

# BEACH STREET STREETScape ORANGE TO BAY

## DAYTONA BEACH, FLORIDA

### CITY PROJECT NUMBER 2018-036

**PROJECT NAME:**  
BEACH STREET STREETScape  
ORANGE TO BAY  
DAYTONA BEACH, FLORIDA  
CITY PROJECT NUMBER 2018-036

**OWNER:**  
CITY OF DAYTONA BEACH  
301 S. RIDGEWOOD AVE.  
DAYTONA BEACH, FL 32119  
(386)-671-8010

**AGENT:**  
CITY OF DAYTONA BEACH  
ANDREW J. HOLMES, P.E.  
PUBLIC WORKS DIRECTOR  
DAYTONA BEACH, FLORIDA 32118  
(386)-671-8681  
E-MAIL: HolmesAndrew@CDOB.US

**WATER/WASTEWATER DISPATCHER**  
UTILITY DEPARTMENT  
24/7 EMERGENCY NUMBER  
(386) 671-8815

**SURVEYOR:**  
SLIGER & ASSOCIATES, INC.  
JOE ZAPERT, JOB NO. 18-0815  
PLS. NO. 4046  
3921 NOVA RD. PORT ORANGE, FL. 32127  
CONTACT # (386)-761-5385

**ENGINEER & LANDSCAPE ARCHITECT:**  
PARKER MYNCHENBERG & ASSOCIATES, INC.  
PARKER MYNCHENBERG, P.E. #32645, L.A. #1553  
STEVE R. BUSWELL, P.E. #53985, R.L.A. #6667011  
CERTIFICATE OF AUTHORIZATION #003910  
1729 RIDGEWOOD AVE.  
HOLLY HILL, FLORIDA 32117  
(386) 677-6891 FAX (386) 677-2114  
CONTACT# (386)-882-5022  
E-MAIL: info@parkermynchenberg.com

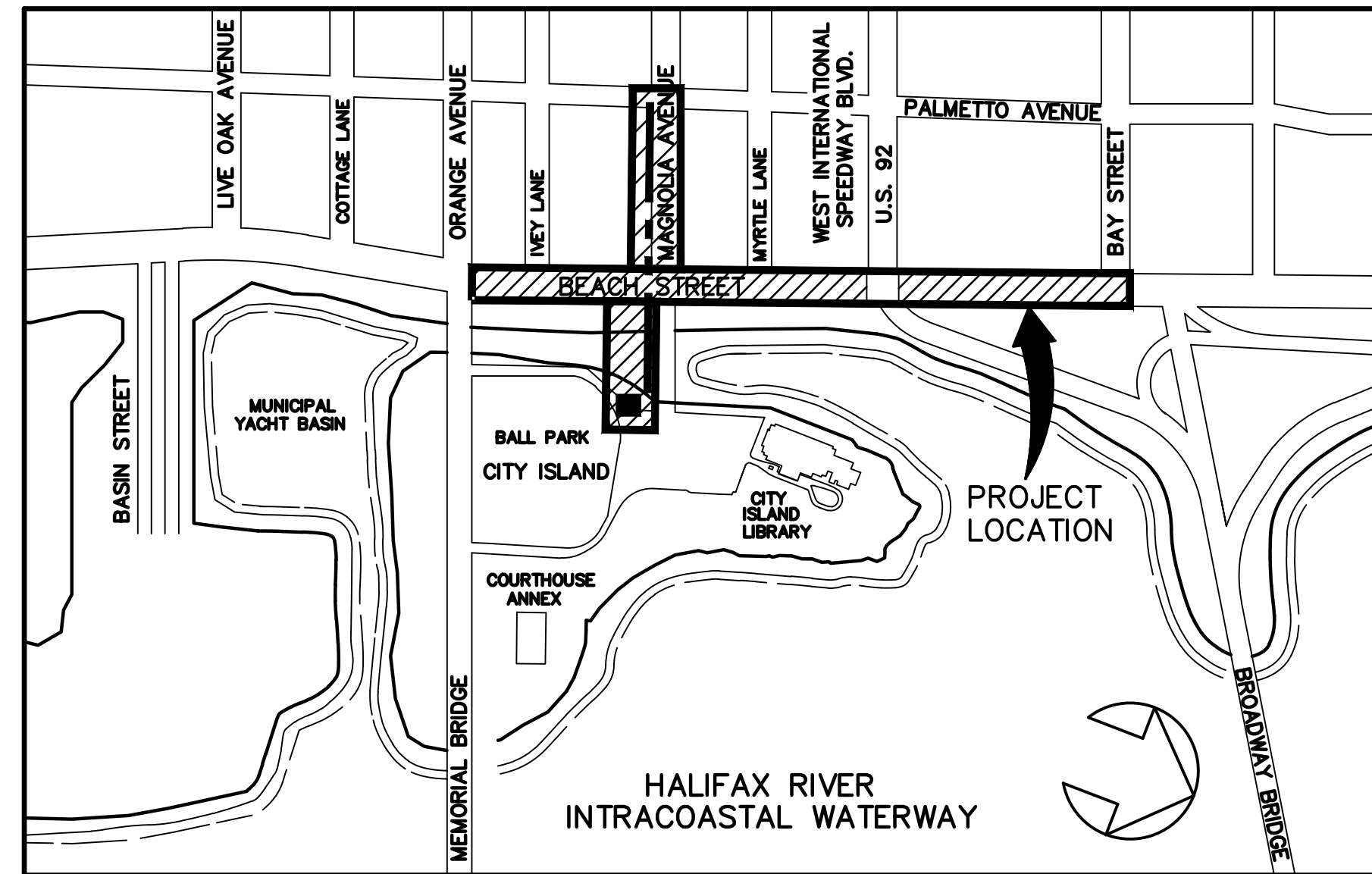
**ELECTRICAL ENGINEER:**  
MIKE PATTERSON, P.E. #54181  
ELECTRICAL CONSULTANT  
1291 JOHN ANDERSON DRIVE,  
ORMOND BEACH, FL. 32176  
(386)-441-2382  
E-MAIL: MPATTERSON888@AOL.COM

**GEOTECHNICAL ENGINEER:**  
BRIAN C. POHL, P.E.  
UNIVERSAL ENGINEERING SCIENCES  
911 BEVILLE ROAD, SUITE C  
SOUTH DAYTONA, FL 32119  
CELL: (386)-527-3938 OFFICE: (386)-756-1105  
E-MAIL: BPOHL@UNIVERSALENGINEERING.COM

**TRAFFIC CONSULTANT:**  
TRAFFIC PLANNING & DESIGN, INC.  
TURGET DERSH, P.E.  
535 VERSAILLES DR., SUITE 200  
MAITLAND, FLORIDA 32751-7305  
(407) 628-9955

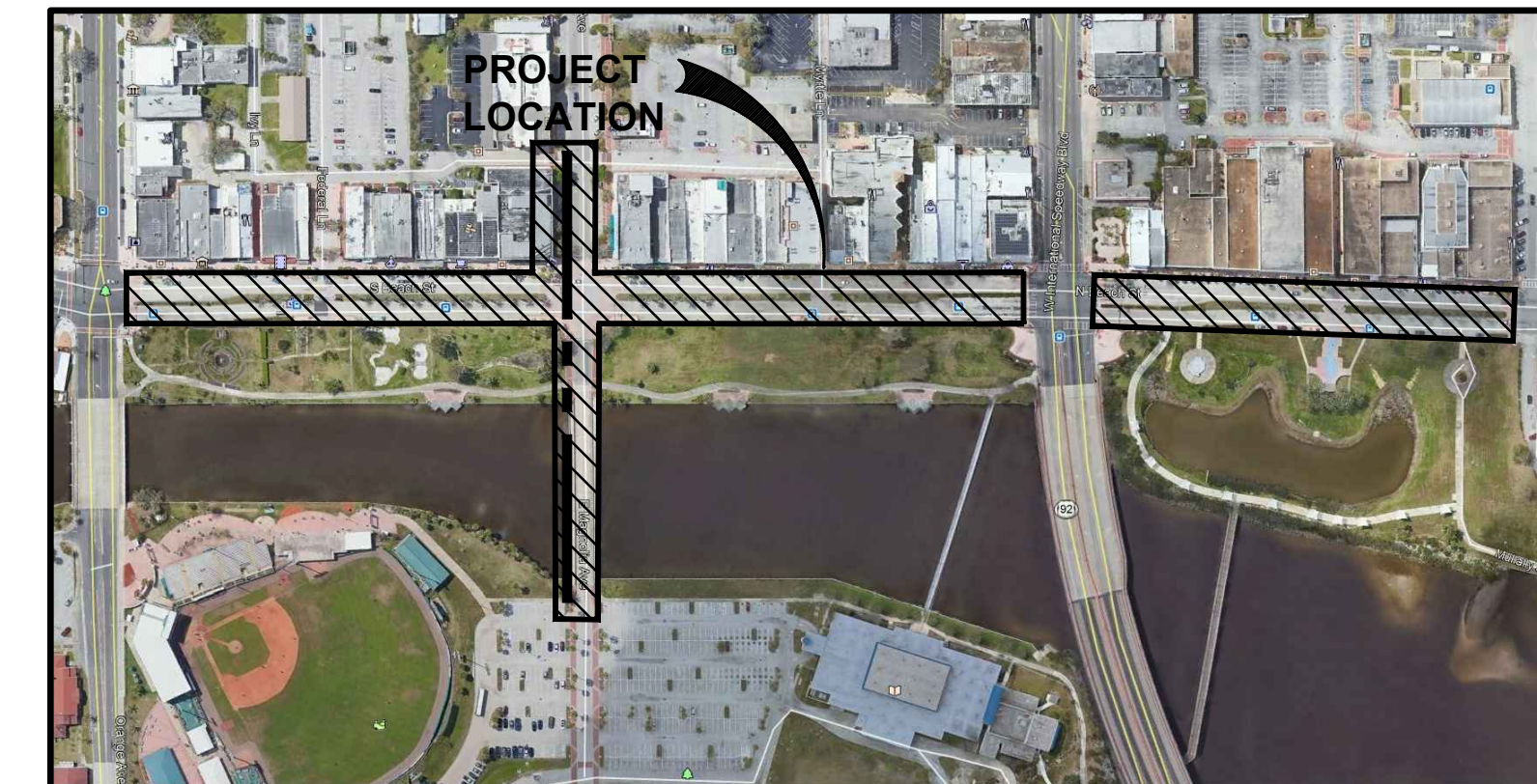
**GOVERNING STANDARDS AND SPECIFICATIONS:**

- CITY OF DAYTONA BEACH UTILITIES DEPARTMENT STANDARD DETAILS LATEST EDITION.
- CITY OF DAYTONA BEACH ENGINEERING STANDARDS FOR DESIGN AND CONSTRUCTION.
- FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION
- AMERICAN WATER WORKS ASSOCIATION
- AMERICAN NATIONAL STANDARDS INSTITUTE
- A.S.S.H.T.O.



**VICINITY MAP**

LENGTH OF PROJECT 2227.0 LF



**AERIAL MAP**

INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
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S1	SURVEY KEY MAP
S2-S3	SURVEY
2	GENERAL NOTES
3	OVERALL PLAN / KEY MAP
3A	PHASING PLAN
4-8	DEMOLITION, & EROSION CONTROL PLAN
9-13	HORIZONTAL CONTROL, STRIPING & SIGNAGE PLAN
14-18	OVERALL PAVING & DRAINAGE PLAN
19-20, 20A, 20B-23	UTILITY PLAN
23A-23B	INTERSECTION IMPROVEMENTS
24-28	LANDSCAPE PLAN
29	LANDSCAPE DETAILS
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36-40	PAVING & DRAINAGE DETAILS
40A 40B	
40C-40F	MID-BLOCK ARCHITECTURAL DETAILS
41-42	STREETScape DETAILS
43-44B	WATER DISTRIBUTION SYSTEM DETAILS
45-46B	SANITARY COLLECTION SYSTEM DETAILS
47-48	REUSE WATER SYSTEM DETAILS
49-49A	DIRECTIONAL DRILL DETAILS
50	CITY ISLAND DIRECTIONAL DRILL PLAN
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E6	ELECTRICAL SCHEDULES
E7	ELECTRICAL DETAILS
E8	CAMERA DETAILS
MOT-1 - MOT-8	MAINTENANCE OF TRAFFIC
T-1 - T-6	SIGNAL DETECTION LOOPS, RRFB PED CROSSING

**STREET LIGHTING PROVIDED**

	"A" TALL POLE LIGHTS IN MEDIAN	"B1" SINGLE POST TOP	"B2" DOUBLE POST TOP	"U" UPLIGHTS
ORANGE TO MAGNOLIA	3	9	18	32
MAGNOLIA TO ISB	4	10	13	34
ISB TO BAY ST.	5	9	12	28
	12	28	43	94
				TOTAL 177

NOTE - 12 TYPE A FIXTURES AND (24) 8 FOOT ARMS TO UTILIZE EXISTING POLES IN MEDIAN  
NOTE - 28 TYPE B1 PROVIDED BY FP&L.  
NOTE - 43 TYPE B2 DOUBLE TOP INCLUDES FOUR IN ALLEY NORTH OF IVEY LANE POLES TO BE PROVIDED BY FP&L.

**100% CONSTRUCTION DRAWINGS**

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
		DESCRIPTION	BY

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PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
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(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER 0003910

BEACH STREET STREETScape  
ORANGE TO BAY  
DAYTONA BEACH, FLORIDA  
COVER SHEET

CITY PROJECT NO.  
2018-036

1  
SHEET NO.

Drawn By: BH

Date: 8-21-18

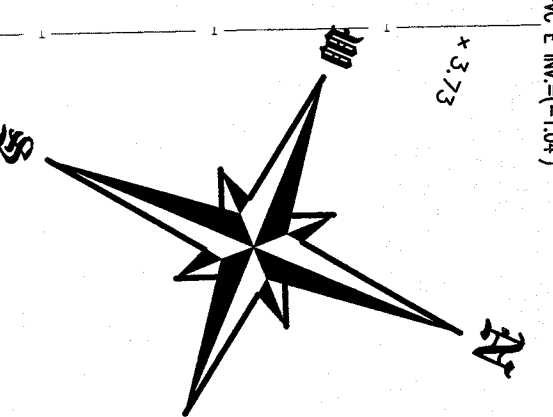
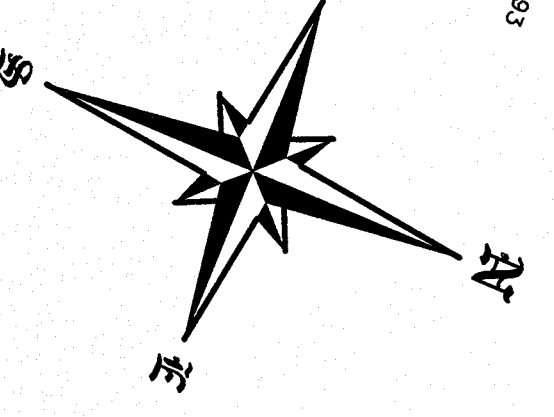
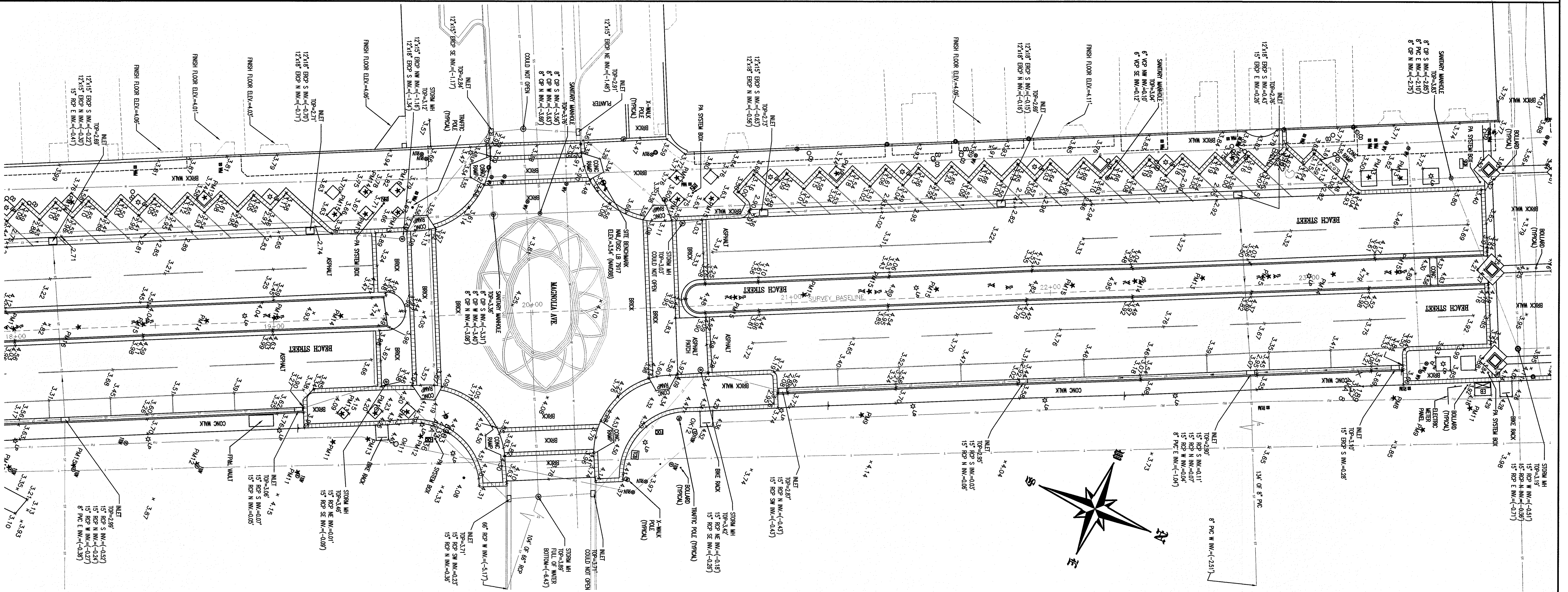
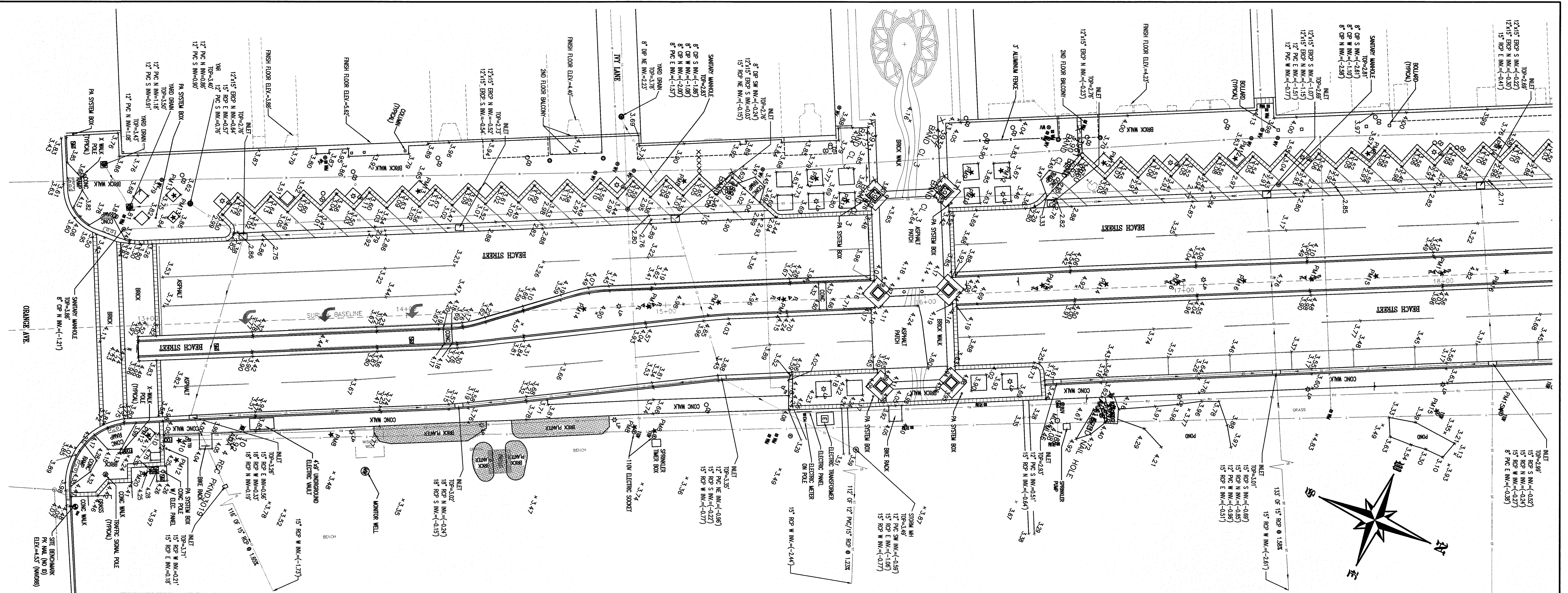
SCALE: 1"=1'

SEAL









**BEACH STREET STREETScape**  
**ORANGE AVE. NORTH TO BAY ST.**  
**DAYTONA BEACH, FLORIDA**

**LEGEND**

⊗	TRAFFIC SIGNAL BOX
⊙	UTILITY SIGNAL BOX
⊠	REPAIRMENT SIGNAL BOX
⊡	REPAIRMENT CONTROL POINT
⊢	ROAD LINE
⊣	NON-ROAD LINE
⊤	ROAD POLE WITH CAP
⊥	ROAD POLE WITHOUT CAP
⊦	ROAD TELEPHONE BOX
⊧	ROAD TELEPHONE BOX

**ABBREVIATIONS**

CONCRETE	CONC.
ASPHALT	ASPH.
BRICK	BRICK
GRAVEL	GRAVEL
PAVEMENT	PAV.
FINISH FLOOR	FIN.
FINISH FLOOR ELEV.	FIN. ELEV.
FINISH FLOOR BUCKING	FIN. BUCKING
FINISH FLOOR ELEV. ± 0.0'	FIN. ELEV. ± 0.0'
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Copyright © 2018 Sliger & Associates, Inc.  
 FOR: PARKER MANNENBERG & ASSOCIATES, INC.  
 SCALE: 1" = 1'  
 DATE OF SURVEY: 9-12-18  
 JOB NUMBER: 18-1118  
 PART CHIEF: S. SIMPSON  
 DRAWN BY: J. ZWERT  
 CHECKED BY: J. ZWERT

**SLIGER & ASSOCIATES, INC.**  
 PROFESSIONAL LAND SURVEYORS  
 3921 NINA ROAD  
 PORT ORANGE, FL 32127  
 (386) 76-5885  
 LICENSED BUSINESS CERTIFICATION NUMBER 3019  
 www.sligerandassociates.com

THIS PLAN OF SURVEY IS CERTIFIED TO AND PREPARED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE PARTIES AND/OR INDIVIDUALS WHOSE NAMES ARE SET FORTH BY THE FLORIDA BOARD OF SURVEYING AND MAPPING. IT IS NOT TO BE REPLIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL.

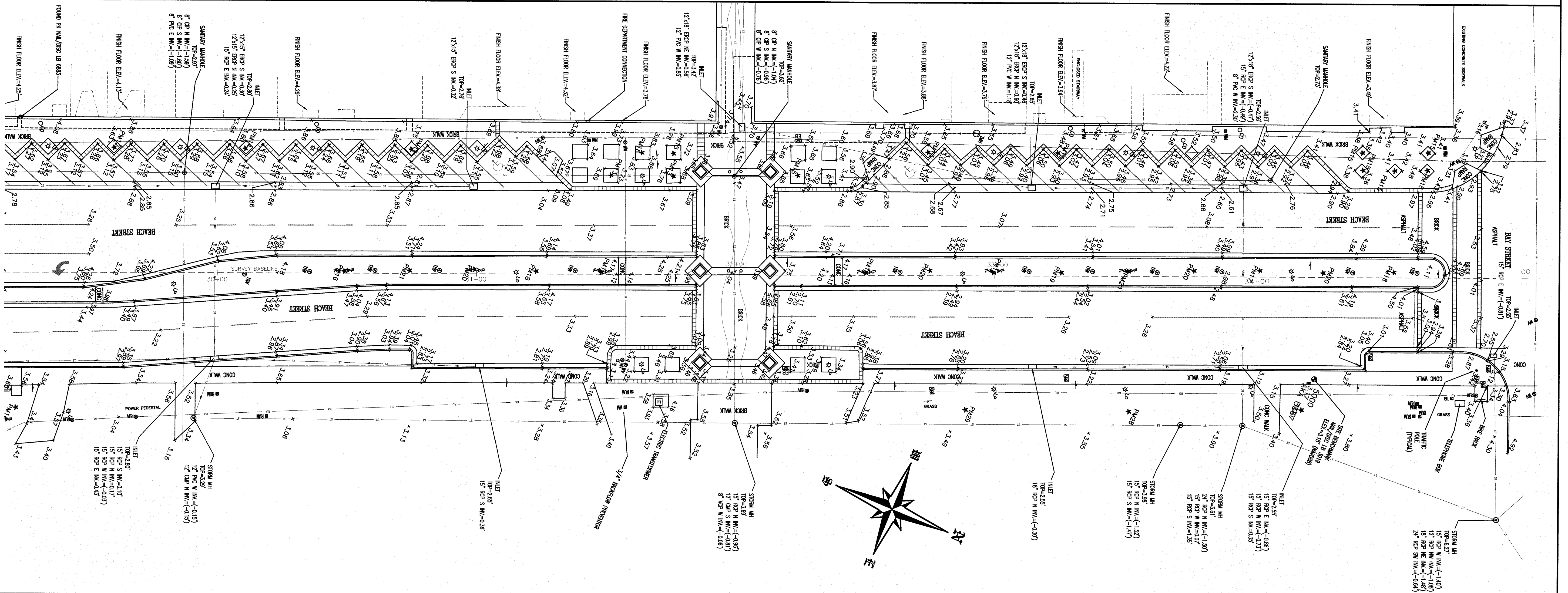
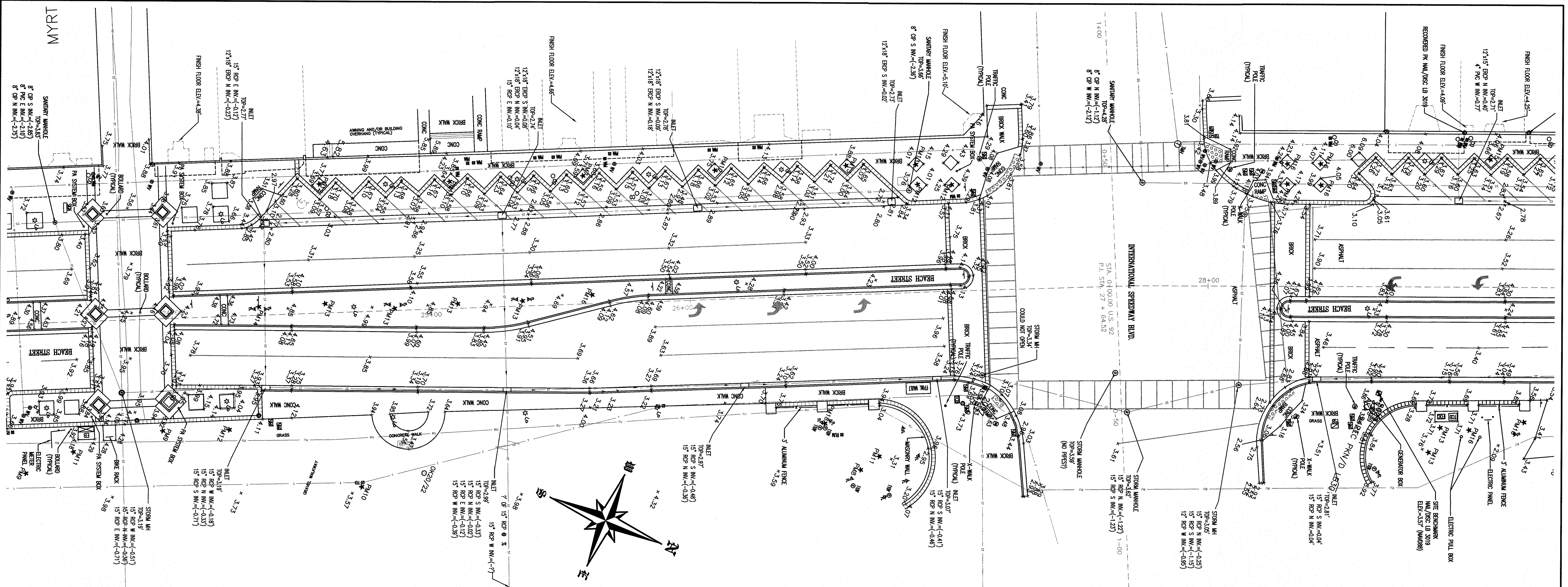
TYPE OF SURVEY	CEP	DATE	9-12-18
TOPOGRAPHIC	NOT CERTIFIED TO ANY PARTIES AND/OR INDIVIDUALS OTHER THAN THOSE LISTED ABOVE.	JOB NUMBER	18-1118

I HEREBY CERTIFY THAT THIS PLAN MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF SURVEYING AND MAPPING, P.S. 3, N.O. 5149, SECTION 472.027, FLORIDA STATUTES.

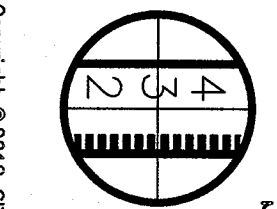
SEE SHEET 1 OF 3 FOR SIGNATURE/SEAL  
 J.E. ZWERT, P.L.S. NO. 4046  
 MICHAELE S. WIRTH, P.S. 3, N.O. 5149  
 MICHAEL S. WIRTH, P.S. 3, N.O. 5149

VALID WITH SIGNATURE & EMBOSSED SEAL ONLY





**BEACH STREET STREETScape**  
**ORANGE AVE. NORTH TO BAY ST.**  
**DAYTONA BEACH, FLORIDA**



**SLINGER & ASSOCIATES, INC.**  
 PROFESSIONAL LAND SURVEYORS  
 3021 NOVA ROAD  
 PORT ORANGE, FL 32127  
 (386) 761-5385  
 LICENSED BUSINESS CERTIFICATION NUMBER 3019

FOR: PARKER MANCHENBERG & ASSOCIATES, INC.  
 DIGITAL FIELD BOOK: 18111855 (A THRU H).TXT  
 FIELD BOOK: 1400 PAGES: 61-64  
 JOB NUMBER: \_\_\_\_\_  
 PARTY CHIEF: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 SHEET 3 OF 3  
 CHECKED BY: \_\_\_\_\_

- LEGEND**
- CONCRETE SIGNATURE
  - TYPE OF SURVEY
  - DATE OF SURVEY
  - SCALE: 1"=1'
  - DATE OF SURVEY
  - JOB NUMBER
  - PARTY CHIEF
  - DRAWN BY
  - CHECKED BY
  - SEE SHEET 1 OF 3 FOR SIGNATURE/SEAL
  - JE. ZAPERT, P.L.S. NO. 4046 4722
  - STEVEN A. KROGER, P.L.S. NO. 40148
  - 5-1-7065 FLORIDA ADMINISTRATIVE CODE, PARAGRAPH 10
  - SECTION 472027, FLORIDA STATUTES
  - VALID WITH SIGNATURE & EMBOSSED SEAL ONLY

- ABBREVIATIONS**
- CONCRETE SIGNATURE
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  - VALID WITH SIGNATURE & EMBOSSED SEAL ONLY



**GENERAL NOTES**

- ALL CONSTRUCTION TO MEET CITY OF DAYTONA BEACH AND FDOT INDEX SPECIFICATIONS.
- BOUNDARY, AND TOPOGRAPHIC SURVEY BASED ON SURVEY PREPARED BY SUGLER & ASSOCIATES, INC., DATED: 9-12-18
- UNDERGROUND UTILITY LOCATIONS AS FIELD MARKED BY THE FOLLOWING COMPANIES OR THEIR REPRESENTATIVES:  

FLORIDA POWER & LIGHT COMPANY PORT ORANGE, FL 32129	3000 SPRUCE CREEK ROAD (386) 322-3425
AT&T DAYTONA BEACH, FL 32117	900 N. NOVA ROAD (386) 257-7950
SPECTRUM DAYTONA BEACH, FL 32114	1475 S. NOVA ROAD (386) 760-9941
TECO PEOPLES GAS HOLLY HILL, FL 32117	1722 RIDGEWOOD AVE (386) 527-8377
CITY OF DAYTONA BEACH DAYTONA BEACH, FL 32114	125 BASIN STREET, SUITE 100 (386) 671-8815
- LOCATIONS OF EXISTING UTILITIES ARE SHOWN BASED ON AVAILABLE DATA.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES AND TO DETERMINE IF OTHER UTILITIES WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK AND TAKE WHATEVER STEPS NECESSARY TO PROVIDE FOR THEIR PROTECTION (I.E. SHEETING, DE-WATERING, ETC.). CONTRACTOR TO NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES OR CONFLICTS.  
CONTRACTOR TO COORDINATE DEMOLITION AND CONSTRUCTION WITH ALL PUBLIC AND PRIVATE UTILITY COMPANIES TO AVOID CONFLICTS AND/OR INTERRUPTIONS OF SERVICE.
- CONTRACTOR TO PROVIDE AS BUILT DRAWINGS OF ALL IMPROVEMENTS ON CD WITH PDF'S WORKING AUTOCAD FILES, 2 PAPER COPIES 24" X 36" ROLLED NOT FOLDED, SIGNED AND SEALED BY FLORIDA REGISTERED LAND SURVEYOR AND COMPLY WITH ALL OTHER AS-BUILT PROVISIONS OF CONTRACT DOCUMENTS.
- THERMOPLASTIC STRIPING AND TRAFFIC CONTROL SIGNAGE TO MEET FDOT AND CITY OF DAYTONA BEACH SPECIFICATIONS.
- TRAFFIC CONTROL SIGNS TO BE IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS.
- ALL TRAFFIC CONTROL SIGNS SHALL BE FABRICATED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES USING 3M BRAND "SCOTCHLIGHT" SHEETING (ENGINEER GRADE) ON MINIMUM 0.080 GAUGE 5052-H38 ALUMINUM BLANKS. ALL STOP SIGNS SHALL BE HIGH INTENSITY 30" OCTAGON INSTALLED ON 3" X 12" ROUND ALUMINUM POSTS. ALL WARNING SIGNS SHALL BE 30" X 30".
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND/OR LICENSES TO COMMENCE CONSTRUCTION.
- ALL CONCRETE SHALL DEVELOP A 28-DAY COMPRESSIVE STRENGTH OF 3,500 PSI UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF PLANS, SPECIFICATIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
- CONTRACTOR IS RESPONSIBLE FOR CHECKING ACTUAL SITE CONDITIONS BEFORE STARTING CONSTRUCTION.
- ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK.
- NO FIELD CHANGES OR DEVIATIONS FROM DESIGN TO BE MADE WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- "NO CONSTRUCTION ON THE PROPOSED PORTIONS OF THIS PROJECT MAY COMMENCE UNTIL A MANDATORY PRE-CONSTRUCTION MEETING IS HELD WITH THE CITY, AS STATED IN THE APPROVED DEVELOPMENT ORDER FROM THE CITY OF DAYTONA BEACH. ANY CESSATION OF CONTINUOUS ON-GOING CONSTRUCTION ON THIS PROJECT OF 90 DAYS OR MORE SHALL TRIGGER A REQUIREMENT FOR ANOTHER PRE-CONSTRUCTION MEETING BE HELD WITH THE CITY PRIOR TO CONTINUATION OF THE CONTINUING CONSTRUCTION."
- PLEASE NOTE THAT THE CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING PAVING, CURBS, SIDEWALKS, SOD, PLANTS, ETC. THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL ENGAGE A QUALIFIED TESTING AND INSPECTION AGENCY TO PERFORM CORE TESTING TO CONFIRM THAT THE INTERIOR CONCRETE PAVING THICKNESS COMPLIES WITH THE SPECIFICATIONS. CONCRETE SHALL RECEIVE 1 CORE PER 2,000 SF.
- CONTRACTOR SHALL EITHER CONDUCT ANY FIELD EXPLORATION OR ACQUIRE ANY GEOTECHNICAL ASSISTANCE REQUIRED DURING THE BID PROCESS TO ESTIMATE THE AMOUNT OF UNSUITABLE MATERIAL THAT WILL BE REQUIRED TO BE REMOVED/REPLACED FROM SITE.  
UNUSABLE MATERIALS UNDER UTILITIES, STORM PIPING, STRUCTURES, PAVEMENT, BUILDING PADS, OR HARDSCAPE SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL.  
ALL DEBRIS RESULTING FROM ALL ACTIVITIES SHALL BE DISPOSED OF OFF-SITE BY CONTRACTOR, INCLUDING ALL EXISTING COLORED CURBS, EXISTING CONCRETE PAVERS, CONCRETE, MID-BLOCK ARCHWAYS, POWER POLES, CLEANOUTS, HAND HOLES, LIGHT POLES AND FIXTURES.  
THE COST OF OBTAINING THE NECESSARY STATE AND LOCAL BUILDING/SITE PERMITS REQUIRED FOR THE BUILDING CONSTRUCTION AS WELL AS ALL UTILITY TAP FEES SHALL BE PAID BY THE CONTRACTOR.  
CONTRACTOR IS RESPONSIBLE FOR ALL REPORTING/MONITORING AS REQUIRED BY S.R.WMD AND FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS, AND S.R.WMD PERMIT.  
CONTRACTOR SHALL SWEEP AND CLEAN THE PUBLIC ROADWAY DURING CONSTRUCTION.  
THE GENERAL CONTRACTOR SHALL CLEAR, STRIP, EXCAVATE, FILL, AND ROUGH AND FINE GRADE THE SITE TO ACCOMPLISH BUILDING CONSTRUCTION AND PROPER STORM WATER DRAINAGE FROM THE SITE. ANY EXCESS CUT AND EXCESS SPOILS AND UNSUITABLE SOILS AND RUBBLE MUST BE REMOVED FROM THE SITE. ALL NECESSARY FILL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.  
TESTING & INSPECTIONS: PLEASE NOTE THAT A FIELD-TESTING AND INSPECTIONS PROGRAM FOR QUALITY CONTROL DURING THE COURSE OF THE PROJECT SHALL BE PROVIDED BY THE CITY AND SHALL INCLUDE, BUT NOT BE LIMITED TO SOILS, CONCRETE, STRUCTURAL STEEL, FIREPROOFING, WATERPROOFING (INCLUDING ROOFING, CAULKING, GLAZING, ETC.).
- CONTRACTOR SHALL INSTALL AND MAINTAIN DEWATERING WHERE REQUIRED IN ACCORDANCE WITH ALL CODES AND LAWS.
- CONTRACTOR TO ADJUST AS REQUIRED PUBLIC AND PRIVATE UTILITY MANHOLES, UTILITY BOXES, CLEANOUTS, MANHOLE TOPS, ELECTRIC BOXES, HAND HOLES IN WORK AREA TO PROPOSED GRADE.
- CONTRACTOR TO UTILIZE CITY OF DAYTONA BEACH UTILITY STANDARD DETAILS DATED MAY 2019.

**EROSION & SEDIMENT CONTROL NOTES**

- ALL CONSTRUCTION ACTIVITIES SHALL INCORPORATE BEST MANAGEMENT PRACTICES (BMP'S) TO CONTROL EROSION, SEDIMENTATION, AND THE POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE OF EXISTING VEGETATION, (PARTICULARLY AROUND THE PROJECT PERIMETER) AND ADJACENT EXISTING DRAINAGE PATTERNS TO THE MAXIMUM EXTENT PRACTICAL DURING THE CONSTRUCTION PROCESS.
- SILT FENCES AND TURBIDITY BARRIERS SHALL BE INSTALLED ON SITE AND APPROVED BY THE CITY PRIOR TO CONSTRUCTION, AND SHALL BE INSPECTED WEEKLY BY THE CONTRACTOR AND CORRECTIVE ACTION TAKEN AS NECESSARY.
- STORMWATER RETENTION, DETENTION, STORAGE AND CONVEYANCE SYSTEMS MUST BE EXCAVATED TO ROUGH GRADE PRIOR TO BUILDING CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACE WITHIN THE AREA SERVED BY THOSE SYSTEMS. ADEQUATE MEASURES MUST BE TAKEN TO PREVENT SILTATION OF THESE TREATMENT SYSTEMS AND CONTROL STRUCTURES DURING CONSTRUCTION. SILTATION MUST BE REMOVED FROM THE STORMWATER SYSTEM WHEN HALF FULL AND IMMEDIATELY PRIOR TO FINAL GRADING AND GRASSING OF THE PROJECT.
- CONTRACTOR SHALL SOD ALL SWALES AND STORMWATER FACILITIES IN ACCORDANCE WITH TEMPORARY BMP'S WITHIN 14 DAYS AFTER CONSTRUCTION. THIS IS REQUIRED TO STABILIZE THE SLOPES AND MINIMIZE EROSION.
- DURING ALL CONSTRUCTION OF THE PERMITTED SYSTEM INCLUDING STABILIZATION AND REVEGETATION OF DISTURBED SURFACES, CONTRACTOR IS RESPONSIBLE FOR THE SELECTION, IMPLEMENTATION, AND OPERATION OF ALL EROSION AND SEDIMENT CONTROL MEASURES REQUIRED TO RETAIN ALL SEDIMENT ONSITE AND PREVENT VIOLATIONS OF THE WATER QUALITY STANDARDS IN ACCORDANCE WITH THE FLORIDA ADMINISTRATIVE CODE AND PROJECT PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN A PROTECTIVE COVER (VEGETATIVE OR SUITABLE ALTERNATIVE) FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES EXPOSED OR DISTURBED BY CONSTRUCTION OF THE PERMITTED PROJECT, UNLESS MODIFIED BY ANOTHER CONDITION OF THE PERMIT OR OTHERWISE SPECIFIED ON A DISTRICT APPROVED EROSION AND SEDIMENT CONTROL PLAN. THE PROTECTIVE COVER MUST BE INSTALLED WITHIN FOURTEEN (14) DAYS AFTER FINAL GRADING OF THE AFFECTED LAND SURFACE. A PERMANENT VEGETATIVE COVER MUST BE ESTABLISHED WITHIN 60 DAYS OF IT'S INSTALLATION. THE PERMITTEE'S REQUIREMENT TO MAINTAIN COVER ON OFFSITE AND ONSITE SURFACES SHALL NOT BE COMPLETE UNTIL AFTER THE WATER MANAGEMENT DISTRICT RECEIVES THE PERMITTEE'S STATEMENT OF COMPLIANCE.
- AT A MINIMUM, SILT FENCES AND TURBIDITY BARRIERS SHALL BE INSTALLED PER PLAN. ADDITIONAL BMP MEASURES MUST BE TAKEN TO MINIMIZE IMPACTS OF RECEIVING WATERS SUCH AS THE USE OF APPROVED BARRIERS AT INLETS, ADDITIONAL SILT FENCING, SOIL ANTI-TRACKING DEVICES AND SODDING.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE PROJECT LIMITS IN COMPLIANCE WITH ALL JURISDICTIONAL PERMIT AND CITY REQUIREMENTS.
- ANY TIME THE CONTRACTOR NEEDS TO SUBMIT A NOTICE OF INTENT TO USE A GENERAL PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES, A COPY OF THE PERMIT SHALL ALSO BE SUBMITTED TO THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT.
- THE CONTRACTOR SHALL AS A MINIMUM PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) GUIDELINES.
- DEWATERING ACTIVITIES SHALL BE APPROVED BY THE UTILITIES DEPARTMENT BEFORE DISCHARGING INTO THE CITY'S MS4 SYSTEM (ST-1A NOTE 3).

THE CITY OF DAYTONA BEACH  
ENGINEERING DIVISION



EROSION AND SEDIMENT  
CONTROL NOTES  
ST-5

FC-17/18  
Drawing Date: 01/08  
Drawn By: JLP  
Checked By: JLP  
Scale: N/A  
Revision Date:  
File Name: Erosion Notes ST-5  
Page: 1/2

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CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETSCAPE  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
GENERAL NOTES

CITY PROJECT NO.  
2018-036

SHEET NO.  
2

Drawn By: BH

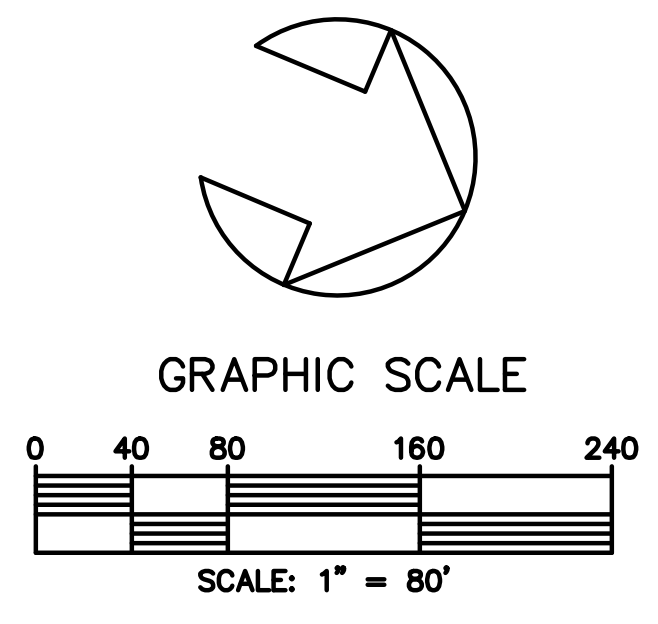
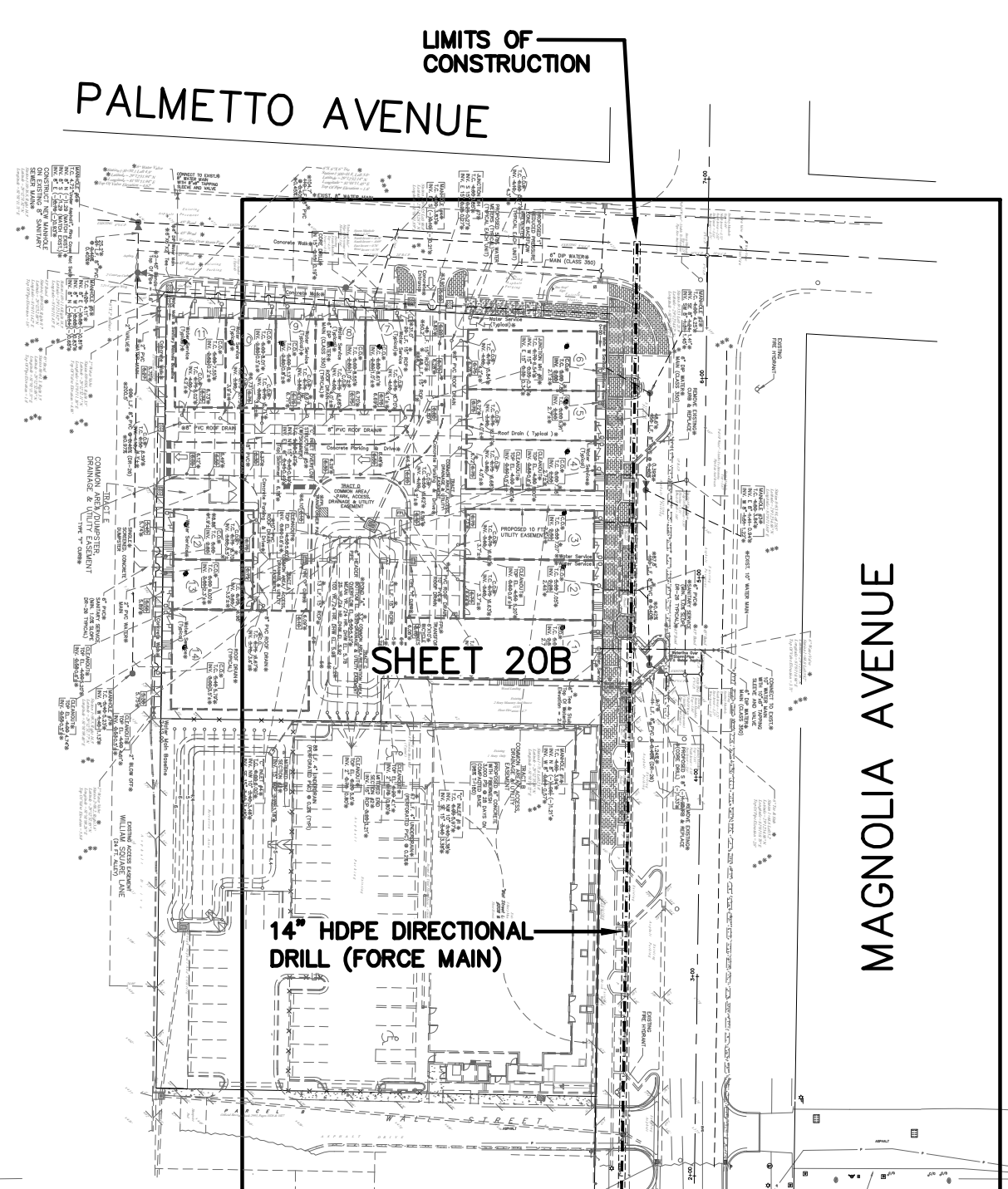
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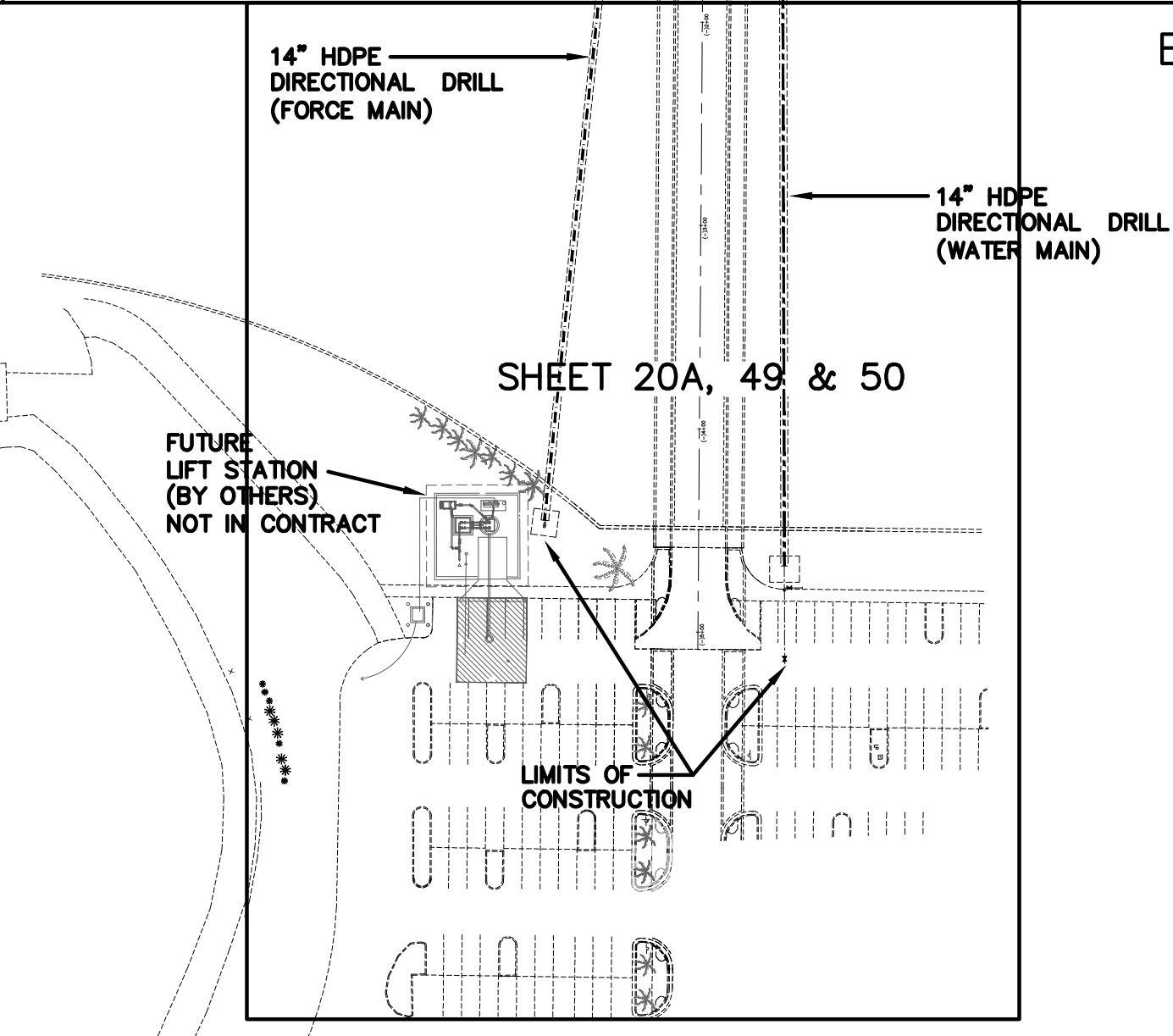
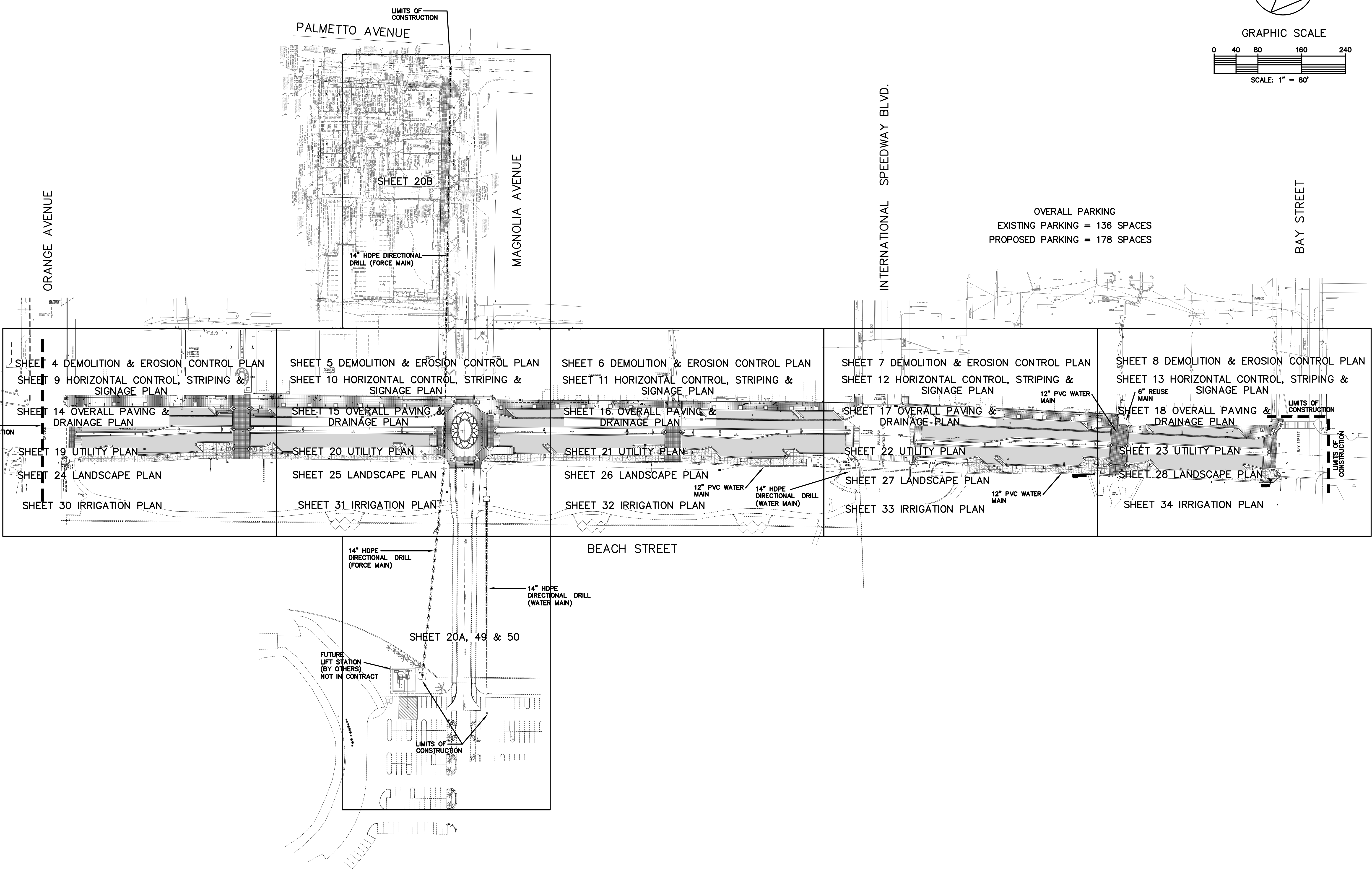
SEAL

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	7-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
			BY





OVERALL PARKING  
 EXISTING PARKING = 136 SPACES  
 PROPOSED PARKING = 178 SPACES



NO.	DATE	DESCRIPTION	REVISIONS
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			BY

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BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA

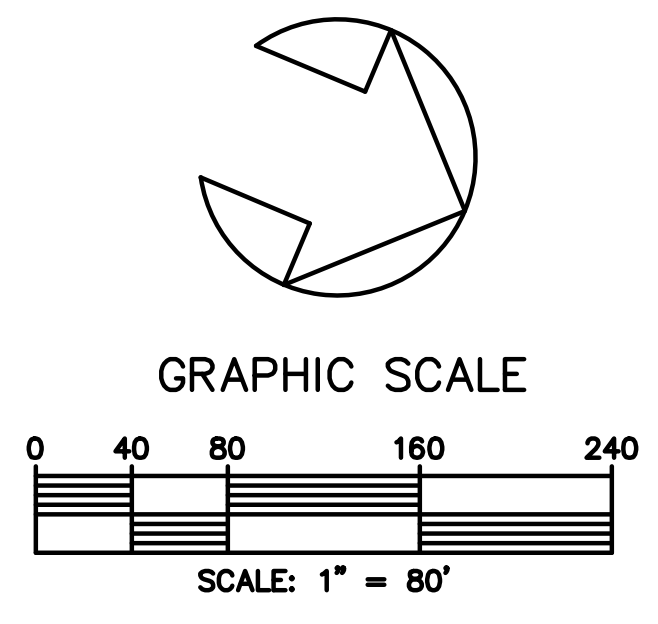
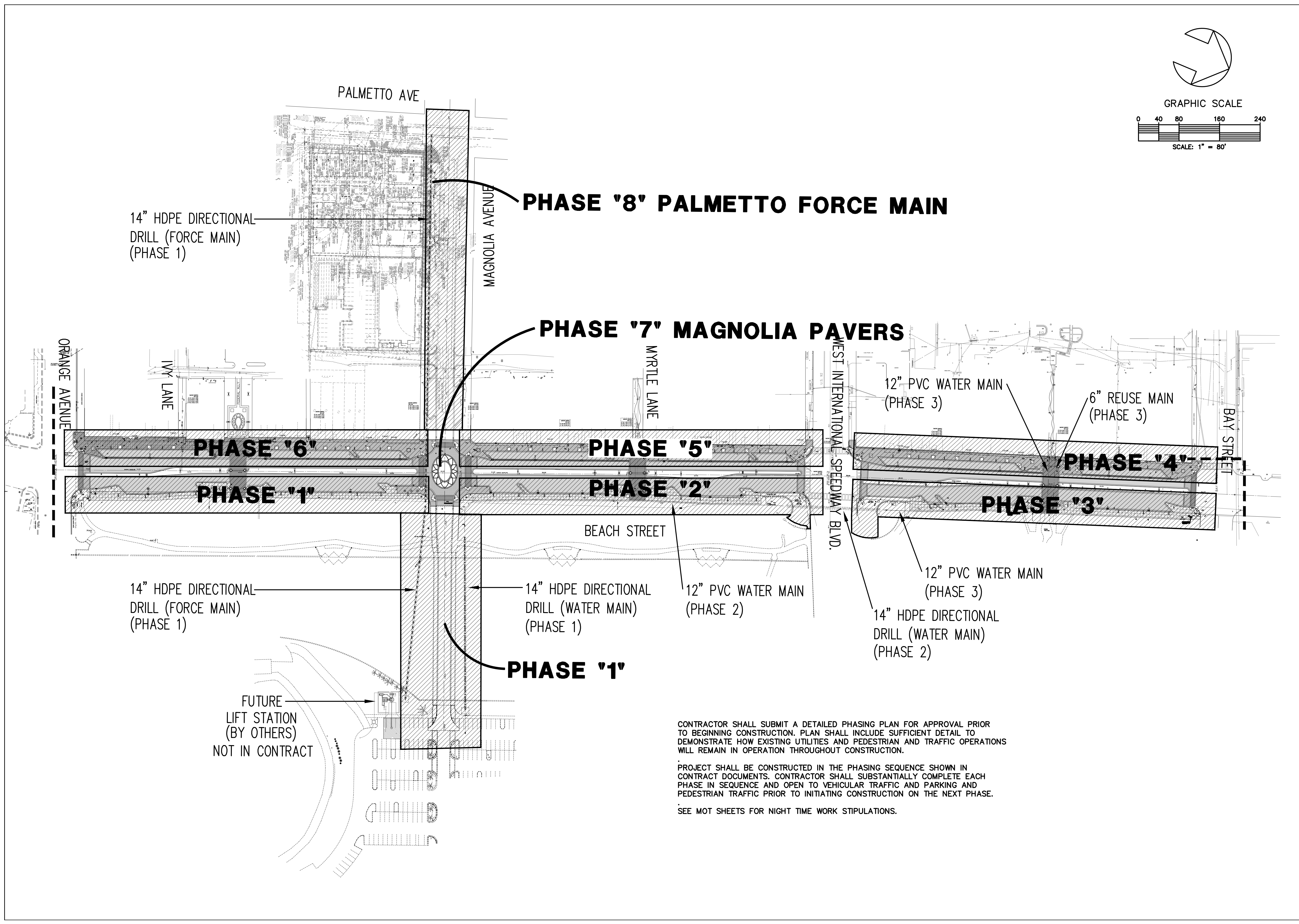
OVERALL PLAN / KEY MAP

CITY PROJECT NO.  
 2018-036

**3**  
 SHEET NO.

Drawn By: BH  
 Date: 8/21/18  
 SCALE: 1"=80'





14" HDPE DIRECTIONAL  
DRILL (FORCE MAIN)  
(PHASE 1)

**PHASE '8' PALMETTO FORCE MAIN**

**PHASE '7' MAGNOLIA PAVERS**

**PHASE '6'**

**PHASE '5'**

**PHASE '4'**

**PHASE '1'**

**PHASE '2'**

**PHASE '3'**

14" HDPE DIRECTIONAL  
DRILL (FORCE MAIN)  
(PHASE 1)

14" HDPE DIRECTIONAL  
DRILL (WATER MAIN)  
(PHASE 1)

12" PVC WATER MAIN  
(PHASE 2)

12" PVC WATER MAIN  
(PHASE 3)

6" REUSE MAIN  
(PHASE 3)

12" PVC WATER MAIN  
(PHASE 3)

14" HDPE DIRECTIONAL  
DRILL (WATER MAIN)  
(PHASE 2)

**PHASE '1'**

FUTURE  
LIFT STATION  
(BY OTHERS)  
NOT IN CONTRACT

CONTRACTOR SHALL SUBMIT A DETAILED PHASING PLAN FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. PLAN SHALL INCLUDE SUFFICIENT DETAIL TO DEMONSTRATE HOW EXISTING UTILITIES AND PEDESTRIAN AND TRAFFIC OPERATIONS WILL REMAIN IN OPERATION THROUGHOUT CONSTRUCTION.

PROJECT SHALL BE CONSTRUCTED IN THE PHASING SEQUENCE SHOWN IN CONTRACT DOCUMENTS. CONTRACTOR SHALL SUBSTANTIALLY COMPLETE EACH PHASE IN SEQUENCE AND OPEN TO VEHICULAR TRAFFIC AND PARKING AND PEDESTRIAN TRAFFIC PRIOR TO INITIATING CONSTRUCTION ON THE NEXT PHASE.

SEE MOT SHEETS FOR NIGHT TIME WORK STIPULATIONS.

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
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		DESCRIPTION	BY
		REVISIONS	

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BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 PHASING PLAN

CITY PROJECT NO.  
2018-036

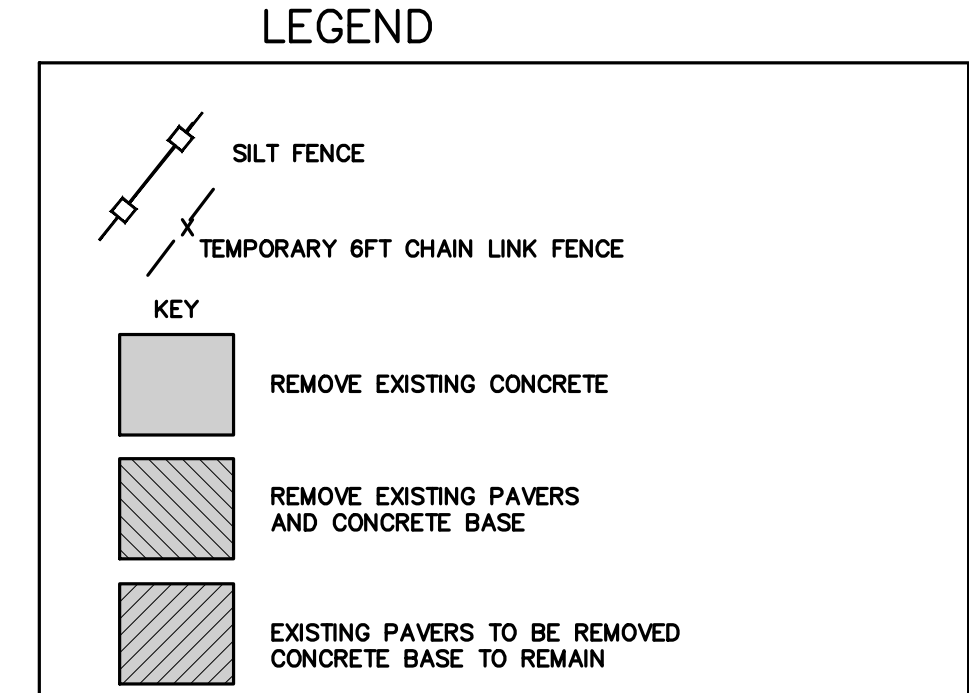
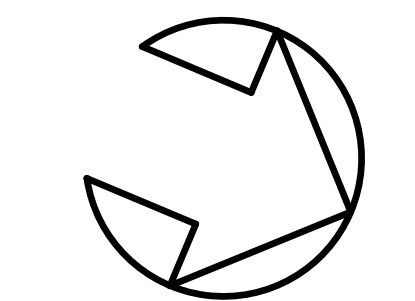
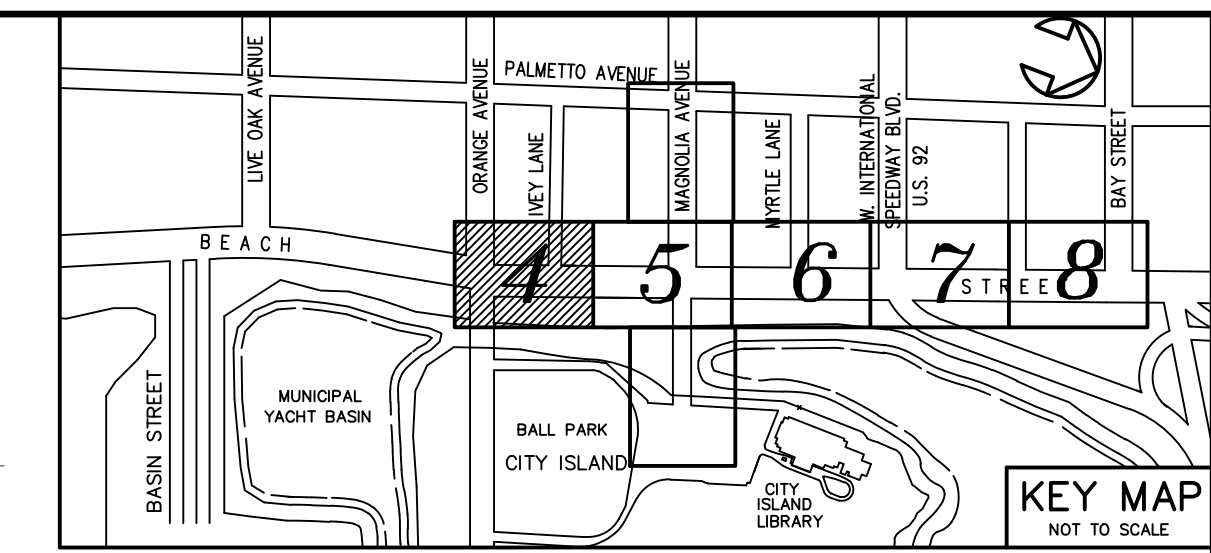
**3A**  
SHEET NO.

Drawn By: BH

Date: 8/21/18

SCALE: 1"=80'





- DEMOLITION NOTES
- 1.) CONTRACTOR TO REMOVE EXISTING PAVERS AND EXCESS EXISTING PAVERS TO BE THE PROPERTY OF THE CONTRACTOR AND TO BE DISPOSED OF IN A LEGAL MANNER.
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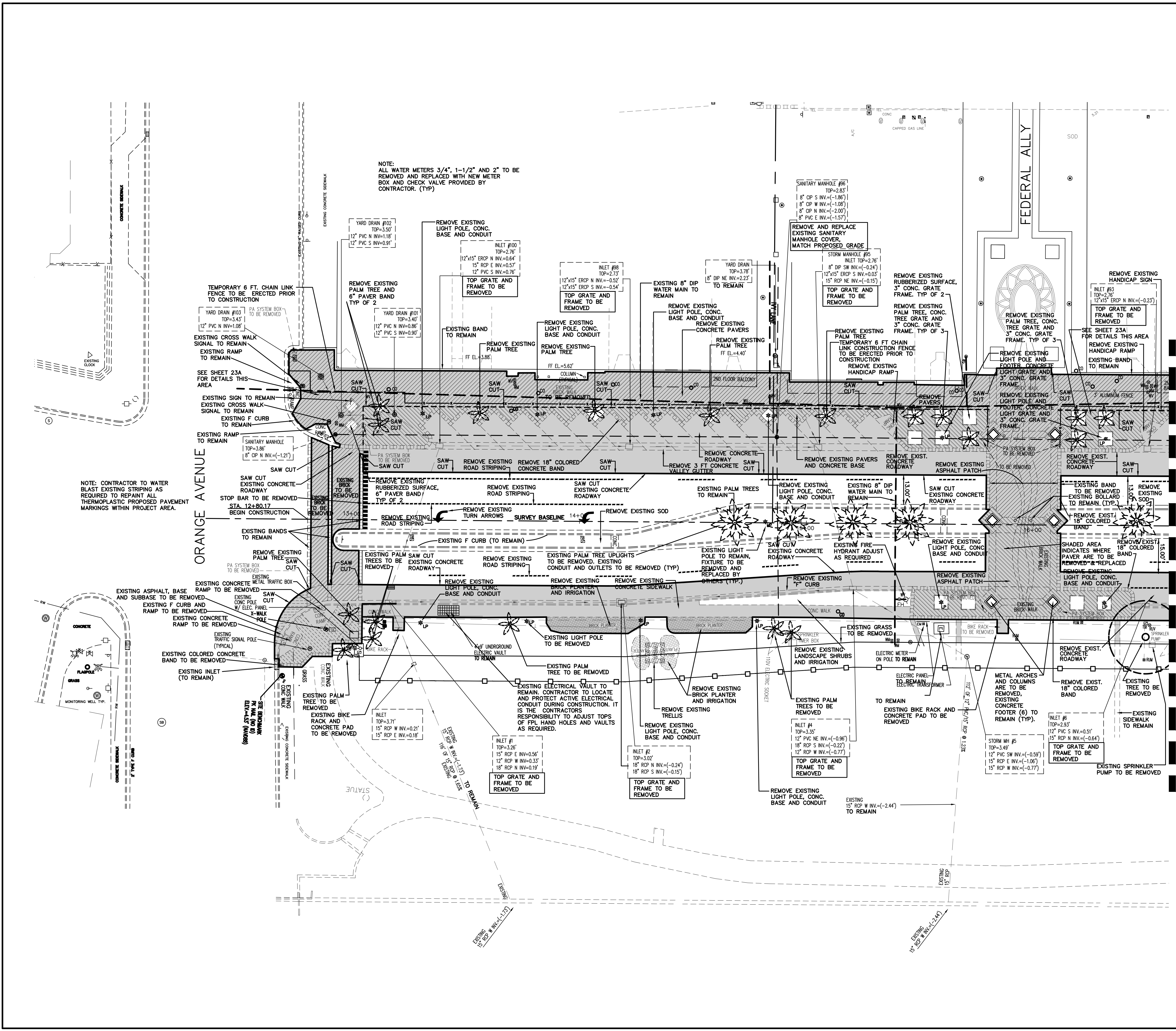
NO.	DATE	DESCRIPTION	REVISIONS
1			BY
2			BH
3			BH
4			BH

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BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH, FLORIDA

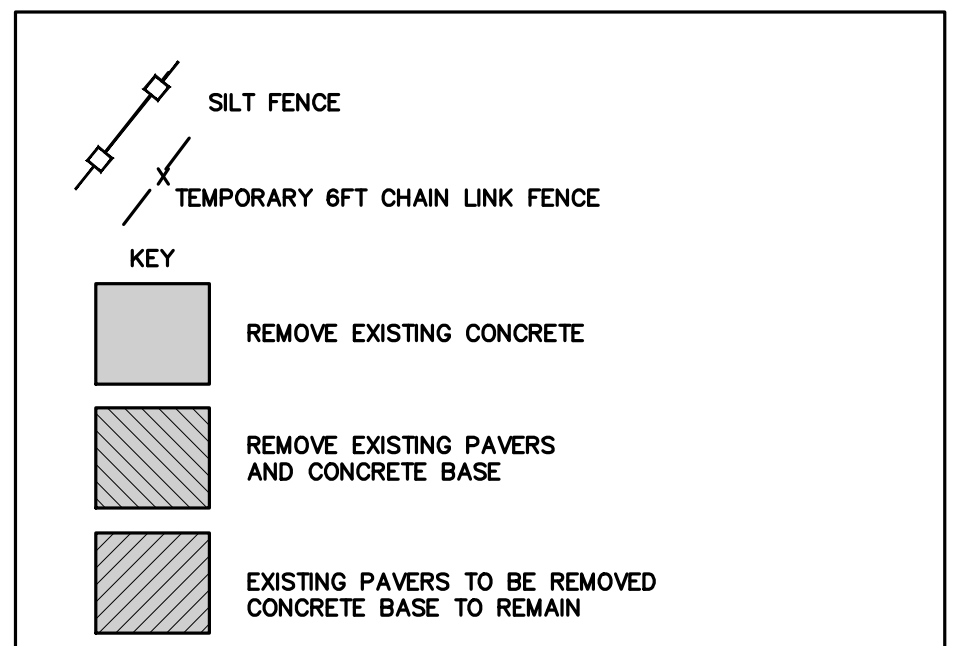
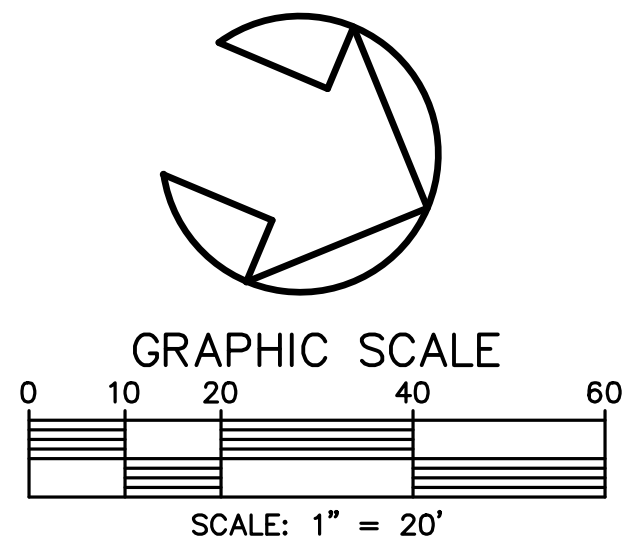
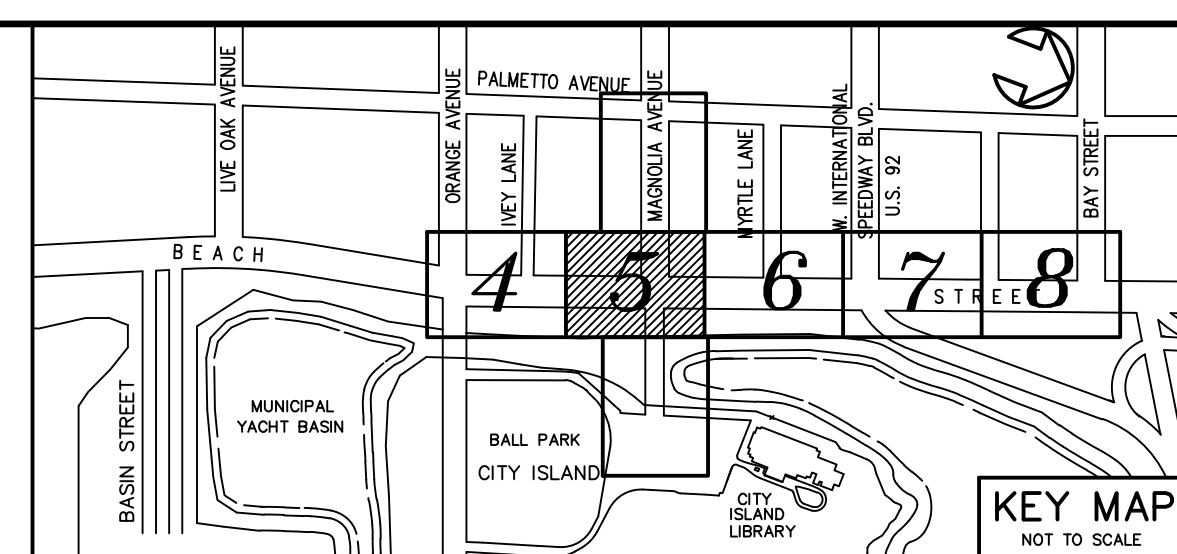
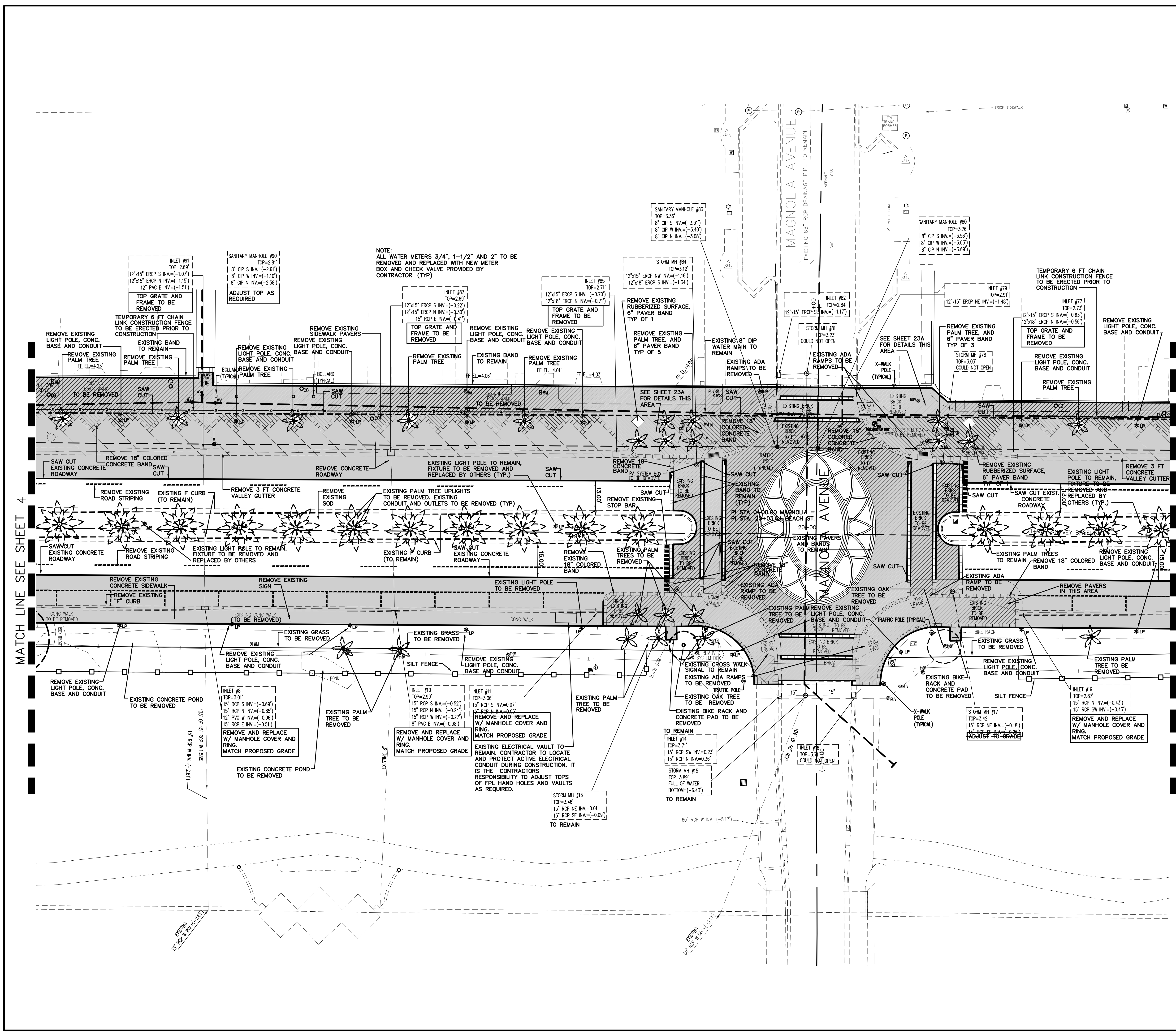
DEMOLITION & EROSION CONTROL PLAN

CITY PROJECT NO. 2018-036
4 SHEET NO.
Drawn By: BH
Date: 8-21-18
SCALE: 1"=20'
SEAL



MATCH LINE SEE SHEET 5





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BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH • FLORIDA

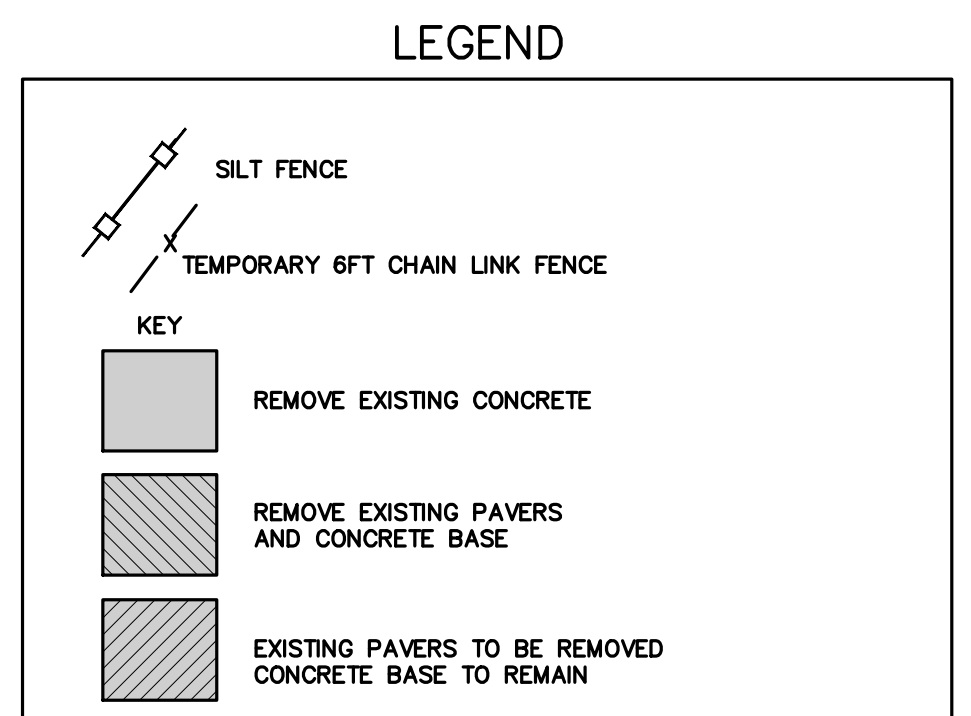
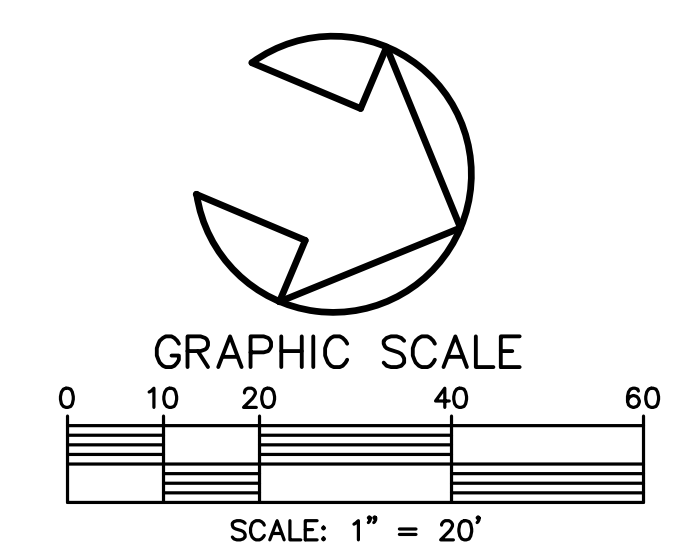
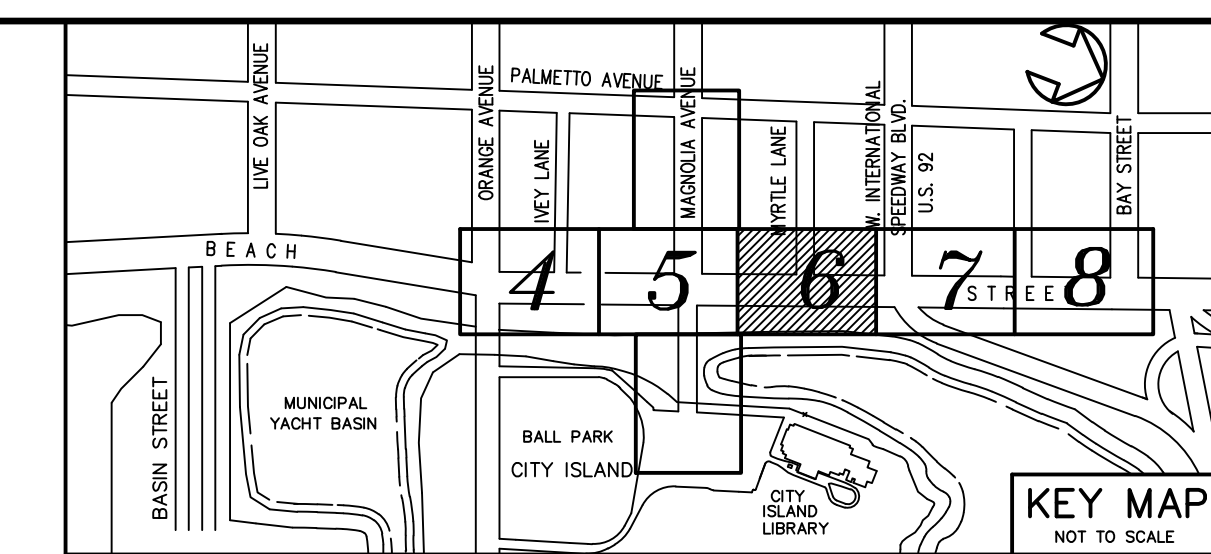
DEMOLITION & EROSION CONTROL PLAN

CITY PROJECT NO. 2018-036
<b>5</b> SHEET NO.
Drawn By: BH
Date: 8-21-18
SCALE: 1"=20'
SEAL

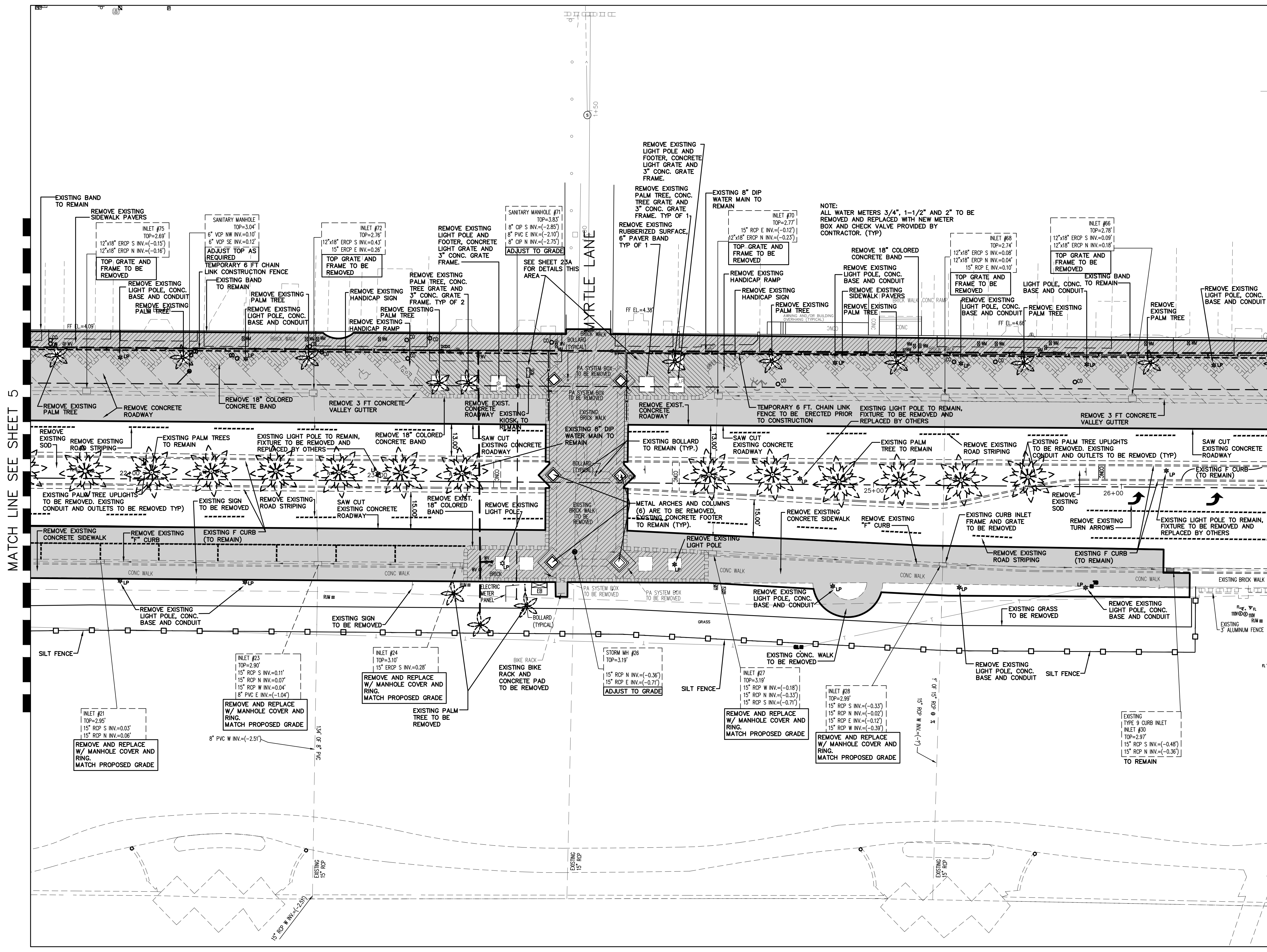
MATCH LINE SEE SHEET 4

MATCH LINE SEE SHEET 6





- DEMOLITION NOTES
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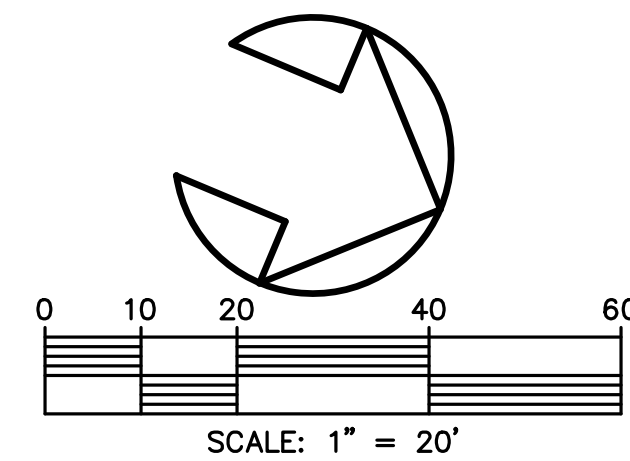
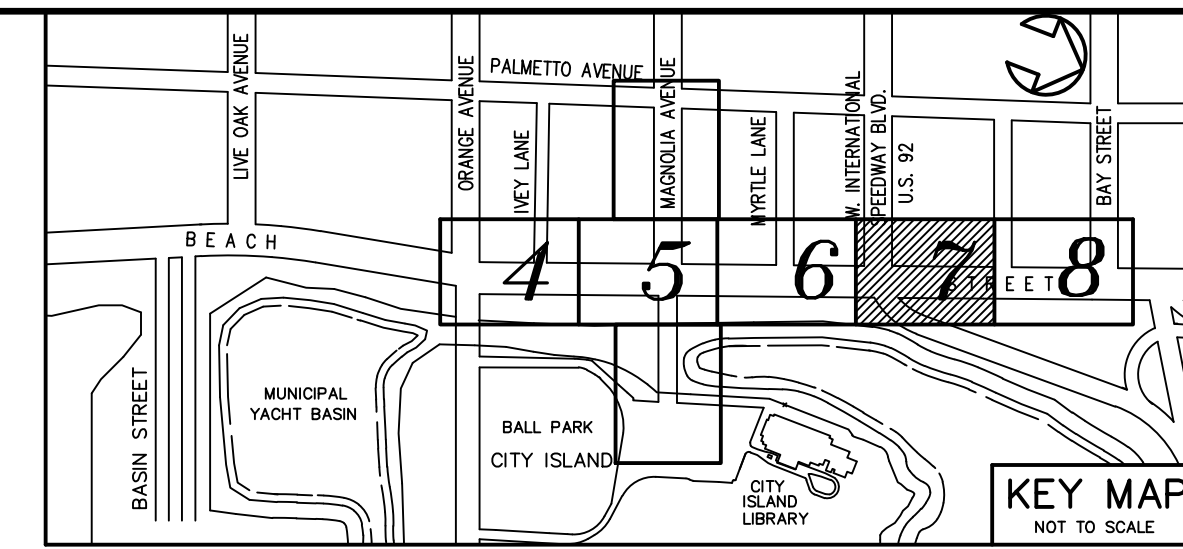
BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 DEMOLITION & EROSION CONTROL PLAN

CITY PROJECT NO. 2018-036
<b>6</b> SHEET NO.
Drawn By: BH
Date: 8-21-18
SCALE: 1"=20'
SEAL

MATCH LINE SEE SHEET 5

MATCH LINE SEE SHEET 7





**LEGEND**

SILT FENCE

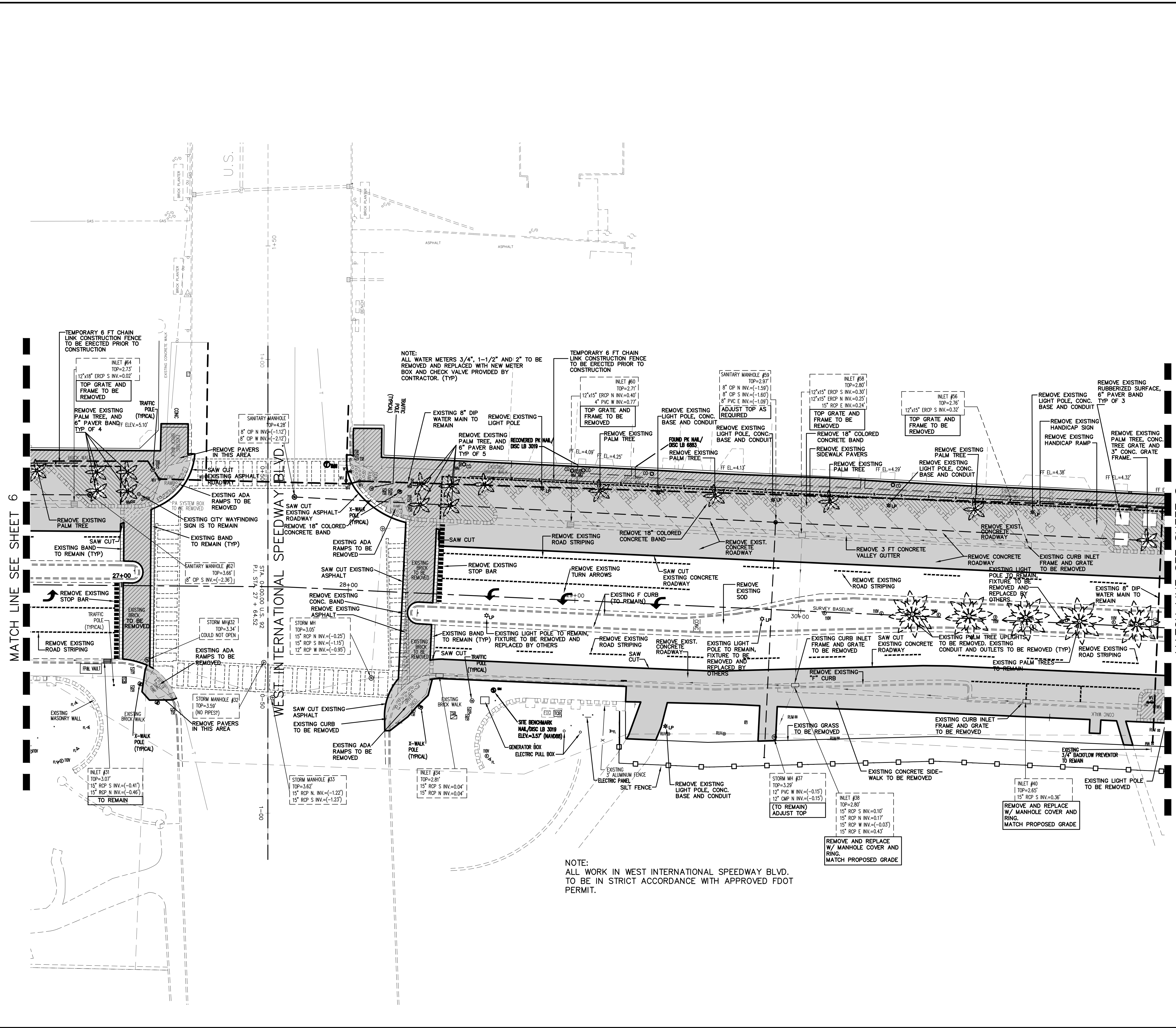
TEMPORARY 6FT CHAIN LINK FENCE

**KEY**

- REMOVE EXISTING CONCRETE
- REMOVE EXISTING PAVERS AND CONCRETE BASE
- EXISTING PAVERS TO BE REMOVED CONCRETE BASE TO REMAIN

**DEMOLITION NOTES**

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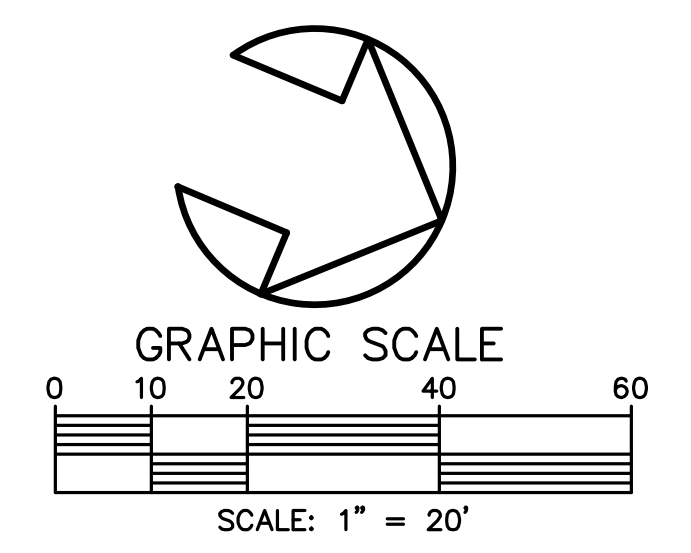
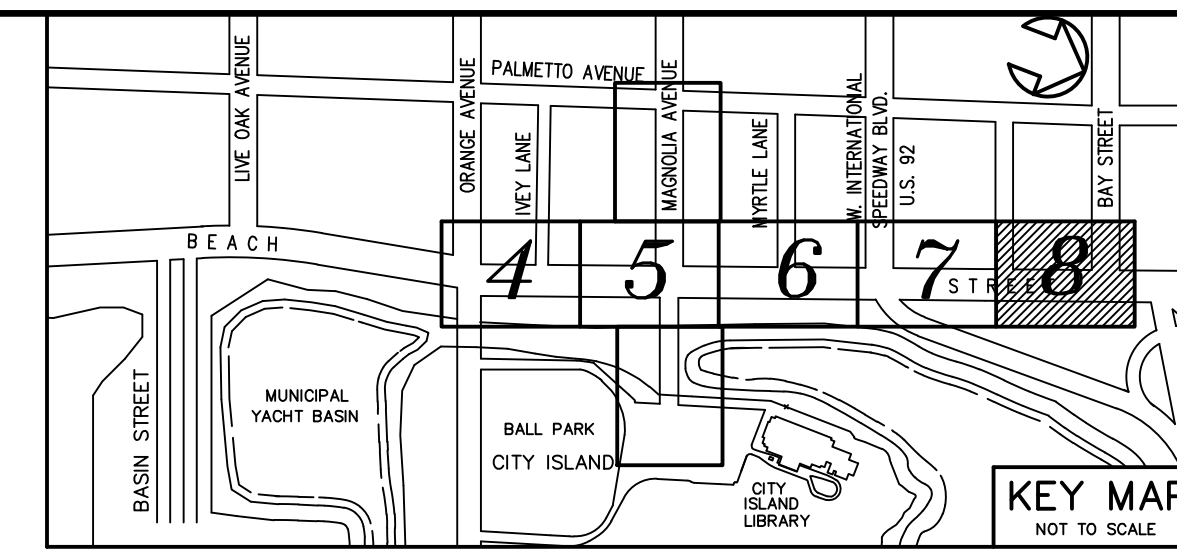
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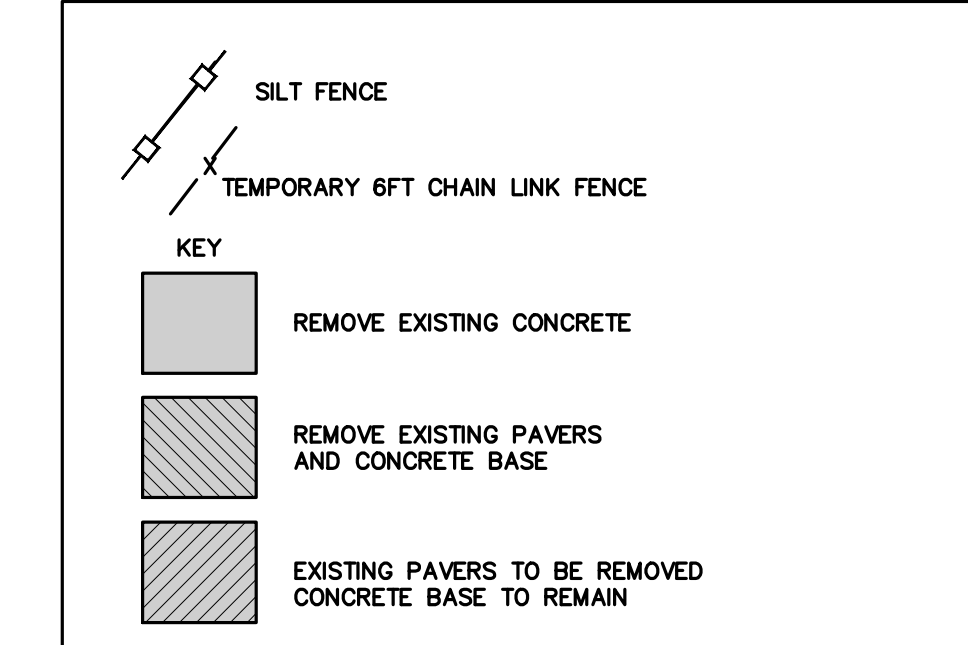
BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 DEMOLITION & EROSION CONTROL PLAN

CITY PROJECT NO. 2018-036
<b>7</b> SHEET NO.
Drawn By: BH
Date: 8-21-18
SCALE: 1"=20'
SEAL

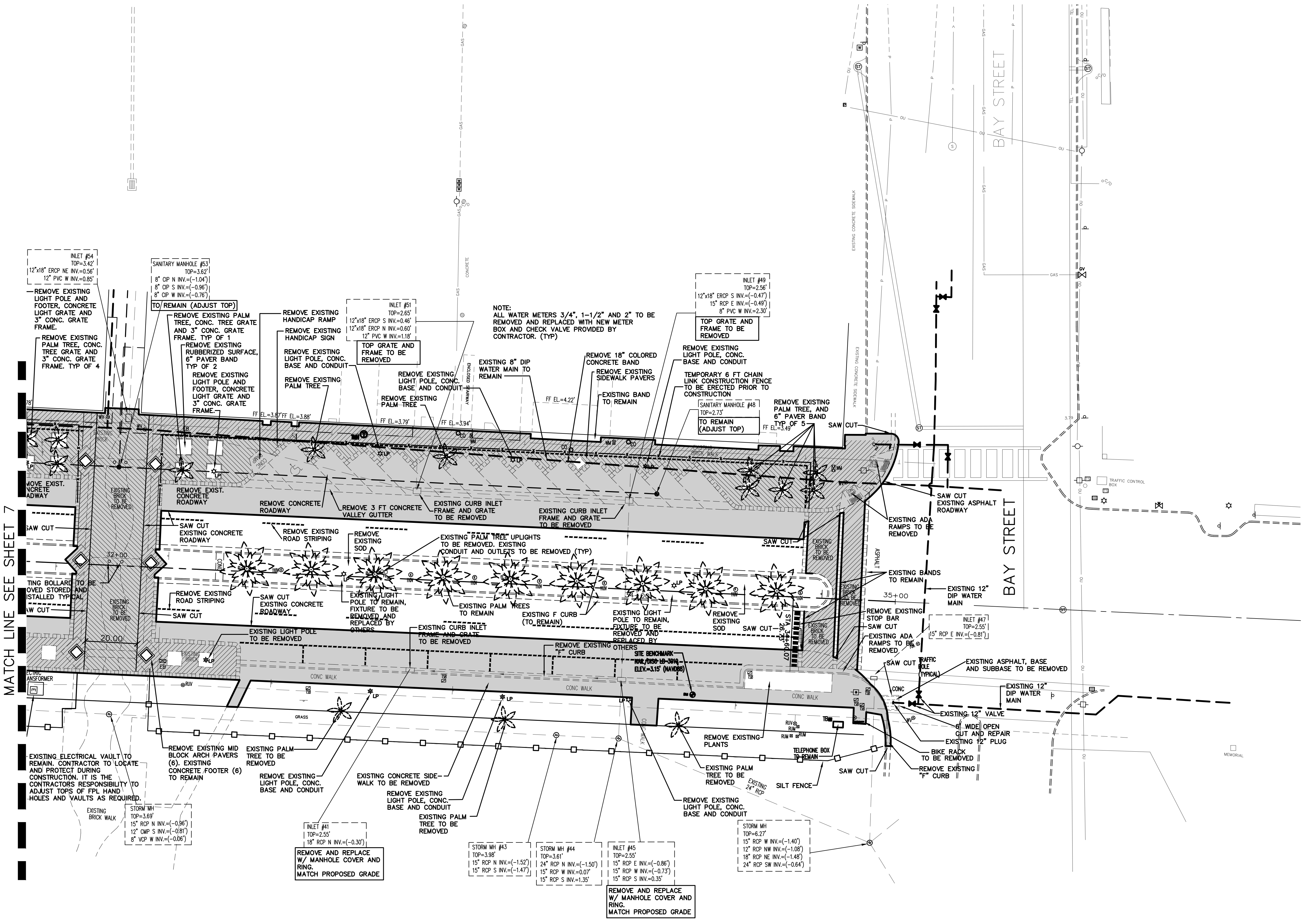




LEGEND



- DEMOLITION NOTES
- 1.) CONTRACTOR TO REMOVE EXISTING PAVERS AND EXCESS EXISTING PAVERS TO BE THE PROPERTY OF THE CONTRACTOR AND TO BE DISPOSED OF IN A LEGAL MANNER.
  - 2.) LIGHT POLES TO BE REMOVED AND SALVAGED, CONTRACTOR TO DELIVER TO CITY PUBLIC WORKS FACILITY AT 950 BELLEVUE AVE. THE CONCRETE BASE IS TO BE REMOVED AND DISPOSED OF AND NOT PART OF THE LIGHT POLE ASSEMBLY.
  - 3.) EXISTING CONDUIT AND WIRE FOR EXISTING UP LIGHTS AND TALL POLE LIGHTS IN MEDIAN, AS WELL AS CONDUIT AND WIRE ASSOCIATED WITH EXISTING LIGHTS ON EAST AND WEST SIDES OF BEACH STREET TO BE ABANDONED IN PLACE, OR BE REMOVED IF INTERFERING WITH NEW INSTALLATION OR FOR SAFETY REASONS. IT IS NOT TO BE REUSED.
  - 4.) ALL EXISTING DRAINAGE STRUCTURES TO REMAIN UNLESS INDICATED TO BE REMOVED. ALL STRUCTURES AND UTILITIES TO BE ADJUSTED AS REQUIRED TO PROPOSED GRADE.
  - 5.) ALL EXISTING BENCHES, BIKE RACKS, PLANTERS AND TRASH RECEPTACLES WILL BE REMOVED AND SALVAGED BY CONTRACTOR TO DELIVER TO CITY PUBLIC WORKS AT 950 BELLEVUE AVENUE.



NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	11-2-18	80% PLANS	BH

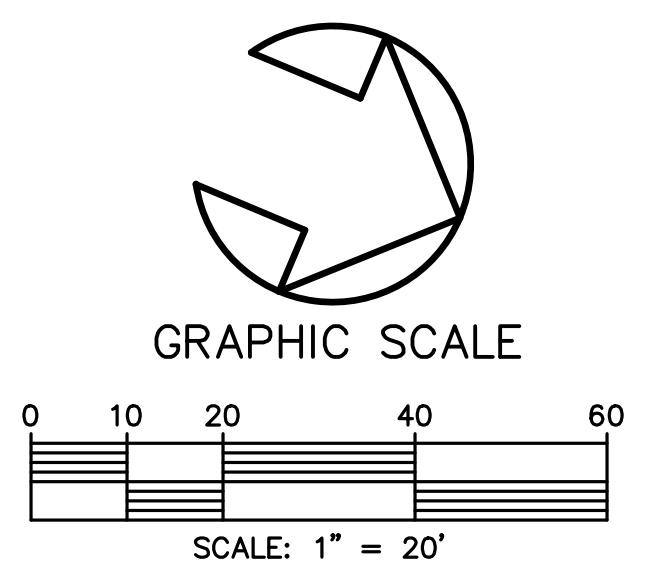
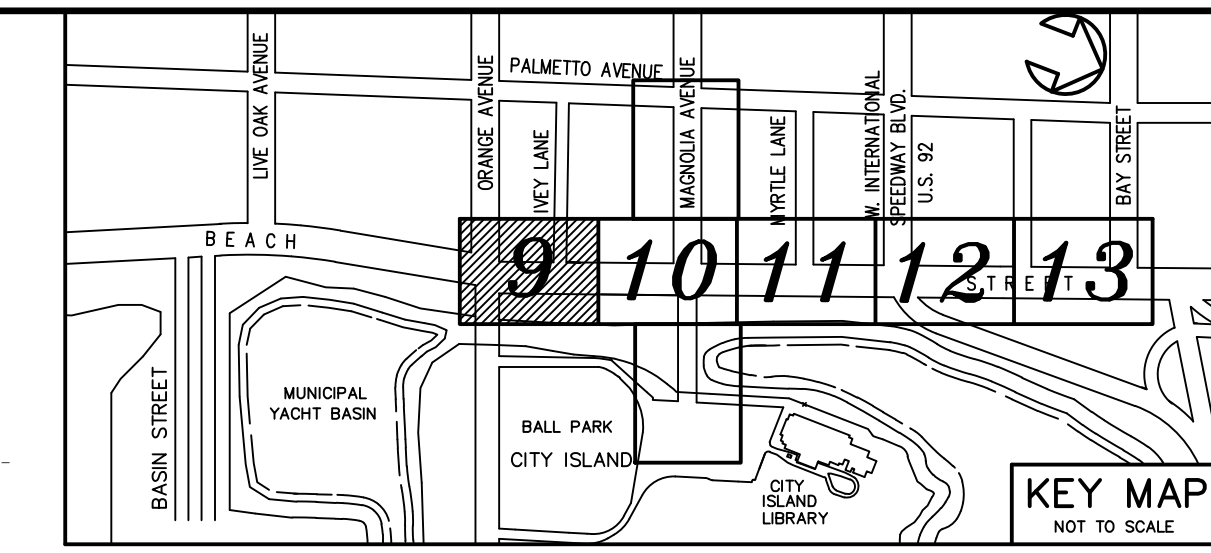
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6681 FAX (386) 677-2114 E-MAIL: info@parkermychenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
**DEMOLITION & EROSION CONTROL PLAN**

CITY PROJECT NO.  
 2018-036  
 SHEET NO.  
 8  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL





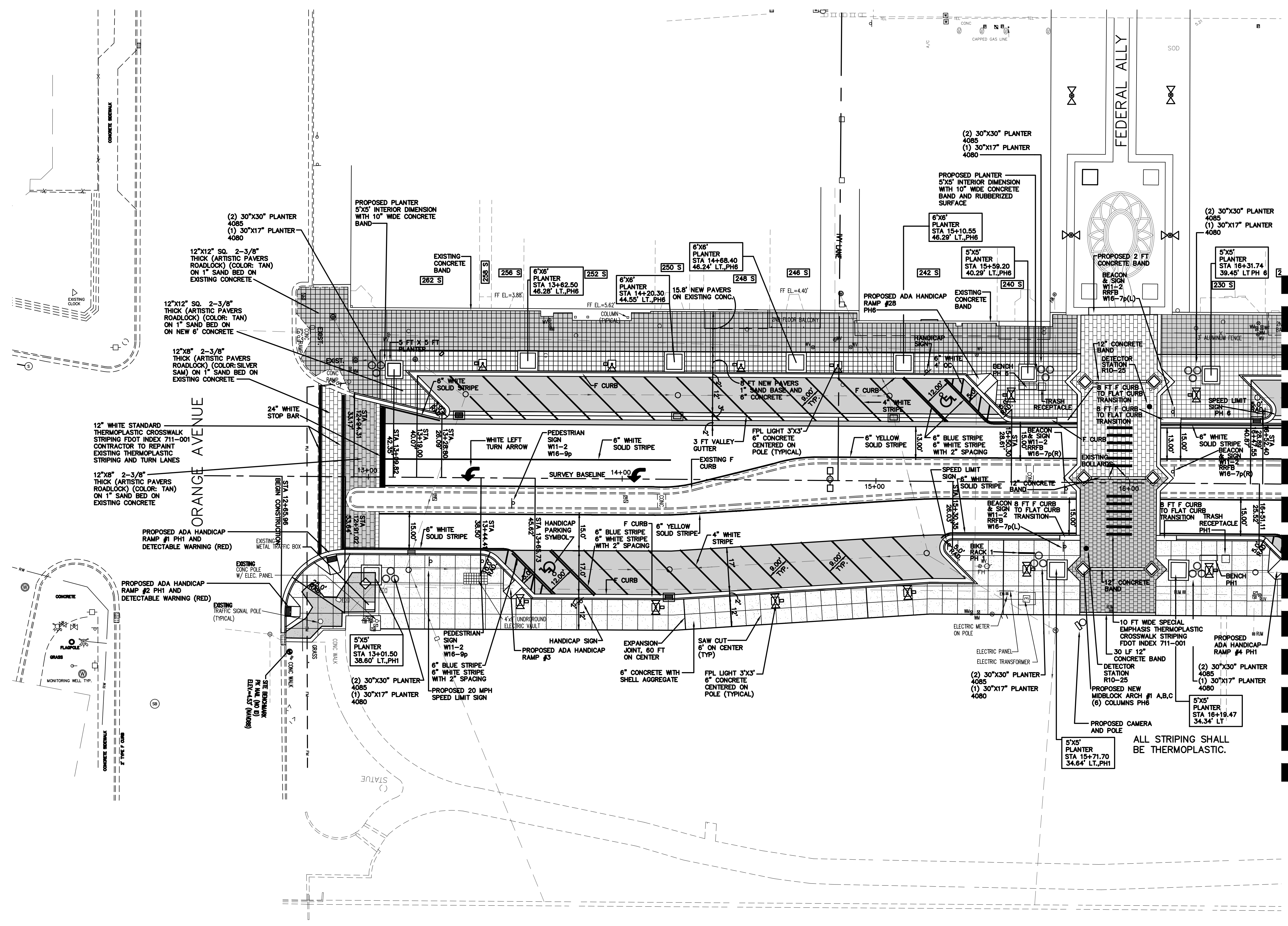
NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-28-19	80% PLANS	BH
1	12-18-18	80% PLANS	BH

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 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH, FLORIDA  
 HORIZONTAL CONTROL, STRIPING &  
 SIGNAGE PLAN

CITY PROJECT NO.  
 2018-036  
**9**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL



LEGEND

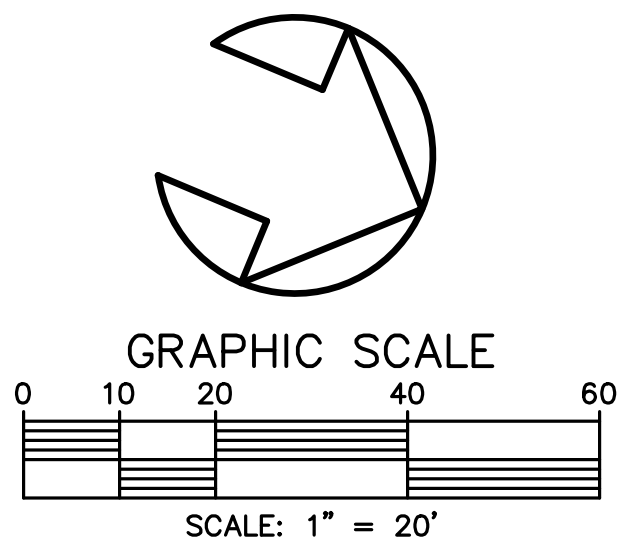
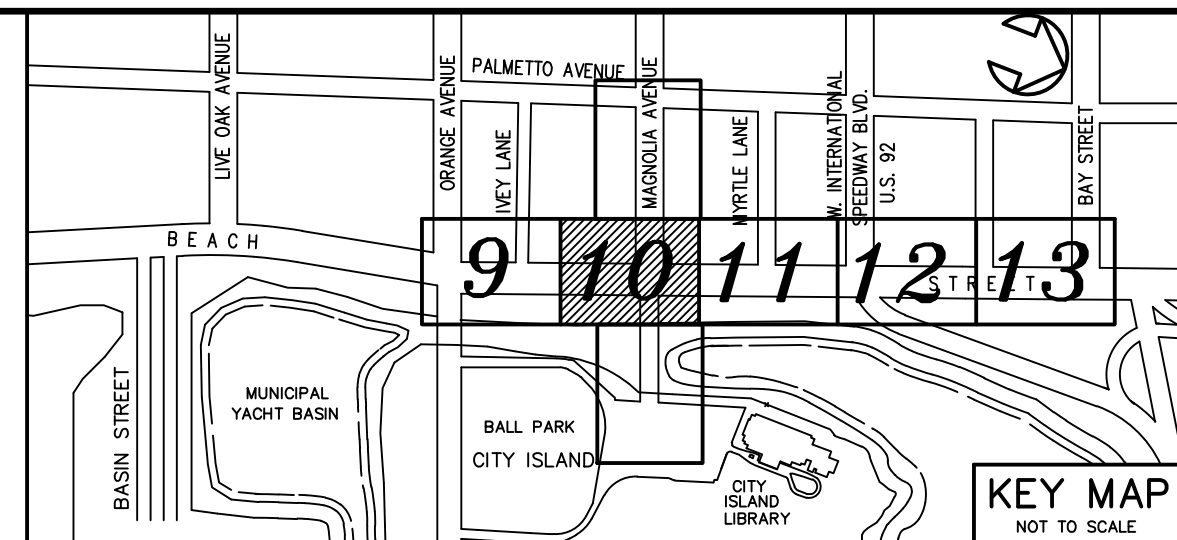
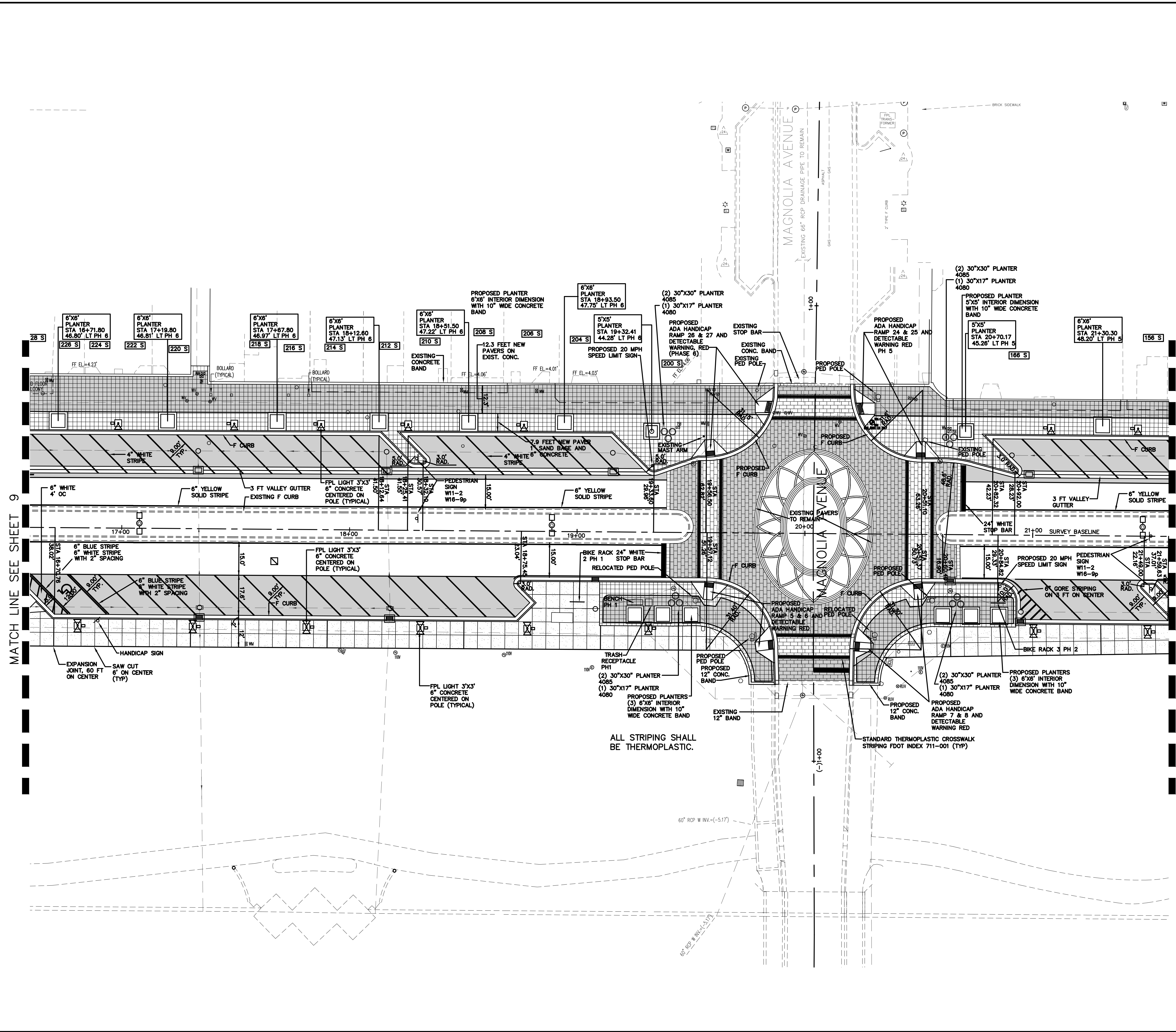
[Symbol]	STREET ADDRESS
[Symbol]	8" CONCRETE PAVEMENT 1 FT COMPACTED SUBBASE COMPACTED TO 98% MODIFIED PROCTOR T-180 TO A DEPTH 1 FT BELOW 8" CONCRETE
[Symbol]	12"x12" SQUARE 2-3/8" THICK CONCRETE PAVER (ARTISTIC PAVERS ROADLOCK) (COLOR: TAN) ON 1" SAND BED ON NEW 6" CONCRETE
[Symbol]	12"x12" SQUARE 2-3/8" THICK CONCRETE PAVER (ARTISTIC PAVERS ROADLOCK) (COLOR: TAN) ON 1" SAND BED ON EXISTING CONCRETE
[Symbol]	6" CONCRETE WITH SHELL AGGREGATE, 6" x 6" TOOLED JOINT ON COMPACTED BASE, COMPACTED TO 98% T-180 TO A DEPTH OF 1 FOOT BELOW CONCRETE
[Symbol]	12"x8" RECTANGLE 2-3/8" THICK CONCRETE PAVER (ARTISTIC PAVERS ROADLOCK) (COLOR: SILVER SAM) ON 1" SAND BED ON EXISTING CONCRETE
[Symbol]	12"x8" RECTANGLE 2-3/8" THICK CONCRETE PAVER (ARTISTIC PAVERS ROADLOCK) (COLOR: TAN) ON 1" SAND BED ON EXISTING CONCRETE
[Symbol]	12"x8" RECTANGLE 2-3/8" THICK CONCRETE PAVER (ARTISTIC PAVERS ROADLOCK) (COLOR: SILVER SAM) ON 1" SAND BED ON PROPOSED 6" CONCRETE BASE ON 1 FOOT COMPACTED SUBBASE TO 98% MODIFIED PROCTOR T-180 TO A DEPTH 1 FOOT BELOW CONCRETE

NOTE:  
 CONTRACTOR TO PROVIDE A 3'X3'  
 BOX OUT IN THE SIDEWALK AT  
 LOCATIONS WHERE FP&L IS TO  
 INSTALL DECORATIVE LIGHTS AT A  
 LATER DATE. CONTRACTOR TO FINISH  
 THE SIDEWALK WITHIN 21 DAYS  
 AFTER LIGHTS ARE INSTALLED.

ALL STRIPING SHALL  
 BE THERMOPLASTIC.

