS AND DIGITAL FILES (.DWG FORMAT) SHOWING THE OVERALL WATER AND/OR SEWER SYSTEM LAYOUT ALONG WITH THE PROPERTY OR SUBDIVISION BOUNDARIES MUST BE SUBMITTED WHICH ARE BASED UPON THE AS-BUILT INFORMATION. IN EITHER CASE, EACH SHEET OF THE AS-BUILT PLANS SHALL INCLUDE THE FOLLOWING STATEMENT ALONG WITH THE PROFESSIONAL SURVEYOR'S STAMP AND DATE OF EXPIRATION OF SAID STAMP. THE STAMP SHALL BE SIGNED AND THE EXPIRATION DATE FILLED IN. THE STATEMENT SHOULD BE LOCATED IN THE BOTTOM LEFT HAND CORNER OF THE AS-BUILT DRAWING WHENEVER POSSIBLE.
 - "I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS

PROFESSIONAL PLS STAMP, EXPIRATION DATE & SIGNATURE

ACCEPTABLE FORMAT:

- COORDINATE VALUES IN STATE PLANE COORDINATE SYSTEM, NAD 1983 FLORIDA EAST FIPS 0901 (FEET)
- ALL ELEVATIONS WILL BE BASED ON NGVD29
- 4. MINIMUM AS-BUILT REQUIREMENTS: THE FOLLOWING AS-BUILT REQUIREMENTS ARE INTENDED TO PROVIDE A GUIDE AS TO THE MINIMUM CRITERIA FOR DEVELOPERS, ENGINEERS OF RECORD, AND LICENSED LAND SURVEYORS, AND SHOULD BE USED ALONG WITH GOOD ENGINEERING AND SURVEYING PRACTICES FOR THE TYPE OF PROJECT AND AS THE SITUATION WARRANTS.

GENERAL:

- IDENTIFY AND SHOW ON THE "AS-BUILT PLANS" ALL EXISTING OR ABANDONED UTILITIES THAT WERE ENCOUNTERED DURING CONSTRUCTION THAT WERE NOT SHOWN ON THE DESIGN PLANS OR THAT WERE SHOWN ON THE DESIGN PLANS INCORRECTLY.
- THE PREFERRED METHOD TO SHOW LOCATIONS (BOTH FOR PROPOSED CONSTRUCTION AND AS-BUILTS) IS BY THE USE OF SURVEY LINES OR CENTERLINES BETWEEN EXISTING SURVEY MONUMENTS WITH SUITABLE DISTANCES (OR STATIONS) AND OFFSETS GIVEN RELATIVE TO THESE LINES.
- THE USE OF ASSUMED ELEVATIONS IS NOT ACCEPTABLE, ALTHOUGH THE UTILITIES DEPARTMENT MAY AT ITS OPTION ACCEPT DEPTHS MEASURED WITH RESPECT TO THE TOP OF EXISTING PAVEMENT SURFACES, IN LIEU OF ACTUAL ELEVATIONS, DEPENDING ON THE SCOPE OF THE PROPOSED PROJECT.
- 5. IN ADDITION, THE FOLLOWING INFORMATION SHALL BE SHOWN/CORRECTED ON THE "AS-BUILT PLANS":

SANITARY SEWER:

- MANHOLES: LOCATIONS, TYPES, RIM AND INVERT ELEVATIONS.
- SEWER LINES: LOCATIONS, MATERIALS, LENGTHS, SLOPES DIAMETERS, ELEVATIONS ALONG THE TOP OF THE PIPE AT 100 FOOT MAXIMUM INTERVALS, DIAMETER AND LOCATIONS OF SIDE SEWER TEES AND STUBOUTS, AND INVERT ELEVATIONS.
- SIDE SEWER LINES: TEE LOCATIONS, MATERIALS, LENGTHS, SLOPES, DIAMETER, INVERT ELEVATIONS, AND DEPTHS OF BURIED STUBOUTS. - PUBLIC UTILITY EASEMENTS: LEGAL DESCRIPTIONS, WIDTHS, AND
- LOCATION OF SANITARY APPURTENANCES WITHIN THE EASEMENT. - TV REPORTS: IF REQUIRED COMPARISON OF SIDE SEWER LOCATIONS
- SHOWN ON SEWER LINE AS-BUILTS WITH THE TV REPORTS.

WATER SYSTEM:

- WATER MAIN PIPES: LOCATIONS, MATERIALS, DEPTHS OR ELEVATIONS AT 100 FOOT MAXIMUM INTERVALS AND AT ALL UTILITY CROSSINGS, LENGTHS, AND DIAMETERS.
- WATER VALVES: LOCATIONS, TYPES, ALIGNMENT, AND DEPTH OR ELEVATION.
- FIRE HYDRANTS: LOCATIONS, SIZES, AND ALIGNMENT.

- BLOW-OFFS: LOCATIONS, SIZES, AND ALIGNMENT.

- AIR AND VACUUM RELIEF VALVES: LOCATIONS, VAULT SIZES, DEPTHS,
- AND ALIGNMENT

CITY OF RIVIERA BEACH (CONT'D.) WATER AND SEWER AS-BUILTS

- PRESSURE REDUCING VALVE: LOCATION, VAULT SIZE, DEPTH, ALIGNMENT, AND AS-CONSTRUCTED CLEARANCES WITHIN VAULT.

- WATER MAIN BLOCKING: LOCATION AND APPROXIMATE VOLUME/BEARING SURFACE AREA.

- WATER METERS: LOCATION AND SIZE.
- WATER SERVICE LINES: CORP LOCATION, MATERIALS, DIAMETER, LENGTHS, DEPTH, AND STUBOUT LOCATION. DETAILED OR COMPLEX CONNECTIONS: AS APPLICABLE FOR SITUATION.

- FIRE FLOW LINES: LOCATION, MATERIALS, DIAMETER, LOCATION AND SIZE OF DETECTOR VAULT, AND ANY REVISIONS MADE TO DETECTOR APPURTENANCES DURING CONSTRUCTION.

SUGGESTED SEQUENCE OF CONSTRUCTION

CONTRACTOR SHALL BUILD ISLAND DRIVE SOUTH BRIDGES (EASTBOUND). THEN ISLAND DRIVE NORTH BRIDGES (WESTBOUND), THEN GRAND BAHAMA BRIDGES. WORK ON THE GRAND BAHAMA BRIDGES MAY OVERLAP WORK ON THE ISLAND DRIVE BRIDGES BUT MAY ONLY BEGIN ONCE THE CITY HAS OBTAINED THE RIGHT OF WAY CLIPS. THE CONTRACTOR SHALL TAKE NOTE OF THE EMERGENCY REPAIRS THAT THE CITY WILL/HAS IMPLEMENTED AND CONSIDER THEM TO BE EXISTING CONDITIONS. THE CONTRACTOR SHALL MAINTAIN STEEL PLATES ON THE GRAND BAHAMA LANE BRIDGES UNTIL THEY ARE REPLACED. THE FOLLOWING SEQUENCE SHALL BE FOLLOWED UNLESS OTHERWISE APPROVED BY THE ENGINEER AND CITY: ISLAND DRIVE:

- 1. CONSTRUCT SOUTH BRIDGE, USE NORTH BRIDGE FOR ALL TRAFFIC A. ESTABLISH MOT
- - i. INSTALL TEMPORARY PAVEMENT AS NEEDED ii. INSTALL TEMPORARY SIGNALS EAST AND WEST OF THE NORTH
- BRIDGE TO MANAGE ONE LANE TRAFFIC ON THE NORTH BRIDGE iii. ESTABLISH MAINTENANCE OF UTILITIES - INSTALL TEMPORARY WATER MAIN ON THE SURFACE TO MAINTAIN SERVICE TO RESIDENTS THROUGHOUT CONSTRUCTION
- B. CONSTRUCT SOUTH BRIDGE INCLUDING WATER MAIN, FORCE MAIN, GAS MAIN CONDUIT
- C. REMOVE TEMPORARY PAVEMENT AS APPROPRIATE
- 2. CONSTRUCT NORTH BRIDGE, USE SOUTH BRIDGE FOR ALL TRAFFIC A. ESTABLISH MOT
 - i. ADJUST TEMPORARY PAVEMENT AS NEEDED
 - ii. ADJUST TEMPORARY SIGNALS EAST AND WEST OF THE SOUTH BRIDGE TO MANAGE ONE LANE TRAFFIC ON THE SOUTH BRIDGE
- B. CONSTRUCT NORTH BRIDGE INCLUDING CONDUITS FOR ELECTRIC, CATV, PHONE
- 3. INSTALL PERMANENT PAVEMENT MARKINGS AND SIGNS, REMOVE MOT AND DEMOBILIZE

GRAND BAHAMA DRIVE: (SEE BRIDGE SHEET B-17)

- 1. DEMOLISH AND RECONSTRUCT THE SOUTH HALF OF THE BRIDGE, USE NORTH HALF FOR ALL TRAFFIC
- A. ESTABLISH MOT
- INSTALL TEMPORARY PAVEMENT AS NEEDED
- INSTALL TEMPORARY SIGNALS EAST AND WEST OF THE BRIDGE TO MANAGE ONE LANE TRAFFIC ON THE BRIDGE
- iii. INSTALL TEMPORARY BARRIER WALL
- iv. ESTABLISH MAINTENANCE OF UTILITIES INSTALL TEMPORARY FORCE MAIN ON THE SURFACE TO MAINTAIN SERVICE TO RESIDENTS THROUGHOUT CONSTRUCTION
- B. CONSTRUCT APPROACH SLABS
- C. DEMOLISH SOUTH HALF OF BRIDGE
- D. CONSTRUCT SOUTH HALF OF BRIDGE, INCLUDING FORCE MAIN
- 2. DEMOLISH AND RECONSTRUCT NORTH HALF OF THE BRIDGE, USE SOUTH HALF FOR ALL TRAFFIC

A. ADJUST MOT

- i. ADJUST TEMPORARY PAVEMENT AS NEEDED
- ii. ADJUST TEMPORARY SIGNALS AS NEEDED.
- iii. ADJUST TEMPORARY BARRIER WALL
- iv. ESTABLISH MAINTENANCE OF UTILITIES INSTALL TEMPORARY UTILITIES ON THE SURFACE TO MAINTAIN SERVICE TO RESIDENTS THROUGHOUT CONSTRUCTION.
- B. DEMOLISH NORTH HALF OF BRIDGE
- C. CONSTRUCT NORTH HALF OF BRIDGE, INCLUDING UTILITIES
- D. CONSTRUCT FINAL BARRIER WALLS AND PLANTERS

UTILITIES CONTACT INFORMATION

COMCAST BOCA DELRAY 1495 NW BRITT ROAD STUART, FLORIDA 34944 PHONE: (561) 804-0973 CONTACT: TONY SPRINGSTEEL

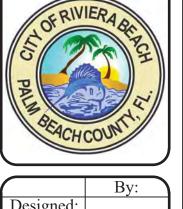
CITY OF RIVIERA BEACH UTILITIES 600 W. HERON BLVD. RIVIERA BEACH, FLORIDA 33404 PHONE: (561) 845-4185 CONTACT: LEIGHTON WALKER

FLORIDA POWER & LIGHT - PALM BEACH 2900 CATHERINE STREET PALATKA, FLORIDA 32177 PHONE: (800) 868-9554, EXT 4 THEN 3 CONTACT: TRACY STERN

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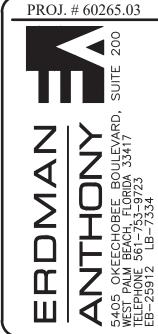
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THE FOLLOWING NARRATIVE OF THE STORMWATER POLLUTION PREVENTION PLAN CONTAINS REFERENCES TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTIONS, THE DESIGN STANDARD, AND OTHER SHEETS OF THESE CONSTRUCTION PLANS. THE COMPLETE STORMWATER POLLUTION PREVENTION PLAN INCLUDES SEVERAL ITEMS: THIS NARRATIVE DESCRIPTION, THE DOCUMENTS REFERENCED IN THIS NARRATIVE, THE CONTRACTOR'S APPROVED EROSION CONTROL PLAN REQUIRED BY SPECIFICATION SECTION 104, AND REPORTS OF INSPECTIONS MADE DURING CONSTRUCTION.

1.0 <u>SITE DESCRIPTION:</u>

1.A. NATURE OF CONSTRUCTION ACTIVITY:

THE PROJECT INVOLVES THE RECONSTRUCTION OF THE BRIDGES LOCATED IN THE PALM BEACH ISLES COMMUNITY ON SINGER ISLAND IN THE CITY OF RIVIERA BEACH. THERE ARE SIX BRIDGES: TWO BRIDGES ON THE ISLAND DRIVE ENTRANCE BRIDGE, TWO BRIDGES ON THE ISLAND DRIVE EXIT BRIDGE, AND TWO BRIDGES ON GRAND BAHAMA LANE. THE PROPOSED WORK ALSO INCLUDES THE REPLACEMENT OF THE WATER MAINS AND SEWER FORCE MAINS, AS WELL AS THE RELOCATION OF THE GAS MAINS, TELEPHONE LINES, ELECTRIC LINES, AND CABLE LINES LOCATED ON, BELOW OR ABOVE THE EXISTING BRIDGES.

1.B. SOIL CONSERVATION PLAN:

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A SPECIFIC SOIL CONSERVATION PLAN/CONTROL PLAN TO THE OWNER/ENGINEER FOR REVIEW AND APPROVAL. THE PLANS SHALL DESCRIBE THE PROVISIONS FOR ASSURING THAT ALL ONSITE SOILS SHALL REMAIN ONSITE DURING CONSTRUCTION AND WILL NOT ERODE INTO ADJACENT PROPERTIES, ADJACENT ROADSIDE SWALES, OR RETENTION AREAS. AS A MINIMUM THE PLANS SHALL INCLUDE THE FOLLOWING:

- 1. ALL EXISTING DRAINAGE SWALES SHALL REMAIN SODDED DURING CONSTRUCTION.
- 2. SCARIFICATION SHALL BE PERFORMED ONLY TO THE EXTENT ABSOLUTELY NECESSARY.
- 3. HAY BALES AND SILTATION FENCES (PER FDOT INDEX 102) SHALL BE USED DURING CONSTRUCTION TO PROTECT OFFSITE AREAS FROM DISCHARGE.
- 4. HAY BALES AND SILTATION FENCES (PER FDOT INDEX 102) SHALL BE USED DURING CONSTRUCTION TO PROTECT DRAINAGE SWALES AND RETENTION AREAS FROM ANY DEWATERING AND/OR PUMPING OF WATER.
- 5. ALL DISTRIBUTED AREAS SHALL BE SODDED AS SOON AS PRACTICAL TO PREVENT EROSION.
- 6. DRAINAGE SWALES AND RETENTION AREAS SHALL BE STABILIZED AND SODDED IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.

1.C. SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

THE CONTRACTOR SHALL PROVIDE A DETAILED SEQUENCE OF CONSTRUCTION FOR ALL CONSTRUCTION ACTIVITIES. FOR EACH CONSTRUCTION PHASE, INSTALL PERIMETER CONTROLS AFTER CLEARING AND GRUBBING NECESSARY FOR INSTALLATION OF THE CONTROLS, BUT BEFORE BEGINNING OF OTHER WORK FOR THE CONSTRUCTION PHASE. REMOVE PERIMETER CONTROLS ONLY AFTER ALL UPSTREAM AREAS ARE STABILIZED.

- 1. THE CONTRACTOR SHALL EXECUTE THE NOTICE OF INTENT AND SUBMIT IT TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, TOGETHER WITH THE APPROPRIATE FEE, PRIOR TO THE PRE-WORK MEETING AND SHALL PROVIDE A COPY OF THOSE DOCUMENTS TO THE OWNER TOGETHER WITH THE SHOP DRAWING SUBMITTAL.
- 2. THE CONTRACTOR SHALL EXECUTE THE NOTICE OF TERMINATION AND SUBMIT IT TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION WITHIN 10 DAYS OF COMPLETING THE CONSTRUCTION EFFORT AND SUBMIT A COPY OF THOSE DOCUMENTS TO THE OWNER WITH THE FINAL PAY APPLICATION.

1.D. AREA ESTIMATES:

TOTAL PROJECT AREA: 6.47 ACRES TOTAL IMPERVIOUS AREA: 5.38 ACRES TOTAL PERVIOUS AREA: 1.09 ACRES TOTAL AREA TO BE DISTURBED: 6.47 ACRES

1.E. RUNOFF DATA:

RUNOFF COEFFICIENTS: BEFORE 0.80 **DURING: 0.80** AFTER: 0.80

SOILS DATA: IN GENERAL, THE SOILS ARE RIVIERA FINE SAND, RIVIERA FINE SAND DEPRESSIONAL, AND BOCA FINE SAND.

OUTFALL INFORMATION: STORM WATER RUNOFF IS DIRECTED INTO ROADSIDE INLETS WITH EXFILTRATION TRENCHES IN BETWEEN INLETS TO TREAT FOR THE FIRST FLUSH OF STORMWATER RUNOFF FROM IMPERVIOUS AREA, AND THEN OVERFLOWS INTO THE INTRA-COASTAL WATERWAY.

1.F. SITE MAP:

THE CONSTRUCTION PLANS ARE BEING USED AS THE SITE MAPS. THE LOCATION OF THE REQUIRED INFORMATION IS DESCRIBED BELOW. THE SHEET NUMBERS FOR THE PLAN SHEETS REFERENCED ARE IDENTIFIED ON THE KEY SHEET OF THESE CONSTRUCTION PLANS.

- * APPROXIMATE SLOPES: THE SLOPES OF THE SITE CAN BE SEEN IN THE PLAN-PROFILE SHEETS.
- * AREAS OF SOIL DISTURBANCE: THE AREAS TO BE DISTURBED ARE INDICATED ON THE PLAN-PROFILE SHEETS, ANY AREAS WHERE PERMANENT FEATURES ARE SHOWN TO BE CONSTRUCTED ABOVE OR BELOW GROUND WILL BE DISTURBED.
- * AREAS NOT TO BE DISTURBED: ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION WILL BE DISTURBED DURING CONSTRUCTION.
- * LOCATIONS OF TEMPORARY CONTROLS: NO TEMPORARY CONTROLS ARE ANTICIPATED.
- * LOCATIONS OF PERMANENT CONTROLS: THESE ARE SHOWN ON THE CONSTRUCTION PLAN SHEETS.
- * AREAS TO BE STABILIZED: PERMANENT STABILIZATION IS SHOWN ON THE TYPICAL SECTION SHEETS AND THE PLAN-PROFILE SHEETS.

1.G. RECEIVING WATERS: INTRA-COASTAL WATERWAY

2.0 CONTROLS:

2.A. EROSION AND SEDIMENT CONTROLS:

THE CONTRACTOR SHALL DESCRIBE THE PROPOSED STABILIZATION AND STRUCTURAL PRACTICES BASED ON THE CONTRACTOR'S PROPOSED TRAFFIC CONTROL PLAN. THE CONTRACTOR MAY CHOOSE TO ACCEPT THE FOLLOWING RECOMMENDED GUIDELINES OR MODIFY THEM SUBJECT TO APPROVAL OF THE ENGINEER. AS WORK PROGRESSES, THE CONTRACTOR SHALL MODIFY THE PLAN TO ADAPT TO SEASONAL VARIATION, CHANGES IN CONSTRUCTION ACTIVITIES, AND THE NEED FOR BETTER PRACTICES.

- 1. THE PROJECT SHALL BE CONSTRUCTED IN A MANNER SO AS TO MINIMIZE ANY ADVERSE IMPACTS TO FISH AND WILDLIFE. COUNTERMEASURES SHALL BE EMPLOYED BY THE CONTRACTOR DURING CONSTRUCTION AS REQUIRED TO PROTECT ON-SITE WATER QUALITY AND OFF-SITE DISCHARGES.
- 2. EROSION, SHOALING AND/OR WATER QUALITY PROBLEMS CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE IMMEDIATELY CORRECTED.
- 3. FOR EACH CONSTRUCTION PHASE, INSTALL PERIMETER CONTROLS AFTER CLEARING AND GRUBBING NECESSARY FOR INSTALLATION OF THE CONTROLS BUT BEFORE BEGINNING OF OTHER WORK FOR THE CONSTRUCTION PHASE.
- 4. REMOVE PERIMETER CONTROLS ONLY AFTER ALL UPSTREAM AREAS ARE STABILIZED.

2.A.1 STABILIZATION PRACTICES:

THE CONTRACTOR SHALL DESCRIBE THE STABILIZATION PRACTICES PROPOSED TO CONTROL EROSION. THE CONTRACTOR SHALL INITIATE ALL STABILIZATION MEASURES AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 14 DAYS, IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. THE STABILIZATION PRACTICES SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

- * ARTIFICIAL COVERINGS IN ACCORDANCE WITH SPECIFICATION SECTION 104.
- * SEED AND MULCH, AND SOD IN ACCORDANCE WITH SPECIFICATION SECTION 104.

- * ASPHALT OR CONCRETE SURFACE.
- * SOD IN ACCORDANCE WITH SPECIFICATION SECTION 981

2.A.2 STRUCTURAL PRACTICES:

THE CONTRACTOR SHALL DESCRIBE THE PROPOSED STRUCTURAL PRACTICES TO CONTROL OR TRAP SEDIMENTS AND OTHERWISE PREVENT THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE. SEDIMENT CONTROLS SHALL BE IN PLACE BEFORE DISTURBING SOIL UPSTREAM OF THE CONTROL. THE STRUCTURAL PRACTICES SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

TEMPORARY:

- * SILT FENCE IN ACCORDANCE WITH SPECIFICATION SECTION 104.
- * SYNTHETIC BALES IN ACCORDANCE WITH SPECIFICATIONS SECTION 104.
- * SANDBAGS TO CONTROL EROSION AND TRAP SILT.
- * INLET PROTECTION IN ACCORDANCE WITH SPECIFICATIONS SECTION 104.

PERMANENT:

* SOD IN ACCORDANCE WITH SPECIFICATIONS SECTION 981.

2.B. STORMWATER MANAGEMENT:

SEVERAL STORM SEWER SYSTEMS WITH EXFILTRATION TRENCHES WILL BE CONSTRUCTED TO CONVEY RUNOFF TO THE INTRA-COASTAL WATERWAY.

2.C. OTHER CONTROLS:

2.C.1 WASTE DISPOSAL

THE CONTRACTOR SHALL DESCRIBE THE PROPOSED METHODS TO PREVENT THE DISCHARGE OF SOLID MATERIALS, INCLUDING BUILDING MATERIALS, TO WATERS OF THE UNITED STATES. THE PROPOSED METHODS SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

- * PROVIDING LITTER CONTROL AND COLLECTION WITHIN THE PROJECT DURING CONSTRUCTION ACTIVITIES.
- * DISPOSING OF ALL FERTILIZER OR OTHER CHEMICAL CONTAINERS ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER.
- * DISPOSING OF SOLID MATERIALS INCLUDING BUILDING AND CONSTRUCTION MATERIALS OFF THE PROJECT SITE BUT NOT IN SURFACE WATERS, OR WETLANDS

2.C.2 OFF-SITE VEHICLE TRACKING & DUST CONTROL:

THE CONTRACTOR SHALL DESCRIBE THE PROPOSED METHODS FOR MINIMIZING OFFSITE VEHICLE TRACKING OF SEDIMENTS AND GENERATING DUST. THE PROPOSED METHODS SHALL INCLUDE AT LEAST THE FOLLOWING, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

- * COVERING LOADED HAUL TRUCKS WITH TARPAULINS.
- * REMOVING EXCESS DIRT FROM ROADS DAILY.
- * STABILIZING CONSTRUCTION ENTRANCES ACCORDING TO SPECIFICATIONS SECTION 104.
- * USING ROADWAY SWEEPERS DURING DUST GENERATING ACTIVITIES SUCH AS EXCAVATION AND MILLING OPERATIONS.

2.C.3 STATE AND LOCAL REGULATIONS FOR WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK **REGULATIONS:**

THE CONTRACTOR SHALL DESCRIBE THE PROPOSED PROCEDURES TO COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS FOR WASTE DISPOSAL, AND SANITARY SEWER OR SEPTIC SYSTEMS.

2.C.4 FERTILIZERS AND PESTICIDES:

THE CONTRACTOR SHALL DESCRIBE THE PROPOSED PROCEDURES FOR APPLYING FERTILIZERS AND PESTICIDES. THE PROPOSED PROCEDURES SHALL COMPLY WITH APPLICABLE SUBSECTIONS OF EITHER SECTION 570 OR 982 OF THE SPECIFICATIONS.

2.C.5 TOXIC SUBSTANCES:

THE CONTRACTOR SHALL PROVIDE A LIST OF TOXIC SUBTANCES THAT ARE LIKELY TO BE USED ON THE JOB AND PROVIDE A PLAN ADDRESSING THE GENERATION, APPLICATION, MIGRATION, STORAGE, AND DISPOSAL OF THESE SUBSTANCES.

3.0 MAINTENANCE:

- 1. THE CONTRACTOR SHALL PROVIDE A PLAN FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROLS THROUGHOUT CONSTRUCTION. THE MAINTENANCE PLAN SHALL AT A MINIMUM, COMPLY WITH THE FOLLOWING.
- * SILT FENCE: MAINTAIN PER SECTION 104. THE CONTRACTOR SHOULD ANTICIPATE REPLACING SILT FENCE ON 12 MONTH INTERVALS.
- * SYNTHETIC BALES REMOVE SEDIMENT WHEN IT REACHES 1/3 HEIGHT OF BALES OR WHEN WATER PONDS IN UNACCEPTABLE AMOUNTS OR AREAS. THE CONTRACTOR SHOULD ANTICIPATE REPLACING BALES ON 3-MONTH INTERVALS.

4.0 INSPECTIONS:

- 1. QUALIFIED PERSONNEL SHALL INSPECT THE FOLLOWING ITEMS AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.25 INCHES OR GREATER. TO COMPLY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN RAIN GAGES AND RECORD THE DAILY RAINFALL. WHERE SITES HAVE BEEN PERMANENTLY STABILIZED, INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH. THE CONTRACTOR SHALL ALSO INSPECT THAT CONTROLS INSTALLED IN THE FIELD AGREE WITH THE LATEST STORMWATER POLLUTION PREVENTION PLAN.
- * POINTS OF DISCHARGE TO WATERS OF THE UNITED STATES.
- * POINTS OF DISCHARGE TO MUNICIPAL SEPARATE STORM SEWER SYSTEMS.
- * DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
- * AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION.
- * STRUCTURAL CONTROLS.
- * STORMWATER MANAGEMENT SYSTEMS.
- * LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE.
- 2. THE CONTRACTOR SHALL INITIATE REPAIRS WITHIN 24 HOURS OF INSPECTIONS THAT INDICATE ITEMS ARE NOT IN GOOD WORKING ORDER. IF INSPECTIONS INDICATE THAT THE INSTALLED STABILIZATION AND STRUCTURAL PRACTICES ARE NOT SUFFICIENT TO MINIMIZE EROSION, RETAIN SEDIMENTS, AND PREVENT DISCHARGING POLLUTANTS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL MEASURES, AS APPROVED BY THE ENGINEER.

5.0 NON-STORMWATER DISCHARGES:

- 1. THE CONTRACTOR SHALL IDENTIFY ALL ANTICIPATED NON-STORMWATERDISCHARGES (EXCEPT FLOWS FROM FIRE FIGHTING ACTIVITIES). THE CONTRACTOR SHALL DESCRIBE THE PROPOSED MEASURES TO PREVENT POLLUTION OF THESE NON-STORMWATER DISCHARGES. IF THE CONTRACTOR ENCOUNTERS CONTAMINATED SOILS OR GROUNDWATER, CONTACT THE CITY OF RIVIERA BEACH.
- 2. NON-STORMWATER DISCHARGES (AS PROVIDED IN PART IV.A.3 DEP DOCUMENT NO. 62-621.300(4)(A)) SHALL NOT CAUSE EROSION OR CREATE TURBIDITY WITHIN THE RECEIVING BODY AND SHALL BE IN COMPLIANCE WITH REGULATORY REQUIREMENTS. THESE DISCHARGES MAY INCLUDE WATER LINE FLUSHING, FIRE FIGHTING ACTIVITIES, FIRE HYDRANT FLUSHING, DUST CONTROL, IRRIGATION DRAINAGE AND AIR CONDITIONING CONDENSATE AND WATER USED TO SPRAY OFF LOOSE SOLIDS FROM VEHICLES (WASTEWATER FROM A MORE THOROUGH CLEANING. INCLUDING THE USE OF DETERGENTS OR OTHER CLEANERS IS NOT PERMITTED).

6.0 STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

- 1. THE CONTRACTOR IS REQUIRED TO ADHERE TO THE REQUIREMENT OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES). THE CONTRACTOR SHALL INSTITUTE BEST MANAGEMENT PRACTICES (BMPS) TO ENSURE COMPLIANCE WITH THE NPDES PROGRAM AND TO MINIMIZE THE IMPACT TO PUBLIC STORMWATER FACILITIES. A NOTICE OF INTENT (NOI) SHALL BE FILED PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.
- 2. PRIOR TO CONSTRUCTION, A SILT FENCE IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 104 TYPE III SILT FENCE WILL BE ERECTED ALONG OF THE PERIMETER OF THE CONSTRUCTION SITE.
- 3. ALL EXISTING AND PROPOSED CATCH BASINS WILL HAVE THEIR INLETS PROTECTED.
- 4. CONTRACTOR WILL BRACE ALL EXISTING LANDSCAPING TO REMAIN PRIOR TO BEGINNING ANY WORK AND WILL ENSURE THEIR STABILIZATION THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. EXISTING SOD DISTURBED BY CONSTRUCTION THAT IS NOT AFFECTED BY PROPOSED GRADING WILL BE RESTORED TO ITS ORIGINAL STATE UPON COMPLETION OF CONSTRUCTION. SODDED SLOPES STEEPER THAN 4 HORIZONTAL TO 1 VERTICAL WILL BE PEGGED.
- 5. ALL WASTE GENERATED FROM THE CONSTRUCTION SHALL BE DISCARDED IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. CONTRACTOR IS TO OBTAIN ALL APPLICABLE CODES AND BECOME FAMILIAR WITH STATE, LOCAL AND FEDERAL REGULATIONS PRIOR TO BEGINNING CONSTRUCTION. REGULATIONS CAN BE FOUND, BUT NOT LIMITED TO, DEPARTMENT OF ENVIRONMENTAL RESOURCE MANAGEMENT AND DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- 6. DUST GENERATED FROM CONSTRUCTION WILL BE MINIMIZED.



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Drawing Reference Number G-05Sheet $\underline{5}$ of $\underline{41}$

6.0 STORMWATER POLLUTION PREVENTION PLAN (SWPPP): Continued

- 7. AT ANY TIME DURING CONSTRUCTION THAT THE SILT FENCING IS DISTURBED, THE SILT FENCING WILL BE RESTORED TO ITS ORIGINAL STATE WITHIN 24 HOURS. AT NO TIME DURING CONSTRUCTION SHALL WORK BE PERFORMED WITHOUT THE INTEGRITY OF THE FENCING SECURED.
- 8. A QUALIFIED INSPECTOR, PROVIDED BY THE CONTRACTOR, SHALL INSPECT ALL POINTS OF DISCHARGE INTO SURFACE WATER. THE INSPECTION WILL OCCUR AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER. INSPECTION INCLUDES THE WRITTEN RECORDING OF THE CONDITION OF ALL DISCHARGE POINTS, INTEGRITY OF SILT FENCING, DAILY DUST CONTROL MEASURES, VEHICULAR TRAFFIC AND CONSTRUCTION MATERIAL STORAGE AND DISPOSAL. WRITTEN RECORD OF ALL INSPECTIONS WILL BE STORED BY THE OPERATOR DURING CONSTRUCTION.
- 9. THE INSPECTION REPORT WILL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING INFORMATION: NAME AND QUALIFICATION OF PERSONNEL MAKING THE INSPECTION, DATE OF INSPECTION, RAINFALL DATA, MAJOR OBSERVATIONS RELATING TO THE SWPPP, ACTIONS TAKEN BY CONTRACTOR AND ANY INCIDENT OF NONCOMPLIANCE WITH PERMIT. WHERE AN INSPECTION DOES NOT IDENTIFY ANY INCIDENT OF NONCOMPLIANCE. THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE SWPPP AND THE PERMIT. THE PERMITTEE SHALL RETAIN A COPY OF THE SWPPP AND ALL REPORTS, RECORDS AN DOCUMENTATION REQUIRED BY THE PERMIT AT THE CONSTRUCTION SITE, OR AN APPROPRIATE ALTERNATIVE LOCATION AS SATISFIED IN THE NOTICE OF INTENT, FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.
- 10. THE PERMITTEE SHALL RETAIN COPIES OF SWPPP AND ALL REPORTS REQUIRED BY THE PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THE PERMIT FOR A PERIOD OF AT LEAST THREE (3) YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED.

6.A. GENERAL NOTES:

- 1. A SOIL TRACKING PREVENTION DEVICE (STPD) SHALL BE CONSTRUCTED AT LOCATIONS OF EGRESS FROM UNSTABILIZED AREAS OF THE PROJECT TO PUBLIC ROADS WHERE OFFSITE TRACKING OF MUD COULD OCCUR. TRAFFIC FROM UNSTABILIZED AREAS OF THE CONSTRUCTION PROJECT SHALL BE DIRECTED THROUGH A STPD. BARRIERS,FLAGGING, OR OTHER POSITIVE MEANS SHALL BE USED AS REQUIRED TO LIMIT AND DIRECT VEHICULAR EGRESS ACROSS THE STPD.
- 2. THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE TECHNIQUE TO MINIMIZE OFFSITE TRACKING OF SEDIMENT. THE ALTERNATIVE MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ITS USE.
- 3. ALL MATERIALS SPILLED, DROPPED, OR TRACKED ONTO PUBLIC ROADS (INCLUDING THE STPD AGGREGATE AND CONSTRUCTION MUD) SHALL BE REMOVED. DAILY, OR MORE FREQUENTLY, IF SO DIRECTED BY THE ENGINEER.

7.0 DEWATERING NOTES:

- 1. DEWATERING (WELL-POINT) SYSTEM TO COMPLY WITH ALL REQUIREMENTS OF THE SFWMD WATER USE PERMIT.
- 2. CONTRACTOR SHALL SUBMIT DEWATERING PLAN TO THE CITY OF RIVIERA BEACH PRIOR TO OPERATION FOR APPROVAL BY CITY.
- 3. DEWATERING SYSTEM SHALL EMPLOY SEDIMENTATION TANKS OR OTHER SUCH DEVICES PRIOR TO DISCHARGE INTO THE EXISTING STORMWATER SYSTEM TO INSURE THAT ALL APPLICABLE STATE WATER QUALITY STANDARDS ARE BEING MET. DISCHARGE SHALL BE DIRECTED AT EXISTING CATCH BASIN WITHOUT POSSIBILITY OF CREATING STANDING WATER OR FLOODING ONTO ROADWAY OR ADJACENT PROPERTY.
- 4. PUMPS SHALL BE EQUIPPED WITH CONTROLS WHICH CAN BE UTILIZED TO AUTOMATICALLY SHUT DOWN THE SYSTEM IN THE EVENT THAT A MAJOR STORM APPROACHES WHICH COULD POTENTIALLY FLOOD THE DISCHARGE SYSTEM.
- 5. CONTRACTOR SHALL MONITOR DSCHARGE WATERS FOR NTU LEVELS EVERY DAY DURING DEWATERING OPERATIONS AND MAINTAIN A LOG OF EACH MEASUREMENT TAKEN.

8.0 <u>TYPICAL DEWATERING PROCESS:</u>

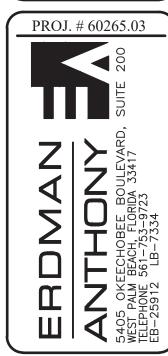
- 1. WELLPOINT SYSTEM IS INSTALLED AT A MAXIMUM OF 200' PER RUN.
- 2. INSTALL FLOATING TURBIDITY BARRIER AT THE OUTFALL LOCATION.
- 3. SETUP PUMP #1 TO PUMP GROUNDWATER FROM WELLPOINTS TO THE NEAREST DISCHARGE INLET.
- 4. TURBIDITY MEASUREMENTS OF THE DEWATERING WATER SHALL BE MADE DAILY PRIOR TO DISCHARGE AND SUBMITTED TO SFWMD WEEKLY. IF TURBIDITY LEVELS IN THE DEWATERING WATER EXCEEDS 29NTU ABOVE BACKGROUND CONDITIONS IN THE RECEIVING WATER BODY, DEWATERING ACTIVITIES SHALL CEASE OPERATION UNTIL THE SITUATION IS CORRECTED AND TURBIDITY LEVEL IS MET.
- 5. A MINIMUM OF 2 MEASUREMENTS SHALL BE TAKEN AT LEAST 50' APART FOR ACCURACY.



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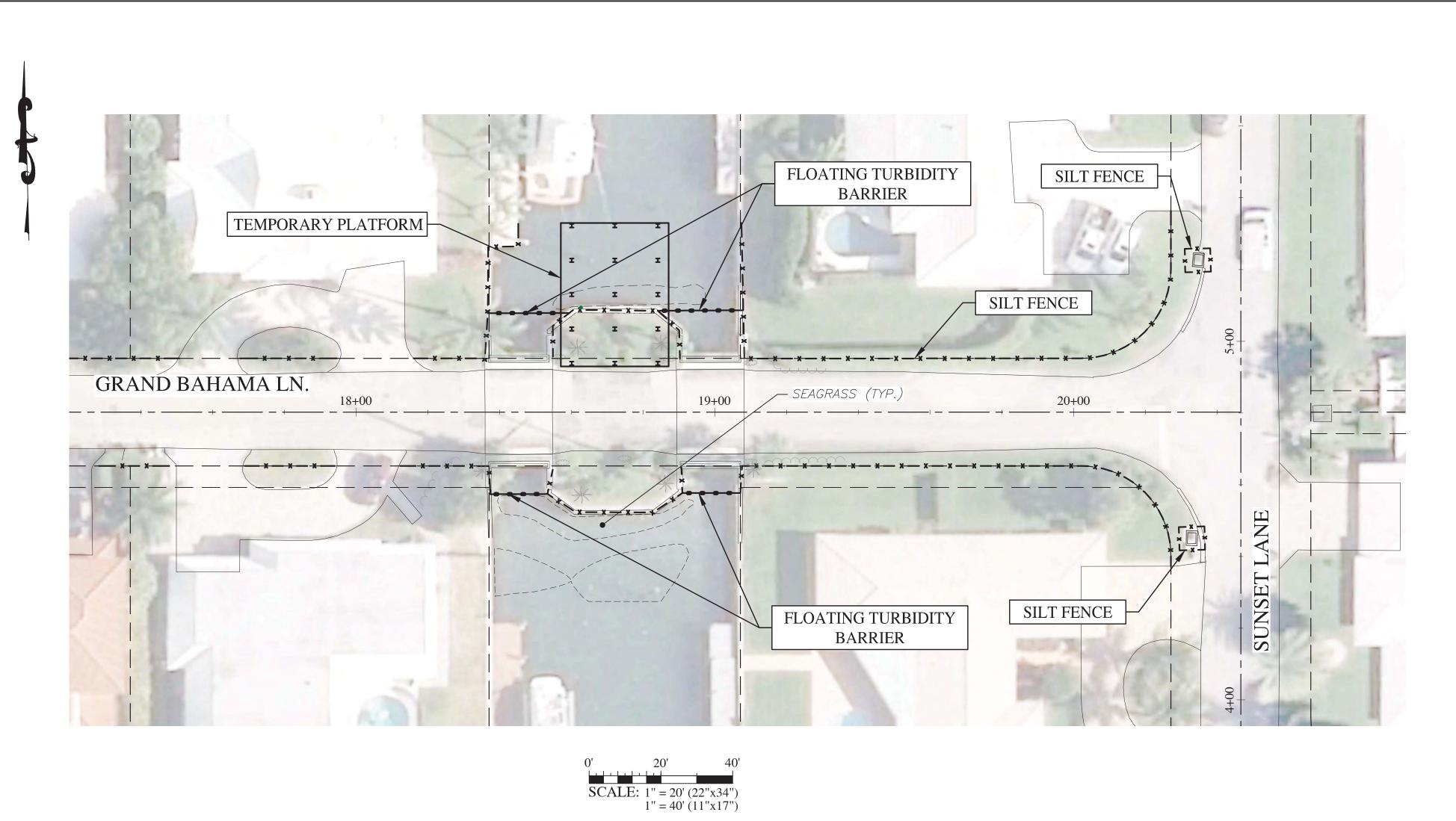
CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES
STORMWATER POLLUTION
PREVENTION NOTES

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Drawing Reference Number

G-06

Sheet 6 of 41



STORMWATER POLLUTION PREVENTION NOTES:

- 1. THE MAJORITY OF THE CONSTRUCTION SHALL TAKE PLACE WITH EQUIPMENT OPERATING FROM SHORELINE TO REDUCE IMPACTS. CONSTRUCTION ACTIVITIES AT ISLAND DRIVE SHALL TAKE PLACE FROM THE SHORELINE. AT GRAND BAHAMA LANE, A PLATFORM IS ALLOWED DUE TO THE LACK OF WORKING SPACE AVAILABLE FROM THE SHORELINE. THE CONTRACTOR SHALL SUBMIT A "DEBRIS CONTAINMENT PLAN" FOR REVIEW AND APPROVAL BY THE CITY AND THE USACE.
- 2. A 30'X40' PLATFORM AT GRAND BAHAMA LN LOCATED ON THE NORTH SIDE OF THE BRIDGE OUTSIDE THE LIMITS OF THE EXISTING SEAGRASS BED IS ALLOWED. A MAXIMUM OF 3 SF OF PILES CROSS SECTIONAL AREA MAY BE INSTALLED IN THE WATER WITHIN THE SEAGRASS BED TO SUPPORT THE PLATFORM. THE PLATFORM SHALL BE OPERATED WITH A MINIMUM CLEARANCE OF 5 FT. FROM THE UNDERSIDE OF THE PLATFORM TO THE BOTTOM OF THE CHANNEL AT MEAN HIGH WATER (MHW) TO AVOID BOTTOM IMPACTS. THE PLATFORM SHALL BE OPERATED IN A MANNER THAT PREVENTS UNAUTHORIZED DREDGING, WATER QUALITY VIOLATIONS, AND DAMAGE TO SUBMERGED AQUATIC COMMUNITIES.
- 3. A TEMPORARY WORK PLATFORM MAY BE USED TO CONDUCT WORK AT GRAND BAHAMA LANE ONLY. THE CONTRACTOR SHALL COMMIT TO AND DEVELOP A "DEBRIS CONTAINMENT PLAN" WHEN WORKING FROM THE PLATFORM AND SHALL SUBMIT PLAN TO THE USACE TO REVIEW AND/OR APPROVE IF APPLICABLE. THE TEMPORARY WORK PLATFORM MUST NOT BE GRATED TO ENSURE MATERIALS DO NOT FALL INTO THE WATER.
- 4. THE PROPOSED TEMPORARY PLATFORM SHALL BE A MAXIMUM OF 30 FEET WIDE AND 40 FEET LONG AND THE ELEVATION OF THE PLATFORM WILL BE SIMILAR TO THE EXISTING ROAD ELEVATION AND WILL BE AT LEAST 5 FEET ABOVE MEAN HIGH WATER (MHW).
- 5. THE TEMPORARY WORK PLATFORM MAY HAVE A MAXIMUM OF NINE PILING INSTALLED IN THE WATER, WITH A MAXIMUM DIMENSION OF 12" BY 12", AND A MAXIMUM OF THREE PILINGS WITHIN SEAGRASS BEDS (MAXIMUM OF 3 SQ. FT. OF IMPACT TO SEAGRASS).
- 6. THE BRIDGE DECKS SHALL BE REMOVED BY CUTTING THE CONCRETE DECK INTO SECTIONS THAT ARE LIFTED AND REMOVED WITH A CRANE. THE EXISTING CONCRETE CAPS OF THE BRIDGE ABUTMENTS AND BULKHEAD WALLS SHALL BE CUT OFF AND REMOVED FOLLOWING THE INSTALLATION OF THE PILES AND SHEET PANELS OF THE REPLACEMENT BRIDGES AND BULKHEAD WALLS. ALL COMPONENTS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A SAFE, LEGAL MANNER WITHOUT DEBRIS ENTERING THE WATERWAY. DEMOLITION WORK AT GRAND BAHAMA LANE MAY TAKE PLACE FROM A PLATFORM AND DEMOLITION WORK AT THE ISLAND DRIVE BRIDGES SHALL BE STAGED LANDWARD.
- 7. STAKED TURBIDITY CURTAINS SHALL BE USED INSTEAD OF FLOATING TURBIDITY CURTAINS TO PROTECT AND MINIMIZE IMPACTS TO ADJACENT SEAGRASSES AND MUST BE INSTALLED APPROXIMATELY 5 FEET FROM THE FACE OF NEW/PROPOSED WORK.
- 8. STAKED TURBIDITY CURTAINS SHALL BE INSTALLED AS CLOSE TO CONSTRUCTION ACTIVITIES AS EFFECTIVELY POSSIBLE, TO REDUCE TURBIDITY IMPACTS TO SEAGRASSES.
- 9. SILT-FENCING SHALL BE PLACED LANDWARD OF IN-WATER CONSTRUCTION ACTIVITIES TO PREVENT RUNOFF FROM ENTERING SURFACE WATERS DUE TO LANDWARD CONSTRUCTION.
- 10. CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION SEAGRASS SURVEY DURING WHICH ID MARKERS (PVC PIPES) WILL BE PLACED TO DEMARCATE THE BOUNDARY OF SEAGRASS BEDS TO ENSURE VISIBILITY TO ALL CONSTRUCTION PERSONNEL.
- 11. CONTRACTOR SHALL COMPLY WITH STANDARD CONDITIONS FOR IN-WATER WORK FOR MANATEES, MARINE TURTLES AND SMALL TOOTH SAWFISH AS REFERENCED IN SFWMD AND USACE PERMITS AND/OR NMFS GUIDELINES, WHICHEVER IS MORE STRINGENT.
- 12. CONTRACTOR SHALL PROVIDE ALL NOTICES TO THE PERMIT AGENCIES AS REQUIRED BY THE SFWMD AND USACE PERMITS.
- 13. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED AS-BUILT SURVEYS AS REQUIRED BY THE SFWMD AND USACE PERMITS.



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	By							
	Date							
	Revisions							

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CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES
GRAND BAHAMA LANE
STORMWATER POLLUTION

DANA I GILLETTE FL PE 41913

Drawing Reference Number

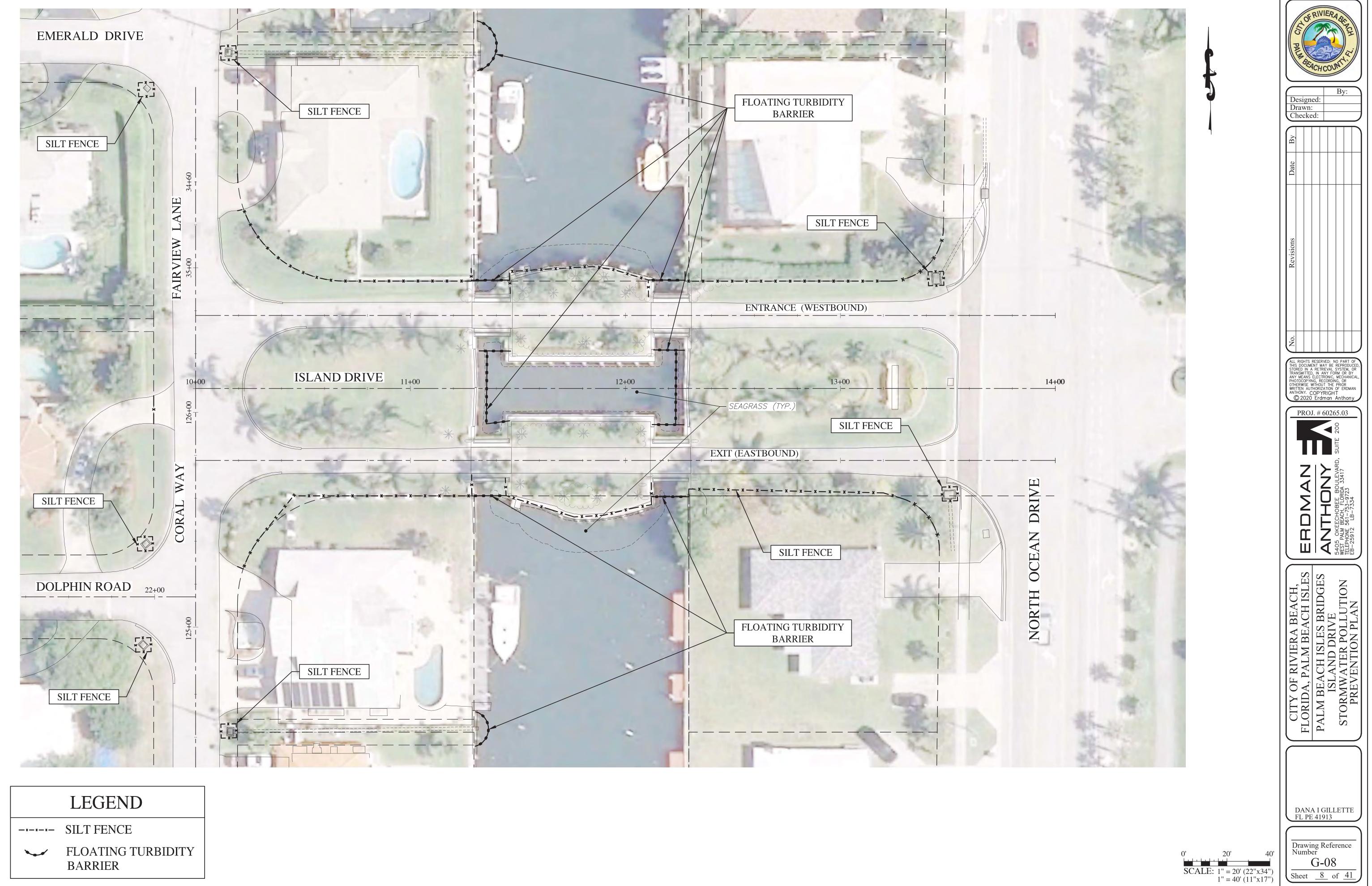
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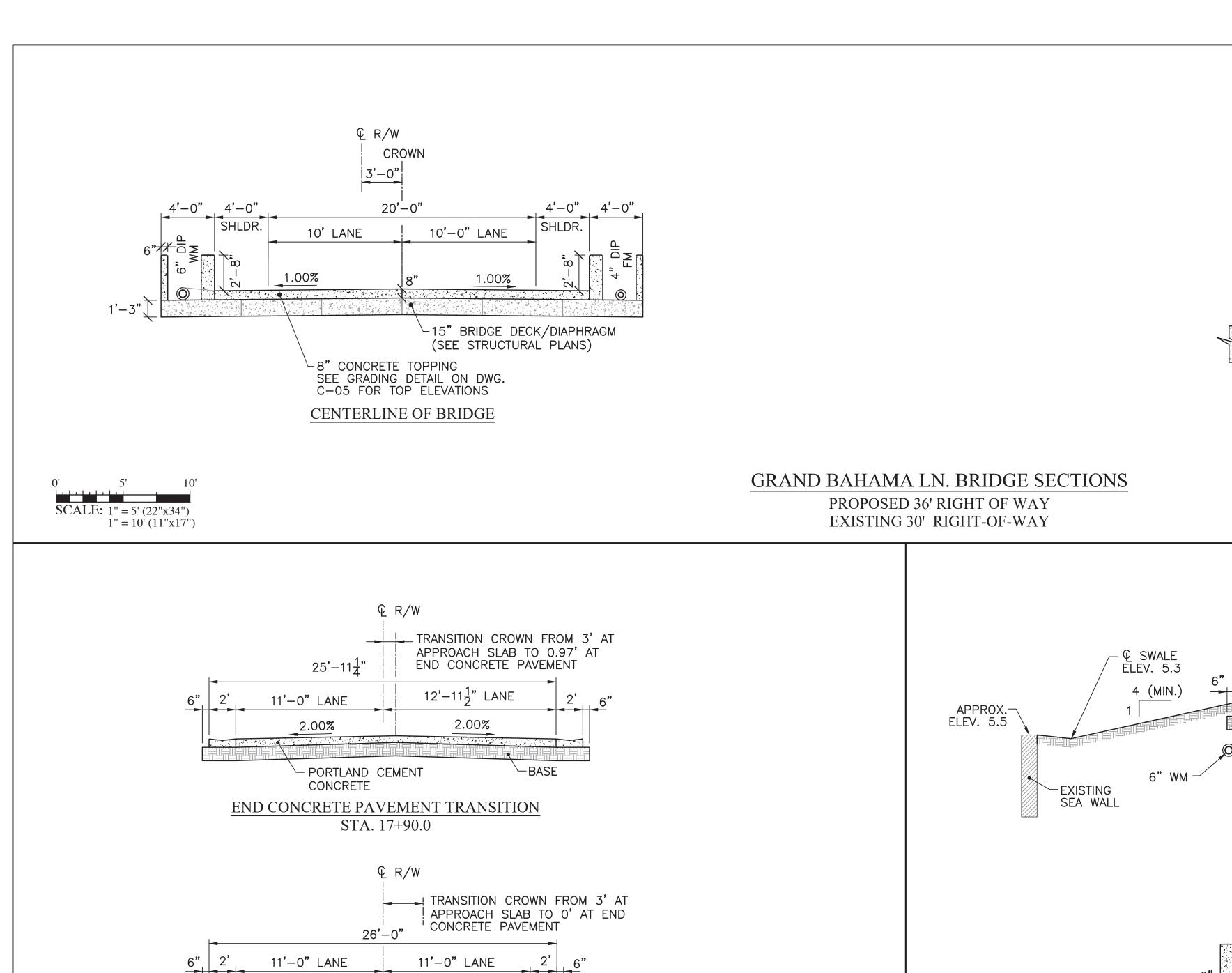
Sheet 7 of 41

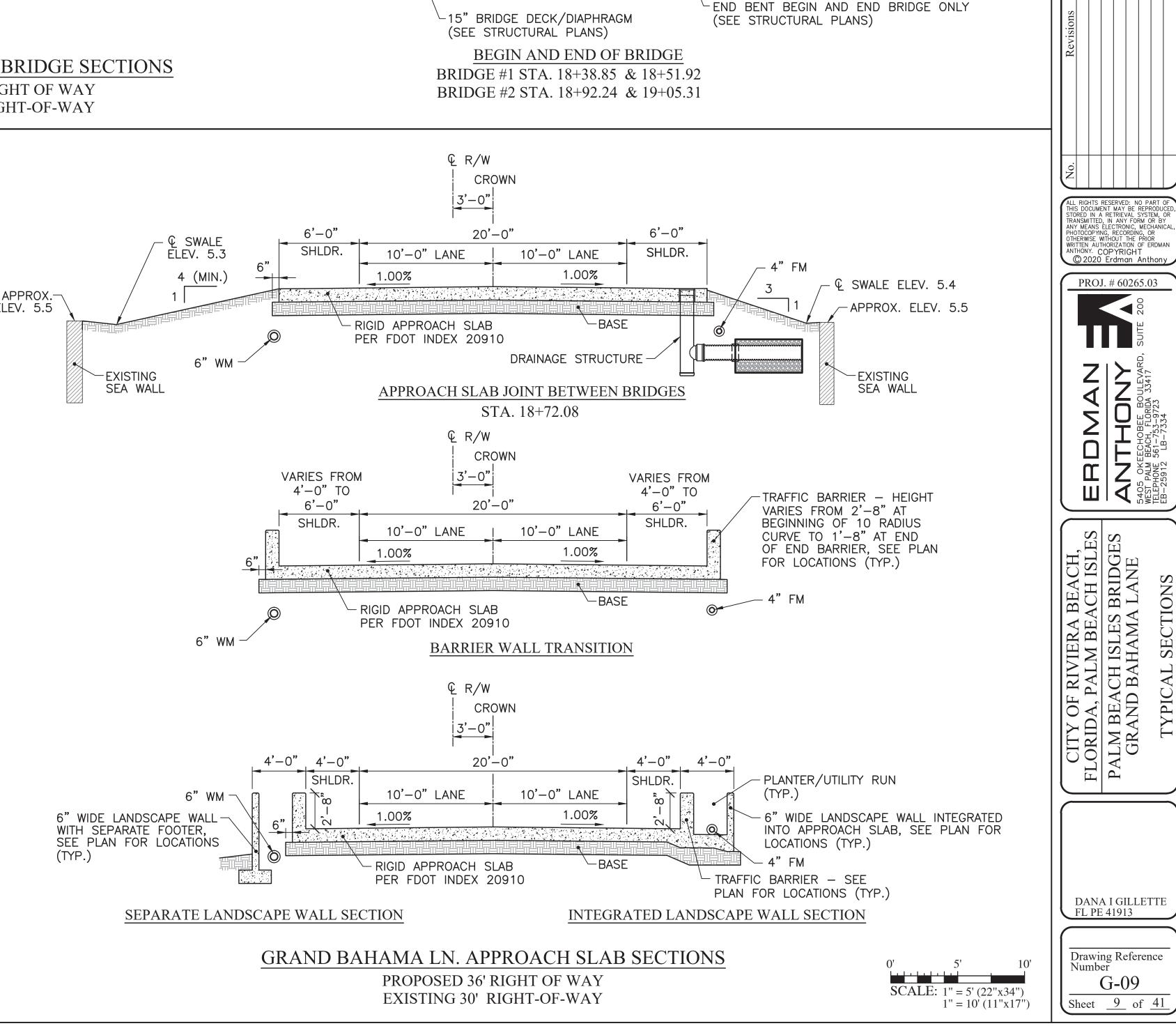
LEGEND

---- SILT FENCE

FLOATING TURBIDITY BARRIER







36'-0"

CROWN

20'-0"

5" CONCRETE TOPPING SEE GRADING DETAIL ON DWG.

C-05 FOR TOP ELEVATIONS

3'-0"

15'-0" EXIST. R/W

10'-0" LANE

12'-0"

1.00%

EXISTING 30'-0" R/W

10' LANE

15'-0" EXIST. R/W

4'-0" 4'-0"

SHLDR.

4'-0"

SHLDR.

