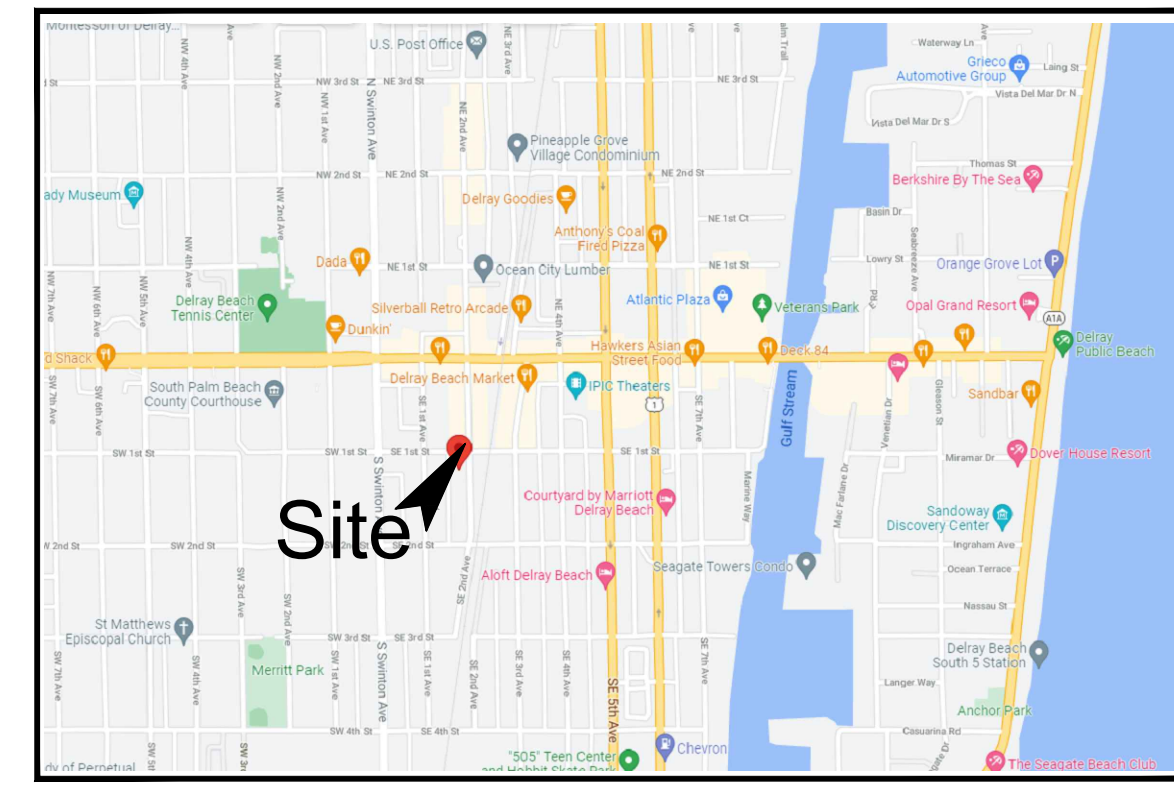


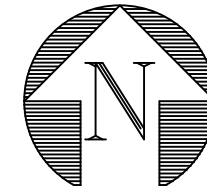


ALL RIGHT-OF-WAY CURBING HAS BEEN UPDATED TO DELRAY STANDARDS



LOCATION MAP

N.T.S.



LEGEND:

- PROPERTY LINE
- SECTION IDENTIFIER
PLAN PAGE
DETAIL PAGE
- PROPOSED ELEVATION
- DIRECTION OF FLOW
- EXISTING ELEVATION
- DENOTES AREA OF PROPOSED CONCRETE PAVING
- DENOTES AREA OF PROPOSED ASPHALT PAVING
- DENOTES AREA PROPOSED 1" MILL & OVERLAY
- DENOTES AREA OF PROPOSED BRICK PAVERS SEE DETAIL SHEET 2 - SEE LANDSCAPE PLANS FOR PATTERN
- DENOTES AREA OF PROPOSED HARDSCAPE BY OTHERS - SEE LANDSCAPE PLANS FOR DETAILS
- DENOTES AREA OF EXISTING PAVEMENT AND BASE TO BE REMOVED & REPLACED WITH CLEAN FILL
- DENOTES AREA OF EXISTING PAVEMENT TRENCH REPAIR FOR UTILITY INSTALLATION - SEE DETAIL SHEET 2
- PROPOSED CATCH BASIN
- DENOTES 12" PERF HDPE PIPE IN 4' WIDE X 4' DEEP ROCK TRENCH (BOTTOM EL = 10.0' NAVD)
- STRUCTURE TYPE-NUMBER
RIM ELEVATION
INVERT ELEVATION
- NYLO NYLOPLAST YARD DRAIN OR APPROVED EQUAL
- IL INLINE YARD DRAIN
- HDPE HIGH-DENSITY POLYETHYLENE PIPE
- PROPOSED WATER METER
- PROPOSED WATER METER WITH BACKFLOW PREVENTER
- PROPOSED FIRE HYDRANT
- PROPOSED GATE VALVE
- EXISTING GATE VALVE
- EXISTING MANHOLE
- SANITARY SEWER CLEANOUT
- SINGLE SANITARY SERVICE WITH CLEANOUT
- MANHOLE NUMBER
RIM EL
INV EL
- SITE LIGHTING BY OTHERS - SEE PHOTOMETRIC PLAN

NOTE: SEE LANDSCAPE PLANS FOR HARDSCAPE MATERIALS & SPECIFICATIONS

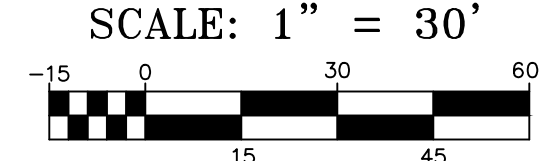
NOTE: SEE LANDSCAPE PLANS FOR BRICK PAVEMENT PATTERNS

NOTE: CONTRACTOR TO FIELD VERIFY EXACT LOCATION, SIZE, AND ELEVATION OF ALL IMPROVEMENTS AT TIME OF CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENVIRODESIGN ASSOCIATES, INC.

NOTE: RETAINING WALLS SHOWN HEREIN DEPICT LOCATION AND ELEVATION REQUIREMENTS ONLY. STRUCTURAL DESIGN PER MANUFACTURER SPECIFICATIONS OR TO BE PROVIDED BY OTHERS.



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CIVIL SITE IMPROVEMENTS PLAN FOR:
DELRAY SWAN
SE 2ND ST & SE 2ND AVE
DELRAY BEACH, FLORIDA

EnviroDesign Associates, Inc.
www.envirodesign.com

ENGINEERS • ENVIRONMENTAL CONSULTANTS
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
298 Pineapple Grove Way Delray Beach, Florida 33444
Phone: (561) 274-8558 Fax: (561) 274-8558

DRAWN:
B.A.B.

CHECKED:
J.A.P.

DATE:
10/26/23

JOB NO.
21058-ENG

SHEET NO.
1 OF 14

BY: BAB

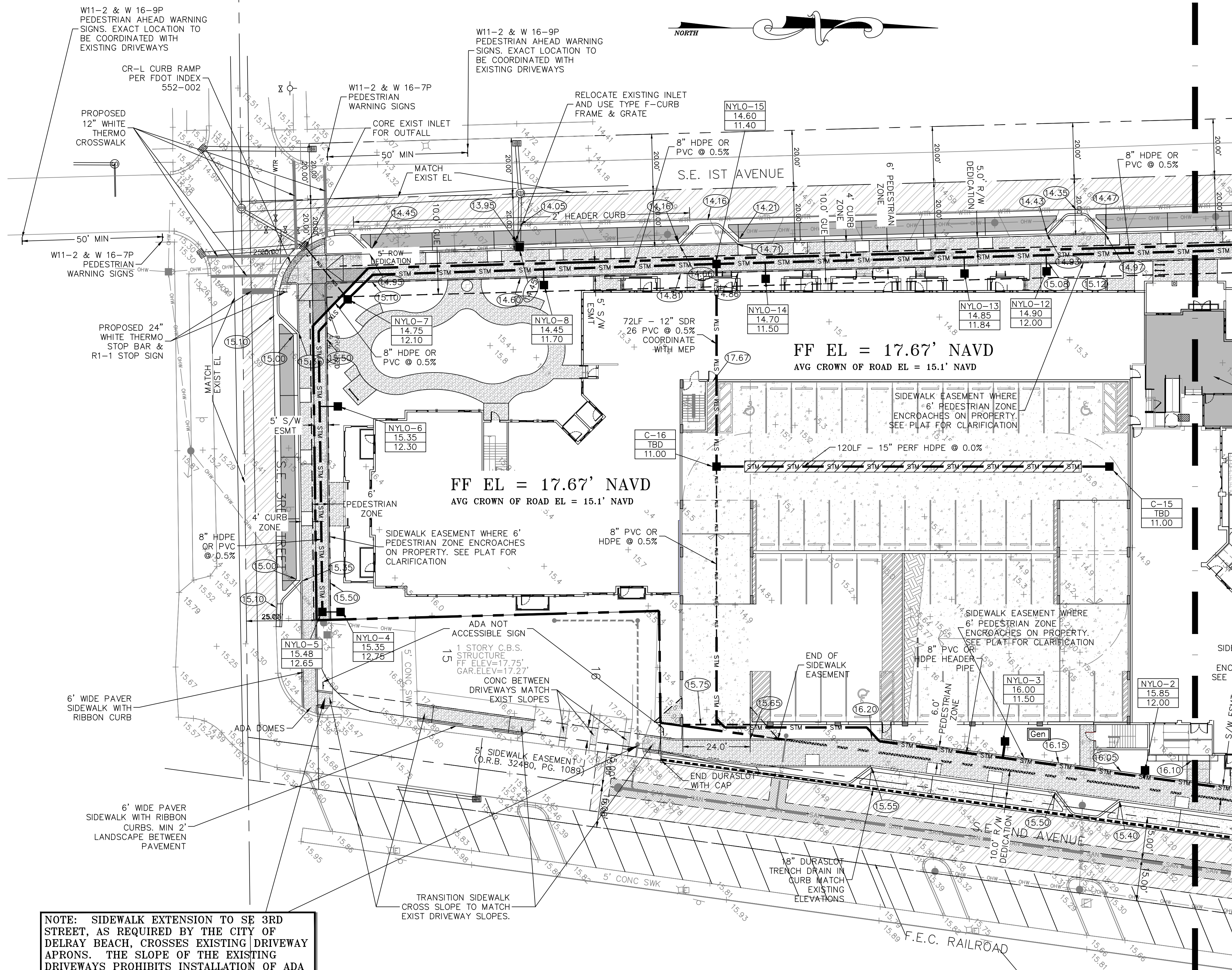
REVISIONS:
REVISE PER CITY COMMENTS
SITEPLAN REVISIONS, EXTEND SIDEWALK AT SE & NW CORNER

DATE:
5/17/23
10/25/23

NO. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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JOSEPH A. PIKE, P.E.
FL REG # 42696

"NOT FOR CONSTRUCTION"



NOTE: SIDEWALK EXTENSION TO SE 3RD STREET, AS REQUIRED BY THE CITY OF DELRAY BEACH, CROSSES EXISTING DRIVEWAY APRONS. THE SLOPE OF THE EXISTING DRIVEWAYS PROHIBITS INSTALLATION OF ADA COMPLIANT SIDEWALKS. REGRADING DRIVEWAYS WOULD RENDER THE EXISTING PROPERTIES INACCESSIBLE TO VEHICULAR TRAFFIC. AS SUCH, SIDEWALKS ARE TO MATCH EXISTING DRIVEWAY SLOPES. PEDESTRIAN WARNING SIGNS SHALL BE INSTALLED TO INDICATE THE WALKWAYS ARE NOT ADA ACCESSIBLE

NOTE: SEE LANDSCAPE PLANS FOR HARDSCAPE MATERIALS & SPECIFICATIONS

NOTE: SEE LANDSCAPE PLANS FOR BRICK PAVEMENT PATTERNS

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- LEGEND:**
- PROPERTY LINE
 - SECTION IDENTIFIER PLAN PAGE
 - PROPOSED ELEVATION
 - DIRECTION OF FLOW
 - EXISTING ELEVATION
 - DENOTES AREA OF PROPOSED CONCRETE PAVING
 - DENOTES AREA OF PROPOSED ASPHALT PAVING
 - DENOTES AREA PROPOSED 1" MILL & OVERLAY
 - DENOTES PERVIOUS CONCRETE PARALLEL PARKING AND PERMEABLE PAVEMENT WALKWAYS
 - DENOTES AREA OF PROPOSED BRICK PAVERS SEE DETAIL SHEET 2 - LANDSCAPE PLANS FOR PATTERN
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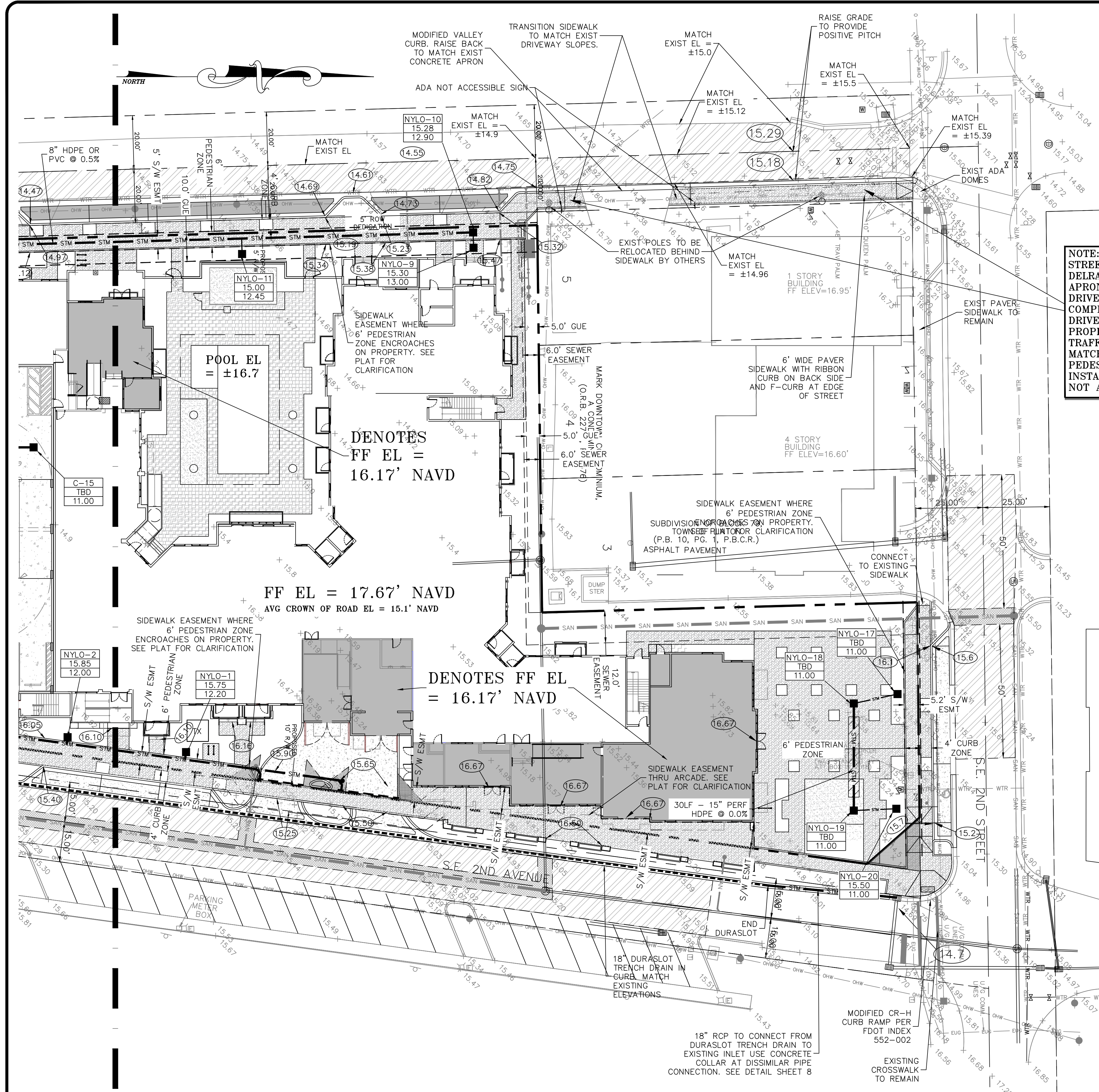
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CIVIL SITE IMPROVEMENTS PLAN FOR:
DELRAY SWAN
SE 2ND ST & SE 2ND AVE
DELRAY BEACH, FLORIDA

EnviroDesign Associates, Inc.
www.envirodesign.com
ENGINEERS • ENVIRONMENTAL CONSULTANTS
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
298 Pineapple Grove Way Delray Beach, Florida 33444
Phone: (561) 274-6500 Fax: (561) 274-8558

DRAWN:
B.A.B.
CHECKED:
J.A.P.
DATE:
10/26/23
JOB NO.
21058-ENG
SHEET NO.
2 OF 14

BY:	DATE:	REVISIONS:	NO.	DATE:	REVISIONS:	NO.	DATE:	REVISIONS:
BAB	5/17/23	REVISE PER CITY COMMENTS	1	10/25/23	SITEPLAN REVISIONS, EXTEND SIDEWALK AT SE CORNER	2		
BAB								



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NOTE: SEE LANDSCAPE PLANS FOR HARDSCAPE MATERIALS & SPECIFICATIONS

NOTE: SEE LANDSCAPE PLANS FOR BRICK PAVES PATTERNS

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CIVIL SITE IMPROVEMENTS PLAN FOR:
DELRAY SWAN
SE 2ND ST & SE 2ND AVE
DELRAY BEACH, FLORIDA

ENVIRODESIGN ASSOCIATES, INC.
298 Pineapple Grove Way Delray Beach, Florida 33444
Phone: (561) 274-6500

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FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
33444
298 Pineapple Grove Way Delray Beach, Florida 33444
Phone: (561) 274-6500

DRAWN:
B.A.B.

CHECKED:
J.A.P.

DATE:
10/26/23

JOB NO.
21058-ENG

SHEET NO.
3 OF 14

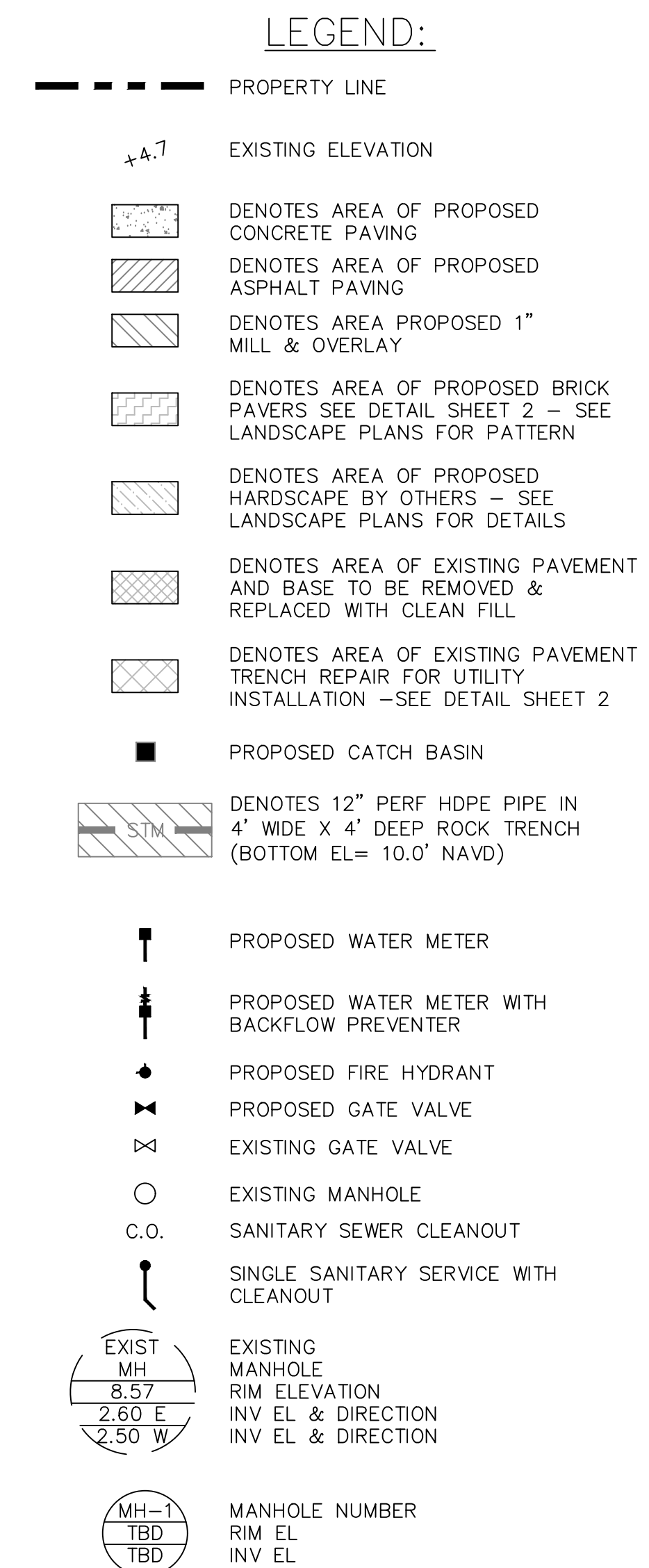
BY: BAB

DATE: 5/17/23

REVISIONS: 10/25/23

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CIVIL SITE IMPROVEMENTS PLAN FOR:
DELRAY SWAN
SE 2ND ST & SE 2ND AVE
DELRAY BEACH, FLORIDA

 **EnviroDesign
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www.envirodesign.com

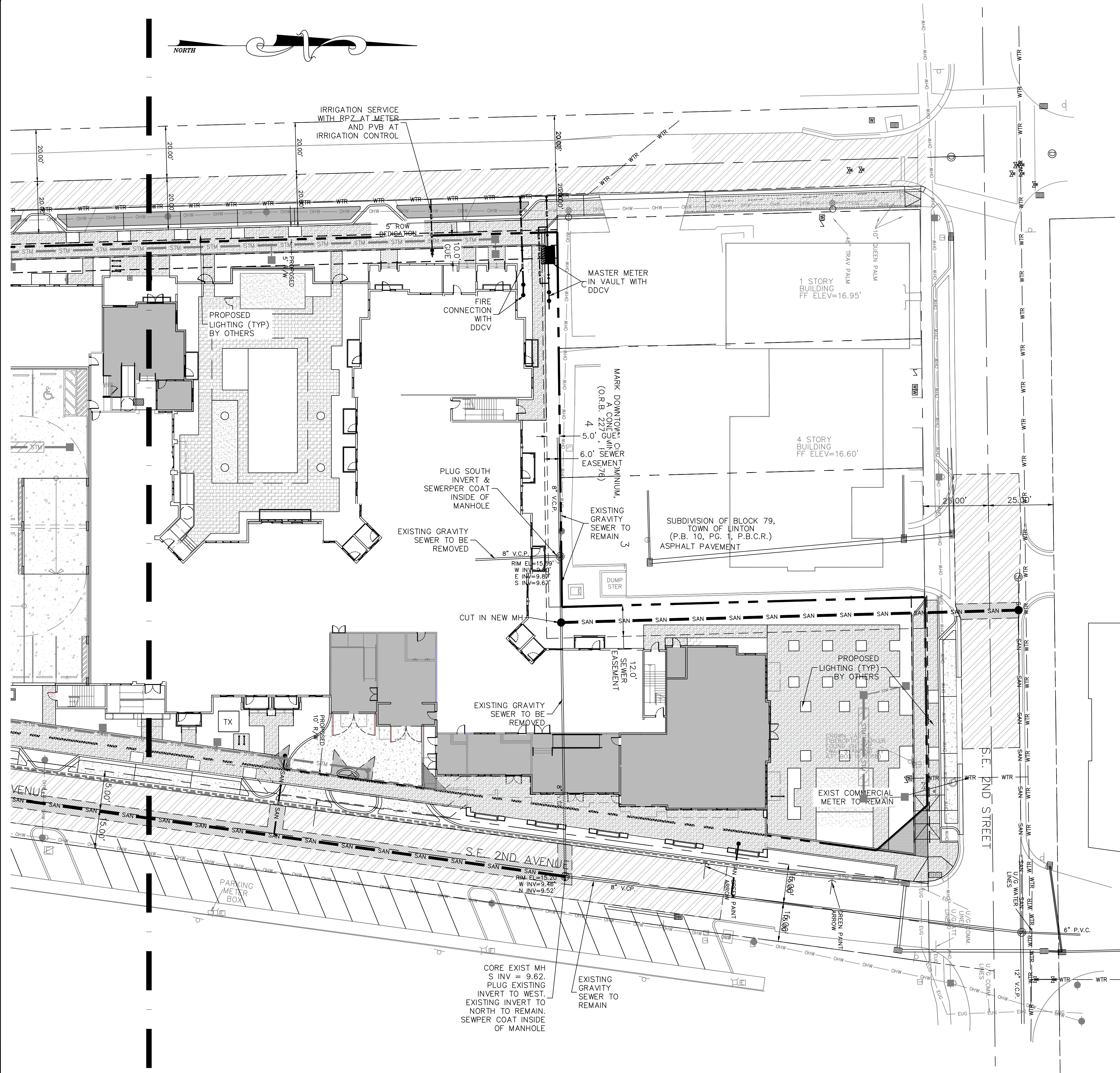
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FLORIDA
CERTIFICATE OF AUTHORIZATION No. 6593-00000444
298 Florida Avenue, West
West Des Moines, IA 50319
Phone: (561) 274-4500 Fax: (561) 274-8558

DRAWN: B.A.B.
CHECKED: J.A.P.
DATE: 10/26/23
JOB NO. 21058-ENG
SHEET NO. 4 OF 14

NO.	DATE:	REVISIONS:	BY:
①	5/17/23	REVISE PER CITY COMMENTS	BAB
②	10/25/23	SITE PLAN REVISIONS, NO CHANGE TO WMS	BAB

4
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
298 Pineapple Grove Way Delray Beach, Florida 33444
Phone: (561) 274-6500 Fax: (561) 274-8558
2021\21058-118 SE 2nd Ave-Delray Swan-JC Planning-Costello.DWG 4/17/2023 11:37 AM



LEGEND:

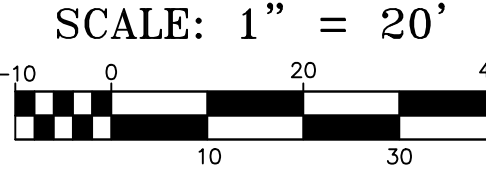
- PROPERTY LINE
- x 4.7 EXISTING ELEVATION
- [Pattern] DENOTES AREA OF PROPOSED CONCRETE PAVING
- [Pattern] DENOTES AREA OF PROPOSED ASPHALT PAVING
- [Pattern] DENOTES AREA PROPOSED 1" MILL & OVERLAY
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- ⬮ PROPOSED WATER METER
- ⬮ PROPOSED WATER METER WITH BACKFLOW PREVENTER
- ⬮ PROPOSED FIRE HYDRANT
- ⬮ PROPOSED GATE VALVE
- ⬮ EXISTING GATE VALVE
- EXISTING MANHOLE
- C.O. SANITARY SEWER CLEANOUT
- SINGLE SANITARY SERVICE WITH CLEANOUT
- EXISTING MANHOLE RIM ELEVATION INV EL & DIRECTION INV EL & DIRECTION
- MH-1 TBD INV EL

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CIVIL SITE IMPROVEMENTS PLAN FOR:

DELRAY SWAN

SE 2ND ST & SE 2ND AVE

DELRAY BEACH, FLORIDA



ENGINEERS • ENVIRONMENTAL CONSULTANTS

FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
298 Pineapple Grove Way Delray Beach, Florida 33444
Phone: (561) 274-6500

DRAWN:

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CHECKED:

J.A.P.