MATCH LINE SEE SHEET 10





**LEGEND**

[Symbol]	STREET ADDRESS
[Symbol]	8" CONCRETE PAVEMENT 1 FT COMPACTED SUBBASE COMPACTED TO 98% MODIFIED PROCTOR T-180 TO A DEPTH 1 FT BELOW 6" CONCRETE
[Symbol]	12"x12" SQUARE 2-3/8" THICK CONCRETE PAVER (ARTISTIC PAVERS ROADLOCK) (COLOR: TAN) ON 1" SAND BED ON NEW 6" CONCRETE
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NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
			BY

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 HORIZONTAL CONTROL, STRIPING &  
 SIGNAGE PLAN

CITY PROJECT NO.  
2018-036  
**10**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

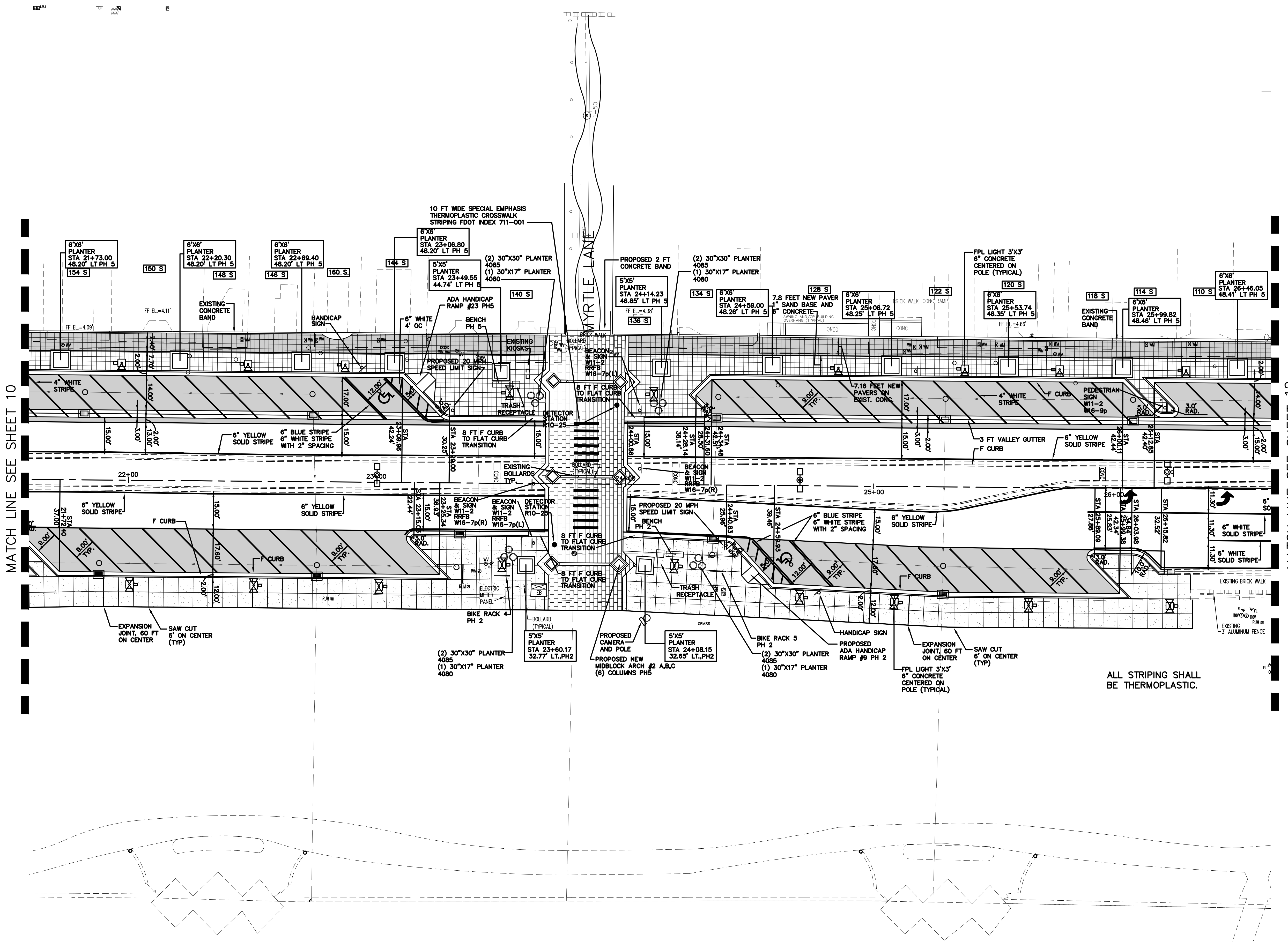
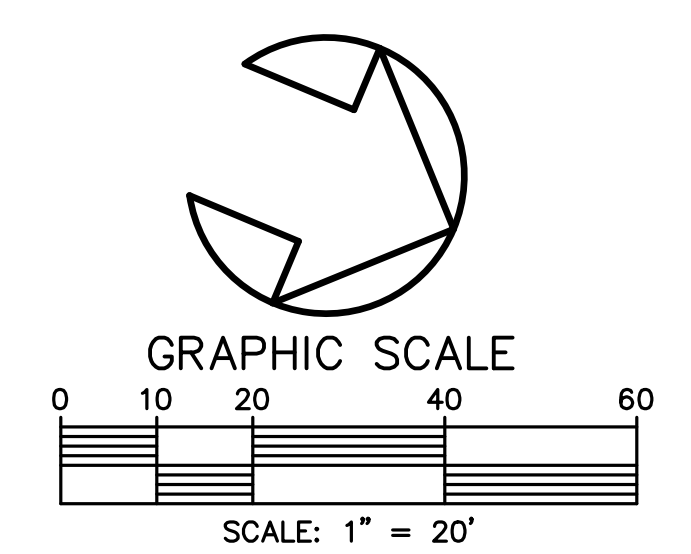
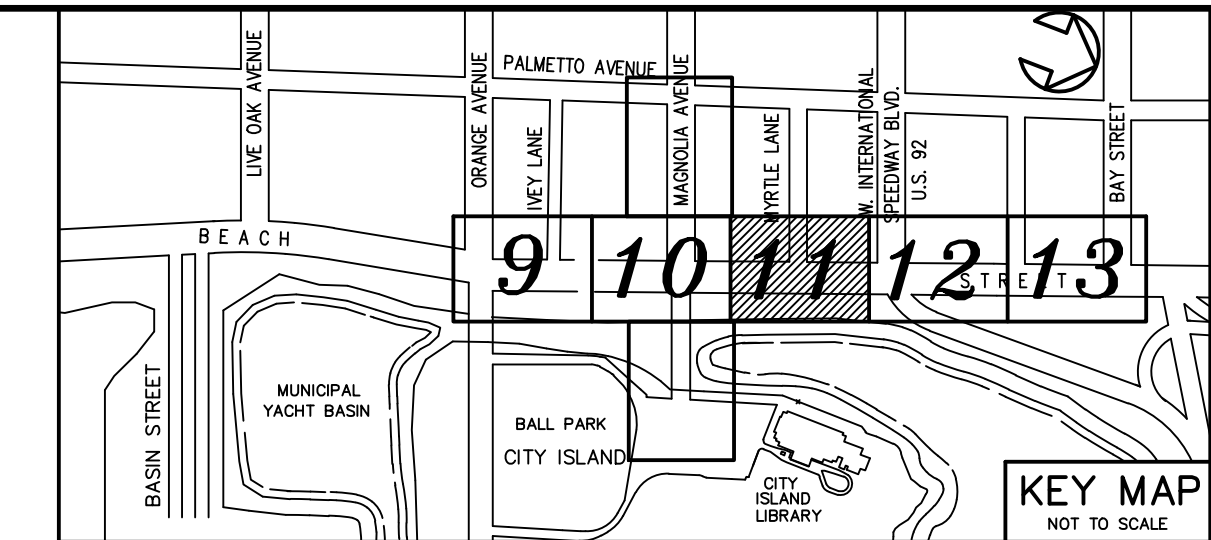
SEAL

MATCH LINE SEE SHEET 9

MATCH LINE SEE SHEET 11

ALL STRIPING SHALL  
BE THERMOPLASTIC.





**LEGEND**

[Symbol]	242 S STREET ADDRESS
[Symbol]	8" CONCRETE PAVEMENT 1 FT COMPACTED SUBBASE COMPACTED TO 98% MODIFIED PROCTOR T-180 TO A DEPTH 1 FT BELOW 8" CONCRETE
[Symbol]	12"x12" SQUARE 2-3/8" THICK CONCRETE PAVER (ARTISTIC PAVERS ROADLOCK) (COLOR: TAN) ON 1" SAND BED ON NEW 6" CONCRETE
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3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH

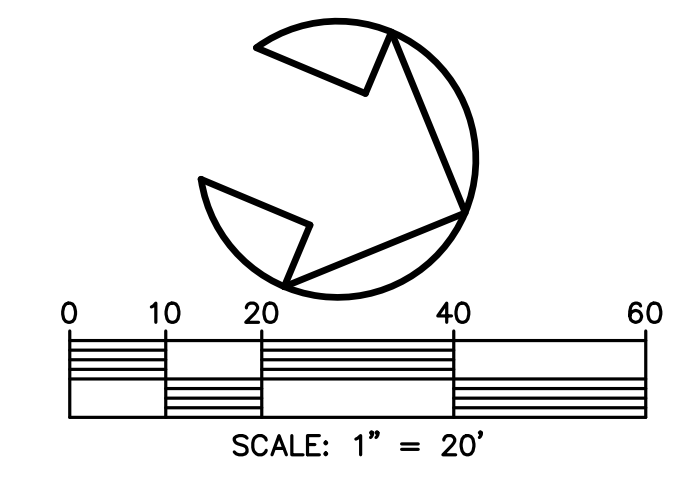
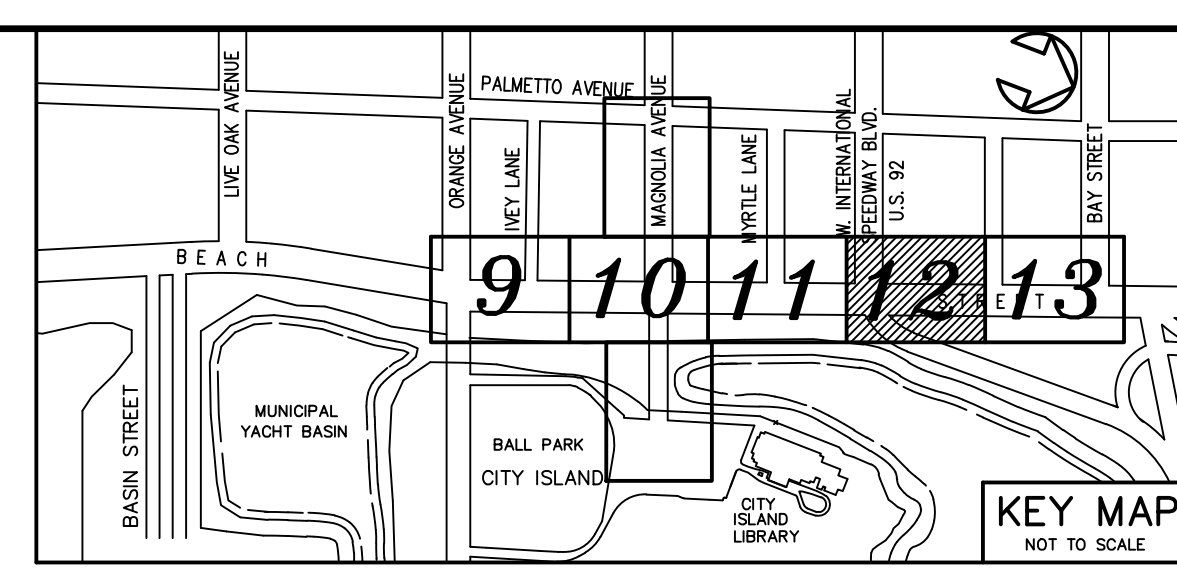
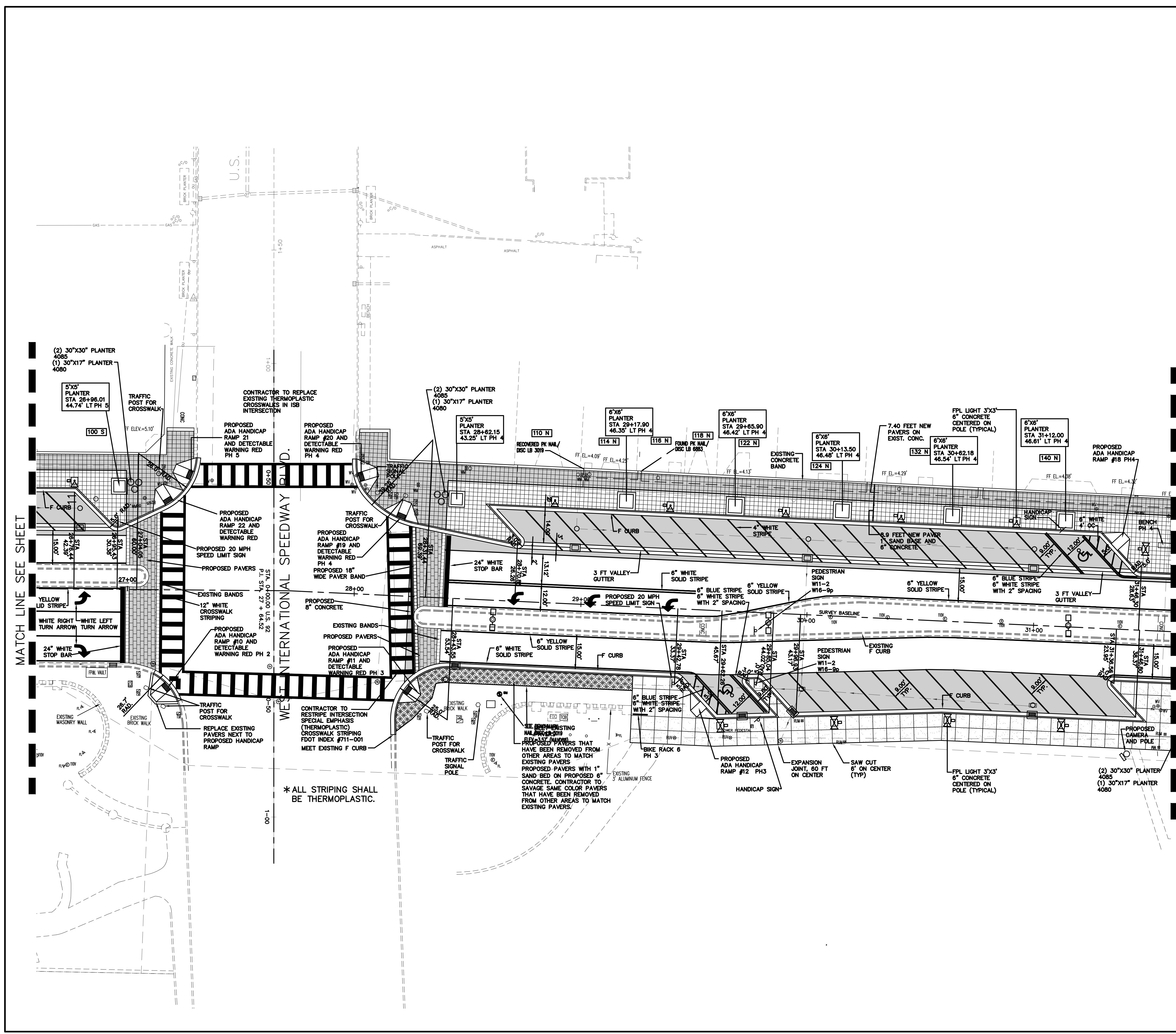
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermychenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 HORIZONTAL CONTROL, STRIPING &  
 SIGNAGE PLAN

CITY PROJECT NO. 2018-036
<b>11</b> SHEET NO.
Drawn By: BH
Date: 8-21-18
SCALE: 1"=20'

SEAL





**LEGEND**

[Symbol]	242 S STREET ADDRESS
[Symbol]	8" CONCRETE PAVEMENT 1 FT COMPACTED SUBBASE PROCTOR 1-180 TO A DEPTH 1 FT BELOW 8" CONCRETE
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4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH

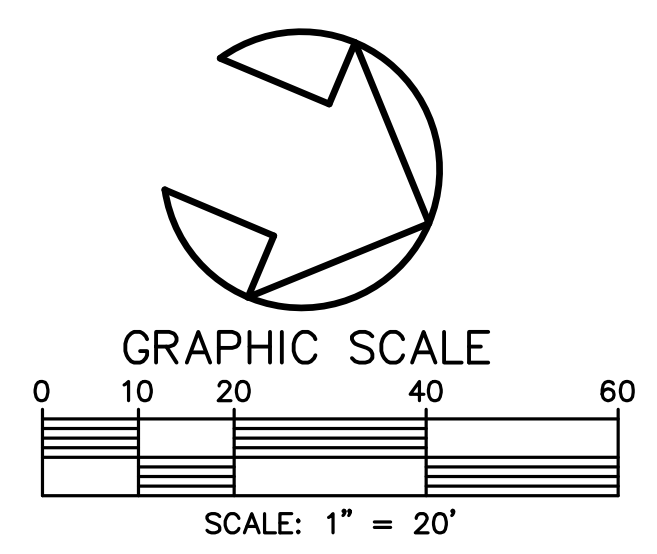
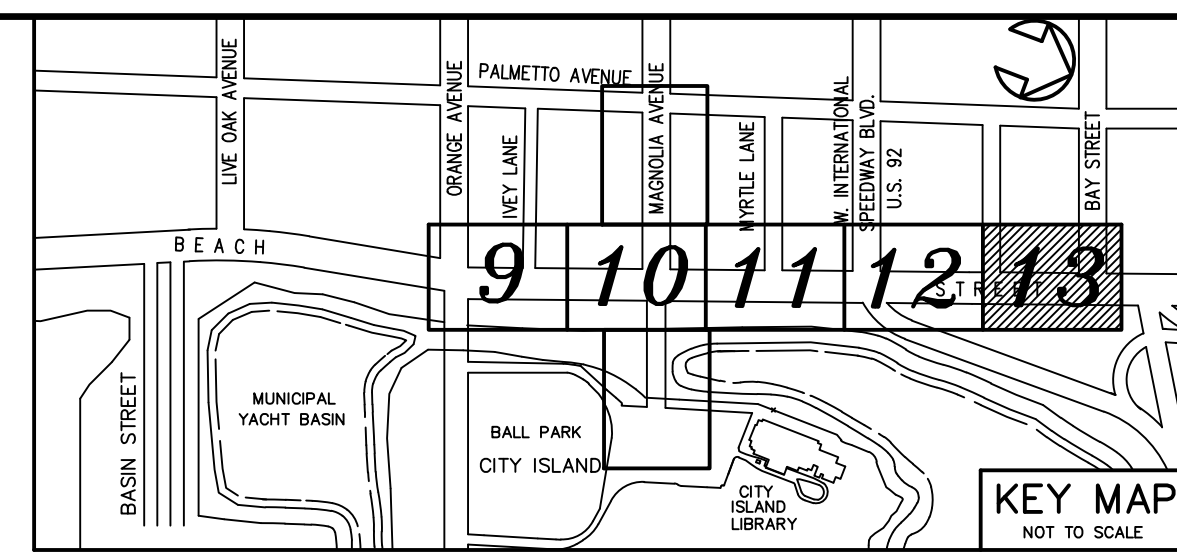
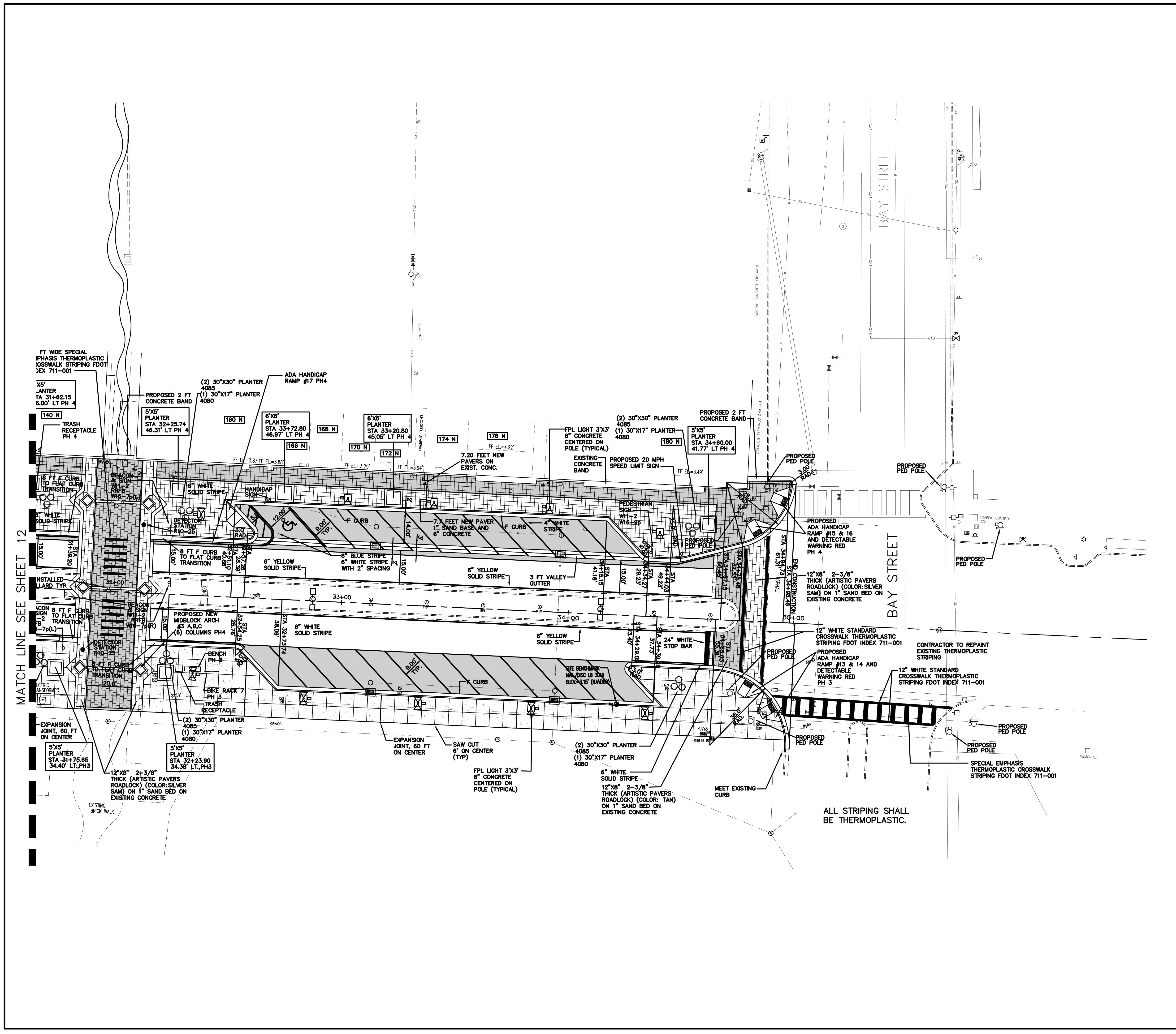
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6881 FAX (386) 677-2114 E-MAIL: info@parkermychenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 000603910

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 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
**HORIZONTAL CONTROL, STRIPING & SIGNAGE PLAN**

CITY PROJECT NO.  
2018-036  
**12**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL





**LEGEND**

[Symbol]	242 S STREET ADDRESS
[Symbol]	8" CONCRETE PAVEMENT 1 FT COMPACTED SUBBASE COMPACTED TO 98% MODIFIED PROCTOR T-180 TO A DEPTH 1 FT BELOW 8" CONCRETE
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NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH

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 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

**BEACH STREET STREETScape**  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
**HORIZONTAL CONTROL, STRIPING & SIGNAGE PLAN**

CITY PROJECT NO.  
2018-036

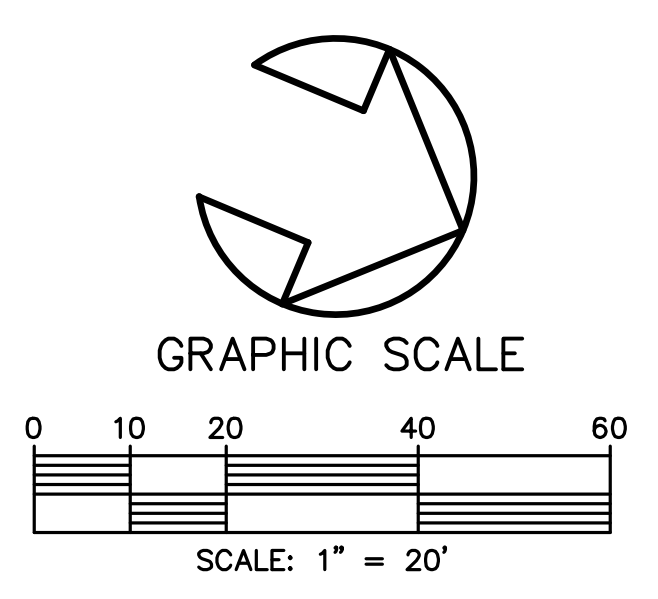
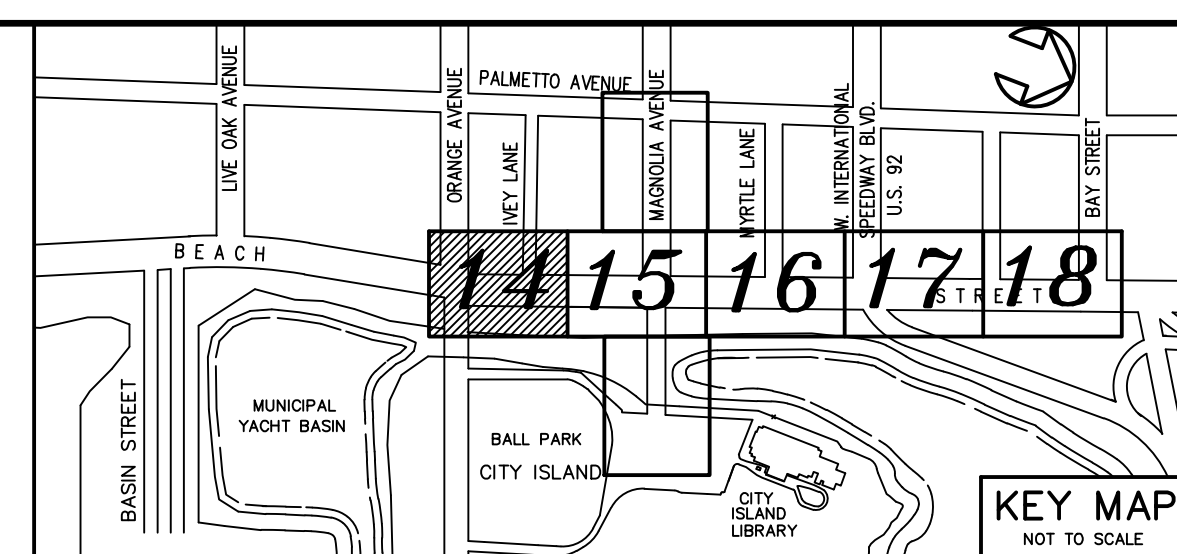
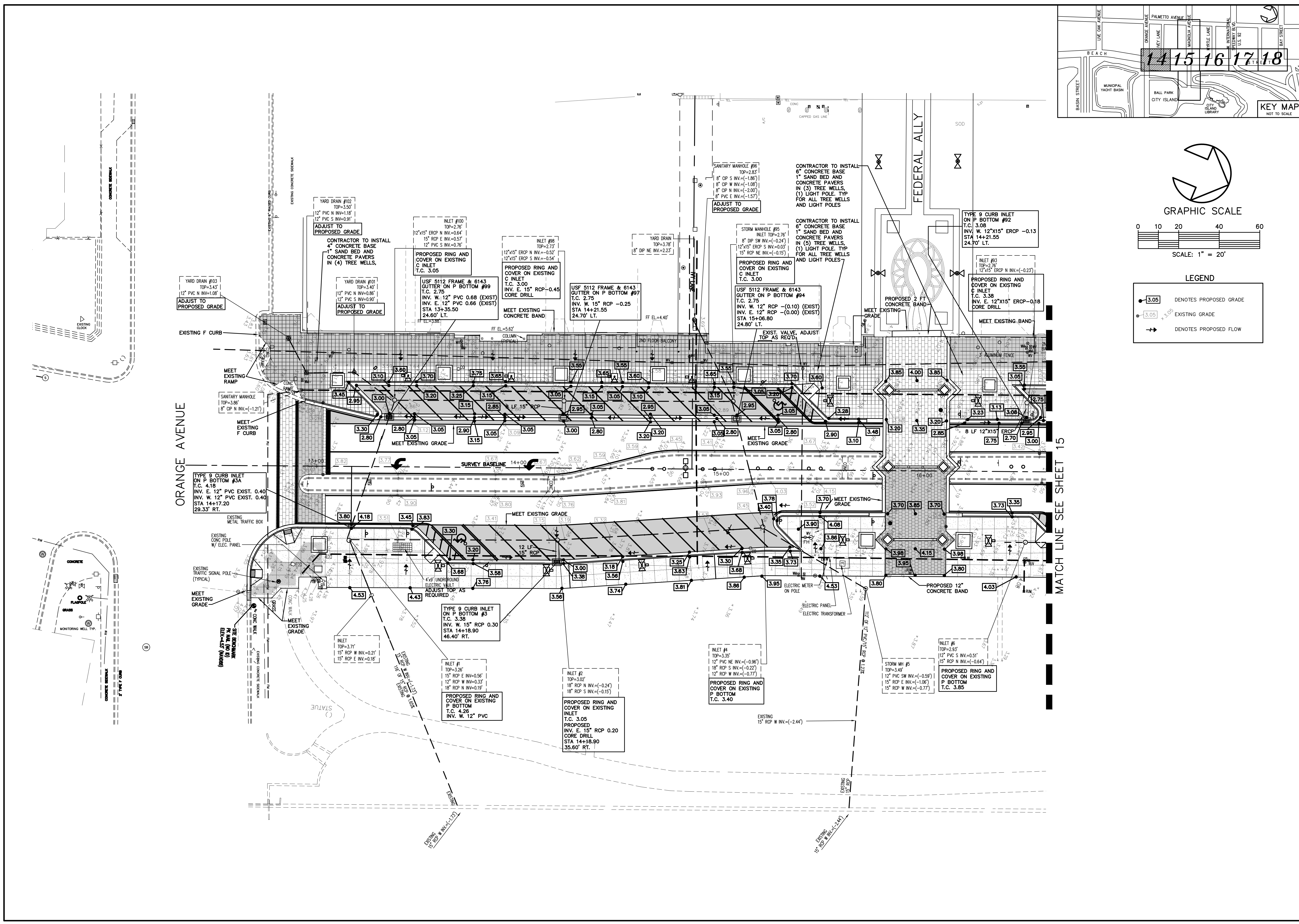
**13**  
SHEET NO.

Drawn By: BH  
Date: 8-21-18  
SCALE: 1"=20'

SEAL

MATCH LINE SEE SHEET 12





NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	11-2-18	60% PLANS	BH

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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 CERTIFICATE OF AUTHORIZATION NUMBER 00003810

BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA

OVERALL PAVING & DRAINAGE PLAN

CITY PROJECT NO.  
2018-036

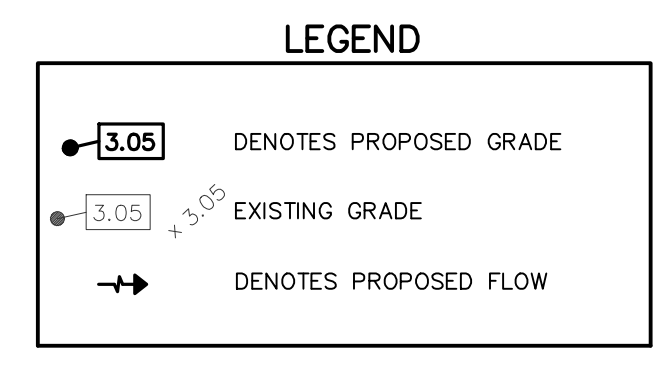
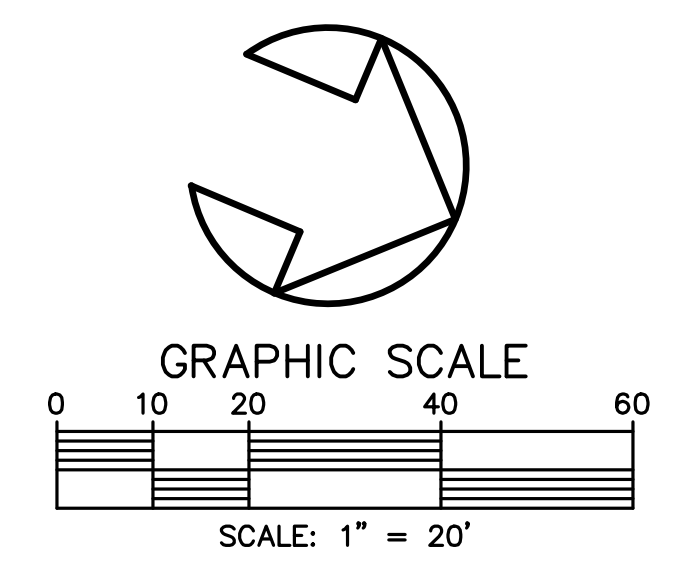
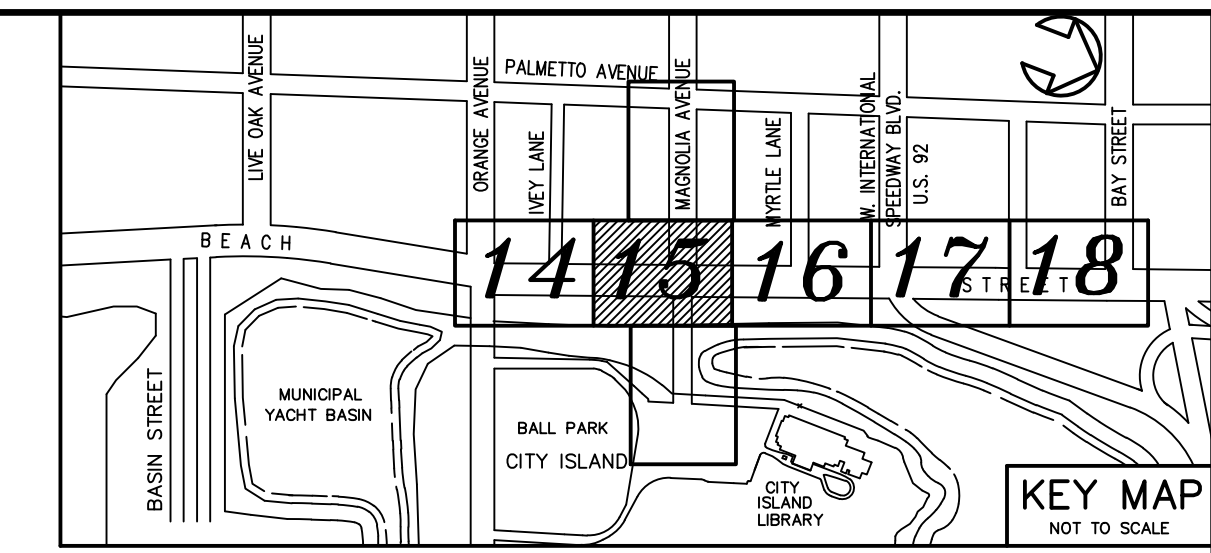
**14**  
SHEET NO.

Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL

Z:\Beach Street - Orange to Bay - 18-311831-SP13-ANGLED PARKING BOTH SIDES.dwg, 8/15/2019 2:07:55 PM, DWG to PDF.pc3





NO.	DATE	DESCRIPTION	REVISIONS
1	12-18-18	80% PLANS	BH
2	2-28-19	90% PLANS	BH
3	7-9-19	100% PLANS	BH
4	8-13-19	BID SET	BH

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 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA

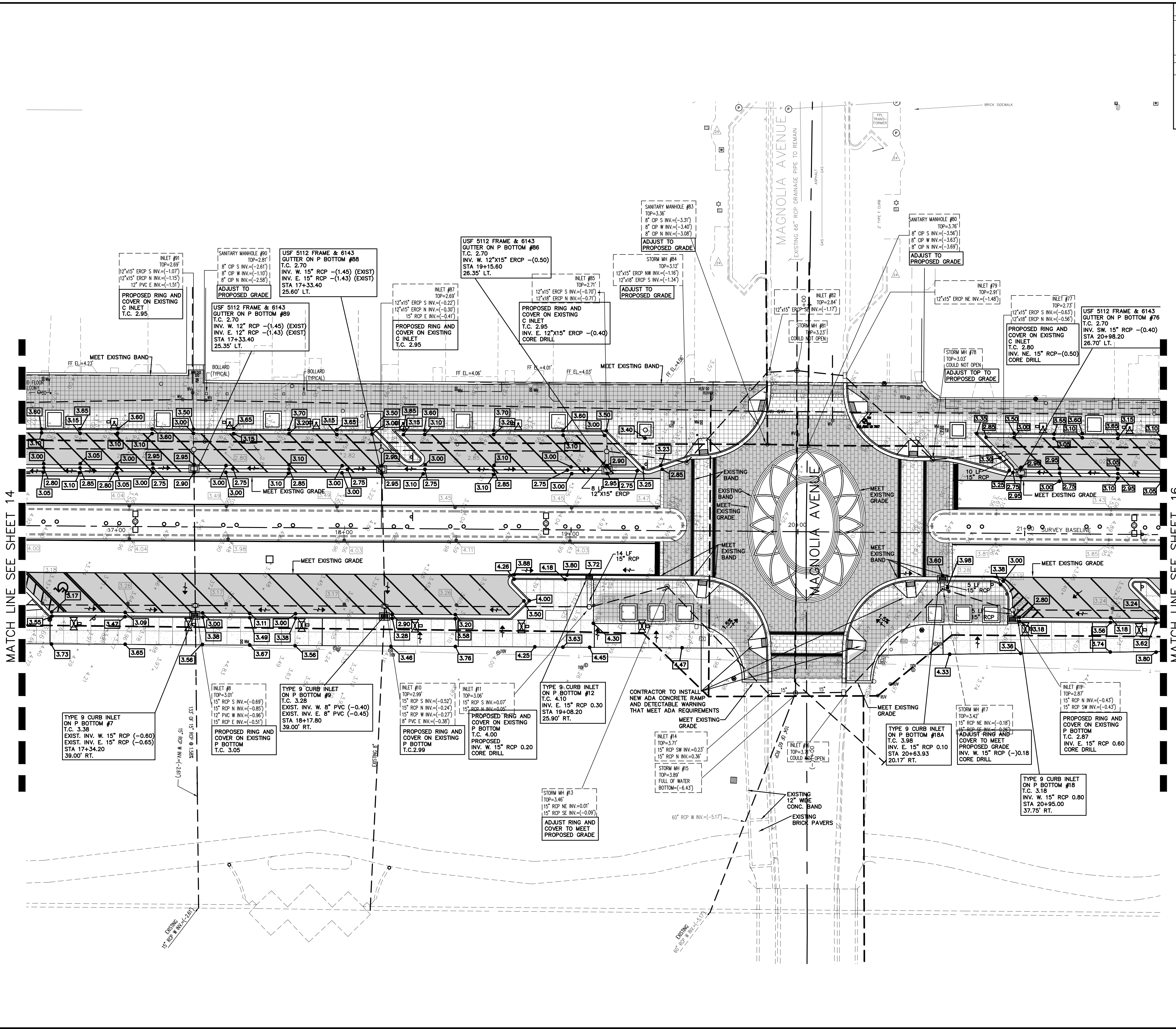
OVERALL PAVING & DRAINAGE PLAN

CITY PROJECT NO.  
 2018-036

**15**  
 SHEET NO.

Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL

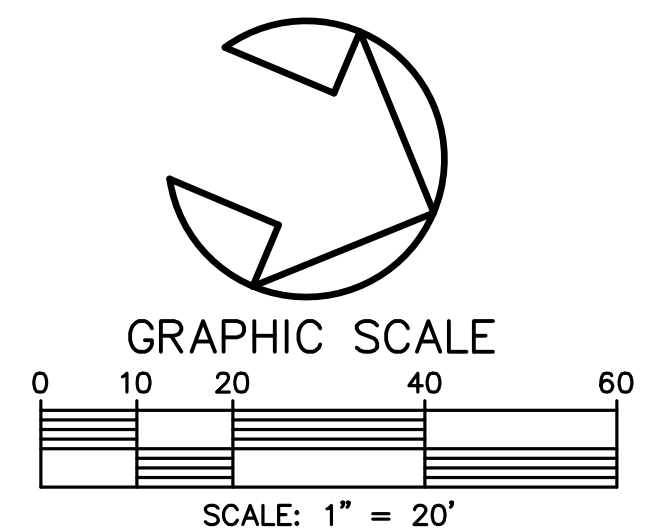
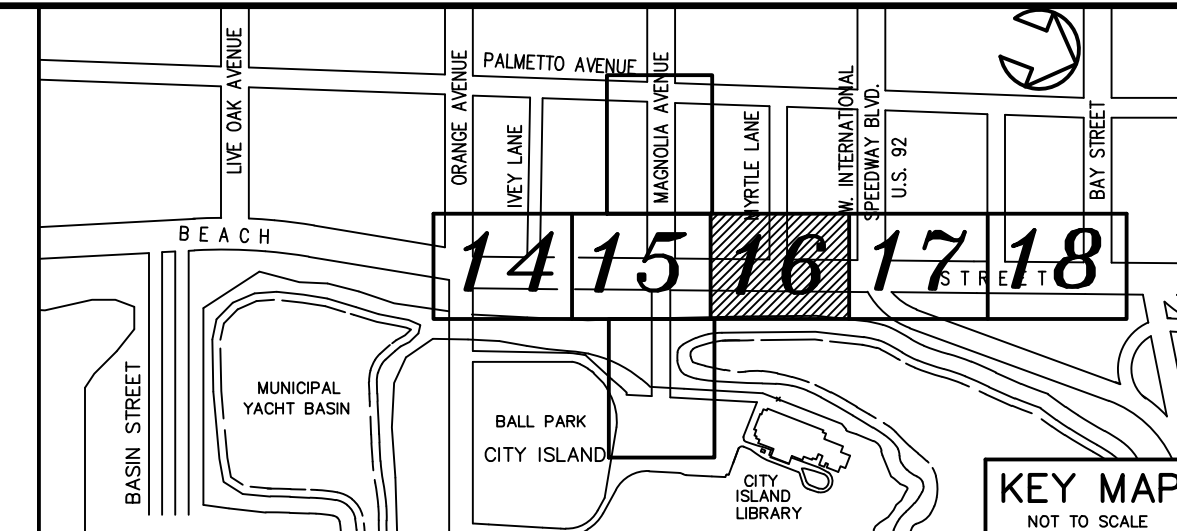
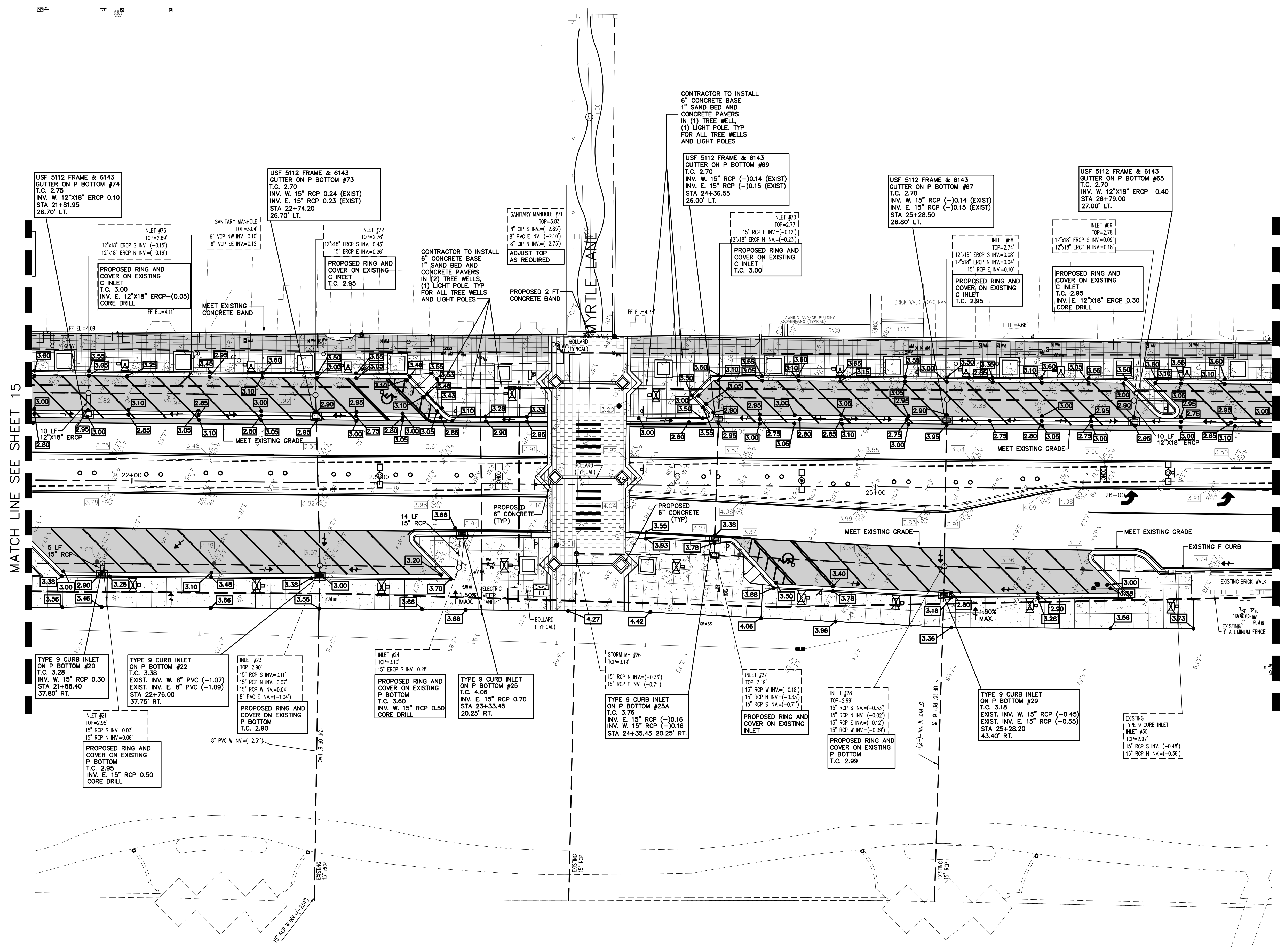


MATCH LINE SEE SHEET 14

MATCH LINE SEE SHEET 16

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MATCH LINE SEE SHEET 15

MATCH LINE SEE SHEET 17

NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
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 (386) 677-6891 FAX (386) 677-2144 E-MAIL: info@parkermychenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

**BEACH STREET STREETScape**  
**ORANGE TO BAY**  
 DAYTONA BEACH \* FLORIDA

**OVERALL PAVING & DRAINAGE PLAN**

CITY PROJECT NO.  
2018-036

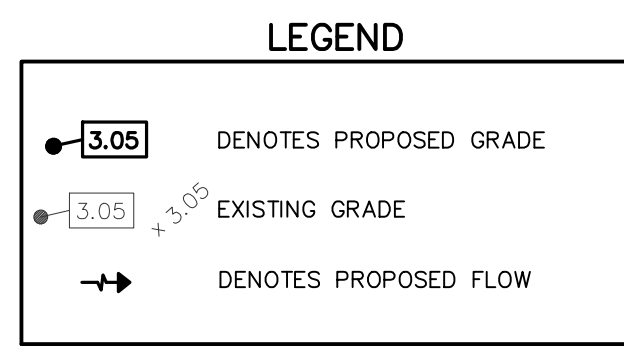
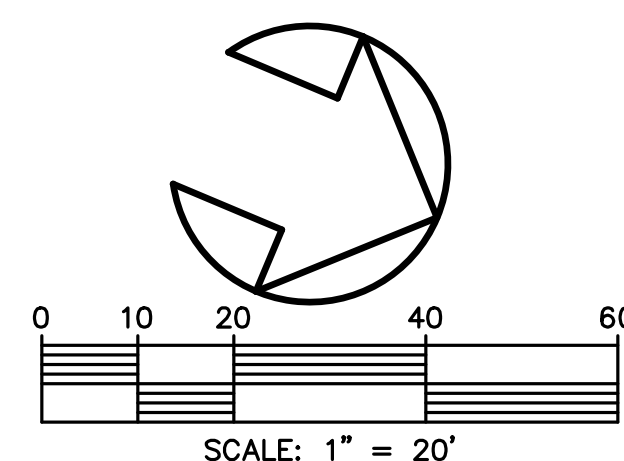
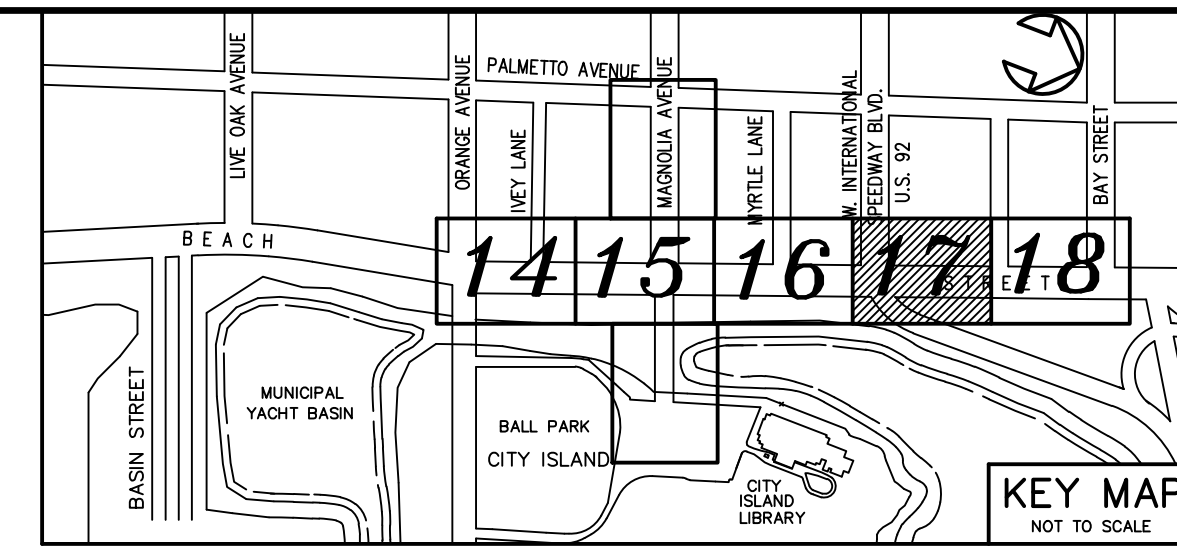
**16**  
SHEET NO.

Drawn By: BH  
Date: 8-21-18  
SCALE: 1"=20'

SEAL

Z:\Beach Street - Orange to Bay - 18-311831-SP13-ANGLED PARKING BOTH SIDES.dwg, 8/15/2019 2:08:49 PM, DWG to PDF.plt





NO.	DATE	DESCRIPTION
1	12-18-18	60% PLANS
2	2-25-19	90% PLANS
3	7-9-19	100% PLANS
4	8-13-19	BID SET
BH		
BH		
BH		
BH		
BY		

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 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 877-8891 FAX (386) 877-2114 E-MAIL: info@parkermynchenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH, FLORIDA

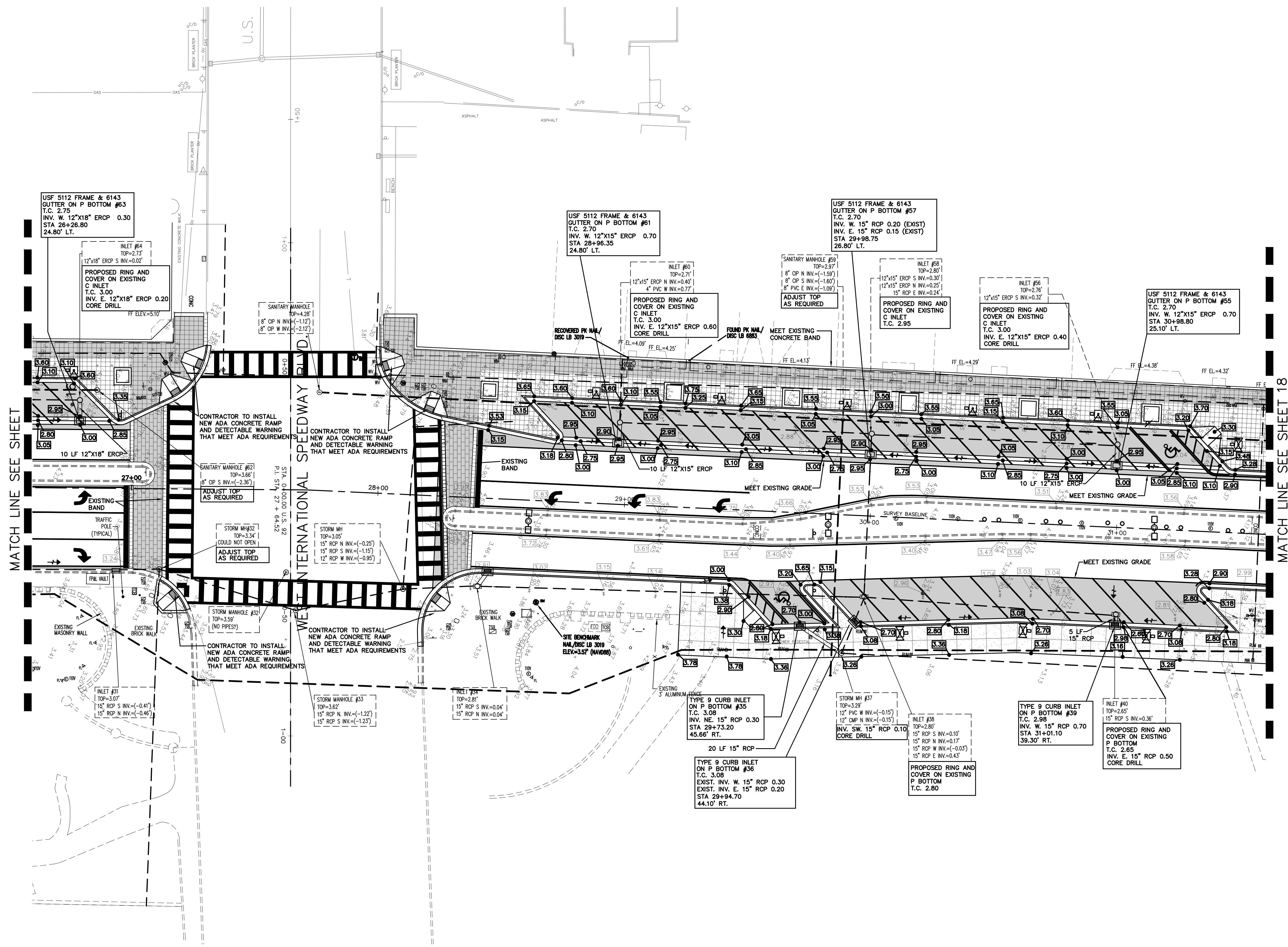
OVERALL PAVING & DRAINAGE PLAN

CITY PROJECT NO.  
 2018-036

**17**  
 SHEET NO.

Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

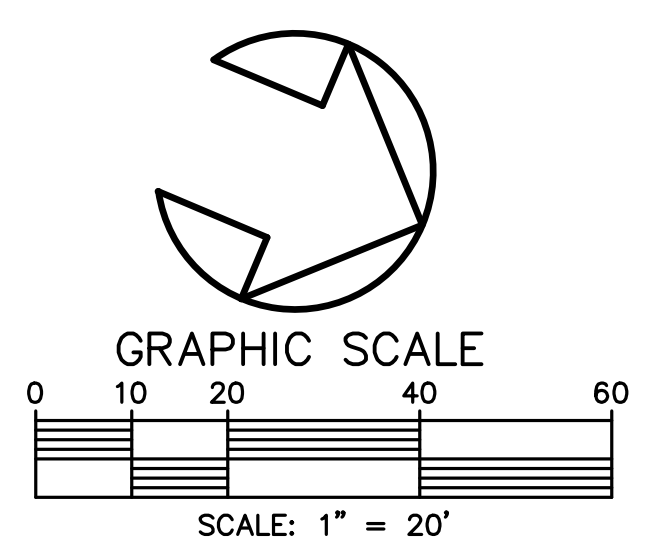
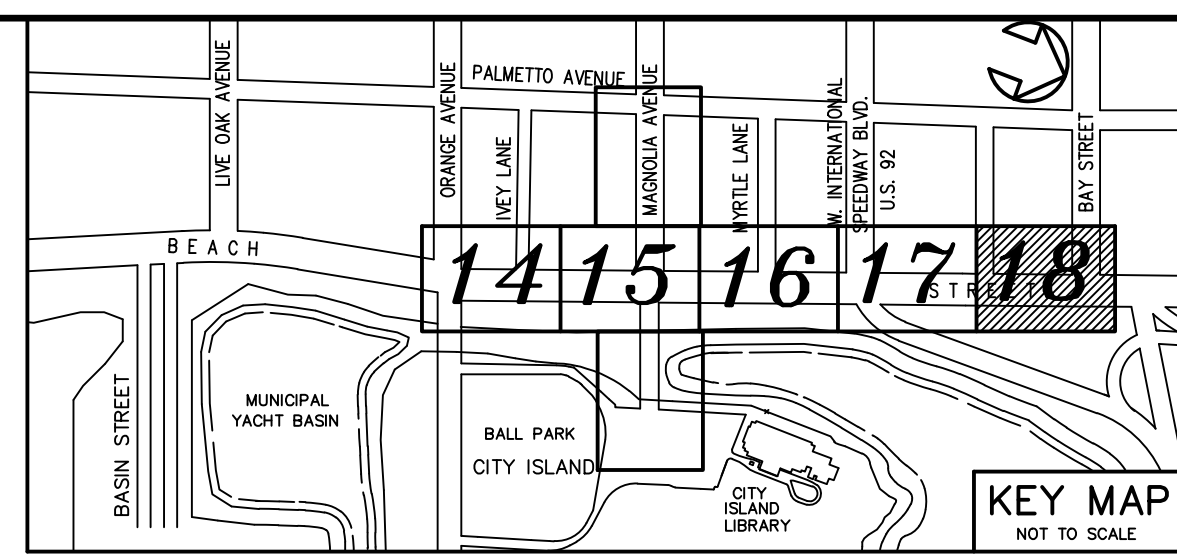
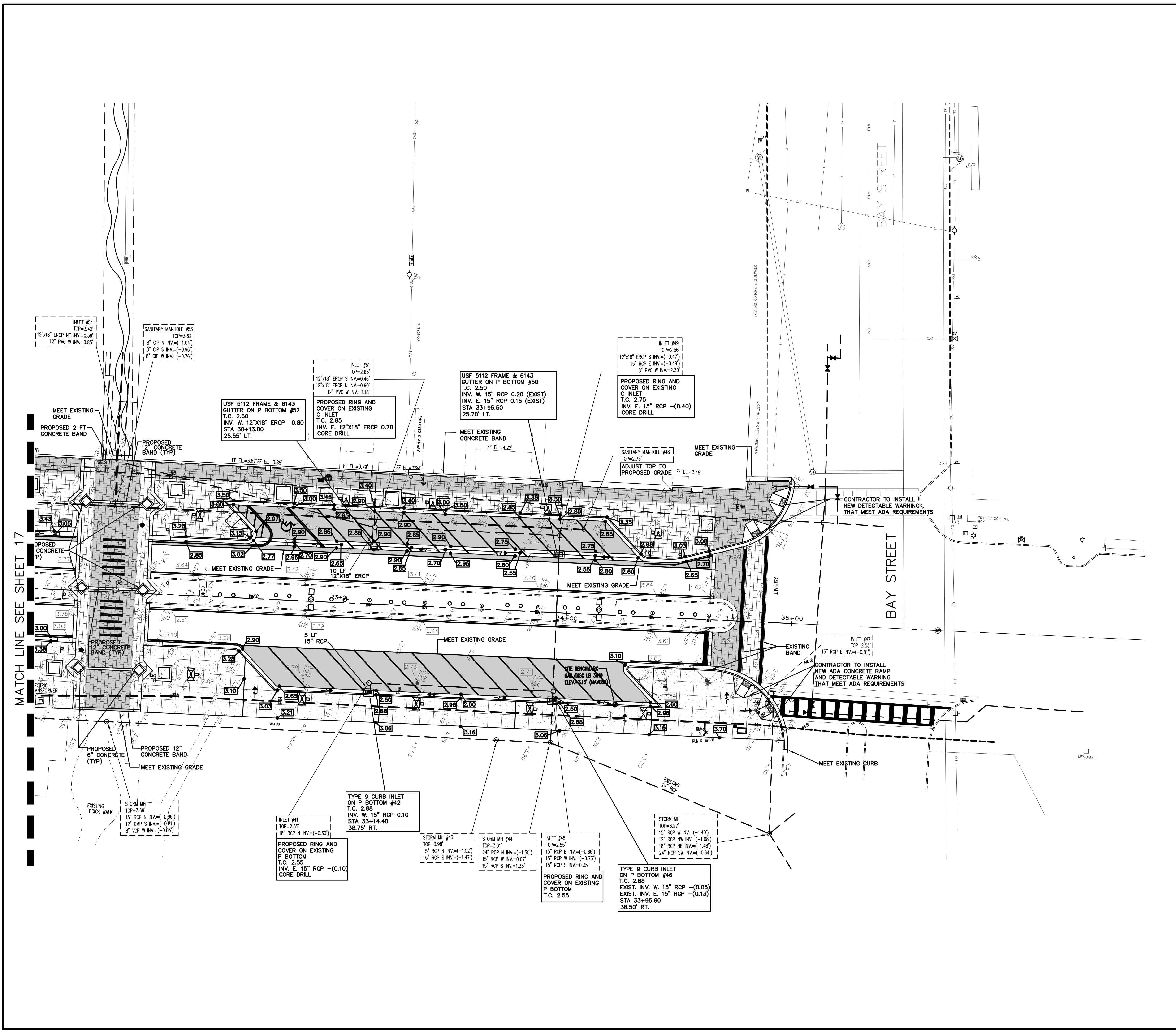
SEAL



MATCH LINE SEE SHEET

MATCH LINE SEE SHEET 18





**LEGEND**

- 3.05 DENOTES PROPOSED GRADE
- 3.05 EXISTING GRADE
- DENOTES PROPOSED FLOW

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH

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**BEACH STREET STREETScape**  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA

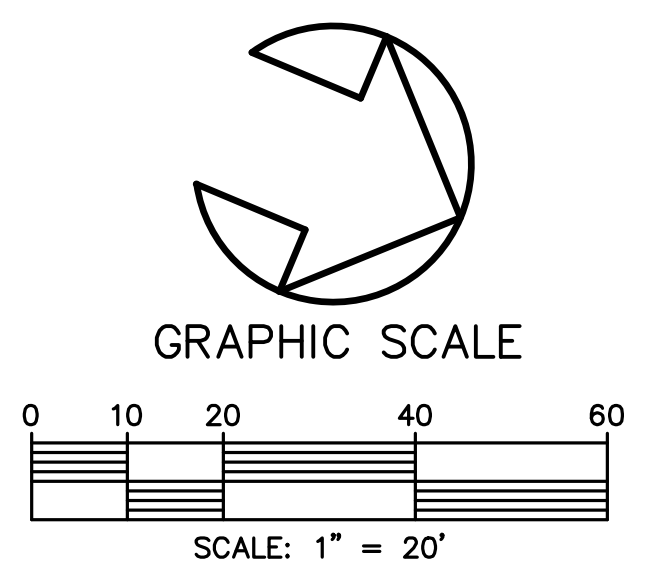
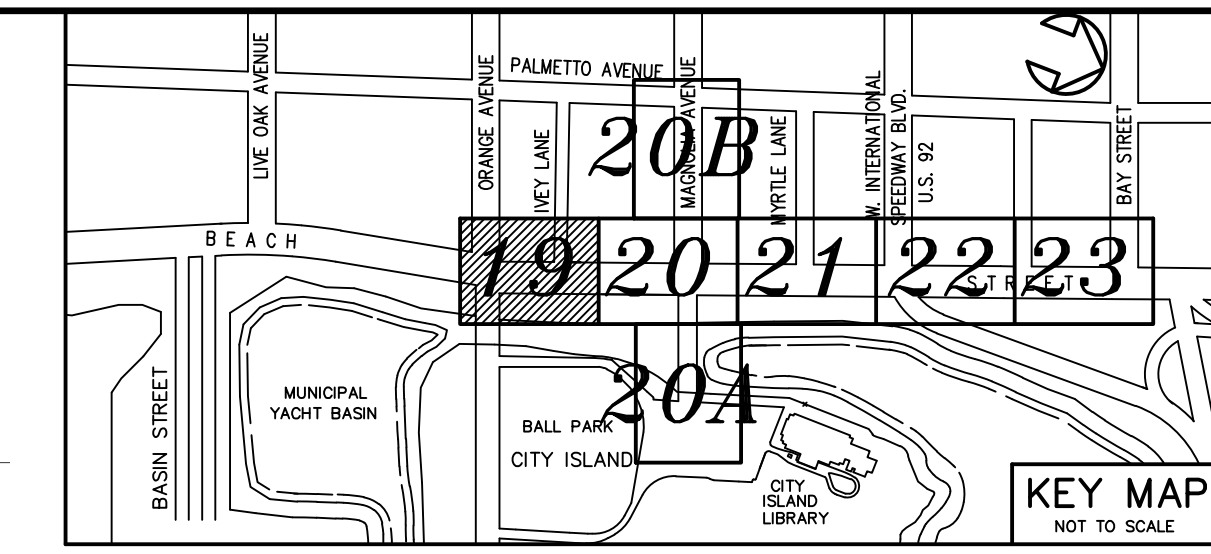
**OVERALL PAVING & DRAINAGE PLAN**

<b>CITY PROJECT NO.</b> 2018-036
<b>18</b> SHEET NO.
Drawn By: BH
Date: 8-21-18
SCALE: 1"=20'
SEAL

MATCH LINE SEE SHEET 17

Z:\Beach Street - Orange to Bay - 18-311831-SP13-ANGLED PARKING BOTH SIDES.dwg, 8/15/2019 2:10:28 PM, DWG TO PDF.PLC





**LEGEND**

- ① DENOTES EXISTING METER BOX TO BE REMOVED AND REPLACED WITH NEW METER BOX W/ METER AND CHECK VALVE PROVIDED BY CONTRACTOR 3/4", 1-1/2" OR 2" AS INDICATED
- PROPOSED 8" PVC SANITARY (DR-18)
- PROPOSED 12" PVC WATER MAIN DR-18
- PROPOSED PURPLE PVC REUSE (DR-18)
- PROPOSED 12" PVC FORCE MAIN DR-18

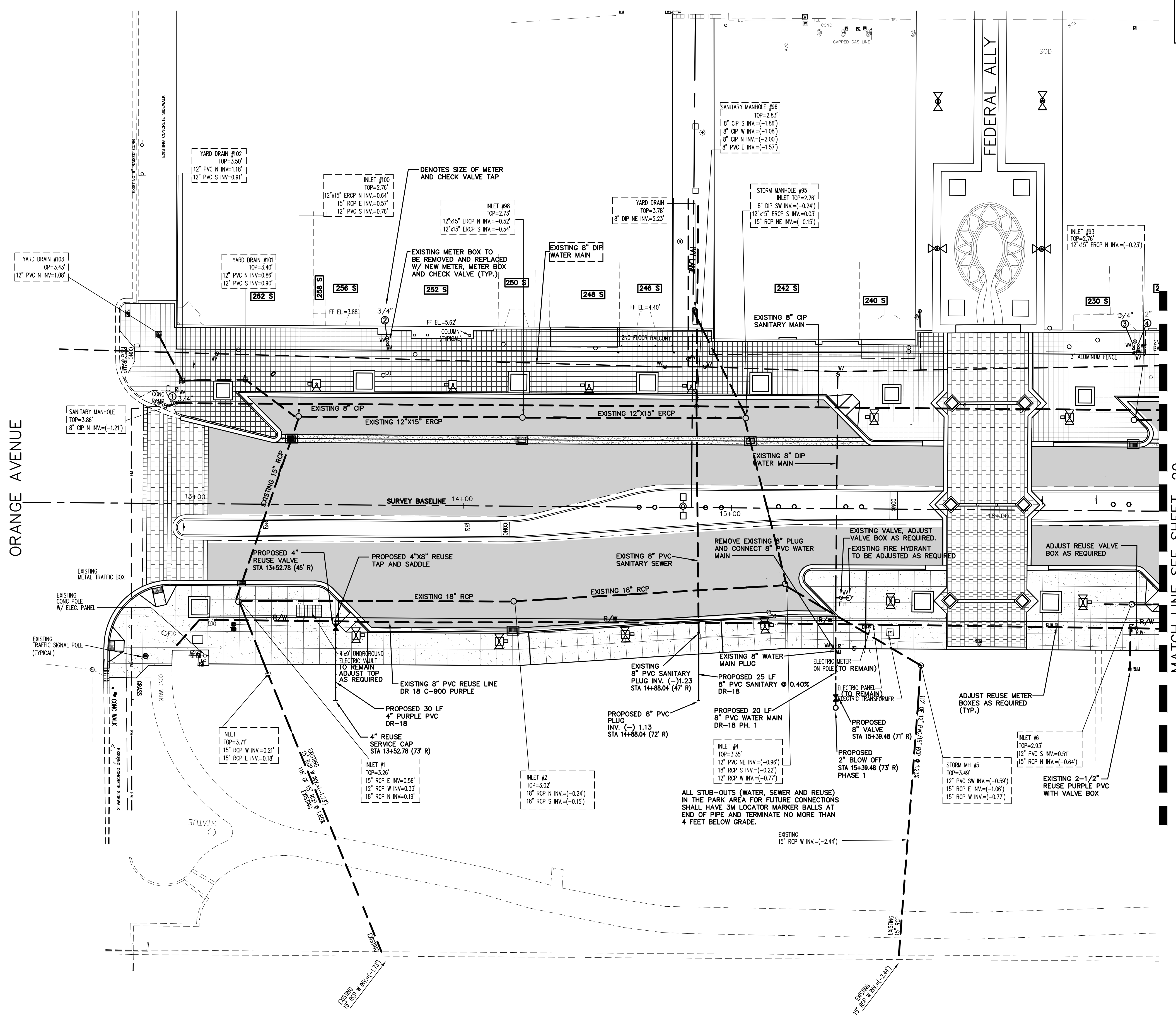
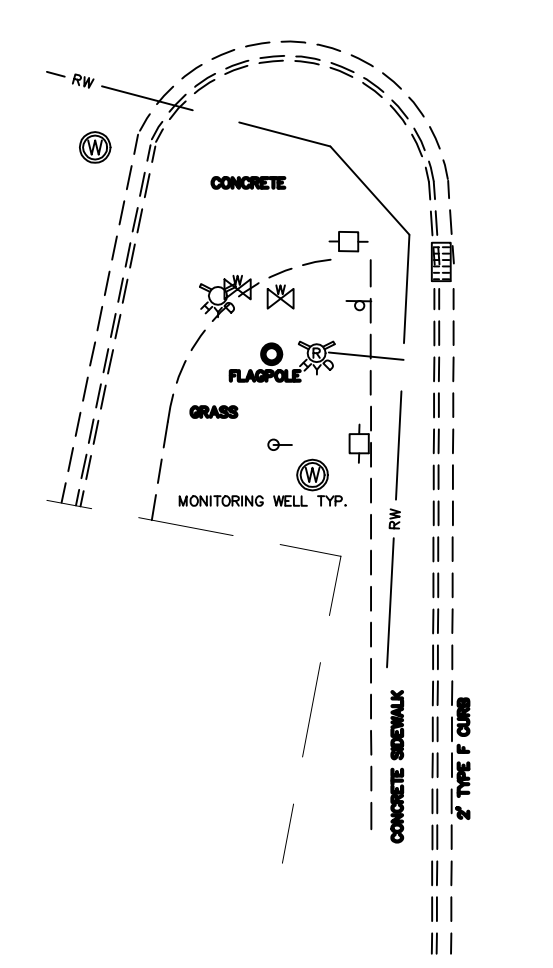
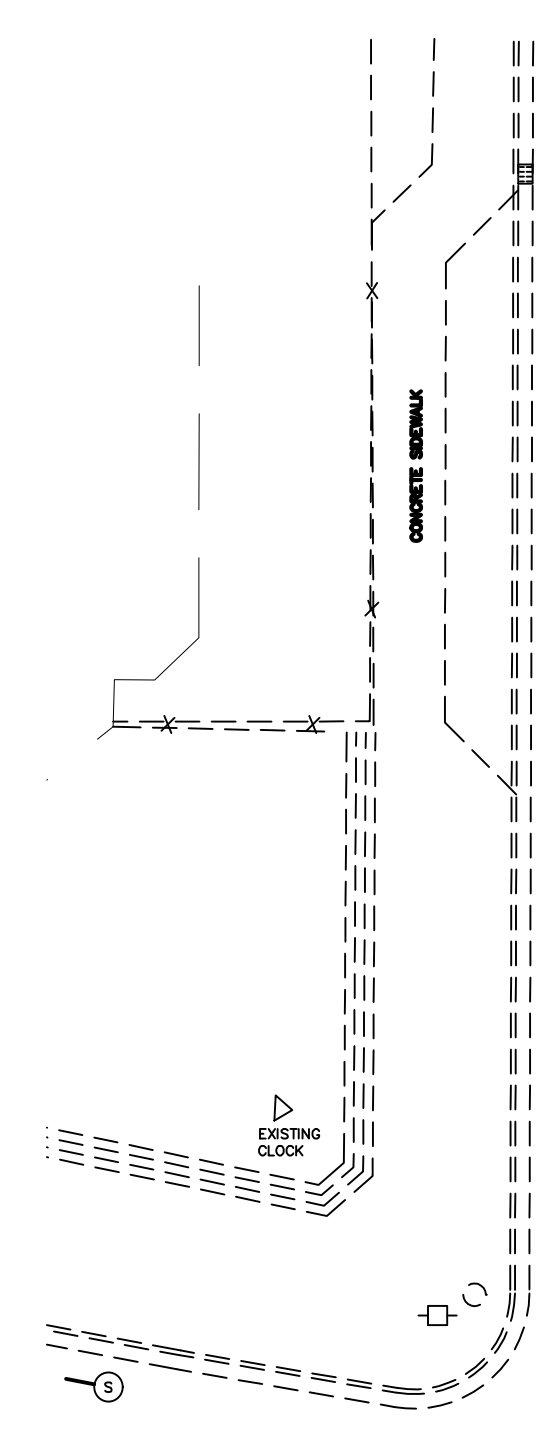
NO.	DATE	DESCRIPTION	BY
1	12-18-18	60% PLANS	BH
2	2-25-19	90% PLANS	BH
3	7-9-19	100% PLANS	BH
4	8-13-19	BID SET	BH

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 UTILITY PLAN

CITY PROJECT NO.  
 2018-036  
**19**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

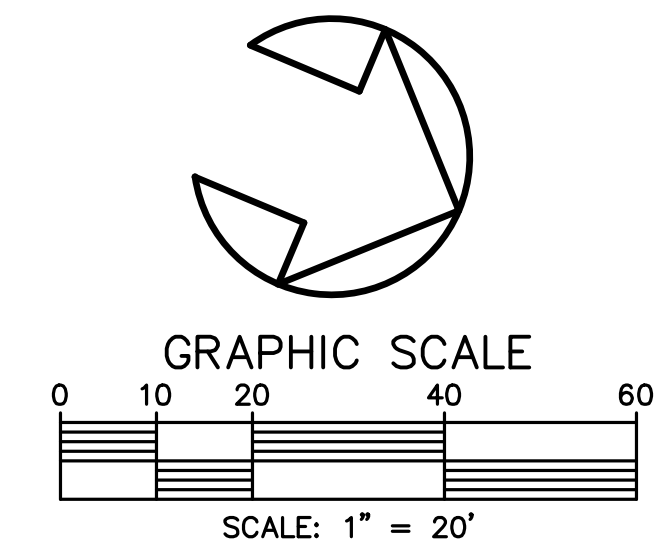
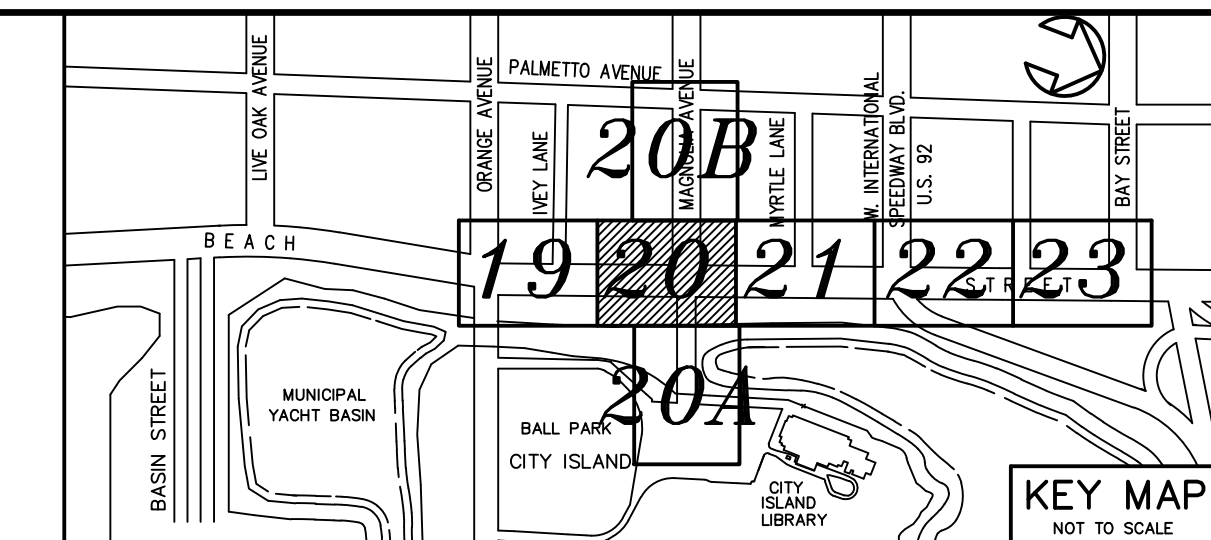
SEAL



MATCH LINE SEE SHEET 20

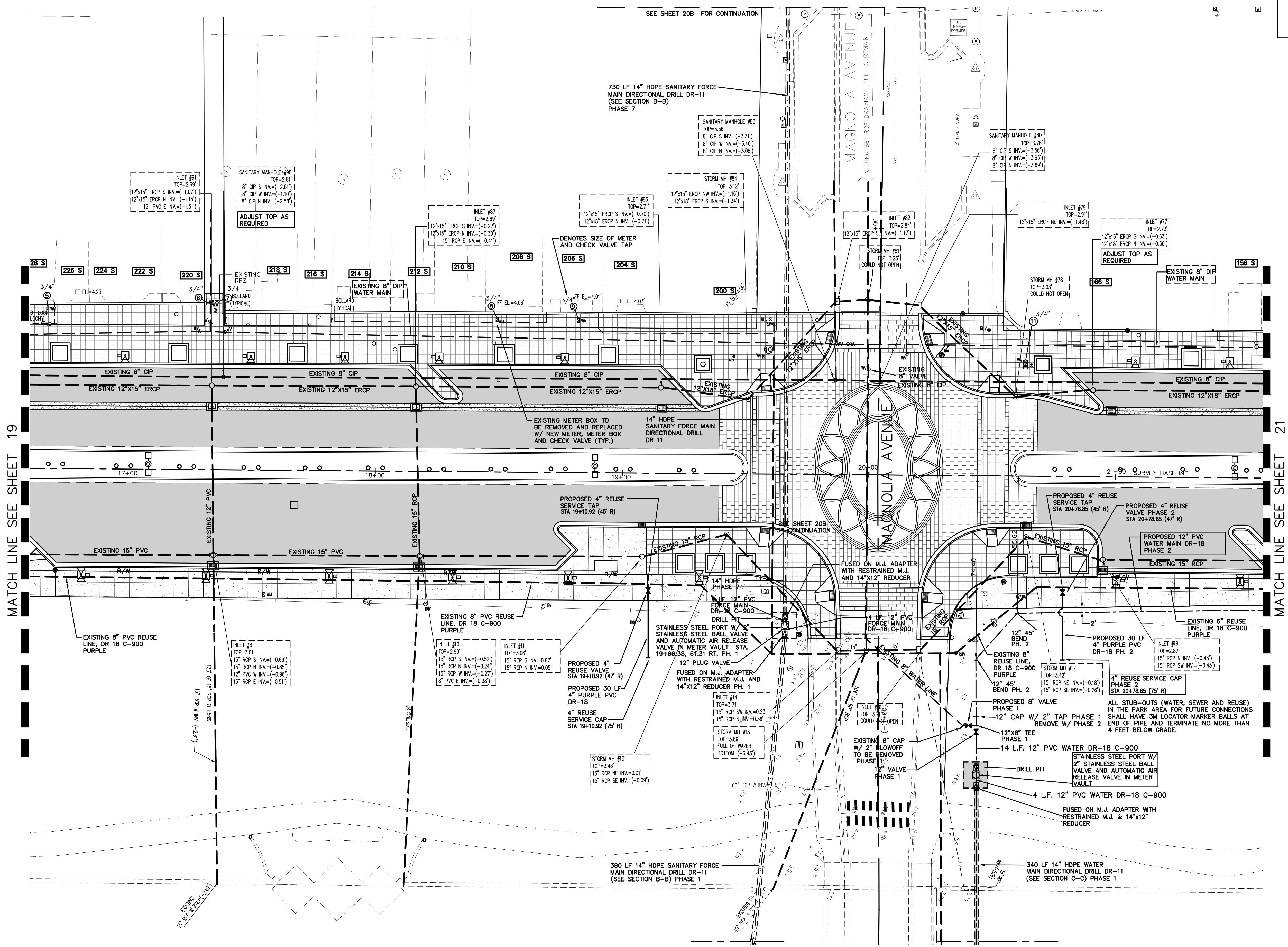
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**LEGEND**

- ① DENOTES EXISTING METER BOX TO BE REMOVED AND REPLACED WITH NEW METER BOX W/ METER AND CHECK VALVE. METER, METER BOX & CHECK VALVE PROVIDED BY CONTRACTOR 3/4", 1-1/2" OR 2" AS INDICATED
- PROPOSED 8" PVC SANITARY (DR-18)
- - - PROPOSED 12" PVC WATER MAIN DR-18
- . - . PROPOSED PURPLE PVC REUSE (DR-18)
- - - PROPOSED 12" PVC FORCE MAIN DR-18



MATCH LINE SEE SHEET 19

MATCH LINE SEE SHEET 21

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	11-2-18	60% PLANS	BY

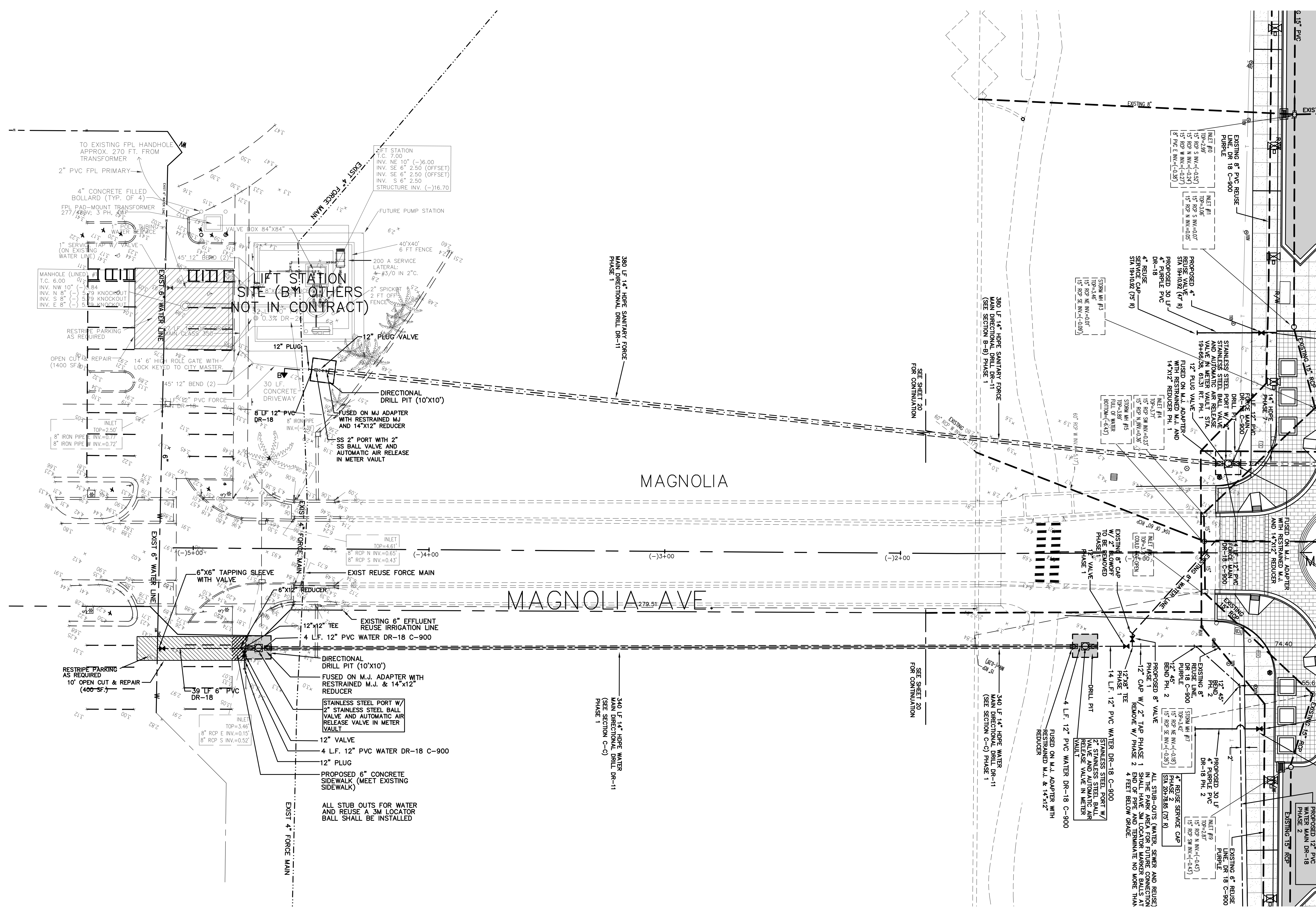
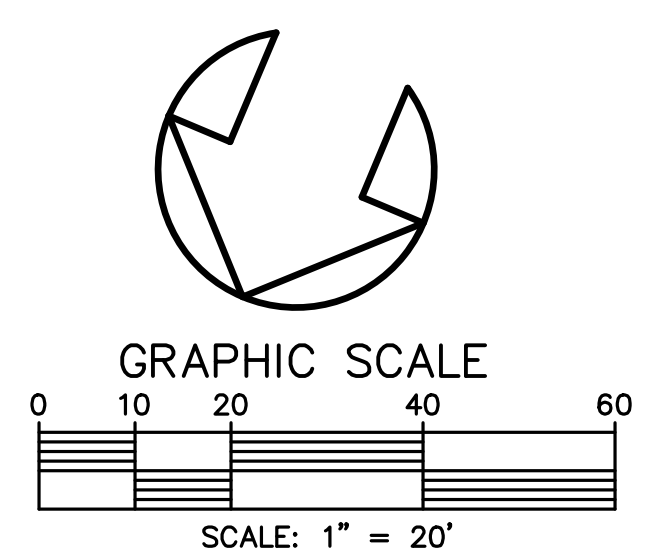
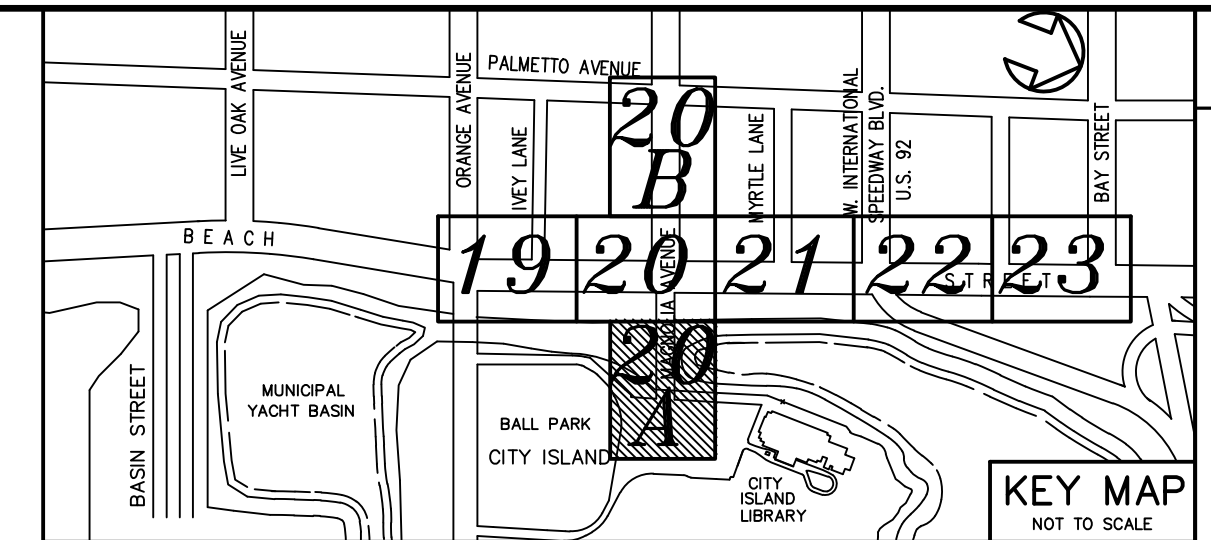
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6881 FAX (386) 677-2114 E-MAIL: info@parkermychenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETSCAPE  
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 UTILITY PLAN

CITY PROJECT NO.  
 2018-036  
**20**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL





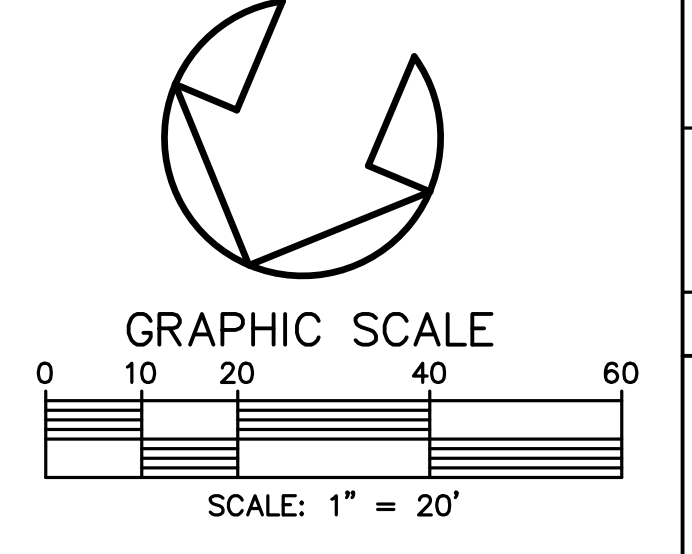
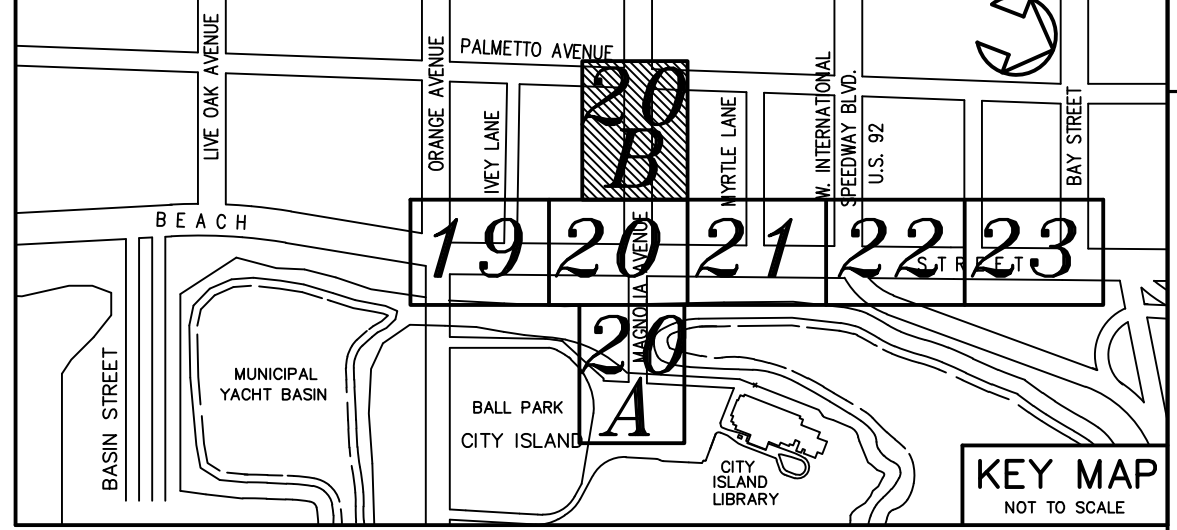
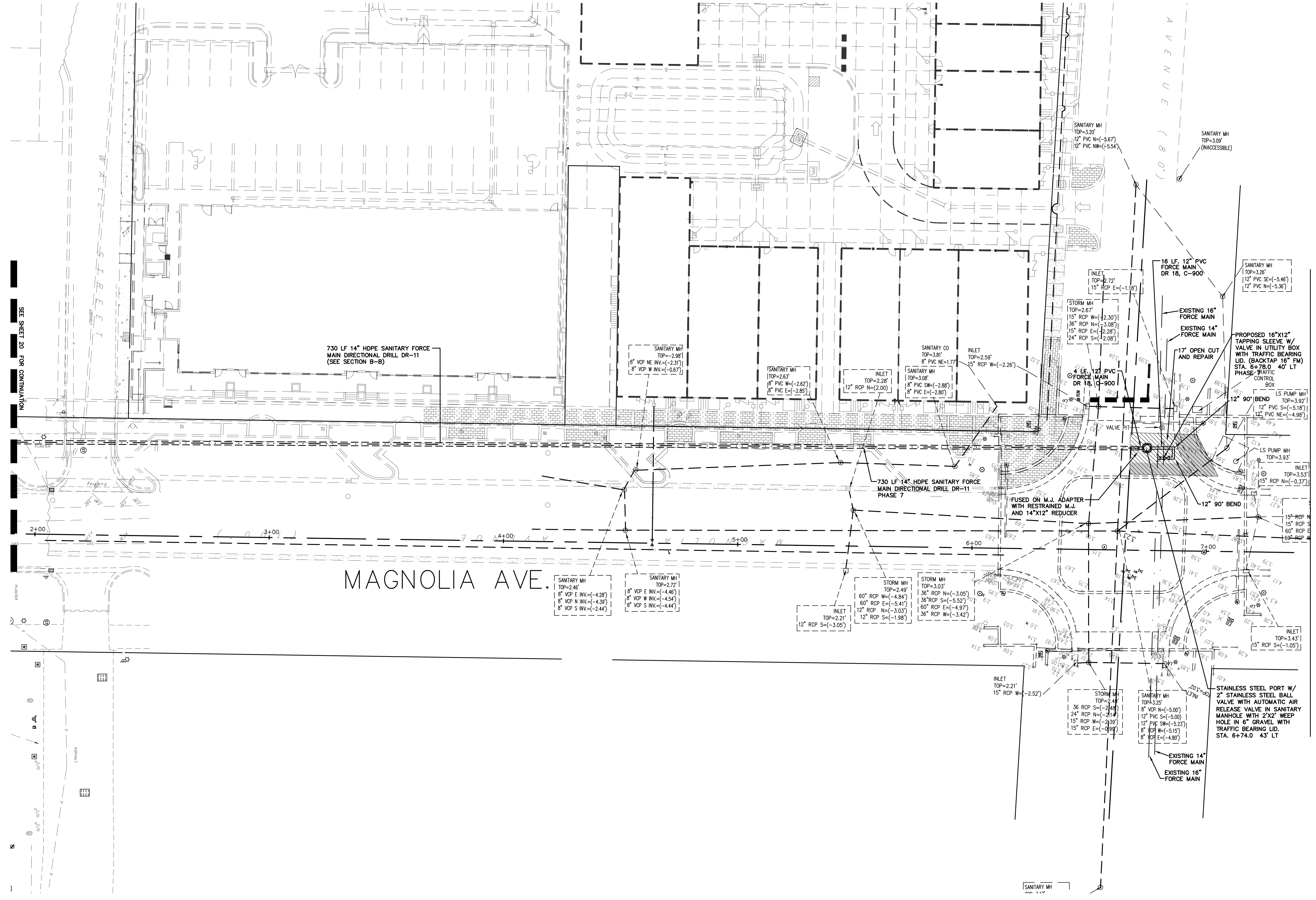
NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	1-12-18-18	60% PLANS	BH

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BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 UTILITY PLAN

CITY PROJECT NO. 2018-036
<b>20-A</b> SHEET NO.
Drawn By: BH
Date: 8-21-18
SCALE: 1"=20'
SEAL





NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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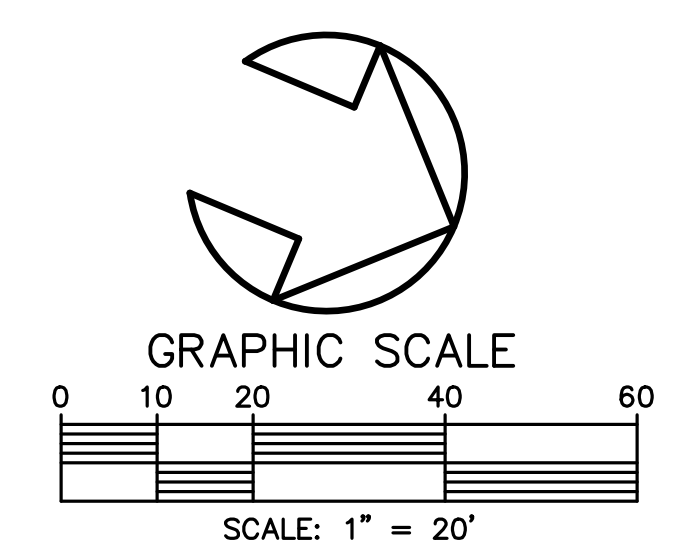
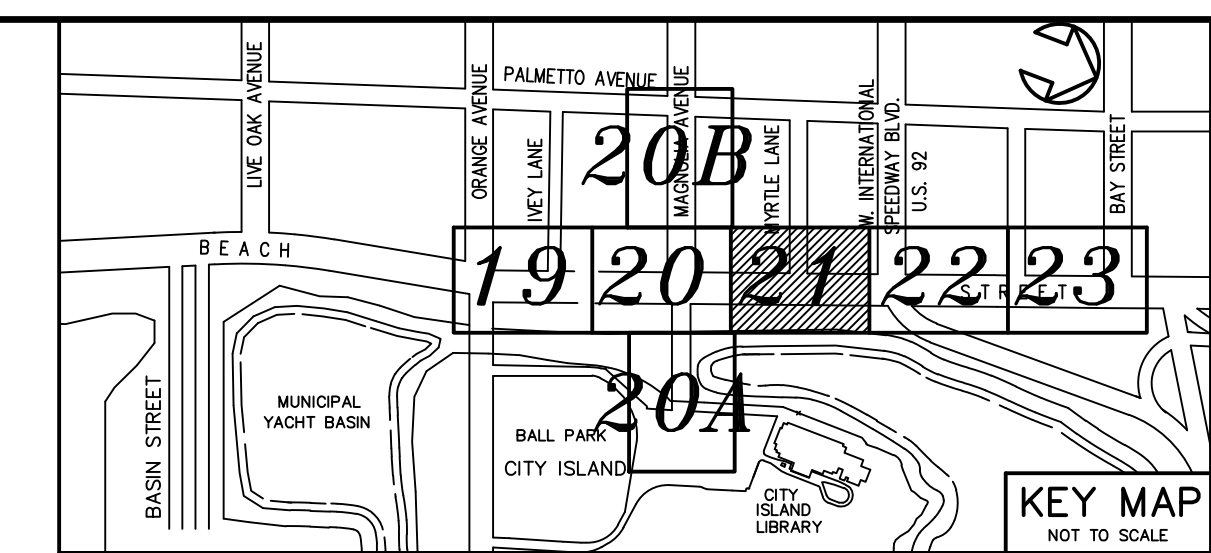
BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 UTILITY PLAN

CITY PROJECT NO.  
 2018-036  
**20-B**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL

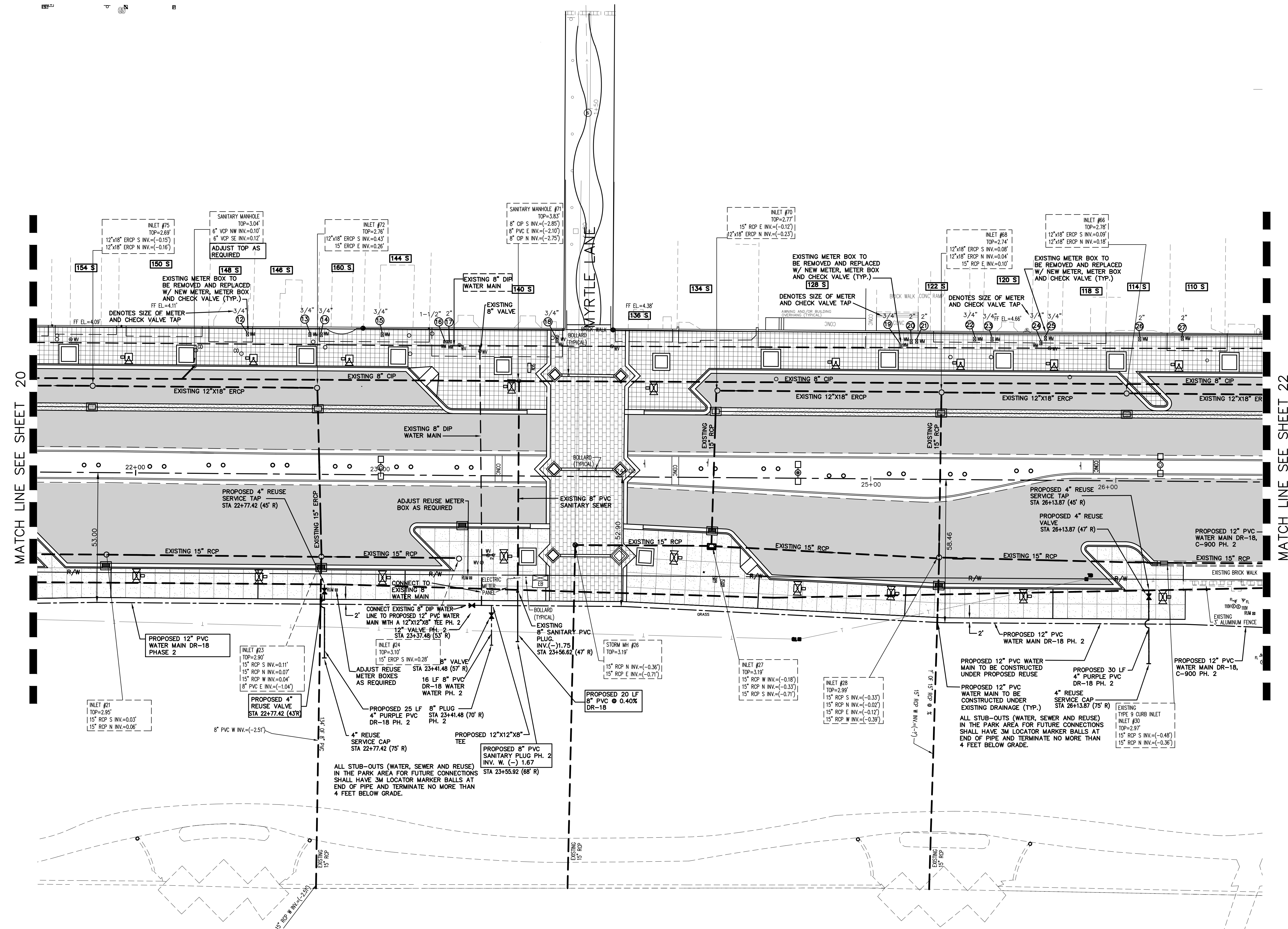
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**LEGEND**

- ① DENOTES EXISTING METER BOX TO BE REMOVED AND REPLACED WITH NEW METER BOX W/ METER AND CHECK VALVE. METER, METER BOX & CHECK VALVE PROVIDED BY CONTRACTOR 3/4", 1-1/2" OR 2" AS INDICATED
- PROPOSED 8" PVC SANITARY (DR-18)
- PROPOSED 12" PVC WATER MAIN DR-18
- PROPOSED PURPLE PVC REUSE (DR-18)
- PROPOSED 12" PVC FORCE MAIN DR-18



MATCH LINE SEE SHEET 20

MATCH LINE SEE SHEET 22

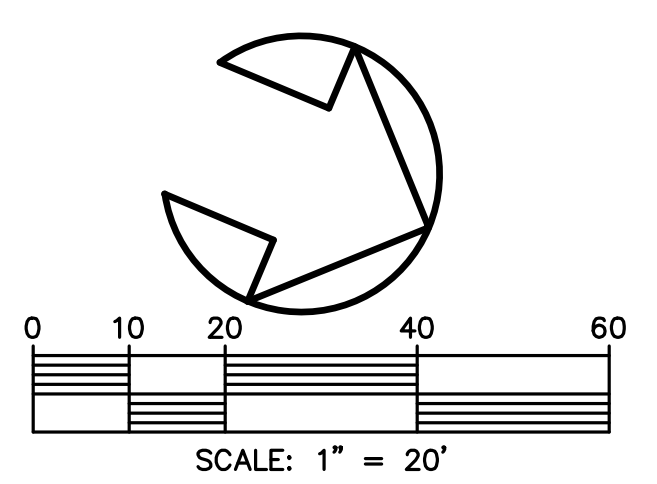
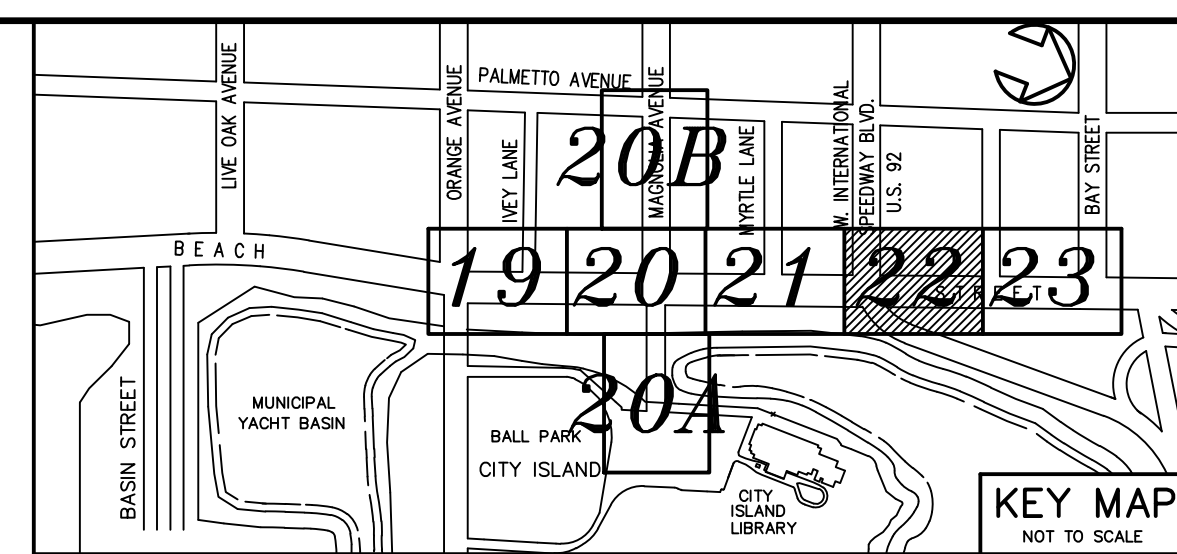
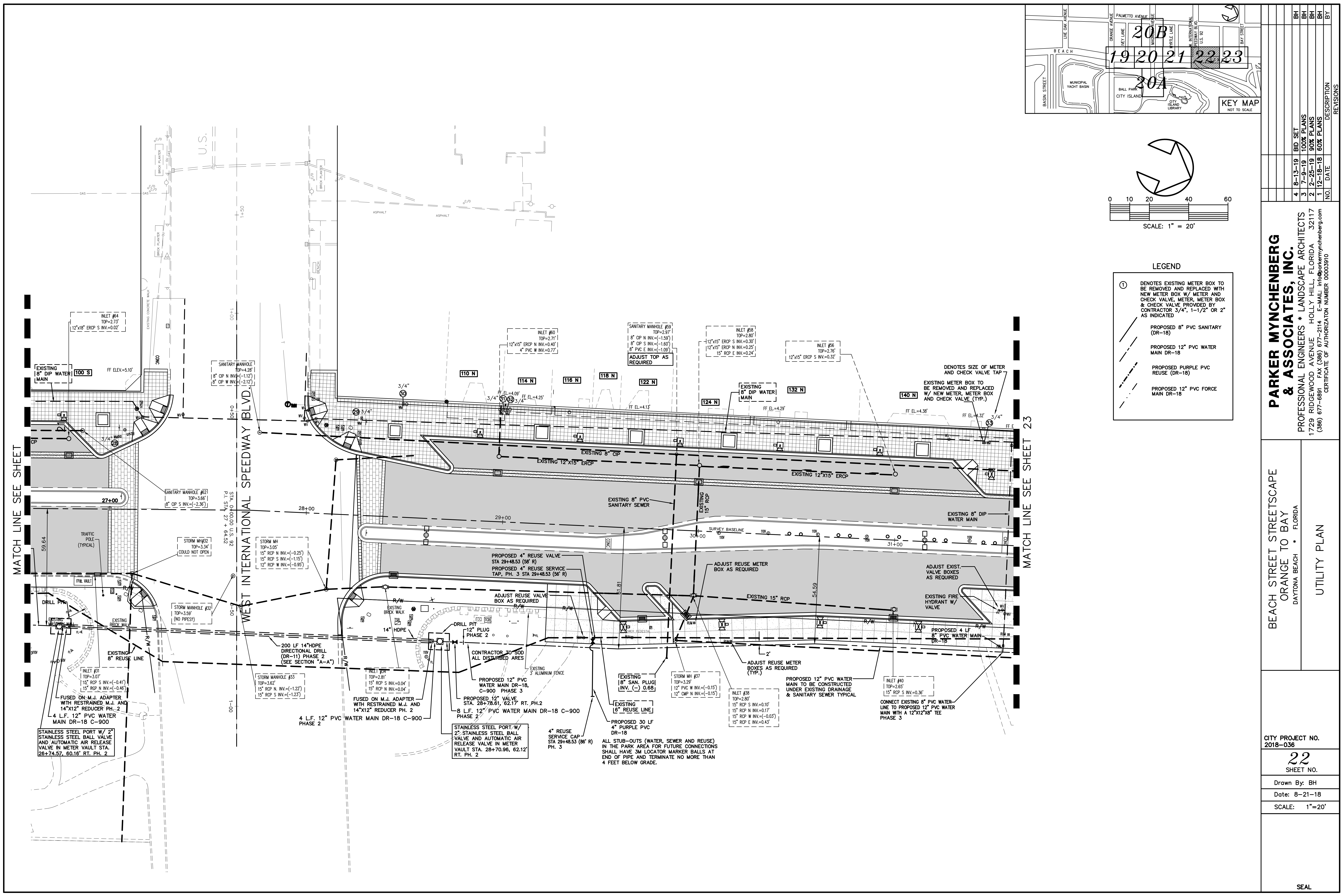
NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-28-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 UTILITY PLAN

CITY PROJECT NO. 2018-036
<b>21</b> SHEET NO.
Drawn By: BH
Date: 8-21-18
SCALE: 1"=20'
SEAL

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- LEGEND**
- ① DENOTES EXISTING METER BOX TO BE REMOVED AND REPLACED WITH NEW METER BOX W/ METER AND CHECK VALVE. METER, METER BOX & CHECK VALVE PROVIDED BY CONTRACTOR 3/4", 1-1/2" OR 2" AS INDICATED
  - PROPOSED 8" PVC SANITARY (DR-18)
  - PROPOSED 12" PVC WATER MAIN DR-18
  - PROPOSED PURPLE PVC REUSE (DR-18)
  - PROPOSED 12" PVC FORCE MAIN DR-18

NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	11-2-18-18	60% PLANS	BH
			BY

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
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**BEACH STREET STREETScape**  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA

**UTILITY PLAN**

CITY PROJECT NO. 2018-036

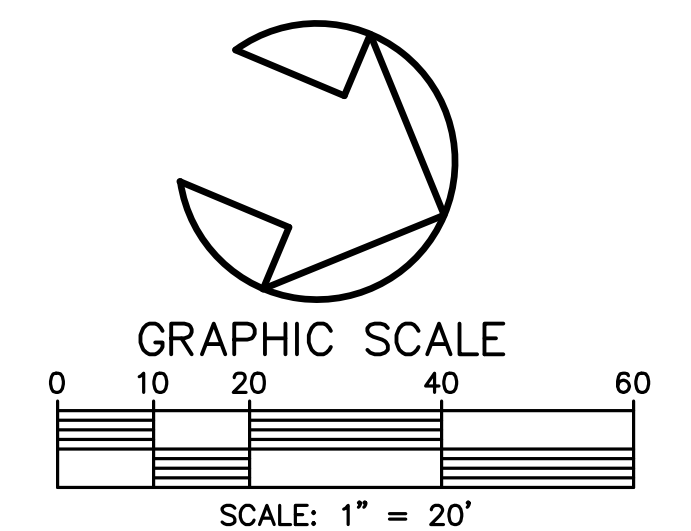
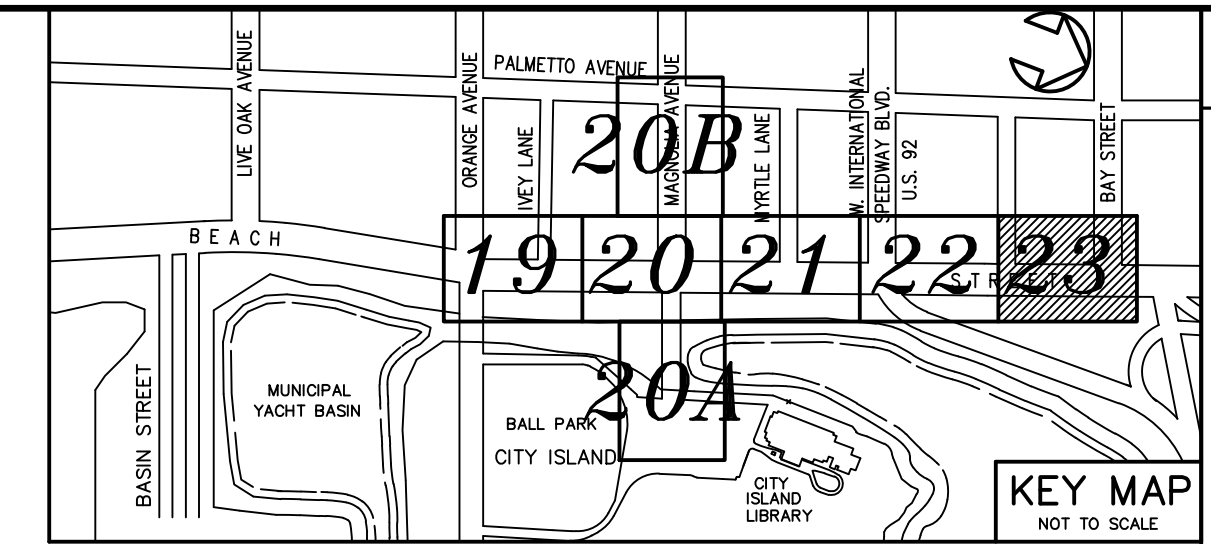
**22**  
SHEET NO.

Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL

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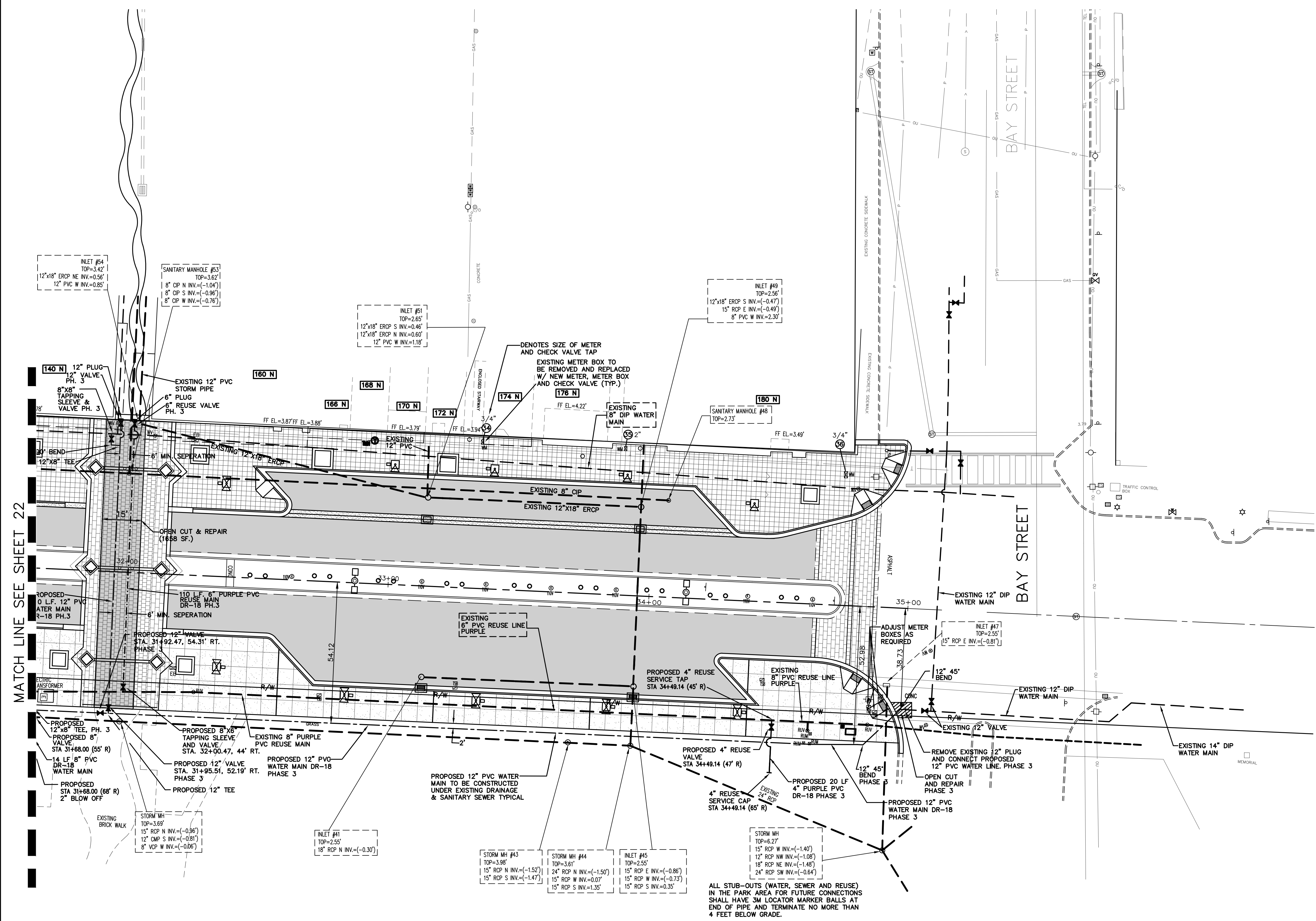
- LEGEND**
- ① DENOTES EXISTING METER BOX TO BE REMOVED AND REPLACED WITH NEW METER BOX W/ METER AND CHECK VALVE, METER, METER BOX & CHECK VALVE PROVIDED BY CONTRACTOR 3/4", 1-1/2" OR 2" AS INDICATED
  - PROPOSED 8" PVC SANITARY (DR-18)
  - PROPOSED 12" PVC WATER MAIN DR-18
  - PROPOSED PURPLE PVC REUSE (DR-18)
  - PROPOSED 12" PVC FORCE MAIN DR-18

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	TOOK PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	80% PLANS	BH

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 UTILITY PLAN

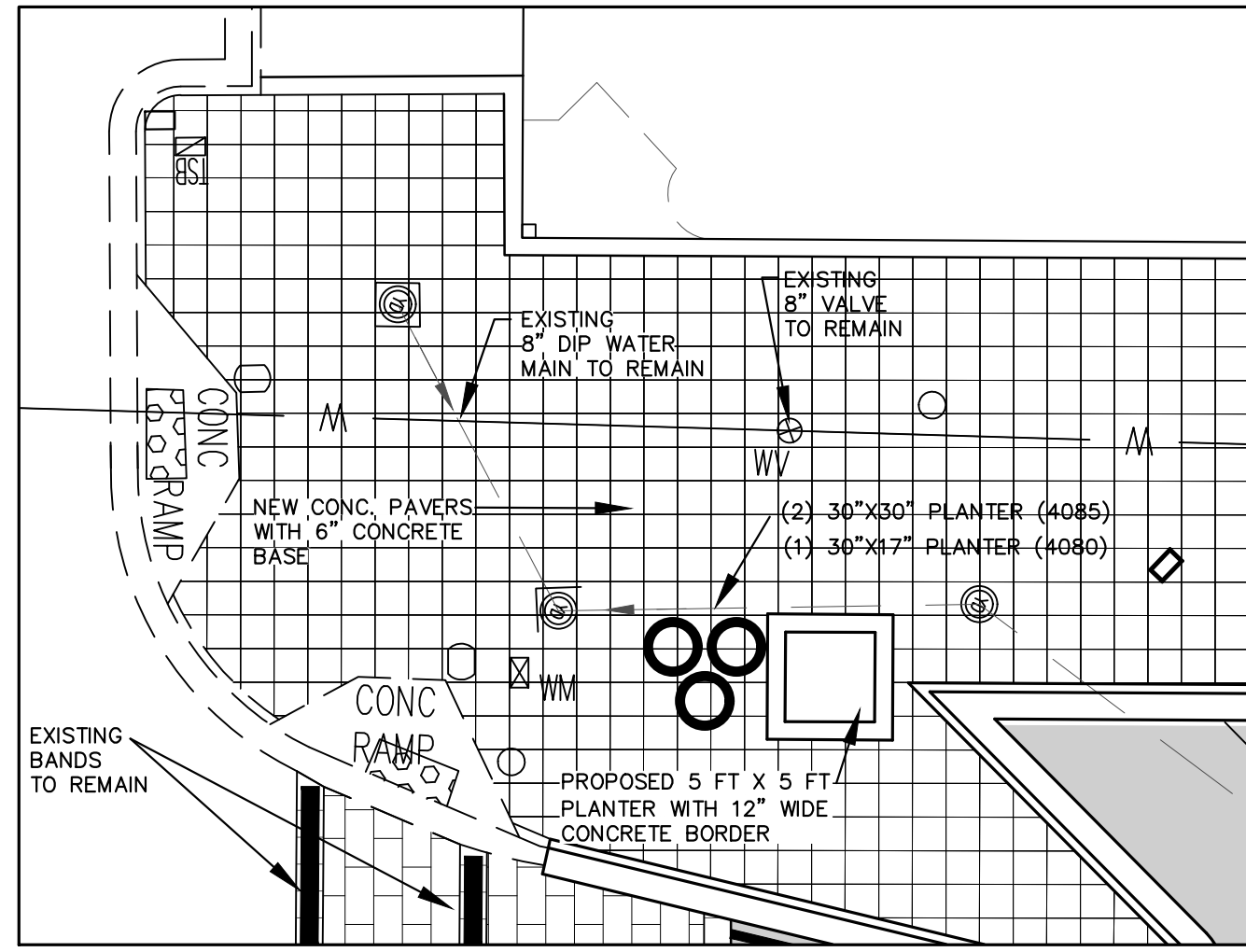
CITY PROJECT NO.  
 2018-036  
**23**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-19  
 SCALE: 1"=20'  
 SEAL



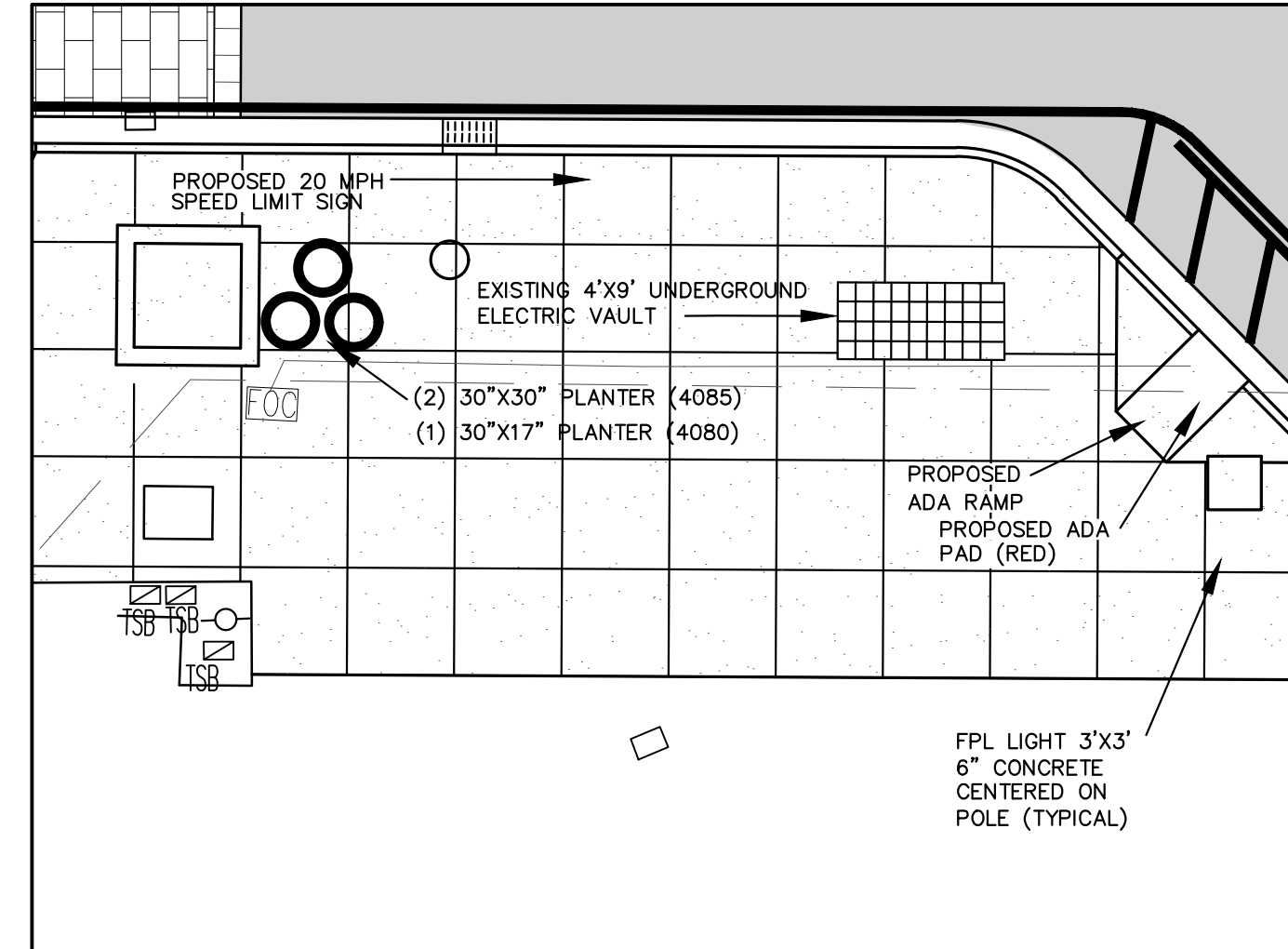
MATCH LINE SEE SHEET 22

ALL STUB-OUTS (WATER, SEWER AND REUSE) IN THE PARK AREA FOR FUTURE CONNECTIONS SHALL HAVE 3M LOCATOR MARKER BALLS AT END OF PIPE AND TERMINATE NO MORE THAN 4 FEET BELOW GRADE.