2.00%

- PORTLAND CEMENT

10'-0" LANE

- PORTLAND CEMENT

1.00%

CONCRETE

END CONCRETE PAVEMENT TRANSITION

STA. 19+70.31

Q R/W

28'-0"

AT APPROACH SLABS

PROPOSED 36' RIGHT OF WAY

EXISTING 30' RIGHT-OF-WAY

GRAND BAHAMA LN. CONCRETE PAVEMENT TRANSITION

CONCRETE

2.00%

10'-0" LANE

1.00%

-BASE

SCALE: 1'' = 5' (22''x34'')

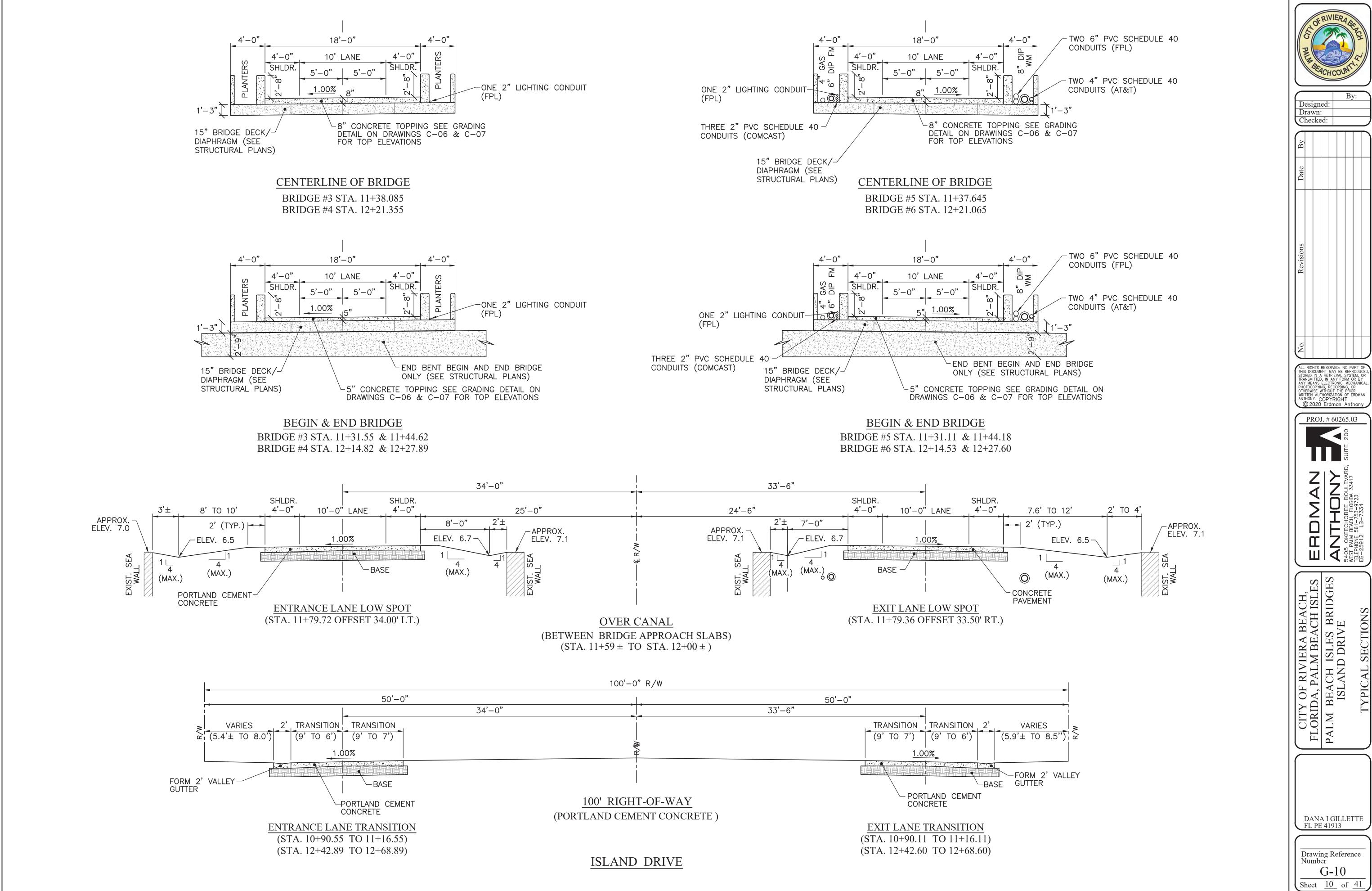
1'' = 10' (11''x17'')

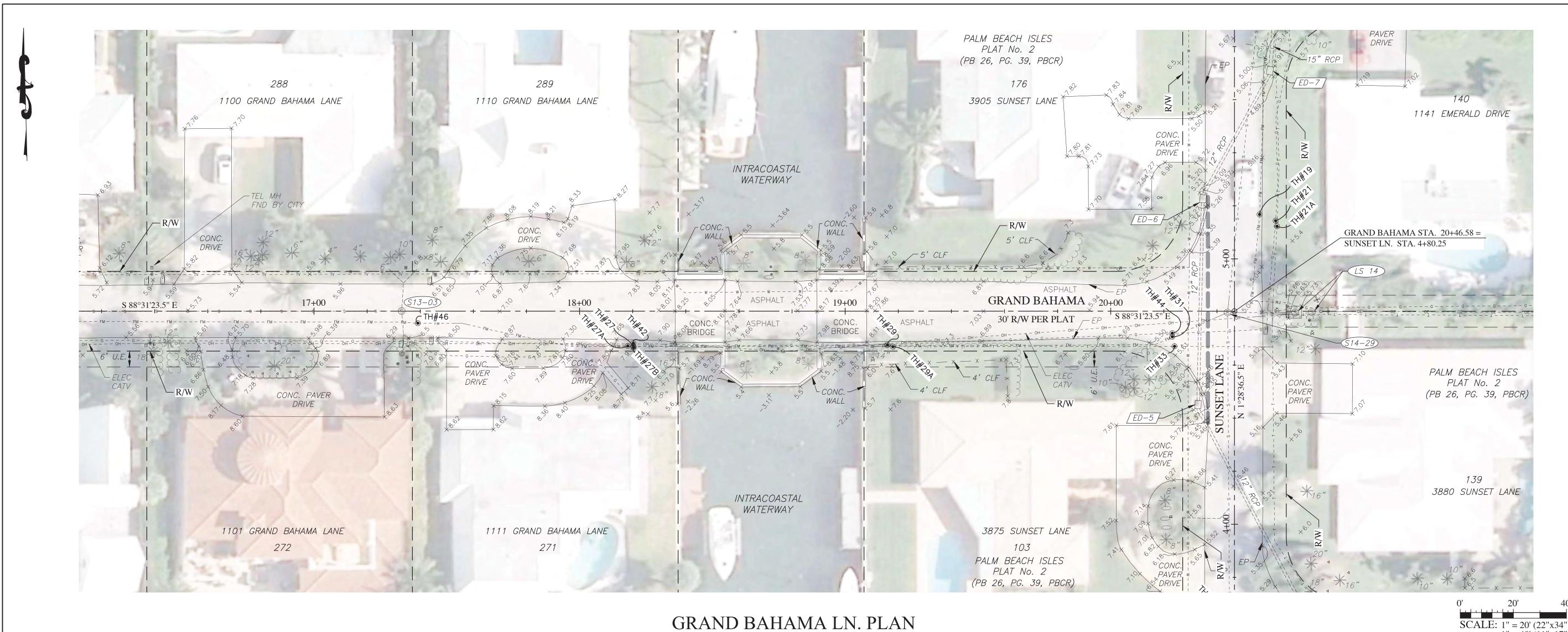
BASE

Designed:

Drawn:

Checked:





SCALE: 1" = 20' (22"x34") 1" = 40' (11"x17")

[ED-5]
INLET GRATE EL. 5.24
(N) INV. = 2.91
(SE) INV. = 2.84

[ED-6]
INLET GRATE EL. 5.06
(NE) INV. = 2.69
(S) INV. = 2.76 [ED-7]
INLET GRATE EL. 4.89
(SW) INV. = 2.54
(N) INV. = 2.44 \$13-03) EXIST.

RIM EL. 6.58
(N) INV. 1.33

* (SE) INV. 1.32

* (W) INV. 1.48

\$14-29\ EXIST.

RIM EL. 5.55
(E) INV. -4.84
(N) INV. -4.73
(S) INV. -4.64
* (SW) INV. 0.65 * CONTRACTOR TO VERIFY SURVEY DATA

NOTES:

1. DATA SHOWN HEREON IS BASED ON SURVEY PREPARED BY WGI (DATED 4-21-15, REVISED 6/9/15).

NOTE:
ALL ELEVATIONS SHOWN ARE
RELATIVE TO THE NGVD 1929
DATUM. NAVD 1988 ELEVATIONS
ARE 1.516 FEET LOWER.



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Date			
Revisions			
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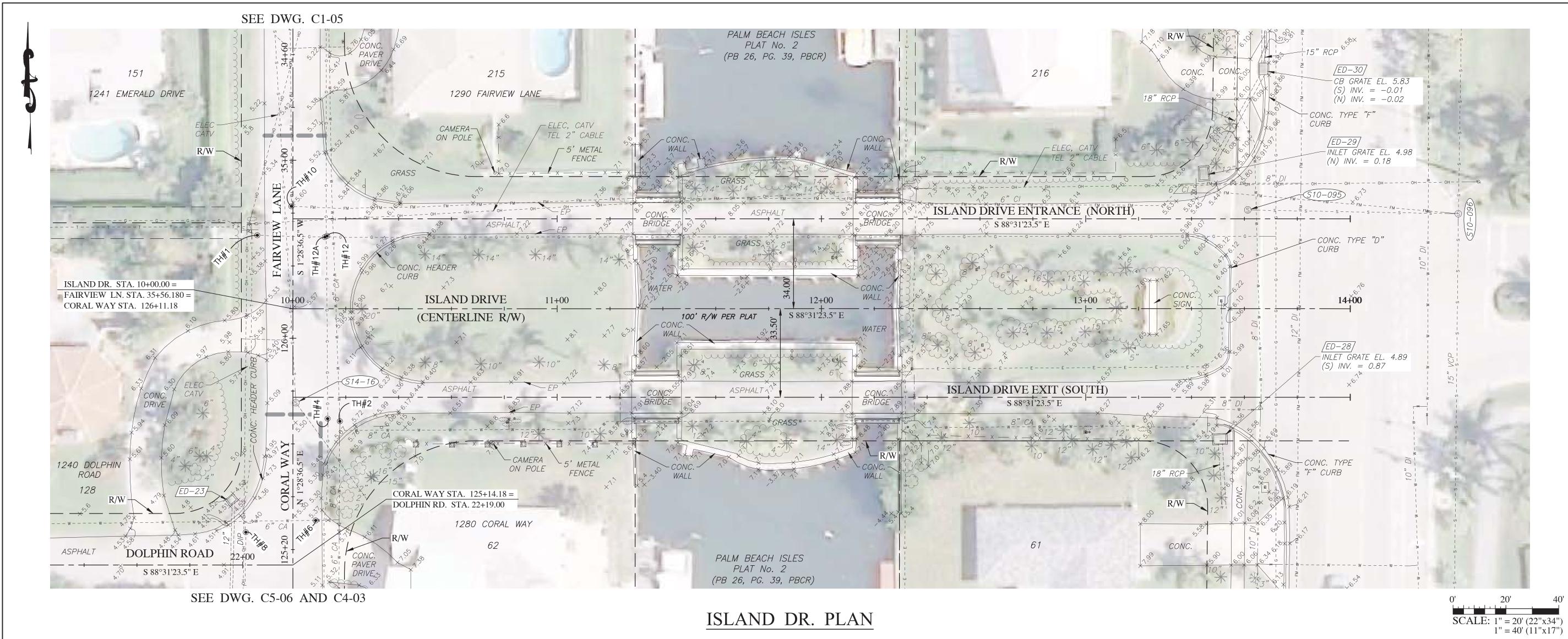




CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES
GRAND BAHAMA LANE

DANA I GILLETTE FL PE 41913

Drawing Reference Number V-01Sheet <u>11</u> of <u>41</u>



/ED-23/ INLET GRATE EL. 4.53 (S) INV. = 1.55

\$10-095 EXIST.

RIM EL. 5.88

(E) INV. UNKOWN

(W) INV. UNKOWN

NOTES:

1. DATA SHOWN HEREON IS BASED ON SURVEY PREPARED BY WGI (DATED 4-21-15, REVISED 6/9/15).

NOTE:
ALL ELEVATIONS SHOWN ARE
RELATIVE TO THE NGVD 1929
DATUM. NAVD 1988 ELEVATIONS
ARE 1.516 FEET LOWER.



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Date						
Revisions						

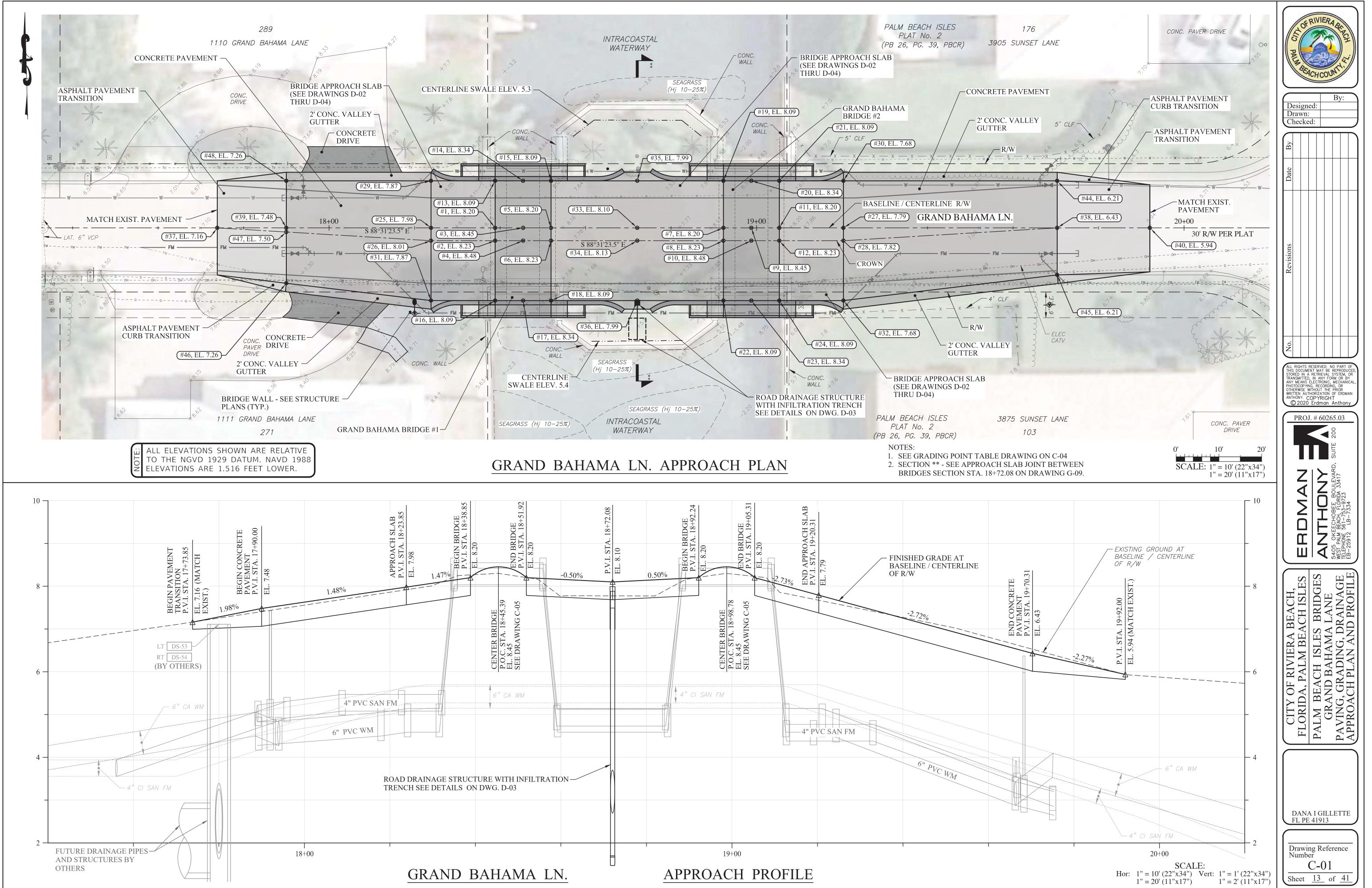


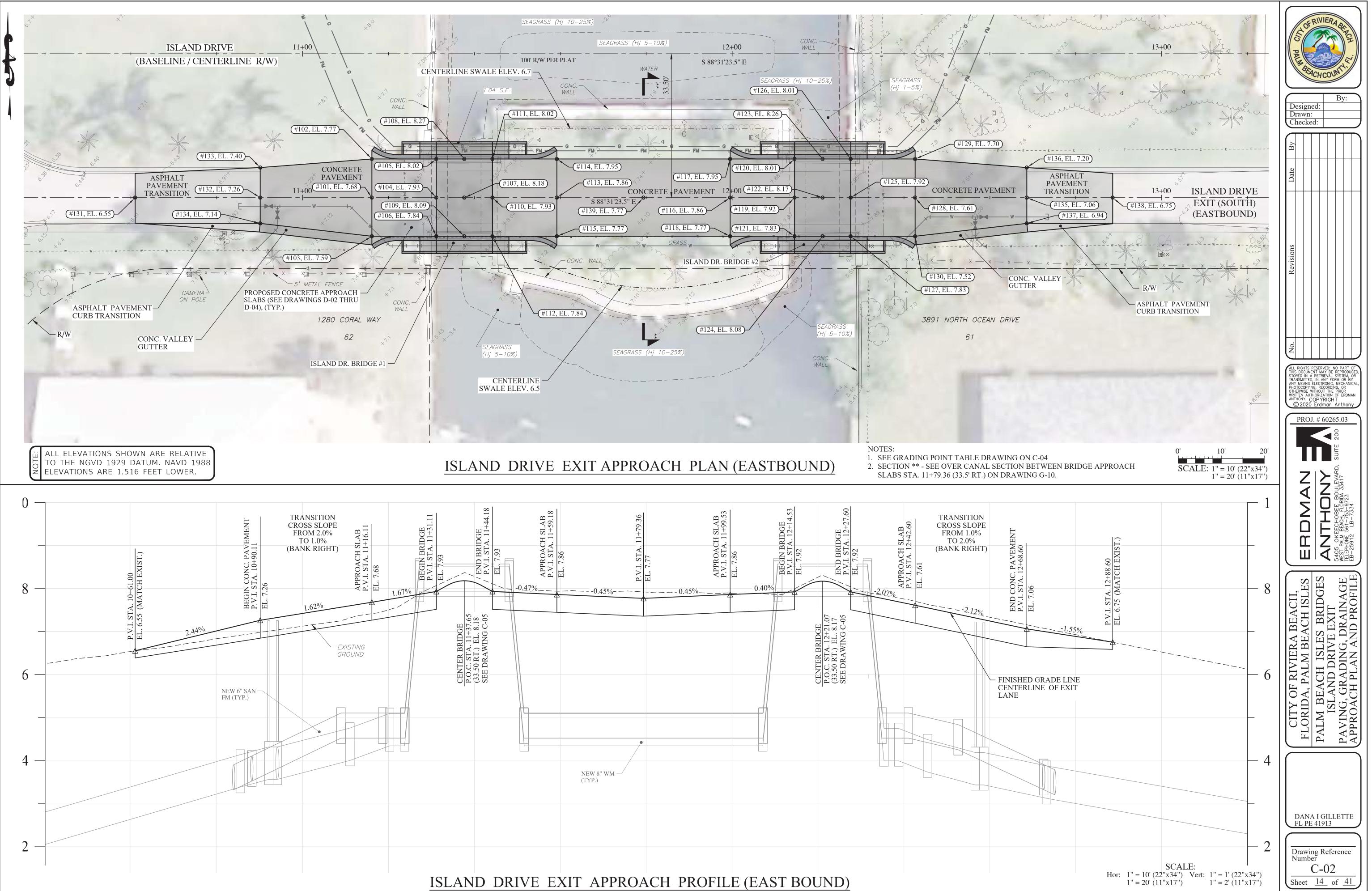


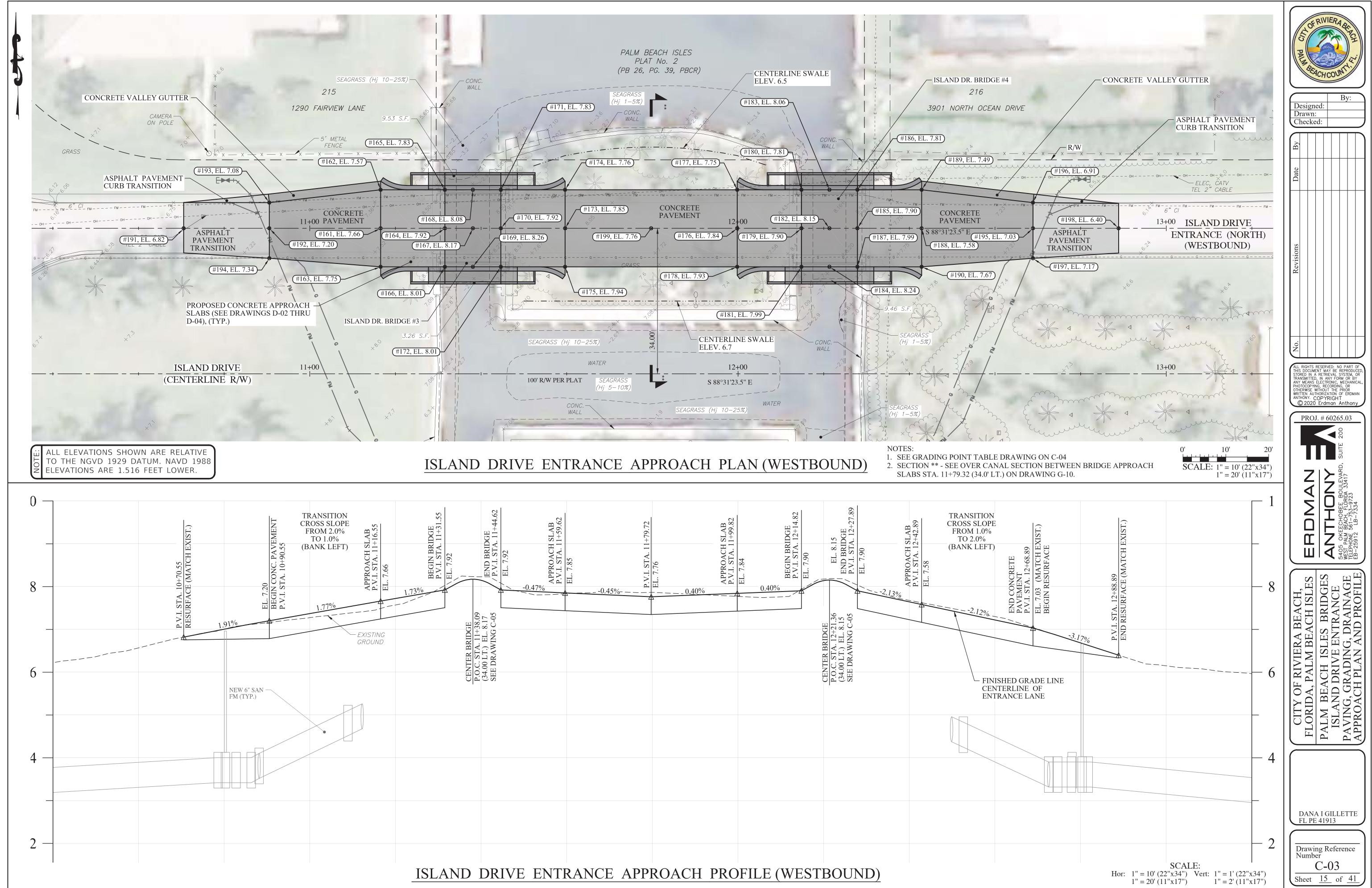
CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES
ISLAND DRIVE

DANA I GILLETTE FL PE 41913

Drawing Reference Number V-02Sheet <u>12</u> of <u>41</u>







		<u>GRANI</u>	<u>D BAHAN</u>	MA LANE GRADII	<u>NG POIN</u>	<u> TS</u>	
BASE	ELINE		МАТСН		POINT		
STATION	OFFSET	ELEVATION	EXISTING	DESCRIPTION	NUMBER	NORTHING	EASTING
17+90,000	11.00 LT	7.26		EDGE OF PAVEMENT	48	895,689,773	969,256.409
18+23.850	11.00 LT	7.87		EDGE OF PAVEMENT	29	895,688.900	969,290.248
18+38,850	11.00 LT	8.09		EDGE OF PAVEMENT	13	895,688.514	969,305.243
18+45.385	11.00 LT	8.34		EDGE OF PAVEMENT	14	895,688.345	969,311.776
18+51,920	11,00 LT	8.09		EDGE OF PAVEMENT	15	895,688,177	969,318,308
18+72.080	11.00 LT	7.99		EDGE OF PAVEMENT	35	895,687.657	969,338.462
18+92,240	11,00 LT	8,09		EDGE OF PAVEMENT	19	895,687,138	969,358,615
18+98.775	11.00 LT	8.34		EDGE OF PAVEMENT	20	895,686.969	969,365.148
19+05.310	11.00 LT	8.09		EDGE OF PAVEMENT	21	895,686.801	969,371.681
19+20,310	11,00 LT	7.68		EDGE OF PAVEMENT	30	895,686,414	969,386,676
19+70.310	11.00 LT	6.21		EDGE OF PAVEMENT	44	895,685.126	969,436.659
17+73.850	0.00	7.16	*	CENTER LINE / BASELINE	37	895,679,192	969,239.981
17+90.000	0.00	7.48		CENTER LINE / BASELINE	39	895,678.776	969,256.125
17+90,000	0.97 RT	7.50		OFFSET CENTERLINE	47	895,677.807	969,256.100
18+23.850	0.00	7.98		CENTER LINE / BASELINE	25	895,677.904	969,289.964
18+38,850	0.00	8,20		CENTER LINE / BASELINE	ı	895,677.517	969,304,959
18+45.385	0.00	8.45		CENTER LINE / BASELINE	3	895,677.349	969,311.492
18+51,920	0.00	8,20		CENTER LINE / BASELINE	5	895,677,180	969,318,025
18+72.080	0.00	8.10		CENTER LINE / BASELINE	33	895,676.661	969,338.178
18+92.240	0.00	8.20		CENTER LINE / BASELINE	7	895,676.141	969,358.332
18+98,775	0.00	8,45		CENTER LINE / BASELINE	9	895,675,973	969,364,864
19+05.310	0.00	8.20		CENTER LINE / BASELINE	11	895,675.804	969,371.397
19+20.310	0.00	7.79		CENTER LINE / BASELINE	27	895,675,418	969,386.392
19+70.310	0.00	6.43		CENTER LINE / BASELINE	38	895,674.129	969,436.376
19+92,000	0.00	5.94	*	CENTER LINE / BASELINE	40	895,673,570	969,458.058
18+23.850	3.00 RT	8.01		OFFSET CROWN	26	895,674.905	969,289.887
18+38,850	3,00 RT	8,23		OFFSET CROWN	2	895,674,518	969,304,882
18+45.385	3.00 RT	8.48		OFFSET CROWN	4	895,674.350	969,311.415
18+51,920	3,00 RT	8,23		OFFSET CROWN	6	895,674.181	969,317,948
18+72.080	3.00 RT	8.13		OFFSET CROWN	34	895,673.662	969,338.101
18+92.240	3.00 RT	8.23		OFFSET CROWN	8	895,673.142	969,358.254
18+98,775	3,00 RT	8.48		OFFSET CROWN	10	895,672,974	969,364.787
19+05.310	3.00 RT	8.23		OFFSET CROWN	12	895,672.805	969,371.320
19+20,310	3,00 RT	7.82		OFFSET CROWN	28	895,672,419	969,386,315
17+90.000	12.94 RT	7.26		EDGE OF PAVEMENT	46	895,665.842	969,255.792
18+23,850	17,00 RT	7.87		EDGE OF PAVEMENT	31	895,660,909	969,289,526
18+38.850	17.00 RT	8.09		EDGE OF PAVEMENT	16	895,660.523	969,304.521
18+45.385	17.00 RT	8.34		EDGE OF PAVEMENT	17	895,660.354	969,311.054
18+51.920	17.00 RT	8.09		EDGE OF PAVEMENT	18	895,660.186	969,317.587
18+72,080	17.00 RT	7.99		EDGE OF PAVEMENT	36	895,659.666	969,337.740
18+92.240	17.00 RT	8.09		EDGE OF PAVEMENT	22	895,659.147	969,357.893
18+98,775	17.00 RT	8,34		EDGE OF PAVEMENT	23	895,658,978	969,364,426
19±05,310	17.00 RT	8,09		EDGE OF PAVEMENT	24	895,658,810	969,370,959
19+20.310	17.00 RT	7.68		EDGE OF PAVEMENT	32	895,658.423	969,385.954
19+70,310	11,00 RT	6,21		EDGE OF PAVEMENT	45	895,663,133	969,436,092

		<u>ISLA</u>	<u>ND DKIV</u>	<u>'E EXIT GRADINO</u>	j POIN D	<u> </u>	
BASEI	INE		MATCH		POINT		
ATION	OFFSET	ELEVATION	EXISTING	DESCRIPTION	NUMBER	NORTHING	EASTING
+90,110	26,50 RT	7.40		EDGE OF PAVEMENT	133	895,579,444	970,819,775
+16,110	24,50 RT	7.77		EDGE OF PAVEMENT	102	895,580,774	970,845.818
+31,110	24,50 RT	8.02		EDGE OF PAVEMENT	105	895,580.387	970,860,813
+37.645	24.50 RT	8.27		EDGE OF PAVEMENT	108	895,580.219	970,867,346
+44.180	24.50 RT	8.02		EDGE OF PAVEMENT	111	895,580.050	970,873.878
+59.180	24.50 RT	7.95		EDGE OF PAVEMENT	114	895,579.664	970,888.873
+99.530	24.50 RT	7.95		EDGE OF PAVEMENT	117	895,578.624	970,929.210
+14.530	24.50 RT	8,01		EDGE OF PAVEMENT	120	895,578.237	970,944.205
+21.065	24,50 RT	8.26		EDGE OF PAVEMENT	123	895,578,069	970,950,738
+27.600	24,50 RT	8.01		EDGE OF PAVEMENT	126	895,577.900	970,957,271
+42,600	24,50 RT	7.70		EDGE OF PAVEMENT	129	895,577.514	970,972.266
+68.600	26.50 RT	7.20		EDGE OF PAVEMENT	136	895,574.844	970,998.206
+61.000	33.50 RT	6.55	*	CENTER LINE / BASELINE	131	895,573.197	970,790.494
+90.110	33.50 RT	7.26		CENTER LINE / BASELINE	132	895,572.447	970,819.594
+16.110	33.50 RT	7.68		CENTER LINE / BASELINE	101	895,571.777	970,845.586
+31,110	33,50 RT	7.93		CENTER LINE / BASELINE	104	895,571,390	970,860.581
+37.645	33,50 RT	8.18		CENTER LINE / BASELINE	107	895,571,222	970,867.114
+44,180	33,50 RT	7.93		CENTER LINE / BASELINE	110	895,571,053	970,873.646
+59,180	33.50 RT	7.86		CENTER LINE / BASELINE	113	895,570,667	970,888.641
+79.360	33.50 RT	7.77		CENTER LINE / BASELINE	139	895,570.147	970,908.815
+99.530	33.50 RT	7.86		CENTER LINE / BASELINE	116	895,569,627	970,928.978
+14.530	33.50 RT	7.92		CENTER LINE / BASELINE	119	895,569.240	970,943.973
+21.065	33.50 RT	8.17		CENTER LINE / BASELINE	122	895,569.072	970,950.506
+27,600	33,50 RT	7.92		CENTER LINE / BASELINE	125	895,568,903	970,957,039
+42,600	33,50 RT	7,61		CENTER LINE / BASELINE	128	895,568,517	970,972,034
+68,600	33,50 RT	7.06		CENTER LINE / BASELINE	135	895,567,847	970,998,025
+88.600	33.50 RT	6.75	*	CENTER LINE / BASELINE	138	895,567.331	971,018.019
+90.110	39.50 RT	7.14		EDGE OF PAVEMENT	134	895,566.449	970,819.440
+16.110	42.50 RT	7.59		EDGE OF PAVEMENT	103	895,562.780	970,845.354
+31.110	42.50 RT	7.84		EDGE OF PAVEMENT	106	895,562.393	970,860.349
+37.645	42,50 RT	8.09	,	EDGE OF PAVEMENT	109	895,562,225	970,866,882
+44,180	42,50 RT	7.84	,	EDGE OF PAVEMENT	112	895,562,056	970,873,415
+59,180	42,50 RT	7.77	,	EDGE OF PAVEMENT	115	895,561,670	970,888.410
+99,530	42,50 RT	7.77	,	EDGE OF PAVEMENT	118	895,560,630	970,928.746
+14.530	42.50 RT	7.83	,	EDGE OF PAVEMENT	121	895,560.243	970,943.741
+21.065	42.50 RT	8.08		EDGE OF PAVEMENT	124	895,560.075	970,950.274
+27.600	42.50 RT	7.83	•	EDGE OF PAVEMENT	127	895,559.906	970,956.807
+42,600	42,50 RT	7.52		EDGE OF PAVEMENT	130	895,559.520	970,971.802
+68,600	39.50 RT	6.94	•	EDGE OF PAVEMENT	137	895,561.849	970,997,871

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BASE	LINE		МАТСН		POINT		
STATION	OFFSET	ELEVATION	EXISTING	DESCRIPTION	NUMBER	NORTHING	EAST
10+90,550	40,00 LT	7.08		EDGE OF PAVEMENT	193	895,645,911	970,821
11+16,550	43,00 LT	7.57		EDGE OF PAVEMENT	162	895,648,240	970,847
11+31,550	43.00 LT	7.83		EDGE OF PAVEMENT	165	895,647.853	970,861
11+38.085	43.00 LT	8.08		EDGE OF PAVEMENT	168	895,647.685	970,869
11+44.620	43.00 LT	7.83		EDGE OF PAVEMENT	171	895,647.516	970,87
11+59.620	43.00 LT	7.76		EDGE OF PAVEMENT	174	895,647.130	970,89
11+99.820	43.00 LT	7.75		EDGE OF PAVEMENT	177	895,646.094	970,93
12+14.820	43,00 LT	7,81		EDGE OF PAVEMENT	180	895,645.707	970,94
12+21.355	43.00 LT	8.06		EDGE OF PAVEMENT	183	895,645.539	970,95
12+27.890	43.00 LT	7.81		EDGE OF PAVEMENT	186	895,645.370	970,959
12+42.890	43.00 LT	7.49		EDGE OF PAVEMENT	189	895,644.984	970,974
12+68.890	40.00 LT	6.91		EDGE OF PAVEMENT	196	895,641.315	971,00
10+70.550	34.00 LT	6.82	*	CENTER LINE / BASELINE	191	895,640.428	970,80
10+90,550	34.00 LT	7.20		CENTER LINE / BASELINE	192	895,639.913	970,82
11+16.550	34.00 LT	7.66		CENTER LINE / BASELINE	161	895,639.243	970,84
11+31.550	34.00 LT	7.92		CENTER LINE / BASELINE	164	895,638.856	970,86
11+38.085	34.00 LT	8.17		CENTER LINE / BASELINE	167	895,638.688	970,86
11+44.620	34.00 LT	7.92		CENTER LINE / BASELINE	170	895,638.519	970,87
11+59.620	34.00 LT	7.85		CENTER LINE / BASELINE	173	895,638.133	970,89
11+79.720	34.00 LT	7.76	•	CENTER LINE / BASELINE	199	895,637.615	970,91
11+99.820	34.00 LT	7.84		CENTER LINE / BASELINE	176	895,637.097	970,93
12+14.820	34.00 LT	7.90		CENTER LINE / BASELINE	179	895,636.710	970,94
12+21.355	34.00 LT	8.15	•	CENTER LINE / BASELINE	182	895,636.542	970,95
12+27.890	34.00 LT	7.90		CENTER LINE / BASELINE	185	895,636.373	970,95
12+42.890	34.00 LT	7.58		CENTER LINE / BASELINE	188	895,635.987	970,97
12+68,890	34,00 LT	7.03		CENTER LINE / BASELINE	195	895,635,317	971,00
12+88,890	34 .00 LT	6,40	*	CENTER LINE / BASELINE	198	895,634,801	971,02
10+90.550	27.00 LT	7.34		EDGE OF PAVEMENT	194	895,632.915	970,82
11+16.550	25.00 LT	7.75		EDGE OF PAVEMENT	163	895,630.246	970,84
11+31.550	25.00 LT	8.01		EDGE OF PAVEMENT	166	895,629.859	970,86
11+38.085	25.00 LT	8.26	†	EDGE OF PAVEMENT	169	895,629.691	970,86
11+44,620	25,00 LT	8.01	†	EDGE OF PAVEMENT	172	895,629,522	970,87
11+59,620	25,00 LT	7.94		EDGE OF PAVEMENT	175	895,629.136	970,89
11+99,820	25,00 LT	7.93		EDGE OF PAVEMENT	178	895,628.100	970,93
12+14.820	25.00 LT	7.99		EDGE OF PAVEMENT	181	895,627.713	970,94
12+21.355	25.00 LT	8.24		EDGE OF PAVEMENT	184	895,627.545	970,95
12+27.890	25.00 LT	7.99		EDGE OF PAVEMENT	187	895,627.376	970,95
12+42.890	25.00 LT	7,67		EDGE OF PAVEMENT	190	895,626.990	970,97
12+68,890	27.00 LT	7.17		EDGE OF PAVEMENT	197	895,628,319	970,999



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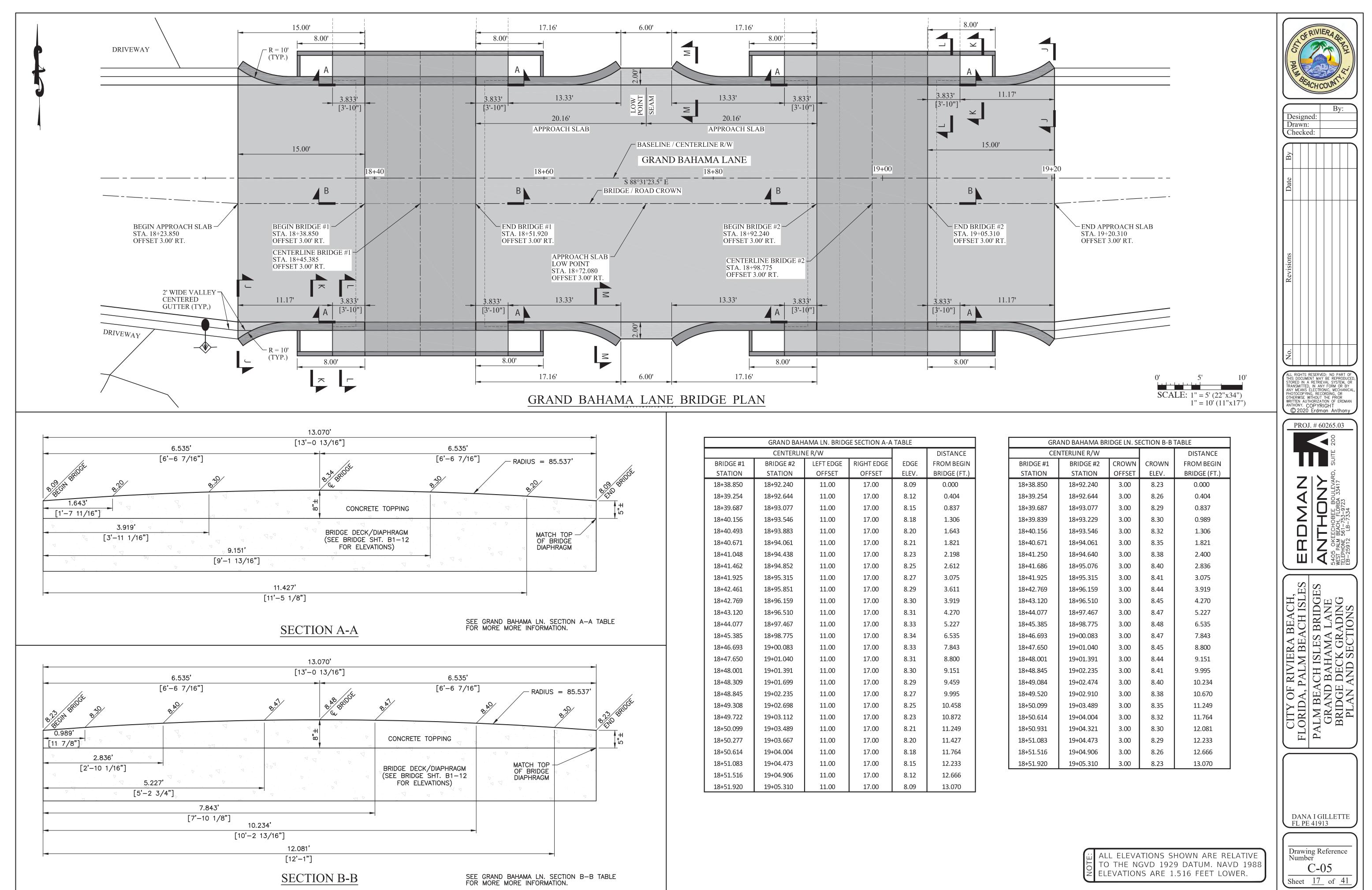
CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES

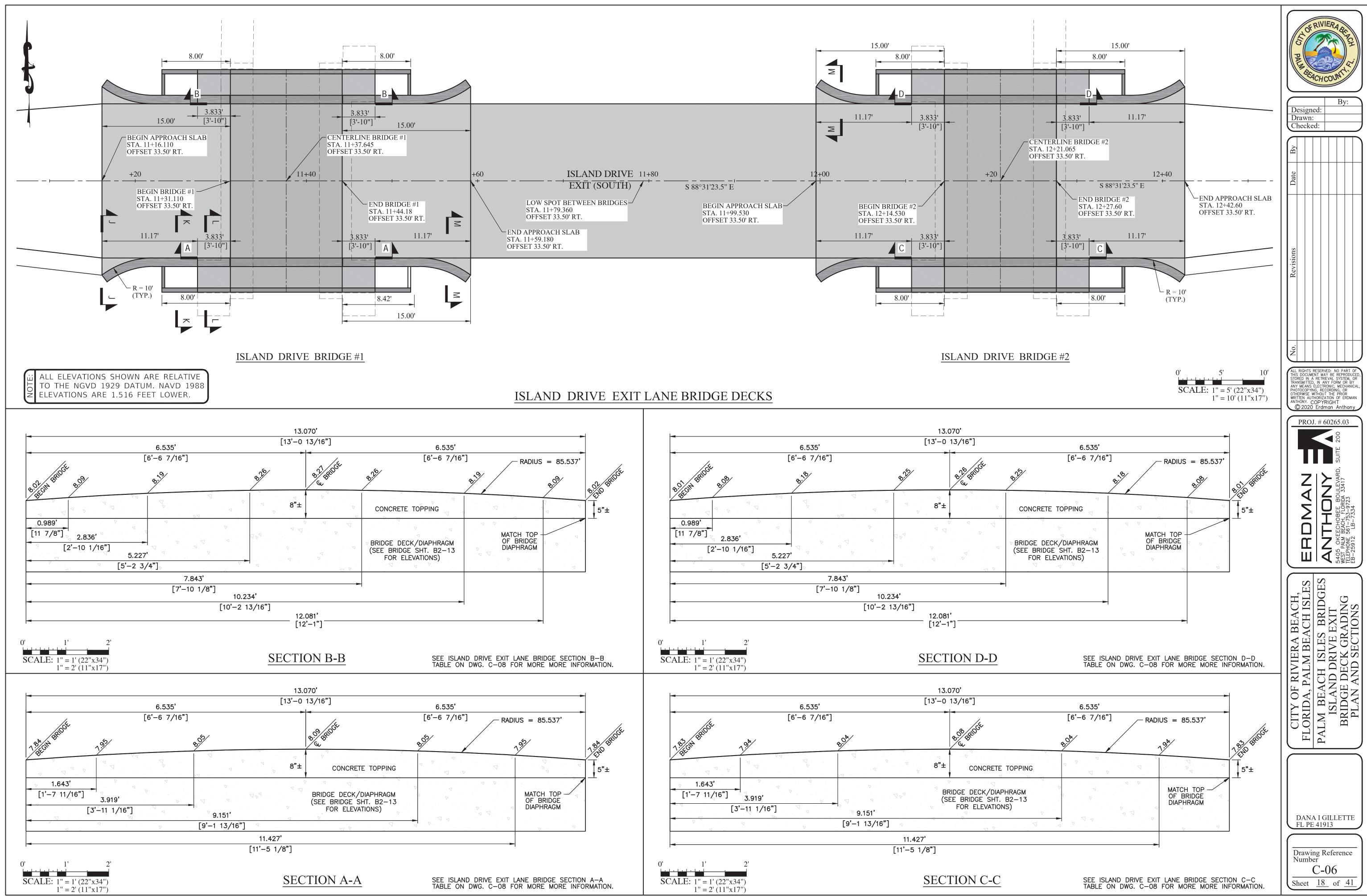
DANA I GILLETTE FL PE 41913

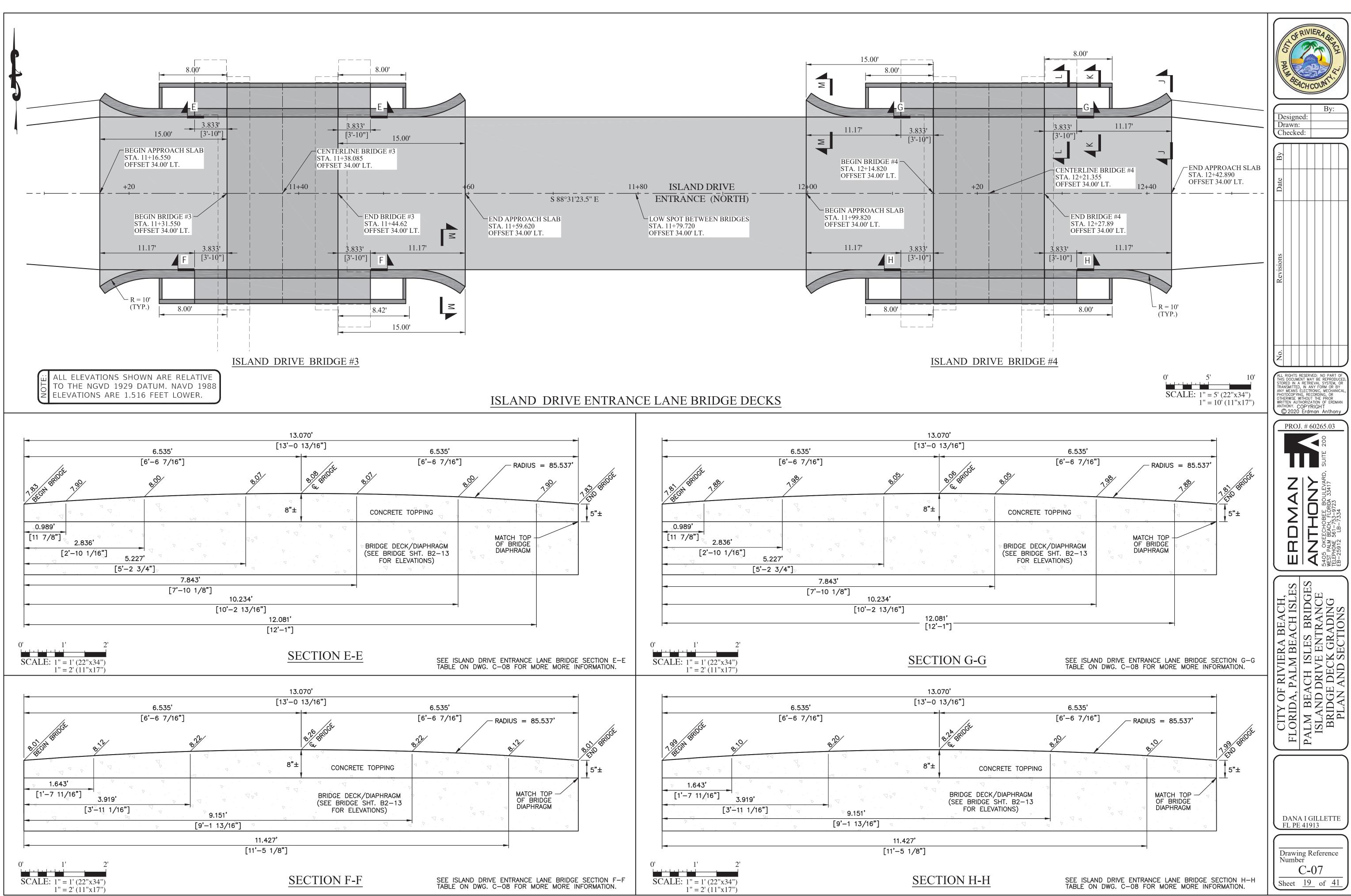
Drawing Reference Number

C-04

Sheet 16 of 41







ISLAND DRIVE	ENTRANCE LAN	BRIDGE SECT	TON A-A TABLE
CENTERL	INE R/W		DISTANCE
BRIDGE #1	LEFT EDGE	EDGE	FROM BEGIN
STATION	OFFSET	ELEV.	BRIDGE (FT.)
11+31.110	42.50 RT.	7.84	0.000
11+31.655	42.50 RT.	7.88	0.545
11+32.099	42.50 RT.	7.91	0.989
11+32.416	42.50 RT.	7.93	1.306
11+32.753	42.50 RT.	7.95	1.643
11+33.116	42.50 RT.	7.97	2.006
11+33.510	42.50 RT.	7.99	2.400
11+33.946	42.50 RT.	8.01	2.836
11+34.442	42.50 RT.	8.03	3.332
11+35.029	42.50 RT.	8.05	3.919
11+35.380	42.50 RT.	8.06	4.270
11+35.795	42.50 RT.	8.07	4.685
11+36.337	42.50 RT.	8.08	5.227
11+37.645	42.50 RT.	8.09	6.535
11+38.953	42.50 RT.	8.08	7.843
11+39.495	42.50 RT.	8.07	8.385
11+39.910	42.50 RT.	8.06	8.800
11+40.261	42.50 RT.	8.05	9.151
11+40.848	42.50 RT.	8.03	9.738
11+41.344	42.50 RT.	8.01	10.234
11+41.780	42.50 RT.	7.99	10.670
11+42.174	42.50 RT.	7.97	11.064
11+42.537	42.50 RT.	7.95	11.427
11+42.874	42.50 RT.	7.93	11.764
11+43.191	42.50 RT.	7.91	12.081
11+43.635	42.50 RT.	7.88	12.525
11+44.180	42.50 RT.	7.84	13.070

	ENTRANCE LAN	BRIDGE SECT	
CENTERL		_	DISTANCE
BRIDGE #1	LEFT EDGE	EDGE	FROM BEGIN
STATION	OFFSET	ELEV.	BRIDGE (FT.)
11+31.110	24.50 RT.	8.02	0.000
11+31.655	24.50 RT.	8.06	0.545
11+32.099	24.50 RT.	8.09	0.989
11+32.416	24.50 RT.	8.11	1.306
11+32.753	24.50 RT.	8.13	1.643
11+33.116	24.50 RT.	8.15	2.006
11+33.510	24.50 RT.	8.17	2.400
11+33.946	24.50 RT.	8.19	2.836
11+34.442	24.50 RT.	8.21	3.332
11+35.029	24.50 RT.	8.23	3.919
11+35.380	24.50 RT.	8.24	4.270
11+35.795	24.50 RT.	8.25	4.685
11+36.337	24.50 RT.	8.26	5.227
11+37.645	24.50 RT.	8.27	6.535
11+38.953	24.50 RT.	8.26	7.843
11+39.495	24.50 RT.	8.25	8.385
11+39.910	24.50 RT.	8.24	8.800
11+40.261	24.50 RT.	8.23	9.151
11+40.848	24.50 RT.	8.21	9.738
11+41.344	24.50 RT.	8.19	10.234
11+41.780	24.50 RT.	8.17	10.670
11+42.174	24.50 RT.	8.15	11.064
11+42.537	24.50 RT.	8.13	11.427
11+42.874	24.50 RT.	8.11	11.764
11+43.191	24.50 RT.	8.09	12.081
11+43.635	24.50 RT.	8.06	12.525
11+44.180	24.50 RT.	8.02	13.070

INIC D /\A/		DICTANICE
		DISTANCE
EDGE		FROM BEGIN
OFFSET	ELEV.	BRIDGE (FT.)
42.50 RT.	7.83	0.000
42.50 RT.	7.87	0.545
42.50 RT.	7.90	0.989
42.50 RT.	7.92	1.306
42.50 RT.	7.94	1.643
42.50 RT.	7.96	2.006
42.50 RT.	7.98	2.400
42.50 RT.	8.00	2.836
42.50 RT.	8.02	3.332
42.50 RT.	8.04	3.919
42.50 RT.	8.05	4.270
42.50 RT.	8.06	4.685
42.50 RT.	8.07	5.227
42.50 RT.	8.08	6.535
42.50 RT.	8.07	7.843
42.50 RT.	8.06	8.385
42.50 RT.	8.05	8.800
42.50 RT.	8.04	9.151
42.50 RT.	8.02	9.738
42.50 RT.	8.00	10.234
42.50 RT.	7.98	10.670
42.50 RT.	7.96	11.064
42.50 RT.	7.94	11.427
42.50 RT.	7.92	11.764
42.50 RT.	7.90	12.081
42.50 RT.	7.87	12.525
42.50 RT.	7.83	13.070
ENTRANCE LANE	BRIDGE SECT	ION H-H TABLE
NE R/W		DISTANCE
LEFT EDGE	EDGE	FROM BEGIN
	42.50 RT.	EDGE OFFSET 42.50 RT. 7.83 42.50 RT. 7.87 42.50 RT. 7.90 42.50 RT. 7.92 42.50 RT. 7.94 42.50 RT. 7.96 42.50 RT. 7.98 42.50 RT. 7.98 42.50 RT. 8.00 42.50 RT. 8.02 42.50 RT. 8.04 42.50 RT. 8.05 42.50 RT. 8.06 42.50 RT. 8.07 42.50 RT. 8.08 42.50 RT. 8.07 42.50 RT. 8.08 42.50 RT. 8.06 42.50 RT. 8.07 42.50 RT. 8.06 42.50 RT. 7.96 42.50 RT. 8.09 42.50 RT. 7.96 42.50 RT. 7.98 42.50 RT. 7.98 42.50 RT. 7.98 42.50 RT. 7.99 42.50 RT. 7.90 42.50 RT. 7.92 42.50 RT. 7.93

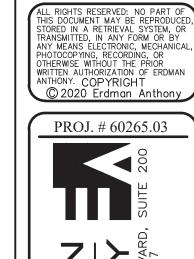
ISLAND DRIVE ENTRANCE LANE BRIDGE SECTION C-C TABLE

ISLAND DRIVE	ENTRANCE LANE	BRIDGE SECT	TON D-D TABLE
CENTERL	INE R/W		DISTANCE
BRIDGE #2	LEFT EDGE	EDGE	FROM BEGIN
STATION	OFFSET	ELEV.	BRIDGE (FT.)
12+14.530	24.50 RT.	8.01	0.000
12+15.075	24.50 RT.	8.05	0.545
12+15.519	24.50 RT.	8.08	0.989
12+15.836	24.50 RT.	8.10	1.306
12+16.173	24.50 RT.	8.12	1.643
12+16.536	24.50 RT.	8.14	2.006
12+16.930	24.50 RT.	8.16	2.400
12+17.366	24.50 RT.	8.18	2.836
12+17.862	24.50 RT.	8.20	3.332
12+18.449	24.50 RT.	8.22	3.919
12+18.800	24.50 RT.	8.23	4.270
12+19.215	24.50 RT.	8.24	4.685
12+19.757	24.50 RT.	8.25	5.227
12+21.065	24.50 RT.	8.26	6.535
12+22.373	24.50 RT.	8.25	7.843
12+22.915	24.50 RT.	8.24	8.385
12+23.330	24.50 RT.	8.23	8.800
12+23.681	24.50 RT.	8.22	9.151
12+24.268	24.50 RT.	8.20	9.738
12+24.764	24.50 RT.	8.18	10.234
12+25.200	24.50 RT.	8.16	10.670
12+25.594	24.50 RT.	8.14	11.064
12+25.957	24.50 RT.	8.12	11.427
12+26.294	24.50 RT.	8.10	11.764
12+26.611	24.50 RT.	8.08	12.081
12+27.055	24.50 RT.	8.05	12.525
12+27.600	24.50 RT.	8.01	13.070

ISLAND DRIVE	ENTRANCE LAN	E BRIDGE SECT	TION E-E TAB
CENTERL	INE R/W		DISTANC
BRIDGE #3	LEFT EDGE	EDGE	FROM BEG
STATION	OFFSET	ELEV.	BRIDGE (F1
11+31.550	43.00 LT.	7.83	0.000
11+32.095	43.00 LT.	7.87	0.545
11+32.539	43.00 LT.	7.90	0.989
11+32.856	43.00 LT.	7.92	1.306
11+33.193	43.00 LT.	7.94	1.643
11+33.556	43.00 LT.	7.96	2.006
11+33.950	43.00 LT.	7.98	2.400
11+34.386	43.00 LT.	8.00	2.836
11+34.882	43.00 LT.	8.02	3.332
11+35.469	43.00 LT.	8.04	3.919
11+35.820	43.00 LT.	8.05	4.270
11+36.235	43.00 LT.	8.06	4.685
11+36.777	43.00 LT.	8.07	5.227
11+38.085	43.00 LT.	8.08	6.535
11+39.393	43.00 LT.	8.07	7.843
11+39.935	43.00 LT.	8.06	8.385
11+40.350	43.00 LT.	8.05	8.800
11+40.701	43.00 LT.	8.04	9.151
11+41.288	43.00 LT.	8.02	9.738
11+41.784	43.00 LT.	8.00	10.234
11+42.220	43.00 LT.	7.98	10.670
11+42.614	43.00 LT.	7.96	11.064
11+42.977	43.00 LT.	7.94	11.427
11+43.314	43.00 LT.	7.92	11.764
11+43.631	43.00 LT.	7.90	12.081
11+44.075	43.00 LT.	7.87	12.525
11+44.620	43.00 LT.	7.83	13.070

OF RIVIA PALM BEACHO	ERA BERCH
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Drawn: Checked:	

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	By						
	Date						
	Revisions						
	٠.						



EBUDMAN

ANTHONY

5405 OKECHOBEE BOULEVARD,
WEST PALM BEACH, FLORIDA 33417
TELEPHONE 561-753-9723
EB-25912 LB-7334

CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES
ISLAND DRIVE
BRIDGE DECK GRADING
TABLES

DANA I GILLETTE FL PE 41913

Drawing Reference Number C-08

Sheet <u>20</u> of <u>41</u>

ALL ELEVATIONS SHOWN ARE RELATIVE TO THE NGVD 1929 DATUM. NAVD 1988 ELEVATIONS ARE 1.516 FEET LOWER.