DATE:

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21058-ENG

SHEET NO.

5 OF 14

BY:	DATE:	REVISIONS:	NOT VALID WITHOUT ENGINEER'S SEAL	NO.
BAB	5/17/23	REVISE PER CITY COMMENTS		1
BAB	10/25/23	SITE PLAN REVISIONS, NO CHANGE TO WNS		2

JOSEPH A. PIKE, P.E.
FL REG # 42696

PAVEMENT MARKING SPECIFICATIONS

All Pavement markings to be installed per these typicals, plans and specifications, and as directed by the City Engineer and shall conform to the requirements of F.D.O.T. and the manual on uniform traffic control devices, (MUTCD).

PERMANENT MARKINGS

- Installation:
- All markings shall be installed by the extruded method.
 - Markings shall be free of weaves, bows, drips, drags, and other degrading items.
- Materials:
- All materials shall be alkyl or hydrocarbon thermoplastic meeting all FDOT specifications.
- Thickness:
- All markings shall be installed to yield 90 mils of material measured above the pavement surface.
- Spheres:
- Reflective glass spheres are to be applied to all stripes and markings per FDOT specifications.
- Alternate Material:
- STAYMARK marking tape, or equivalent may be used, as approved or directed by the City Engineer.
- Layout:
- Layout shall be made using marking chalk.
 - It is recommended that marking layout be inspected by the City Engineer prior to the placement of final markings.

TEMPORARY MARKINGS

- Temporary markings may be used only as specified in this section, or as approved or directed by the City Engineer.
- Final Pavement Surface:
- Only foil backed marking tape is allowed.
 - All tape shall be totally removed concurrent with permanent marking placement.
- Other Pavement Surfaces:
- Intermediate pavement surfaces may be marked with FDOT approved materials, designs, and specifications.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
PAVEMENT MARKING SPECIFICATIONS
(SHEET 1 OF 2)
DATE: 09-10-2021
RT 22.0

ALL PAVEMENT MARKINGS

All paved surfaces shall be properly marked prior to the hours of darkness.

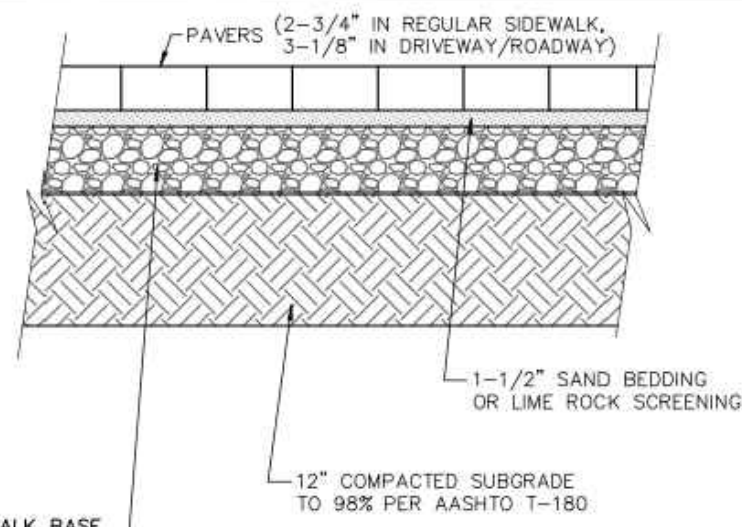
RAISED PAVEMENT MARKERS

- R.P.M.s shall be installed on all lane lines and centerlines, spaced at 20' or 40'.
- R.P.M.s shall be a 4 x 4 type class "B" marker meeting F.D.O.T. specifications and shall be approved by the City Engineer prior to use.
- R.P.M.'s shall be installed using alkyl thermoplastic on asphalt and epoxy on concrete.

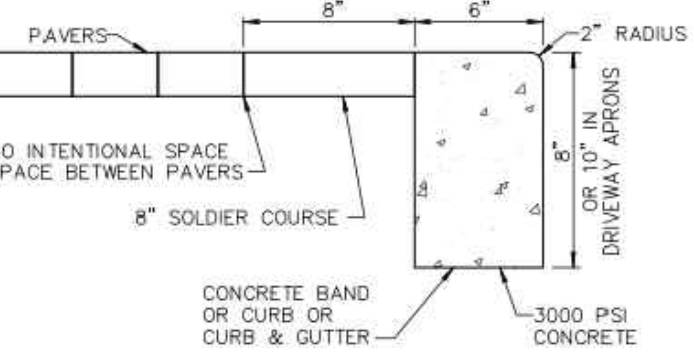
OTHER NOTES

- All Materials within right-of-way shall be thermoplastic and per F.D.O.T. specifications.
- Pavement marking within private parking lots may be painted according to F.D.O.T. specifications, except for all stop bars adjacent to public right-of-way.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
PAVEMENT MARKING SPECIFICATIONS
(SHEET 2 OF 2)
DATE: 09-10-2021
RT 22.1

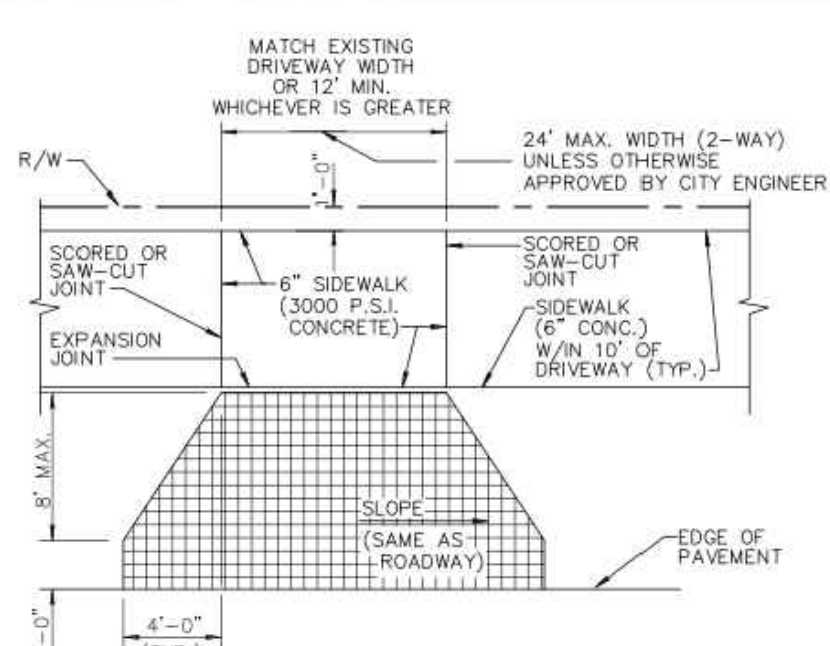


- SIDEWALK BASE**
- OUTSIDE RIGHT OF WAY: 4" LIMEROCK BASE COMPACTED TO 98% PER AASHTO T-180.
 - INSIDE RIGHT OF WAY: 6" LIMEROCK BASE COMPACTED TO 98% PER AASHTO T-180 OR 4" FLOW-ABLE FILL (100 P.S.I. MIN.)
- ROADWAY BASE**
- LIMEROCK BASE COMPACTED TO 98% PER AASHTO T-180 OR 6" FLOW-ABLE FILL (100 P.S.I. MIN.)

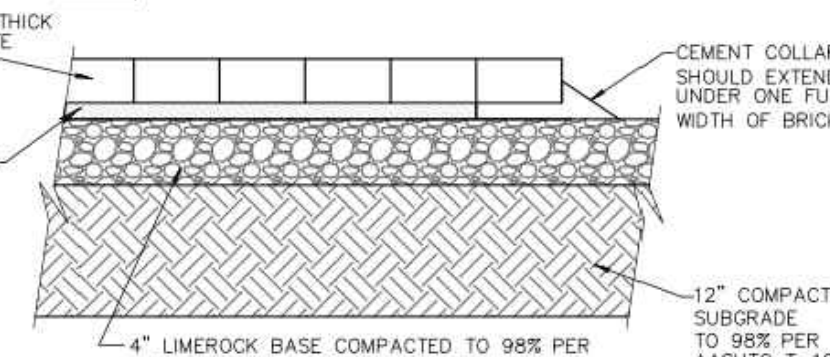


NOTE:
IF CITY APPROVES PAVERS TO BE USED IN LIEU OF CONCRETE SIDEWALK, PAVES SHALL BE: HOLLAND-STONE, 45° HERRING BONE, RED/CHARCOAL, COLOR MIX #2.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
PAVER BRICK SECTION
DATE: 09-10-2021
RT 26.0

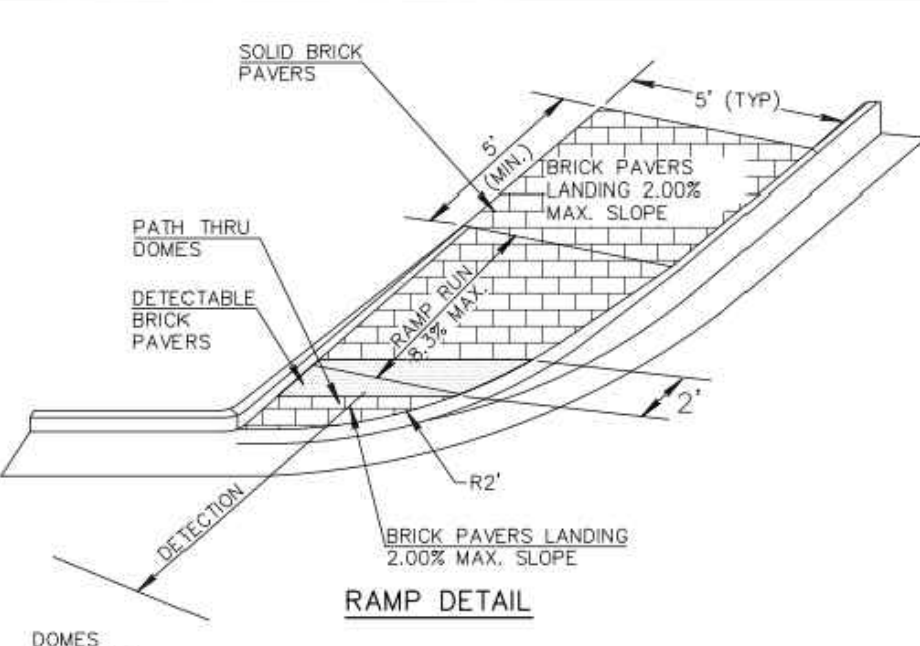


NOTE: SIDEWALK SHALL BE CONSTRUCTED THROUGH DRIVEWAY.

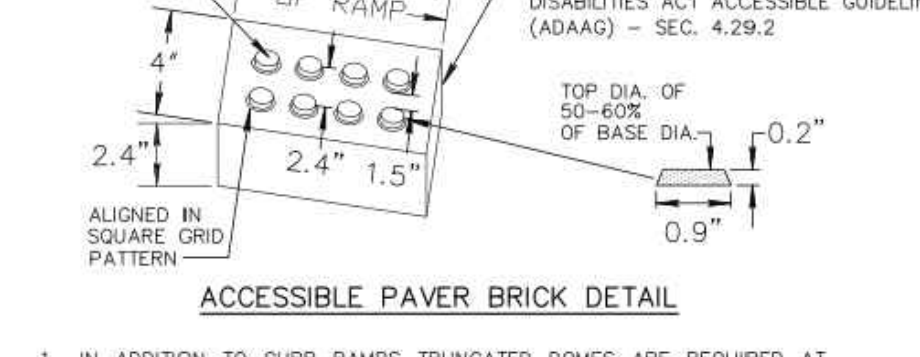


NOTE: SIDEWALK SHALL BE CONSTRUCTED THROUGH DRIVEWAY.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
PAVER BRICK DRIVEWAY APRON
DATE: 09-10-2021
RT 28.0

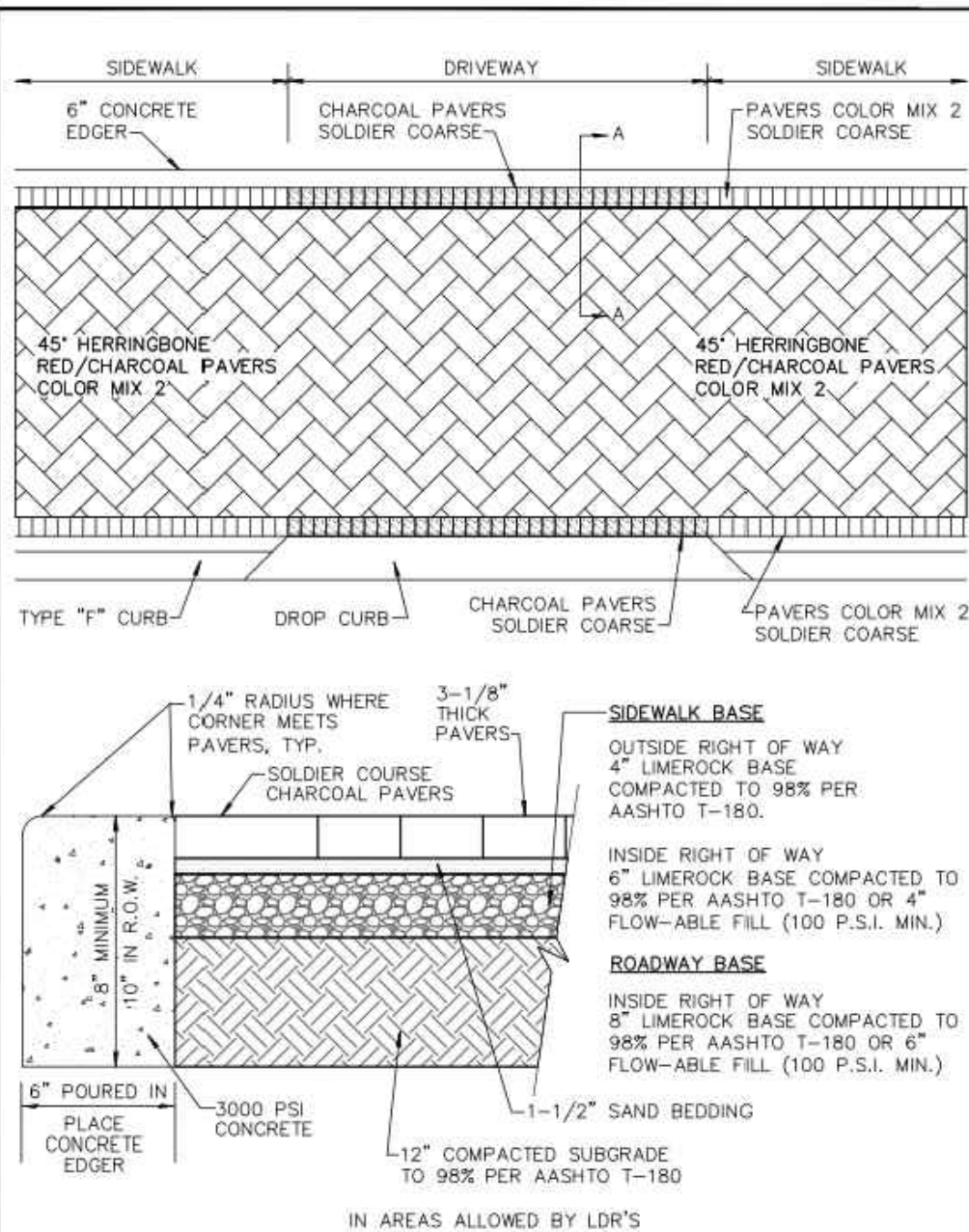


NOTE: SIDEWALK SHALL BE CONSTRUCTED THROUGH DRIVEWAY.

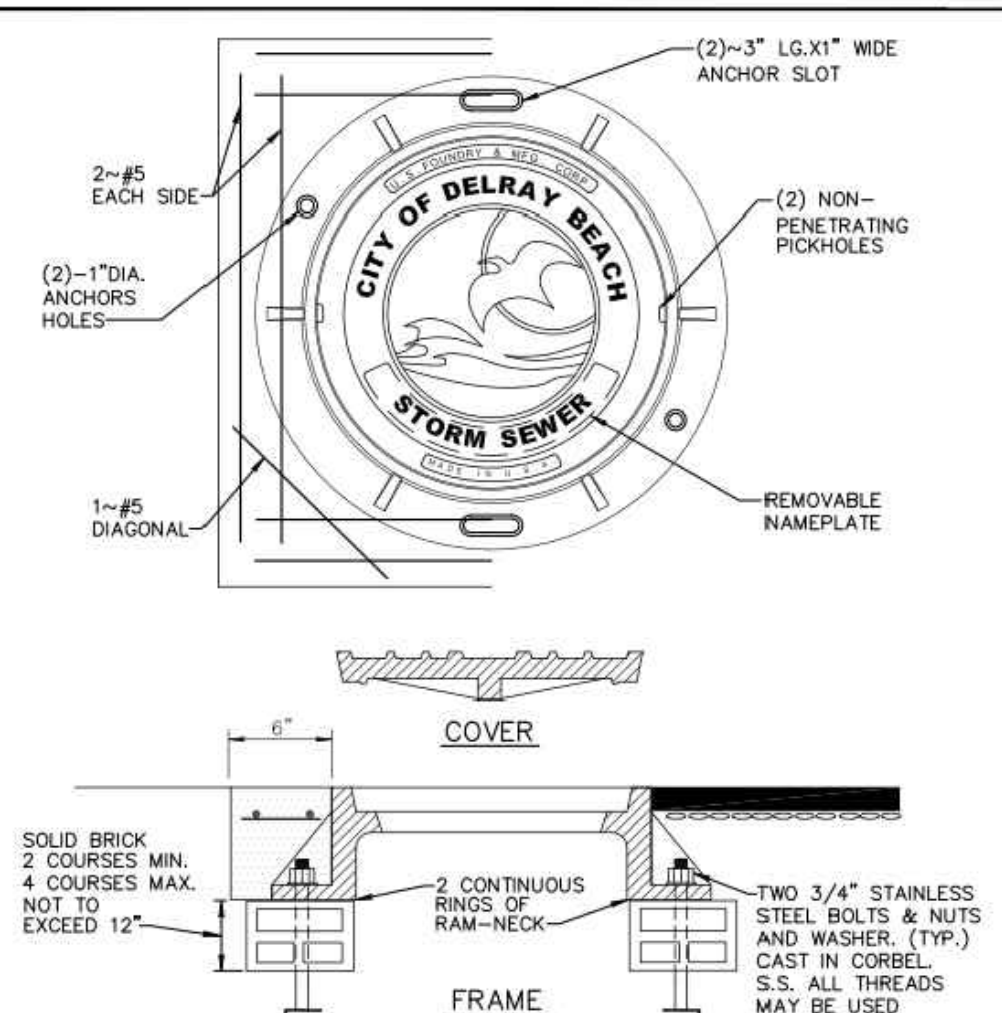


NOTE: SIDEWALK SHALL BE CONSTRUCTED THROUGH DRIVEWAY.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
DETECTABLE WARNING RAMP
IN PAVEMENT SIDEWALK
TYPICAL DETAIL
DATE: 09-10-2021
RT 29.0

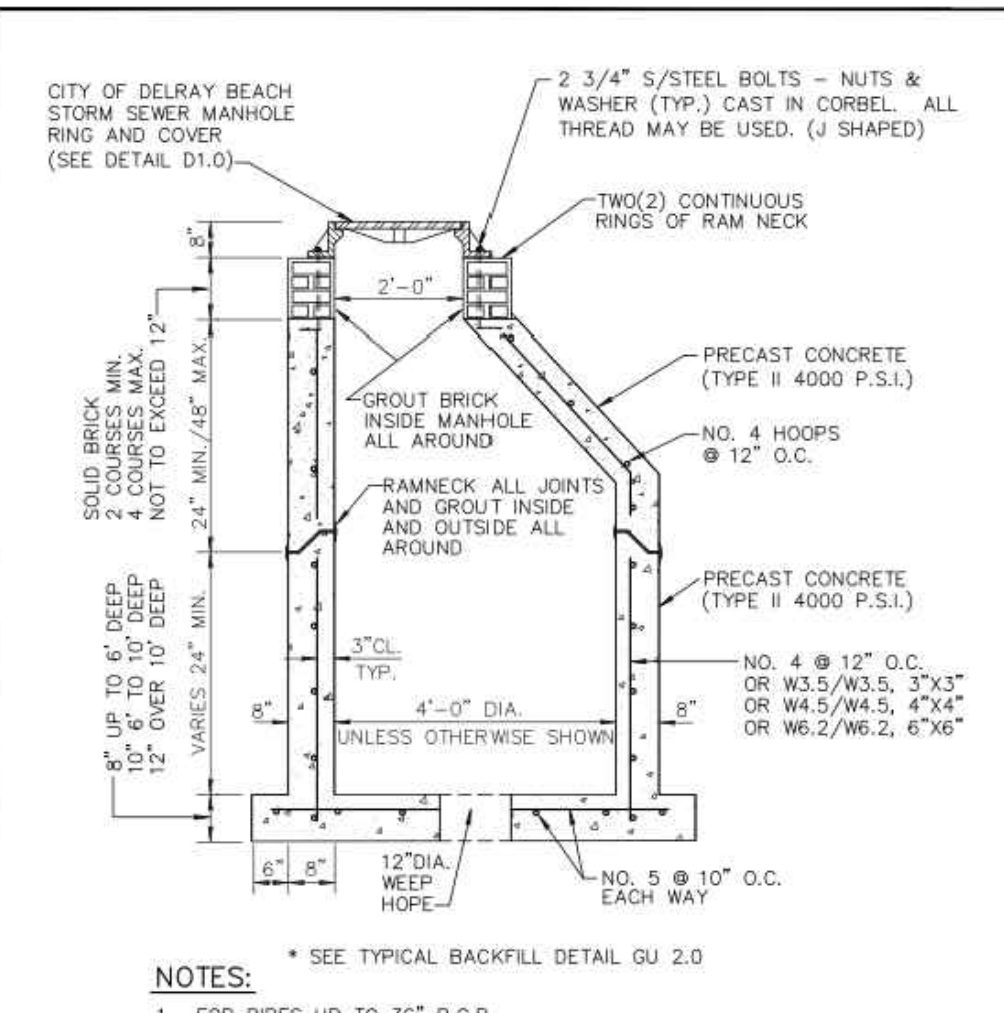


CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
PAVER SIDEWALK
DRIVEWAY APRON DETAIL
DATE: 09-10-2021
RT 30.0



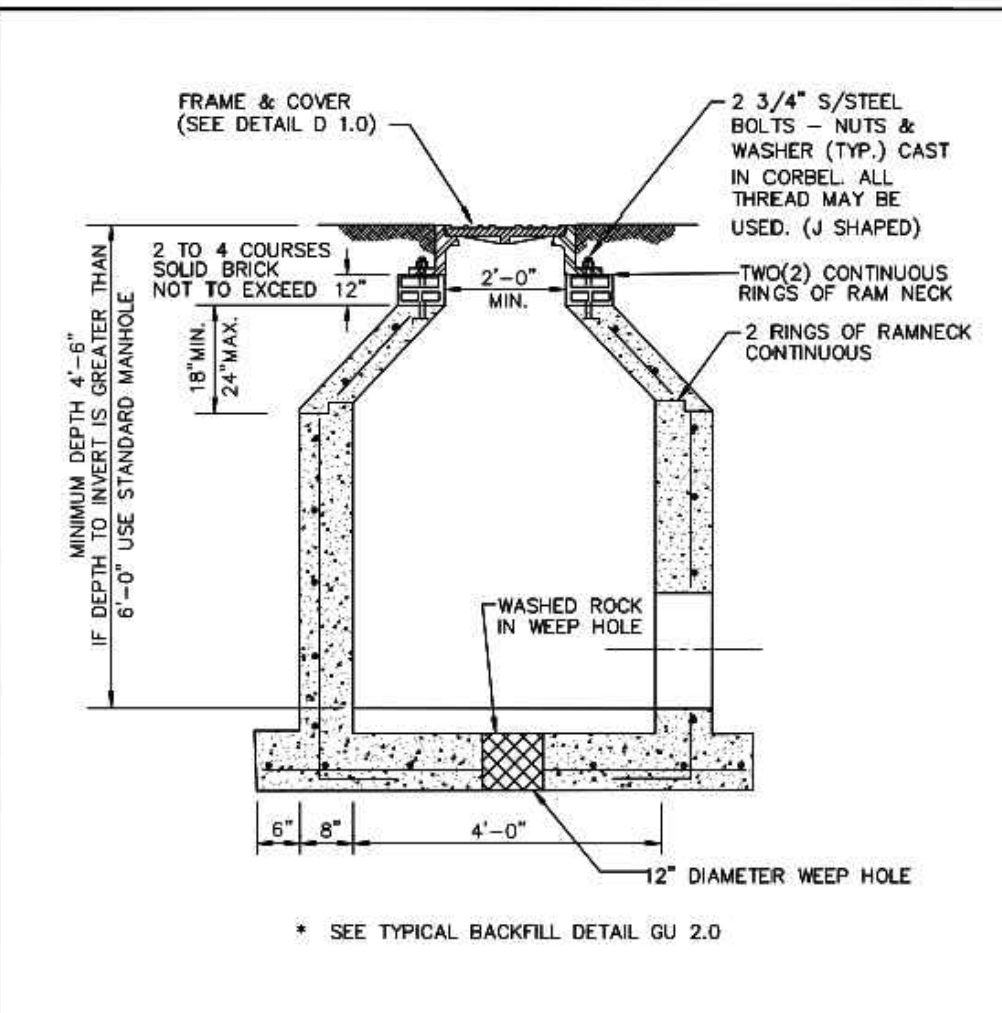
NOTES:
1. COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT.
2. FRAME AND COVER SHALL BE U.S. FOUNDRY MR-ORS AND RING SHALL BE USF 576.
3. MANHOLE ADJUSTING RINGS SHALL BE CAST IRON, USF TYPE B.
4. CITY LOGO LID TO BE USED ON CITY MAINTAINED STORM SEWER ONLY. STANDARD NO. 576H IS TO BE USED ON PRIVATELY MAINTAINED STORM SEWER.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
STORM SEWER MANHOLE
FRAME & COVER
DATE: 09-10-2021
D 1.0