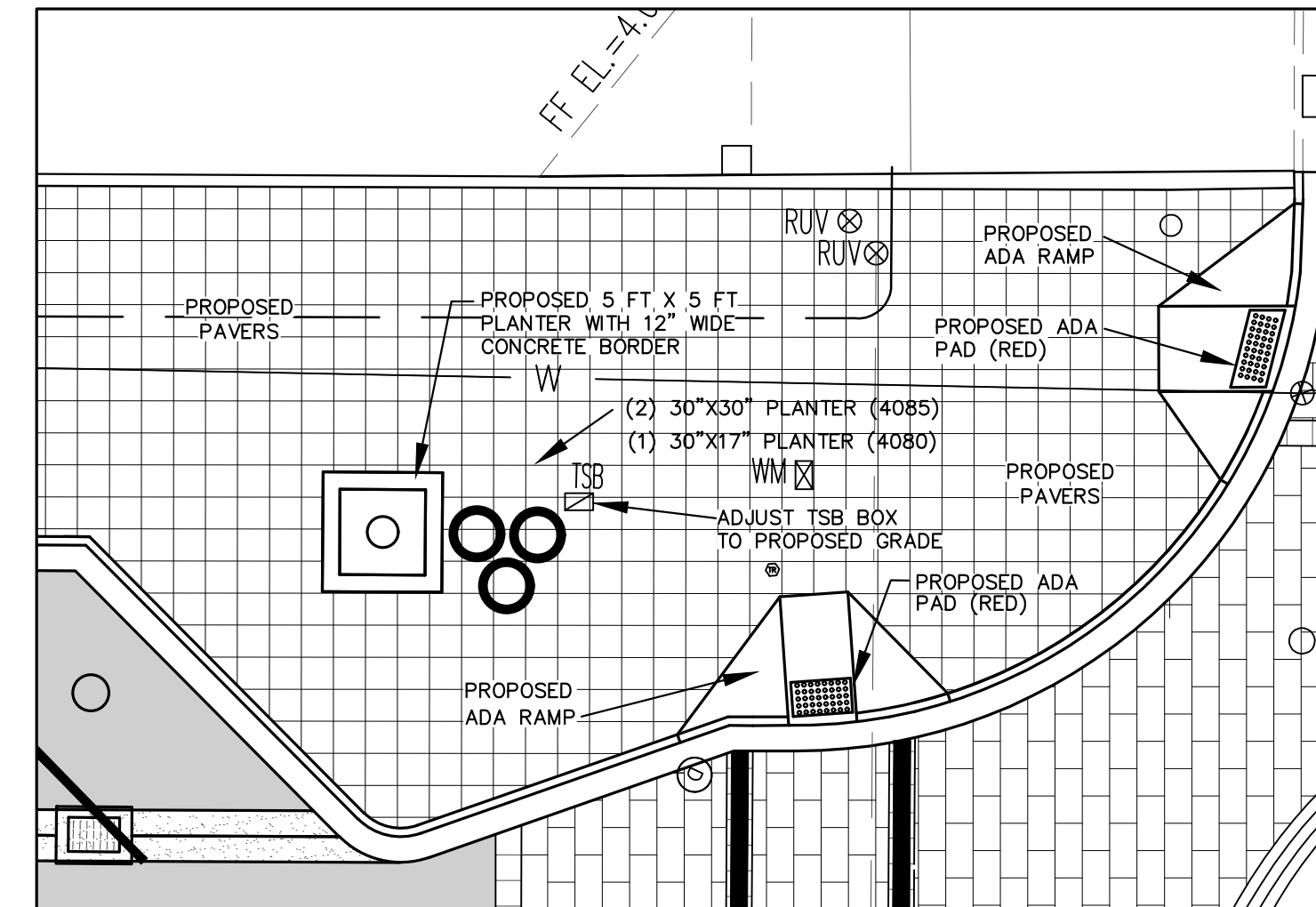
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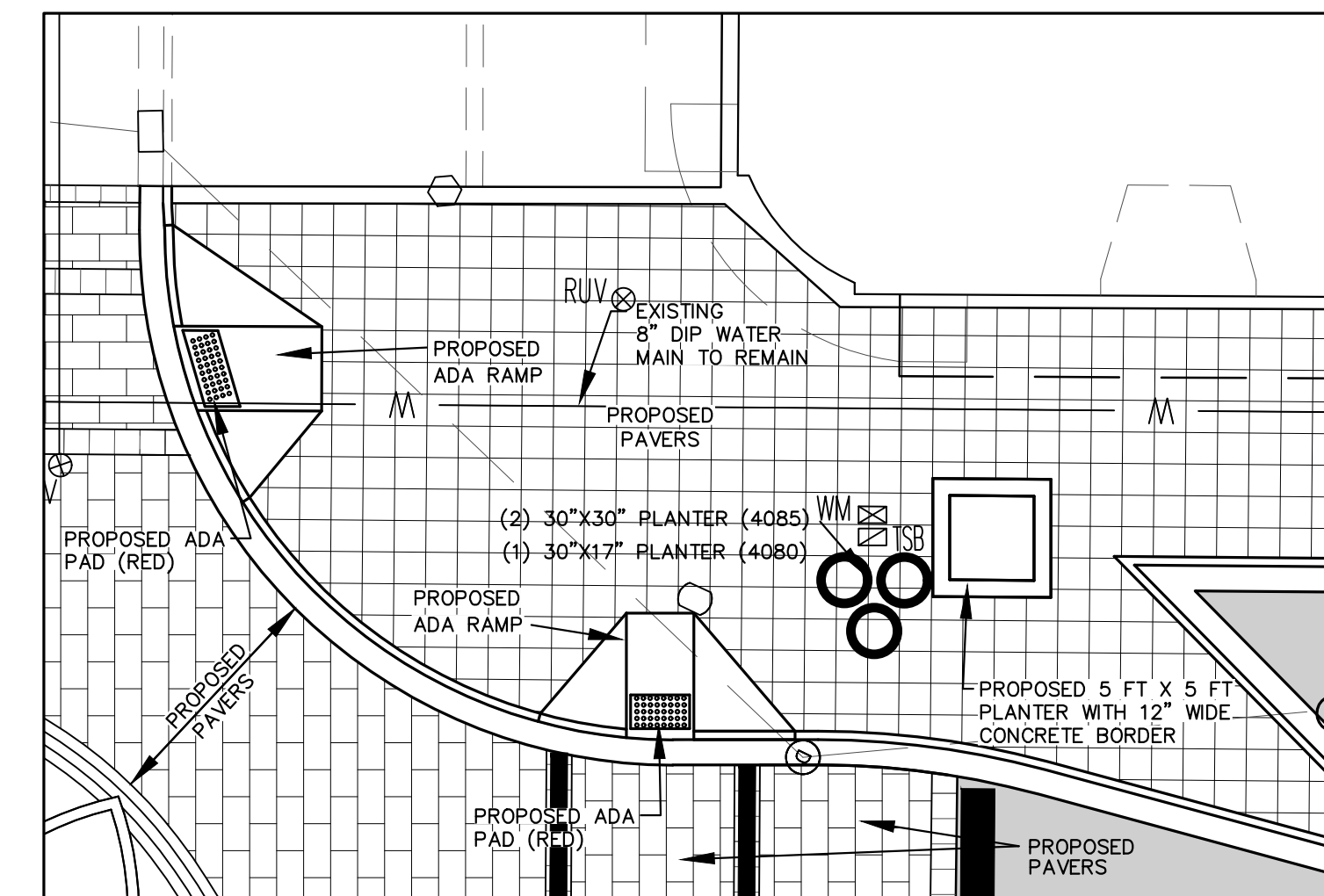
PROPOSED NORTHWEST CORNER OF BEACH ST AND ORANGE AVE.



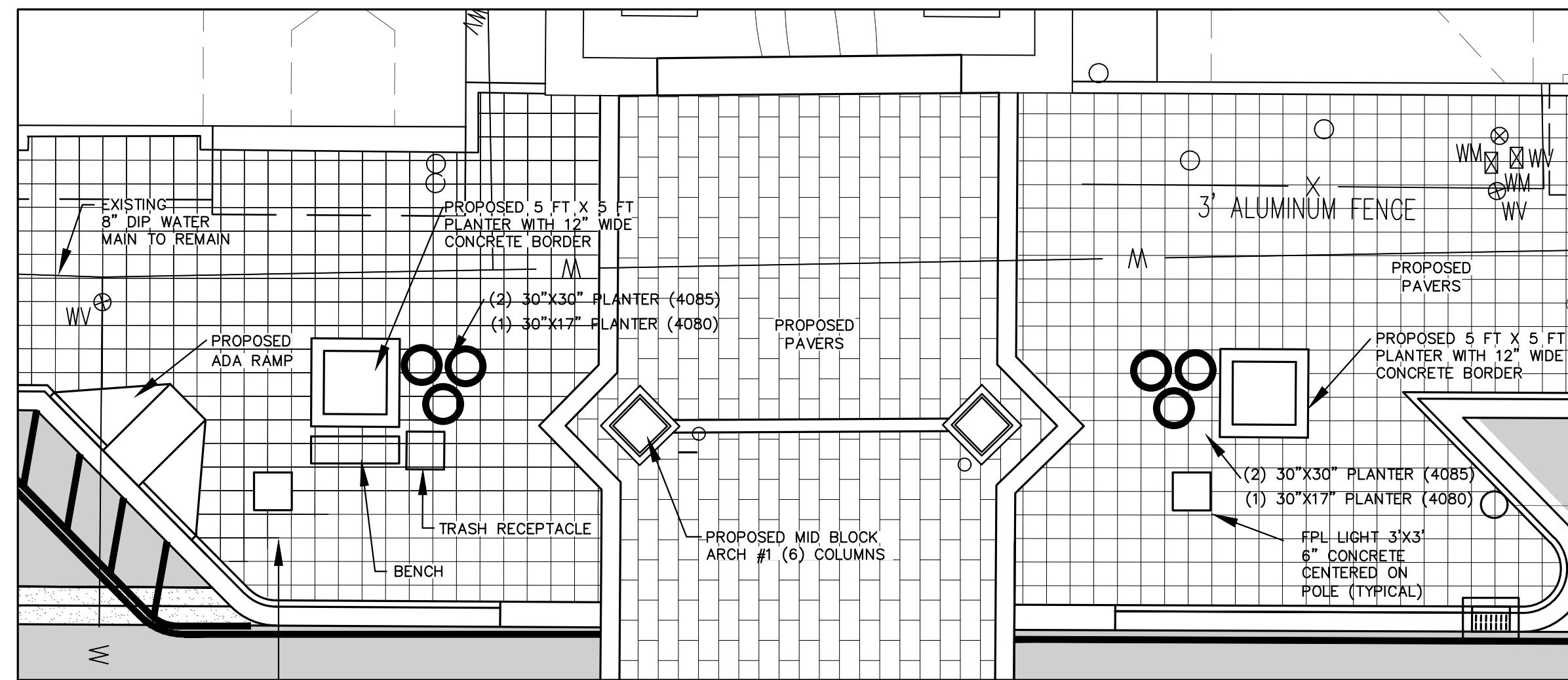
PROPOSED SOUTHEAST CORNER OF BEACH ST AND ORANGE AVE.



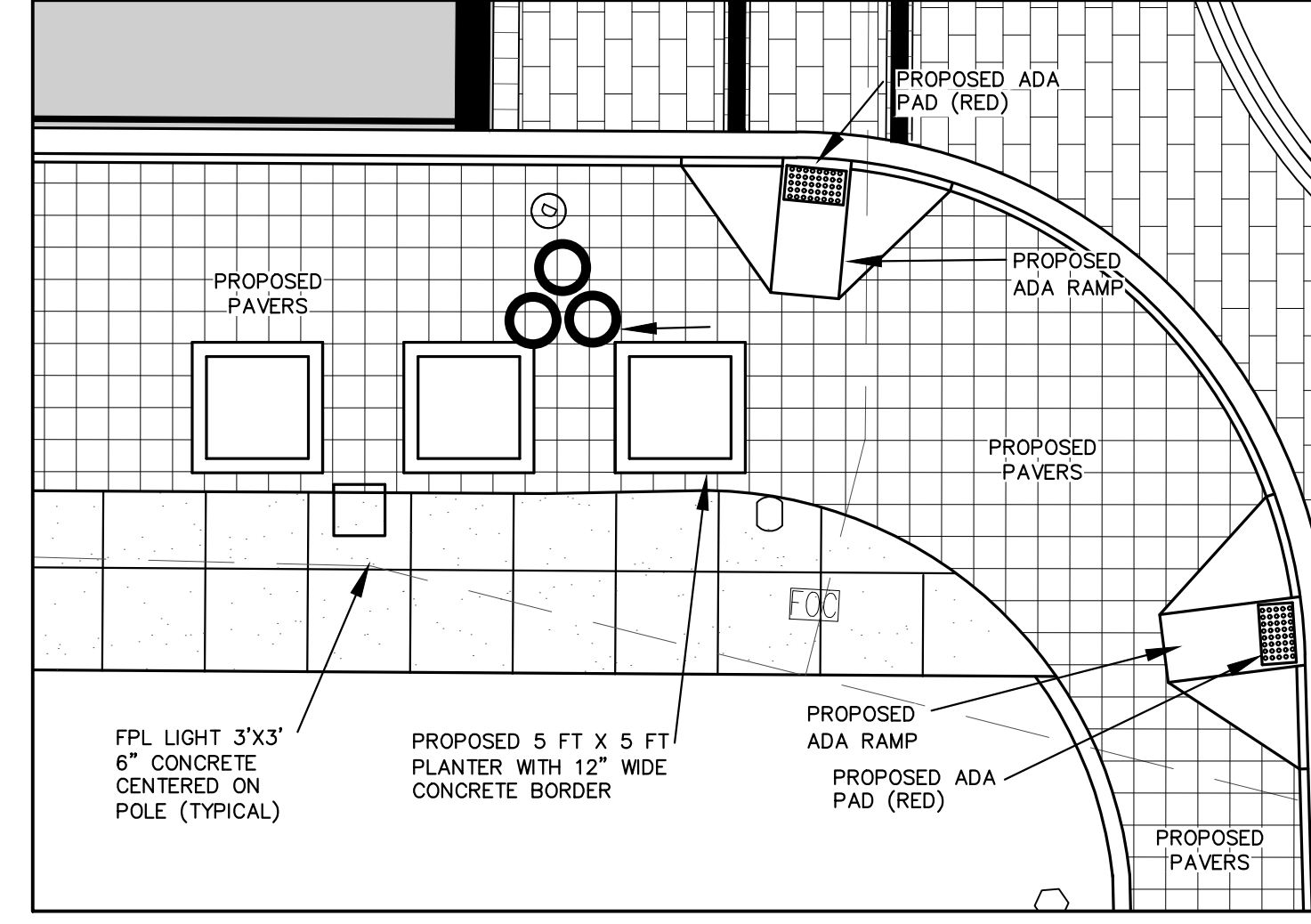
PROPOSED SOUTHWEST CORNER OF BEACH ST AND MAGNOLIA AVE.



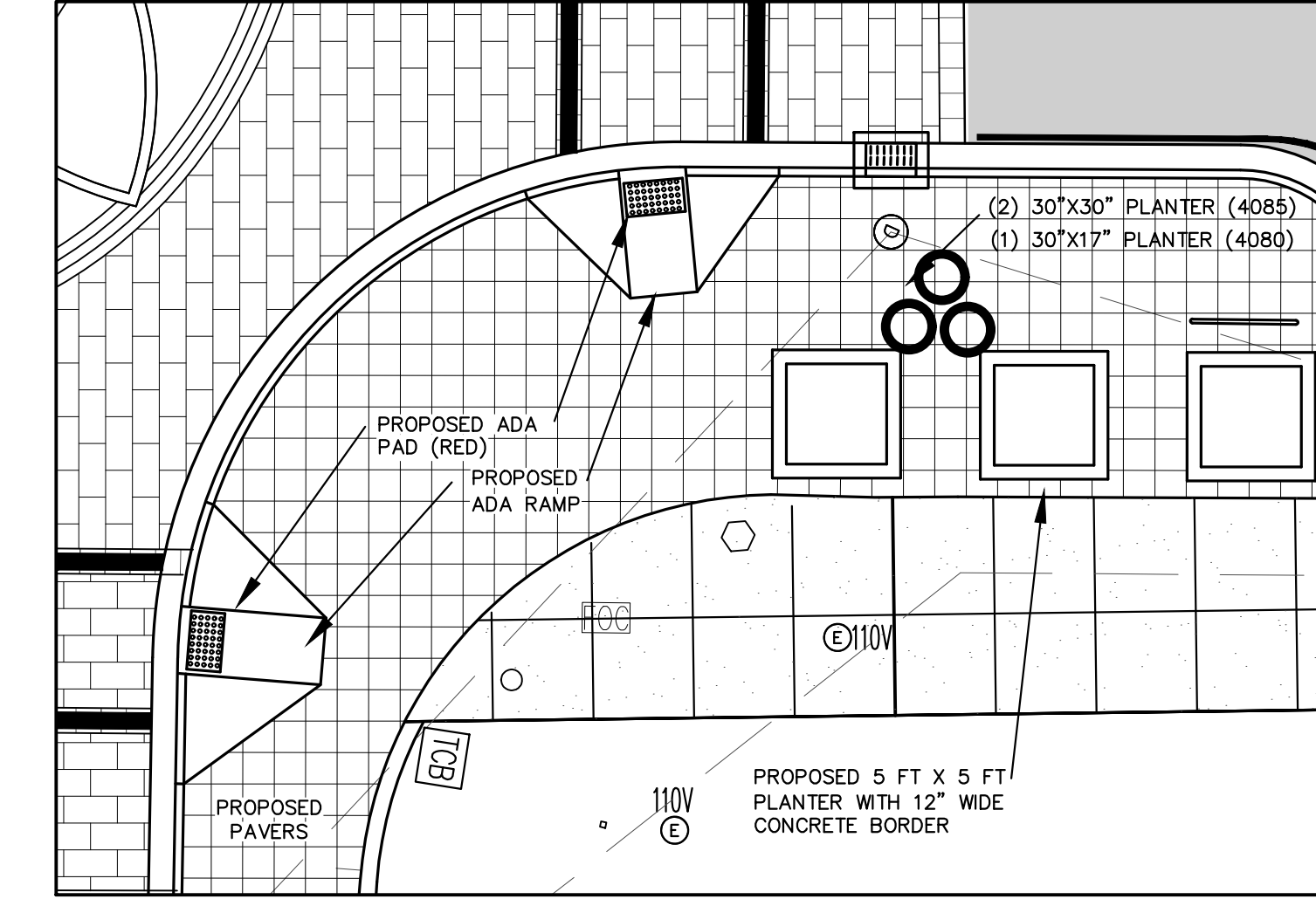
PROPOSED NORTHWEST CORNER OF BEACH ST AND MAGNOLIA AVE.



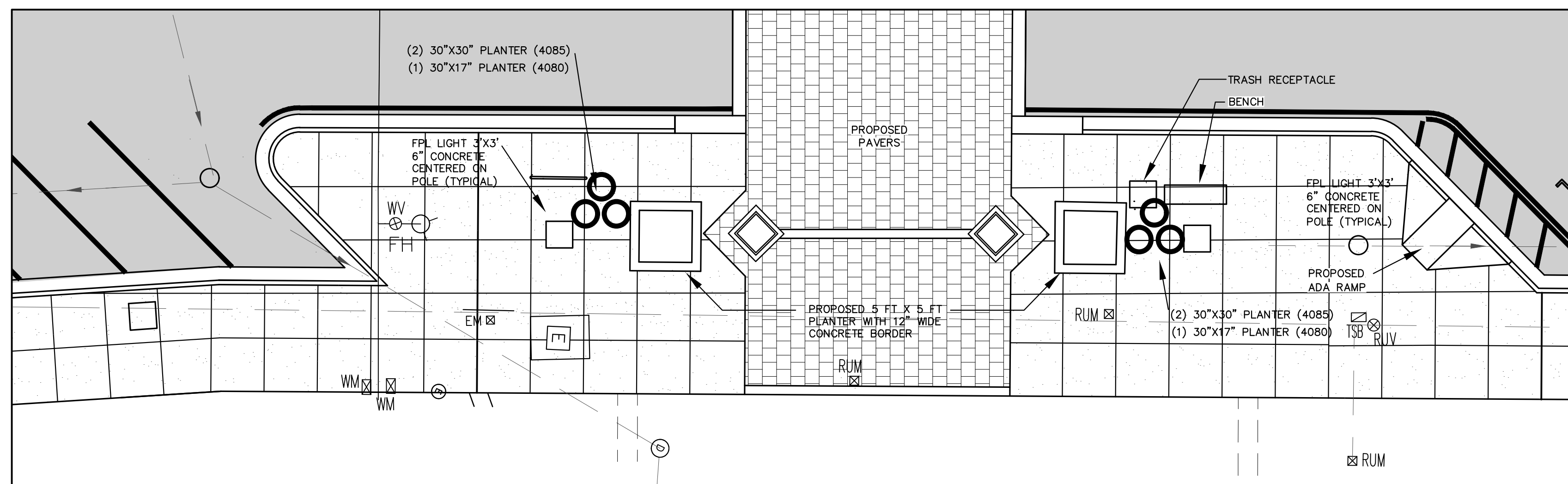
PROPOSED WEST MIDBLOCK BETWEEN ORANGE AVE. MAGNOLIA AVE.



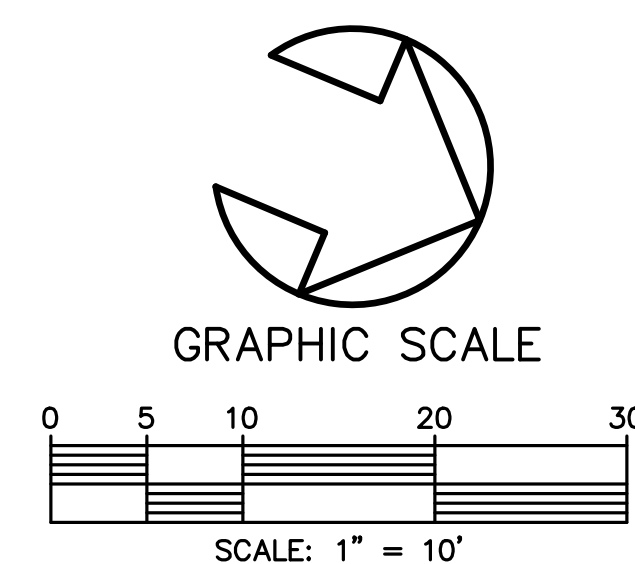
PROPOSED SOUTHEAST CORNER OF BEACH ST AND MAGNOLIA AVE.



PROPOSED NORTHEAST CORNER OF BEACH ST AND MAGNOLIA AVE.



PROPOSED EAST MIDBLOCK BETWEEN ORANGE AVE. MAGNOLIA AVE.



NO.	DATE	DESCRIPTION	REVISIONS
3	8-13-19	BID SET	BH
2	7-9-19	100% PLANS	BH
1	2-25-19	90% PLANS	BH
1	12-18-18	80% PLANS	BH
			BT

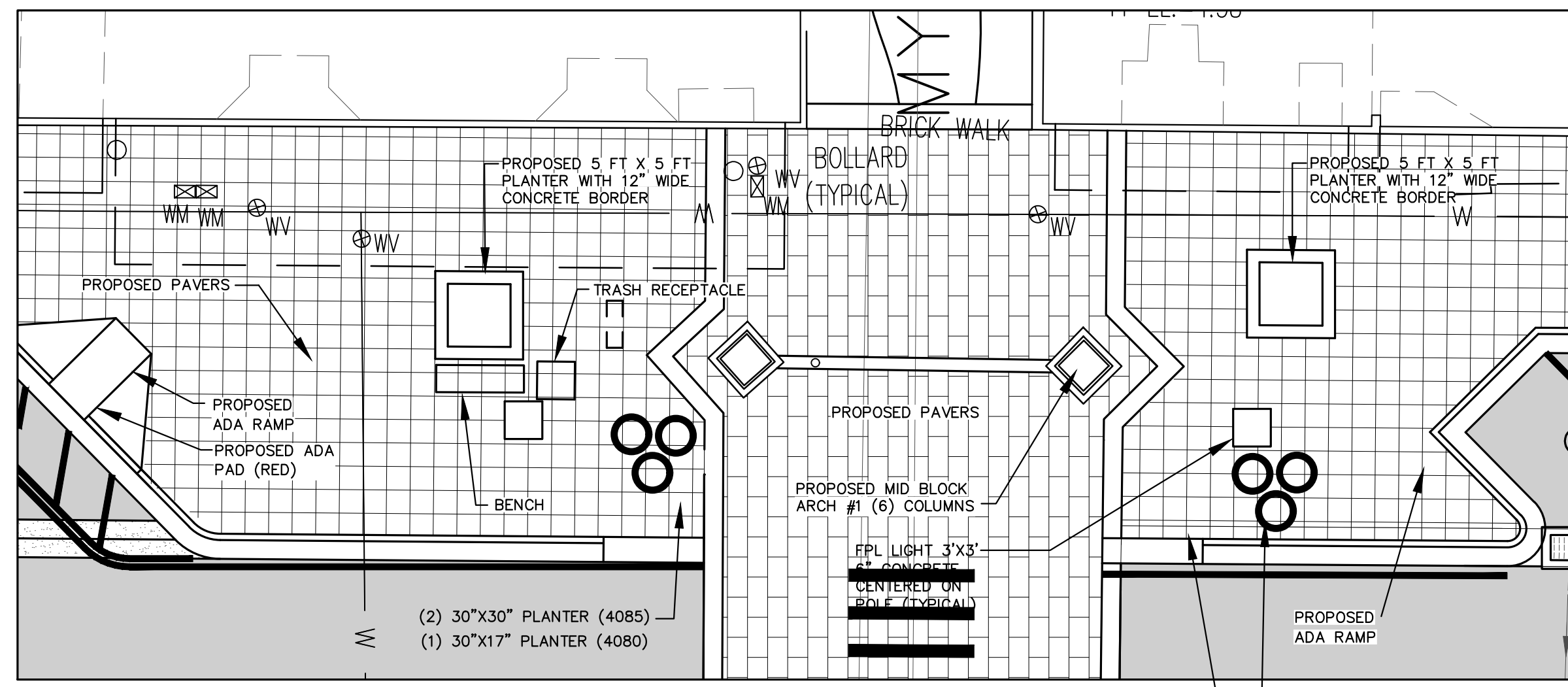
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6691 FAX (386) 677-2114 E-MAIL: [info@parkermynchenberg.com](mailto:info@parkermynchenberg.com)  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 INTERSECTION IMPROVEMENTS

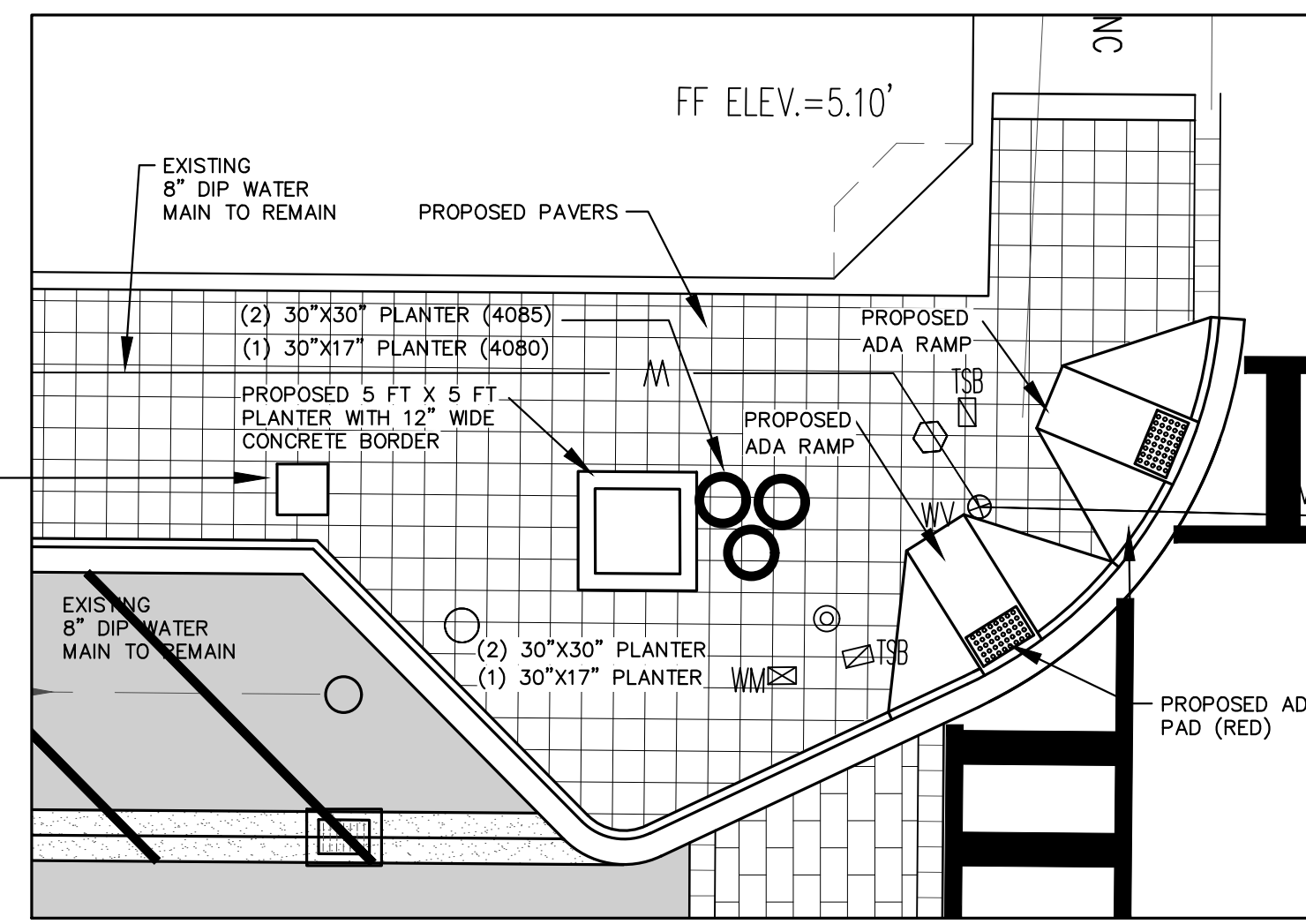
CITY PROJECT NO.  
 2018-036  
**23A**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=10'

SEAL

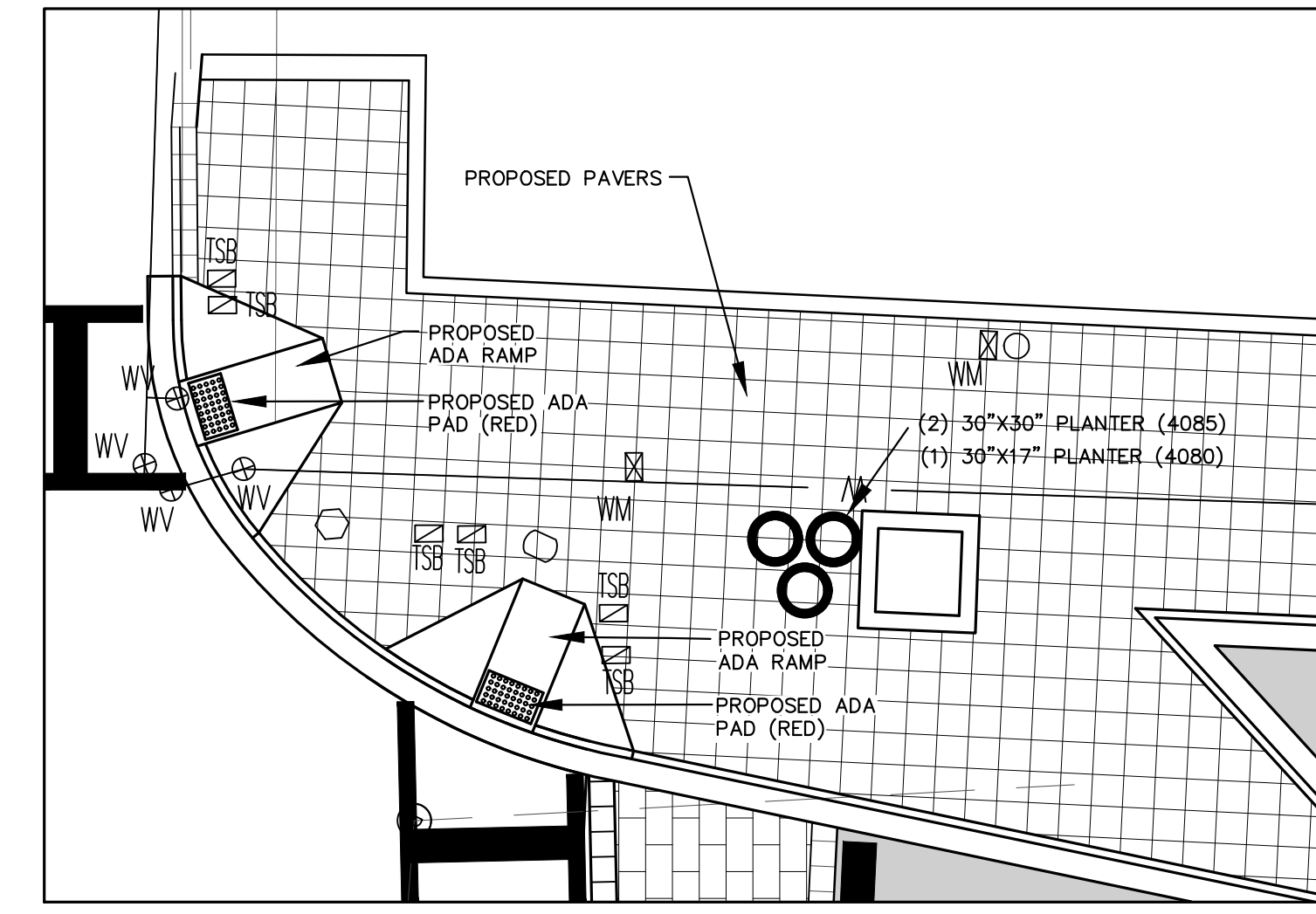




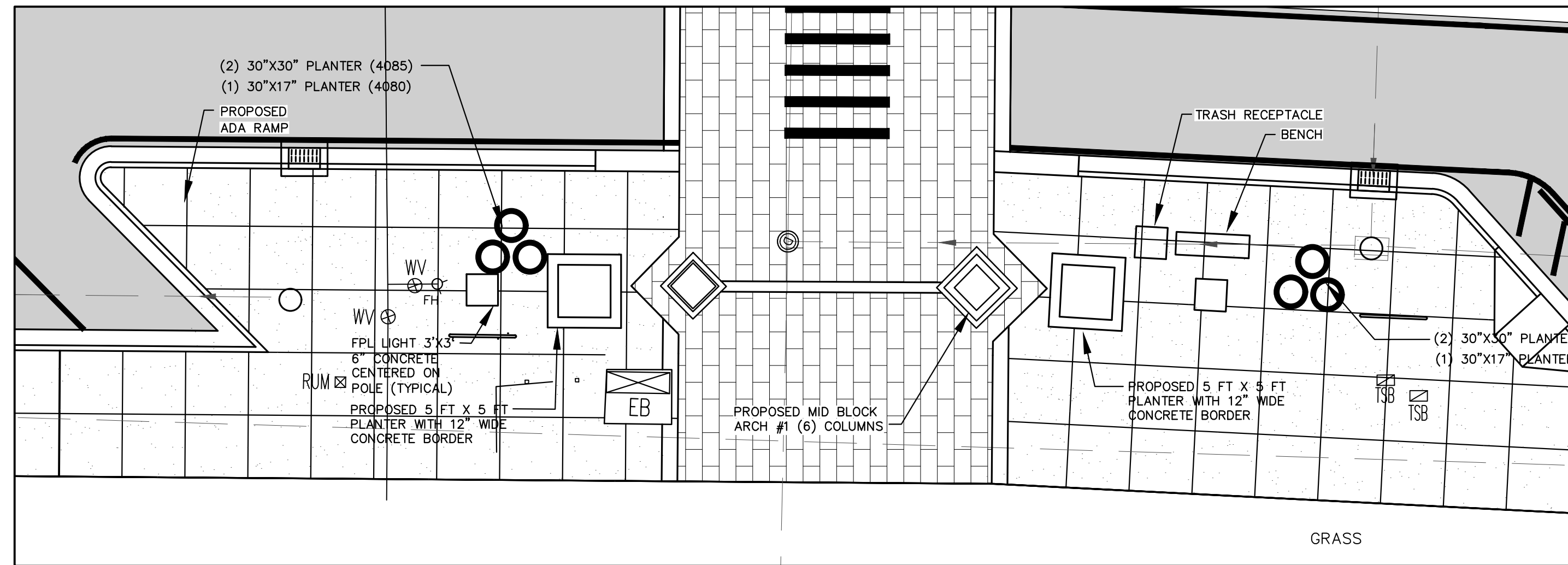
PROPOSED WEST MIDBLOCK BETWEEN ISB AND BAY ST.



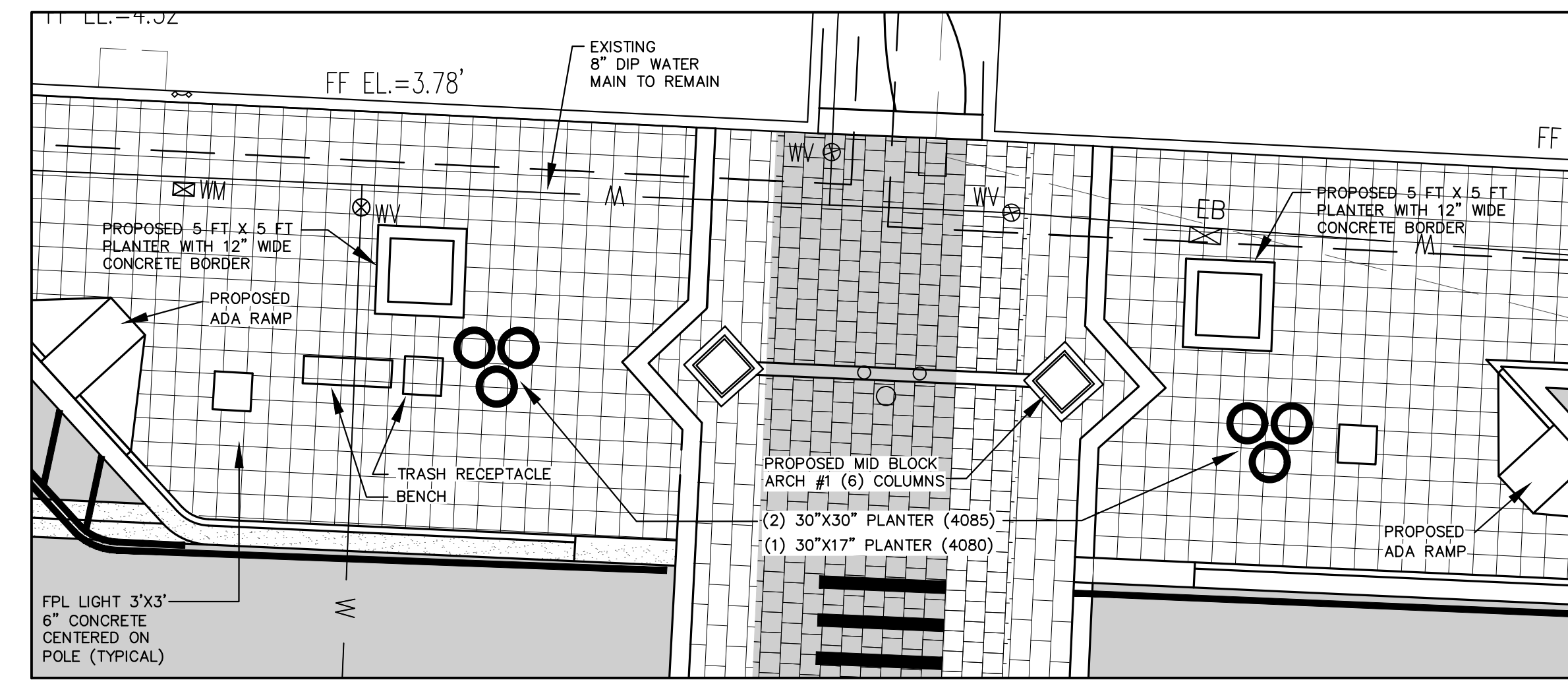
PROPOSED SOUTHWEST CORNER OF BEACH ST AND ISB.



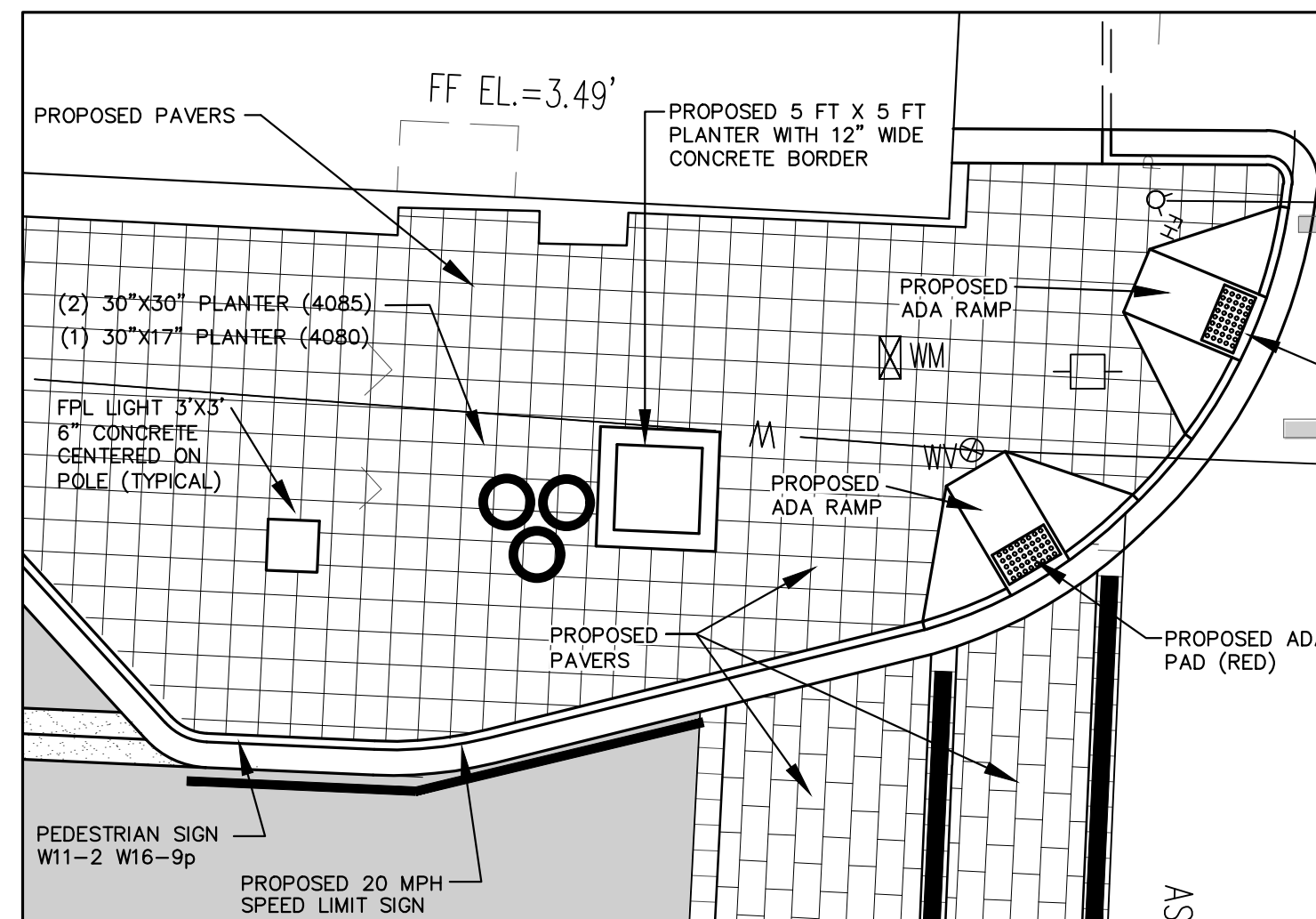
PROPOSED NORTHWEST CORNER OF BEACH ST AND ISB.



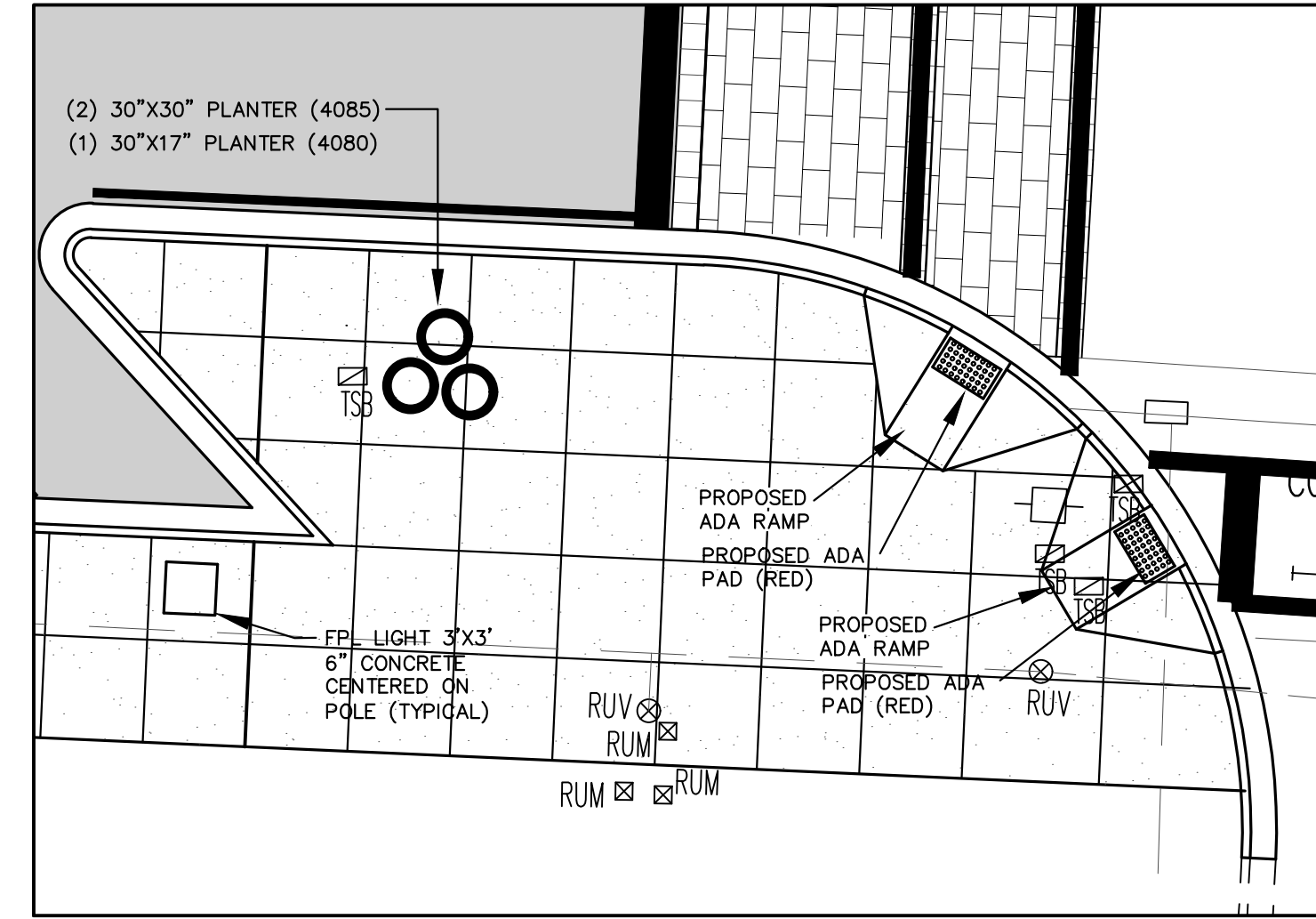
PROPOSED EAST MIDBLOCK BETWEEN ISB AND BAY ST.



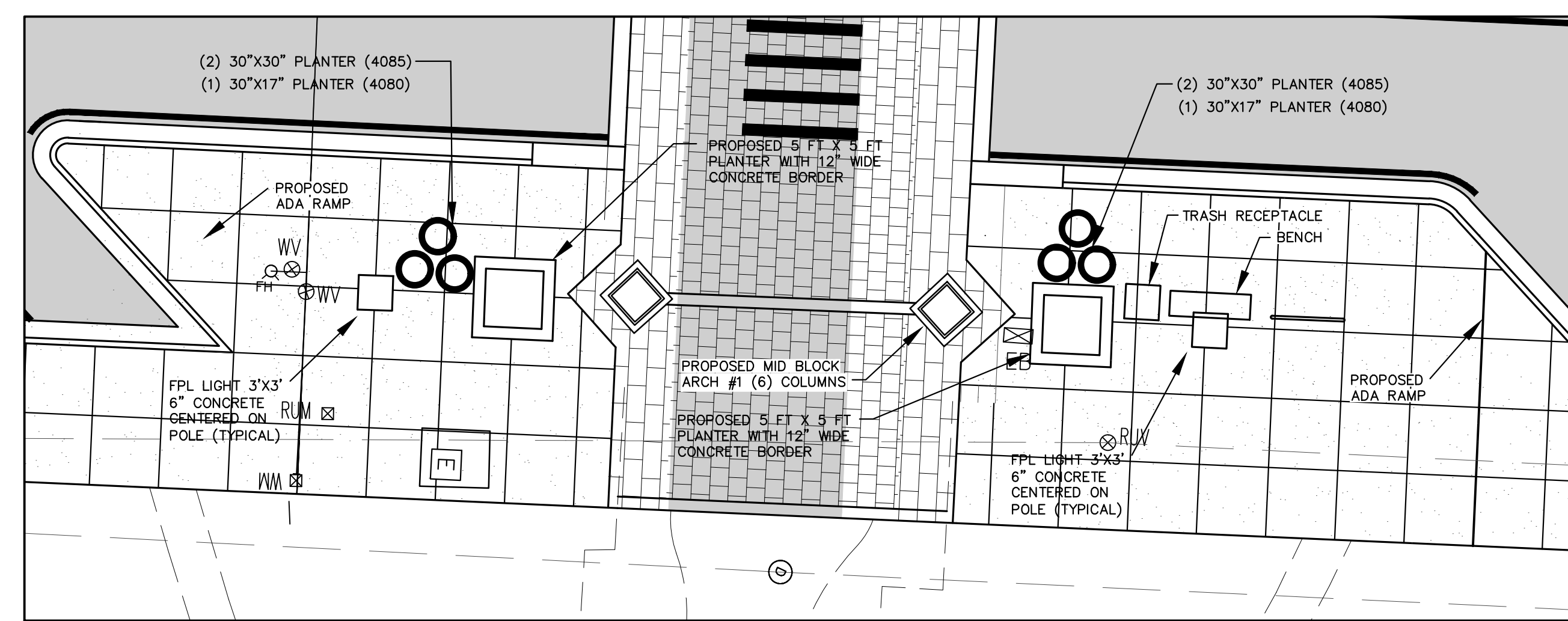
PROPOSED WEST MIDBLOCK BETWEEN ISB AND BAY ST.



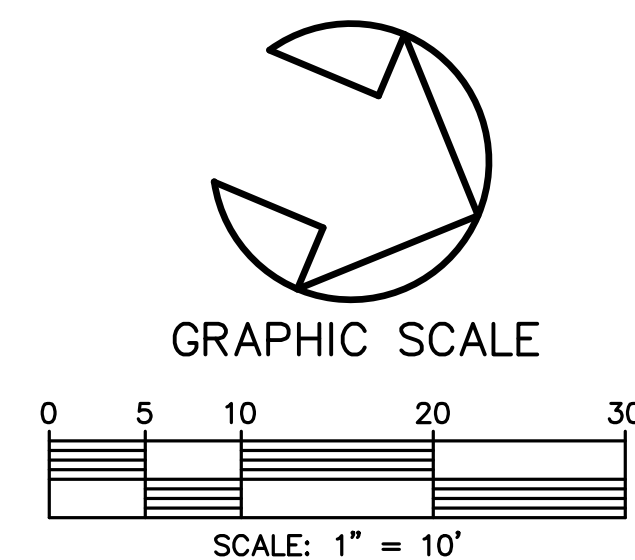
PROPOSED SOUTHWEST CORNER OF BEACH ST AND BAY ST.



PROPOSED SOUTHEAST CORNER OF BEACH ST AND BAY ST.



PROPOSED EAST MIDBLOCK BETWEEN ISB AND BAY ST.



NO.	DATE	DESCRIPTION	REVISIONS
3	8-13-19	BID SET	BH
2	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	80% PLANS	BH

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 INTERSECTION IMPROVEMENTS

CITY PROJECT NO.  
 2018-036

**23B**  
 SHEET NO.

Drawn By: BH

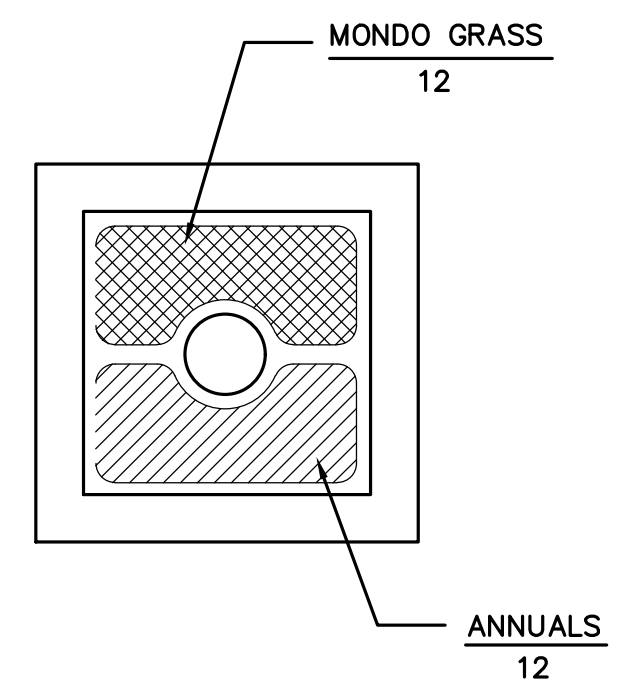
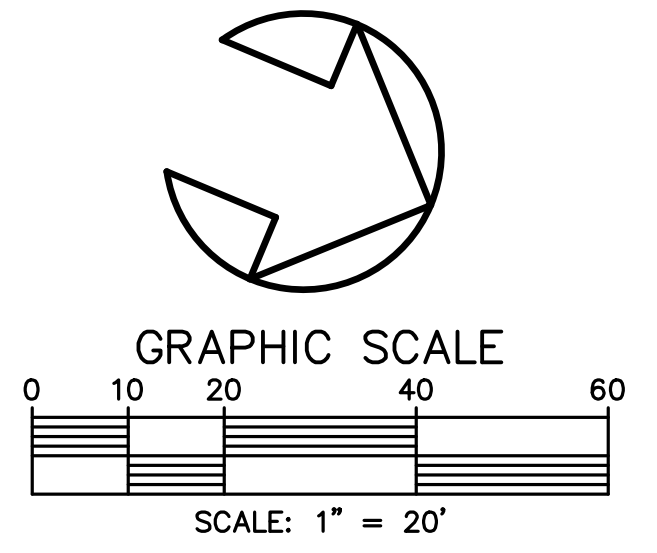
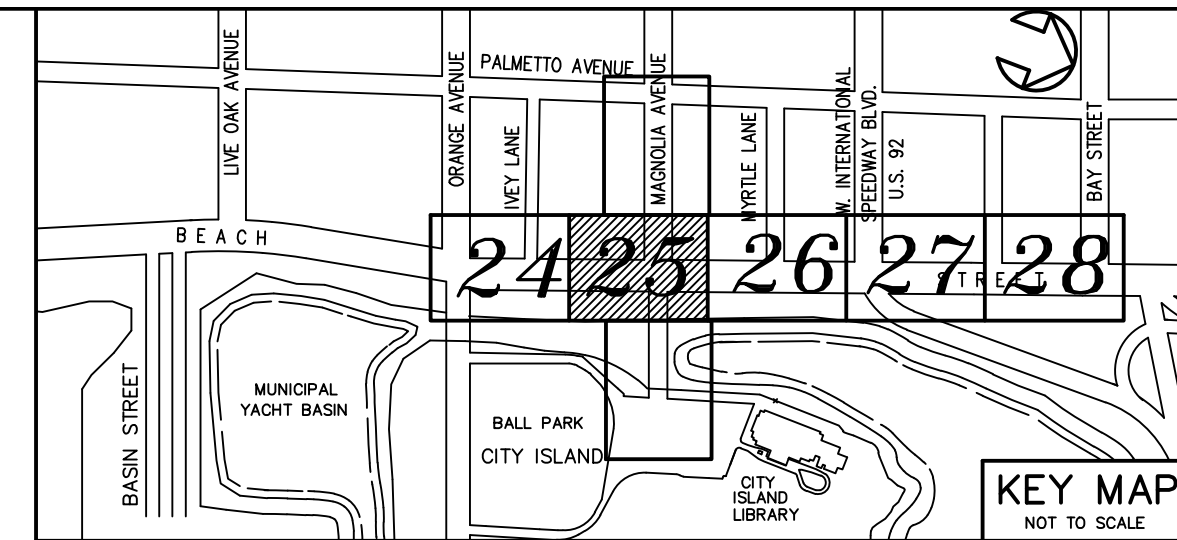
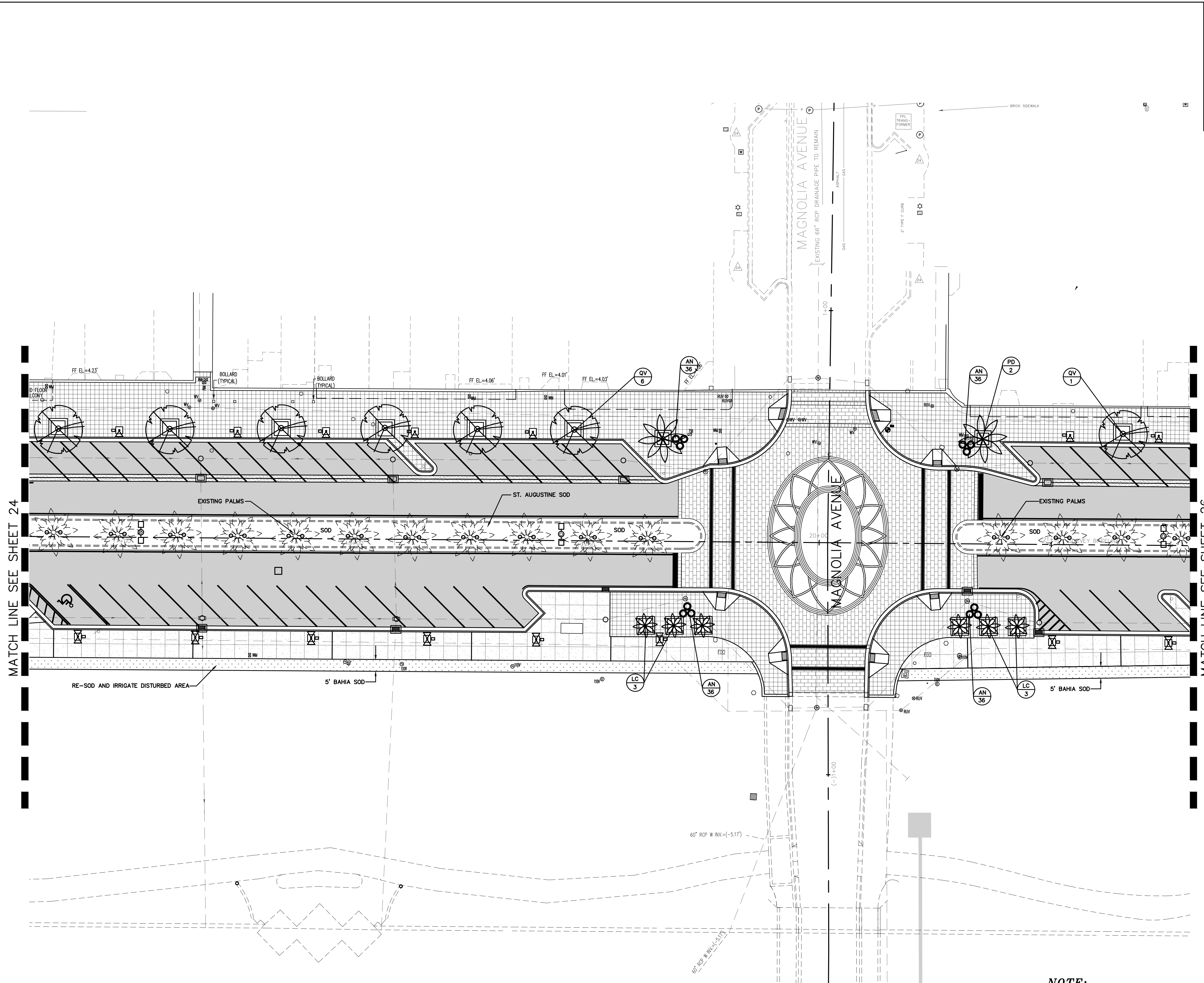
Date: 8-21-18

SCALE: 1"=10'

SEAL







**NOTE:**  
SEE SHEET 24 FOR LANDSCAPE PLANT LEGEND AND COUNTS

MATCH LINE SEE SHEET 24

MATCH LINE SEE SHEET 26

NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	80% PLANS	BH
			BT

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BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 LANDSCAPE PLAN

CITY PROJECT NO.  
2018-036

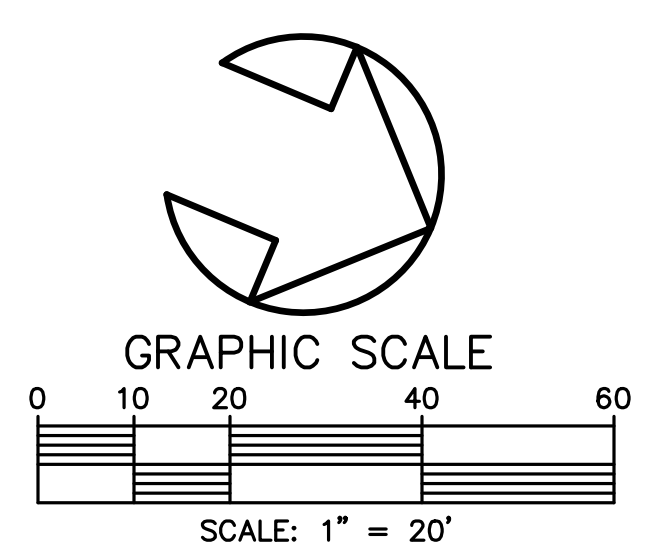
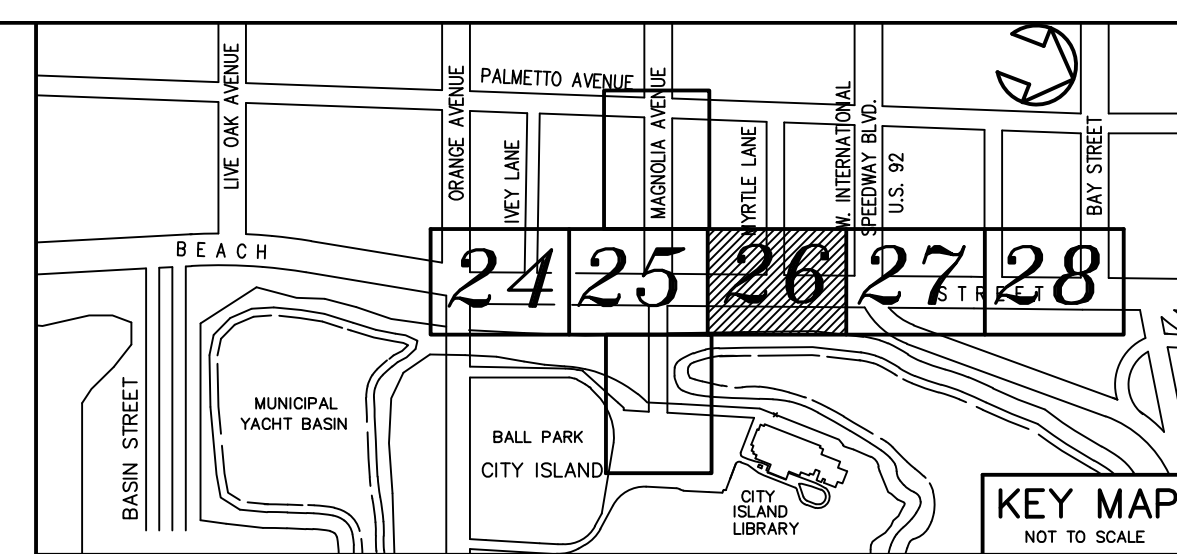
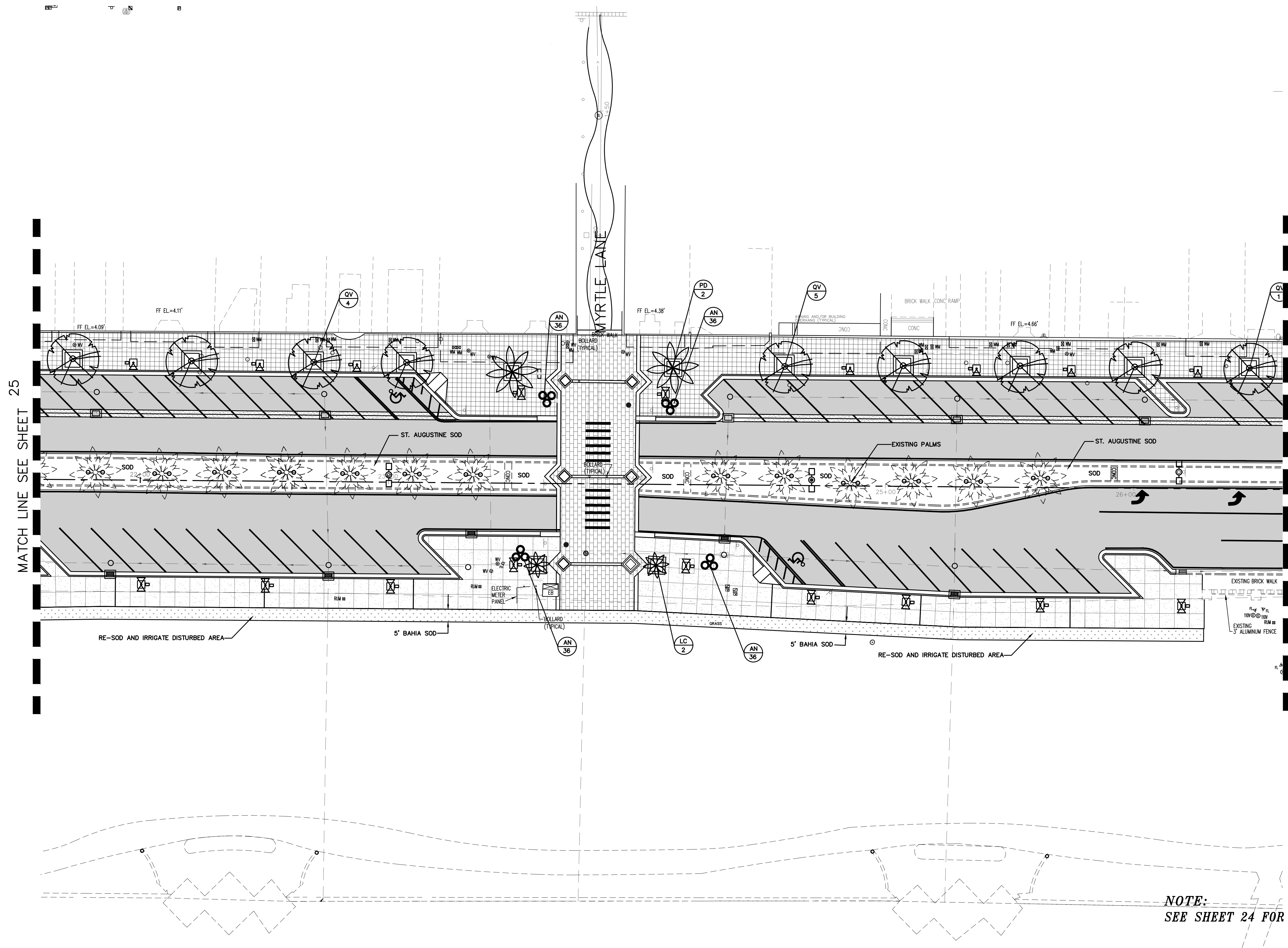
**25**  
SHEET NO.

Drawn By: BH

Date: 8-21-18

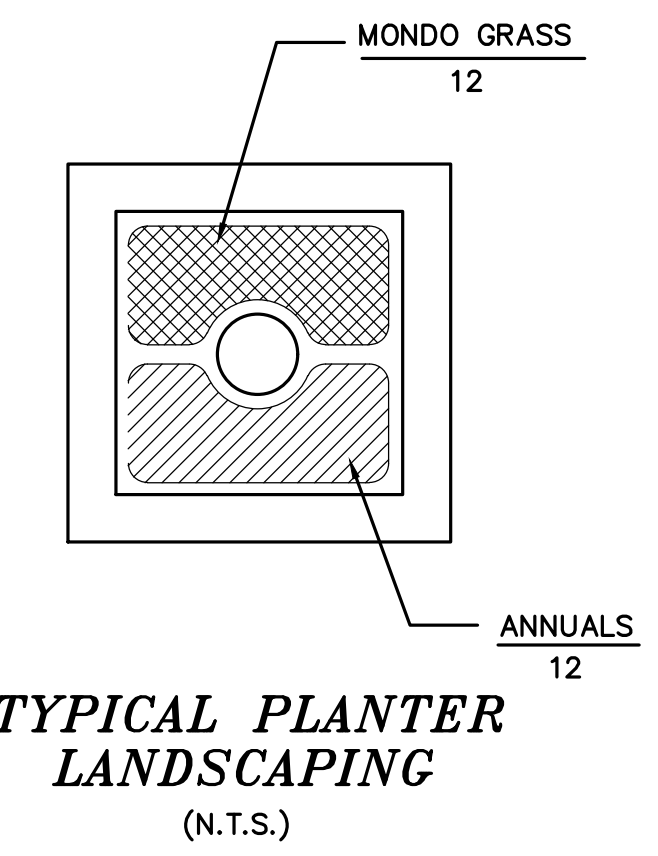
SCALE: 1"=20'

SEAL



MATCH LINE SEE SHEET 25

MATCH LINE SEE SHEET 27



**NOTE:**  
SEE SHEET 24 FOR LANDSCAPE PLANT LEGEND AND COUNTS

NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	80% PLANS	BH
			BT

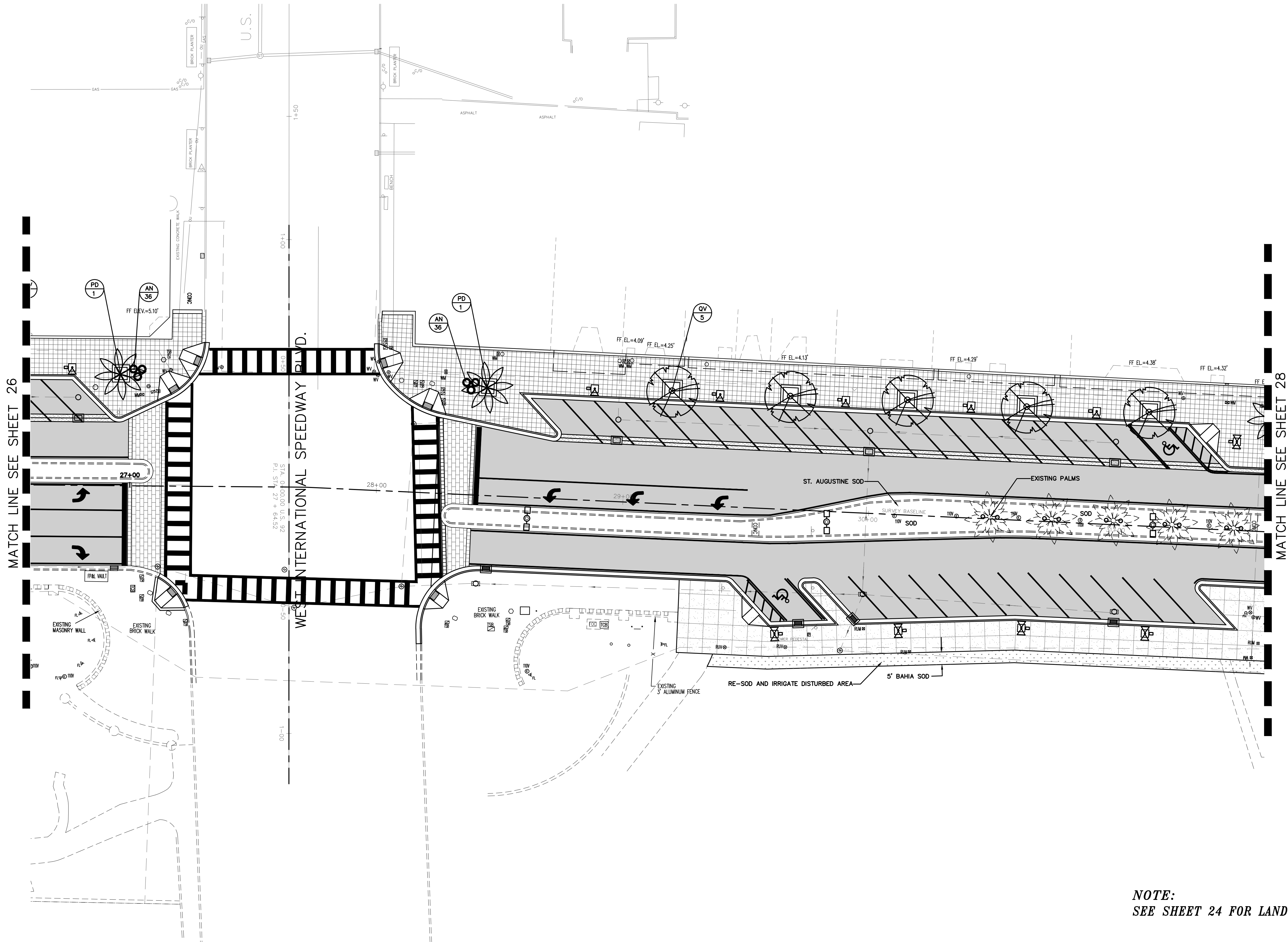
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6691 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 LANDSCAPE PLAN

CITY PROJECT NO.  
2018-036  
**26**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL

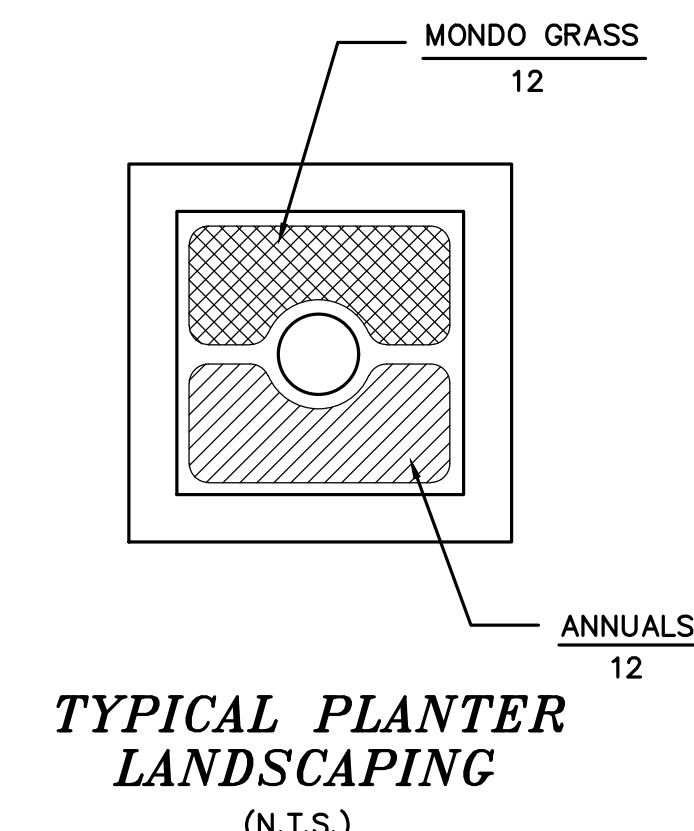




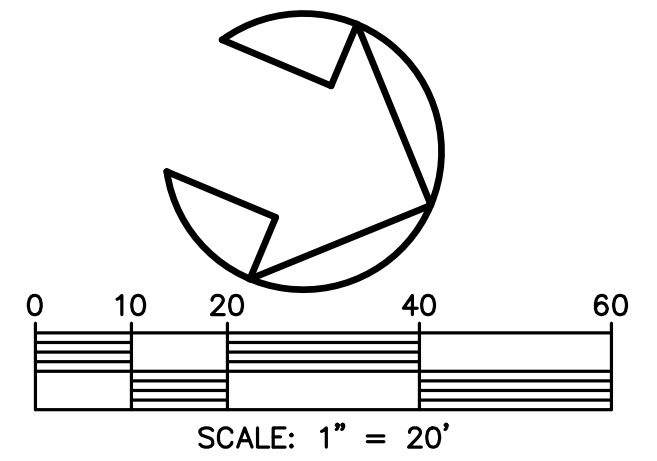
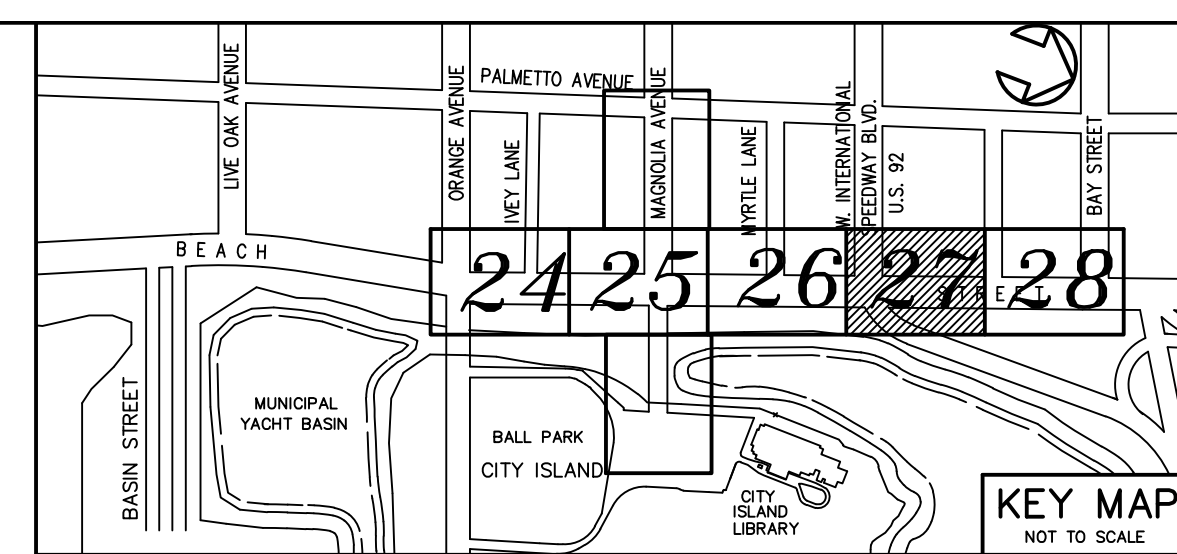
MATCH LINE SEE SHEET 26

MATCH LINE SEE SHEET 28

WEST INTERNATIONAL SPEEDWAY BLVD.



**NOTE:**  
SEE SHEET 24 FOR LANDSCAPE PLANT LEGEND AND COUNTS



NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	80% PLANS	BH
			BT

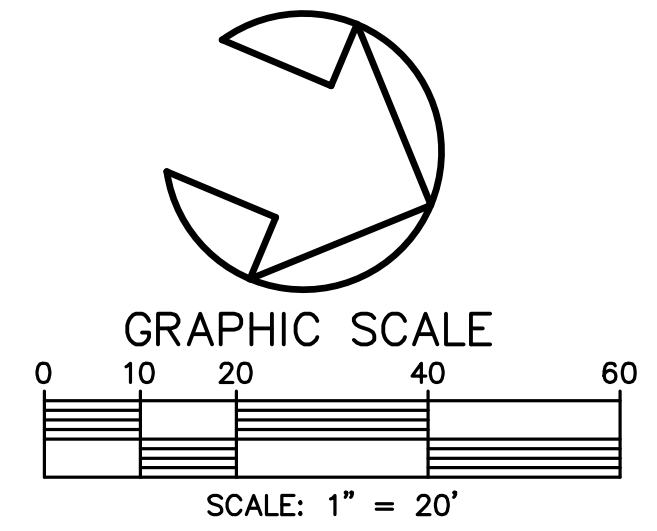
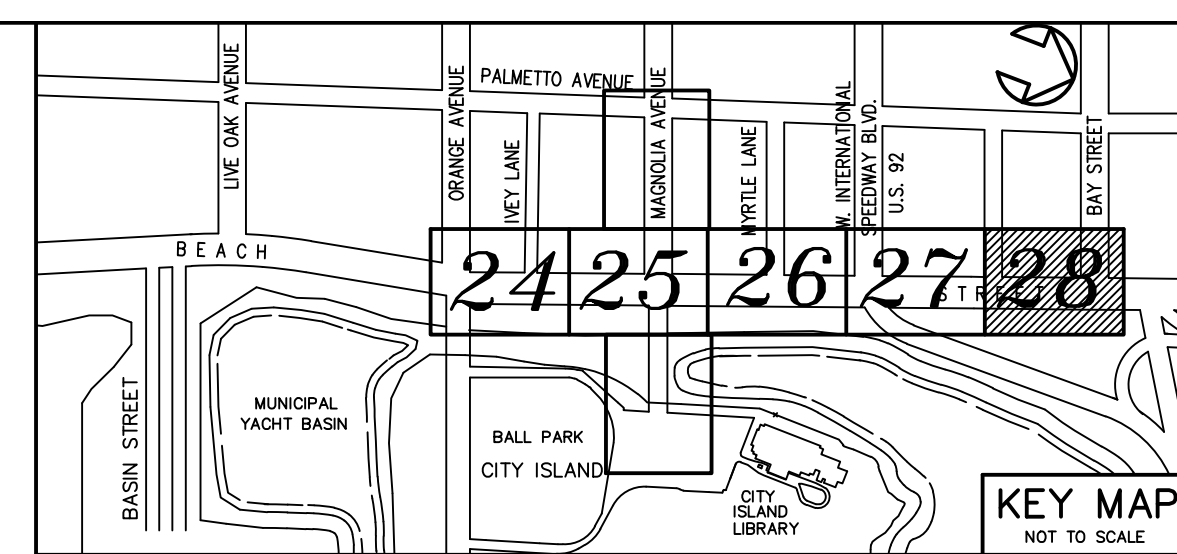
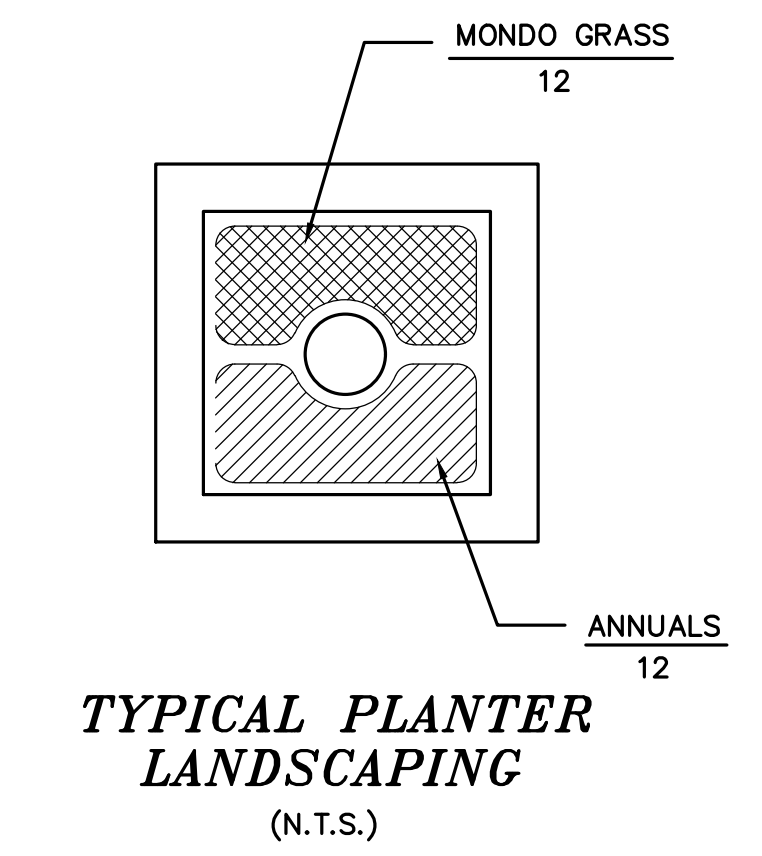
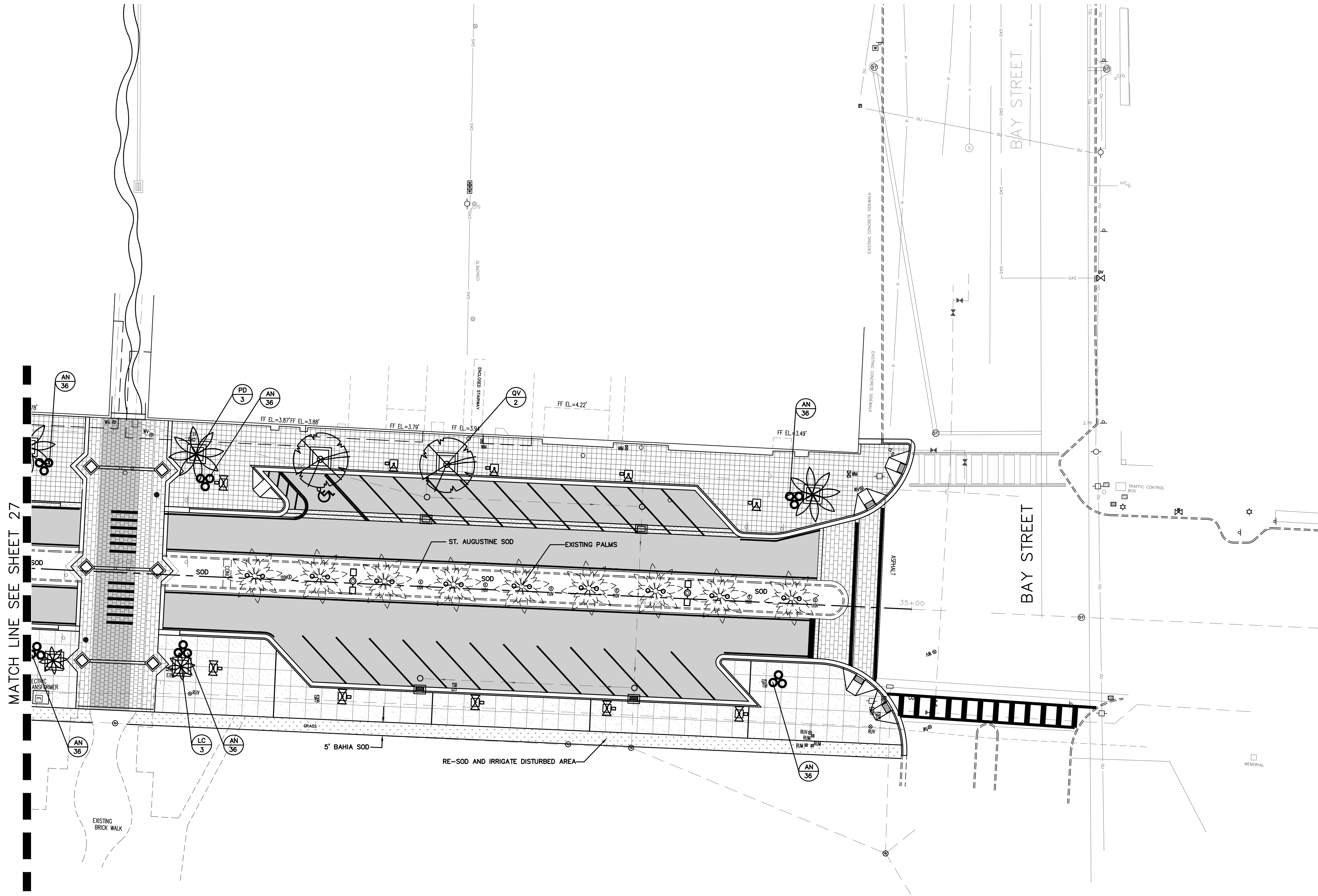
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 LANDSCAPE PLAN

CITY PROJECT NO.  
2018-036  
**27**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL

MATCH LINE SEE SHEET 27



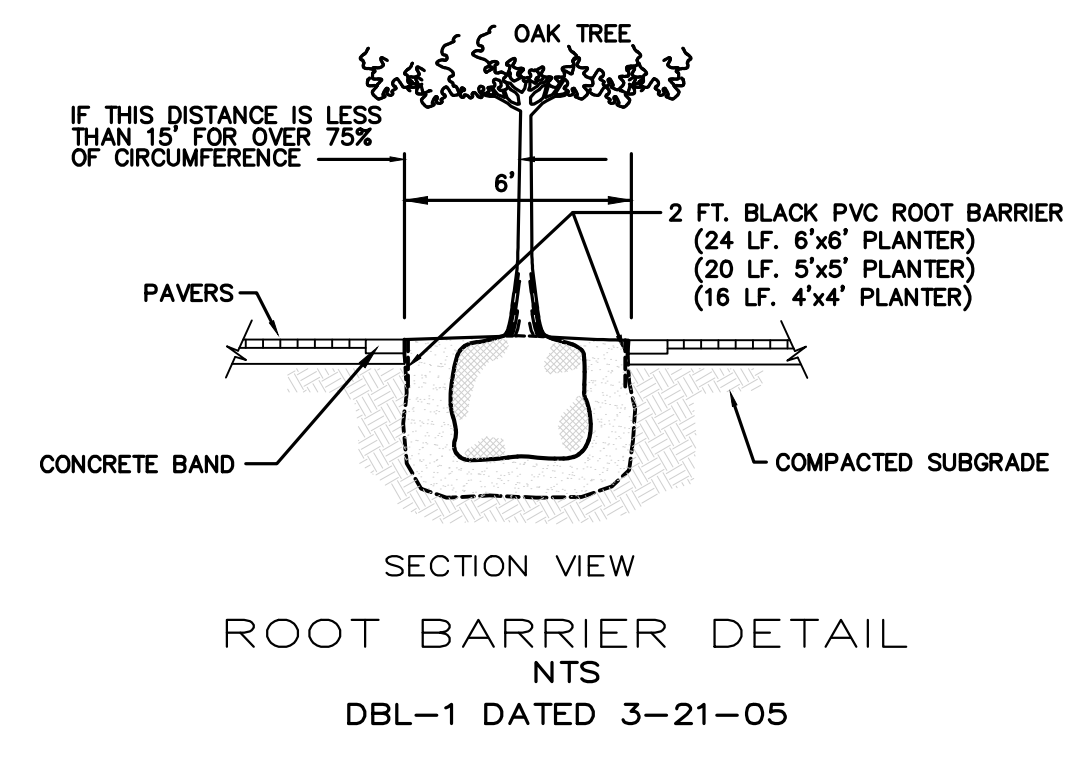
**NOTE:**  
SEE SHEET 24 FOR LANDSCAPE PLANT LEGEND AND COUNTS

<p><b>PARKER MYNCHENBERG &amp; ASSOCIATES, INC.</b>          PROFESSIONAL ENGINEERS * LANDSCAPE ARCHITECTS          1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117          (386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermychenberg.com          CERTIFICATE OF AUTHORIZATION NUMBER 00003910</p>		<table border="1"> <tr><td>NO.</td><td>DATE</td><td>DESCRIPTION</td><td>REVISIONS</td></tr> <tr><td>4</td><td>8-13-19</td><td>BID SET</td><td>BH</td></tr> <tr><td>3</td><td>7-9-19</td><td>100% PLANS</td><td>BH</td></tr> <tr><td>2</td><td>2-25-19</td><td>90% PLANS</td><td>BH</td></tr> <tr><td>1</td><td>12-18-18</td><td>60% PLANS</td><td>BH</td></tr> <tr><td></td><td></td><td></td><td>BT</td></tr> </table>	NO.	DATE	DESCRIPTION	REVISIONS	4	8-13-19	BID SET	BH	3	7-9-19	100% PLANS	BH	2	2-25-19	90% PLANS	BH	1	12-18-18	60% PLANS	BH				BT
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			BT																							
<p>BEACH STREET STREETScape          ORANGE TO BAY          DAYTONA BEACH * FLORIDA</p>		<p>LANDSCAPE PLAN</p>																								
<p>CITY PROJECT NO. 2018-036</p>																										
<p>28 SHEET NO.</p>																										
<p>Drawn By: BH</p>																										
<p>Date: 8-21-18</p>																										
<p>SCALE: 1"=20'</p>																										
<p>SEAL</p>																										

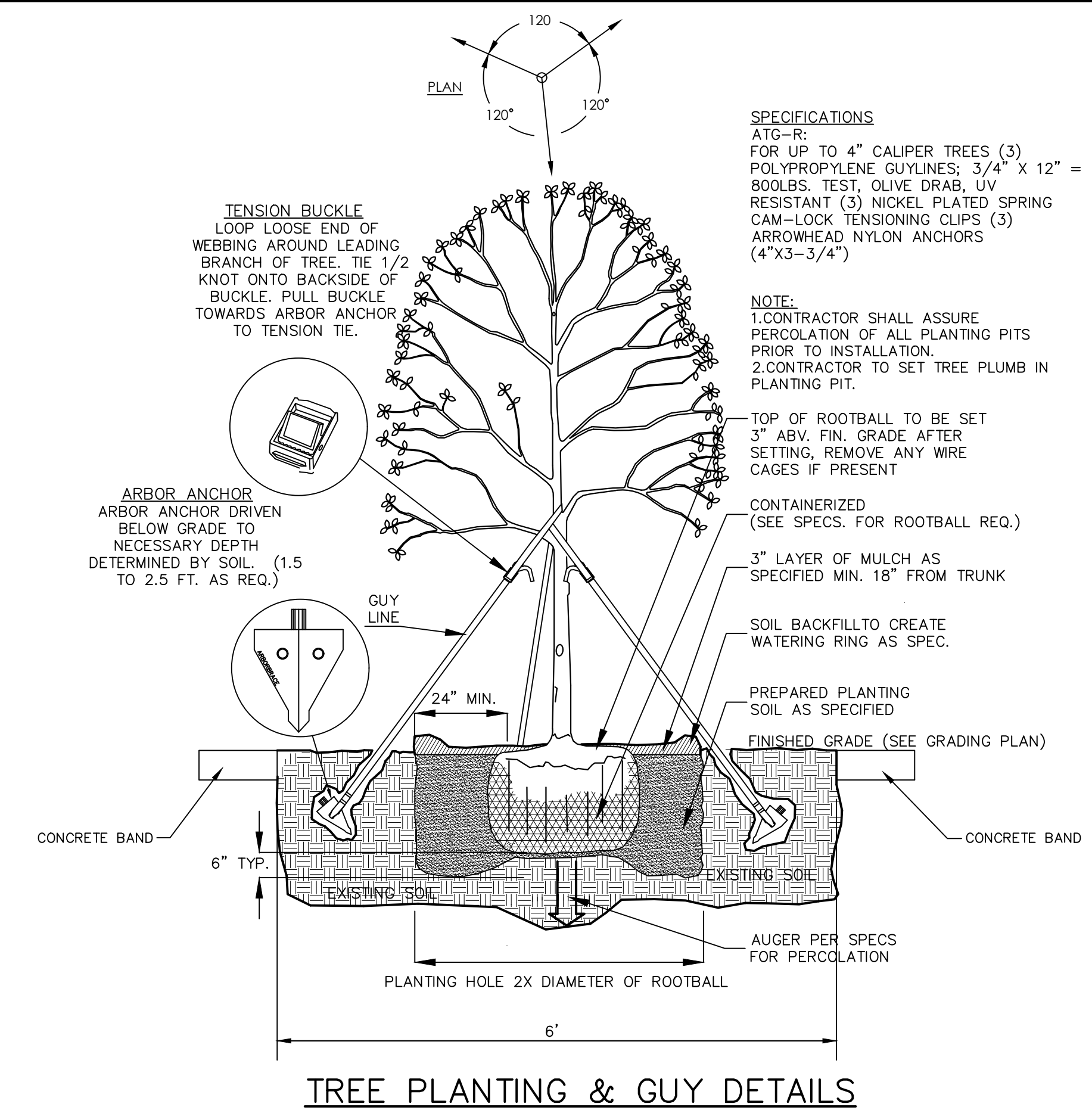


**LANDSCAPE NOTES**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND WORK CALLED FOR IN THE LANDSCAPE PLAN. THE PLANT LIST QUANTITIES SHALL BE USED AS A GUIDE ONLY. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND REPORT ANY DISCREPANCIES.
- ALL PLANT BEDS AND ALL EXISTING AND PROPOSED PARKING LOT ISLANDS SHALL BE DRESSED WITH 2"-3" PINE BARK.
- THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR STABILITY AND PLUMB CONDITION OF ALL PLANTS AND SHALL BE LEGALLY LIABLE FOR ANY DAMAGE CAUSED BY INSTABILITY OF PLANT MATERIALS.
- THE CONTRACTOR SHALL DISPOSE OF STUMPS AND MAJOR ROOTS OF ALL PLANTS TO BE REMOVED.
- THE LANDSCAPE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH ALL OTHER WORK TO BE DONE ON SITE, PRIOR TO LANDSCAPE INSTALLATION.
- THE CONTRACTOR SHALL INSURE ADEQUATE VERTICAL DRAINAGE IN ALL PLANT PITS. TEST HOLES FOR THE VISUAL INSPECTION OF DRAINAGE SHALL BE DUG PRIOR TO INSTALLATION OF ANY PLANTS. THE CONTRACTOR SHALL AMEND POOR DRAINAGE UNTIL ACCEPTABLE FOR PLANT SURVIVABILITY.
- ALL PLANT PITS TO BE TWICE THE WIDTH OF THE ROOT BALL AND SHALL BE BACKFILLED WITH 50% SAND, 30% PEAT, 25% COW MANURE UNIFORMLY MIXED.
- THE CONTRACTOR SHALL REPLACE ALL PLANTS WHICH ARE NOT IN A HEALTHY GROWING CONDITION PRIOR TO ACCEPTANCE. ALL PLANTS SHALL BE MAINTAINED AND GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF 90 DAYS FOLLOWING ACCEPTANCE BY THE OWNER. ANY PLANTS FOUND NOT TO BE IN A HEALTHY GROWING CONDITION AT THE END OF THE GUARANTEE PERIOD SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- SOD SHALL BE STRONG, SOLID SOD PLACED EVENLY AND WITHOUT GAPS BETWEEN PIECES. GROUND SHALL BE THOROUGHLY WETTED BEFORE PLACING SOD. SOD SHALL BE PLACED TO LIMITS SHOWN AND TO THE EXTENT OF DAMAGED EXISTING SOD. EXISTING GROUND SHALL BE STRIPPED BEFORE PLACING NEW SOD.
- ALL TREES AND SHRUBS TO BE PLANTED NO LOWER THAN PROPOSED GRADE.
- ALL PLANT MATERIALS SHALL BE FLORIDA NO. 1 GRADE, OR BETTER, ACCORDING TO THE CURRENT "GRADES AND STANDARDS FOR NURSERY PLANTS", STATE OF FLORIDA, DEPARTMENT OF AGRICULTURE, TALLAHASSEE. EXCEPT WHERE IN THE DISCRETION OF THE ENFORCEMENT OFFICIAL NATURAL VEGETATION IS ADEQUATE TO PROVIDE THE NECESSARY VISUAL SCREENING.
  - A. GROUND COVERS. GROUND COVERS MAY INCLUDE ANY PLANT MATERIALS THAT REACH AN AVERAGE HEIGHT OF NOT MORE THAN 12 INCHES. GROUND COVERS MUST PRESENT A FINISHED APPEARANCE AND PROVIDE REASONABLY COVERAGE AT TIME OF PLANTING.
  - B. LAWN GRASS. GRASSSED AREAS SHALL BE PLANTED WITH ST. AUGUSTINE "FLORATAM" OR EQUAL APPROVED BY OWNER. EAST SIDE 5 FT. GRASS STRIP TO BE BAHIA SOD.



SECTION VIEW  
ROOT BARRIER DETAILS  
DBL-1 DATED 3-21-05



**SPECIFICATIONS**  
ATG-R:  
FOR UP TO 4" CALIPER TREES (3)  
POLYPROPYLENE GUYLINES: 3/4" X 12" = 800LBS. TEST, OLIVE DRAB, UV RESISTANT (3)  
NICKEL PLATED SPRING CAM-LOCK TENSIONING CLIPS (3)  
ARROWHEAD NYLON ANCHORS (4"x3-3/4")

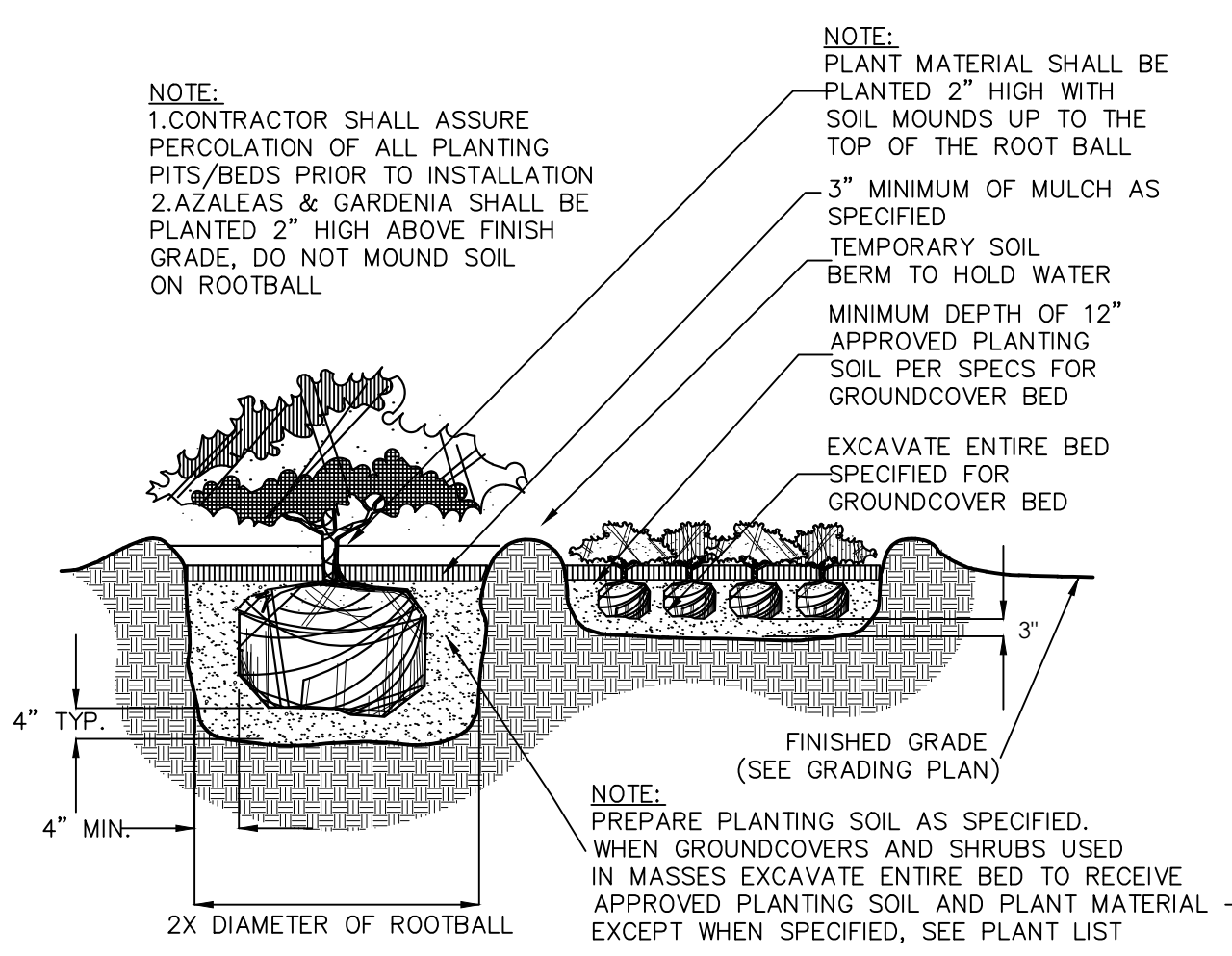
**NOTE:**  
1. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.  
2. CONTRACTOR TO SET TREE PLUMB IN PLANTING PIT.

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	7-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH

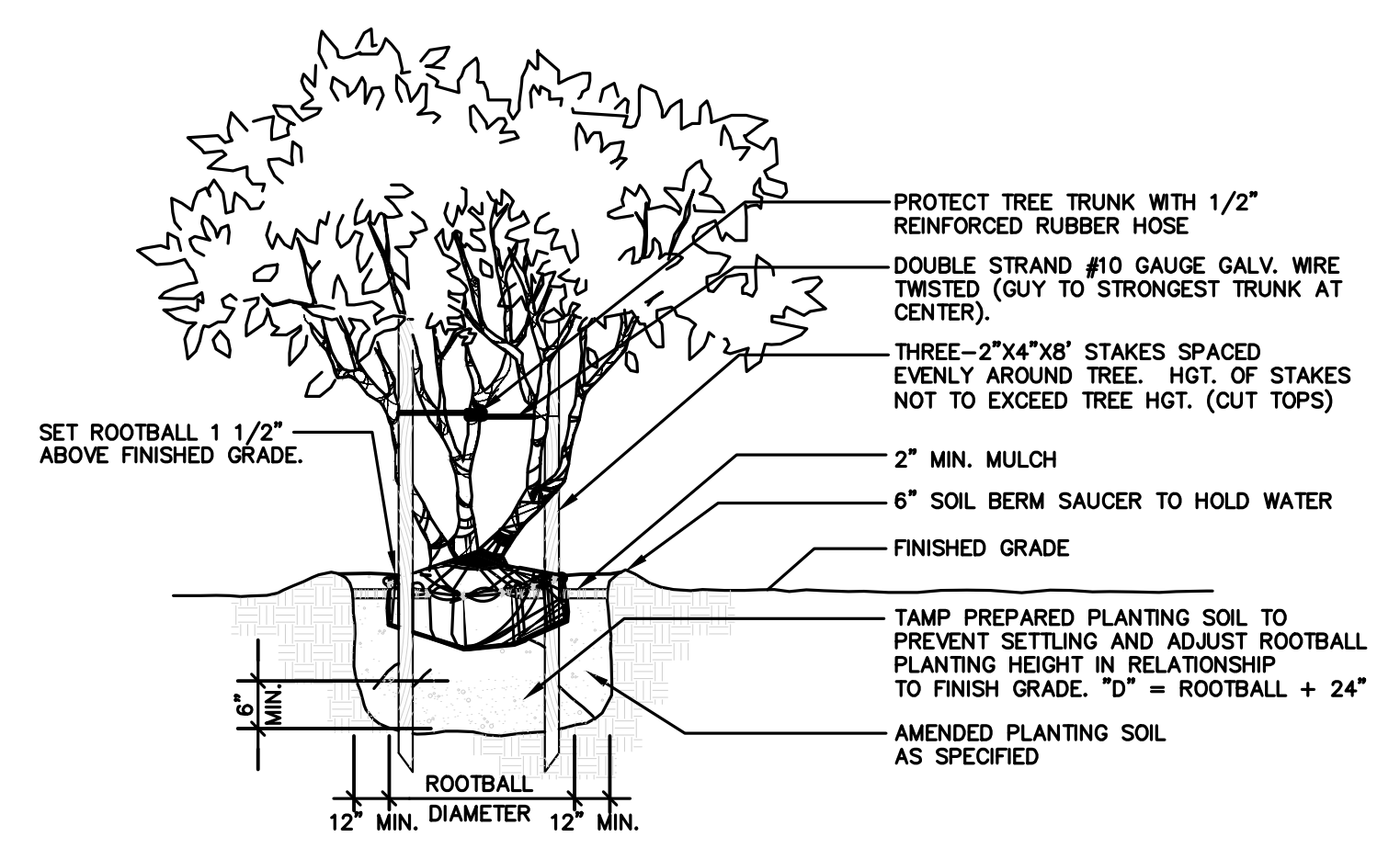
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET, STREETSCAPE  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
LANDSCAPE DETAILS

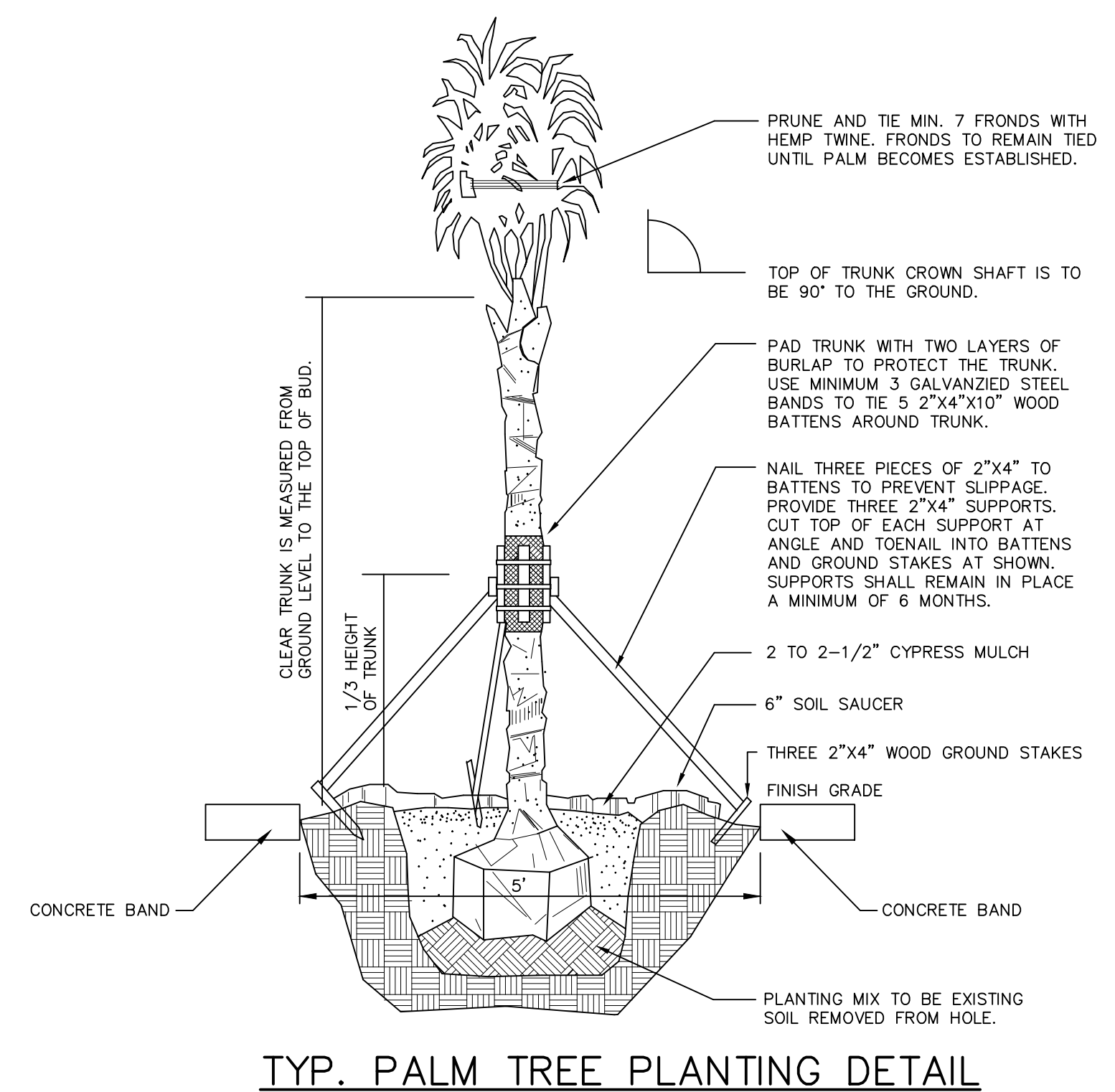
CITY PROJECT NO. 2018-036
<b>29</b> SHEET NO.
Drawn By: M. GRECO
Date: 08/21/18
SCALE: N.T.S.
SEAL



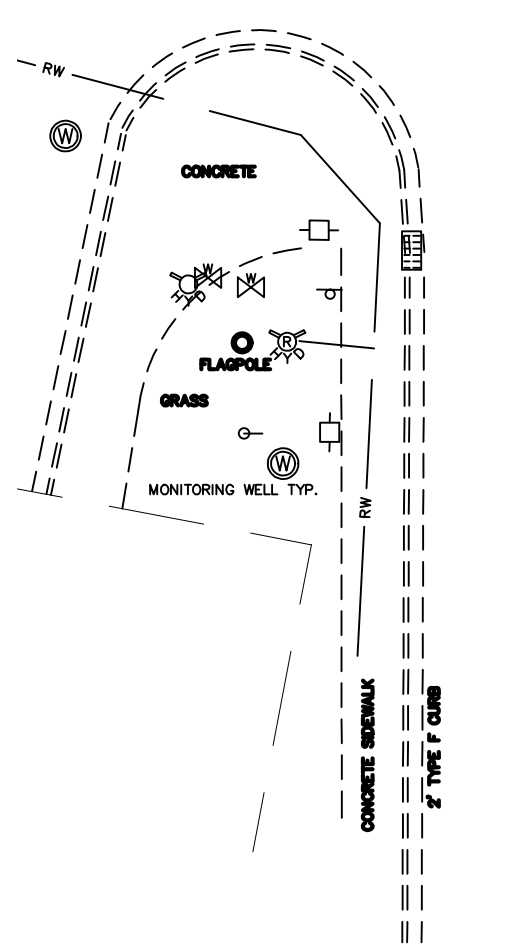
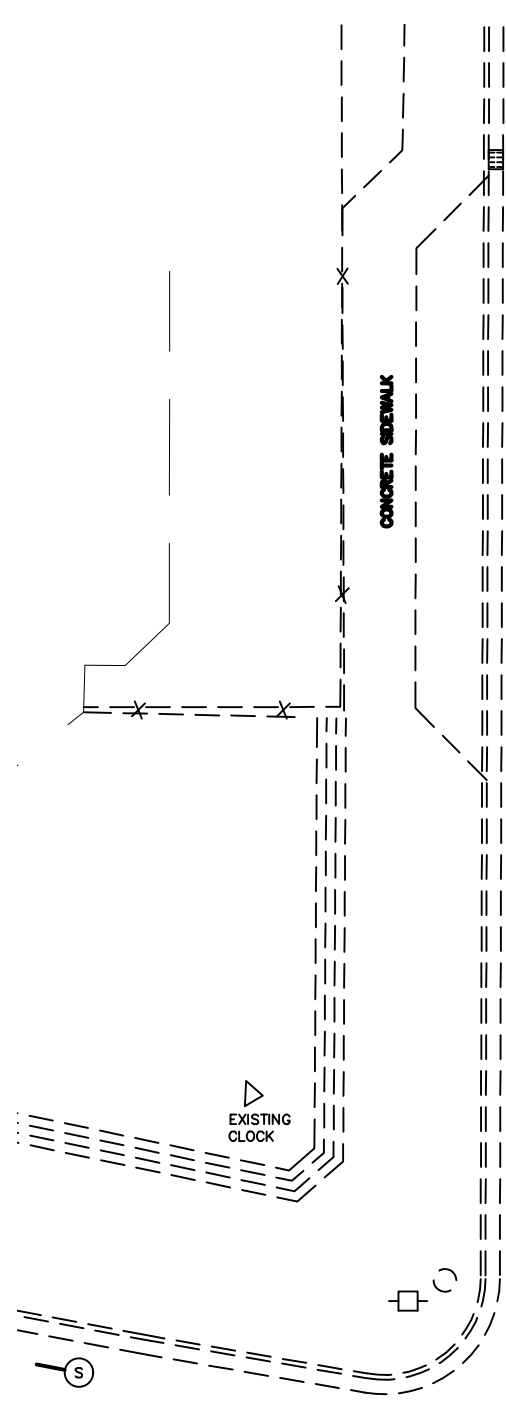
SHRUB AND GROUND COVER PLANTING DETAIL



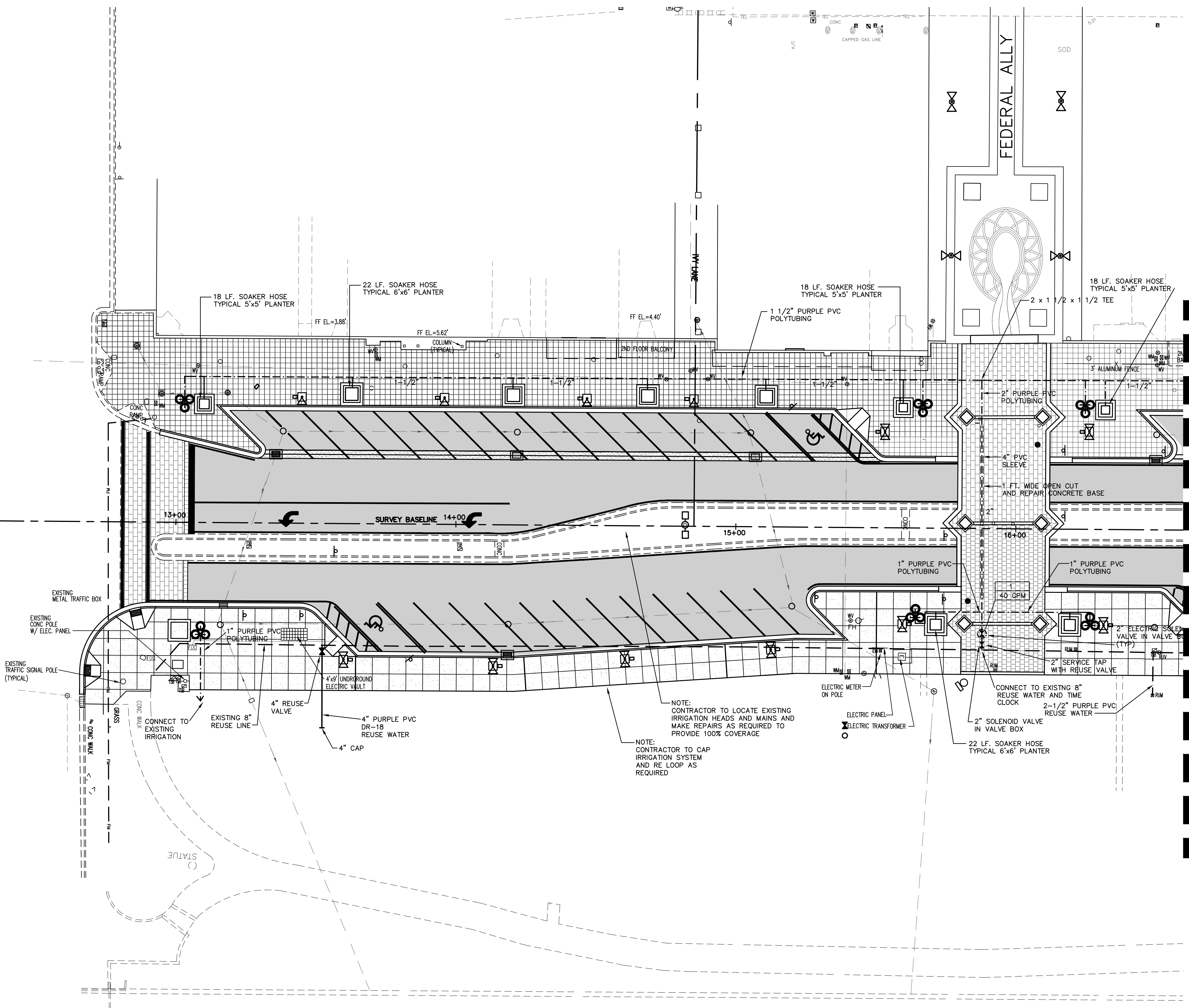
TYPICAL MULTI-TRUNK TREE  
NTS



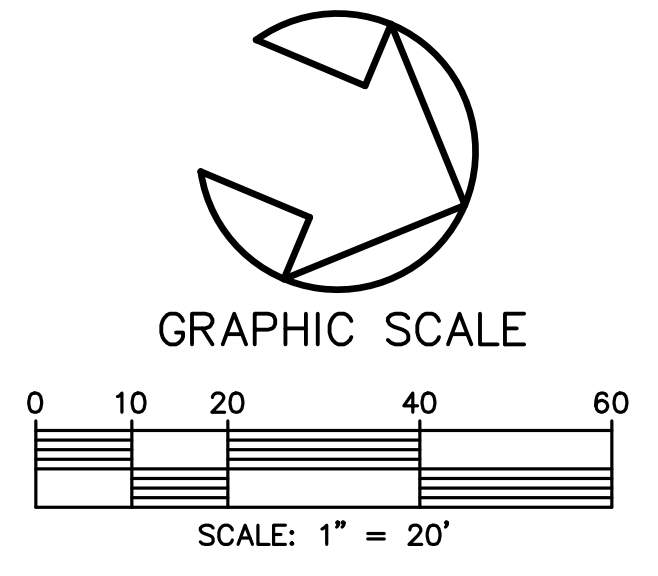
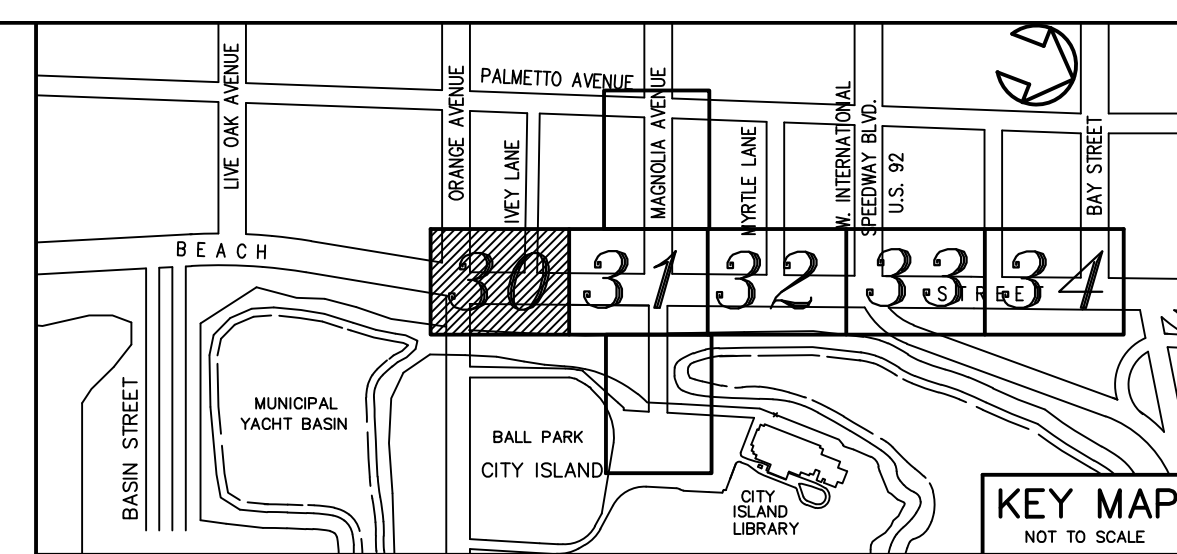
TYP. PALM TREE PLANTING DETAIL



ORANGE AVENUE



MATCH LINE SEE SHEET 31



NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	80% PLANS	BH

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 IRRIGATION PLAN

CITY PROJECT NO.  
 2018-036  
**30**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL



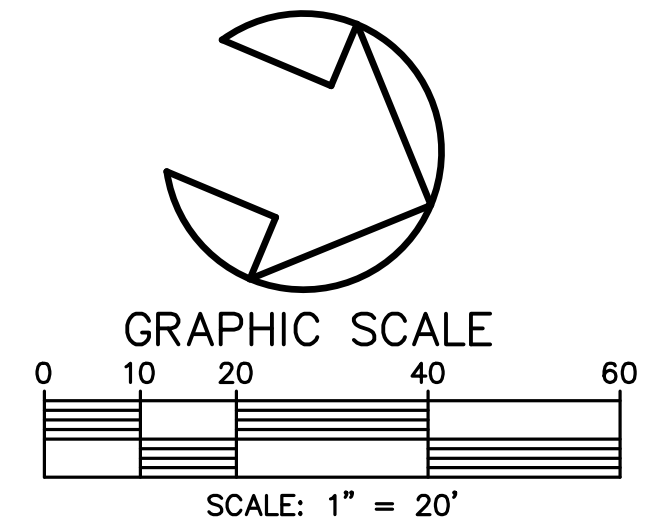
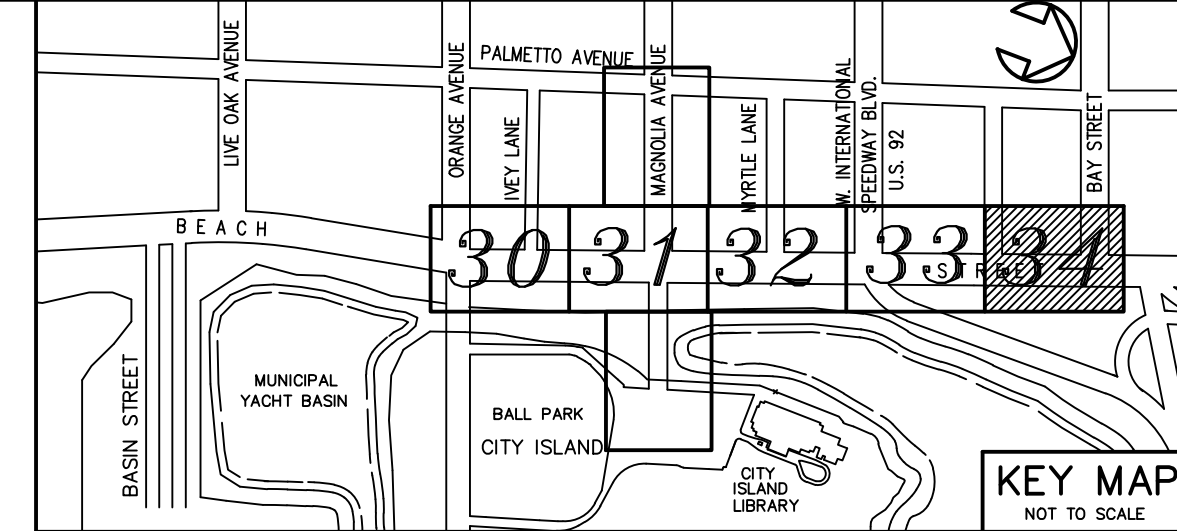
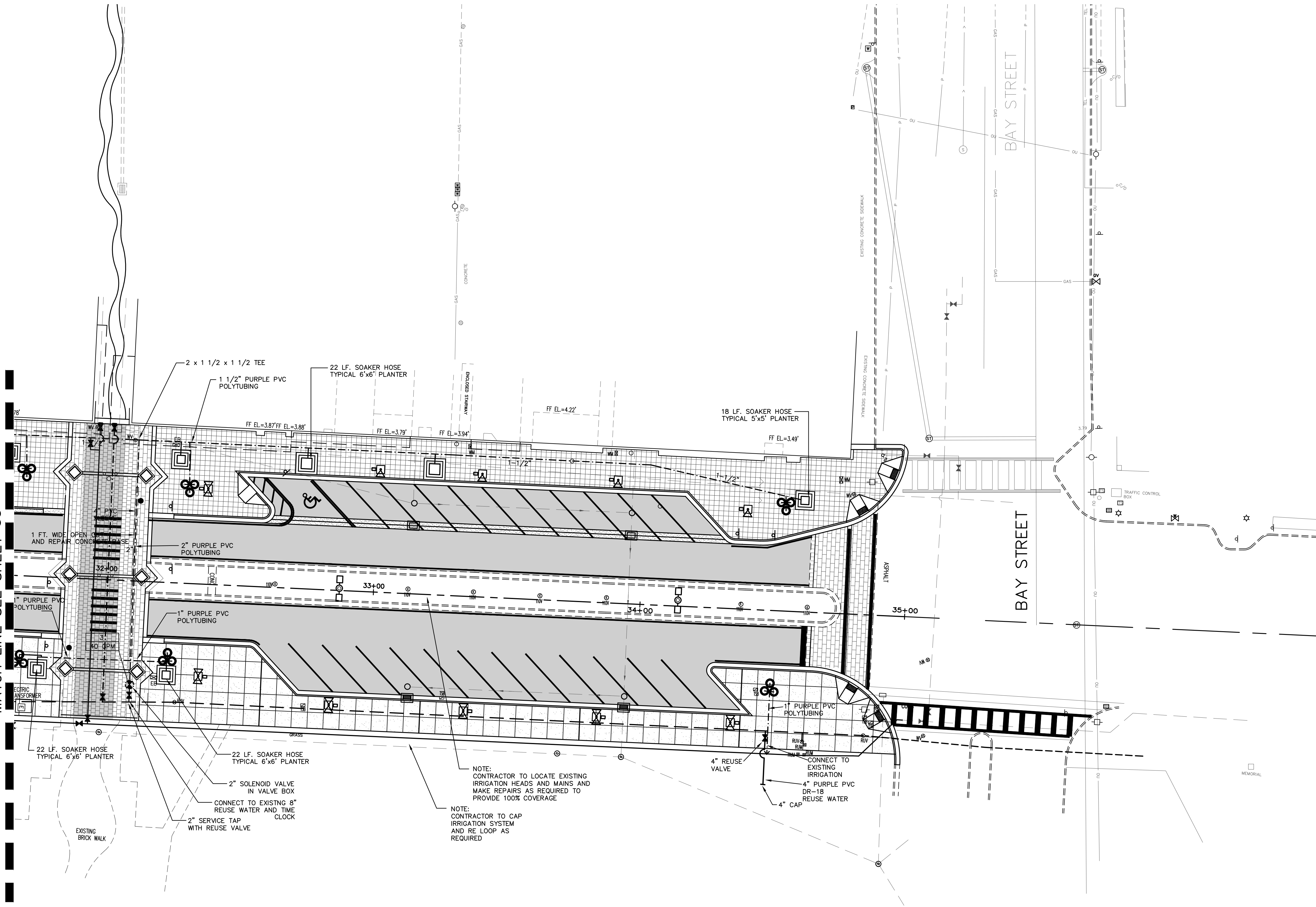








MATCH LINE SEE SHEET 33



NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	80% PLANS	BH
			BT

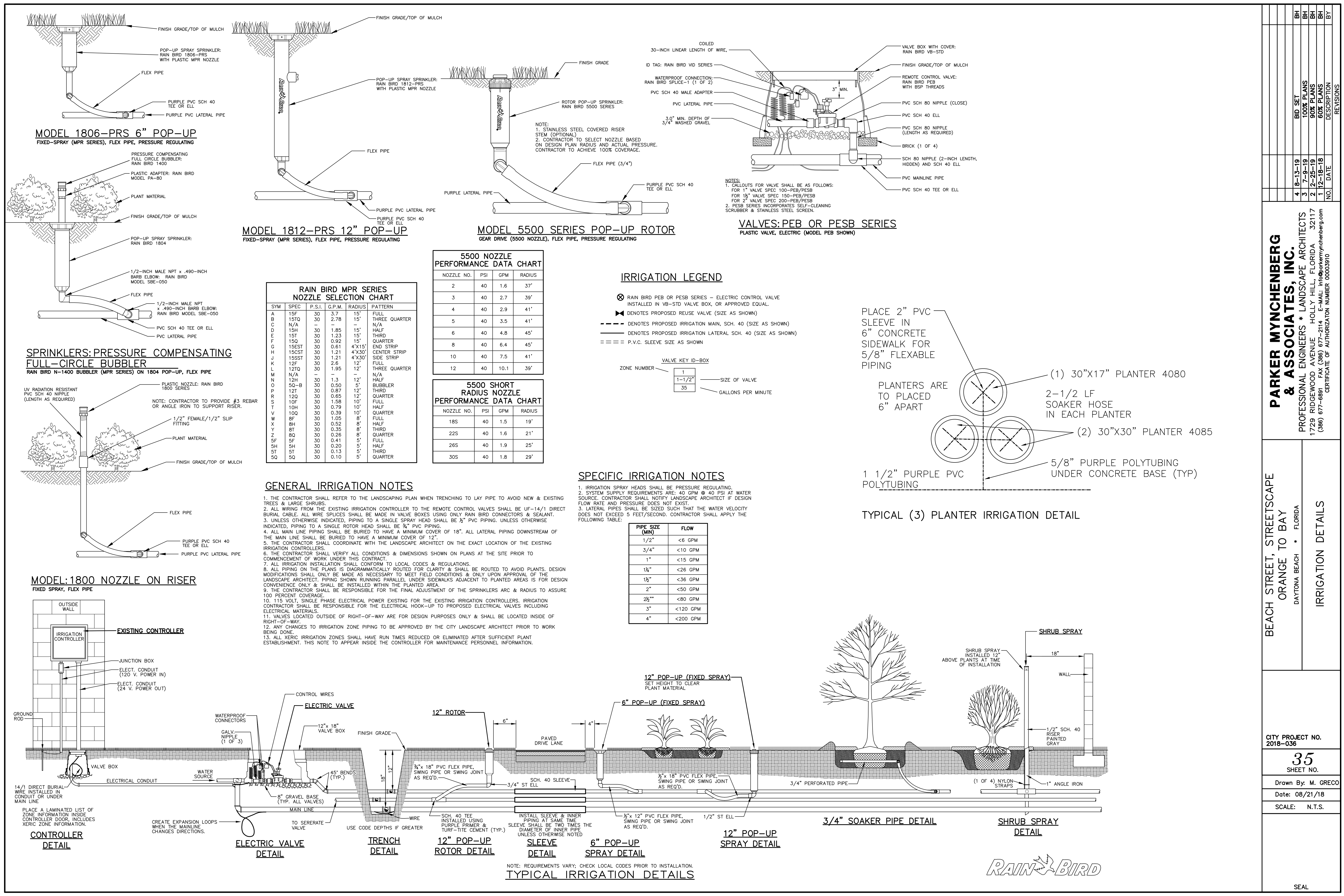
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
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BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 IRRIGATION PLAN

CITY PROJECT NO.  
 2018-036  
**34**  
 SHEET NO.  
 Drawn By: BH  
 Date: 8-21-18  
 SCALE: 1"=20'

SEAL





**MODEL 1806-PRS 6" POP-UP**  
FIXED-SPRAY (MPR SERIES), FLEX PIPE, PRESSURE REGULATING

**MODEL 1812-PRS 12" POP-UP**  
FIXED-SPRAY (MPR SERIES), FLEX PIPE, PRESSURE REGULATING

**MODEL 5500 SERIES POP-UP ROTOR**  
GEAR DRIVE (5500 NOZZLE), FLEX PIPE, PRESSURE REGULATING

**VALVES: PEB OR PESB SERIES**  
PLASTIC VALVE, ELECTRIC (MODEL PEB SHOWN)

**SPRINKLERS: PRESSURE COMPENSATING FULL-CIRCLE BUBBLER**  
RAIN BIRD N-1400 BUBBLER (MPR SERIES) ON 1804 POP-UP, FLEX PIPE

**MODEL: 1800 NOZZLE ON RISER**  
FIXED SPRAY, FLEX PIPE

**RAIN BIRD MPR SERIES NOZZLE SELECTION CHART**

SYM	SPEC	P.S.I.	G.P.M.	RADIUS	PATTERN
A	15F	30	3.7	15'	FULL
B	15TQ	30	2.78	15'	THREE QUARTER
D	15H	30	1.85	15'	HALF
E	15T	30	1.23	15'	THIRD
F	15Q	30	0.92	15'	QUARTER
G	15EST	30	0.61	4'X15'	END STRIP
H	15CST	30	1.21	4'X30'	CENTER STRIP
J	15SST	30	1.21	4'X30'	SIDE STRIP
K	12F	30	2.6	12'	FULL
L	12TQ	30	1.95	12'	THREE QUARTER
M	12Q	30	0.65	12'	N/A
N	12H	30	1.3	12'	HALF
O	50-B	30	0.50	5'	BUBBLER
P	12T	30	0.87	12'	THIRD
R	10F	30	1.58	10'	FULL
T	10H	30	0.79	10'	HALF
V	10Q	30	0.39	10'	QUARTER
W	8F	30	1.05	8'	FULL
X	8H	30	0.52	8'	HALF
Y	8T	30	0.35	8'	THIRD
Z	8Q	30	0.26	8'	QUARTER
SF	5F	30	0.41	5'	FULL
SH	5H	30	0.20	5'	HALF
ST	5T	30	0.13	5'	THIRD
SQ	5Q	30	0.10	5'	QUARTER

**5500 NOZZLE PERFORMANCE DATA CHART**

NOZZLE NO.	PSI	GPM	RADIUS
2	40	1.6	37'
3	40	2.7	39'
4	40	2.9	41'
5	40	3.5	41'
6	40	4.8	45'
8	40	6.4	45'
10	40	7.5	41'
12	40	10.1	39'

**5500 SHORT RADIUS NOZZLE PERFORMANCE DATA CHART**

NOZZLE NO.	PSI	GPM	RADIUS
18S	40	1.5	19'
22S	40	1.6	21'
26S	40	1.9	25'
30S	40	1.8	29'

**IRRIGATION LEGEND**

- ☒ RAIN BIRD PEB OR PESB SERIES - ELECTRIC CONTROL VALVE INSTALLED IN VB-STD VALVE BOX, OR APPROVED EQUAL.
  - ◀ DENOTES PROPOSED REUSE VALVE (SIZE AS SHOWN)
  - DENOTES PROPOSED IRRIGATION MAIN, SCH. 40 (SIZE AS SHOWN)
  - - - DENOTES PROPOSED IRRIGATION LATERAL SCH. 40 (SIZE AS SHOWN)
  - ==== P.V.C. SLEEVE SIZE AS SHOWN
- VALVE KEY ID-BOX
- |        |                    |
|--------|--------------------|
| 1      | SIZE OF VALVE      |
| 1-1/2" | GALLONS PER MINUTE |
| 35     |                    |

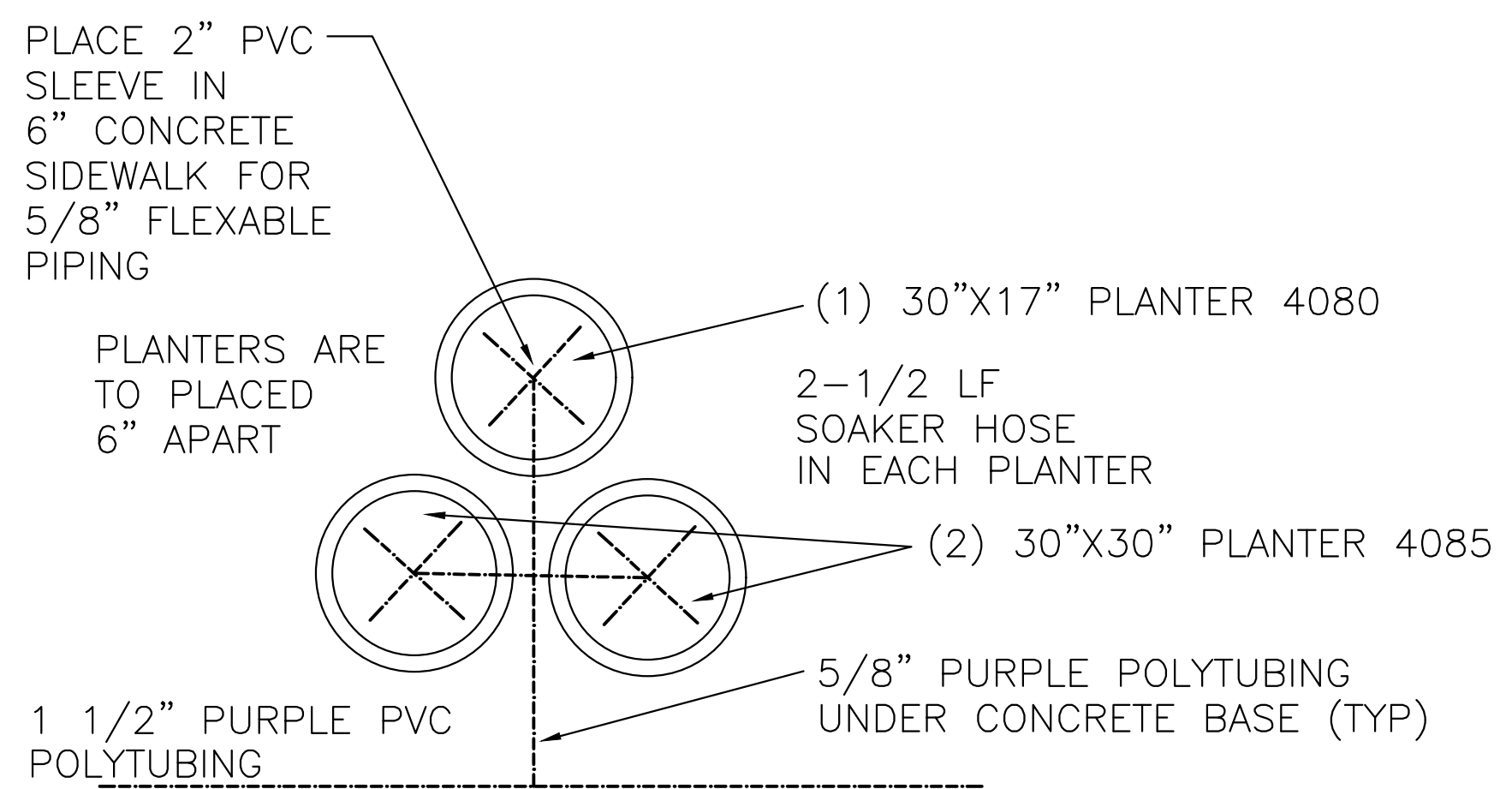
**GENERAL IRRIGATION NOTES**

- THE CONTRACTOR SHALL REFER TO THE LANDSCAPING PLAN WHEN TRENCHING TO LAY PIPE TO AVOID NEW & EXISTING TREES & LARGE SHRUBS.
- ALL WIRING FROM THE EXISTING IRRIGATION CONTROLLER TO THE REMOTE CONTROL VALVES SHALL BE UF-14/11 DIRECT BURIAL CABLE. ALL WIRE SPLICES SHALL BE MADE IN VALVE BOXES USING ONLY RAIN BIRD CONNECTORS & SEALANT.
- UNLESS OTHERWISE INDICATED, PIPING TO A SINGLE SPRAY HEAD SHALL BE 1/2" PVC PIPING. UNLESS OTHERWISE INDICATED, PIPING TO A SINGLE ROTOR HEAD SHALL BE 3/4" PVC PIPING.
- ALL MAIN LINE PIPING SHALL BE BURIED TO HAVE A MINIMUM COVER OF 18". ALL LATERAL PIPING DOWNSTREAM OF THE MAIN LINE SHALL BE BURIED TO HAVE A MINIMUM COVER OF 12".
- THE CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE ARCHITECT ON THE EXACT LOCATION OF THE EXISTING IRRIGATION CONTROLLERS.
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS & DIMENSIONS SHOWN ON PLANS AT THE SITE PRIOR TO COMMENCEMENT OF WORK UNDER THIS CONTRACT.
- ALL IRRIGATION INSTALLATION SHALL CONFORM TO LOCAL CODES & REGULATIONS.
- ALL PIPING ON THE PLANS IS DIAGRAMMATICALLY ROUTED FOR CLARITY & SHALL BE ROUTED TO AVOID PLANTS. DESIGN MODIFICATIONS SHALL ONLY BE MADE AS NECESSARY TO MEET FIELD CONDITIONS & ONLY UPON APPROVAL OF THE LANDSCAPE ARCHITECT. PIPING SHOWN RUNNING PARALLEL UNDER SIDEWALKS ADJACENT TO PLANTED AREAS IS FOR DESIGN CONVENIENCE ONLY & SHALL BE INSTALLED WITHIN THE PLANTED AREA.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ADJUSTMENT OF THE SPRINKLERS ARC & RADIUS TO ASSURE 100 PERCENT COVERAGE.
- 115 VOLT, SINGLE PHASE ELECTRICAL POWER EXISTING FOR THE EXISTING IRRIGATION CONTROLLERS. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL HOOK-UP TO PROPOSED ELECTRICAL VALVES INCLUDING ELECTRICAL MATERIALS.
- VALVES LOCATED OUTSIDE OF RIGHT-OF-WAY ARE FOR DESIGN PURPOSES ONLY & SHALL BE LOCATED INSIDE OF RIGHT-OF-WAY.
- ANY CHANGES TO IRRIGATION ZONE PIPING TO BE APPROVED BY THE CITY LANDSCAPE ARCHITECT PRIOR TO WORK BEING DONE.
- ALL XERIC IRRIGATION ZONES SHALL HAVE RUN TIMES REDUCED OR ELIMINATED AFTER SUFFICIENT PLANT ESTABLISHMENT. THIS NOTE TO APPEAR INSIDE THE CONTROLLER FOR MAINTENANCE PERSONNEL INFORMATION.