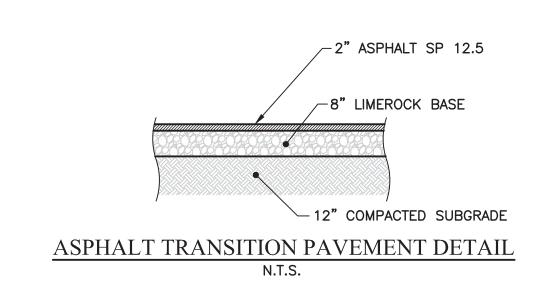
-	ENTRANCE LAN	F RKIDGE SEC	
	INE R/W	55.05	DISTANCE
BRIDGE #3	LEFT EDGE	EDGE	FROM BEGIN
STATION	OFFSET	ELEV.	BRIDGE (FT.)
11+31.550	25.00 LT.	8.01	0.000
11+32.095	25.00 LT.	8.05	0.545
11+32.539	25.00 LT.	8.08	0.989
11+32.856	25.00 LT.	8.10	1.306
11+33.193	25.00 LT.	8.12	1.643
11+33.556	25.00 LT.	8.14	2.006
11+33.950	25.00 LT.	8.16	2.400
11+34.386	25.00 LT.	8.18	2.836
11+34.882	25.00 LT.	8.20	3.332
11+35.469	25.00 LT.	8.22	3.919
11+35.820	25.00 LT.	8.23	4.270
11+36.235	25.00 LT.	8.24	4.685
11+36.777	25.00 LT.	8.25	5.227
11+38.085	25.00 LT.	8.26	6.535
11+39.393	25.00 LT.	8.25	7.843
11+39.935	25.00 LT.	8.24	8.385
11+40.350	25.00 LT.	8.23	8.800
11+40.701	25.00 LT.	8.22	9.151
11+41.288	25.00 LT.	8.20	9.738
11+41.784	25.00 LT.	8.18	10.234
11+42.220	25.00 LT.	8.16	10.670
11+42.614	25.00 LT.	8.14	11.064
11+42.977	25.00 LT.	8.12	11.427
11+43.314	25.00 LT.	8.10	11.764
11+43.631	25.00 LT.	8.08	12.081
11+44.075	25.00 LT.	8.05	12.525
11+44.620	25.00 LT.	8.01	13.070

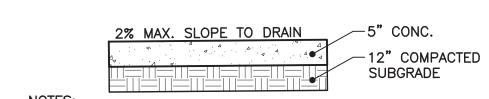
ISLAND DRIVE	ENTRANCE LANE	BRIDGE SECT	TON G-G TABLE
CENTERL	INE R/W		DISTANCE
BRIDGE #4	LEFT EDGE	EDGE	FROM BEGIN
STATION	OFFSET	ELEV.	BRIDGE (FT.)
12+14.820	43.00 LT.	7.81	0.000
12+15.365	43.00 LT.	7.85	0.545
12+15.809	43.00 LT.	7.88	0.989
12+16.126	43.00 LT.	7.90	1.306
12+16.463	43.00 LT.	7.92	1.643
12+16.826	43.00 LT.	7.94	2.006
12+17.220	43.00 LT.	7.96	2.400
12+17.656	43.00 LT.	7.98	2.836
12+18.152	43.00 LT.	8.00	3.332
12+18.739	43.00 LT.	8.02	3.919
12+19.090	43.00 LT.	8.03	4.270
12+19.505	43.00 LT.	8.04	4.685
12+20.047	43.00 LT.	8.05	5.227
12+21.355	43.00 LT.	8.06	6.535
12+22.663	43.00 LT.	8.05	7.843
12+23.205	43.00 LT.	8.04	8.385
12+23.620	43.00 LT.	8.03	8.800
12+23.971	43.00 LT.	8.02	9.151
12+24.558	43.00 LT.	8.00	9.738
12+25.054	43.00 LT.	7.98	10.234
12+25.490	43.00 LT.	7.96	10.670
12+25.884	43.00 LT.	7.94	11.064
12+26.247	43.00 LT.	7.92	11.427
12+26.584	43.00 LT.	7.90	11.764
12+26.901	43.00 LT.	7.88	12.081
12+27.345	43.00 LT.	7.85	12.525
12+27.890	43.00 LT.	7.81	13.070

ISLAND DRIVE	ENTRANCE LAN	E BRIDGE SECT	ION H-H TABLE
CENTERL	INE R/W		DISTANCE
BRIDGE #4	LEFT EDGE	EDGE	FROM BEGIN
STATION	OFFSET	ELEV.	BRIDGE (FT.)
12+14.820	25.00 LT.	7.99	0.000
12+15.365	25.00 LT.	8.03	0.545
12+15.809	25.00 LT.	8.06	0.989
12+16.126	25.00 LT.	8.08	1.306
12+16.463	25.00 LT.	8.10	1.643
12+16.826	25.00 LT.	8.12	2.006
12+17.220	25.00 LT.	8.14	2.400
12+17.656	25.00 LT.	8.16	2.836
12+18.152	25.00 LT.	8.18	3.332
12+18.739	25.00 LT.	8.20	3.919
12+19.090	25.00 LT.	8.21	4.270
12+19.505	25.00 LT.	8.22	4.685
12+20.047	25.00 LT.	8.23	5.227
12+21.355	25.00 LT.	8.24	6.535
12+22.663	25.00 LT.	8.23	7.843
12+23.205	25.00 LT.	8.22	8.385
12+23.620	25.00 LT.	8.21	8.800
12+23.971	25.00 LT.	8.20	9.151
12+24.558	25.00 LT.	8.18	9.738
12+25.054	25.00 LT.	8.16	10.234
12+25.490	25.00 LT.	8.14	10.670
12+25.884	25.00 LT.	8.12	11.064
12+26.247	25.00 LT.	8.10	11.427
12+26.584	25.00 LT.	8.08	11.764
12+26.901	25.00 LT.	8.06	12.081
12+27.345	25.00 LT.	8.03	12.525
12+27.890	25.00 LT.	7.99	13.070

PAVING AND DRAINAGE NOTES:

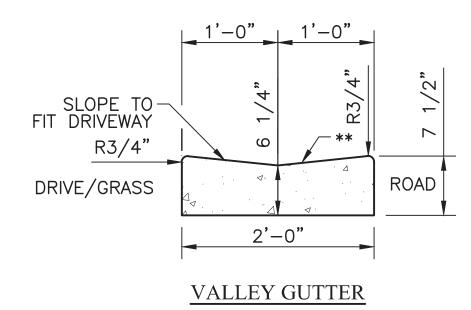
- 1. SUBGRADE CONSTRUCT UNIFORM SUBGRADE BY COMPACTING TO OBTAIN A MINIMUM DENSITY OF 98% OF THE MAXIMUM DENSITY AS DETERMINED BY FM 1-T 180 METHOD D AT ANY LOCATION.
- 2. BRICK PAVERS MATCH EXISTING PAVERS (REUSE EXISTING IF POSSIBLE) INSTALLED PER MANUFACTURERS RECOMMENDATIONS OR FDOT SPECIFICATION 526.
- 3. BASE (LIMEROCK) APPROVED LOCAL LIMEROCK BASE MATERIAL SHALL COMPACTED TO NOT LESS THEN 98% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180-86 SPECIFICATIONS AND AS CALLED FOR IN THE FLORIDA D.O.T. SPECIFICATIONS, SECTION 200. THE BASE SHALL BE PLACED AND COMPACTED IN TWO (2) EQUAL LAYERS.
- 4. PRIME COAT BITUMINOUS PRIME COAT SHALL CONFORM WITH THE REQUIREMENTS OF THE FLORIDA D.O.T. SPECIFICATIONS, SECTION 300, AND SHALL BE APPLIED AT THE RATE OF 0.10 GALLONS/SQUARE YARD, UNLESS A LOWER RATE IS APPROVED BY THE ENGINEER
- 5. TACK COAT BITUMINOUS TACK COAT SHALL CONFORM WITH THE REQUIREMENTS OF THE FLORIDA D.O.T. SPECIFICATION, SECTION 300, AND SHALL BE APPLIED AT THE RATE OF 0.08 GALLONS/SQUARE YARD, UNLESS A VARIATION IN RATE IS APPROVED BY THE ENGINEER.
- 6. ASPHALT TYPE S—III ASPHALTIC CONCRETE OR SP—12.5 ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM WITH THE REQUIREMENTS OF THE FLORIDA D.O.T. SPECIFICATIONS, SECTION 334, APPLIED IN TWO LIFTS
- 7. CONCRETE DRIVEWAY ALL CONCRETE DRIVEWAYS, SHALL BE 5" AND SHALL COMPLY WITH FDOT STANDARD INDEX 310 AND 304 AND FDOT SPECIFICATIONS SECTION 522.

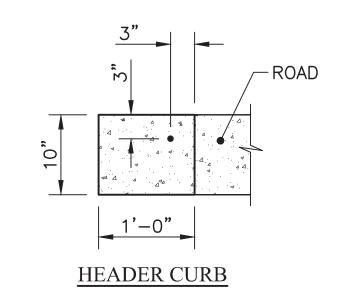




- CONCRETE SHALL CONFORM TO FDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE CONSTRUCTION 522 LATEST VERSION.
- SUBGRADE TO BE A MINIMUM 4" OF CLEAN SAND OR SANDY LOAM, FULLY COMPACTED, TO 95% MAXIMUM DRY DENSITY AND LBR 40, FULL WIDTH. INSITU MATERIAL MAY BE SUITABLE.
- 3. BROOM FINISHED WITH EVEN, DUSTLESS SURFACE.

CONCRETE DRIVEWAY DETAIL N.T.S.



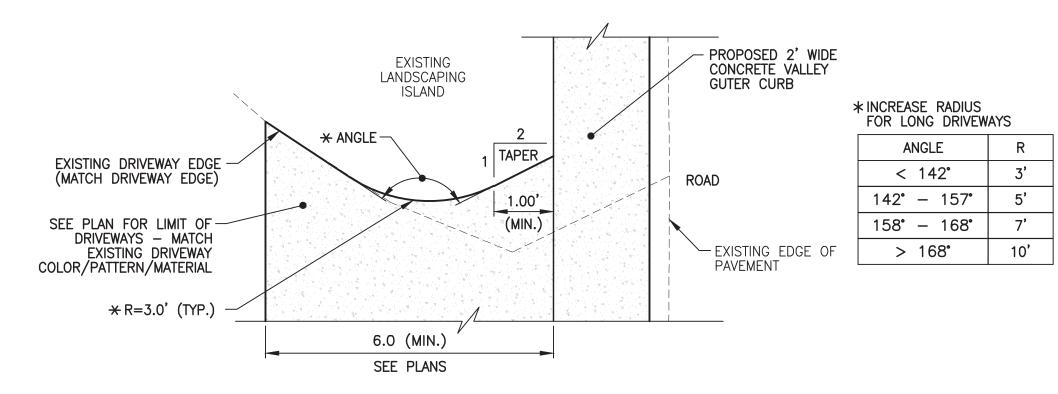


** THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. THE MINIMUM THICKNESS OF THE LIPS SHALL BE 6-1/4".

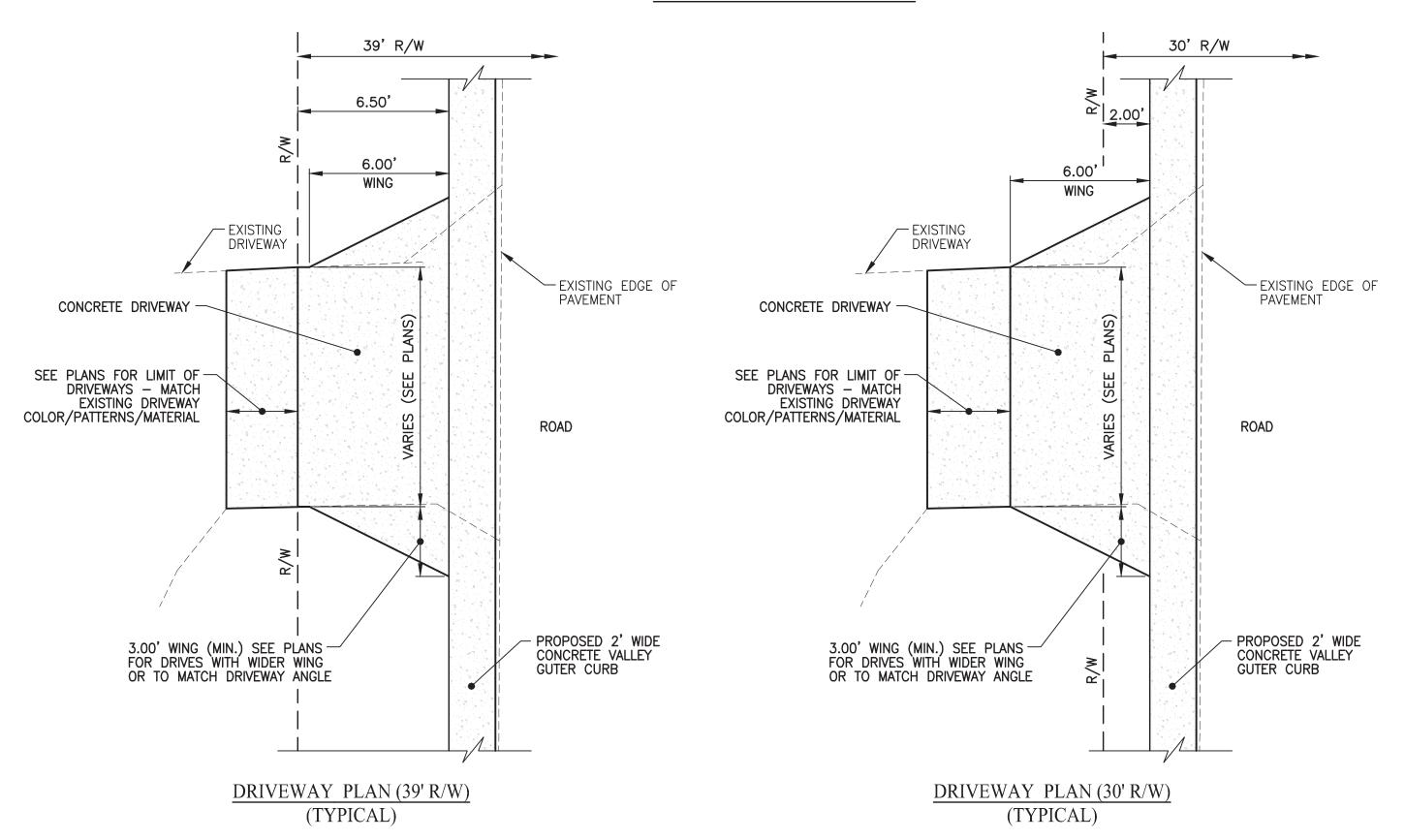
GENERAL NOTES:

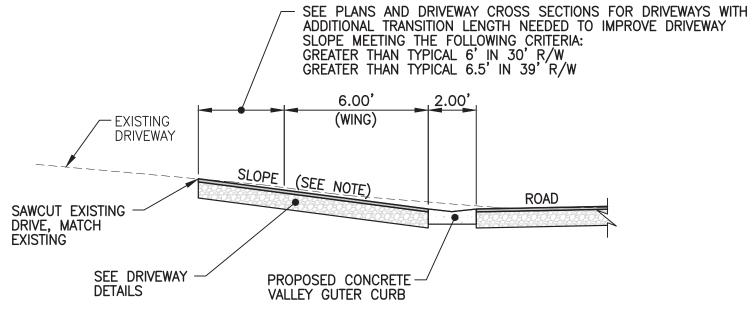
- 1. FOR CURB, GUTTER AND CURB & GUTTER PROVIDE 1/8" 1/4" CONTRACTION JOINTS AT 10' CENTERS (MAX.). CONTRACTION JOINTS ADJACENT TO CONCRETE PAVEMENT ON TANGENTS AND FLAT CURVES ARE TO MATCH THE PAVEMENT JOINTS, WITH INTERMEDIATE JOINTS NOT TO EXCEED 10' CENTERS. CURB, GUTTER AND CURB & GUTTER EXPANSION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH THE LATEST EDITION OF FDOT STANDARDS SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION SECTION 520. CONTRACTION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH THE LATEST EDITION OF DESIGN STANDARDS INDEX 300.
- 2. ENDS OF CURB SHALL TRANSITION FROM FULL TO ZERO HEIGHTS IN 3'.
- 3. CURBS AND CURBS AND GUTTERS SHALL BE IN ACCORDANCE WITH FDOT LATEST EDITION OF DESIGN STANDARDS INDEX 300.
- 4. BACKFILL BEHIND THE CURBS SHALL BE PLACED TO THE TOP OF THE CURB.

CONCRETE CURB AND GUTTER DETAILS



CIRCULAR DRIVEWAY PLAN





DRIVEWAY PROFILE (TYPICAL)

DRIVEWAY SLOPE NOTE:

MAXIMUM SLOPE = 15.0% (USED ONLY WHEN DRIVE LENGTH CAN'T BE ACHIEVED)

MAXIMUM PREFERRED SLOPE = 12.0%

MINIMUM SLOPE = 0.5% (PROVIDE POSITIVE GRADE FROM DRIVE TO VALLEY GUTTER)

 $\frac{DRIVEWAYS}{\text{N.T.S.}}$



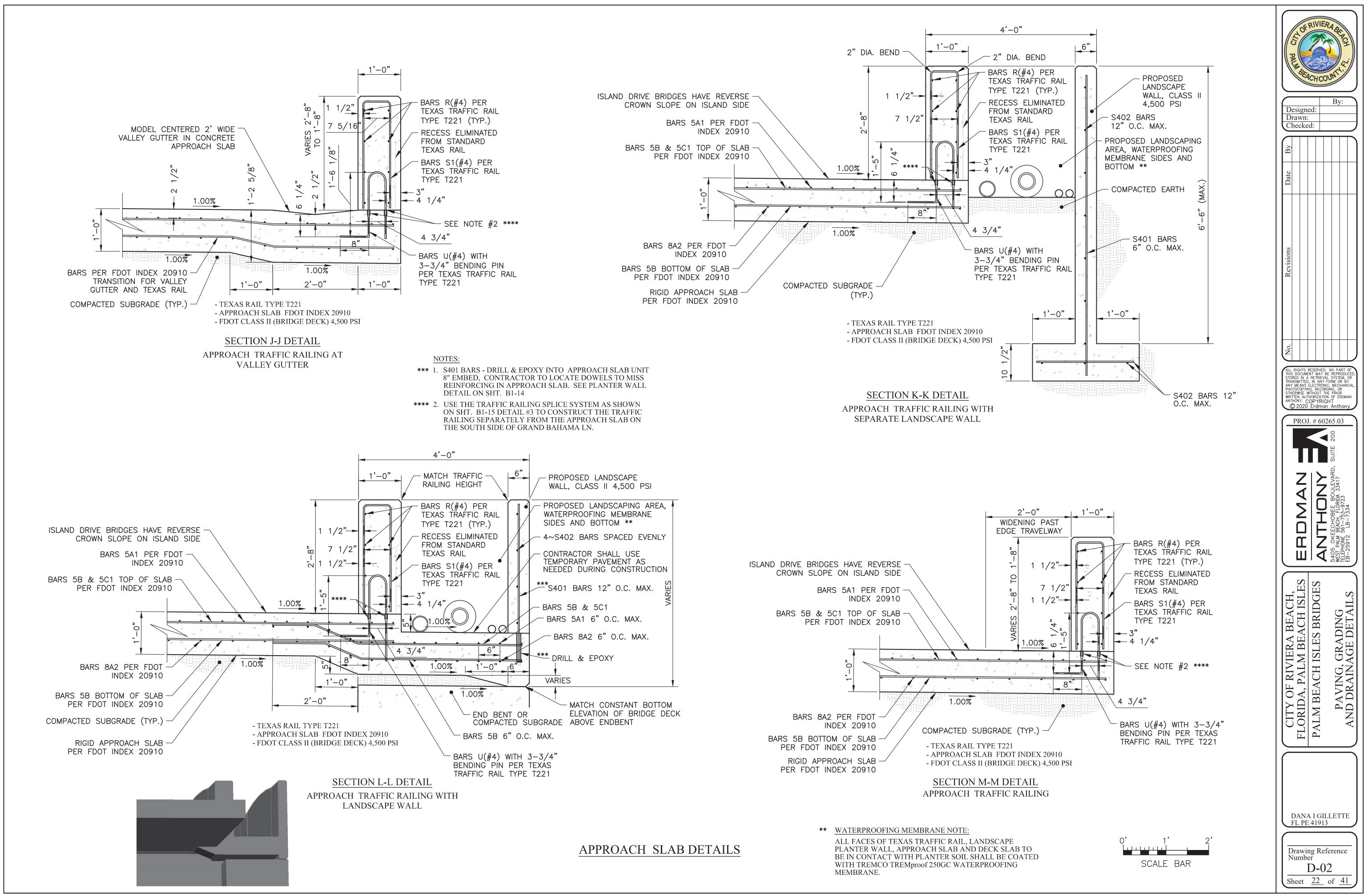
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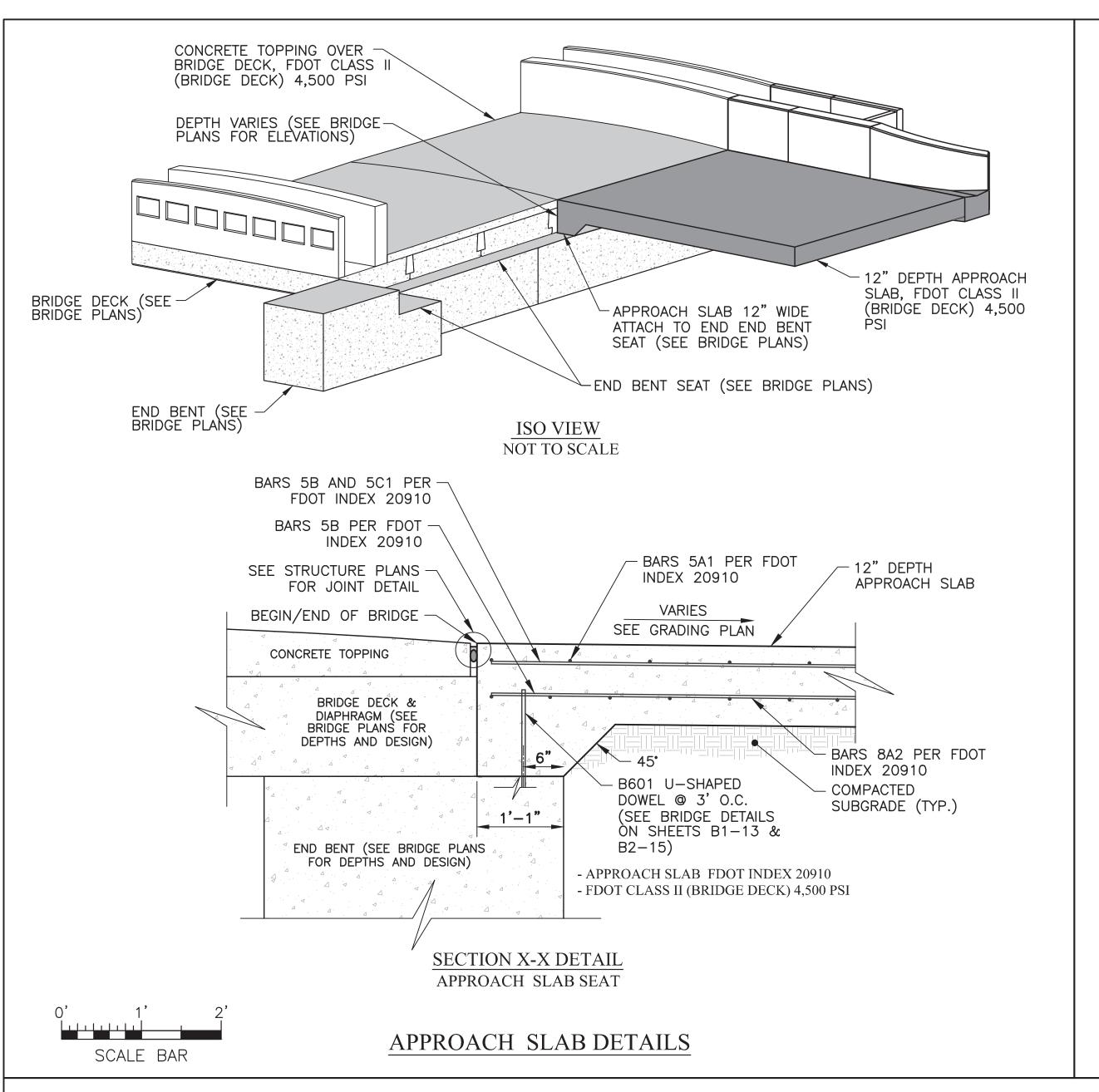
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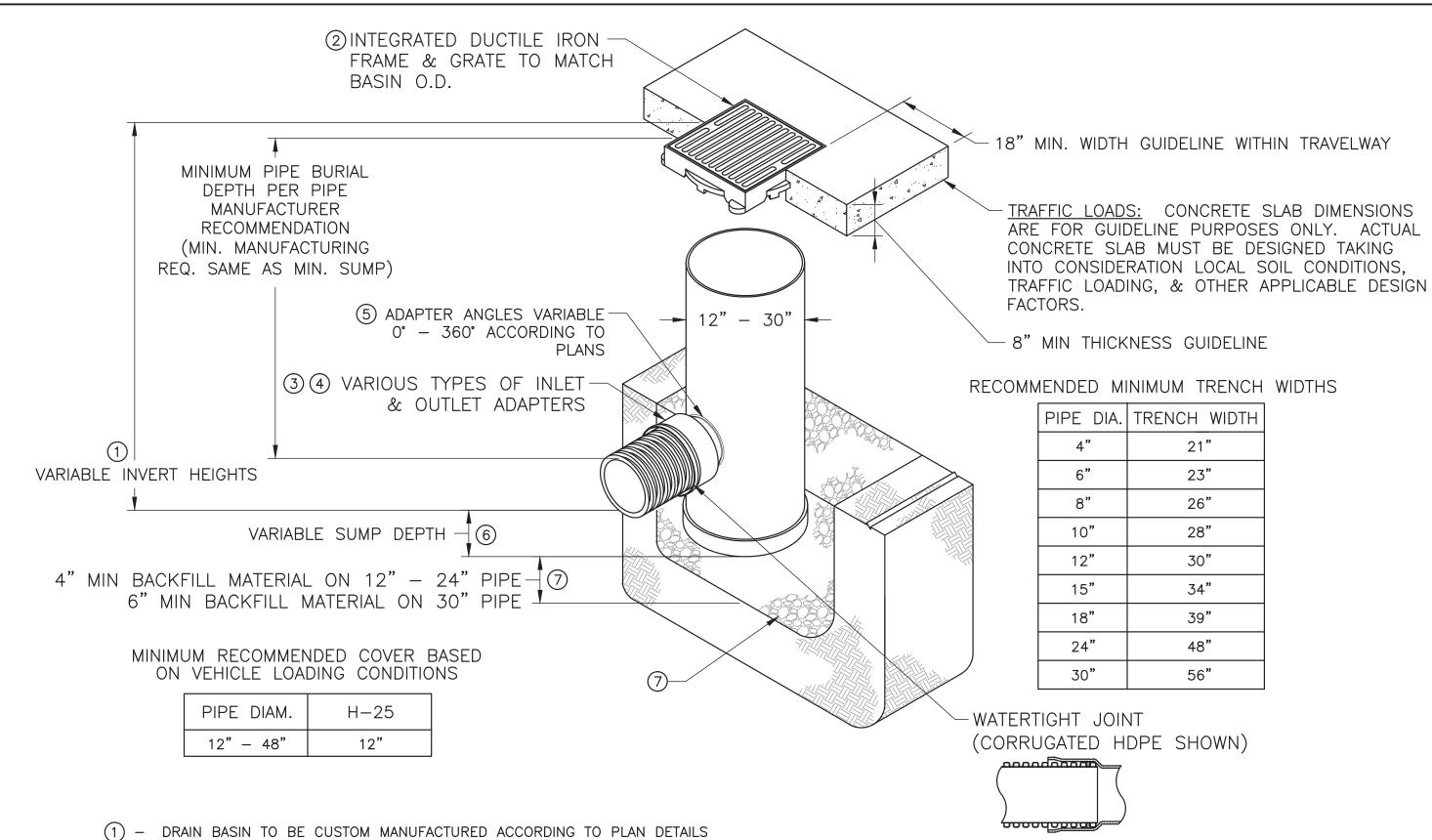
CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES
PAVING, GRADING

DANA I GILLETTE FL PE 41913

 $\begin{array}{c} \overline{\text{Drawing Reference}} \\ \overline{\text{Number}} \\ \overline{\text{D-01}} \\ \overline{\text{Sheet}} \quad \underline{21} \quad \text{of} \quad \underline{41} \\ \end{array}$







(2) - ROAD & HIGHWAY GRATE AND FRAME SHALL MEET H-20 LOAD RATING.

(3) - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO

N-12 HP, & PVC SEWER (4" - 24").

GRADE 70-50-05.

12" - 30" FRAMES & GRATES SHALL BE DUCTILE IRON PER ASTM A536

ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL),

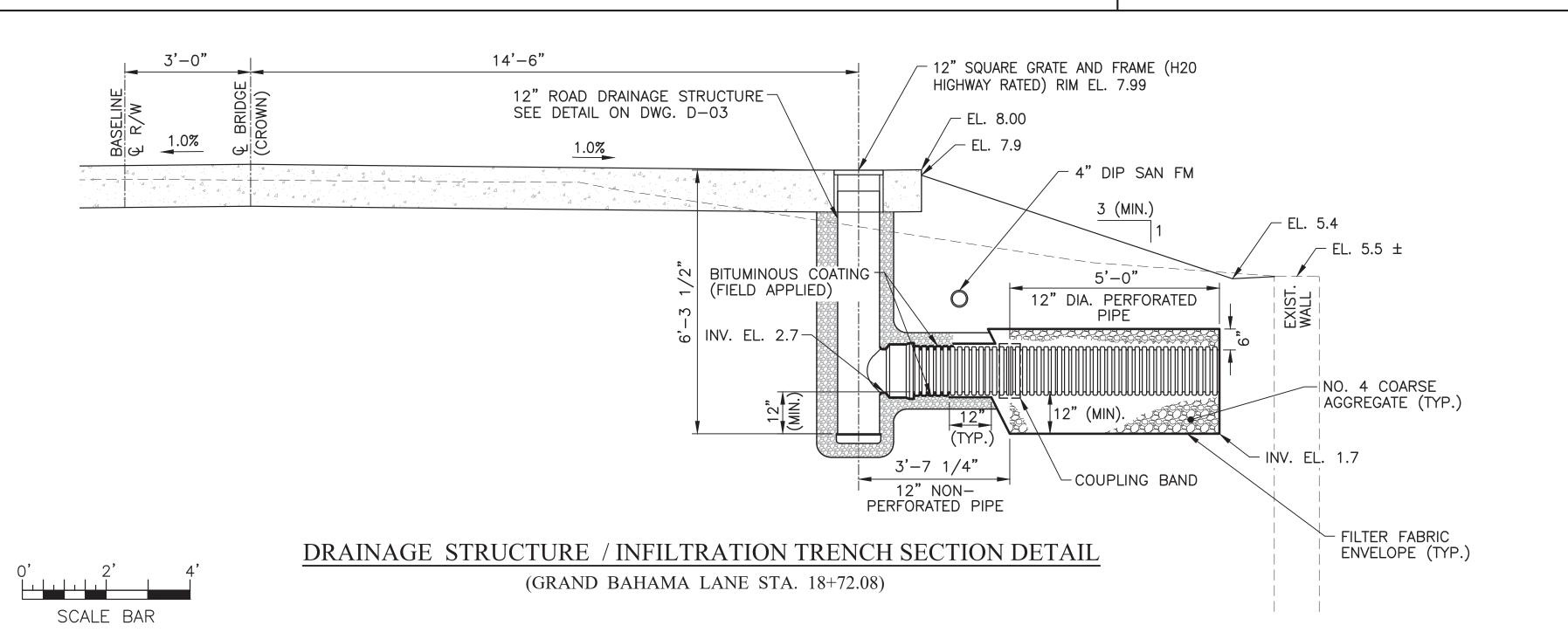
CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, ADS/HANCOR SINGLE

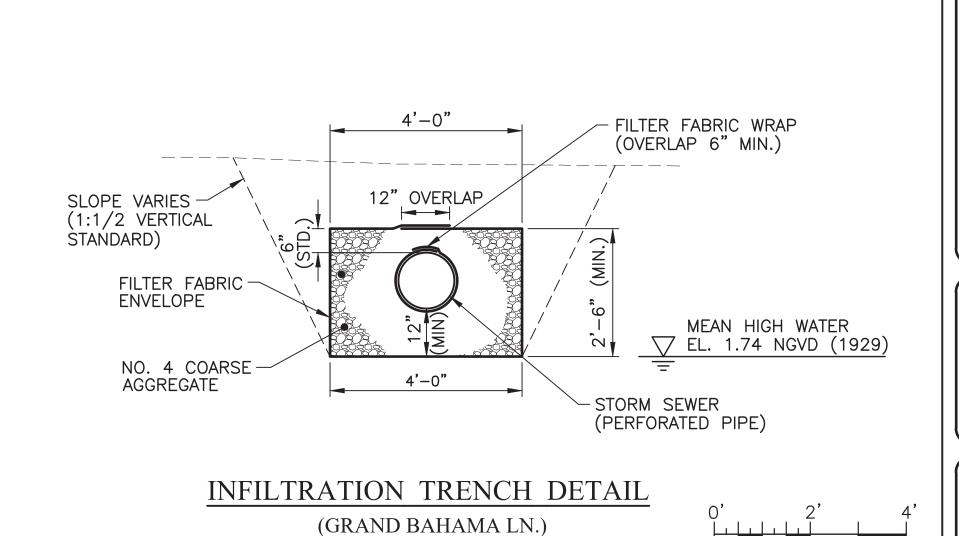
WALL), N-12 HP, PVC SEWER (EX: SDR 35), PVC DWV (EX: SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC.

(4) - VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE: 4" - 30" FOR

- (5) ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°.
- 6 VARIABLE SUMP DEPTH ACCORDING TO PLANS (6" MIN ON 12" 24", 10" MIN ON 30" BASED ON MANUFACTURING REQUIREMENTS.
- 7 BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS II, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

ROAD DRAINAGE STRUCTURE DETAIL NOT TO SCALE





SCALE BAR

EBUNE S61-753-9723

EB-25912 LB-7334

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PROJ. # 60265.03

By:

Designed:

Drawn:

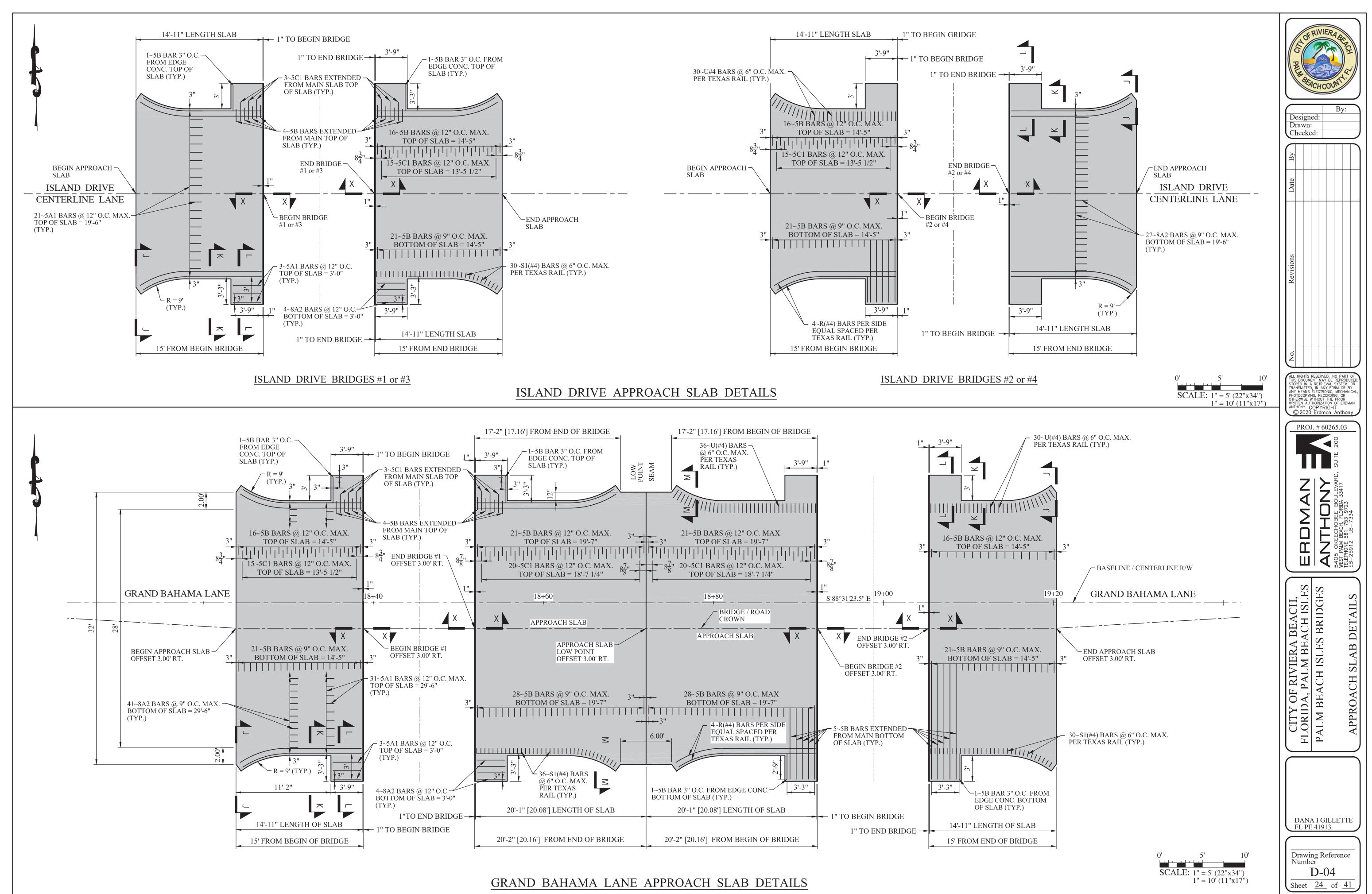
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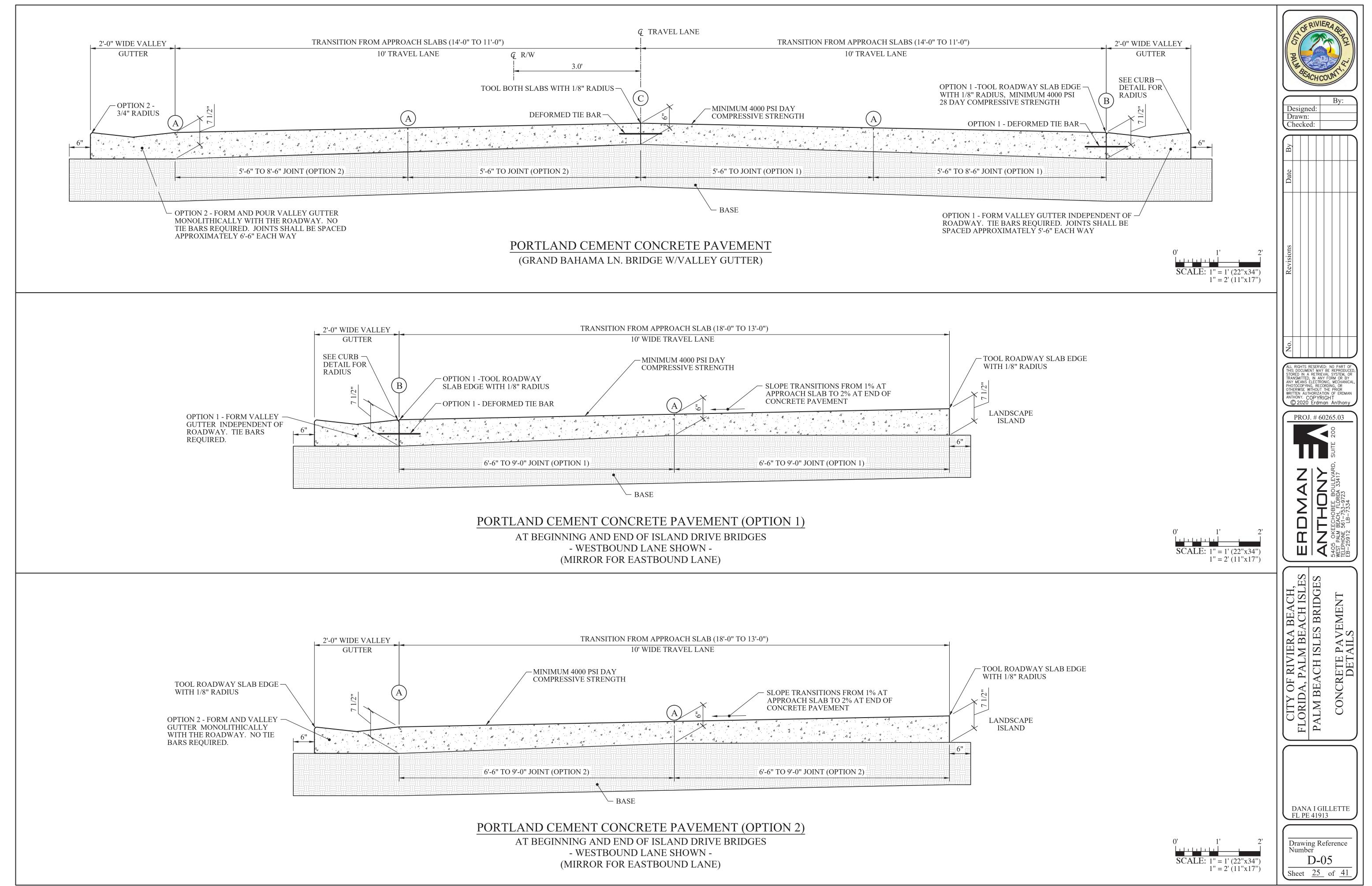
CITY OF RIVIERA BEACH, FLORIDA, PALM BEACH ISLES PALM BEACH ISLES BRIDGES

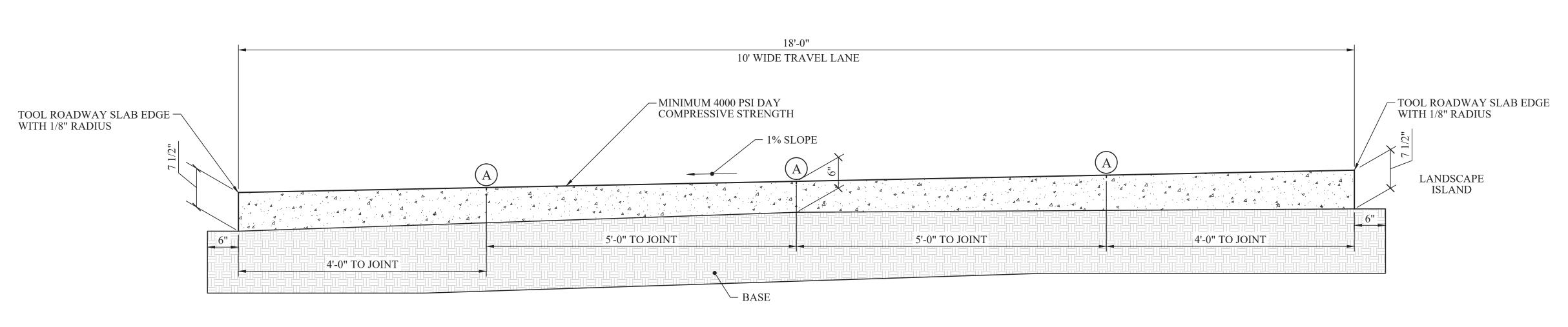
DANA I GILLETTE FL PE 41913 Drawing Reference Number

D-03

Sheet <u>23</u> of <u>41</u>

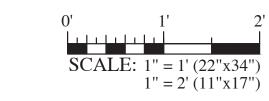






PORTLAND CEMENT CONCRETE PAVEMENT

BETWEEN ISLAND DRIVE BRIDGES
- WESTBOUND LANE SHOWN -





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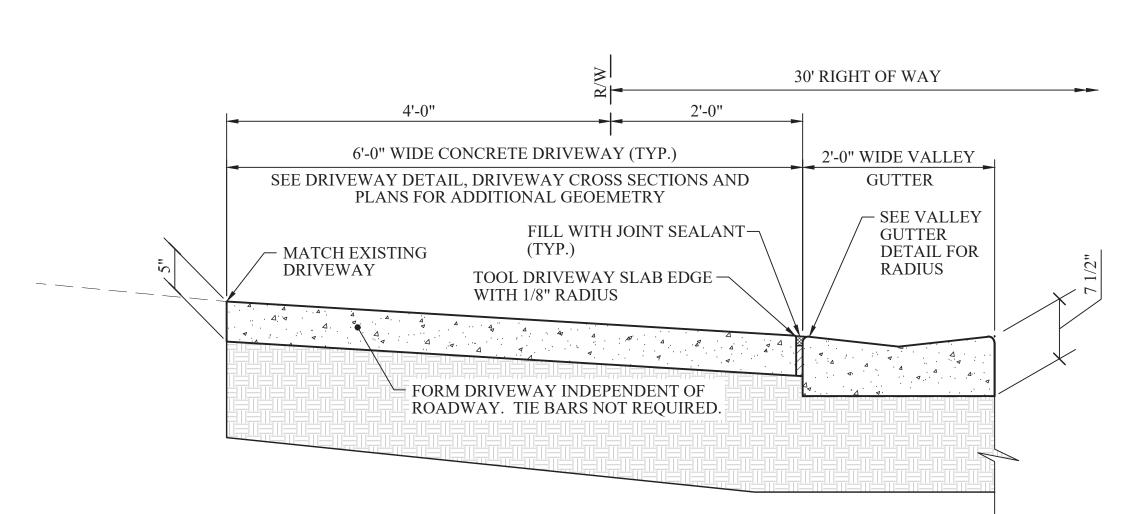
CITY OF RIVIERA BEACH,
FLORIDA, PALM BEACH ISLES
PALM BEACH ISLES BRIDGES
CONCRETE PAVEMENT
DETAILS



Drawing Reference
Number

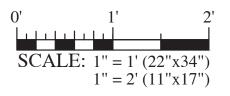
D-06

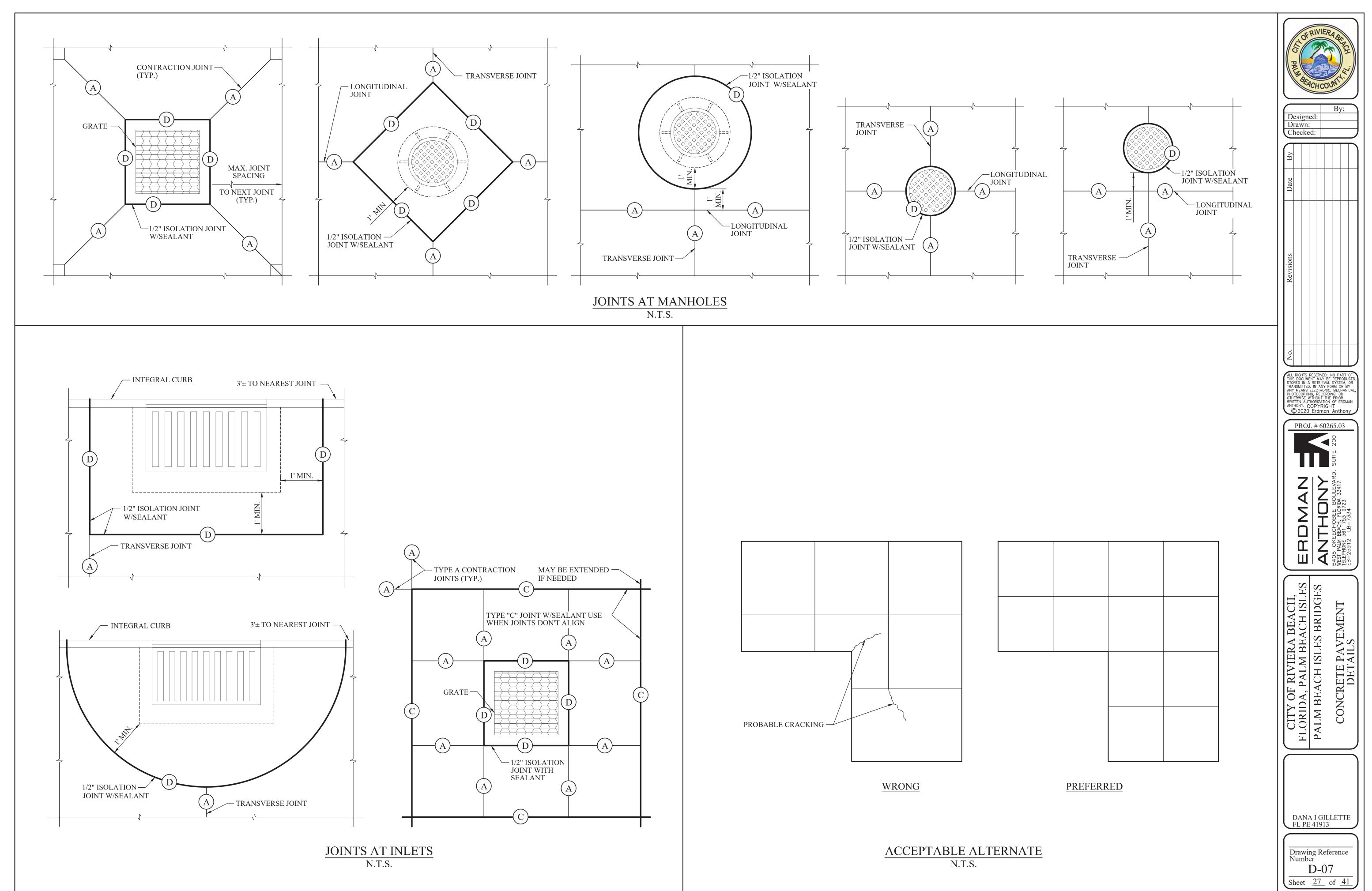
Sheet 26 of 41

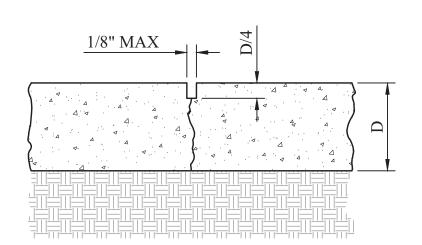


30' RIGHT OF WAY

PORTLAND CEMENT CONCRETE PAVEMENT DRIVEWAY
(GRAND BAHAMA LN. VALLEY GUTTER AT DRIVE)







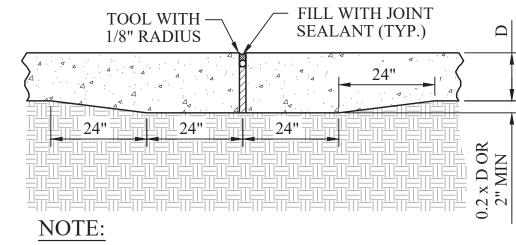
MAXIMUM SPACING 10' (SEE NOTE 6)

TYPE A

TRANSVERSE OR LONGITUDINAL

CONTRACTION (CONTROL) JOINTS

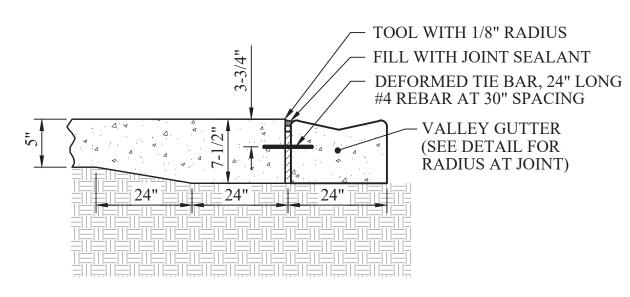
N.T.S.



TO BE USED AT THE END OF A POUR AND PERPENDICULAR TO THE CENTERLINE.

TYPE (E)

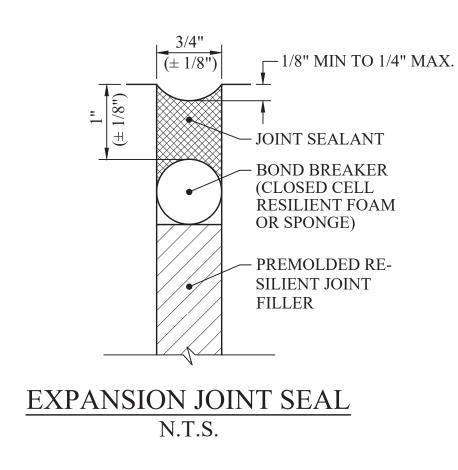
CONSTRUCTION EXPANSION OR BUTT JOINT N.T.S.

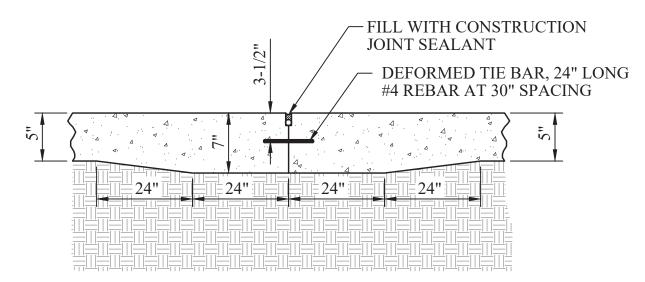


NOTE:
TO BE USED AT THE END OF A POUR ALONG THE VALLEY GUTTER.

TYPE B

CONSTRUCTION OR BUTT JOINT
N.T.S.



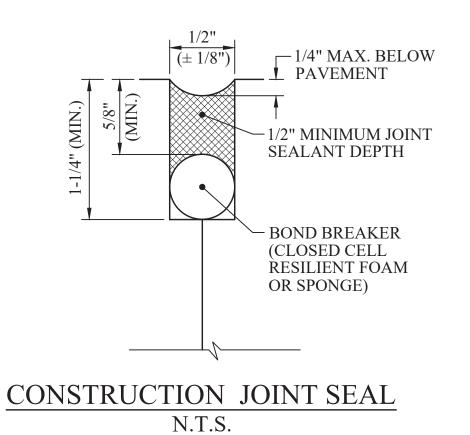


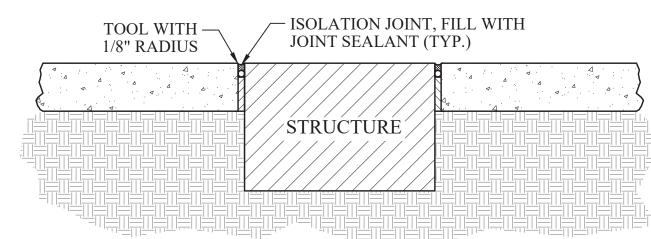
NOTE:
TO BE USED AT THE END OF A POUR ALONG THE CENTERLINE.

TYPE ©

CONSTRUCTION AT BUTT JOINT

N.T.S.





NOTE: ISOLATION JOINT FOR PAVEMENTS LESS THAN 8" THICK.

TYPE D

STRUCTURE ISOLATION JOINT
N.T.S.

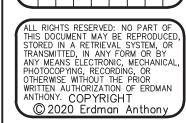
CONCRETE PAVEMENT NOTES:

- 1. CONTRACTOR SHALL SUBMIT QUALIFICATIONS FOR PROPOSED STAFF FOR REVIEW AND APPROVAL BY THE CITY AND ENGINEER. USE AMERICAN CONCRETE INSTITUTE (ACI) CERTIFIED FLATWORK FINISHER
- 2. REFERENCE ACI 330 STANDARD SPECIFICATION FOR PLAIN CONCRETE PARKING LOTS
- 3. ALL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. PAVEMENT MAY BE OPENED TO NEIGHBORHOOD TRAFFIC ONCE A COMPRESSIVE STRENGTH OF 2,000 PSI IS REACHED. CONTRACTOR SHALL SUBMIT A MIX DESIGN THAT ACHIEVES 2,000 PSI WITHIN 24 HOURS BY ADJUSTING THE STRENGTH, ADMIXTURES, AND/OR CURING PROCESS. CONTRACTOR SHALL SUBMIT A PLAN DESCRIBING THE PROPOSED MIX AND TIME TO ACHIEVE THE MINIMUM STRENGTH. CONTRACTOR SHALL PREPARE AND SUBMIT A CURING PLAN FOR REVIEW AND APPROVAL BY THE CITY. CONTRACTOR SHALL CURE CONCRETE IMMEDIATELY WITH PONDED WATER, PIGMENTED WATER BASED CURING COMPOUND, OR SATURATED BURLAP.
- 4. SUBGRADE TESTING MUST BE COMPLETED AND VERIFIED BY THE GEOTECHNICAL ENGINEER PRIOR TO CONCRETE PLACEMENT.
- 5. PREPARE THE BASE AS FOLLOWS:
 - A. OPTION 1 OPTIONAL BASE GROUP 2 IN ACCORDANCE WITH FDOT SPECIFICATIONS AND STANDARD 514 (5" OF LIMEROCK BASE LBR 100 OR 4" OF ASPHALTIC BASE TYPE B-12.5) OVER A SUBGRADE COMPACTED TO 95% OF MAXIMUM DRY DENSITY.
 - B. OPTION 2 TYPE B STABILIZED SUBGRADE (LBR40) 12" THICK IN ACCORDANCE WITH FDOT SPECIFICATIONS.
 - C. OPTION 3 SOIL CEMENT BASE (300 PSI) 6" THICK IN ACCORDANCE WITH FDOT SPECIFICATION 270 OR APPROVED EQUIVALENT OVER A SUBGRADE COMPACTED TO 95% OF MAXIMUM DRY DENSITY.
- 6. CONTRACTOR SHALL PREPARE AND SUBMIT A JOINT LAYOUT PLAN FOR REVIEW AND APPROVAL BY THE CITY AND ENGINEER.
 - A. JOINTS SHALL BE CONTINUOUS UNLESS TERMINATED BY AN ISOLATION JOINT.
 - B. JOINTS SHALL BE SQUARE, AVOID RECTANGULAR PANELS (1.25 LENGTH TO WIDTH RATIO MAXIMUM). AVOID IRREGULARLY SHAPED PANELS AND ACUTE JOINT ANGLES.
 - C. LAYOUT CONTROL JOINTS BY STARTING WITH ANY DRAINAGE INLET WITHIN THE PAVEMENT SECTION AND WORKING TOWARD EDGE OF PAVEMENT.
 - D. CONTROL JOINTS SHALL BE FORMED OR SAWED WITHIN 1 TO 6 HOURS FROM TIME OF PLACEMENT.
 - E. MAXIMUM SPACING SHALL BE 10'.
- 7. CONSTRUCT ONE LANE AT A TIME TO ALLOW INGRESS AND EGRESS.
- 8. INSTALL TIE BARS ALONG THE CENTER LINE TO TIE THE TWO TRAVEL LANES TOGETHER. INSTALL TIE BARS ALONG THE EDGE OF PAVEMENT TO TIE THE LANE TO THE GUTTER UNLESS THE GUTTER IS FORMED AND POURED MONOLITHICALLY WITH THE PAVEMENT.