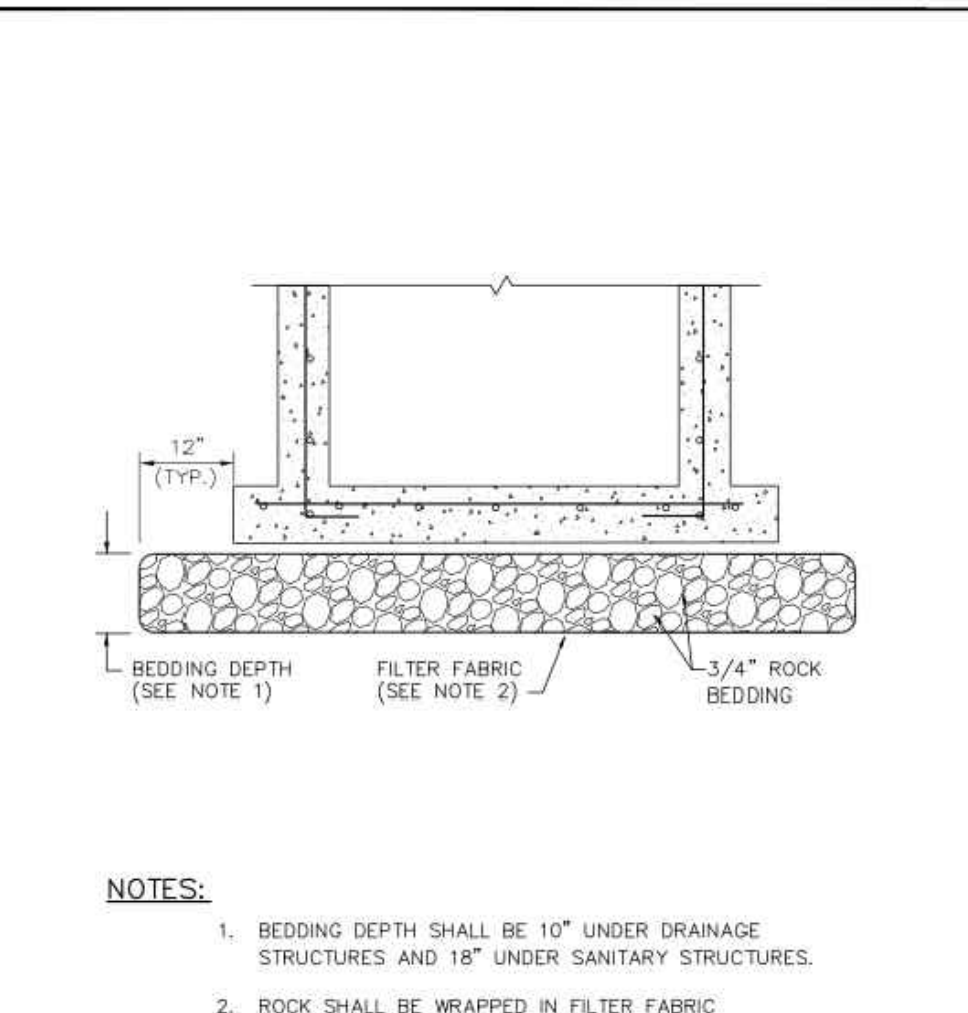
NOTES:
1. FOR PIPES UP TO 36" R.C.P.
2. 12" DIA. WEEP HOLE REQUIRED ON ALL STRUCTURES WHICH HAVE BOTTOM ELEVATIONS ABOVE THE WATER TABLE. HARDWARE CLOTH SHALL BE PROVIDED ABOVE BEDDING ROCK AND UNDER WEEP HOLE. EXCEPT IN WELL FIELDS.
3. 18" SUMP REQUIRED ON ALL STRUCTURES.
4. IF THE STRUCTURE IS INSTALLED IN WATER TABLE MUST HAVE BEDDING. (SEE DETAIL BEDDING D 4.0)

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
STORM SEWER MANHOLE
DATE: 09-10-2021
D 2.0



NOTE:
1. ALL STANDARD MANHOLE NOTES AND DETAILS ARE APPLICABLE. (SEE DETAIL D 2.0)
2. IF THE STRUCTURE IS INSTALLED IN WATER TABLE MUST HAVE BEDDING. (SEE DETAIL BEDDING D 4.0)

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
SHALLOW MANHOLE
DATE: 09-10-2021
D 3.0



NOTES:
1. BEDDING DEPTH SHALL BE 10" UNDER DRAINAGE STRUCTURES AND 18" UNDER SANITARY STRUCTURES.
2. ROCK SHALL BE WRAPPED IN FILTER FABRIC THAT MEETS THE REQUIREMENTS OF F.D.O.T. SPECIFICATION SECTION 985.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
STANDARD BEDDING DETAIL
DATE: 09-10-2021
D 4.0

"NOT FOR CONSTRUCTION"

PAVING & DRAINAGE DETAILS FOR:
DELRAY SWAN
SE 2ND ST & SE 2ND AVE
DELRAY BEACH, FLORIDA

EnviroDesign Associates, Inc.
www.envirodesign.com
ENGINEERS • ENVIRONMENTAL CONSULTANTS
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
298 Pineapple Grove Way Delray Beach, Florida 33444
Phone: (561) 274-8558 Fax: (561) 274-8558

DRAWN:
B.A.B.
CHECKED:
J.A.P.
DATE:
10/25/23
JOB NO.
21058-DTL
SHEET NO.
7 OF 14



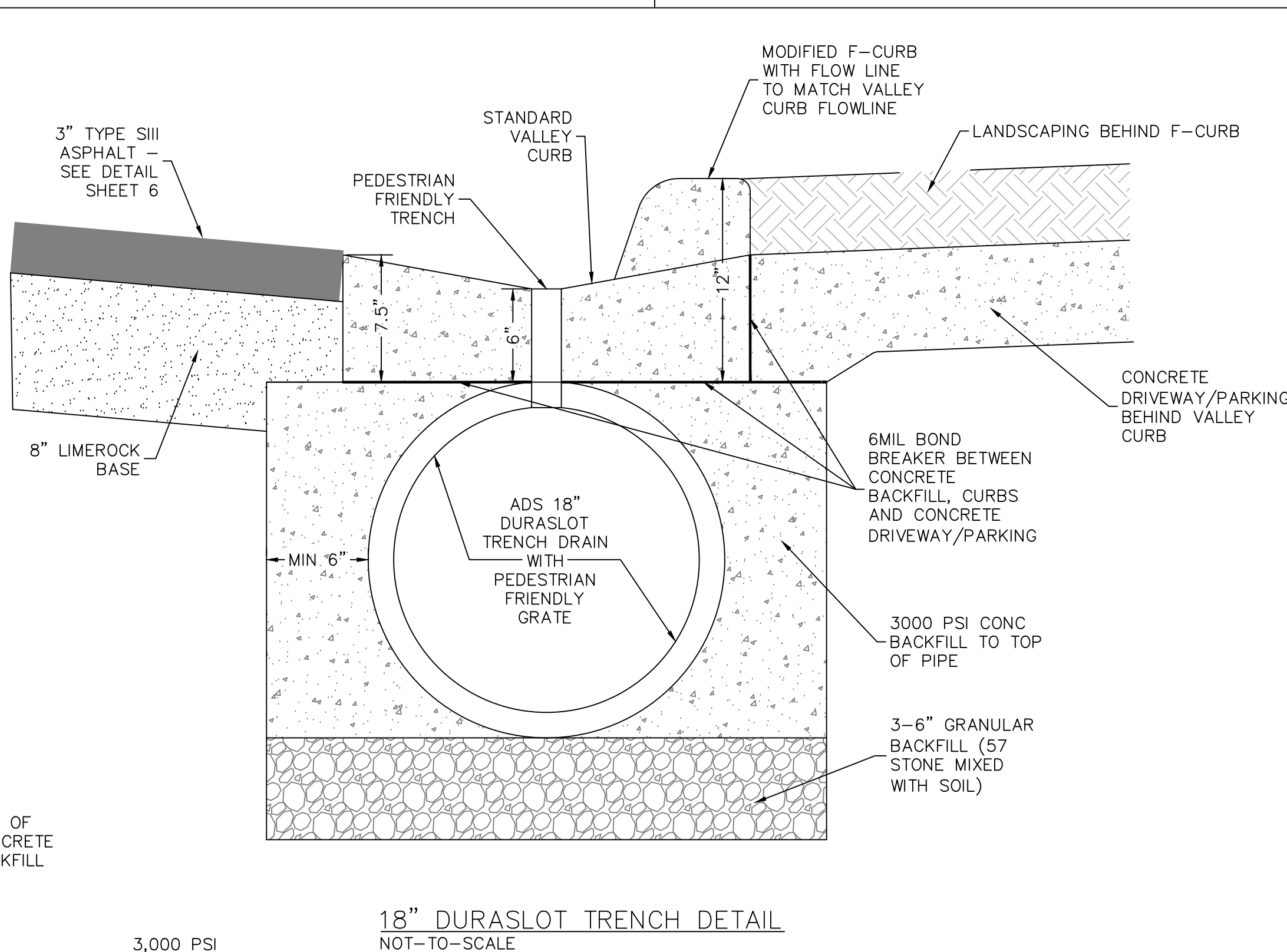
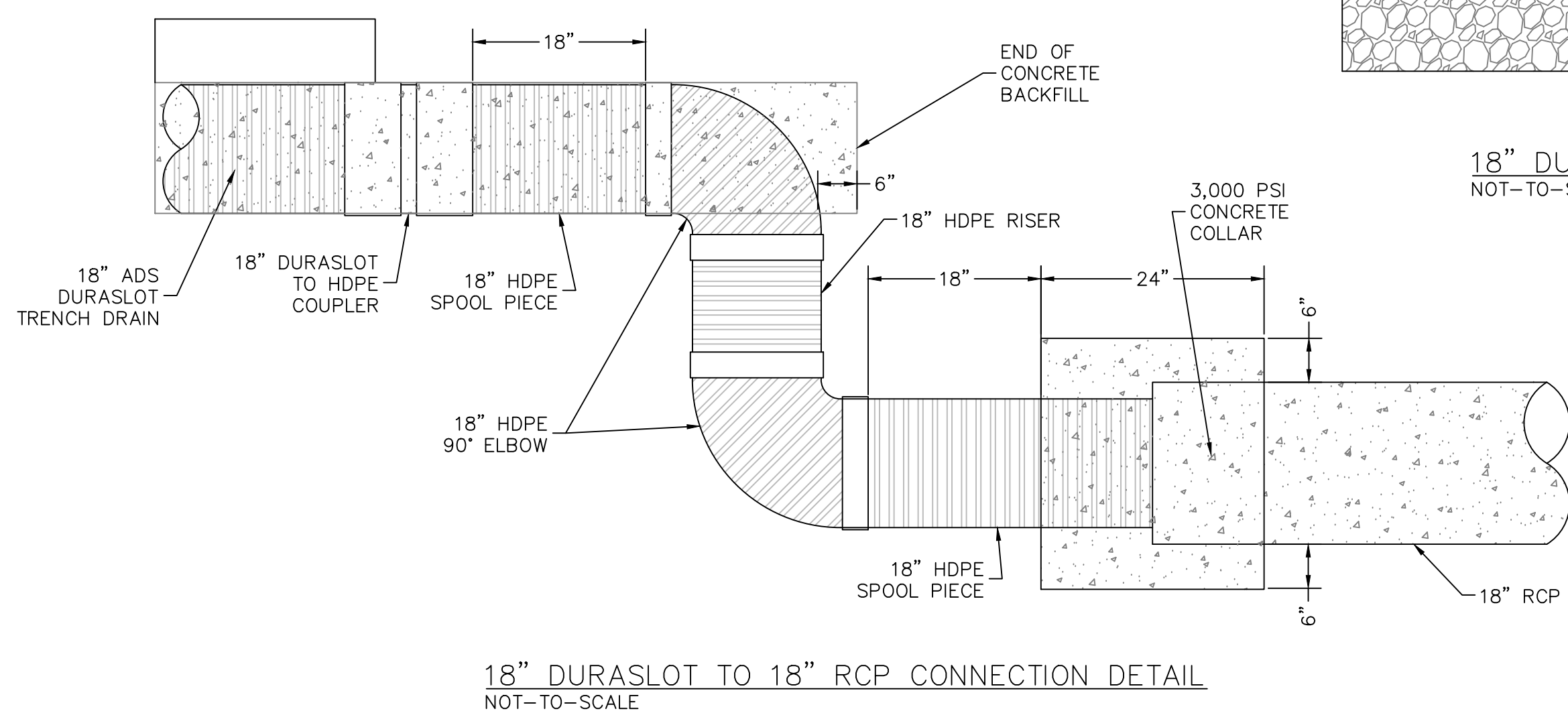
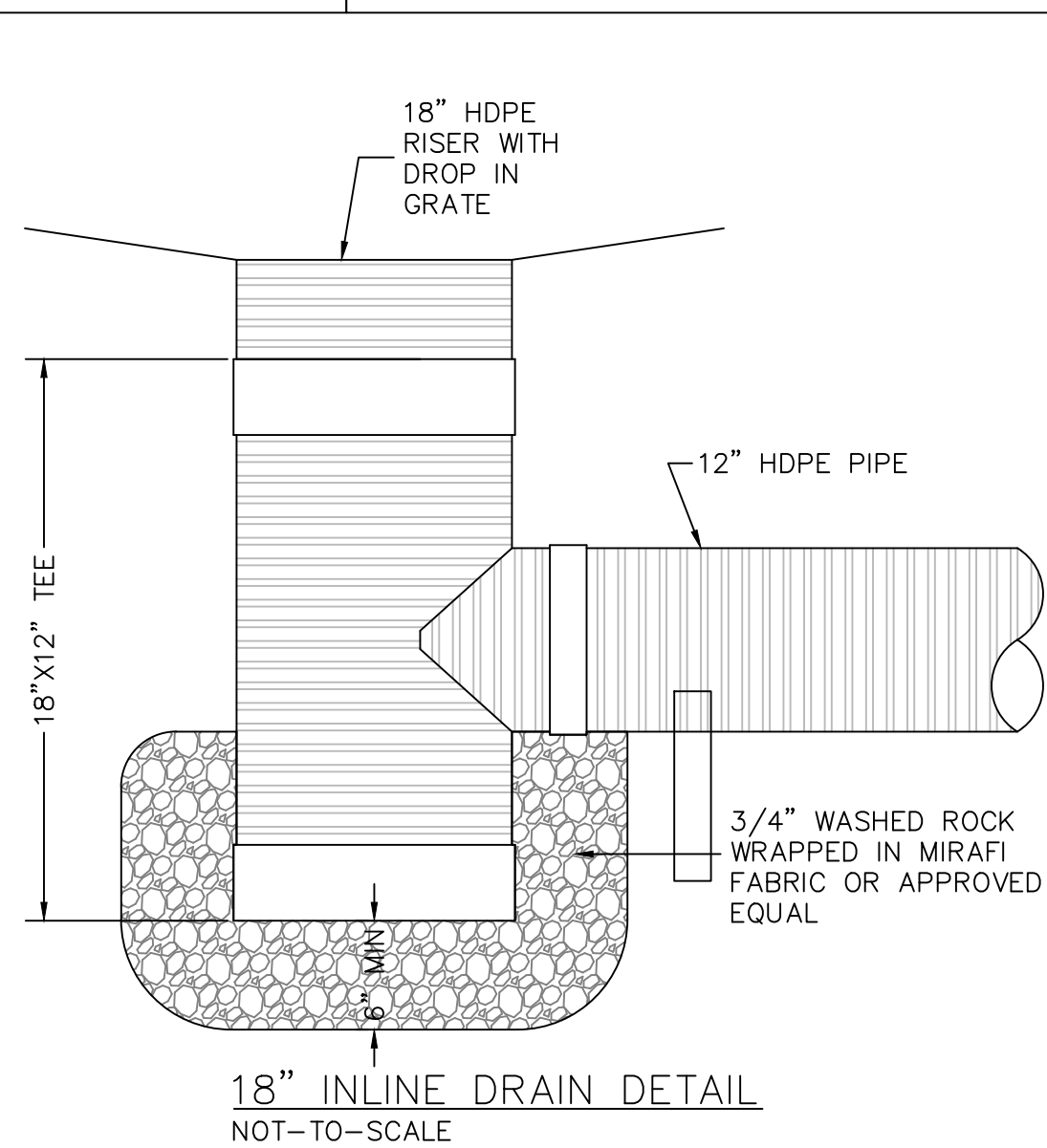
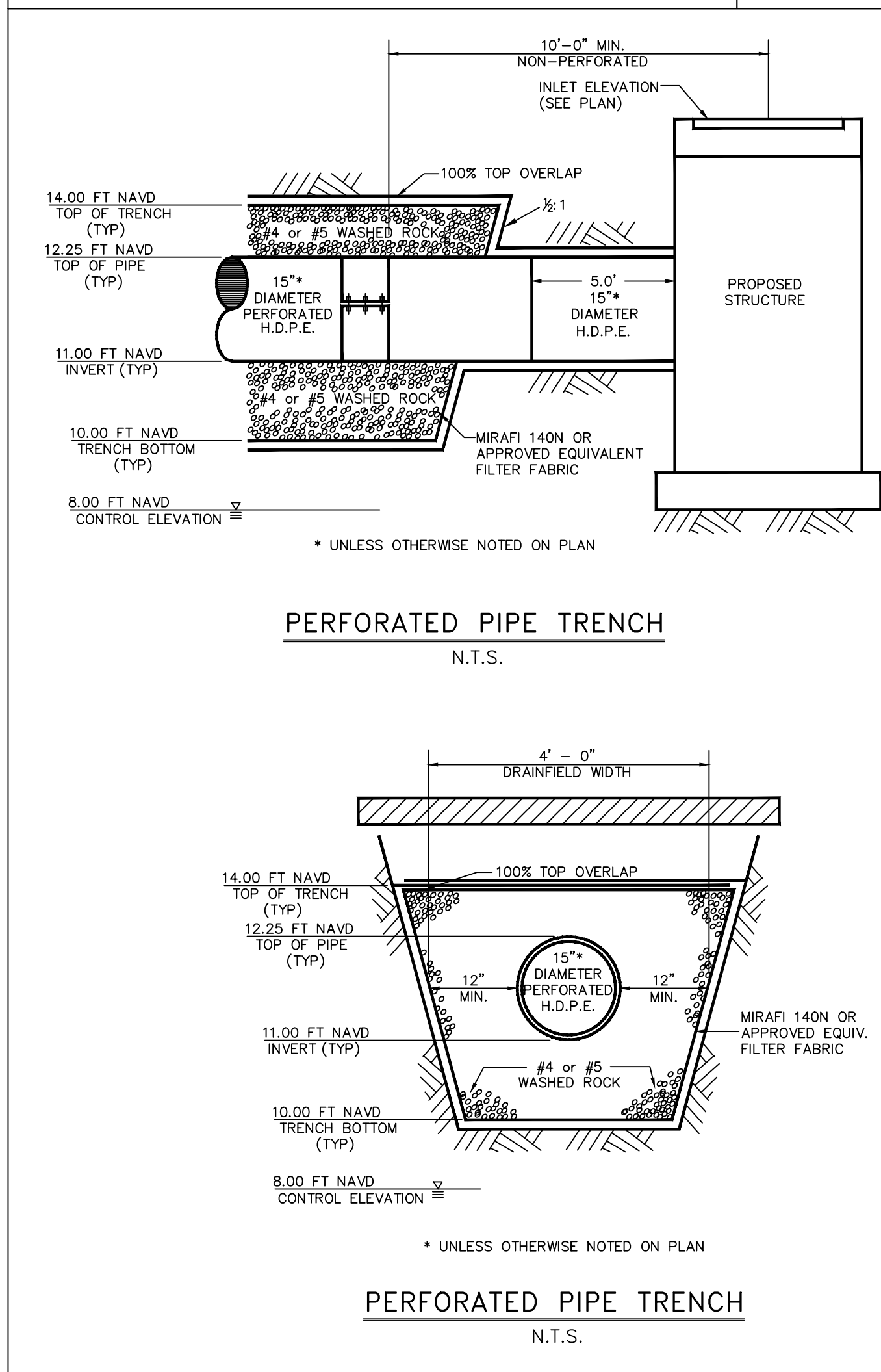
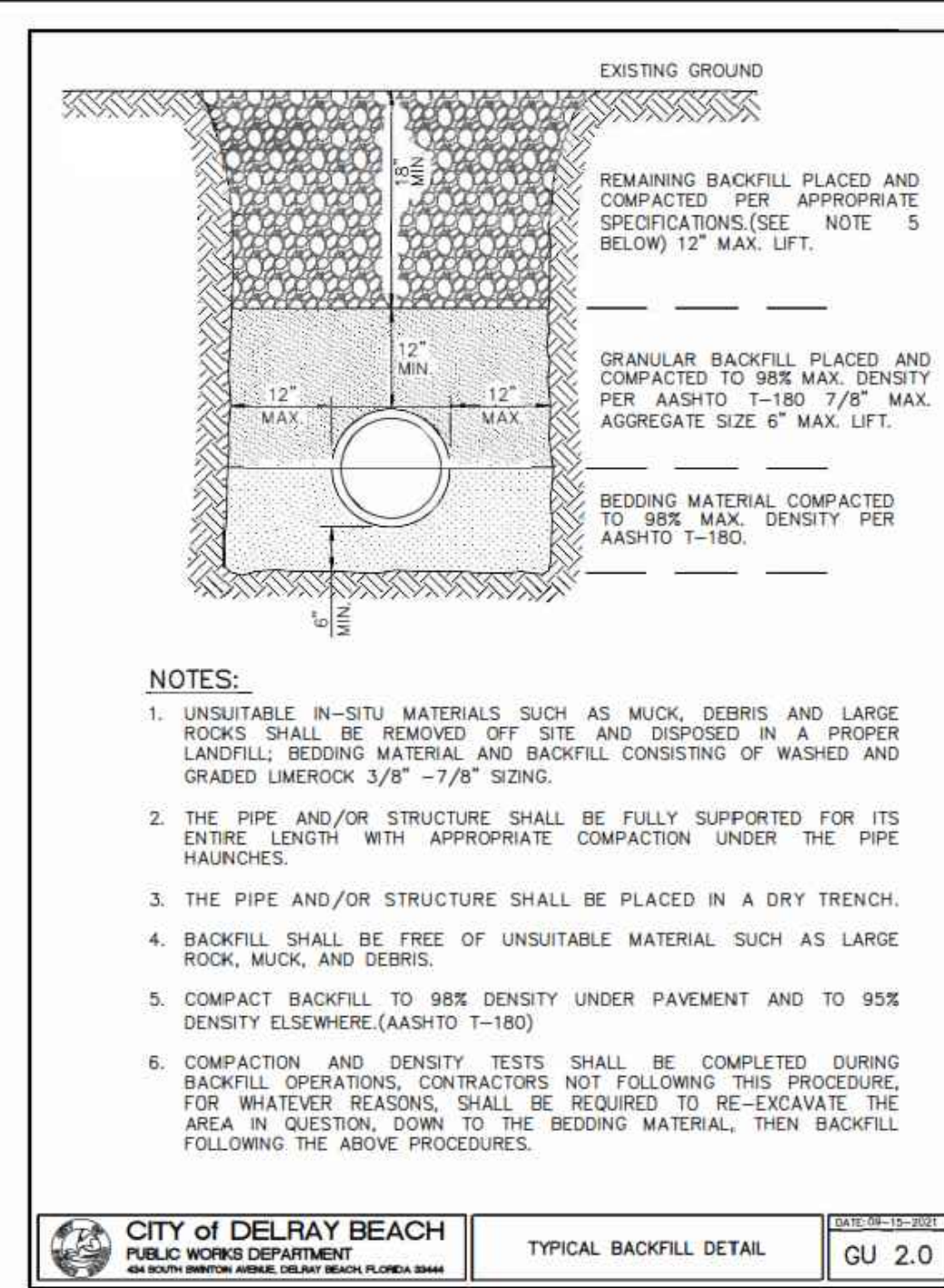
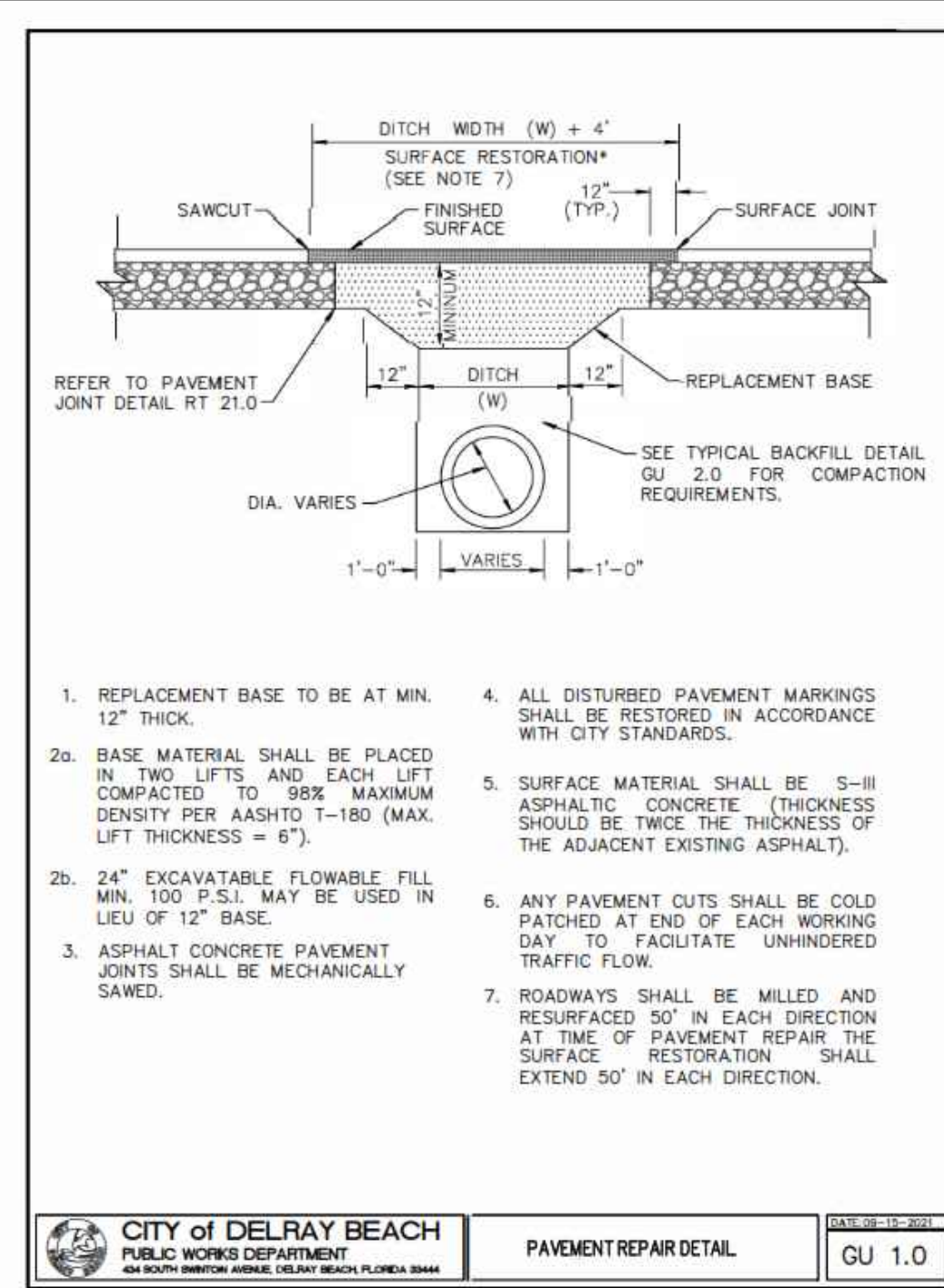
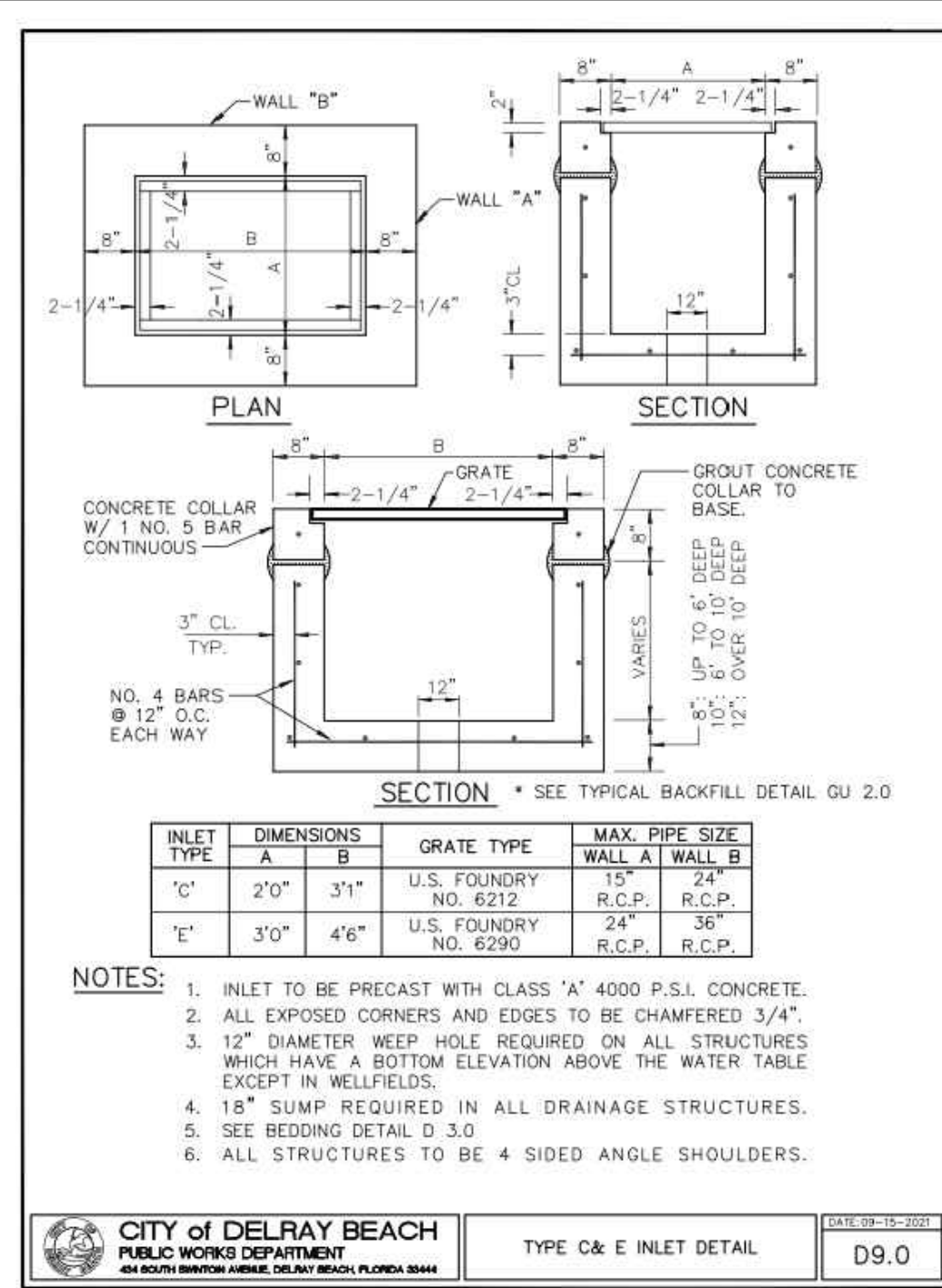
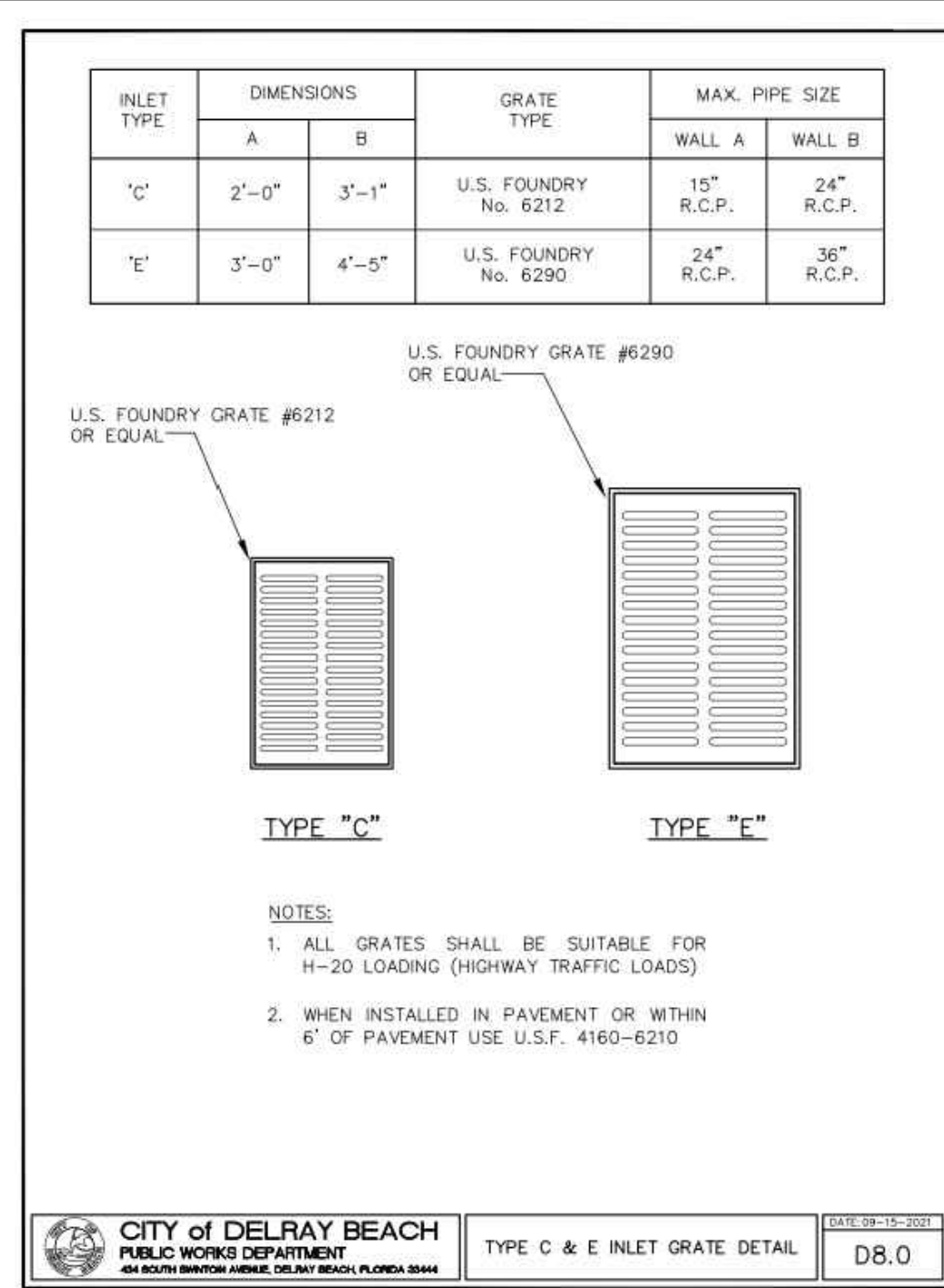
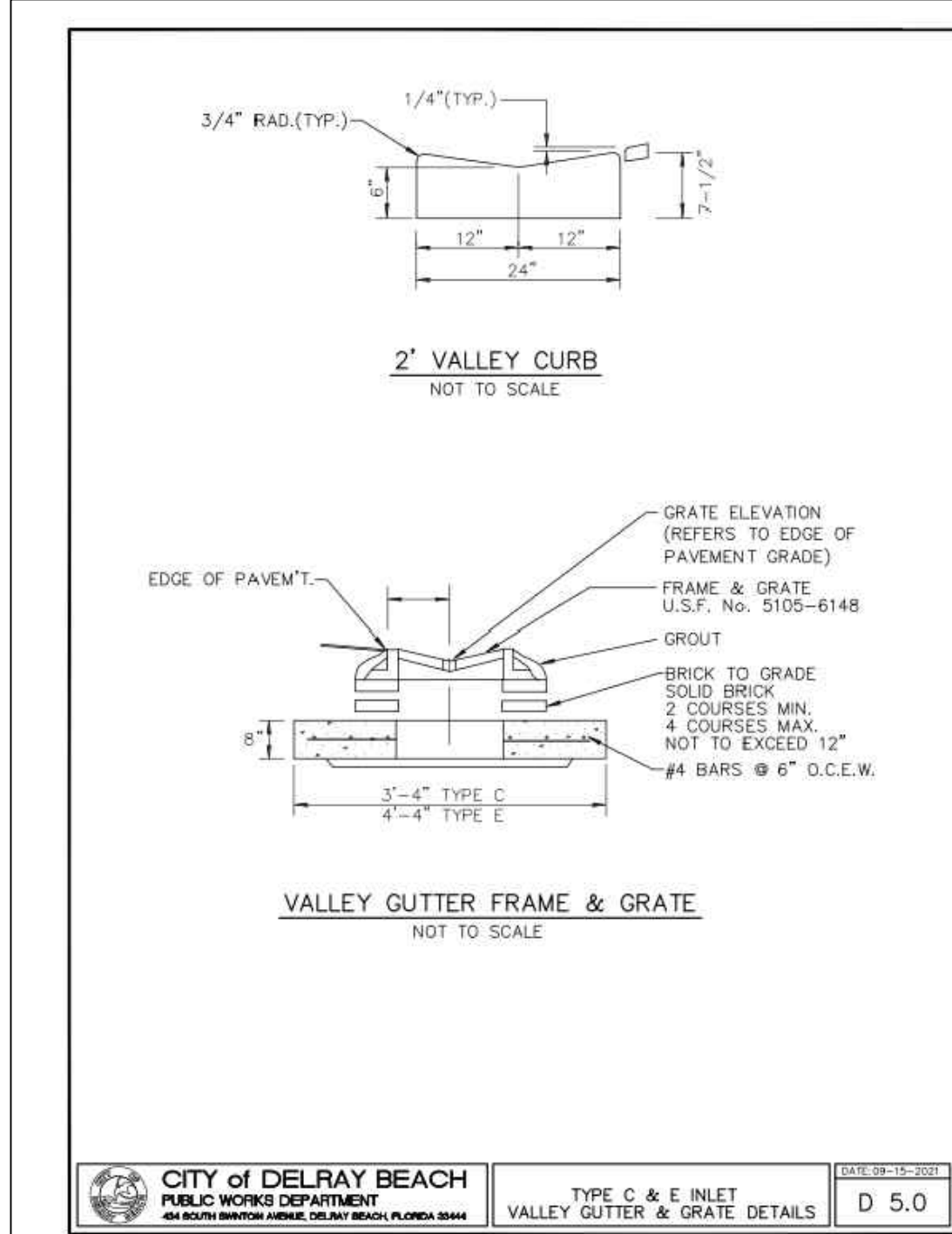
Know what's below.
Call before you dig.