**SPECIFIC IRRIGATION NOTES**

- IRRIGATION SPRAY HEADS SHALL BE PRESSURE REGULATING.
- SYSTEM SUPPLY REQUIREMENTS ARE: 40 GPM @ 40 PSI AT WATER SOURCE. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF DESIGN FLOW RATE AND PRESSURE DOES NOT EXIST.
- LATERAL PIPES SHALL BE SIZED SUCH THAT THE WATER VELOCITY DOES NOT EXCEED 5 FEET/SECOND. CONTRACTOR SHALL APPLY THE FOLLOWING TABLE:

PIPE SIZE (MIN)	FLOW
1/2"	<6 GPM
3/4"	<10 GPM
1"	<15 GPM
1 1/2"	<26 GPM
2"	<36 GPM
2 1/2"	<50 GPM
3"	<80 GPM
4"	<120 GPM
6"	<200 GPM



**CONTROLLER DETAIL**

**ELECTRIC VALVE DETAIL**

**TRENCH DETAIL**

**12" POP-UP ROTOR DETAIL**

**SLEEVE DETAIL**

**6" POP-UP SPRAY DETAIL**

**12" POP-UP SPRAY DETAIL**

**3/4" SOAKER PIPE DETAIL**

**SHRUB SPRAY DETAIL**

NOTE: REQUIREMENTS VARY; CHECK LOCAL CODES PRIOR TO INSTALLATION.  
**TYPICAL IRRIGATION DETAILS**



BID SET	NO.	DATE	DESCRIPTION	REVISIONS
1	1	08-13-19	100% PLANS	BH
2	2	08-25-19	60% PLANS	BH
3	3	08-25-19	60% PLANS	BH
4	4	08-25-19	60% PLANS	BH
5	5	08-25-19	60% PLANS	BY

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE, HOLLY HILL, FLORIDA 32117  
(386) 677-6699 FAX (386) 677-2111 E-MAIL: info@parkermynchenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET, STREETSCAPE ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
IRRIGATION DETAILS

CITY PROJECT NO. 2018-036

**35**  
SHEET NO.

Drawn By: M. GRECO

Date: 08/21/18

SCALE: N.T.S.

SEAL





AS-BUILT DRAWING REQUIREMENTS

IN ORDER TO ENSURE THAT NEW SUBDIVISIONS AND SITE PLANS ARE CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH CITY REGULATIONS AND THE APPROVED DRAWINGS, THE FOLLOWING INFORMATION IS REQUIRED ON ALL AS-BUILT DRAWINGS.

- 1. PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. (FOR SUBDIVISIONS) AND AS APPROPRIATE TO CONFIRM PAVING LIMITS (ON SITE PLANS).
2. ALL RADI AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION IS TO BE CLEARLY INDICATED ON THE AS-BUILT.
3. ROADWAY ELEVATIONS SHALL BE RECORDED AT ALL GRADE CHANGES, 100' INTERVALS ALONG ROADWAY, AND OTHER INTERVALS AS NEEDED ALONG ALL STREETS. STREET CENTERLINE AND CURB INVERT ELEVATIONS SHALL BE RECORDED AS NOTED. THE AS-BUILT CENTERLINE PROFILE OF ALL STREETS SHALL ALSO BE SHOWN ON THE PLAN AND PROFILE SO IT MAY BE COMPARED TO THE DESIGN PROFILE GRADE LINES. IN THE EVENT THAT THE AS-BUILT CENTERLINE LONGITUDINAL GRADE DOES NOT MEET THE CITY MINIMUM STANDARDS, ADDITIONAL LONGITUDINAL GRADES OF THE ADJACENT CURBING AND SIMILAR ROADWAY CROSS-SECTION SURVEYS TO VERIFY THE CORRECT CROSS-SECTION, SHALL BE REQUIRED TO VERIFY THAT THE SYSTEM WILL FUNCTION AS ORIGINALLY DESIGNED.
4. ALL APPLICABLE TOPOGRAPHIC INFORMATION PERTINENT TO THE ON-SITE DRAINAGE SYSTEM, SUCH AS DITCHES, SWALES, LAKES, CANALS, ETC. THAT ARE DEEMED NECESSARY BY THE CITY TO VERIFY THE FUNCTIONAL PERFORMANCE OF THE STORM WATER SYSTEM, SHALL BE NOTED. NORMALLY, RECORDING ELEVATIONS EVERY 100 FEET AT THE TOP OF BANK AND TOP OF SLOPE WILL BE REQUIRED. MEASUREMENTS SHALL BE TAKEN AND RECORDED IN ORDER TO ACCURATELY TIE DOWN THESE FEATURES TO THE ROADWAY CENTERLINES AND TO PLAT LINES, WHENEVER POSSIBLE, CONTOUR LINES SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.
5. RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. ACTUAL MEASUREMENTS SHALL BE TAKEN AND DIMENSIONS RECORDED OF THE SIZE OF ALL RETENTION AREAS. MEASUREMENTS SHALL BE DONE FROM TOP-OF-BANK TO TOP-OF-BANK WITH SIDE SLOPES INDICATED. SEPARATE CALCULATIONS SHALL BE SUBMITTED TO INDICATE REQUIRED AND PROVIDED RETENTION VOLUMES.
6. ACTUAL MATERIALS USED AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND SKIMMERS SHALL BE NOTED ON THE AS-BUILT.
7. STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE AND TOP OF BANK SHALL BE RECORDED EVERY 100 FEET OR CHANGE IN GRADE. SIDE SLOPES SHALL ALSO BE INDICATED.
8. FOR SUBDIVISIONS, PROPOSED DESIGN FINISHED FLOOR ELEVATIONS SHALL APPEAR ON ALL SUBDIVISION LOTS ON THE APPROPRIATE PLAN AND PROFILE SHEET AS WELL AS ON THE MASTER DRAINAGE PLAN.
9. ANY SPECIAL FEATURES SUCH AS, CONCRETE FLUMES, LAKE BANKS, WALLS, FENCING, ETC., WHICH WERE A PART OF THE APPROVED CONSTRUCTION DRAWINGS SHOULD ALSO BE LOCATED AND DIMENSIONED.
10. IF AN APPROVED SUBDIVISION PLAT OR SITE PLAN SHOWS A CONSERVATION EASEMENT, THE PROJECT SURVEYOR SHOULD PROVIDE THE EXACT LOCATION OF THE SPECIFIC TREE(S) FROM THE RIGHT-OF-WAY OR PROPERTY LINES AND PROPOSED EASEMENT BOUNDARIES ON THE AS-BUILT DRAWING. THE AS-BUILT LOCATION OF THESE TREES WILL HELP VERIFY THE SUFFICIENCY OF THE CONSERVATION EASEMENT PRIOR TO PLAT RECORDING OR CERTIFICATE OF OCCUPANCY.
11. AS BUILT DRAWINGS ARE TO BE PREPARED BY A FLORIDA LICENSED SURVEYOR AND SHALL INCLUDE A SIGNED CERTIFICATION STATEMENT BY THE FLORIDA LICENSED ENGINEER OF RECORD, TWO (2) SIGNED & SEALED PAPERS SHEETS OF AS-BUILT RECORD DRAWINGS SHALL BE PROVIDED ALONG WITH A DIGITAL COPY IN BOTH, A COMPATIBLE AutoCAD FORMAT & PDF FORMAT.

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION



AS-BUILT DRAWING NOTES

M-8

Table with drawing metadata: Drawing Date: 05/2003, Drawn By: JPT, Checked By: JPT, Scale: NTS, Revision Date: 10/2011, File Name: am-8

SITE PLAN & SUBDIVISION TESTING

- A. MATERIALS: THE INSPECTION AND TESTING OF MATERIALS AND FINISHED ARTICLES TO BE INCORPORATED IN THE WORK SHALL BE MADE BY BUREAUS, LABORATORIES, OR AGENCIES APPROVED BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL SUBMIT SUCH SAMPLES OR TEST PIECES OF MATERIALS AS THE ENGINEER OF RECORD MAY REQUIRE. THE CONTRACTOR SHALL NOT INCORPORATE ANY MATERIAL OR FINISHED ARTICLE INTO THE WORK UNTIL THE RESULTS OF THE INSPECTIONS OR TESTS ARE KNOWN AND THE CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER OF RECORD THAT THE MATERIAL OR FINISHED ARTICLE IS ACCEPTED. ALL MATERIALS MUST BE OF THE SPECIFIED QUALITY AND BE EQUAL TO THE APPROVED SAMPLE IF A SAMPLE HAS BEEN SUBMITTED. CERTIFIED COPIES OF ALL TESTS MADE SHALL BE SUBMITTED TO THE ENGINEER OF RECORD AS WELL AS TO THE CITY'S DESIGNATED SITE INSPECTOR. THE CITY'S DESIGNATED SITE INSPECTOR MUST RECEIVE COPIES OF ALL TESTING REPORTS AND CERTIFICATES PRIOR TO THE ENGINEER OF RECORD REQUESTING A FINAL PROJECT INSPECTION FROM THE CITY.
B. LABORATORY CONTROL AND CERTIFICATES:
1. SPECIFICATIONS: SAMPLING, TESTING, AND LABORATORY METHODS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE AASHTO OR ASTM. WHERE AASHTO OR ASTM SPECIFICATIONS ARE USED, THE REFERENCE SHALL BE CONSTRUED TO BE THE MOST RECENT STANDARD SPECIFICATIONS OR TENTATIVE SPECIFICATIONS OF THE AASHTO OR ASTM IN FORCE ON THE DATE OF THE TEST.
2. TEST & CERTIFICATES: THE CONTRACTOR SHALL ENGAGE AN APPROVED TESTING LABORATORY TO PROVIDE THE FOLLOWING TESTS AND CERTIFICATIONS SIGNED BY A REGISTERED ENGINEER OF THE STATE OF FLORIDA. ALL TECHNICIANS PERFORMING THE TESTS SHALL BE STATE CERTIFIED FOR THE TESTING PERFORMED. ADDITIONAL TESTS THAT MAY BE REQUIRED BY EITHER THE ENGINEER OF RECORD OR THE CITY SHALL ALSO BE PROVIDED BY THE CONTRACTOR, AND THE FOLLOWING SHALL NOT BE TAKEN AS A COMPLETE AND EXHAUSTIVE LIST OF THE CONTRACTOR'S TESTING RESPONSIBILITIES.
a. SOIL ANALYSIS FOR STRUCTURAL FILL MATERIAL PRIOR TO INSTALLATION.
b. PROCTOR DENSITIES, MOISTURE CONTENT, COMPACTED FIELD DENSITIES AND ATTERBERG LIMITS.
c. ANALYSIS OF RECYCLED CONCRETE BASE MATERIAL PRIOR TO INSTALLATION.
d. ASPHALT MIX DESIGN, BITUMEN CONTENT, SIEVE ANALYSIS, HUBBARD FIELD STABILITY TESTS, NUCLEAR DENSITY TESTS (BACKSCATTER METHOD), AND ANALYSIS OF CORE SAMPLES.
e. CONCRETE MIX DESIGNS FOR ALL APPLICATIONS INCLUDING PAVEMENT, CAST-IN-PLACE STRUCTURES, CURBING, GUTTERS, SIDEWALKS, BIKE PATHS, APRONS AND DRIVEWAYS.
f. COMPRESSIVE TEST CYLINDERS AND SLUMP TESTS FOR ALL APPLICATIONS OF CONCRETE, INCLUDING PAVEMENT, CAST-IN-PLACE STRUCTURES, CURBING, GUTTERS, SIDEWALKS, BIKE PATHS, APRONS, AND DRIVEWAYS.
g. ALL UNDERGROUND UTILITY TESTING TO BE COMPLETED IN ACCORDANCE WITH THE CITY'S UTILITIES DEPARTMENT DESIGN STANDARDS.

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION



SITE PLAN & SUBDIVISION TESTING NOTES

C-14

Table with drawing metadata: Drawing Date: 05/2003, Drawn By: JPT, Checked By: JPT, Scale: NTS, Revision Date: 10/2011, File Name: am-14

ROADWAY CONSTRUCTION NOTES

ALL MATERIALS AND INSTALLATION METHODS USED FOR LAND DEVELOPMENT CODE REQUIRED IMPROVEMENTS FOR SUBDIVISIONS AND SITE PLANS SHALL BE IN CONFORMANCE WITH THE CITY'S DESIGN STANDARDS, FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), AND THE FDOT DESIGN STANDARDS (LATEST EDITION).

- 1. ALL RIGHT-OF-WAY OTHER THAN ROADWAY AREAS SHALL BE GRASSED AND MULCHED OR SODDED. ALL SLOPES STEEPER THAN 6:1 SHALL REQUIRE SODDING. THE CITY RESERVES THE RIGHT TO REQUIRE SODDING IN SPECIAL AREAS WHERE EROSION IS A CONCERN.
2. THE FOLLOWING WILL BE THE STANDARD PROTECTION FOR DITCHES UNLESS DRAINAGE CALCULATIONS INDICATE OTHERWISE:

Table with 2 columns: SWALE PROFILE GRADES, PROTECTION REQUIRED. Rows include 0.2% - 1.0% sodding, 1.0% - 4.0% grassing and mulching, 4.0% and greater ditch paving.

- 3. THE PAVEMENT, BASE, AND SUBBASE THICKNESS PRESENTED ON DETAILS REPRESENTS THE MINIMUM REQUIREMENTS FOR LOCAL PUBLIC STREETS AND PRIVATE PARKING LOTS. THE CITY RESERVES THE RIGHT AT ITS' DISCRETION TO INCREASE THESE REQUIREMENTS FOR COLLECTOR AND ARTERIAL ROADWAYS AND PRIVATE PARKING LOTS SUBJECTED TO HEAVY VEHICULAR COMMERCIAL TRAFFIC.
4. THE DEVELOPER SHALL PROVIDE AT THEIR OWN EXPENSE A CERTIFIED SOILS ENGINEERING LABORATORY TO PERFORM ALL FIELD AND LABORATORY TESTING REQUIRED TO VERIFY THAT THE CONSTRUCTION IS IN COMPLIANCE WITH THE CITY'S MINIMUM STANDARDS. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO ENSURE THAT COPIES OF ALL TEST REPORTS ARE PROVIDED TO THE CITY'S DESIGNATED SITE INSPECTOR PRIOR TO THE PROJECT FINAL INSPECTION IN ORDER TO ALLOW PROJECT ACCEPTANCE BY THE CITY.
5. THE LIMITS OF STABILIZED SUBBASE SHALL EXTEND TO A DEPTH OF SIX INCHES (6") BELOW THE BOTTOM OF THE BASE AND OUTWARD TO TWELVE INCHES (12") BEYOND THE CURB.
6. THE STABILIZING MATERIAL, IF REQUIRED, SHOULD BE A HIGH BEARING VALUE SOIL, SAND-CLAY, LIMEROCK, RECYCLED CONCRETE, SHELL, OR OTHER MATERIAL AS APPROVED BY THE CITY'S ENGINEER OR DESIGNEE AND A LICENSED SOILS ENGINEER.
7. COMPACTION, STABILITY AND DENSITY TESTING FOR PAVEMENT, BASE AND SUB-BASE ARE TO BE DONE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROADWAY & BRIDGE CONSTRUCTION, LATEST EDITION.
8. FOR ROADWAYS, TESTS FOR SUBBASE BEARING CAPACITY AND COMPACTION SHALL BE DONE AT A MINIMUM OF EVERY 300 FEET AND SHALL BE STAGGERED TO THE LEFT, RIGHT, AND AT CENTER LINE OF THE ROADWAY. FOR SITE PLANS, TEST SHALL BE PERFORMED FOR EVERY 600 SQUARE YARDS OF STABILIZED AREA, OR PORTIONS THEREOF.
9. CEMENT DELIVERY TICKETS SHALL BE PROVIDED TO THE CITY'S DESIGNATED SITE INSPECTOR AT THE TIME OF PLACEMENT. IF THE INSPECTOR IS NOT ON SITE THROUGHOUT THE ENTIRE INSTALLATION, ACCUMULATED DELIVERY TICKETS CAN BE PROVIDED TO THE INSPECTOR BY THE CONTRACTOR ON THE FOLLOWING DAY.
10. TESTING OF THE IN-PLACE BASE SHALL BE DONE AT INTERVALS EQUIVALENT TO SUBGRADE TESTING AND SHALL CONSIST OF, AS A MINIMUM, A MOISTURE CONTENT AND COMPACTION TEST.
11. PORTLAND CEMENT CONCRETE, LIMEROCK, RECYCLED CONCRETE, OR FULL DEPTH ASPHALT PAVEMENT MAY BE USED IN PLACE OF SOIL CEMENT BASE. ALL BASE AND ROADWAY DESIGNS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
12. RECYCLED CONCRETE CAN BE USED AS A BASE MATERIAL PROVIDED THE MATERIAL IS A MINIMUM OF 60% CARBONATE OF CALCIUM AND MAGNESIUM. THE MATERIAL SHALL BE LIMITED TO MAXIMUM OF 3% OF WATER SENSITIVE CLAY MATERIAL. LIQUID LIMIT SHALL NOT EXCEED 35 AND BE NON-PLASTIC, AND THE PLASTICITY INDEX SHALL NOT EXCEED 10. THE MATERIAL SHALL NOT CONTAIN ORGANIC MATERIAL, CHERTY OR OTHER EXTREMELY HARD PIECES, LUMPS, BALLS OR POCKETS OF SAND SIZE MATERIAL OF A QUANTITY AS TO BE DETRIMENTAL TO THE PROPER BONDING, FINISHING, OR STRENGTH OF THE RECYCLED CONCRETE BASE. FOR BASE APPLICATIONS, AT LEAST 97% (BY WEIGHT) OF THE MATERIAL SHALL PASS A 1" SIEVE AND FOR SUBBASE APPLICATIONS, AT LEAST 97% (BY WEIGHT) OF THE MATERIAL SHALL PASS A 1-1/2" SIEVE. FOR BOTH APPLICATIONS, THE MATERIAL SHALL BE GRADED UNIFORMLY DOWN TO DUST AND THE MINIMUM LBR VALUES ARE TO BE NOT LESS THAN 120. COARSE AGGREGATE USED IN THE RECYCLED CONCRETE SHALL HAVE A MAXIMUM LOSS OF 45% PER LOS ANGELES ABRASION TEST. ALL MATERIALS SHALL BE WELL GRADED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN SECTION 204, F.D.O.T., STANDARD SPEC. FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION



ROADWAY CONSTRUCTION NOTES

R-13A

Table with drawing metadata: Drawing Date: 05/2003, Drawn By: JPT, Checked By: JPT, Scale: NTS, Revision Date: 10/2011, File Name: am-13

ROADWAY CONSTRUCTION NOTES (CONT'D)

- 13. RECYCLED CONCRETE OR LIMEROCK FOR BASE OR SUBBASE APPLICATIONS SHALL BE ALLOWED ON CITY ROADWAYS ONLY WHERE THE LOWEST ELEVATION OF THE ROADWAY SUBBASE IS A MINIMUM OF 6" ABOVE THE SEASONAL-HIGH GROUNDWATER TABLE AS CERTIFIED BY A FLORIDA LICENSED PROFESSIONAL SOILS ENGINEER AND SUBSEQUENTLY APPROVED FOR BY THE CITY. ALL CRUSHING OF RECYCLED CONCRETE SHALL BE DONE PRIOR TO THE MATERIAL BEING PLACED IN THE ROADWAY. TESTING SHALL HAVE THE SAME REQUIREMENTS AND BE PERFORMED AT THE SAME LOCATION AND INTERVALS AS REQUIRED FOR LIMEROCK.
14. DESIGN MIXES AND PRODUCT GRADATION INFORMATION FOR ALL MATERIALS TO BE INSTALLED AS PART OF THE LAND DEVELOPMENT CODE REQUIRED IMPROVEMENTS SHALL BE SUBMITTED TO THE CITY'S DESIGNATED SITE INSPECTOR FOR ACCEPTANCE BY THE CITY. THE INFORMATION SHALL BE SUBMITTED NO LESS THAN THREE (3) WORKING DAYS PRIOR TO ANY CONSTRUCTION SUBMITTALS SHALL INCLUDE, BUT NOT BE LIMITED TO, INFORMATION TO EVALUATE THE MATERIALS PROPOSED FOR INSTALLATION AS SUBBASE, BASE, AND PAVEMENT FOR ALL ROADWAY AND PARKING AREA SURFACES AS WELL AS SIMILAR INFORMATION FOR ALL OTHER CONCRETE SIDEWALKS, CURBING, AND COMPARABLE STRUCTURES AND APPLICATIONS.
15. PRIOR TO PLACEMENT FLORIDA STATE CERTIFIED BATCH PLANTS MUST CERTIFY TO THE CITY'S RESIDENT PROJECT INSPECTOR THAT THE ASPHALT DELIVERED TO THE SITE IS IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
16. EXTRACTION AND GRADATION TESTS ON ASPHALT MIXES SHALL BE PROVIDED TO THE CITY'S DESIGNATED SITE INSPECTOR FOR EVERY 2500 SQUARE YARDS OF ASPHALT, OR PART THEREOF, TO ENSURE THAT DESIGN MIXES MEET THE CITY STANDARD SPECIFICATIONS AT NO ADDITIONAL COST TO THE CITY.
17. ASPHALT PAVEMENT TESTING IS TO BE DONE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION TABLE 334-5, LATEST EDITION.
18. IN ADDITION TO THE FIELD DENSITY TESTS NOTED, THE CITY RESERVES THE RIGHT TO REQUIRE CORE SAMPLES OF PAVEMENT SECTIONS EXTRACTED AND TESTED BY A CERTIFIED SOILS ENGINEERING LABORATORY AT THE DEVELOPER'S EXPENSE. THE CITY'S DESIGNATED SITE INSPECTOR SHALL DESIGNATE THE LOCATIONS OF THE TEST CORE LOCATIONS.
19. THE ROADWAY CROWN SHALL HAVE A STANDARD ONE QUARTER INCH (1/4") PER FOOT CROSS SLOPE.
20. ALL ROADWAYS WITH CURB AND GUTTER SECTIONS SHALL HAVE AS A STANDARD A MINIMUM LONGITUDINAL SLOPE OF 0.30%. THE ROADWAY CENTERLINE SHALL BE CLEARLY MARKED ON THE DESIGN PLANS. AT A MINIMUM, DESIGN ROADWAY CENTERLINE ELEVATIONS SHALL BE NOTED AT ALL GRADE CHANGES AND AT 50' min. INTERVALS ALONG THE ROADWAY PROFILE ON BOTH THE DESIGN PLANS AND AS-BUILT DRAWINGS.
21. THE FINISHED PAVEMENT EDGE SHALL BE WITHIN ONE EIGHTH INCH (1/8") ABOVE THE ADJACENT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
22. CONCRETE CURBS SHALL BE PROVIDED ON BOTH SIDES OF ALL STREETS AND ALL CONCRETE CURBS SHALL BE CONSTRUCTED WITH 3500 P.S.I. CONCRETE AT 28 DAYS.
23. CONTROL JOINTS IN CONCRETE CURBING, SIDEWALKS, PAVEMENT AND SIMILAR CONCRETE AREAS SHALL BE SAW CUT WITHIN 4 TO 18 HOURS OF PLACEMENT. ALL CONTROL JOINTS SHALL BE 1/2" IN WIDTH TO A DEPTH OF 25% OF THE TOTAL DEPTH OF CONCRETE OR 1-1/2", WHICHEVER IS LESS. CONTROL JOINTS SHALL BE SPACED AT INTERVALS OF TEN FEET (10') FOR CURBING, TEN FEET (10') FOR BIKE TRAILS AND FIVE FEET (5') FOR SIDEWALKS WITH EXPANSION JOINTS AT STREET INTERSECTIONS, RADIUS POINTS, STRUCTURES, AND ALONG CURVES AT SIXTY FEET (60') INTERVALS. EXPANSION JOINTS ARE TO BE 1/2" PREFORMED SYNTHETIC OR RECYCLED RUBBER ALL EXPANSION JOINTS ARE REQUIRED TO BE INSTALLED THROUGH TO THE FULL DEPTH AND WIDTH OF THE CONCRETE AREA. FOR LINEAL SECTIONS OF CURBS, EXPANSION JOINTS SHALL BE LOCATED AT A MAXIMUM SPACING OF FIVE HUNDRED FEET (500') AND SHALL BE 1/2" IN WIDTH.
24. AN "X" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF WATER DISTRIBUTION SYSTEM VALVE.
25. A "Y" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL SEWER SERVICES.
26. A "Z" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL RECLAIMED WATER SERVICES.
27. A "O" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL POTABLE WATER SERVICES.
28. THREE (3) CONCRETE CYLINDERS SHALL BE TAKEN AND TESTED (1) IN 14 DAYS, 1 IN 28 DAYS AND 1 IN 56 DAYS) FOR EVERY FIFTY (50) CUBIC YARDS OF CONCRETE OR LESS PLACED. TEST RESULTS SHALL THEN BE PROVIDED TO THE CITY'S DESIGNATED SITE INSPECTOR AS THEY BECOME AVAILABLE.

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION



ROADWAY CONSTRUCTION NOTES (CONT'D)

R-13B

Table with drawing metadata: Drawing Date: 05/2003, Drawn By: JPT, Checked By: JPT, Scale: NTS, Revision Date: 06/2016, File Name: am-13

ROADWAY CONSTRUCTION NOTES (CONT'D)

- 29. A CONCRETE SLUMP TEST SHALL BE REQUIRED WITHIN THE FIRST 30 CUBIC YARDS OF CONCRETE. THEREAFTER, SLUMP TESTS SHALL BE REQUIRED FOR EVERY FIFTY (50) CUBIC YARDS OF CONCRETE, OR FRACTION THEREOF, WITH COPIES OF THE RESULTS PROVIDED TO THE CITY'S DESIGNATED SITE INSPECTOR. THE SLUMP TEST SHALL MEET THE REQUIRED MIX DESIGN ON EACH LOAD DELIVERED.
30. THE DEVELOPER SHALL PROVIDE ALL REQUIRED PAVEMENT MARKINGS ON ALL ROADWAYS PER CITY, COUNTY, AND STATE REQUIREMENTS. CENTERLINE STRIPES SHALL BE PROVIDED ON EXTENSIONS OF CITY COLLECTOR OR ARTERIAL ROADS, COUNTY ROADS, STATE HIGHWAYS, AND ALONG LOCAL STREETS IN THE VICINITY OF THEIR INTERSECTION WITH THE ABOVE MENTIONED ROADWAYS.
31. A FDOT APPROVED STOP SIGN AND A 24"-WIDE WHITE THERMOPLASTIC STOP BAR ARE REQUIRED AT ALL ROADWAY INTERSECTIONS.
32. ALL TRAFFIC CONTROL DEVICES PLACED AT INTERSECTIONS, PRIVATE STREETS, PUBLIC STREETS, COUNTY ROADS, AND STATE HIGHWAYS WITHIN THE CITY LIMITS SHALL BE INSTALLED ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE MAINTENANCE-OF-TRAFFIC (MOT) INSTALLATION AND SUBSEQUENT OPERATION SHALL BE OVERSEEN BY A CONTRACTOR CERTIFIED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION, OR EQUIVALENT CERTIFICATION RECOGNIZED BY FDOT.
33. THE DEVELOPER IS RESPONSIBLE FOR PAYING FEES FOR TRAFFIC CONTROL DEVICES TO THE CITY FOR INSTALLATION. STREET SIGNS AND STOP SIGNS SHALL BE PLACED AT ALL INTERSECTIONS, INCLUDING BUT NOT LIMITED TO PRIVATE STREETS, PUBLIC STREETS, COUNTY ROADS, AND STATE HIGHWAYS WITHIN THE CITY LIMITS.
34. THE DEVELOPER IS RESPONSIBLE FOR PAYING FEES FOR ALL STREET LIGHTS PRIOR TO ACCEPTANCE OF THE PROJECT BY THE CITY.
35. FIVE FOOT min. (5') WIDE SIDEWALKS SHALL BE PROVIDED ON BOTH SIDES OF ALL RESIDENTIAL STREETS, PER THE CITY &/OR FDOT DESIGN STANDARDS, LATEST EDITION.
36. EIGHT FOOT min. (8') WIDE BIKE PATHS SHALL BE ALONG ARTERIAL, HIGHWAYS AS DIRECTED BY THE CITY, PER THE CITY &/OR FDOT DESIGN STANDARDS, LATEST EDITION.
37. STANDARD TURNING RADII FOR INTERSECTIONS:
RESIDENTIAL STREETS WITH STATE AND COUNTY ROADWAYS, OR MAJOR THOROUGHFARES WITHIN THE CITY: 35-50 FT.
ENTRANCES TO COMMERCIAL SITES OFF OF CITY STREETS: 35 FT.
INTERSECTIONS INTERIOR IN SUBDIVISIONS: 35 FT.
SHOULD VOLUSIA COUNTY OR THE FLORIDA DEPARTMENT OF TRANSPORTATION (F.D.O.T.) DETERMINE THAT LARGER RADII ARE WARRANTED WITHIN THEIR RIGHT-OF-WAY, THE LARGER RADII SHALL PREVAIL.
38. CONSTRUCTION METHODS AND DESIGN FOR CONCRETE PAVEMENT SHALL CONFORM TO FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
39. ALL CONTRACTORS THAT ARE PERFORMING THE CONSTRUCTION OF LAND DEVELOPMENT CODE REQUIRED IMPROVEMENTS (INCLUDING WATER MAINS, SANITARY SEWER MAINS, RECLAIMED WATER MAINS, STORM WATER PIPES AND INLETS, ROADWAYS, AND PARKING FACILITIES) SHALL BE CERTIFIED WITH THE STATE OF FLORIDA BOARD OF PROFESSIONAL REGULATIONS (BPR) FOR THE TYPE OF WORK THAT THEY PERFORM.
40. ALL CONTRACTORS THAT ARE PERFORMING THE CONSTRUCTION WORK OF LAND DEVELOPMENT CODE REQUIRED IMPROVEMENTS SHALL BE LICENSED BY THE STATE OF FLORIDA AND REGISTERED WITH THE CITY OF DAYTONA BEACH. THE LICENSE AND REGISTRATION SHALL PERTAIN DIRECTLY TO THE TYPE OF WORK BEING PERFORMED.
41. EXCEPT AS PROVIDED IN THE LAND DEVELOPMENT CODE, ALL ELECTRIC, TELEPHONE, TELEVISION LINES AND SIMILAR UTILITIES ARE REQUIRED TO BE INSTALLED UNDERGROUND AT THE EXPENSE OF THE OWNER, DEVELOPER, AND BUILDER.

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION



ROADWAY CONSTRUCTION NOTES (CONT'D)

R-13C

Table with drawing metadata: Drawing Date: 05/2003, Drawn By: JPT, Checked By: JPT, Scale: NTS, Revision Date: 06/2016, File Name: am-13

ROADWAY CONSTRUCTION NOTES (CONT'D)

- 42. UTILITY DEPTH:
A. HIGH VOLTAGE UTILITIES SUCH AS POWER (FEEDER, SERVICE, AND DROPS) SHALL BE BURIED A MINIMUM OF 30 INCHES IN DEPTH.
B. LOW VOLTAGE UTILITIES SUCH AS PHONE AND CABLE TV SHALL BE BURIED A MINIMUM OF 18 INCHES IN DEPTH FOR FEEDER AND SERVICES. SERVICE DROPS SHALL BE BURIED A MINIMUM OF 12 INCHES IN DEPTH.
C. IN NO INSTANCE SHALL THE DEPTH OF COVER BE LESS THAN 36" FROM FINISHED GRADE TO THE TOP OF PIPE FOR POTABLE WATER MAINS, SANITARY SEWER MAINS, AND RECLAIMED WATER MAINS. HOWEVER, IN THE EVENT THAT THIS CONDITION CANNOT BE MET DUE TO UNANTICIPATED CONFLICTS DURING THE CONSTRUCTION PROCESS, DUCTILE IRON PRESSURE CLASS 350 OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY PUBLIC UTILITIES DEPARTMENT.
43. LANDSCAPE PLANS SHALL CLEARLY DEPICT THE DESIGN LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF UNDERGROUND AND OVERHEAD PUBLIC UTILITIES AND STORMWATER INFRASTRUCTURE IN ORDER TO ELIMINATE ANY POTENTIAL CONFLICTS.

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION



SITE PLAN & SUBDIVISION TESTING NOTES

C-14

Table with drawing metadata: Drawing Date: 05/2003, Drawn By: JPT, Checked By: JPT, Scale: NTS, Revision Date: 10/2011, File Name: am-14

BEACH STREET, STREETSCAPE ORANGE TO BAY DAYTONA BEACH \* FLORIDA

PAVING & DRAINAGE DETAILS

CITY PROJECT NO. 2018-036

37 SHEET NO.

Drawn By: M. GRECO

Date: 08/21/18

SCALE: NTS

SEAL

Table with columns: BID SET, 100% PLANS, 90% PLANS, 60% PLANS, DATE, REVISIONS. Rows include 4, 8-13-19, 3, 7-9-19, 2, 7-25-19, 1, 12-18-18, NO., DATE, DESCRIPTION, REVISIONS.

PARKER MYNCHENBERG & ASSOCIATES, INC. PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117 (386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermync.com www.parkermync.com CERTIFICATE OF AUTHORIZATION NUMBER 00003910



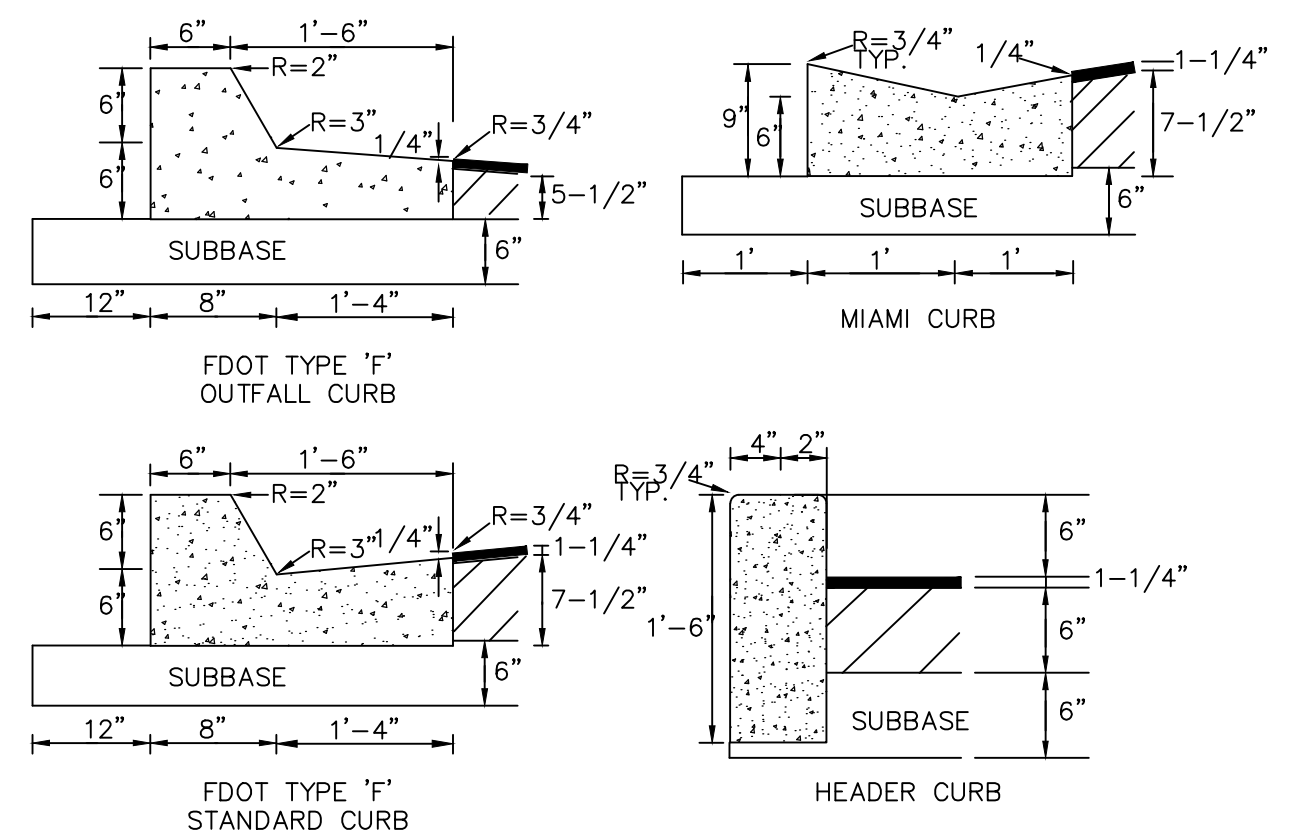






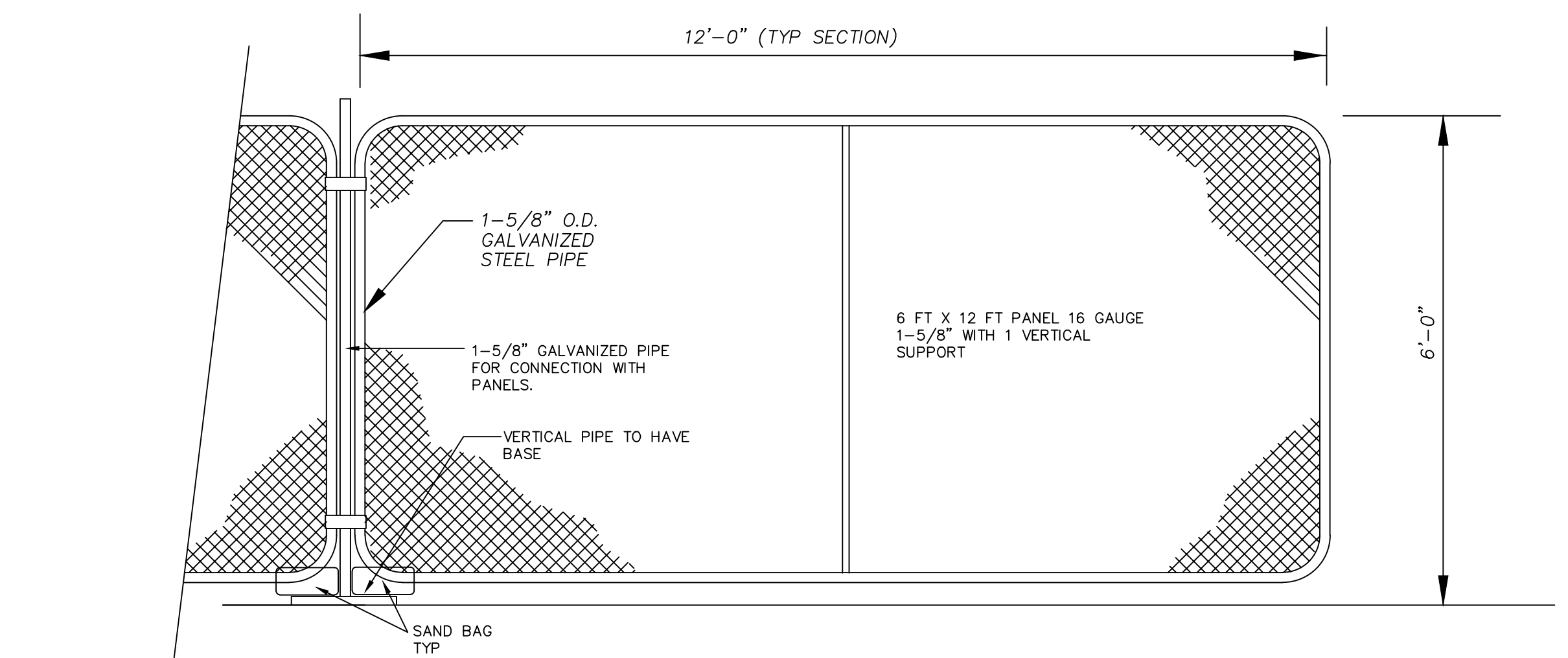






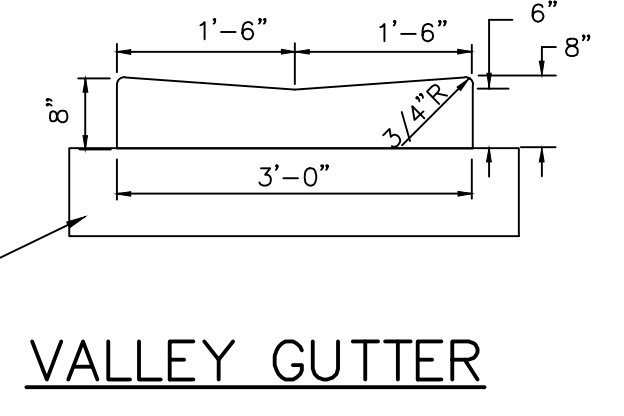
- NOTES:**
1. ALL CURBS TO BE CONSTRUCTED OF 28 DAY, 3000 P.S.I. CONCRETE
  2. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED EVERY 500'
  3. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED AT EACH SIDE OF ALL STORM INLET STRUCTURES AND AT ALL RADIUS POINTS.
  4. 6" SUBBASE TO BE COMPACTED AND TESTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST AND SHALL BE STABILIZED TO A MINIMUM L.B.R. 40.
  5. EXPANSION JOINT MATERIAL MUST COVER THE ENTIRE CROSS SECTION OF CURB.
  6. IN NO INSTANCE SHALL EXTRUDED CURBS (DEFINED AS HEADER-TYPE CURBS INSTALLED DIRECTLY ON TOP OF PAVEMENT) BE PERMITTED.
  7. ALL ASPHALT AND/OR PAVER DRIVEWAY APRONS LOCATED IN PUBLIC RIGHTS-OF-WAY, SHALL INCLUDE CURBING.

**ROADWAY CURB CONSTRUCTION DETAIL**  
DB M-7 DATED 2-23-07

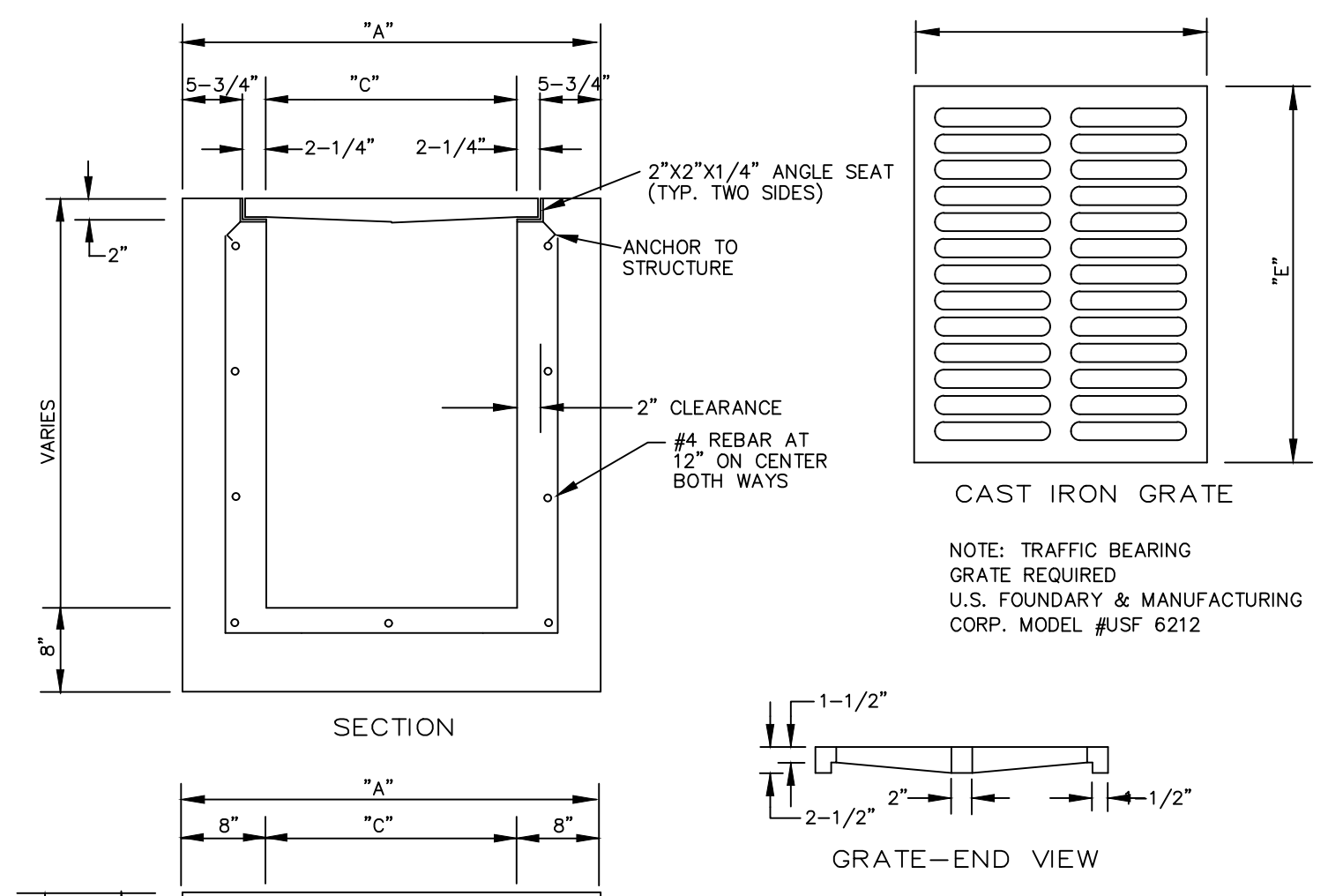


**TEMPORARY CONSTRUCTION FENCE**

- NOTE:**  
CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL BY DESIGN ENGINEER AND CITY PRIOR TO INSTALLATION.  
2. BASE OF TEMPORARY CONSTRUCTION FENCE TO BE STABILIZED WITH SAND BAGS.

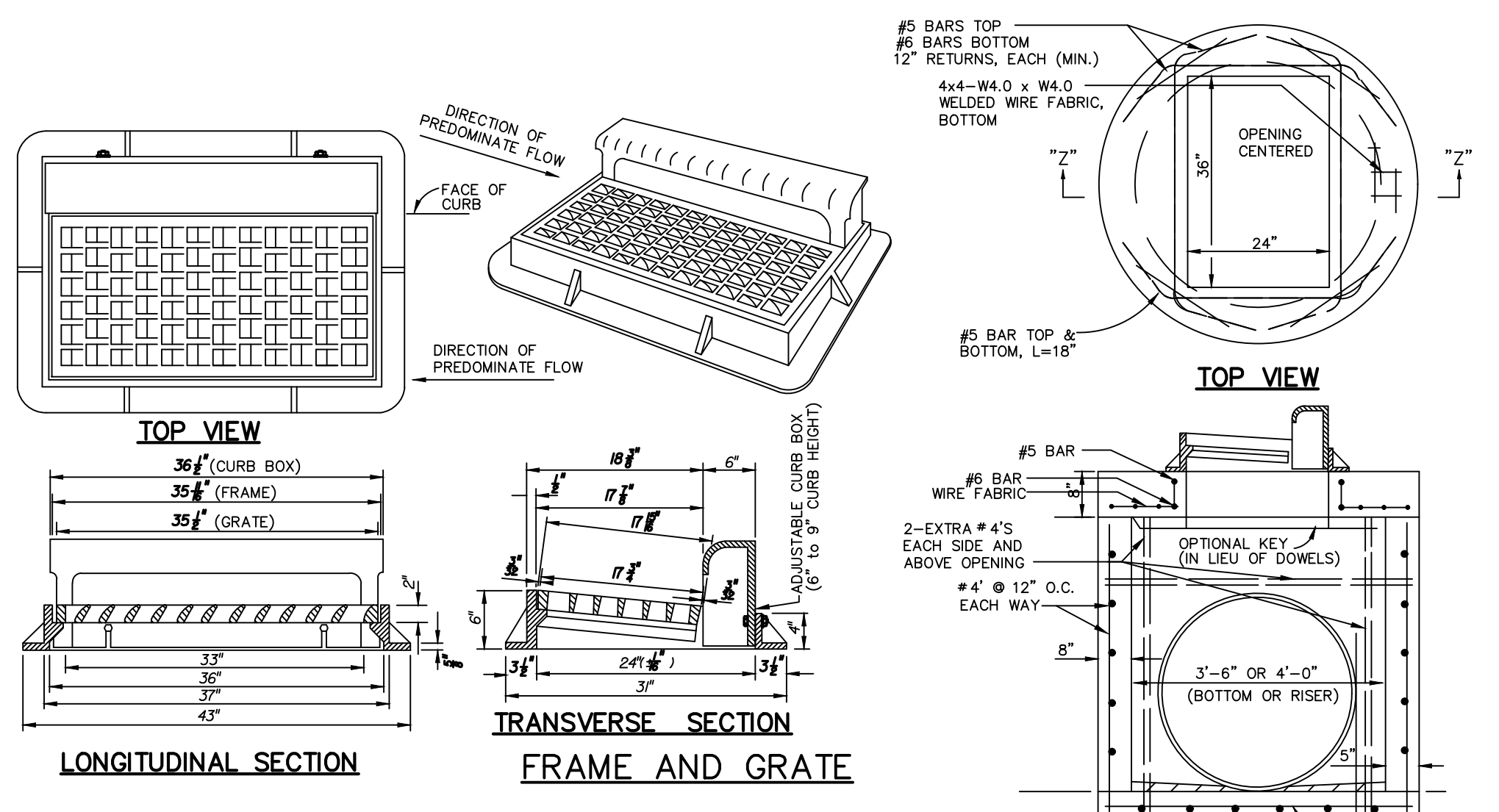


**VALLEY GUTTER**

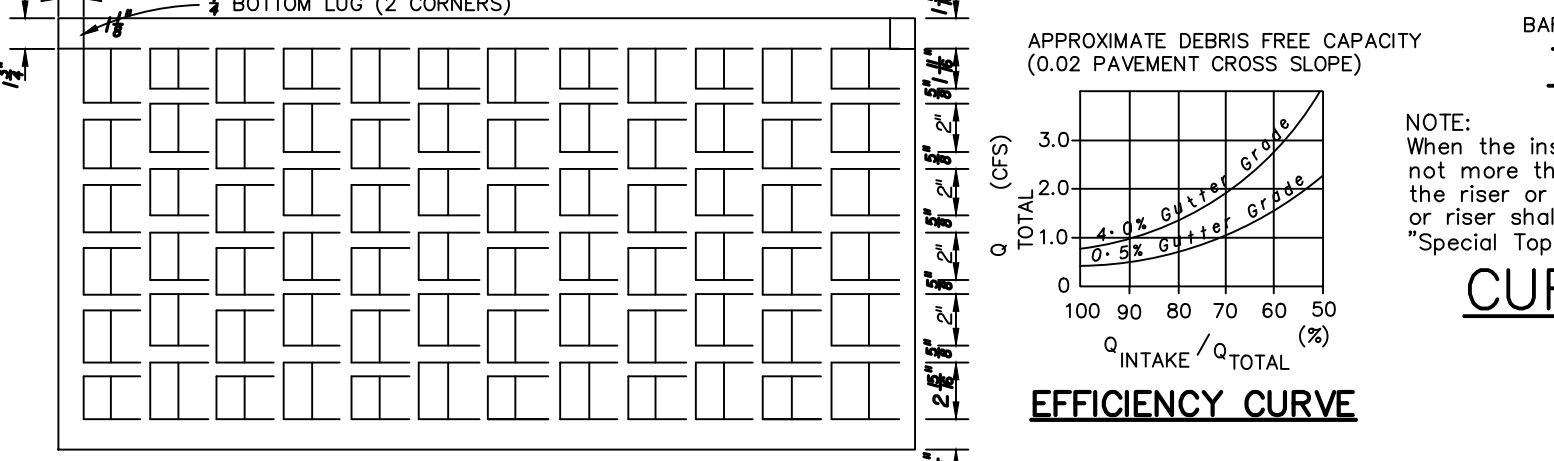


- NOTES:**
1. ALL EXPOSED EDGES AND CORNERS TO BE CHAMFERED 3/4".
  2. CAST IRON GRATES TO BE IN ACCORDANCE WITH FLORIDA D.O.T. SPECS.
  3. TYPE "E" MODIFIED INLET IS A TYPE "E" TURNED 90° TO RECEIVE R.C.P.'S UP TO 48" DIA. INLETS RECEIVING R.C.P.'S LARGER THAN 48" DIA. SHALL BE IN ACCORDANCE WITH FLORIDA D.O.T. STANDARDS, AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
  4. INLET WALLS AND FOOTINGS MAY BE EITHER POURED-IN-PLACE 2500 LB. CONCRETE OR PRECAST GLASS "A" 3000 LB. CONCRETE OR STANDARD MANHOLE BRICK (NO BLOCK) WITH 1/2" PLASTER (NO LIME) W/ 8" PRECAST CAP.
  5. GRATES FOR TYPE "E" AND "E" MOD. ARE TO BE CAST IN TWO SECTIONS.
  6. STEEL REINFORCING SHALL BE DESIGNED BY A FLA. REG. P.E., AND BE DESIGNED FOR EACH SPECIFIC STRUCTURE.
  7. SHOP DRAWINGS FOR ALL STRUCTURES SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

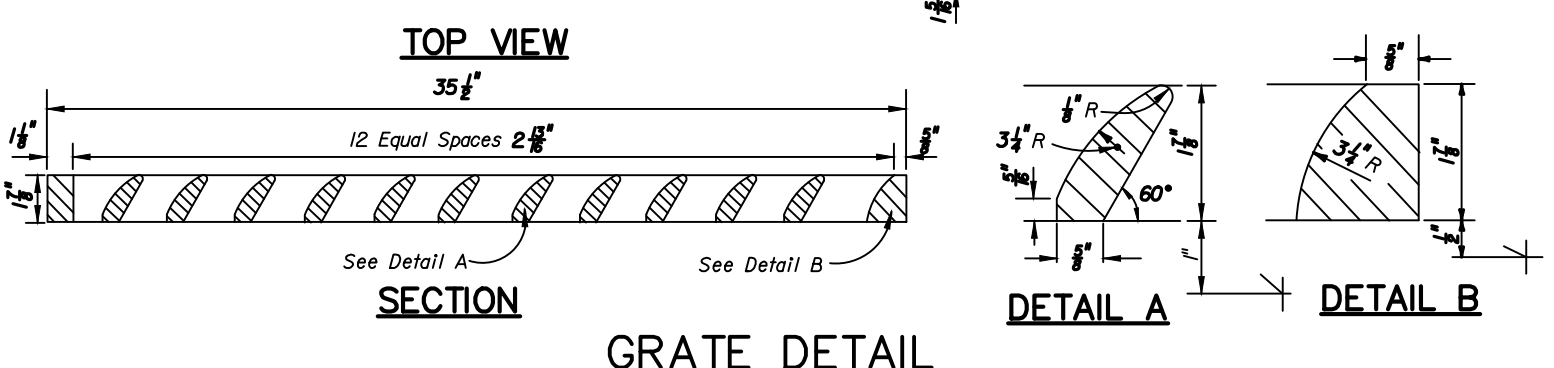
**FDOT TYPE 'C' & 'E' INLET**



**TYPE "P" INLET**



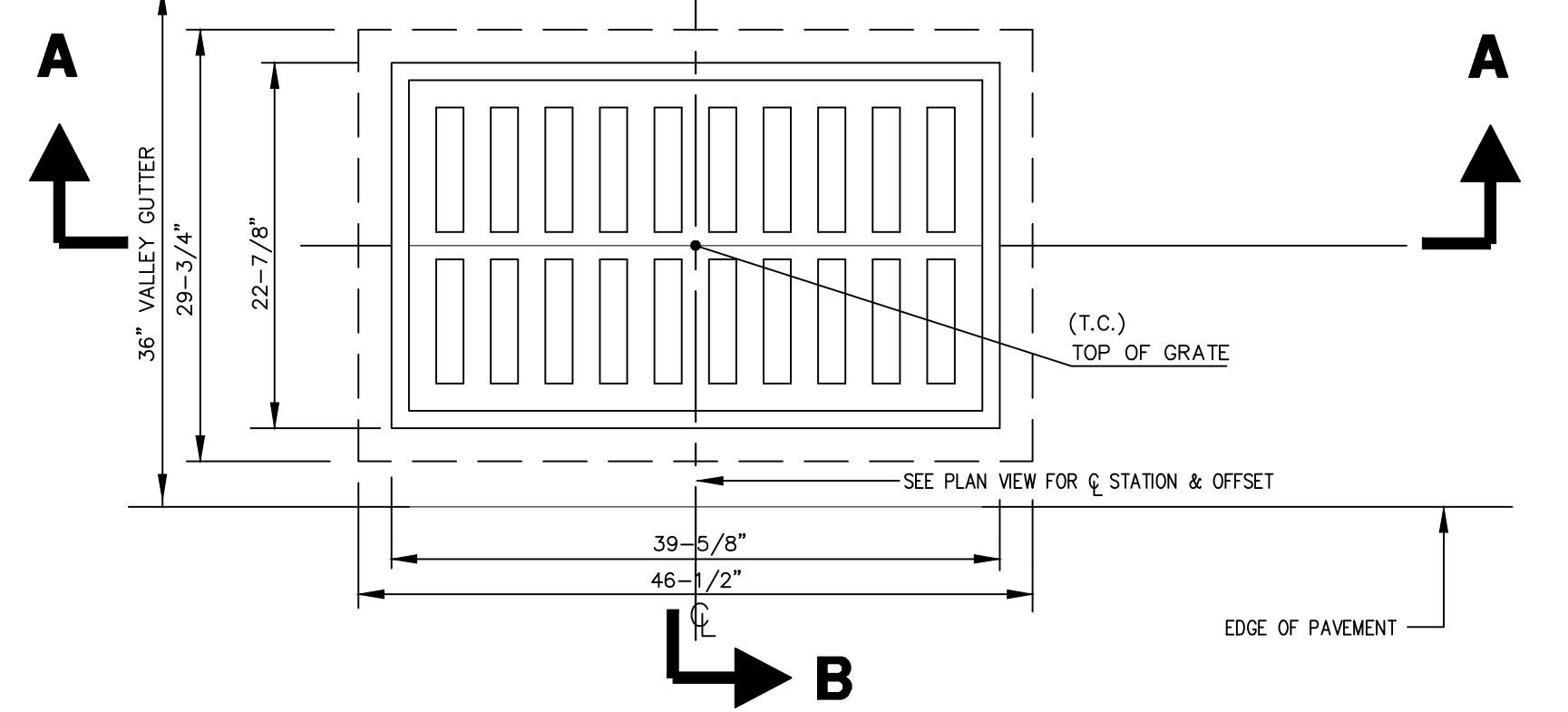
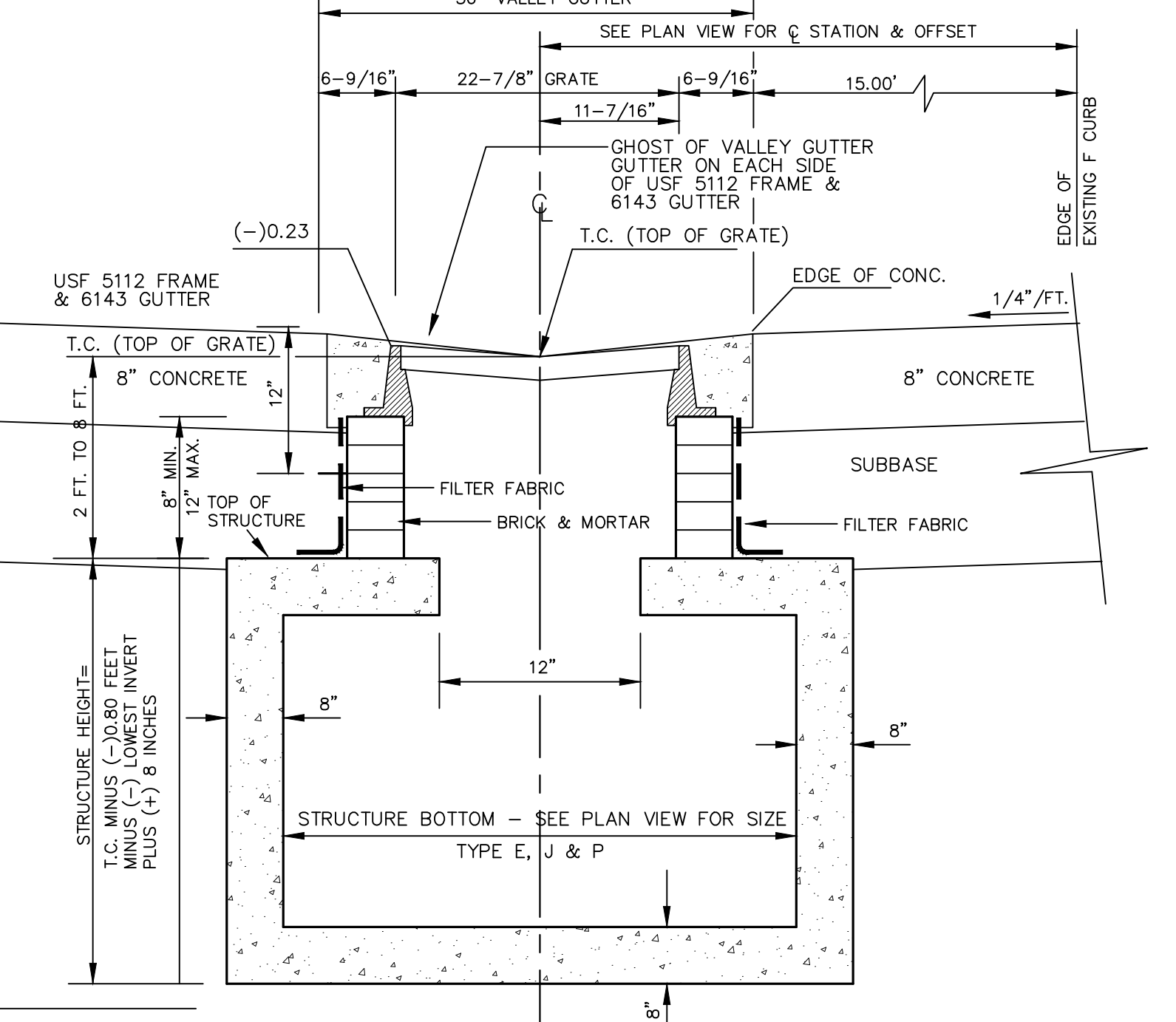
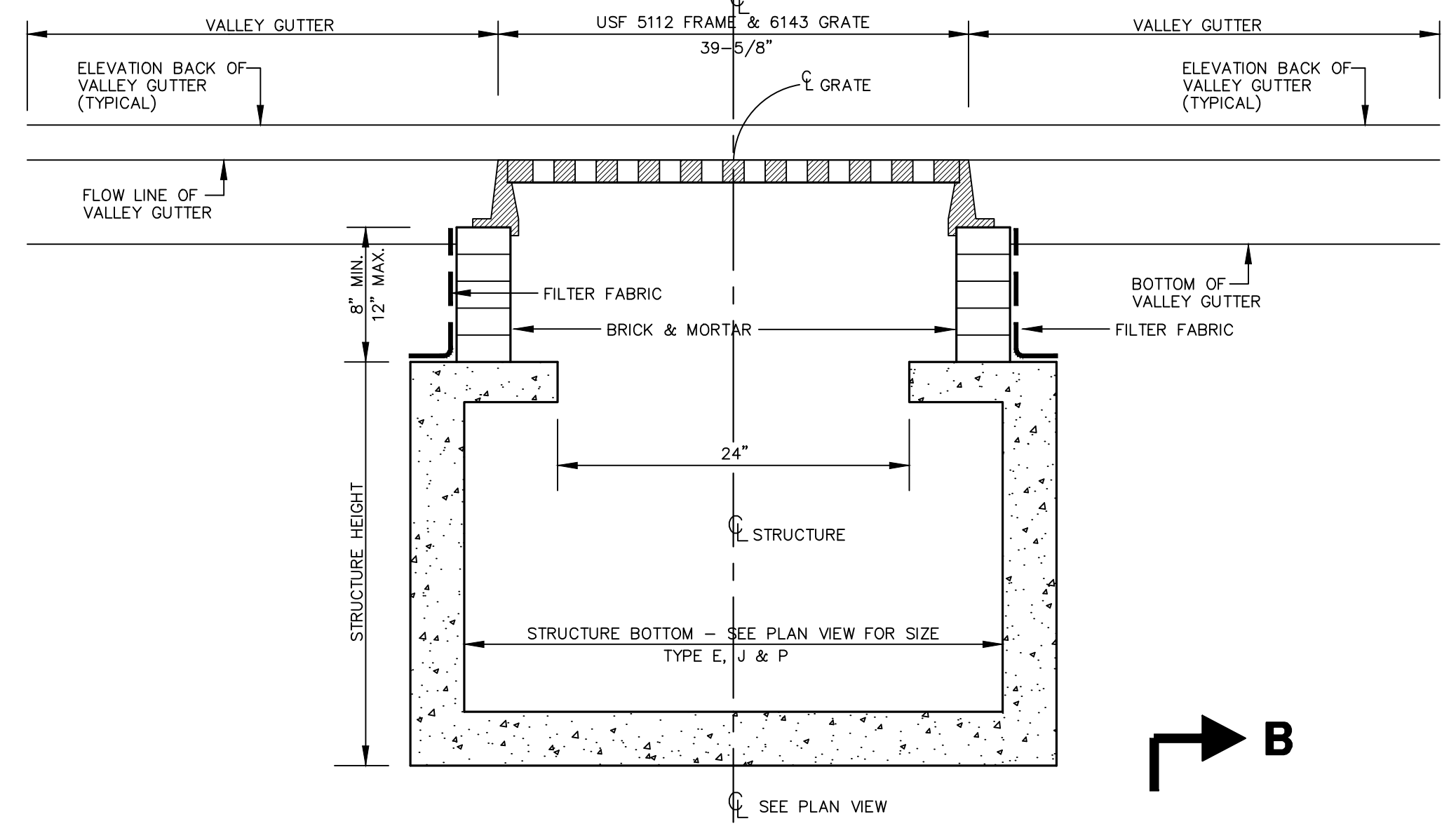
**CURB INLET TOP TYPE 9**



**GRATE DETAIL**

**GENERAL NOTES**

1. This inlet is primarily intended for locations with light to moderate flows where right of way does not permit the use of throated curb inlets Types 1 through 5. The typical application is on curb returns to city streets. The inlet grate is suitable for pedestrian and bicycle traffic.
2. This inlet to be located in vertical faced curbs such as Curb and Gutter Type F. Grate shall be oriented with vanes directed toward predominate flow. Inlet to be located outside pedestrian crosswalk where practical.
3. All steel in slab tops shall have 1-1/4" minimum cover unless otherwise shown. Tops shall be either cast-in-place or precast concrete.
4. Frame may be adjusted with one to six courses of brick.
5. Inlet and grate detail shown is Neenah R-3067-L. Vaned grates with approximately equal openings will be permitted that satisfy AASHTO H-20 loading. Inlet and grate shall be Class 30 castings in accordance with ASTM A 48. Grates shall be reversible, right or left.



REVISIONS	
NO.	DESCRIPTION
4	8-13-19
3	7-9-19
2	2-25-19
1	12-18-18
	DATE
	DESCRIPTION
	BY
	BH
	BH
	BH
	BH
	BY

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@pmya.com  
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

**BEACH STREET, STREETSCAPE ORANGE TO BAY**  
DAYTONA BEACH \* FLORIDA

**PAVING & DRAINAGE DETAILS**

CITY PROJECT NO. 2018-036

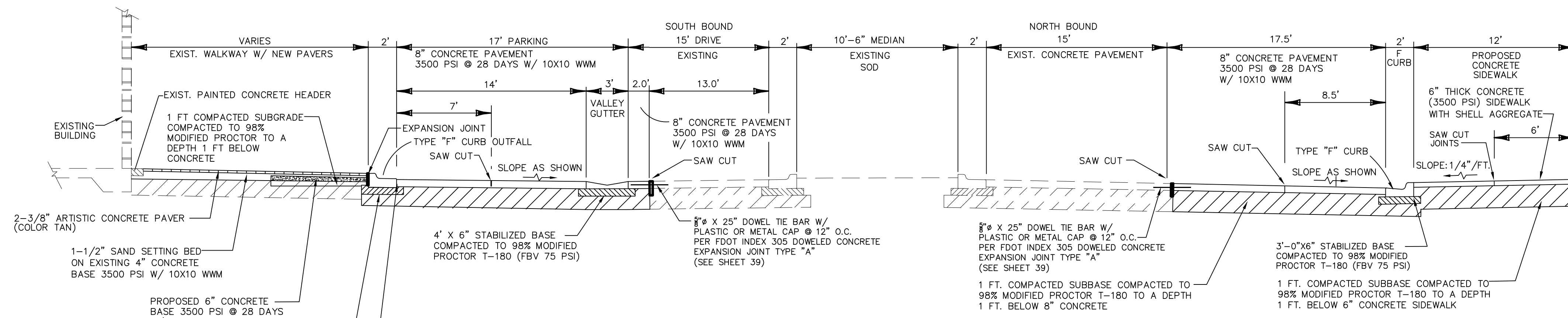
**40A**  
SHEET NO.

Drawn By: M. GRECO

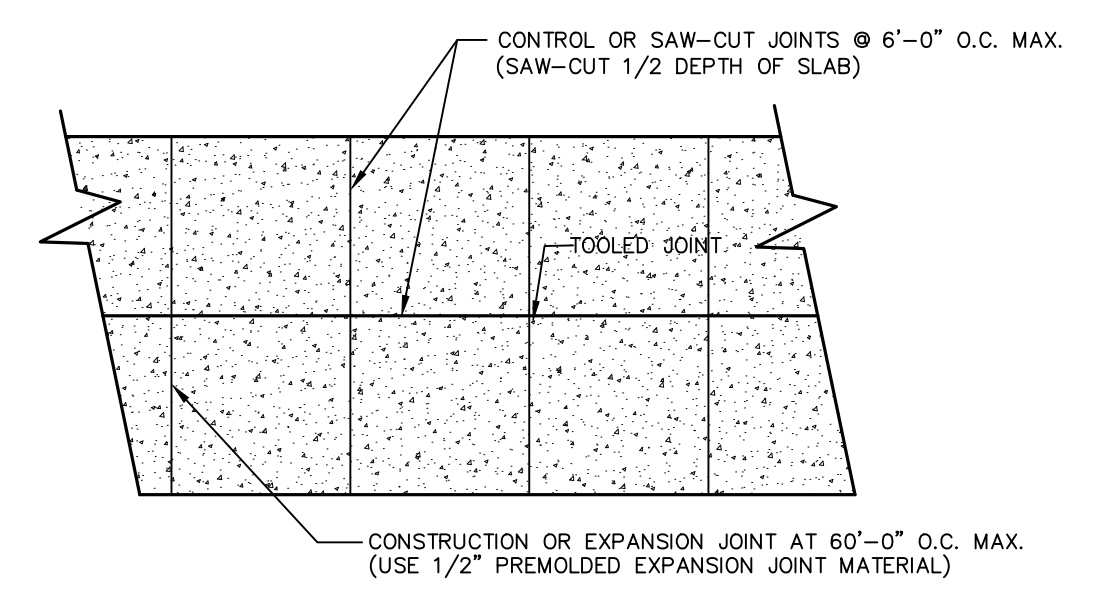
Date: 08/21/18

SCALE: NTS

SEAL

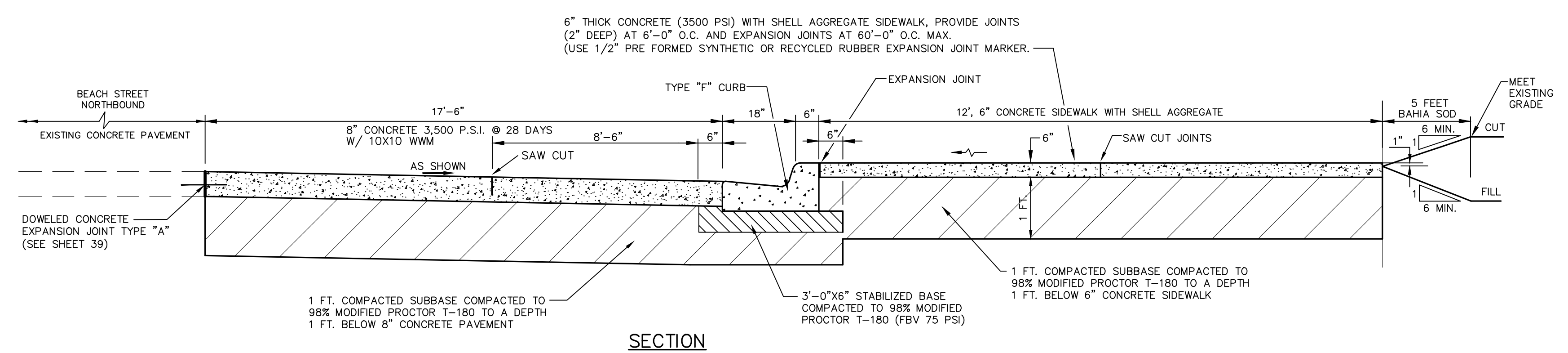


SECTION "A" - "A"



PLAN

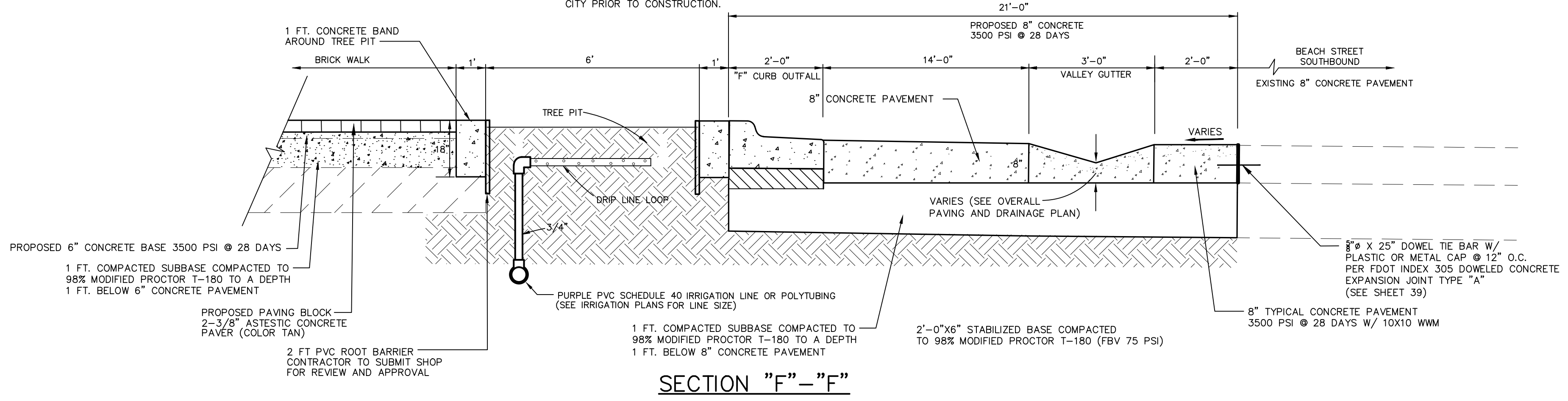
NOTE:  
1. CONTRACTOR TO POUR 12"x12" SAMPLE AREA FOR DESIGN ENGINEER AND CITY REVIEW OF TOOLED JOINT.



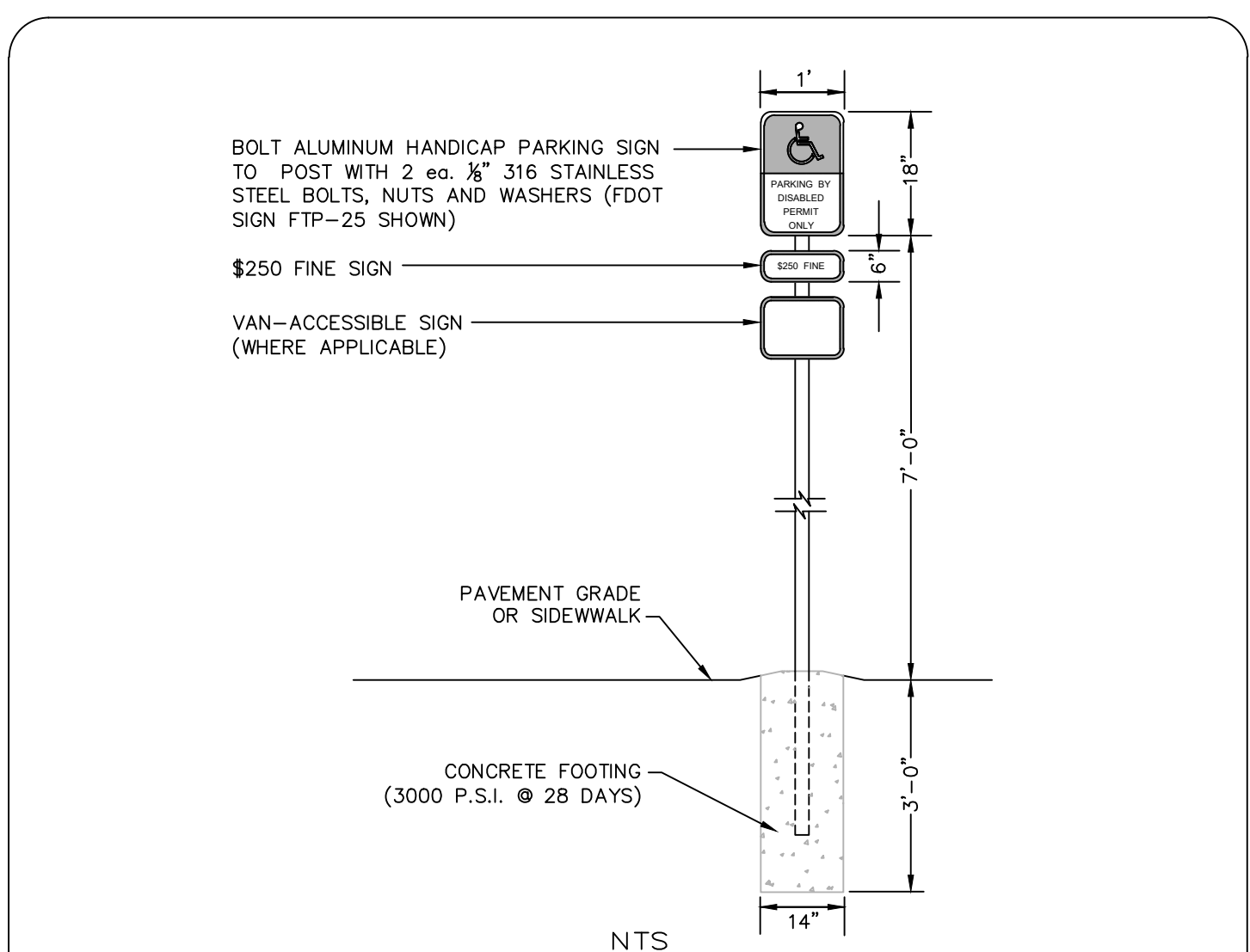
SECTION

SECTION "B" - "B"  
NORTHBOUND PARKING AND SIDEWALK

NOTE:  
CONTRACTOR TO POUR 6'x6' SECTION OF CONCRETE W/ AGGREGATE FOR REVIEW BY DESIGN ENGINEER AND CITY PRIOR TO CONSTRUCTION.



SECTION "F" - "F"



NTS

- NOTES:
- ONE SIGN IS REQUIRED FOR EACH HANDICAP PARKING STALL.
  - HANDICAP PARKING SIGN SHALL CONFORM WITH CURRENT FEDERAL, STATE LOCAL & ADA CODES & REGULATIONS, LATEST EDITION.
  - SIGNS WILL BE FABRICATED BY USING A REFLECTING COATING IN THE SYMBOL, MESSAGE AND BORDERS APPLIED TO A SHEET OF ALUMINUM (12"x 18"x 0.80").
  - MESSAGE LETTERING SHALL BE UPPER CASE (SERIES B) 2" HIGH IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
  - THE SYMBOL IS COMPOSED OF TWO ELEMENTS, A WHITE WHEEL-CHAIR FIGURE (WHICH SHOULD ALWAYS FACE RIGHT) ON A SQUARE BACKGROUND, INTERNATIONAL BLUE IN COLOR (FED. STD. 595G, COLOR #15180).
  - SUPPLEMENTAL SIGN PLATES SHALL BE UPPER CASE (SERIES B) 1" BLUE OR BLACK MESSAGE LETTERING W/ 1/2" BLUE OR BLACK BORDER ON WHITE BACK GROUND.
  - METAL SIGN POSTS TO BE GALVANIZED U-IRON. ALL BOLTS, NUTS, WASHERS AND SCREWS MUST BE 316 STAINLESS STEEL.
  - CONCRETE FOOTING SHALL BE OF PORTLAND CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. @ 28 DAYS.
  - SIGN POST SHALL BE MINIMUM 2'-0" CLEAR FROM BACK OF CURB OR WHEEL STOP.
  - SIGN POST SHALL BE DESIGNED TO WITHSTAND 120 M.P.H. WIND LOAD.

THE CITY OF DAYTONA BEACH  
ENGINEERING DIVISION

HANDICAP PARKING  
SIGN DETAIL  
(FDOT TYPE FTP-25)  
M-6

Drawing Date: 06/2003
Drawn By: RBT
Checked By: JMS
Scale: NTS
Revision Date: 10/2011
File Name: BM-4

BH	BID SET	
BH	100% PLANS	
BH	90% PLANS	
BH	60% PLANS	
BT	DESCRIPTION	
	NO.	DATE

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermynchenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET, STREETSCAPE  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
PAVING & DRAINAGE DETAILS

CITY PROJECT NO.  
2018-036

**40B**  
SHEET NO.

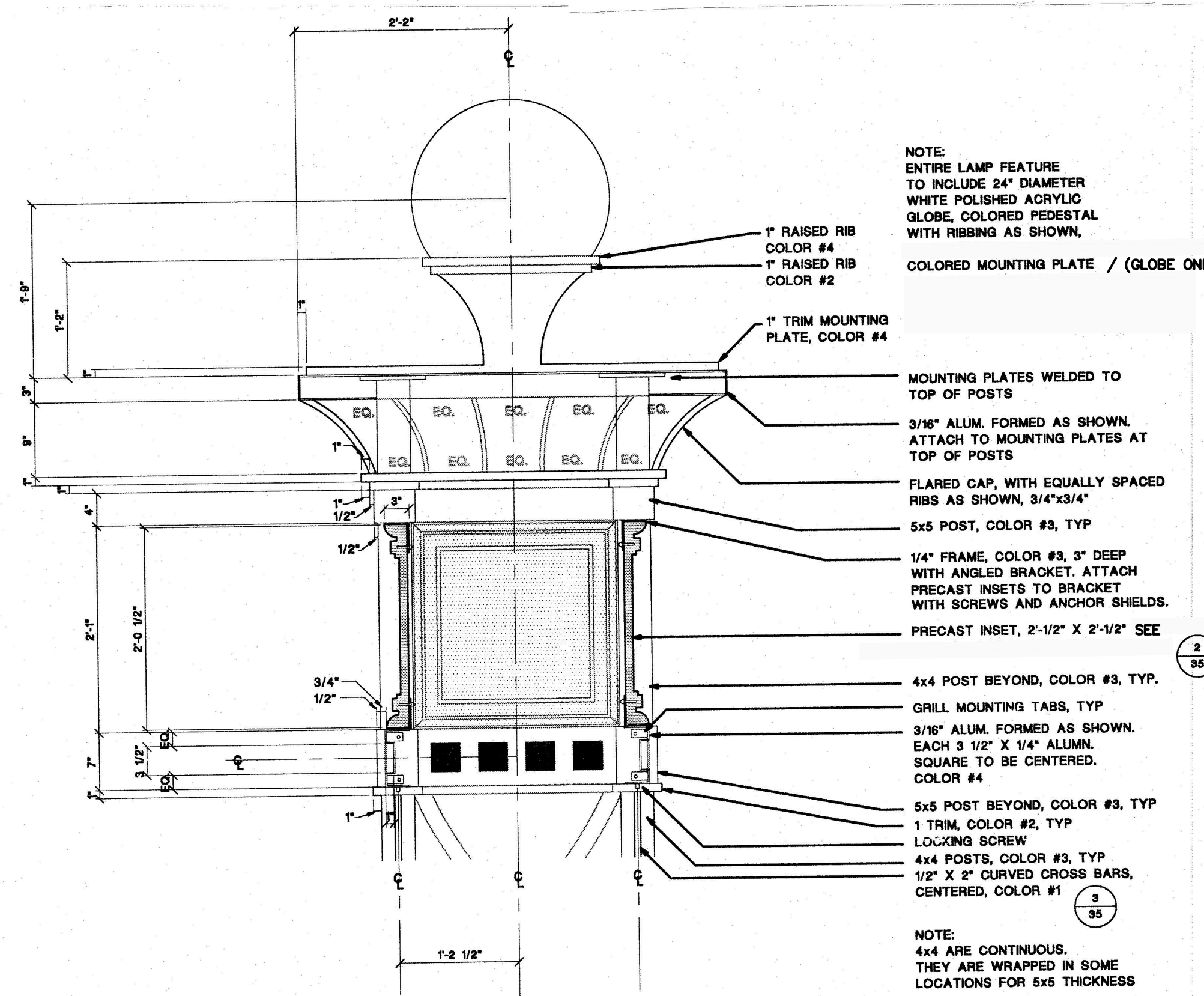
Drawn By: M. GRECO

Date: 08/21/18

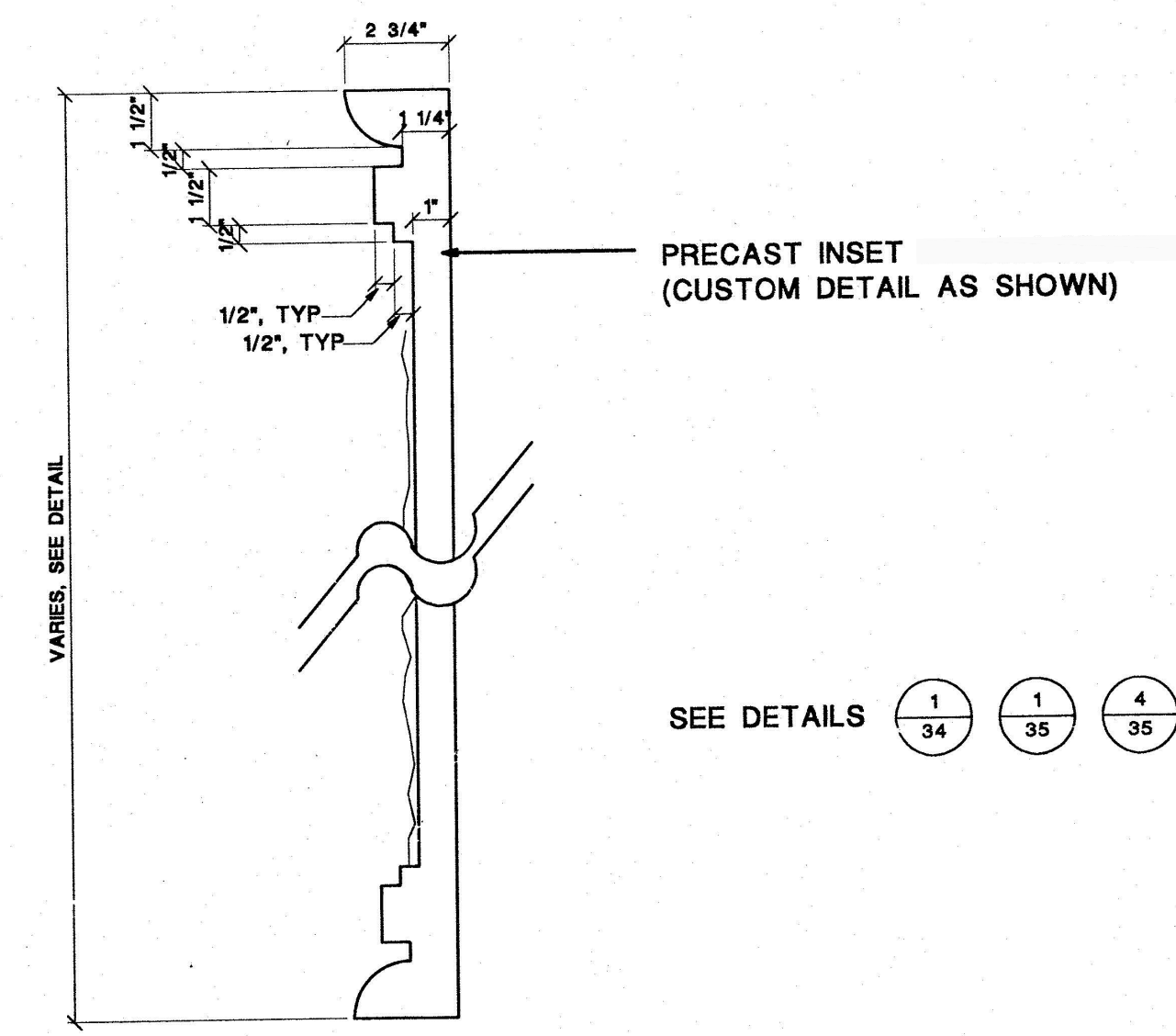
SCALE: NTS

SEAL

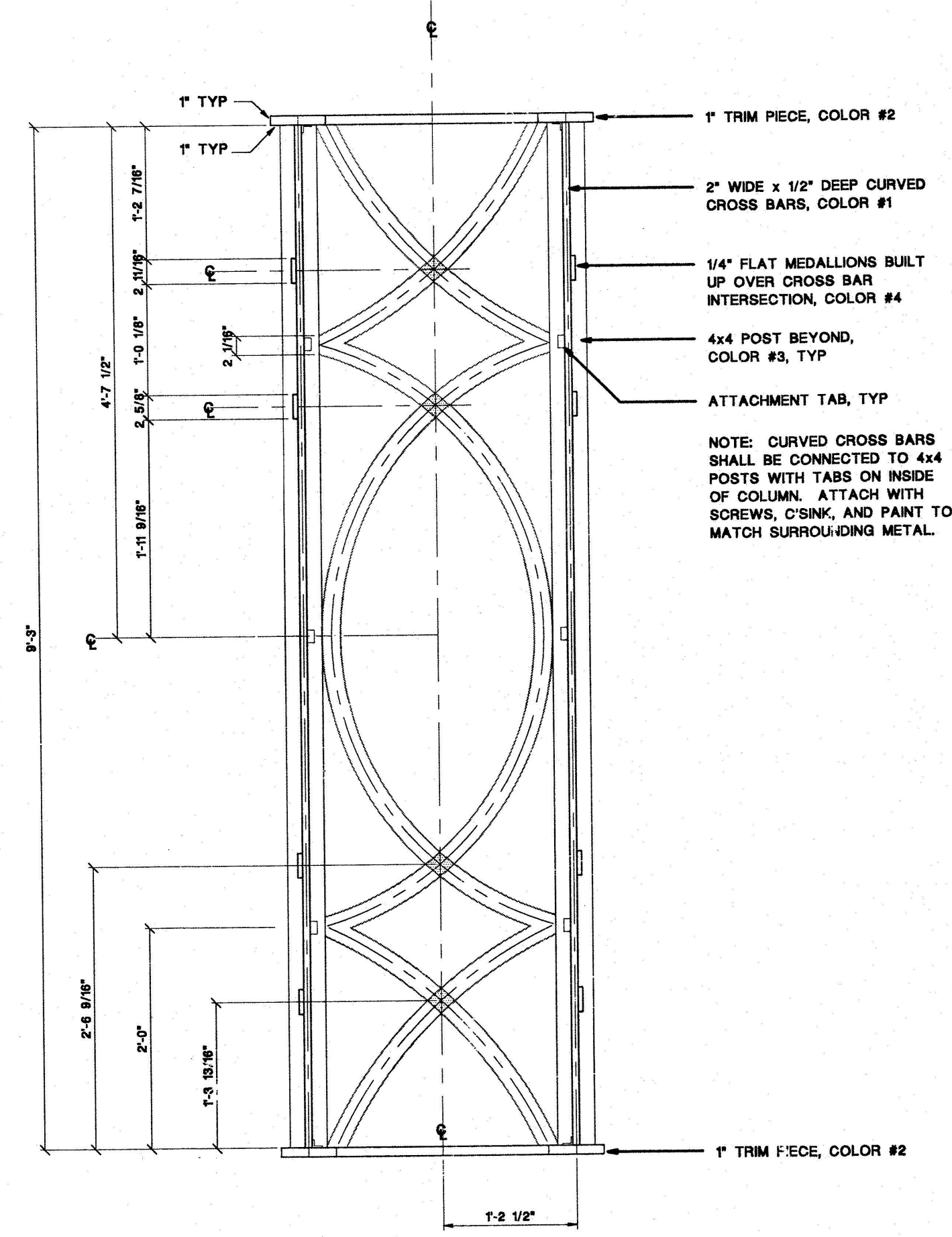




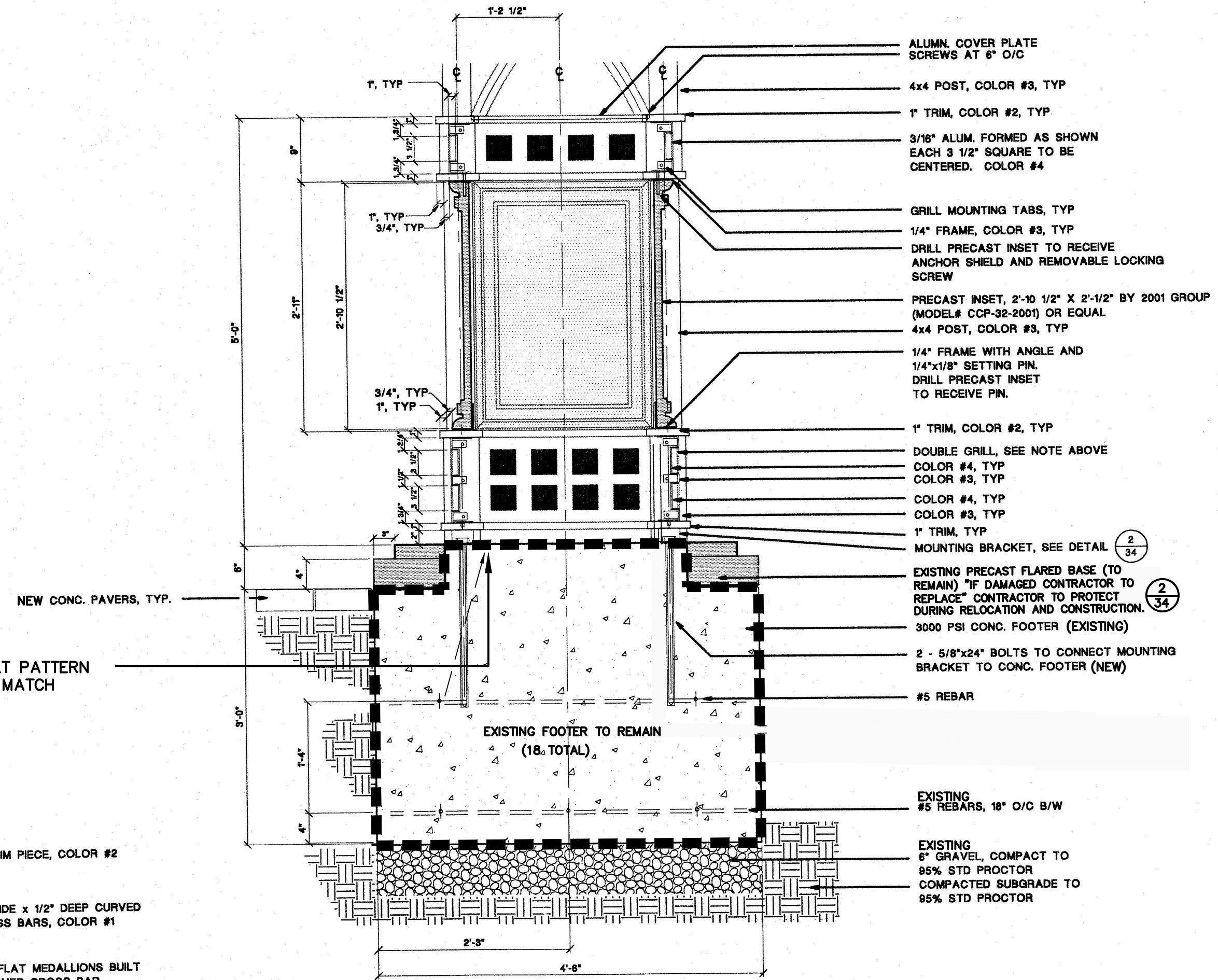
**1 COLUMN CAP SECTION DETAIL**  
SCALE: 1"=1'-0"



**2 CUSTOM STONE INSET SECTION**  
SCALE: 3"=1'-0"



**3 COLUMN SHAFT SECTION DETAIL**  
SCALE 1"=1'-0"



**4 COLUMN BASE SECTION DETAIL**  
SCALE: 1"=1'-0"

**NOTE:**  
COLUMN AND ARCH CONSTRUCTION SHALL BE OF ALUMINUM. POSTS SHALL BE OF ALUMINUM TUBING SIZED AS REQUIRED BY ENGINEER. CONTRACTOR TO PROVIDE SIGNED AND SEALED STRUCTURE DRAWINGS ALL COLORS SHALL MATCH THE FOLLOWING PANTONE, INC. "SOLID CHIPS (THE PLUS SERIES)"

COLOR #1 - 3242C (SEAFOAM)  
COLOR #2 - 326C (PELICAN)  
COLOR #3 - 322C (TEAL)  
COLOR #4 - 248C (MAGENTA)

SAMPLES TO BE APPROVED BY DESIGN ENGINEER AND CITY PRIOR TO CONSTRUCTION.

**NOTE:**  
ENTIRE LAMP FEATURE TO INCLUDE 24" DIAMETER WHITE POLISHED ACRYLIC GLOBE, COLORED PEDESTAL WITH RIBBING AS SHOWN, COLORED MOUNTING PLATE / (GLOBE ONLY NO PROPOSED ELECTRICAL)

**NOTE:**  
CONTRACTOR TO FIELD VERIFY EXISTING BOLT PATTERN ON ALL EXISTING FOOTERS TO REMAIN AND MATCH EXISTING BOLT PATTERN.

**NOTE:**  
4x4 ARE CONTINUOUS. THEY ARE WRAPPED IN SOME LOCATIONS FOR 5x5 THICKNESS

SEE DETAILS **1** **34** **35** **4** **35**

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
			BT

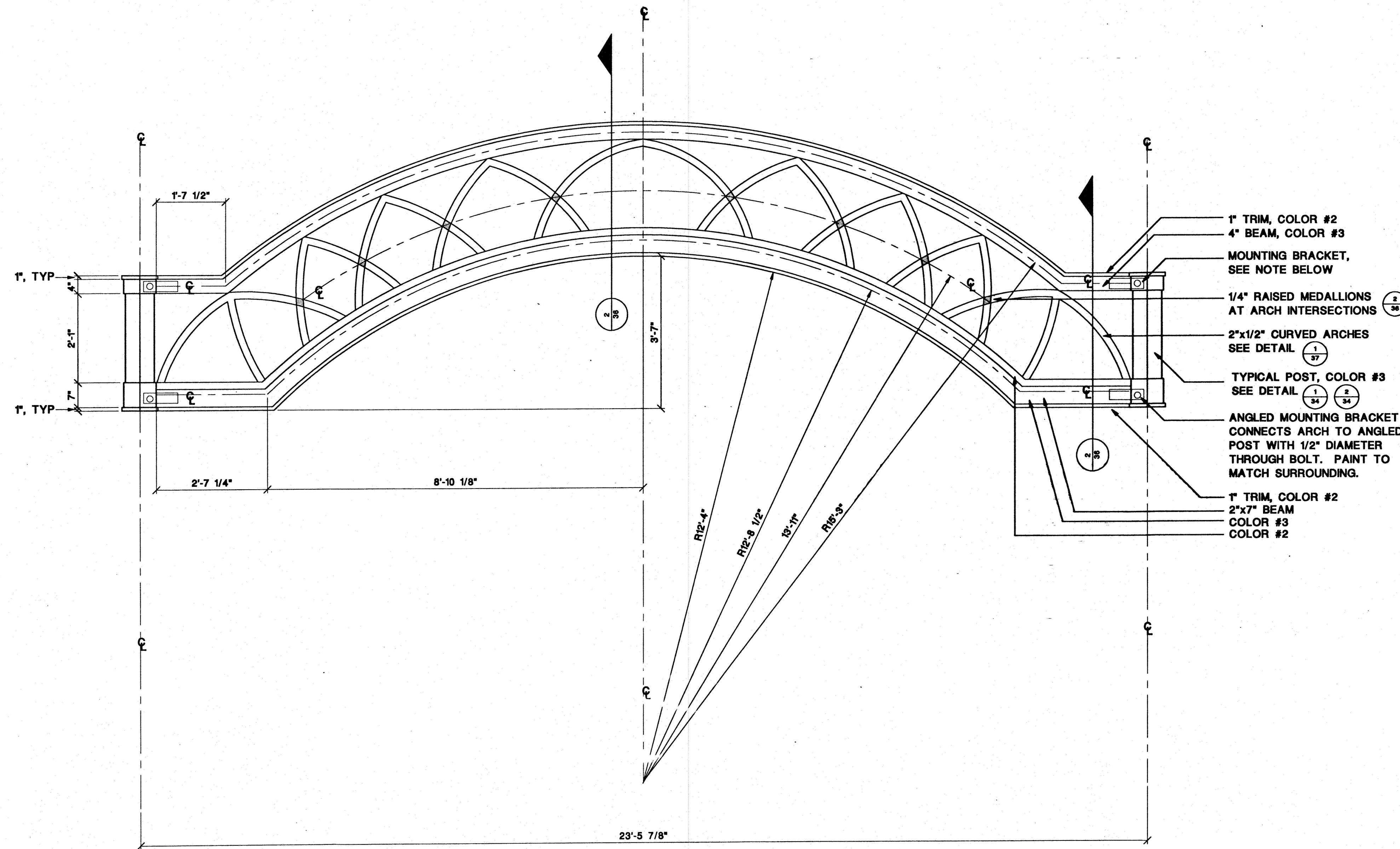
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
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BEACH STREET, STREETSCAPE  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
MID-BLOCK ARCHITECTURAL DETAILS

CITY PROJECT NO.  
2018-036  
**40C**  
SHEET NO.  
Drawn By: M. GRECO  
Date: 08/21/18  
SCALE: NTS

SEAL





1  
36 MIDBLOCK ARCH ELEVATION  
SCALE: 3/4"=1'-0"

**NOTE:**

COLUMN AND ARCH CONSTRUCTION SHALL BE OF ALUMINUM. POSTS SHALL BE OF ALUMINUM TUBING SIZED AS REQUIRED BY ENGINEER.

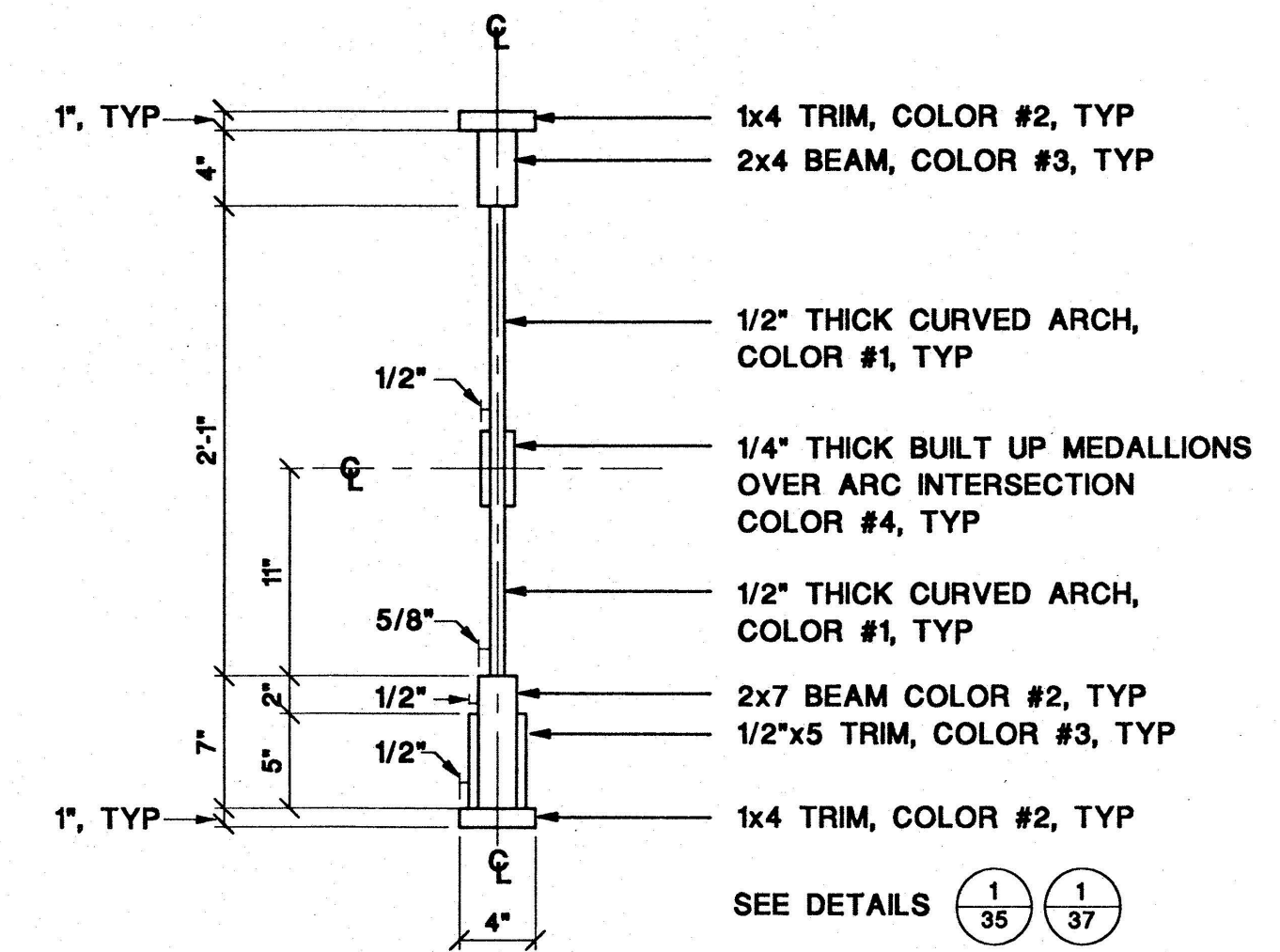
ALL COLORS SHALL MATCH THE FOLLOWING PANTONE, INC. "SOLID CHIPS (THE PLUS SERIES)"

COLOR #1 - 3242C (SEAFOAM)  
 COLOR #2 - 326C (PELICAN)  
 COLOR #3 - 322C (TEAL)  
 COLOR #4 - 248C (MAGENTA)

SAMPLES TO BE APPROVED BY DESIGN ENGINEER AND CITY PRIOR TO CONSTRUCTION.

CONTRACTOR TO SUBMIT SIGNED AND SEALED STRUCTURAL ENGINEERING PLANS / SHOP DRAWINGS FOR REVIEW AND APPROVAL BY DESIGN ENGINEER AND CITY.

- 1" TRIM, COLOR #2
- 4" BEAM, COLOR #3
- MOUNTING BRACKET, SEE NOTE BELOW
- 1/4" RAISED MEDALLIONS AT ARCH INTERSECTIONS (1/35)
- 2"x1/2" CURVED ARCHES SEE DETAIL (1/37)
- TYPICAL POST, COLOR #3 SEE DETAIL (1/34) (2/34)
- ANGLED MOUNTING BRACKET CONNECTS ARCH TO ANGLED POST WITH 1/2" DIAMETER THROUGH BOLT. PAINT TO MATCH SURROUNDING.
- 1" TRIM, COLOR #2
- 2"x7" BEAM COLOR #3
- COLOR #2



2  
36 MIDBLOCK ARCH SECTION  
SCALE: 1 1/2"=1'-0"

NOTE:  
 CONTRACTOR TO MATCH EXISTING ARCHES BEING REMOVED, COLORS AND CONSTRUCTION EXCEPT WHERE MODIFIED.

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH

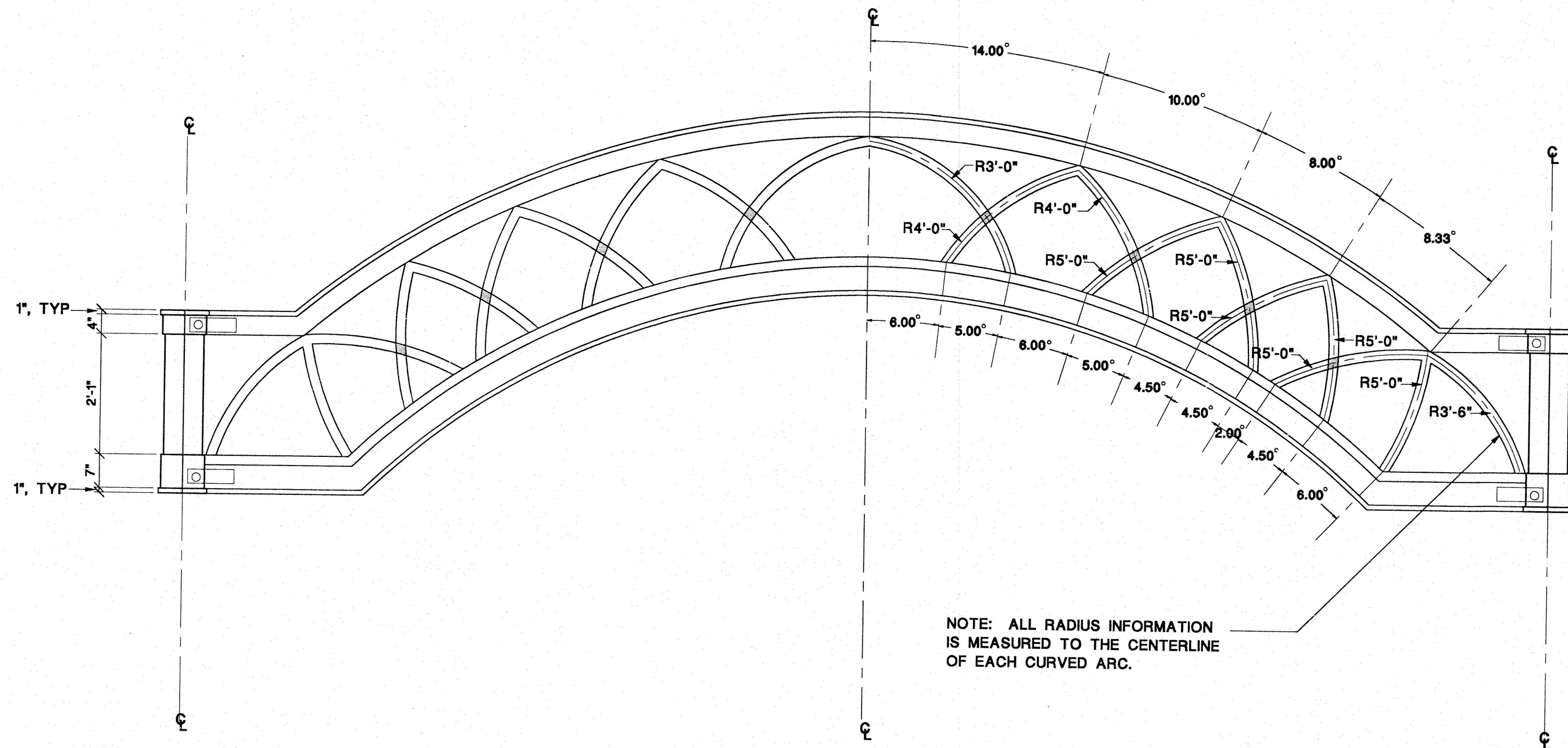
**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114 E-MAIL: info@pmyarch.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET, STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 MID-BLOCK ARCHITECTURAL DETAILS

CITY PROJECT NO.  
 2018-036  
**40D**  
 SHEET NO.  
 Drawn By: M. GRECO  
 Date: 08/21/18  
 SCALE: NTS

SEAL





1  
37 MIDBLOCK ARCH ARC LAYOUT  
SCALE: 3/4"=1'-0"

General Notes Column/Arch Construction

- 1) Contractor shall provide signed and sealed shop dwgs detailing all column and arch construction including but not limited to: framing, connections, mounting, lighting, ornamentation, finish and color for approval by Design Engineer and City prior to construction. Alternate methods of connection shall be subject to approval of Design Engineer and City. All connections shall be to the interior of the column, concealed from view and painted to match surrounding areas.
- 2) Proposed column and arch construction to match existing column arch construction except where modified.
- 3) Cast concrete insets shall match existing cast concrete insets to be removed. Color of all cast concrete shall be "Beach Buff". Contractor shall submit shop drawings and samples of all cast concrete products detailing pattern, color and shape for Design Engineer and City approval prior to construction.
- 4) Grout at base of column shall be color #39-Ivory Ultracolor and match existing column to be removed grout.
- 5) Column and arch construction shall be of aluminum. Posts shall be of aluminum tubing sized as required by Engineer. Finish shall match existing columns, see specifications for more detailed information.  
  