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Revisions						



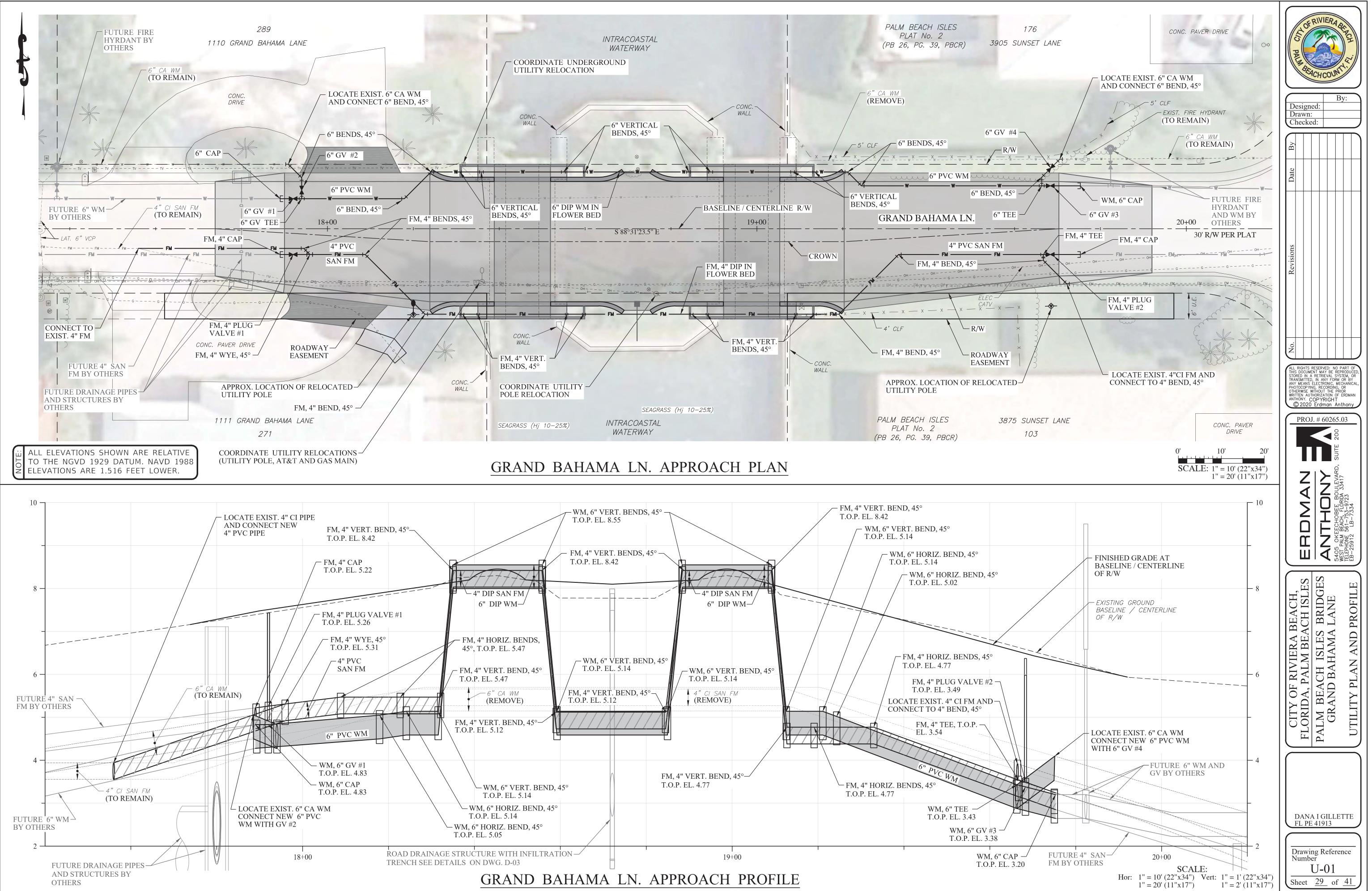


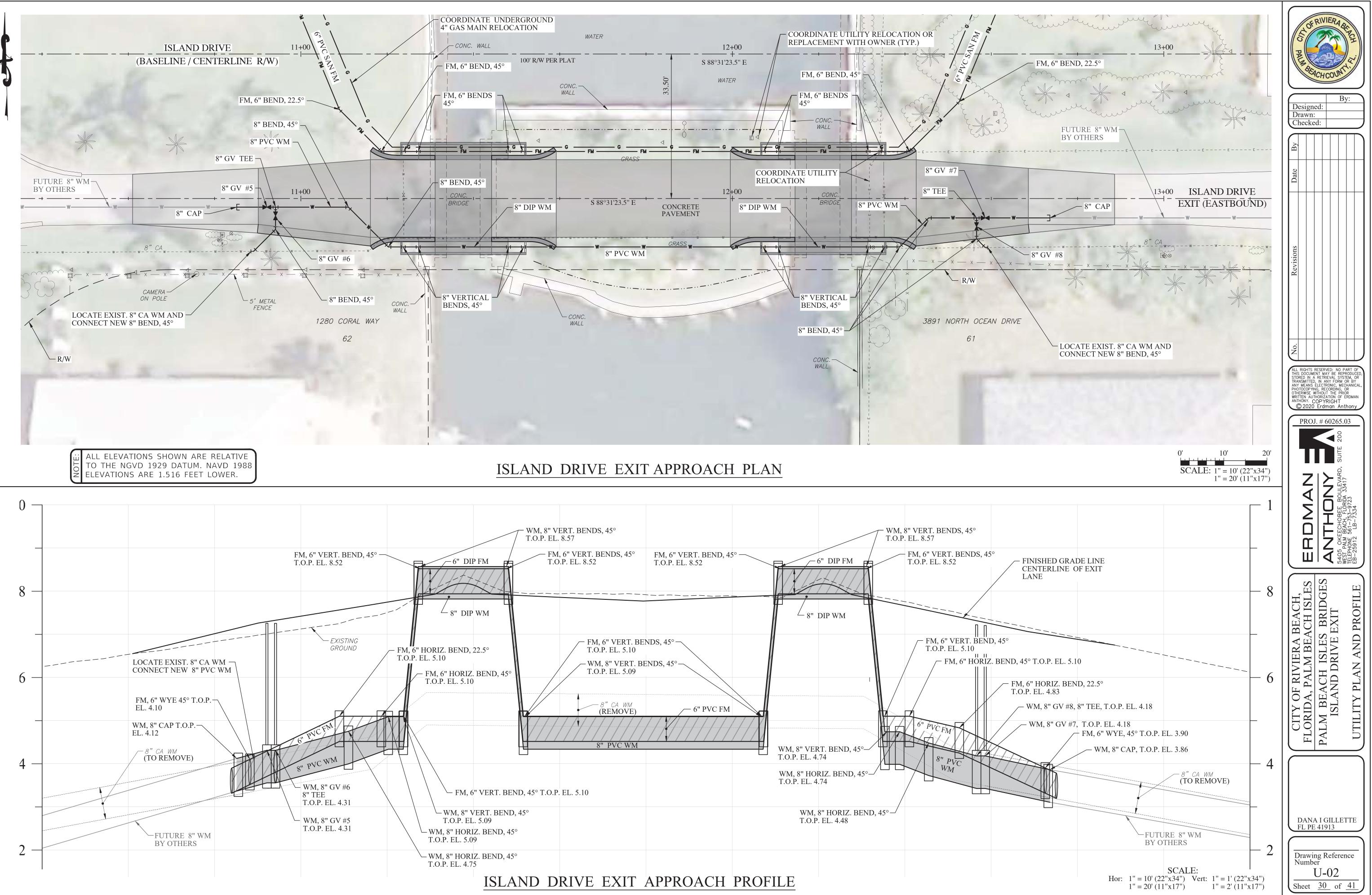
ORIDA, PALM BEACH ISLES
LM BEACH ISLES BRIDGES
CONCRETE PAVEMENT
DETAILS

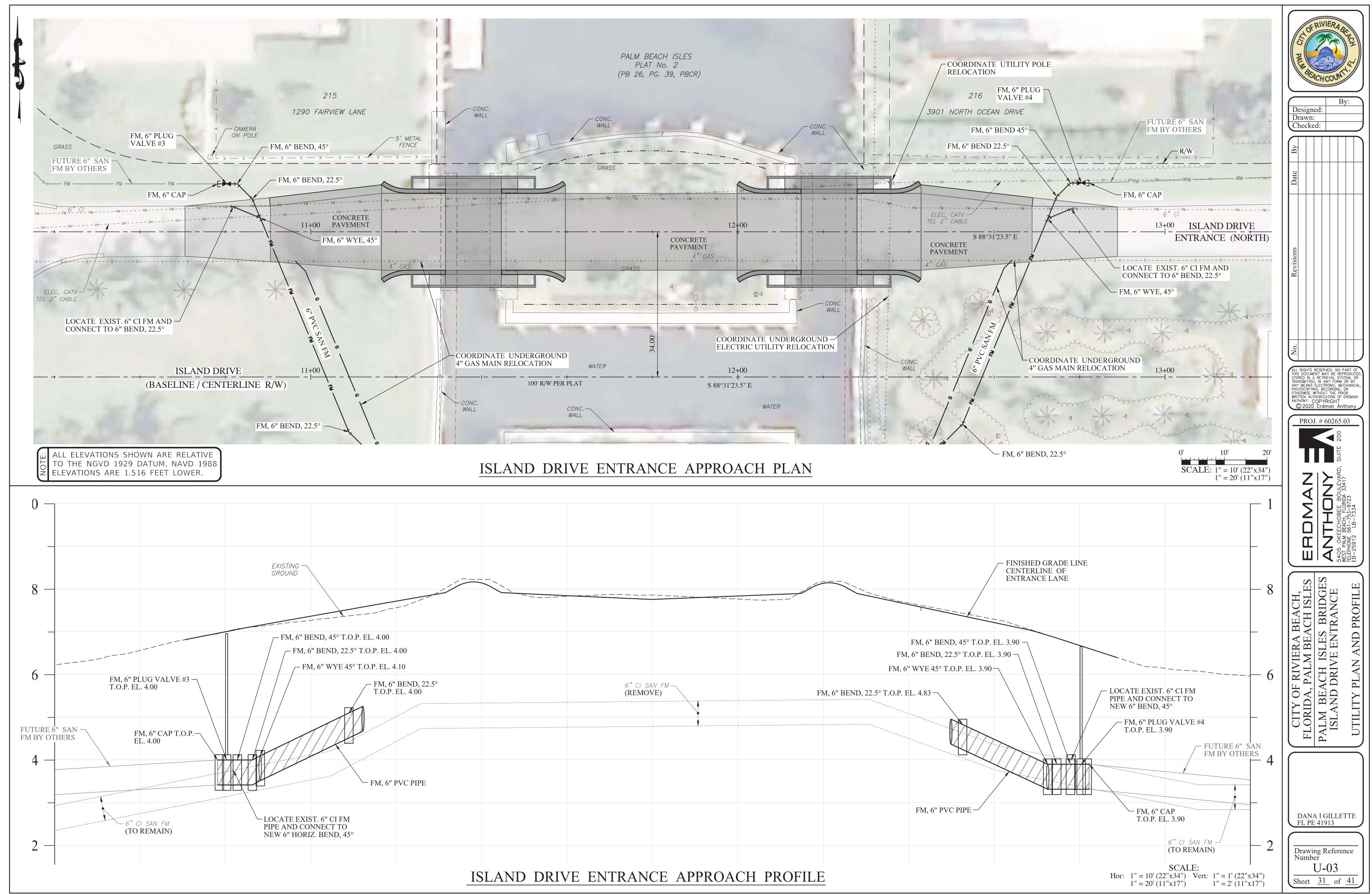
DANA I GILLETTE FL PE 41913

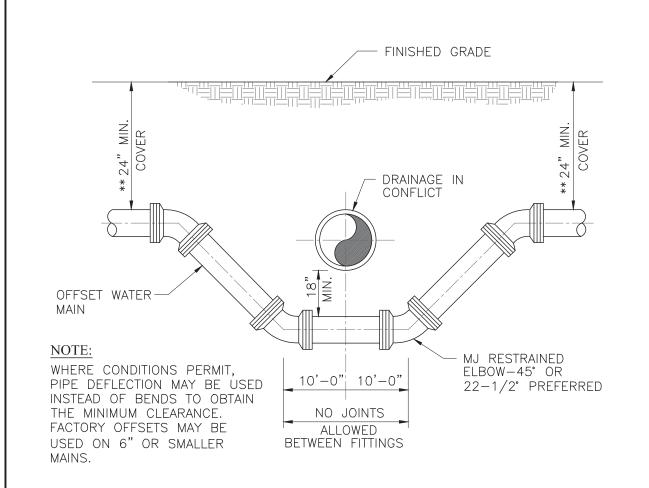
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PAL

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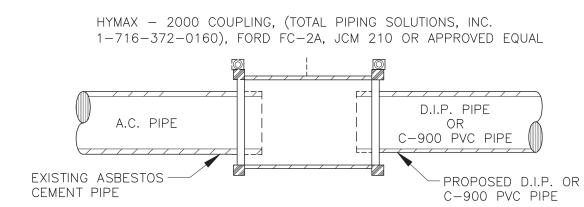






GENERAL - TYPICAL CONFLICT DETAIL

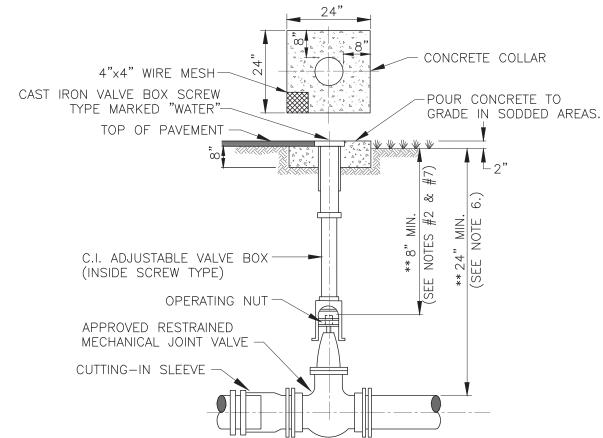
STANDARD DETAIL (N.T.S.)



NOTES:

- 1. PREPARE THE PIPE ENDS TO A DISTANCE OF AT LEAST 3 INCHES BEYOND THE LENGTH OF THE COUPLING. PIPE PREPERATION WILL CONSIST OF CLEANING AND DE—SCALING EACH PIPE END, REMOVING ANY DEBRIS OR BUILD UP ON THE PIPE ENDS AND CLEAN THE OUTER PIPE SURFACE WITH SOAPY WATER.
- 2. THE END GAP IS LEFT BETWEEN THE PIPE ENDS. A PIPE END GAP OF AT LEAST 2 INCHES IS REQUIRED BETWEEN THE PIPE ENDS TO PREVENT CENTERING PIN AND PIPE INTERFACE.
- 3. USE OF A TORQUE WRENCH IS MANDATORY ACCORDING TO MANUFACTURER RECOMMENDATIONS.

PIPE TRANSITION DETAIL
STANDARD DETAIL (N.T.S.)



<u>NOTES</u>:

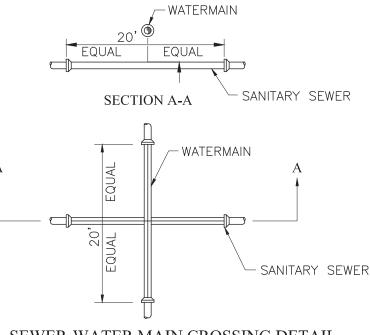
- 1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
- 2. WHEN OPERATING NUT IS DEEPER THAN 36" A ONE PIECE EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT 20"—30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS ARE TO BE STAINLESS STEEL. A HIGH STRENGTH STEEL CENTERING PLATE, WELDED TO THE EXTENSION, IS ALSO REQUIRED.
- 3. VALVE BOXES SHALL HAVE COVERS MARKED "WATER".4. VALVE BOX EXTENSION TO BE D.I.P. OR C-900 PVC SDR 18 (BLUE)5. A CUT-IN INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT
- ASSEMBLY.
 6. IN ORDER TO MAINTAIN ADEQUATE COVER OVER VALVE NUT, THE FOLLOWING
- MINIMUM COVERS OVER PIPE ARE REQUIRED

 7. CONTRACTOR SHALL PROVIDE SPECIFIC DESIGN FOR ADJUSTABLE VALVE BOX IN SHOP DRAWING TO ACCOMMODATE THE NON-STANDARD HEIGHT.

TYPICAL GATE VALVE SETTINGS AND CUT-IN DETAIL

STANDARD DETAIL (N.T.S.)

** DESIRED COVER SHALL BE 36". MINIMUM COVER SHALL BE 24", AS APPROVED BY THE CITY, AS SHOWN ON THE PLANS.



SEWER-WATER MAIN CROSSING DETAIL

STANDARD WATER AND SEWER SEPARATION STATEMENT

- 1. STORM SEWER, GRAVITY WASTEWATER AND FORCE MAINS CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE (12) INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE CROWN OF THE LOWER PIPE. WHERE THIS IS MINIMUM SEPARATION CANNOT BE MAINTAINED BETWEEN GRAVITY AND SEWER OR STORM SEWER, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/GRAVITY SEWER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN SIX (6) FEET BETWEEN ANY TWO JOINTS, BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE SIX (6) INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/FORCE MAIN CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR THE MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN LINE AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION, IN ALL OF THE ABOVE CASES D.I.P. IS NOT REQUIRED FOR STORM SEWER PIPE.
- 2. FORCE MAINS CROSSING STORM SEWER SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE (12) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE STORM SEWER.
- 3. AT THE UTILITY CROSSING DESCRIBED IN ITEMS 1 AND 2 ABOVE, ONE FULL LENGTH OF DUCTILE IRON WATER MAIN PIPE SHALL BE CENTERED SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE JOINTS. WHERE THIS IS NOT POSSIBLE, JOINTS SHALL BE AT LEAST THREE (3) FEET FROM STORM SEWERS AND SIX (6) FEET FROM GRAVITY SEWER MAINS AND FORCE MAINS.
- 4. SEWER SERVICE LATERALS SHALL CROSS UNDER WATER MAINS WITH A MINIMUM VERTICAL SEPARATION OF TWELVE (12) INCHES. IF 12" VERTICAL SEPARATION CANNOT BE MAINTAINED, THEN THE WATER MAIN SHALL BE D.I.P. AND THE SEWER SERVICE LATERAL SHALL BE C-900 SDR 18 OR BETTER AND THE MINIMUM SEPARATION SHALL BE SIX (6) INCHES. WHEN IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER THE SEWER SERVICE LATERAL A MINIMUM VERTICAL SEPARATION OF AT LEAST TWELVE (12) INCHES MUST BE MAINTAINED, THE WATER MAIN SHALL BE D.I.P. AND THE SEWER LATERAL SHALL BE C-900 SDR 18 OR BETTER.
- 5. MAINTAIN MINIMUM TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN OR FORCE MAIN, STORM SEWER OR GRAVITY SEWER MAIN OR ON SITE SEWAGE DISPOSAL SYSTEMS. ADDITIONAL SEPARATION MAY BE REQUIRED AS OUTLINED IN SECTION II OF RBUD STANDARDS.
- 6. HORIZONTAL AND VERTICAL CLEARANCE MAY BE REDUCED TO THE MINIMUMS ALLOWED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS FOLLOWS:

 A. VERTICAL SEPARATION FROM WATER MAINS:

FORCE MAINS: WATER MAIN SHALL BE AT LEAST TWELVE INCHES ABOVE.

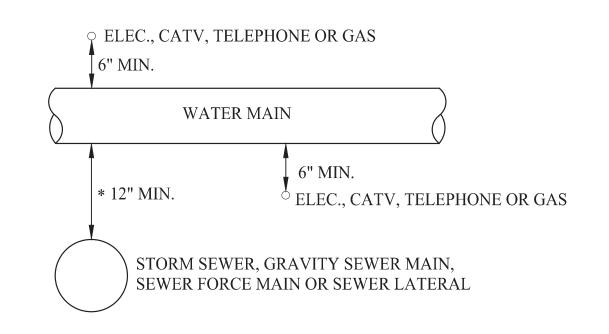
- a. STORM SEWER, GRAVITY WASTEWATER, OR SANITARY SEWER SERVICE LATERAL: WATER
 MAIN SHALL BE AT LEAST SIX INCHES ABOVE OR TWELVE INCHES BELOW.
 b. PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAINS, OR STORMWATER
- B. HORIZONTAL SEPARATION FROM WATER MAINS:

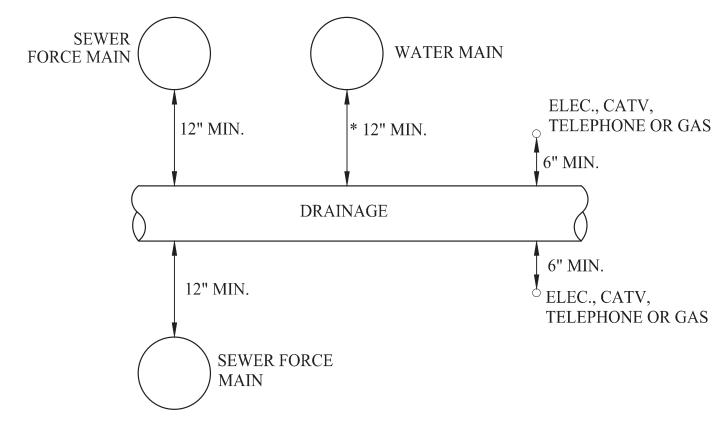
 a. STORM SEWER OR STORMWATER FORCEMAIN: AT LEAST THREE FEET.
- b. PRESSURE—TYPE SANITARY SEWER, FORCEMAIN, OR RECLAIMED WATER MAIN: AT LEAST SIX FEET.
 c. GRAVITY SANITARY SEWER MAIN: AT LEAST THREE FEET IF THE BOTTOM OF THE
- WATER MAIN IS AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER, OTHERWISE SIX FEET MINIMUM.

 C. FORCE MAINS CROSSING STORM SEWERS SHALL BE LAID TO PROVIDE A MINIMUM
- D. AT THE UTILITY CROSSINGS DESCRIBED ABOVE, WHERE A VERTICAL SEPARATION OF LESS THAN TWELVE INCHES OCCURS, THE CROSSING SHALL BE ARRANGED SO THAT THE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH AT LEAST THREE FEET BETWEEN WATER MAIN JOINTS AND STORM SEWER JOINTS AND AT LEAST SIX FEET FROM WATER MAIN JOINTS AND SANITARY SEWER JOINTS.
- E. ALL THE CROSSINGS DESCRIBED ABOVE ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.



VERTICAL DISTANCE OF SIX INCHES.

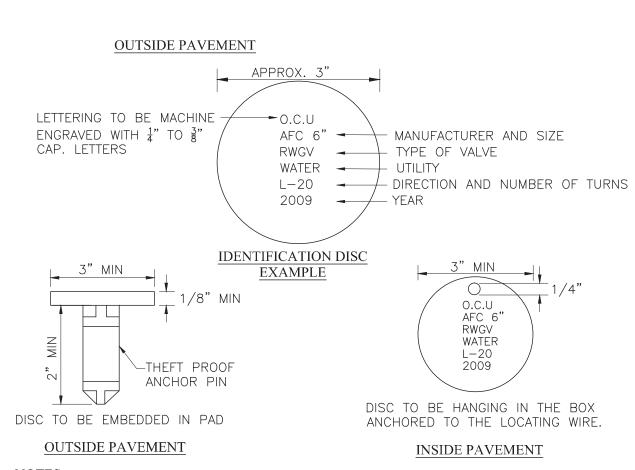




NOTES:

- 1. THE CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO THE CONSTRUCTION AND PRIOR TO PREPARING SHOP DRAWINGS.
- 2. THE CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES AND ARRANGE TO HAVE THE EXISTING UTILITIES MOVED OR MOVED OR REPLACED TO MEET THE MINIMUM SEPARATION REQUIREMENTS.
- 3. CONTRACTOR IS RESPONSIBLE FOR ANY RELOCATION OR REPLACEMENT OF EXISTING UTILITIES IN CONFLICT WITH PROPOSED WORK.
- 4. SEE ALSO THE WATER/SEWER SEPARATION STATEMENT ON DRAWINGS G-03 AND G-04.
- * 12" SEPARATION MAY BE REDUCED TO 6" IF WATER MAIN IS DIP, THE SANITARY FORCE MAIN IS DIP OR SEWER LATERAL IS PVC C-900 SDR 18.

UTILITY CROSSING DETAILS N.T.S.

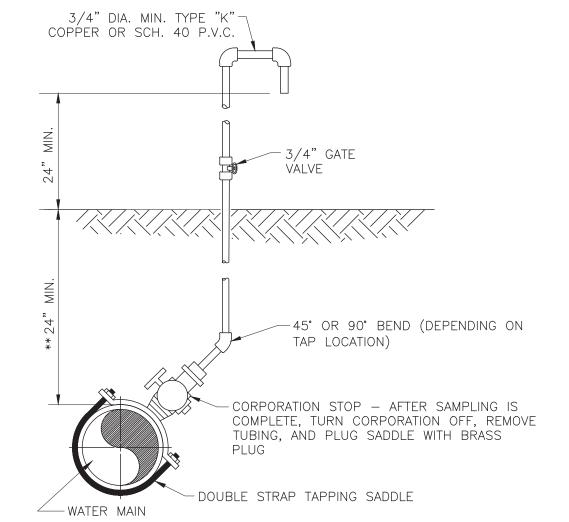


NOTES: 1. BRONZE (OR STAINLESS STEEL) IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL

2. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (SQUARE) POURED CONCRETE PAD WITH TWO #4 REBAR AROUND PERIMETER MAY BE USED.

VALVES, EXCEPT HYDRANT VALVES.

TYPICAL VALVE IDENTIFICATION TAG
STANDARD DETAIL (N.T.S.)



NOTE:
WHENEVER POSSIBLE, SERVICE TAPS OR FIRE HYDRANTS
SHALL BE USED AS SAMPLE POINTS. (SEE "SAMPLE POINT
(HYDRANT) DETAIL"

SAMPLE POINT (ON MAIN)
STANDARD DETAIL (N.T.S.)



FL PE 41913

Number

Drawing Reference

U-04

Sheet <u>32</u> of <u>41</u>

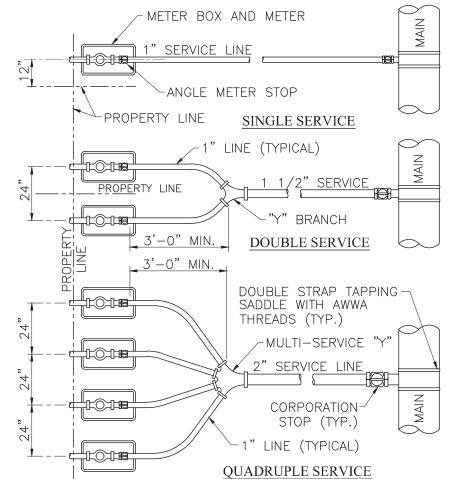
MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED

(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTUE IRON PIPE RELEASE 3.2)

	D	IPRA TH	RUST R	ESTRAIN ⁻	FOR D	UCTILE	IRON PI	PE, REL	EASE 3.	2)			
FITTING	TVDE						PIPE	SIZE			200p	si	
HHHHG		4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	42"	48"
90° HORIZ. BE	IND	14	20	25	30	35	45	54	62	98	112	124	135
45° HORIZ. BE	IND	6	8	11	13	15	19	22	26	41	46	51	56
22.5° HORIZ. [BEND	3	4	5	6	7	9	11	12	19	22	25	27
11.25° HORIZ.	BEND	1	2	3	3	4	4	5	6	10	11	12	13
90°_VERT.	UPPER BEND	29	41	53	64	74	95	115	134	214	246	276	304
OFFSET	LOWER BEND	7	10	13	16	19	25	30	35	57	66	74	83
45° VERT.	UPPER BEND	12	19	24	29	34	39	48	56	89	102	114	126
OFFSET	LOWER BEND	3	4	6	7	8	10	12	15	23	27	31	34
22.5° VERT. OFFSET	UPPER BEND	6	9	12	14	17	19	23	27	43	49	55	60
	LOWER BEND	1	2	4	4	4	5	6	7	11	13	15	16
11.25° VERT.	UPPER BEND	3	4	6	7	8	9	11	13	21	24	27	30
OFFSET	LOWER BEND	1	1	1	2	2	2	3	3	6	6	7	8
PLUG (DEAD END)		32	45	59	70	83	107	129	151	214	246	276	304
IN-LINE VALVE		32	45	45	45	45	55	65	80	110	125	140	155
	4"X Ø	23	_	_	_	_	_	_	_	_	_	_	_
	6"X Ø	21	35	_	_	_	_	_	_	_	_	_	
	8"X Ø	18	34	47	_	_	_	_	_	_	_	_	_
	10"X Ø	16	32	46	58	_	_	_	_	_	_	_	_
	12"X Ø	13	30	44	57	69	_	_	_	_	_	_	_
TEE (BRANCH	16"X Ø	7	26	41	55	67	90	_	_		_	_	_
RESTRAINT)	20"X Ø	1	21	38	52	65	88	109	_		_	_	_
	24"X Ø	1	16	34	49	62	86	108	129	_	_	_	_
	30"X Ø	1	8	28	44	58	83	106	127	208	_	_	_
	36"X Ø	1	1	22	39	54	80	103	124	206	240	_	_
	42"X Ø	1	1	15	33	49	77	100	122	205	239	270	_
	48"X Ø	1	1	7	27	44	73	97	120	203	238	269	298
	6"X Ø	23	_	_	_	_	_	_	_	_	_	_	_
	8"X Ø	38	25	_	_	_	_	_	_	_	_	_	_
	10"X Ø	57	43	24	_	_	_	_	_		_	_	_
	12"X Ø	72	60	44	41	_	_	_	_	_	_	_	_
REDUCER	16"X Ø	99	90	78	75	45	_	_	_	_	_	_	_
(LARGER PIPE	20"X Ø	123	116	107	105	81	45	_	_	_	_	_	_
RESTRAINT)	24"X Ø	146	140	132	131	111	82	45	_		_	_	_
	30"X Ø	209	204	197	188	177	153	116	75		_	_	_
200psi	36"X Ø	243	236	233	226	217	196	168	135	74	_	_	_
1	42"X Ø	273	270	265	259	252	234	211	183	133	72	_	_
	48"X Ø	301	298	294	289	283	268	249	226	183	131	71	_

- 1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS: SOIL TYPE-SAND TEST PRESSURE-150 PSI/200 PSI DEPTH OF BURY-3'
 - TRENCH TYPE-3 SAFETY FACTOR- 1.5 VERTICAL OFFSET-3' MINIMUM PIPE LENGTH ALONG TEE RUN-5'
- 2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
- 3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
- 4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.
- 5. MULTIPLY PIPE LENGTH BY 1.4 FOR POLYETHYLENE ENCASED PIPE.

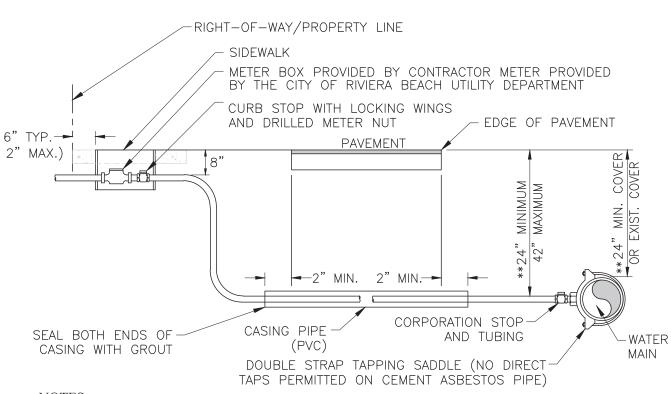
MECHANICAL THRUST RESTRAINT MINIMUM PIPE LENGTHS STANDARD DETAIL (N.T.S.)



NOTES:

- 1. AUTHORIZED SERVICE LINE MATERIAL:
- A) TYPE "K" COPPER TUBING WITH COMPRESSION FITTINGS. B) POLYETHYLENE TUBING SDR 9, COPPER TUBE SIZE.
- 2. ANGLE METER STOP SHALL BE 1" MINIMUM.
- 3. 1" ANGLE METER STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.
- 4. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.
- 5. ANGLE METER STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.
- 6. NO FITTINGS BETWEEN CORP STOP AND ANGLE METER STOP ALLOWED WHEN USING POLYETHYLENE TUBING.
- 7. 1" WATER SERVICE FOR 5/8" METER; 1 1/2" WATER SERVICE FOR (2) 5/8" METERS; 2" WATER SERVICE FOR 1" METER OR (4) 5/8" METERS.

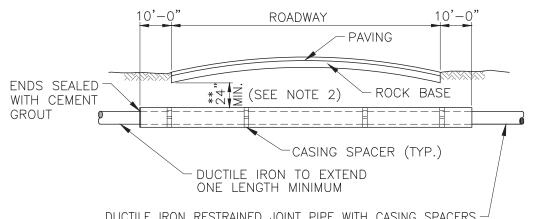




- 1. CASINGS SHALL BE REQUIRED FOR ALL LONG SIDE SERVICES AND ANY SERVICES UNDER PAVEMENT.
- 2. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET. 3. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISH GRADE.
- 4. COPPER TUBING SHALL BE TYPE "K" WITH COMPRESSION FITTINGS. 5. USE EMS MARKER #1252 COLOR BLUE DIRECTLY OVER THE CORPORATION STOP, AS
- APPROVED BY THE CITY OF RIVIERA BEACH. 6. ALL SERVICE LINES SHALL BE EQUIPPED WITH A CORPORATION STOP AT THE MAIN AND A
- CURB STOP (LOCKING CONNECTION TYPE) AT THE METER. 7. THE COPPER SERVICE LINE SHALL BE CONTINUOUS FROM CORPORATION STOP TO CURB STOP WITH NO FITTINGS IN BETWEEN. POLYETHYLENE TUBING SHALL BE SDR 9, COPPER
- TUBE SIZE. 8. TAPPING SADDLES AND CORPORATION STOPS SHALL HAVE AWWA INLET THREADS. TAPPING
- SADDLES SHALL BE BRASS WITH STAINLESS STEEL (TYPE 304) DOUBLE BANDS AND THREADED STUDS. 9. ALL EXPOSED FITTINGS TO BE COATED WITH COAL TAR EPOXY.
- 10. GALVANIZED CASING REQUIRED FOR ANY INSTALLATION REQUIRING A JACK AND BORE, SCH. 40 PVC MAY BE USED FOR AN OPEN CUT INSTALLATION WITH THE APPROVAL OF THE CITY OF RIVIERA BEACH UTILITIES DEPARTMENT CASING SHOULD EXTEND TWO (2) FEET BEYOND EDGE OF PAVEMENT AND SIZED AS FOLLOWS: A.) 1" SERVICE USE 2" CASING
 - B.) 1 1/2" SERVICE USE 3" CASING C.) 2" SERVICE USE 4" CASING

TYPICAL WATER SERVICE INSTALLATION FOR 1", 1-1/2" & 2" STANDARD DETAIL (N.T.S.)

** DESIRED COVER SHALL BE 36". MINIMUM COVER SHALL BE 24", AS APPROVED BY THE CITY, AS SHOWN ON THE PLANS.

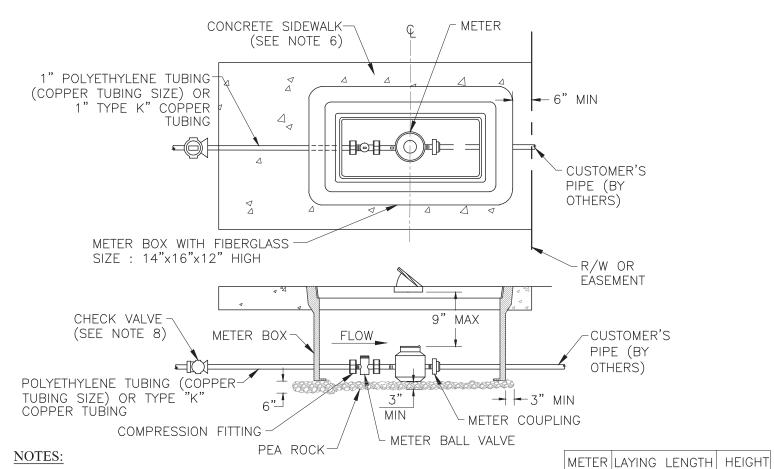


DUCTILE IRON RESTRAINED JOINT PIPE WITH CASING SPACERS -INSTALLED, PER MANUFACTURERS REQUIREMENTS. (BELL JOINT HARNESS RESTRAINT IS NOT ACCEPTABLE).

CARRIER PIPE SIZE	STEEL CASING INSIDE DIAMETER (MIN)	MINIMUM WALL THICKNESS (SEE NOTE 2)
4"	12"	.188
6"	14"	.250
8"	20"	.250
10"	20"	.250
12"	24"	.250
14"	24"	.250
16"	30"	.312
18"	30"	.312
20"	36"	.372
24"	42"	.500
30"	48"	.500
36"	54"	.500
42"	60"	.500
48"	72"	.500

- 1. A TO-SCALE PROFILE DRAWING FOR EACH UTILITY MAIN JACK AND BORE IS REQUIRED. ALL RELEVANT DATA MUST BE SHOWN (LENGTH AND SIZE OF CASING, PIPE CONFLICTS, ELEVATIONS, ETC.).
- 2. THICKER WALL CASINGS AND LARGER COVER OVER CASING MAY BE REQUIRED BY THE RIGHT-OF-WAY OWNER.



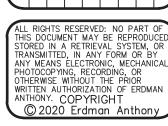


- 1. ALL STRUCTURES TO BE TRAFFIC BEARING TYPE. 2. R/W LINE OR EASEMENT LINE IS THE CUSTOMER'S SIDE OF METER BOX.
- 3. RBUD RESPONSIBILITY ENDS AT THE CUSTOMER'S SIDE OF METER. 4. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL, WITH A MINIMUM RADIUS SHALL BE 14" FOR 1" TUBING.
- 5. ALL METERS WILL BE SUPPLIED AND INSTALLED BY RBUD. METER HAS IRON PIPE THREAD MALE CONNECTION ON EACH END. 6. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL LINE UP WITH THE BACK EDGE OF THE
- 7. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID. 8. THE CHECK VALVE IS TO BE INSTALLED 5 FEET BEFORE THE METER BALL
- 9. WHEN THERE ARE NO SIDEWALKS, CONSTRUCT 6" WIDE X 6" THICK
- CONCRETE COLLAR AT GRADE. 10. METER BOX SHALL HAVE FIBERGLASS LID.

WATER METER INSTALLATION FOR 5/8" AND 1" METERS STANDARD DETAIL (N.T.S.)



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	By									
	Date									
	Revisions									





F RIVIERA BEACH,
PALM BEACH ISLES
ACH ISLES BRIDGES ACH CITY OF ORIDA, F BE

7 DANA I GILLETTE FL PE 41913

Drawing Reference Number U-05 Sheet 33 of 41

SIZE

 $(IN) \qquad | \qquad (IN)$

4.56

(IN)

5.75

7.5

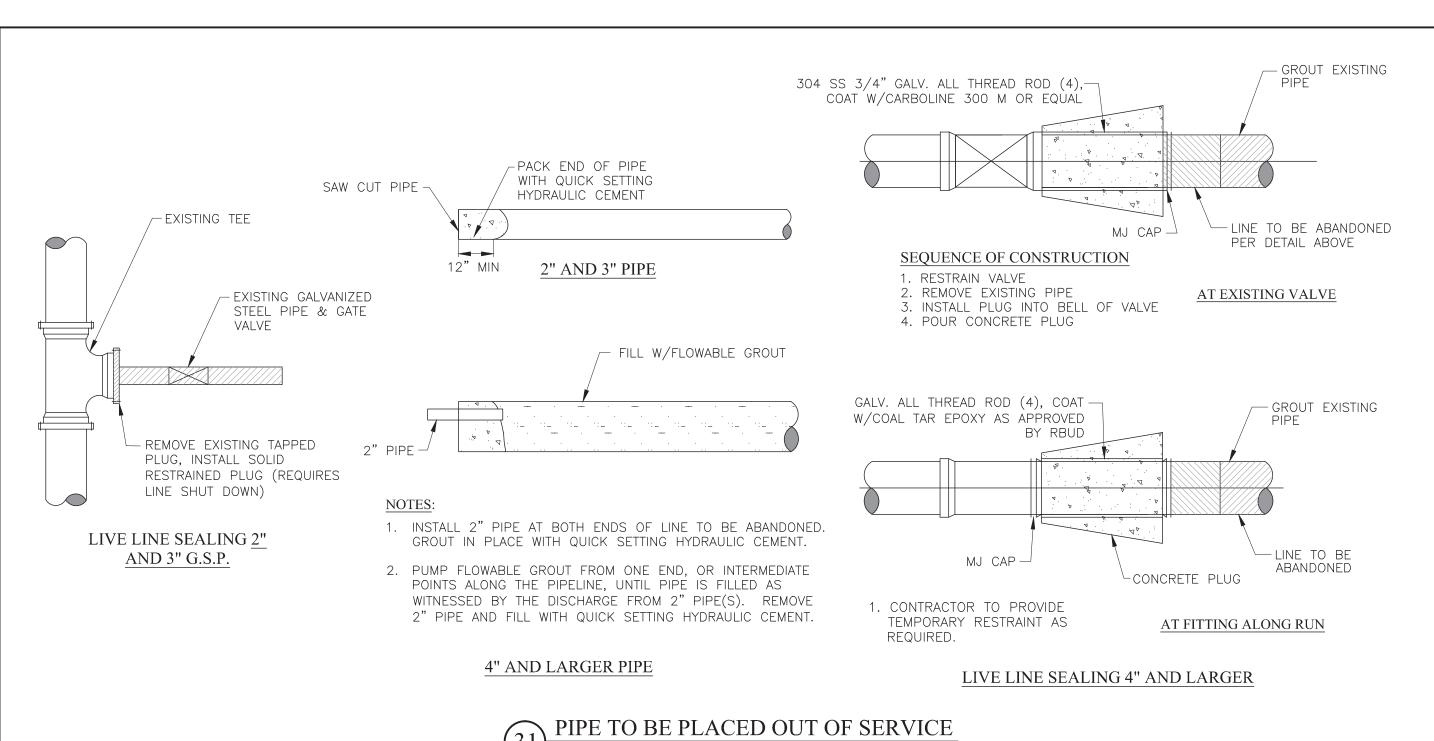
10.75

(IN)

1" | 12" X 20"

METER BOX SIZE DBL BOX SIZE

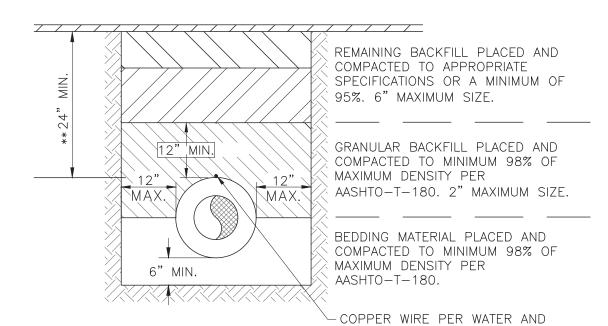
 $\frac{1}{8}$ " | 10 $\frac{1}{4}$ " X 16 $\frac{3}{4}$ " | 10 X 20 X 12



STANDARD DETAIL (N.T.S.)

FILL AND FLUSH HERE VENT TO ATMOSPHERE CORPORATION STOP - NEW WATER MAIN CORPORATION STOP -EXISTING -WATER MAIN EXISTING OR NEW -BEND AND PIPE MAY GATE VALVE BE USED FOR FULL NEW GATE VALVE -FLUSHING

FILLING & FLUSHING DETAIL STANDARD DETAIL (N.T.S.)



Designed:

Drawn:

Checked:

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Drawing Reference

U-06

Sheet <u>34</u> of <u>41</u>

FL PE 41913

Number

CITY OF ORIDA, F

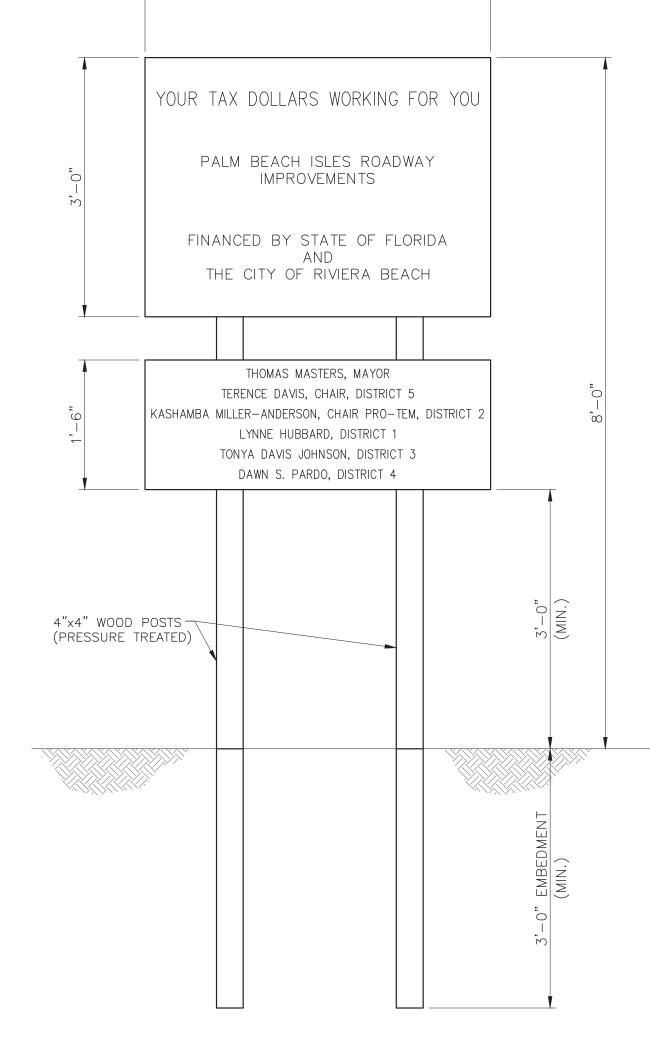
1. BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"-7/5" SIZING.

SEWER NOTES (SEE DWG. G-03)

- 2. THE PIPING SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
- 3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
- 4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGER ROCK, MUCK, AND DEBRIS.
- 5. DENSITY TESTS ARE REQUIRED IN 1 FOOT LIFTS ABOVE THE PIPE AT INTERVALS OF 400' MAX., OR AS DIRECTED BY THE INSPECTOR.
- 6. STREET PAVEMENT 2" ASPHALT, BASE 8" LIMEROCK OR 6" CONCRETE (SEE PLANS).

TRENCH DETAIL

4'-0"



NOTE: SIGN SHALL BE INCLUDED IN THE COST OF MAINTENANCE OF TRAFFIC.

> PRODECT IDENTIFICATION SIGN STANDARD DETAIL (N.T.S.)

I. FORCE MAINS AND GRAVITY WASTEWATER MAINS WITHIN WELLFIELD PROTECTION ZONE

- 1. PRESSURE TEST PROCEDURE TO FOLLOW THE CURRENT AWWA C-600
- STANDARD (150psi, (2) HOUR DURATION). 2. THERE SHALL BE NO PRESSURE DROP IN THE PIPE DURING THE TEST ("ZERO" FILL-UP TOLERANCE).

II. FORCE MAINS OUTSIDE OF WELLFIELD PROTECTION ZONE

MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE WITHIN 5 P.S.I. OF THE SPECIFIED TEST PRESSURE.

(MECHANICAL OR PUSH-ON JOINT, 18 FT. NOMINAL LENGTHS, PER 1000 FT. OF PIPE)

	VG. TEST PIPE DIAMETER (INCHES) RESSURE —															
PSI	2	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
150	0.10	0.14	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.38	1.65	1.93	2.20

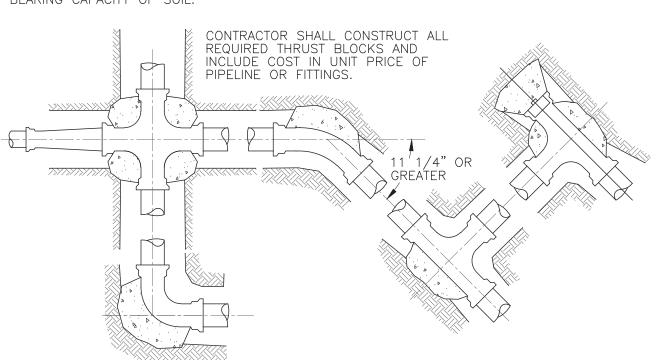
- FORMULA BASIS: $L = (S) \times (D) \times (P)$
 - L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
 - S = LENGTH OF PIPE TESTED (FEET)D = DIAMETER OF PIPE (INCHES)

P = TEST PRESSURE (P.S.I.)

- 1. TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9
- 2. PRESSURE TEST DURATION TO BE MIN. 2 HOURS.
- 3. THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS, AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.
- 4. THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS, AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.
- 5. MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION. 6. THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600. HOWEVER, THE MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED 50% OF THE RECOMMENDED LIMIT PER
- APPLICABLE AWWA C-600 STANDARD. 7. STANDARD TEST PRESSURE = 150 P.S.I.

PRESSURE TEST CRITERIA FOR WASTEWATER MAINS IN WELL FIELD & FORCE MAINS STANDARD DETAIL (N.T.S.)

TYPICAL LOCATIONS WHICH REQUIRE CONCRETE REACTION (THRUST) BLOCKS, FOR PRESSURE MAINS 4"SIZE AND GREATER CONCRETE SHALL HAVE 2500 PSI MINIMUM STRENGTH AT 28 DAYS AND BEAR AGAINST UNDISTURBED STABLE SOILS. AREA OF CONTACT SHALL BE GOVERNED BY PIPE SIZE, MAX. PRESSURE IN PIPE AND BEARING CAPACITY OF SOIL.



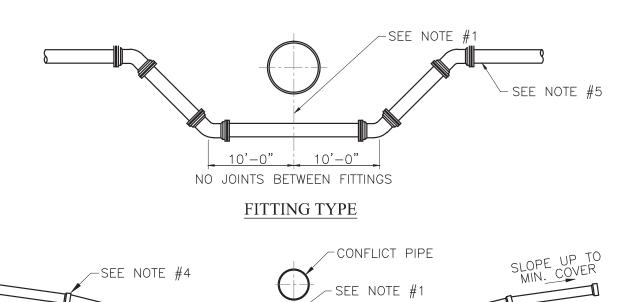
PIPE	THRUST BLOCK AREA REQ'D	PIPE	THRUST BLOCK AREA REQ'D	REMARKS
4"	2.0 SQ. FT.	18"	30.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED
6"	4.0 SQ. FT.	20"	37.0 SQ. FT.	ON 2000 PSF SAFE BEARING LOAD
8"	6.6 SQ. FT.	24"	53.0 SQ. FT.	AND PIPE PRESSURE OF 150 PSI
10"	10.0 SQ. FT.	27"	80.0 SQ. FT.	PLUS 33% SAFETY FACTOR FOR
12"	14.0 SQ. FT.	30"	98.0 SQ. FT.	OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT
14"	18.0 SQ. FT.	36"	127.0 SQ. FT.	PROPORTION
16"	24.0 SQ. FT.			

FOR OTHER FITTINGS USE FOLLOWING FACTORS:

TEE = 100% $45^{\circ} BEND = 76\%$ $22 \ 1/2^{\circ} \ BEND = 39\% \ 11 \ 1/4^{\circ} \ BEND = 20\%$ DEAD END = 100%

THRUST BLOCKS MAY ONLY BE USED WITH THE APPROVAL OF THE CITY OF RIVIERA BEACH UTILITY DISTRICT AND ENGINEER. MECHANICAL JOINT RESTRAINTS SHALL BE USED WHEREVER POSSIBLE.

CONCRETE THRUST BLOCK DETAILS

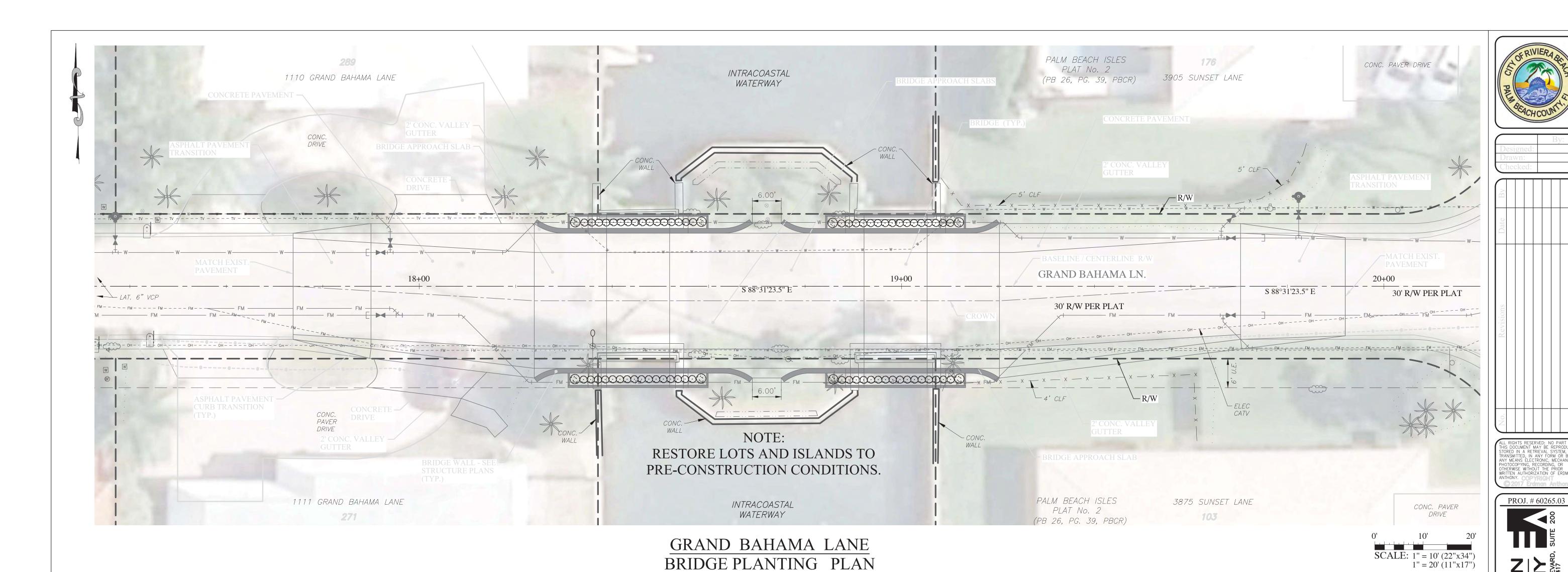


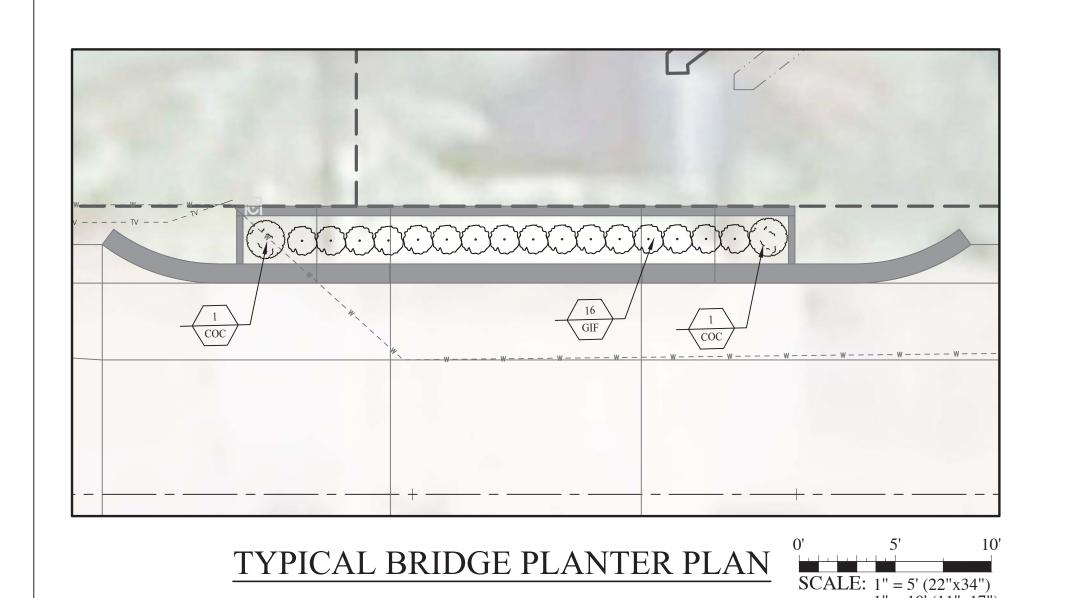
CENTER A FULL LENGTH OF PIPE AT POINT OF CROSSING DEFLECTION TYPE

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

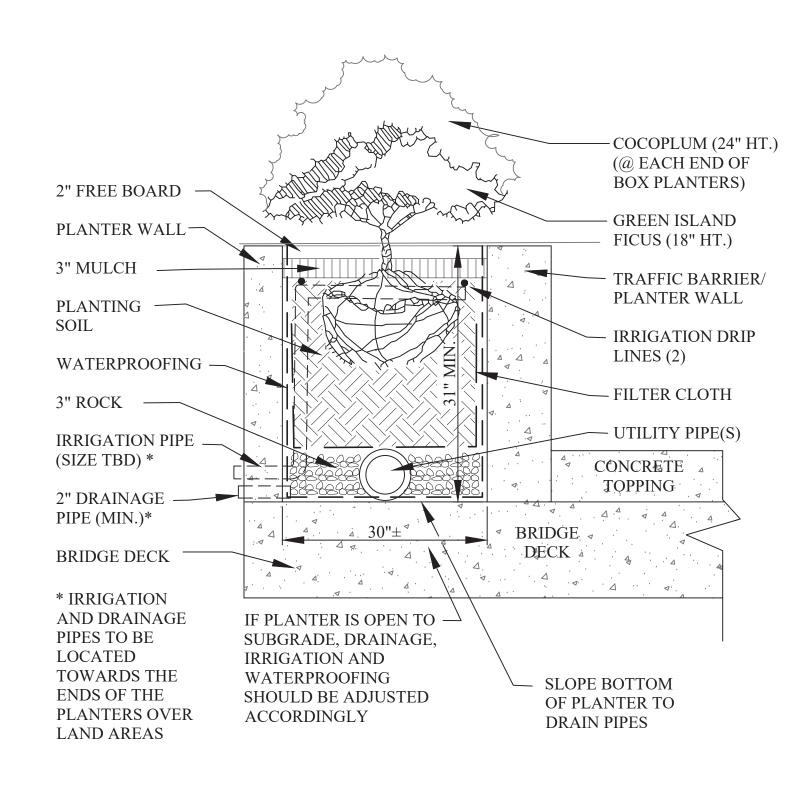
- 1. FOR VERTICAL SEPARATION SEE "WATER, RECLAIMED WATER AND SEWER SEPARATION STATEMENT" DETAIL.
- 2. ONE OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED FROM FITTING TO FITTING FOR PIPE SIZES UP TO AND INCLUDING 12", FOR PIPE SIZES GREATER THAN 12" BOTH FORMS OF RESTRAINT SHALL BE USED.
- A) APPROVED MECHANICAL JOINT RESTRAINT. (i.e. MEGALUG) B) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP-COAT 300-M OR APPROVED EQUAL.
- 3. THE DEFLECTION TYPE CROSSING IS PREFERRED, BUT IN INSTANCES WHERE THE FITTING
- TYPE DEFLECTION IS USED, 22 1/2° BENDS ARE PREFERRED. 4. DO NOT EXCEED 75% OF MANUFACTURERS RECOMMENDED MAXIMUM JOINT DEFLECTION.
- 5. PIPE SHALL BE RESTRAINED FOR A MINIMUM DISTANCE OF 60' FROM EACH TOP
- DEFLECTION. SEE "PIPE RESTRAINT TABLE" DETAIL FOR ADDITIONAL RESTRAINT DISTANCES FOR PIPE GREATER THAN 12".

PRESSURE PIPE DEFLECTION STANDARD DETAIL (N.T.S.)









TYPICAL BRIDGE SHRUB PLANTER SECTION

N.T.S.

Plant and Materials List

SYM	ITEM	SPECIFICATION	QTY
COC	CHRYSOBALANUS ICACO 'RED TIP' RED TIP COCOPLUM	3 GAL., 24" HT. X 24" SPR., FULL TO BASE, 24" O.C.	8
GIF	FICUS MICROC. 'GREEN ISLAND' GREEN ISLAND FICUS	3 GAL., 18" HT. X 18" SPR., FULL TO BASE, 18" O.C.	64
FERT	FERTILIZER TAB & GRANULAR	PER PLANTING SPECIFICATIONS	TBD
MUL3	MULCH	SHREDDED EUCALYPTUS, 3" DEEP	TBD
SOIL	PLANTING SOIL	PER PLANTING DETAILS AND SPECS.	TBD

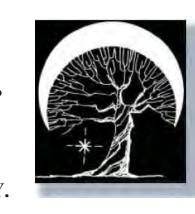
NOTES:

1) ALL PLANTERS TO INCLUDE ROCK, FILTER CLOTH AND WATERPROOFING.