CALL 48 HOURS BEFORE YOU DIG.

IT'S THE LAW
1-800-432-4770

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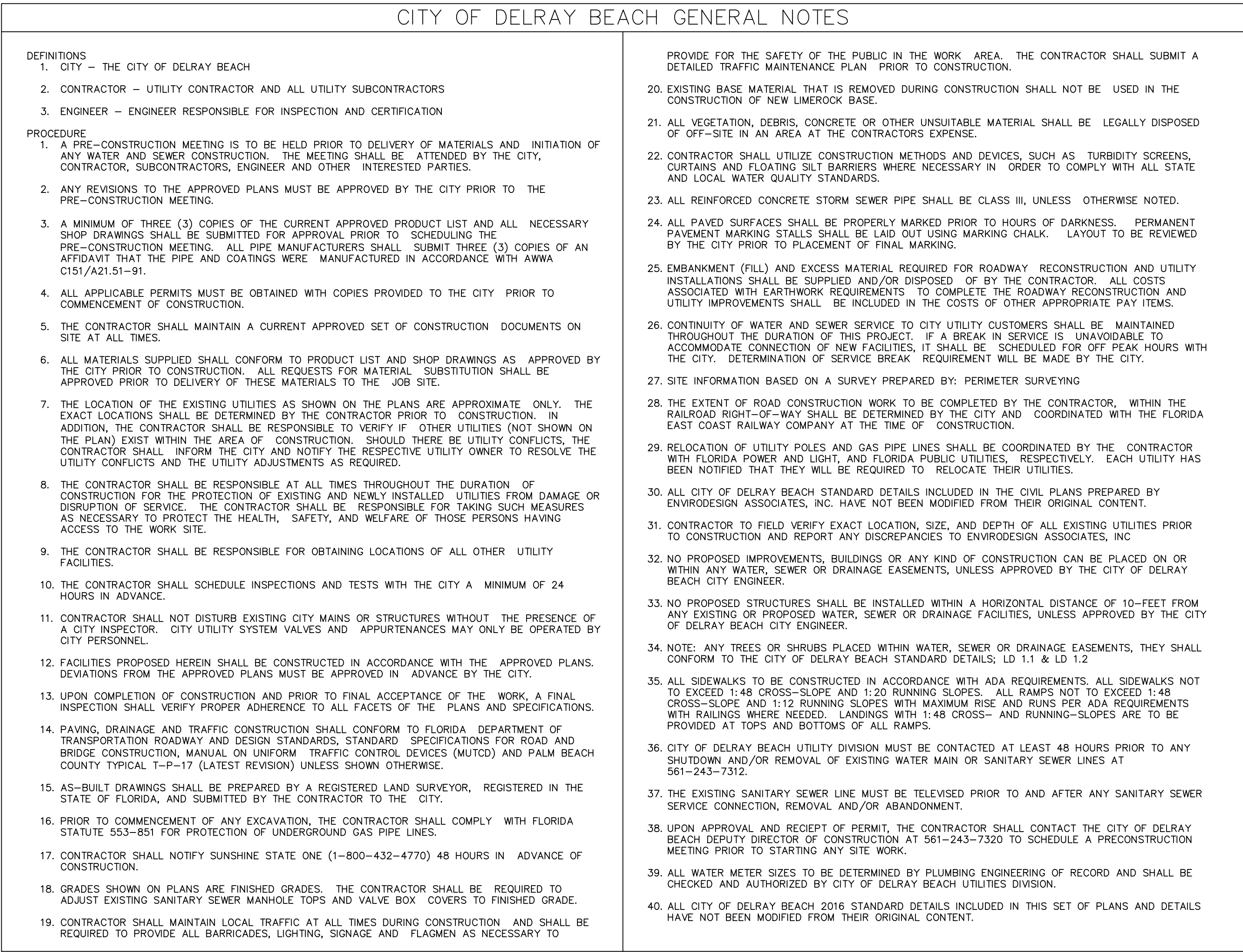
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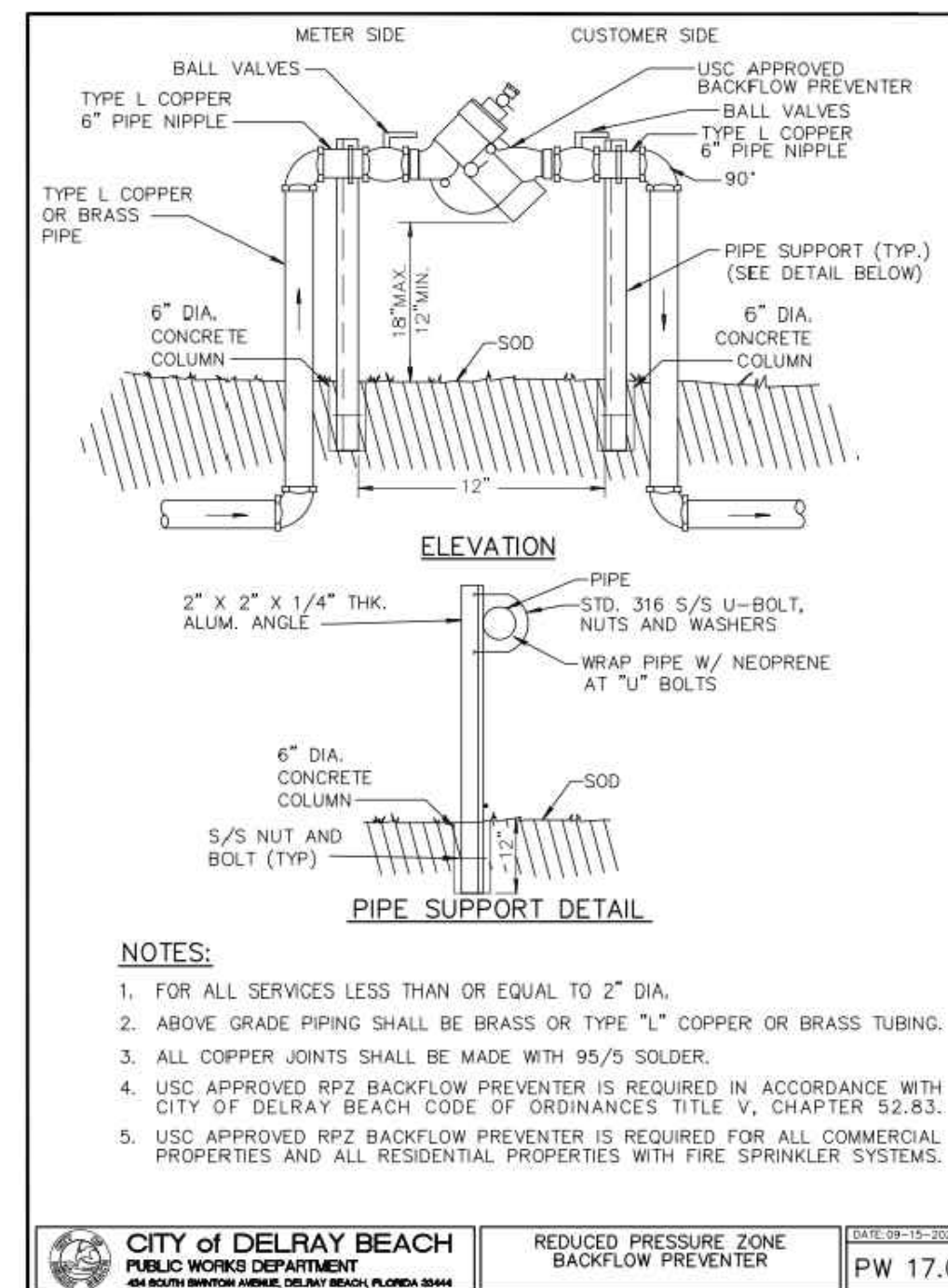
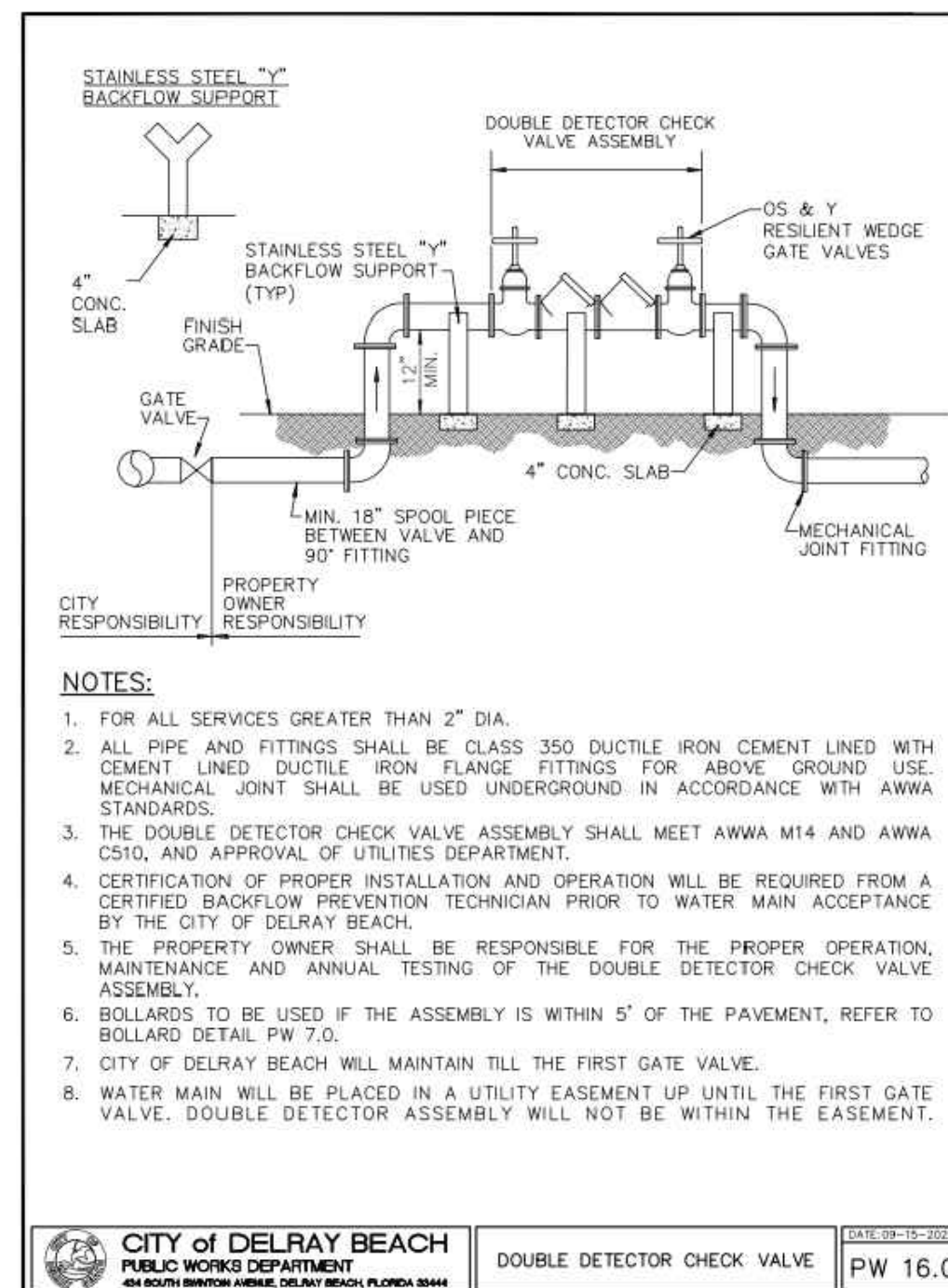
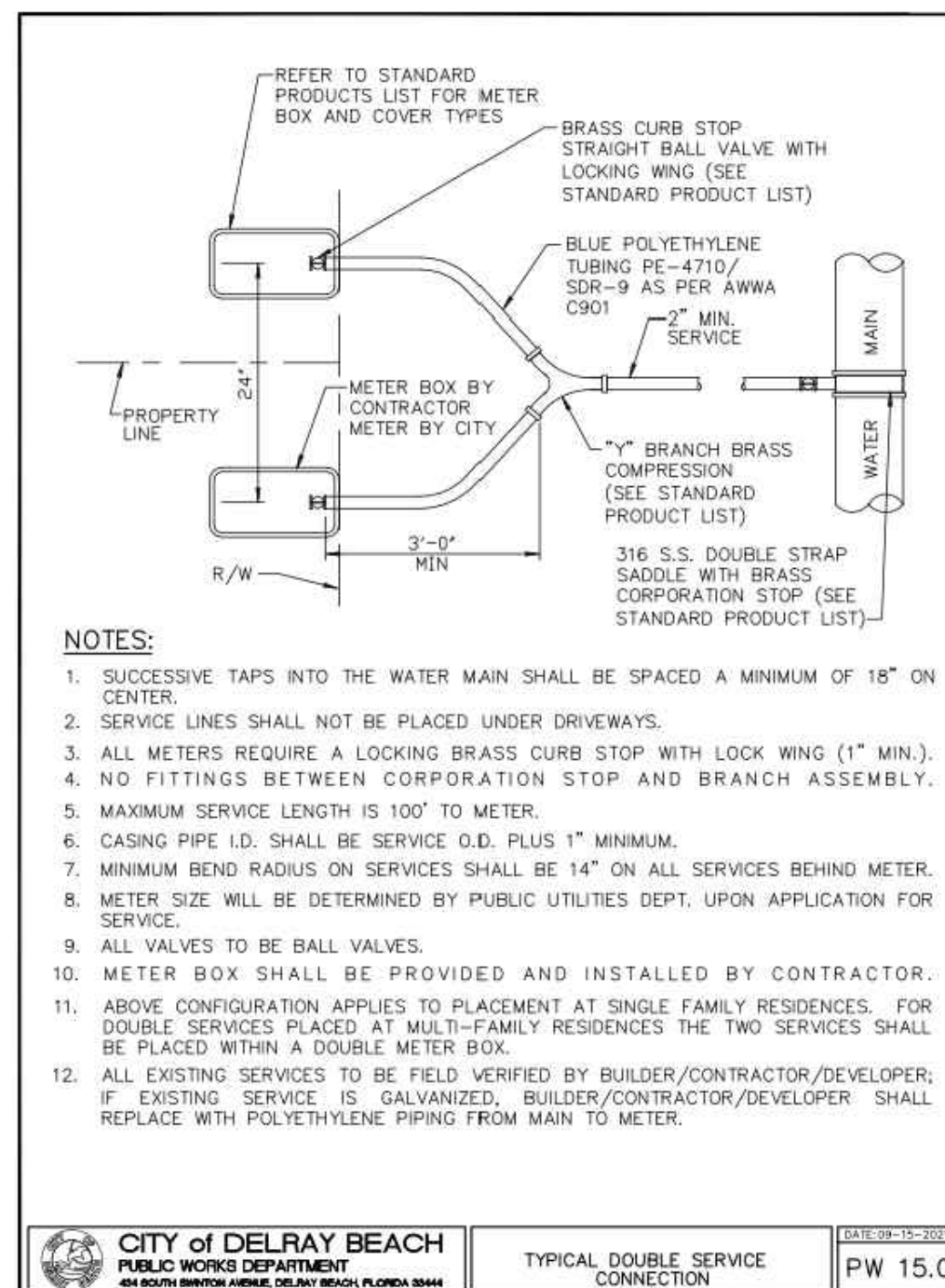
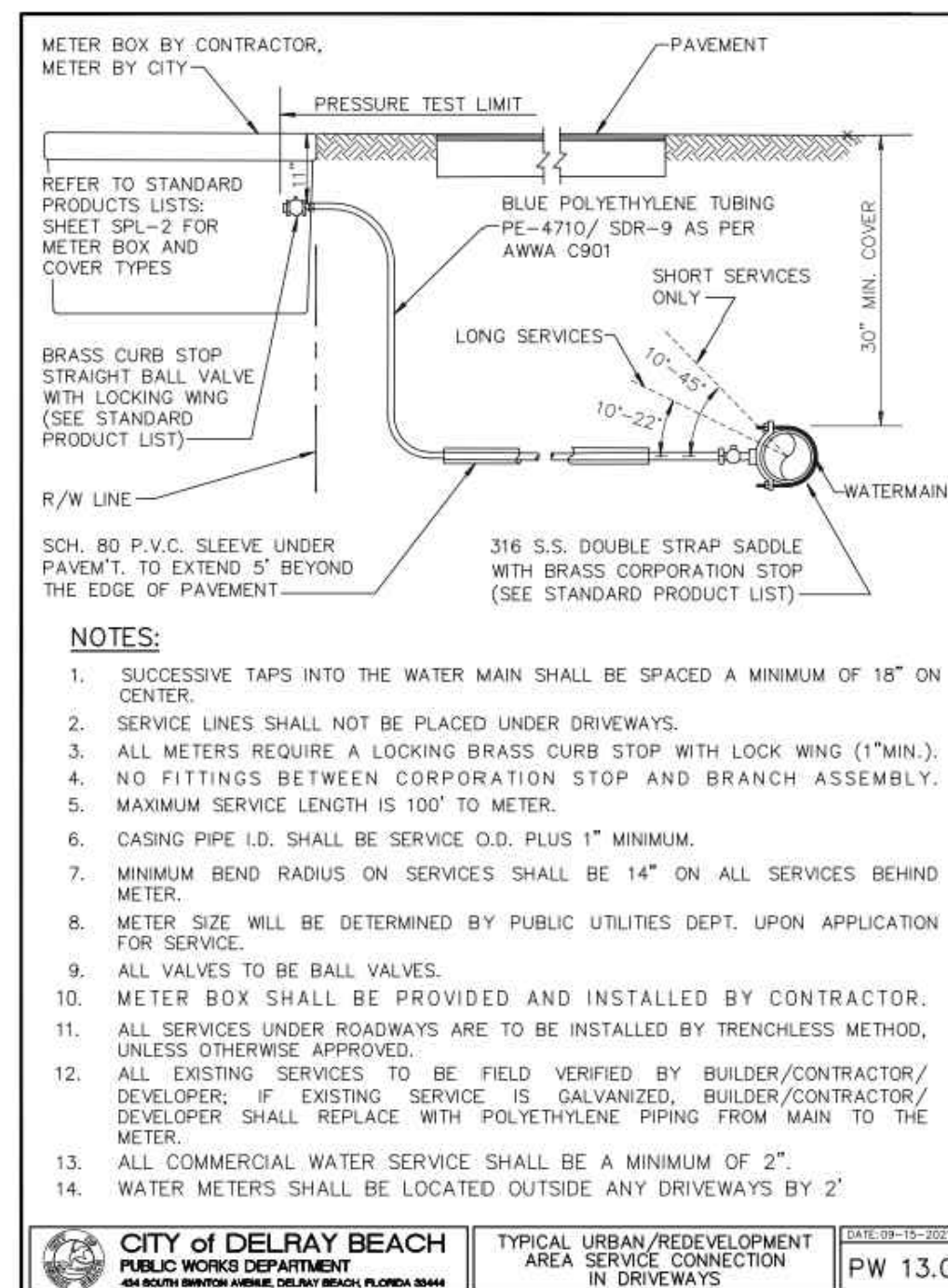
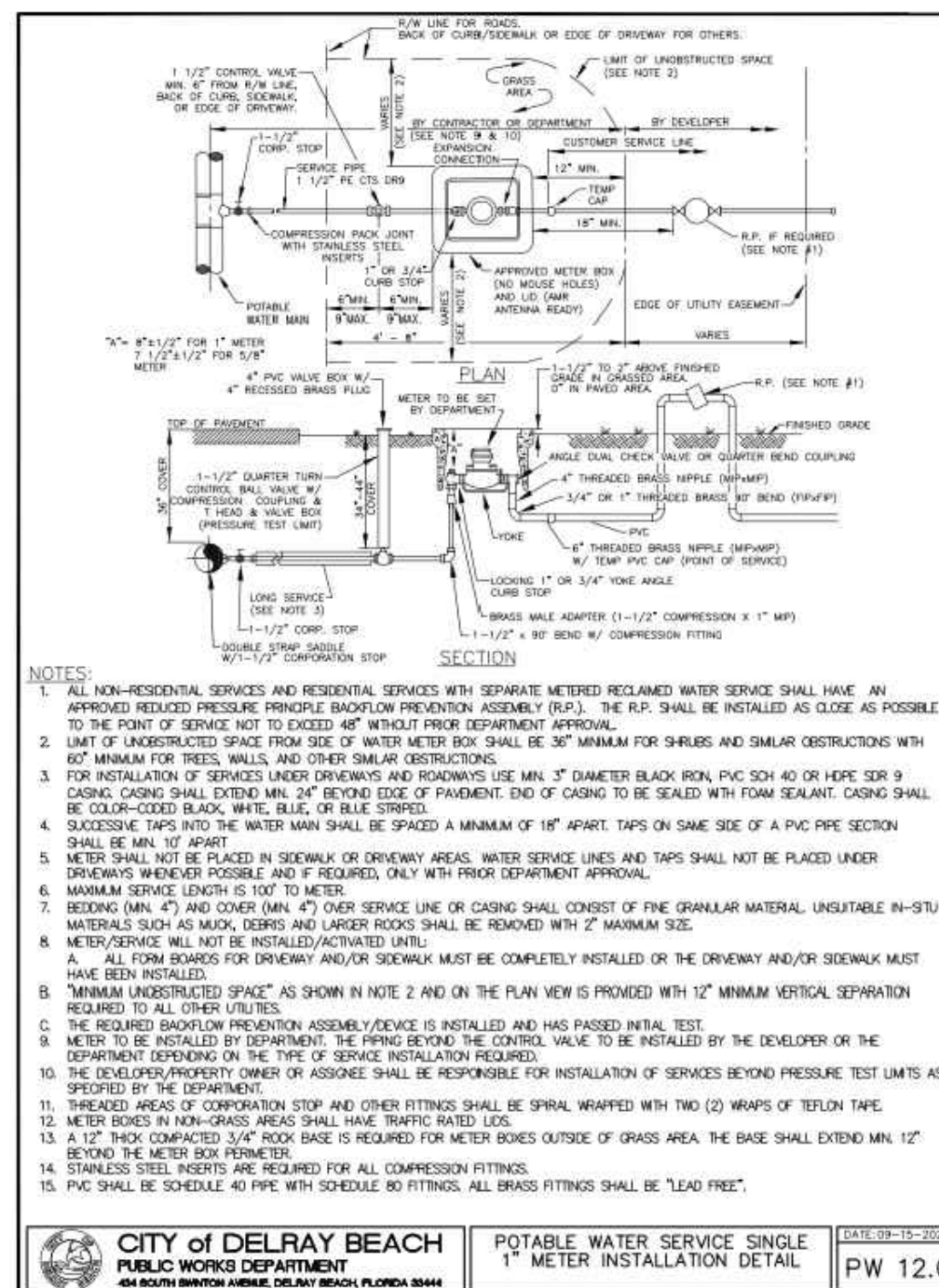
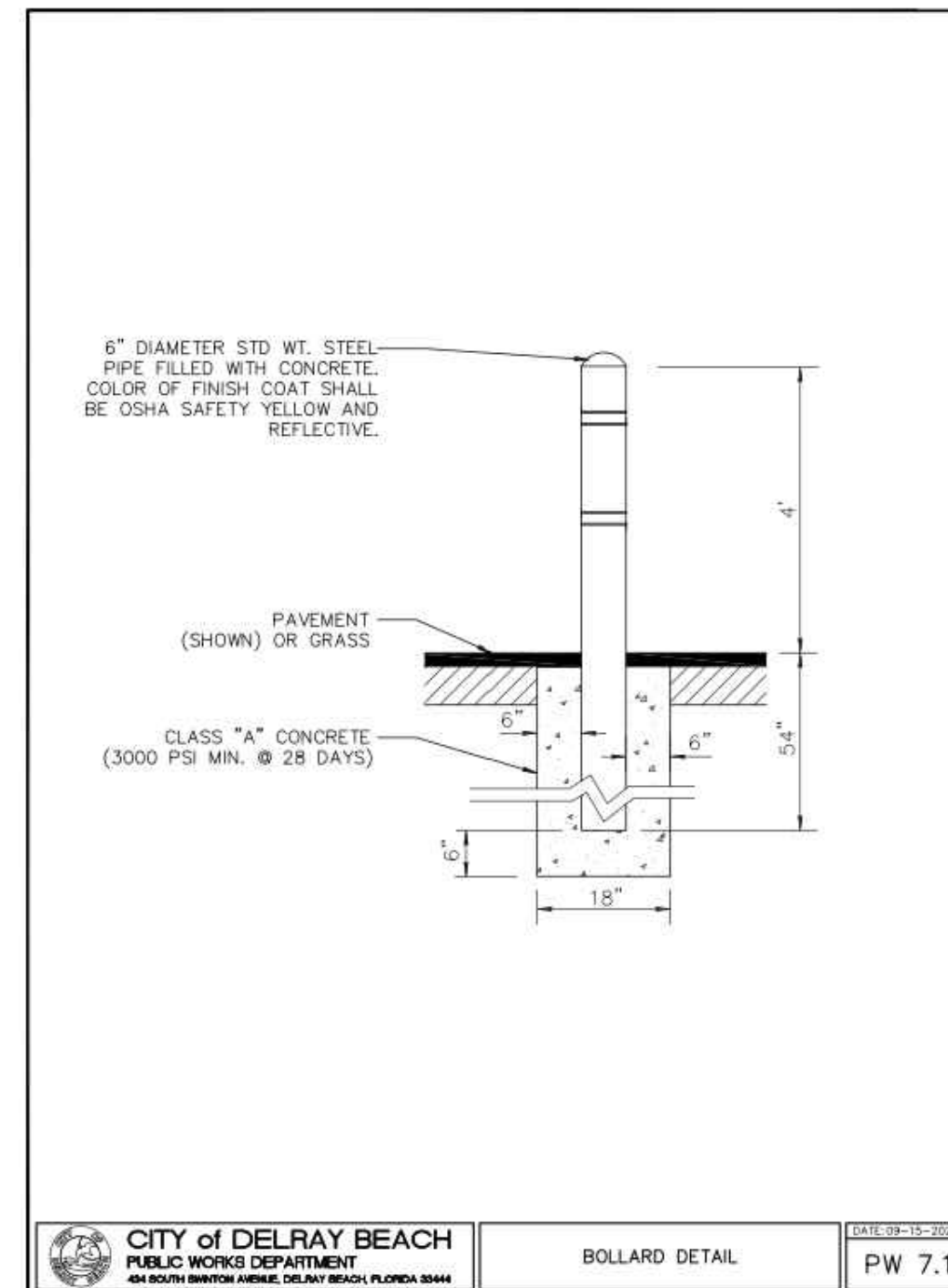
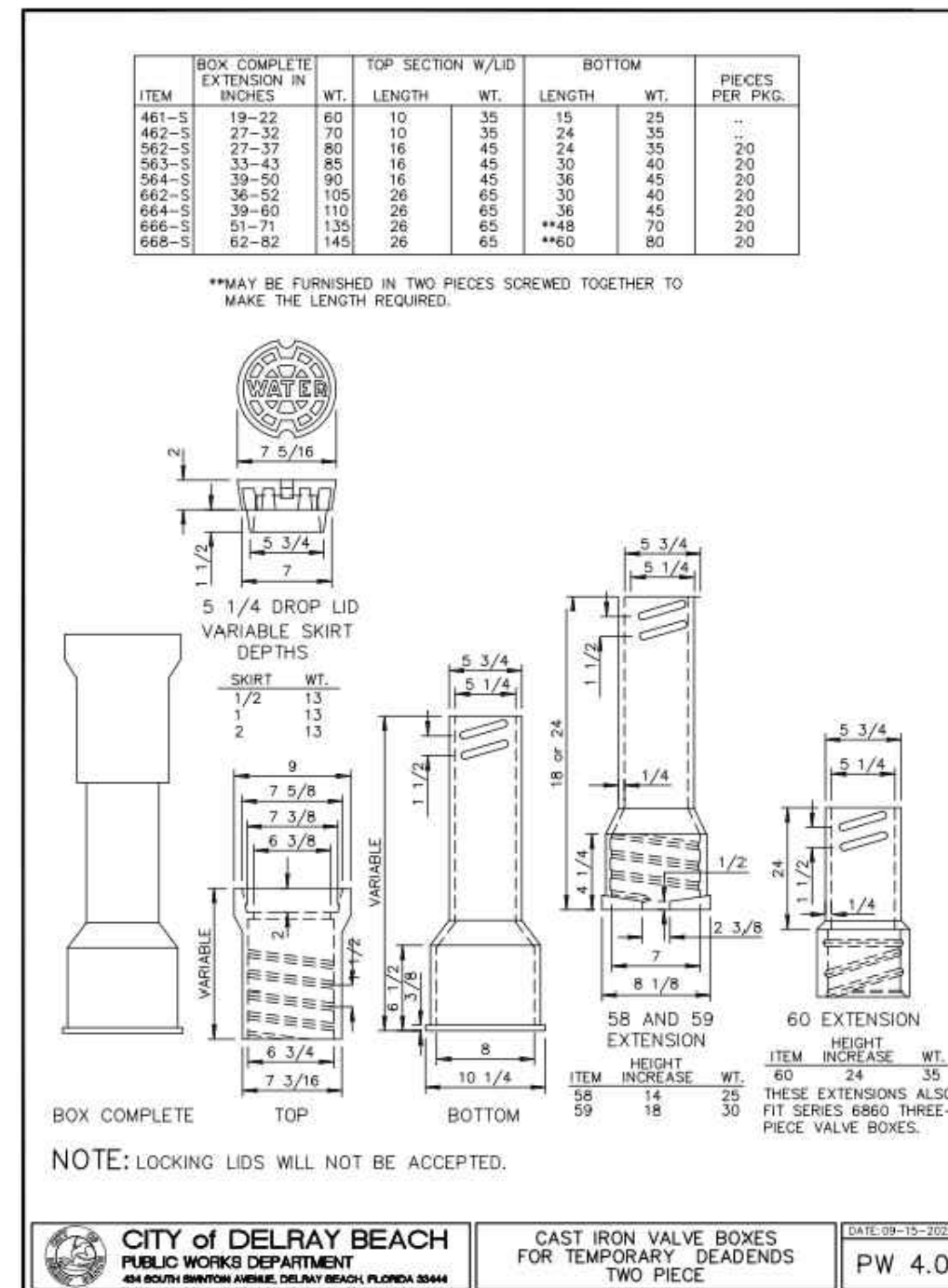
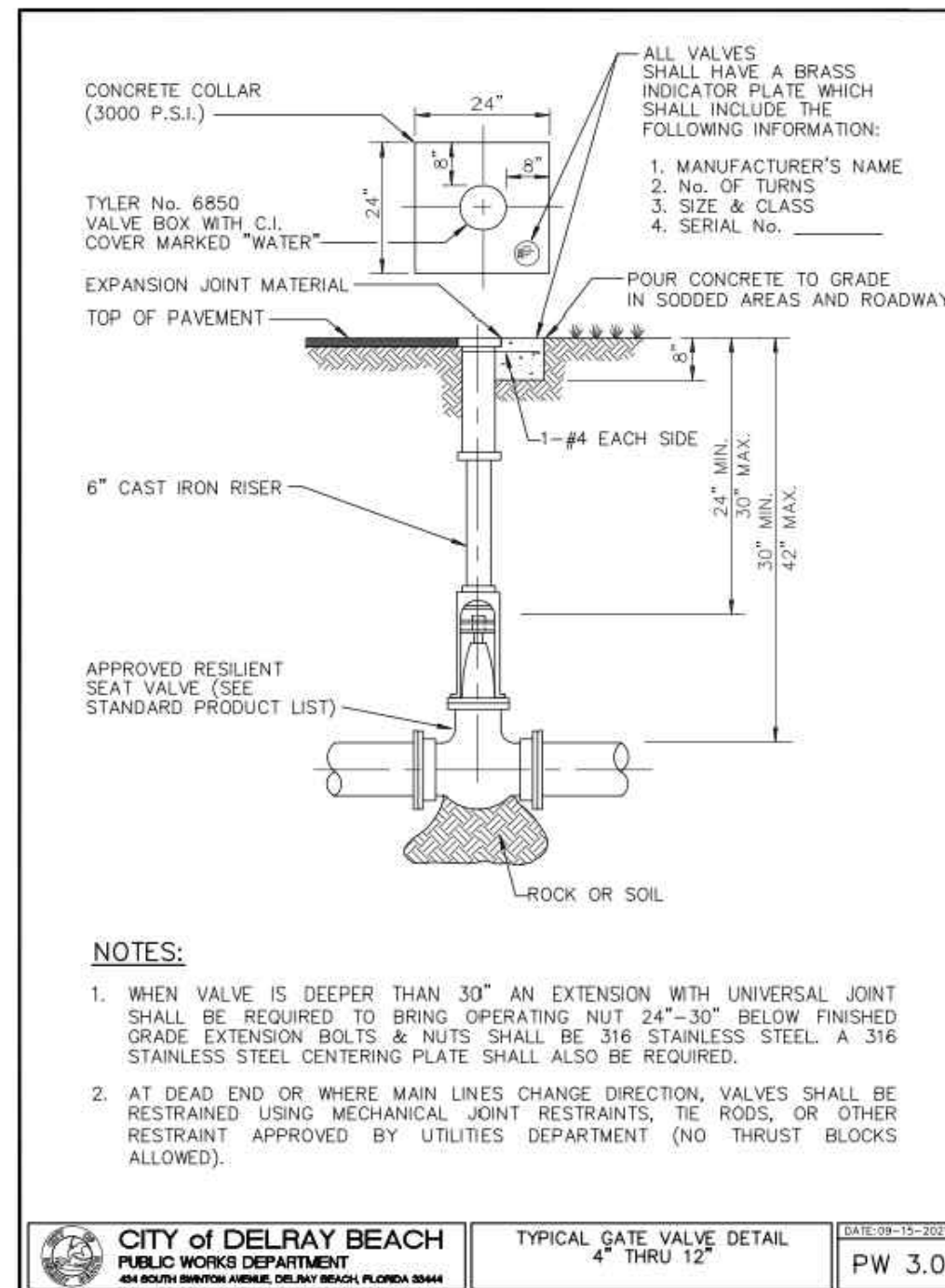
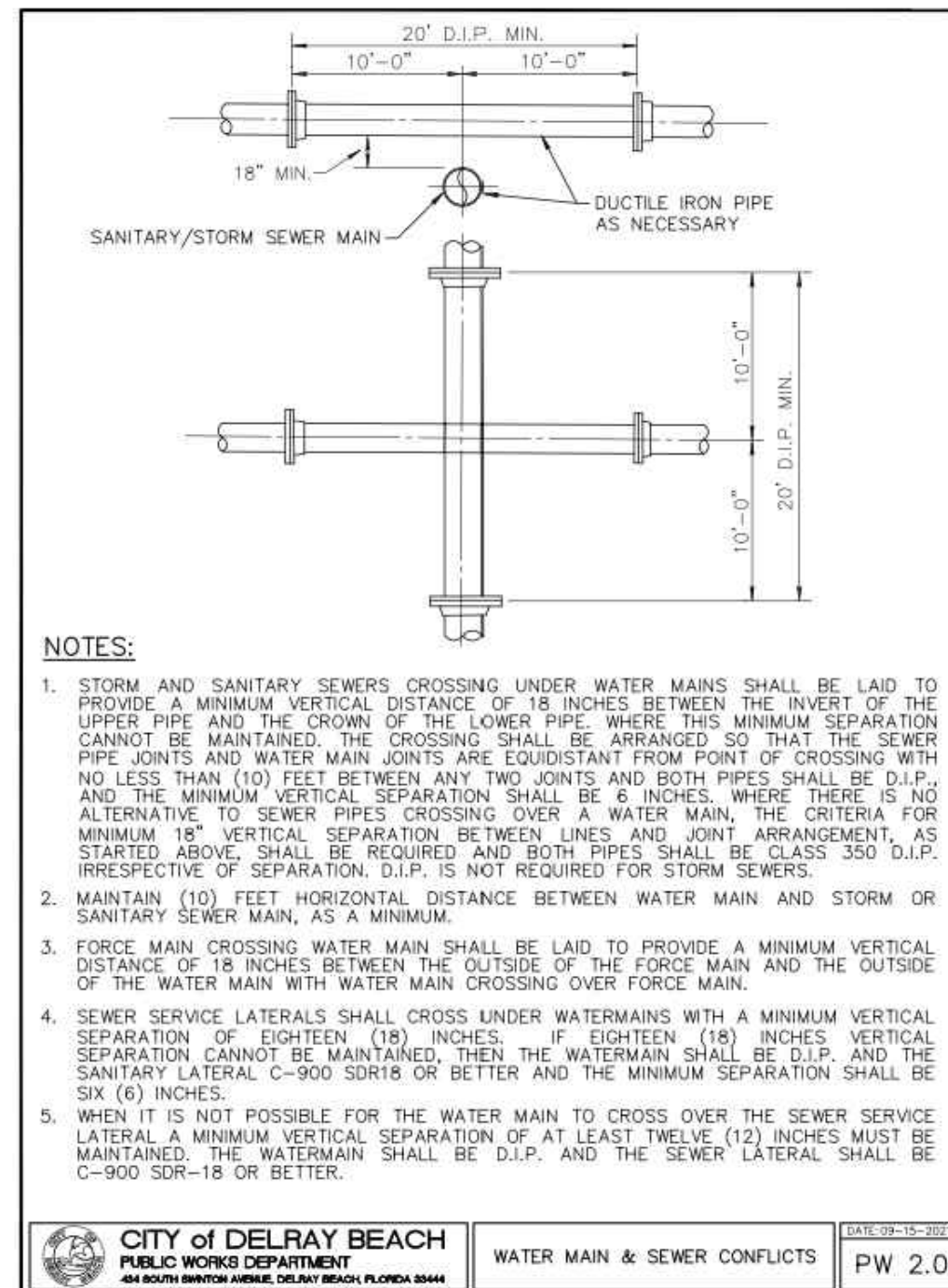
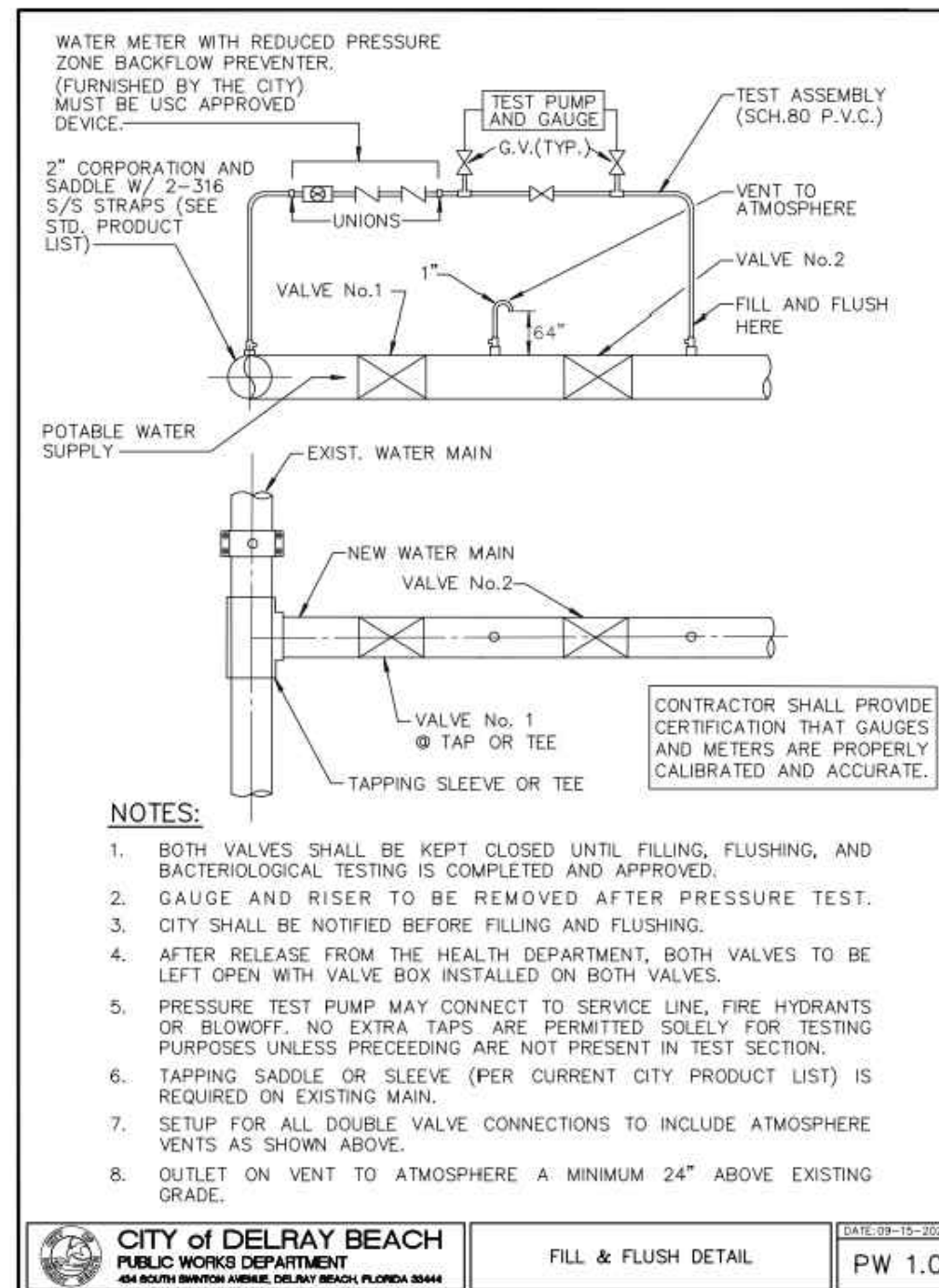
PAVING, GRADING AND DRAINAGE NOTES	
<p>1. ALL PAVING AND DRAINAGE WORK IN THE PALM BEACH COUNTY (PBC) RIGHT-OF-WAY SHALL BE CONSTRUCTED IN FULL ACCORDANCE WITH THE PBC LATEST STANDARDS. ALL PAVING AND DRAINAGE WORK IN THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) RIGHT-OF-WAY SHALL BE CONSTRUCTED IN FULL ACCORDANCE WITH THE FDOT LATEST STANDARDS.</p> <p>2. COMPACTED SUBGRADE SHALL BE COMPACTED AND MEET THE DENSITY REQUIREMENTS AS DETERMINED BY THE AASHTO T-180 SPECIFICATIONS. SUBGRADE SHALL EXTEND 12 INCHES BEYOND THE PROPOSED EDGE OF PAVEMENT AND/OR 6" BEYOND VALLEY GUTTER, TYPE "F" CURB & GUTTER, OR TYPE "D" CURB. SUBGRADE SHALL BE 12 INCHES THICK COMPACTED TO 98% ACCORDING TO AASHTO T-180. ALL MUCK, STUMPS, ROOTS OR OTHER DELETERIOUS MATTER ENCOUNTERED IN THE PREPARATION OF THE SUBGRADE SHALL BE REMOVED COMPLETELY FROM THE CENTERLINE OF THE ROADWAY TO A WIDTH OF TEN FEET BEYOND THE EDGE OF PAVEMENT. IF SUBGRADE IS REQUIRED TO BE STABILIZED, THE REQUIRED BEARING VALUE DETERMINATIONS SHALL BE MADE BY THE FLORIDA BEARING TEST, TEST METHOD "C" OF AASHTO T-180 SPECIFICATIONS.</p> <p>3. SHELLROCK BASE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 250 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. THE THICKNESS OF THE SHELLROCK BASE SHALL BE AS SHOWN ON THE DETAIL DRAWINGS AND SHALL BE COMPACTED TO A DENSITY OF 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. THE SHELLROCK SHALL HAVE A MINIMUM OF 40% CARBONATES OF CALCIUM AND MAGNESIUM IN THE MATERIAL.</p> <p>4. LIMEROCK BASE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 200 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. THE THICKNESS OF THE LIMEROCK BASE SHALL BE AS SHOWN ON THE DETAIL DRAWINGS AND SHALL BE COMPACTED TO A DENSITY OF 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.</p> <p>5. MUCK AND PEAT – IF MUCK AND/OR PEAT ARE ENCOUNTERED IN THE ROAD OR PARKING AREA, THEY WILL BE REMOVED COMPLETELY TO A WIDTH OF TEN FEET BEYOND THE EDGE OF PAVEMENT AND SHALL BE BACKFILLED WITH GRANULAR MATERIAL. IF HARDPAN IS ENCOUNTERED IN THE SWALE AREA, IT WILL BE REMOVED TO A WIDTH OF TWO FEET AT THE SWALE INVERT AND REPLACED WITH GRANULAR MATERIAL.</p> <p>6. WHERE SOD IS DESIRED, LOWER THE GRADE 2 INCHES BELOW THE FINISHED GRADE TO ALLOW FOR THE THICKNESS OF THE SOD.</p> <p>7. CLEARING AND GRUBBING – WITHIN THE LIMITS OF CONSTRUCTION ALL VEGETATION AND ROOT MATERIAL SHALL BE REMOVED.</p> <p>8. GUMBO – WHERE GUMBO OR OTHER PLASTIC CLAYS ARE ENCOUNTERED, THEY SHALL BE REMOVED WITHIN THE ROADWAY AND PARKING AREAS ONE FOOT BELOW THE SUBGRADE EXTENDING HORIZONTALLY TO THE OUTSIDE EDGE OF THE SHOULDER AREA.