All colors shall match the following Pantone, Inc.  
"Color formula Guide 1000" reference numbers (2018-2019 ED)  
  
Color #1 – 3242C (Seafoam)  
Color #2 – 326C (Pelican)  
Color #3 – 322C (Teal)  
Color #4 – 248C (Magenta)  
  
Samples to be approved by Design Engineer and City prior to construction.
- 6) All column / arch construction, fitting and finishes shall be flush, tight and hairline with any welds ground smooth.
- 7) Column arch assembly shop drawings shall be signed and sealed by a Professional Engineer licensed in the State of Florida.
- 8) Contractor to demolish and dispose of existing columns and arches to be removed.

NO.	DATE	DESCRIPTION	BY
4	18-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
			BY

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BEACH STREET, STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 MID-BLOCK ARCHITECTURAL DETAILS

CITY PROJECT NO.  
2018-036

**40E**  
SHEET NO.

Drawn By: M. GRECO

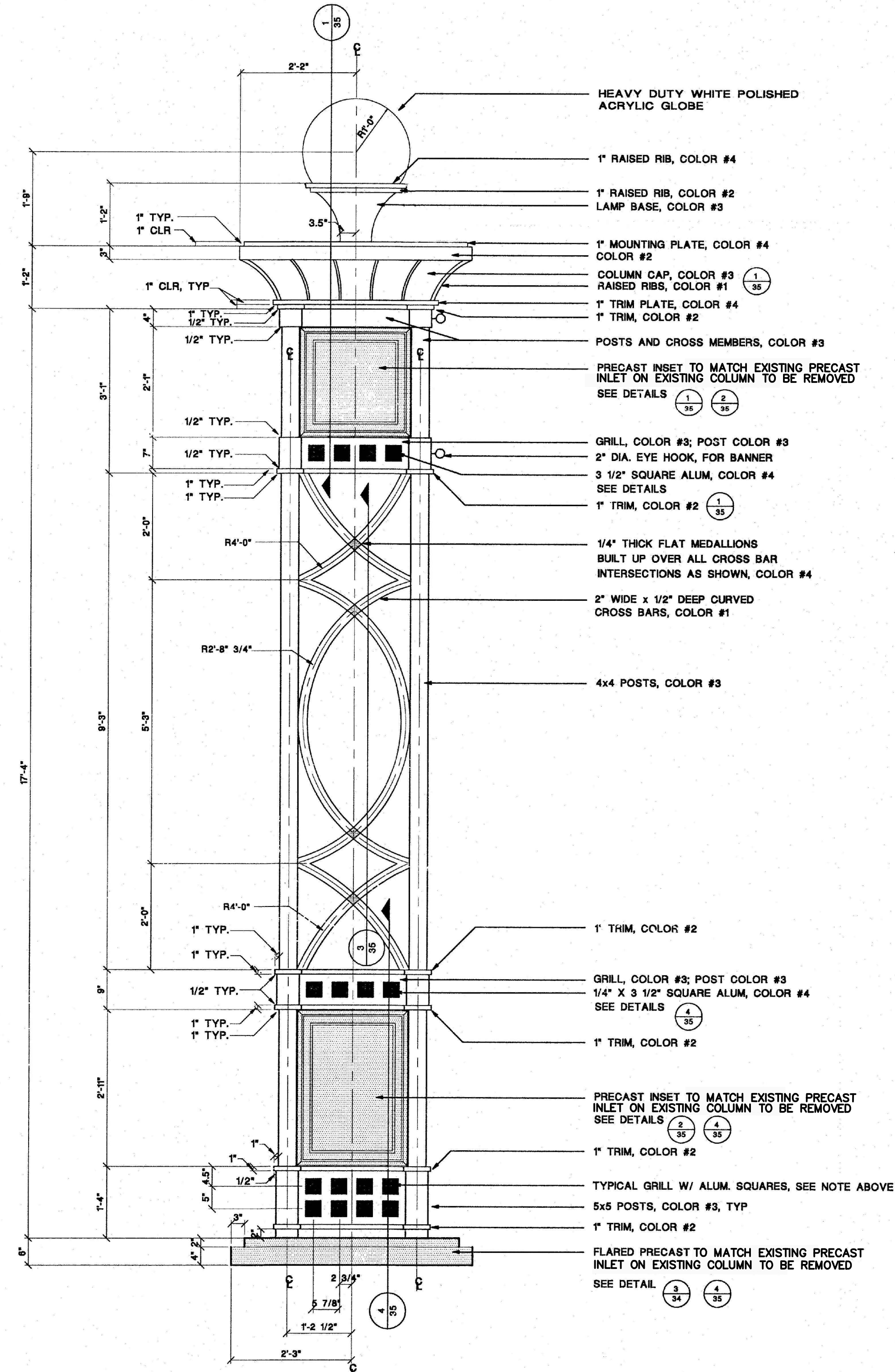
Date: 08/21/18

SCALE: NTS

SEAL

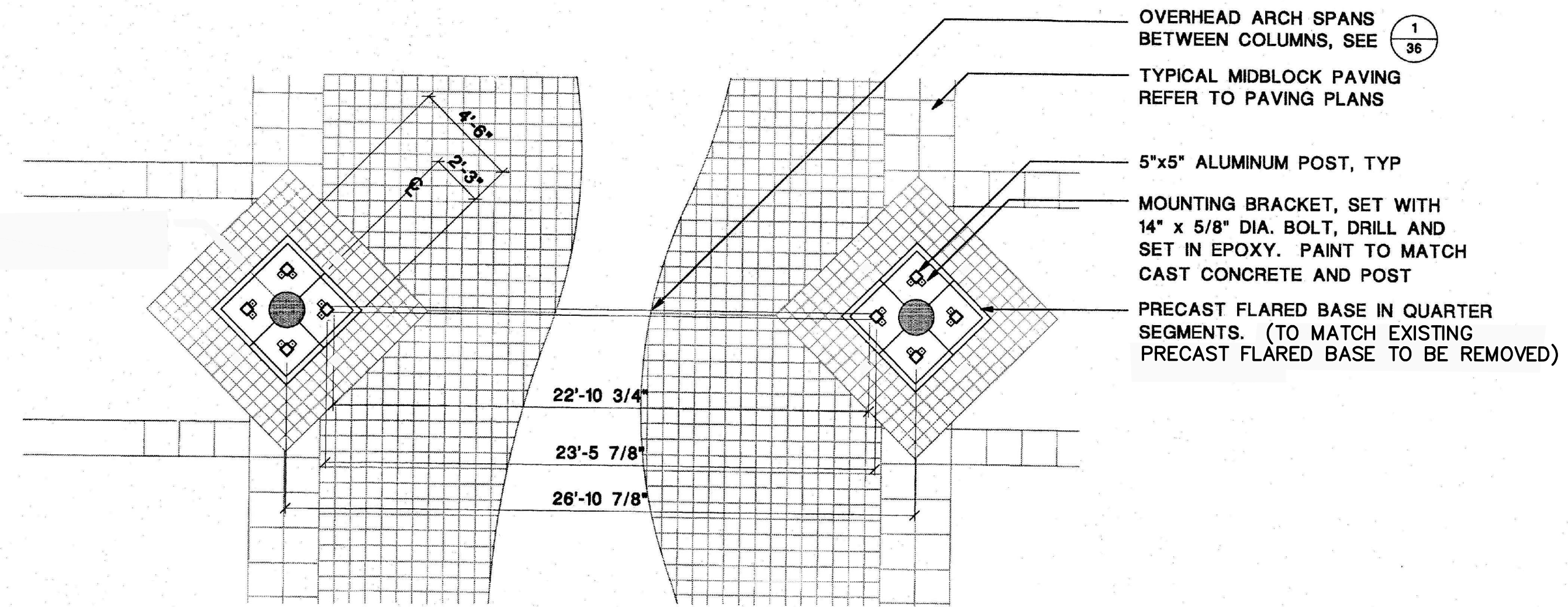


**ALUMINUM COLUMN & ARCH**



**1**  
34 TYPICAL COLUMN ELEVATION  
SCALE: 3/4" = 1'-0"

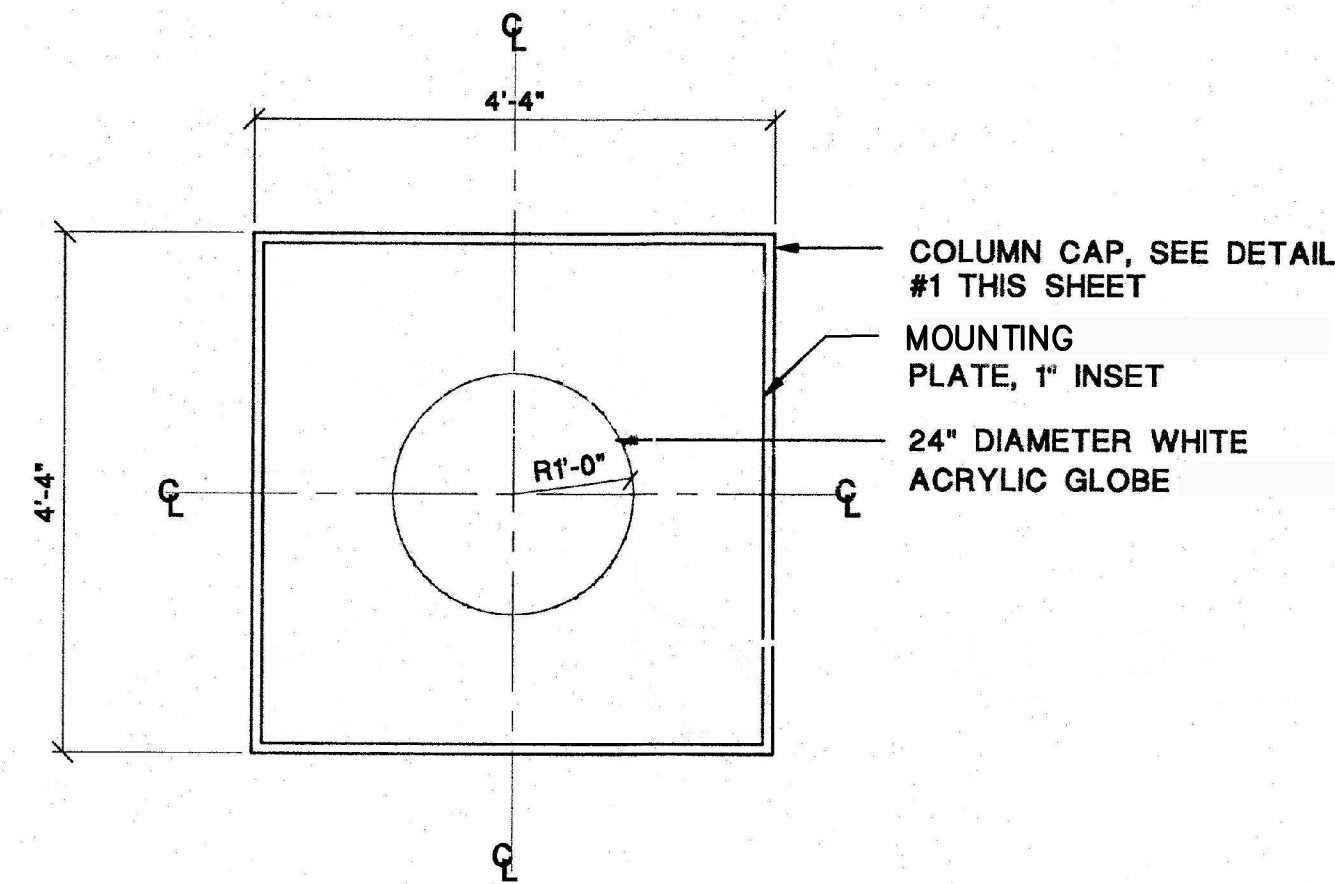
FILE NAME: COL-D-02



**2**  
34 COLUMN BASE LAYOUT PLAN

1/4"=1'-0"  
CONTRACTOR TO UTILIZED AND PROTECT EXISTING BASE (TO REMAIN)

FILE NAME: COL-D-01



**3**  
34 COLUMN CAP PLAN DETAIL

SCALE: 3/4"=1'-0"

FILE NAME: COL-D-12

**NOTE:**

COLUMN AND ARCH CONSTRUCTION SHALL BE OF ALUMINUM. POSTS SHALL BE OF ALUMINUM TUBING SIZED AS REQUIRED BY ENGINEER.

ALL COLORS SHALL MATCH THE FOLLOWING PANTONE, INC. "SOLID CHIPS (THE PLUS SERIES)"

COLOR #1 - 3242C (SEAFOAM)  
COLOR #2 - 326C (PELICAN)  
COLOR #3 - 322C (TEAL)  
COLOR #4 - 248C (MAGENTA)

SAMPLES TO BE APPROVED BY LANDSCAPE ARCH. PRIOR TO CONSTRUCTION.

FILE NAME: CLR\_FORM

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
		DESCRIPTION	BY
		REVISIONS	

**PARKER MYNCHENBERG & ASSOCIATES, INC.**

PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
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CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET, STREETSCAPE  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA

MID-BLOCK ARCHITECTURAL DETAILS

CITY PROJECT NO.  
2018-036

**40F**  
SHEET NO.

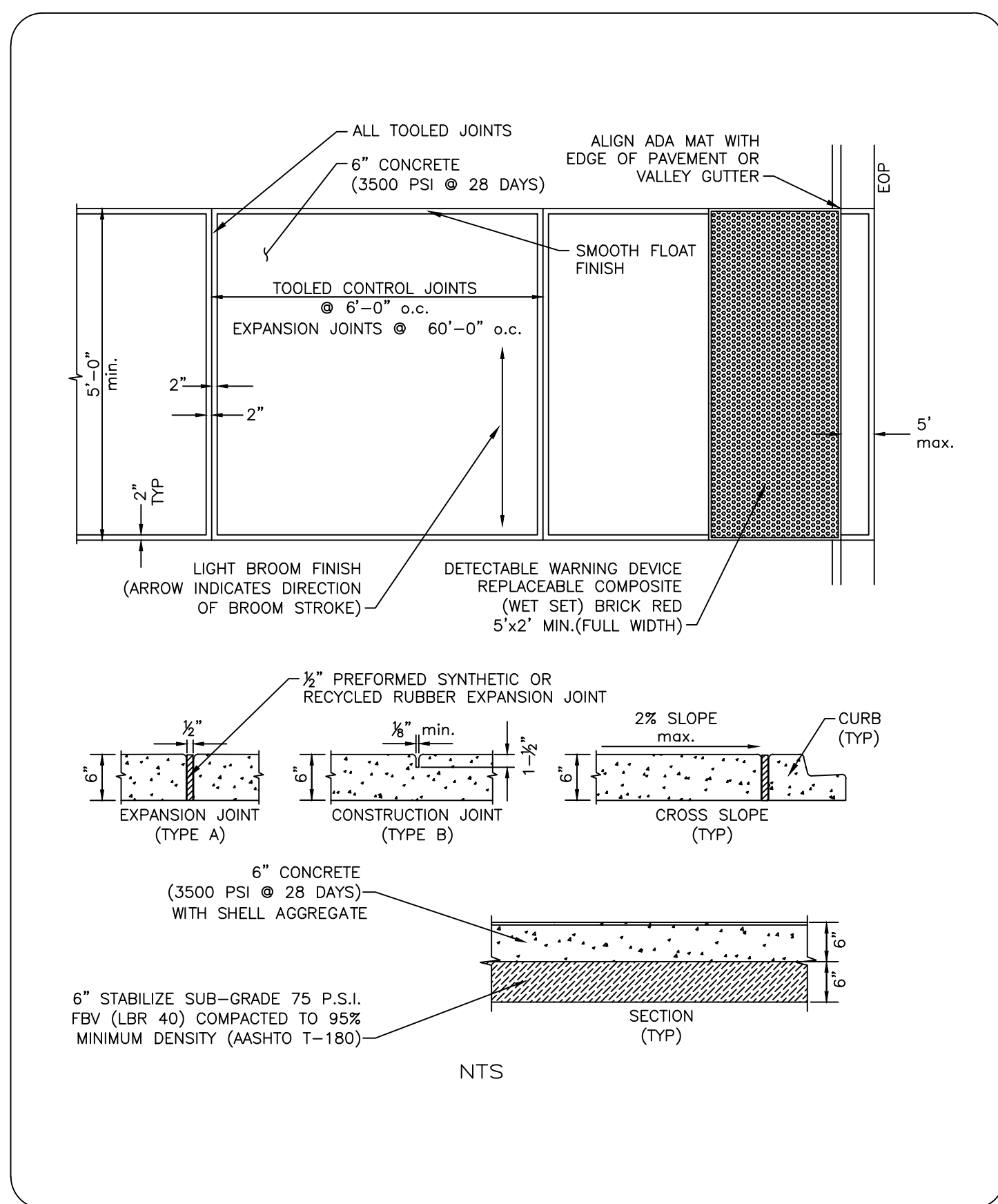
Drawn By: M. GRECO

Date: 08/21/18

SCALE: NTS

SEAL





**NOTES:**

- SIDEWALKS, BIKE PATHS, RAMPS AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF PLAIN PORTLAND CEMENT CONCRETE WITH A MAXIMUM SLUMP OF 3". A MINIMUM DEVELOPED COMPRESSIVE STRENGTH OF 3500 P.S.I. IN 28 DAYS AND A MINIMUM UNIFORM THICKNESS OF 6".
- SIDEWALKS AND BIKE PATHS SHALL BE PLACED PARALLEL TO, AND ONE FOOT WITHIN THE RIGHT-OF-WAY LINE EXCEPT THAT THE CITY MAY APPROVE DEVIATIONS TO SAVE SPECIMEN TREES PROVIDED THAT THE SIDEWALK REMAINS WITHIN THE RIGHT-OF-WAY OR AN APPROVED SIDEWALK EASEMENT ABUTTING THE RIGHT OF WAY. SIDEWALKS AND BIKE PATHS SHOULD BE LOCATED A MINIMUM OF 4'-0" FROM THE EDGE OF THE STREET PAVEMENT UNLESS OTHERWISE APPROVED BY THE CITY.
- ALL CURB CUTS AND HANDICAP RAMPS SHALL BE ADA COMPLIANT AND TO BE CONSTRUCTED IN ACCORDANCE WITH FDOT DESIGN STANDARDS AND FLORIDA BUILDING CODE ACCESSIBILITY, LATEST EDITIONS.
- THE TOP OF THE CONCRETE SHALL BE AT AN ELEVATION NO LOWER THAN THE CROWN OF THE ADJACENT ROADWAY, AND NO HIGHER THAN 6" ABOVE THE CROWN UNLESS APPROVED BY THE CITY TO MAKE A MORE NATURAL TRANSITION WITH THE ADJACENT LAND.
- EXPANSION AND ISOLATION JOINTS (TYPE A JOINTS) SHALL BE PROVIDED BETWEEN EXISTING SLABS OR STRUCTURES AND FRESH CONCRETE, TO SEPARATE PEDESTRIAN SECTIONS FROM SECTIONS WHICH WILL ENCOUNTER VEHICLE TRAFFIC, TO SEPARATE FRESH PLACEMENT OF CONCRETE WHICH HAS SET FOR MORE THAN 60 MINUTES, AND NO FARTHER APART THAN ONE HUNDRED FEET (100') IN SIDEWALKS AND THIRTY FEET (30') IN BIKE PATHS.
- PREFORMED 1/2" EXPANSION JOINT MATERIAL SHALL BE AS SPECIFIED IN FDOT STANDARDS AND SPECIFICATIONS, LATEST EDITION, AND SHALL BE SYNTHETIC, RECYCLED RUBBER OR OTHER PRE-APPROVED NON-BIODEGRADABLE ELASTOMERIC MATERIAL. WOOD AND DECCA-DRAIN STYLE POOL DRAINS ARE STRICTLY PROHIBITED IN ACCORDANCE WITH CHAPTER 6.1.2 OF THE FDOT SOILS AND FOUNDATIONS HANDBOOK, LATEST EDITION.
- CONTROL JOINTS (TYPE B JOINTS) SHALL BE TOOLED INTO THE FRESH CONCRETE OR SAW CUT INTO CURED CONCRETE TO A DEPTH EQUAL TO 25% THE SLAB THICKNESS AND SPACED APART A DISTANCE EQUAL TO THE WIDTH OF THE SLAB OR 5' WHICHEVER IS LESS.
- THE SLAB SURFACE SHALL BE BROOM FINISHED TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOOLED TO ELIMINATE SHARP CORNERS.
- THE BEARING SUBSURFACE SHALL HAVE ALL ORGANIC, LOOSE, AND DELETERIOUS MATTER REMOVED, AND THE REMAINING CLEAN SOIL SHALL BE SMOOTH, SOUND, AND SOLID. ANY FILL MATERIAL SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT COMPACTION MACHINE IN MAXIMUM 12" LIFTS OR COMPACTED WITH A HAND TAMPER IN MAXIMUM 4" LIFTS. THE CITY SHALL REQUIRE A COMPACTION TEST FOR EACH LIFT IF THE TOTAL FILLED SECTION IS MORE THAN 12" DEEP OR IF THE SUBSURFACE HAS BEEN DISTURBED MORE THAN 12" DEEP. WHERE SUCH TEST IS REQUIRED, THE SIDEWALK BASE SHALL BE COMPACTED AND TESTED TO 95% WITH MINIMUM L.B.R. BASED ON AASHTO T-180 MODIFIED PROCTOR TEST. MOISTURE SHALL BE APPLIED TO DRY FILL MATERIAL TO ACHIEVE DENSITY REQUIREMENTS.
- ALL CONCRETE WORK IN THE RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY AFTER THE SUBSOIL IS PREPARED AND THE FORMS ARE SET, BUT BEFORE THE CONCRETE PLACEMENT BEGINS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL THE CITY ACCEPTS OR APPROVES THE SLAB, AFTER WHICH TIME THE OWNER OF THE ABUTTING LAND SHALL BE RESPONSIBLE FOR THE SLAB IN ACCORDANCE WITH THE CITY CODE. ANY SLAB SECTION DAMAGED OR VANDALIZED PRIOR TO ACCEPTANCE OR APPROVAL SHALL BE CUT OUT BETWEEN JOINTS AND REPLACED AT NO ADDITIONAL COST TO THE OWNER. REPAIRS ARE NOT ACCEPTABLE.
- ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACKFILLED, RE-GRADED, AND SODDED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.
- DETECTABLE WARNING DEVICES SHALL EXTEND THE FULL WIDTH OF THE SIDEWALK AND TO A DEPTH OF 2' min.
- SEE FDOT DESIGN STANDARDS INDEX 304, LATEST EDITION, FOR REFERENCE.

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION

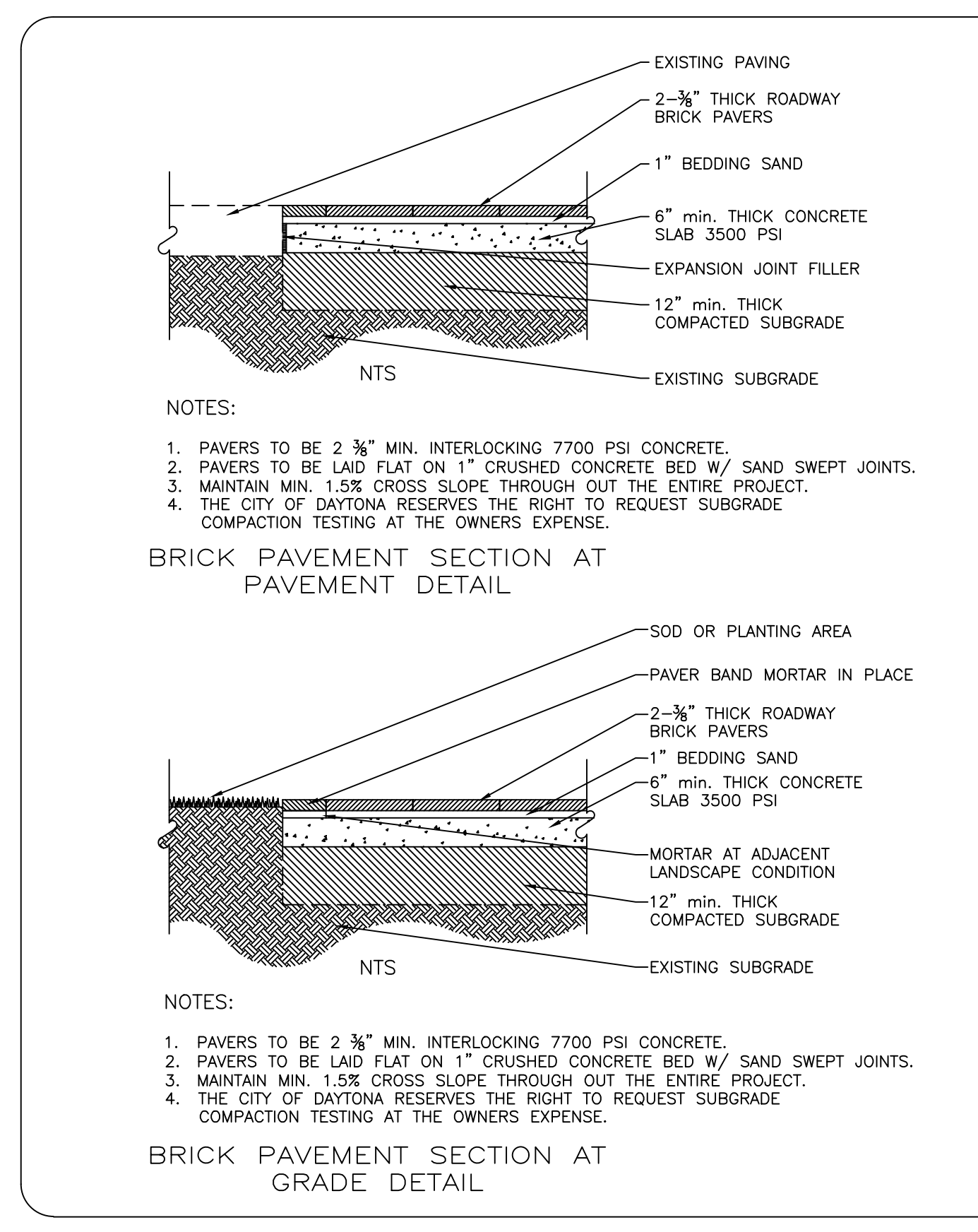
**SIDEWALK CONSTRUCTION DETAIL**  
C-1

Drawing Date: 11/20/2009  
Drawn By: JHT  
Checked By:  
Scale: NTS  
Revision Date: 08/20/15  
File Name: ac-1

THE CITY OF DAYTONA BEACH ENGINEERING DIVISION

**SIDEWALK/BIKE TRAIL CONSTRUCTION NOTES**  
C-3

Drawing Date: 09/20/09  
Drawn By: JHT  
Checked By:  
Scale: NTS  
Revision Date: 12/20/13  
File Name: ac-3

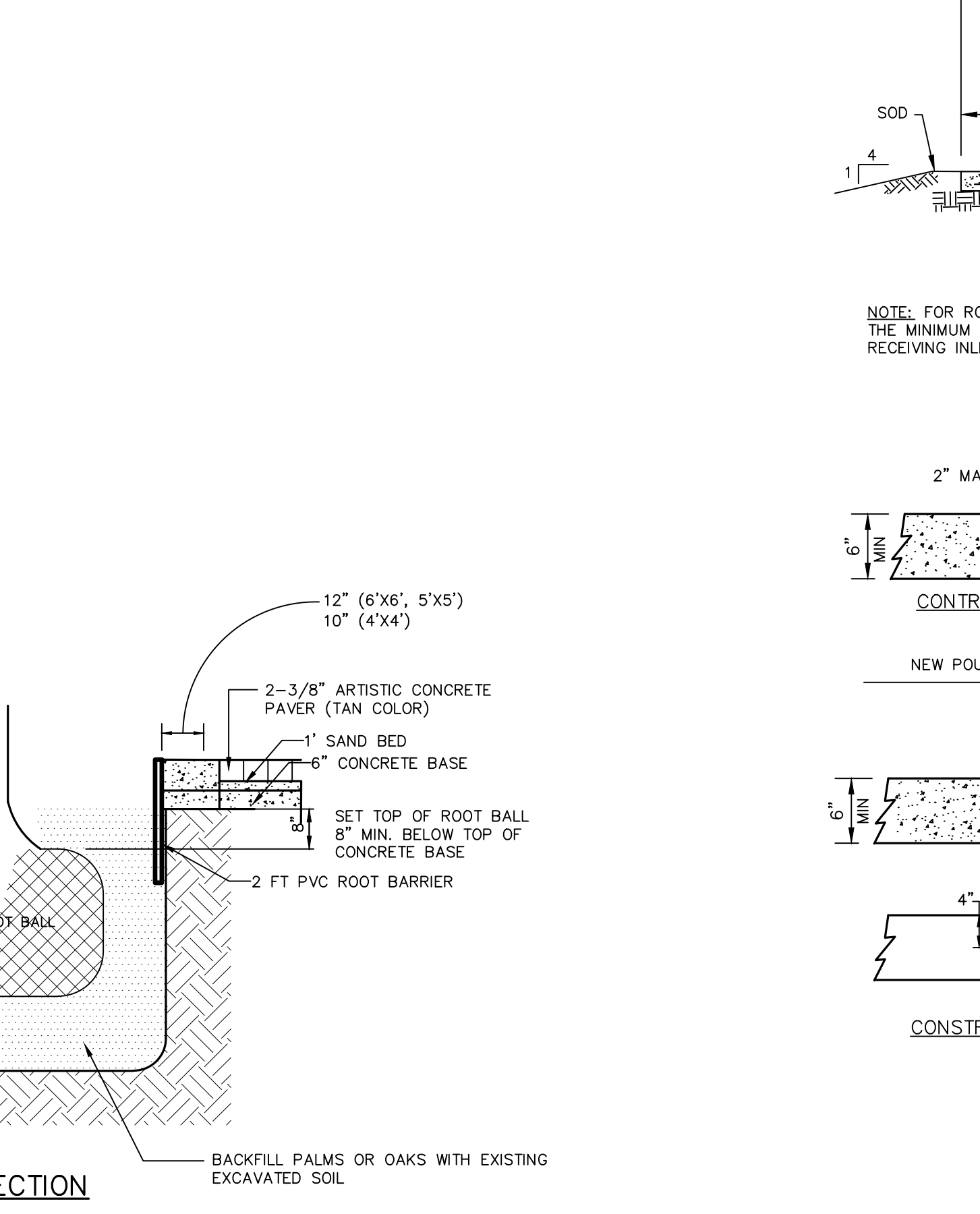
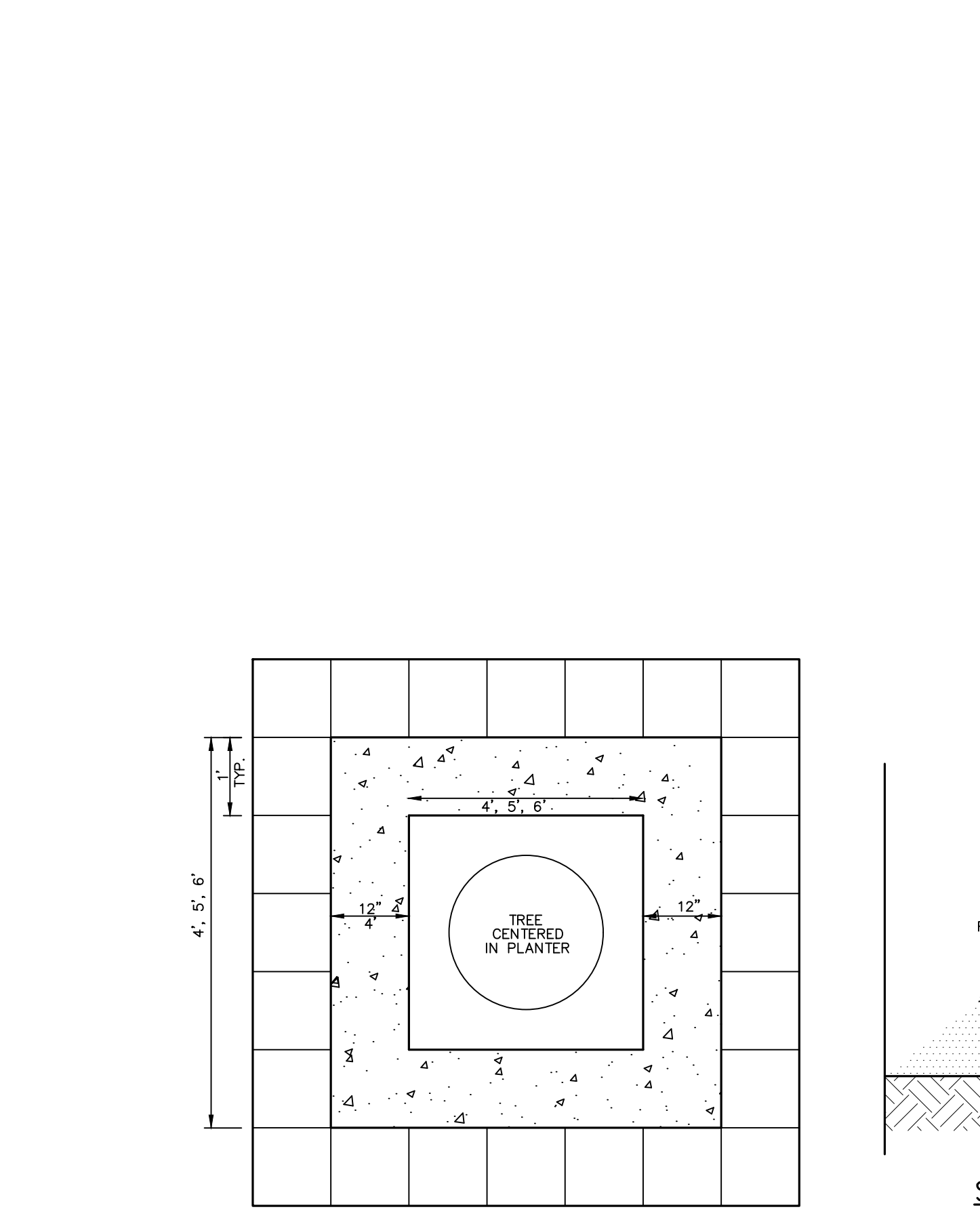


THE CITY OF DAYTONA BEACH ENGINEERING DIVISION

**BRICK PAVEMENT PARKAGE AND APRON DETAIL**  
C-9

Drawing Date: 11/21/14  
Drawn By: JHT  
Checked By: JHT  
Scale: NTS  
Revision Date: 09/01/15  
File Name: ac-9

**NOTE:**  
CONTRACTOR TO POUR 12"x12" SAMPLE FOR REVIEW FOR SHELL AGGREGATE, EXPANSION JOINTS AND TOOLED JOINT BY DESIGN ENGINEER AND CITY PRIOR TO INSTALLATION.



THE CITY OF DAYTONA BEACH ENGINEERING DIVISION

**ARTISTIC PAVEMENT DETAIL**

**CONCRETE PAVEMENT DETAILS**

**NOTE:** SELECTED COLORS ARE ROAD LOCK:

- TAN AND SILVER SAM
- CONTRACTOR TO PROVIDE A 6X6 SAMPLE OF TAN AND SILVER SAM PAVERS IN PHASE 1 FOR REVIEW AND APPROVAL BY DESIGN ENGINEER AND CITY.
- CONTRACTOR TO PROVIDE (2) PALLETS EACH OF ROADLOCK SILVER SAM AND TAN (ADDITIONAL PAVERS) AND TRANSPORT TO CITY PUBLIC WORKS FACILITY AT 950 BELLEVUE AVENUE.

**GRADATION FOR BEDDING SAND (ASTM C33)**

SI (mm)	PERCENT PASSING
3/8" (9.5 mm)	100
No.4 (4.75 mm)	95 to 100
No.8 (2.36 mm)	80 to 100
No.16 (1.18 mm)	50 to 85
No.30 (0.6 mm)	25 to 60
No.50 (0.3 mm)	5 to 30
No.100 (0.15 mm)	0 to 10
No.200 (0.075 mm)	0 to 1

**GRADATION FOR JOINT SAND (ASTM C144)**

SI (mm)	PERCENT PASSING
No.4 (4.75 mm)	100
No.8 (2.36 mm)	95 to 100
No.16 (1.18 mm)	70 to 100
No.30 (0.6 mm)	40 to 75
No.50 (0.3 mm)	10 to 35
No.100 (0.15 mm)	2 to 15
No.200 (0.075 mm)	0 to 5

**Artistic Paver Mfg.®**

Specializing in Unusual Sand-Set Pavers for a Distinguished Look on Your Deck and Driveway.

**ROADLOCK® ATLANTIC SERIES DRIVEWAY PAVERS**

Artistic Paver's Roadlock® Atlantic Series Interlocking Driveway Pavers will enrich your driveway with their beauty, durability and ease of maintenance.

Designed to meet the technical requirements for a driveway, Roadlock® interlocking driveway pavers also have the advantages and versatility of sand-set, interlocking pavers. Because Roadlock® driveway pavers are uniform in shape and calibrated to a thickness of 2-3/8", they install easily in a sand base. This very dense, nonporous product can be installed in any climate and is resistant to salt erosion, secondary efflorescence, staining, algae and mildew growth that is common on driveway paving.

Roadlock® Atlantic Series has exposed and polished shells and aggregates in earth tone colors in a range of sizes for residential and commercial driveway paving projects. Roadlock® interlocking driveway pavers come in 8"x8", 8"x12" and 12"x12" sizes. Mix and match colors and sizes to create a unique look for any project.

**Available Sizes:**

- 8" x 8" Paver (200 x 200 mm)
- 8" x 12" Paver (200 x 300 mm)
- 12" x 12" Paver (300 x 300 mm)
- Thickness: 2-3/8"

**Colors:** Dark Chocolate, Golden Brown, Silver Sam, Ivory, Tan

**icpi** International Concrete Pavers Institute

NO.	DATE	DESCRIPTION	BY
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2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
			BY

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CERTIFICATE OF AUTHORIZATION NUMBER 00003910

**BEACH STREET STREETScape ORANGE TO BAY**  
DAYTONA BEACH \* FLORIDA

**STREETScape DETAILS**

CITY PROJECT NO. 2018-036

**41**  
SHEET NO.

Drawn By: M. GRECO  
Date: 08/21/18  
SCALE: NTS

SEALED





**BRBS-102** CYCLE SENTRY™ COLLECTION

**DETAILS** Bike Rack with a 3 in (76 mm) OD tubular steel post flanked by two .375 x 1.5 in (10 x 38 mm) steel bars.

**IMAGES** US Patent D644,549 S; Canada (D) 129582.

**DOCUMENTS**

**CAPACITY** 2 bikes.

**STANDARD** All fabricated metal components are steel shotblasted, etched, phosphatized, preheated and electrostatically powder-coated with TGIC polyester powder coatings.

**OPTION** Powder coat over galvanized finish. Surface mount. In-ground mount.

**FEATURES** 3-in (76 mm) Steel Tubing

**MATERIAL** Recycled Solid Steel Bar  
Tubular Steel

**CAPACITY** 2 Bikes

**COLORS**

Standard: [Color swatches]

Optional: [Color swatches]

RAL: [Color swatches]

COLOR: BLACK  
OPTION A: GROUND MOUNT  
OPTION B: BLACK POWER COAT OVER GALVANIZED FINISH



**SDC-45** STEELSITES™ COLLECTION

**DETAILS** A derivative of our popular NSDC-45, the contemporary SDC-45 steel receptacle embraces an uncluttered, clean-lined design and features two unique side-deposits. The side door's hinges incorporate stainless-steel pins and oil-impregnated bronze bushings, eliminating friction and maximizing the lifespan of the product.

**IMAGES**

**DOCUMENTS**

**CAPACITY** 45-Gal (170 L) capacity. Standard solid convex lid. Heavy steel latch.

**STANDARD** All fabricated metal components are steel shot-blasted, etched, phosphatized, preheated and electrostatically powder-coated with TGIC polyester powder coatings.

Other standard features include a solid convex lid, a high-density plastic liner and rubber-tipped leveling feet on the base.

Interior plastic liners for our litter receptacles offer substantial value and are produced on molds that we designed and own. These plastic cans are reinforced, ribbed, and molded for durability, ease of use and greater capacity.

**OPTIONS** Victor Stanley Relay™ Sensor and Service available for select lids. Tri-keyed locking mechanism (US Patent 6,339,944 B1). Solid convex lid with raised band. Ashtray (standard or covered). Half-Moon liners. Side-access plate with recycle holes. Custom decals and plaques.

**MATERIAL** Recycled Solid Steel Bar

**CAPACITY** 45 gal (170 L)

**FEATURES** Side-Deposit  
Side-Door Opening

**COLORS**

Standard: [Color swatches]

Optional: [Color swatches]

RAL: [Color swatches]

**LIDS** [Lid options]

COLOR: BLACK  
OPTION: STD. CONVEX LID



**FBF-63** STREETSITES™ COLLECTION

**DETAILS** Dynamic criss-cross leg design. Clean horizontal lines through the use of steel slat seating.

**IMAGES**

**DOCUMENTS**

**CAPACITY** 4, 6 or 8 ft (1.2, 1.8 or 2.4 m) lengths. Horizontal steel slats. Surface mount. US Patent D609,933 S.

**STANDARD** All fabricated metal components are steel shotblasted, etched, phosphatized, preheated and electrostatically powder-coated with TGIC polyester powder coatings.

**OPTIONS** Intermediate armrests (bolt-on). Skateboard guards (US Patent D647,729 S).

**MATERIAL** Recycled Solid Steel Bar  
Tubular Steel

**LENGTH** 4 ft (1.2 m)  
6 ft (1.8 m)  
8 ft (2.4 m)

**COLORS**

Standard: [Color swatches]

Optional: [Color swatches]

RAL: [Color swatches]

COLOR: BLACK  
LENGTH: 6 FEET  
NO SKATEBOARD GUARDS

**Product Information Planter TF 4085**



**Size:** 30" Dia. x 30" H  
**Weight:** 785 Lbs.  
**Material:** Reinforced concrete  
**Reinforcing:** 1/4" Dia. steel rebar  
**Logo Options:** Inkjet or Cast  
**Drain Hole:** (1) 2" Dia. drain hole  
**Hardware:** (2) 5/8" Dia. lifting inserts

**Finish Options**

**Standard** A23 GRAY FINISH (STANDARD ACID WASH)  
-Exposed Aggregate  
-Weatherstone

**Note:** Lifting inserts are to ONLY be used when planter is EMPTY

**Product Information Planter TF 4080**



**Size:** 30" Dia. x 17" H  
**Weight:** 440 Lbs  
**Material:** Reinforced concrete  
**Reinforcing:** 1/4" Dia. steel rebar  
**Logo Options:** Inkjet or Cast  
**Drain Hole:** (1) 2" Dia. drain hole  
**Hardware:** (4) 5/8" Dia. lifting inserts

**Finish Options**

**Standard** A23 GRAY FINISH (STANDARD ACID WASH)  
-Exposed Aggregate  
-Weatherstone

**Note:** Lifting inserts are to ONLY be used when planter is EMPTY

PLANTERS ARE WASAU MADE PRODUCTS

NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-18	BID SET	
3	7-9-18	100% PLANS	
2	2-25-18	90% PLANS	
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BEACH STREET STREETScape  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
STREETScape DETAILS

CITY PROJECT NO. 2018-036

42 SHEET NO.

Drawn By: M. GRECO

Date: 08/21/18

SCALE: NTS

SEAL



**POTABLE WATER CONSTRUCTION & DESIGN STANDARDS**

UPDATED ITEMS ARE HIGHLIGHTED.

- THE CITY'S UTILITIES DEPARTMENT SHALL BE GIVEN A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS OR WEEKENDS) PRIOR TO BEGINNING ANY POTABLE WATER SYSTEM CONSTRUCTION.
- A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING OR CONSTRUCTION ACTIVITY THAT CHANGES THE IMPERVIOUS AREA OF LAND. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHES, ALLOWING CONSTRUCTION OR MAINTENANCE IN A DRY ENVIRONMENT. SITE SPECIFIC DEWATERING PERMITS SHALL REQUIRE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE AN ANNUAL FEE BASED ON A BIENNIAL SCHEDULE OF DEWATERING ACTIVITIES DISCHARGING DIRECTLY INTO THE CITY'S M54 CONVEYANCE SYSTEM. DEWATERING PERMIT APPLICATIONS CAN BE FOUND AT <https://www.cod.us/index.asp?nid=262>. FEES ARE SUBJECT TO ARTICLE 7, SECTION 7.2 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED WITH THE PERMIT APPLICATION TO THE CITY OF DAYTONA BEACH STORM WATER COORDINATOR AT 125 BASIN STREET, SUITE 100, DAYTONA BEACH, FLORIDA 32114 PRIOR TO ANY USE OF THE CITY'S M54 CONVEYANCE SYSTEM. FAILURE TO COMPLY WILL RESULT IN IMMEDIATE TERMINATION OF ACCESS TO THE CITY'S M54 SYSTEM.
- ALL WORK PERFORMED ON POTABLE WATER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE CONSTRUCTED BY AN UNDERGROUND UTILITY CONTRACTOR OR GENERAL CONTRACTOR LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE DEPARTMENT OF HEALTH, AND THAT AS-BUILT DRAWINGS MEETING THE CITY'S REQUIREMENTS ARE PROVIDED TO THE CITY AND ACCEPTED PRIOR TO ANY USE OF THE SYSTEM.
- THE WATER DISTRIBUTION SYSTEM SHALL BE DESIGNED TO COMPLY WITH THE CITY'S FIRE (WATER) FLOW CODE.
- EACH WATER SERVICE TERMINATION SHALL BE MARKED WITH 2" X 4" PRESSURE TREATED LUMBER EXTENDING 4' ABOVE GRADE DIRECTLY IN FRONT OF THE METER BOX WITH 2' OF ENDOTRACE POLY-TUBE OR APPROVED EQUAL COILED AND CAPPED WITH AN ELSTER HYDROSEPT CAP INSIDE EACH METER BOX.
- ALL WATER SERVICES SHALL BE MARKED WITH A "7/4" SAW CUT INTO THE CURB.
- ALL WATER VALVES SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB.
- ALL TAPPING OF MAINS (12" OR SMALLER) SHALL BE PERFORMED BY CITY PERSONNEL. SCHEDULING OF THESE CONNECTIONS REQUIRES A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE AND SHALL BE COORDINATED WITH THE CITY INSPECTOR.
- THE PLANS SHALL INCLUDE RIGHT OF WAY LINES AND STATIONING AND OFFSETS FROM THE CENTER LINE OF CONSTRUCTION.
- DEWATERING ACTIVITIES SHALL KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW THE WATER MAIN BEING INSTALLED.
- ALL WATER MAINS SHALL BE INSTALLED ON A FIRM UNYIELDING FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 98% IN PAVED AREAS AND 95% IN UNPAVED AREAS IN ACCORDANCE WITH AASHTO T-180 MODIFIED PROCTOR TEST.

**POTABLE WATER CONSTRUCTION & DESIGN STANDARDS (CONT'D)**

- WHERE POTABLE WATER AND SANITARY SEWER MAINS CROSS WITH LESS THAN TWELVE (12) INCHES OF VERTICAL CLEARANCE OR WHERE THE SEWER MAIN IS ABOVE THE WATER MAIN, MEDIATION MUST BE REVIEWED AND APPROVED BY FDEP.
- WATER MAINS SHALL BE CONSTRUCTED A MINIMUM OF 4 FEET BEHIND THE BACK OF CURB OR THE EDGE OF ROADWAY PAVEMENT, WHICHEVER IS GREATER, AS MEASURED FROM OUTSIDE WALL OF THE WATER MAIN.
- 3 INCH METALIZED PIPE LOCATION TAPE SHALL BE LOCATED 15 INCHES TO 24 INCHES BELOW FINISHED GRADE OR AS SPECIFIED BY THE MANUFACTURER FOR ALL WATER LINES. BLUE TRACER WIRE SHALL BE ATTACHED TO ALL PIPES. WIRE RUNS SHALL BE CONNECTED WITH SILICONE FILLED WIRE CONNECTORS. SERVICES SHALL BE CONNECTED TO THE MAIN WIRE WITH SILICONE FILLED WIRE CONNECTORS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE AND TEST FOR CONTINUITY (SEE CITY SPECIFICATION #15049 TRACER WIRE AND ALARMING TAPE). TRACER WIRE SHALL BE TESTED FOR CONTINUITY UNDER THE SUPERVISION OF A CITY REPRESENTATIVE AFTER INSTALLATION. IF A METER BOX IS NOT WITHIN 200 FEET OF A VALVE AND VALVE BOX AN ADDITIONAL VALVE BOX FOR TRACER WIRE IS REQUIRED.
- SINGLE RESIDENTIAL WATER SERVICES SHALL BE A MINIMUM 1-INCH ENDOT, ENDOTRACE OR APPROVED EQUAL POLY-TUBE (MEETING THE SPECIFICATIONS OF NSF-14, AND AWWA C901).
- ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE AND HAVE A MINIMUM COVER OF 36-INCHES.
- WATER MAINS LESS THAN 18" MAY USE POLYVINYL CHLORIDE (PVC) C900, OR C905, SHALL MEET AWWA REQUIREMENTS AND HAVE A MINIMUM DIMENSION RATIO (DR-18) PRESSURE CLASS 150. WATER MAINS 18" AND LARGER SHALL BE DUCTILE IRON PIPE (D.I.P.), CLASS 350, CEMENT LINED. ALL NON-DUCTILE IRON PIPE HORIZONTAL DIRECTIONAL DRILL WATER MAINS SHALL HAVE A MINIMUM WORKING PRESSURE OF 160 PSI. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING BASED ON SITE CONDITIONS. INSIDE DIAMETER OF NON D.I.P. HORIZONTAL DIRECTIONAL DRILL PIPE SHALL MATCH THE INSIDE DIAMETER OF CONNECTING PIPES. ALL GASKETS SHALL BE LUBRICATED BEFORE INSTALLATION.
- DIRECTIONAL DRILLS SHALL HAVE FUSED MJ ADAPTERS.
- ALL POTABLE WATER MAINS SHALL USE THRUST RESTRAINT AS CALCULATED BY A PROGRAM AVAILABLE AT EBAA.COM.
- ALL FITTINGS, VALVES, ETC. SHALL BE DUCTILE IRON (MJ OR FLANGED) AND SHALL BE RESTRAINED.
- ALL RESTRAINED PIPE BELL JOINTS SHALL USE BELL RESTRAINTS OR GRIPPER TYPE GASKETS CAN BE USED FOR DUCTILE IRON PIPE JOINTS.
- VALVE VALVES SHALL BE INSTALLED AT ALL STREET INTERSECTIONS AND AT A MAXIMUM SPACING OF 750 FEET. SPACING OF VALVES ON PRIMARY TRANSMISSION MAINS WILL BE DETERMINED BY THE CITY.
- VALVES SHALL BE INSTALLED ON ALL LEGS OF WATER MAIN TEES EXCEPT ONE.
- ALL FITTINGS SHALL MEET MINIMUM RESTRAINT REQUIREMENTS PER ANSI/AWWA/EBAA, AND ALL PRESSURE PIPES UNDER THE ROADWAYS SHALL BE RESTRAINED.
- METER LENGTHS REQUIRED FOR WATER METERS INSTALLATION ARE AS FOLLOWS:  
3/4" TO 2" METER REQUIRES 6', 4" METER REQUIRES 12', 6" AND 8" METER REQUIRES 14', AND A 10" METER REQUIRES 20'.

**POTABLE WATER CONSTRUCTION & DESIGN STANDARDS (CONT'D)**

- ALL WATER VALVE BOXES SHALL BE ADJUSTED, INCLUDING DEBRIS CAP, AND CONCRETE COLLAR TO FINISHED GRADE. VALVE BOX LIDS SHALL BE PAINTED BLUE TO MAKE THEM CLEARLY VISIBLE.
- UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS, WATER VALVES SHALL BE COMPLETELY OPENED BY CITY UTILITIES PERSONNEL. THE CONTRACTOR SHALL NOT OPERATE ANY EXISTING VALVES WITHOUT A CITY REPRESENTATIVE PRESENT.
- ALL VALVES 2 INCHES AND SMALLER SHALL BE CURB STOPS. VALVES LARGER THAN 2 INCHES SHALL BE GATE VALVES.
- A MINIMUM OF ONE FIRE HYDRANT SHALL BE LOCATED AT EVERY INTERSECTION. OTHER FIRE HYDRANTS SHALL BE LOCATED TO PRODUCE A MAXIMUM 500 FOOT RADIUS OF COVERAGE. ALL FIRE HYDRANTS SHALL BE INSTALLED IN EASILY ACCESSIBLE LOCATIONS FOR FIRE PERSONNEL. THE PRIMARY HYDRANT PORT ISHALL FACE THE STREET.
- THE CONTRACTOR SHALL PIG ALL PIPES 6 INCHES OR LARGER IN DIAMETER. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CONTRACTOR AND CITY REPRESENTATIVE.
- FOR PIPE FLUSHING, PIGGING, TESTING, AND TIE-IN CONNECTIONS, THE CITY RESERVES THE RIGHT TO REQUIRE WORK TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 8 A.M.) THE CONTRACTOR SHALL COORDINATE WITH THE CITY REPRESENTATIVE AND WATER PLANT OPERATIONS TO SCHEDULE THE DATE AND TIME FOR THESE ACTIVITIES.
- THE CITY RESERVES THE RIGHT TO PERFORM THE SAMPLING AND ANALYSIS FOR BACTERIOLOGICAL CLEARANCE OF THE WATER MAIN. ANY RETESTING WILL BE AT THE CONTRACTOR'S EXPENSE.
- POTABLE WATER LINES SHALL NOT BE USED OR PLACED INTO SERVICE UNTIL CLEARANCE IS ACCEPTED BY VOLUSIA COUNTY HEALTH DEPARTMENT AND THE CITY OF DAYTONA BEACH.
- BACKFLOW PREVENTERS (BFP) SHALL BE PLACED ON ALL POTABLE AND FIRE LINES SERVING COMMERCIAL AND RESIDENTIAL PROPERTIES. THE TYPE OF BACKFLOW PREVENTERS REQUIRED ARE AS FOLLOWS:  
POTABLE WATER SERVICE; REDUCED PRESSURE ZONE (RPZ)(BFP)  
FIRE LINE SERVING A FIRE SPRINKLER SYSTEM AND/OR PRIVATE FIRE HYDRANT; DOUBLE CHECK VALVE ASSEMBLY  
FIRE LINE; DOUBLE CHECK VALVE ASSEMBLY  
IN CASES WHERE A WATER LINE SERVES BOTH DOMESTIC AND FIRE SERVICES, A REDUCED PRESSURE ZONE BFP IS REQUIRED.
- ALL JACK & BORES REQUIRED FOR COMMERCIAL DEVELOPMENT SHALL BE PERFORMED AT THE SOLE COST OF THE OWNER/DEVELOPER.
- ALL C-900 DR-18 PVC PIPE REQUIREMENTS REFERENCE TO THE C-900 STANDARDS.
- CHLORINATED WATER MUST BE DECHLORINATED PRIOR TO DISCHARGE INTO ANY JURISDICTIONAL WETLAND OR WATER BODY PER AWWA STANDARD, ANSI/AWWA C655.

**POTABLE WATER CONSTRUCTION & DESIGN STANDARDS**

**TESTING REQUIREMENTS:**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TRENCH COMPACTION TESTS AT POINTS 12 INCHES ABOVE THE PIPE AND AT 12-INCH VERTICAL INTERVALS TO FINISHED GRADE AT A MAXIMUM HORIZONTAL SPACING OF 300 FEET.
- ON ALL PROJECTS OTHER THAN THOSE INITIATED BY THE CITY THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE THAT COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY. ON ALL CITY PROJECTS THE TESTING WILL BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S INSPECTOR.
- ALL POTABLE WATER MAINS SHALL BE FLUSHED, DISINFECTED, PRESSURE TESTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE WHEN APPROPRIATE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED INSPECTOR WHO SHALL COORDINATE WITH CITY PERSONNEL AT THE WATER TREATMENT PLANT AT LEAST 3 BUSINESS DAYS PRIOR TO BEGINNING FLUSHING THE MAINS BEFORE PRESSURE TESTING. THE CITY MAY REQUIRE WORK TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 8 AM). THE DATE AND TIME SCHEDULE FOR FLUSHING AND PIGGING MUST BE APPROVED BY THE WATER PLANT OPERATIONS. NO HOSE OR FIRE HYDRANT SHALL BE USED IN THE COLLECTION OF BACTERIOLOGICAL SAMPLES. THE SAMPLING TAP MUST BE DEDICATED, CLEAN, DISINFECTED AND FLUSHED PRIOR TO SAMPLING. SAMPLING TAP SHALL BE SMOOTH, UNTHREADED 1/2 INCH HOSE BIB. DISINFECTION AND SAMPLING SHALL BE SCHEDULED AT THE CITY'S CONVENIENCE.
- PRESSURE TEST FOR TAPPING SADDLES AND VALVES FOR A MINIMUM OF 30 MINUTES AT 150 PSI OR 30 MINUTES AT MANUFACTURER'S RECOMMENDED TESTING PRESSURE.
- WATERMANS SHALL BE PRESSURE TESTED AT 150 PSI FOR 3 HOURS. TESTING SHALL BE IN ACCORDANCE WITH AWWA C-600 AND AWWA C-605 AS APPLICABLE WITH ALLOWABLE LEAKAGE TO BE BASED ON THE TABLE BELOW.

ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE \* -GPH

AVERAGE PRESSURE TEST (PSI)	NOMINAL PIPE DIAMETER - INCHES																AVERAGE TEST PRESSURE (PSI)	
	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54		60
450	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.50	3.82	4.14	4.46	4.78	5.10	5.42	5.74
400	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.30	3.60	3.90	4.20	4.50	4.80	5.10	5.40
350	0.42	0.56	0.84	1.12	1.40	1.68	1.96	2.24	2.52	2.80	3.08	3.36	3.64	3.92	4.20	4.48	4.76	5.04
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	2.86	3.12	3.38	3.64	3.90	4.16	4.42	4.68
275	0.37	0.50	0.75	1.00	1.24	1.48	1.72	1.96	2.20	2.44	2.68	2.92	3.16	3.40	3.64	3.88	4.12	4.36
250	0.36	0.47	0.71	0.95	1.19	1.43	1.67	1.91	2.15	2.39	2.63	2.87	3.11	3.35	3.59	3.83	4.07	4.31
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.48	2.70	2.92	3.14	3.36	3.58	3.80	4.02
200	0.32	0.43	0.64	0.85	1.06	1.26	1.46	1.66	1.86	2.06	2.26	2.46	2.66	2.86	3.06	3.26	3.46	3.66
175	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	1.98	2.18	2.38	2.58	2.78	2.98	3.18	3.38	3.58
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.01	2.19	2.37	2.55	2.73	2.91	3.09	3.27
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	1.85	2.01	2.18	2.35	2.52	2.69	2.86	3.03
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70

\* IF THE PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.

WHERE:  
L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR  
S = LENGTH OF PIPE TESTED, IN FEET  
D = NOMINAL DIAMETER OF PIPE, IN INCHES  
P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH (GAUGE)

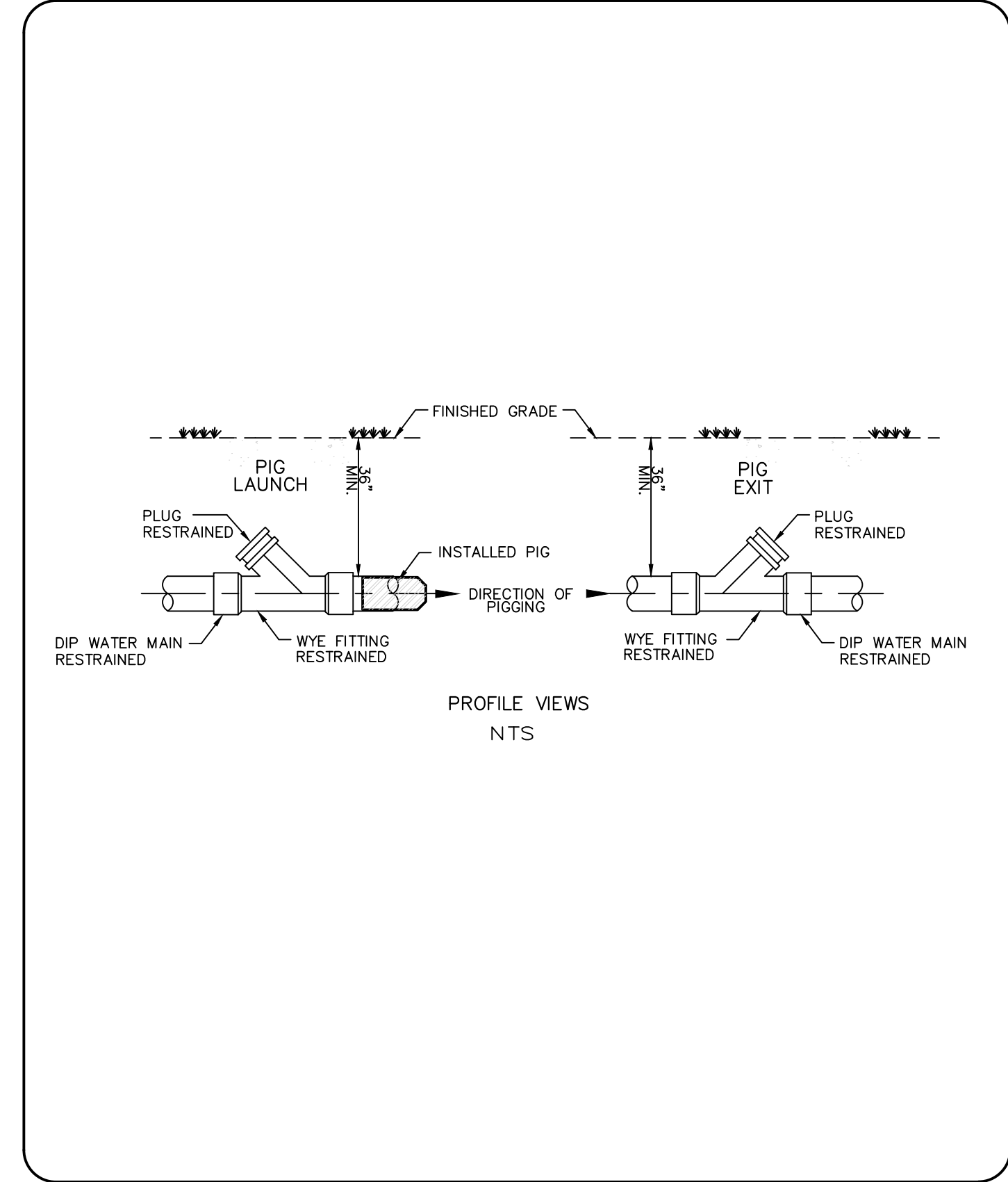
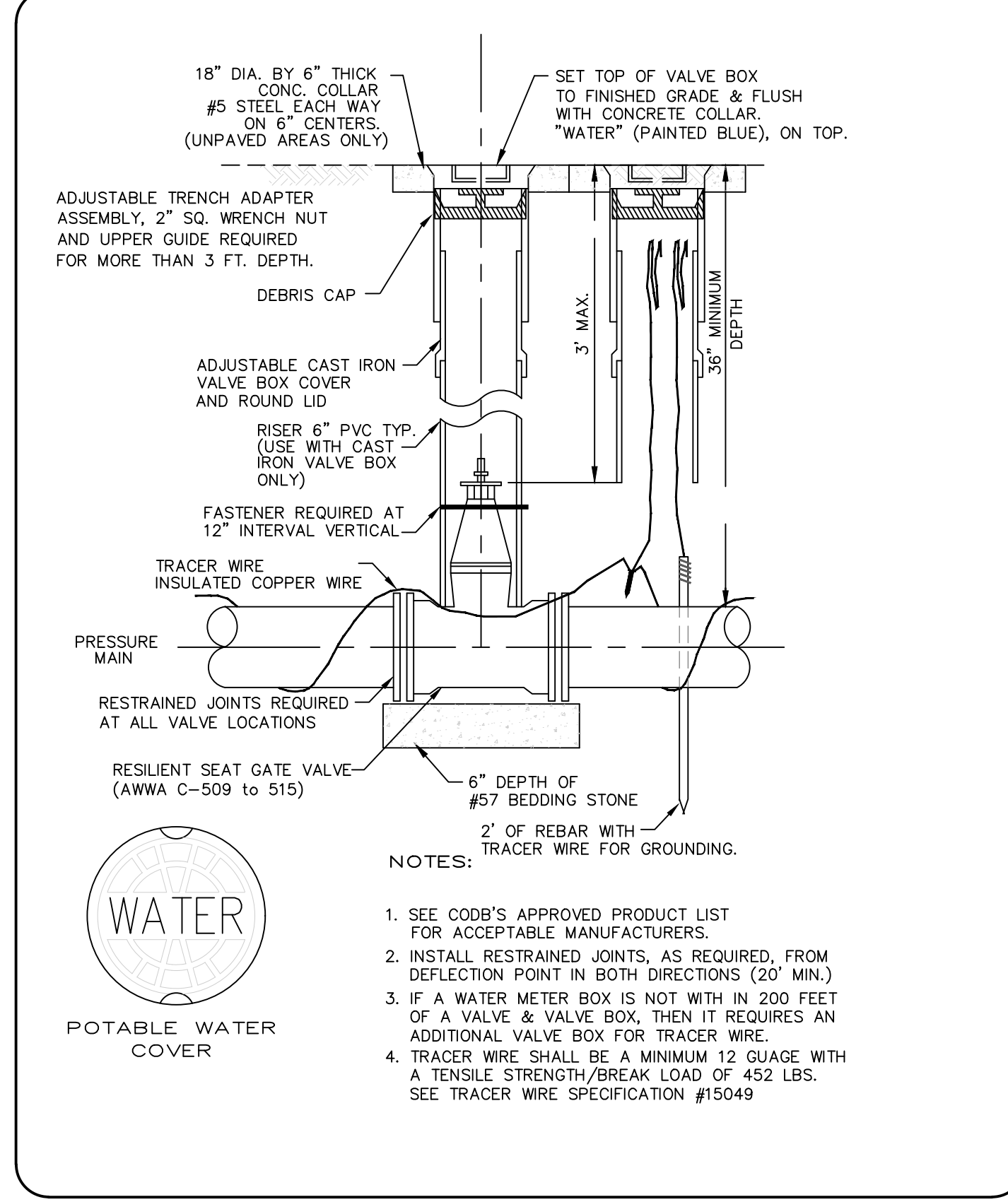
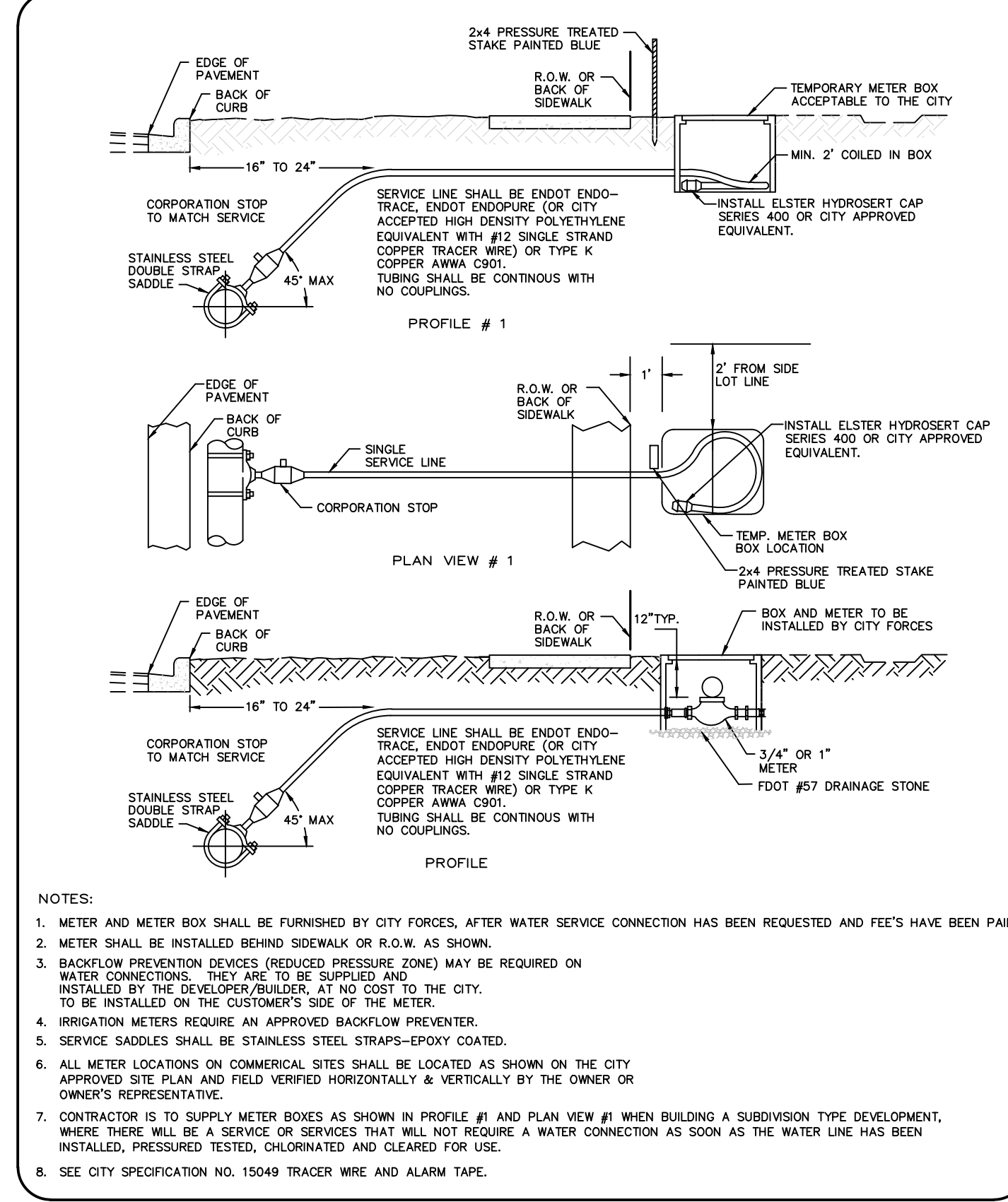
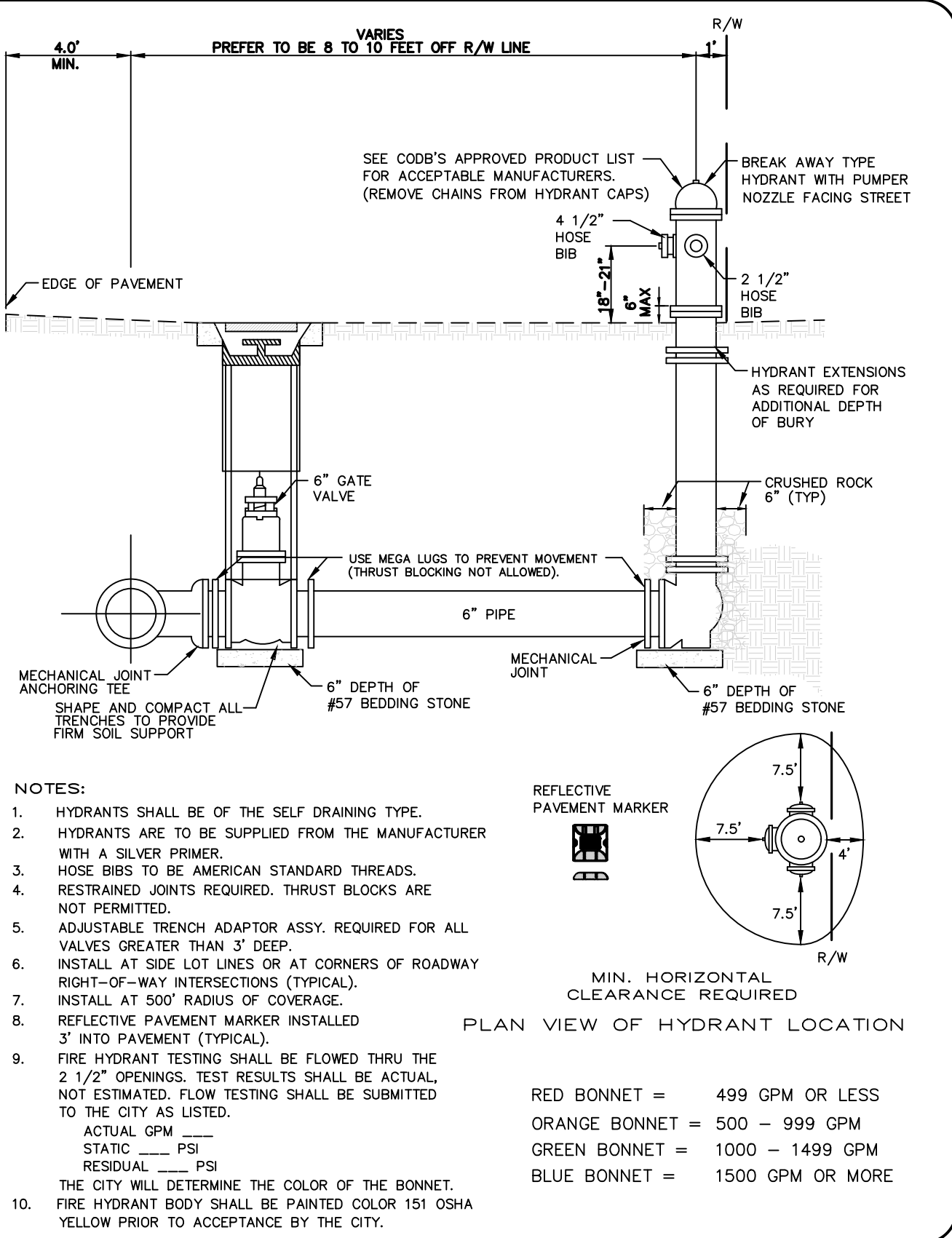
$$L = \frac{SD \sqrt{P}}{133,200}$$

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
WATER CONSTRUCTION & DESIGN STANDARDS (PAGE 1 OF 4)  
W-1

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
WATER CONSTRUCTION & DESIGN STANDARDS (PAGE 2 OF 4)  
W-2

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
WATER CONSTRUCTION & DESIGN STANDARDS (PAGE 3 OF 4)  
W-3

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
WATER CONSTRUCTION & DESIGN STANDARDS (PAGE 4 OF 4)  
W-4



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
FIRE HYDRANT ASSEMBLY DETAIL  
W-16

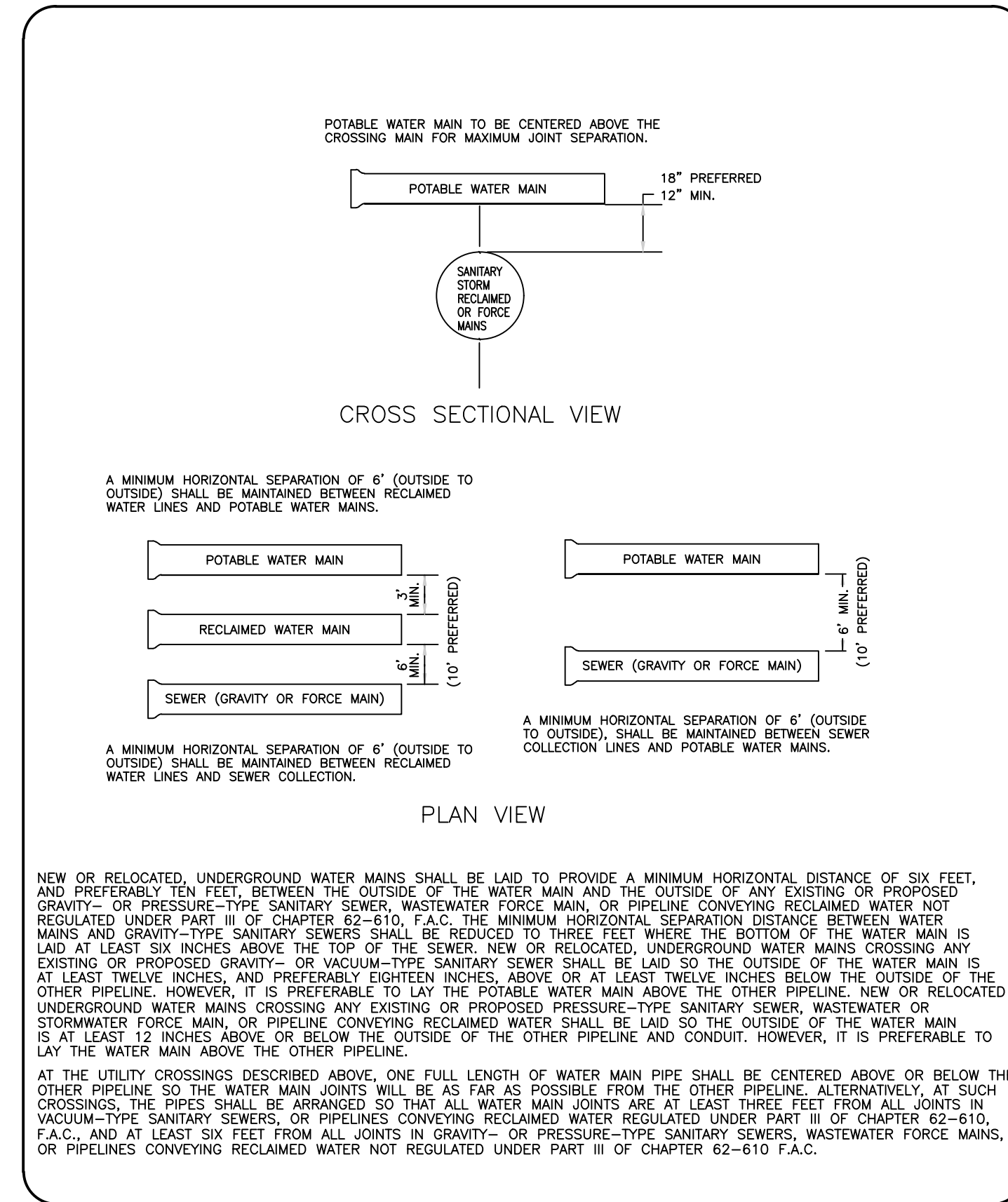
THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
WATER SERVICE CONNECTION (PAGE 1 OF 2)  
W-18

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
WATER VALVE AND VALVE BOX DETAIL  
W-13

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
PIG LAUNCH AND RECEIVING DETAIL  
W-28

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE, HOLLY HILL, FLORIDA 32117  
(386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermychenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

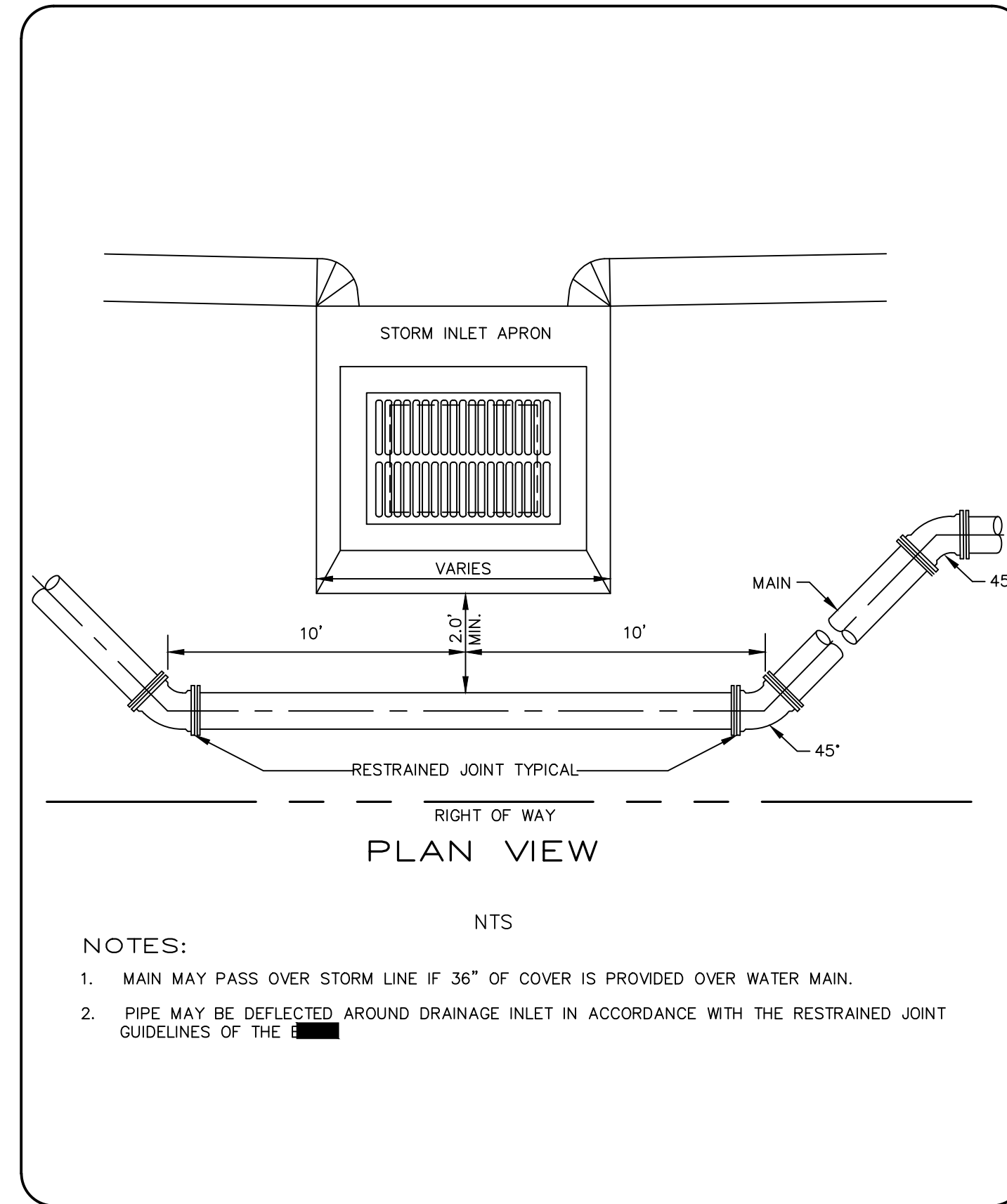
BEACH STREET, STREETSCAPE ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
WATER DISTRIBUTION SYSTEM DETAILS  
CITY PROJECT NO. 2018-036  
43 SHEET NO.  
Drawn By: M. GRECO  
Date: 08/21/18  
SCALE: NTS  
SEAL



THE CITY OF DAYTONA BEACH  
UTILITIES DEPARTMENT

PIPE SEPARATION  
DETAIL  
W-7

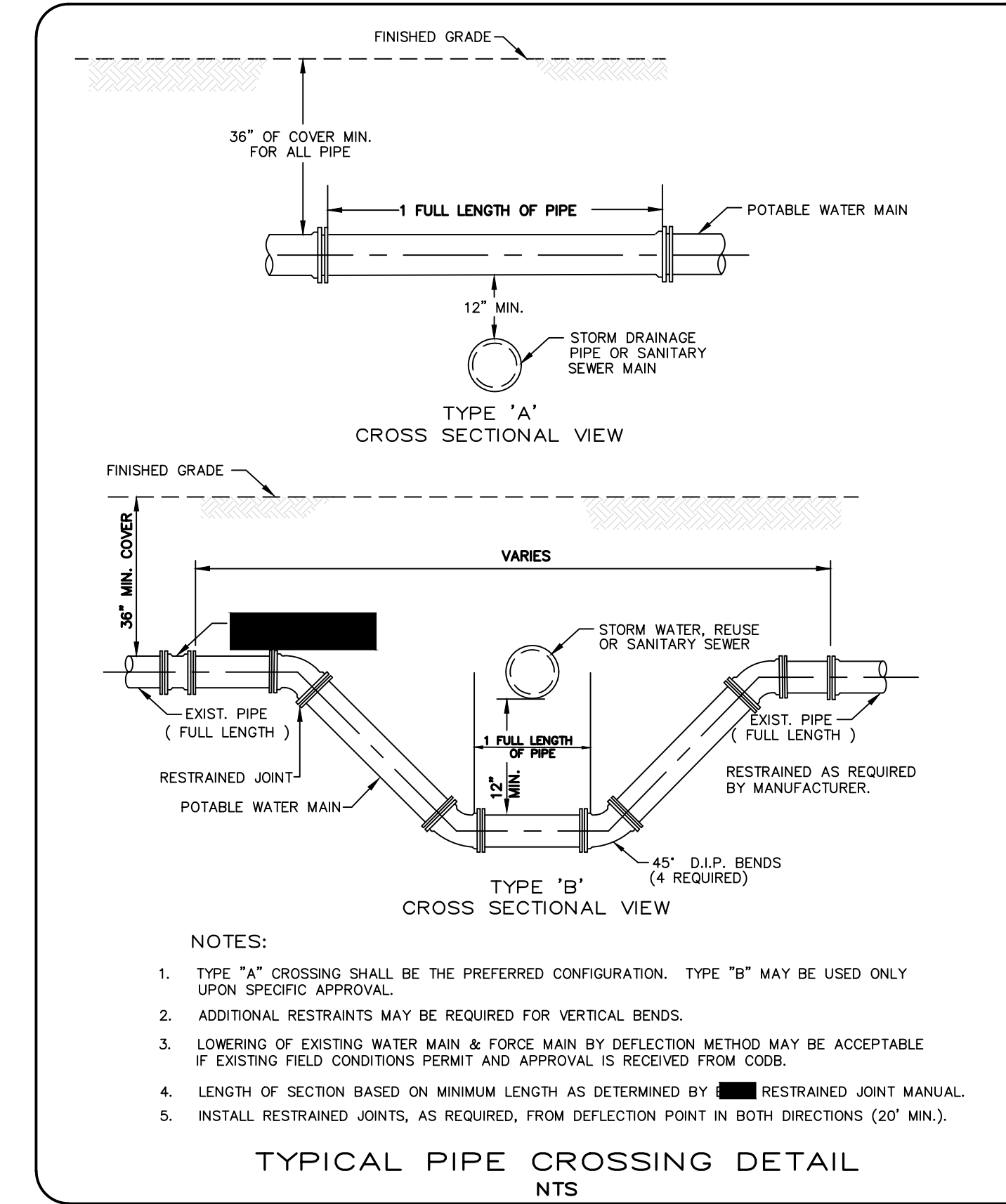
FY: 19/20  
 Drawing Date: 01/08  
 Drawn By: ksh  
 Checked By: JAP  
 Scale: NTS  
 Revision Date: 12/12  
 File Name: Pipe Separation W-7  
 Page: 11



THE CITY OF DAYTONA BEACH  
UTILITIES DEPARTMENT

WATERMAIN INSTALLATION  
BETWEEN STORM INLET  
AND R.O.W. DETAIL  
W-10

FY: 19/20  
 Drawing Date: 01/08  
 Drawn By: ksh  
 Checked By: JAP  
 Scale: NTS  
 Revision Date: 1/19  
 File Name: Watermain by Storm Inlet W-10  
 Page: 14



THE CITY OF DAYTONA BEACH  
UTILITIES DEPARTMENT

TYPICAL PIPE  
CROSSING  
DETAIL  
W-7

FY: 19/20  
 Drawing Date: 01/08  
 Drawn By: ksh  
 Checked By: JAP  
 Scale: NTS  
 Revision Date: 01/19  
 File Name: Pipe Crossing W-7  
 Page: 11

SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)					
FITTING	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
PIPE SIZE (IN.)					
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	82
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

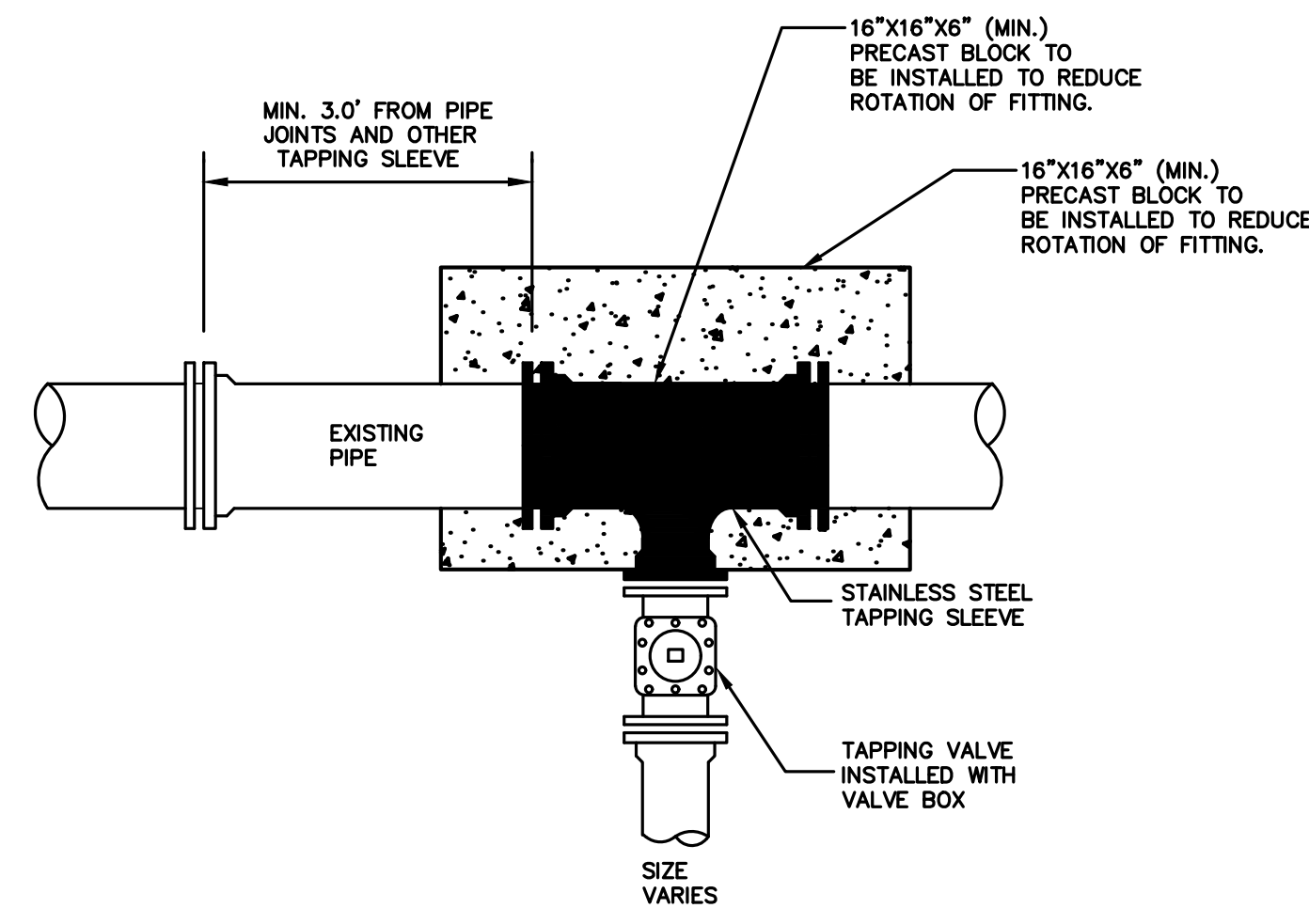
LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (16' MIN.) OF PIPE TO BE RESTRAINED.

TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

TABLE APPLIES TO PVC PIPE FOR THE FOLLOWING CONDITIONS:

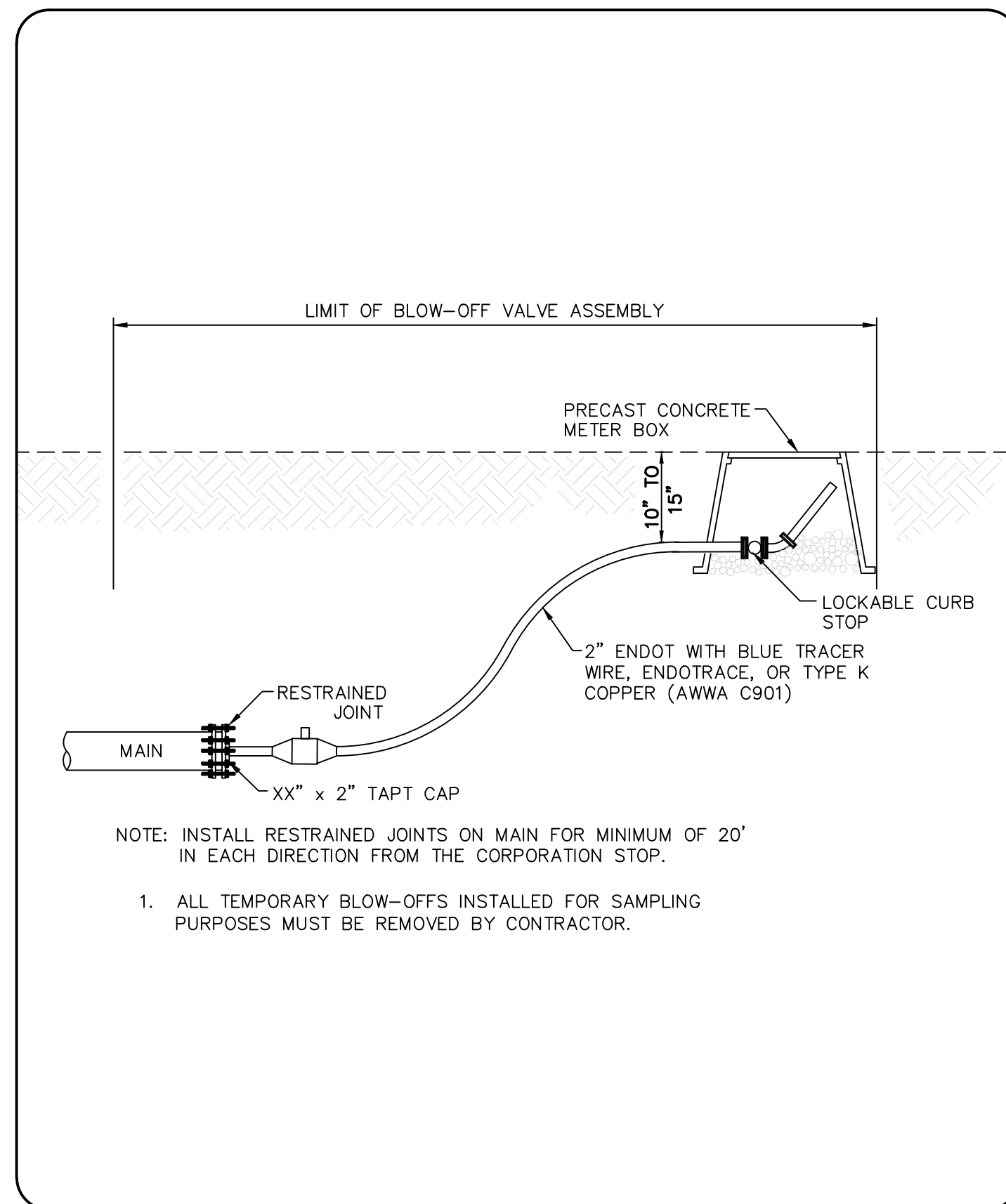
TEST PRESSURE: 150 PSIG  
SOIL TYPE: SP  
COVER DEPTH: 3 FEET (MIN.)  
SAFETY FACTOR: 1.5  
TRENCH TYPE: 2

PVC  
RESTRAINED JOINT  
TABLE



- NOTES:**
1. STAINLESS STEEL SLEEVES ONLY WITH 316 STAINLESS STEEL BOLTS ARE PERMITTED FOR ALL TYPES OF PIPE MATERIALS.
  2. INSTALL REQUIRED RESTRAINED JOINTS. IN NO INSTANCE SHALL THRUST BLOCK BE PERMITTED.
  3. ALL TAPPING OF MAINS SHALL BE PERFORMED BY THE CONTRACTOR UNDER SUPERVISION OF A CITY REPRESENTATIVE. ALL MATERIALS TO BE PROVIDED BY DEVELOPER / CONTRACTOR
  4. ALL VALVES 2" OR GREATER SHALL BE GATE VALVES. CORPORATION STOPS ARE NOT ALLOWED ON VALVES 2" OR GREATER EXCEPT ON BLOW-OFFS.

TAPPING VALVE AND SLEEVE



THE CITY OF DAYTONA BEACH  
UTILITIES DEPARTMENT

STANDARD 2" BLOW-OFF  
VALVE ASSEMBLY  
DETAIL  
W-27

FY: 19/20  
 Drawing Date: 01/08  
 Drawn By: ksh  
 Checked By: JAP  
 Scale: NTS  
 Revision Date: 01/19  
 File Name: 2 inch Blow Off Valve W-27  
 Page: 31

NO.	DATE	DESCRIPTION
4	8-13-19	BID SET
3	7-9-19	100% PLANS
2	2-25-19	90% PLANS
1	12-18-18	60% PLANS

**PARKER MYNCHENBERG & ASSOCIATES, INC.**

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CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET, STREETSCAPE  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA

WATER DISTRIBUTION SYSTEM DETAILS

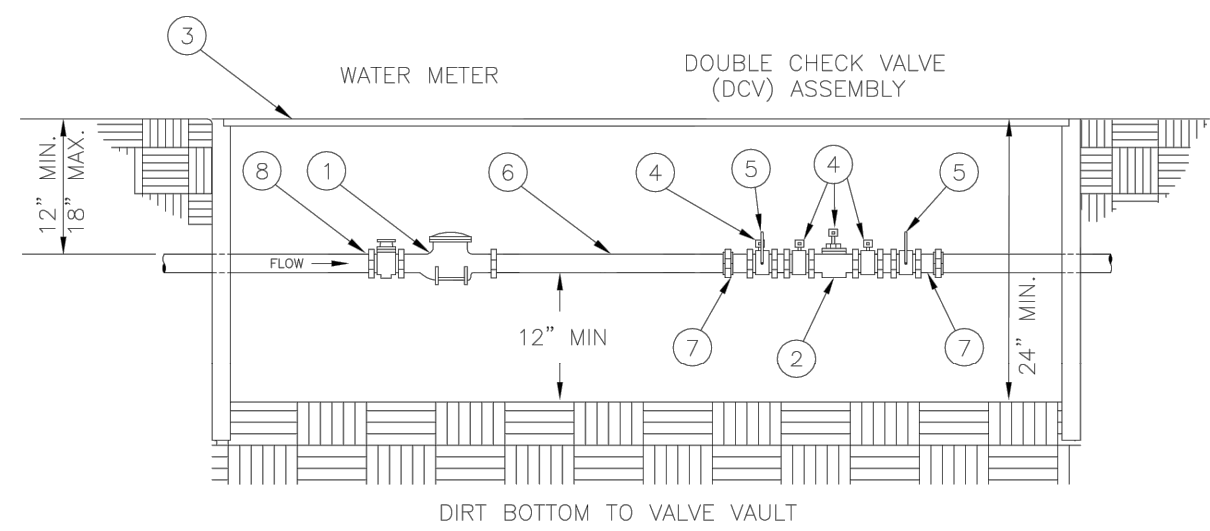
CITY PROJECT NO.  
2018-036

**44**  
SHEET NO.

Drawn By: M. GRECO  
Date: 08/21/18  
SCALE: NTS

SEAL





MATERIALS	
ITEM	DESCRIPTION
1	WATER METER
2	DOUBLE CHECK VALVE ASSEMBLY* (ZURN WILKINS MODEL 350 XL)
3	METER BOX (GLASMASTERS - READER LID 6"X9" HINGED - PART NO. S1132RN)
4	TEST COCKS W/ NO-LEAD BRASS PLUGS
5	BALL VALVES
6	5 DIAMETERS OF STRAIGHT PIPE
7	NO-LEAD BRASS UNION
8	GATE VALVE

\* DUAL CHECK VALVES ARE NOT ALLOWABLE

- NOTES:
1. ACCEPTABLE MANUFACTURERS: (SEE CODB'S ACCEPTABLE PRODUCT LIST)
  2. FIELD ADJUST AND CUT ITEM 4 TO THE PROPER LENGTH.
  3. THE RISER & ELBOW TO BE PAINTED 136 OSHA RED FOR COMMERCIAL FIRE SERVICE, 137 OSHA BLUE FOR COMMERCIAL DOMESTIC SERVICE.
  4. TEST PORTS (QUANTITY/LOCATIONS DEPENDING ON MANUFACTURER)
  5. GLASMASTERS VALVE BOX DIMENSIONS: 32.9"(L) X 11"(W) X 12"(D)
  6. INSTALLATION OF METER AND DOUBLE CHECK VALVE MUST BE CENTERED IN VALVE VAULT.

RESIDENTIAL DOUBLE CHECK VALVE & METER ASSEMBLY FOR DOMESTIC WATER SERVICE

STANDARD CONSTRUCTION DETAILS

SCALE: N.T.S.  
DATED:

**ZURN WILKINS Model 350XL Double Check Valve Assembly**

**Application**  
Ideal for use where Lead-Free\* valves are required. Designed for installation on potable water lines to protect against both backsiphonage and backpressure of polluted water into the water supply. Assembly shall provide protection where a potential health hazard does not exist.

- Standards Compliance (Horizontal & Vertical)**
- ASSE® Listed 1015
  - IAPMO® Listed
  - CSA® Certified B64.5
  - AWWA Compliant C510
  - Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California
  - UL® Classified (less shut-off valves only)
  - C-UL® Classified (less shut-off valves only)
  - Meets the requirements of NSF/ANSI 61\* (0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

- Materials**
- Main valve body: Low Lead Cast Bronze, ASTM B 584 (3/4"-1")
- Housing: Reinforced Nylon
- Fasteners: Stainless Steel, 300 Series
- Elastomers: Silicone (FDA Approved)
- Internals: Buna Nitrile (FDA Approved)
- Delrin
- Springs: Stainless Steel, 300 series
- Ball Valves: Low Lead Cast Bronze, ASTM B 584
- Struts: Stainless Steel, 300 Series
- Handles: Stainless Steel, 200 Series

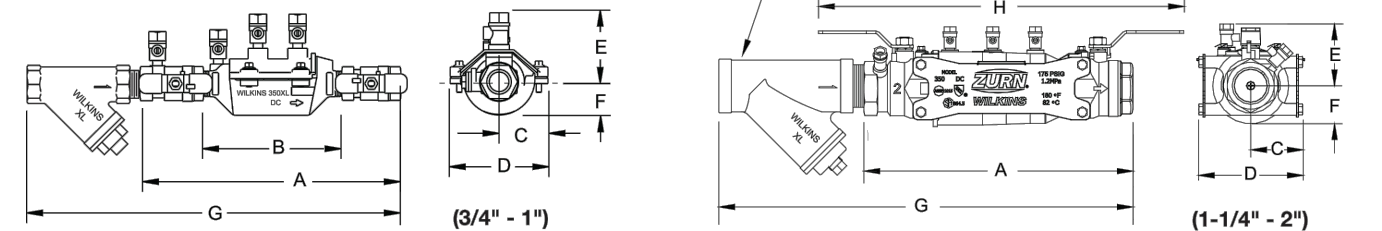
**Features:** 3/4", 1", 1-1/4", 1-1/2", 2"

Maximum working water pressure: 175 PSI

Maximum working water temperature: 180°F

Hydrostatic test pressure: 350 PSI

End connections Threaded: ANSI B1.20.1

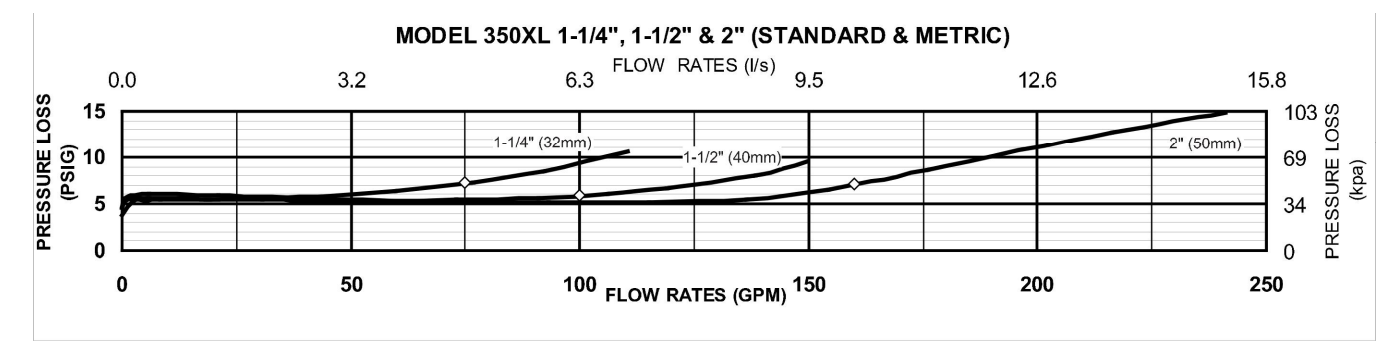
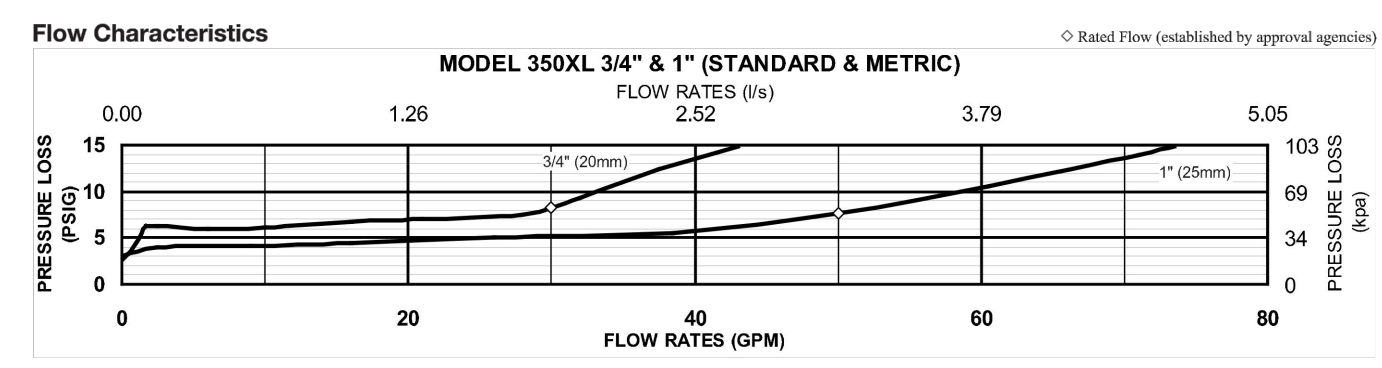


**Dimensions & Weights (do not include pkg.)**

MODEL SIZE	DIMENSIONS (approximate)								WEIGHT												
	A	B	C	D	E	F	G	H	LESS BALL VALVES	WITH BALL VALVES											
3/4"	20	11	279	658	168	178	48	334	95	3	76	114	32	15 1/8	384	11 7/16	291	2.3	1.0	4.3	2.0
1"	25	12 1/4	311	7	178	2 1/16	52	418	105	3 1/4	83	134	45	17	431	12 5/16	313	3.0	1.4	6.0	2.7
1-1/4"	32	14 7/8	378	14 3/8	367	3 1/8	80	614	159	3 3/4	95	214	57	20	521	18 1/2	470	17.2	7.8	19	8.6
1-1/2"	40	15 1/4	387	14 3/8	367	3 1/8	80	614	159	3 3/4	95	214	57	22	559	20 1/4	514	17	17.1	20	9.1
2"	50	16	406	14 3/8	367	3 1/8	80	614	159	3 3/4	95	214	57	24	609	20 3/4	527	18	8.2	22	10

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1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766  
In Canada | Zurn Industries Limited  
3544 Nashua Drive, Mississauga, Ontario L4V 1L2 Ph. 905-405-8272, Fax 905-405-1292  
www.zurn.com

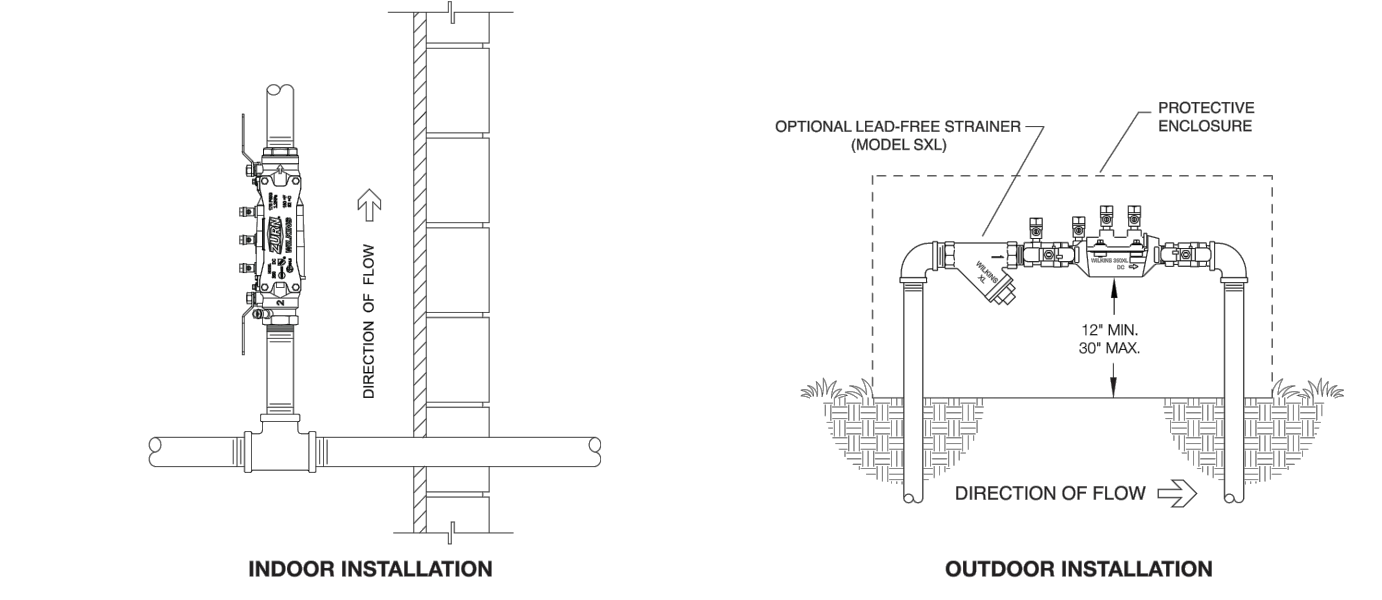
Rev. 11 Date: 9/16  
Document No. 8F-350XL  
Patent No. 7,433,593, 7,784,483, & 7,905,250  
Product No. Model 350XL  
Page 1 of 2



**Typical Installation**

Local codes shall govern installation requirements. To be installed in accordance with the manufacturers' instructions and the latest edition of the Uniform Plumbing Code. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. If installed below grade, be certain adequate drainage is provided to prevent the device from being submerged.

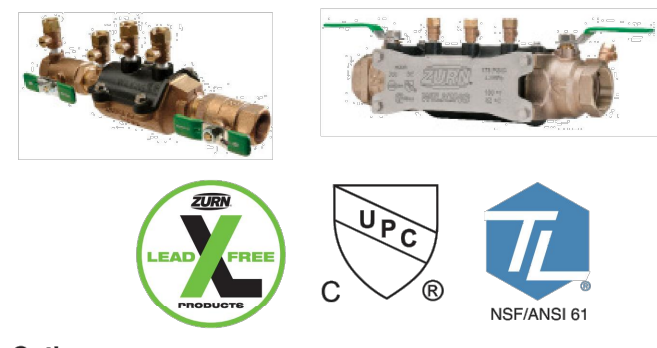
Capacity thru Schedule 40 Pipe				
Pipe size	5 ft/sec	7.5 ft/sec	10 ft/sec	15 ft/sec
1/2"	5	7	9	14
3/4"	8	12	17	25
1"	13	20	27	40
1 1/4"	23	35	47	70
1 1/2"	32	48	63	95
2"	52	78	105	167



**Specifications**

The Double Check Valve Backflow Preventer shall be certified to NSF/ANSI 61, shall be ASSE® Listed 1015, rated to 180°F, and supplied with full port ball valves. The main body shall be low lead bronze for sizes 3/4" & 1", and Nylon for sizes 1-1/4" to 2". The housing shall be reinforced Nylon and the seat disc elastomers shall be silicone (FDA Approved). The first and second checks shall be accessible for maintenance without removing the device from the line. The Double Check Valve Backflow Preventer shall be a ZURN WILKINS Model 350XL.

Zurn Industries, LLC | Wilkins  
1747 Commerce Way, Paso Robles, CA U.S.A. 93446 Ph. 855-663-9876, Fax 805-238-5766  
In Canada | Zurn Industries Limited  
3544 Nashua Drive, Mississauga, Ontario L4V 1L2 Ph. 905-405-8272, Fax 905-405-1292  
www.zurn.com  
Page 2 of 2



- Options**  
(Suffixes can be combined)
- with full port QT ball valves (standard)
  - L - less ball valves, male pipe thread
  - S - with Model SKL lead-free bronze "Y" type strainer
  - FT - with integral male 45° flare SAE test fitting
  - BOF - with blow out / flush fitting
  - PF - with Z-Bite™ push fit connections\* (1/2"-1" only)
  - PR - with Z-Press™ press fit connections\*
- \*Fittings ship in box with valve and must be threaded into valve by hand on site.

- Accessories**
- Repair kit
  - Thermal expansion tank (Model XT)
  - OT-SET Quick Test Fitting Set
  - Winterizing Blow out/Flush fitting (RK34-350BOF, RK1-350BOF or RK114-350-375BOF)

**Options Key**

Height	Box Style	Trim Options	Collar Style	Load Rating	Color (*)
12	S-Straight F-Flared	B-Solid Bottom O-Open Bottom	N-Not bolted B-Bolted G-Gasketed (bolted)	05-Tier 5 08-Tier 8 12-Tier 12	1-Gray 2-Purple 4-Blue

Note: Actual part may vary from image shown  
\* Other options available

Model	Height	Box Style	Options	Collar	Load	Color
S1132	12	F				

Example: S113212F2N08-1

**GLASMASTERS UNDERGROUND ENCLOSURES**  
GLASMASTERS VALVE BOX DIV. (904) 358-1702 FAX (904) 400-7100  
WWW.GLASMASTERS.COM

APPROVED: 7/24/14  
SCALE: 1/16" = 1"

REVISIONS: N/C S1132F

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**COVER BOLT DOWN**  
(SEE DETAILS)

5/8" x 4 LEFT SLOT SKID RESISTANT SURFACE

COVER: STAINLESS STEEL CAPTIVE BOLT

BOX: SELF-CENTERING CORROSION RESISTANT NUT

COVER BOLT DOWN DETAIL

**BOX AND COVER SECTION**

NOTE: THE 36, 42, 48 BOXES DO NOT FIT BOTTOM EXTENSIONS  
36 BOX BOTTOM DIMENSIONS ARE 33 7/8 x 45 1/2 INSIDE  
42 BOX BOTTOM DIMENSIONS ARE 35 3/8 x 46 7/8 INSIDE  
48 BOX BOTTOM DIMENSIONS ARE 36 1/4 x 48 1/4 INSIDE

**EXTENSION SECTION**

**CDR SYSTEMS GROUP**  
148 BAYVIEW AVE., ORANGE BEACH, FL 32176

TITLE: 24 x 36 SERIES BOX, COVER & EXTENSION  
DRAWN: MMK DATE: 9/11/08  
CHECKED: AOK  
APPROVED: AOK 031-0002

NO.	DATE	DESCRIPTION
4	8-13-19	BID SET
3	7-9-19	100% PLANS
2	7-25-19	90% PLANS
1	12-18-18	60% PLANS
		DESCRIPTION
		BY

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
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www.pmya.com  
CERTIFICATE OF AUTHORIZATION NUMBER 000603910

BEACH STREET, STREETSCAPE ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
WATER DISTRIBUTION SYSTEM DETAILS

CITY PROJECT NO. 2018-036

44A SHEET NO.

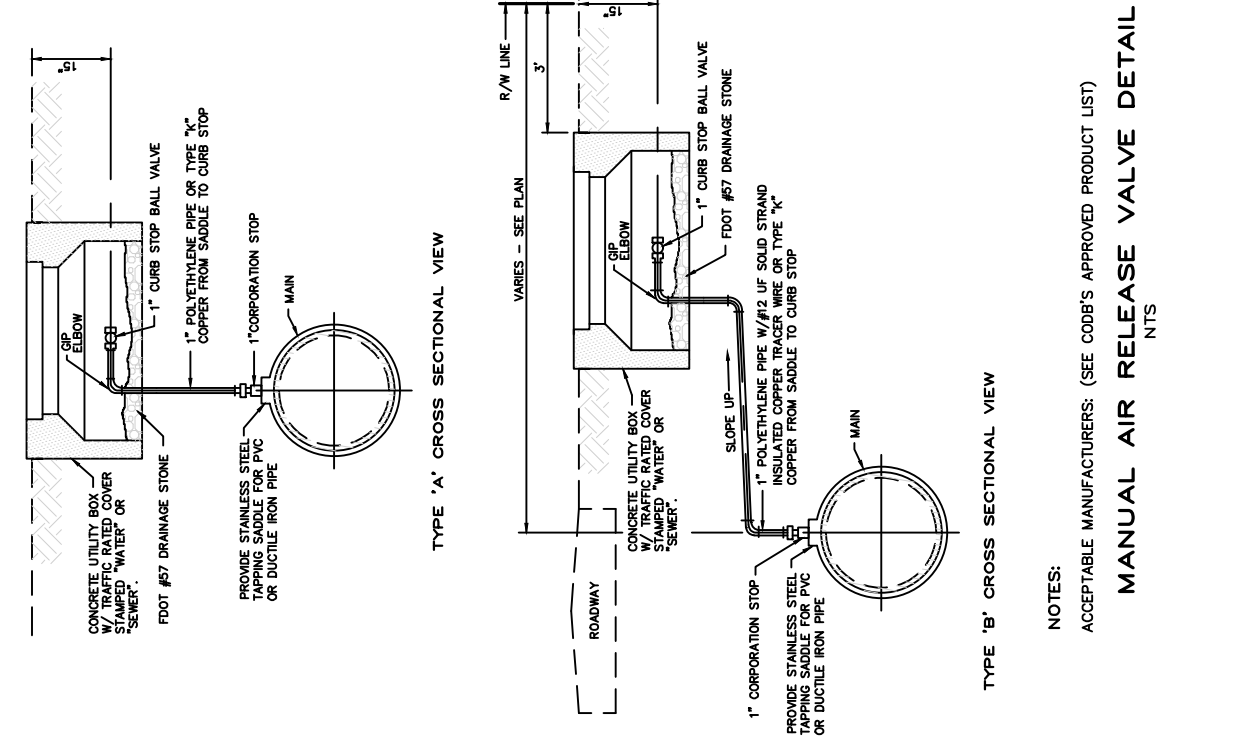
Drawn By: M. GRECO

Date: 08/21/18

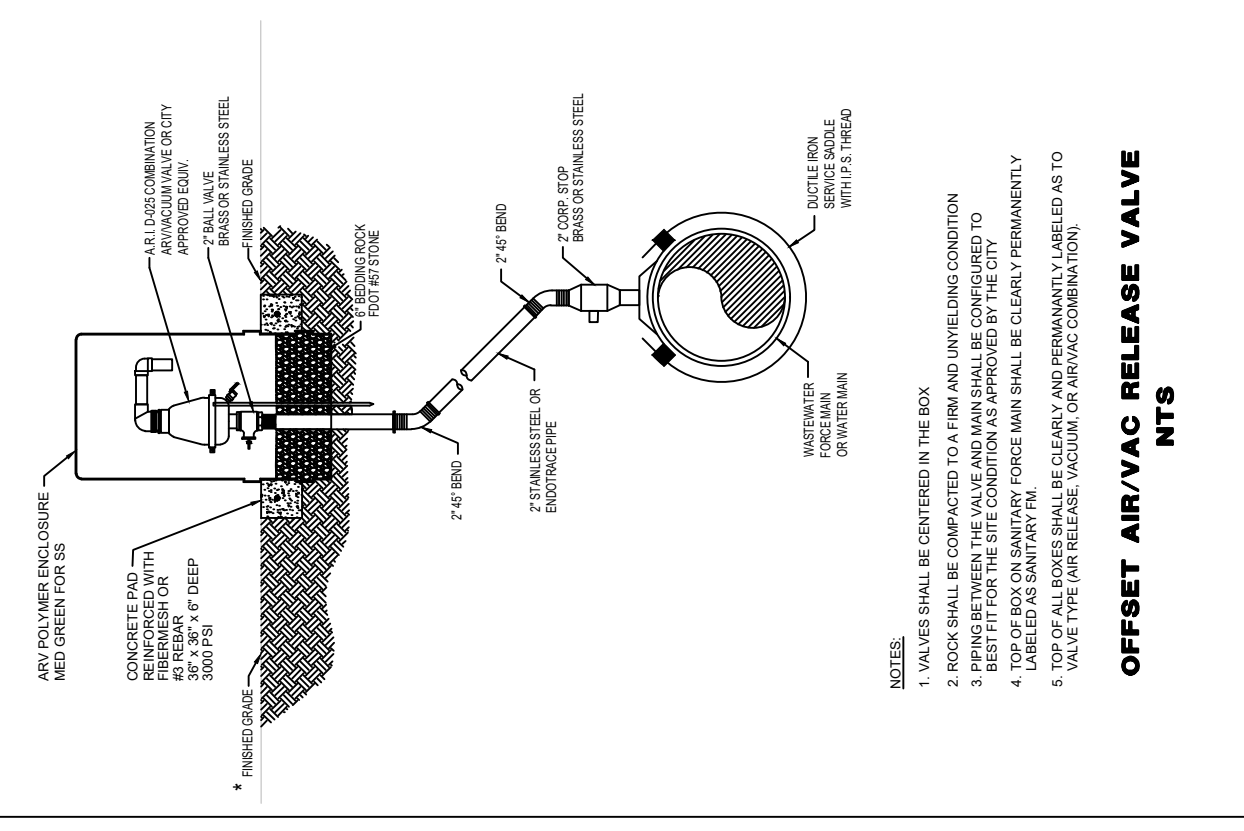
SCALE: NTS

SEAL





**MANUAL AIR RELEASE VALVE DETAIL**  
 NOTES:  
 1. ACCEPTABLE MANUFACTURERS: (SEE CODES APPROVED PRODUCT LIST)  
 NTS



**OFFSET AIRVAC RELEASE VALVE**  
 NOTES:  
 1. VALVES SHALL BE CENTERED IN THE BOX  
 2. BLOCK SHALL BE CONNECTED TO A FIRM AND UNWEAVING CONNECTION  
 3. BLOCK SHALL BE CONNECTED TO THE VALVE AND THE VALVE SHALL BE PERMANENTLY  
 4. BESETT BY THE CITY REPRESENTATIVE  
 5. THE TOP OF ALL BOXES SHALL BE CLEARLY AND PERMANENTLY LABELED AS TO  
 6. THE TYPE OF VALVE AND THE SIZE OF THE VALVE  
 7. THE TOP OF ALL BOXES SHALL BE CLEARLY AND PERMANENTLY LABELED AS TO  
 8. THE TYPE OF VALVE AND THE SIZE OF THE VALVE  
 9. THE TOP OF ALL BOXES SHALL BE CLEARLY AND PERMANENTLY LABELED AS TO  
 10. THE TYPE OF VALVE AND THE SIZE OF THE VALVE  
 NTS

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 AIR RELEASE VALVE DETAILS  
 W-21  
 FY-19/20  
 Drawing Date: 05/08  
 Drawn By: KJM  
 Checked By: JMF  
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**POTABLE WATER CONSTRUCTION & DESIGN STANDARDS**  
**TESTING REQUIREMENTS:**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TRENCH COMPACTION TESTS AT POINTS 12 INCHES ABOVE THE PIPE AND AT 12-INCH VERTICAL INTERVALS TO FINISHED GRADE AT A MAXIMUM HORIZONTAL SPACING OF 300 FEET.
- ON ALL PROJECTS OTHER THAN THOSE INITIATED BY THE CITY THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE THAT COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY. ON ALL CITY PROJECTS THE TESTING WILL BE DONE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S INSPECTOR.
- ALL POTABLE WATER MAINS SHALL BE FLUSHED, DISINFECTED, PRESSURE TESTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE WHEN APPROPRIATE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED INSPECTOR WHO SHALL COORDINATE WITH CITY PERSONNEL AT THE WATER TREATMENT PLANT AT LEAST 3 BUSINESS DAYS PRIOR TO BEGINNING FLUSHING THE MAINS BEFORE PRESSURE TESTING. THE CITY MAY REQUIRE WORK TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 8 AM), THE DATE AND TIME SCHEDULE FOR FLUSHING AND PIGGING MUST BE APPROVED BY THE WATER PLANT OPERATIONS. NO HOSE OR FIRE HYDRANT SHALL BE USED IN THE COLLECTION OF BACTERIOLOGICAL SAMPLES. THE SAMPLING TAP MUST BE DEDICATED, CLEAN, DISINFECTED AND FLUSHED PRIOR TO SAMPLING. SAMPLING TAP SHALL BE SMOOTH, UNTHREADED 1/2 INCH HOSE BIB. DISINFECTION AND SAMPLING SHALL BE SCHEDULED AT THE CITY'S CONVENIENCE.
- PRESSURE TEST FOR TAPPING SADDLES AND VALVES FOR A MINIMUM OF 30 MINUTES AT 150 PSI OR 30 MINUTES AT MANUFACTURER'S RECOMMENDED TESTING PRESSURE.
- WATERMANS SHALL BE PRESSURE TESTED AT 150 PSI FOR 3 HOURS. TESTING SHALL BE IN ACCORDANCE WITH AWWA C-600 AND AWWA C-605 AS APPLICABLE WITH ALLOWABLE LEAKAGE TO BE BASED ON THE TABLE BELOW.

ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE \* -GPH

AVERAGE TEST PRESSURE (PSI)	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54	60	64	AVERAGE TEST PRESSURE (PSI)
450	0.48	0.84	0.85	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.50	4.78	5.73	6.69	7.64	8.60	9.56	10.19	450
400	0.45	0.80	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60	4.50	5.41	6.31	7.21	8.11	9.01	9.81	400
350	0.42	0.76	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81	3.37	4.21	5.06	5.90	6.74	7.58	8.43	8.99	350
300	0.39	0.72	0.79	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.17	3.98	4.80	5.61	6.42	7.23	7.80	8.30	300
275	0.37	0.70	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.99	3.73	4.48	5.23	5.98	6.72	7.47	7.97	275
250	0.36	0.67	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85	3.56	4.27	4.99	5.70	6.41	7.12	7.60	250
225	0.34	0.65	0.69	0.90	1.13	1.35	1.58	1.80	2.03	2.26	2.70	3.39	4.05	4.73	5.41	6.09	6.76	7.21	225
200	0.32	0.63	0.66	0.85	1.06	1.26	1.48	1.70	1.91	2.12	2.55	3.19	3.82	4.46	5.09	5.73	6.37	6.80	200
175	0.30	0.60	0.63	0.80	0.99	1.19	1.39	1.59	1.79	1.98	2.36	2.98	3.58	4.17	4.77	5.36	5.96	6.36	175
150	0.28	0.57	0.59	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21	2.76	3.31	3.86	4.41	4.97	5.52	5.89	150
125	0.25	0.54	0.56	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01	2.52	3.02	3.53	4.03	4.53	5.04	5.37	125
100	0.23	0.50	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80	2.25	2.70	3.15	3.60	4.05	4.50	4.80	100

\* IF THE PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.  
 WHERE:  
 L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR  
 S = LENGTH OF PIPE TESTED, IN FEET  
 D = NOMINAL DIAMETER OF PIPE, IN INCHES  
 P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH (GAUGE)  

$$L = \frac{SD\sqrt{P}}{133,200}$$

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 WATER CONSTRUCTION & DESIGN STANDARDS  
 (PAGE 4 OF 4)  
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**24 X 36 BOXES**  
 FLARED WALL BOXES  
 FOR SPLICE BOXES - HANDHOLES - METER BOXES  
 FIBER OPTICS

- STRONG** - 4 to 5 times the strength of concrete
- LIGHTWEIGHT** - Quick easy installation for LOWEST INSTALLED COST
- AVAILABLE** - Light traffic or Heavy duty design
- NESTABLE** - for easy storage, transportation and freight savings (for flared wall boxes only)
- NON-CONDUCTIVE** - And unaffected by UV light, moisture, freezing and sub soil chemicals
- STAINLESS STEEL HARDWARE** - non-corrosive
- NO EXTRA CHARGE** - for standard cover logos

**Assemblies**

Part No.	LIGHT TRAFFIC				HEAVY DUTY			
	NOT BOLT DOWN		BOLT DOWN		NOT BOLT DOWN		BOLT DOWN	
	WT.	WT.	WT.	WT.	WT.	WT.	WT.	
18" deep	A00-2436-18	186	A10-2436-18	186	A02-2436-18	199	A12-2436-18	199
24" deep	A00-2436-24	195	A10-2436-24	195	A02-2436-24	208	A12-2436-24	208
30" deep	A00-2436-30	204	A10-2436-30	204	A02-2436-30	217	A12-2436-30	217
36" deep	A00-2436-36	210	A10-2436-36	210	A02-2436-36	223	A12-2436-36	223
42" deep	A00-2436-42	213	A10-2436-42	213	A02-2436-42	226	A12-2436-42	226
48" deep	A00-2436-48	219	A10-2436-48	219	A02-2436-48	232	A12-2436-48	232

**Components**

Part No.	LIGHT TRAFFIC				HEAVY DUTY			
	NOT BOLT DOWN		BOLT DOWN		NOT BOLT DOWN		BOLT DOWN	
	WT.	WT.	WT.	WT.	WT.	WT.	WT.	
Box 18" deep	B00-2436-18	100	B10-2436-18	100	B02-2436-18	105	B12-2436-18	105
Box 24" deep	B00-2436-24	109	B10-2436-24	109	B02-2436-24	114	B12-2436-24	114
Box 30" deep	B00-2436-30	116	B10-2436-30	116	B02-2436-30	123	B12-2436-30	123
Box 36" deep	B00-2436-36	124	B10-2436-36	124	B02-2436-36	129	B12-2436-36	129
Box 42" deep	B00-2436-42	127	B10-2436-42	127	B02-2436-42	132	B12-2436-42	132
Box 48" deep	B00-2436-48	133	B10-2436-48	133	B02-2436-48	138	B12-2436-48	138
Cover 3" thick	C00-2436-03	86	C10-2436-03	86	C02-2436-03	94	C12-2436-03	94
Extension 8" deep	E00-2436-08	46			E02-2436-08	46		
Extension 16" deep	E00-2436-16	55			E02-2436-16	63		

SERVICE BOXES • VAULTS • TRANSFORMER PADS • EQUIPMENT PADS  
 7/09

NO.	DATE	DESCRIPTION
4	8-13-19	BID SET
3	7-9-19	100% PLANS
2	2-25-19	90% PLANS
1	12-18-18	60% PLANS
		DESCRIPTION

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114 E-MAIL: info@pmya.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET, STREETSCAPE ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 WATER DISTRIBUTION SYSTEM DETAILS

CITY PROJECT NO. 2018-036  
**44B**  
 SHEET NO.  
 Drawn By: M. GRECO  
 Date: 08/21/18  
 SCALE: NTS  
 SEAL

**SECTION 15049**  
**TRACER WIRE AND ALARMING TAPE**  
 Rev 04/5/2017

**PART 1 - GENERAL REQUIREMENTS**

- SUMMARY**  
 Furnish and install identification tape over the centerline of all buried potable water lines, wastewater force mains, gravity sewer and waste water effluent mains.
- SUBMITTALS**  
 Submit manufacturer's descriptive literature, illustrations, specifications and other pertinent data.

**PART 2 - PRODUCTS**

- TRACER WIRE**
  - All pipe (HDPE, PVC and DI) 4-inches and greater installed by open cut shall have one (1) 12-gauge minimum copper tracer wire taped to the top of the pipe at intervals no greater than 4-feet. Copper wire shall have a minimum tensile strength/break load of 452 lbs.
  - All pipe (HDPE, PVC or DI) installed by directional bore shall have two (2) 12-gauge extra high strength (EHS) carbon steel inner core reinforcement directional drilling tracer wires taped to the top of the pipe at intervals no greater than 4-feet. The wire shall have a minimum tensile strength/break load of 1,150 lbs.
  - The tracer wires shall have colored insulation matching the type of service provided in the main and be acceptable for direct burial.
  - The wire shall be tied to all valves, tees and fittings.
  - The tracer wires shall be brought up to the surface through a valve box or a 2-inch PVC pipe under direction of a City's Representative.
  - The wires shall each be continuous throughout the project, with splices made only by methods approved by the City's Project Representative.

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 THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 TRACER WIRE & ALARMING TAPE REQUIREMENTS  
 (SHEET 1 OF 3)  
 FY-19/20  
 Drawing Date: 05/19  
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 Checked By: JMF  
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- All splices of the wires shall be made with watertight connections, utilizing direct bury splice kits as manufactured by 3M or approved equal. Bury splice kits shall be installed in accordance with manufacturer's recommendations.
- Tracer wire manufacturer shall be either Copperhead Industries or Proline Safety Products.

**2.2 ALARMING TAPE**

- Identification Tape for Ductile Iron and Steel Pipe: Identification tape shall be metallic and manufactured of polyethylene so as to be highly resistant to alkalis, acids and other destructive agents found in soil, and shall have a minimum thickness of 5 mils with a minimum tensile strength of 22 pounds per inch and maximum adhesive factor of 40 ounces per inch. Tape width shall be 3 inches and shall have background color specified below, imprinted with black letters. Imprint shall be as specified below and shall repeat itself a minimum of once every 2 feet for entire length of tape.
- Identification Tape for Polyvinyl Chloride Pipe: Identification tape shall be metallic and manufactured of polyethylene with minimum thickness of 4mils. The width shall be 3 inches and shall have background color specified below, imprinted with black letters. Imprint shall be as specified below and shall repeat itself a minimum of once every 2 feet for entire length of tape.
- Tape background colors and imprints shall be as follows:
 

Imprint	Background Color
"Caution Caution-Potable Water Line Buried Below"	Blue
"Caution Caution-Wastewater Force Main Buried Below"	Green
"Caution Caution-Reclaimed Water Main Buried Below"	Lavender
"Caution Caution-Raw Water Main Buried Below"	White
- Identification tape shall be "Underground Detectable Warning Tape" as manufactured by Presco, can be purchased at Ferguson Supply 840 Jimmy Ann Drive, Daytona Beach (386) 274-4516 or approved equivalent.

**PART 3-EXECUTION**

- INSTALLATION OF ALARMING TAPE**
  - Alarming tape shall be installed for all buried pressure mains in accordance with the manufacturer's installation instructions and specified herein.

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 THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 TRACER WIRE & ALARMING TAPE REQUIREMENTS  
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- For potable, raw, reuse water, and force mains, alarming tape shall be installed 18" below final grade.

**3.2 INSTALLATION OF TRACER WIRE**

- Contractor shall perform a 12 volt DC electrical continuity test on all wires. No more than one volt of loss per 1000 feet of mainline pipe will be acceptable. A continuity test prior to final acceptance of the pipeline shall be required. Any cuts or breaks in the wire shall be repaired by the contractor at his expense.
- The tracer wire shall be tested by Contractor and with the City's Representative at the time of pressure testing. If the test fails, the Contractor is responsible for repairing the tracer wire

END OF SECTION

15066-3 of 3  
 THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 TRACER WIRE & ALARMING TAPE REQUIREMENTS  
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**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS**

- THE CITY'S UTILITIES DEPARTMENT SHALL BE GIVEN A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS) PRIOR TO BEGINNING ANY SANITARY SEWER CONSTRUCTION.
- A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING ACTIVITIES, OR IN ACTIVITIES, OR IN ANY CONSTRUCTION ACTIVITY THAT CHANGES THE IMPERVIOUS AREA OF LAND. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHERS, ALLOWING CONSTRUCTION OR MAINTENANCE TO BE ONE IN THE DRY, OR ANY ACTIVITY WHICH CHANGES THE IMPERVIOUS AREA OF LAND. SITE SPECIFIC DEWATERING PERMITS SHALL REQUIRE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE AN ANNUAL FEE BASED ON A BI-ANNUAL SCHEDULE OF DEWATERING ACTIVITIES DISCHARGING DIRECTLY INTO THE CITY'S MS4 CONVEYANCE SYSTEM. DEWATERING PERMIT APPLICATIONS CAN BE FOUND AT <https://www.codb.us/index.aspx?nid=262>. FEES ARE SUBJECT TO ARTICLE 7, SECTION 7.2 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED WITH THE PERMIT APPLICATION TO CITY OF DAYTONA BEACH STORM WATER COORDINATOR AT 125 BASIN STREET, SUITE 100, DAYTONA BEACH, FLORIDA 32114 PRIOR TO ANY USE OF MS4. FAILURE TO COMPLY WILL RESULT IN THE IMMEDIATE TERMINATION OF ACCESS TO THE CITY'S MS4 SYSTEM.
- UPON COMPLETION, THE CONTRACTOR SHALL PROVIDE THE CITY UTILITIES DEPARTMENT WITH A CCTV INSPECTION LOG ON DVD AND A PRINTED REPORT FOR ALL GRAVITY MAINS AND LATERALS CONSTRUCTED. ALL WORK, WITH THE EXCEPTION OF FINAL GRADE ADJUSTMENT TO MANHOLES AND BENCHES SHALL BE COMPLETED PRIOR TO COMMENCING THE CCTV INSPECTION. THE CONTRACTOR SHALL COORDINATE THE CCTV INSPECTION TIME WITH THE CITY UTILITY INSPECTOR PRIOR TO INITIATING THE WORK. FINAL PAVING SHALL NOT COMMENCE UNTIL APPROVAL IS RECEIVED FROM THE CITY UTILITY INSPECTOR.
- SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT "V" OR BY A METAL TAB SET INTO THE PAVEMENT.
- THE CONTRACTOR SHALL BE REQUIRED TO PIG ALL FORCE MAINS EQUAL TO OR GREATER THAN 6" IN DIAMETER AND PRIMARY TRANSMISSION MAINS LOCATED ON COLLECTOR AND ARTERIAL ROADWAYS. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CITY.
- WITH RESPECT TO THE IN-CONNECTIONS AND CORING OPERATIONS, THE CITY RESERVES THE RIGHT TO REQUIRE CONNECTIONS TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 6:00 A.M.) (IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS).
- ALL WORK ON SANITARY SEWER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE PERFORMED BY AN UNDERGROUND UTILITY CONTRACTOR OR GENERAL CONTRACTOR LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AS-BUILTS ARE PROVIDED TO THE CITY'S UTILITIES DEPARTMENT PRIOR TO ANY USE OF THE SYSTEM.
- PLANS SHALL DIMENSION THE LOCATION OF ALL FORCE MAINS, VALVES, MANHOLES & LATERALS FROM THE BASELINE OF CONSTRUCTION AND FROM THE RIGHT-OF-WAY LINE.
- LANDSCAPE PLANS SHALL CLEARLY DEPICT THE LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORM WATER INFRASTRUCTURE.
- THE CITY'S AS-BUILT DRAWING REQUIREMENTS ARE ATTACHED TO THE BACK OF THE UTILITIES DEPARTMENT'S STANDARD DETAILS.

**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D)**

- ALL GRAVITY SANITARY SEWER MAINS SHALL BE A MINIMUM OF 8" DIAMETER. COMMERCIAL SEWER LATERALS SHALL BE GREEN PVC 8" OR LARGER. ALL SINGLE FAMILY RESIDENTIAL SERVICE LATERALS SHALL BE 6" SINGLE SERVICES WITH CLEAN OUTS INSTALLED AT PROPERTY LINES.
- ALL GRAVITY SANITARY SEWER MAINS SHALL BE GREEN PVC SDR-26, ASTM D-3034, OR C-900 DR-18 MINIMUM PRESSURE CLASS 150. IN PLACES WHERE A MINIMUM COVER OF 4 FEET COVER IS MAINTAINED OR IN DEPTHS OF 10 FEET OR GREATER C-900 OR C-905 GREEN PVC DR-18, MINIMUM PRESSURE CLASS 150 SHALL BE USED.
- FOR SINGLE FAMILY HOMES, SINGLE SIX INCH SEWER SERVICE LATERALS SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS SHALL BE USED ON ALL LINES. NO GLUED JOINTS ARE PERMITTED ON LATERALS.
- FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
- FORCE MAINS LESS THAN 18" MAY USE PVC C900 OR C905 DR-18. FORCE MAINS 18" AND LARGER SHALL BE DUCTILE IRON PIPE (D.I.P.), CLASS 350, EPOXY LINED. ALL NON DUCTILE IRON PIPE HORIZONTAL DIRECTIONAL DRILL FORCE MAINS SHALL HAVE A MINIMUM WORKING PRESSURE OF 160 PSI. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING DEPENDING ON SITE CONDITIONS. INSIDE DIAMETER OF NON D.I.P. HORIZONTAL DIRECTIONAL DRILL PIPE SHALL MATCH THE INSIDE DIAMETER OF CONNECTING PIPES. DIRECTIONAL DRILLS SHALL HAVE FUSED MJ ADAPTERS.
- FORCE MAIN MINIMUM DEPTH OF COVER SHALL BE 48". ALL FORCE MAINS SHALL BE DISTINCTLY MARKED BY GREEN STRIPES OR COLORED GREEN.
- ALL FITTINGS, VALVES, ECT. SHALL BE DUCTILE IRON (MJ OR FLANGED) AND RESTRAINED. ALL FORCE MAINS SHALL USE THRUST RESTRAINT AS CALCULATED BY A PROGRAM AVAILABLE AT (EBAA.COM).
- ALL RESTRAINED PIPE BELL JOINTS SHALL USE BELL RESTRAINTS. GRIPPER TYPE GASKETS CAN BE USED FOR DUCTILE IRON PIPE JOINTS.
- AS A GENERAL RULE, THE NUMBER OF JOINTS SHALL BE LIMITED WHENEVER POSSIBLE. IN SPECIAL CASES WHERE A POINT REPAIR TO AN 8" TO 12" PVC SEWER MAIN IS REQUIRED, THE PROPER RIGID WRAP AROUND SLEEVE MAY BE ALLOWED BY CITY SPECIAL APPROVAL.
- ALL IN-LINE SANITARY SEWER FORCE MAIN VALVES SHALL BE PLUG VALVES UNLESS OTHERWISE NOTED. VALVES SHALL BE INSTALLED AT EACH END OF THE FORCE MAIN AND ON STUB OUTS.
- ALL C-900 PVC PIPE REQUIREMENTS REFERENCE THE C-900 STANDARDS. DR UPGRADES FOR BURST PROTECTION MAY BE REQUIRED WHEN USING THE C-900 STANDARDS.
- MINIMUM GRAVITY SANITARY SEWER SLOPES ARE AS FOLLOWS: 8" PIPE 0.40%, 10" PIPE 0.28%, 12" PIPE 0.22%, 15" PIPE 0.15%, OR OTHERWISE NOTED BY UTILITIES DEPT.
- GRAVITY SANITARY SEWER LINES SHALL BE INSTALLED WHENEVER POSSIBLE UNDER PAVED AREAS WITHIN PUBLIC RIGHT-OF-WAYS. UTILITY EASEMENTS SHALL BE PROVIDED WHENEVER PUBLICLY-OWNED SEWER LINES ARE CONSTRUCTED OUTSIDE OF A PUBLIC RIGHT-OF-WAY.
- GRAVITY SANITARY SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS APPROVED BY THE CITY.
- DURING PIPE INSTALLATION DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING INSTALLED WITHIN THE AREA OF THE TRENCH.
- ALL PIPES SHALL BE INSTALLED ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES IS NOT ACCEPTABLE. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
- ON ALL EXCAVATION AND BACKFILLING THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING IN ORDER TO PROVIDE A SAFE WORKING ENVIRONMENT.
- ALL TRENCHES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND COMPACTED TO THE SPECIFIED MINIMUM COMPACTION (95% IN UNPAVED AREAS AND 98% IN PAVED AREAS) AND THE OPTIMUM DENSITY BASED ON THE AASHTO T-180 MODIFIED PROCTOR TEST.
- ON ALL EXCAVATION AND BACKFILLING THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING IN ORDER TO PROVIDE A SAFE WORKING ENVIRONMENT.
- ALL TRENCHES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND COMPACTED TO THE SPECIFIED MINIMUM COMPACTION (95% IN UNPAVED AREAS AND 98% IN PAVED AREAS) AND THE OPTIMUM DENSITY BASED ON THE AASHTO T-180 MODIFIED PROCTOR TEST.
- ALL GASKETS SHALL BE LUBRICATED BEFORE INSTALLATION.

**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D)**

- THE CONTRACTOR SHALL INSTALL A #12-GAUGE MINIMUM COPPER TRACER WIRE TAPED TO THE TOP OF THE PIPE AT INTERVALS NO GREATER THAN 4-FEET. COPPER WIRE SHALL HAVE A MIN. TENSILE STRENGTH/BREAK LOAD OF 452 LBS. AND REQUIRES APPROVAL BY THE CITY FOR THE FULL LENGTH OF ALL SEWER FORCE MAINS. THE PIPE LOCATOR TAPE SHALL BE INSTALLED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS DIRECTED BY THE MANUFACTURER. TAPE SHALL BE COLOR CODED GREEN FOR FORCE MAINS. LOCATOR WIRE SHALL TERMINATE AT A LOCATION AND IN A MANNER CONVENIENT FOR CITY LOCATER STAFF.
- TRACER WIRE SHALL BE TESTED FOR CONTINUITY UNDER SUPERVISION OF A CITY REPRESENTATIVE AFTER INSTALLATION.
- ALL SEWER LINES CONSTRUCTED OUTSIDE OF PUBLIC RIGHT-OF-WAYS WITHIN SIDE YARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF GREEN C-900 PVC. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
- ALL LOCAL COLLECTION SANITARY SEWER MANHOLES SHALL BE PRECAST WITH A MINIMUM INSIDE DIAMETER OF 4 FEET. MANHOLES OVER 6 FEET DEEP SHALL HAVE A MINIMUM 4 FT TALL PRE-CAST BOTTOM SECTION.
- STANDARD MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
- MANHOLE RIMS SHALL BE FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.5 FEET AND MAXIMUM OF 1.0 FOOT ABOVE GRADE IN UNPAVED AREAS.
- THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
- INDIVIDUAL SANITARY SERVICES SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES AND MUST BE CONNECTED TO SEWER MAINS BY USE OF WYE CONNECTIONS UNLESS OTHERWISE APPROVED BY THE CITY.
- SANITARY SEWER DROP MANHOLES SHALL ONLY BE USED UNDER SPECIAL CONDITIONS AS APPROVED BY THE CITY. DROPS LESS THAN 3.0' ARE NOT ALLOWED. INSIDE DROPS ARE NOT ALLOWED.
- SANITARY SEWER MANHOLES WITH SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM SHALL BE FIBERGLASS OR POLY-ETHYLENE LINED. RETRO-FITTING OF MANHOLES WITH LINERS IS REQUIRED WHEN NEW CONNECTIONS ARE MADE. FIBERGLASS SHALL BE A MINIMUM 1/2" THICK UNLESS APPROVED OTHERWISE BY THE CITY. OTHER LINING METHODS AND MATERIALS MAY BE CONSIDERED ON A CASE BY CASE BASIS. UNDER CIRCUMSTANCES WHERE HYDROGEN SULFIDE IS A SIGNIFICANT CONCERN, MANHOLES UPSTREAM AND/OR DOWNSTREAM OF THE FORCE MAIN TIE-IN MAY BE REQUIRED TO HAVE LININGS INSTALLED.
- EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS SEAL GASKET CORPORATION, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WETWELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS.
- CONTRACTOR FOR DEVELOPMENTS WITH THE POTENTIAL TO DISCHARGE INDUSTRIAL OR COMMERCIAL WASTE INTO THE SEWER SYSTEM SHALL CONSTRUCT AND MAINTAIN AT THE OWNER'S EXPENSE A SUITABLE CONTROL MANHOLE OR MANHOLES DOWNSTREAM OF ANY TREATMENT, STORAGE, OR OTHER APPROVED WORKS. PRIOR TO THE CITY'S COLLECTION SYSTEM TO FACILITATE OBSERVATION, MEASUREMENT, AND SAMPLING OF ALL WASTE, INCLUDING ALL DOMESTIC SEWAGE FROM THE ESTABLISHMENT.
- CONTROL MANHOLE OR MANHOLES SHALL BE CONSTRUCTED AT LOCATIONS EASILY ACCESSIBLE AT ALL TIMES TO CITY PERSONNEL FOR SAMPLING.
- SANITARY SEWER LIFT STATIONS AND FORCE MAINS SHALL BE APPROVED BY THE CITY. LIFT STATIONS SHALL BE CONSTRUCTED WITH A MINIMUM WET WELL AS SHOWN IN THE LIFT STATION DETAIL.
- IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO PREPARE AND SUBMIT FLOTATION CALCULATIONS TO SIZE THE BASE OF THE WET WELL, AND ANY MANHOLES AS DEEMED NECESSARY BY THE CITY.
- ALL FITTINGS SHALL MEET THE MINIMUM RESTRAINT REQUIREMENTS PER ANS/AWWA/DIPRA, AND ALL PRESSURE PIPES UNDER ROADWAYS SHALL BE RESTRAINED.

**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS TESTING REQUIREMENTS:**

- THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY. TESTS SHALL BE DONE ONE FOOT ABOVE THE PIPE AND AT ONE FOOT VERTICAL INTERVALS UNTIL FINAL GRADE IS REACHED. TESTS SHALL BE COMPLETED AT A MINIMUM FREQUENCY OF ONE SET OF TESTS EACH 300 FOOT LENGTH OF PIPING AND ONE ADDITIONAL SET OF TESTS AT EVERY MANHOLE. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S DESIGNATED SITE INSPECTOR.
- ALL TESTING REQUIRED BY THE CITY SHALL BE PAID FOR BY THE CONTRACTOR / DEVELOPER.
- THE CITY OF DAYTONA BEACH RESERVES THE RIGHT TO REQUIRE THE DEVELOPER TO PERFORM VACUUM TESTING OF ALL SANITARY MANHOLES AND TO AIR TEST SEWER MAINS.
- ALL PROPOSED SEWER FORCE MAINS SHALL BE FLUSHED, PRESSURE TESTED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED SITE INSPECTOR AT LEAST 3 BUSINESS DAYS PRIOR TO BEGINNING A FULL-DIAMETER FLUSH OF THE MAINS FOR PRESSURE TESTING.
- SANITARY SEWER FORCE MAINS SHALL BE PRESSURE TESTED TO 100 PSI FOR 2 HOURS WITH ALLOWABLE LEAKAGE BASED ON THE TABLE BELOW.

ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE \* -GPH

AVERAGE TEST PRESSURE (PSI)	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54	60	64	AVERAGE TEST PRESSURE (PSI)
450	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82	4.78	5.73	6.69	7.64	8.60	9.56	10.19	450
400	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60	4.50	5.41	6.31	7.21	8.11	9.01	9.61	400
350	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81	3.37	4.21	5.06	5.90	6.74	7.58	8.43	8.99	350
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.12	3.90	4.68	5.46	6.24	7.02	7.80	8.32	300
275	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.99	3.73	4.48	5.23	5.98	6.72	7.47	7.97	275
250	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85	3.56	4.27	4.99	5.70	6.41	7.12	7.60	250
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.70	3.38	4.05	4.73	5.41	6.03	6.76	7.21	225
200	0.32	0.43	0.64	0.85	1.06	1.28	1.49	1.70	1.91	2.12	2.55	3.13	3.80	4.46	5.09	5.73	6.37	6.80	200
175	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	1.98	2.38	2.98	3.58	4.17	4.77	5.36	5.96	6.36	175
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21	2.76	3.31	3.86	4.41	4.97	5.52	5.88	150
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01	2.52	3.02	3.53	4.03	4.53	5.04	5.37	125
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80	2.25	2.70	3.15	3.60	4.05	4.50	4.80	100

\* IF THE PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.

$$L = \frac{SD \sqrt{P}}{133,200}$$

WHERE:  
 L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR  
 S = LENGTH OF PIPE TESTED, IN FEET  
 D = NOMINAL DIAMETER OF PIPE, IN INCHES  
 P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH (GAUGE)

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (PAGE 1 OF 4)**

Scale: NTS  
 Revision Date: 01/2019  
 File Name: Sanitary Sewer Notes.dwg  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D) (PAGE 2 OF 4)**

Scale: NTS  
 Revision Date: 01/2019  
 File Name: Sanitary Sewer Notes.dwg  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

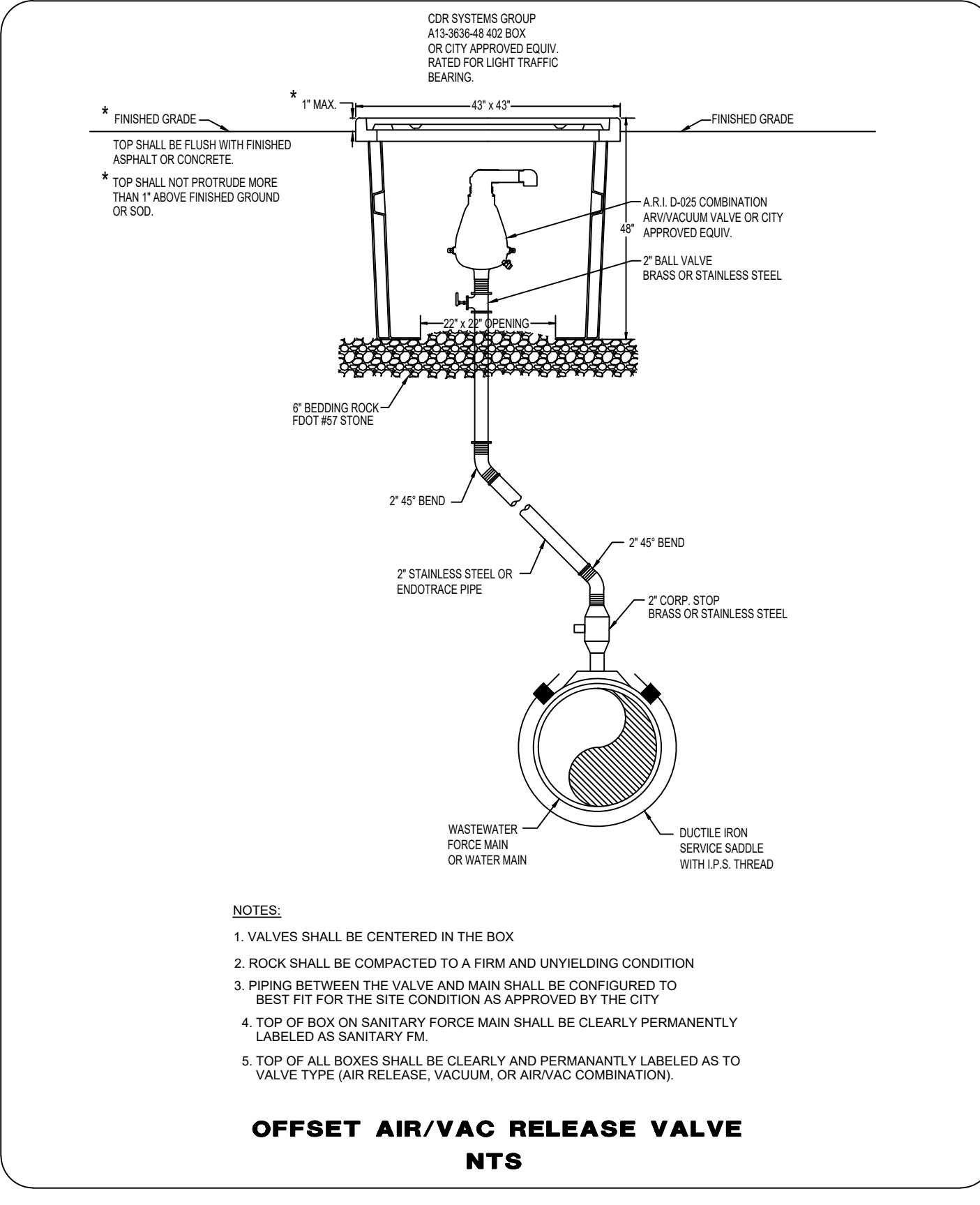
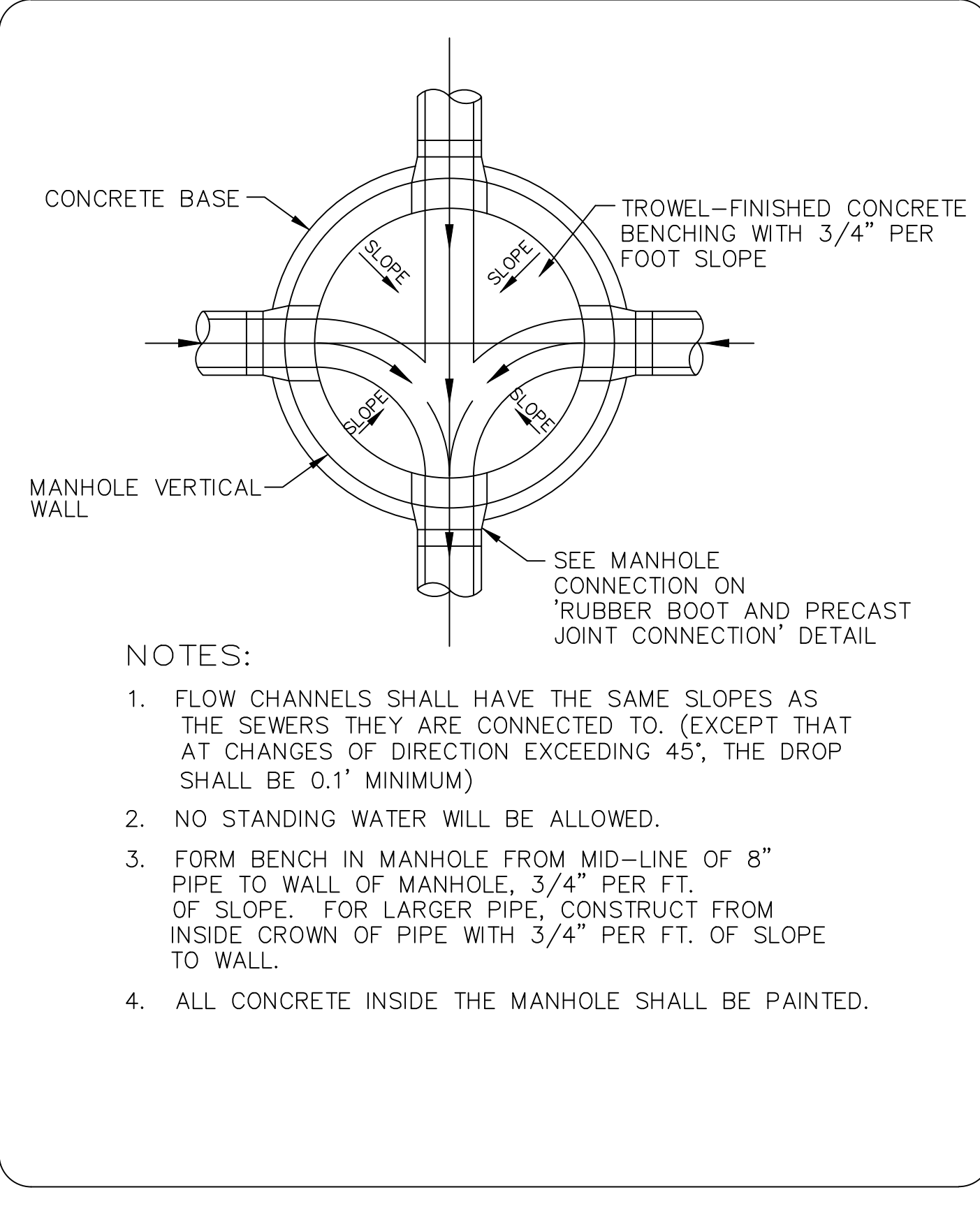
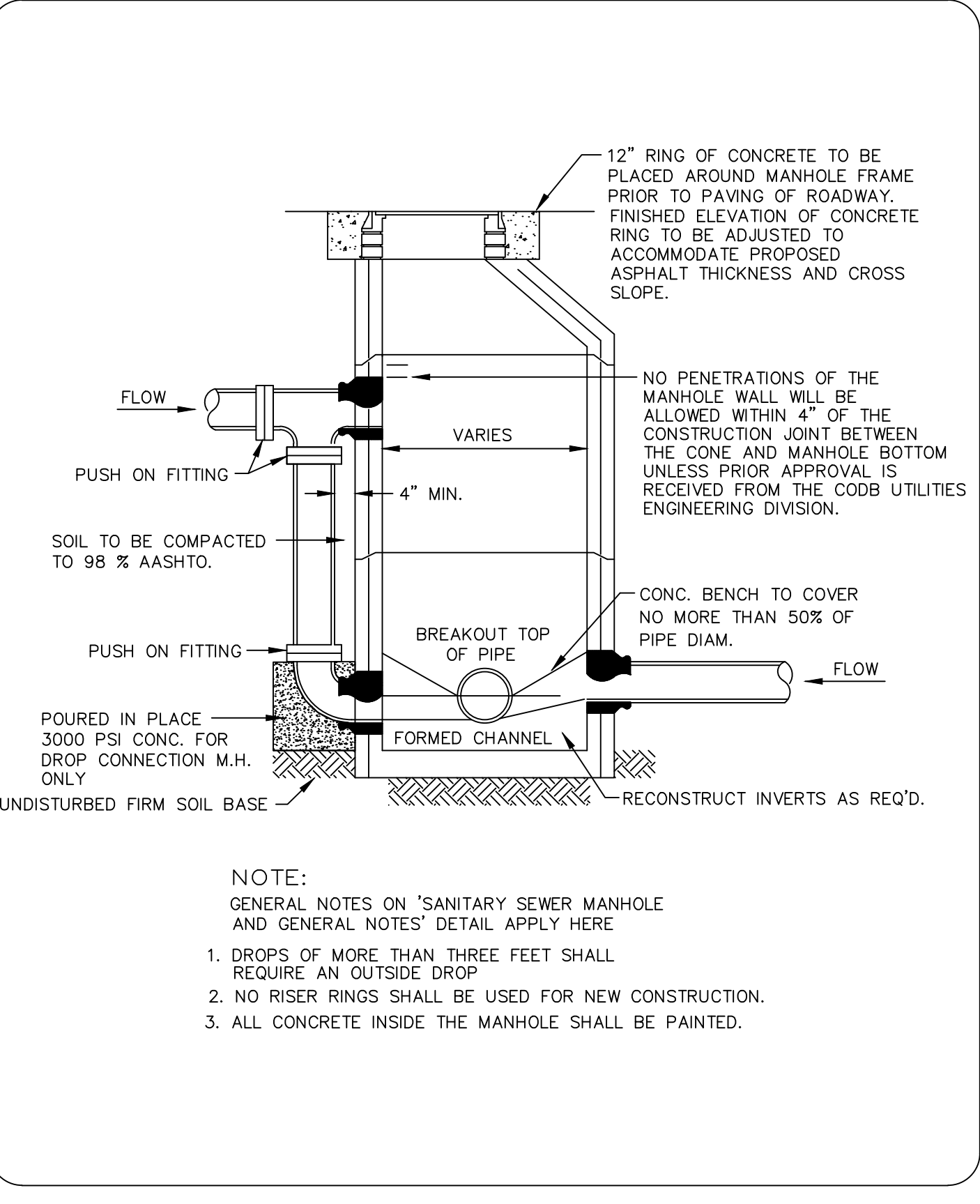
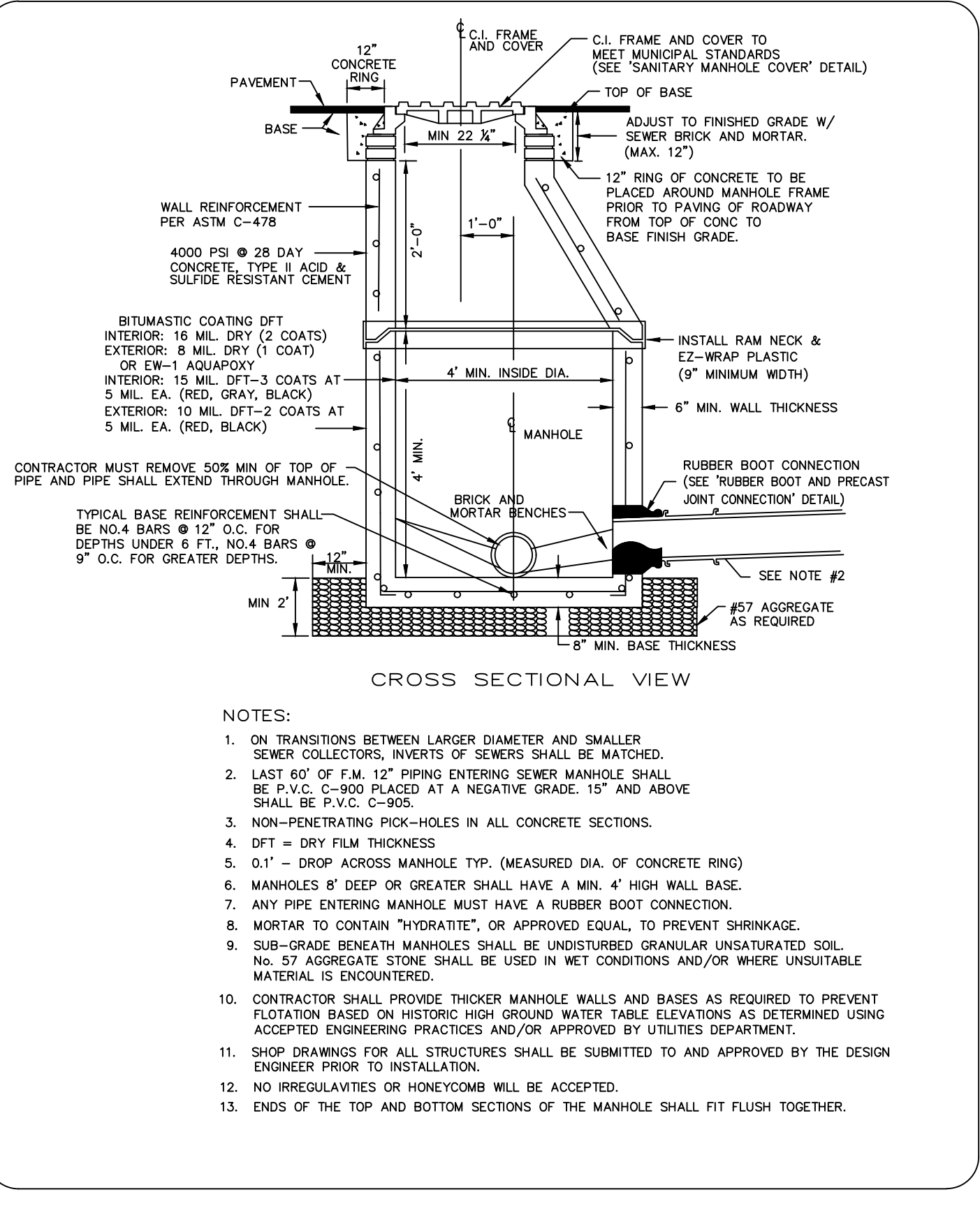
**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D) (PAGE 3 OF 4)**

Scale: NTS  
 Revision Date: 01/2019  
 File Name: Sanitary Sewer Notes.dwg  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER TESTING REQUIREMENTS NOTES (PAGE 4 OF 4)**

Scale: NTS  
 Revision Date: 01/2019  
 File Name: Sanitary Sewer Notes.dwg  
 Page 65



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER MANHOLE AND GENERAL NOTES (S-11)**

Scale: NTS  
 Revision Date: 01/19  
 File Name: Automatic ARV Valve Detail S-11.dwg  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**OUTSIDE DROP SANITARY MANHOLE DETAIL (S-12)**

Scale: NTS  
 Revision Date: 01/19  
 File Name: Outside Drop Sanitary Manhole Detail S-12.dwg  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY MANHOLE INVERT DETAIL (S-13)**

Scale: NTS  
 Revision Date: 01/19  
 File Name: Invert Detail S-13.dwg  
 Page 75

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**AUTOMATIC AIR/VACUUM VALVE DETAIL (S-18)**

Scale: NTS  
 Revision Date: 03/10  
 File Name: Automatic ARV Valve Detail S-18.dwg  
 Page 80

**PARKER MYNCHENBERG & ASSOCIATES, INC.**

PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS

1729 RIDGEWOOD AVENUE, HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114 E-Mail: [info@parkermycnberg.com](mailto:info@parkermycnberg.com)  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	11-2-18	60% PLANS	BH
			BY

**BEACH STREET, STREETScape ORANGE TO BAY**

DAYTONA BEACH \* FLORIDA

**SANITARY COLLECTION SYSTEM DETAILS**

CITY PROJECT NO. 2018-036

**45**

SHEET NO.

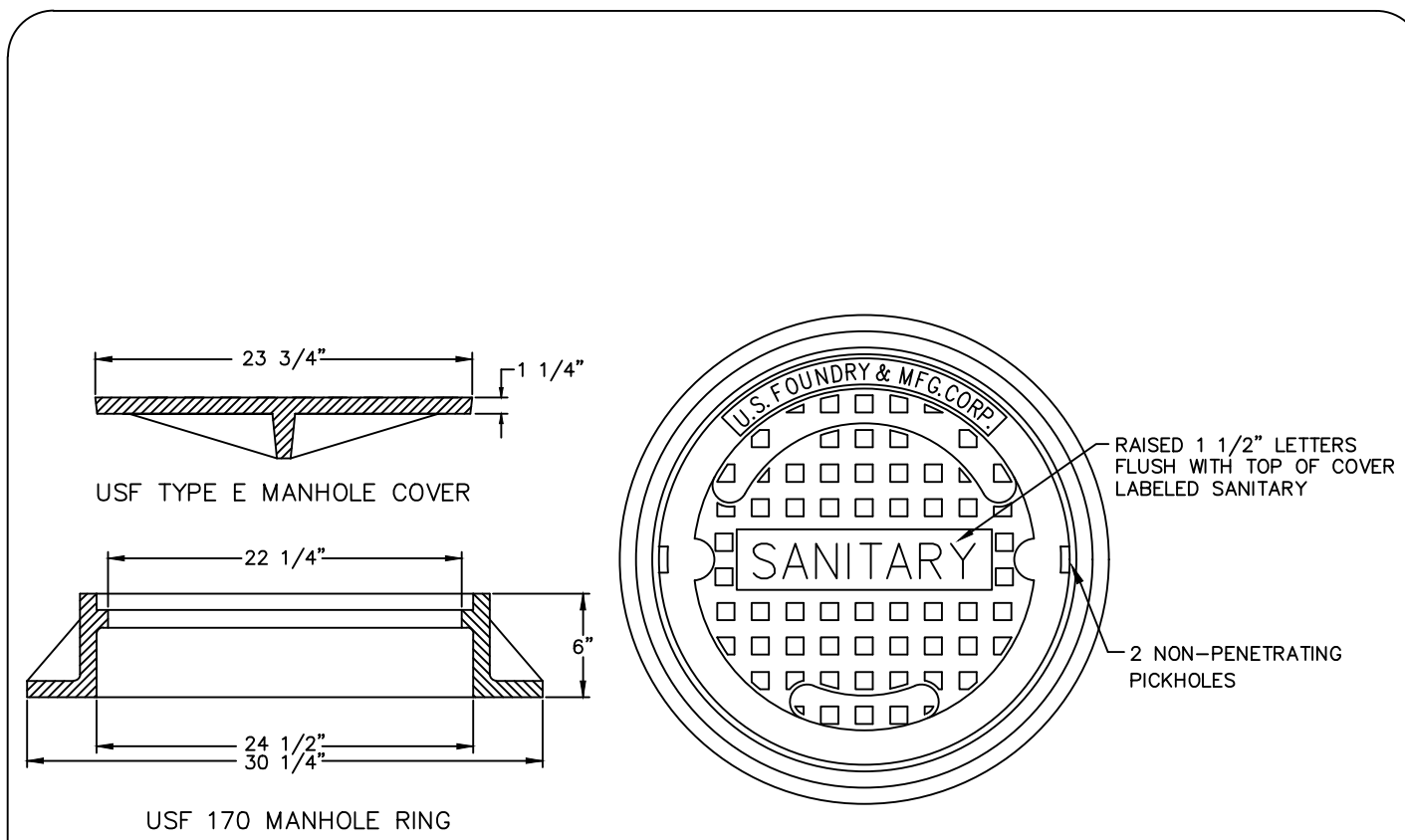
Drawn By: M. GRECO

Date: 08/21/18

SCALE: NTS

SEAL



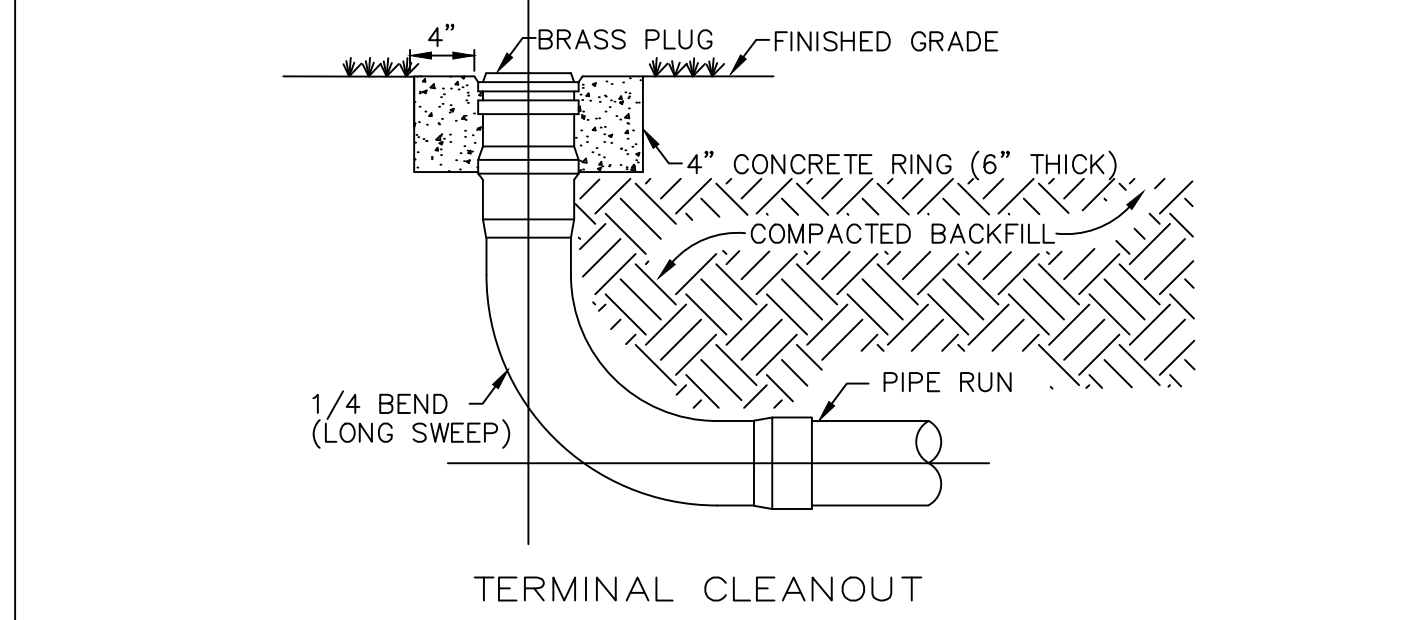
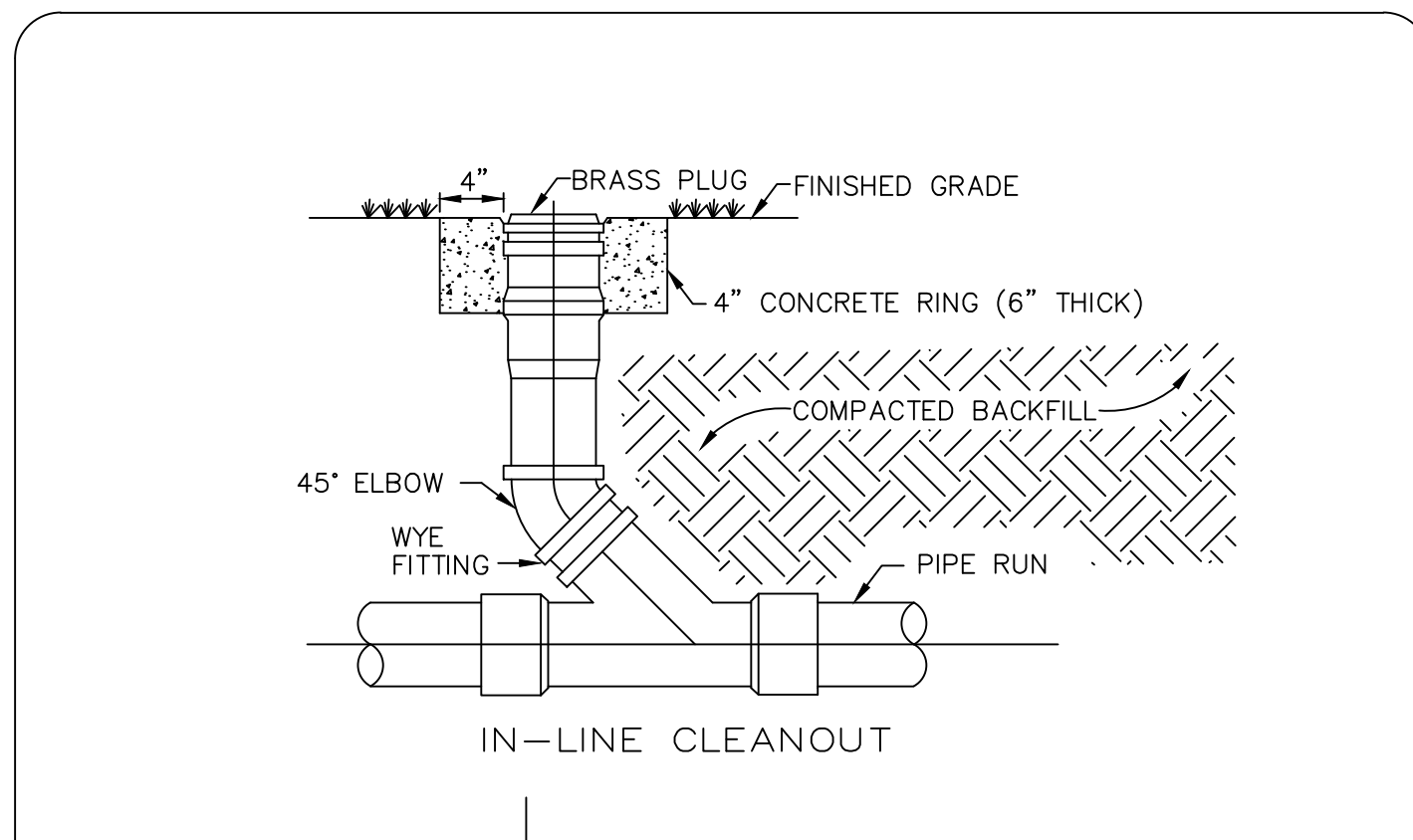


NOTES:  
 1. UNLESS DETAILED PLANS SHOW OTHERWISE, ALL MANHOLE RING AND COVER CASTINGS IN PAVED AREAS ARE TO BE ADJUSTED TO FINAL GRADE, SEALED AND SECURED IN PLACE WITH A CONCRETE COLLAR AFTER THE ROAD BASE IS PLACED AND JUST PRIOR TO PLACEMENT OF ASPHALT WEARING SURFACE.  
 2. CONCRETE COLLAR AROUND MANHOLE FRAME IS REQUIRED IN PAVED AREAS ONLY.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER COVER DETAIL**  
S-15

FY-19/20  
 Drawing Date: 01/08  
 Drawn By: xsl  
 Checked By: jwp  
 Scale: NTS  
 Revision Date:  
 File Name: Sanitary Sewer Cover S-15 Page 77

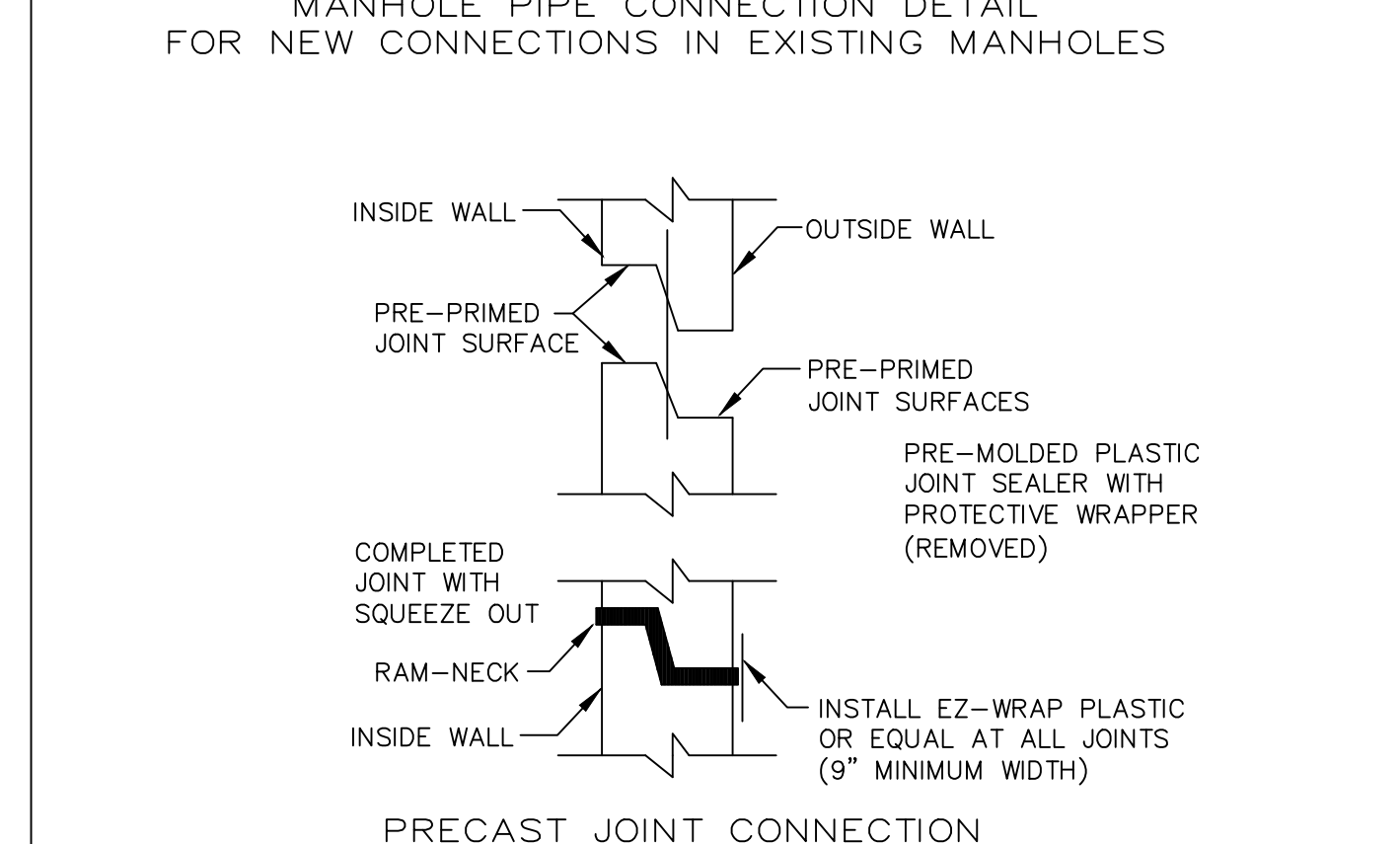
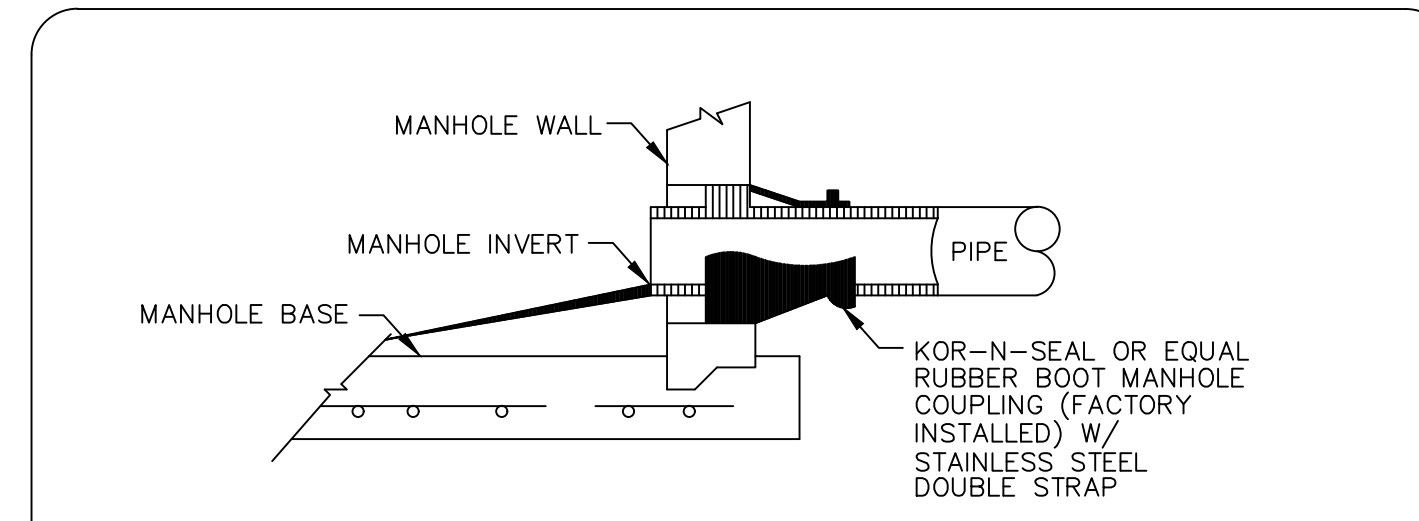


NOTE:  
 CONCRETE COLLAR REQUIRED IN UNPAVED AREAS

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY LATERAL CLEANOUT DETAIL**  
S-10

FY-19/20  
 Drawing Date: 01/08  
 Drawn By: xsl  
 Checked By: jwp  
 Scale: NTS  
 Revision Date:  
 File Name: Sanitary Cleanout S-10 Page 72

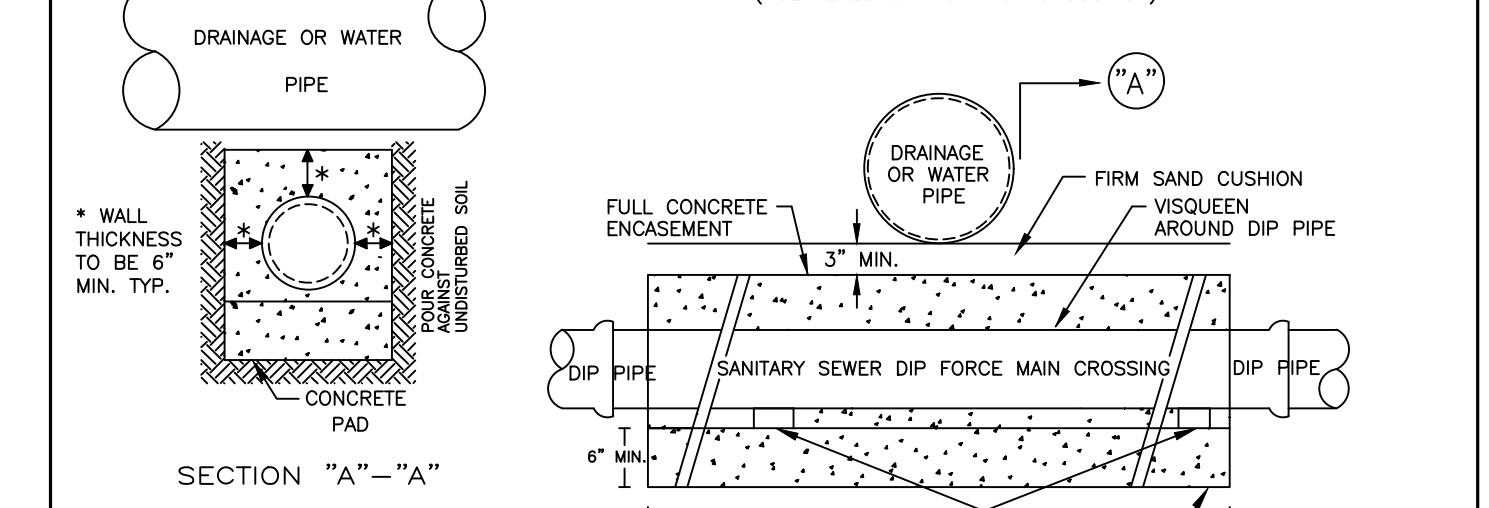
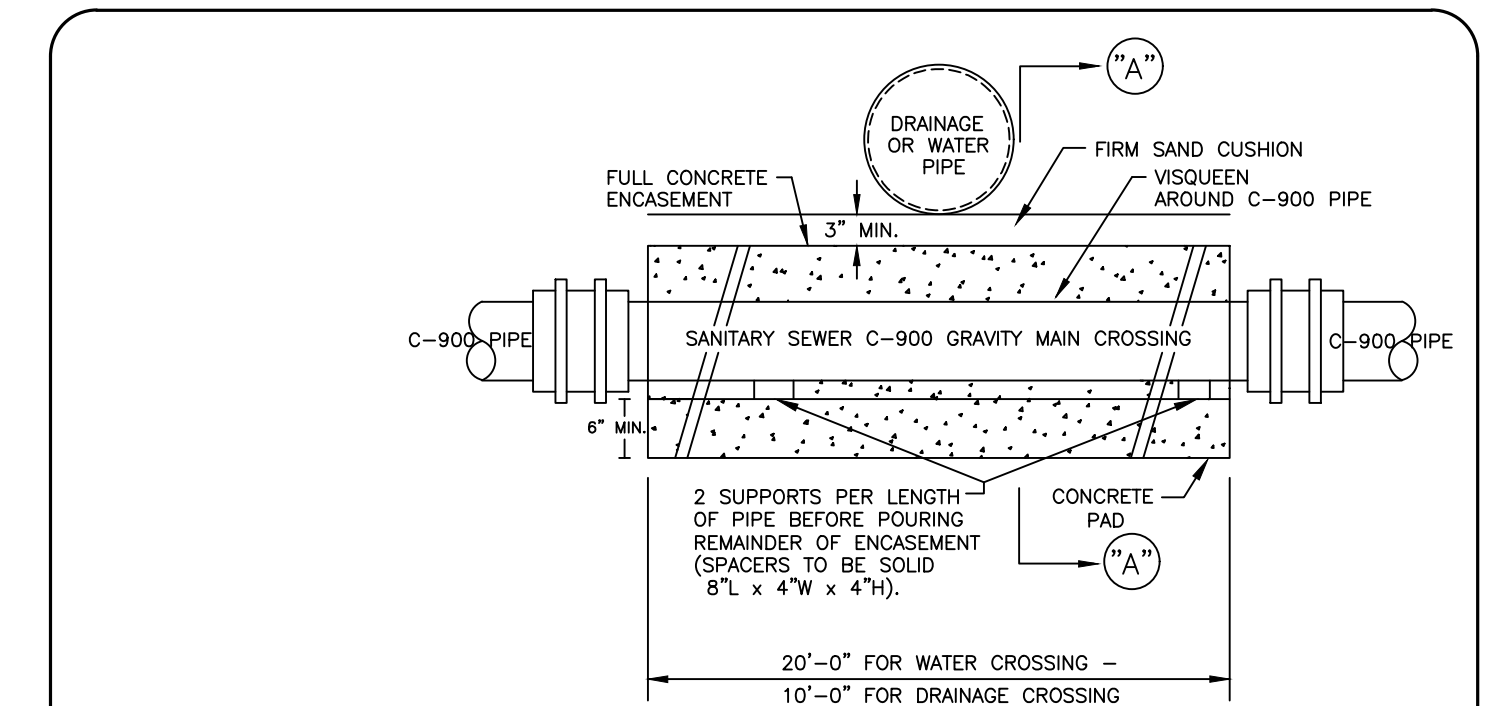


NOTES:  
 1. ALL NEW CONNECTIONS TO EXISTING SANITARY SEWER MANHOLES SHALL UTILIZE A CORING METHOD AND THE IN-FIELD INSTALLATION OF A RUBBER BOOT INTO THE MANHOLE.  
 2. BOOTS SHALL BE SNAPPED IN PLACE AND WATER TIGHT.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL**  
S-14

FY-19/20  
 Drawing Date: 01/08  
 Drawn By: xsl  
 Checked By: jwp  
 Scale: NTS  
 Revision Date:  
 File Name: Rubber Boot and Precast Joint Connection S-14 Page 76

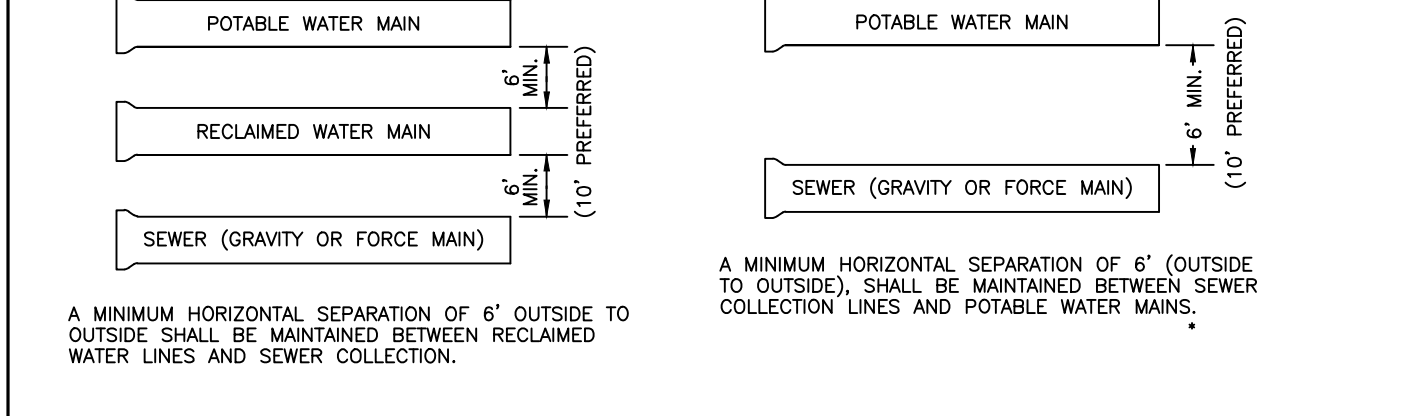
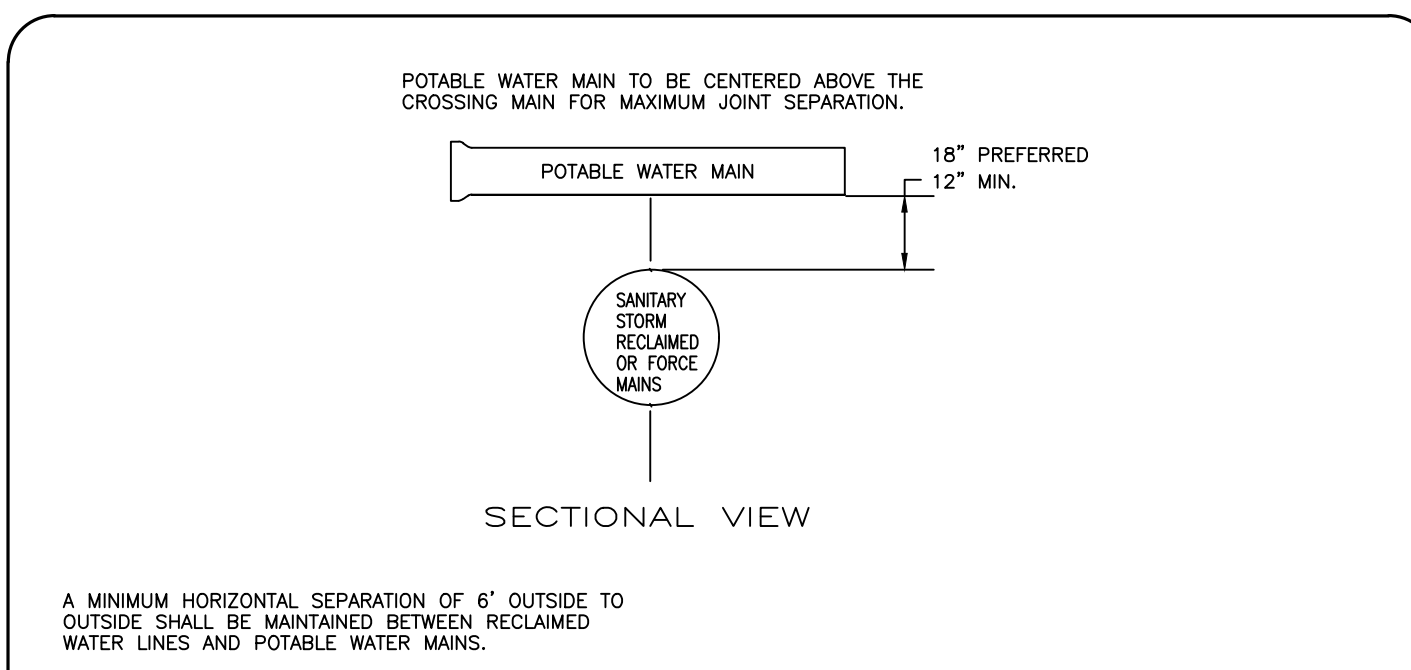


NOTES:  
 1. ALL CONCRETE SHALL BE 3000 PSI MINIMUM STRENGTH AT 28 DAYS.  
 2. WATER MAIN SHALL BE LOCATED ABOVE OR BELOW ENCASEMENT AS SHOWN ON PLANS OR AS DETERMINED IN THE FIELD. USE ENCASEMENT WHERE VERTICAL CLEARANCE WATER MAIN AND SEWER MAIN IS LESS THAN 12 INCHES.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY SEWER CONCRETE ENCASUREMENT DETAIL**  
S-7

FY-17/18  
 Drawing Date: 01/08  
 Drawn By: xsl  
 Checked By: jwp  
 Scale: NTS  
 Revision Date:  
 File Name: Sanitary Concrete Encasement S-7 Page 77



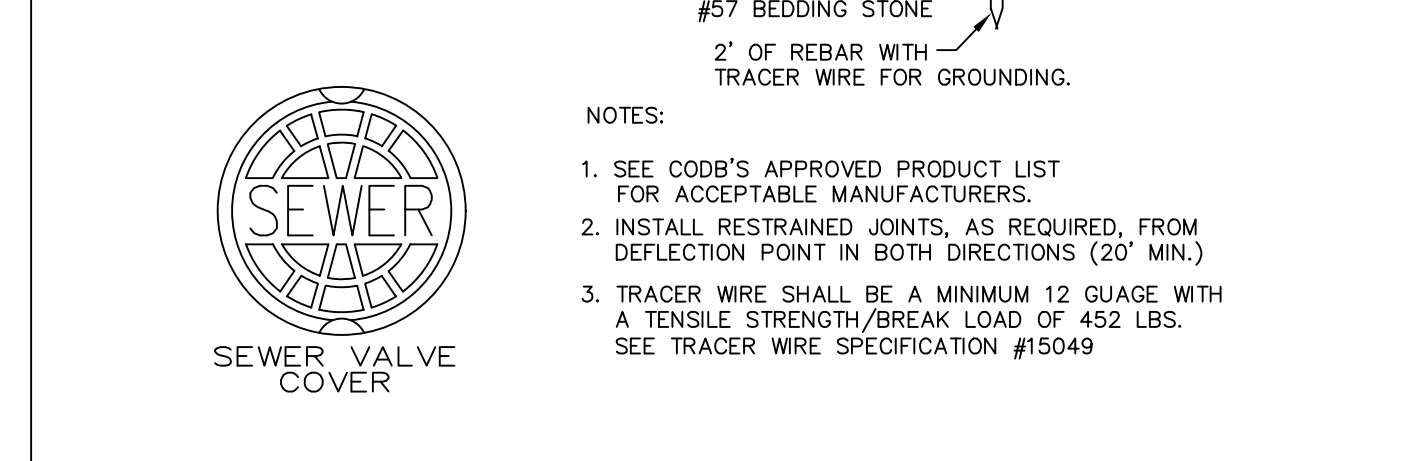
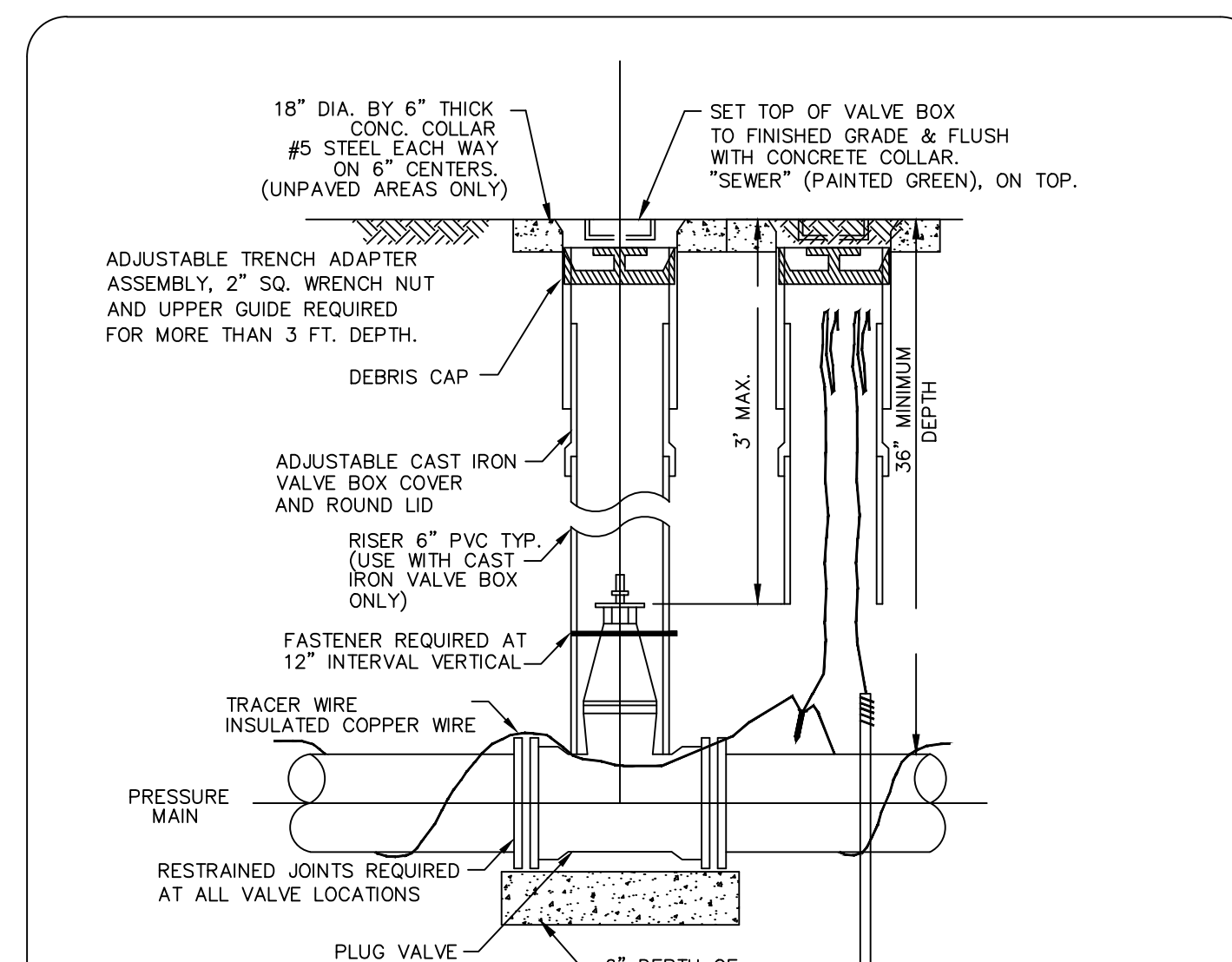
NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER, NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE AND CONDUIT, HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

AT THE UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**PIPE SEPARATION DETAIL**  
S-6

FY-17/18  
 Drawing Date: 01/08  
 Drawn By: xsl  
 Checked By: jwp  
 Scale: NTS  
 Revision Date: 06/10  
 File Name: Pipe Separation S-6 Page 76

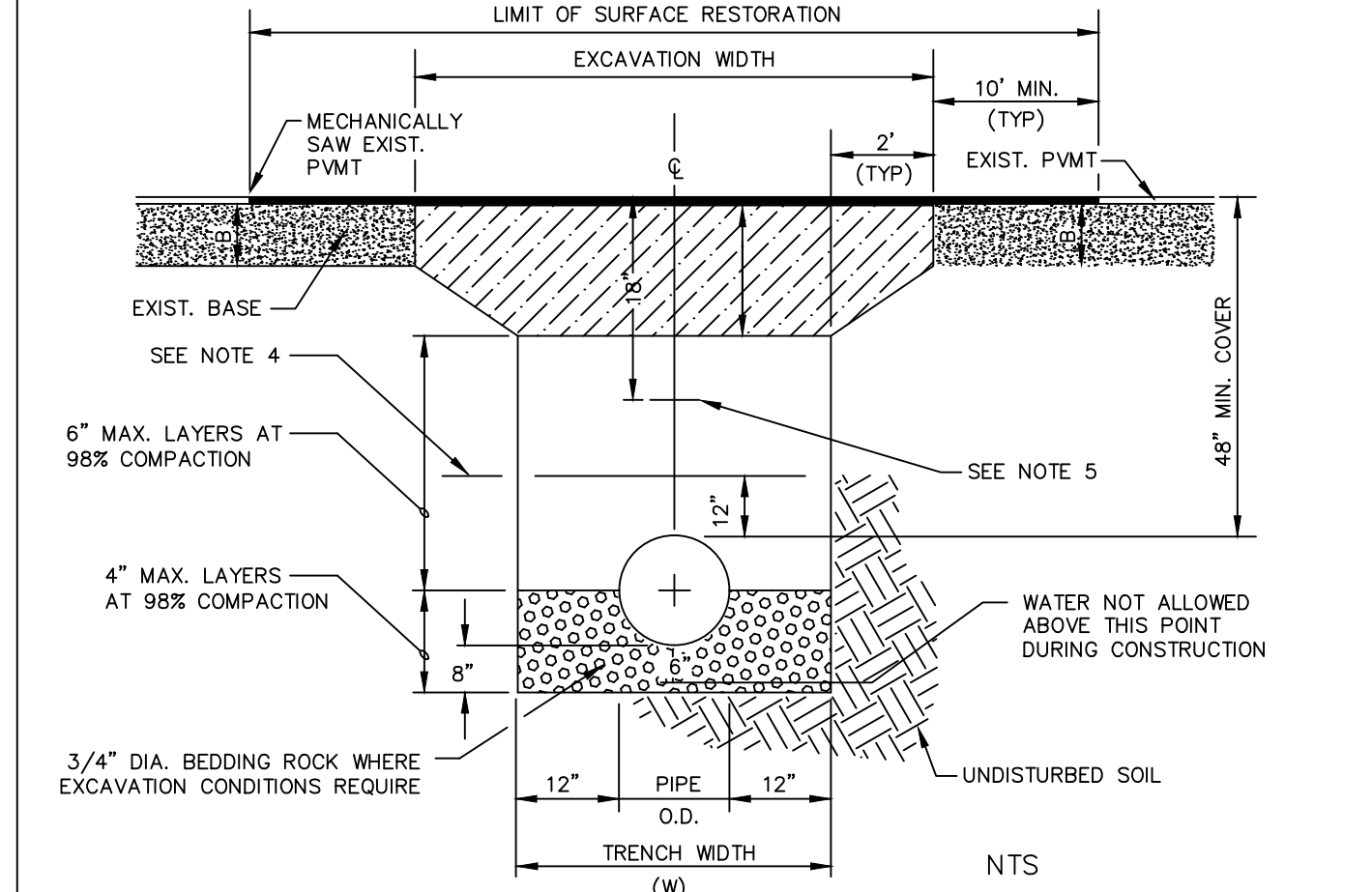


THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**SANITARY VALVE AND VALVE BOX DETAIL**  
S-16

FY-19/20  
 Drawing Date: 01/08  
 Drawn By: xsl  
 Checked By: jwp  
 Scale: NTS  
 Revision Date: 01/19  
 File Name: Sanitary Valve S-16 Page 76

NOTE: TO DETERMINE THE MOST CURRENT REQUIREMENTS FOR STABILIZATION MATERIAL, BASE MATERIAL, AND ASPHALT PATCH AND THE REPLACEMENT DIMENSIONS CONTACT CITY ENGINEER IN THE PUBLIC WORKS DEPT AT 386-6711-8510.



NOTES:  
 1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.  
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.  
 3. COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COMPACTION TEST REPORTS TO CITY INSPECTOR.  
 4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.  
 5. FOR PVC PIPE ONLY - INSTALL METALLIC TAPE AND UF #12 INSULATED SINGLE STRAND COPPER WIRE OVER FULL LENGTH OF PIPE.  
 6. THE CONTRACTOR SHALL, UNLESS OTHERWISE NOTED, RESTORE ALL STRIPING, PAVEMENT MARKINGS, DELINEATORS, SIGNAGE AND TRAFFIC SIGNAL SYSTEM COMPONENTS DISTURBED DURING CONSTRUCTION ACTIVITIES. COST OF ALL WORK AND MATERIALS WILL BE CONSIDERED INCIDENTAL TO PATCH MATERIAL ITEMS.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

**PAVEMENT CUT AND PATCH DETAIL**  
S-7

FY-19/20  
 Drawing Date: 01/08  
 Drawn By: xsl  
 Checked By: jwp  
 Scale: NTS  
 Revision Date: 8/28/2017  
 File Name: Pavement Cut and Patch S-7 Page 68

**SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)**

FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	82
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.  
 TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

**SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)**

FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36"	69 (82)	28 (34)	18 (18)	18 (18)	170 (204)
42"	76 (92)	31 (37)	18 (18)	18 (18)	191 (229)
48"	90 (106)	40 (46)	18 (18)	18 (18)	212 (254)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.  
 TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.  
 VALUES IN PARENTHESIS ARE FOR PIPE ENCASED IN POLYETHYLENE.

STANDARD CONSTRUCTION DETAIL  
 PVC AND D.I.P. RESTRAINED JOINT TABLE

INDEX  
**RW-5**  
 DEC 2015

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
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 (386) 677-6891 FAX (386) 677-2114 E-MAIL: info@parkermyncnberg.com  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003810

BID SET	100% PLANS	90% PLANS	60% PLANS	DESCRIPTION	REVISIONS
4	8-13-19	3	7-9-19	1	BY
				2	BH
				1	BH
				1	BY
					NO.
					DATE

BEACH STREET, STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA

**SANITARY COLLECTION SYSTEM DETAILS**

CITY PROJECT NO. 2018-036

**46**  
 SHEET NO.

Drawn By: M. GRECO  
 Date: 08/21/18  
 SCALE: NTS

STANDARD CONSTRUCTION DETAIL  
 PVC AND D.I.P. RESTRAINED JOINT TABLE

INDEX  
**RW-5**  
 DEC 2015

SEAL



**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS**

- THE CITY'S UTILITIES DEPARTMENT SHALL BE GIVEN A MINIMUM OF 3 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS) PRIOR TO BEGINNING ANY SANITARY SEWER CONSTRUCTION.
- A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING ACTIVITIES, OR IN ACTIVITIES, OR IN ANY CONSTRUCTION ACTIVITY THAT CHANGES THE IMPERVIOUS AREA OF LAND. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHERS, ALLOWING CONSTRUCTION OR MAINTENANCE TO BE ONE IN THE DRY, OR ANY ACTIVITY WHICH CHANGES THE IMPERVIOUS AREA OF LAND. SITE SPECIFIC DEWATERING PERMITS SHALL REQUIRE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE AN ANNUAL FEE BASED ON A BI-ANNUAL SCHEDULE OF DEWATERING ACTIVITIES DISCHARGING DIRECTLY INTO THE CITY'S MS4 CONVEYANCE SYSTEM. DEWATERING PERMIT APPLICATIONS CAN BE FOUND AT <https://www.codp.us/index.aspx?nid=262>. FEES ARE SUBJECT TO ARTICLE 7, SECTION 7.2 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED WITH THE PERMIT APPLICATION TO CITY OF DAYTONA BEACH STORM WATER COORDINATOR AT 125 BASIN STREET, SUITE 100, DAYTONA BEACH, FLORIDA 32114 PRIOR TO ANY USE OF MS4. FAILURE TO COMPLY WILL RESULT IN THE IMMEDIATE TERMINATION OF ACCESS TO THE CITY'S MS4 SYSTEM.
- UPON COMPLETION, THE CONTRACTOR SHALL PROVIDE THE CITY UTILITIES DEPARTMENT WITH A CCTV INSPECTION LOG ON DVD AND A PRINTED REPORT FOR ALL GRAVITY MAINS AND LATERALS CONSTRUCTED. ALL WORK, WITH THE EXCEPTION OF FINAL GRADE ADJUSTMENT TO MANHOLES AND BENCHES SHALL BE COMPLETED PRIOR TO COMMENCING THE CCTV INSPECTION. THE CONTRACTOR SHALL COORDINATE THE CCTV INSPECTION TIME WITH THE CITY UTILITY INSPECTOR PRIOR TO INITIATING THE WORK. FINAL PAVING SHALL NOT COMMENCE UNTIL APPROVAL IS RECEIVED FROM THE CITY UTILITY INSPECTOR.
- SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAW CUT "V" OR BY A METAL TAB SET INTO THE PAVEMENT.
- THE CONTRACTOR SHALL BE REQUIRED TO PIG ALL FORCE MAINS EQUAL TO OR GREATER THAN 6" IN DIAMETER AND PRIMARY TRANSMISSION MAINS LOCATED ON COLLECTOR AND ARTERIAL ROADWAYS. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CITY.
- WITH RESPECT TO TIE-IN CONNECTIONS AND CORING OPERATIONS, THE CITY RESERVES THE RIGHT TO REQUIRE CONNECTIONS TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 6:00 A.M.) (IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS).
- ALL WORK ON SANITARY SEWER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE PERFORMED BY AN UNDERGROUND UTILITY CONTRACTOR OR GENERAL CONTRACTOR LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AS-BUILTS ARE PROVIDED TO THE CITY'S UTILITIES DEPARTMENT PRIOR TO ANY USE OF THE SYSTEM.
- PLANS SHALL DIMENSION THE LOCATION OF ALL FORCE MAINS, VALVES, MANHOLES & LATERALS FROM THE BASELINE OF CONSTRUCTION AND FROM THE RIGHT-OF-WAY LINE.
- LANDSCAPE PLANS SHALL CLEARLY DEPICT THE LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORM WATER INFRASTRUCTURE.
- THE CITY'S AS-BUILT DRAWING REQUIREMENTS ARE ATTACHED TO THE BACK OF THE UTILITIES DEPARTMENT'S STANDARD DETAILS.

**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D)**

- ALL GRAVITY SANITARY SEWER MAINS SHALL BE A MINIMUM OF 8" DIAMETER. COMMERCIAL SERVICE LATERALS SHALL BE GREEN AND A MINIMUM OF 6" IN DIAMETER, OR LARGER. ALL SINGLE FAMILY RESIDENTIAL SERVICE LATERALS SHALL BE 6" SINGLE SERVICES WITH CLEAN OUTS INSTALLED AT PROPERTY LINES.
- ALL GRAVITY SANITARY SEWER MAINS SHALL BE GREEN PVC SDR-26, ASTM D-3034, OR C-900 DR-18 MINIMUM PRESSURE CLASS 150. IN PLACES WHERE A MINIMUM COVER OF 4 FEET CANNOT BE MAINTAINED OR IN DEPTHS OF 10 FEET OR GREATER C-900 OR C-905 GREEN PVC DR-18, MINIMUM PRESSURE CLASS 150 SHALL BE USED.
- FOR SINGLE FAMILY HOMES, SINGLE SIX INCH SEWER SERVICE LATERALS SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE NEARER SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS SHALL BE USED ON ALL LINES. NO GLEED JOINTS ARE PERMITTED ON LATERALS.
- FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
- FORCE MAINS LESS THAN 18" MAY USE PVC C900 OR C905 DR-18. FORCE MAINS 18" AND LARGER SHALL BE DUCTILE IRON PIPE (D.I.P.), CLASS 350, EPOXY LINED. ALL NON DUCTILE IRON PIPE HORIZONTAL DIRECTIONAL DRILL FORCE MAINS SHALL HAVE A MINIMUM WORKING PRESSURE OF 160 PSI. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING DEPENDING ON SITE CONDITIONS. INSIDE DIAMETER OF NON D.I.P. HORIZONTAL DIRECTIONAL DRILL PIPE SHALL MATCH THE INSIDE DIAMETER OF CONNECTING PIPES. DIRECTIONAL DRILLS SHALL HAVE COVERED MJ ADAPTERS.
- FORCE MAIN MINIMUM DEPTH OF COVER SHALL BE 48". ALL FORCE MAINS SHALL BE DISTINCTLY MARKED BY GREEN STRIPES OR COLORED GREEN.
- ALL FITTINGS, VALVES, ECT. SHALL BE DUCTILE IRON (MJ OR FLANGED) AND RESTRAINED. ALL FORCE MAINS SHALL USE THRUST RESTRAINT AS CALCULATED BY A PROGRAM AVAILABLE AT (EBAACOM).
- ALL RESTRAINED PIPE BELL JOINTS SHALL USE BELL RESTRAINTS. GRIPPER TYPE GASKETS CAN BE USED FOR DUCTILE IRON PIPE JOINTS.
- AS A GENERAL RULE, THE NUMBER OF JOINTS SHALL BE LIMITED WHENEVER POSSIBLE. IN SPECIAL CASES WHERE A POINT REPAIR TO AN 8" TO 12" PVC SEWER MAIN IS REQUIRED, THE PROPER RIGID WRAP AROUND SLEEVE MAY BE ALLOWED BY CITY SPECIAL APPROVAL.
- ALL IN-LINE SANITARY SEWER FORCE MAIN VALVES SHALL BE PLUG VALVES UNLESS OTHERWISE NOTED. VALVES SHALL BE INSTALLED AT EACH END OF THE FORCE MAIN AND ON STUB OUTS.
- ALL C-900 PVC PIPE REQUIREMENTS REFERENCE THE C-900 STANDARDS, OR UPGRADES FOR BURST PROTECTION MAY BE REQUIRED WHEN USING THE C-900 STANDARDS.
- MINIMUM GRAVITY SANITARY SEWER SLOPES ARE AS FOLLOWS: 8" PIPE 0.40%, 10" PIPE 0.28%, 12" PIPE 0.22%, 15" PIPE 0.15%, OR OTHERWISE NOTED BY UTILITIES DEPT.
- GRAVITY SANITARY SEWER LINES SHALL BE INSTALLED WHENEVER POSSIBLE UNDER PAVED AREAS WITHIN PUBLIC RIGHT-OF-WAYS. UTILITY EASEMENTS SHALL BE PROVIDED WHENEVER PUBLICLY-OWNED SEWER LINES ARE CONSTRUCTED OUTSIDE OF A PUBLIC RIGHT-OF-WAY.
- GRAVITY SANITARY SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS APPROVED BY THE CITY.
- DURING PIPE INSTALLATION DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING INSTALLED WITHIN THE AREA OF THE TRENCH.
- ALL PIPES SHALL BE INSTALLED ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES IS NOT ACCEPTABLE. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
- ON ALL EXCAVATION AND BACKFILLING THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING IN ORDER TO PROVIDE A SAFE WORKING ENVIRONMENT.
- ALL TRENCHES SHALL BE BACKFILLED WITH ACCEPTABLE MATERIAL AND COMPACTED TO THE SPECIFIED MINIMUM COMPACTION (95% IN UNPAVED AREAS AND 98% IN PAVED AREAS) AND THE OPTIMUM DENSITY BASED ON THE AASHTO T-180 MODIFIED PROCTOR TEST.
- ALL GASKETS SHALL BE LUBRICATED BEFORE INSTALLATION.

**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (CONT'D)**

- THE CONTRACTOR SHALL INSTALL A #12-GAUGE MINIMUM COPPER TRACER WIRE TAPED TO THE TOP OF THE PIPE AT INTERVALS NO GREATER THAN 4-FEET. COPPER WIRE SHALL HAVE A MIN. TENSILE STRENGTH/BREAK LOAD OF 452 LBS. AND REQUIRE APPROVAL BY THE CITY FOR THE FULL LENGTH OF ALL SEWER FORCE MAINS. THE PIPE LOCATOR TAPE SHALL BE INSTALLED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS DIRECTED BY THE MANUFACTURER. TAPE SHALL BE COLOR CODED GREEN FOR FORCE MAINS. LOCATOR WIRE SHALL TERMINATE AT A LOCATION AND IN A MANNER CONVENIENT FOR CITY LOCATOR STAFF.
- TRACER WIRE SHALL BE TESTED FOR CONTINUITY UNDER SUPERVISION OF A CITY REPRESENTATIVE AFTER INSTALLATION.
- ALL SEWER LINES CONSTRUCTED OUTSIDE OF PUBLIC RIGHT-OF-WAYS WITHIN SIDE YARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF GREEN C-900 PVC. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
- ALL LOCAL COLLECTION SANITARY SEWER MANHOLES SHALL BE PRECAST WITH A MINIMUM INSIDE DIAMETER OF 4 FEET. MANHOLES OVER 6 FEET DEEP SHALL HAVE A MINIMUM 4 FT TALL PRE-CAST BOTTOM SECTION.
- STANDARD MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
- MANHOLE RIMS SHALL BE FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.5 FEET AND MAXIMUM OF 1.0 FOOT ABOVE GRADE IN UNPAVED AREAS.
- THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
- INDIVIDUAL SANITARY SERVICES SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES AND MUST BE CONNECTED TO SEWER MAINS BY USE OF WYE CONNECTIONS UNLESS OTHERWISE APPROVED BY THE CITY.
- SANITARY SEWER DROP MANHOLES SHALL ONLY BE USED UNDER SPECIAL CONDITIONS AS APPROVED BY THE CITY. DROPS LESS THAN 3.0' ARE NOT ALLOWED. INSIDE DROPS ARE NOT ALLOWED.
- SANITARY SEWER MANHOLES WITH SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM SHALL BE FIBERGLASS OR POLY-ETHYLENE LINED. RETRO-FITTING OF MANHOLES WITH LINERS IS REQUIRED WHEN NEW CONNECTIONS ARE MADE. FIBERGLASS SHALL BE A MINIMUM 1/2" THICK UNLESS APPROVED OTHERWISE BY THE CITY. OTHER LINING METHODS AND MATERIALS MAY BE CONSIDERED ON A CASE BY CASE BASIS. UNDER CIRCUMSTANCES WHERE HYDROGEN SULFIDE IS A SIGNIFICANT CONCERN, MANHOLES UPSTREAM AND/OR DOWNSTREAM OF THE FORCE MAIN TIE-IN MAY BE REQUIRED TO HAVE LININGS INSTALLED.
- EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS SEAL GASKET CORPORATION, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND METELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS.
- CONTRACTOR FOR DEVELOPMENTS WITH THE POTENTIAL TO DISCHARGE INDUSTRIAL OR COMMERCIAL WASTE INTO THE SEWER SYSTEM SHALL CONSTRUCT AND MAINTAIN AT THE OWNER'S EXPENSE A SUITABLE CONTROL MANHOLE OR MANHOLES DOWNSTREAM OF ANY TREATMENT, STORAGE OR OTHER APPROVED WORKS, PRIOR TO THE CITY'S COLLECTION SYSTEM TO FACILITATE OBSERVATION.

**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS TESTING REQUIREMENTS:**

- THE CONTRACTOR SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY AT HIS OWN EXPENSE TO INSURE COMPACTION OF ALL FILL MATERIAL IS COMPLETED PROPERLY. TESTS SHALL BE DONE ONE FOOT ABOVE THE PIPE AND AT ONE FOOT VERTICAL INTERVALS UNTIL FINAL GRADE IS REACHED. TESTS SHALL BE COMPLETED A MINIMUM FREQUENCY OF ONE SET OF TESTS EACH 300 FOOT LENGTH OF PIPING AND ONE ADDITIONAL SET OF TESTS AT EVERY MANHOLE. IDENTIFICATION OF TEST LOCATIONS SHALL BE CLEARLY INDICATED ON TEST REPORTS. TEST RESULTS SHALL BE FORWARDED PROMPTLY TO THE CITY'S DESIGNATED SITE INSPECTOR.
- ALL TESTING REQUIRED BY THE CITY SHALL BE PAID FOR BY THE CONTRACTOR / DEVELOPER.
- THE CITY OF DAYTONA BEACH RESERVES THE RIGHT TO REQUIRE THE DEVELOPER TO PERFORM VACUUM TESTING OF ALL SANITARY MANHOLES AND TO AIR TEST SEWER MAINS.
- ALL PROPOSED SEWER FORCE MAINS SHALL BE FLUSHED, PRESSURE TESTED AND CLEARED FOR SERVICE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION PROTECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED SITE INSPECTOR AT LEAST 3 BUSINESS DAYS PRIOR TO BEGINNING A FULL-DIAMETER FLUSH OF THE MAINS FOR PRESSURE TESTING.
- SANITARY SEWER FORCE MAINS SHALL BE PRESSURE TESTED TO 100 PSI FOR 2 HOURS WITH ALLOWABLE LEAKAGE BASED ON THE TABLE BELOW.

ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE \* -GPH

AVERAGE TEST PRESSURE (PSI)	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48	54	60	64	450
450	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82	4.78	5.73	6.69	7.64	8.60	9.56	10.19	450
400	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60	4.50	5.41	6.31	7.21	8.11	9.01	9.61	400
350	0.42	0.56	0.84	1.12	1.40	1.68	1.97	2.25	2.54	2.81	3.37	4.21	5.06	5.90	6.74	7.58	8.43	8.99	350
300	0.39	0.52	0.78	1.04	1.28	1.52	1.82	2.08	2.38	2.68	3.12	3.90	4.68	5.46	6.24	7.02	7.80	8.32	300
275	0.37	0.50	0.75	1.00	1.24	1.48	1.74	1.99	2.24	2.49	2.99	3.73	4.48	5.23	5.98	6.72	7.47	7.97	275
250	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85	3.56	4.27	4.99	5.70	6.41	7.12	7.60	250
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.70	3.38	4.05	4.73	5.41	6.03	6.76	7.21	225
200	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12	2.55	3.19	3.82	4.46	5.09	5.73	6.37	6.80	200
175	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	1.98	2.38	2.98	3.58	4.17	4.77	5.36	5.96	6.36	175
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21	2.76	3.31	3.86	4.41	4.97	5.52	5.88	150
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01	2.53	3.02	3.53	4.03	4.53	5.04	5.37	125
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80	2.25	2.70	3.15	3.60	4.05	4.50	4.80	100

\* IF THE PIPELINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE.

$$L = \frac{SD \sqrt{P}}{133,200}$$

WHERE:  
 L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR  
 S = LENGTH OF PIPE TESTED, IN FEET  
 D = NOMINAL DIAMETER OF PIPE, IN INCHES  
 P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH (GAUGE)

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
**SANITARY SEWER CONSTRUCTION & DESIGN STANDARDS (PAGE 1 OF 4)**  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
**SANITARY SEWER TESTING REQUIREMENTS NOTES (PAGE 4 OF 4)**  
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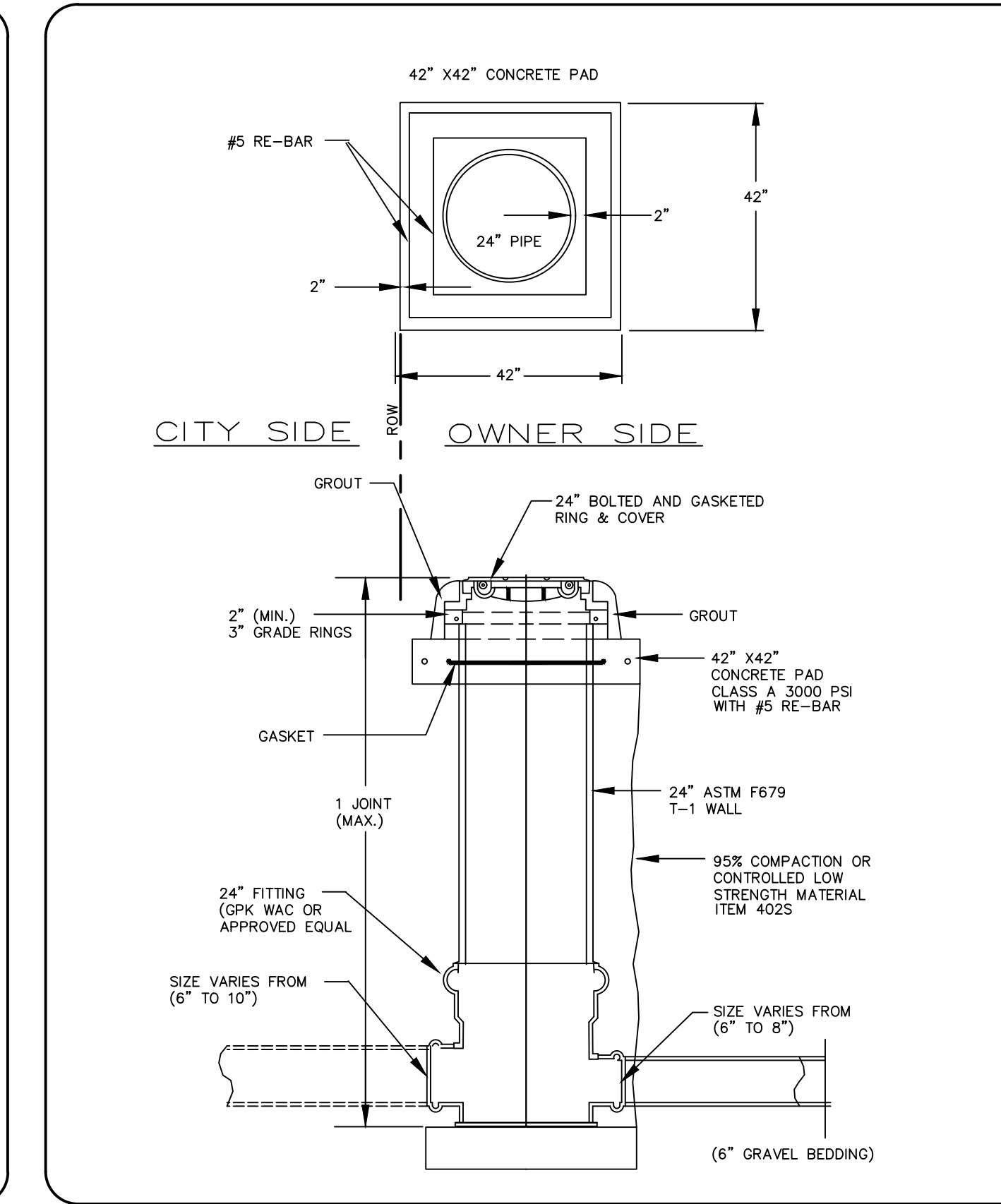
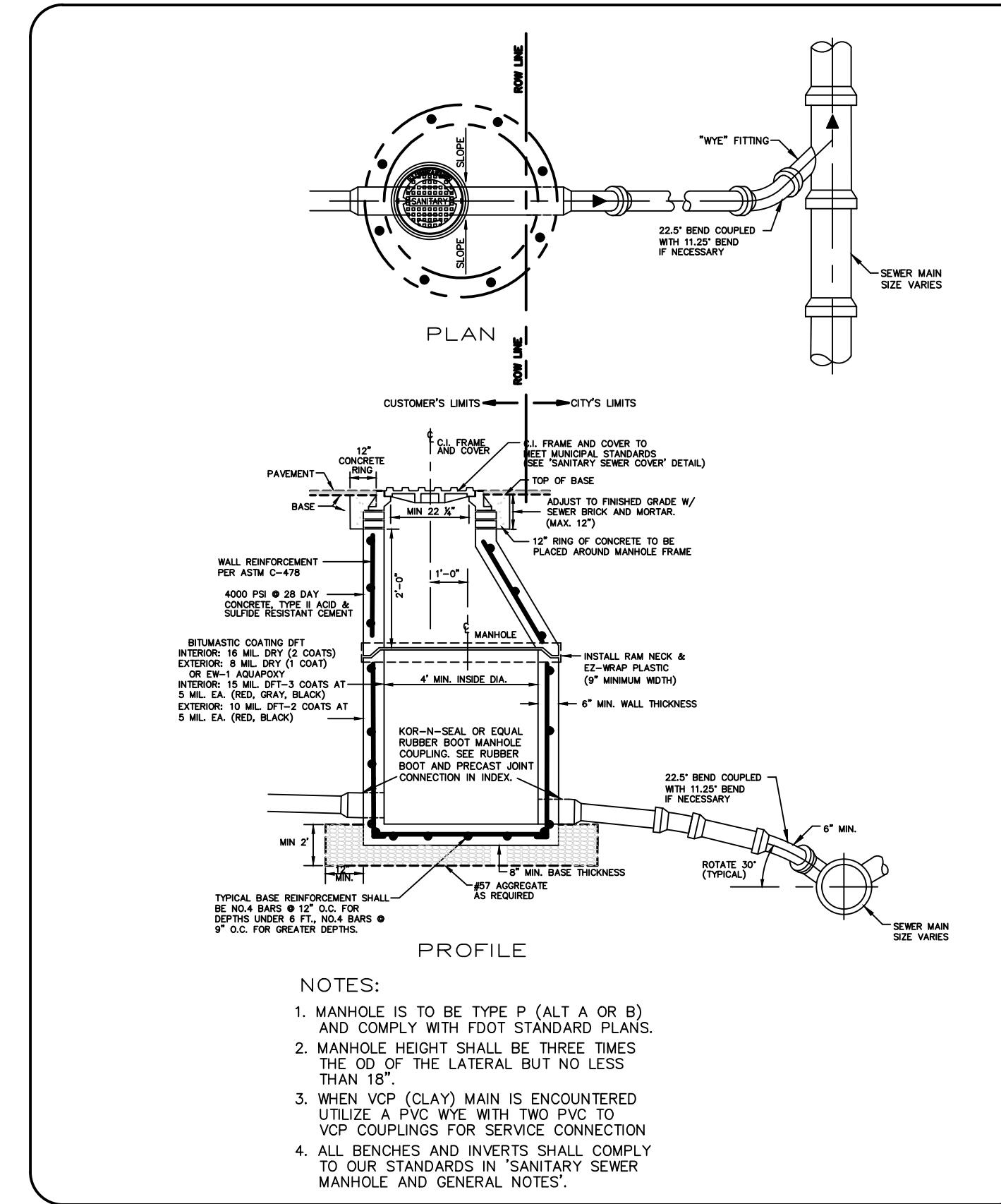
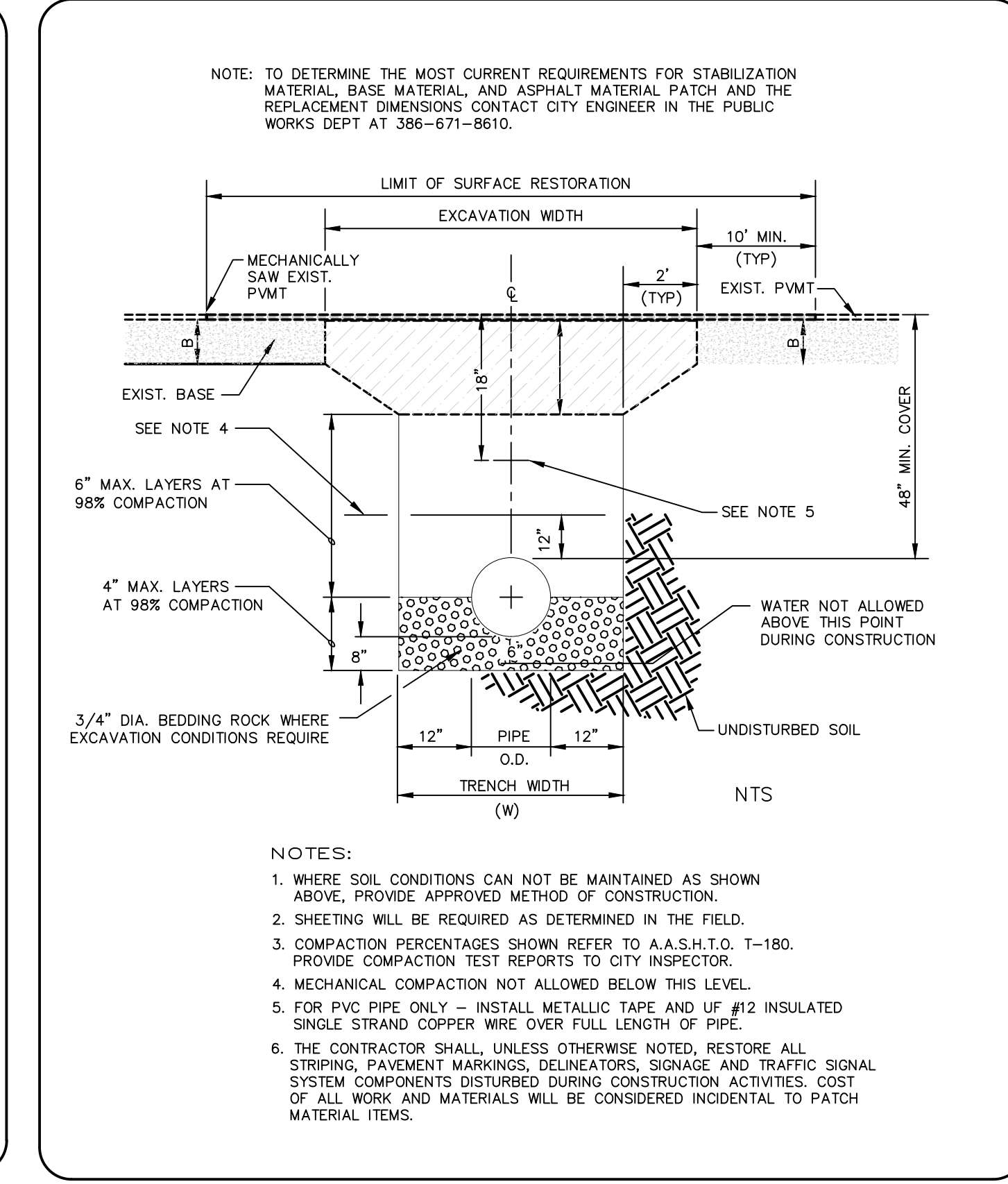
Waste Water - Table of Daily Flows

Types of Establishments	Flow Rate
Apartments	300 gpd
Banquet hall (per seat)	15 gpd
Bars and cocktail lounges	5 gpd
Bathroom (non-residential)	250 gpd
Beauty shop (per seat)	150 gpd
Boarding schools (students and staff)	50 gpd
Boarding houses	50 gpd
Bowling alleys (toilet wastes only, per lane)	75 gpd
Country clubs, per member	15 gpd
Day schools (with cafeteria, no gymnasium or showers)	8 gpd
Day schools (with cafeteria, gymnasium & showers)	20 gpd
Day workers at office and schools	15 gpd
Dentist, per wet chair	200 gpd
Drive-in theaters (per car space)	5 gpd
Factories (with showers)	25 gpd
Factories (no showers)	10 gpd/100 sq. ft.
Funeral home	10 gpd/100 sq. ft.
Gas stations (no car wash)	400 gpd
Hospitals (with laundry) (per bed)	200 gpd
Hospitals (no laundry) (per bed)	150 gpd
Hotels and motels (per room & unit)	100 gpd
Laundromat (per washing machine)	200 gpd
Mobile home park (per trailer)	200 gpd
Movie theaters, auditoriums, churches (per seat)	3 gpd
Nursing homes	125 gpd/100 sq. ft.
Office buildings	10 gpd/100 sq. ft.
Public institutions (other than those listed herein)	75 gpd
Restaurants (per seat)	35 gpd
Restaurants (take-out)	35 gpd/100 sq. ft. (350 gpd min.)
Restaurants (Fast Food) (per seat)	25 gpd
Single-family residence	300 gpd
Townhouse residence	300 gpd
Shopping centers	10 gpd/100 sq. ft.
Stadiums, frontons, ball parks, etc. (per seat)	3 gpd
Stores, without kitchen wastes	5 gpd/100 sq. ft.
Speculative buildings	10 gpd plus 10 gpd/100 sq. ft.
Warehouses	30 gpd plus 10 gpd/1,000 sq. ft.

\*\* CITY WILL CONSIDER ALTERNATE FLOW RATES FOR VARIOUS ESTABLISHMENTS IF THE EPC CAN PROVIDE SUPPORTING DOCUMENTATION \*\*\*

**SEWER DESIGN BASIS**  
 AVERAGE DAILY FLOW AND PEAK DESIGN FLOW ENGINEER TO DETERMINE AVERAGE DAILY AND PEAK DESIGN FLOW

DESIGN CALCULATIONS  
 DEVELOPER'S ENGINEER SHALL SUBMIT sealed, signed and dated design calculations with the PLANS for all sewer projects. Calculations shall show that sewers will have sufficient hydraulic capacity to transport all design flows.



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
**TABLE OF DAILY FLOWS FOR WASTE WATER**  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
**PAVEMENT CUT AND PATCH DETAIL**  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
**COMMERCIAL SANITARY LATERAL DETAIL**  
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THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
**ALTERNATE COMMERCIAL SANITARY LATERAL NON-TRAFFIC BEARING DETAIL**  
 S-9 B

NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	11-12-18-18	60% PLANS	BH
			BY

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 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
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 DAYTONA BEACH \* FLORIDA

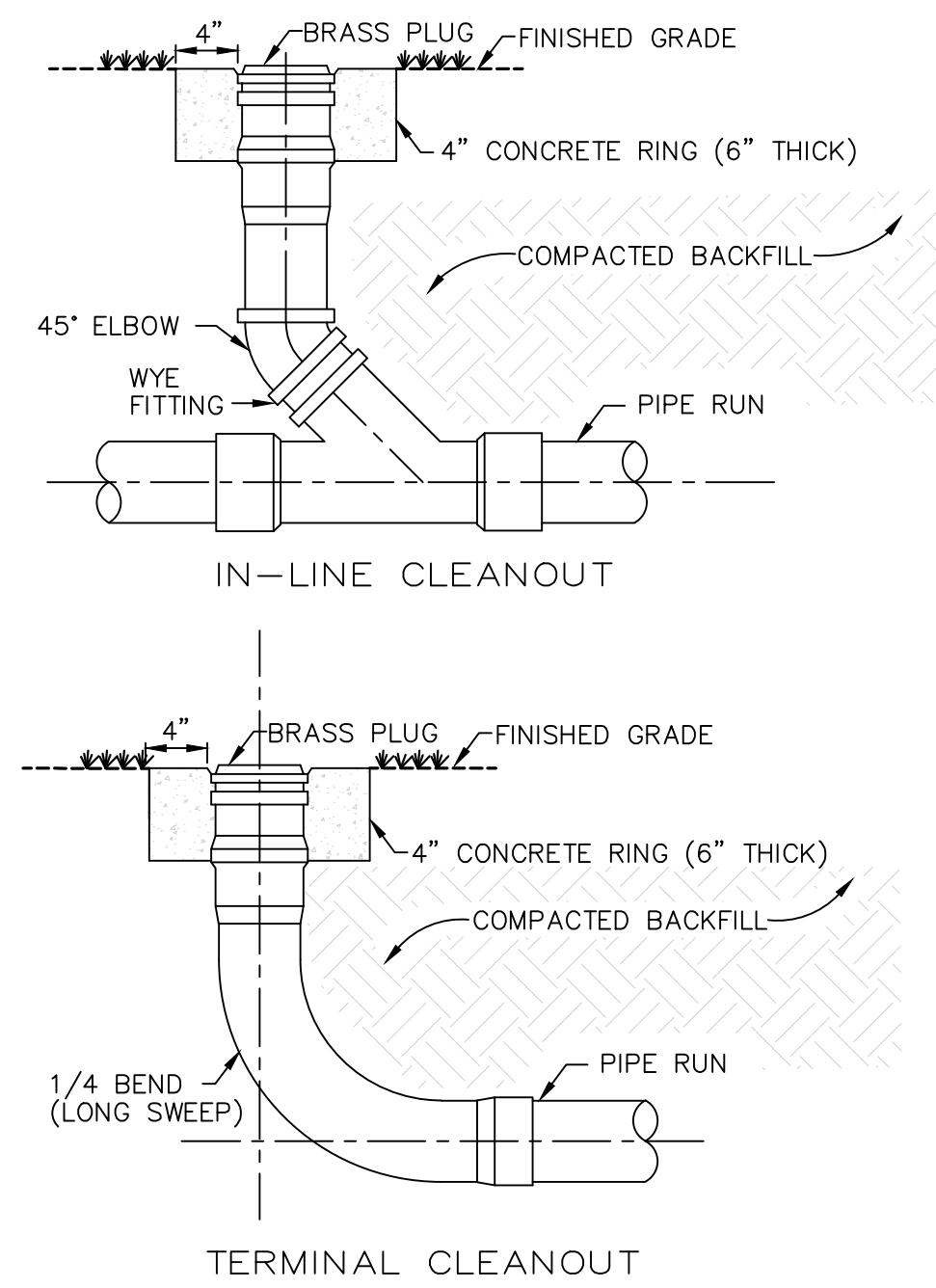
**SANITARY COLLECTION SYSTEM DETAILS**

CITY PROJECT NO. 2018-036

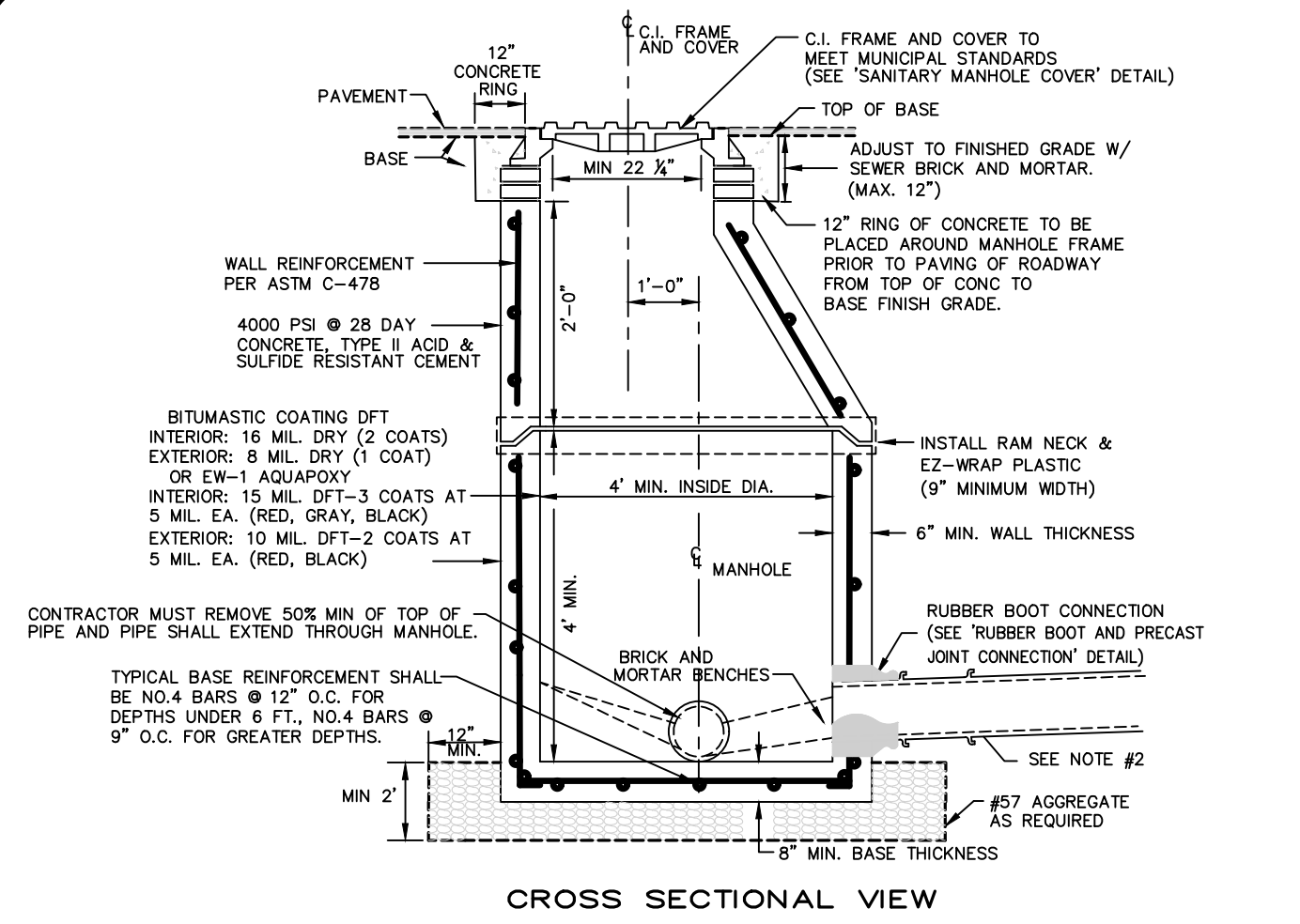
**464**  
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Drawn By: M. GRECO  
 Date: 08/21/18  
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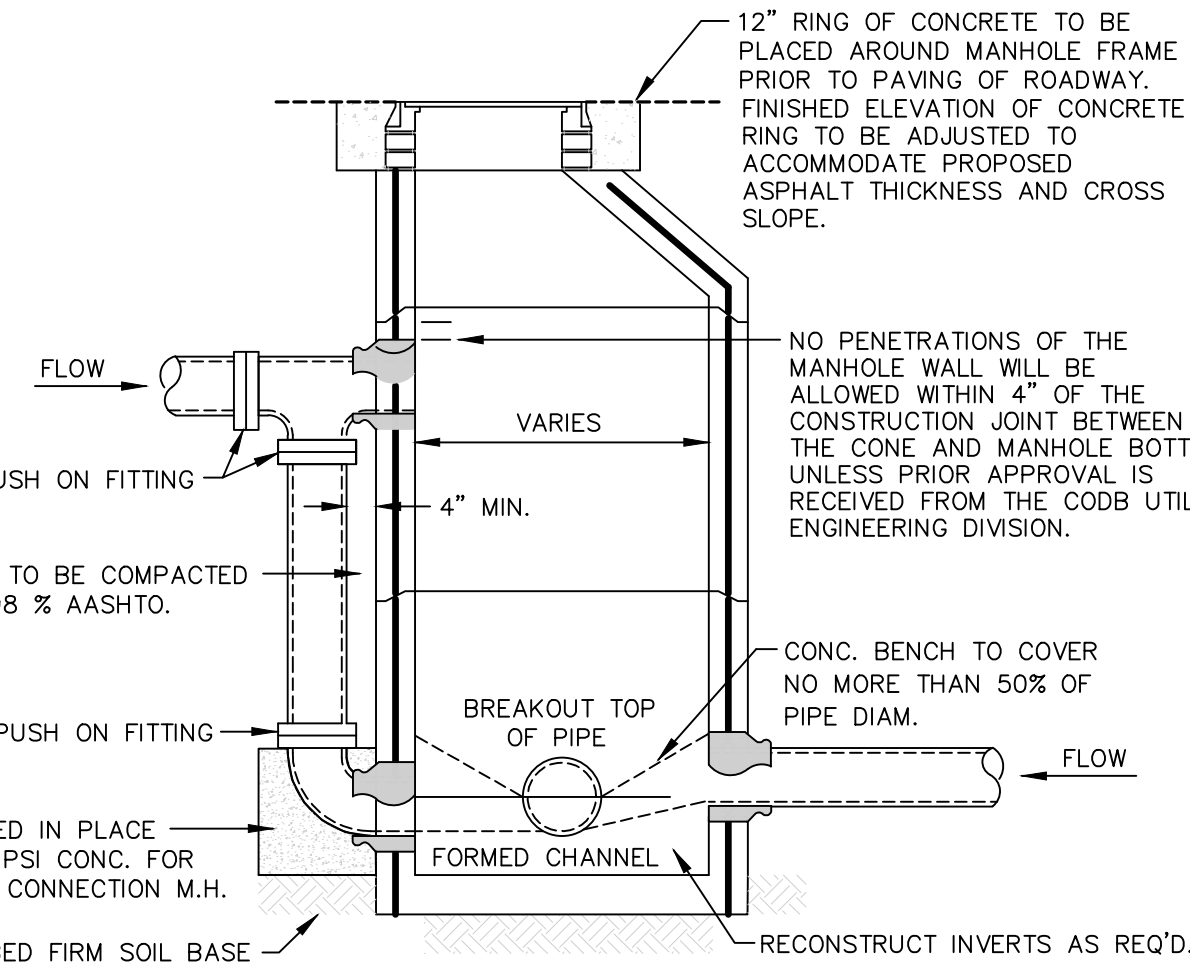
SEAL



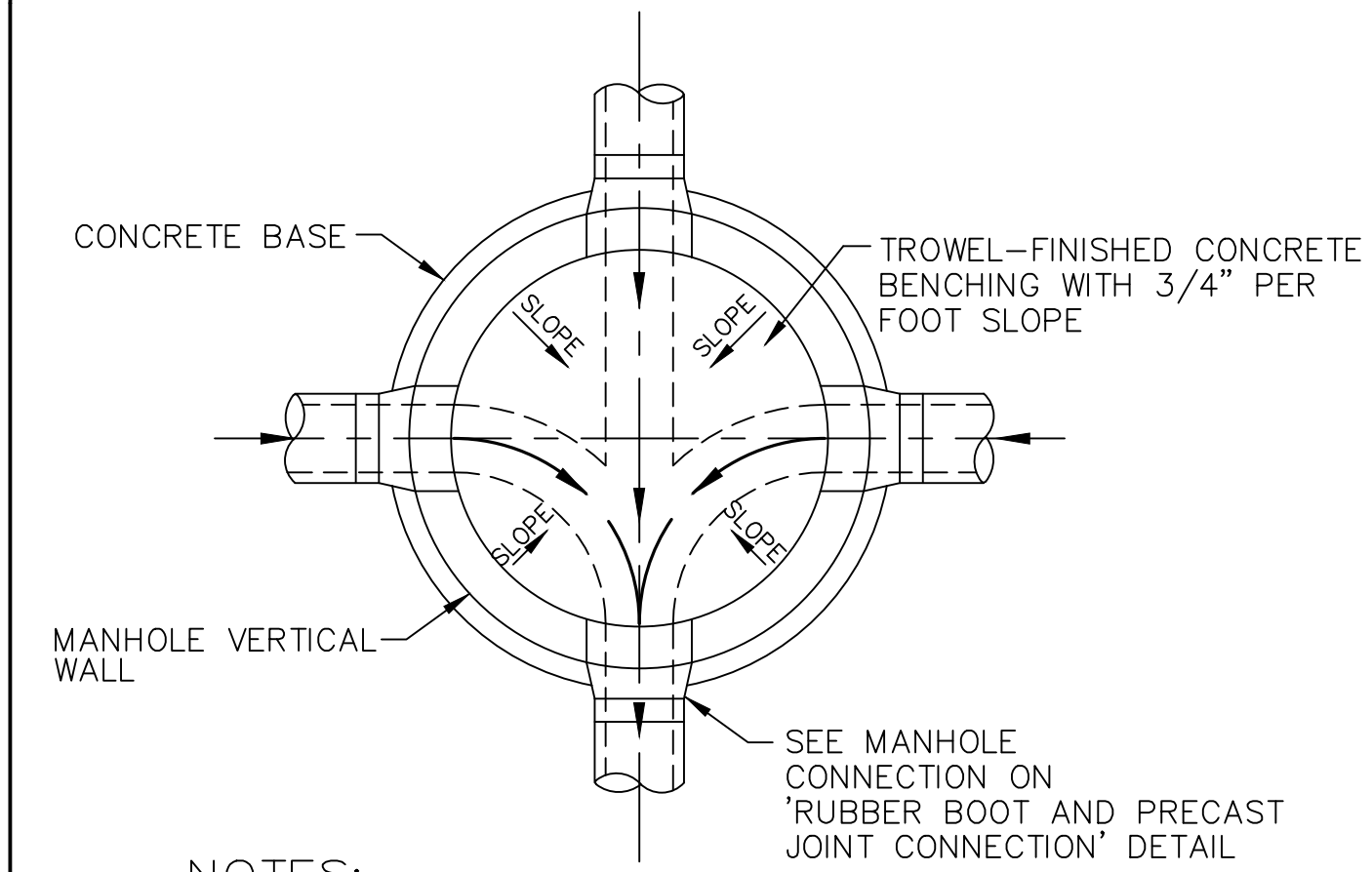
NOTE:  
CONCRETE COLLAR REQUIRED IN UNPAVED AREAS



- NOTES:
- ON TRANSITIONS BETWEEN LARGER DIAMETER AND SMALLER SEWER COLLECTORS, INVERTS OF SEWERS SHALL BE MATCHED.
  - LAST 60' OF P.M. 12" RISING ENTERING SEWER MANHOLE SHALL BE P.V.C. C-900 PLACED AT A NEGATIVE GRADE. 15' AND ABOVE SHALL BE P.V.C. C-905.
  - NON-PENETRATING PICK-HOLES IN ALL CONCRETE SECTIONS.
  - DFT = DRY FILM THICKNESS
  - 0.1' - DROP ACROSS MANHOLE TYP. (MEASURED DIA. OF CONCRETE RING)
  - MANHOLES 8' DEEP OR GREATER SHALL HAVE A MIN. 4" HIGH WALL BASE.
  - ANY PIPE ENTERING MANHOLE MUST HAVE A RUBBER BOOT CONNECTION.
  - MORTAR TO CONTAIN "HYDRATE", OR APPROVED EQUAL, TO PREVENT SHRINKAGE.
  - SUB-GRADE BENEATH MANHOLES SHALL BE UNDISTURBED GRANULAR UNSATURATED SOIL. No. 57 AGGREGATE STONE SHALL BE USED IN WET CONDITIONS AND/OR WHERE UNSUITABLE MATERIAL IS ENCOUNTERED.
  - CONTRACTOR SHALL PROVIDE THICKER MANHOLE WALLS AND BASES AS REQUIRED TO PREVENT FLOTATION BASED ON HISTORIC HIGH GROUND WATER TABLE ELEVATIONS AS DETERMINED USING ACCEPTED ENGINEERING PRACTICES AND/OR APPROVED BY UTILITIES DEPARTMENT.
  - SHOP DRAWINGS FOR ALL STRUCTURES SHALL BE SUBMITTED TO AND APPROVED BY THE DESIGN ENGINEER PRIOR TO INSTALLATION.
  - NO IRREGULARITIES OR HONEYCOMB WILL BE ACCEPTED.
  - ENDS OF THE TOP AND BOTTOM SECTIONS OF THE MANHOLE SHALL FIT FLUSH TOGETHER.