2) DRAINAGE TO BE PROVIDED ON ALL PLANTERS. (SEE ENGINEERING DRAWINGS)

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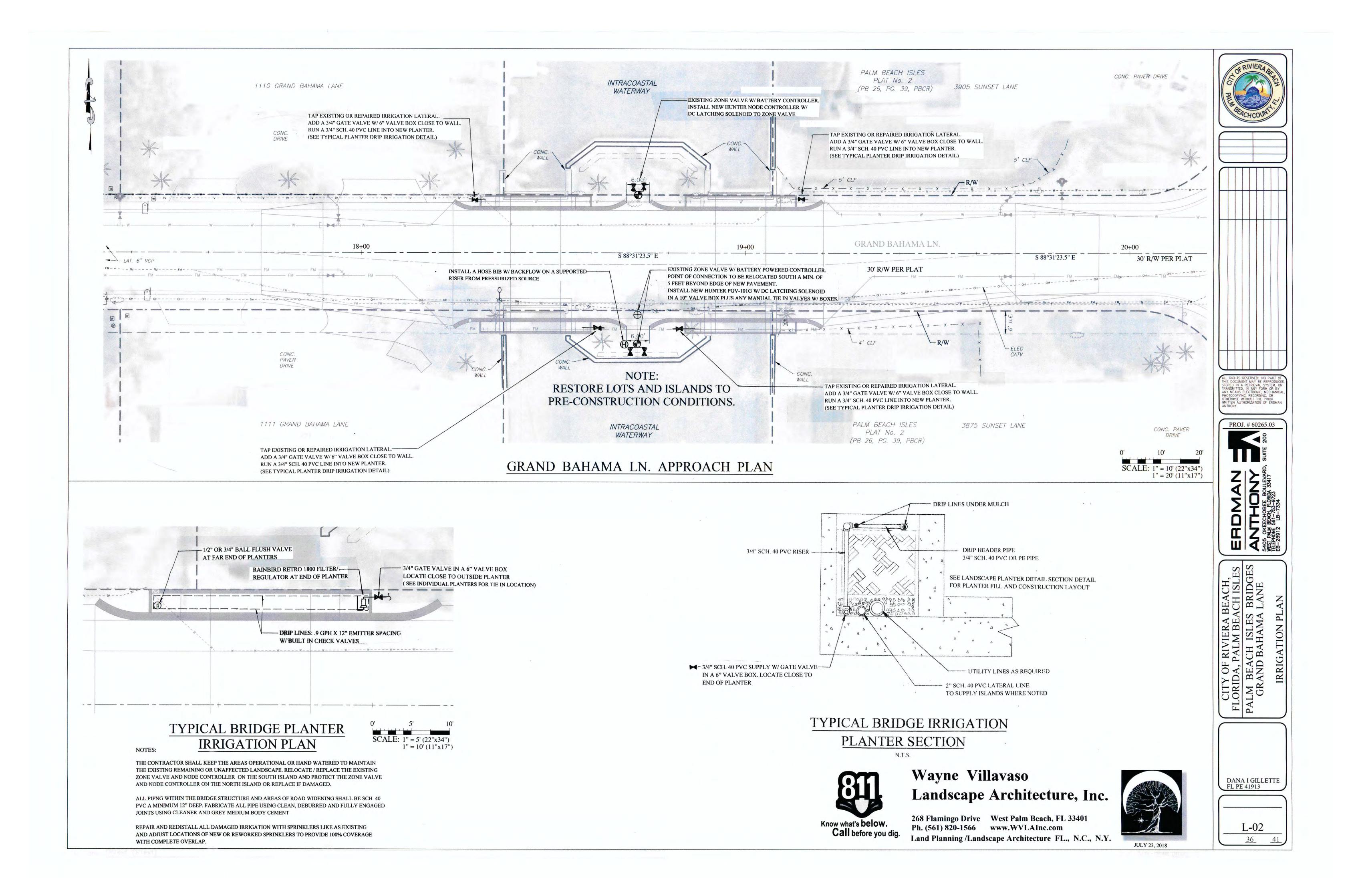
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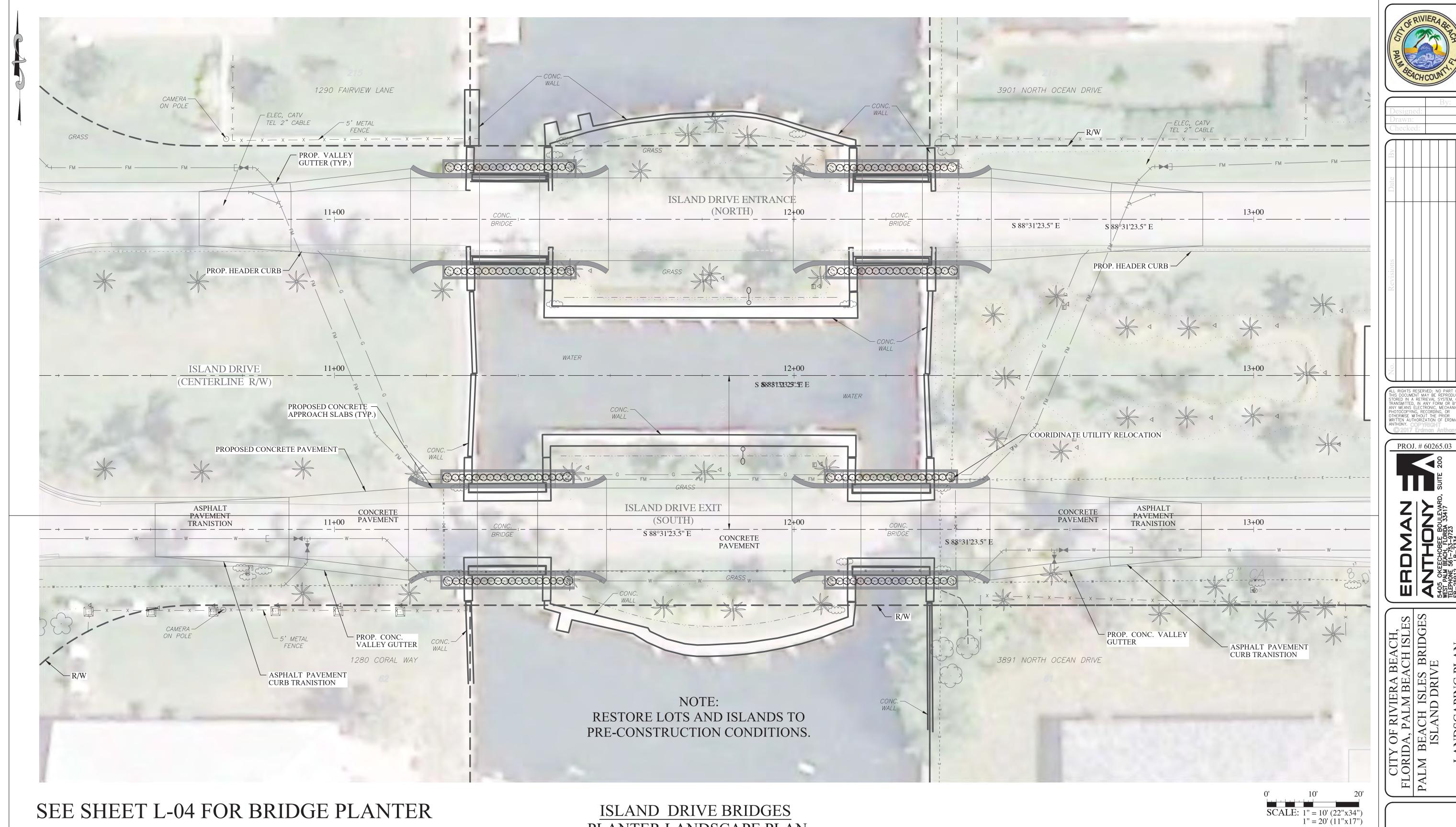




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LANDSCAPE PLAN, PLANT & MATERIALS LIST AND PLANTER DETAIL

PLANTER LANDSCAPE PLAN



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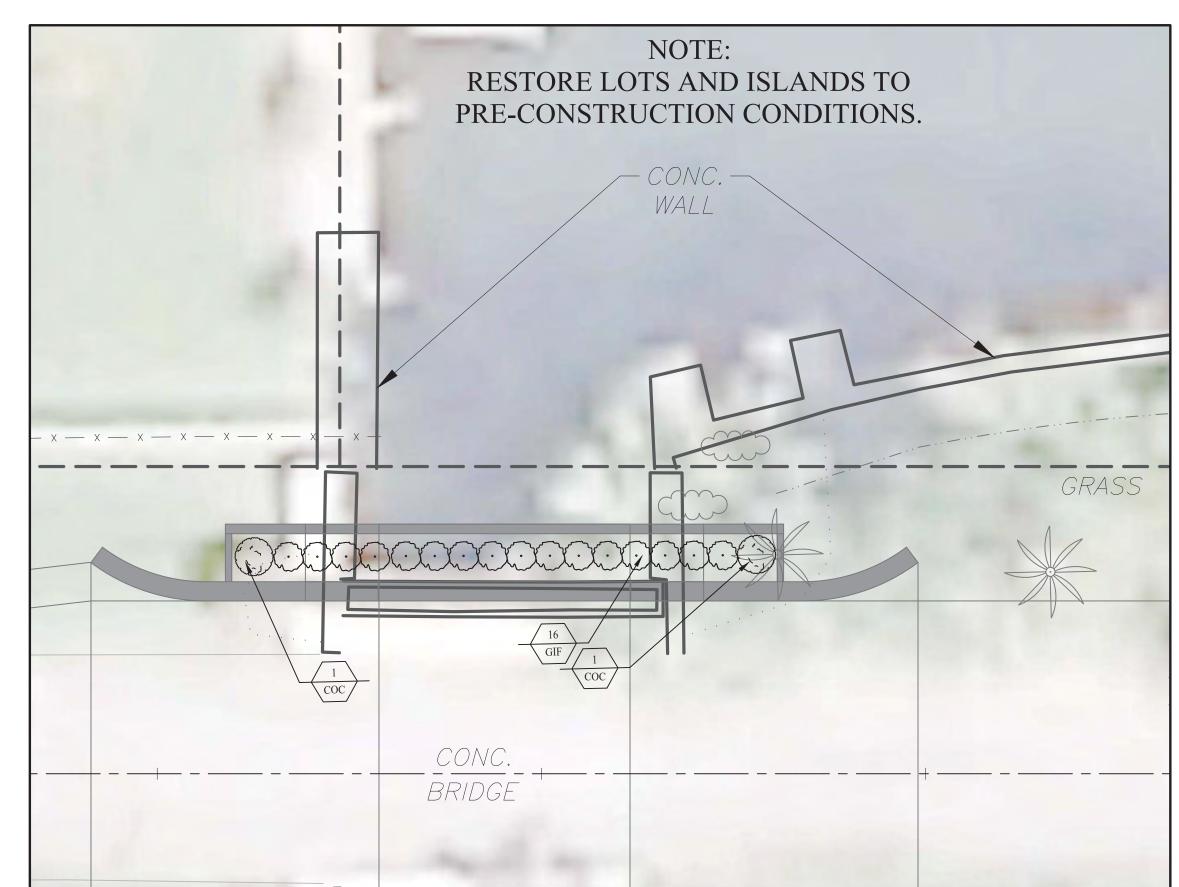


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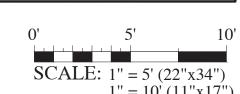
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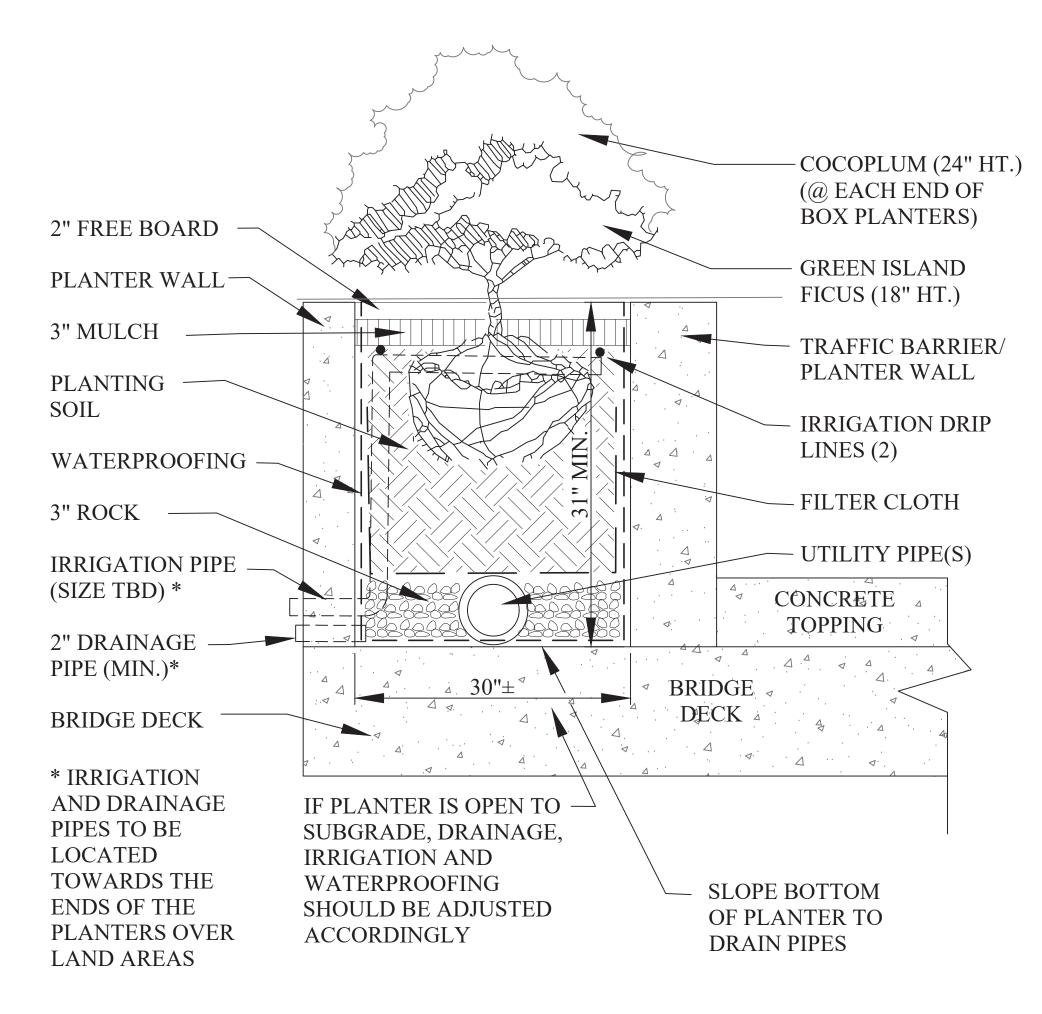
Plant and Materials List

SYM	ITEM	SPECIFICATION	QTY
COC	CHRYSOBALANUS ICACO 'RED TIP' RED TIP COCOPLUM	3 GAL., 24" HT. X 24" SPR., FULL TO BASE, 24" O.C.	16
GIF	FICUS MICROC. 'GREEN ISLAND' GREEN ISLAND FICUS	3 GAL., 18" HT. X 18" SPR., FULL TO BASE, 18" O.C.	128
FERT	FERTILIZER TAB & GRANULAR	PER PLANTING SPECIFICATIONS	TBD
MUL3	MULCH	SHREDDED EUCALYPTUS, 3" DEEP	TBD
SOIL	PLANTING SOIL	PER PLANTING DETAILS AND SPECS.	TBD

NOTES:

- 1) ALL PLANTERS TO INCLUDE ROCK, FILTER CLOTH AND WATERPROOFING.
- 2) DRAINAGE TO BE PROVIDED ON ALL PLANTERS. (SEE ENGINEERING DRAWINGS)





TYPICAL BRIDGE SHRUB PLANTER SECTION

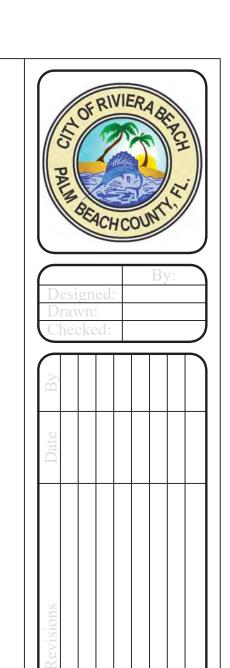
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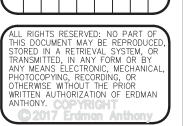
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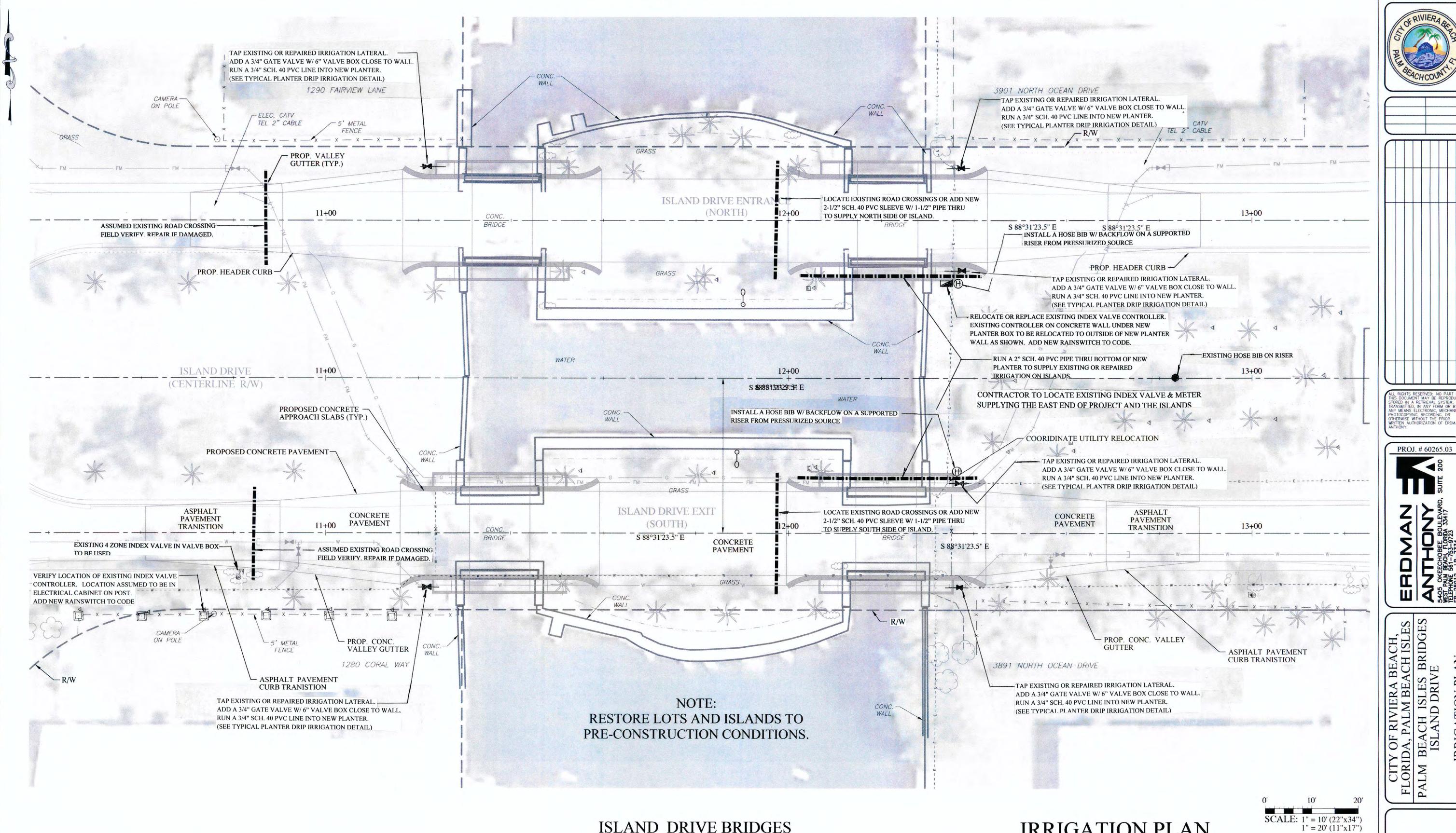


CITY OF KIVIERA BEACH,
ORIDA, PALM BEACH ISLES
LM BEACH ISLES BRIDGES
ISLAND DRIVE

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FL PE 41913

Drawing Reference
Number
L-04

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SEE SHEET L-06 FOR BRIDGE PLANTER IRRIGATION DETAILS AND SPECIFICATIONS

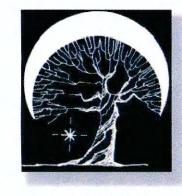
ISLAND DRIVE BRIDGES PLANTER IRRIGATION PLAN

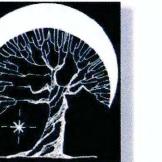


IRRIGATION PLAN

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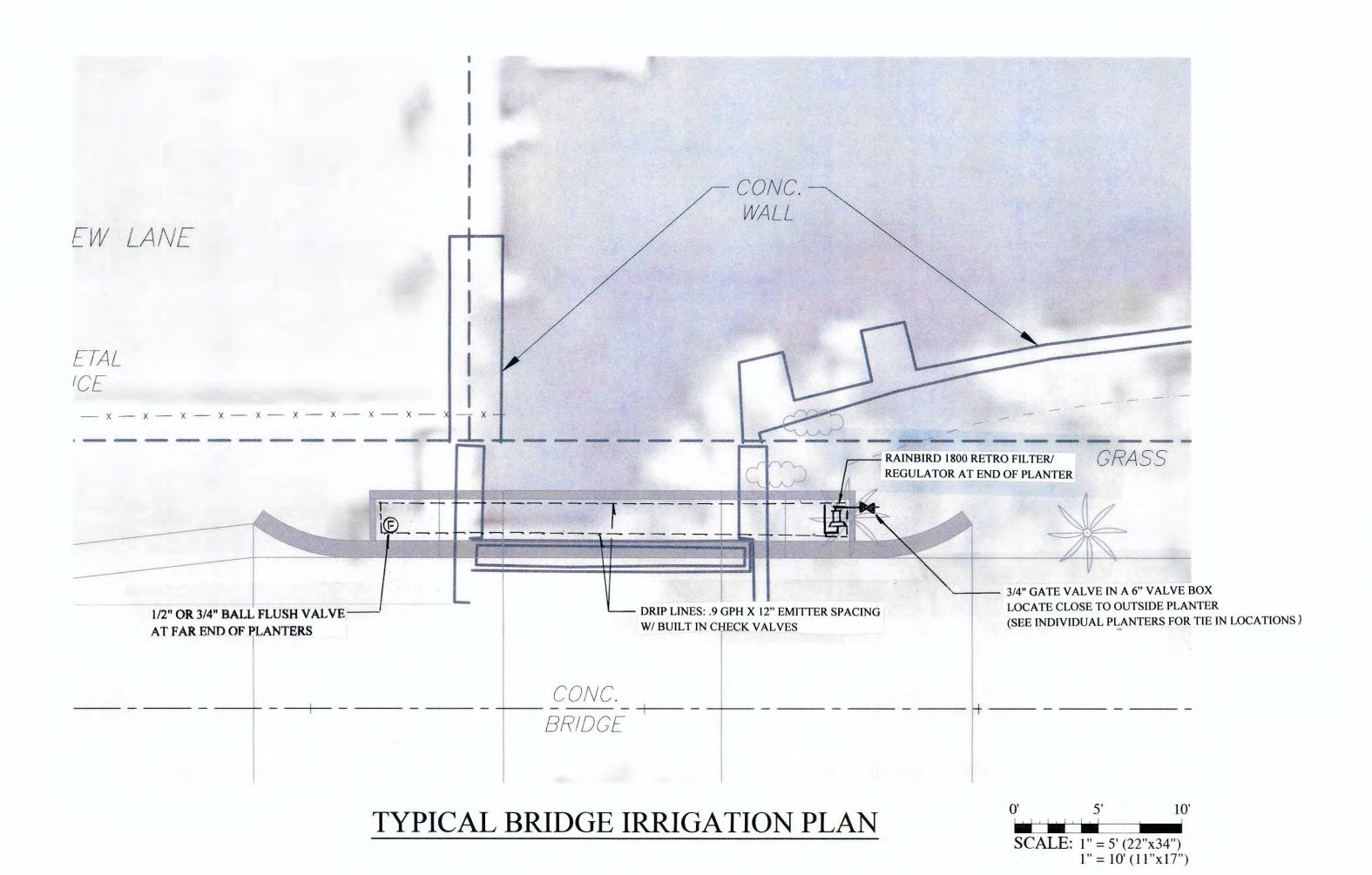


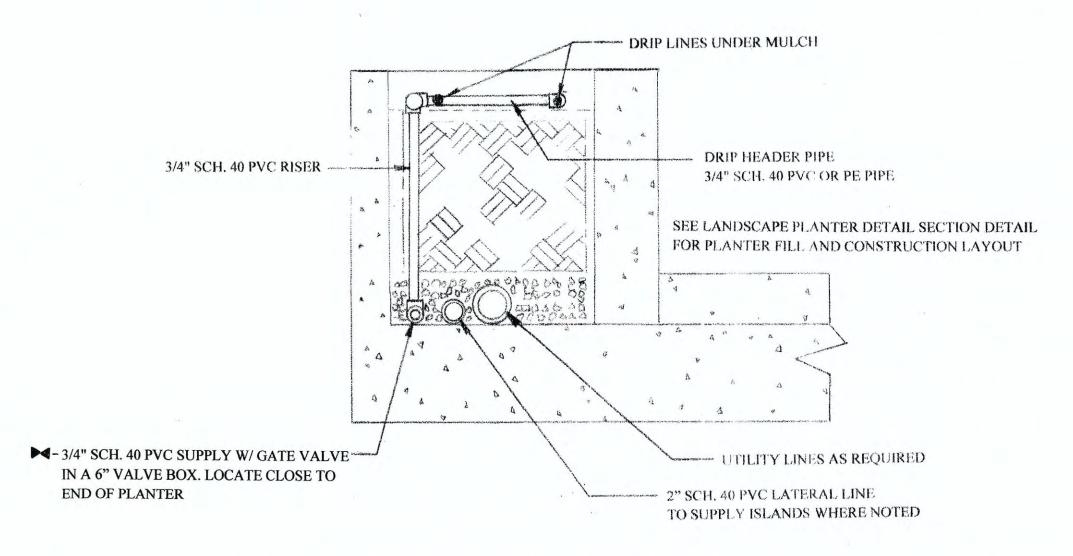


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JULY 23, 2018





TYPICAL BRIDGE IRRIGATION PLANTER SECTION

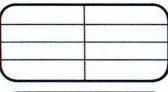
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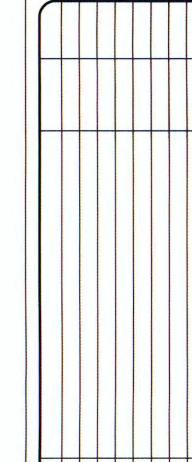
THE CONTRACTOR SHALL KEEP THE AREAS EAST AND WEST OF THE BRIDGES OPERATIONAL DURING CONSTRUCTION. RELOCATE EXISTING CONTROLLER ON THE NORTH EAST BRIDGE ALONG WITH THE ELECTICAL SUPPLY BEFORE DEMOLITION OF THE EXISTING STRUCTURE. RUN TEMPORARY PIPES ACROSS THE EAST BRIDGES TO KEEP THE ISLANDS OPERATIONAL DURING CONSTRUCTION AS FEASIBLE.

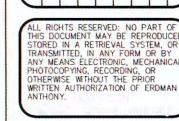
ALL PIPNG WITHIN THE BRIDGE STRUCTURE AND AREAS OF ROAD WIDENING SHALL BE SCH. 40 PVC A MINIMUM 12" DEEP. FABRICATE ALL PIPE USING CLEAN, DEBURRED AND FULLY ENGAGED JOINTS USING CLEANER AND GREY MEDIUM BODY CEMENT

REPAIR AND REINSTALL ALL DAMAGED IRRIGATION WITH SPRINKLERS LIKE AS EXISTING AND ADJUST LOCATIONS OF NEW OR REWORKED SPRINKLERS TO PROVIDE 100% COVERAGE WITH COMPLETE OVERLAP.











RIDA, PALM BEACH ISLES

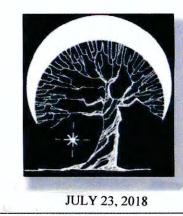
1 BEACH ISLES BRIDGES
ISLAND DRIVE

IRRIGATION DETAILS AND SPECIFICATIONS



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L-06

Section 02 49 00 Shrubs

Wayne Villavaso Landscape Architecture, Inc.

Part 1 General

1.01 Description of Work

The work includes furnishing all plants, materials, equipment, and labor necessary for the procurement and installation of plant and materials indicated on the drawing(s); and / or in the specifications.

- 1.02 Related Sections
- A. Section 02 81 00 Exterior Irrigation Work
- 1.03 Quality Assurance
- A. The Landscape Contractor is to be regularly engaged in the installation of living plant material. Labor crews shall be controlled and directed by a landscape foreman well versed in landscape installation, plant materials, reading blueprints and coordination between the job and nursery. The Landscape Contractor shall carry any necessary insurance and protect the Owner against all liabilities claims or demands for injuries or damage to any person or property growing out of the performance of the work under this contract and all of his workers shall be covered by Workmen's Compensation Insurance.
- B. The Landscape Contractor and Irrigation Contractor must coordinate scheduling and layout prior to commencement of material installation. If necessary, the Landscape Contractor and Irrigation Contractor may agree to minor adjustments in sprinkler layout, head type or quantity, in response to specific plant needs. The landscape architect must be notified 48 hours prior to commencing field changes in order to review and approve of any such changes.

Part 2 Products

- 2.01 Plant Material
- A. All plant materials shall be nursery grown unless otherwise noted. Abbreviations on plant list:

1. G = Gallon

4. HT = Height

- $2. \quad SPR = Spread$
- 2. OC = On Center
- B. Quality and Size: Plants shall have a habit of growth that is normal for the species and shall be healthy, vigorous and equal or exceed the measurements specified in the plant list, which are the minimum acceptable sizes. Plants shall be measured before pruning with branches in normal position. Any necessary pruning shall be done at the time of planting. Requirements for measurements, branching, grading, quality, balling and burlapping of plants in the plant list generally follow the code of standards currently recommended by the American Association of Nursery Stock. In all cases, plant materials shall be Florida Grade No. 1 or better as outlined under Grades and Standards, 2nd Edition; Feb. 1998 or current for nursery plants, State Plant Board of Florida. Plants that meet the requirements specified, but do not have normal balance of heights and spread typical for the respective plant, shall not be accepted. All plants shall be free of weeds or any other objectionable vegetation. All trees to have a single main leader, unless specified otherwise.
- C. Quantities: All quantities indicated on the plant list are intended as a guide for the bidders and does not relieve the bidder of his responsibility to do a comprehensive plant take off. If a discrepancy occurs between the bidder's take off and the plant list quantity, the Landscape Architect is to be notified for clarification prior to the submittal of bid.
- D. Substitution: Plant substitution requests by the Contractor will be considered by the Landscape Architect only upon submittal of conclusive proof that any plant is not obtainable in the type and size specified. The Landscape Architect shall determine the nearest equivalent replacement in an obtainable size and variety. The unit price of the substitute item shall not exceed the bid item replaced, without approval of the Owner.
- 2.02 Commercial Fertilizer
- A. (NOTE: For all Drinking Water Facilities, all City Ordinances as well as requirements are to be followed) Commercial fertilizer shall be applied per Florida Friendly Fertilizer Use.

Each Fertilizer will contain nitrogen, phosphoric acid and potash available plant food by weight. Fertilizer shall be delivered to the site unopened in original containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer that becomes caked or otherwise damaged shall not be acceptable. For new plantings, the fertilizer should be applied to the top of the soil around the plants after planting and before mulch is laid. Spread evenly on the ground around the plant from the outer edge of the leaves inward to dry foliage and water in soon after application.

2.03 Peat

Peat shall be horticultural peat composed of not less than 60% decomposed organic matter by weights, on any oven-dried basin. Peat shall be delivered to the site in a workable condition free from lumps.

2.04 Planting Soil

Planting soil shall be 1/3 clean sand, 1/3 peat, 1/3 topsoil (by volume). Planting soil shall be free of clay, stones, plants, roots, and other foreign materials which might be a hindrance to planting operations or be detrimental to good plant growth. Soil shall be delivered in a loose friable condition and applied in accordance with the Planting Specifications.

- 2.05 Mulch
- A. Fibrous Mulch: All mulch material shall be a fibrous, non-floating, shredded Grade 'A' eucalyptus mulch or as per plant and materials list on plans if listed differently, installed 3" deep (prior to compacting), and moistened at installation to prevent wind dispersement. No more than one inch (1") layer of mulch shall be applied over the root ball portion of any tree or shrub.
- B. Mulches shall not contain sticks larger than 1/2 inch in diameter or 3" long, stones, or other foreign material that will prevent the eventual decay of the mulch necessary for its complete effectiveness.
- 2.06 Water
- A. Water for irrigation system will be available at the site by the Owner. Contractor shall provide the irrigation system, incl. service line. Landscape Contractor shall not assume that the irrigation system will be operational at the time of planting. It is the responsibility of the Landscape Contractor to provide all the required water and services necessary to maintain the plant material in a healthy growing condition. The watering will include deep watering of trees and palms and the watering of shrub and ground cover areas. Any plant materials that die or that are not in a healthy growing condition due to lack of water shall be replaced at no addition cost to the Owner.
- B. The Landscape Contractor will water all planting areas using a water truck. (Note: Landscape Contractor shall comply with all State, County & Municipal codes for traffic safety, etc.) It is the responsibility of the Landscape Contractor to apply all the required water necessary to maintain the plant material in a healthy growing condition. The watering includes deep watering of trees, palms, shrubs, ground covers and sod. Any plant material that die or that are not in a healthy growing condition due to lack of water shall be replaced at no additional cost to Owner. Minimum watering schedule for the first 60 days is: three (3) times per week. NOTE: Contractor is to observe all code restrictions, if applicable, pertaining to watering of new plantings and advise the Owner/Landscape Architect of any concerns for the plant material in advance.

Part 3 Execution

- 3.01 Protection Of Plants
- A. Root Protection:
- 1. Container Grown Plants: Plants grown in containers will be accepted as "B & B", providing that all other specified requirements are met. Container grown plants shall meet plant sizes as specified on the plant list and on the Drawings, and shall not be governed by container sizes. Minimum root balls of container grown material shall be no more than 25% less proportionately in size than that stated in "Grades & Standards" for nursery plants. These plants shall have been grown in the container for a maximum of two years prior to installation and shall exhibit a fully developed root system when removed from the container.
- B. Protection During Transporting: All plant material shall be protected from possible bark injury on breakage of branches. All plants transported by open trucks shall be adequately covered to prevent windburn, drying, or damage to plants.
- C. Protection After Delivery: Plants which cannot be planted immediately on delivery to the site shall be covered with moist soil, mulch, or other protection from drying by wind and/or sun exposure. All plants shall be watered as necessary until planted. Plant storage period shall not exceed forty-eight (48) hours.
- 3.02 Planting Operations
- A. Layout: Location for plants and outline of areas to be planted are indicated on the Drawings. All plant locations shall be staked in the field by the Contractor, to the satisfaction of the Landscape Architect. Where construction or utilities below ground or overhead are encountered, or where changes have been made in the construction, necessary adjustments will be approved by the Landscape
- B. Soil Preparation: (NOTE: For all Drinking Water Facilities, all City Ordinances as well as requirements are to be followed) Apply two (2) applications of a pre-planting environmentally safe and approved systemic herbicide if necessary. Soil used shall be as herein before specified under "Planting Soil", thoroughly mixed with peat to produce 33 % peat by volume. The soil should be in a relatively dry state and mixed thoroughly by hand or rotary mixer. All planting areas shall be treated with a pre-emergent, environmentally safe and approved herbicide if necessarry, according to the manufacturer's specifications. All chemicals used are subject to safe environmental applications based on industry standards by licensed professionals using all safety precautions recommended.
- C. Excavation for Planting: Excavation of plant pits shall be circular in outline and shall extend to the required subgrades as specified hereunder. The minimum depth of plant pits specified below shall be measured from the finish grade. Mass planting beds shall be stripped of all vegetation prior to planting. Use acceptable excess excavated topsoil to form 6" height 3' diameter watering berms around plants; use 33% of the excavated material and mix with topsoil for Backfill. Remove all excess material to dump site as directed by Owner. If an on-site dump area has not been designated by the Owner, remove excess material off-site. Excavated material in excess of the 6" temporary water berm above is not to be mounded around the base of each plant. The 6" water berm material is to be removed from site and the resulting area is to be mulched/sodded as required after the transplant acclimation period is complete to form a 3' diameter circular mulch ring centered around the base of the plant.
- D. Container Grown Plants: Container grown plants shall, when delivered, have sufficient growth to hold earth intact when removed from container and shall not be root bound. Plant pits for container materials shall be formed flat on the bottom and compacted to avoid air pockets at the bottom of root balls and container shall be removed carefully to prevent damage to plant or root system. Plants with circular root systems will not be accepted and will be replaced by Contractor prior to final acceptance.
- E. Testing for Drainage: Test fill all tree pits with water before planting to assure proper drainage percolation is available. No allowances will be made for lost plants due to improper drainage.
- F. Depth Shrubs: The center of each pit shall be dug to the depth of the root ball. The root ball shall sit on tilled existing subgrade.* The perimeter of each pit shall be 4" greater in depth than the root ball to provide 4" of planting soil backfill to enhance downward root growth.* Also see 4.I.
- G. Backfilling: All boxes shall be filled to within 5" of the top (including 3" Rock w/ Filter Cloth)
- H. Setting Shrubs: Unless otherwise specified, all shrubs shall be planted in pits, centered, and set on existing tilled subgrade soil to such depths that the finished grade level of the plant shall show the trunk flare or first horizontal root @ the time of planting and be at or slightly above finished grade. They shall be planted upright and faced to give the best appearance or relationship to adjacent structures. All broken or frayed roots shall be cut off cleanly. Planting Soil mix (1/3 clean sand, 1/3 peat, 1/3 topsoil) shall be placed and compacted thoroughly, avoiding injury and shall be settled by watering. After the soil settles, additional soil shall be filled in the level of the finished grade allowing for three inches (3") of mulch after the granular fertilizer has been applied if necessary. All air pockets will be removed by alternately watering and adding soil as required.
- I. Fertilizing: Commercial fertilizer shall be applied per Florida Friendly Fertilizer Use. When setting shrubs place in each plant hole Agriform
 - Planting Tablets, 20-10-5 formula, 21 gram or equal, according to the following:

pplication
1 Tablet
2 Tablets
4 Tablets

- 1. Granular application: Commercial fertilizer shall be applied per the Florida Friendly Fertilizer Use. Application of safe & approved granular fertilizers will be as per Manufacturer application rate specifications.
- 2. Correct Placement of Tablets: Position the plant in the hole and backfill no higher than halfway up the root ball. Place the recommended number of tablets evenly spaced around the perimeter of, and immediately adjacent to, the root ball at the depth which is between the middle and the bottom of the root ball. Complete backfilling as described above under setting shrubs.
- J. Pruning:

All Pruning is to be done in accordance to ANSI A-300-2001 or Current ANSI Pruning Section. Trees and palms incorrectly pruned will be rejected.

- K. Mulching: All shrub beds shall be mulched immediately after planting, to a three inch (3") depth, with the mulch as specified in the plant and materials list or as per these specifications. Prevent wind displacement of mulch by thoroughly wetting the mulch down.
- L. Excess Excavated Soil: Excess excavated soil shall be disposed of off site by the Contractor at no additional expense to the Owner. If the excavated soil is clean and free of debris, it may be used for other on site earthwork if needed, unless specified otherwise. See 2.B.

3.04 Clean Up

Any soil, peat, fertilizer or similar material which has been brought onto any paved areas shall be removed promptly keeping these areas clean as the work progresses. Upon completion of the planting, all excess soil, stones and debris which has not been previously cleaned up shall be removed from the site.

3.05 Maintenance

- A. Maintenance shall begin immediately after each plant is planted and shall continue during installation and until all planting has passed final inspection and acceptance. Maintenance shall include watering, weeding, cultivating, removal of dead materials, resetting plants to proper grades or upright positions, debris removal, site cleaning and any other necessary operations.
- B. In the event of the threat of serious damage resulting from insects or disease prior to final acceptance, the plants shall be treated by preventative or remedial measures approved for good horticultural practice at no additional cost to the Owner.
- C. The Contractor shall furnish the Owner with a written and detailed description for the care and maintenance of all plant material at the time of final inspection. The Owner agrees to execute the instructions for such care and maintenance.
- 3.06 Inspection And Acceptance
- A. Inspection: Inspection of work to determine completion of contract, exclusive of the possible replacement of plants, will be made by the Owner and/or Landscape Architect at the conclusion of all planting and at the written request of the Contractor.
- B. Acceptance: After inspection, the Contractor will be notified by the Owner and/or Landscape Architect of the acceptance of all plant material and workmanship, exclusive of the possible replacement of plants subject to guarantee.
- 3.07 Guarantee And Replacement
- A. Guarantee: The Contractor agrees to these specifications as part of his Contract with the Project Owner/Agent and shall warrant all materials, workmanship and plant materials, except sod, for a period of one (1) year from the time of completion and subsequent final acceptance by the Landscape Architect & Owner. All plant materials shall be alive and in satisfactory condition and growth for each specific kind of plant at the end of the guarantee period. Where vandalism has occurred and is agreed to by the Owner / Landscape Architect as the cause for replacement, the Contractor may not be responsible for replacement during the one (1) year guarantee after final acceptance.

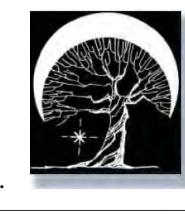
END OF SECTION



LANDSCAPE - SHRUB **SPECIFICATIONS**

Wayne Villavaso Landscape Architecture, Inc.

268 Flamingo Drive West Palm Beach, FL 33401 Ph. (561) 820-1566 www.WVLAInc.com Land Planning /Landscape Architecture FL., N.C., N.Y.







F RIVIERA BEACH,
PALM BEACH ISLES
ACH ISLES BRIDGES
LAND DRIVE

DANA I GILLETTE FL PE 41913

File Name: Rlext (Rlext)

GRAND BAHAMA LANE BRIDGES RIVIERA BEACH, FLORIDA

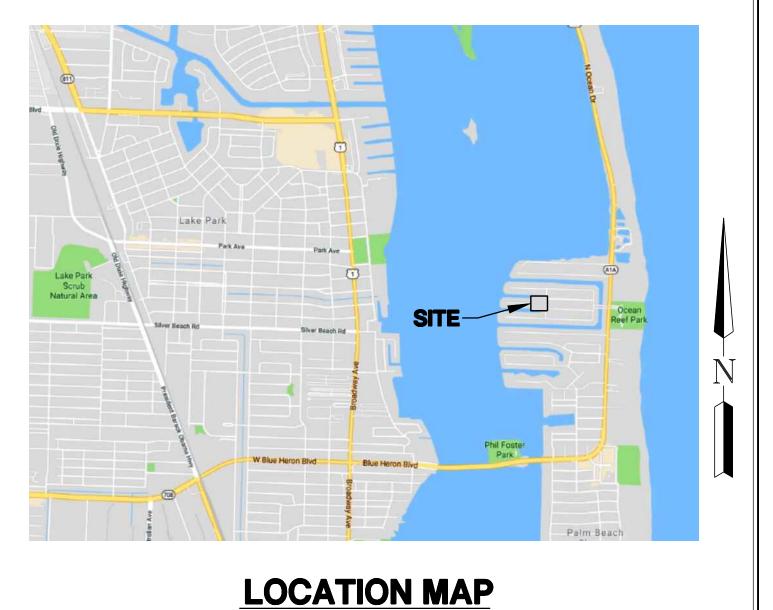
SHEET INDEX

NOTES AND DETAILS FOR SQUARE PRESTRESSED CONCRETE PILES TXDOT TRAFFIC RAIL TYPE T221 (SHEET 2) BRIDGE PLAN AND ELEVATION

SUPERSTRUCTURE PLAN AND SECTIONS

SHEET PANELS AND MISCELLANEOUS BRIDGE DETAILS





SITE MAP



12798 W. Forest Hill Blvd., Suite 201 Wellington, FL 33414

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Simon A. Coleman, P.E. License No. 68929

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△CH, RIVIERA

REVISION No. Date Dr.

or. S.A.C. Scale NOTED

5/12/2020

Sheet **B1-2**

M.R.G. Chk. A.L.G

17-027

Simon A. Coleman, P.E. License No. 68929

GENERAL NOTES

GOVERNING STANDARDS AND CONSTRUCTION SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION, 2017/2018 DESIGN STANDARDS AND 2018 STANDARD SPECIFICATIONS
FOR ROAD AND BRIDGE CONSTRUCTION.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, 2017, FDOT STRUCTURES MANUAL, 2018, FDOT PLANS PREPARATION MANUAL, 2017.

DESIGN METHOD: LOAD & RESISTANCE FACTOR DESIGN (LRFD)

LIVE LOAD: HL-93 (WITH IMPACT)

DEAD LOADS

2.1. TRAFFIC RAILING (TEXAS TYPE T221) 460 PLF

2.2. PLANTER WALL

2.3. ALLOWANCE FOR UTILITIES

150 PLF

2.4. SOIL IN PLANTER

2.5. PENEROPEED CONCEPTE

110 PCF REINFORCED CONCRETE

ALL CONCRETE SHALL CONFORM WITH SECTION 346 OF THE GENERAL SPECIFICATIONS

MINIMUM 28-DAY COMPRESSIVE STRENGTH (PSI) CLASS ------IV-WITH HIGHLY REACTIVE F'C = 5500SUBSTRUCTURE (EXCLUDING PILES), PRESTRESSED SLABS, SHEAR KEY CLOSURES, **POZZOLANS** DIAPHRAGMS, ANCHORAGE BLOCKOUTS, CONCRETE TOPPING ON DECK AND TRAFFIC V-(SPECIAL) WITH HIGHLY REACTIVE POZZOLANS F'C = 6000PRE-STRESSED PILES

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

ENVIRONMENT: SUBSTRUCTURE: EXTREMELY AGGRESSIVE SUPERSTRUCTURE: EXTREMELY AGGRESSIVE

CONCRETE COVER:

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE REINFORCEMENT PLACEMENT AND FABRICATION TOLERANCES UNLESS SHOWN AS "MINIMUM COVER". SEE FDOT STANDARD SPECIFICATIONS SECTION 415 FOR ALLOWABLE REINFORCEMENT PLACEMENT TOLERANCES. ALL DIMENSIONS PERTAINING TO THE LOCATION OF REINFORCING STEEL ARE TO CENTERINE OF BAR EXCEPT WHERE CLEAR (CLR.) DIMENSION IS NOTED TO FACE OF CONCRETE.

MINIMUM COVER SHALL BE AS FOLLOWS:

CIP SUPERSTRUCTURE: 2"

CIP BENT CAP: 4½" AT BOTTOM AND FRONT AND BACK FACES OF CAP; 4" TOP OF CAP.
PRECAST SHEET PANELS: 4½" FRONT FACE IN DIRECT CONTACT WITH
WATER; 3" REAR FACE.
PRESTRESSED SLABS: 2"

A CLASS 5 FINISH COATING (SEE DETAIL THIS SHEET) SHALL BE APPLIED TO THE FOLLOWING EXPOSED CONCRETE SURFACES:
THE INSIDE, BACKSIDE, AND TOP OF CONCRETE TRAFFIC RAILING, PLANTER WALL, ENDS OF BENT CAPS & EDGE OF OUTER
DECK SLABS. A HEAVY BROOM FINISH SHALL BE APPLIED TO THE TOP SURFACE OF THE APPROACH SLABS AND THE TOP
SURFACE OF THE CONCRETE TOPPING ON THE BRIDGE DECK.

CONSTRUCTION JOINTS:
CONSTRUCTION JOINTS ARE PERMITTED ONLY AT LOCATIONS SHOWN ON THE PLANS. ADDITIONAL CONSTRUCTION JOINTS OR
ALTERATIONS TO THOSE SHOWN SHALL REQUIRE APPROVAL OF THE ENGINEER.

CHAMFER:
ALL EXPOSED EDGES AND CORNERS OF CONCRETE SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

VERTICAL DATUM: ELEVATIONS SHOWN ON PLANS ARE IN NGVD 29. UNLESS OTHERWISE NOTED.

FILTER FABRIC USED OVER GROUTED JOINTS IN SHEET PANEL WALLS, ETC., SHALL BE TYPE D2 PER FDOT STANDARD SPECIFICATIONS.

ALL DIMENSIONS IN THESE PLANS ARE MEASURED IN FEET EITHER HORIZONTALLY OR VERTICALLY UNLESS OTHERWISE NOTED.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS, ETC. PRIOR TO COMMENCING CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

CONSTRUCTION LOADS:
THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL STRUCTURAL COMPONENTS DURING CONSTRUCTION, INCLUDING THE NEED FOR ANY TEMPORARY BRACING.

PLAN SHEET SCALE:
SCALES ARE POSTED ON EACH SHEET BASED ON 24×36 INCH PLAN SHEETS.

UTILITIES:
FOR PLAN LOCATIONS OF EXISTING & PROPOSED UTILITIES, SEE ROADWAY/CIVIL PLANS.

PRESTRESSED SLAB NOTES

MATERIAL PROPERTIES: REINFORCING STEEL: ASTM A615, GRADE 60. WELDED WIRE FABRIC: ASTM A185 AND ASTM A497. PRESTRESSING 0.5" Ø ASTM A416, GRADE 270, LOW RELAX; POST-TENSIONING STRANDS: 0.6" ASTM A416, GRADE 270, LOW RELAX.

MINIMUM RELEASE STRENGTH:

BARS FOR BARRIER OR RAILING: SEE DETAILS CONTAINED IN THESE PLANS.

CAMBER IS THE AMOUNT OF RISE THAT OCCURS AT MIDSPAN OF THE SLAB DUE TO THE PRESTRESSING FORCE. THE CAMBER WILL INCREASE DUE TO CREEP DURING STORAGE UNLESS PRECAUTIONS ARE TAKEN. THEREFORE, THE CONTRACTOR SHALL AVOID THE DEVELOPMENT OF ADDITIONAL DIFFERENTIAL CAMBER BETWEEN SLABS, FOR ANY SPAN, DURING STORAGE BY LOADING OR OTHER APPROVED METHODS.

THE TOPS OF ALL PRESTRESSED SLABS UNITS SHALL BE FINISHED SMOOTH BY FLOATING AND THEN LIGHTLY BROOMED. THE EDGES OF THE TOP SURFACE OF THE PRESTRESSED SLABS SHALL BE FINISHED BY USE OF A SMALL RADIUS TOOL.

FORMS AND PALLETS: ALL PRESTRESSED SLABS SHALL BE CAST ON CONCRETE BASED PALLETS AND IN METAL FORMS. KEYWAY FORM MAY BE WOOD.

PRESTRESSED SLABS MUST BE MAINTAINED IN A FLAT POSITION. THE PRESTRESSED SLABS MUST BE PICKED UP FROM POINTS LOCATED BETWEEN ONE (1) AND TWO (2) FEET FROM THE ENDS.

STORAGE AND TRANSPORTATION: ALL PRESTRESSED SLABS MUST BE STORED ON ADEQUATE DUNNAGE. THE PRESTRESSED SLABS MUST BE SUPPORTED NO CLOSER THAN 6" FROM THE END NOR FURTHER THAN 18" FROM THE END.

NEOPRENE BEARING PAD: COMPOSITE NEOPRENE BEARING PADS SHALL BE PROVIDED IN ACCORDANCE WITH THE GENERAL SPECIFICATIONS. THE PADS SHALL BE 1/2"X6" STRIPS WITH A MINIMUM LENGTH OF 6'.

EACH POST-TENSIONING TENDON SHALL CONSIST OF FOUR (4) 0.6" STRANDS. POST-TENSIONING TENDONS SHALL BE IN

ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 462. THE JACKING FORCE REQUIRED BEFORE ANCHOR SET IS 46.9 KIPS FOR EACH STRAND. ANCHOR SET HAS BEEN ASSUMED TO

BE 0.25 INCHES (CONTRACTOR TO CONFIRM). DUCTS, COUPLES, TRANSITIONS (TRUMPETS) SHALL BE FABRICATED FROM VIRGIN HIGH DENSITY POLYETHYLENE. DURING CASTING OF THE SLABS, THE DUCTS SHALL BE HELD IN PROPER ALIGNMENT BY A RIGID MANDREL SUFFICIENT TO PREVENT DISPLACEMENT.

DUCTS SHALL HAVE A GROUTING VENT AT EACH ANCHORAGE. DUCT SPLICES SHALL BE WATERTIGHT. EXTERIOR BLOCKOUTS SHALL BE FILLED WITH CONCRETE AFTER COMPLETION OF THE POST-TENSIONING OPERATION. PRIOR TO

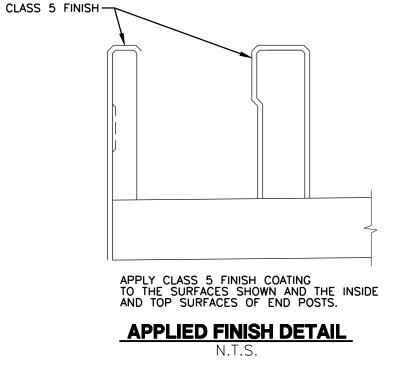
CONCRETING BLOCKOUTS, ALL CONCRETE SURFACES IN CONTACT WITH THE CONCRETE SHALL BE ROUGHENED, AND THE METALLIC ANCHORAGE DEVICES AND STRANDS SHALL BE CLEANED TO THE SATISFACTION OF THE ENGINEER; AND IMMEDIATELY BEFORE CONCRETING, THE BLOCKOUT CONCRETE SURFACES AND ANCHORAGE DEVICES SHALL BE COATED WITH AN FDOT APPROVED

POST-TENSIONING MAY START AFTER CONCRETE IN THE KEYWAYS HAS CURED AT LEAST 72 HOURS AND REACHED A MINIMUM STRENGTH OF 4000 PSI.

DUCTS SHALL BE FILLED WITH NON-SHRINK, NON-METALLIC GROUT. THE GROUTED TENDONS SHALL NOT BE DISTURBED BY VEHICULAR TRAFFIC OR HEAVY LOADS FOR A PERIOD OF AT LEAST 72 HOURS. THIS INCLUDES PLACEMENT OF THE CONCRETE, TRAFFIC RAILINGS AND CONCRETE TOPPING. GROUT SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 938.

SHOP DRAWINGS: SHOP DRAWINGS FOR PRECAST SLAB UNITS SHALL SHOW A COMPLETE DETENSIONING SCHEDULE SO AS TO MINIMIZE TENSION IN THE CONCRETE DURING RELEASE OF THE STRANDS. DETAILED CONCRETE STRESSES DURING EACH STRESSING OPERATION OF DETENSIONING SHALL BE SUBMITTED WITH THE SHOP DRAWINGS. SHOP DRAWINGS SHALL SHOW COMPLETE DETAILS OF THE SLABS INCLUDING REINFORCING STEEL AND PRESTRESSING STEEL. THE CONTRACTOR SHALL ALSO INCLUDE IN THE SHOP DRAWINGS THE POST-TENSIONING INFORMATION REQUIRED INCLUDING THE STRANDS TO BE USED AND THE PROPOSED POST TENSIONING EQUIPMENT (INCLUDING MANUFACTURER, RAM AREA AND CALIBRATION CHART). CONTRACTOR TO SUPPLY SHOP DRAWINGS FROM THE SUPPLIER OF THE POST-TENSIONING ANCHORAGES INCLUDING ANY CONFINEMENT REINFORCING REQUIRED FOR THE TENDON LOADS, AND THE ANCHOR SET FOR THE PROPOSED WEDGES.

LIFTING DEVICES: LIFTING DEVICES FOR PRESTRESSED SLABS AND PILES SHALL BE REMOVED TO 1" BELOW THE SURFACE AND THE HOLE IN THE CONCRETE SHALL BE GROUTED FLUSH. THE GROUT USED FOR THE PATCH SHALL BE AN FDOT APPROVED TYPE H EPOXY.



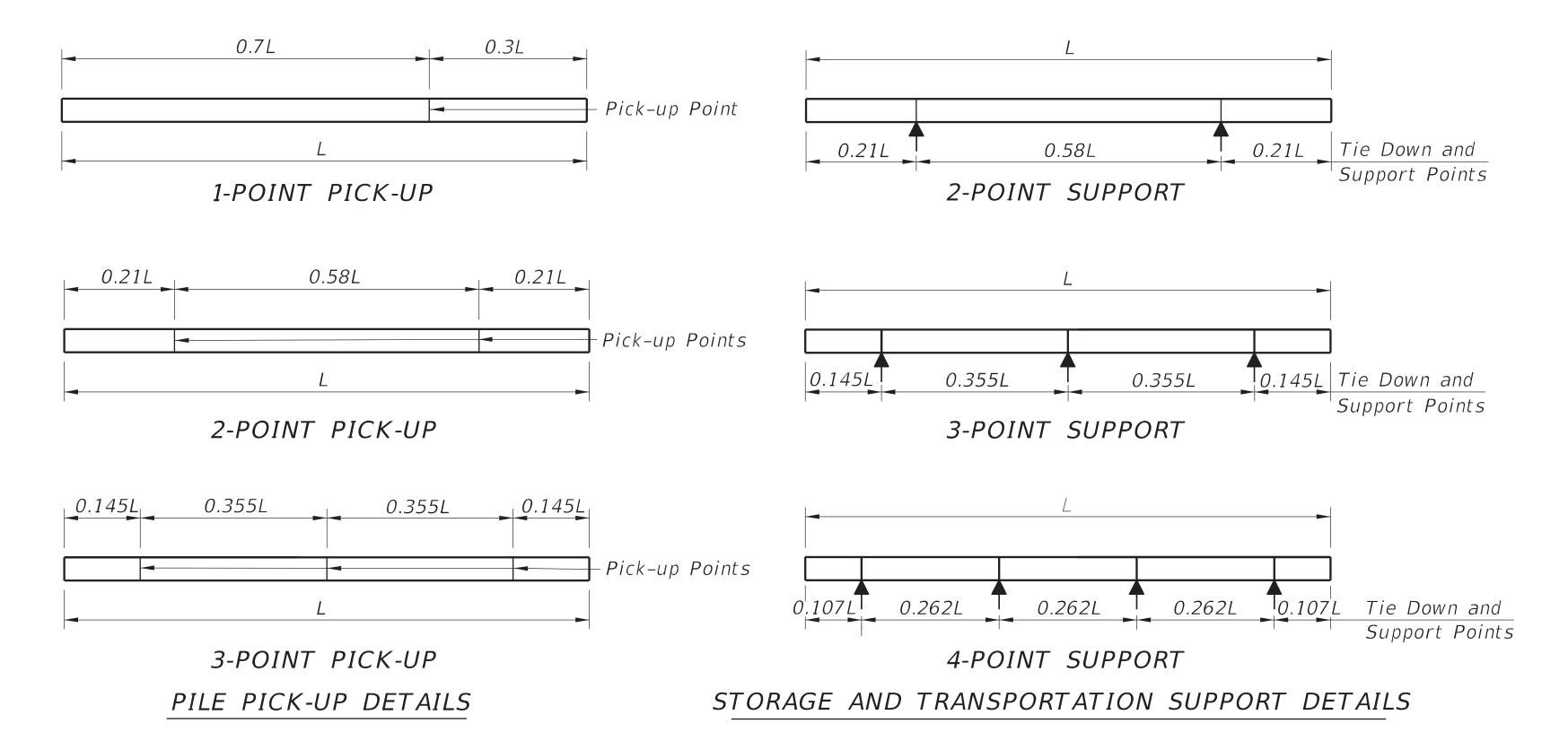
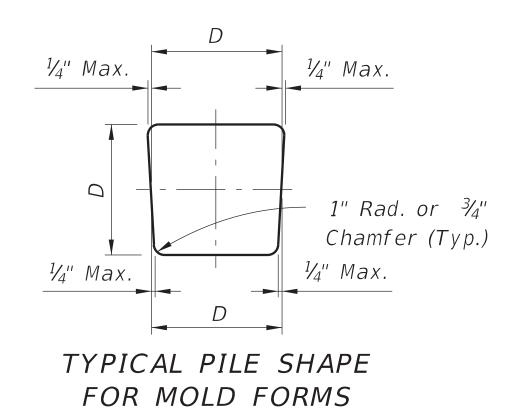
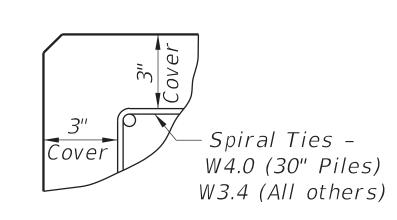


TABLE OF MAXIMUM PILE PICK-UP AND SUPPORT LENGTHS										
	D =	= Squa	are Pil	e Size	e (inch	nes)	Required Storage and	Pick-Up Detail		
	12	14	18	20	24	30	Transportation Detail			
Maximum	48	52	59	62	68	87	2, 3, or 4 point	1 Point		
Pile Length	69	75	85	89	98	124	2, 3, or 4 point	2 Point		
(Feet)	99	107	121	128	140	178	3 or 4 point	3 Point		





DETAIL SHOWING TYPICAL COVER

PRESTRESSED CONCRETE PILE NOTES:

- 1. Work this Index with the Square Prestressed Concrete Pile Splices (Index 20601), the Prestressed Concrete Pile Standards (Index 20612, 20614, 20618, 20620, 20624, 20630, the High Moment Capacity Square Prestressed Concrete Pile (Index 20631) and the Pile Data Table in the Structures Plans.
- 2. Concrete:
 - A. Piles: Class V (Special), except use Class VI for High Moment Capacity Pile (Index 20631).
 - B. High Capacity Splice Collar: Class V (Special).
 - C. Silica Fume: See "GENERAL NOTES" in the Structures Plans for locations where the use of silica fume, metakaolin or ultra-fine flyash is required.
- 3. Concrete strength at time of prestress transfer:
 - A. Piles: 4,000 psi minimum.
- B. High Moment Capacity Piles: 6,500 psi minimum.
- 4. Carbon-Steel Reinforcing:
 - A. Bars: Meet the requirements of Specification Section 415.
 - Prestressing Strands: Meet the requirements of Specification Section 933.
 - C. Protect all strands permanently exposed to the environment and not embedded under final conditions in accordance with Specification Section 450.
- 5. Spiral Ties:
 - A. Tie each wrap of the spiral strand to a minimum of two corner strands.
 - B. One full turn required for spiral splices.
- 6. Pile Splices: Fill dowel holes and form the joint between pile sections with a Type AB Epoxy Compound in accordance with Specification Section 962. Use an Epoxy Bonding Compound or an Epoxy Mortar as recommended by the Manufacturer.