</p> <p>9. PRIME COAT SHALL BE IN ACCORDANCE WITH SECTION 300 OF THE FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. PRIME COAT SHALL BE RC-70 OR ASPHALT EMULSION PRIME (AEP). PRIME COAT SHALL BE APPLIED AT A RATE OF APPLICATION NOT LESS THAN 0.10 GALLONS PER SQUARE YARD FOR LIMEROCK BASES AND NOT LESS THAN 0.15 GALLONS PER SQUARE YARD FOR SHELL ROCK OR COQUINA SHELL BASES.</p> <p>10. TACK COAT – BITUMINOUS TACK COAT SHALL CONFORM WITH THE REQUIREMENTS OF THE FDOT SPECIFICATIONS, LATEST EDITION AND SHALL BE APPLIED AT THE RATE</p>	<p>OF 0.08 GALLONS PER SQUARE YARD, UNLESS A VARIATION IS APPROVED BY THE ENGINEER.</p> <p>11. ASPHALTIC CONCRETE SURFACE COURSE SHALL BE IN ACCORDANCE WITH SECTION 334 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST ADDITION. THE THICKNESS OF THE SURFACE COURSE SHALL BE AS SHOWN ON THE DETAILED DRAWINGS.</p> <p>12. ALL CONCRETE SHALL DEVELOP 2500 p.s.i. (MINIMUM) 28 DAY COMPRESSIVE STRENGTH OR GREATER WHERE NOTED ON PLANS. CLASS I CONCRETE SHALL CONFORM WITH THE FDOT SPECIFICATIONS, LATEST EDITION. CLASS I CONCRETE USED AS PAVING SHALL DEVELOP 3000 p.s.i. (MINIMUM) 28 DAYS. COMPRESSIVE STRENGTH.</p> <p>13. PAVEMENT TRAFFIC STRIPES AND MARKINGS SHALL BE IN ACCORDANCE WITH CITY OF DELRAY BEACH CURRENT STANDARDS AND/OR MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AND/OR PALM BEACH COUNTY TRAFFIC DEPARTMENT TYPICAL T-P-17, WHERE APPLICABLE.</p> <p>14. SEQUENCE OF CONSTRUCTION – THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT ALL UNDERGROUND INSTALLATIONS OF EVERY KIND THAT ARE BENEATH THE PAVEMENT, SHALL BE IN PLACE AND HAVE PROPER DENSITY <u>PRIOR TO THE CONSTRUCTION AND COMPACT OF THE SUBGRADE.</u></p> <p>15. INLETS AND MANHOLES – ALL INLETS AND MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FDOT SPECIFICATIONS, LATEST EDITION, AND ROADWAY AND TRAFFIC DESIGN STANDARDS, LATEST EDITION, AND PBC STANDARDS LATEST EDITION, WHERE APPLICABLE.</p> <p>16. GRATE ELEVATIONS REFER TO THE FLOWLINE OF THE GRATE.</p> <p>17. GRADES SHOWN ARE FINISHED GRADES.</p> <p>18. EXISTING AVERAGE ROAD CROWN ELEVATION = 15.1' N.A.V.D.</p> <p>19. REINFORCED CONCRETE PIPE – THE PIPE SHALL CONFORM WITH THE REQUIREMENTS OF CLASS III OF ASTM C-76 AND WITH THE FDOT SPECIFICATIONS, LATEST EDITION. THE FIRST JOINT OF PIPE ENTERING OR LEAVING A MANHOLE OR INLET SHALL BE WRAPPED WITH FILTER FABRIC PER FDOT SPECIFICATIONS.</p> <p>20. CORRUGATED ALUMINUM PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M196 AND SECTIONS 125, 430 AND 943 OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.</p> <p>21. MEASUREMENT OF THE LENGTH OF PIPE SHALL BE FROM THE CENTER OF THE STRUCTURE TO THE CENTER OF THE STRUCTURE.</p> <p>22. PIPE BACKFILL – REQUIREMENTS FOR PIPE BACKFILL CROSSING ROADS OR PARKING AREAS SHALL BE DEFINED IN THE FDOT SPECIFICATIONS, LATEST EDITION. PIPELINE BACKFILL SHALL BE PLACED IN SIX INCH LIFTS AND COMPACTED TO 100% OF THE STANDARD PROCTOR (AASHTO) T-99 SPECIFICATIONS.</p> <p>23. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THREE (3) CERTIFIED COPIES OF A CHEMICAL AND SIEVE ANALYSIS OF THE SHELL ROCK BY A STATE OF FLORIDA CERTIFIED LAB WHEN CONSTRUCTING A SHELL ROCK BASE FOR ROADWAY.</p> <p>24. PRIOR TO CERTIFICATION OF THE DRAINAGE SYSTEM, THE CONTRACTOR MUST PUMP DOWN AND LAMP THE DRAINAGE SYSTEM FOR INSPECTION BY THE ENGINEER AFTER FINISHED ROCK FOR THE ROADWAYS HAS BEEN INSTALLED.</p>