- NOTE:  
GENERAL NOTES ON 'SANITARY SEWER MANHOLE AND GENERAL NOTES' DETAIL APPLY HERE
- DROPS OF MORE THAN THREE FEET SHALL REQUIRE AN OUTSIDE DROP
  - NO RISER RINGS SHALL BE USED FOR NEW CONSTRUCTION.
  - ALL CONCRETE INSIDE THE MANHOLE SHALL BE PAINTED.



- NOTES:
- FLOW CHANNELS SHALL HAVE THE SAME SLOPES AS THE SEWERS THEY ARE CONNECTED TO. (EXCEPT THAT AT CHANGES OF DIRECTION EXCEEDING 45°, THE DROP SHALL BE 0.1' MINIMUM)
  - NO STANDING WATER WILL BE ALLOWED.
  - FORM BENCH IN MANHOLE FROM MID-LINE OF 8" PIPE TO WALL OF MANHOLE, 3/4" PER FT. OF SLOPE. FOR LARGER PIPE, CONSTRUCT FROM INSIDE CROWN OF PIPE WITH 3/4" PER FT. OF SLOPE TO WALL.
  - ALL CONCRETE INSIDE THE MANHOLE SHALL BE PAINTED.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY LATERAL CLEANOUT DETAIL S-10

FY-19/20  
Drawing Date: 07/08  
Drawn By: JAP  
Checked By: JAP  
Scale: NTS  
Revision Date: 07/19  
File Name: Sanitary Cleanout S-10  
Page 10

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY SEWER MANHOLE AND GENERAL NOTES S-11

FY-19/20  
Drawing Date: 07/08  
Drawn By: JAP  
Checked By: JAP  
Scale: NTS  
Revision Date: 07/19  
File Name: Sanitary Sewer Cover S-11  
Page 11

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

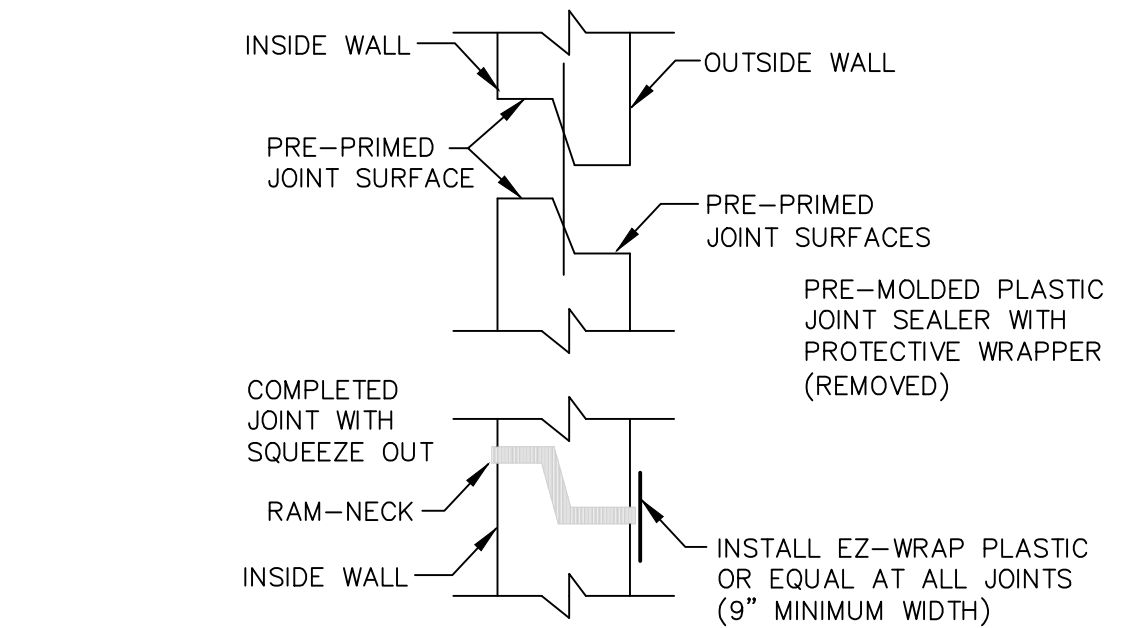
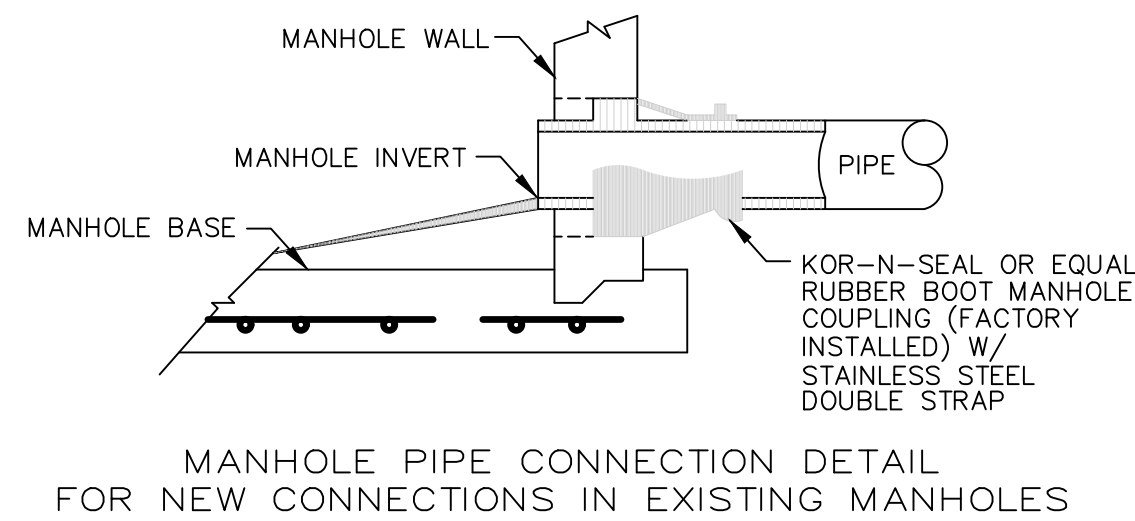
OUTSIDE DROP SANITARY MANHOLE DETAIL S-12

FY-19/20  
Drawing Date: 07/08  
Drawn By: JAP  
Checked By: JAP  
Scale: NTS  
Revision Date: 07/19  
File Name: Outside Drop Manhole S-12  
Page 12

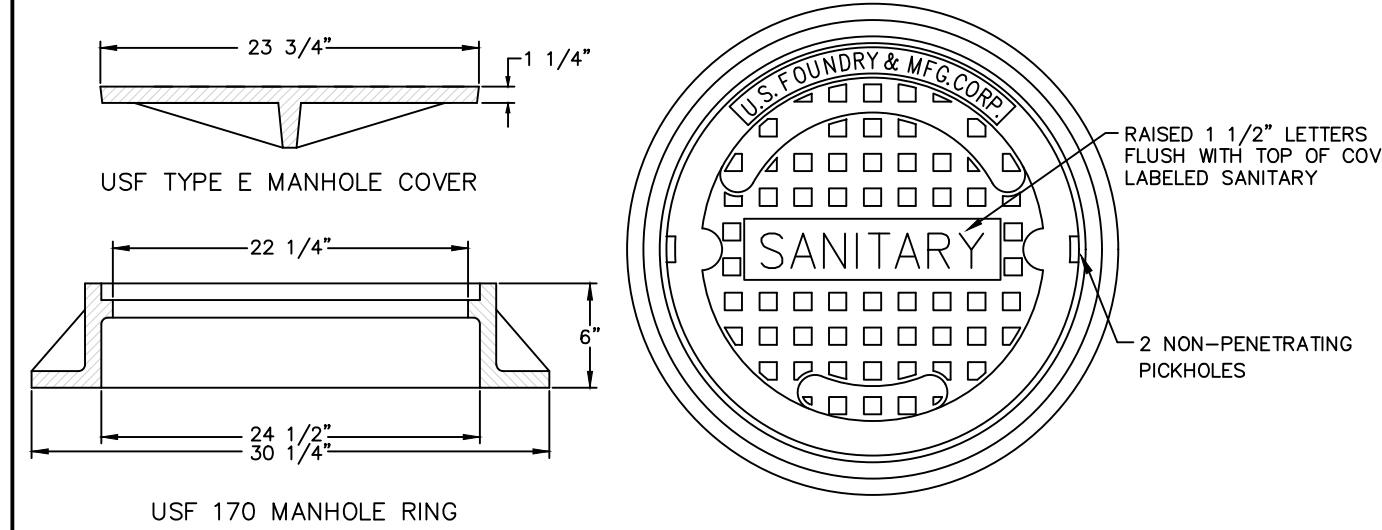
THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY MANHOLE INVERT DETAIL S-13

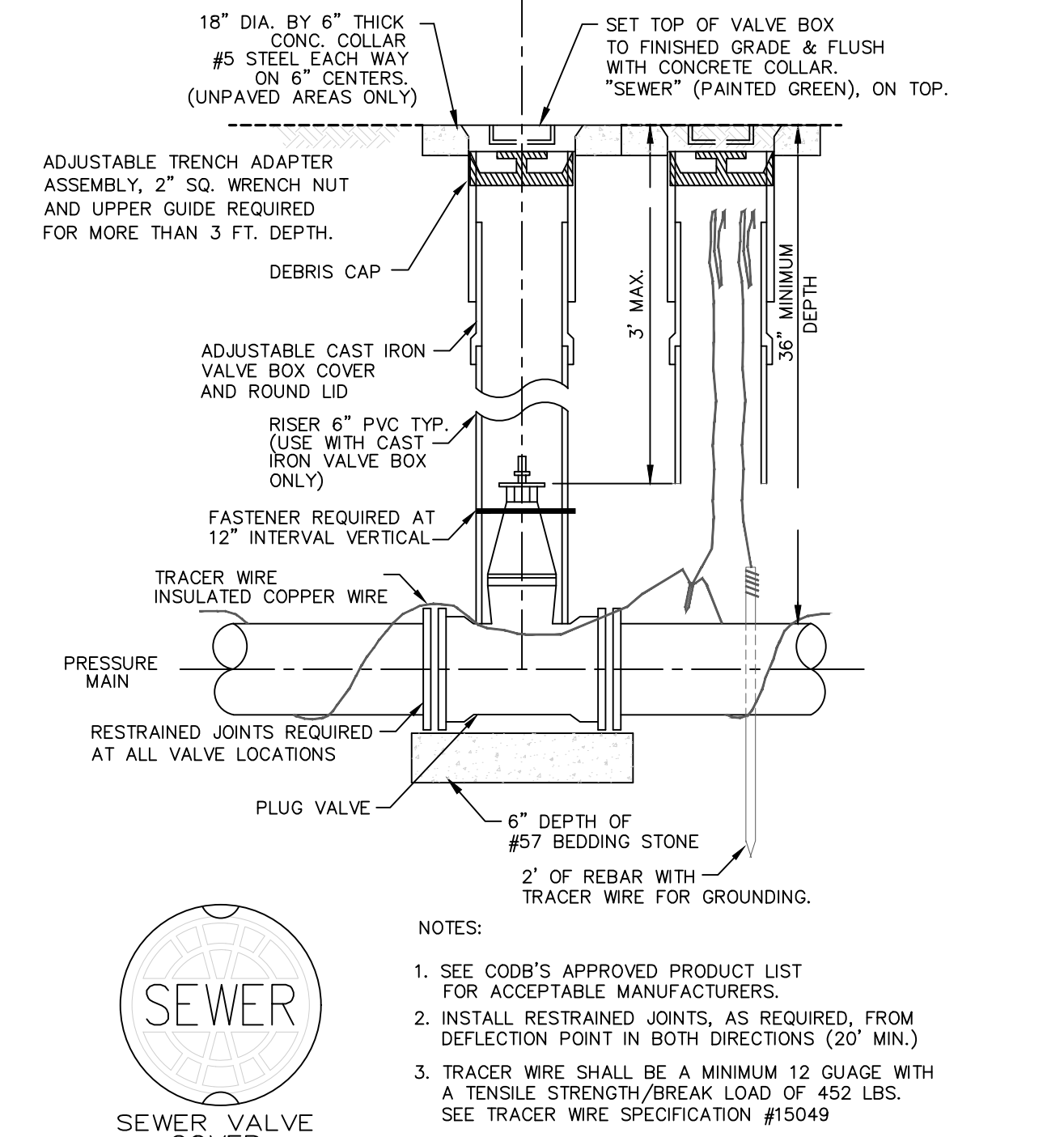
FY-19/20  
Drawing Date: 07/08  
Drawn By: JAP  
Checked By: JAP  
Scale: NTS  
Revision Date: 07/19  
File Name: Invert Detail S-13  
Page 13



- NOTES:
- ALL NEW CONNECTIONS TO EXISTING SANITARY SEWER MANHOLES SHALL UTILIZE A CORING METHOD AND THE IN-FIELD INSTALLATION OF A RUBBER BOOT INTO THE MANHOLE.
  - BOOTS SHALL BE SNAPPED IN PLACE AND WATER TIGHT.



- NOTES:
- UNLESS DETAILED PLANS SHOW OTHERWISE, ALL MANHOLE RING AND COVER CASTINGS IN PAVED AREAS ARE TO BE ADJUSTED TO FINAL GRADE, SEALED AND SECURED IN PLACE WITH A CONCRETE COLLAR AFTER THE ROAD BASE IS PLACED AND JUST PRIOR TO PLACEMENT OF ASPHALT WEARING SURFACE.
  - CONCRETE COLLAR AROUND MANHOLE FRAME IS REQUIRED IN PAVED AREAS ONLY.



- NOTES:
- SEE CODE'S APPROVED PRODUCT LIST FOR ACCEPTABLE MANUFACTURERS.
  - INSTALL RESTRAINED JOINTS, AS REQUIRED, FROM DEFLECTION POINT IN BOTH DIRECTIONS (20' MIN.)
  - TRACER WIRE SHALL BE A MINIMUM 12 GAUGE WITH A TENSILE STRENGTH/BREAK LOAD OF 452 LBS. SEE TRACER WIRE SPECIFICATION #15049

SPECIFICATIONS

ITEM: Brass ID Anti-Theft Marker

MATERIAL: SOLID CAST BRASS/Copper and Zinc Casting

DESCRIPTION: 3" Cast Brass Disc 1/8" Thick with 1/4" Brass "Theft Proof" Anchor pin.

Top surface to be engraved with 1/4" to 3/8" Capital letters.

C.O.D.B. 6" SSGV WATER L-19

City I.D.  
Size  
Type of Valve\*  
Type of Use  
Operational Instructions

\* PWGV Potable Water Gate Valve  
RWGV Reclaimed Water Gate Valve  
SSGV Sanitary Sewer Gate Valve  
SSPV Sanitary Sewer Plug Valve

To be used on all valves.  
Embed in surface of concrete collar.

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL S-14

FY-19/20  
Drawing Date: 07/08  
Drawn By: JAP  
Checked By: JAP  
Scale: NTS  
Revision Date: 07/19  
File Name: Rubber Boot and Precast Joint Connection S-14  
Page 14

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY SEWER COVER DETAIL S-15

FY-19/20  
Drawing Date: 07/08  
Drawn By: JAP  
Checked By: JAP  
Scale: NTS  
Revision Date: 07/19  
File Name: Sanitary Sewer Cover S-15  
Page 15

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY VALVE AND VALVE BOX DETAIL S-16

FY-19/20  
Drawing Date: 07/08  
Drawn By: JAP  
Checked By: JAP  
Scale: NTS  
Revision Date: 07/19  
File Name: Sanitary Sewer Valve S-16  
Page 16

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT

SANITARY SEWER MARKER/TAG DETAIL S-17

FY-19/20  
Drawing Date: 03/17  
Drawn By: JAP  
Checked By: JAP  
Scale: NTS  
Revision Date: 07/19  
File Name: Sewer Marker Tag S-17  
Page 17

PARKER MYNCHENBERG & ASSOCIATES, INC.

PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS

1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386) 677-6869 FAX (386) 677-2114 E-MAIL: info@pmyncnberg.com

CERTIFICATE OF AUTHORIZATION NUMBER 000603910

BEACH STREET, STREETSCAPE ORANGE TO BAY DAYTONA BEACH \* FLORIDA

SANITARY COLLECTION SYSTEM DETAILS

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	7-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
			BY

CITY PROJECT NO. 2018-036

46B SHEET NO.

Drawn By: M. GRECO

Date: 08/21/18

SCALE: 1"=1'

SEAL



RECLAIMED WATER CONSTRUCTION NOTES

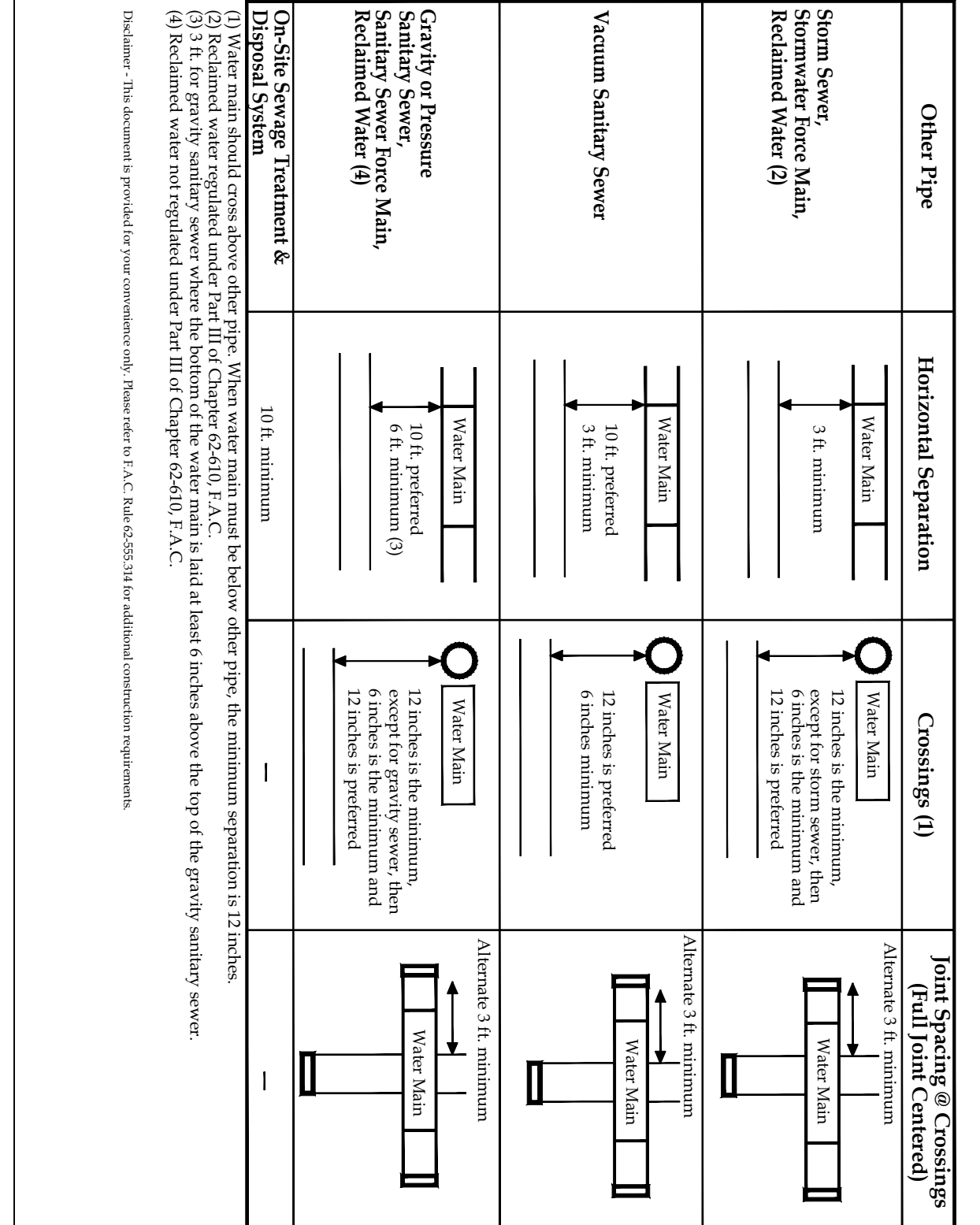
- THE CITY'S UTILITIES DEPARTMENT (671-8815) SHALL BE GIVEN A MINIMUM OF THREE BUSINESS DAYS NOTICE (NOT INCLUDING HOLIDAYS) PRIOR TO BEGINNING ANY RECLAIMED WATER SYSTEM CONSTRUCTION.
- A PERMIT SHALL BE REQUIRED PRIOR TO ENGAGING IN ANY DEWATERING OR CONSTRUCTION ACTIVITY THAT CHANGES THE IMPERVIOUS AREA OF LAND. DEWATERING ACTIVITIES INCLUDE THE REMOVAL OF GROUND WATER FROM A CONSTRUCTION SITE, ENCLOSED VAULT, COFFERDAM, OR TRENCHES. ALLOWING CONSTRUCTION OR MAINTENANCE IN A DRY ENVIRONMENT. SITE SPECIFIC DEWATERING PERMITS SHALL REQUIRE PAYMENT OF A PER ACRE FEE BASED ON THE SIZE OF THE DEVELOPMENT. GENERAL PURPOSE PERMITS SHALL REQUIRE AN ANNUAL FEE BASED ON A BIENNIAL SCHEDULE OF DEWATERING ACTIVITIES DISCHARGING DIRECTLY INTO THE CITY'S M54 CONVEYANCE SYSTEM. DEWATERING PERMIT APPLICATIONS CAN BE FOUND AT <http://www.daytona.gov/permits>. FEE SCHEDULE 262 FEES ARE SUBJECT TO ARTICLE 7, SECTION 7.2 OF THE LAND DEVELOPMENT CODE AND MUST BE SUBMITTED WITH THE PERMIT APPLICATION TO THE CITY OF DAYTONA BEACH STORM WATER COORDINATOR AT 125 BASIN STREET, SUITE 100, DAYTONA BEACH, FLORIDA 32114 PRIOR TO ANY USE OF THE CITY'S M54 CONVEYANCE SYSTEM. FAILURE TO COMPLY WILL RESULT IN IMMEDIATE TERMINATION OF ACCESS TO THE CITY'S M54 SYSTEM.
- RECLAIMED WATER SERVICE ENDINGS SHALL BE SECURED BY WIRE TO 2" X 4" PRESSURE TREATED STAKES, APPROXIMATELY 2' ABOVE GRADE OR MAY BE PLACED IN RECLAIMED WATER METER BOXES PROVIDED BY THE CONTRACTOR AT THE TIME OF FINAL SUBDIVISION INSPECTION.
- FOR PIPE FLUSHING, PIGGING, TESTING, AND TIE-IN CONNECTIONS, THE CITY RESERVES THE RIGHT TO REQUIRE WORK TO BE PERFORMED DURING PERIODS OF LOW FLOW (MIDNIGHT TO 8 A.M.) IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE WITH THE CITY REPRESENTATIVE THE DATE AND TIME, THAT MUST BE APPROVED BY WATER PLANT OPERATIONS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY "AS-BUILT DRAWINGS" TO THE CITY PRIOR TO ANY USE OF THE SYSTEM. \*\*SEE CITY OF DAYTONA BEACH AS-BUILT REQUIREMENTS.\*\*
- ALL RECLAIMED WATER SERVICES SHALL BE MARKED ALONG THE OUTSIDE EDGE OF CURB WITH A " " OR BY METAL TABS SET INTO PAVEMENT. VALVES AND BLOW-OFFS FOR RECLAIMED WATER MAINS SHALL BE MARKED BY A "+" SET INTO THE PAVEMENT AND PAINTED WITH PURPLE ENAMEL.
- RECLAIMED WATER SERVICES SHALL BE LOCATED AT SIDE LOT LINES ALTERNATING WITH POTABLE WATER SERVICE LOCATIONS. IN INSTANCES WHERE RECLAIMED WATER SERVICES MUST BE OFFSET, THE SERVICES MAY BE OFFSET FROM THE LOT LINE A MAXIMUM DISTANCE OF 2 FEET.
- ALL RECLAIMED WATER HAND-OPERATED CONNECTIONS AND OUTLETS SHALL BE CONTAINED IN UNDERGROUND SERVICE VAULTS AND APPROPRIATELY TAGGED OR LABELED TO WARN THE PUBLIC AND EMPLOYEES THAT THE WATER IS NOT INTENDED FOR DRINKING OR SWIMMING. ANY SIGNIFICANT IRRIGATION SITE UTILIZING RECLAIMED WATER, SUCH AS AN ATHLETIC FIELD, GOLF COURSE, PARK OR POND, IS REQUIRED TO POST A 12" X 12" RECLAIMED WATER SIGN WARNING THE PUBLIC AND EMPLOYEES THAT RECLAIMED WATER IS NOT INTENDED FOR DRINKING OR SWIMMING. THIS SIGN SHALL BE PLACED AT THE ENTRANCE TO THE SITE AND THE LOCATION OF THE PRIVATE REUSE SYSTEM. SEE "RECLAIMED WATER IN USE" DETAIL.
- VAULTS FOR OUTLETS SHALL BE LOCKED OR REQUIRE A SPECIAL TOOL FOR OPERATION.
- A 75 FOOT SETBACK DISTANCE SHALL BE PROVIDED FROM PUBLIC ACCESS RECLAIMED WETTED AREAS TO PUBLIC OR PRIVATE POTABLE WATER SUPPLY WELLS.
- LOW TRAJECTORY NOZZLES ARE REQUIRED WITHIN 100 FEET OF PUBLIC EATING, DRINKING OR BATHING FACILITIES.
- ALL RECLAIMED WATER MAINS SHALL BE INSTALLED ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 95% IN UNPAVED AREAS AND 98% IN PAVED AREAS IN ACCORDANCE WITH AASHTO T-180.

RECLAIMED WATER CONSTRUCTION NOTES (CONT'D)

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE TRENCH COMPACTION TESTS AT POINTS 12 INCHES ABOVE THE PIPE AND AT 12 INCHES VERTICAL INTERVALS TO FINISH GRADE AT A MAXIMUM SPACING OF EVERY 300 FEET.
- 3" METALIZED PIPE LOCATION TAPE SHALL BE INSTALLED 15" TO 24" BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES, AND A SINGLE STRAND INSULATED COPPER TRACER WIRE SHALL BE ATTACHED TO ALL PVC PIPE. WIRE RUNS SHALL BE CONNECTED WITH SILICONE FILLED WIRE CONNECTORS. EACH RUN SHALL TERMINATE AT EVERY VALVE. SEE STANDARD DETAIL "MAIN VALVE BOX" FOR INSTALLATION OF WIRE ON RISER PIPE. SERVICES SHALL BE CONNECTED TO THE MAIN WIRE WITH SILICONE FILLED CONNECTORS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONTINUITY AND TEST FOR CONTINUITY (SEE CITY SPECIFICATIONS #15049 TRACER WIRE AND ALARMING TAPE).
- ALL SINGLE RESIDENTIAL WATER SERVICES SHALL BE 1". SERVICES SHALL BE CTS 3408 HIGH DENSITY POLYETHYLENE TUBING RATED FOR A MINIMUM OF 200 PSI WITH SODR 9 (CTS). THE TUBING SHALL HAVE A VIRGIN HIGH DENSITY POLYETHYLENE CENTER FOR WHICH THE MANUFACTURER SHALL FURNISH A CERTIFICATE OF PURITY. THE TUBING SHALL BE PURPLE IN COLOR AND SHALL HAVE THE WORDS "RECLAIMED WATER" PERMANENTLY PRINTED ON THE OUTSIDE. THE TUBING SHALL HAVE U.V. PROTECTION AND SHALL NOT BE AFFECTED BY DIRECT SUNLIGHT. THE TUBING SHALL COMPLY WITH OR EXCEED THE APPLICABLE STANDARDS OF A.S.T.M. D1248, D3350, D2239, D2737, N.S.F.-14 AND A.W.W.A. C901 AND SHALL COME WITH A LIFETIME WARRANTY. APPROVED SIZES: 1" AND 2" DIAMETERS.
- RECLAIMED WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF THE CURB ON THE OPPOSITE SIDE OF THE ROAD OF THE POTABLE WATER MAINS, OR AS APPROVED BY THE CITY. RECLAIMED WATER MAINS SHOULD NOT BE INSTALLED UNDER SIDEWALK.
- ALL RECLAIMED WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON PRESSURE CLASS 350 OR CONCRETE ENCASEMENT/PROTECTIVE SLAB MAY BE USED AT THE DISCRETION OF THE UTILITIES DEPARTMENT. ALL DIP SHALL HAVE 2" PURPLE STRIPES PAINTED AT 12 O'CLOCK, 3 O'CLOCK, 6 O'CLOCK AND 9 O'CLOCK FOR THE FULL LENGTH OF PIPE. NON PAINTED RECLAIMED PIPE OR PIPES SHALL BE PAINTED WITH AN EPOXY PAINT (PANTONE PURPLE) TO CLEARLY MARK THE RECLAIM PIPE OR PIPES.
- RECLAIMED WATER MAINS SHALL BE PURPLE PVC, DR-18 ANWIA CLASS C-900 OR C-905, CL 150, OR DIP PRESSURE CLASS 350, STANDARD CEMENT UNED (PAINTED PANTONE PURPLE) UNLESS APPROVED OTHERWISE BY THE CITY. ALL HORIZONTAL DIRECTIONAL DRILLS SHALL HAVE A MINIMUM WORKING PRESSURE OF 160 PSI. THE CITY MAY REQUIRE A HIGHER PRESSURE RATING BASED ON SITE CONDITIONS. TESTING OF NEW NON-POTABLE WATER LINES.
- DIRECTIONAL DRILLS SHALL HAVE FUSED MJ ADAPTERS.
- ALL RECLAIMED WATER MAINS SHALL USE THRUST RESTRAINT AS CALCULATED BY A PROGRAM AVAILABLE AT EBAA.COM
- ALL FITTINGS, VALVES, ECT. SHALL BE DUCTILE IRON (MJ OR FLANGED) AND SHALL BE RESTRAINED.
- BELL RESTRAINTS OR GRIPPER TYPE GASKETS SHALL BE USED FOR ALL RESTRAINED PIPE BELL JOINTS.
- VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACINGS OF 750 FEET.
- VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE AT ALL RECLAIMED WATER MAIN TEES AND CROSSES.
- ALL VALVES SHALL BE ADJUSTED TO FINISH GRADE AND CAPS SHALL BE PAINTED PURPLE.
- THE CONTRACTOR IS REQUIRED TO PIG ALL RECLAIMED WATER MAINS EQUAL TO OR GREATER THAN 6" IN DIAMETER AND PRIMARY DISTRIBUTION MAINS LOCATED ON COLLECTOR AND ARTERIAL ROADWAYS. LAUNCHING AND EXTRACTION POINTS SHALL BE DETERMINED BY THE CONTRACTOR.
- IN AREAS WHERE RECLAIMED WATER IS AVAILABLE, RECLAIMED WATER WILL BE UTILIZED IN THE PRESSURE TESTING OF NEW NON-POTABLE WATER LINES.
- RECLAIMED WATER MAINS SHALL NOT BE PLACED IN SERVICE UNTIL A PRESSURE TEST AT 150 PSI FOR 3 HOURS HAS PASSED AND THE RESULTS ARE FORWARDED TO THE CITY.
- THE CONTRACTOR SHALL PERFORM RECLAIMED WATER TAPS WITH A CITY REPRESENTATIVE PRESENT.

RECLAIMED WATER CONSTRUCTION NOTES (CONT'D)

- WITH RESPECT TO TIE-IN CONNECTIONS, THE CITY RESERVES THE RIGHT TO REQUIRE CONNECTIONS TO BE PERFORMED DURING PERIODS OF LOW FLOW.
- THE PLANS SHALL INCLUDE THE PROPOSED LOCATIONS OF ALL RECLAIMED WATER MAINS MEASURED FROM THE BACK OF CURB (EDGE OF PAVEMENT IF NO CURB EXISTS) AND THE RIGHT-OF-WAY LINE.
- LANDSCAPE PLANS SHALL CLEARLY DEPICT THE DESIGN LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORM WATER INFRASTRUCTURE.
- THE RECLAIMED WATER MAIN SHALL NOT BE PLACED IN SERVICE UNTIL AN APPROVED BACKFLOW PREVENTER HAS BEEN INSTALLED ON THE CUSTOMER'S POTABLE SERVICE LINE.
- PRESSURE TESTS FOR TAPPING SADDLES AND VALVES SHALL BE A MINIMUM OF 30 MINUTES AT 150 PSI OR 30 MINUTES AT THE MANUFACTURER'S RECOMMENDED TESTING PRESSURE.
- 3 INCH METALIZED PIPE LOCATION TAPE SHALL BE LOCATED 15 INCHES TO 24 INCHES BELOW FINISHED GRADE OR AS SPECIFIED BY THE MANUFACTURER FOR ALL WATER LINES. BLUE TRACER WIRE SHALL BE ATTACHED TO ALL PIPES. WIRE RUNS SHALL BE CONNECTED WITH SILICONE FILLED WIRE CONNECTORS. SERVICES SHALL BE CONNECTED TO THE MAIN WIRE WITH SILICONE FILLED WIRE CONNECTORS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE AND TEST FOR CONTINUITY (SEE CITY SPECIFICATION #15049 TRACER WIRE AND ALARMING TAPE). TRACER WIRE SHALL BE TESTED FOR CONTINUITY UNDER THE SUPERVISION OF A CITY REPRESENTATIVE AFTER INSTALLATION. IF A METER BOX IS NOT WITHIN 200 FEET OF A VALVE AND VALVE BOX AN ADDITIONAL VALVE BOX FOR TRACER WIRE IS REQUIRED.
- ALL FITTINGS SHALL MEET MINIMUM RESTRAINT REQUIREMENTS PER ANSI/AWWA/EBAA, AND ALL PRESSURE PIPES UNDER THE ROADWAYS SHALL BE RESTRAINED.
- IN AREAS WHERE RECLAIMED WATER IS NOT AVAILABLE, THE CONTRACTOR IS REQUIRED TO USE THE NECESSARY BACKFLOW PREVENTION DEVICES TO TRANSFER POTABLE WATER TO NON-POTABLE WATER LINES TO PREVENT THE REQUIRED PRESSURE TEST.
- WHERE POTABLE WATER MAINS, RECLAIMED WATER MAINS, FORCE MAINS, SANITARY SEWER MAINS OR STORMWATER MAINS CROSS WITH LESS THAN 12 INCHES OF VERTICAL CLEARANCE OR WHERE THE SEWER OR THE RECLAIMED WATER MAIN IS ABOVE THE WATER MAIN, MEDIATION MUST BE REVIEWED AND APPROVED BY FDEP.



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 DESIGN AND CONSTRUCTION NOTES  
 PAGE 1 OF 3  
 RW-1

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 DESIGN AND CONSTRUCTION NOTES  
 PAGE 2 OF 3  
 RW-2

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 DESIGN AND CONSTRUCTION NOTES  
 PAGE 3 OF 3  
 RW-3

THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 WATER MAIN SEPARATION CHART  
 RW-4

SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)

FITTING	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	82
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

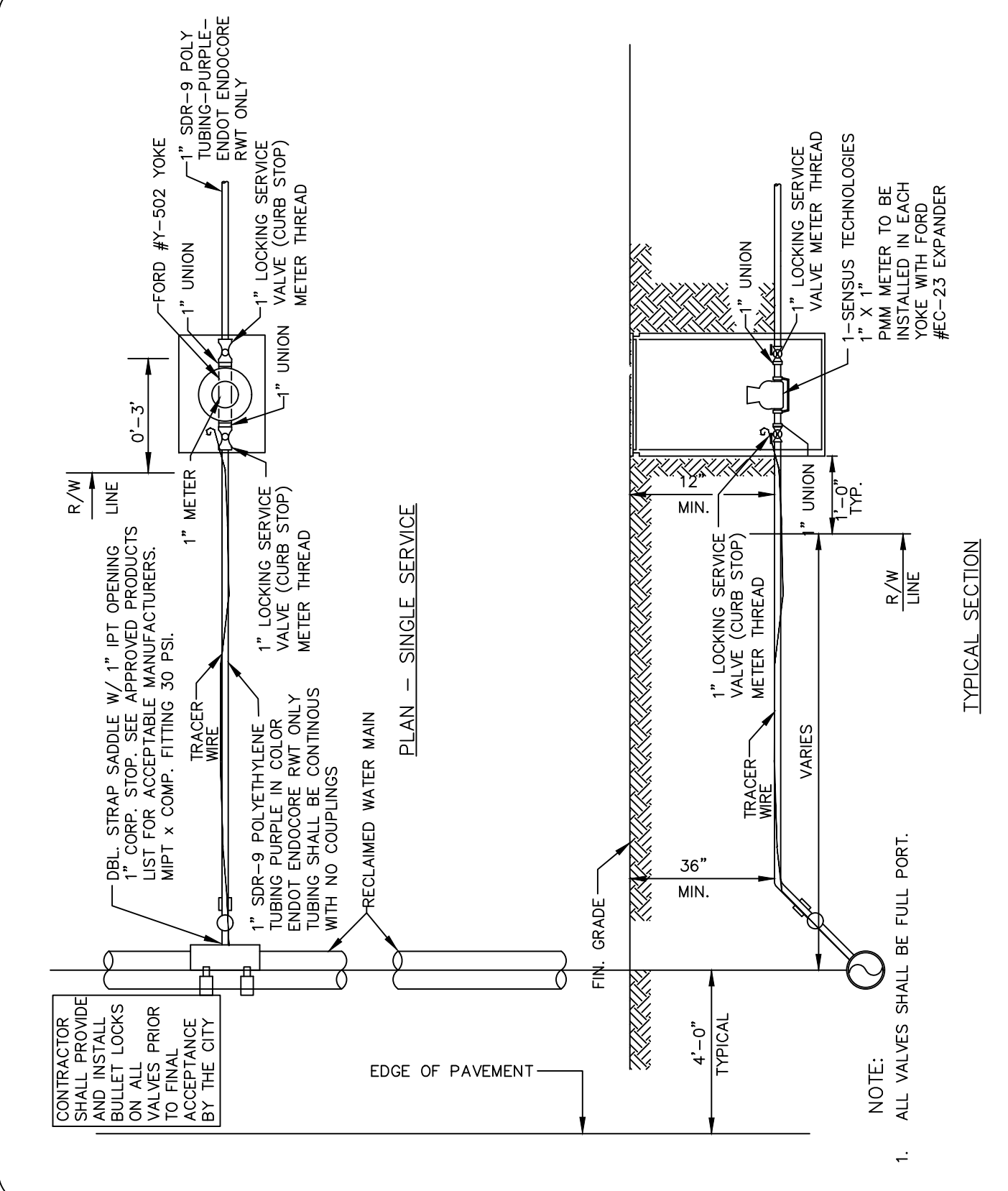
LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.  
 TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.  
 TABLE APPLIES TO PVC PIPE FOR THE FOLLOWING CONDITIONS:  
 TEST PRESSURE: 150 PSIG  
 SOIL TYPE: SP  
 COVER DEPTH: 3 FEET (MIN.)  
 SAFETY FACTOR: 1.5  
 TRENCH TYPE: 2

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)

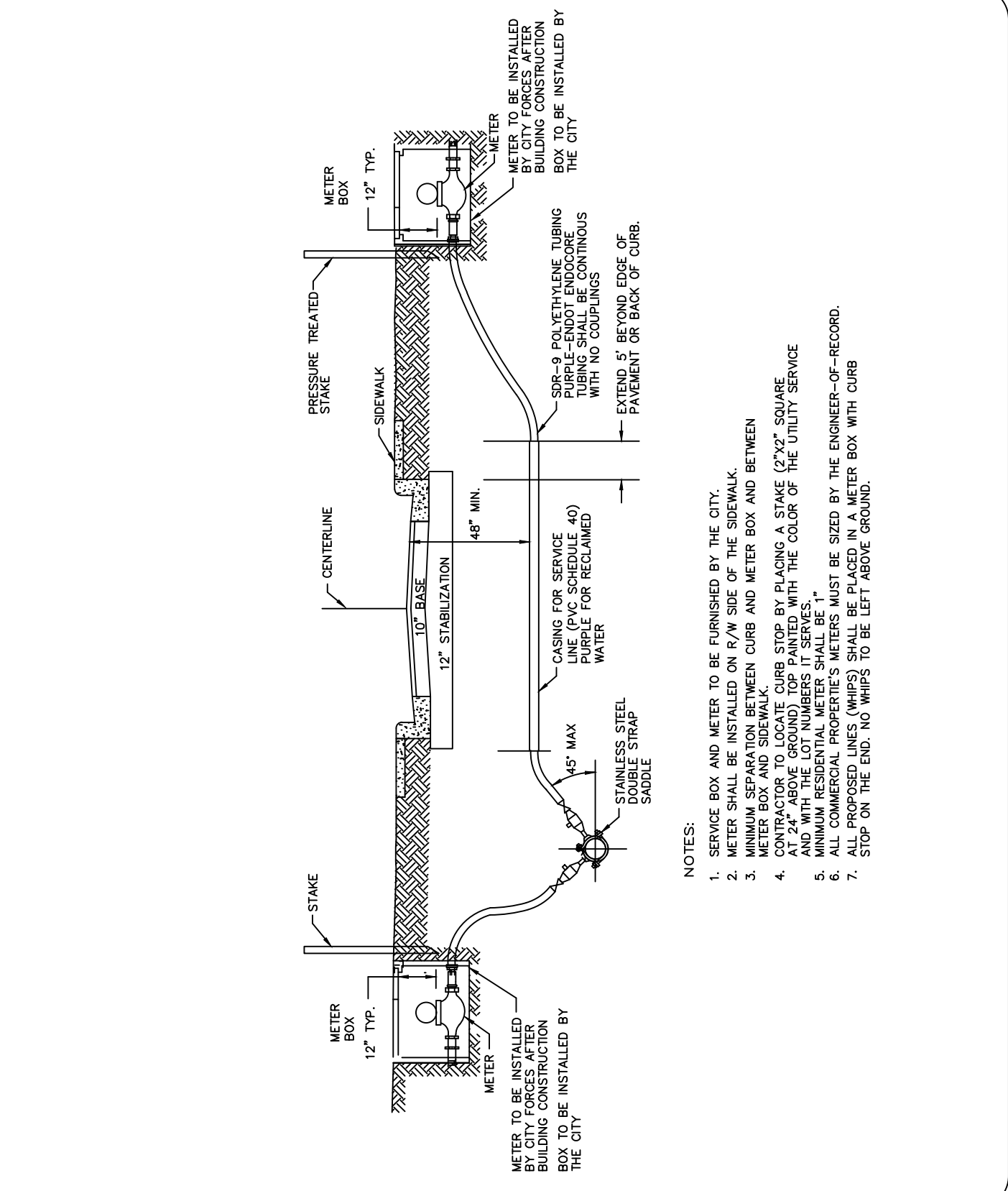
FITTING	90° BEND	45° BEND	22.5° BEND	11.25° BEND	TEE OR DEAD END
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36"	119 (142)	49 (58)	24 (28)	18 (18)	222 (330)
42"	132 (156)	54 (64)	27 (32)	18 (18)	245 (360)
48"	144 (171)	59 (70)	30 (36)	18 (18)	267 (390)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.  
 TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.  
 TABLE APPLIES TO DUCTILE IRON PIPE FOR THE FOLLOWING CONDITIONS:  
 TEST PRESSURE: 150 PSIG  
 SOIL TYPE: SP  
 COVER DEPTH: 3 FEET (MIN.)  
 SAFETY FACTOR: 1.5  
 TRENCH TYPE: 2  
 VALUES IN PARENTHESIS (X) ARE FOR PIPE ENCASED IN POLYETHYLENE.  
 \* VALUES APPLY TO DUCTILE IRON PIPE AT 50 PSI TEST PRESSURE.

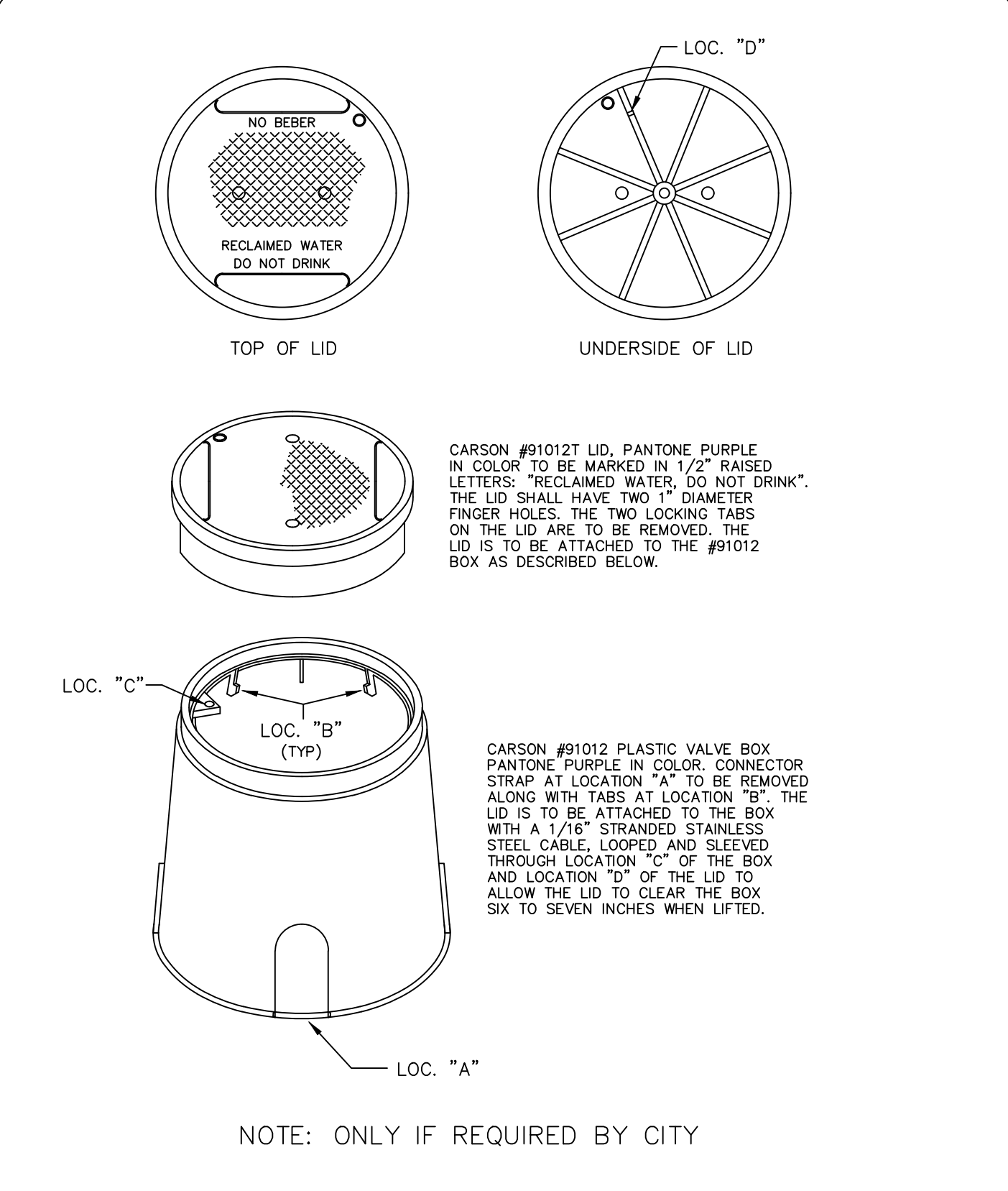
THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 PVC AND DIP RESTRAINED JOINT TABLE  
 RW-6



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 IRRIGATION (SPRINKLER) SERVICE CONNECTION DETAIL  
 PAGE 1 OF 2  
 RW-6



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 IRRIGATION (SPRINKLER) SERVICE (UNDER ROAD) DETAIL  
 PAGE 2 OF 2  
 RW-7



THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT  
 CARSON PLASTIC VALVE BOX DETAIL  
 RW-10

NO.	DATE	DESCRIPTION	REVISIONS
1	12-10-18		
2	7-9-19		
3	2-25-19		
4	8-13-19		

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114 E-MAIL: [info@parkermync.com](mailto:info@parkermync.com)  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

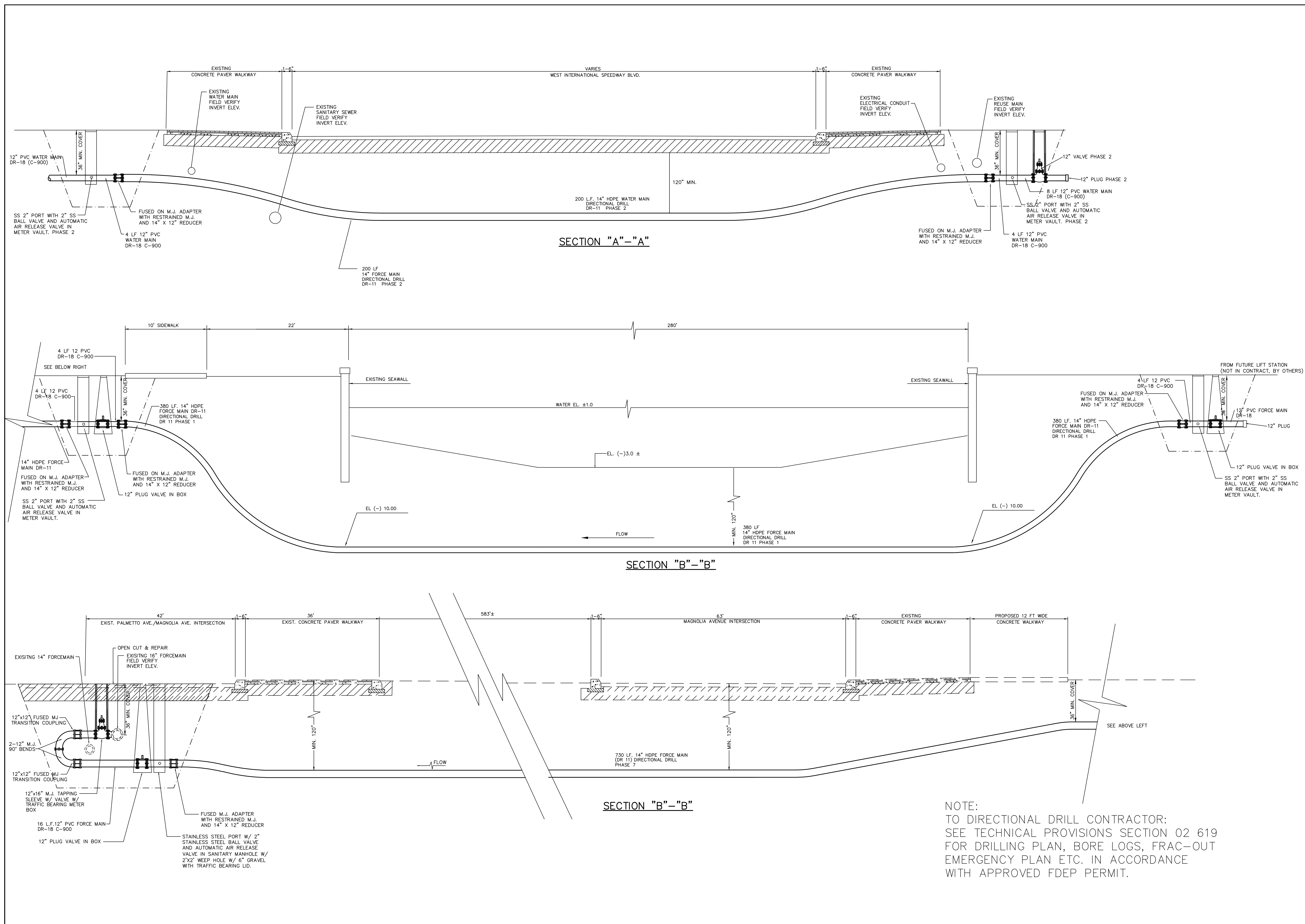
BEACH STREET, STREETSCAPE ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 REUSE WATER SYSTEM DETAILS

CITY PROJECT NO. 2018-036  
**47**  
 SHEET NO.  
 Drawn By: M. GRECO  
 Date: 08/21/18  
 SCALE: NTS

SEAL







NOTE:  
 TO DIRECTIONAL DRILL CONTRACTOR:  
 SEE TECHNICAL PROVISIONS SECTION 02 619  
 FOR DRILLING PLAN, BORE LOGS, FRAC-OUT  
 EMERGENCY PLAN ETC. IN ACCORDANCE  
 WITH APPROVED FDEP PERMIT.

NO.	DATE	DESCRIPTION	BY
4	8-13-19	BID SET	BH
3	7-9-19	100% PLANS	BH
2	2-25-19	90% PLANS	BH
1	12-18-18	60% PLANS	BH
		REVISIONS	BY

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
 PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
 1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
 (386) 677-6891 FAX (386) 677-2114 E-MAIL: [info@parkermynchenberg.com](mailto:info@parkermynchenberg.com)  
 CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
 DIRECTIONAL DRILL DETAILS

CITY PROJECT NO.  
 2018-036

49  
 SHEET NO.

Drawn By: BH

Date: 08/21/18

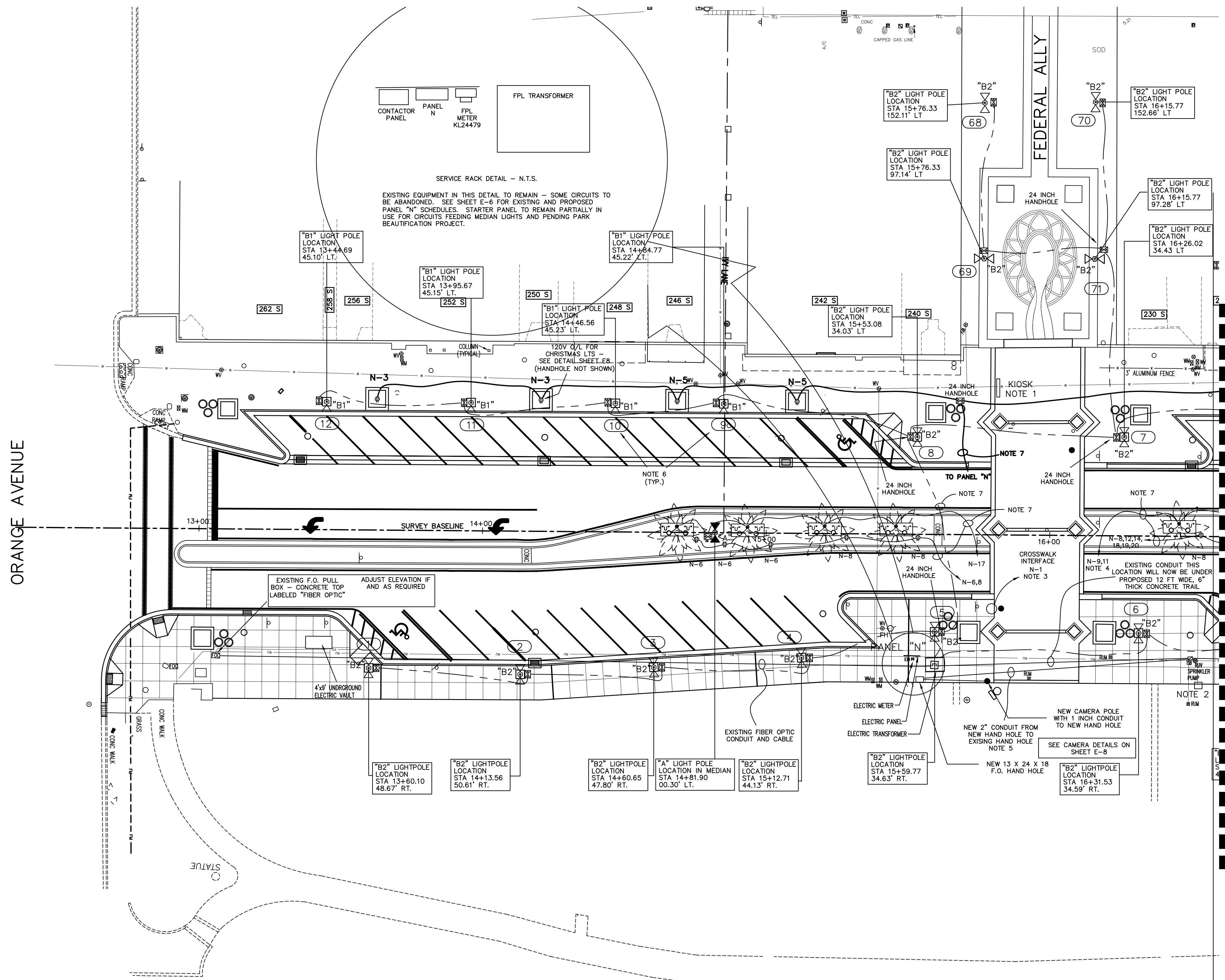
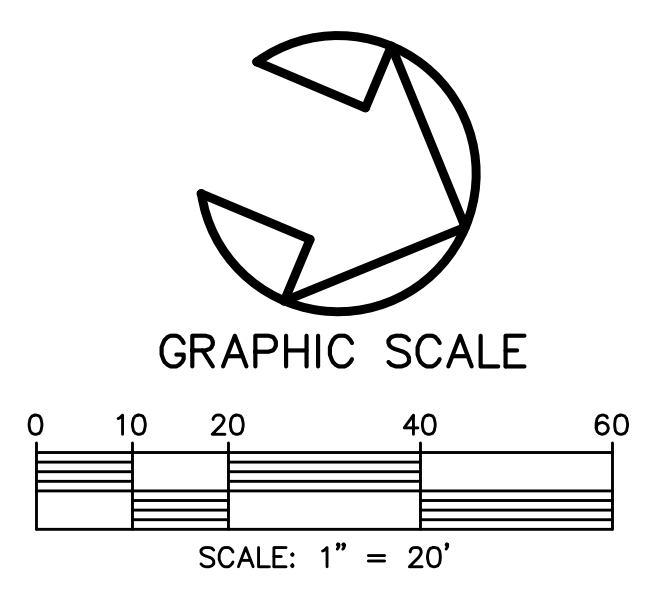
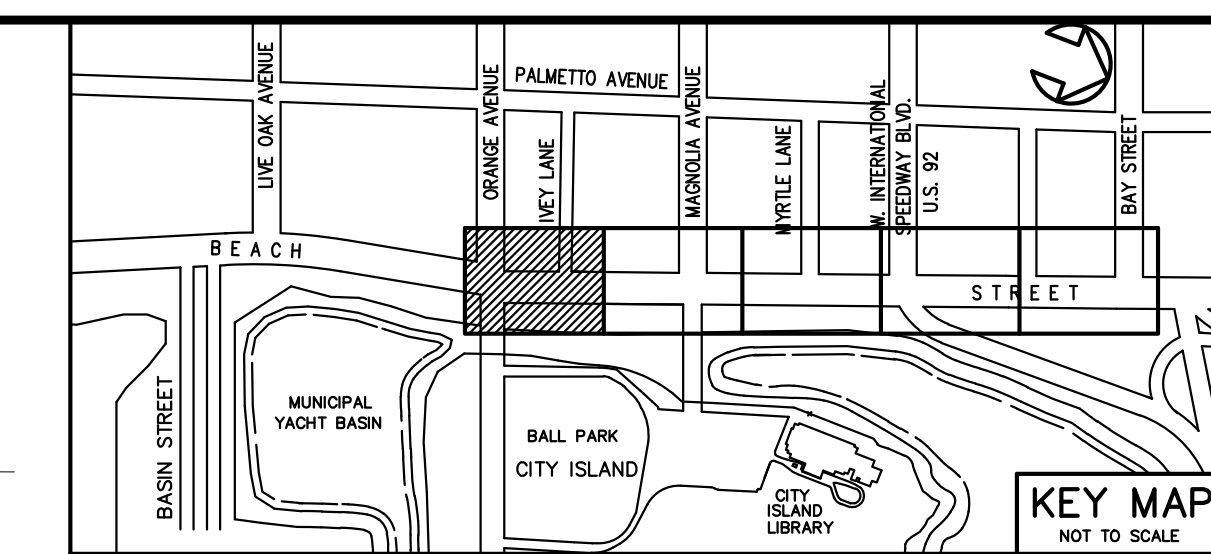
SCALE: AS SHOWN

SEAL









- ELECTRICAL PLAN NOTES**
- KIOSK HAS POWER FROM EITHER CIRCUIT N-15 OR N-16. DETERMINE WHICH CIRCUIT AND PRESERVE CIRCUIT TO THIS KIOSK FOR FUTURE USE.
  - MAINTAIN POWER TO THIS PUMP UNTIL DIRECTED TO DECOMMISSION BY THE CONTRACT ADMINISTRATOR.
  - CONTRACTOR TO PROVIDE 120 VOLT POWER FROM PANEL "N" TO THIS APPROXIMATE LOCATION FOR NEW CROSSWALK SYSTEM. FINALIZE PRECISE LOCATION BY WAY OF DISCUSSIONS WITH SIGNAL SYSTEM CONTRACTOR. CONDUITS UNDER ROADWAY FOR THIS SYSTEM ARE NOT SHOWN ON THIS PLAN AND THEY ARE TO BE BY SIGNAL SYSTEM CONTRACTOR.
  - USE CIRCUIT 9 FOR UP LIGHTS AND CIRCUIT 11 FOR TYPE "A" POLE LIGHTS. MODIFY WIRING AT LIGHTING CONTACTOR(S) TO ACCOMMODATE THIS CHANGE.
  - REPLACE EXISTING HAND HOLE WITH NEW QUAZITE BOX (PG1324BA18) LABELED "FIBER OPTIC"
  - LIGHT POLE NUMBERS AS ASSIGNED BY FP&L - SHOWN HERE FOR CONSISTENCY
  - DIRECTIONAL DRILL REQUIRED. COMBINING DIRECTIONAL DRILLS BETWEEN THE SAME LOCATIONS IS ACCEPTABLE PROVIDED NOT MORE THAN 30 CURRENT CARRYING CONDUCTORS IN A CONDUIT.
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- EXISTING CONDUIT AND WIRE FOR EXISTING UP LIGHTS AND TALL POLE LIGHTS IN MEDIAN, AS WELL AS CONDUIT AND WIRE ASSOCIATED WITH EXISTING LIGHTS ON EAST AND WEST SIDES OF BEACH STREET TO BE ABANDONED IN PLACE, OR REMOVED IF INTERFERING WITH NEW INSTALLATIONS OR FOR SAFETY REASONS. IT IS NOT TO BE RE-USED.

**FIXTURE SCHEDULE**

QUANTITY	DESIGNATION	SYMBOL	MANUFACTURER	MODEL	SUPPLY/INSTALL BY	OTHER
12	A	▶◀	AEL	ATB2 268 WATT LED W/ 8 FOOT ARMS	NOTE 1	NOTE 1
28	B1	◉◊	HOLOPHANE	GRANVILLE (BLACK/BLACK)	FLORIDA POWER & LIGHT	SINGLE POST TOP
43	B2	◉◊	HOLOPHANE	GRANVILLE (BLACK/BLACK)	FLORIDA POWER & LIGHT	DUAL BRACKET
94	U	○	VISTA	1188-Z-MF-40-C-MV-CX-ND-B34-T025	ELECTRICAL CONTRACTOR	SEE SH. E7

- TYPE A FIXTURES TO UTILIZE EXISTING POLES IN MEDIAN, CONDUIT AND WIRING BY ELECTRICAL CONTRACTOR AS PER DRAWINGS - REPLACEMENT OF FIXTURES BY FP&L
- TYPES B1 AND B2 POST TOP LIGHTS TO BE MOUNTED ON 18.5 FOOT TENON MOUNT BLACK WASHINGTON CONCRETE DIRECT BURIAL POLES BY FP&L. POLE IS BURIED 5 FEET, MEANING LAMP HEIGHT IS APPROXIMATE 13.5 FEET.
- TYPE U UPLIGHTS CONSUME 36 WATTS EACH

JOHN M. PATTERSON, P.E.  
ELECTRICAL CONSULTANT  
1291 JOHN ANDERSON DR.  
ORMOND BEACH, FL 32176  
(386)-441-2382  
FL. REG. PE # 54181

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386) 677-6691 FAX (386) 972-2114 E-MAIL: info@parkermynchenberg.com  
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

**BEACH STREET STREETScape**  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA

**ELECTRICAL PLAN**

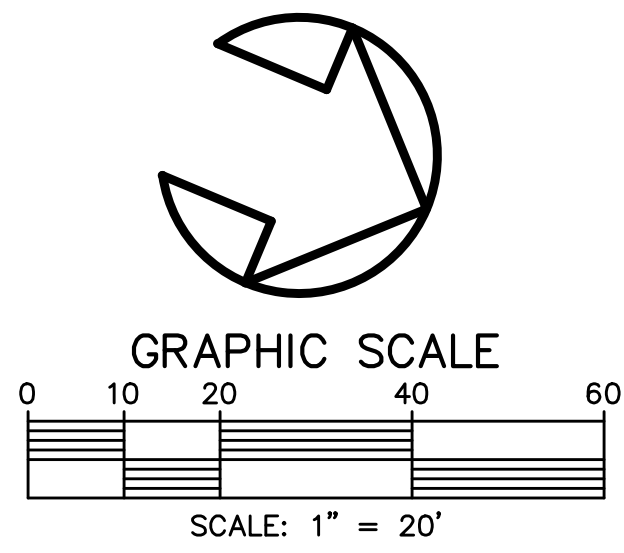
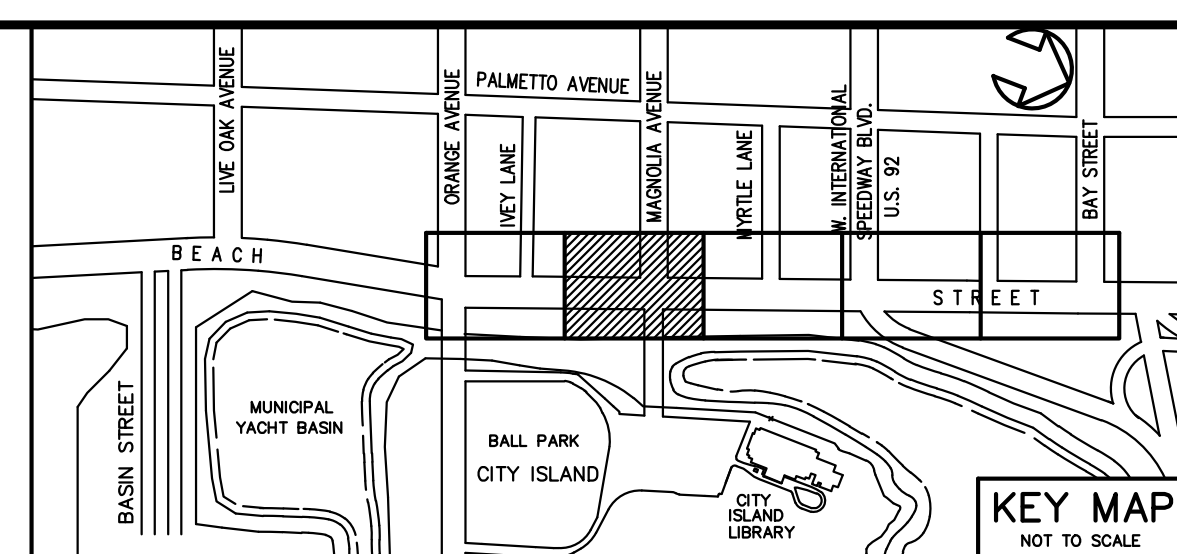
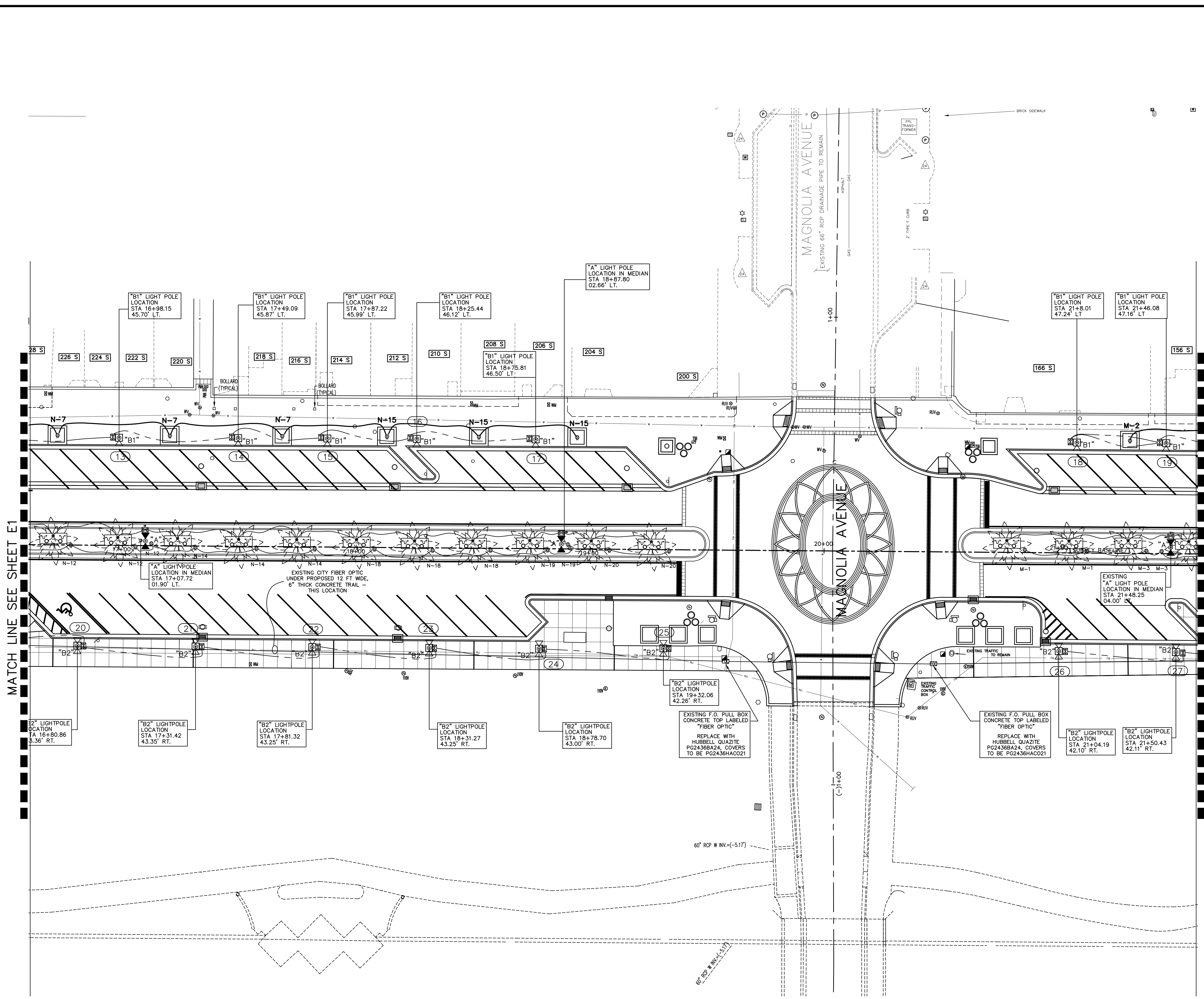
CITY PROJ. NO.  
2018-036

**E1**  
SHEET NO.

Drawn By: JMP  
Date: 8-21-18  
SCALE: 1"=20'

NO.	DATE	DESCRIPTION	BY
4	8-13-18	BID SET	JMP
3	7-9-19	100% PLANS	JMP
2	2-25-19	90% SUBMITTAL	JMP
1	12-18-18	60% SUBMITTAL	JMP





**GENERAL ELECTRICAL NOTES**

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MATCH LINE SEE SHEET E1

MATCH LINE SEE SHEET E3

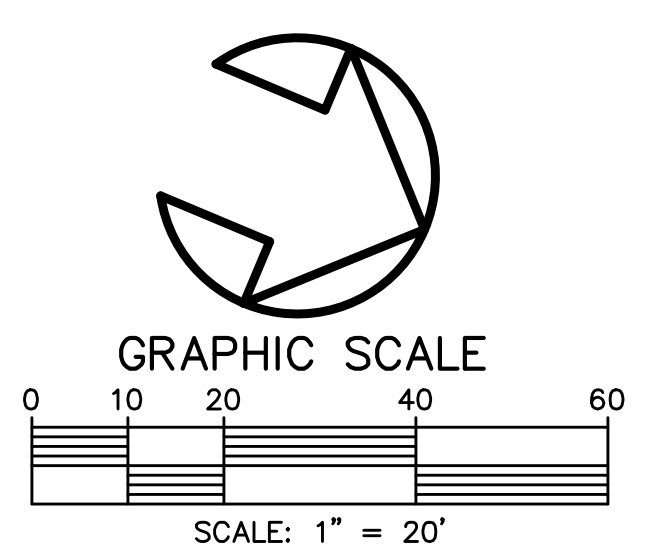
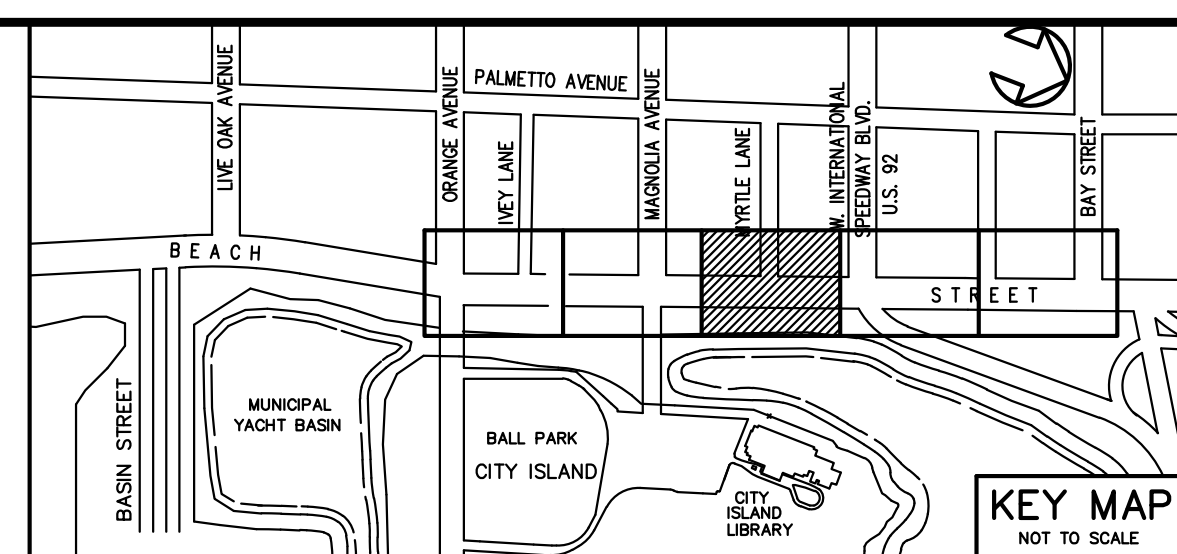
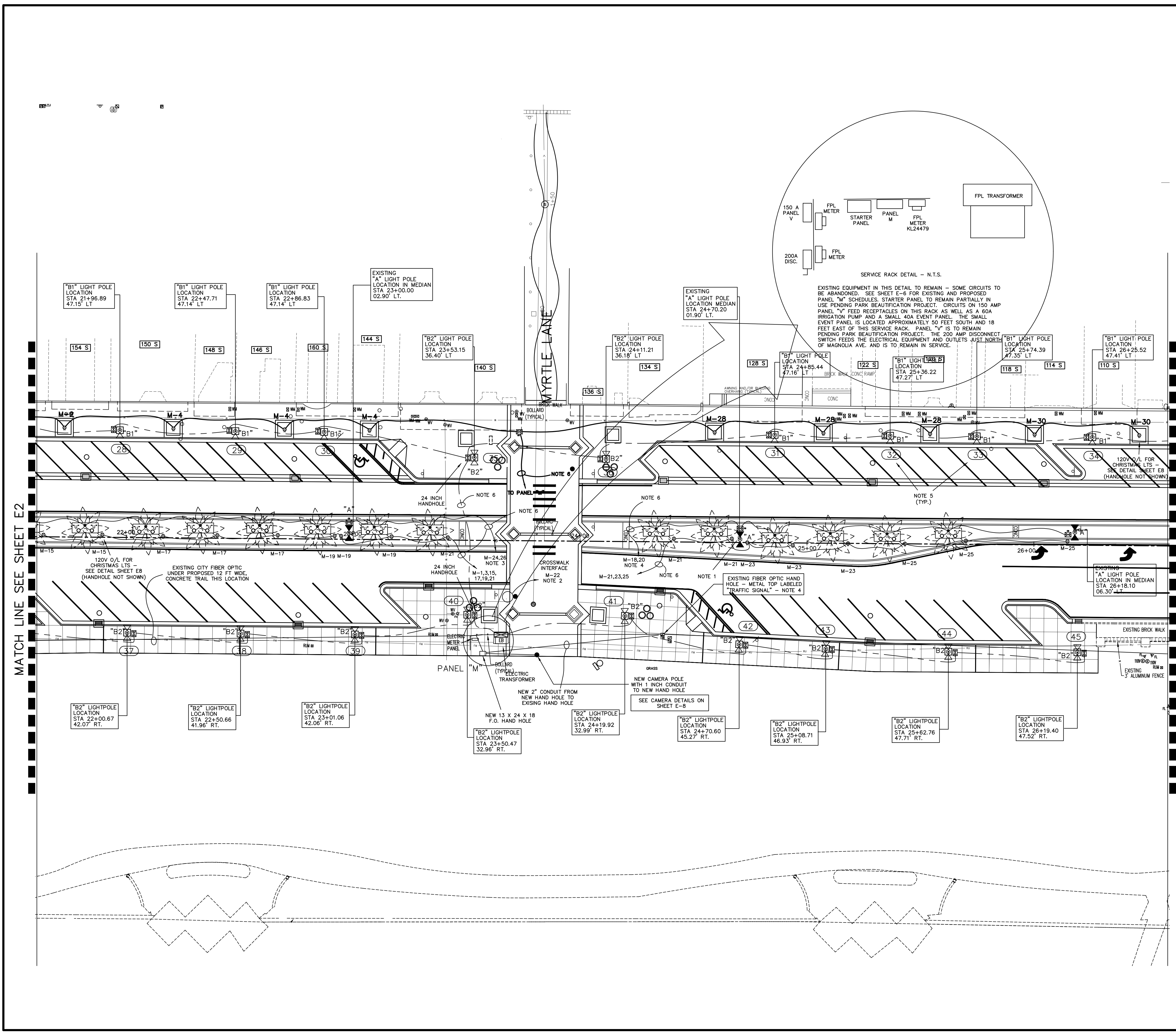
NO.	DATE	DESCRIPTION	BY
1	11-2-18	60% SUBMITTAL	JMP
2	12-25-19	90% SUBMITTAL	JMP
3	7-9-19	100% PLANS	JMP
4	8-13-16	BID SET	JMP

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BEACH STREET STREETSCAPE  
 ORANGE TO BAY  
 DAYTONA BEACH • FLORIDA  
**ELECTRICAL PLAN**

CITY PROJ. NO.  
2018-036  
**E2**  
 SHEET NO.  
 Drawn By: JMP  
 Date: 8-21-18  
 SCALE: 1"=20'

JOHN M. PATTERSON, P.E.  
 ELECTRICAL CONSULTANT  
 1291 JOHN ANDERSON DR.  
 ORMOND BEACH, FL. 32176  
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- ELECTRICAL PLAN NOTES**
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2	2-25-19	90% SUBMITTAL	JMP
1	12-18-18	60% SUBMITTAL	JMP

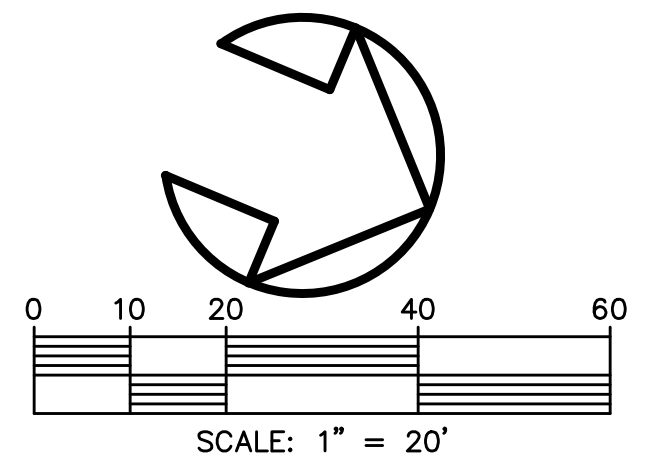
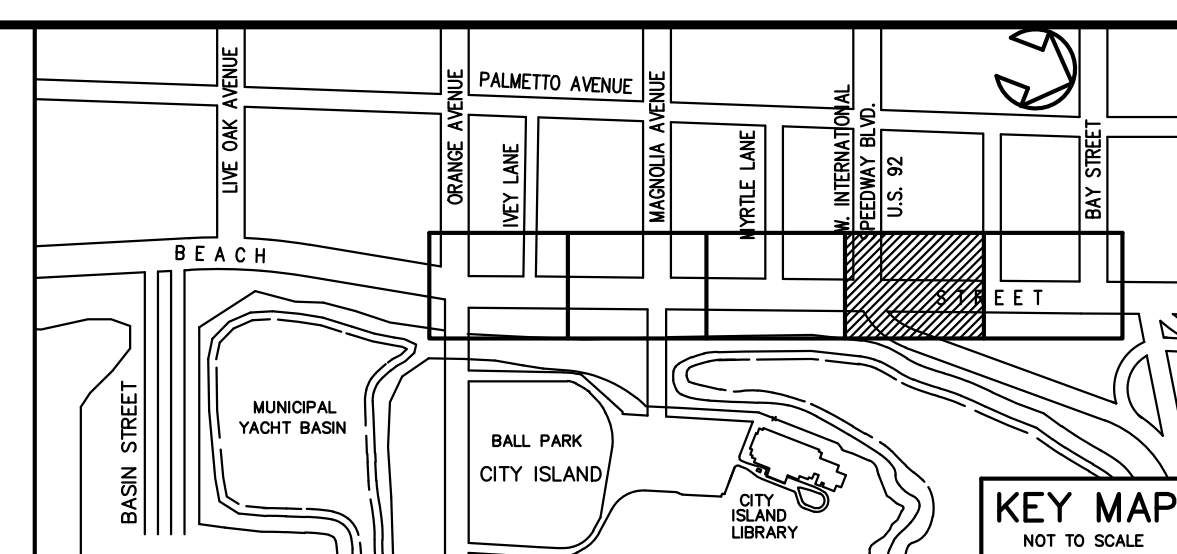
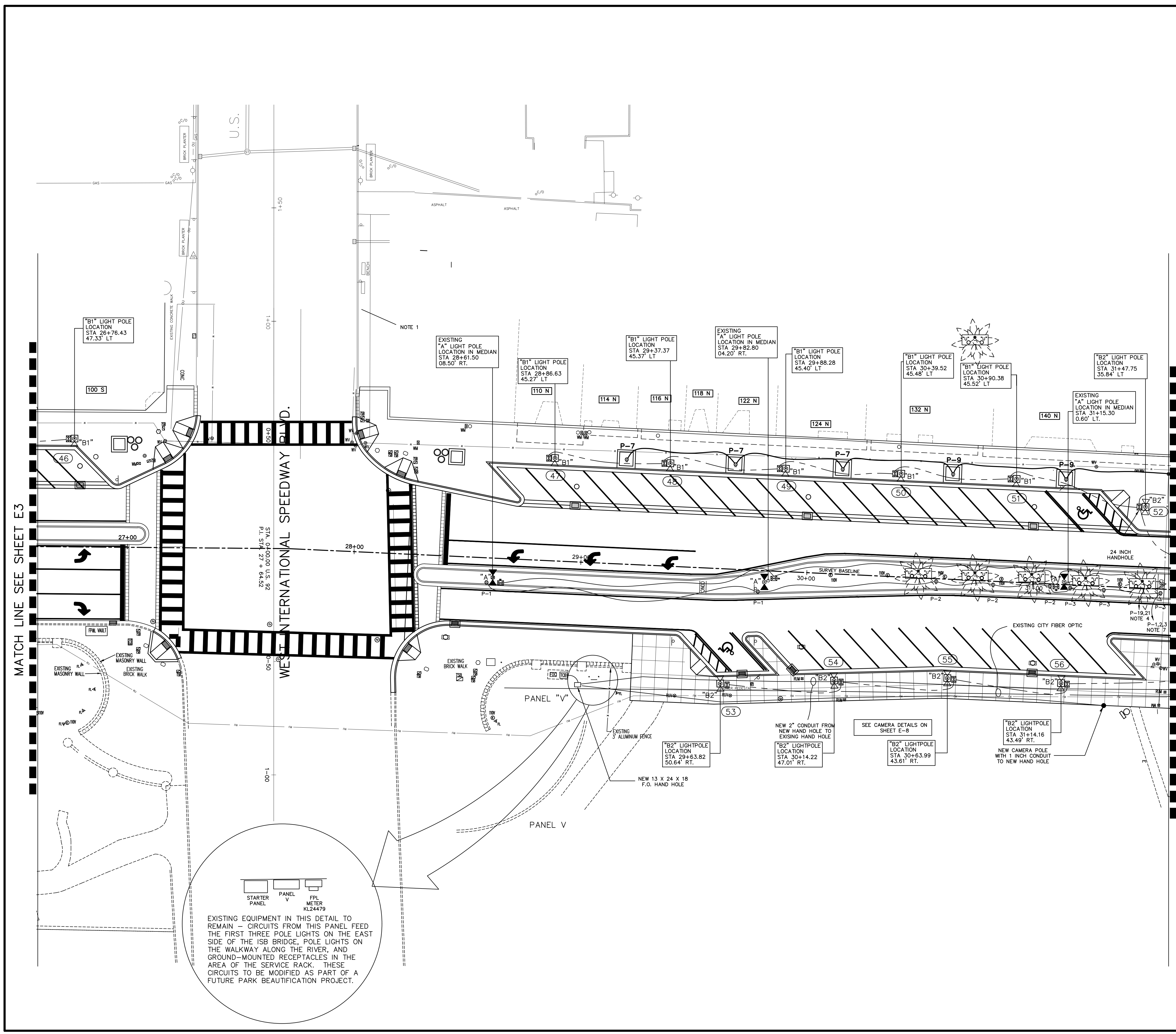
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**BEACH STREET STREETSCAPE**  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
**ELECTRICAL PLAN**

CITY PROJ. NO.  
2018-036  
**E3**  
 SHEET NO.  
 Drawn By: JMP  
 Date: 8-21-18  
 SCALE: 1"=20'

JOHN M. PATTERSON, P.E.  
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 1291 JOHN ANDERSON DR.  
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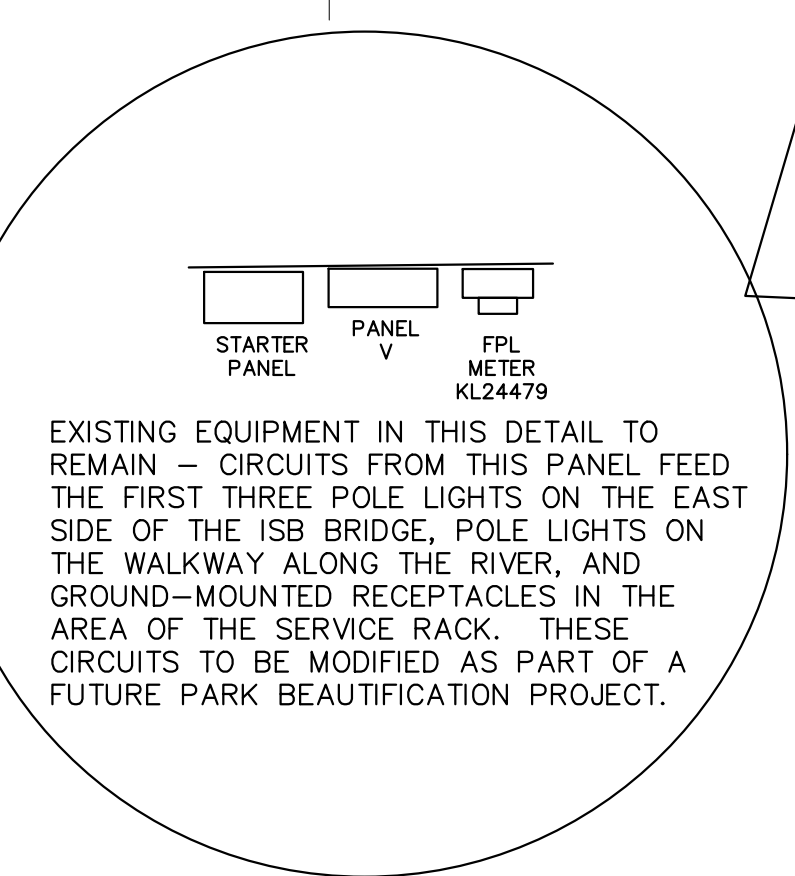
**ELECTRICAL PLAN NOTES**

1. TAG READER ON ISB MOUNTED ON THIS POLE. POWER FOR THIS UNIT COMES FROM PANEL "P" LOCATED BEHIND THE WAR MEMORIAL - DO NOT INTERRUPT THIS POWER.

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**BEACH STREET STREETScape**  
 ORANGE TO BAY  
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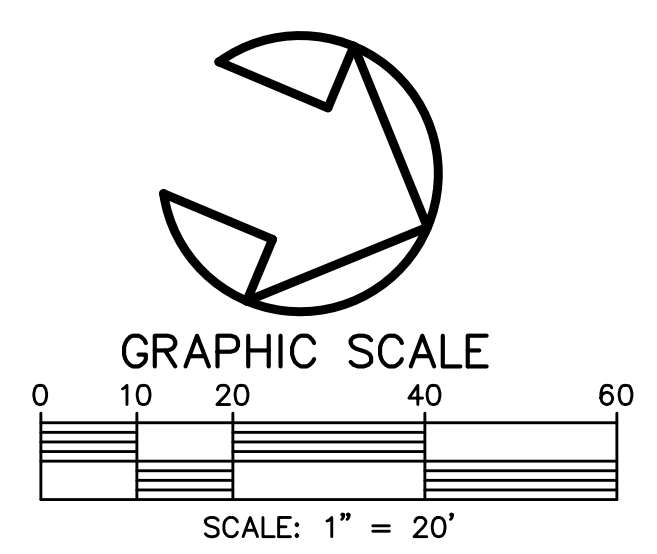
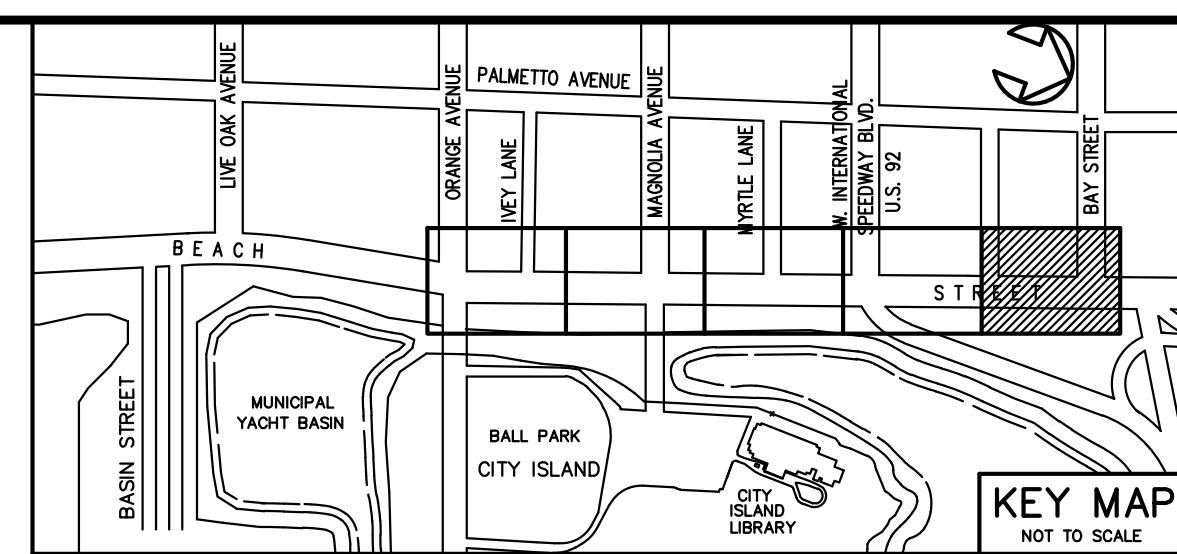
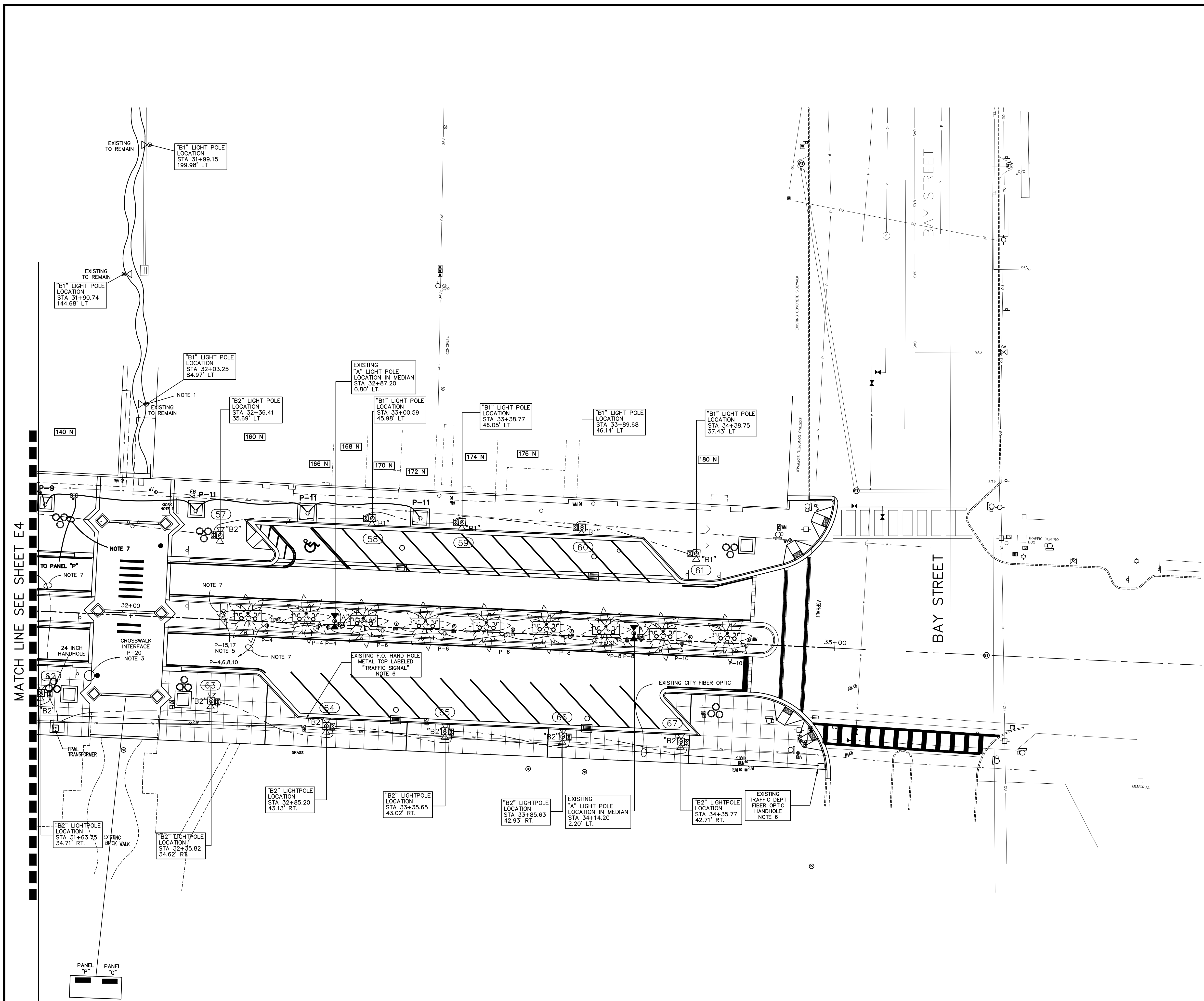
**ELECTRICAL PLAN**

CITY PROJ. NO.  
2018-036

**E4**  
SHEET NO.

Drawn By: JMP  
 Date: 8-21-18  
 SCALE: 1"=20'

JOHN M. PATTERSON, P.E.  
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NO.	DATE	DESCRIPTION	REVISIONS
4	8-13-16	BID SET	
JMP	7-9-19	100% PLANS	
JMP	2-25-19	90% SUBMITTAL	
JMP	1-12-18-18	60% SUBMITTAL	

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BEACH STREET STREETScape  
 ORANGE TO BAY  
 DAYTONA BEACH \* FLORIDA  
**ELECTRICAL PLAN**

CITY PROJ. NO.  
2018-036  
**E5**  
 SHEET NO.  
 Drawn By: JMP  
 Date: 8-21-18  
 SCALE: 1"=20'

MATCH LINE SEE SHEET E4

ELECTRICAL "HUT" LOCATED APPROX. 100 FT EAST OF BEACH STREET R.O.W. AND BEHIND THE WAR MEMORIAL THIS HUT HOUSES PANELS "P" AND "Q". SEE SHEET E-6 FOR REQUIRED WORK INVOLVING PANEL "P"

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EXISTING PANEL "N"														
SCHEDULE FOR PANEL: N		BUSSING AMPS: 200A		VOLTAGE: 120/208		PHASE: 3		WIRE: 4		NEMA: 3R		REMARKS: EXISTING AIC		
MAINS: 200A/3 C/B		MOUNTING: RACK		MFRG.: SQ D										
CCT	LOAD DESCRIPTION	AMP	P	WIRE	cond.	kva	Ø	kva	cond.	WIRE	P	AMP	LOAD DESCRIPTION	CCT
1	S. ARCH LTS, POLES 17,19,21	20	1	#10	1"	A	--	A	--	A	1	20	RECEPTACLES	2
3	N. & CNTR. HIGH POLES	20	1	A		B					1	20	RECEPTACLES	4
5	POLES 14,16,18,20,22,24,26	20	1	C		2"	#8	1	20			20	POLES 28-34 - RECEPTACLES	6
7	N. ARCH LTS, POLES 28,30,32,34	20	1	A		1	20					20	POLES 14,24,26 - RECEPTACLES	8
9	"D" MEDIAN UPLIGHTS 5-16	20	1	B		1	20					20	RECEPTACLES	10
11	"C" FIXT. LIGHTS 1,3,5,7,9,11,13,15	20	1	C		1	20					20	POLES 17,19,21 RECEPTACLES	12
13	RIVERFRONT PARK WALKWAY LIGHTS	20	1	A		1	20					20	POLES 6,8,10,12 - RECEPTACLES	14
15	POLES 8,10,12,14	20	1	B		1	20					20	RECEPTACLES	16
17	"D" MED UPLTS 1-4 & ALLEY LTS	20	1	C		1	20					20	POLES 1,3,5,7 - RECEPTACLES	18
19	SPARE	20	1	A		1	20					20	POLES 9,11,13,15 - RECEPTACLES	20
21	SPARE	20	1	B		1	20					20	DOCK RECEPTACLE	22
23	SPARE	20	1	C		1	20					20	CONTROL POWER	24
25	SPARE	20	1	A		1	20					20	SPARE	26
27	SPARE			B								20	BLANK	28
29	BLANK			C								20	BLANK	30
31	BLANK			A								20	BLANK	32
33	BLANK			B								20	BLANK	34
35	BLANK			C								20	BLANK	36
37	BLANK			A								20	BLANK	38
39	BLANK			B								20	BLANK	40
41	BLANK			C								20	BLANK	42

KILOVOLTAMPS: PHASE A: (CONTINUOUS KVA (0) x 1.25 : 0 ) PHASE B: PHASE C: TOTAL CONNECTED KVA: TL AMPS: + (REMAINDER x 1.00) = TOTAL DEMAND KVA:

BASED ON PANEL DIRECTORY, PHOTO AND INSPECTION (9-19-18)

EXISTING PANEL "M"															
SCHEDULE FOR PANEL: M		BUSSING AMPS: 200		VOLTAGE: 120/208		PHASE: 3		WIRE: 4		NEMA: 3R		REMARKS: EXISTING AIC			
MAINS: 200/3 C/B		MOUNTING: RACK		MFRG.: SQ D											
CCT	LOAD DESCRIPTION	AMP	P	WIRE	cond.	kva	Ø	kva	cond.	WIRE	P	AMP	LOAD DESCRIPTION	CCT	
1	ONE "A" MEDIAN POLE	20	1	#10	--	A	--	A	--	#10	1	20	ONE "A" MEDIAN POLE	2	
3	ONE "A" MEDIAN POLE	20	1	#10	--	B	--	B	--	#10	1	20	ONE "A" MEDIAN POLE	4	
5	LIGHTS N. WALK 23-27 RIVER N-DOCK RECEPT.	20	1	#10	--	A	--	A	--	#10	1	20	PHOTOCCELL	6	
7	MAGNOLIA TRAFFIC CONTROL	60	2									1	20	TIME CLOCK	8
9	MAGNOLIA TRAFFIC CONTROL											1	20	BLANK	10
11	BLANK											1	20	BLANK	12
13	BLANK	20	1	A								20	BLANK	14	
15	POLES 33-37 "B" AND "C"	20	1	A								20	BLANK	16	
17	POLES 35-39 RECEPTACLES	20	1	A								20	BLANK	18	
19	POLES 40-54 "C" LIGHTS	20	1	A								1	20	MEDIAN "D" UPLIGHTS 29-34	20
21	POLES 50-54 RECEPTACLES	20	1	A								1	20	SPARE	22
23	MEDIAN LIGHTS N. 25-28	20	1	C		1	20					20	S. MEDIAN "D" UPLIGHTS 17-24	24	
25	POLES 41-43 "C" LIGHTS	20	1	A		1	20					20	POLES 42-48 "B" LIGHTS	26	
27	POLES 41-43 RECEPTACLES	20	1	B		1	20					20	POLES 42-44 RECEPTACLES	28	
29	POLES 36-40 "B" LIGHTS	20	1	C		1	20					20	POLES 27-31 "C" LIGHTS	30	
31	POLES 36-40 RECEPTACLES	20	1	A		1	20					20	POLES 27-33 RECEPTACLES	32	
33	LIGHTS S. WALK 11-15 RIVER S-DOCK RECEPT.	20	1	A								20	TAG READER	34	
35	TOWER NORTH	20	1	B								20	BLANK	36	
37	"D" LIGHTS S. WALK RIVERFRONT	20	1	A		1	20					20	POLES 46-48 RECEPTACLES	38	
39	BLANK			B								20	BLANK	40	
41	LIGHTS N. WALK 29-33 RIVER			C								20	BLANK	42	

KILOVOLTAMPS: PHASE A: X (CONTINUOUS KVA (0) x 1.25 : 0 ) PHASE B: X PHASE C: X TOTAL CONNECTED KVA: X TL AMPS: X + (REMAINDER x 1.00) = TOTAL DEMAND KVA:

SCHEDULE DEVELOPED FROM PHOTO OF PANEL DIRECTORY AND INSPECTION 9-6-18

EXISTING PANEL "P"														
SCHEDULE FOR PANEL: P		BUSSING AMPS: 200		VOLTAGE: 120/208		PHASE: 3		WIRE: 4		NEMA: 3R		REMARKS: EXISTING AIC		
MAINS: 200A/3 C/B		MOUNTING: RACK		MFRG.: GE										
CCT	LOAD DESCRIPTION	AMP	P	WIRE	cond.	kva	Ø	kva	cond.	WIRE	P	AMP	LOAD DESCRIPTION	CCT
1	TALL MEDIAN POLE 3RD FROM SOUTH	20	1	--	--	A	--	A	--	--	1	20	TALL MEDIAN POLE 4TH FROM SOUTH	2
3	POLE LIGHTS - POLES 56,58,60,62	20	1	--	--	B	--	B	--	--	1	20	POLE LIGHTS - POLES 64,66,68	4
5	POLE RECEPT'S - POLES 56,58,60,62	20	1	--	--	C	--	C	--	--	1	20	POLE RECEPT'S - POLES 64,66,68	6
7	S. "D" COLUMN LIGHTS	20	1	--	--	A	--	A	--	--	1	20	N. "D" COLUMN LIGHTS	8
9	"B" EAST	20	1	B		1	20					20	POLE LIGHTS - POLES 70,72,74	10
11	POLE RECEPT'S. - ALLEY POLES	20	1	C		1	20					20	POLE RECEPT'S. - POLES 70,72,74	12
13	POLE LIGHTS - POLES 51,53,55	20	1	A		1	20					20	POLE LIGHTS - POLES 47,49	14
15	POLE RECEPT'S. - POLES 51,53,55	20	1	B		1	20					20	POLE RECEPT'S. - POLES 47,49	16
17	MEDIAN "D" TREE LIGHTS - #s 47,49,51,53,55,57	20	1	C		1	20					20	POLE LIGHTS - ALLEY POLES	18
19	MEDIAN "D" TREE LIGHTS - #s 34,35,36,37,38,39	20	1	A		1	20					20	MEDIAN "D" TREE LIGHTS #s 40,41,42,43,44,45	20
21	TALL MEDIAN POLE 5TH FROM SOUTH	20	1	B		1	20					20	RECEPTACLE	22
23	TALL MEDIAN POLE 1ST FROM SOUTH	20	1	C		1	20					20	RECEPTACLE	24
25	TALL MEDIAN POLE 2ND FROM SOUTH	20	1	A		1	20					20	RECEPTACLE	26
27	KIOSK	20	1	B		1	20					20	PUMP OUTSIDE	28
29	IRRIGATION	20	1	C		1	20					20	PUMP OUTSIDE	30
31	BLANK			A		1	20					20	TAG READER	32
33	BLANK			B		1	20					20	BLANK	34
35	BLANK			C		1	20					20	BLANK	36
37	BLANK			A		1	20					20	BLANK	38
39	BLANK			B		1	20					20	BLANK	40
41	BLANK			C		1	20					20	BLANK	42

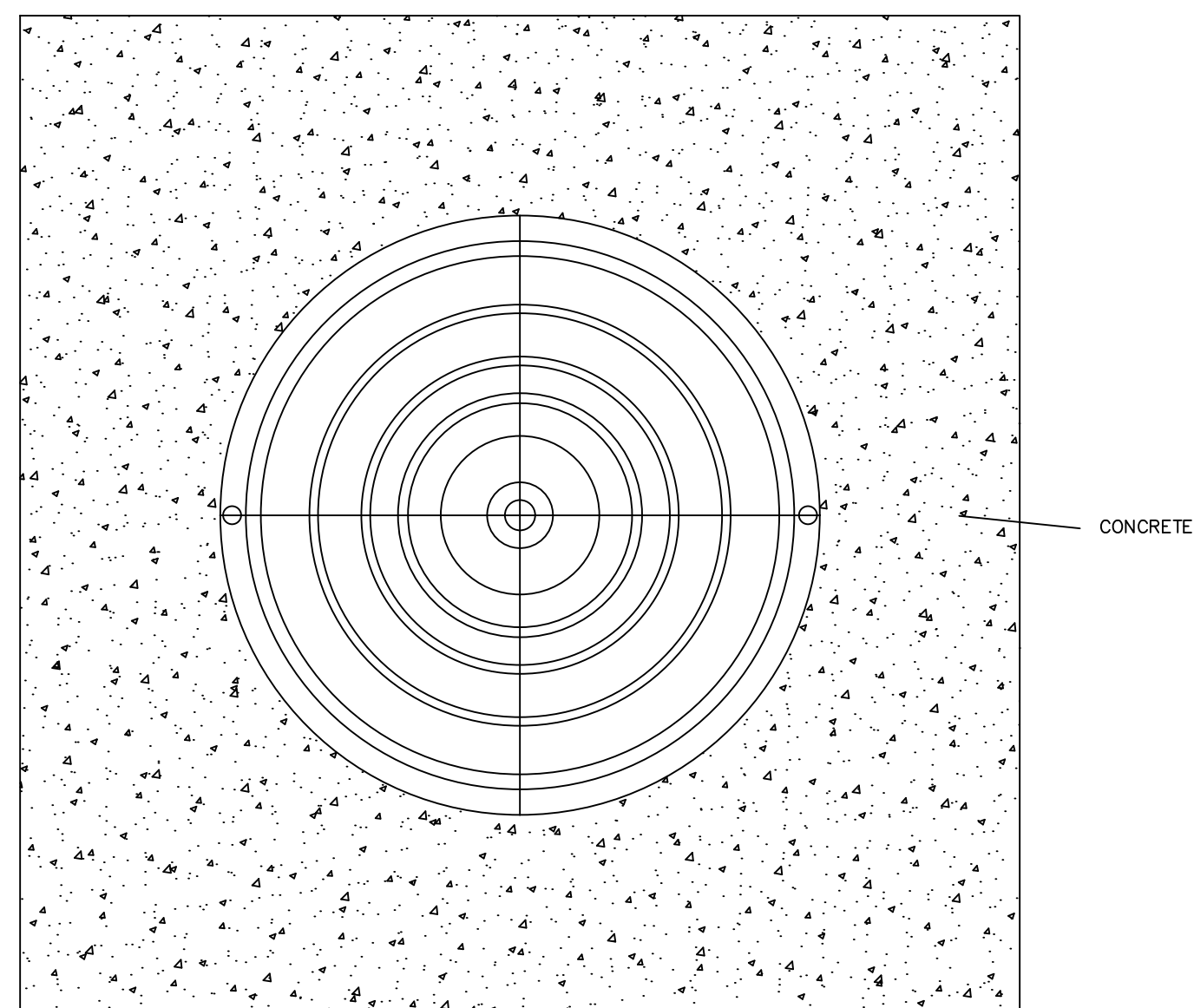
KILOVOLTAMPS: PHASE A: X (CONTINUOUS KVA (0) x 1.25 : 0 ) PHASE B: X PHASE C: X TOTAL CONNECTED KVA: X TL AMPS: X + (REMAINDER x 1.00) = TOTAL DEMAND KVA:

SCHEDULE DEVELOPED FROM HANDWRITTEN NOTES PROVIDED BY WILLIAM (BUDDY) JOHNSON AND PHOTOS

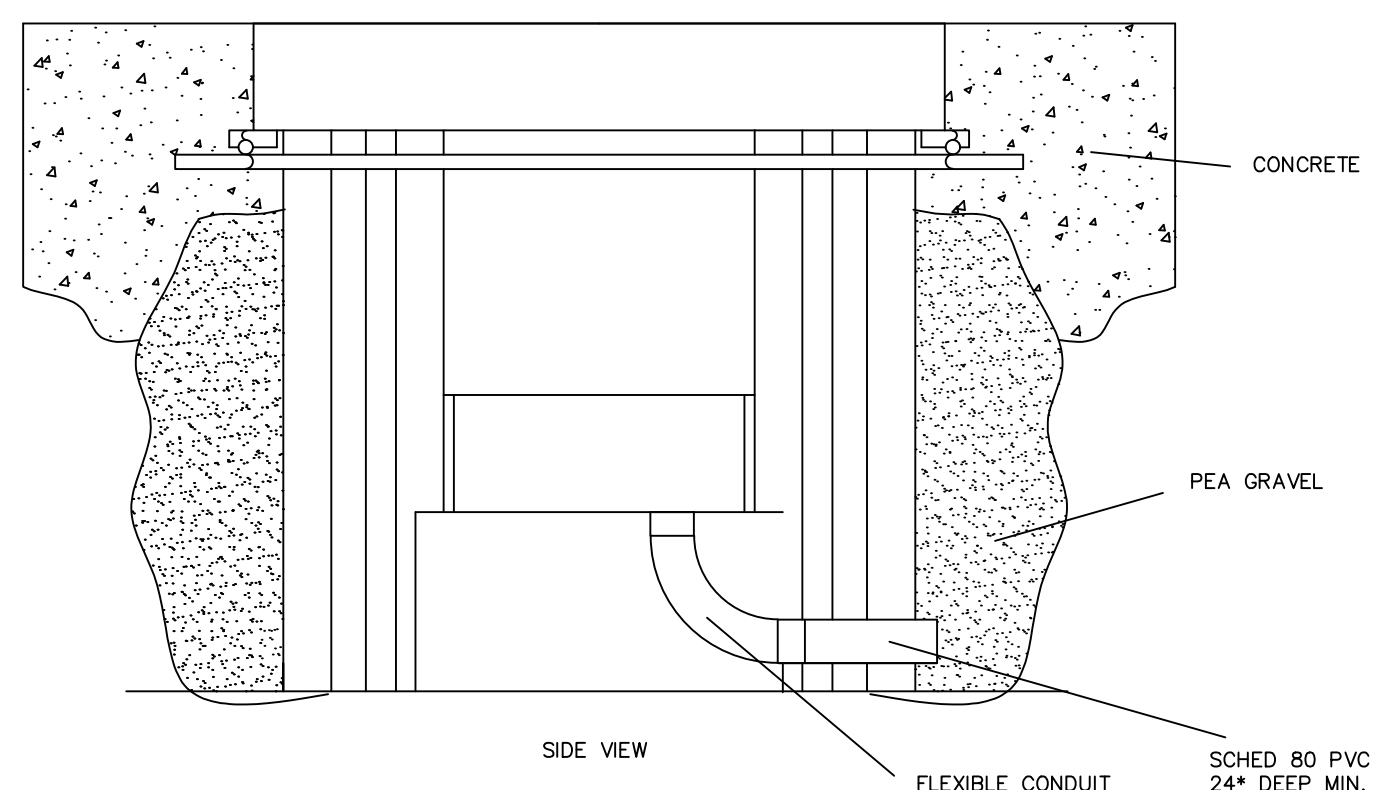
PANEL "N" AFTER CHANGES															
SCHEDULE FOR PANEL: N		BUSSING AMPS: 200A		VOLTAGE: 120/208		PHASE: 3		WIRE: 4		NEMA: 3R		REMARKS: EXISTING AIC			
MAINS: 200A/3 C/B		MOUNTING: RACK		MFRG.: SQ D											
CCT	LOAD DESCRIPTION	AMP	P	WIRE	cond.	kva	Ø	kva	cond.	WIRE	P	AMP	LOAD DESCRIPTION	CCT	
1	CROSSWALK POWER	20	1	#10	1"	A	--	A	--	EXISTING	1	20	RECEPTACLES	2	
3	OAK TREE XMAS O/L'S	20	1	#8	2"	B				EXISTING	1	20	RECEPTACLES	4	
5	OAK TREE XMAS O/L'S	20	1	#8	2"	C				2"	#8	1	20	MEDIAN XMAS O/L'S	6
7	OAK TREE XMAS O/L'S	20	1	#8	2"	B				2"	#8	1	20	MEDIAN XMAS O/L'S	8
9	MEDIAN LIGHTS	20	1	#8	2"	B				EXISTING	1	20	RECEPTACLES	10	
11	MEDIAN LIGHTS	20	1	#8	2"	C				2"	#8	1	20	MEDIAN XMAS O/L'S	12
13	RIVERFRONT PARK WALKWAY LIGHTS	20	1	EXISTING		A				2"	#8	1	20	MEDIAN XMAS O/L'S	14
15	OAK TREE XMAS O/L'S	20	1	#8	2"	B				EXISTING	1	20	RECEPTACLES	16	
17	MEDIAN LIGHTS	20	1	#8	2"	C				2"	#8	1	20	MEDIAN XMAS O/L'S	18
19	MEDIAN XMAS O/L'S	20	1	#8	2"	A				2"	#8	1	20	MEDIAN XMAS O/L'S	20
21	SPARE	20	1	B		1	20			EXISTING	1	20	DOCK RECEPTACLE	22	
23	CAMERA POWER	20	1	#12	1"	A				EXISTING	1	20	CONTROL POWER	24	
25	SPARE	20	1			A						20	SPARE	26	
27	SPARE			B								20	BLANK	28	
29	BLANK			C								20	BLANK	30	
31	BLANK			A								20	BLANK	32	
33	BLANK			B								20	BLANK	34	
35	BLANK			C								20	BLANK	36	
37	BLANK			A								20	BLANK	38	
39	BLANK			B								20	BLANK	40	
41	BLANK			C								20	BLANK	42	

KILOVOLTAMPS: PHASE A: (CONTINUOUS KVA (0) x 1.25 : 0 ) PHASE B: PHASE C: TOTAL CONNECTED KVA: TL AMPS: + (REMAINDER x 1.00) = TOTAL DEMAND KVA:

PANEL "M" AFTER CHANGES															
SCHEDULE FOR PANEL: M		BUSSING AMPS: 200		VOLTAGE: 120/208		PHASE: 3		WIRE: 4		NEMA: 3R		REMARKS: EXISTING AIC			
MAINS: 200/3 C/B		MOUNTING: RACK		MFRG.: SQ D		FPL METER # KL24479									
CCT	LOAD DESCRIPTION	AMP	P	WIRE	cond.	kva	Ø	kva	cond.	WIRE	P	AMP	LOAD DESCRIPTION	CCT	
1	MEDIAN XMAS O/L'S	20	1	#8	2"	A	--	A	--	2"	#8	1	20	OAK TREE XMAS O/L'S	2
3	MEDIAN XMAS O/L'S	20	1	#8	2"	B				2"	#8	1	20	OAK TREE XMAS O/L'S	4
5	LIGHTS N. WALK 23-27 RIVER N-DOCK RECEPT.	20	1	EXISTING		A				EXISTING	1	20	PHOTOCCELL	6	
7	MAGNOLIA TRAFFIC CONTROL	60	2	EXISTING		B				EXISTING	1	20	TIME CLOCK	8	
9	MAGNOLIA TRAFFIC CONTROL			EXISTING		B				EXISTING	1	20	BLANK	10	
11	BLANK			C								1	20	BLANK	12
13	BLANK	20	1	A								20	BLANK	14	
15	MEDIAN XMAS O/L'S	20	1	#8	2"	B						20	BLANK	16	
17	MEDIAN XMAS O/L'S	20	1	#8	2"	C				2"	#8	1	20	MEDIAN LIGHTS	18
19	MEDIAN XMAS O/L'S	20	1	#8	2"	A				2"	#8	1	20	MEDIAN LIGHTS	20
21	MEDIAN XMAS O/L'S	20	1	#8	2"	B				1"	#10	1	20	CROSSWALK POWER	22
23	MEDIAN XMAS O/L'S	20	1	#8	2"	A				2"	#8	1	20	MEDIAN LIGHTS	24
25	MEDIAN XMAS O/L'S	20	1	#8	2"	C				2"	#8	1	20	MEDIAN LIGHTS	26
27	SPARE	20	1	B		2"	#8	1	20			20	OAK TREE XMAS O/L'S	28	
29	SPARE	20	1	C		2"	#8	1	20			20	OAK TREE XMAS O/L'S	30	
31	SPARE	20	1	A		1	20					20	SPARE	32	
33	LIGHT														



TOP VIEW



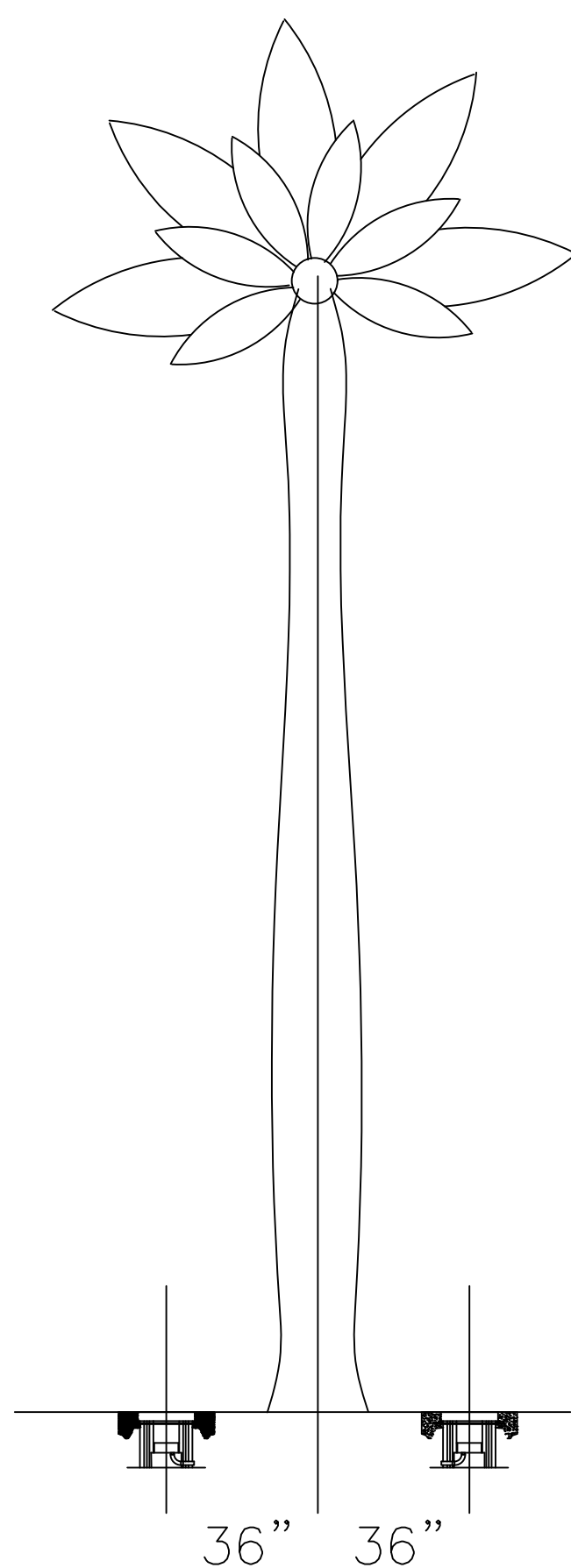
SIDE VIEW

TYPE "U" UP LIGHT

TYPE "U" UP LIGHTS TO BE VISTA MODEL 1188-Z-MF-40-C-MV-CX-ND-B34-T025-MF-C (35.8 WATTS)

TYPE "U" UP LIGHT NOTES

1. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL TWO TYPE "U" UP LIGHTS AT THE BASE OF EACH OF 47 MEDJOO PALM TREES IN THE MEDIAN ON BEACH STREET BETWEEN ORANGE AVENUE AND BAY STREET IN LOCATIONS INDICATED IN PLANS.
2. FOR COMPLETE INSTALLATION INSTRUCTIONS AND DETAILS, SEE VISTA PROFESSIONAL OUTDOOR LIGHTING INSTALLATION INSTRUCTIONS FOR MODEL 1188, AVAILABLE ON-LINE AT [HTTPS://WWW.VISTAPRO.COM/FILES/INST/1188-INST.PDF](https://www.vistapro.com/files/inst/1188-inst.pdf). USE INSTRUCTIONS FOR "CONCRETE POUR INSTALLATION", AND PROVIDE #4 REBARS WITH MOUNT BRACKET ACCESSORIES AS SHOWN IN FIGURE 2 OF THAT DOCUMENT.