DESCRIPTION: LAST REVISION 11/01/16



FY 2017-18 DESIGN STANDARDS

NOTES AND DETAILS FOR SQUARE PRESTRESSED CONCRETE PILES

INDEX NO. 20600

SHEET NO. 1 of 1

NOTES:

- 1. For Sections D-D, E-E, & F-F see Index Nos. 20612, 20614, 20618, 20620, 20624 or 20630 for applicable concrete pile size and Pile Splice Reinforcement Details.
- 2. Prestressing strands, spiral ties and/or reinforcement are not shown for clarity.

-C-I-P Concrete

or Footing

Bent Cap, Pile Cap

- Pile Cut-off

Elevation

- 3. In cases where pile splices are desired due to length limitations in shipping and/or handling, the "Drivable Preplanned Prestressed Precast Splice Detail" shall be used. Mechanical Pile Splices contained on the Approved Products List (APL) may also be used.
- 4. When preformed dowel holes are utilized, the 1" spiral tie pitch shall be continued to 4'-0" below the head of the pile, See Index Nos. 20618, 20620 & 20624. Preformed holes shall utilize either removable preforming material or stay-in-place corrugated galvanized steel ducts. Stay-in-place ducts shall be fabricated from galvanized sheet steel meeting the requirements of ASTM A653, Coating Designation G90, 26 gauge. Ducts shall be 2" diameter with a minimum corrugation (rib) height of 0.12 in. Ducts shall be fabricated with either welded or interlocked seams. Galvanizing of welded seams will not be required.
- 5. For tension piles where top of Prestressed Pile is less than 3 feet below Pile Cut-off Elevation, extend No. 10 Dowels into cap beyond Pile Cut-off Elevation to achieve development as approved by the Engineer.

1" Cover

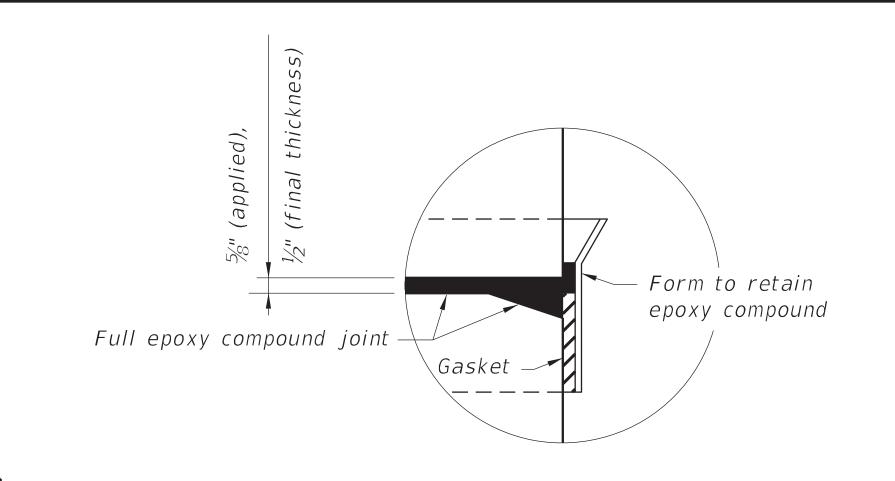
at End

-No. 10 Dowels

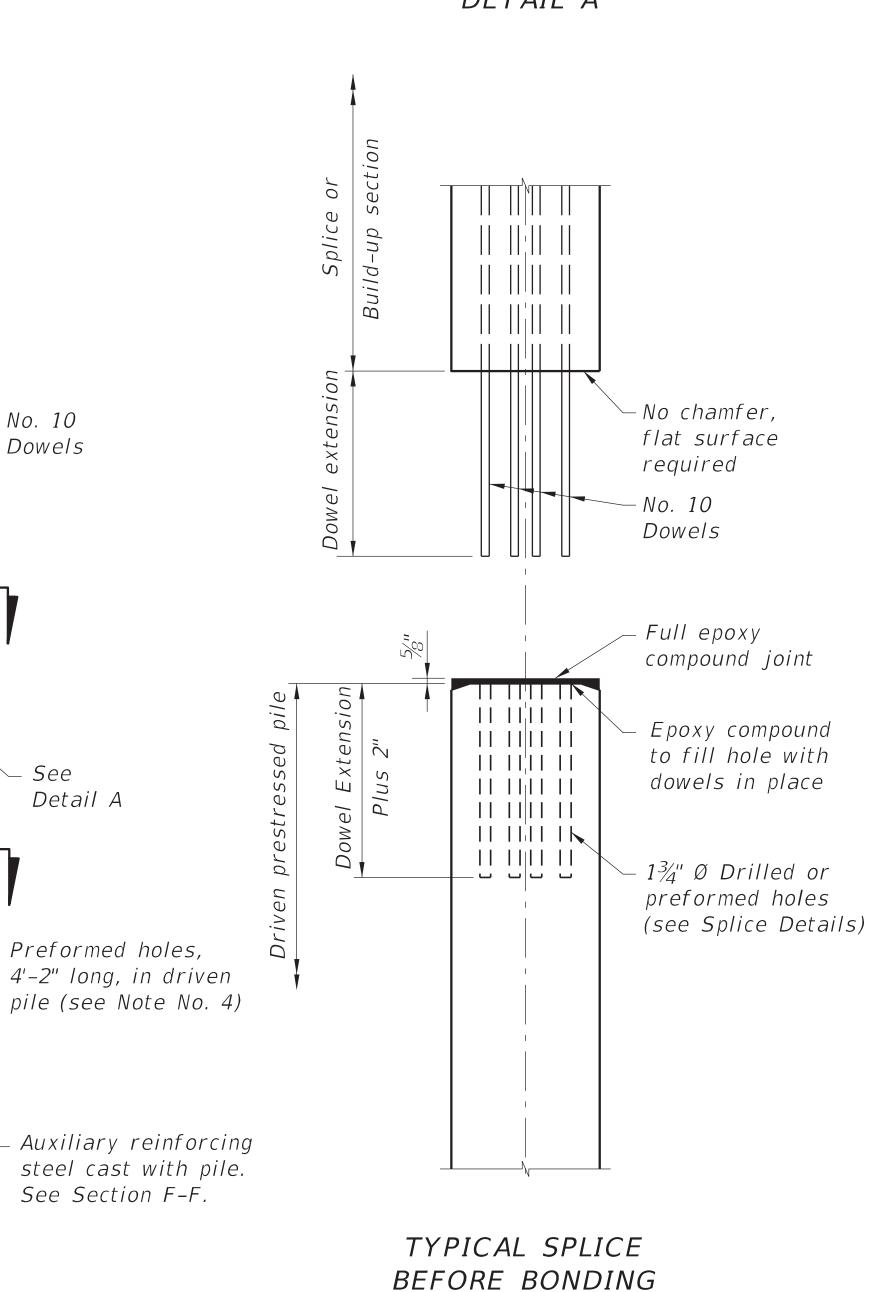
Full length of

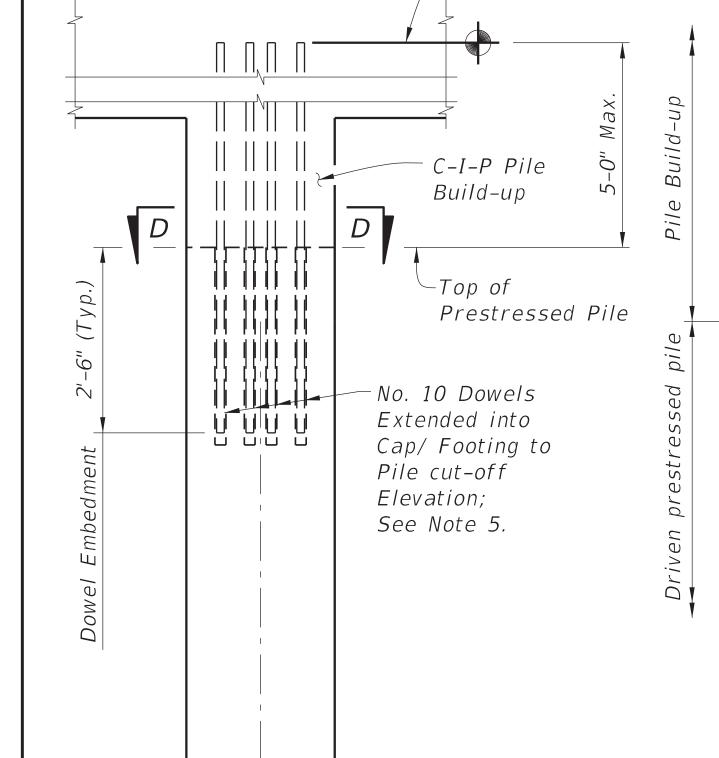
Build-up

Detail A









NONDRIVABLE UNFORESEEN REINFORCED PRECAST PILE BUILD-UP DETAIL

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D

DRIVABLE UNFORESEEN PRESTRESSED PRECAST PILE SPLICE DETAIL

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ה ה'ה ה

_ No. 10

- See

Detail A

Driven

Dowels

DRIVABLE PREPLANNED PRESTRESSED PRECAST PILE SPLICE DETAIL

_ No. 10

Dowels

Detail A

E

B1-4

LAST REVISION 07/01/14



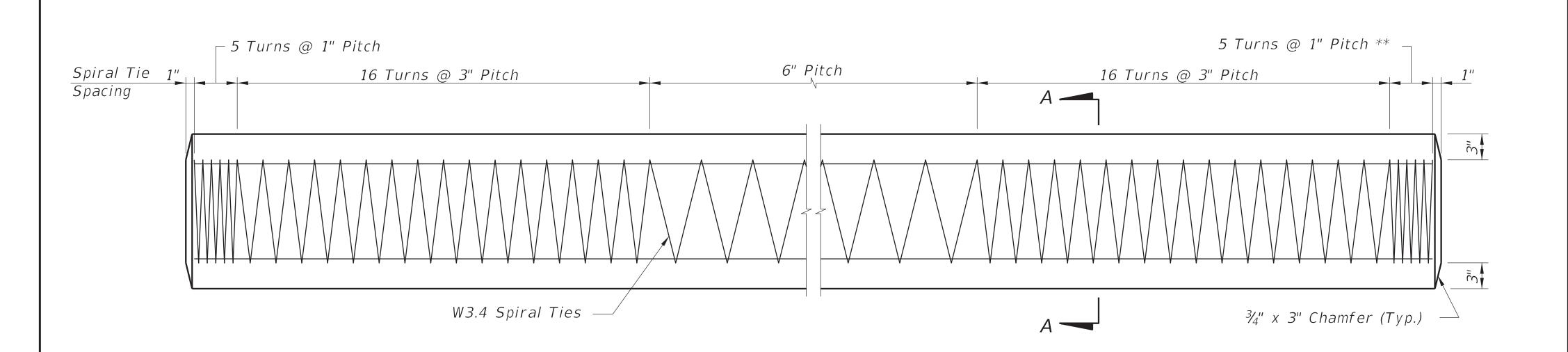
DESCRIPTION:

UNFORESEEN

REINFORCED C-I-P

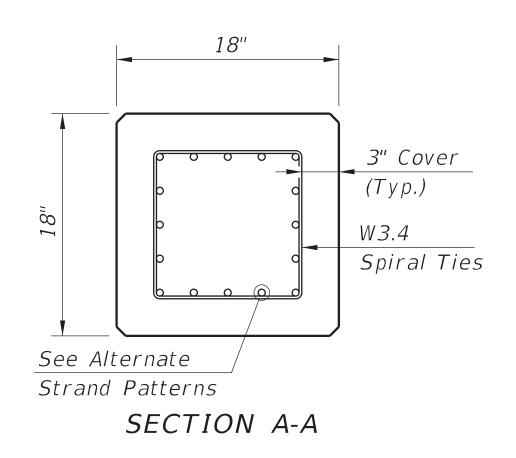
PILE BUILD-UP DETAIL

FY 2017-18 DESIGN STANDARDS



ELEVATION

** See Note No. 4 on Index No. 20601



ALTERNATE STRAND PATTERNS

12 ~ 0.6" Ø, Grade 270 LRS, at 35 kips

 $12 \sim \frac{1}{2}$ " Ø (Special), Grade 270 LRS, at 34 kips

 $16 \sim \frac{1}{2}$ " Ø, Grade 270 LRS, at 26 kips

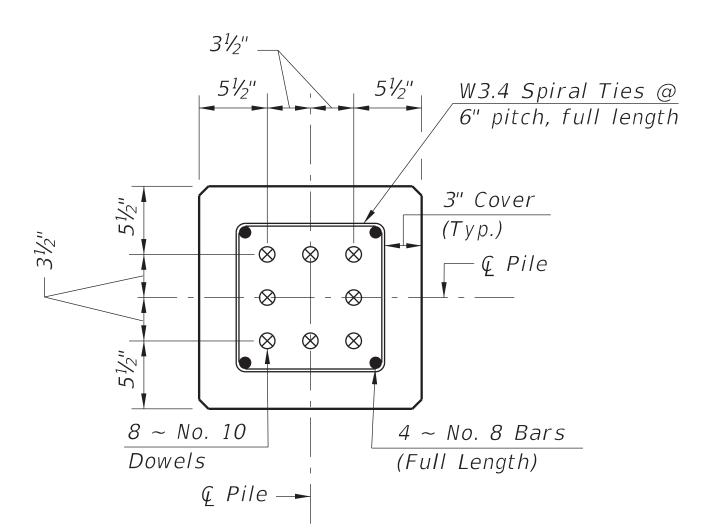
 $20 \sim \frac{7}{16}$ " Ø, Grade 270 LRS, at 21 kips

24 ~ ¾" Ø, Grade 270 LRS, at 17 kips

NOTES:

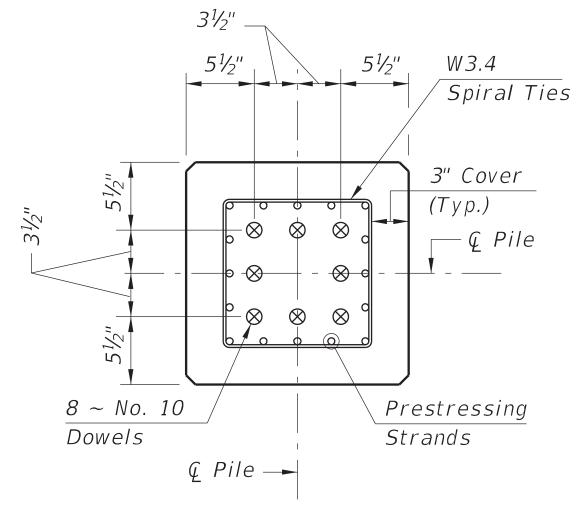
- 1. Work this Index with Index No. 20600 Notes and Details for Square Prestressed Concrete Piles and Index No. 20601 - Square Prestressed Concrete Pile Splices.
- 2. Any of the given Alternate Strand Patterns may be utilized. The strands shall be located as follows:

Place one strand at each corner and place the remaining strands equally spaced between the corner strands. The total strand pattern shall be concentric with the nominal concrete section of the pile.



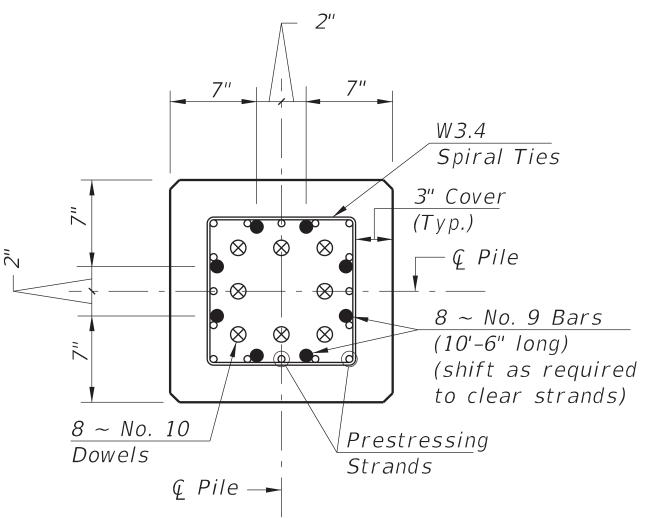
SECTION D-D

(See Nondrivable Unforeseen Reinforced Precast Splice Detail)



SECTION E-E

(See Drivable Prestressed Precast Splice Detail)



SECTION F-F

(See Drivable Preplanned Splice Detail)

PILE SPLICE REINFORCEMENT DETAILS

B1-5

LAST REVISION 01/01/12

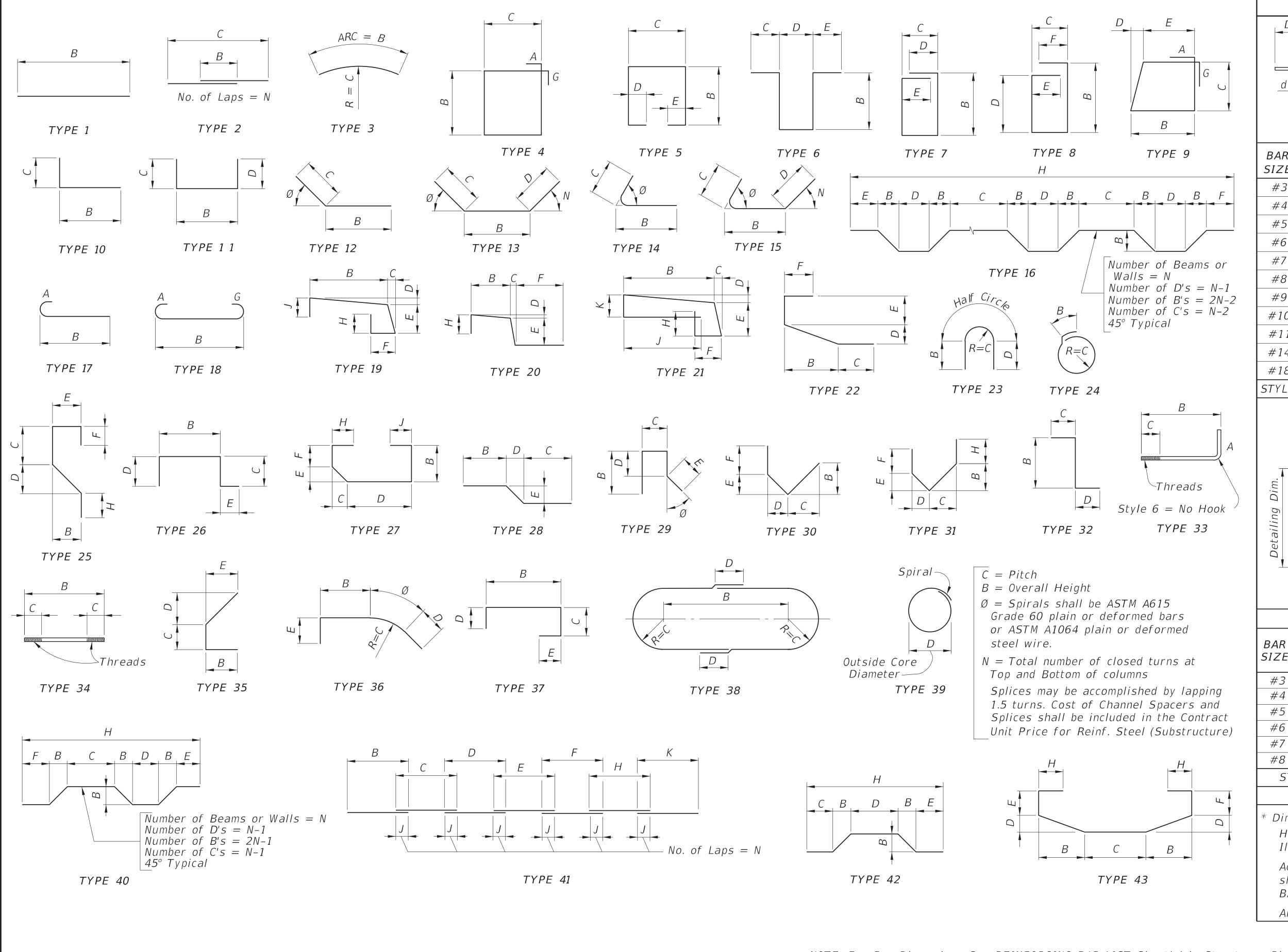
DESCRIPTION:

FDOT

FY 2017-18 DESIGN STANDARDS

INDEX NO. 20618

SHEET NO. 1 of 1



HOOK DETAILS Detailing Dim. Detailing Dim. Hook A or G 90° 180° 180° HOOKS BAR90° HOOKS A OR GA OR G1'-0" #7 1'-2" 1'-4" 11¾" 1'-7" #9 10¾" #10 1'-1½" 1'-5" 1'-10'' 1'-23/4" #11 2'-0" 1'-7" 1'-93/4" #14 18½" 2'-7" #18 2'-41/2" 3'-0" 3'-5" 24"

STIRRUP & TIE HOOK DIMENSIONS

STIRRUPS (TIES SIMILAR)

90° HOOKS *135° HOOKS* BARSIZE A or G A or G #3 1½" $2\frac{1}{2}$ " 4½" 4½" #4 2½" #5 5½" 33/4" 4½" #6 4½" 1'-0'' #7 51/4" 5½" 1'-2" #8 10½" 1'-4" STYLE 5

STYLE 6 = NO HOOK

Dimension is approximate.

Hook Styles Detailed on this sheet are for Illustration Only.

Actual Hook Style for any particular bar will be shown under A or G Heading on REINFORCING BAR LIST sheet(s) in Structures Plans.

All Dimensions are out-to-out.

NOTE: For Bar Dimensions See REINFORCING BAR LIST Sheet(s) in Structures Plans.

B1-6

3

LAST REVISION 11/01/16

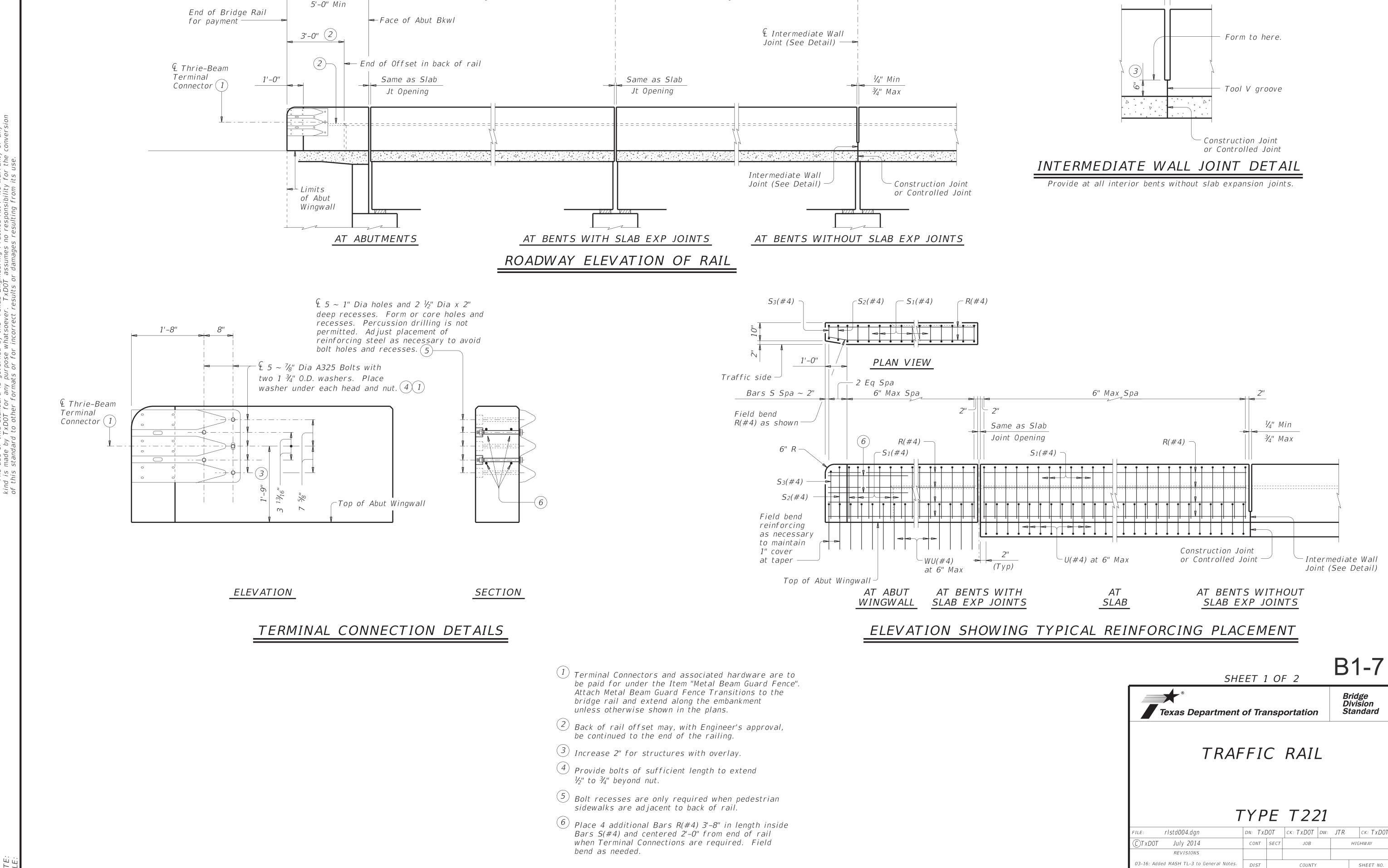
DESCRIPTION:

FDOT

FY 2017-18 DESIGN STANDARDS

STANDARD BAR BENDING DETAILS

SHEET INDEX NO. NO. 21300 1 of 1



Parapet Panel Length

Wingwall Length

(Variable)

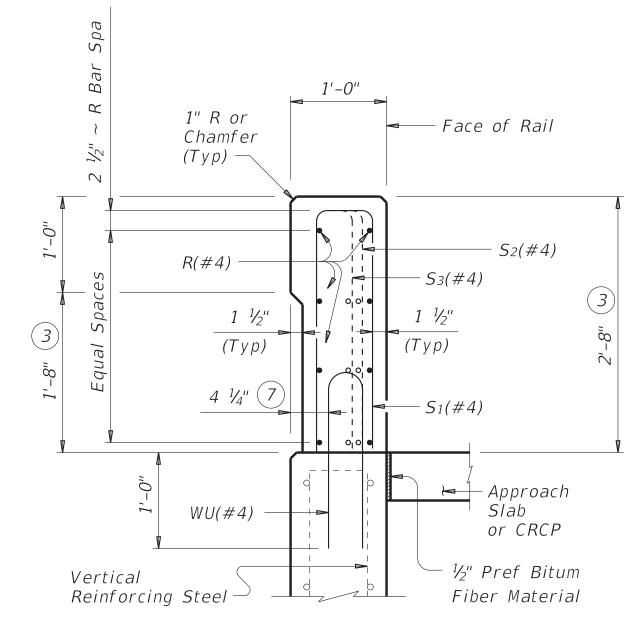
Parapet Panel Length

3 ¾" Dia

Bending

 $4^{-3}/_{4}$ "

BARS U (#4)

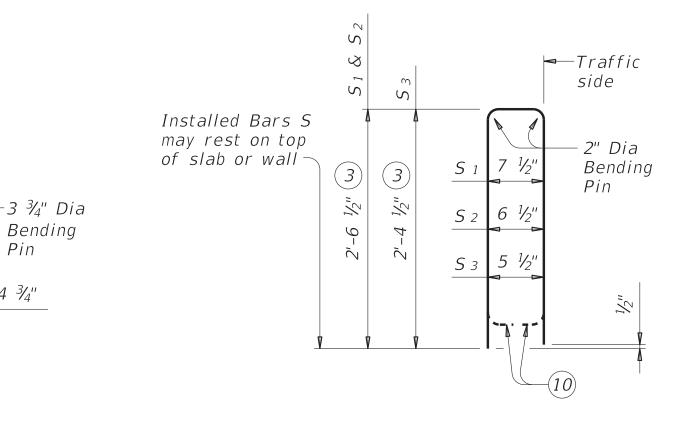


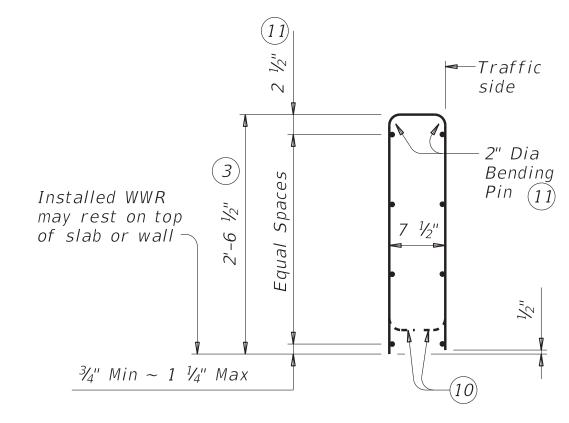
— Face of Rail Chamfer (Typ) — $-S_1(#4)$ R(#4) $1^{-1}/_{2}''$ $\overline{(Typ)}$ (Typ)U(#4)

ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS

ON BRIDGE SLAB

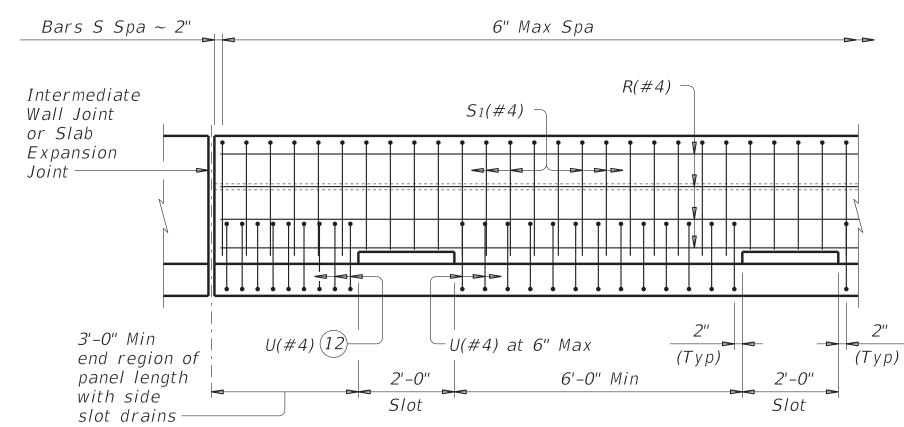
SECTIONS THRU RAIL





OPTIONAL WELDED WIRE REINFORCEMENT (WWR)

DESCRIPTION	LONGITUDINAL WIRES	VERTICAL WIRES	
Minimum (Cumulative Total) Wire Area	1.067 Sq In.	0.267 Sq In. per Ft	
	No. of Wires	Spacing	
Minimum	8	4"	
Maximum	10	8"	
Maximum Wire Size Differential	The smaller wire must have an area of 40% or more of the larger wire.		



3 "4"

1'-10

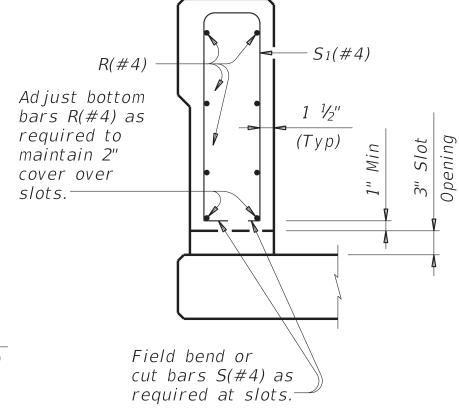
Pin

4 3/4"

BARS WU (#4)

OPTIONAL SIDE SLOT DRAIN DETAIL

Note: Side Slot Drains may be used where shown elsewhere on the plans or as directed by the Engineer. Drains should not be placed over railroad tracks, lower roadways, or sidewalks. When this rail is used as a separator between a roadway surface and a sidewalk surface, side drain slots will not be permitted.



BARS S (#4)

SECTION THRU OPTIONAL SIDE SLOT DRAIN

- (3) Increase 2" for structures with overlay.
- 7 5 1/4" when vertical reinforcing has closer clear cover over horizontal reinforcing in abutment wingwalls or retaining walls on traffic side of wall.
- 8 As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars will be furnished at the Contractors expense.
- 9 Top longitudinal slab bar may be adjusted laterally 3" plus or minus to tie reinforcing.
- (10) Bend or cut as required to clear drain slots.
- (11) No longitudinal wires may be in top center of cage.
- (12) Space U(#4) bars at 4" Max when end region of panel length is less than 6'-0" to side slot drain. Space U(#4) bars at 6" Max when end region of panel length is 6'-0" and greater to side slot drain.

CONSTRUCTION NOTES:

This railing may be constructed with slip-forms when approved by the Engineer, with equipment approved by the Engineer. Sensor control for both line and grade must be provided. Tack welding to provide bracing for slip-form operations is acceptable. Welding can be performed at a minimum spacing of 3 ft between the cage and the anchorage. It is permissible to weld to U, WU and S bars at any location on the cage. If increased bracing is needed, additional anchorage devices must be added and welding must be performed in the upper two thirds of the cage. Face of rail and parapet must be vertical transversely unless

otherwise shown in the plans or approved by the Engineer. Chamfer all exposed concrete corners.

MATERIAL NOTES:

Galvanize all steel components except reinforcing steel unless otherwise shown on plans.

Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere.

Provide Grade 60 reinforcing steel.

Epoxy coat all rail reinforcement if slab bars are epoxy

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars U and WU unless noted otherwise. Deformed WWR (ASTM 1064) may be substituted for Bars R and S, as shown. Combinations of reinforcing steel and WWR or configurations of WWR other that shown are permitted if conditions in the table are satisfied. Provide the same laps as required for reinforcing bars.

Provide bar laps, where required, as follows: Uncoated $\sim #4 = 1'-5''$ Epoxy coated $\sim #4 = 2'-1''$

GENERAL NOTES:

This rail has been evaluated and accepted to be of equal strength to railings with like geometry, which have been crash tested to meet MASH TL-3 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can only be used for speeds of 45 mph and

Do not use this railing on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Shop drawings are not required for this rail. Average weight of railing with no overlay is 370 plf.

Cover dimensions are clear dimensions, unless noted otherwise.

Reinforcing bar dimensions shown are out-to-out

SHEET 2 OF 2

B1-8

Bridge Division

Standard



TRAFFIC RAIL

TYPE T221

FILE: rlstd004.dgn	DN: TX	DOT	CK: TXDOT	DW:	JTR		ск: TxD0T
©TxDOT July 2014	CONT	SECT	JOB			HIG	HWAY
REVISIONS							
03-16: Added MASH TL-3 to General Notes.	DIST		COUNTY				SHEET NO.

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-NORTH R/W LINE

— € OF CONSTRUCTION

SOUTH R/W LINE

₽ OF SURVEY

EXTENTION OF THE PROPERTY OF T

FOR APPROACH SLAB
AND ROAD DETAILS - SEE
ROADWAY PLANS (TYP.)
SOUTH UTILITY
EASEMENT LINE

-PROPOSED TEXAS

STA. 19+05.31

TRAFFIC RAIL T221 (TYP.)

GRAPHIC SCALE

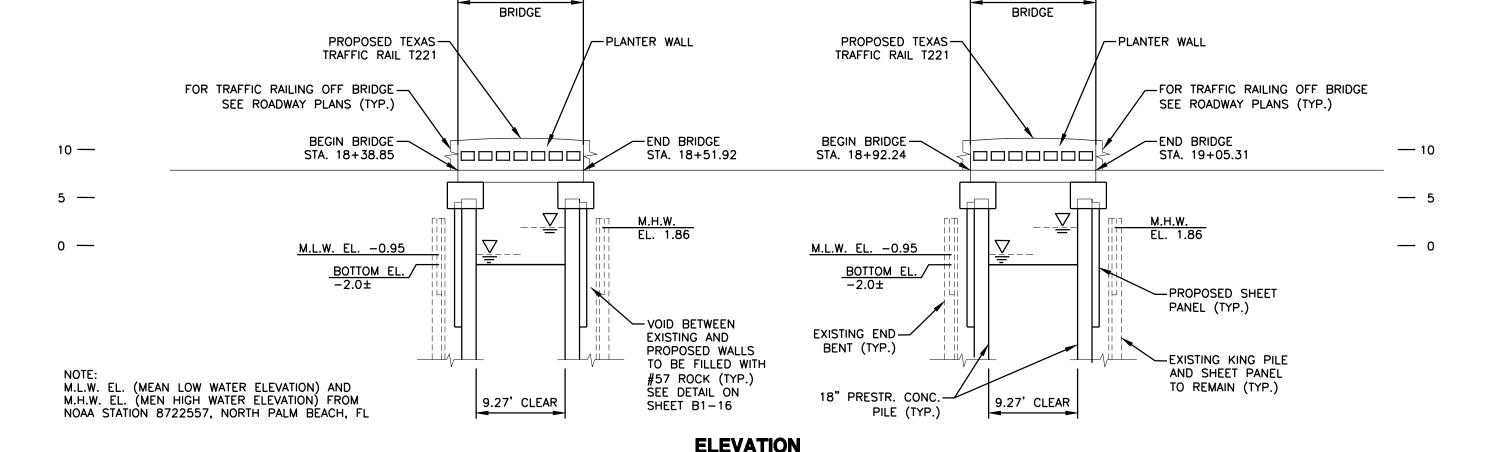
(IN FEET)

1 inch = 10 ft.

<u>LEGEND</u> EXISTING STRUCTURE TO BE REMOVED AND DISPOSED OF (INCLUDING BRIDGE DECK, PLANTERS ON BRIDGE DECK, END BENT CAPS, APPROACH SLABS, TIE BACKS AND ANY OTHER ELEMENTS OF THE BRIDGE STRUCTURE THAT CONFLICT WITH THE NEW CONSTRUCTION). EXISTING BRIDGE END BENT CAPS TO BE REMOVED. APPROACH SLABS MAY EXIST.

IF SO, THEY MUST BE REMOVED AND DISPOSED OF AT NO ADDITIONAL

COST. THE EXISTING PILES AND SHEET PANELS ARE TO REMAIN—SEE SHEETS B1-12 & B1-16 FOR REQUIRED MODIFICATIONS TO TOP OF PILES AND SHEET PANELS.



PLAN
SCALE: 1"=10"

END BENT No. 1

13.07 BRIDGE

EXISTING BULKHEAD— TO REMAIN (TYP.)

WEST BRIDGE

13.07

-NORTH R/W LINE

BAHAMA LANE

FOR APPROACH SLAB

AND ROAD DETAILS - SEE

ROADWAY PLANS (TYP.)

18+00

BEGIN BRIDGE STA. 18+38.85

PLANTER WALL (TYP.)

END BENT No. 2

END BRIDGE STA. 18+51.92

PROPOSED TEXAS

TRAFFIC RAIL T221 (TYP.)

END BENT No. 4-

PLANTER WALL (TYP.)

END BENT No. 37

BEGIN BRIDGE STA. 18+92.24

CROWN OF -

EXISTING BULKHEAD

TO REMAIN (TYP.)

EAST BRIDGE

13.07

-EXISTING BULKHEAD-TO REMAIN (TYP.)

-EXISTING BRIDGE -STRUCTURE TO BE

REMOVED (TYP.)

LOCATION	STA.	OFFSET	ELEVATION @ CROWN OF BRIDGE
BEGIN BRIDGE	18+38.85	0.00'	8.23
END BRIDGE	18+51.92	0.00'	8.23
BEGIN BRIDGE	18+92.24	0.00'	8.23
END BRIDGE	19+05.31	0.00'	8.23

NOTE: FOR PROFILE-SEE ROADWAY PLANS.

BRIDGE ANE < \mathbf{m}

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5/12/2020

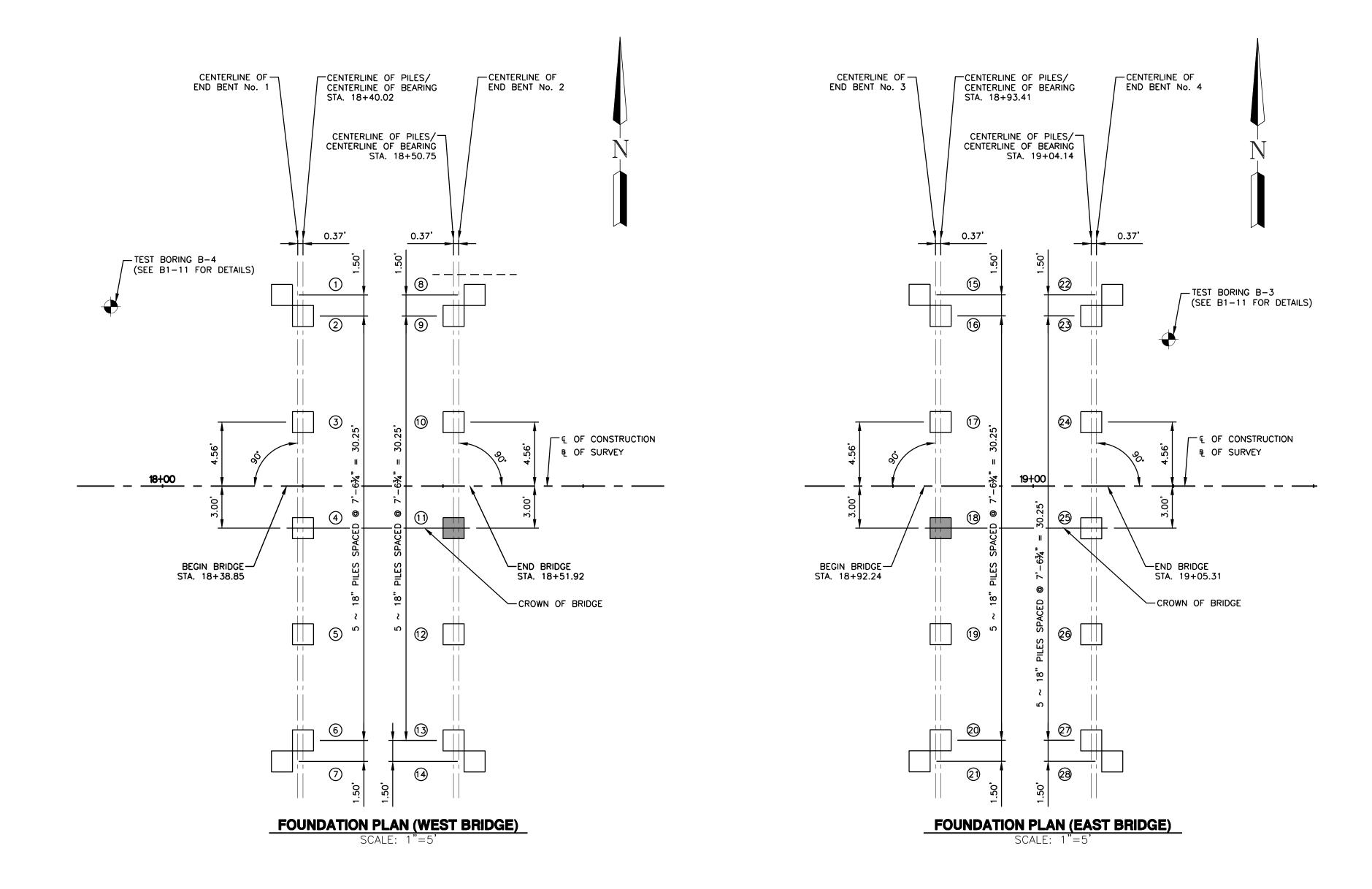
Sheet **B1-9**

M.R.G. Chk. A.L.G.

Associates, \approx Gerwig Alan

Inc.

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PILE DATA TABLE **INSTALLATION CRITERIA DESIGN CRITERIA**
 PILE SIZE (in.)
 NOMINAL BEARING (in.)
 NOMINAL UPLIFT RESISTANCE (in.)
 MINIMUM TEST PILE LEVATION (ft.)
 REQUIRED PREFORM DESIGN ELEVATION (ft.)
 FACTORED DESIGN PILE (FT.)

 SQ. (tons)
 (tons)
 (tons)
 (ft.)
 (ft.)
 (ft.)
 (ft.)
 (ft.)
 TOTAL SCOUR NET SCOUR DESIGN UPLIFT LOAD (tons)

(tons)

DOWN DRAG (tons)

(tons)

DOWN DRAG (tons)

(tons)

DOWN DRAG (tons)

DOWN DRAG (tons)

(tons)

DOWN DRAG (tons)

TOTAL SCOUR RESISTANCE (Tons)

NET SCOUR ELEVATION (ft.)

NET SCOUR ELEVATION (ft.)

ONO OND (ft.) PILE CUT-OFF ELEVATIONS 1-14 | 18" | 90 N/A N/A N/A N/A | N/A |0.65|N/A| N/A -28.0 | 48 | N/A | -28.0 | 58 N/A 4.6 15-28 18" -28.0 | 48 | N/A -28.0 58 N/A N/A N/A N/A N/A 0.65 N/A

TEST PILE

APPROXIMATE LOCATION OF TEST BORING

NOTES:

ALL PILES SHALL BE FABRICATED BY A FDOT APPROVED FACILITY.
CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO ANY PILE DRIVING. DRIVE ONE TEST PILE IN THE POSITION OF A PERMANENT PLUMB PILE AT EACH OF THE FOLLOWING LOCATIONS:

3.1 WEST BRIDGE END BENT 1 PILE No. 11 - 18" 3.2 EAST BRIDGE END BENT 4 PILE No. 18 - 18"

THE CAPACITY OF ALL TEST PILES SHALL BE VERIFIED BY PILE DRIVING ANALYZER (PDA) DURING THE INSTALLATION OF TEST PILES. THE TEST PILE PROGRAM SHALL INCLUDE THE DEVELOPMENT OF SET CHECK DRIVING CRITERIA (AND REDRIVE CRITERIA IF NECESSARY) IN ADDITION TO THE STANDARD DRIVING CRITERIA FOR THE PRODUCTION PILES (SEE SECTION 455-5 OF STANDARD SPECIFICATIONS).

ALL PILES WILL NEED TO BE PREFORMED TO THE MINIMUM TIP ELEVATION OF -28.0 (NGVD 29) DUE TO THE PRESENCE OF THE HARD ROCK LAYER SHOWN ON THE SOIL BORING PROFILES. THE MINIMUM TIP ELEVATION SHALL BE EXTENDED TO PROVIDE A MINIMUM 5' PENETRATION INTO THE ROCK LAYER IN THE EVENT THAT THE ROCK LAYER IS LOWER THAN INDICATED ON THE BORINGS. CONTRACTOR SHALL ALLOW FOR A PILE LENGTH OF 40 LF FOR PRODUCTION PILES IN THE BID.

MINIMUM TIP ELEVATION IS REQUIRED FOR LATERAL STABILITY.

VIBRATIONS ASSOCIATED WITH PILE DRIVING OPERATIONS COULD DAMAGE ADJACENT STRUCTURES. PROTECTION OF NEARBY STRUCTURES SHALL BE IMPLEMENTED IN

ACCORDANCE WITH SECTION 455-1.1 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

ANY PILES THAT NEED TO BE CUT OFF AT AN ELEVATION ABOVE THE REQUIRED CUT-OFF ELEVATION IN THE ABOVE TABLE DUE TO CONFLICTS WITH ADJACENT PILES OR

EXISTING STRUCTURES, SHALL BE LENGTHENED ACCORDINGLY.

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BRIDGE ORIDA

REVISION No. Date Dr.

pr. S.A.C. Scale NOTED

5/12/2020

Sheet **B1-10**

M.R.G. Chk. A.L.G.

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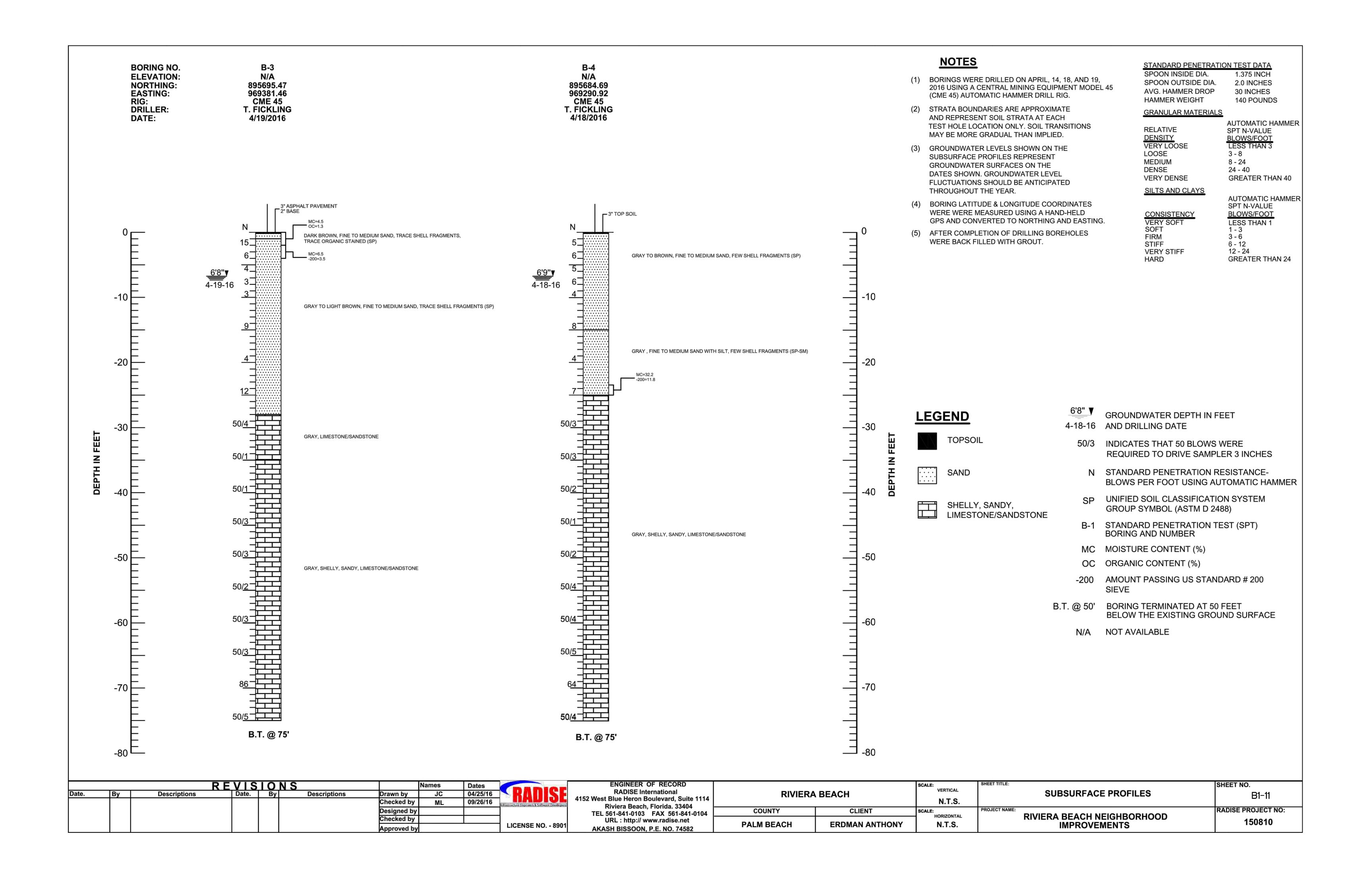
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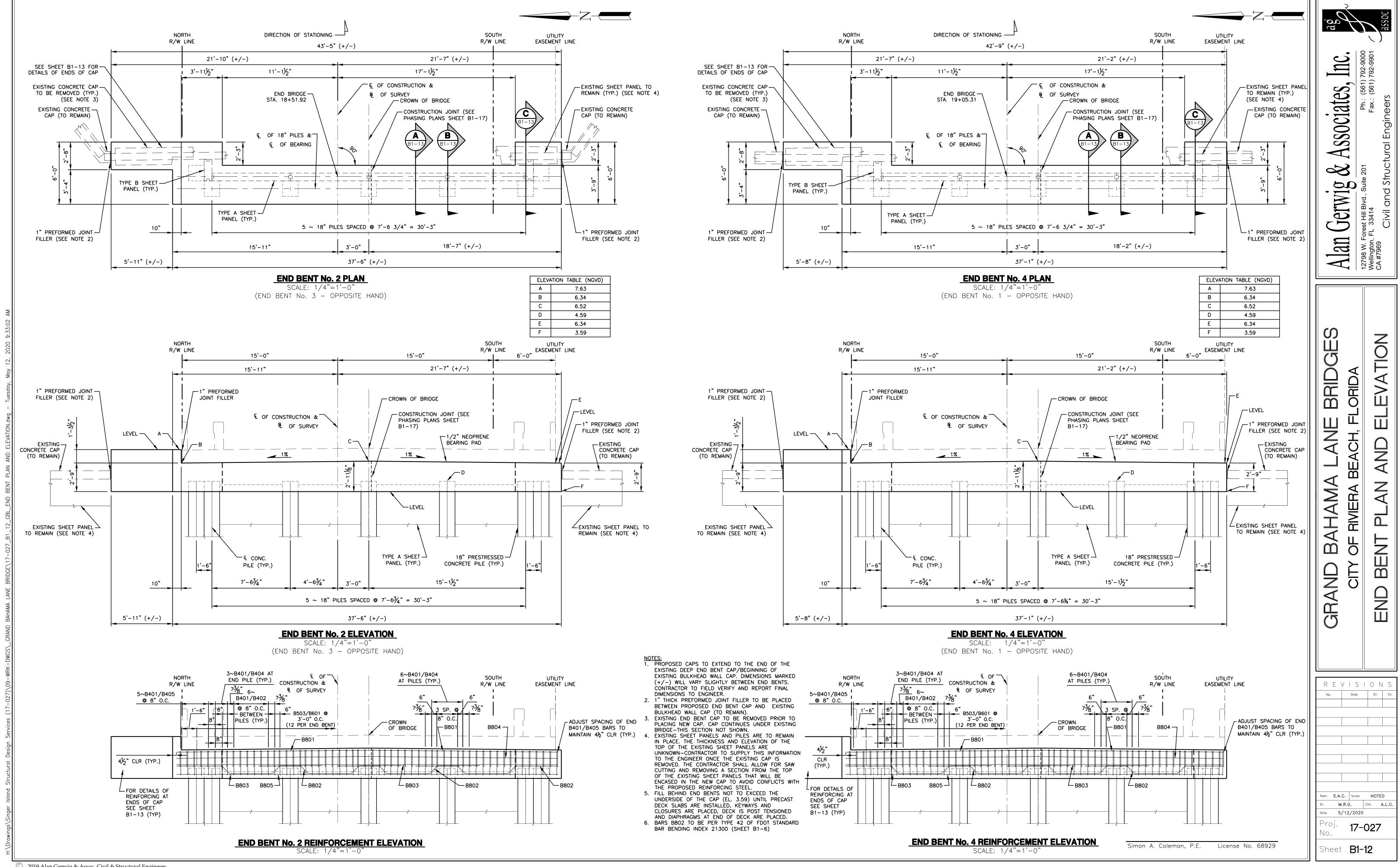
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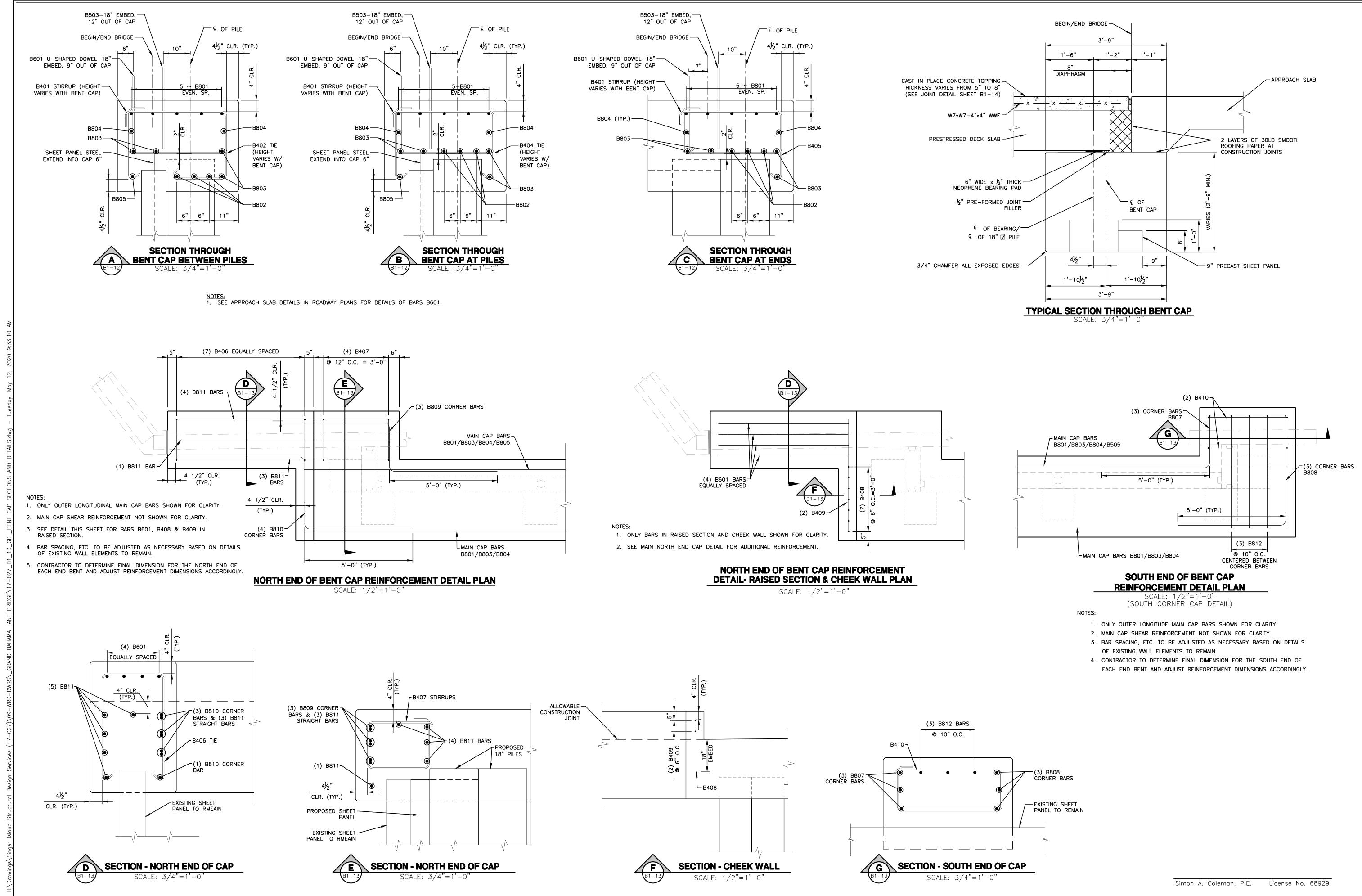
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Alan