GENERAL NOTES	
1.	CONTRACTOR SHALL PROTECT ALL PERMANENT REFERENCE MONUMENTS AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID SURVEY MARKERS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF PERMANENT REFERENCE MONUMENTS DISTURBED DURING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
2.	CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UNDERGROUND UTILITIES WHETHER OR NOT SHOWN ON THE PLANS. UTILITIES SHOWN ON THE PLANS ARE FOR REFERENCE ONLY AND MAY NOT DEPICT ACTUAL LOCATIONS. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES FOR LOCATION AND DEPTH OF THEIR LINES PRIOR TO CONSTRUCTION.
3.	CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND PAY FOR THE DEENERGIZING OF POWER LINES AND/OR HOLDING POWER POLES DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
4.	CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND PAY FOR THE REPLACEMENT OF TRAFFIC LOOPS IF DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COAST TO THE OWNER.
5.	ALL ELEVATIONS REFER TO N.A.V.D. 1988. MINIMUM FINISHED FLOOR ELEVATION FOR ANY RESIDENTIAL STRUCTURE SHALL BE SET AT OR ABOVE ELEVATION 16.67' (WHICH IS ABOVE THE 100-YEAR FREQUENCY STORM & AVERAGE CROWN OF ROAD + 18").
6.	SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION OR INSTALLATION AS REQUIRED BY THE ENGINEER OR BY THE APPROPRIATE GOVERNING AGENCIES.
7.	CONTRACTOR SHALL BE RESPONSIBLE TO SECURE AND PAY FOR, AT NO ADDITIONAL COST TO THE OWNER, ALL NECESSARY PERMITS, FEES AND LICENSES.
8.	CONTRACTOR SHALL BE RESPONSIBLE FOR GIVING THE REQUIRED NOTICES AND COMPLYING WITH ALL PERMIT(S) CONDITIONS.
9.	CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND PAY FOR THE HOLDING OF OTHER UTILITY POLES DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
10.	ALL CONCRETE SHALL DEVELOP 2500 p.s.i. (MINIMUM) 28 DAY COMPRESSIVE STRENGTH OR GREATER WHERE NOTED ON PLANS. CLASS I CONCRETE SHALL CONFORM WITH THE FDOT SPECIFICATIONS, LATEST EDITION. CLASS I CONCRETE USED
	AS PAVING SHALL DEVELOP 3000 p.s.i. (MINIMUM) 28 DAYS COMPRESSIVE STRENGTH.
11.	ALL UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL UTILITY.
12.	ENVIRODESIGN ASSOC. INC. SHALL NOT BE RESPONSIBLE FOR THE SAFETY OF THE WORKERS OR THE GENERAL PUBLIC. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFETY TO THE WORKERS IN ACCORDANCE WITH OCCUPATIONAL SAFETY & HEALTH ADMINISTRATIONS (OSHA) REQUIREMENTS AND THE SAFETY OF THE GENERAL PUBLIC.
13.	ALL MATERIALS AND WORKMANSHIP MUST BE IN ACCORDANCE WITH THE LOCAL UTILITY STANDARDS AND SPECIFICATIONS.
14.	THE CONTRACTOR SHALL CALL SUNSHINE 1-800-432-4770 48 HOURS BEFORE DIGGING FOR FIELD LOCATIONS OF UNDERGROUND UTILITIES.
15.	CORRUGATED ALUMINUM PIPE USED BENEATH PAVEMENT SHALL BE IN CONFORMANCE WITH SEC. 8.24.E.5.i
16.	ALL CONSTRUCTION ACTIVITY, INCLUDING TRENCHING, IS TO BE A MINIMUM OF SIX FEET FROM THE BASE OF ANY TREE THAT IS DESIGNATED TO REMAIN.
17.	ALL LIMEROCK AND BASE MATERIALS SHALL BE REMOVED FROM THE PLANTER AREAS/ISLANDS AND REPLACED WITH APPROPRIATE PLANTING SOIL PRIOR TO THE LANDSCAPING OF THE SITE.
18.	THE REMOVAL OF ANY TREE ON THE SITE IS PROHIBITED WITHOUT THE REQUIRED PERMITS.
19.	ALL MATERIALS AND CONSTRUCTION WITHIN THE FDOT RIGHT-OF-WAY SHALL CONFORM TO THE FDOT DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM (LATEST ED.).
20.	LANE CLOSURES WITHIN THE FDOT RIGHT-OF-WAY SHALL BE LIMITED TO THE HOURS OF 9AM-3PM, MONDAY-FRIDAY EXCLUDING GOVERNMENTAL HOLIDAYS. MAINTENANCE OF TRAFFIC SHALL BE PROVIDED IN ACCORDANCE WITH INDEX 613 OF THE FDOT DESIGN STANDARDS (LATEST ED.)



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WATER & WASTEWATER DETAILS FOR:
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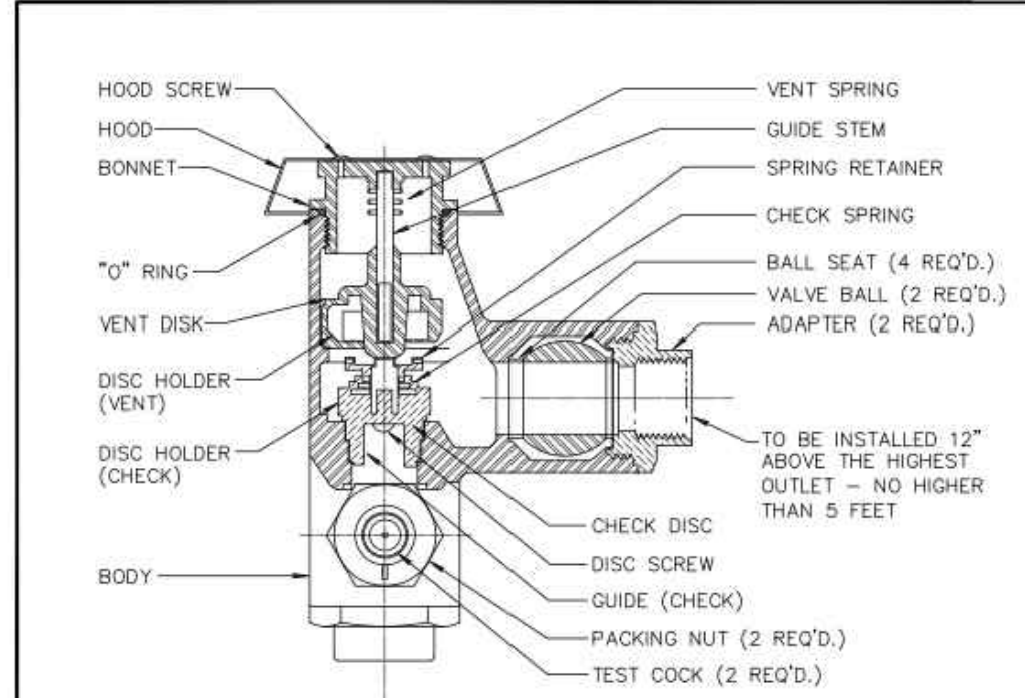
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TYPICAL IRRIGATION SYSTEM
ANTI-SIPHON PRESSURE TYPE
VACUUM BREAKER

NOTES:

1. WATTS REGULATOR COMPANY OR EQUIVALENT.
2. VALVE SHALL MEET OR EXCEED THE A.S.S.E., BS&A AND U.S.C.F. REQUIREMENTS.
3. SHALL ALSO BE LISTED BY IAPMO (UPC).
4. ABOVE GRADE PIPING SHALL BE SCHEDULE 40 PVC OR COPPER.

**CITY OF DELRAY BEACH**
PUBLIC WORKS DEPARTMENT
404 SOUTH BARTON AVENUE, DELRAY BEACH, FLORIDA 33444

ANTI-SIPHON PRESSURE TYPE
VACUUM BREAKER

DATE: 09-15-2021
PW 18.0

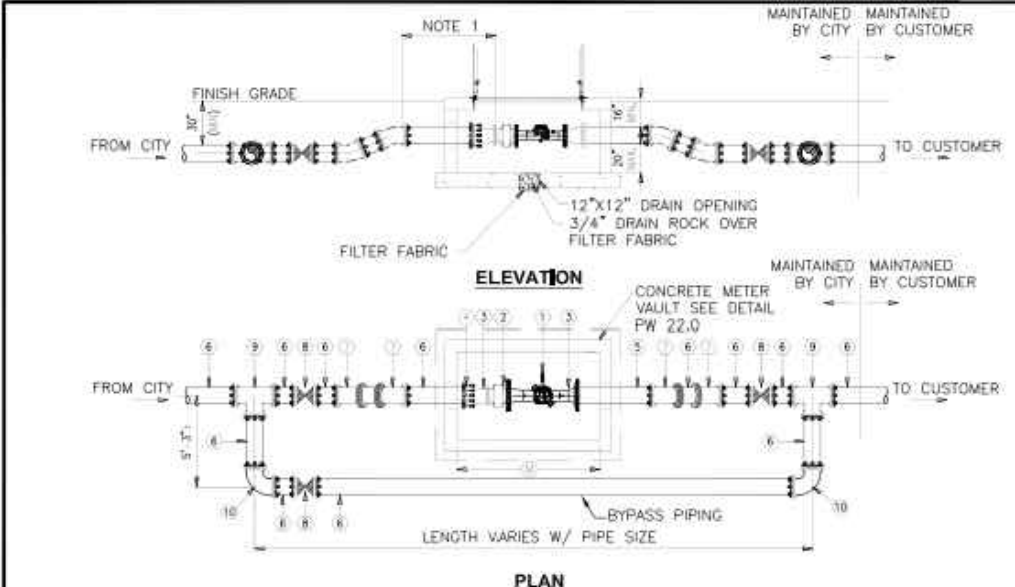
NOTES:

1. THE DATA IN THE PREVIOUS TABLE IS BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
SOIL TYPESAND
TEST PRESSURE150 PSI, 200 PSI FOR PIPES LARGER THAN 24"
DEPTH OF BURY3'
TRENCH TYPE3'
SAFETY FACTOR1.5
VERTICAL OFF-SET3'
MINIMUM PIPE LENGTHS
ALONG TEE RUN5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON PIPE AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS FOR VALVES APPLY TO PIPE ON BOTH SIDES OF VALVES.
5. THE PREVIOUS TABLE SHALL SERVE AS A GENERAL DESIGN GUIDE ONLY. IT IS THE ENGINEER OF RECORD'S RESPONSIBILITY TO JUSTIFY AND DOCUMENT ANY DEVIATIONS FROM THE PIPE LENGTHS SPECIFIED IN THE PREVIOUS TABLE.
6. SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1 (LATEST EDITION) AND DIPRA RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2 (LATEST EDITION).
7. RESTRAINED JOINTS SHALL EXTEND ONE JOINT BEYOND MINIMUM LENGTH REQUIRED.

**CITY OF DELRAY BEACH**
PUBLIC WORKS DEPARTMENT
404 SOUTH BARTON AVENUE, DELRAY BEACH, FLORIDA 33444

PIPE RESTRAINT TABLE
PRESSURE PIPE
(SHEET 2 OF 2)

DATE: 09-15-2021
PP 2.1



BADGER METER

MATERIALS AND SIZES (FOR METER SIZE)							
1. METER ASSEMBLY	3	4	6	8			
2. STRAINER ASSEMBLY	3	4	6	8			
3. DI FLANGED CONC. RED	4X3	6X4	8X6				
4. FLANGE ADAPTER	3	4	6	8			
5. DI PIPE, FLG X PE	4	6	8				
6. DI PIPE, PE X PE	4	6	8				
7. DI MJ 22" TELL (REQ'D)	4	6	8				
8. RESILIENT SEAT MJ GATE VALVE (REQ'D)	4	6	8				
9. DI MJ TEE (REQ'D)	4	6	8				
10. DI MJ 90° ELB. (REQ'D)	4	6	8				

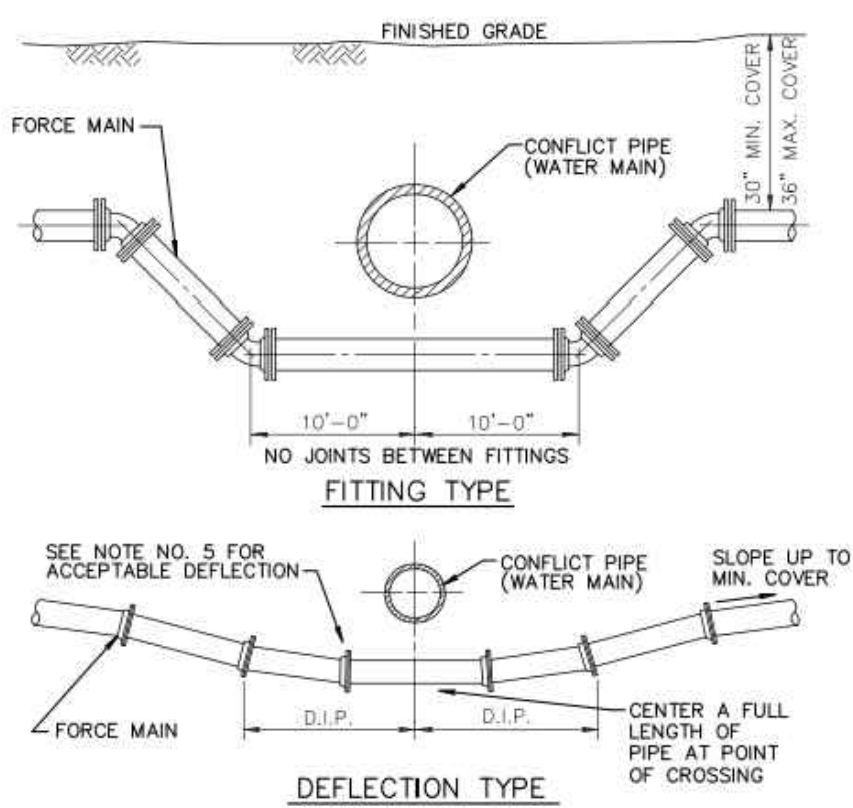
NOTES:

1. PROVIDE FOUR (4) PIPE DIAMETERS OF STRAIGHT RUN PIPE UPSTREAM OF METER/STRAINER ASSEMBLY.
2. (REST) = RESTRAINED JOINT MECHANICAL OR EQUAL.
3. BACKFLOW PREVENTER SHALL BE INSTALLED DOWNSTREAM OF METER.