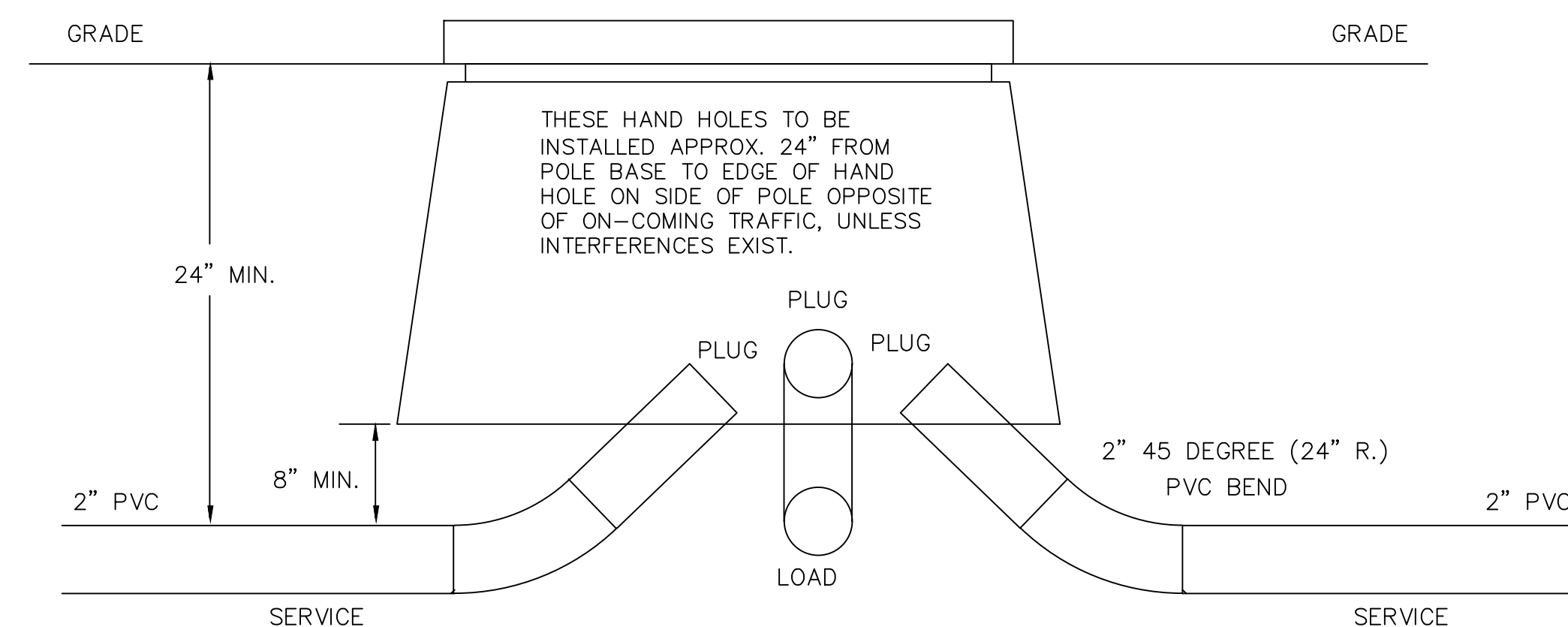


UP LIGHT PLACEMENT

SPECIFICATIONS FOR FPL-REQUIRED CONDUITS AND HAND HOLES

FPL WILL BE INSTALLING ALL TYPE A, B1, AND B2 POLE-MOUNTED LIGHTS, AS WELL AS PULLING CABLES FROM THEIR POWER SOURCES TO THE FIXTURE BASES. ELECTRICAL CONTRACTOR WILL BE REQUIRED TO INSTALL FPL-FURNISHED CONDUITS AND HAND HOLES ACCORDING TO THESE PLANS AND WITH ALL FPL SPECIFICATIONS AND REQUIREMENTS, INCLUDING THE FOLLOWING.

- CONDUIT PLACEMENT SHALL BE IN THE EASEMENT(S) PROVIDED AND IN ACCORDANCE WITH DESIGN DRAWINGS
- USE ONLY FPL-SUPPLIED CONDUITS WITH FPL SUPPLIED BENDS
- CEMENT ALL JOINTS SECURELY WITH FPL-SUPPLIED GLUE
- FPL CONDUIT MARKERS MUST BE PLACED AT ALL CONDUIT ENDS
- ALL STREETLIGHT CONDUIT IS TO HAVE 24 TO 30 INCHES OF COVER
- CAP ALL ENDS OF CONDUIT WITH FPL-SUPPLIED END CAPS. DENOTE TERMINATION POINT OF EACH CONDUIT RUN ON THE CAPPED END. ALL CONDUIT ENDS ARE TO BE TERMINATED 1 TO 2 FEET ABOVE FINAL GRADE EXCEPT AT TRANSFORMER LOCATIONS WHERE CONDUIT ENDS ARE TO BE TERMINATED 3 INCHES ABOVE FINAL GRADE
- INSTALL A CONTINUOUS LENGTH OF PULL CORD IN ALL CONDUIT RUNS
- BACKFILL OPERATIONS ARE TO BE DONE CAREFULLY WITH SPECIAL ATTENTION GIVEN TO UTILIZING CLEAN FILL, THEREBY ASSURING THE ELIMINATION OF ROCK AND OTHER SCRAP MATERIAL TO ENSURE THAT THE CONDUIT WILL NOT BE DAMAGED AND THAT PROPER COMPACTION IS ACHIEVED. ASSURE THAT MARKING DEVICES ARE NOT MOVED.
- CONDUIT INSTALLATIONS FOR USE BY FPL SHALL BE SUBJECT TO TESTING BY FPL FOR DEPTH OF INSTALLATION, CORRECT ROUTING, INTEGRITY OF RUNS, INSTALLATION OF MARKERS AND PULL CORDS, AND CAPPING OF OPEN ENDS. ACCEPTANCE OF INSTALLATIONS WILL OCCUR WHEN FPL PULLS THE CONDUCTORS THAT OCCUPY THE CONDUIT.



FOR 24" AND 30" HAND HOLES INSTALL ALL CONDUITS AT ONE END OF THE HAND HOLE. BOTH THE 24" AND 30" HAND HOLES COME WITH A STENCIL TO "PLACE ALL CONDUITS AT THE END OF HAND HOLES". THIS ALLOWS THE CONDUCTORS TO BE LIFTED OUT OF THE HAND HOLE AND WORK THE MULTI-TAP CONNECTORS ABOVE GROUND. THESE HAND HOLES ARE FURNISHED BY FP&L AND INSTALLED BY ELECTRICAL CONTRACTOR.

FPL HANDHOLE INSTALLATION DETAIL N.T.S.

ELECTRICAL LEGEND	
	FPL-SUPPLIED HAND HOLE REQUIRED AT BASE OF ALL TYPE B1 AND B2 FIXTURE POLES (DETAIL THIS SH.)
	CONTRACTOR-SUPPLIED HAND HOLE REQUIRED AT BASE OF ALL TYPE A FIXTURE POLES (DETAIL THIS SH.)
	CONTRACTOR-SUPPLIED HAND HOLE REQUIRED AT BASE OF MEDJOO PALMS FOR TYPE U UP LIGHTS
	FPL-SUPPLIED SINGPL POST TOP POLE LIGHT (TYPE B1)
	FPL-SUPPLIED DOUBLE HEAD POLE LIGHT (TYPE B2)
	DOUBLE HEAD POLE LIGHT IN MEDIAN (TYPE A) POLE REMAINS, FPL REPLACES LAMP HEAD
	CONTRACTOR-SUPPLIED TYPE U UP LIGHT, 2 EACH REQUIRED AT MEDJOO PALMS - SEE DETAIL
	EXISTING 120 VOLT WP/GFI RECEPTACLES - TO BE MAINTAINED AND LEFT IN SERVICE (REPAIR AS NECESSARY)
	PROPOSED 2" CONDUIT FOR POST TOP LIGHTS SUPPLIED BY FP&L AND INSTALLED BY CONTRACTOR
	PROPOSED CONDUIT FOR OTHER THAN POST TOP LAMPS, SUPPLIED AND INSTALLED BY CONTRACTOR
	EXISTING GROUND-MOUNTED 120V RECEPTACLE TO REMAIN (ONLY BETWEEN ISB AND BAY ST.)

ELECTRICAL ABBREVIATIONS	
AIC	AMPS INTERRUPTING CAPACITY
AFG	ABOVE FINISH GRADE
AL	ALUMINUM
CU	COPPER
DISC	DISCONNECT SWITCH
EC	ELECTRICAL CONTRACTOR
FO	FIBER OPTIC
FPL	FLORIDA POWER AND LIGHT
KVA	KILO-VOLT-AMP
MFGR	FLORIDA POWER AND LIGHT
WP	WEATHER-PROOF
NTS	NOT TO SCALE

JOHN M. PATTERSON, P.E.  
ELECTRICAL CONSULTANT  
1291 JOHN ANDERSON DR.  
ORMOND BEACH, FL. 32176  
(386)-441-2382  
FL. REG. PE # 54181

NO.	DATE	DESCRIPTION	BY
4	8-13-16	BID SET	JMP
3	7-9-19	100% PLANS	JMP
2	2-25-19	90% SUBMITTAL	JMP
1	12-18-18	60% SUBMITTAL	JMP

**PARKER MYNCHENBERG & ASSOCIATES, INC.**  
PROFESSIONAL ENGINEERS \* LANDSCAPE ARCHITECTS  
1729 RIDGEWOOD AVENUE HOLLY HILL, FLORIDA 32117  
(386) 677-6691 FAX (386) 677-2114 E-MAIL: [info@parkermynchenberg.com](mailto:info@parkermynchenberg.com)  
CERTIFICATE OF AUTHORIZATION NUMBER 00003910

BEACH STREET STREETScape  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA

ELECTRICAL DETAILS

CITY PROJ. NO.  
2018-036

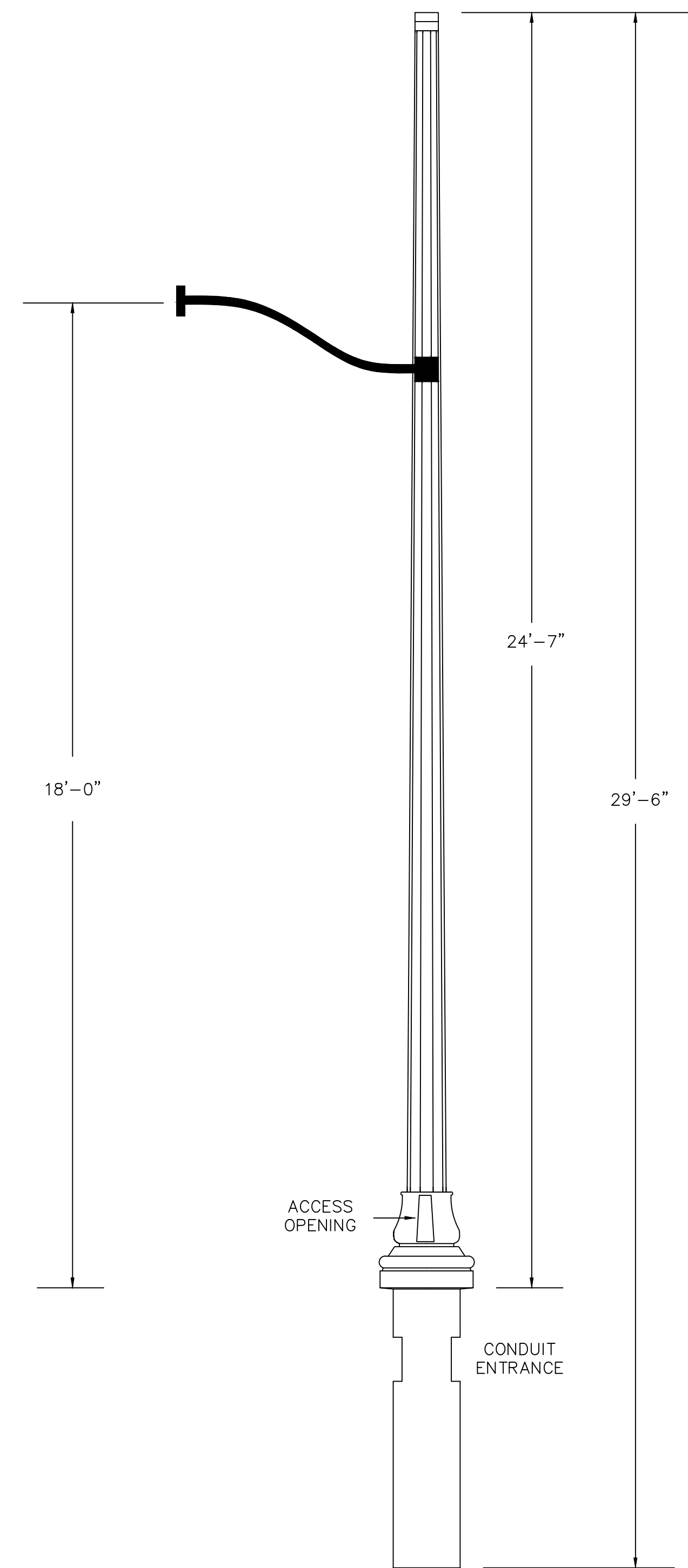
**E7**  
SHEET NO.

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Date: 8-21-18

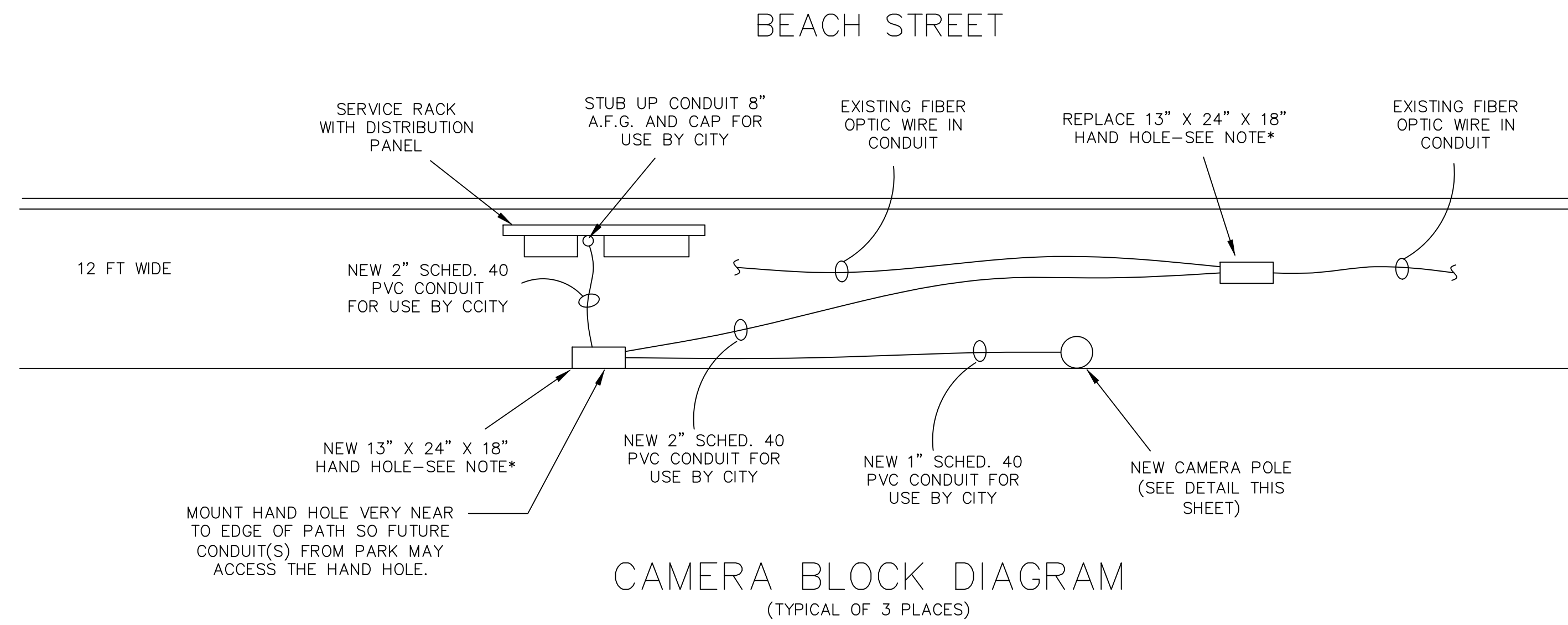
SCALE: AS NOTED





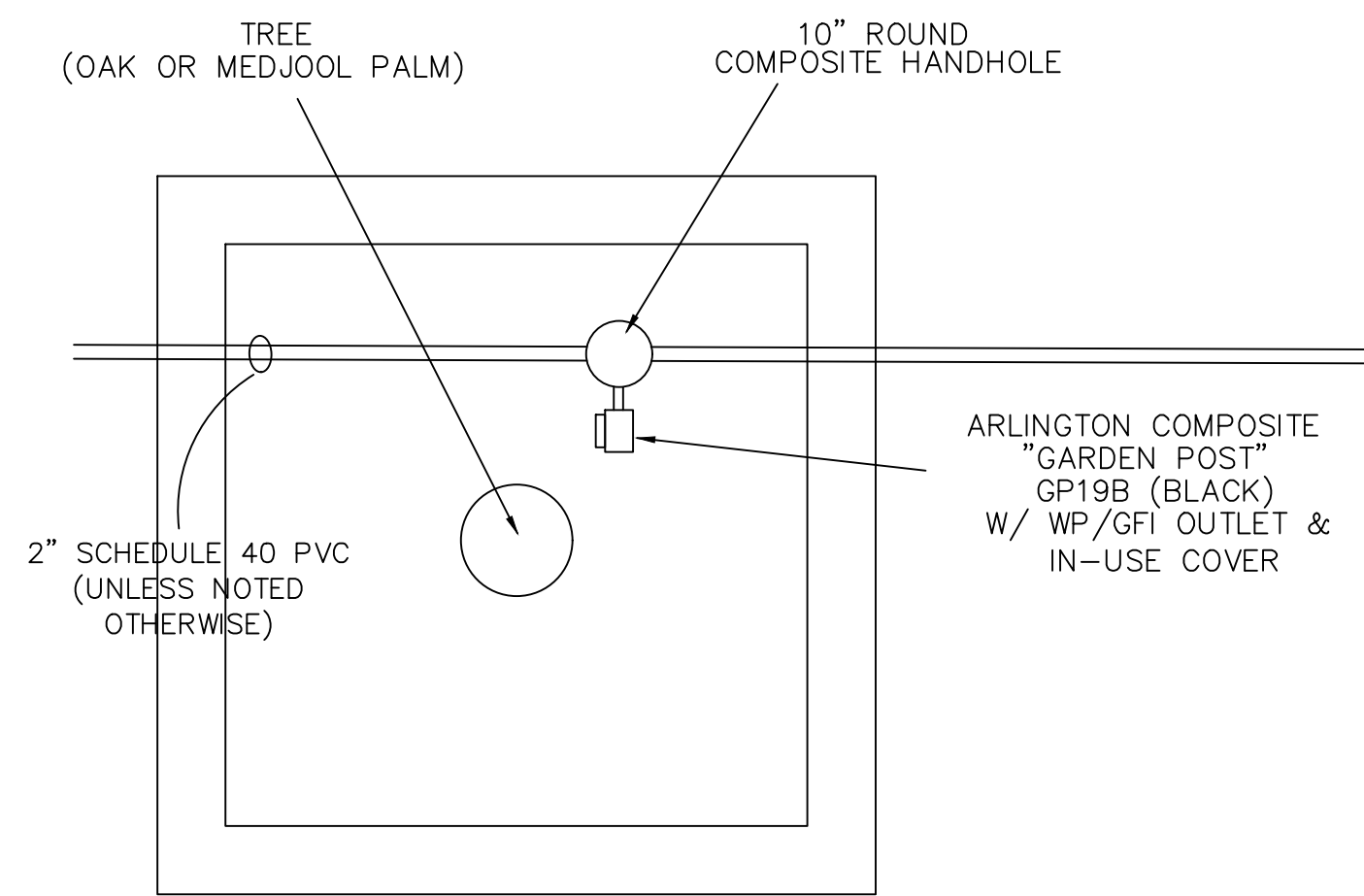
CAMERA POLE INSTALLATION DETAIL N.T.S.  
TYPICAL OF THREE LOCATIONS

CONTRACTOR-FURNISHED POLES TO BE AMERON 29.5 FOOT BLACK WASHINGTON CONCRETE TENON MOUNT DIRECT BURIAL WITH 1&1/2" THREAD FITTING AT THE END OF ARM FOR CAMERA MOUNT. THIS FITTING MAY NOT BE STANDARD OFFERING AND MAY REQUIRE SPECIAL ADAPTER. NOTE: THESE POLES ARE THE SAME AS THE ONES BEING PROVIDED BY FP&L FOR THE POST TOP STREET LIGHTS.



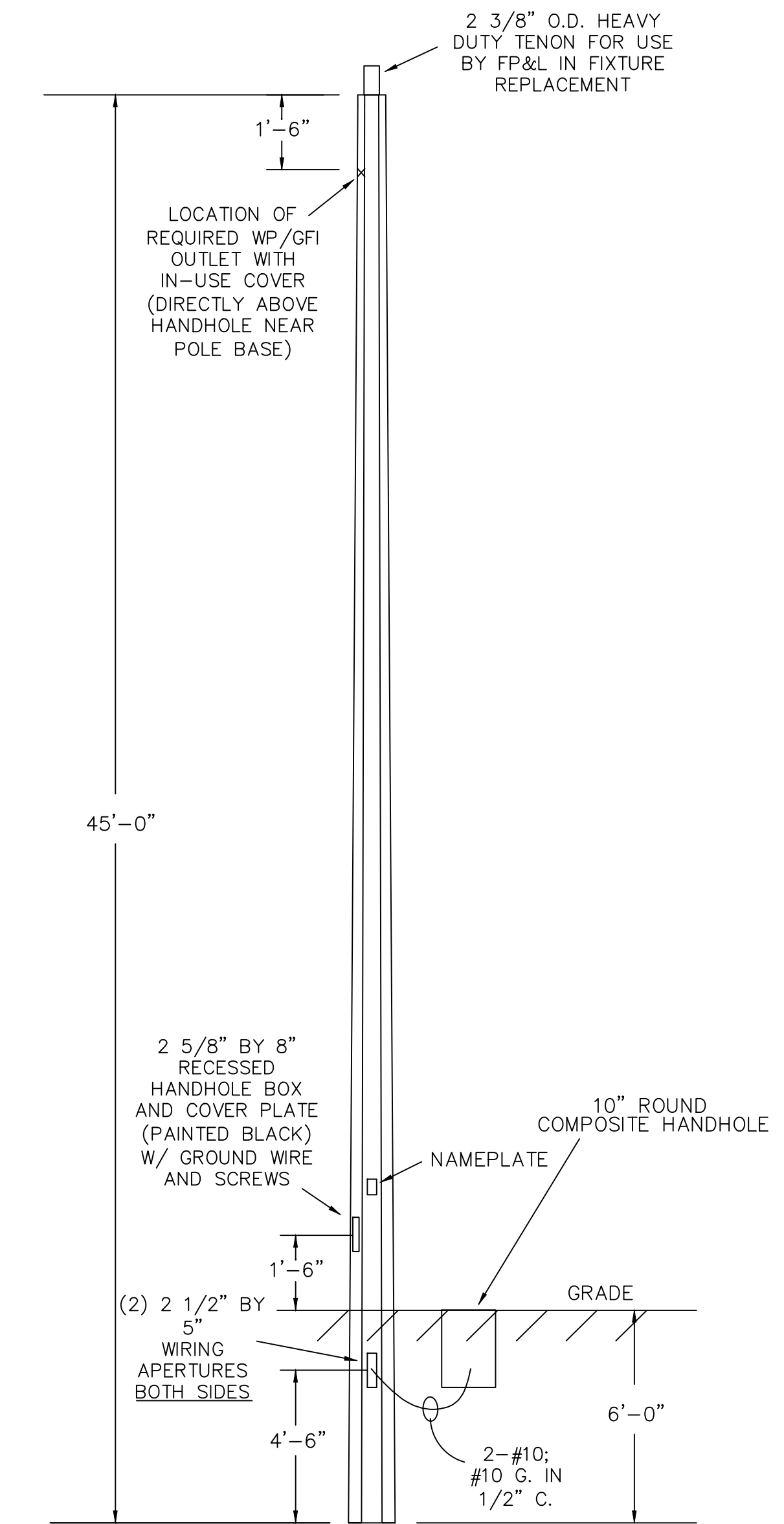
CAMERA BLOCK DIAGRAM  
(TYPICAL OF 3 PLACES)

\*NOTE - ELEVATION OF FIBER OPTIC BOXES WILL CHANGE DUE TO MINOR CHANGES IN SIDEWALK ELEVATION. ALL FIBER OPTIC BOXES TO BE REPLACED WITH 13x24x18 HUBBELL QUAZITE 2,000 LB TRAFFIC-RATED MODEL PG1324BA18. COVER TO BE PG1324HG0021 ("21" DENOTES "FIBER OPTIC") IF NECESSARY. UP TO 6 INCHES MAY BE TRIMMED FROM THE BOTTOM OF THE ENCLOSURE TO WORK AROUND INTERFERENCES.



CAMERA POLE INSTALLATION DETAIL N.T.S.

OUTLETS TO BE MOUNTED IN OAK TREE PLANTERS APPROXIMATELY 10" FROM BASE OF TREE AS WELL AS NEAR MEDJOOOL PALMS IN MEDIAN. WP/GFI RECEPTACLES TO BE EQUIPPED WITH IN-USE COVERS AND BE MOUNTED APPROXIMATELY 14" ABOVE SOIL LEVEL. WIRE SIZE FROM HANDHOLE TO RECEPTACLE TO BE REDUCED TO #12 AWG.



WP OUTLET INSTALLATION DETAIL  
ON TALL MEDIAN POLES

TYPICAL OF TWELVE LOCATIONS

OUTLETS TO BE MOUNTED APPROXIMATELY 18" FROM TOP OF POLE ON SIDE OF OCTAGONAL POLE THAT IS DIRECTLY ABOVE THE HANDHOLE THAT IS NEAR GROUND LEVEL. THE POLE IS HOLLOW, AND EXISTING WIRING FOR THE NEW LED LIGHTS INSTALLED BY FP&L WILL BE PRESENT. CONTACT FPL SITE PERSONNEL IF NECESSARY TO BE SURE EXISTING WIRING INSIDE OF POLE IS DE-ENERGIZED PRIOR TO DRILLING INTO POLE WALL. CONTRACTOR TO CREATE A HOLE IN THE PRECAST CONCRETE POLE AT THE DESIRED LOCATION AND INSTALL A WP/GFI RECEPTACLE WITH IN-USE COVER. CARE SHALL BE TAKEN IN DRILLING HOLE TO NOT DAMAGE EXISTING CONDUCTORS INSIDE THE POLE. CONDUCTOR SIZE FROM THIS RECEPTACLE TO GROUND LEVEL TO BE #10 AWG.

NO.	DATE	DESCRIPTION	BY
4	8-13-16	BID SET	JMP
3	7-9-19	100% PLANS	JMP
2	2-25-19	90% SUBMITTAL	JMP
1	12-18-18	60% SUBMITTAL	JMP

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BEACH STREET STREETScape  
ORANGE TO BAY  
DAYTONA BEACH \* FLORIDA  
**CAMERA DETAILS**

CITY PROJ. NO.  
2018-036

**E8**  
SHEET NO.

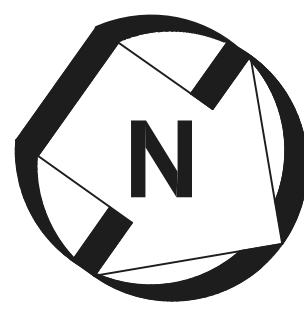
Drawn By: JMP

Date: 8-21-18

SCALE: AS NOTED

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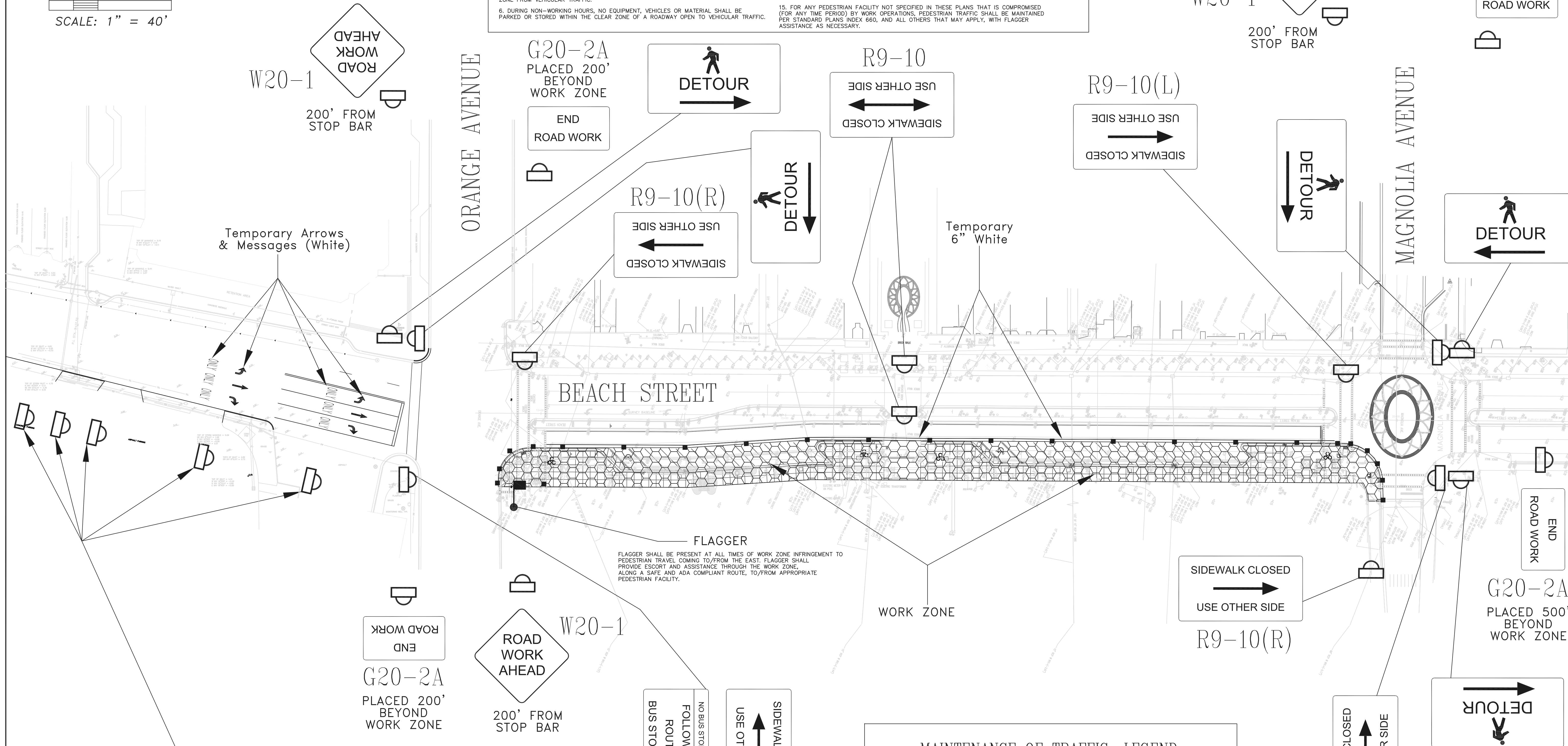
GRAPHIC SCALE



SCALE: 1" = 40'

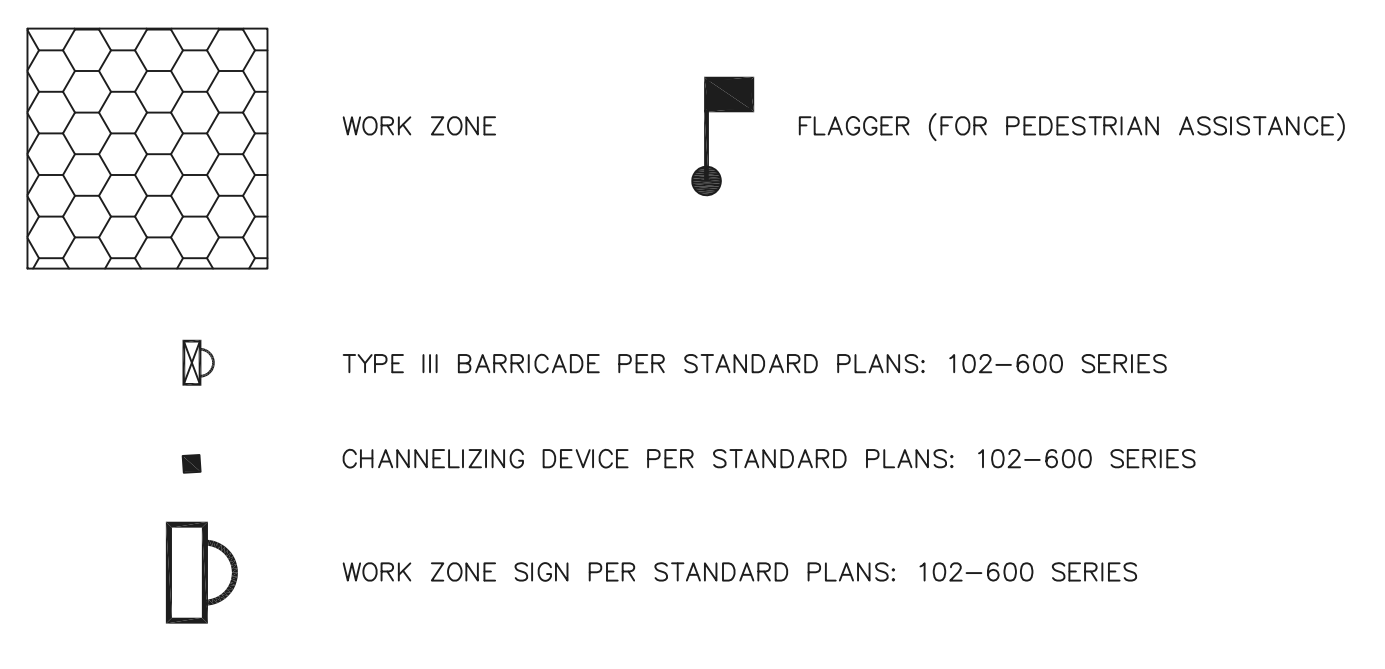
GENERAL NOTES:

- ALL TRAFFIC CONTROL IMPLEMENTED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS.
- FOR GENERAL TCZ REQUIREMENTS & ADDITIONAL INFORMATION, REFER TO FDOT STANDARD PLAN 102-600.
- THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL SUPERVISOR (TCS) WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL OPERATION. THE TCS SHALL BE RESPONSIBLE FOR CONDUCTING PERIODIC INSPECTIONS OF THE TRAFFIC CONTROL ZONES, AND SHALL BE AVAILABLE ON-CALL WITHIN ONE HOUR OF NOTIFICATION BY PHONE IN THE CASE OF AN EMERGENCY.
- UNLESS OTHERWISE SHOWN, CHANNELIZING DEVICES SHALL BE SPACED AS FOLLOWS:  
TAPERS & TURNING RADI: 25'  
TANGENT: 50'
- THE NUMBER OF DEVICES SHOWN IN THESE PLANS IS FOR ILLUSTRATION PURPOSES. ADDITIONAL DEVICES MAY BE REQUIRED TO PROPERLY PROTECT THE WORKERS AND WORK ZONE FROM VEHICULAR TRAFFIC.
- DURING NON-WORKING HOURS, NO EQUIPMENT, VEHICLES OR MATERIAL SHALL BE PARKED OR STORED WITHIN THE CLEAR ZONE OF A ROADWAY OPEN TO VEHICULAR TRAFFIC.
- A MINIMUM 2' BUFFER ZONE SHALL BE MAINTAINED BETWEEN THE WORK ZONE AND TRAVEL LANES AT ALL TIMES.
- MINIMUM WORK ZONE LANE WIDTHS SHALL BE 11'. 6" WHITE EDGE LINES ARE REQUIRED. TEMPORARY MARKING METHOD USED (TAPE, ETC.) SHALL NOT LEAVE PERMANENT PAVEMENT SCAR.
- ALL MARKINGS IN CONFLICT SHALL BE REMOVED.
- AS APPLICABLE, TEMPORARY STRIPING PLACED BY THE CONTRACTOR SHALL BE SUPPLEMENTED BY RPMs PER STANDARD PLAN 102-600.
- NO DROP OFF CONDITION SHALL BE ALLOWED DURING NONWORKING HOURS WITHIN THE CLEAR ZONE OF ANY ROADWAY. DROP OFF CONDITIONS SHALL BE ELIMINATED PER STANDARD PLAN 102-600.
- PER STANDARD PLAN 102-600, PROVISION FOR THE DISABLED MUST BE MAINTAINED/PROVIDED.
- CORNER AREAS AT SIGNALIZED INTERSECTIONS SHALL BE RETURNED TO AN OPERATIONAL STATE DURING NON-WORKING HOURS, WITH ADA COMPLIANT PEDESTRIAN FACILITIES (WHETHER TEMPORARY OR PERMANENT) IN PLACE. WORK ZONE SIGNAGE, ETC. SHALL BE ADJUSTED AS NECESSARY AND APPLICABLE PER FDOT STANDARD PLANS INDEXES.
- CORNER AREAS AT SIGNALIZED INTERSECTIONS SHALL BE RETURNED TO A FULL-TIME OPERATIONAL STATE AS SOON AS POSSIBLE. WORK ZONE SIGNAGE, ETC. SHALL BE ADJUSTED AS NECESSARY AND APPLICABLE PER FDOT STANDARD PLANS INDEXES.
- FOR ANY PEDESTRIAN FACILITY NOT SPECIFIED IN THESE PLANS THAT IS COMPROMISED (FOR ANY TIME PERIOD) BY WORK OPERATIONS, PEDESTRIAN TRAFFIC SHALL BE MAINTAINED PER STANDARD PLANS INDEX 660, AND ALL OTHERS THAT MAY APPLY, WITH FLAGGER ASSISTANCE AS NECESSARY.



**FLAGGER**  
 FLAGGER SHALL BE PRESENT AT ALL TIMES OF WORK ZONE INFRINGEMENT TO PEDESTRIAN TRAVEL COMING TO/FROM THE EAST. FLAGGER SHALL PROVIDE ESCORT AND ASSISTANCE THROUGH THE WORK ZONE, ALONG A SAFE AND ADA COMPLIANT ROUTE, TO/FROM APPROPRIATE PEDESTRIAN FACILITY.

MAINTENANCE OF TRAFFIC: LEGEND



600' FROM STOP BAR: ROAD WORK AHEAD (W20-1)

500' FROM STOP BAR: SPEEDING FINES DOUBLED WHEN WORKERS PRESENT (MOT 14-04)

400' FROM STOP BAR: THRU TRAFFIC MERGE LEFT (R3-7R)

200' FROM STOP BAR: RIGHT LANE MUST TURN RIGHT (R3-7R)

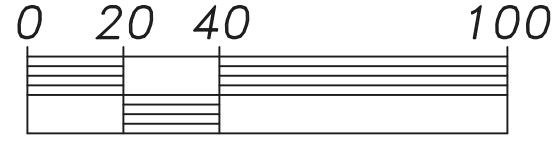
PLACED AT STOP BAR: RIGHT LANE MUST TURN RIGHT (R3-7R)

MOT-1 OF MOT-8 DANIEL FOLSOM FLORIDA P.E. NO. 66752	MAINTENANCE OF TRAFFIC - PHASE 1		TRAFFIC PLANNING AND DESIGN, INC.		SCALE	DRAWN	DESIGNED	CHECKED
	BEACH STREET STREETSCAPE		555 Versailles Drive Tel: (407) 628-9955 info@tpdtraffic.com		1" = 40'	DF	DF	TD
TPD JOB# 5115	CITY OF DAYTONA BEACH, FLORIDA		Certificate of Authorization No. EB-3702		REVISIONS			
	D5	8-13-19	DATE		60% PLANS 90% PLANS 100% PLANS BID SET			





GRAPHIC SCALE



SCALE: 1" = 40'

GENERAL NOTES:

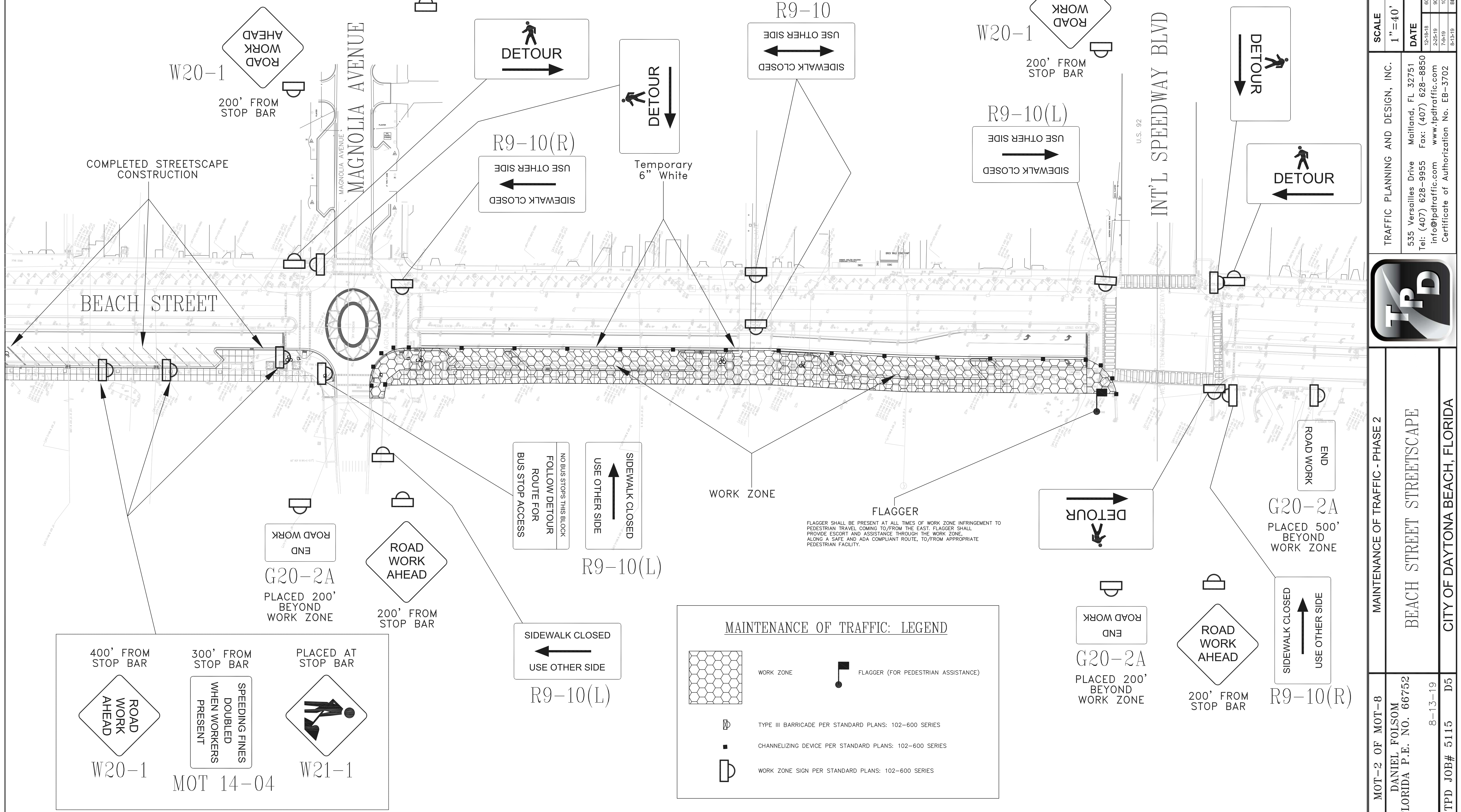
1. ALL TRAFFIC CONTROL IMPLEMENTED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS.
2. FOR GENERAL TCZ REQUIREMENTS & ADDITIONAL INFORMATION, REFER TO FDOT STANDARD PLAN 102-600.
3. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL SUPERVISOR (TCS) WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL OPERATION. THE TCS SHALL BE RESPONSIBLE FOR CONDUCTING PERIODIC INSPECTIONS OF THE TRAFFIC CONTROL ZONES, AND SHALL BE AVAILABLE ON-CALL WITHIN ONE HOUR OF NOTIFICATION BY PHONE IN THE CASE OF AN EMERGENCY.
4. UNLESS OTHERWISE SHOWN, CHANNELIZING DEVICES SHALL BE SPACED AS FOLLOWS:  
TAPERS & TURNING RADI: 25'  
TANGENT: 50'
5. THE NUMBER OF DEVICES SHOWN IN THESE PLANS IS FOR ILLUSTRATION PURPOSES. ADDITIONAL DEVICES MAY BE REQUIRED TO PROPERLY PROTECT THE WORKERS AND WORK ZONE FROM VEHICULAR TRAFFIC.
6. DURING NON-WORKING HOURS, NO EQUIPMENT, VEHICLES OR MATERIAL SHALL BE PARKED OR STORED WITHIN THE CLEAR ZONE OF A ROADWAY OPEN TO VEHICULAR TRAFFIC.
7. A MINIMUM 2' BUFFER ZONE SHALL BE MAINTAINED BETWEEN THE WORK ZONE AND TRAVEL LANES AT ALL TIMES.
8. MINIMUM WORK ZONE LANE WIDTHS SHALL BE 11'. 6" WHITE EDGE LINES ARE REQUIRED. TEMPORARY MARKING METHOD USED (TAPE, ETC.) SHALL NOT LEAVE PERMANENT PAVEMENT SCAR.
9. ALL MARKINGS IN CONFLICT SHALL BE REMOVED.
10. AS APPLICABLE, TEMPORARY STRIPING PLACED BY THE CONTRACTOR SHALL BE SUPPLEMENTED BY RPMs PER STANDARD PLAN 102-600.
11. NO DROP OFF CONDITION SHALL BE ALLOWED DURING NONWORKING HOURS WITHIN THE CLEAR ZONE OF ANY ROADWAY. DROP OFF CONDITIONS SHALL BE ELIMINATED PER STANDARD PLAN 102-600.
12. PER STANDARD PLAN 102-600, PROVISION FOR THE DISABLED MUST BE MAINTAINED/PROVIDED.
13. CORNER AREAS AT SIGNALIZED INTERSECTIONS SHALL BE RETURNED TO AN OPERATIONAL STATE DURING NON-WORKING HOURS, WITH ADA COMPLIANT PEDESTRIAN FACILITIES (WHETHER TEMPORARY OR PERMANENT) IN PLACE. WORK ZONE SIGNAGE, ETC. SHALL BE ADJUSTED AS NECESSARY AND APPLICABLE PER FDOT STANDARD PLANS INDEXES.
14. CORNER AREAS AT SIGNALIZED INTERSECTIONS SHALL BE RETURNED TO A FULL-TIME OPERATIONAL STATE AS SOON AS POSSIBLE. WORK ZONE SIGNAGE, ETC. SHALL BE ADJUSTED AS NECESSARY AND APPLICABLE PER FDOT STANDARD PLANS INDEXES.
15. FOR ANY PEDESTRIAN FACILITY NOT SPECIFIED IN THESE PLANS THAT IS COMPROMISED (FOR ANY TIME PERIOD) BY WORK OPERATIONS, PEDESTRIAN TRAFFIC SHALL BE MAINTAINED PER STANDARD PLANS INDEX 660, AND ALL OTHERS THAT MAY APPLY, WITH FLAGGER ASSISTANCE AS NECESSARY.

G20-2A  
PLACED 200'  
BEYOND  
WORK ZONE

END  
ROAD WORK

G20-2A  
PLACED 200'  
BEYOND  
WORK ZONE

END  
ROAD WORK



COMPLETED STREETSCAPE CONSTRUCTION

BEACH STREET

MAGNOLIA AVENUE

INT'L SPEEDWAY BLVD  
U.S. 92

R9-10(R)  
SIDEWALK CLOSED  
USE OTHER SIDE

R9-10  
SIDEWALK CLOSED  
USE OTHER SIDE

R9-10(L)  
SIDEWALK CLOSED  
USE OTHER SIDE

NO BUS STOPS THIS BLOCK  
FOLLOW DETOUR  
ROUTE FOR  
BUS STOP ACCESS

SIDEWALK CLOSED  
USE OTHER SIDE

WORK ZONE

FLAGGER

FLAGGER SHALL BE PRESENT AT ALL TIMES OF WORK ZONE INFRINGEMENT TO PEDESTRIAN TRAVEL COMING TO/FROM THE EAST. FLAGGER SHALL PROVIDE ESCORT AND ASSISTANCE THROUGH THE WORK ZONE, ALONG A SAFE AND ADA COMPLIANT ROUTE, TO/FROM APPROPRIATE PEDESTRIAN FACILITY.

MAINTENANCE OF TRAFFIC: LEGEND

- WORK ZONE
- FLAGGER (FOR PEDESTRIAN ASSISTANCE)
- TYPE III BARRICADE PER STANDARD PLANS: 102-600 SERIES
- CHANNELIZING DEVICE PER STANDARD PLANS: 102-600 SERIES
- WORK ZONE SIGN PER STANDARD PLANS: 102-600 SERIES

400' FROM STOP BAR

300' FROM STOP BAR

PLACED AT STOP BAR

ROAD WORK AHEAD (W20-1)

SPEEDING FINES DOUBLED WHEN WORKERS PRESENT (MOT 14-04)

PEDESTRIAN AHEAD (W21-1)

G20-2A  
PLACED 200'  
BEYOND  
WORK ZONE

ROAD WORK AHEAD

200' FROM STOP BAR

SIDEWALK CLOSED  
USE OTHER SIDE  
R9-10(L)

END  
ROAD WORK  
G20-2A  
PLACED 200'  
BEYOND  
WORK ZONE

ROAD WORK AHEAD

200' FROM STOP BAR

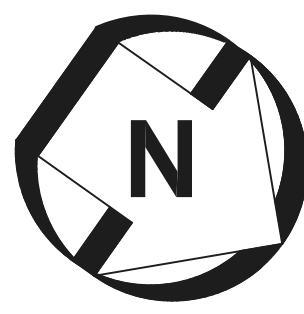
SIDEWALK CLOSED  
USE OTHER SIDE  
R9-10(R)

G20-2A  
PLACED 500'  
BEYOND  
WORK ZONE

END  
ROAD WORK

MOT-2 OF MOT-8 DANIEL FOLSOM FLORIDA P.E. NO. 66752	MAINTENANCE OF TRAFFIC - PHASE 2		TRAFFIC PLANNING AND DESIGN, INC.	SCALE	DRAWN	DESIGNED	CHECKED
	BEACH STREET STREETSCAPE		535 Versailles Drive Tel: (407) 628-9955 info@tpdtraffic.com	1"=40'	DF	DF	TD
TPD JOB# 5115	CITY OF DAYTONA BEACH, FLORIDA		Certificate of Authorization No. EB-3702	DATE	REVISIONS		
	D5	8-13-19		12-18-18			





GRAPHIC SCALE

0 20 40 100

SCALE: 1" = 40'

G20-2A  
PLACED 200'  
BEYOND  
WORK ZONE

END  
ROAD WORK

DETOUR

DETOUR

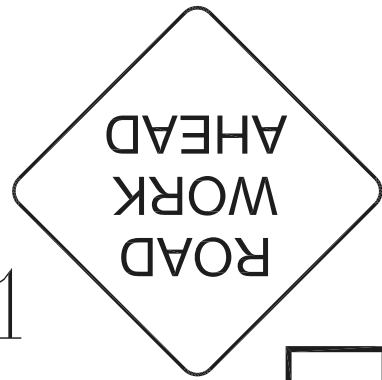
GENERAL NOTES:

1. ALL TRAFFIC CONTROL IMPLEMENTED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS.
2. FOR GENERAL TOZ REQUIREMENTS & ADDITIONAL INFORMATION, REFER TO FDOT STANDARD PLAN 102-600.
3. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL SUPERVISOR (TCS) WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL OPERATION. THE TCS SHALL BE RESPONSIBLE FOR CONDUCTING PERIODIC INSPECTIONS OF THE TRAFFIC CONTROL ZONES, AND SHALL BE AVAILABLE ON-CALL WITHIN ONE HOUR OF NOTIFICATION BY PHONE IN THE CASE OF AN EMERGENCY.
4. UNLESS OTHERWISE SHOWN, CHANNELIZING DEVICES SHALL BE SPACED AS FOLLOWS:  
TAPERS & TURNING RADI: 25'  
TANGENT: 50'
5. THE NUMBER OF DEVICES SHOWN IN THESE PLANS IS FOR ILLUSTRATION PURPOSES. ADDITIONAL DEVICES MAY BE REQUIRED TO PROPERLY PROTECT THE WORKERS AND WORK ZONE FROM VEHICULAR TRAFFIC.
6. DURING NON-WORKING HOURS, NO EQUIPMENT, VEHICLES OR MATERIAL SHALL BE PARKED OR STORED WITHIN THE CLEAR ZONE OF A ROADWAY OPEN TO VEHICULAR TRAFFIC.

7. A MINIMUM 2' BUFFER ZONE SHALL BE MAINTAINED BETWEEN THE WORK ZONE AND TRAVEL LANES AT ALL TIMES.
8. MINIMUM WORK ZONE LANE WIDTHS SHALL BE 11'. 6" WHITE EDGE LINES ARE REQUIRED. TEMPORARY MARKING METHOD USED (TAPE, ETC.) SHALL NOT LEAVE PERMANENT PAVEMENT SCAR.
9. ALL MARKINGS IN CONFLICT SHALL BE REMOVED.
10. AS APPLICABLE, TEMPORARY STRIPING PLACED BY THE CONTRACTOR SHALL BE SUPPLEMENTED BY RPMs PER STANDARD PLAN 102-600.
11. NO DROP OFF CONDITION SHALL BE ALLOWED DURING NONWORKING HOURS WITHIN THE CLEAR ZONE OF ANY ROADWAY. DROP OFF CONDITIONS SHALL BE ELIMINATED PER STANDARD PLAN 102-600.
12. PER STANDARD PLAN 102-600, PROVISION FOR THE DISABLED MUST BE MAINTAINED/PROVIDED.
13. CORNER AREAS AT SIGNALIZED INTERSECTIONS SHALL BE RETURNED TO AN OPERATIONAL STATE DURING NON-WORKING HOURS, WITH ADA COMPLIANT PEDESTRIAN FACILITIES (WHETHER TEMPORARY OR PERMANENT) IN PLACE. WORK ZONE SIGNAGE, ETC. SHALL BE ADJUSTED AS NECESSARY AND APPLICABLE PER FDOT STANDARD PLANS INDEXES.
14. CORNER AREAS AT SIGNALIZED INTERSECTIONS SHALL BE RETURNED TO A FULL-TIME OPERATIONAL STATE AS SOON AS POSSIBLE. WORK ZONE SIGNAGE, ETC. SHALL BE ADJUSTED AS NECESSARY AND APPLICABLE PER FDOT STANDARD PLANS INDEXES.
15. FOR ANY PEDESTRIAN FACILITY NOT SPECIFIED IN THESE PLANS THAT IS COMPROMISED (FOR ANY TIME PERIOD) BY WORK OPERATIONS, PEDESTRIAN TRAFFIC SHALL BE MAINTAINED PER STANDARD PLANS INDEX 560, AND ALL OTHERS THAT MAY APPLY, WITH FLAGGER ASSISTANCE AS NECESSARY.

W20-1

200' FROM  
STOP BAR



COMPLETED STREETScape  
CONSTRUCTION

INT'L SPEEDWAY BLVD

R9-10(R)

USE OTHER SIDE  
SIDEWALK CLOSED

Temporary  
6" White

R9-10

USE OTHER SIDE  
SIDEWALK CLOSED

R9-10

USE OTHER SIDE  
SIDEWALK CLOSED

BAY STREET

DETOUR

DETOUR

BEACH STREET

END  
ROAD WORK

G20-2A  
PLACED 200'  
BEYOND  
WORK ZONE

200' FROM  
STOP BAR



FLAGGER

FLAGGER SHALL BE PRESENT AT ALL TIMES OF WORK ZONE INFRINGEMENT TO PEDESTRIAN TRAVEL COMING TO/FROM THE EAST. FLAGGER SHALL PROVIDE ESCORT AND ASSISTANCE THROUGH THE WORK ZONE, ALONG A SAFE AND ADA COMPLIANT ROUTE, TO/FROM APPROPRIATE PEDESTRIAN FACILITY.

NO BUS STOPS THIS BLOCK  
FOLLOW DETOUR  
ROUTE FOR  
BUS STOP ACCESS

SIDEWALK CLOSED  
USE OTHER SIDE

WORK ZONE

DETOUR

SIDEWALK CLOSED  
USE OTHER SIDE

END  
ROAD WORK

G20-2A  
PLACED 500'  
BEYOND  
WORK ZONE

R9-10(R)

400' FROM  
STOP BAR



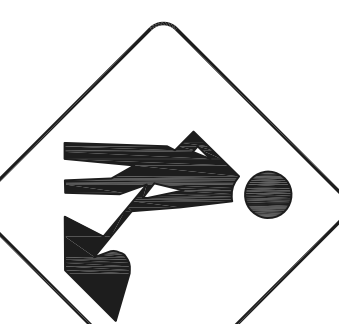
W20-1

300' FROM  
STOP BAR

SPEEDING FINES  
DOUBLED  
WHEN WORKERS  
PRESENT

MOT 14-04

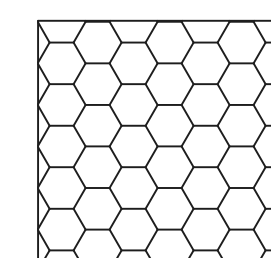
PLACED AT  
STOP BAR



W21-1

R9-10(L)

MAINTENANCE OF TRAFFIC: LEGEND



WORK ZONE



FLAGGER (FOR PEDESTRIAN ASSISTANCE)



TYPE III BARRICADE PER STANDARD PLANS: 102-600 SERIES



CHANNELIZING DEVICE PER STANDARD PLANS: 102-600 SERIES



WORK ZONE SIGN PER STANDARD PLANS: 102-600 SERIES

TRAFFIC PLANNING AND DESIGN, INC.

535 Versailles Drive  
Tel: (407) 628-9955  
info@tpdtraffic.com

Maitland, FL 32751  
Fax: (407) 628-8850  
www.tpdtraffic.com

Certificate of Authorization No. EB-3702



MAINTENANCE OF TRAFFIC - PHASE 3

BEACH STREET STREETScape

CITY OF DAYTONA BEACH, FLORIDA

MOT-3 OF MOT-8

DANIEL FOLSON  
FLORIDA P.E. NO. 66752

8-13-19

TPD JOB# 5115 D5

SCALE 1" = 40'

CHECKED TD

DESIGNED DF

DRAWN DF

REVISIONS

DATE

12-18-18

2-25-19

7-25-19

8-13-19

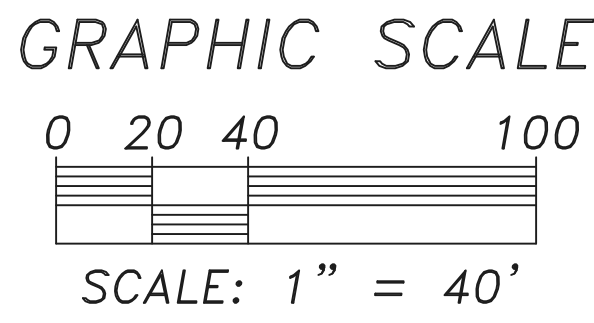
60% PLANS

90% PLANS

100% PLANS

BID SET





G20-2A  
PLACED 500'  
BEYOND  
WORK ZONE

200' FROM  
STOP BAR  
ROAD  
WORK  
AHEAD

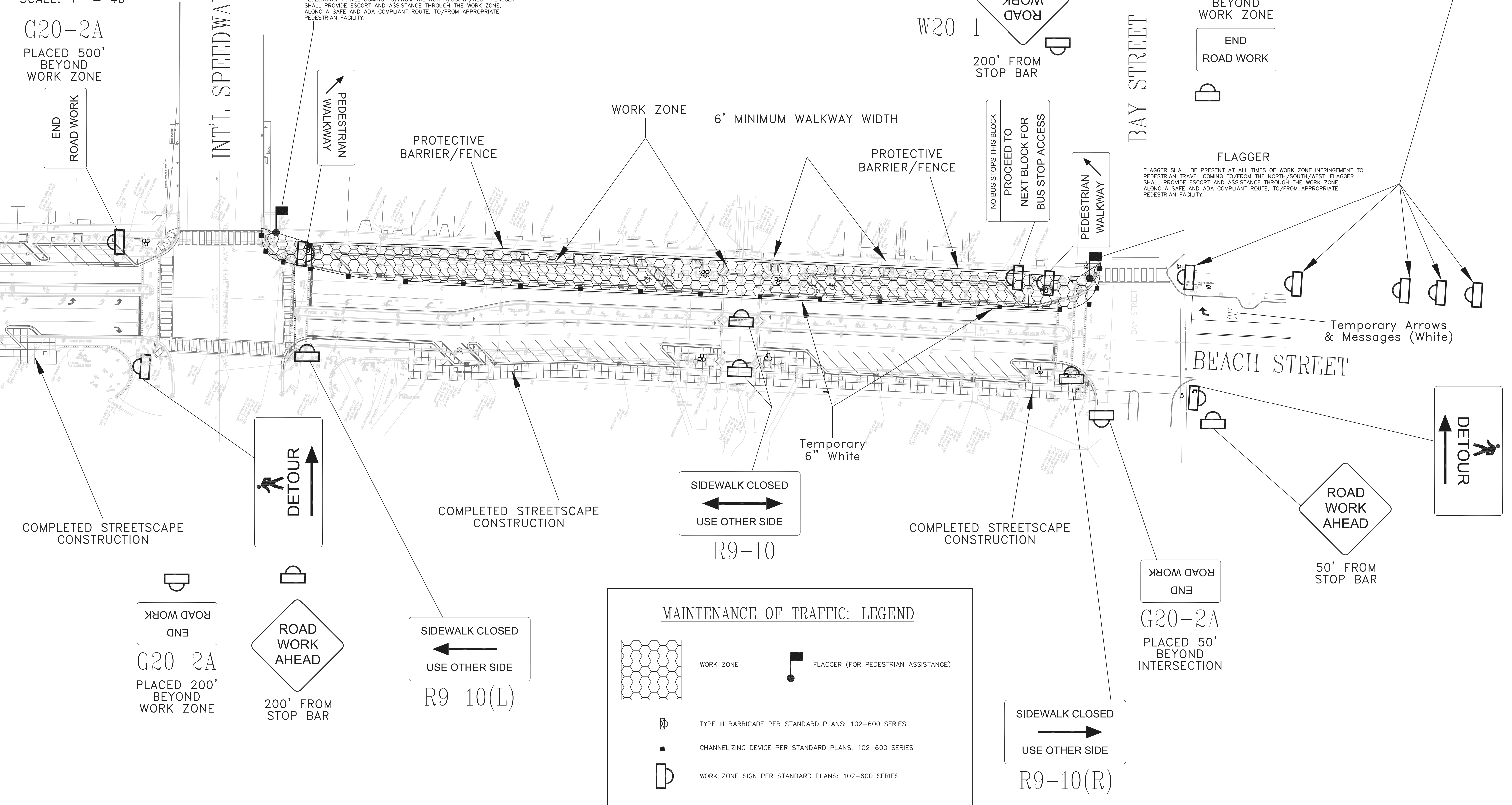
G20-2A  
PLACED 500'  
BEYOND  
WORK ZONE  
END  
ROAD WORK

**GENERAL NOTES:**

- ALL TRAFFIC CONTROL IMPLEMENTED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS.
- FOR GENERAL TCZ REQUIREMENTS & ADDITIONAL INFORMATION, REFER TO FDOT STANDARD PLAN 102-600.
- THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL SUPERVISOR (TCS) WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL OPERATION. THE TCS SHALL BE RESPONSIBLE FOR CONDUCTING PERIODIC INSPECTIONS OF THE TRAFFIC CONTROL ZONES, AND SHALL BE AVAILABLE ON-CALL WITHIN ONE HOUR OF NOTIFICATION BY PHONE IN THE CASE OF AN EMERGENCY.
- UNLESS OTHERWISE SHOWN, CHANNELIZING DEVICES SHALL BE SPACED AS FOLLOWS:  
TAPERS & TURNING RADI: 25'  
TANGENT: 50'
- THE NUMBER OF DEVICES SHOWN IN THESE PLANS IS FOR ILLUSTRATION PURPOSES. ADDITIONAL DEVICES MAY BE REQUIRED TO PROPERLY PROTECT THE WORKERS AND WORK ZONE FROM VEHICULAR TRAFFIC.
- DURING NON-WORKING HOURS, NO EQUIPMENT, VEHICLES OR MATERIAL SHALL BE PARKED OR STORED WITHIN THE CLEAR ZONE OF A ROADWAY OPEN TO VEHICULAR TRAFFIC.
- A MINIMUM 2' BUFFER ZONE SHALL BE MAINTAINED BETWEEN THE WORK ZONE AND TRAVEL LANES AT ALL TIMES.
- MINIMUM WORK ZONE LANE WIDTHS SHALL BE 11'. 6" WHITE EDGE LINES ARE REQUIRED. TEMPORARY MARKING METHOD USED (TAPE, ETC.) SHALL NOT LEAVE PERMANENT PAVEMENT SCAR.
- ALL MARKINGS IN CONFLICT SHALL BE REMOVED.
- AS APPLICABLE, TEMPORARY STRIPING PLACED BY THE CONTRACTOR SHALL BE SUPPLEMENTED BY RPM PER STANDARD PLAN 102-600.
- NO DROP OFF CONDITION SHALL BE ALLOWED DURING NONWORKING HOURS WITHIN THE CLEAR ZONE OF ANY ROADWAY. DROP OFF CONDITIONS SHALL BE ELIMINATED PER STANDARD PLAN 102-600.
- PER STANDARD PLAN 102-600, PROVISION FOR THE DISABLED MUST BE MAINTAINED/PROVIDED.
- CORNER AREAS AT SIGNALIZED INTERSECTIONS SHALL BE RETURNED TO AN OPERATIONAL STATE DURING NON-WORKING HOURS, WITH ADA COMPLIANT PEDESTRIAN FACILITIES (WHETHER TEMPORARY OR PERMANENT) IN PLACE. WORK ZONE SIGNAGE, ETC. SHALL BE ADJUSTED AS NECESSARY AND APPLICABLE PER FDOT STANDARD PLANS INDEXES.
- CORNER AREAS AT SIGNALIZED INTERSECTIONS SHALL BE RETURNED TO A FULL-TIME OPERATIONAL STATE AS SOON AS POSSIBLE. WORK ZONE SIGNAGE, ETC. SHALL BE ADJUSTED AS NECESSARY AND APPLICABLE PER FDOT STANDARD PLANS INDEXES.
- FOR ANY PEDESTRIAN FACILITY NOT SPECIFIED IN THESE PLANS THAT IS COMPROMISED (FOR ANY TIME PERIOD) BY WORK OPERATIONS, PEDESTRIAN TRAFFIC SHALL BE MAINTAINED PER STANDARD PLANS INDEX 660, AND ALL OTHERS THAT MAY APPLY, WITH FLAGGER ASSISTANCE AS NECESSARY.
- ALL SIDEWALK PAVEMENT WORK WITH 6 FEET OF STORE ENTRANCES ON THE WEST SIDE OF BEACH ST. SHALL BE RESTRICTED TO THE HOURS OF 8:00pm TO 6:00pm, MONDAY THROUGH THURSDAY, AND SHALL NOT OCCUR ON ANY FRIDAY, SATURDAY, OR SUNDAY.

**FLAGGER**

FLAGGER SHALL BE PRESENT AT ALL TIMES OF WORK ZONE INFRINGEMENT TO PEDESTRIAN TRAVEL COMING TO/FROM THE NORTH/SOUTH/WEST. FLAGGER SHALL PROVIDE ESCORT AND ASSISTANCE THROUGH THE WORK ZONE, ALONG A SAFE AND ADA COMPLIANT ROUTE, TO/FROM APPROPRIATE PEDESTRIAN FACILITY.



PLACED AT STOP BAR  
RIGHT LANE MUST TURN RIGHT  
R3-7R

200' FROM STOP BAR  
RIGHT LANE MUST TURN RIGHT  
R3-7R

400' FROM STOP BAR  
THRU TRAFFIC MERGE LEFT

500' FROM STOP BAR  
SPEEDING FINES DOUBLED WHEN WORKERS PRESENT

600' FROM STOP BAR  
ROAD WORK AHEAD

MOT 14-04 W20-1

W20-1  
200' FROM STOP BAR  
ROAD WORK AHEAD

G20-2A  
PLACED 200'  
BEYOND  
WORK ZONE  
END  
ROAD WORK

NO BUS STOPS THIS BLOCK  
PROCEED TO NEXT BLOCK FOR BUS STOP ACCESS

PEDESTRIAN WALKWAY

FLAGGER  
FLAGGER SHALL BE PRESENT AT ALL TIMES OF WORK ZONE INFRINGEMENT TO PEDESTRIAN TRAVEL COMING TO/FROM THE NORTH/SOUTH/WEST. FLAGGER SHALL PROVIDE ESCORT AND ASSISTANCE THROUGH THE WORK ZONE, ALONG A SAFE AND ADA COMPLIANT ROUTE, TO/FROM APPROPRIATE PEDESTRIAN FACILITY.

DETOUR  
↑

END ROAD WORK  
G20-2A  
PLACED 200'  
BEYOND  
WORK ZONE  
ROAD WORK AHEAD  
200' FROM STOP BAR

SIDEWALK CLOSED  
←  
USE OTHER SIDE  
R9-10(L)

SIDEWALK CLOSED  
↔  
USE OTHER SIDE  
R9-10

SIDEWALK CLOSED  
→  
USE OTHER SIDE  
R9-10(R)

ROAD WORK AHEAD  
50' FROM STOP BAR

DETOUR  
↑

**MAINTENANCE OF TRAFFIC: LEGEND**

- WORK ZONE
- FLAGGER (FOR PEDESTRIAN ASSISTANCE)
- TYPE III BARRICADE PER STANDARD PLANS: 102-600 SERIES
- CHANNELIZING DEVICE PER STANDARD PLANS: 102-600 SERIES
- WORK ZONE SIGN PER STANDARD PLANS: 102-600 SERIES

MOT-4 OF MOT-8 DANIEL FOLSOM FLORIDA P.E. NO. 66752	MAINTENANCE OF TRAFFIC - PHASE 4 BEACH STREET STREETScape	TRAFFIC PLANNING AND DESIGN, INC. 555 Versailles Drive Tel: (407) 628-9955 info@tpdtraffic.com	Maitland, FL 32751 Fax: (407) 628-8850 www.tpdtraffic.com	SCALE	DRAWN	DESIGNED	CHECKED
				1" = 40'	DF	DF	TD
TPD JOB# 5115	CITY OF DAYTONA BEACH, FLORIDA	Certificate of Authorization No. EB-3702	8-13-19	DATE	REVISIONS		
				12-18-18	60% PLANS		
				2-25-19	90% PLANS		
				7-25-19	100% PLANS		













GRAPHIC SCALE



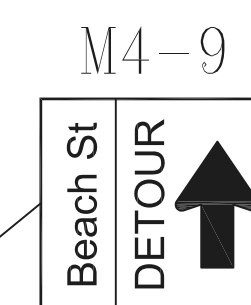
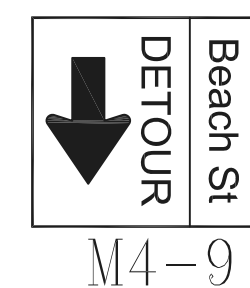
SCALE: 1" = 80'

(CLOSE EB LEFT TURN LANE)

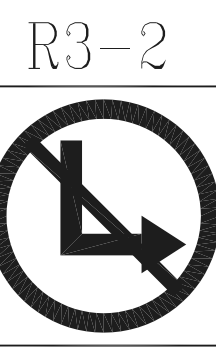
PALMETTO AVENUE



ROAD CLOSED  
LOCAL TRAFFIC ONLY  
500 FT

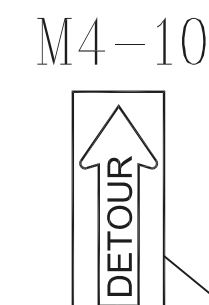
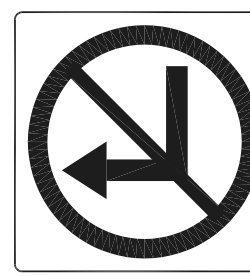


PALMETTO AVENUE



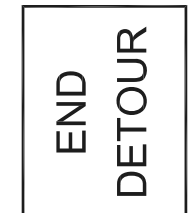
R11-2 PLACED ON TYPE 3 BARRICADE

ROAD CLOSED



Temporary Arrows & Messages (White)

M4-8a



250' BEYOND ORANGE AVE

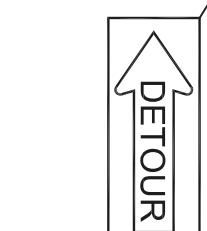
Temporary Arrows & Messages (White)



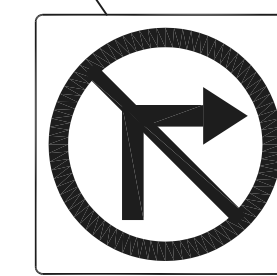
W20-3  
200' FROM TURN LANES



W20-2A  
100' FROM TURN LANES



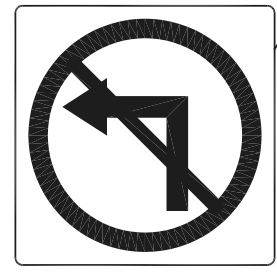
M4-10



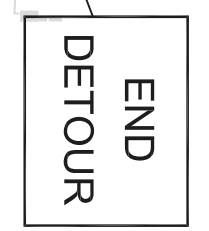
R3-1

ROAD CLOSED

R11-2 PLACED ON TYPE 3 BARRICADE



R3-2

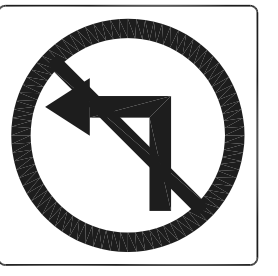


M4-8a AS SHOWN

ROAD CLOSED

R11-2 PLACED ON TYPE 3 BARRICADE

(CLOSE WB LEFT TURN LANE)



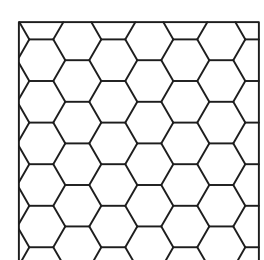
R3-2

ROAD CLOSED

R11-2 PLACED ON TYPE 3 BARRICADE

USE ORNG AVE. EXIT

MAINTENANCE OF TRAFFIC: LEGEND



WORK ZONE



TYPE III BARRICADE PER STANDARD PLANS: 102-600 SERIES



CHANNELIZING DEVICE PER STANDARD PLANS: 102-600 SERIES



WORK ZONE SIGN PER STANDARD PLANS: 102-600 SERIES

GENERAL NOTES:

1. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS.
2. FOR GENERAL TCZ REQUIREMENTS & ADDITIONAL INFORMATION, REFER TO FDOT STANDARD PLAN 102-600.
3. PHASE 7 (THIS SHEET) SHALL BE RESTRICTED TO THE HOURS OF 8:00pm TO 6:00am, MONDAY THROUGH THURSDAY, AND SHALL NOT OCCUR ON ANY FRIDAY, SATURDAY, OR SUNDAY.
4. ALL WORK PERIODS ASSOCIATED WITH PHASE 7 (THIS SHEET) MUST BE REQUESTED AND APPROVED BY THE CITY ENGINEER AT LEAST 7 DAYS PRIOR TO ROAD CLOSURE.
5. NO VEHICULAR ENTRY (EXCEPT FOR WORK VEHICLES) IS PERMISSIBLE ONTO BEACH STREET BETWEEN INTERNATIONAL SPEEDWAY BOULEVARD & ORANGE AVENUE. HOWEVER, IF WORK OPERATIONS BEGIN AND PARKED VEHICLES REMAIN ON CLOSED ROADWAYS, THE CONTRACTOR SHALL HAVE PERSONNEL AVAILABLE AT ALL TIMES TO PROVIDE ASSISTANCE IN EXITING THE AREA.
6. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL SUPERVISOR (TCS) WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL OPERATION. THE TCS SHALL BE RESPONSIBLE FOR CONDUCTING PERIODIC INSPECTIONS OF THE TRAFFIC CONTROL ZONES, AND SHALL BE AVAILABLE ON-CALL WITHIN ONE HOUR OF NOTIFICATION BY PHONE IN THE CASE OF AN EMERGENCY.
7. UNLESS OTHERWISE SHOWN, CHANNELIZING DEVICES SHALL BE SPACED AS FOLLOWS:  
TAPERS & TURNING RADI: 25'  
TANGENT: 50'
8. THE NUMBER OF DEVICES SHOWN IN THESE PLANS IS FOR ILLUSTRATION PURPOSES. ADDITIONAL DEVICES MAY BE REQUIRED TO PROPERLY PROTECT THE WORKERS AND WORK ZONE FROM VEHICULAR TRAFFIC.
9. DURING NON-WORKING HOURS, NO EQUIPMENT, VEHICLES OR MATERIAL SHALL BE PARKED OR STORED WITHIN THE CLEAR ZONE OF A ROADWAY OPEN TO VEHICULAR TRAFFIC.
10. ALL PEDESTRIAN WAYS AND FACILITIES SHALL REMAIN ACTIVE. PER STANDARD PLAN 102-600, PROVISION FOR THE DISABLED MUST BE MAINTAINED/PROVIDED.

SCALE	DRAWN	DESIGNED	CHECKED
1" = 80'	DF	DF	TD

DATE	REVISIONS
12-18-18	60% PLANS
2-25-19	90% PLANS
7-25-19	100% PLANS
8-13-19	BID SET

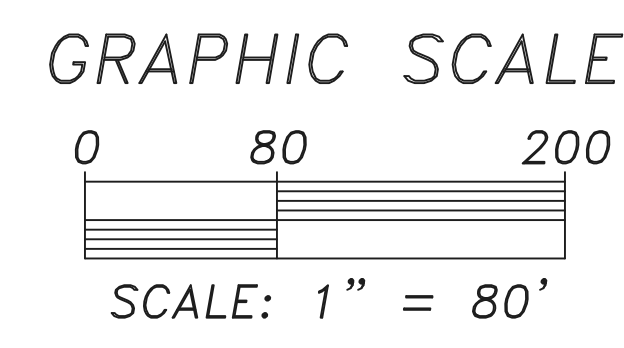
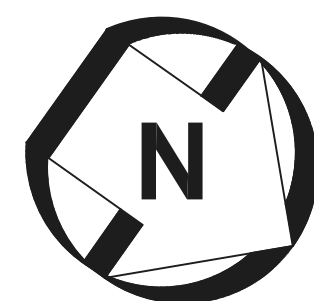
TRAFFIC PLANNING AND DESIGN, INC.  
 535 Versailles Drive  
 Maitland, FL 32751  
 Tel: (407) 628-9955  
 Fax: (407) 628-8850  
 info@tpdtraffic.com  
 www.tpdtraffic.com  
 Certificate of Authorization No. EB-3702



MAINTENANCE OF TRAFFIC - PHASE 7 (MAGNOLIA PAVERS)  
 BEACH STREET STREETSCAPE  
 CITY OF DAYTONA BEACH, FLORIDA

MOT-7 OF MOT-8	D5
DANIEL FOLSOM	
FLORIDA P.E. NO. 66752	
TPD JOB# 5115	
	8-13-19





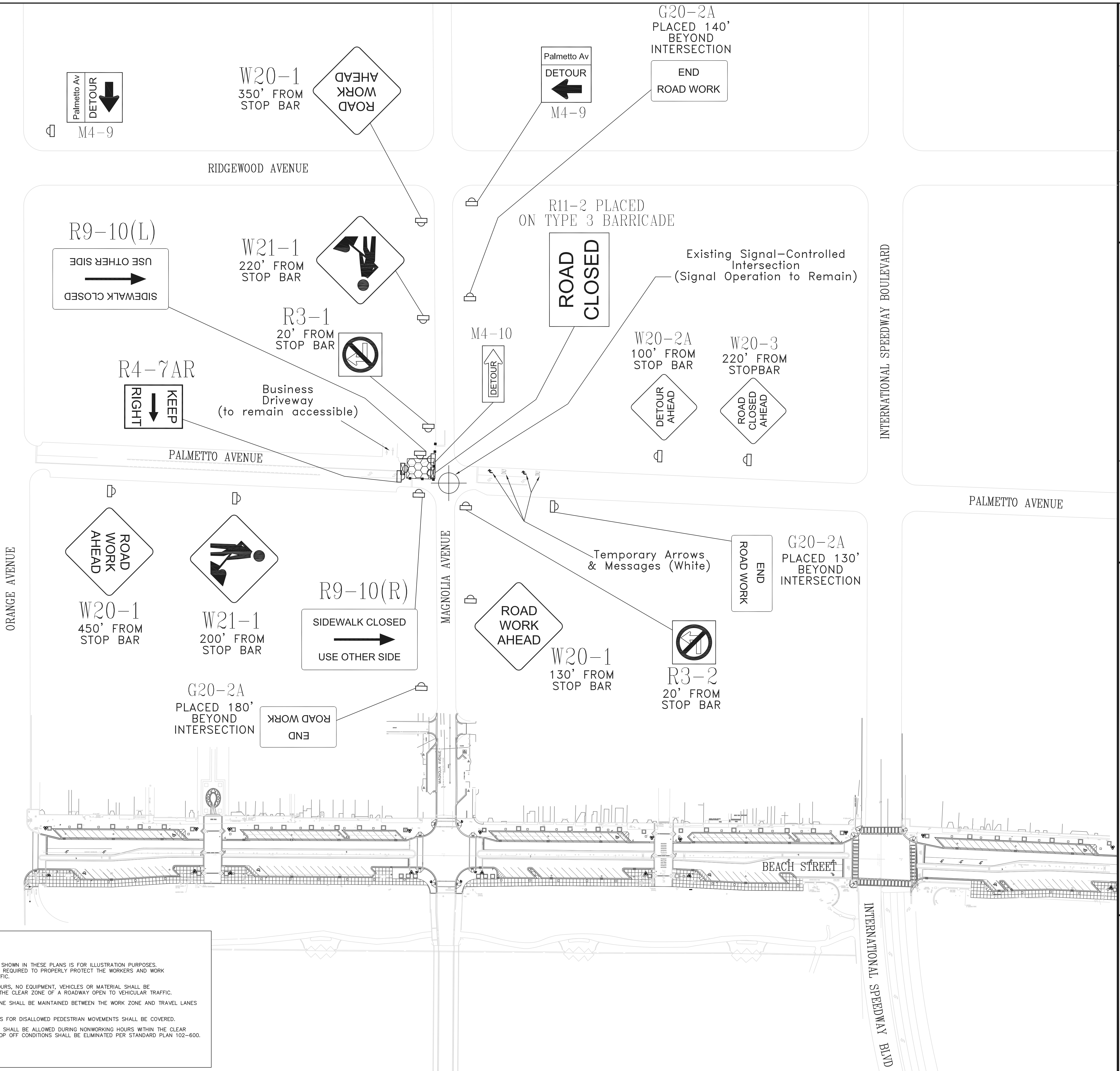
M4-8a  
DETOUR  
END

MAINTENANCE OF TRAFFIC: LEGEND

- WORK ZONE
- TYPE III BARRICADE PER STANDARD PLANS: 102-600 SERIES
- CHANNELIZING DEVICE PER STANDARD PLANS: 102-600 SERIES
- WORK ZONE SIGN PER STANDARD PLANS: 102-600 SERIES

GENERAL NOTES:

1. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS.
2. FOR GENERAL TCZ REQUIREMENTS & ADDITIONAL INFORMATION, REFER TO FDOT STANDARD PLAN 102-600.
3. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL SUPERVISOR (TCS) WHO WILL BE RESPONSIBLE FOR THE IMPLEMENTATION AND MAINTENANCE OF THE TRAFFIC CONTROL OPERATION. THE TCS SHALL BE RESPONSIBLE FOR CONDUCTING PERIODIC INSPECTIONS OF THE TRAFFIC CONTROL ZONES, AND SHALL BE AVAILABLE ON-CALL WITHIN ONE HOUR OF NOTIFICATION BY PHONE IN THE CASE OF AN EMERGENCY.
4. UNLESS OTHERWISE SHOWN, CHANNELIZING DEVICES SHALL BE SPACED AS FOLLOWS:  
TAPERS & TURNING RADI: 25'  
TANGENT: 50'
5. MINIMUM WORK ZONE LANE WIDTHS SHALL BE 10'.
6. THE NUMBER OF DEVICES SHOWN IN THESE PLANS IS FOR ILLUSTRATION PURPOSES. ADDITIONAL DEVICES MAY BE REQUIRED TO PROPERLY PROTECT THE WORKERS AND WORK ZONE FROM VEHICULAR TRAFFIC.
7. DURING NON-WORKING HOURS, NO EQUIPMENT, VEHICLES OR MATERIAL SHALL BE PARKED OR STORED WITHIN THE CLEAR ZONE OF A ROADWAY OPEN TO VEHICULAR TRAFFIC.
8. A MINIMUM 2' BUFFER ZONE SHALL BE MAINTAINED BETWEEN THE WORK ZONE AND TRAVEL LANES AT ALL TIMES.
9. SIGNAL/SIGNAGE FACILITIES FOR DISALLOWED PEDESTRIAN MOVEMENTS SHALL BE COVERED.
10. NO DROP OFF CONDITION SHALL BE ALLOWED DURING NONWORKING HOURS WITHIN THE CLEAR ZONE OF ANY ROADWAY. DROP OFF CONDITIONS SHALL BE ELIMINATED PER STANDARD PLAN 102-600.

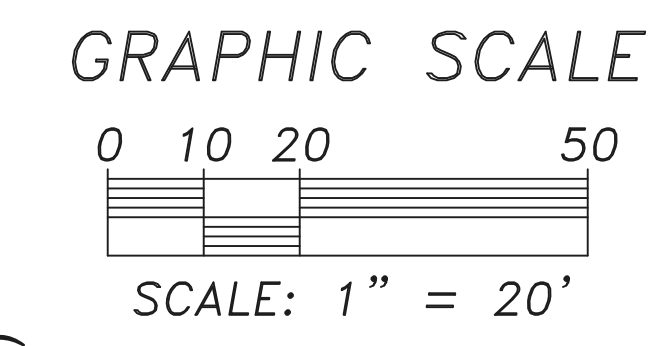
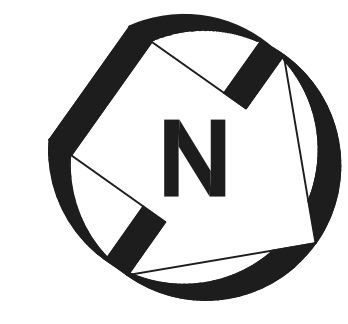


MOT-8 OF MOT-8 DANIEL FOLSOM FLORIDA P.E. NO. 66752	MAINTENANCE OF TRAFFIC - PHASE 8 (PALMETTO FORCE MAIN)  BEACH STREET STREETSCAPE	TRAFFIC PLANNING AND DESIGN, INC. 535 Versailles Drive Tel: (407) 628-9955 info@tpdtraffic.com	Maitland, FL 32751 Fax: (407) 628-8850 www.tpdtraffic.com	SCALE	DRAWN	DESIGNED	CHECKED
				1" = 80'	DF	DF	TD
TPD JOB# 5115 D5 8-13-19	CITY OF DAYTONA BEACH, FLORIDA	Certificate of Authorization No. EB-3702	REVISIONS	DATE			
				12-18-18			
				2-25-19			
				7-25-19			
				60% PLANS			
				90% PLANS			
				100% PLANS			
				BID SET			



**GENERAL NOTES:**

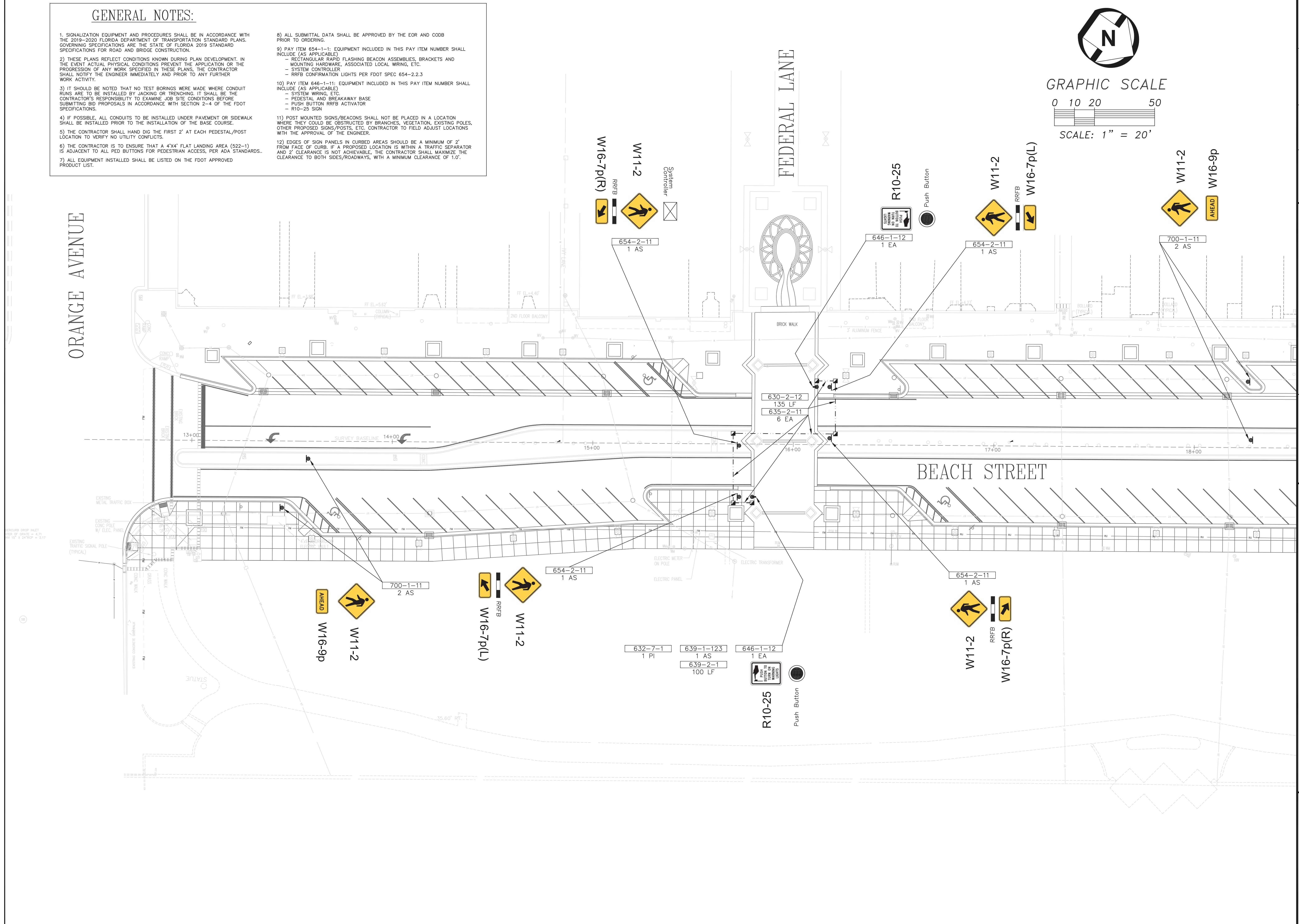
- 1) SIGNALIZATION EQUIPMENT AND PROCEDURES SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS. GOVERNING SPECIFICATIONS ARE THE STATE OF FLORIDA 2019 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2) THESE PLANS REFLECT CONDITIONS KNOWN DURING PLAN DEVELOPMENT. IN THE EVENT ACTUAL PHYSICAL CONDITIONS PREVENT THE APPLICATION OR THE PROGRESSION OF ANY WORK SPECIFIED IN THESE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND PRIOR TO ANY FURTHER WORK ACTIVITY.
- 3) IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR TRENCHING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS IN ACCORDANCE WITH SECTION 2-4 OF THE FDOT SPECIFICATIONS.
- 4) IF POSSIBLE, ALL CONDUITS TO BE INSTALLED UNDER PAVEMENT OR SIDEWALK SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE COURSE.
- 5) THE CONTRACTOR SHALL HAND DIG THE FIRST 2' AT EACH PEDESTAL/POST LOCATION TO VERIFY NO UTILITY CONFLICTS.
- 6) THE CONTRACTOR IS TO ENSURE THAT A 4'X4' FLAT LANDING AREA (522-1) IS ADJACENT TO ALL PED BUTTONS FOR PEDESTRIAN ACCESS, PER ADA STANDARDS.
- 7) ALL EQUIPMENT INSTALLED SHALL BE LISTED ON THE FDOT APPROVED PRODUCT LIST.
- 8) ALL SUBMITTAL DATA SHALL BE APPROVED BY THE EOR AND CODB PRIOR TO ORDERING.
- 9) PAY ITEM 654-1-1: EQUIPMENT INCLUDED IN THIS PAY ITEM NUMBER SHALL INCLUDE (AS APPLICABLE)
  - RECTANGULAR RAPID FLASHING BEACON ASSEMBLIES, BRACKETS AND MOUNTING HARDWARE, ASSOCIATED LOCAL WIRING, ETC.
  - SYSTEM CONTROLLER
  - RRFB CONFIRMATION LIGHTS PER FDOT SPEC 654-2.2.3
  - R10-25 SIGN
- 10) PAY ITEM 646-1-11: EQUIPMENT INCLUDED IN THIS PAY ITEM NUMBER SHALL INCLUDE (AS APPLICABLE)
  - SYSTEM WIRING, ETC.
  - PEDESTAL AND BREAKAWAY BASE
  - PUSH BUTTON RRFB ACTIVATOR
  - R10-25 SIGN
- 11) POST MOUNTED SIGNS/BEACONS SHALL NOT BE PLACED IN A LOCATION WHERE THEY COULD BE OBSTRUCTED BY BRANCHES, VEGETATION, EXISTING POLES, OTHER PROPOSED SIGNS/POSTS, ETC. CONTRACTOR TO FIELD ADJUST LOCATIONS WITH THE APPROVAL OF THE ENGINEER.
- 12) EDGES OF SIGN PANELS IN CURBED AREAS SHOULD BE A MINIMUM OF 2' FROM FACE OF CURB. IF A PROPOSED LOCATION IS WITHIN A TRAFFIC SEPARATOR AND 2' CLEARANCE IS NOT ACHIEVABLE, THE CONTRACTOR SHALL MAXIMIZE THE CLEARANCE TO BOTH SIDES/ROADWAYS, WITH A MINIMUM CLEARANCE OF 1.0'.



ORANGE AVENUE

FEDERAL LANE

BEACH STREET



<b>SHEET T-1 OF T-6</b>	<b>RRFB PEDESTRIAN CROSSING - FEDERAL LANE</b>	<b>SCALE</b>	<b>1" = 20'</b>	<b>CHECKED</b>	<b>TD</b>
<b>DANIEL FOLSOM</b>	<b>TRAFFIC PLANNING AND DESIGN, INC.</b>	<b>DRAWN</b>	<b>DF</b>	<b>DESIGNED</b>	<b>DF</b>
<b>FLORIDA P.E. NO. 66752</b>	<b>535 Versailles Drive</b>	<b>DATE</b>	<b>REVISIONS</b>		
	<b>Maitland, FL 32751</b>	12-18-18	60% PLANS		
	<b>Tel: (407) 628-9955</b>	2-25-19	90% PLANS		
	<b>info@tpdtraffic.com</b>	7-9-19	100% PLANS		
	<b>Certificate of Authorization No. EB-3702</b>	8-13-19	BID SET		
<b>TPD JOB# 5115</b>	<b>D5</b>				
<b>BEACH STREET STREETSCAPE</b>					
<b>CITY OF DAYTONA BEACH, FLORIDA</b>					

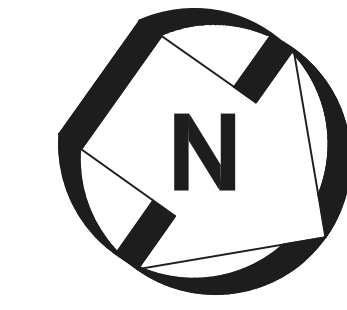






**GENERAL NOTES:**

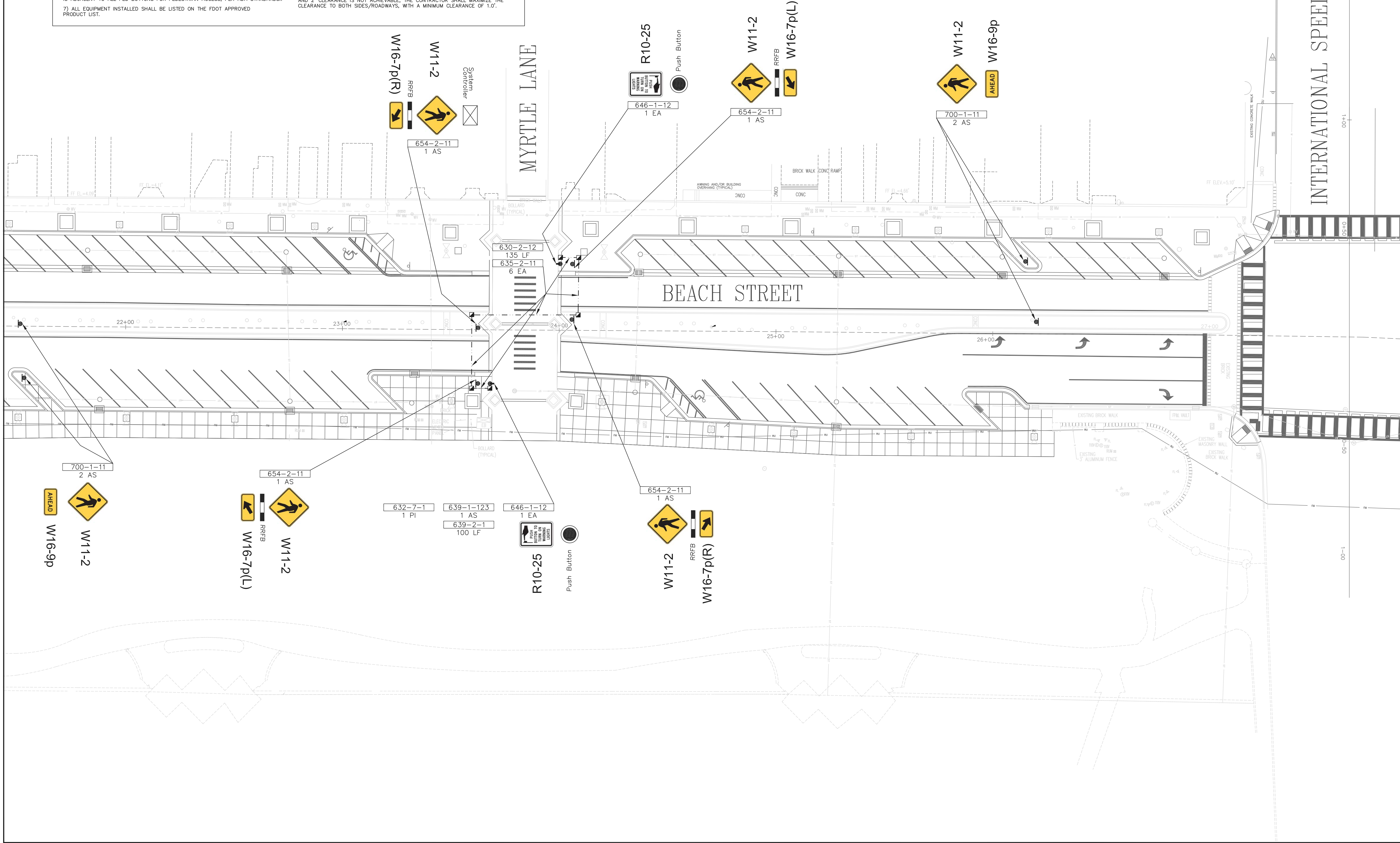
- 1) SIGNALIZATION EQUIPMENT AND PROCEDURES SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS. GOVERNING SPECIFICATIONS ARE THE STATE OF FLORIDA 2019 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2) THESE PLANS REFLECT CONDITIONS KNOWN DURING PLAN DEVELOPMENT. IN THE EVENT ACTUAL PHYSICAL CONDITIONS PREVENT THE APPLICATION OR THE PROGRESSION OF ANY WORK SPECIFIED IN THESE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND PRIOR TO ANY FURTHER WORK ACTIVITY.
- 3) IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR TRENCHING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS IN ACCORDANCE WITH SECTION 2-4 OF THE FDOT SPECIFICATIONS.
- 4) IF POSSIBLE, ALL CONDUITS TO BE INSTALLED UNDER PAVEMENT OR SIDEWALK SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE COURSE.
- 5) THE CONTRACTOR SHALL HAND DIG THE FIRST 2' AT EACH PEDESTAL/POST LOCATION TO VERIFY NO UTILITY CONFLICTS.
- 6) THE CONTRACTOR IS TO ENSURE THAT A 4'X4' FLAT LANDING AREA (522-1) IS ADJACENT TO ALL PED BUTTONS FOR PEDESTRIAN ACCESS, PER ADA STANDARDS.
- 7) ALL EQUIPMENT INSTALLED SHALL BE LISTED ON THE FDOT APPROVED PRODUCT LIST.
- 8) ALL SUBMITTAL DATA SHALL BE APPROVED BY THE EOR AND CODB PRIOR TO ORDERING.
- 9) PAY ITEM 654-1-11: EQUIPMENT INCLUDED IN THIS PAY ITEM NUMBER SHALL INCLUDE (AS APPLICABLE)
  - RECTANGULAR RAPID FLASHING BEACON ASSEMBLIES, BRACKETS AND MOUNTING HARDWARE, ASSOCIATED LOCAL WIRING, ETC.
  - SYSTEM CONTROLLER
  - RRFB CONFIRMATION LIGHTS PER FDOT SPEC 654-2.2.3
  - R10-25 SIGN
- 10) PAY ITEM 646-1-11: EQUIPMENT INCLUDED IN THIS PAY ITEM NUMBER SHALL INCLUDE (AS APPLICABLE)
  - SYSTEM WIRING, ETC.
  - PEDESTAL AND BREAKAWAY BASE
  - PUSH BUTTON RRFB ACTIVATOR
  - R10-25 SIGN
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GRAPHIC SCALE



SCALE: 1" = 20'



SCALE	DRAWN	DESIGNED	CHECKED
1" = 20'	DF	DF	TD

DATE	REVISIONS
12-18-18	60% PLANS
2-25-19	90% PLANS
7-9-19	100% PLANS
8-13-19	BID SET

TRAFFIC PLANNING AND DESIGN, INC.  
 535 Versailles Drive  
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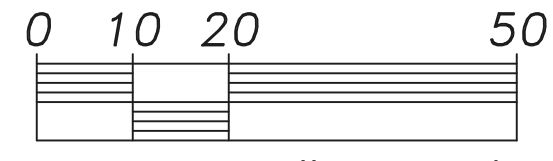
RRFB PEDESTRIAN CROSSING - MYRTLE LANE  
 BEACH STREET STREETSCAPE  
 CITY OF DAYTONA BEACH, FLORIDA

SHEET T-3 OF T-6  
 DANIEL FOLSOM  
 FLORIDA P.E. NO. 66752  
 8-13-19  
 D5  
 TPD JOB# 5115





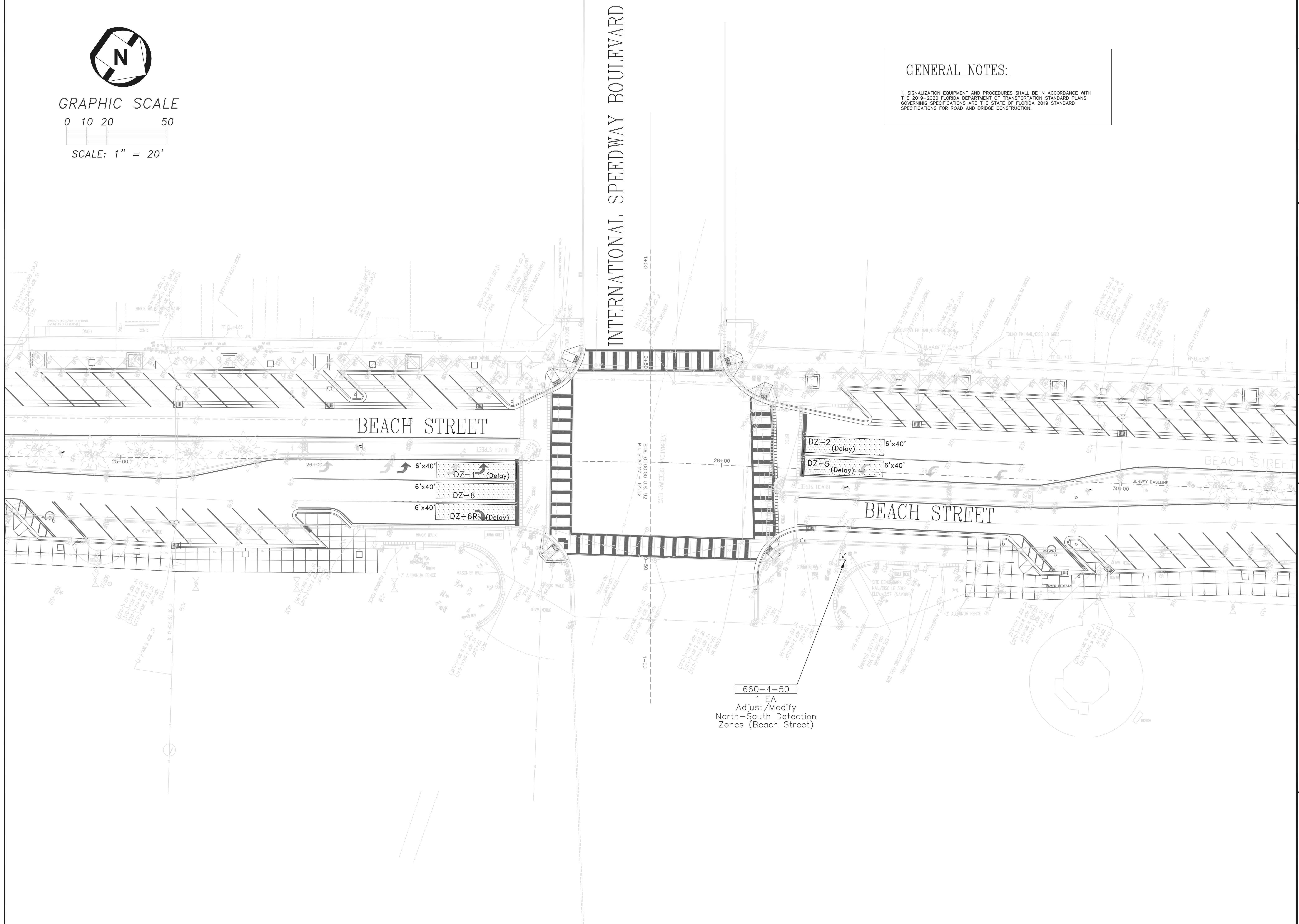
GRAPHIC SCALE



SCALE: 1" = 20'

GENERAL NOTES:

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660-4-50  
1 EA  
Adjust/Modify  
North-South Detection  
Zones (Beach Street)

SCALE	DRAWN	DESIGNED	CHECKED
1" = 20'	DF	DF	TD

DATE	REVISIONS
12-18-18	60% PLANS
2-25-19	90% PLANS
7-9-19	100% PLANS
8-13-19	BID SET

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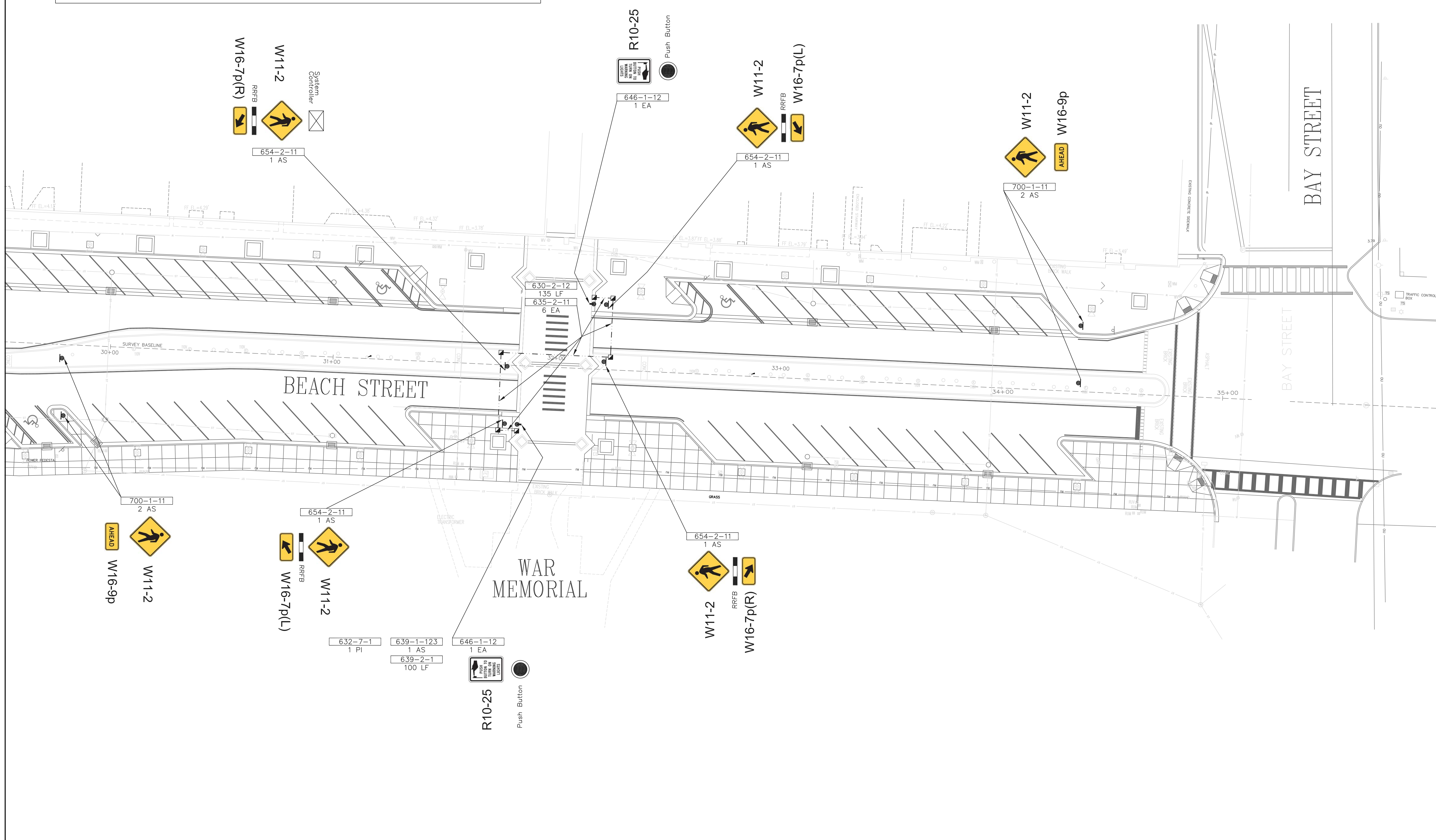
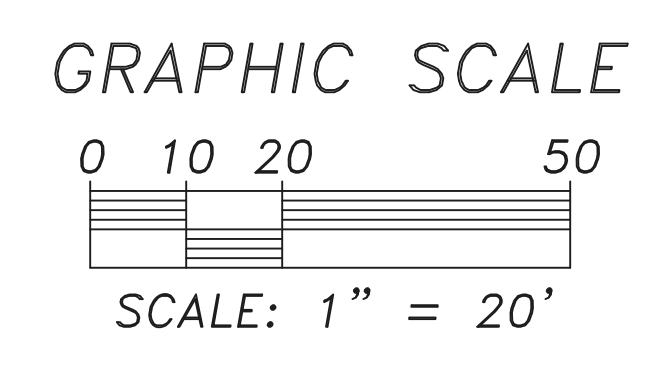
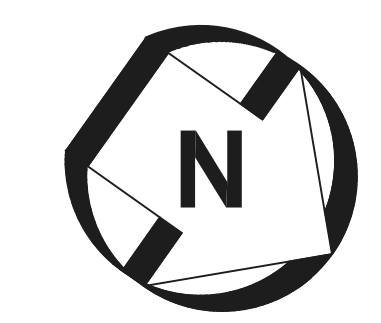


SHEET T-4 OF T-6	SIGNAL DETECTION LOOPS - BEACH & INT'L SPEEDWAY BLVD
DANIEL FOLSOM	
FLORIDA P.E. NO. 66752	BEACH STREET STREETSCAPE
8-13-19	CITY OF DAYTONA BEACH, FLORIDA
TPD JOB# 5115	D5



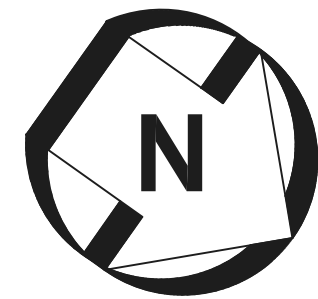
**GENERAL NOTES:**

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- 4) IF POSSIBLE, ALL CONDUITS TO BE INSTALLED UNDER PAVEMENT OR SIDEWALK SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE COURSE.
- 5) THE CONTRACTOR SHALL HAND DIG THE FIRST 2' AT EACH PEDESTAL/POST LOCATION TO VERIFY NO UTILITY CONFLICTS.
- 6) THE CONTRACTOR IS TO ENSURE THAT A 4'X4' FLAT LANDING AREA (522-1) IS ADJACENT TO ALL PED BUTTONS FOR PEDESTRIAN ACCESS, PER ADA STANDARDS.
- 7) ALL EQUIPMENT INSTALLED SHALL BE LISTED ON THE FDOT APPROVED PRODUCT LIST.
- 8) ALL SUBMITTAL DATA SHALL BE APPROVED BY THE EOR AND CODB PRIOR TO ORDERING.
- 9) PAY ITEM 654-1-11: EQUIPMENT INCLUDED IN THIS PAY ITEM NUMBER SHALL INCLUDE (AS APPLICABLE)
  - RECTANGULAR RAPID FLASHING BEACON ASSEMBLIES, BRACKETS AND MOUNTING HARDWARE, ASSOCIATED LOCAL WIRING, ETC.
  - SYSTEM CONTROLLER
  - RRFB CONFIRMATION LIGHTS PER FDOT SPEC 654-2.2.3
- 10) PAY ITEM 646-1-11: EQUIPMENT INCLUDED IN THIS PAY ITEM NUMBER SHALL INCLUDE (AS APPLICABLE)
  - PEDESTAL AND BREAKAWAY BASE
  - PUSH BUTTON RRFB ACTIVATOR
  - R10-25 SIGN
- 11) POST MOUNTED SIGNS/BEACONS SHALL NOT BE PLACED IN A LOCATION WHERE THEY COULD BE OBSTRUCTED BY BRANCHES, VEGETATION, EXISTING POLES, OTHER PROPOSED SIGNS/POSTS, ETC. CONTRACTOR TO FIELD ADJUST LOCATIONS WITH THE APPROVAL OF THE ENGINEER.
- 12) EDGES OF SIGN PANELS IN CURBED AREAS SHOULD BE A MINIMUM OF 2' FROM FACE OF CURB. IF A PROPOSED LOCATION IS WITHIN A TRAFFIC SEPARATOR AND 2' CLEARANCE IS NOT ACHIEVABLE, THE CONTRACTOR SHALL MAXIMIZE THE CLEARANCE TO BOTH SIDES/ROADWAYS, WITH A MINIMUM CLEARANCE OF 1.0'.

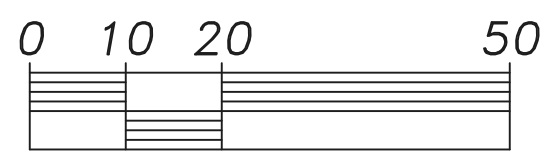


SHEET T-5 OF T-6 DANIEL FOLSOM FLORIDA P.E. NO. 66752	RRFB PEDESTRIAN CROSSING - WAR MEMORIAL	TRAFFIC PLANNING AND DESIGN, INC. 535 Versailles Drive Tel: (407) 628-9955 info@tpdtraffic.com	Maitland, FL 32751 Fax: (407) 628-8850 www.tpdtraffic.com	SCALE	CHECKED
				1" = 20'	TD
TPD JOB# 5115	D5	CITY OF DAYTONA BEACH, FLORIDA	REVISIONS	DRAWN	DESIGNED
				DF	DF
			DATE	REVISED	
			12-18-18	60% PLANS	
			2-25-19	90% PLANS	
			7-9-19	100% PLANS	
			8-13-19	BID SET	





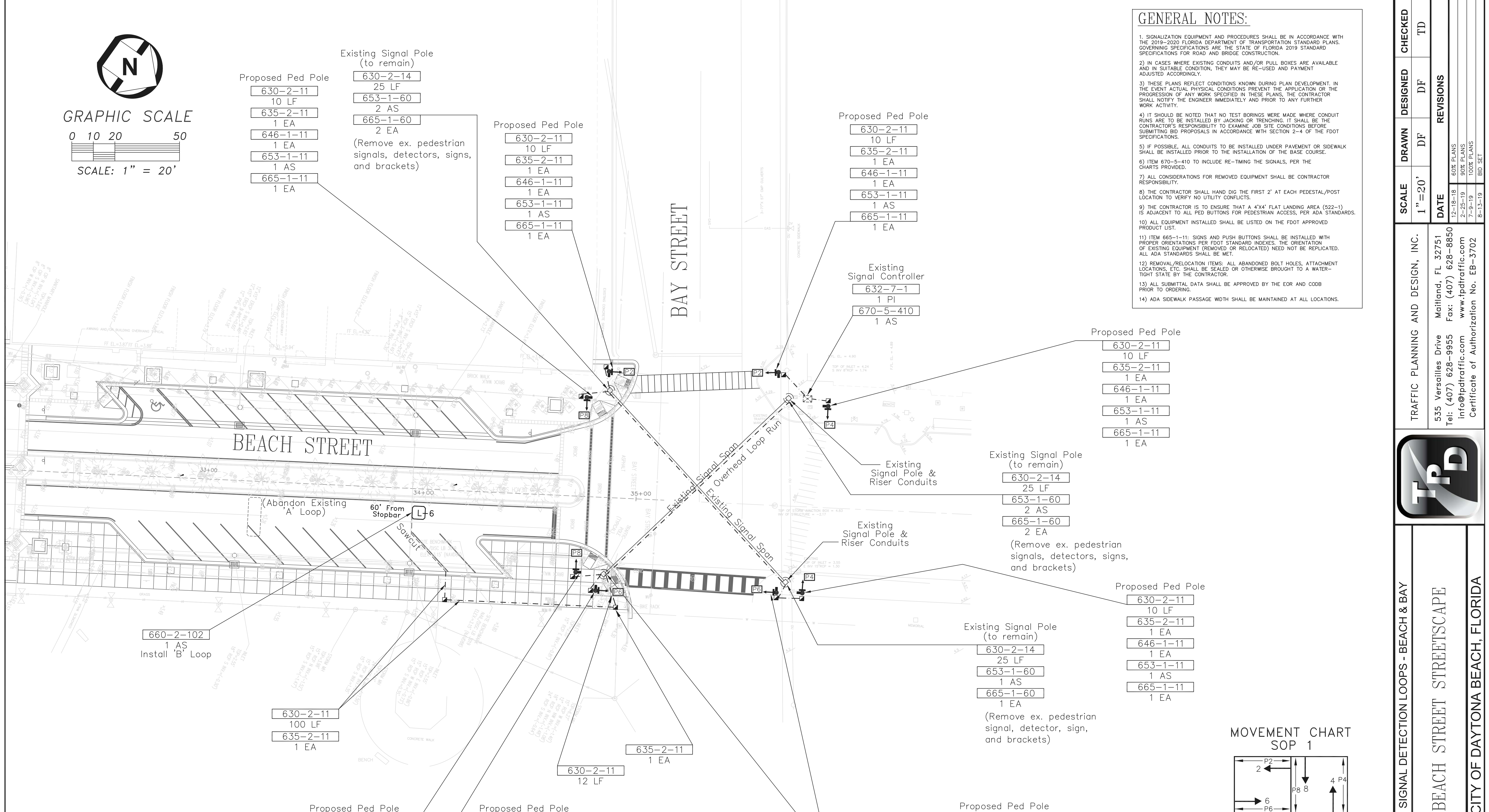
GRAPHIC SCALE



SCALE: 1" = 20'

**GENERAL NOTES:**

- 1) SIGNALIZATION EQUIPMENT AND PROCEDURES SHALL BE IN ACCORDANCE WITH THE 2019-2020 FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD PLANS. GOVERNING SPECIFICATIONS ARE THE STATE OF FLORIDA 2019 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2) IN CASES WHERE EXISTING CONDUITS AND/OR PULL BOXES ARE AVAILABLE AND IN SUITABLE CONDITION, THEY MAY BE RE-USED AND PAYMENT ADJUSTED ACCORDINGLY.
- 3) THESE PLANS REFLECT CONDITIONS KNOWN DURING PLAN DEVELOPMENT. IN THE EVENT ACTUAL PHYSICAL CONDITIONS PREVENT THE APPLICATION OR THE PROGRESSION OF ANY WORK SPECIFIED IN THESE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND PRIOR TO ANY FURTHER WORK ACTIVITY.
- 4) IT SHOULD BE NOTED THAT NO TEST BORINGS WERE MADE WHERE CONDUIT RUNS ARE TO BE INSTALLED BY JACKING OR TRENCHING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS IN ACCORDANCE WITH SECTION 2-4 OF THE FDOT SPECIFICATIONS.
- 5) IF POSSIBLE, ALL CONDUITS TO BE INSTALLED UNDER PAVEMENT OR SIDEWALK SHALL BE INSTALLED PRIOR TO THE INSTALLATION OF THE BASE COURSE.
- 6) ITEM 670-5-410 TO INCLUDE RE-TIMING THE SIGNALS, PER THE CHARTS PROVIDED.
- 7) ALL CONSIDERATIONS FOR REMOVED EQUIPMENT SHALL BE CONTRACTOR RESPONSIBILITY.
- 8) THE CONTRACTOR SHALL HAND DIG THE FIRST 2' AT EACH PEDESTAL/POST LOCATION TO VERIFY NO UTILITY CONFLICTS.
- 9) THE CONTRACTOR IS TO ENSURE THAT A 4'X4' FLAT LANDING AREA (522-1) IS ADJACENT TO ALL PED BUTTONS FOR PEDESTRIAN ACCESS, PER ADA STANDARDS.
- 10) ALL EQUIPMENT INSTALLED SHALL BE LISTED ON THE FDOT APPROVED PRODUCT LIST.
- 11) ITEM 665-1-11: SIGNS AND PUSH BUTTONS SHALL BE INSTALLED WITH PROPER ORIENTATIONS PER FDOT STANDARD INDEXES. THE ORIENTATION OF EXISTING EQUIPMENT (REMOVED OR RELOCATED) NEED NOT BE REPLICATED. ALL ADA STANDARDS SHALL BE MET.
- 12) REMOVAL/RELOCATION ITEMS: ALL ABANDONED BOLT HOLES, ATTACHMENT LOCATIONS, ETC. SHALL BE SEALED OR OTHERWISE BROUGHT TO A WATER-TIGHT STATE BY THE CONTRACTOR.
- 13) ALL SUBMITTAL DATA SHALL BE APPROVED BY THE EOR AND CODD PRIOR TO ORDERING.
- 14) ADA SIDEWALK PASSAGE WIDTH SHALL BE MAINTAINED AT ALL LOCATIONS.



660-2-102  
1 AS  
Install 'B' Loop

BEACH STREET

BAY STREET

(Abandon Existing 'A' Loop)

60' From Stopbar Sawcut

Existing Signal Span  
Overhead Loop Run

Proposed Ped Pole  
630-2-11  
10 LF  
635-2-11  
1 EA  
646-1-11  
1 EA  
653-1-11  
1 AS  
665-1-11  
1 EA

Existing Signal Pole (to remain)  
630-2-14  
25 LF  
653-1-60  
2 AS  
665-1-60  
2 EA  
(Remove ex. pedestrian signals, detectors, signs, and brackets)

Proposed Ped Pole  
630-2-11  
10 LF  
635-2-11  
1 EA  
646-1-11  
1 EA  
653-1-11  
1 AS  
665-1-11  
1 EA

Proposed Ped Pole  
630-2-11  
10 LF  
635-2-11  
1 EA  
646-1-11  
1 EA  
653-1-11  
1 AS  
665-1-11  
1 EA

Existing Signal Pole (to remain)  
630-2-14  
25 LF  
653-1-60  
1 AS  
665-1-60  
1 EA  
(Remove ex. pedestrian signal, detector, sign, and brackets)

Proposed Ped Pole  
630-2-11  
10 LF  
635-2-11  
1 EA  
646-1-11  
1 EA  
653-1-11  
1 AS  
665-1-11  
1 EA

Existing Signal Controller  
632-7-1  
1 PI  
670-5-410  
1 AS

Existing Signal Pole & Riser Conduits

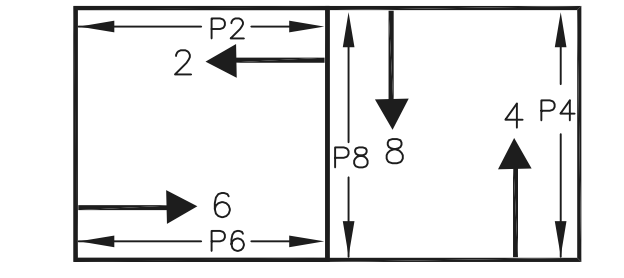
Existing Signal Pole (to remain)  
630-2-14  
25 LF  
653-1-60  
1 AS  
665-1-60  
1 EA  
(Remove ex. pedestrian signal, detector, sign, and brackets)

Existing Signal Pole (to remain)  
630-2-14  
25 LF  
653-1-60  
2 AS  
665-1-60  
2 EA  
(Remove ex. pedestrian signals, detectors, signs, and brackets)

Proposed Ped Pole  
630-2-11  
10 LF  
635-2-11  
1 EA  
646-1-11  
1 EA  
653-1-11  
1 AS  
665-1-11  
1 EA

Proposed Ped Pole  
630-2-11  
10 LF  
635-2-11  
1 EA  
646-1-11  
1 EA  
653-1-11  
1 AS  
665-1-11  
1 EA

MOVEMENT CHART  
SOP 1



CONTROLLER TIMING PLAN (PROPOSED)

PHASE	2	4	6	8
INITIAL	11	8	11	8
PASSAGE	3	3	3	3
YELLOW	3.4	3.4	3.4	3.4
RED CLEAR	3.8	3.2	3.8	3.2
MAX 1	50	25	50	25
MAX 2				
WALK	7	7	7	7
DON'T WALK	20	20	20	20
RECALL	MIN		MIN	

SHEET T-6 OF T-6	TRAFFIC PLANNING AND DESIGN, INC.	SCALE	DRAWN	DESIGNED	CHECKED
DANIEL FOLSOM FLORIDA P.E. NO. 66752	555 Versailles Drive Tel: (407) 628-9955 info@tpdtraffic.com	1" = 20'	DF	DF	TD
TPD JOB# 5115	Maitland, FL 32751 Tel: (407) 628-8850 www.tpdtraffic.com	DATE	REVISIONS		
D5	8-13-19	12-18-18			
CITY OF DAYTONA BEACH, FLORIDA	Certificate of Authorization No. EB-3702	2-25-19			
		7-9-19			
		8-13-19			



SIGNAL DETECTION LOOPS - BEACH & BAY  
BEACH STREET STREETSCAPE  
CITY OF DAYTONA BEACH, FLORIDA