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CITY OF RIVIERA BEACH, FLORIDA

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No. Date Dr. (

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B1-13

5/12/2020

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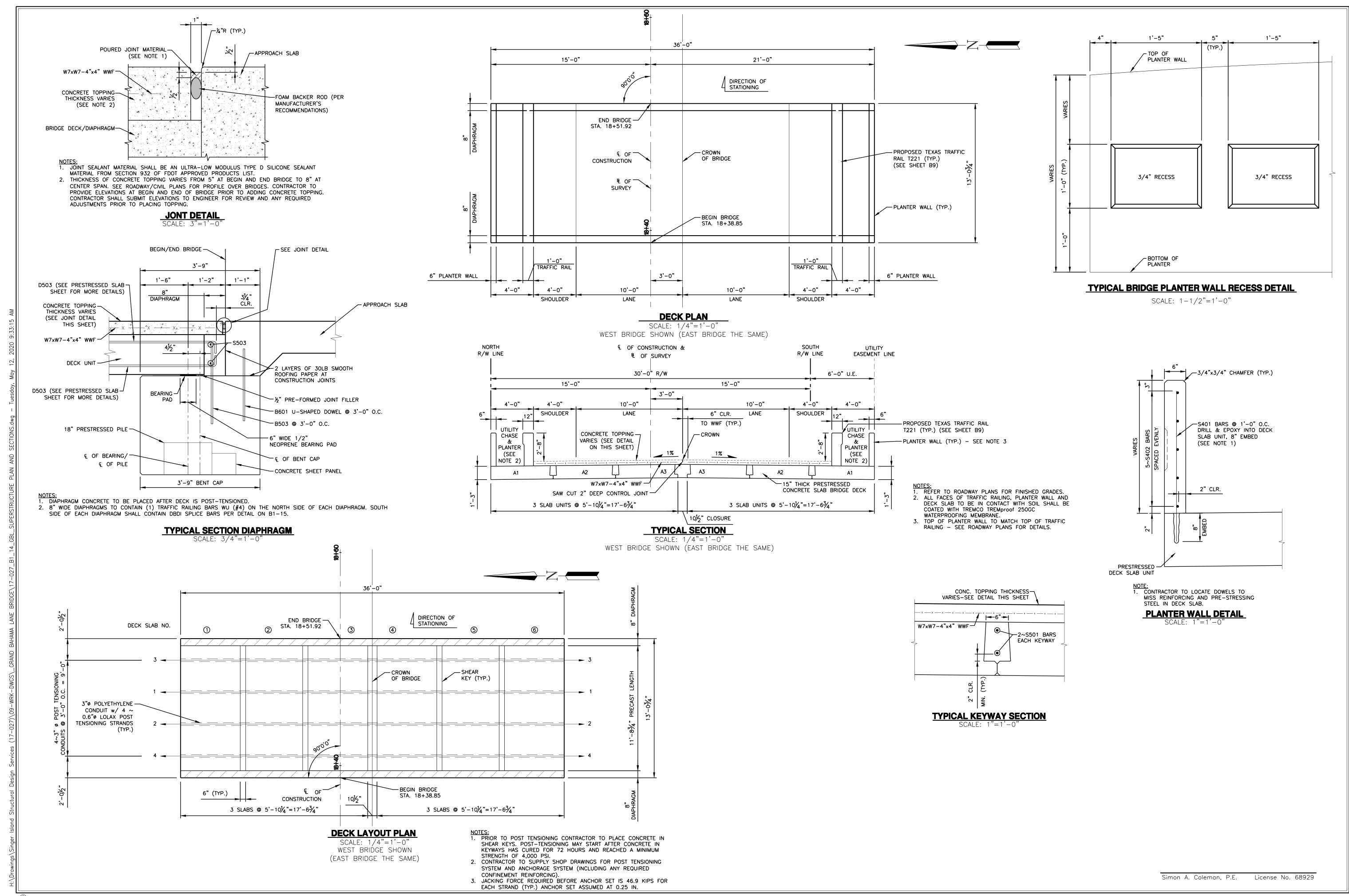
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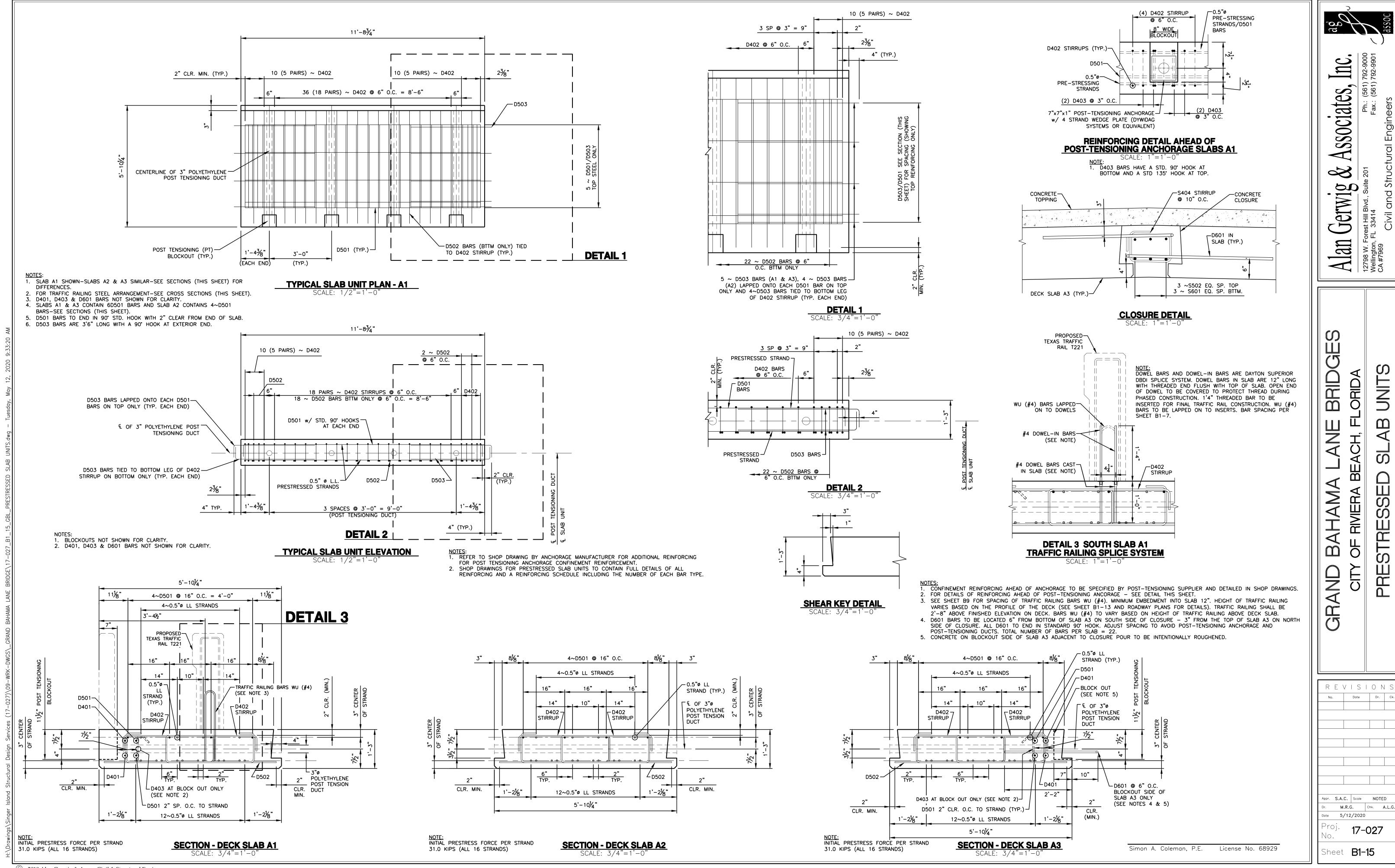
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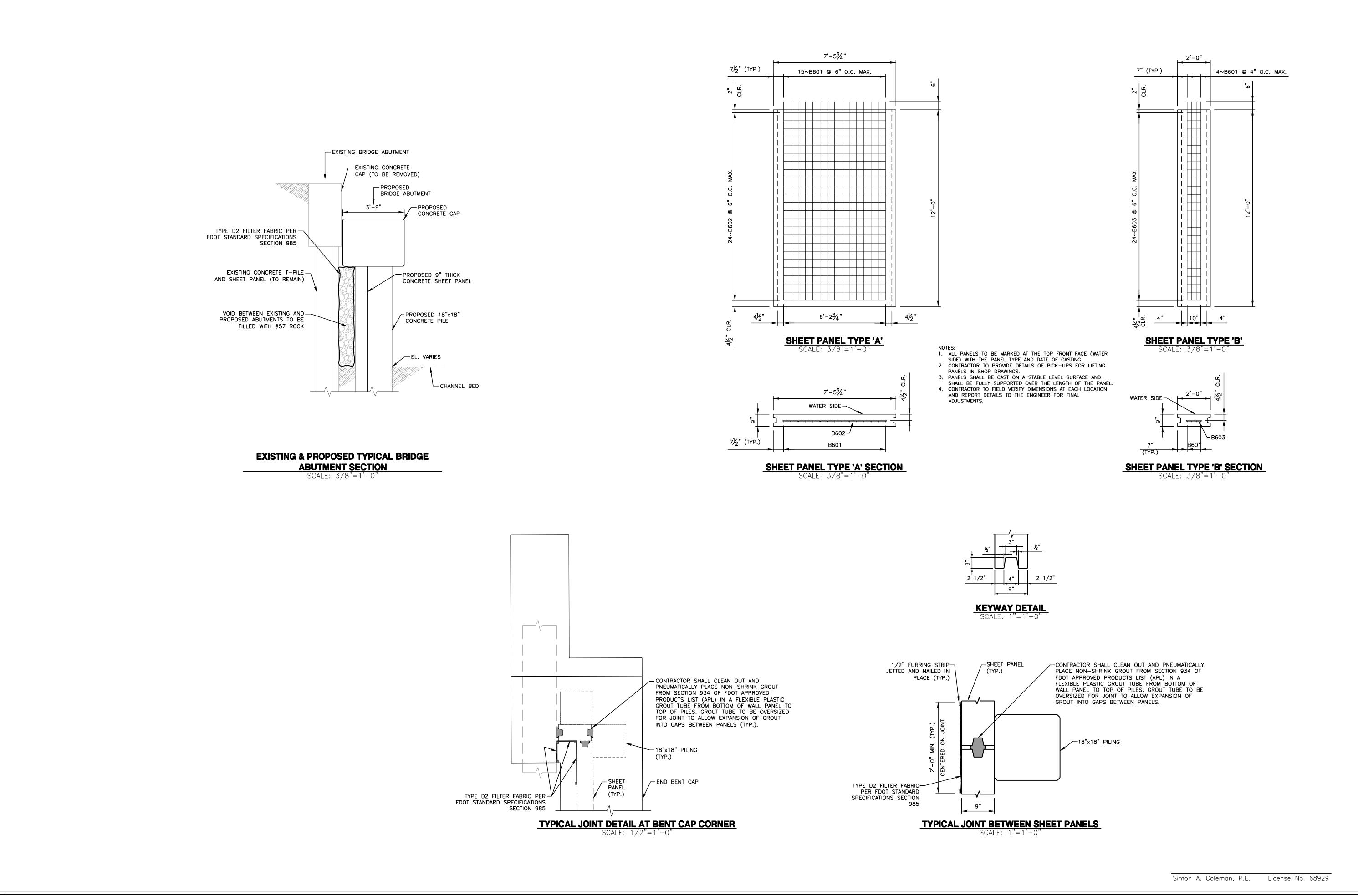
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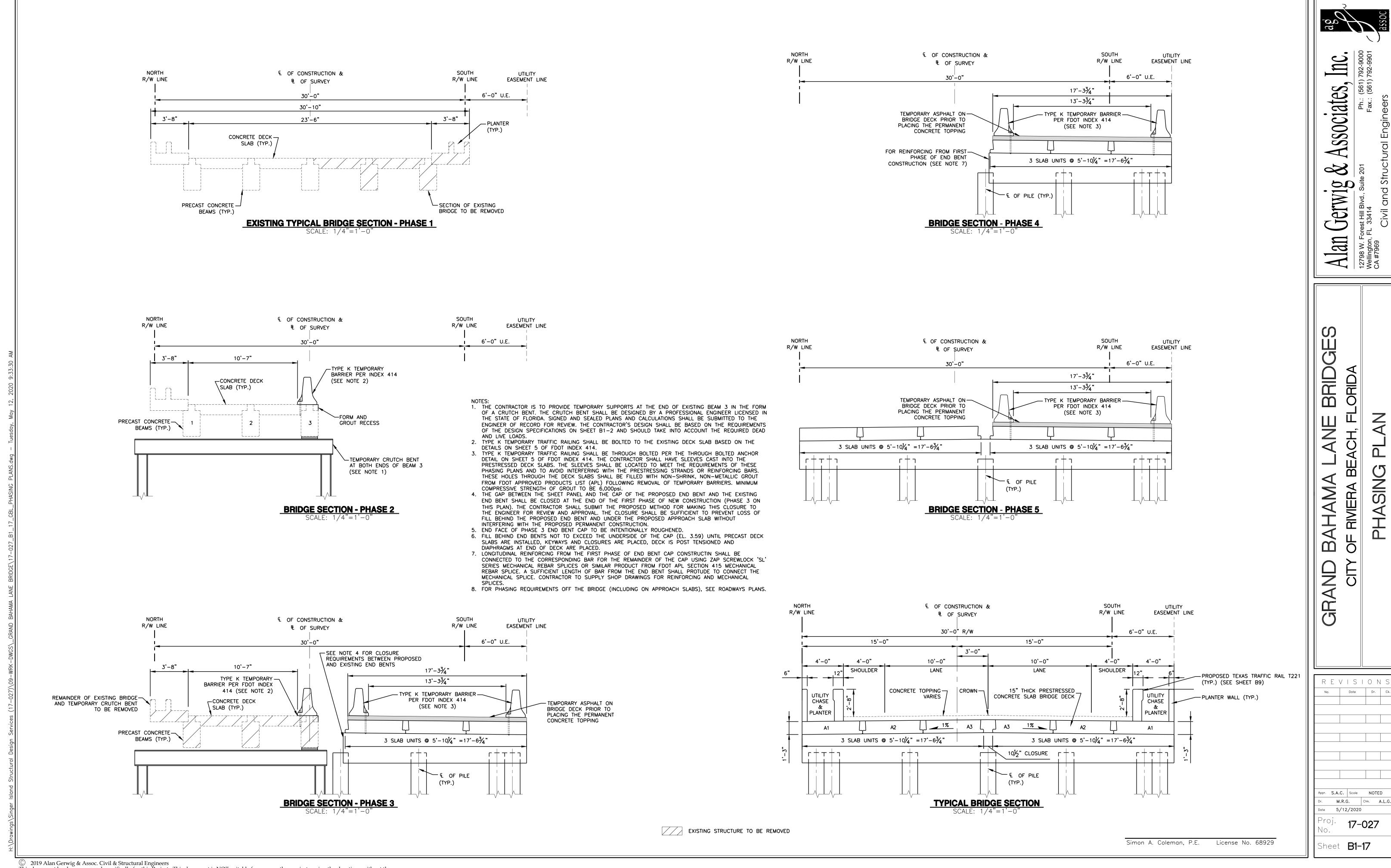
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ISLAND DRIVE BRIDGES RIVIERA BEACH, FLORIDA

SHEET INDEX

18" SQUARE PRESTRESSED CONCRETE PILE FDOT INDEX 20618

STANDARD BAR BENDING DETAILS FDOT INDEX 21300 TXDOT TRAFFIC RAIL TYPE T221 (SHEET 1)

TXDOT TRAFFIC RAIL TYPE T221 (SHEET 2)

BRIDGE PLAN AND ELEVATION (WESTBOUND) BRIDGE PLAN AND ELEVATION (EASTBOUND)

REPORT OF CORE BORINGS

SHEET PANELS AND MISCELLANEOUS BRIDGE DETAILS

BULKHEAD WALL PLAN

B2-19 BULKHEAD DETAILS B2-20 BULKHEAD SHEET PANELS

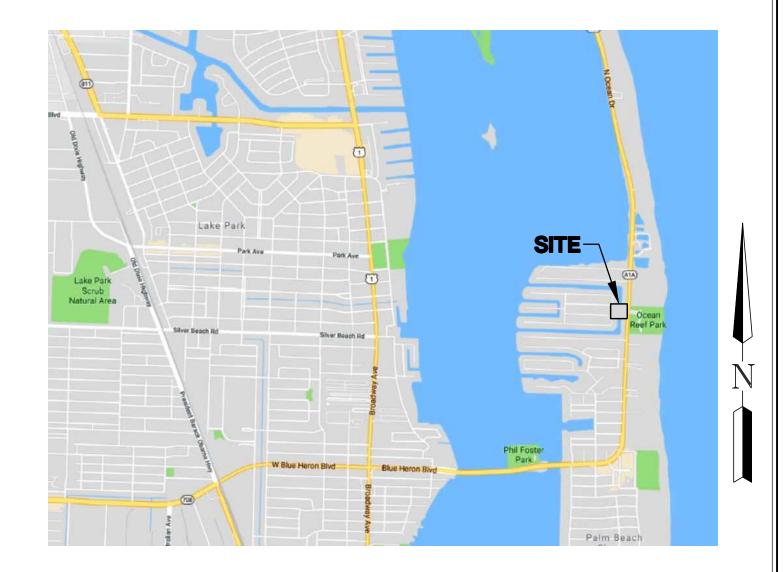




12798 W. Forest Hill Blvd., Suite 201 Wellington, FL 33414

Ph.: (561) 792-9000 Fax.: (561) 792-9901 Proj. No.: 17-027 Civil and Structural Engineers





LOCATION MAP

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REINFORCING STEEL: ASTM A615, GRADE 60.

WELDED WIRE FABRIC: ASTM A185 AND ASTM A497. PRESTRESSING 0.5" Ø ASTM A416, GRADE 270, LOW RELAX; POST-TENSIONING STRANDS: 0.6" ASTM A416, GRADE 270, LOW RELAX. MINIMUM RELEASE STRENGTH:

ALL STRANDS SHALL EXTEND 2 1/2" BEYOND THE ENDS OF THE PRESTRESSED UNITS

BARS FOR BARRIER OR RAILING: SEE DETAILS CONTAINED IN THESE PLANS.

FORMS AND PALLETS:

CAMBER IS THE AMOUNT OF RISE THAT OCCURS AT MIDSPAN OF THE SLAB DUE TO THE PRESTRESSING FORCE. THE CAMBER WILL INCREASE DUE TO CREEP DURING STORAGE UNLESS PRECAUTIONS ARE TAKEN. THEREFORE, THE CONTRACTOR SHALL AVOID THE DEVELOPMENT OF ADDITIONAL DIFFERENTIAL CAMBER BETWEEN SLABS, FOR ANY SPAN, DURING STORAGE BY LOADING OR OTHER APPROVED METHODS.

CONCRETE SHALL REACH A MINIMUM STRENGTH OF 4,800 PSI BEFORE THE PRE-STRESSING FORCE IS RELEASED.

THE TOPS OF ALL PRESTRESSED SLABS UNITS SHALL BE FINISHED SMOOTH BY FLOATING AND THEN LIGHTLY BROOMED. THE EDGES OF THE TOP SURFACE OF THE PRESTRESSED SLABS SHALL BE FINISHED BY USE OF A SMALL RADIUS TOOL.

ALL PRESTRESSED SLABS SHALL BE CAST ON CONCRETE BASED PALLETS AND IN METAL FORMS. KEYWAY FORM MAY BE WOOD.

PRESTRESSED SLABS MUST BE MAINTAINED IN A FLAT POSITION. THE PRESTRESSED SLABS MUST BE PICKED UP FROM POINTS LOCATED BETWEEN ONE (1) AND TWO (2) FEET FROM THE ENDS.

STORAGE AND TRANSPORTATION: ALL PRESTRESSED SLABS MUST BE STORED ON ADEQUATE DUNNAGE. THE PRESTRESSED SLABS MUST BE SUPPORTED NO CLOSER THAN 6" FROM THE END NOR FURTHER THAN 18" FROM THE END.

COMPOSITE NEOPRENE BEARING PADS SHALL BE PROVIDED IN ACCORDANCE WITH THE GENERAL SPECIFICATIONS. THE PADS SHALL BE 1/2"X6" STRIPS WITH A MINIMUM LENGTH OF 6'.

POST-TENSIONING: EACH POST-TENSIONING TENDON SHALL CONSIST OF FOUR (4) 0.6" STRANDS. POST-TENSIONING TENDONS SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 462.

THE JACKING FORCE REQUIRED BEFORE ANCHOR SET IS 46.9 KIPS FOR EACH STRAND. ANCHOR SET HAS BEEN ASSUMED TO BE 0.25 INCHES (CONTRACTOR TO CONFIRM)

DUCTS, COUPLES, TRANSITIONS (TRUMPETS) SHALL BE FABRICATED FROM VIRGIN HIGH DENSITY POLYETHYLENE. DURING CASTING OF THE SLABS, THE DUCTS SHALL BE HELD IN PROPER ALIGNMENT BY A RIGID MANDREL SUFFICIENT TO PREVENT DISPLACEMENT. DUCTS SHALL HAVE A GROUTING VENT AT EACH ANCHORAGE. DUCT SPLICES SHALL BE WATERTIGHT.

EXTERIOR BLOCKOUTS SHALL BE FILLED WITH CONCRETE AFTER COMPLETION OF THE POST-TENSIONING OPERATION. PRIOR TO CONCRETING BLOCKOUTS, ALL CONCRETE SURFACES IN CONTACT WITH THE CONCRETE SHALL BE ROUGHENED, AND THE METALLIC ANCHORAGE DEVICES AND STRANDS SHALL BE CLEANED TO THE SATISFACTION OF THE ENGINEER; AND IMMEDIATELY BEFORE CONCRETING, THE BLOCKOUT CONCRETE SURFACES AND ANCHORAGE DEVICES SHALL BE COATED WITH AN FDOT APPROVED BONDING COMPOUND.

POST-TENSIONING MAY START AFTER CONCRETE IN THE KEYWAYS HAS CURED AT LEAST 72 HOURS AND REACHED A MINIMUM STRENGTH OF 4000 PSI.

DUCTS SHALL BE FILLED WITH NON-SHRINK, NON-METALLIC GROUT. THE GROUTED TENDONS SHALL NOT BE DISTURBED BY VEHICULAR TRAFFIC OR HEAVY LOADS FOR A PERIOD OF AT LEAST 72 HOURS. THIS INCLUDES PLACEMENT OF THE CONCRETE, TRAFFIC RAILINGS AND CONCRETE TOPPING. GROUT SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS SECTION 938.

SHOP DRAWINGS: SHOP DRAWINGS FOR PRECAST SLAB UNITS SHALL SHOW A COMPLETE DETENSIONING SCHEDULE SO AS TO MINIMIZE TENSION IN THE CONCRETE DURING RELEASE OF THE STRANDS. DETAILED CONCRETE STRESSES DURING EACH STRESSING OPERATION OF DETENSIONING SHALL BE SUBMITTED WITH THE SHOP DRAWINGS. SHOP DRAWINGS SHALL SHOW COMPLETE DETAILS OF THE SLABS INCLUDING REINFORCING STEEL AND PRESTRESSING STEEL. THE CONTRACTOR SHALL ALSO INCLUDE IN THE SHOP DRAWINGS THE POST-TENSIONING INFORMATION REQUIRED INCLUDING THE STRANDS TO BE USED AND THE PROPOSED POST TENSIONING EQUIPMENT (INCLUDING MANUFACTURER, RAM AREA AND CALIBRATION CHART). CONTRACTOR TO SUPPLY SHOP DRAWINGS FROM THE SUPPLIER OF THE POST-TENSIONING ANCHORAGES INCLUDING ANY CONFINEMENT REINFORCING REQUIRED FOR THE TENDON LOADS, AND THE ANCHOR SET FOR THE PROPOSED WEDGES.

CONCRETE SHALL BE GROUTED FLUSH. THE GROUT USED FOR THE PATCH SHALL BE AN FDOT APPROVED TYPE H EPOXY.

LIFTING DEVICES: LIFTING DEVICES FOR PRESTRESSED SLABS AND PILES SHALL BE REMOVED TO 1" BELOW THE SURFACE AND THE HOLE IN THE

CLASS 5 FINISH 7

APPLY CLASS 5 FINISH COATING **APPLIED FINISH DETAIL**

GENERAL NOTES

GOVERNING STANDARDS AND CONSTRUCTION SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION, 2017/2018 DESIGN STANDARDS AND 2018 STANDARD SPECIFICATIONS
FOR ROAD AND BRIDGE CONSTRUCTION.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, 2017, FDOT STRUCTURES MANUAL, 2018, FDOT PLANS PREPARATION MANUAL, 2017.

DESIGN METHOD: LOAD & RESISTANCE FACTOR DESIGN (LRFD)

LIVE LOAD: HL-93 (WITH IMPACT)
DEAD LOADS TRAFFIC RAILING (TEXAS TYPE T221) 460 PLF
PLANTER WALL 132 PLF
ALLOWANCE FOR UTILITIES 150 PLF SOIL IN PLANTER REINFORCED CONCRETE

ALL CONCRETE SHALL CONFORM WITH SECTION 346 OF THE GENERAL SPECIFICATIONS

COMPRESSIVE STRENGTH (PSI) LOCATION

CLASS ______ SUBSTRUCTURE (EXCLUDING PILES), PRESTRESSED SLABS, SHEAR KEY CLOSURES, DIAPHRAGMS, ANCHORAGE BLOCKOUTS, CONCRETE TOPPING ON DECK, TRAFFIC RAILINGS AND BULKHEAD WALL COMPONENTS (EXCLUDING PILES) IV-WITH HIGHLY REACTIVE F'C = 5500POZZOLANS

V-(SPECIAL) WITH HIGHLY REACTIVE POZZOLANS F'C = 6000PRE-STRESSED PILES ______

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

ENVIRONMENT: SUBSTRUCTURE: EXTREMELY AGGRESSIVE SUPERSTRUCTURE: EXTREMELY AGGRESSIVE LOCATION: COASTAL

CONCRETE COVER:

CONCRETE COVER SHOWN IN THE PLANS DOES NOT INCLUDE REINFORCEMENT PLACEMENT AND FABRICATION TOLERANCES UNLESS
SHOWN AS "MINIMUM COVER". SEE FDOT STANDARD SPECIFICATIONS SECTION 415 FOR ALLOWABLE REINFORCEMENT PLACEMENT
TOLERANCES. ALL DIMENSIONS PERTAINING TO THE LOCATION OF REINFORCING STEEL ARE TO CENTERINE OF BAR EXCEPT WHERE
CLEAR (CLR.) DIMENSION IS NOTED TO FACE OF CONCRETE.

MINIMUM COVER SHALL BE AS FOLLOWS: CIP SUPERSTRUCTURE: 2"
CIP SUPERSTRUCTURE: 2"
CIP BENT CAP: 4½" AT BOTTOM AND FRONT AND BACK FACES OF CAP; 4" TOP OF CAP.
PRECAST SHEET PANELS: 4½" FRONT FACE IN DIRECT CONTACT WITH
WATER; 3" REAR FACE.
PRESTRESSED SLABS: 2"
BULKHEAD WALL CAP: UNDERSIDE 4½", ALL OTHER SURFACES 4".

CONCRETE SURFACE FINISH:

A CLASS 5 FINISH COATING (SEE DETAIL THIS SHEET) SHALL BE APPLIED TO THE FOLLOWING EXPOSED CONCRETE SURFACES:
THE INSIDE, BACKSIDE, AND TOP OF CONCRETE TRAFFIC RAILING, PLANTER WALL, ENDS OF BENT CAPS & EDGE OF OUTER DECK
SLABS. A HEAVY BROOM FINISH SHALL BE APPLIED TO THE TOP SURFACE OF THE APPROACH SLABS, THE TOP SURFACE OF THE
CONCRETE TOPPING ON THE BRIDGE DECK. THE TOP SURFACE OF THE BULKHEAD CAP SHALL HAVE A LIGHT BROOM FINISH.

CONSTRUCTION JOINTS:
CONSTRUCTION JOINTS ARE PERMITTED ONLY AT LOCATIONS SHOWN ON THE PLANS. ADDITIONAL CONSTRUCTION JOINTS OR
ALTERATIONS TO THOSE SHOWN SHALL REQUIRE APPROVAL OF THE ENGINEER.

CHAMFER:
ALL EXPOSED EDGES AND CORNERS OF CONCRETE SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

VERTICAL DATUM: ELEVATIONS SHOWN ON PLANS ARE IN NGVD 29. UNLESS OTHERWISE NOTED.

FILTER FABRIC:
FILTER FABRIC USED OVER GROUTED JOINTS IN SHEET PANEL WALLS SHALL BE TYPE D2. PER FDOT STANDARD SPECIFICATIONS.

ALL DIMENSIONS IN THESE PLANS ARE MEASURED IN FEET EITHER HORIZONTALLY OR VERTICALLY UNLESS OTHERWISE NOTED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS, ETC. PRIOR TO COMMENCING CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

CONSTRUCTION LOADS:
THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL STRUCTURAL COMPONENTS DURING CONSTRUCTION, INCLUDING THE NEED FOR ANY TEMPORARY BRACING.

PLAN SHEET SCALE: SCALES ARE POSTED ON EACH SHEET BASED ON 24×36 INCH PLAN SHEETS.

UTILITIES:
FOR PLAN LOCATIONS OF EXISTING & PROPOSED UTILITIES, SEE ROADWAY/CIVIL PLANS.

Simon A. Coleman, P.E. License No. 68929

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pr. S.A.C. Scale NOTED M.R.G. | Chk. A.L.G 5/12/2020 17-027

B2-2

Sheet

REVISION No. Date Dr.

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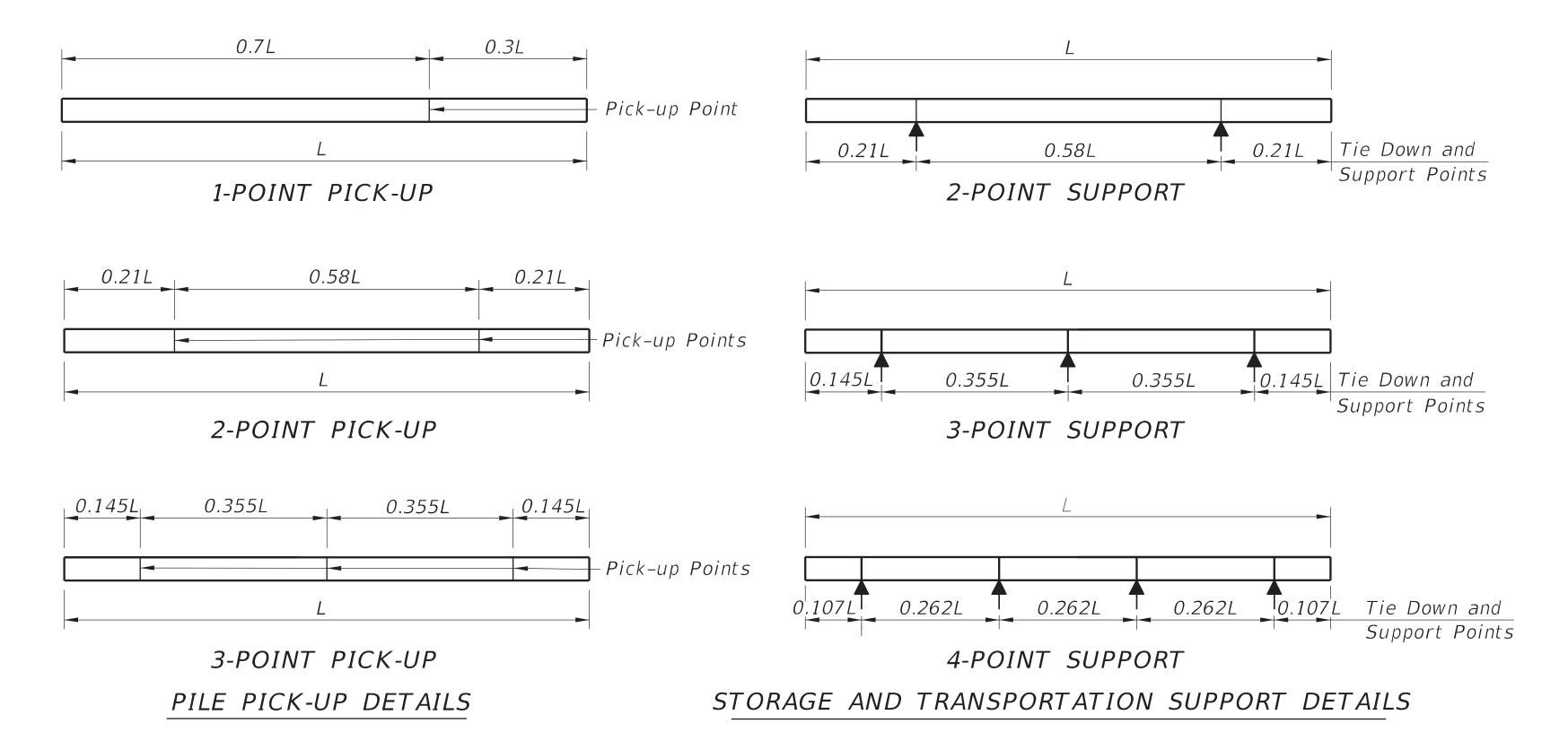
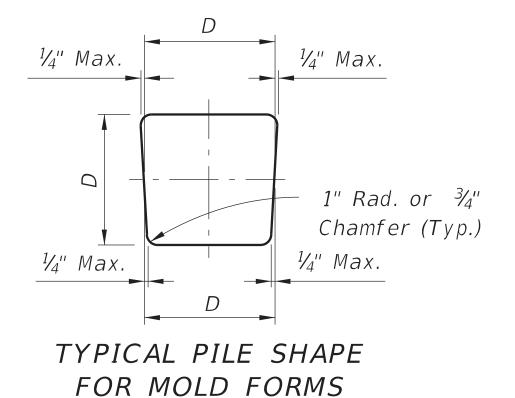
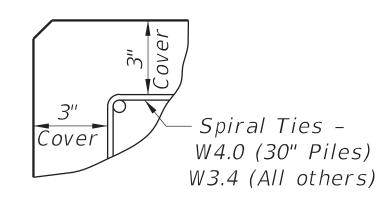


TABLE OF MAXIMUM PILE PICK-UP AND SUPPORT LENGTHS										
	D =	= Squa	are Pil	e Size	e (inch	nes)	Required Storage and	Pick-Up Detail		
	12	14	18	20	24	30	Transportation Detail			
Maximum	48	52	59	62	68	87	2, 3, or 4 point	1 Point		
Pile Length	69	75	85	89	98	124	2, 3, or 4 point	2 Point		
(Feet)	99	107	121	128	140	178	3 or 4 point	3 Point		





DETAIL SHOWING TYPICAL COVER

PRESTRESSED CONCRETE PILE NOTES:

- 1. Work this Index with the Square Prestressed Concrete Pile Splices (Index 20601), the Prestressed Concrete Pile Standards (Index 20612, 20614, 20618, 20620, 20624, 20630, the High Moment Capacity Square Prestressed Concrete Pile (Index 20631) and the Pile Data Table in the Structures Plans.
- 2. Concrete:
 - A. Piles: Class V (Special), except use Class VI for High Moment Capacity Pile (Index 20631).
 - B. High Capacity Splice Collar: Class V (Special).
 - C. Silica Fume: See "GENERAL NOTES" in the Structures Plans for locations where the use of silica fume, metakaolin or ultra-fine flyash is required.
- 3. Concrete strength at time of prestress transfer:
 - A. Piles: 4,000 psi minimum.
- B. High Moment Capacity Piles: 6,500 psi minimum.
- 4. Carbon-Steel Reinforcing:
 - A. Bars: Meet the requirements of Specification Section 415.
 - B. Prestressing Strands: Meet the requirements of Specification Section 933.
 - C. Protect all strands permanently exposed to the environment and not embedded under final conditions in accordance with Specification Section 450.
- 5. Spiral Ties:
 - A. Tie each wrap of the spiral strand to a minimum of two corner strands.
- B. One full turn required for spiral splices.
- 6. Pile Splices: Fill dowel holes and form the joint between pile sections with a Type AB Epoxy Compound in accordance with Specification Section 962. Use an Epoxy Bonding Compound or an Epoxy Mortar as recommended by the Manufacturer.

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10/31/2016

LAST O DESCRIPTION:

11/01/16

B2-3

NOTES:

- 1. For Sections D-D, E-E, & F-F see Index Nos. 20612, 20614, 20618, 20620, 20624 or 20630 for applicable concrete pile size and Pile Splice Reinforcement Details.
- 2. Prestressing strands, spiral ties and/or reinforcement are not shown for clarity.
- 3. In cases where pile splices are desired due to length limitations in shipping and/or handling, the "Drivable Preplanned Prestressed Precast Splice Detail" shall be used. Mechanical Pile Splices contained on the Approved Products List (APL) may also be used.
- 4. When preformed dowel holes are utilized, the 1" spiral tie pitch shall be continued to 4'-0" below the head of the pile, See Index Nos. 20618, 20620 & 20624. Preformed holes shall utilize either removable preforming material or stay-in-place corrugated galvanized steel ducts. Stay-in-place ducts shall be fabricated from galvanized sheet steel meeting the requirements of ASTM A653, Coating Designation G90, 26 gauge. Ducts shall be 2" diameter with a minimum corrugation (rib) height of 0.12 in. Ducts shall be fabricated with either welded or interlocked seams. Galvanizing of welded seams will not be required.
- 5. For tension piles where top of Prestressed Pile is less than 3 feet below Pile Cut-off Elevation, extend No. 10 Dowels into cap beyond Pile Cut-off Elevation to achieve development as approved by the Engineer.

1" Cover

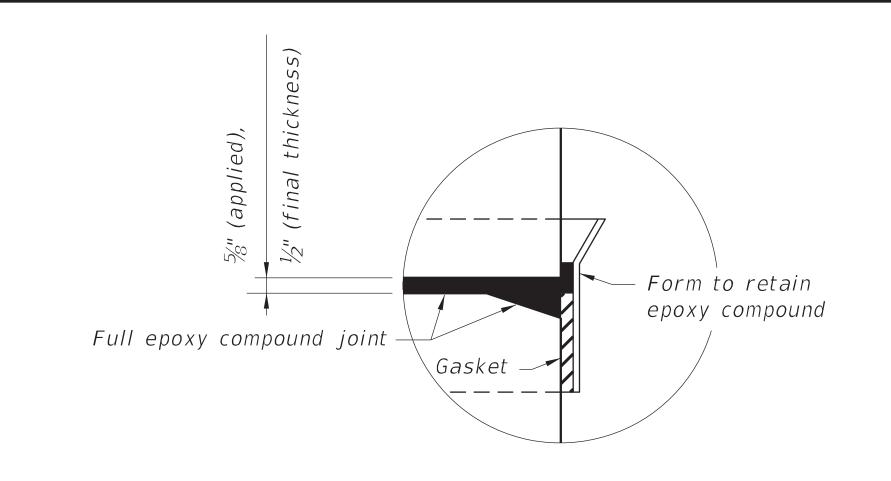
at End

-No. 10 Dowels

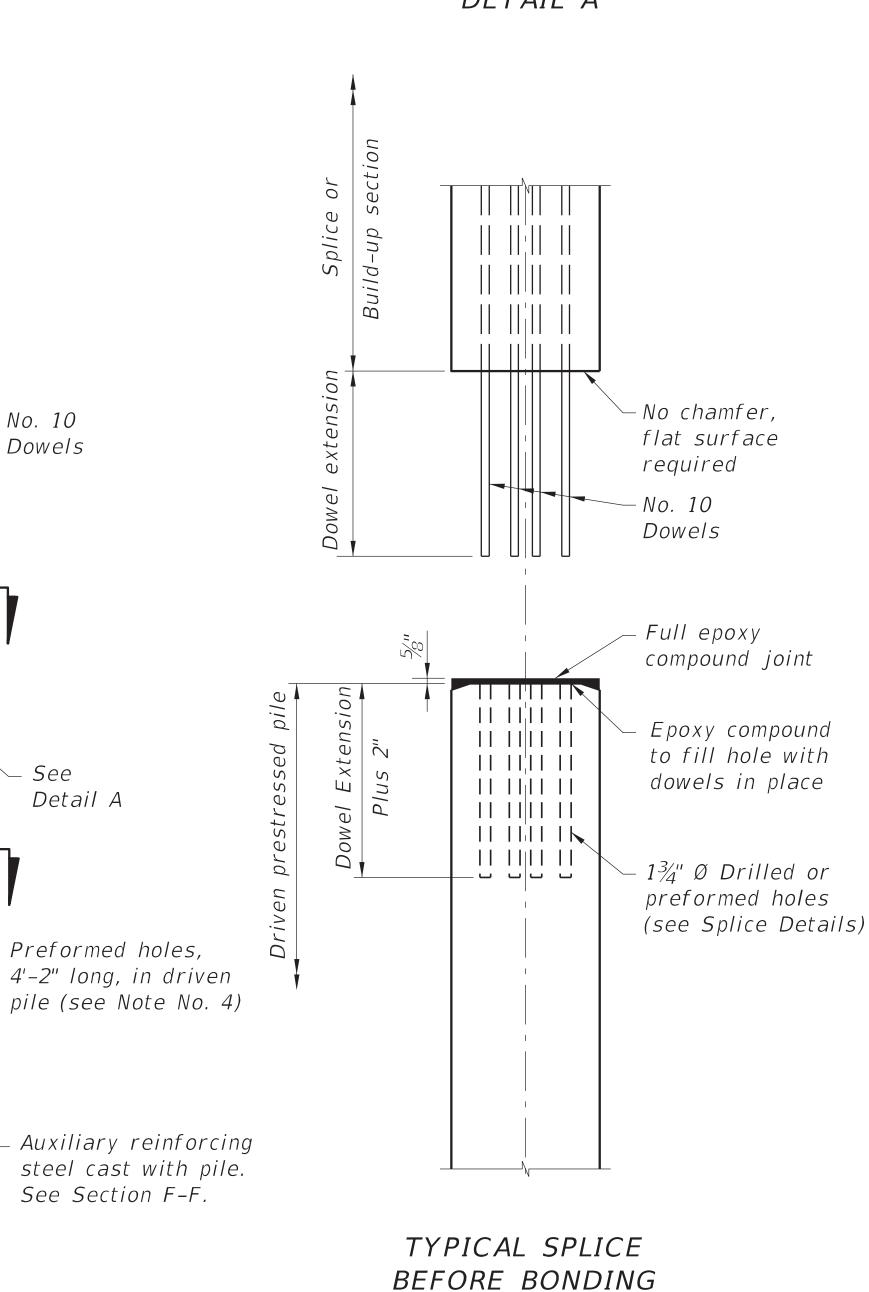
Full length of

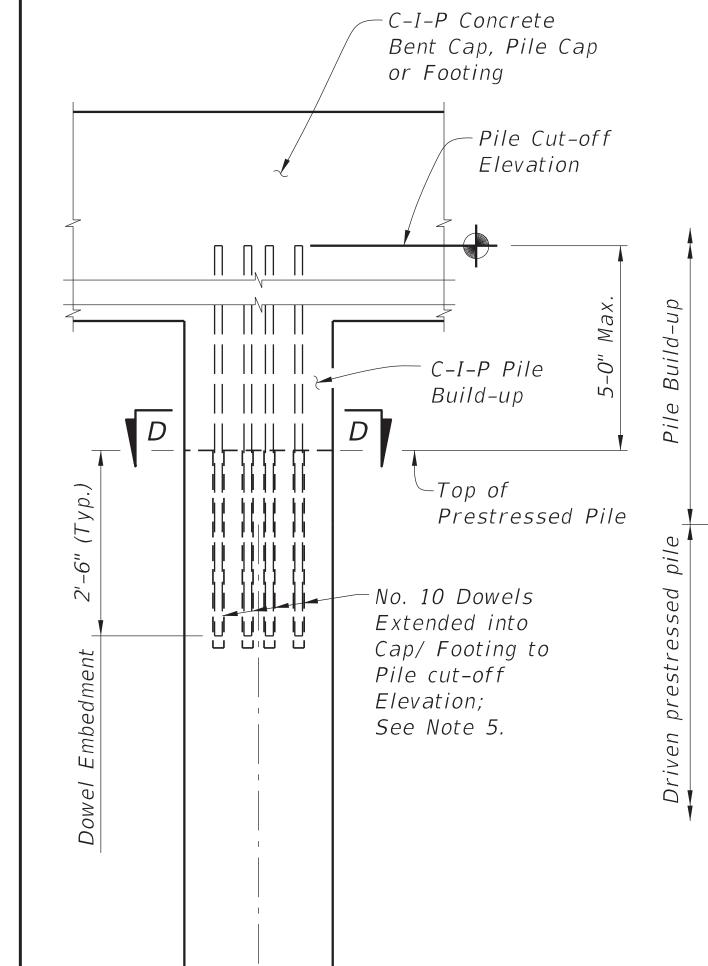
Build-up

Detail A









NONDRIVABLE UNFORESEEN REINFORCED PRECAST PILE BUILD-UP DETAIL

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D

DRIVABLE UNFORESEEN PRESTRESSED PRECAST PILE SPLICE DETAIL

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_ No. 10

- See

Detail A

Driven

Dowels

DRIVABLE PREPLANNED PRESTRESSED PRECAST PILE SPLICE DETAIL

_ No. 10

Dowels

Detail A

E

B2-4

LAST REVISION 07/01/14

UNFORESEEN

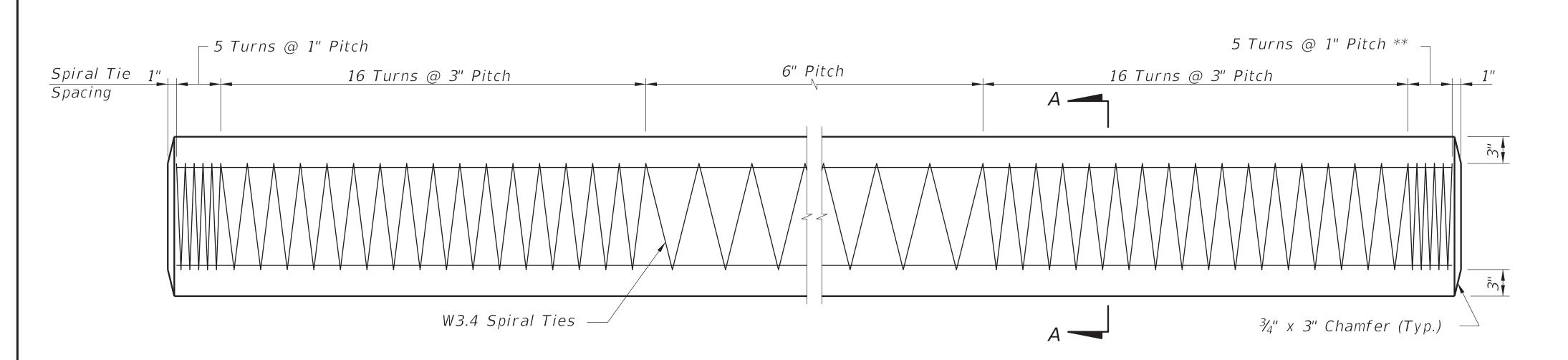
REINFORCED C-I-P

PILE BUILD-UP DETAIL

DESCRIPTION:

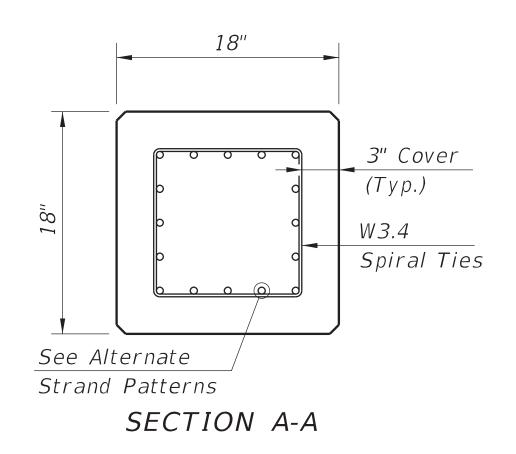
FDOT

FY 2017-18 DESIGN STANDARDS



ELEVATION

** See Note No. 4 on Index No. 20601



ALTERNATE STRAND PATTERNS

12 ~ 0.6" Ø, Grade 270 LRS, at 35 kips

 $12 \sim \frac{1}{2}$ " Ø (Special), Grade 270 LRS, at 34 kips

 $16 \sim \frac{1}{2}$ " Ø, Grade 270 LRS, at 26 kips

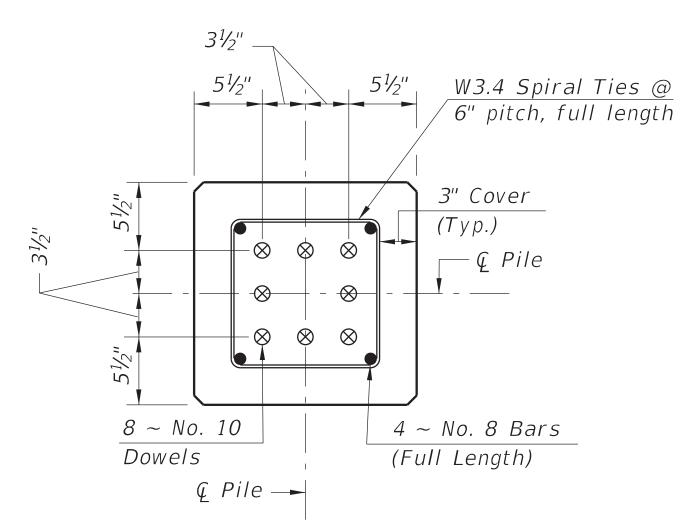
 $20 \sim \frac{7}{16}$ " Ø, Grade 270 LRS, at 21 kips

24 ~ ¾" Ø, Grade 270 LRS, at 17 kips

NOTES:

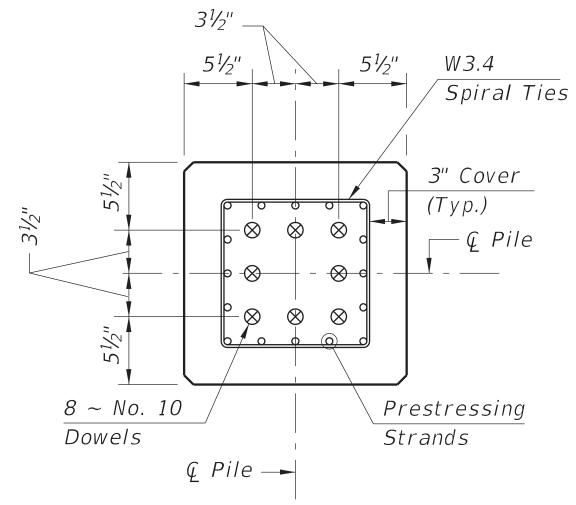
- 1. Work this Index with Index No. 20600 Notes and Details for Square Prestressed Concrete Piles and Index No. 20601 - Square Prestressed Concrete Pile Splices.
- 2. Any of the given Alternate Strand Patterns may be utilized. The strands shall be located as follows:

Place one strand at each corner and place the remaining strands equally spaced between the corner strands. The total strand pattern shall be concentric with the nominal concrete section of the pile.



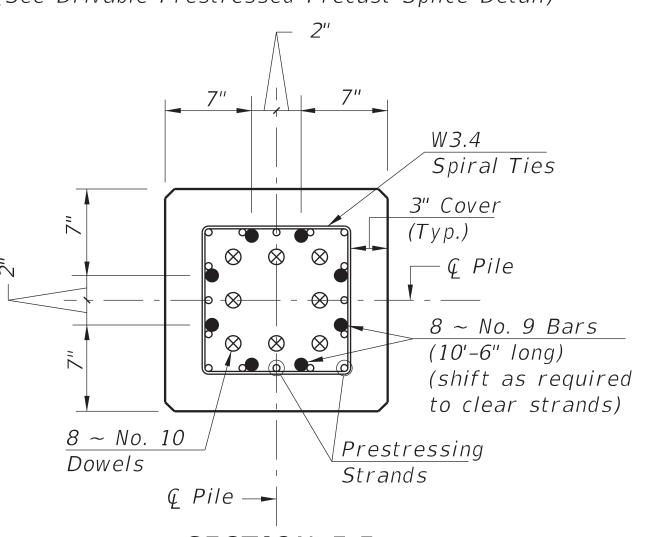
SECTION D-D

(See Nondrivable Unforeseen Reinforced Precast Splice Detail)



SECTION E-E

(See Drivable Prestressed Precast Splice Detail)



SECTION F-F

(See Drivable Preplanned Splice Detail)

PILE SPLICE REINFORCEMENT DETAILS

B2-5

LAST REVISION 01/01/12

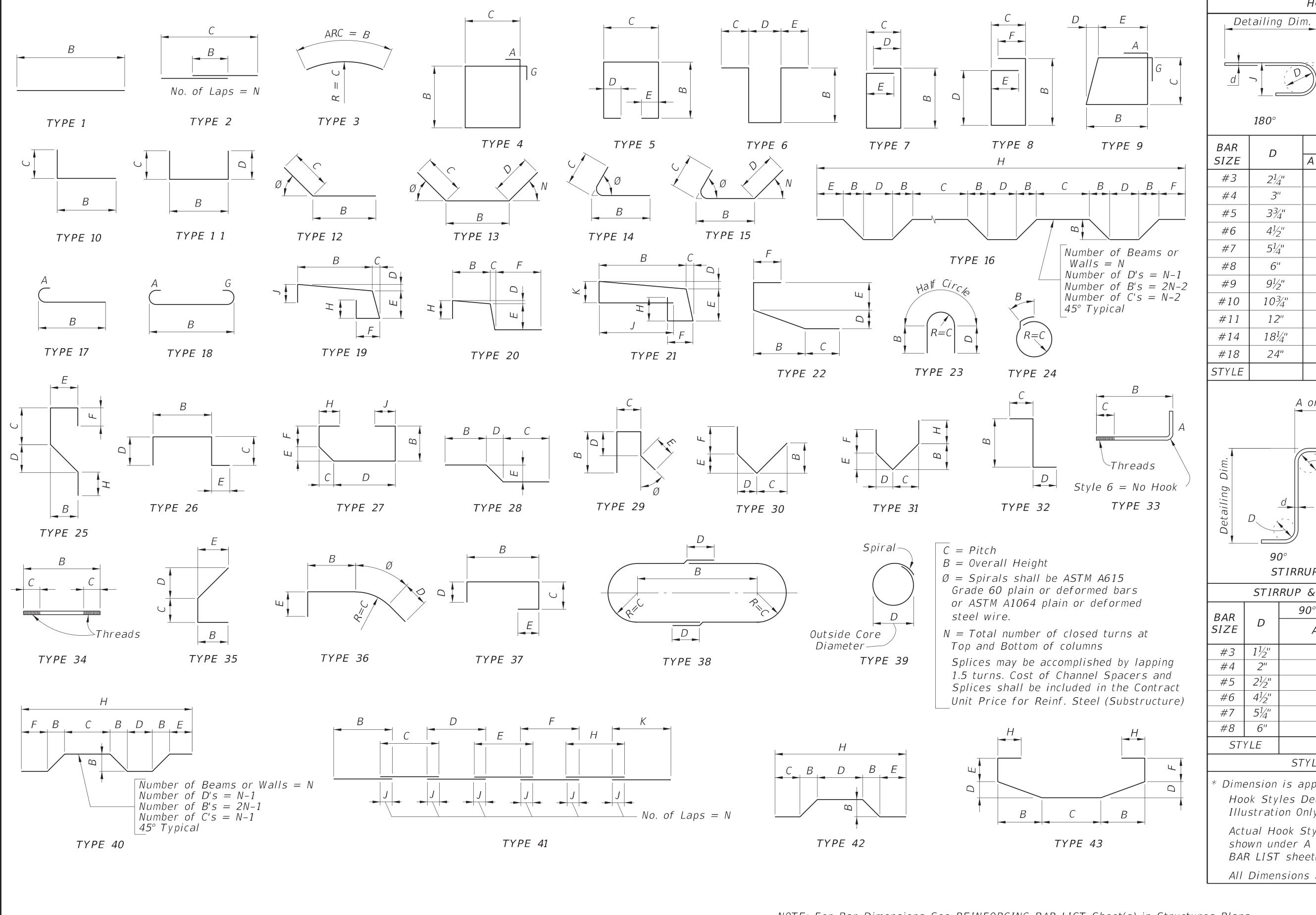
DESCRIPTION:

FDOT

FY 2017-18 DESIGN STANDARDS

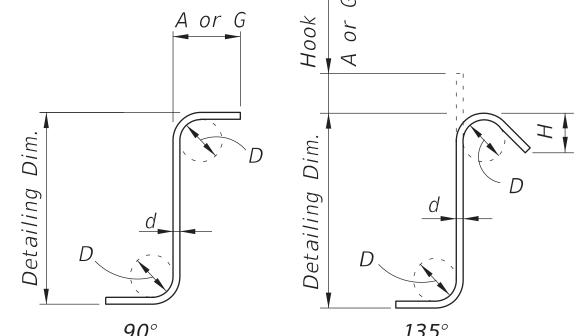
INDEX NO. 20618

SHEET NO. 1 of 1



	Dei	tailing Dir	m. H	ook D	etailing Dim	
G	d	1000	A	or G	A Or G	
		180°		90°		
	BAR	D	180° H	OOK S	90° HOOKS	
—	SIZE		A OR G	J	A OR G	
F	#3	21/4"	5"	3"	6"	
→	#4	3"	6"	4''	8"	
	#5	33/4"	7"	5"	10"	
	#6	41/2"	8"	6"	1'-0"	
is or	#7	5½"	10"	7"	1'-2"	
= N-1	#8	6"	1 1"	8"	1'-4"	
= N-1 = 2N-2	#9	9½"	1'-3"	11¾"	1'-7"	
- N-2	#10	10¾"	1'-5"	1'-11/4"	1'-10"	
	#11	12"	1'-7"	1'-23/4"	2'-0"	
	#14	18½"	2'-3"	1'-9¾"	2'-7"	
	#18	24"	3'-0"	2'-4½"	3'-5"	
	STYLE			1	3	

HOOK DETAILS



STIRRUPS (TIES SIMILAR) STIRRUP & TIE HOOK DIMENSIONS

BAR		90° HOOKS	135° HOOKS				
SIZE	D	A or G	A or G	Н *			
#3	1½"	4"	4"	21/2"			
#4	2"	4½"	4½"	3"			
#5	2½"	6"	5½"	33/4"			
#6	4½"	1'-0"	8"	4½"			
#7	<i>5½''</i>	1'-2"	9"	5½"			
#8	6"	1'-4"	10½"	6"			
STYLE		4	5				

STYLE 6 = NO HOOK

* Dimension is approximate.