**CITY OF DELRAY BEACH**
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LARGE USER-COMPOUND
WATER METER

DATE: 09-15-2021
PW 21.0



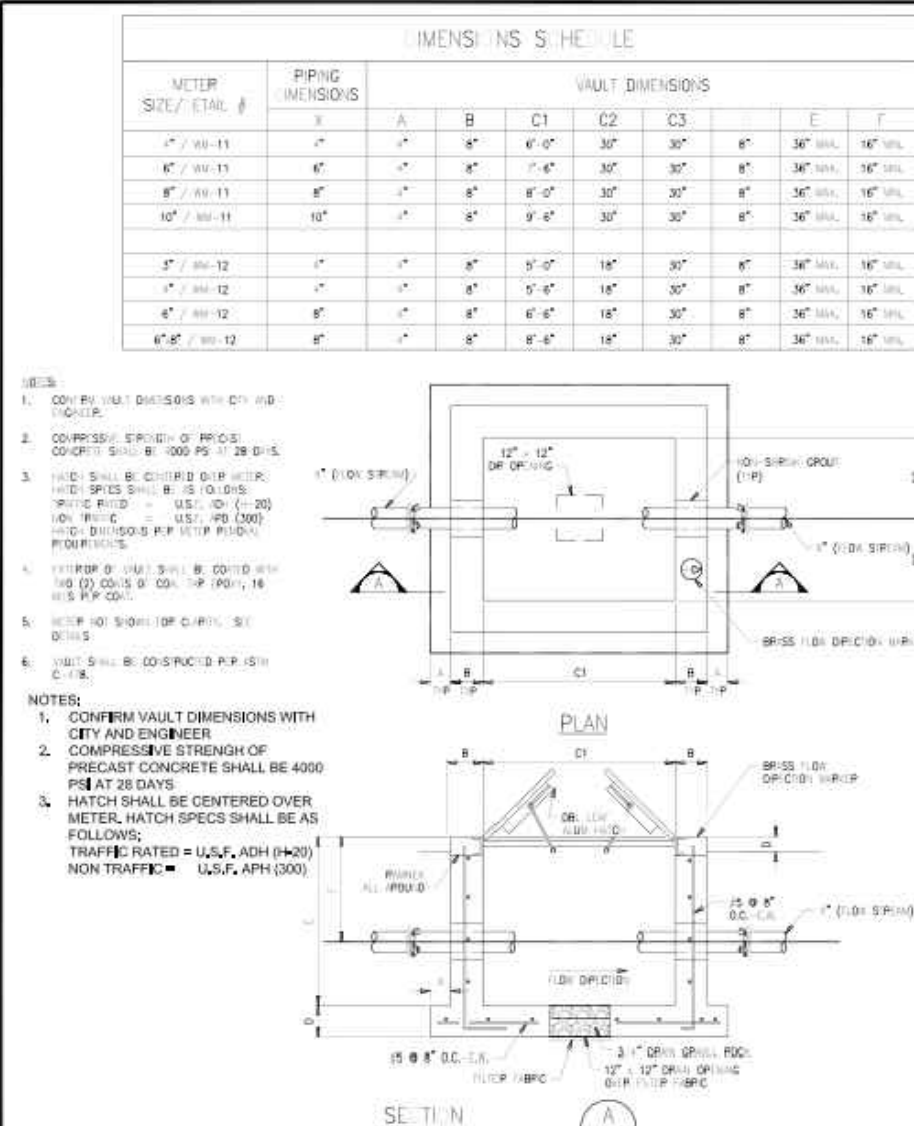
NOTES:

1. THERE SHALL BE IN ALL CASES A MINIMUM OF 18" VERTICAL SEPARATION BETWEEN WATER MAINS AND FORCE MAINS.
2. WHEREVER POSSIBLE WATER MAINS SHALL PASS OVER FORCE MAINS OR STORM SEWERS.
3. FITTINGS SHALL BE RESTRAINED WITH MECHANICAL JOINT RESTRAINTS.
4. THE DEFLECTION TYPE CROSSING IS PREFERRED.
5. DO NOT EXCEED 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION.
6. REFER TO TYPICAL RESTRAINING DETAIL PP 2.0 AND 2.1

**CITY OF DELRAY BEACH**
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PRESSURE PIPE CONFLICT TABLE

DATE: 09-15-2021
PP 3.0

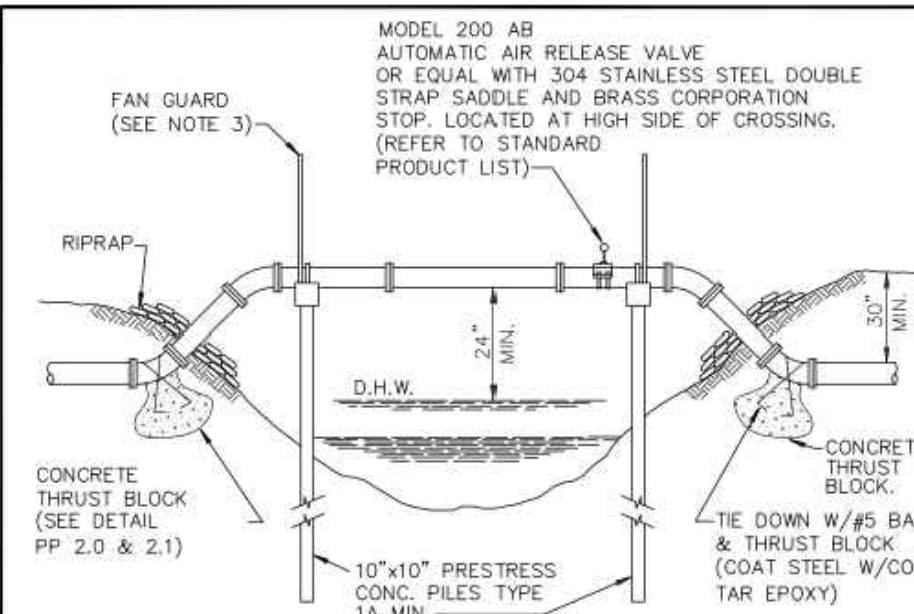


CONCRETE METER VAULT

**CITY OF DELRAY BEACH**
PUBLIC WORKS DEPARTMENT
404 SOUTH BARTON AVENUE, DELRAY BEACH, FLORIDA 33444

CONCRETE METER VAULT

DATE: 09-15-2021
PW 22.0



NOTES:

1. ALL EXPOSED PIPE SHALL BE CLASS 350 DUCTILE IRON WITH FLANGED FITTINGS. RETAINER GLANDS AND UNFLANGE TYPE FITTINGS ARE NOT TO BE SUBSTITUTED FOR FLANGED FITTINGS.
2. SPAN LENGTHS AS REQUIRED BY PERMITTING AGENCY.
3. FAN GUARDS ARE REQUIRED. (SEE DETAIL PP 5.0)
4. ALL EXPOSED PIPING, GUARDS AND FITTINGS SHALL BE PAINTED, WITH EPOXY COATING IN ACCORDANCE WITH AWWA C210.
5. PIPE SHALL BE CRADLED ON FELT (80 LB MIN.) OR 1/4" 60-1100 NEOPRENE.
6. TIE-DOWN STRAPS MUST PROPERLY FIT AND SECURE PIPE IN CRADLE AND SHALL BE MINIMUM 5/16"x 1" 316 STAINLESS STEEL.
7. PIPE CRADLE IN CAP SHALL CONTACT 1/2 CIRCUMFERENCE OF PIPE. (SEE FAN GUARD DETAIL)
8. PILE LIFT CABLE SHALL BE REMOVED BELOW SURFACE; HOLE SHALL BE FILLED WITH EPOXY CEMENT.
9. ALL FASTENERS SHALL BE 316 STAINLESS STEEL, INCLUDING ANCHORS, BOLTS, NUTS AND WASHERS.
10. D.H.W. = DESIGN HIGH WATER.
11. THE LOWEST MEMBER SHALL BE NO LOWER THAN FORTY (40) INCHES ABOVE THE MAINTAINED ELEVATION OR TWENTY-FOUR (24) INCHES ABOVE THE DESIGN HIGH WATER ELEVATION, WHICHEVER IS THE HIGHER.

**CITY OF DELRAY BEACH**
PUBLIC WORKS DEPARTMENT
404 SOUTH BARTON AVENUE, DELRAY BEACH, FLORIDA 33444

TYPICAL UTILITIES CANAL CROSSING

DATE: 09-15-2021
PP 4.0

PRESSURE PIPE NOTES:

1. FOR PIPE SIZES 4"-8" THERE SHALL BE 30" MINIMUM COVER FROM FINISHED GRADE TO TOP OF PIPE. FOR PIPE SIZE 10" AND LARGER THERE SHALL BE 36" MINIMUM COVER.
2. DUCTILE IRON PIPE (DIP) FOR FORCE MAINS SHALL BE CLASS 350 WITH 401 EPOXY LINING IN ACCORDANCE WITH AWWA C550.
- 2.b. DUCTILE IRON PIPE (DIP) FOR WATER MAINS SHALL BE CLASS 350 IN ACCORDANCE WITH AWWA C151 (ANSI A21.51), AND SHALL HAVE AN INTERNAL LINING OF CEMENT MORTAR IN ACCORDANCE WITH AWWA C104/ A21.4.
3. C-900 PVC PRESSURE PIPE MAY BE USED IN LIEU OF DIP WATER MAIN WITH METAL TAPE AND WIRE ABOVE THE PIPE.
4. ALL FITTINGS FOR FORCE MAIN SHALL BE CLASS 350 DUCTILE IRON WITH MECHANICAL JOINTS AND 401 EPOXY LINING.
5. WATER MAIN VALVES 12 INCHES AND SMALLER SHALL BE RESILIENT-SEAL WEDGE GATE VALVES IN ACCORDANCE WITH AWWA C509. WATER MAIN VALVES LARGER THAN 12 INCHES SHALL BE BUTTERFLY VALVES IN ACCORDANCE WITH AWWA C504. SEWAGE FORCE MAIN VALVES SHALL BE RESILIENT-SEAL PLUG VALVES IN ACCORDANCE WITH AWWA C517.
6. ALL TRENCHING, PIPE-LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTION MUST COMPLY WITH CITY AND LOCAL GOVERNMENTAL REGULATIONS AND STANDARDS.
7. WATER AND FORCE MAINS SHALL BE PIGGED A MINIMUM OF TWO TIMES, AND ADDITIONALLY, IF REQUIRED BY ENGINEER OF RECORD, AS WELL AS, PRESSURE TESTED FOR A PERIOD OF NOT LESS THAN TWO HOURS AT 150 PSI IN ACCORDANCE WITH AWWA/CESD LATEST STANDARDS. ALLOWABLE LEAKAGE SHALL BE DETERMINED AS FOLLOWS:
$$L = \frac{SD\sqrt{P}}{148,000}$$

WHERE:
L = ALLOWABLE LEAKAGE (GALLONS PER HOUR)
S = PIPE LENGTH (FEET)
D = NOMINAL DIAMETER OF PIPE (INCHES)
P = AVERAGE TEST PRESSURE (PSI)
8. RESTRAINTS SHALL BE PROVIDED AT ALL FITTINGS AS SHOWN ON PP 2.0 AND 2.1
9. PRIOR TO ANY TESTING UNDER FUTURE PAVEMENT, ROCK SHALL BE FINISHED & PRIMED OR 1ST LIFT OF ASPHALT PLACED.
10. PIPE SIZE SHALL BE PIPE DIAMETER PLUS 2" OR NEXT LARGER DIAMETER.
11. NO PROPOSED STRUCTURES SHALL BE INSTALLED WITHIN A HORIZONTAL DISTANCE OF 10-FEET FROM ANY EXISTING OR PROPOSED WATER OR FORCE MAINS.
12. LINE STOPS SHALL BE INSTALLED A MINIMUM OF 3 PIPE LENGTHS FROM LOCATION OF PIPE REMOVED AND PROVIDE NECESSARY JOINT RESTRAINTS.

**CITY OF DELRAY BEACH**
PUBLIC WORKS DEPARTMENT
404 SOUTH BARTON AVENUE, DELRAY BEACH, FLORIDA 33444

PRESSURE PIPE NOTES

DATE: 09-15-2021
PP 1.0

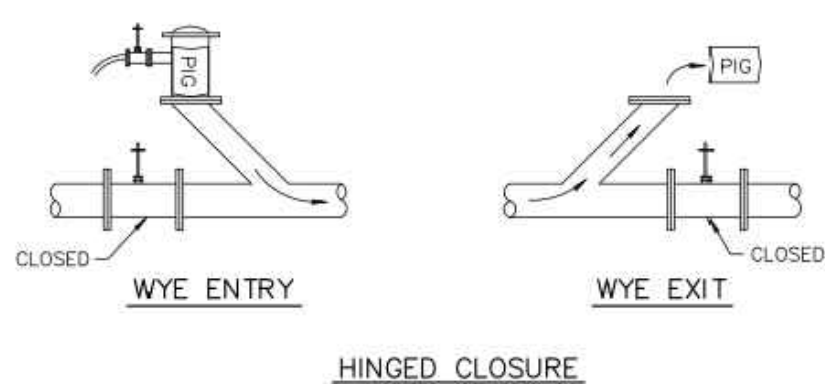
FITTING TYPE		PIPE SIZE							
		4"	6"	8"	10"	12"	16"	20"	24"
90° HORIZ. BEND		14	20	25	30	35	45	54	62
45° HORIZ. BEND		6	8	11	13	15	19	22	26
22.5° HORIZ. BEND		3	4	5	6	7	9	11	12
11.25° HORIZ. BEND		1	2	3	3	4	4	5	6
90° VERT. OFFSET	UPPER BEND	55	79	103	125	147	189	228	266
	LOWER BEND	22	38	49	59	69	88	106	123
45° VERT. OFFSET	UPPER BEND	22	32	42	51	60	77	93	109
	LOWER BEND	10	14	19	23	28	35	43	50
22.5° VERT. OFFSET	UPPER BEND	7	12	17	21	26	34	42	49
	LOWER BEND	2	4	6	8	10	14	17	21
11.25° VERT. OFFSET	UPPER BEND	3	4	6	9	11	15	19	22
	LOWER BEND	1	1	1	2	3	5	7	8
PLUG (DEAD END)		32	45	59	70	83	107	129	151
INLINE VALVE		32	45	59	70	83	107	129	151
TEE (BRANCH RESTRAINT)	4" X 6"	23							
	6" X 6"	21	35						
	8" X 6"	18	34	47					
	10" X 6"	16	32	46	58				
	12" X 6"	13	30	44	57	69			
REDUCER (LARGER PIPE RESTRAINT)	16" X 6"	7	26	41	55	67	90		
	20" X 6"	1	21	38	52	65	88	109	
	24" X 6"	1	16	34	49	62	86	108	129
	6" X 8"	23							
	8" X 8"	38	25						
REDUCER (LARGER PIPE RESTRAINT)	10" X 8"	57	43	24					
	12" X 8"	72	60	44	41				
	16" X 8"	99	90	76	75	45			
	20" X 8"	123	116	107	105	81	45		
	24" X 8"	148	140	132	131	111	82	45	

RESTRAIN PIPE ONE BELL PAST MINIMUM DISTANCE.

**CITY OF DELRAY BEACH**
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PIPE RESTRAINT TABLE
PRESSURE PIPE
(SHEET 1 OF 2)

DATE: 09-15-2021
PP 2.0



NOTE:

ALL NEWLY INSTALLED PRESSURE PIPE SHALL BE "PIGGED" UNTIL CLEAN AND APPROVED BY ENGINEER DURING THE FILLING AND FLUSHING OPERATION. PIG SIZE SHALL BE PIPE DIAMETER PLUS 2" OR NEXT LARGER DIAMETER.

**CITY OF DELRAY BEACH**
PUBLIC WORKS DEPARTMENT
404 SOUTH BARTON AVENUE, DELRAY BEACH, FLORIDA 33444

PIG LAUNCHER DETAIL

DATE: 09-15-2021
PP 6.0



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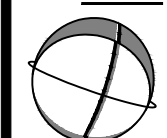
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BY: BAB
DATE: 5/17/23
REVISIONS: NO CHANGE
NO. 10/25/23

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JOSEPH A. PIKE, P.E.
FL REG # 42696

WATER & WASTEWATER DETAILS FOR:
DELRAY SWAN
SE 2ND ST & SE 2ND AVE
DELRAY BEACH, FLORIDA

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ENGINEERS • ENVIRONMENTAL CONSULTANTS
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
298 Pineapple Grove Way Delray Beach, Florida 33444
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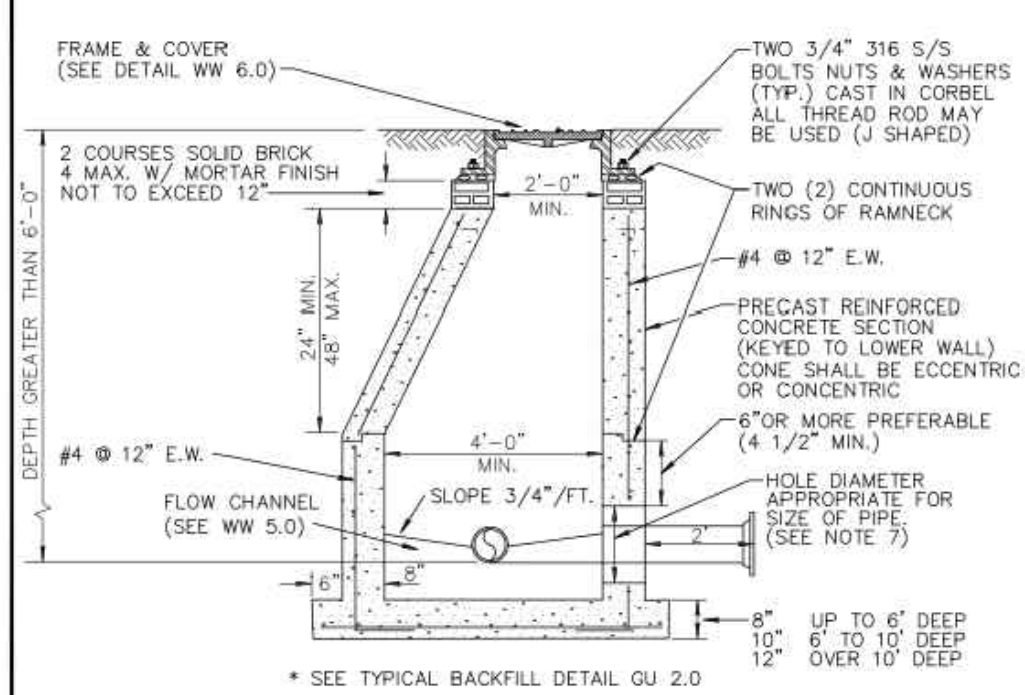
DRAWN:
B.A.B.
CHECKED:
J.A.P.
DATE:
10/25/23
JOB NO.
21058-DTL
SHEET NO.
11 OF 14

GRAVITY SEWER NOTES

- MANHOLES SHALL BE INSPECTED BY THE ENGINEER BEFORE PLACEMENT AND SURFACE TREATMENT.
- ALL OPENINGS IN PRECAST MANHOLES SHALL BE CAST AT TIME OF MANUFACTURE. CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE ENTRY ONLY.
- ALL MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE.
- (PVC) GRAVITY SEWER PIPE SHALL CONFORM TO ASTM D 3034, SDR 35, LATEST REVISIONS, WITH PUSH ON RUBBER GASKET JOINTS.
- (OD) GRAVITY SEWER PIPE SHALL BE CLASS 350, 401 EPOXY LINED OR AS OTHERWISE APPROVED BY UTILITIES DEPARTMENT.
- NO SERVICE CONNECTIONS, WYES, SERVICES OR VALVES WILL BE PERMITTED IN RESIDENTIAL DRIVEWAYS.
- MANHOLE FRAMES SHALL BE ATTACHED TO THE PRECAST STRUCTURE WITH A MINIMUM OF TWO 3/4" 316 STAINLESS STEEL BOLTS, NUTS AND WASHERS. FRAMES SHALL BE SEALED WITH A MINIMUM OF TWO 1/2" BEADS OF RAM-NEK CAULKING.
- TRENCHES SHALL BE DE-WATERED TO ENABLE PIPE AND APPURTENANCES TO BE INSTALLED FREE OF WATER ON UNDISTURBED SOIL IF UNSUITABLE SUBSURFACE MATERIAL IS ENCOUNTERED, EXCAVATE EXTRA 6" AND BACKFILL WITH 3/4" GRAVEL.
- PVC SHALL BE LAID IN STRICT CONFORMANCE TO MANUFACTURER'S SPEC (JOHNS MANVILLE RING TITE PVC PIPE INSTALLATION GUIDE OR EQUAL). BACKFILLING OF UTILITY TRENCHES WILL NOT BE ALLOWED UNTIL INSPECTED BY THE ENGINEER.
- BACKFILL MATERIAL FOR SEWER MAIN AND LINES SHALL BE NON-COHESIVE, NON PLASTIC MATERIAL FREE OF ALL DEBRIS, LUMPS AND ORGANIC MATTER. BACKFILL MATERIAL PLACED WITHIN ONE (1) FOOT OF PIPING AND APPURTENANCES SHALL NOT CONTAIN ANY STONES LARGER THAN TWO (2) INCHES IN DIAMETER (1" FOR PVC PIPE) AND NO STONES LARGER THAN SIX (6) INCHES IN DIAMETER WILL BE PERMITTED IN ANY BACKFILL.
- ALL EXCAVATION IN EXISTING RIGHT OF WAY SHALL BE BACKFILLED AND STABILIZED AT THE END OF EACH DAY TO PERMIT PEDESTRIAN AND VEHICULAR TRAFFIC PRIOR TO THE CONTRACTOR LEAVING THE SITE.
- WHERE SEWER IS NOT WITHIN PUBLIC R/W, IT IS TO BE LOCATED IN A 12' UTILITY EASEMENT. CITY MAINTENANCE RESPONSIBILITY IS MANHOLE TO MANHOLE ONLY.
- UPON COMPLETION OF THE WORK AND PRIOR TO PLACEMENT OF ASPHALT A VISUAL INSPECTION BY THE ENGINEER SHALL BE MADE OF THE COMPLETED SYSTEM ALONG WITH A LOW PRESSURE AIR TEST AFTER HOUSING FINISHED & PRIMED, OR 1ST LIFT OF ASPHALT PLACED. AFTER ALL OTHER TESTING HAS BEEN COMPLETED, A CD VIDEO RECORDING SHALL BE MADE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER, BEFORE THE LENGTHS ARE ACCEPTED FOR MAINTENANCE.
- EACH LINE SEGMENT SHALL BE LAMPED TO DETERMINE PROPER ROUNDNESS.
- COMPLETE "AS BUILT" INFORMATION RELATIVE TO MANHOLES, VALVES, SERVICES FITTINGS, PIPE LENGTHS, INVERTS AND SLOPES SHALL BE ACCURATELY RECORDED & SUBMITTED TO THE ENGINEER CITY SIGNED AND SEALED BY A REGISTERED LAND SURVEYOR.
- AT THE END OF THE ONE (1) YEAR WARRANTY PERIOD THE DEVELOPER/CONTRACTOR WILL T.V. INSPECT, AIR TEST EVERY JOINT, AND CHECK MANHOLE JOINTS AND CONNECTIONS TO DETERMINE IF REPAIRS ARE NECESSARY BEFORE THE WARRANTY BOND IS RELEASED.
- NO PROPOSED STRUCTURES SHALL BE INSTALLED WITHIN A HORIZONTAL DISTANCE OF 10- FEET FROM ANY EXISTING OR PROPOSED SANITARY SEWER FACILITY.
- ANY PIPE INTRODUCED INTO AN EXISTING MANHOLE MUST HAVE CARBOLINE BITUMASTIC 300M OR APPROVED EQUAL APPLIED EXTERNALLY WITHIN A MINIMUM 2'-0" FOOT RADIUS OF OPENING AND THE ENTIRE MANHOLE MUST HAVE SEWPER COAT OR APPROVED EQUAL APPLIED INTERNALLY.
- ANY REHABILITATION TO AN EXISTING MANHOLE MUST BE INTERNALLY STRIPPED AND LINED WITH SEWPER COAT OR APPROVED EQUAL.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
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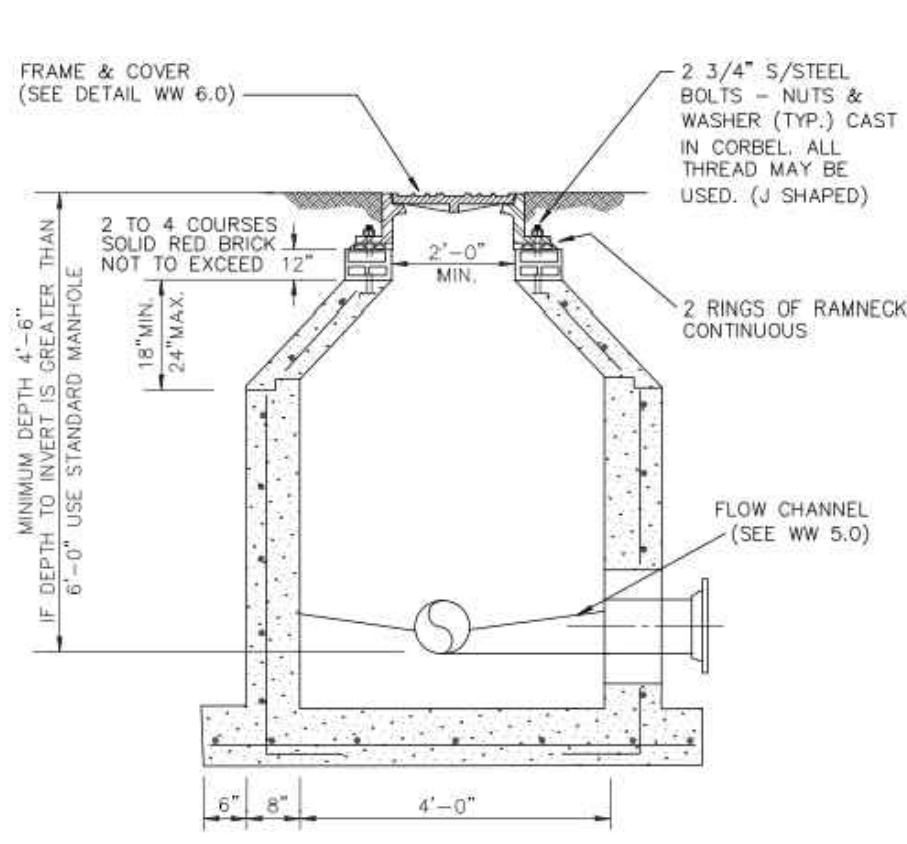
GRAVITY SEWER NOTES
DATE: 09-15-2024
WW 2.0



- NOTES:
- PRECAST CONCRETE TYPE II 4000 P.S.I.
 - FRAME AT ALL RISER JOINTS WITH GROUT ON INSIDE AND OUTSIDE AT ALL RISER JOINTS.
 - ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
 - FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM.
 - LIFT HOLES SHALL BE FILLED WITH EXPANDABLE GROUT.
 - ALL PIPE HOLES SHALL BE PRECAST.
 - CAST IN PLACE FLEXIBLE PIPE-TO MANHOLE CONNECTOR (LOOK JOINT FLEXIBLE SLEEVE ELASTOMER EPDM OR RUBBER GASKET WITH GLASS FIBER REINFORCED NYLON 6/6 INTERNAL EXPANSION RING) INSTALLED PER MANUFACTURER.
 - PAINT MANHOLE INSIDE AND OUTSIDE WITH ONE (1) COAT RED CARBOLINE BITUMASTIC 300M THEN ONE (1) COAT BLACK OR APPROVED EQUAL, TO 8-10 MILS D.F.T./COAT, FIRST COAT RED THEN BLACK.
 - MANHOLE FABRICATION SHALL BE IN ACCORDANCE W/ ASTM C-478, LATEST STANDARD.
 - IF THE STRUCTURE IS INSTALLED IN WATER TABLE MUST HAVE BEDDING. (SEE DETAIL BEDDING WW 11.0)

CITY of DELRAY BEACH
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STANDARD MANHOLE DETAIL
DATE: 09-15-2024
WW 2.0

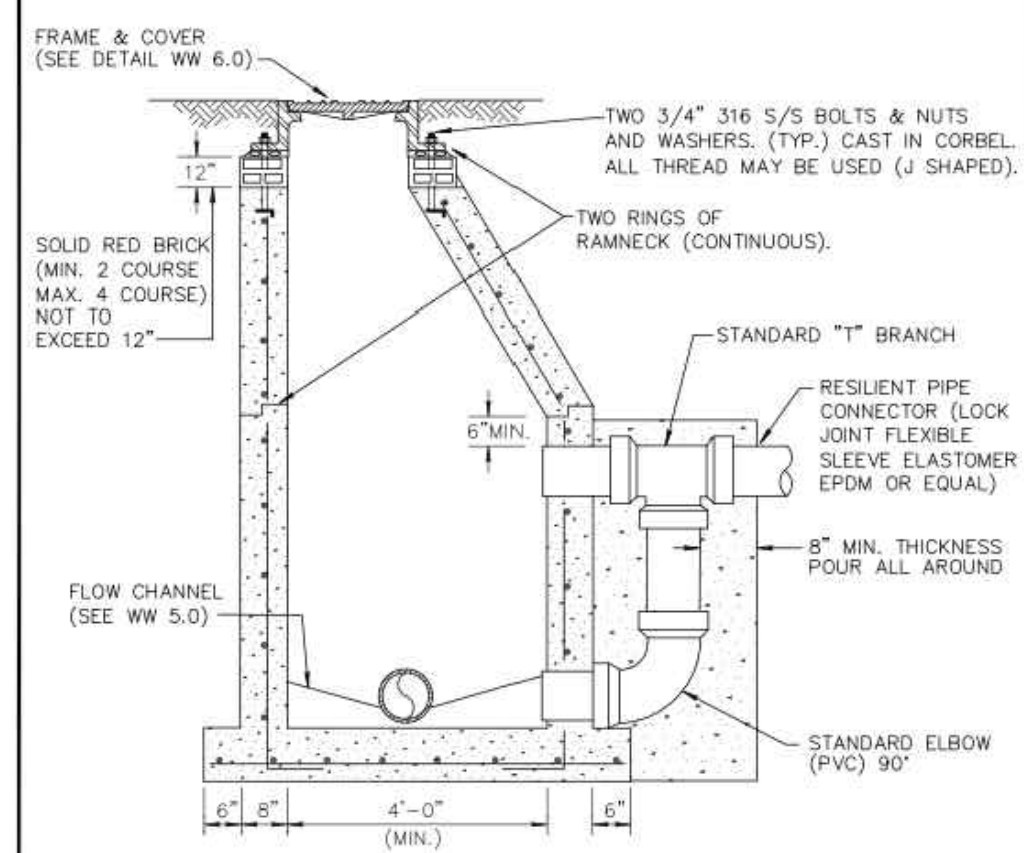


* SEE TYPICAL BACKFILL DETAIL GU 2.0

NOTE:
ALL STANDARD MANHOLE NOTES AND DETAILS ARE APPLICABLE (DETAIL WW 2.0).