Hook Styles Detailed on this sheet are for Illustration Only.

Actual Hook Style for any particular bar will be shown under A or G Heading on REINFORCING BAR LIST sheet(s) in Structures Plans.

All Dimensions are out-to-out.

NOTE: For Bar Dimensions See REINFORCING BAR LIST Sheet(s) in Structures Plans.

B2-6

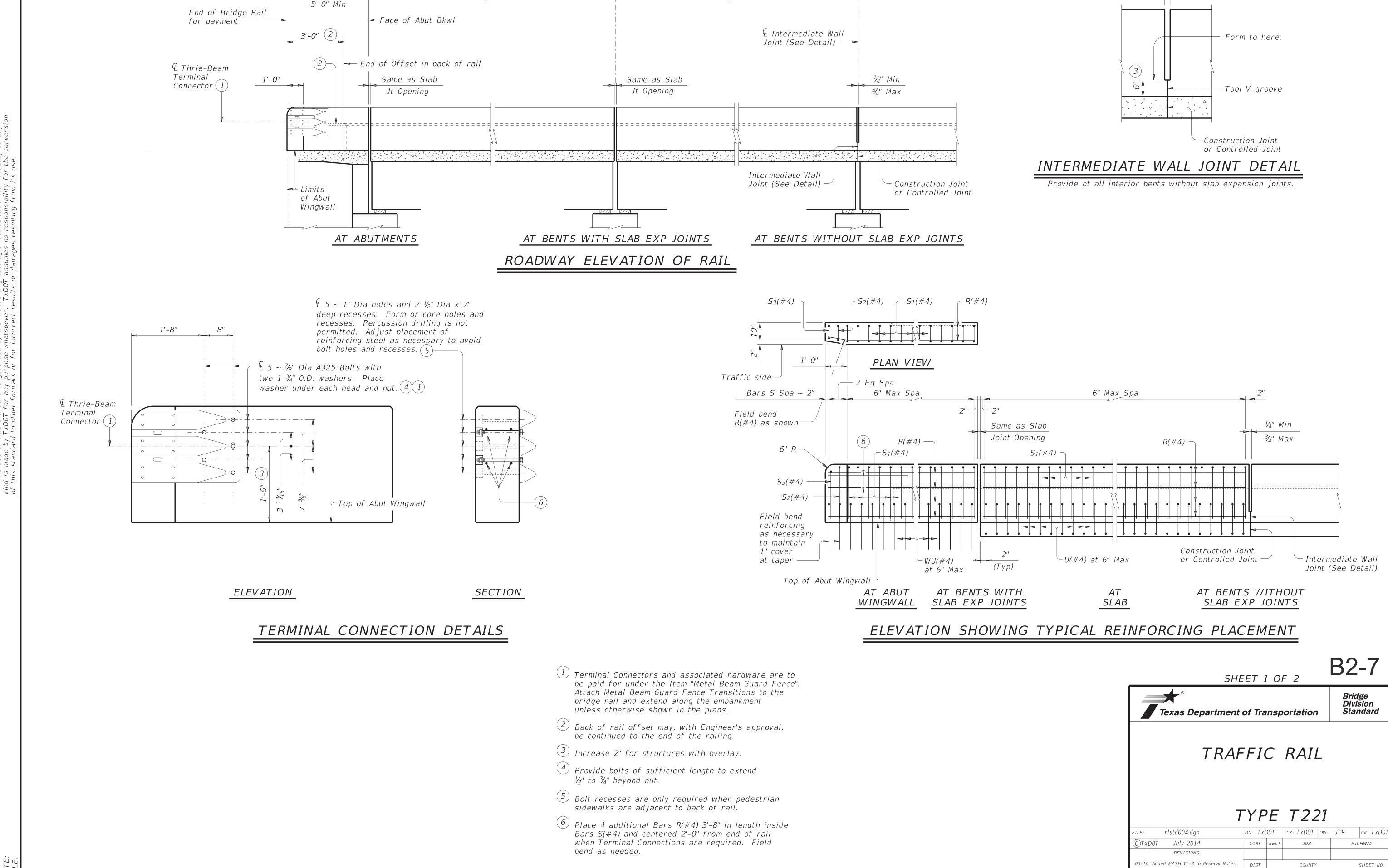
LAST REVISION 11/01/16



FY 2017-18 DESIGN STANDARDS

STANDARD BAR BENDING DETAILS

SHEET INDEX NO. NO. 21300 1 of 1



Parapet Panel Length

Wingwall Length

(Variable)

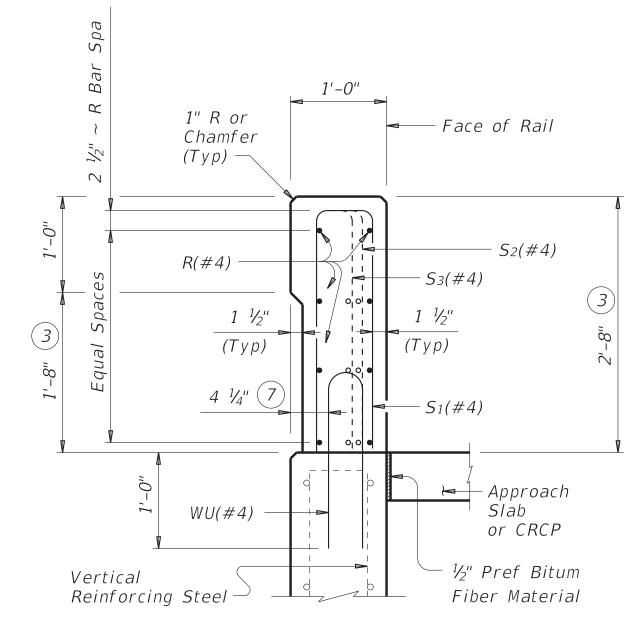
Parapet Panel Length

3 ¾" Dia

Bending

 $4^{-3}/_{4}$ "

BARS U (#4)

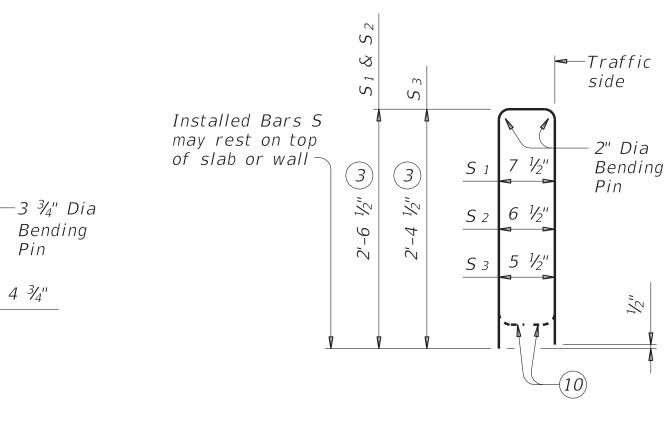


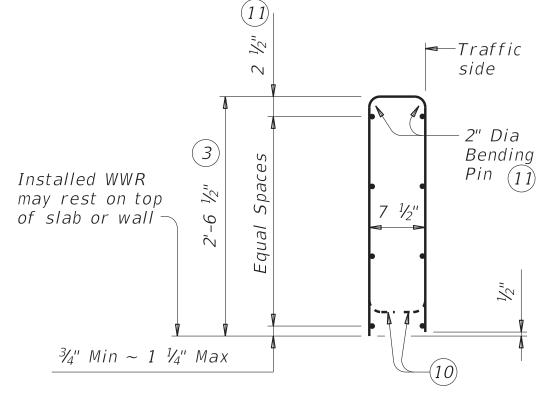
R(#4) $I'' R \text{ or } Chamfer \\ (Typ)$ I''' (Typ) I'''' (Typ) I''''' (Typ) I'''' (Typ) I''''' (Typ) I'''' (Typ) I

ON ABUTMENT WINGWALLS
OR CIP RETAINING WALLS

ON BRIDGE SLAB

SECTIONS THRU RAIL

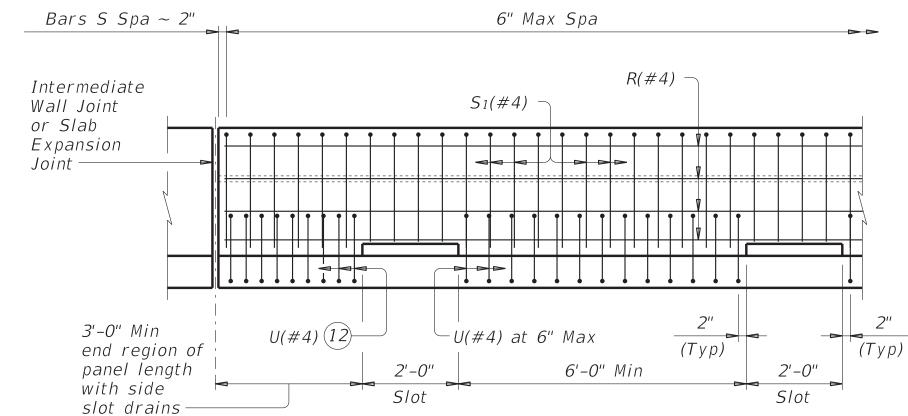




BARS S (#4)

OPTIONAL WELDED WIRE REINFORCEMENT (WWR)

DESCRIPTION	LONGITUDINAL WIRES	VERTICAL WIRES	
Minimum (Cumulative Total) Wire Area	1.067 Sq In.	0.267 Sq In. per Ft	
	No. of Wires	Spacing	
Minimum	8	4"	
Maximum	10	8"	
Maximum Wire Size Differential		er wire must have an area more of the larger wire.	



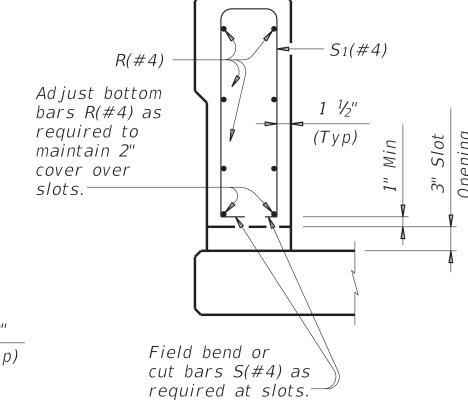
3 "4"

1'-10

BARS WU (#4)

OPTIONAL SIDE SLOT DRAIN DETAIL

Note: Side Slot Drains may be used where shown elsewhere on the plans or as directed by the Engineer. Drains should not be placed over railroad tracks, lower roadways, or sidewalks. When this rail is used as a separator between a roadway surface and a sidewalk surface, side drain slots will not be permitted.



SECTION THRU OPTIONAL SIDE SLOT DRAIN

3 Increase 2" for structures with overlay.

7 5 ½" when vertical reinforcing has closer clear cover over horizontal reinforcing in abutment wingwalls or retaining walls on traffic side of wall.

8 As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars will be furnished at the Contractors expense.

9 Top longitudinal slab bar may be adjusted laterally 3" plus or minus to tie reinforcing.

10 Bend or cut as required to clear drain slots.

11) No longitudinal wires may be in top center of cage.

(12) Space U(#4) bars at 4" Max when end region of panel length is less than 6'-0" to side slot drain. Space U(#4) bars at 6" Max when end region of panel length is 6'-0" and greater to side slot drain.

CONSTRUCTION NOTES:

This railing may be constructed with slip-forms when approved by the Engineer, with equipment approved by the Engineer. Sensor control for both line and grade must be provided. Tack welding to provide bracing for slip-form operations is acceptable. Welding can be performed at a minimum spacing of 3 ft between the cage and the anchorage. It is permissible to weld to U, WU and S bars at any location on the cage. If increased bracing is needed, additional anchorage devices must be added and welding must be performed in the upper two thirds of the cage.

Face of rail and parapet must be vertical transversely unless otherwise shown in the plans or approved by the Engineer.
Chamfer all exposed concrete corners.

MATERIAL NOTES:

Galvanize all steel components except reinforcing steel unless otherwise shown on plans.

Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere.

Provide Grade 60 reinforcing steel.

Epoxy coat all rail reinforcement if slab bars are epoxy coated.

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars U and WU unless noted otherwise. Deformed WWR (ASTM 1064) may be substituted for Bars R and S, as shown. Combinations of reinforcing steel and WWR or configurations of WWR other that shown are permitted if conditions in the table are satisfied. Provide the same laps as required for reinforcing bars.

Provide bar laps, where required, as follows: $Uncoated \sim #4 = 1'-5''$

Uncoated ~ #4 = 1'-5" Epoxy coated ~ #4 = 2'-1"

GENERAL NOTES:

This rail has been evaluated and accepted to be of equal strength to railings with like geometry, which have been crash tested to meet MASH TL-3 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can only be used for speeds of 45 mph and less.

Do not use this railing on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Shop drawings are not required for this rail.

Average weight of railing with no overlay is 370 plf.

Cover dimensions are clear dimensions, unless noted otherwise.

Reinforcing bar dimensions shown are out-to-out of bar.

SHEET 2 OF 2

B2-8

Bridge Division

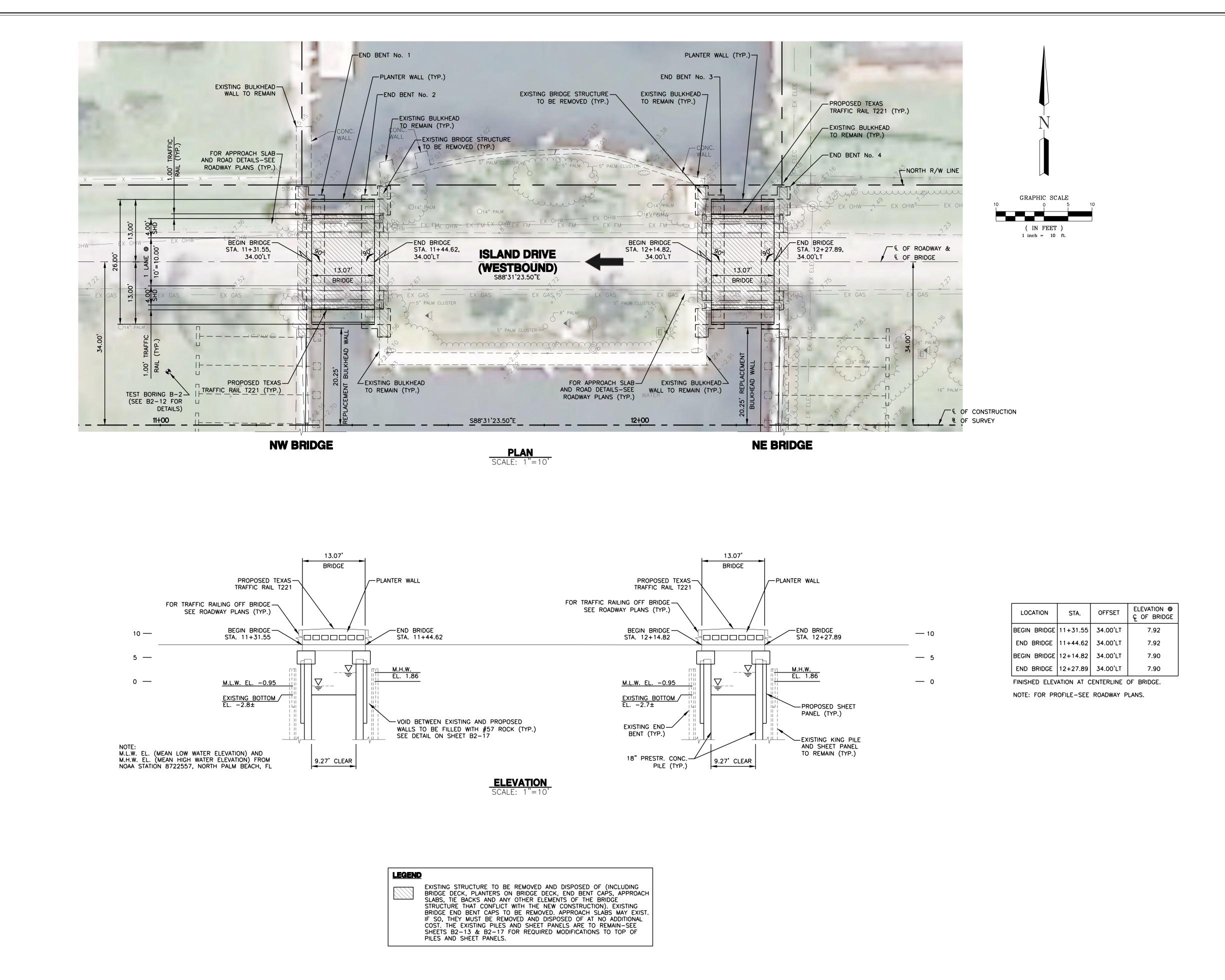
Standard



TRAFFIC RAIL

TYPE T221

LE: rIstd004.dgn	DN: TXDOT		CK: TXDOT	DW:	JTR		ск: TxD0T
TxDOT July 2014	CONT	ONT SECT JOB			HIGHWAY		
REVISIONS							
3-16: Added MASH TL-3 to General Notes.	DIST	COUNTY				SHEET NO.	



SLAND DRIVE BRIDO CITY OF RIVIERA BEACH, FL

Inc.

Associates,

 \approx

Gerwig

Alan

TBOUND)

R E V I S I O N S

No. Date Dr. Ck.

Appr. S.A.C. Scale NOTED

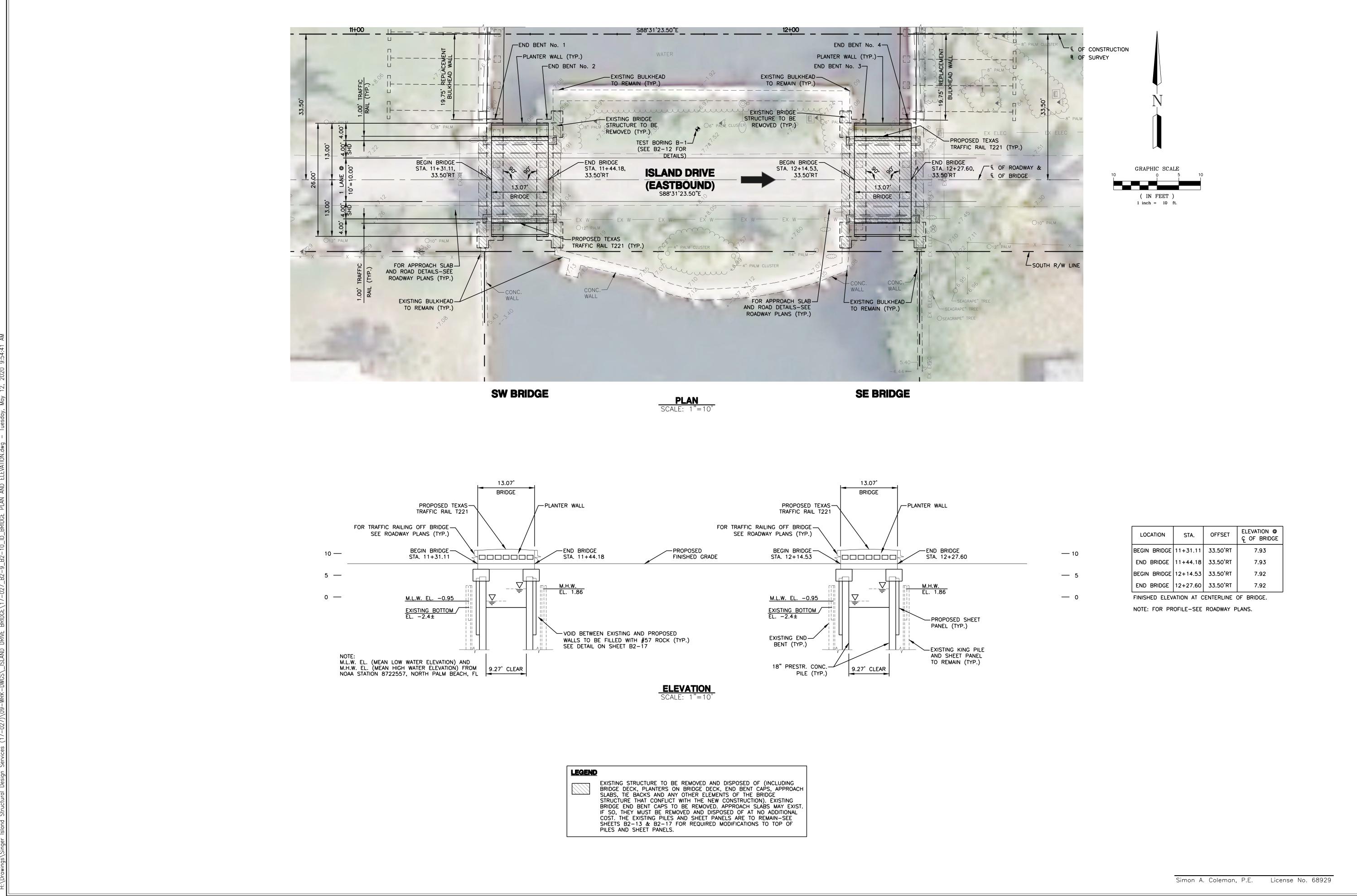
Dr. M.R.G. Chk. A.L.G.

Date 5/12/2020

Proj. 17-027

heet **B2-9**

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BRIDGES ACH, BE,

Inc.

Associates,

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Gerwig

Alan

REVISION: No. Date Dr. (

pr. S.A.C. Scale NOTED

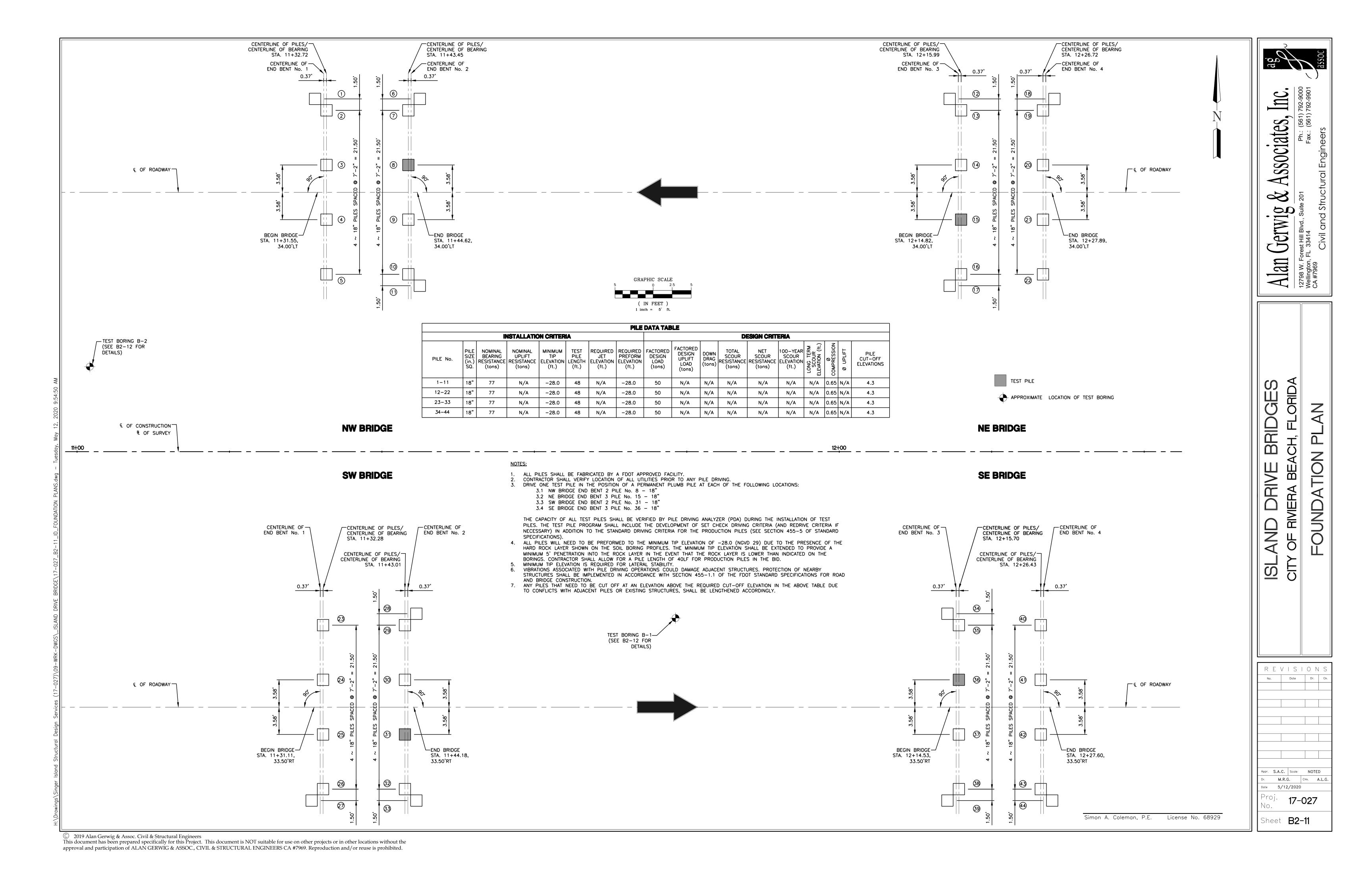
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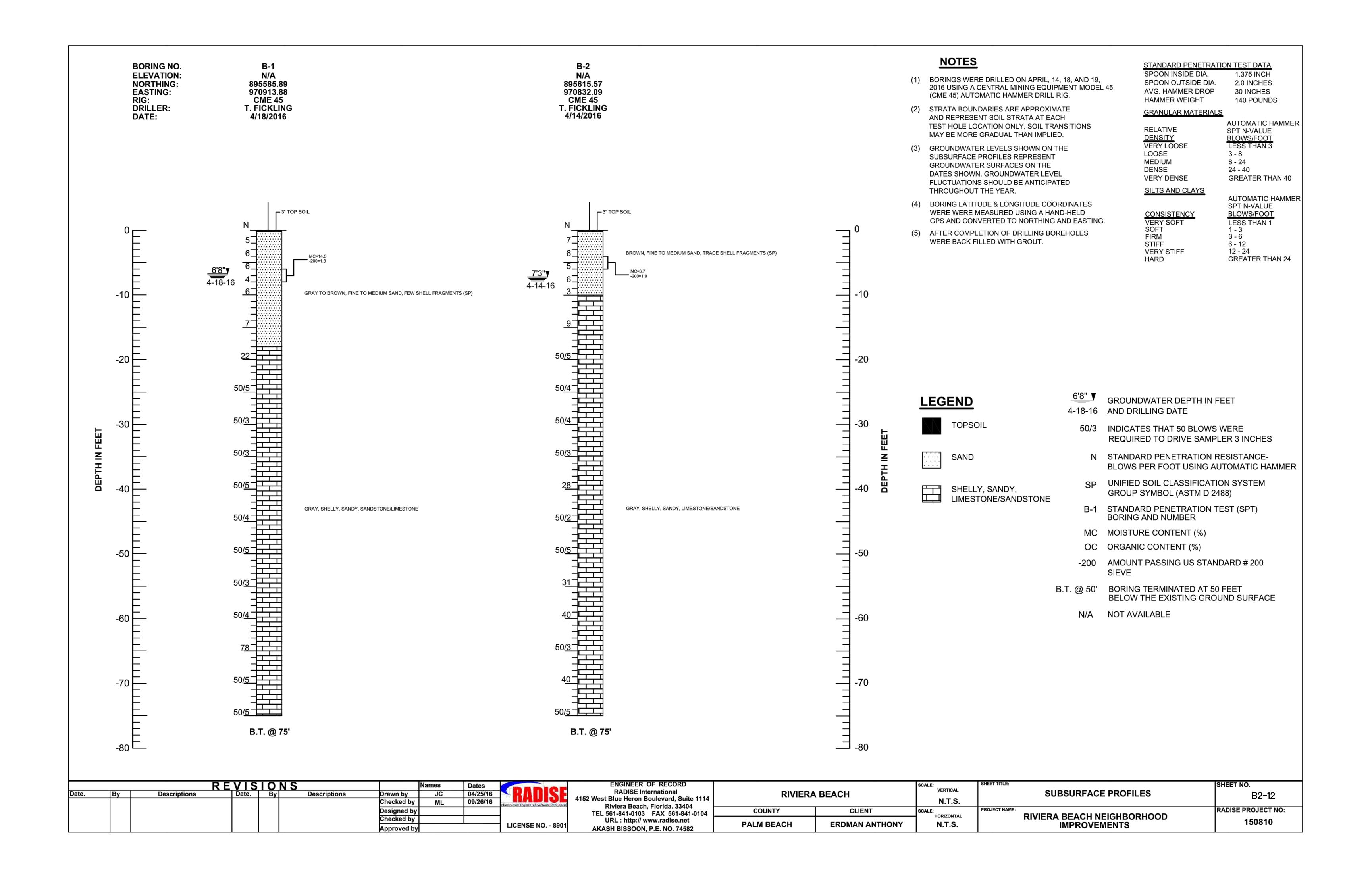
M.R.G. Chk. A.L.G.

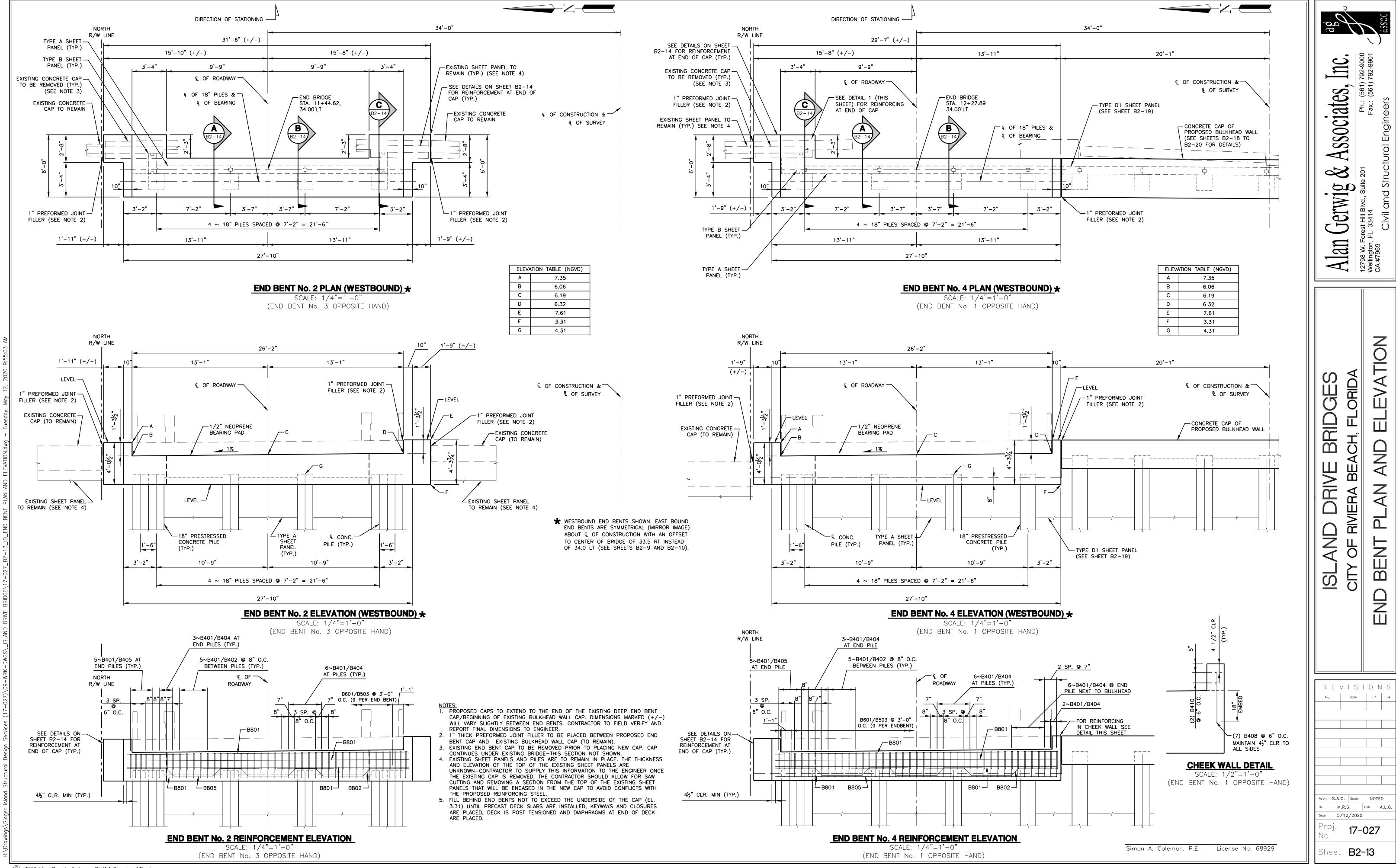
B2-10

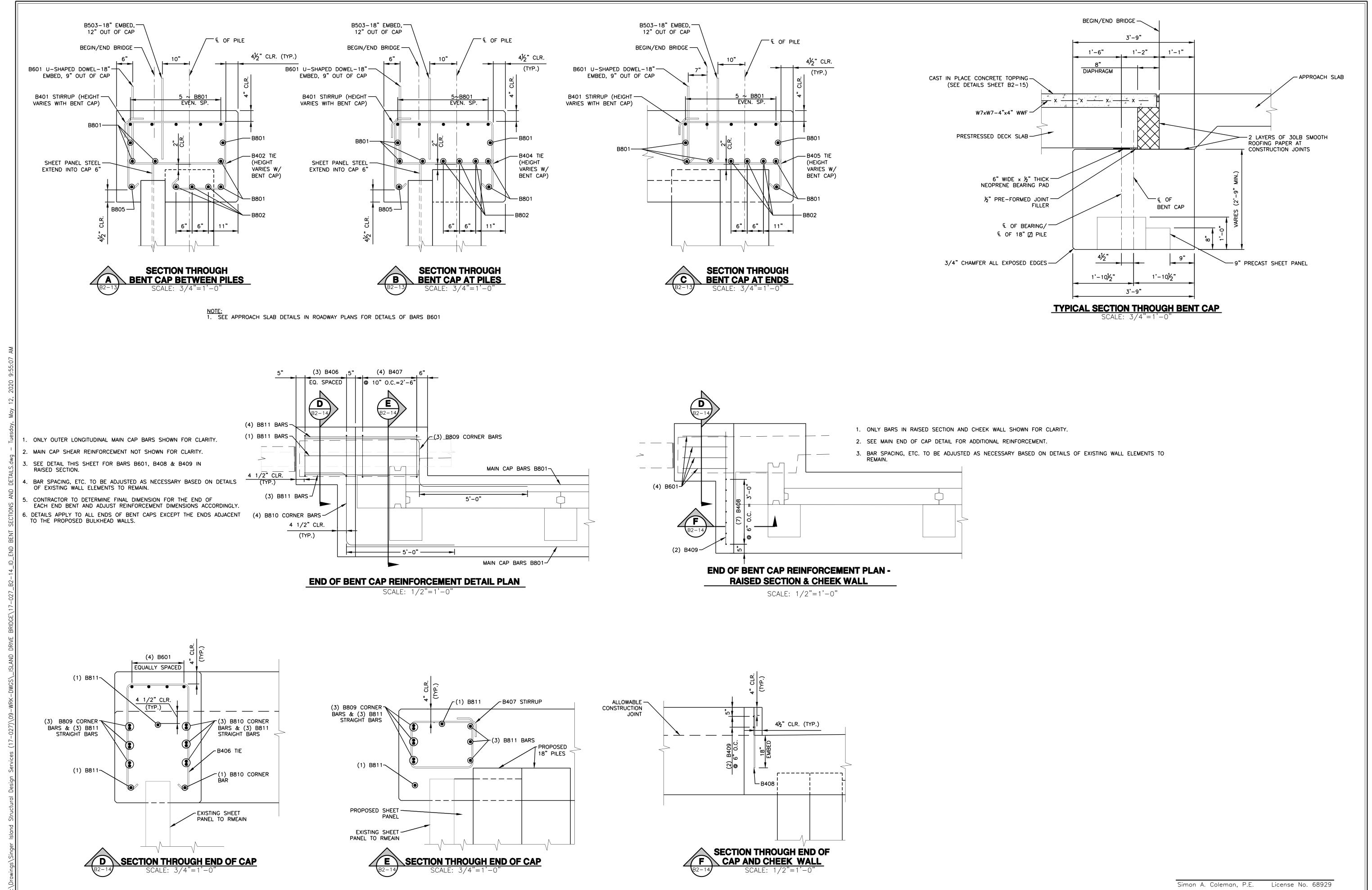
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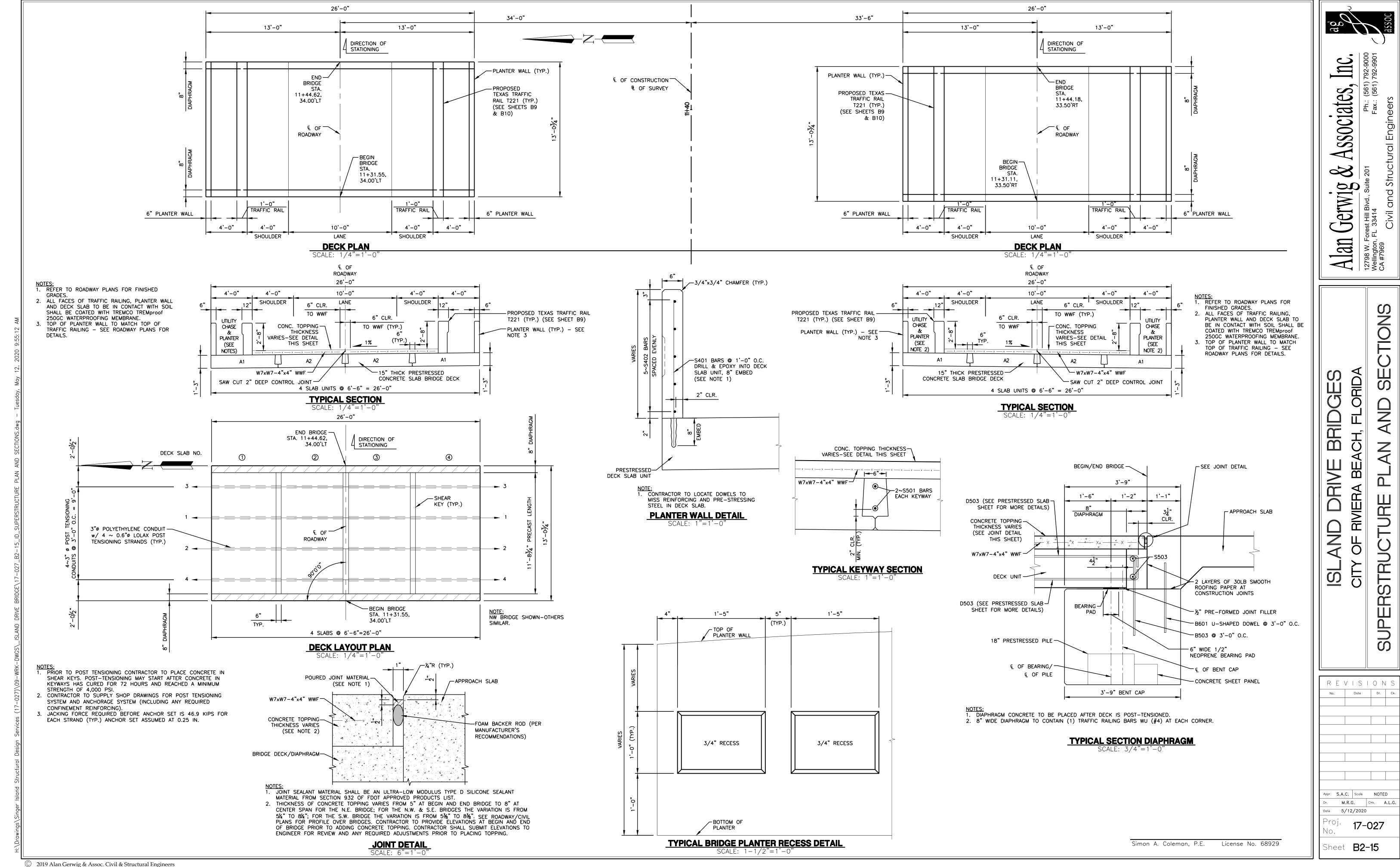
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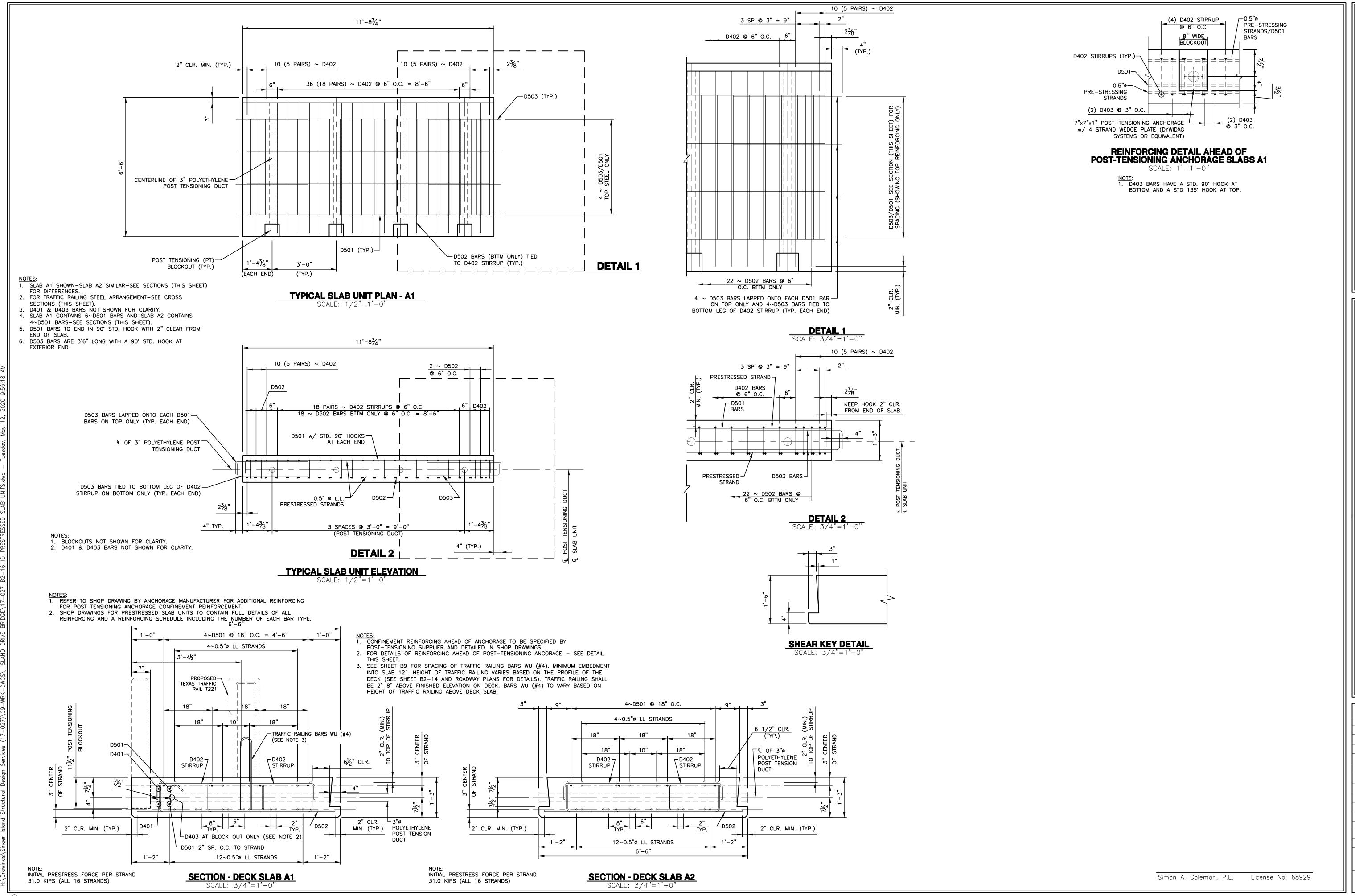
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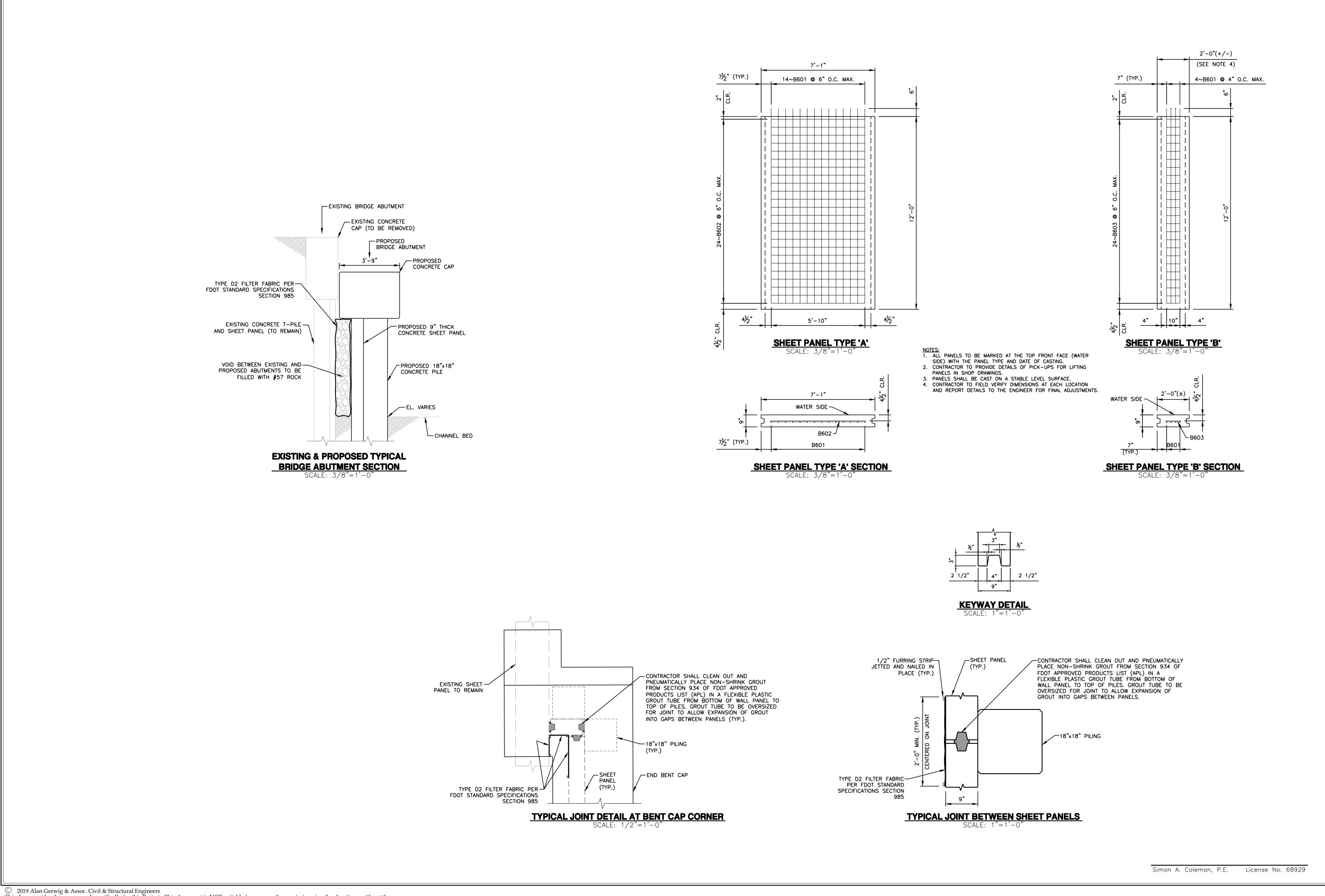
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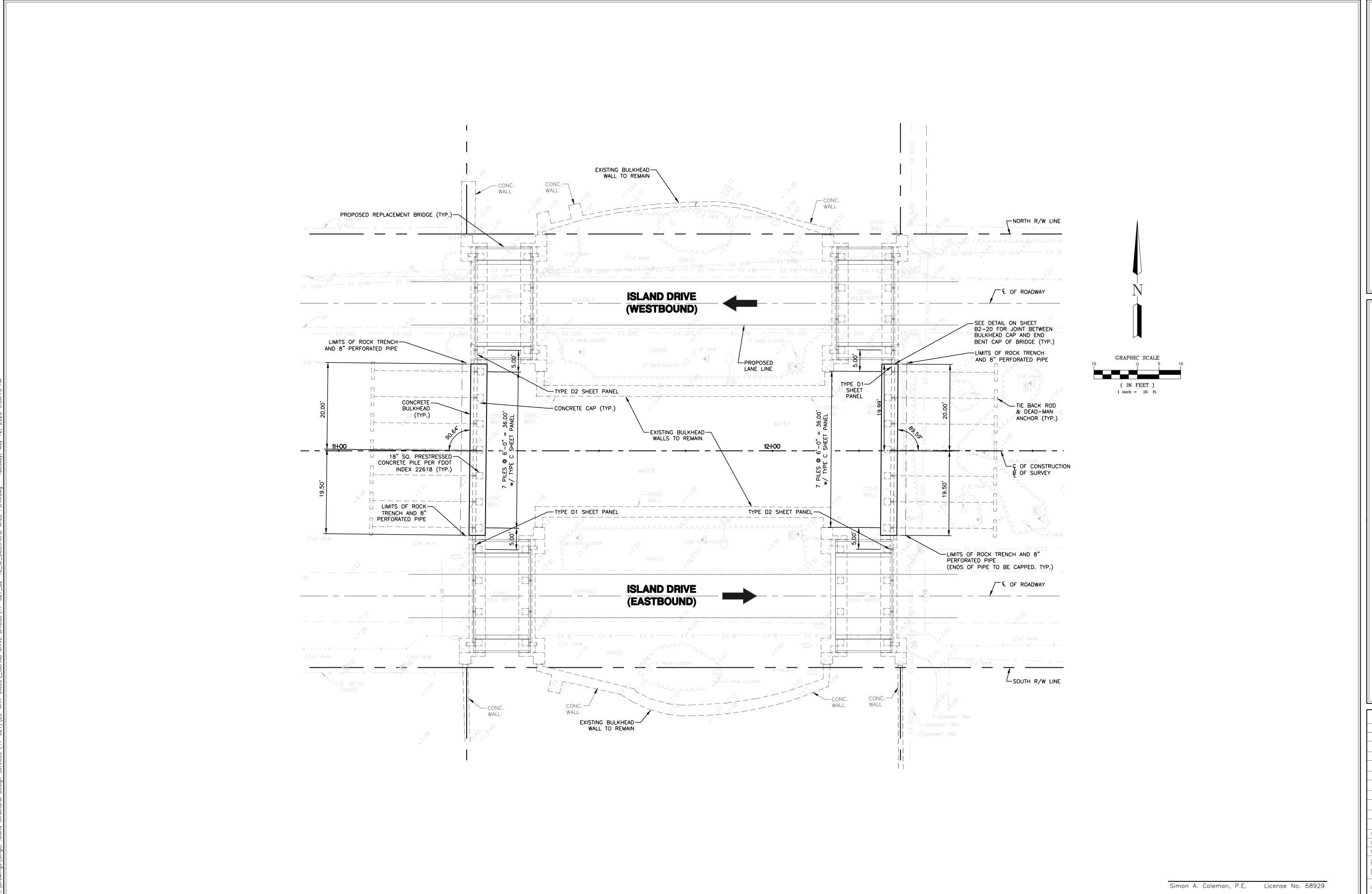
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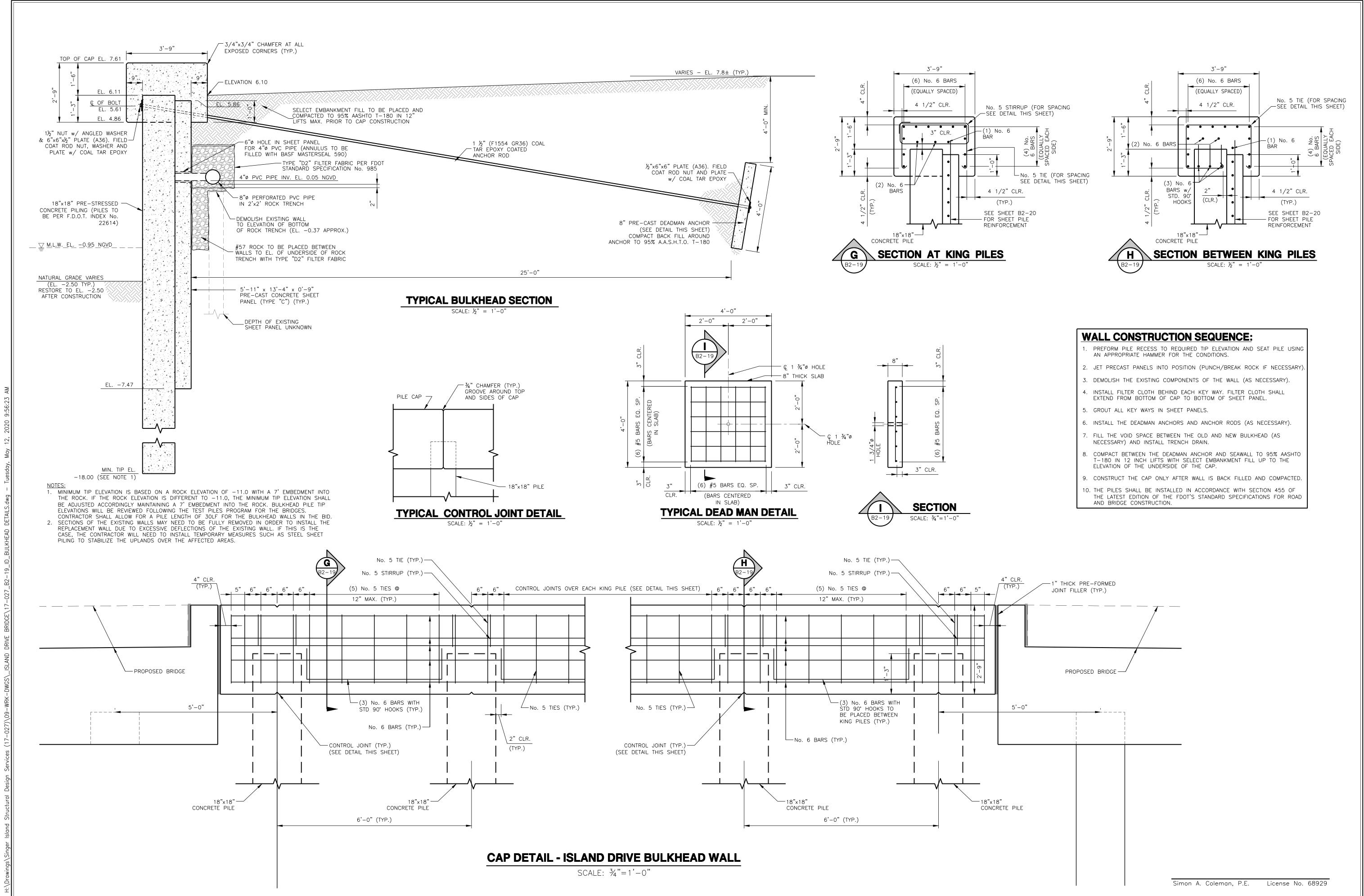
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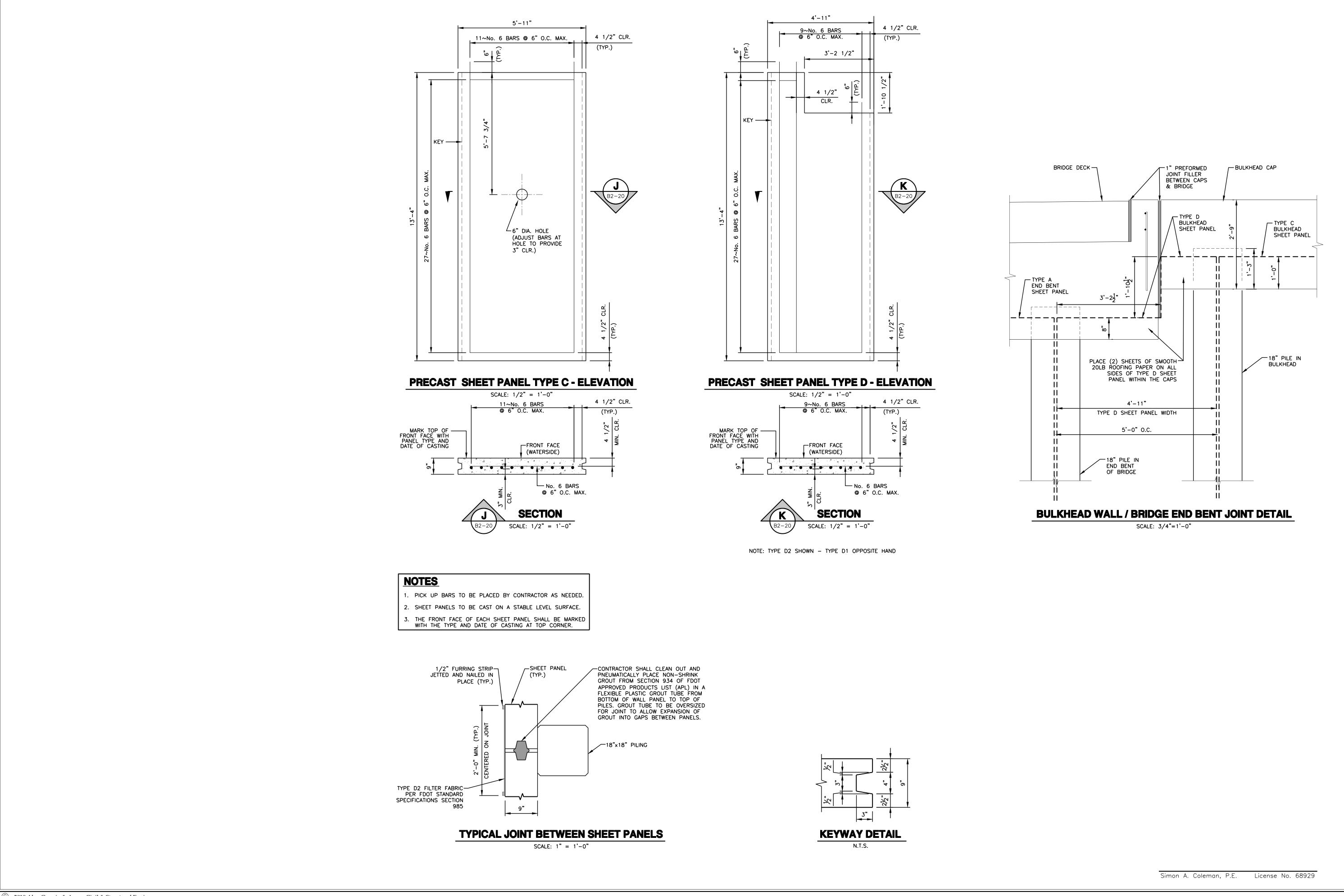
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