CITY of DELRAY BEACH
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SHALLOW MANHOLE DETAIL
DATE: 09-15-2024
WW 3.0

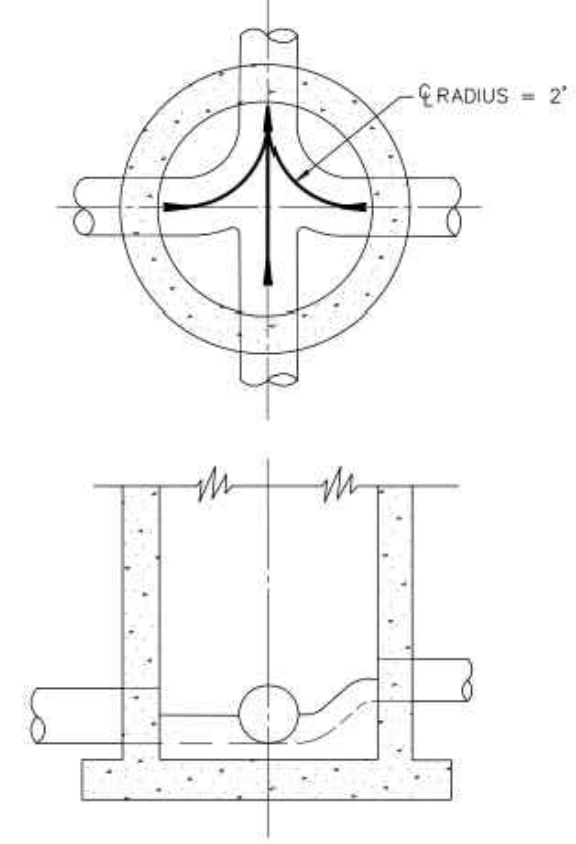


* SEE TYPICAL BACKFILL DETAIL GU 2.0

- NOTES:
- ALL DETAILS AND SPECIFICATIONS FOR STANDARD MANHOLES ARE APPLICABLE EXCEPT FOR REFERENCES TO DROP ASSEMBLY.
 - DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2.0 FEET OR MORE ABOVE THE MAIN INVERT CHANNEL.
 - NO INSIDE DROP SHALL BE ALLOWED.

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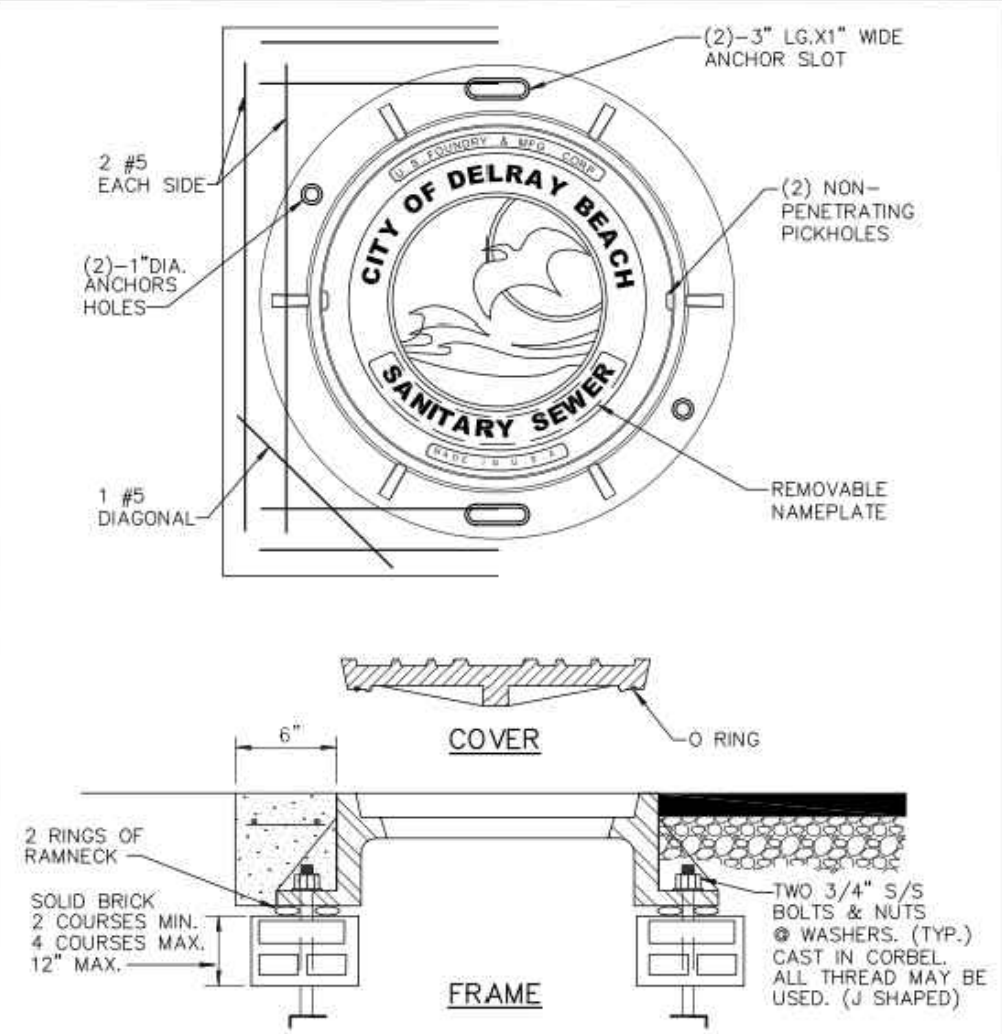
DROP MANHOLE DETAIL
DATE: 09-15-2024
WW 4.0



- NOTES:
- ALL INVERT CHANNELS ARE TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION OR TURBULENCE.
 - PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
 - SERVICE LATERALS SHALL NOT ENTER MANHOLES.
 - 2500 PSI CONCRETE ONLY PERMITTED AS FLOW CHANNEL BUILDUP.
 - NO DOG HOUSE MANHOLE ALLOWED.

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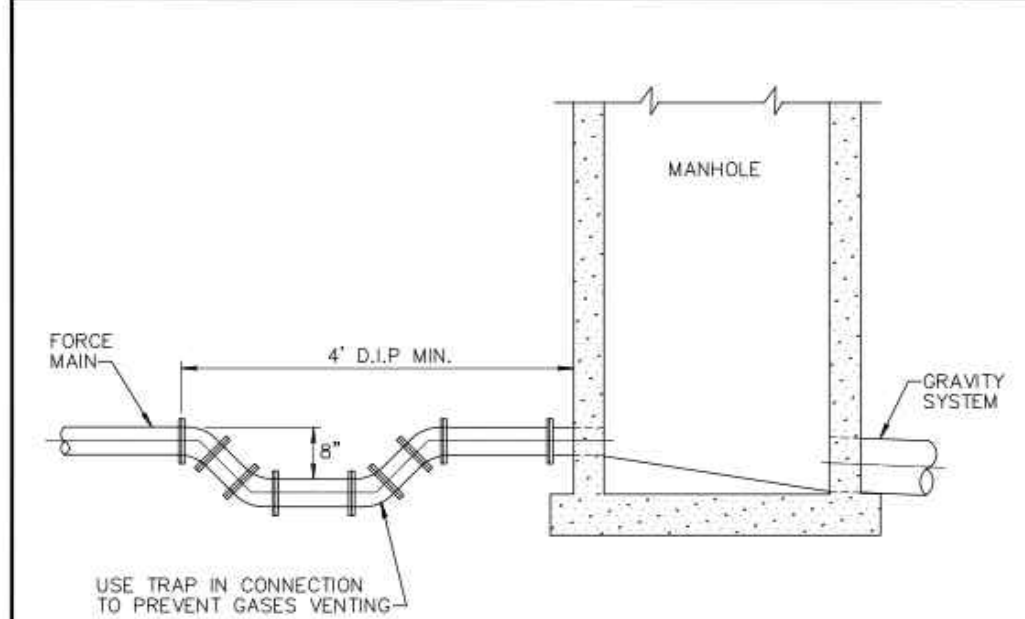
INVERT FLOW CHANNELS
DATE: 09-15-2024
WW 5.0



- NOTES:
- COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT.
 - COVER SHALL BE U.S. MR-QRS AND RING SHALL BE USF 576 RING WITH BITUMASTIC COAT TIE.
 - MANHOLE ADJUSTING RINGS SHALL BE CAST IRON, USF TYPE WR.

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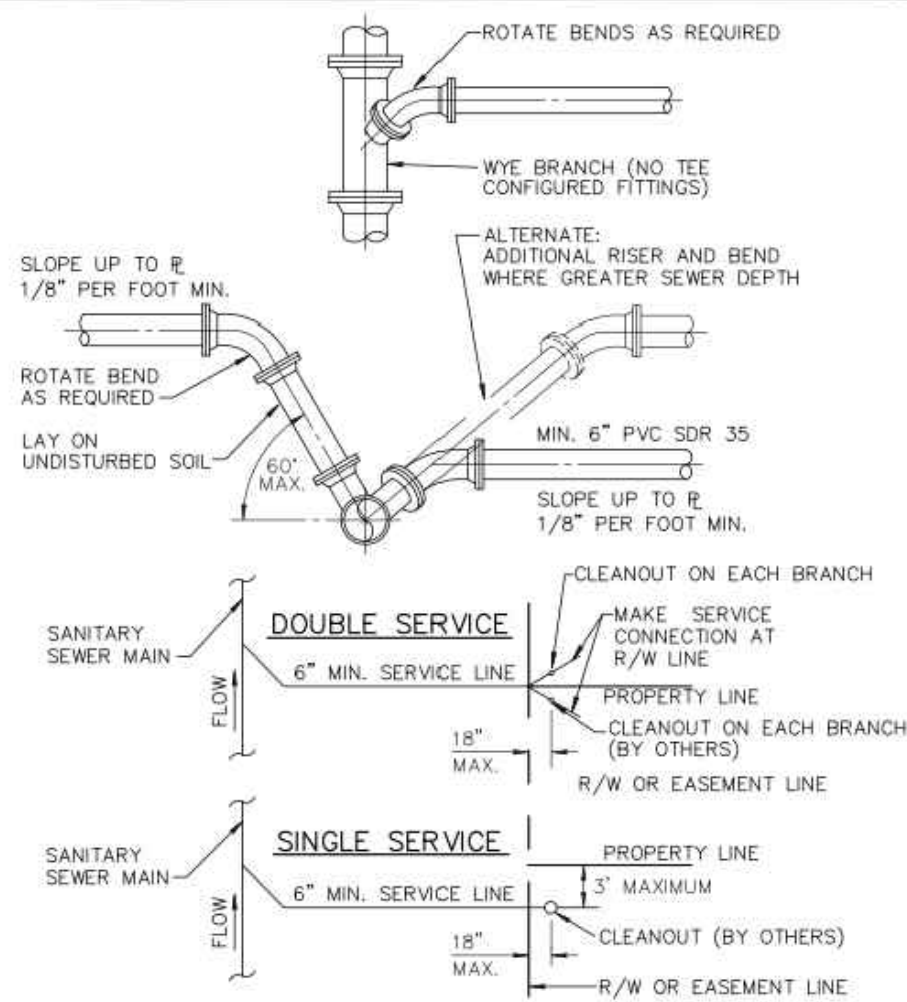
SANITARY SEWER MANHOLE
FRAME AND COVER
DATE: 09-15-2024
WW 6.0



- NOTES:
- FORCE MAIN TO ENTER MANHOLE AS CLOSE AS POSSIBLE TO 180° TO GRAVITY OUTLET.
 - THE INVERT LEVEL OF FORCE MAIN AT POINT OF ENTRY SHALL BE 6" ABOVE HIGHEST INVERT OF MANHOLE.
 - CORE ENTRY ONLY INTO EXISTING MANHOLES.
 - IF ELEVATION DROP IS REQUIRED TO ENTER MANHOLE, APPROVAL SHALL BE OBTAINED FROM ENGINEER.
 - FLOW CHANNEL REQUIRED (SEE DETAIL WW 5.0).
 - PAINT MANHOLE OUTSIDE WITH ONE (1) COAT RED CARBOLINE BITUMASTIC 300M, THEN ONE (1) COAT BLACK 300M OR APPROVED EQUAL, 8-10 MILS D.F.T./COAT, FIRST COAT RED THEN BLACK.
 - INSIDE SHALL BE LINED WITH SEWPER COAT OR EQUAL SYSTEM AFTER PRESSURE WASHING.

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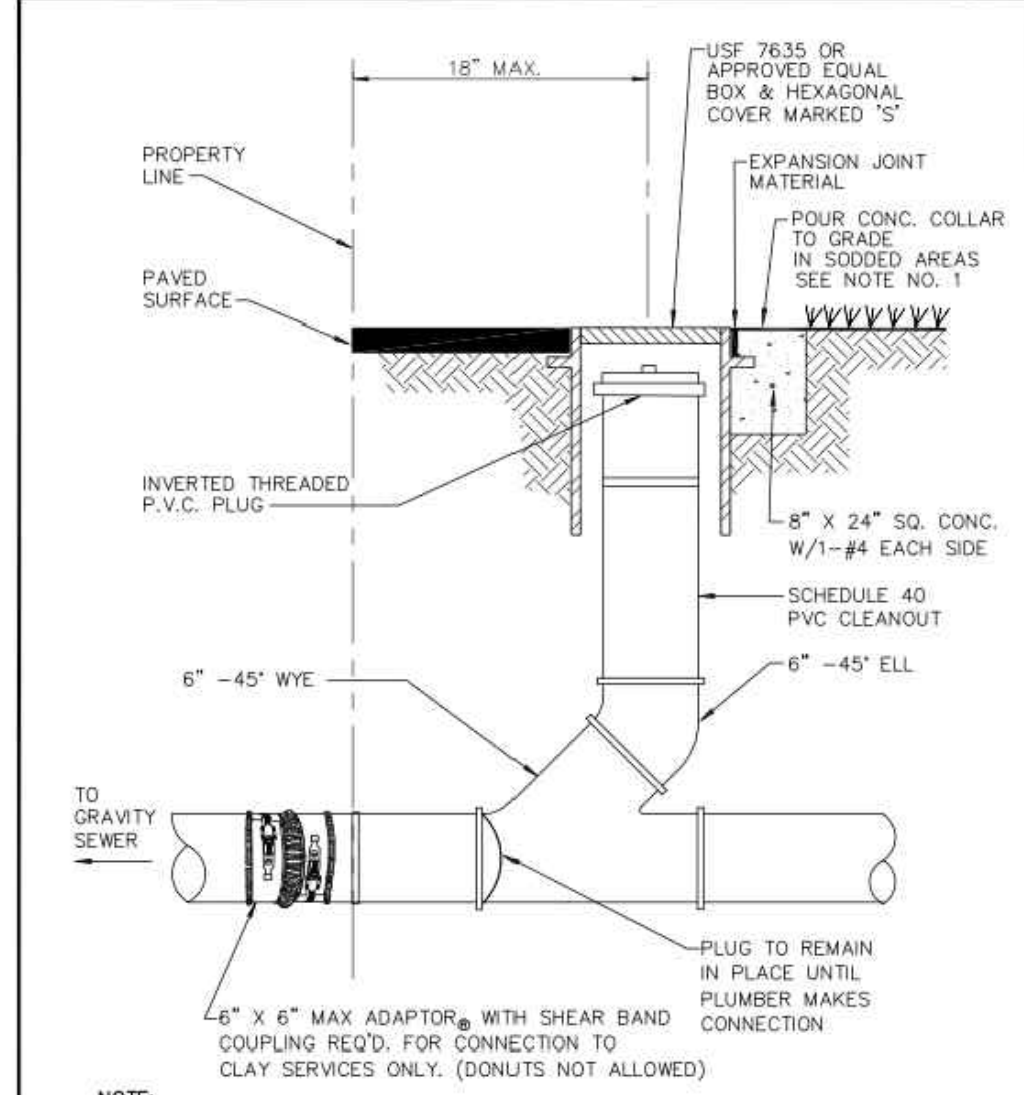
FORCE MAIN ENTERING MANHOLE
DATE: 09-15-2024
WW 7.0



- NOTE:
- SERVICE LATERALS SHALL TERMINATE INSIDE PROPERTY LINE A DEPTH OF 3 FEET AND MARKED WITH A 2"x 4" TREATED STAKE.
 - CLEANOUT INSTALLATION SHALL BE PROPERTY OWNERS RESPONSIBILITY AND SHALL BE INSTALLED BY LICENSED PLUMBER.
 - SEE DETAIL PW 2.0 FOR SEPARATION REQUIREMENTS.

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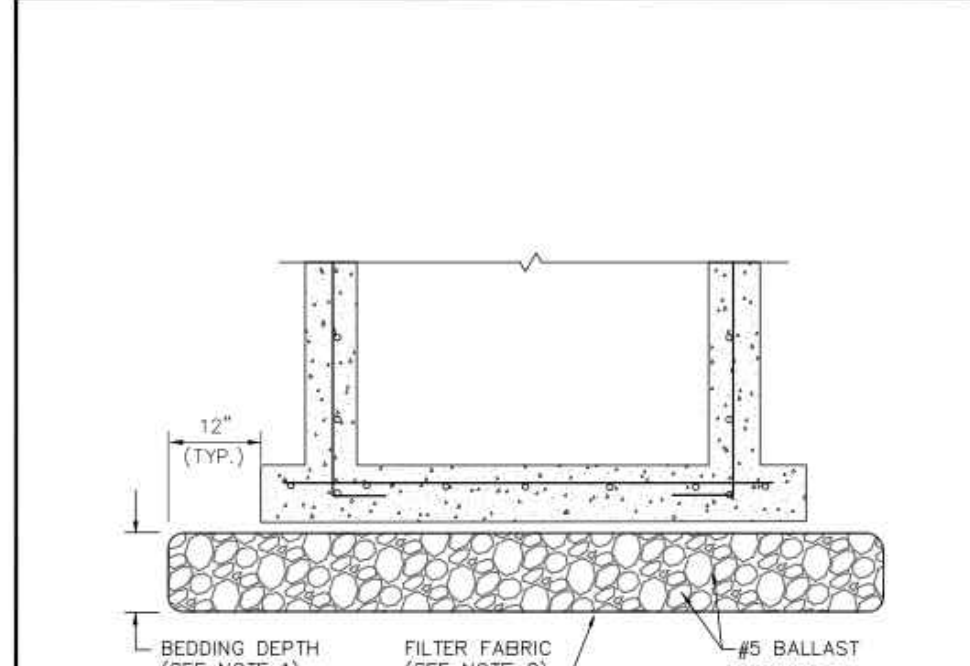
SEWER SERVICE CONNECTION
DATE: 09-15-2024
WW 8.0



- NOTE:
- INVERTED BRASS CAP SHALL BE USED IN GRASS AREAS IN LIEU OF CASTING AND CONE COLLAR.
 - MINIMUM DEPTH OF SERVICE LATERAL SHALL BE 3 FEET.

CITY of DELRAY BEACH
PUBLIC WORKS DEPARTMENT
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TYPICAL COMMERCIAL CLEANOUT
DATE: 09-15-2024
WW 10.0



- NOTES:
- BEDDING DEPTH SHALL BE 10" UNDER DRAINAGE STRUCTURES AND 18" UNDER SANITARY STRUCTURES.
 - ROCK SHALL BE WRAPPED IN FILTER FABRIC THAT MEETS THE REQUIREMENTS OF F.D.O.T. SPECIFICATION SECTION 985.

CITY of DELRAY BEACH
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STANDARD BEDDING DETAIL
DATE: 09-15-2024
WW 11.0

"NOT FOR CONSTRUCTION"

WATER & WASTEWATER DETAILS FOR:

DELRAY SWAN

SE 2ND ST & SE 2ND AVE

DELRAY BEACH, FLORIDA

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Phone: (561) 274-6500 Fax: (561) 274-8558

DRAWN:
B.A.B.

CHECKED:
J.A.P.

DATE:
10/25/23

JOB NO.
21058-DTL

SHEET NO.

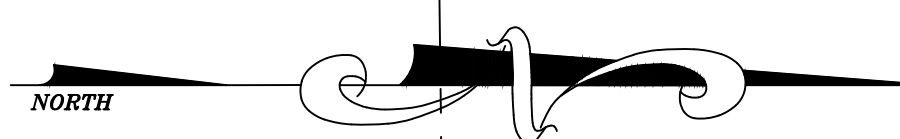
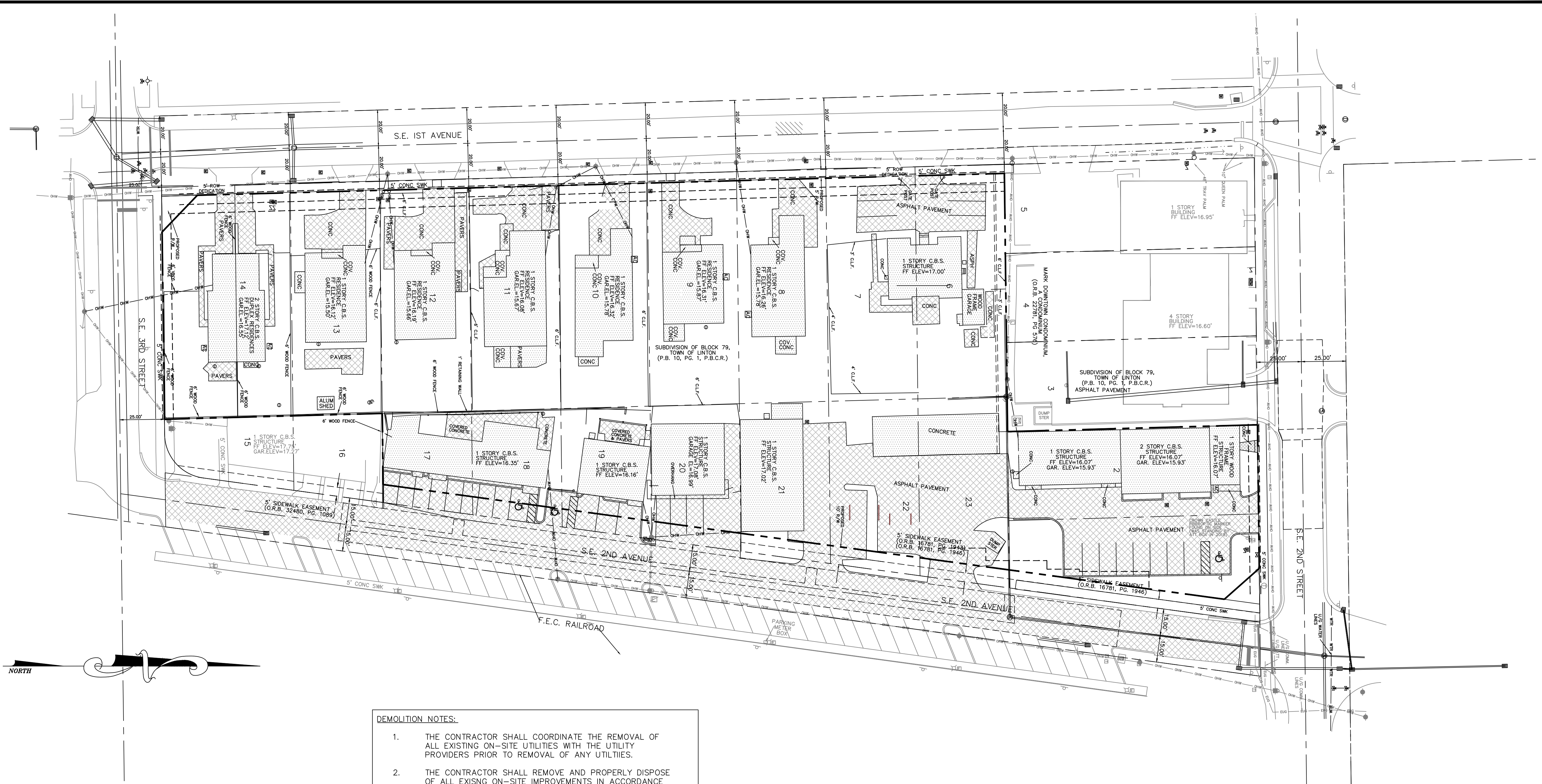
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- DEMOLITION NOTES:**
1. THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF ALL EXISTING ON-SITE UTILITIES WITH THE UTILITY PROVIDERS PRIOR TO REMOVAL OF ANY UTILITIES.
 2. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISNG ON-SITE IMPROVEMENTS IN ACCORDANCE WITH ALL APPLICABLE REGULATORY AGENCY REQUIREMENTS. NO DEBRIS SHALL BE BURIED ON-SITE.
 3. THE CONTRACTOR SHALL PLUG/CAP ALL EXISTING WATER AND SEWER SERVICES NOT TO REMAIN AT THE MAIN AND REMOVE ALL ABANDONED LINES.
 4. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING PRIVATE DRAINAGE. NO EXISTING DRAINAGE SHALL REMAIN UNDERGROUND, INCLUDING, BUT NOT LIMITED TO, ANY EXISTING EXFILTRATION TRENCH, STORM PIPE, OR CATCH BASINS.
 5. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING PAVEMENT AND BASE MATERIALS. EXISTING BASE MATERIALS MAY BE RECYCLED ON-SITE AS SUBGRADE STABILIZER BUT SHALL NOT BE REUTILIZED AS A PAVING BASE MATERIAL.
 6. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED DEMOLITION PERMITS.
 7. THE CONTRACTOR SHALL PROVIDE DUST AND POLLUTION PREVENTION MEASURES PRIOR TO, AND MAINTAIN DURING, ANY DEMOLITION WORK. SEE DETAILS ON SHEET 10.
 8. TRENCH RESTORATION ASSOCIATED WITH DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE TRENCH RESTORATION DETAILS INCLUDED ON SHEET 6.
 9. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE ANY CONTAMINATED SOILS, AS DESIGNATED BY OTHERS, ARE HANDLED AS REQUIRED BY REGULATORY AGENCIES. NO WORK SHALL BE PERFORMED IN THESE AREAS WITHOUT PRIOR APPROVAL FROM REGULATORY AGENCIES.

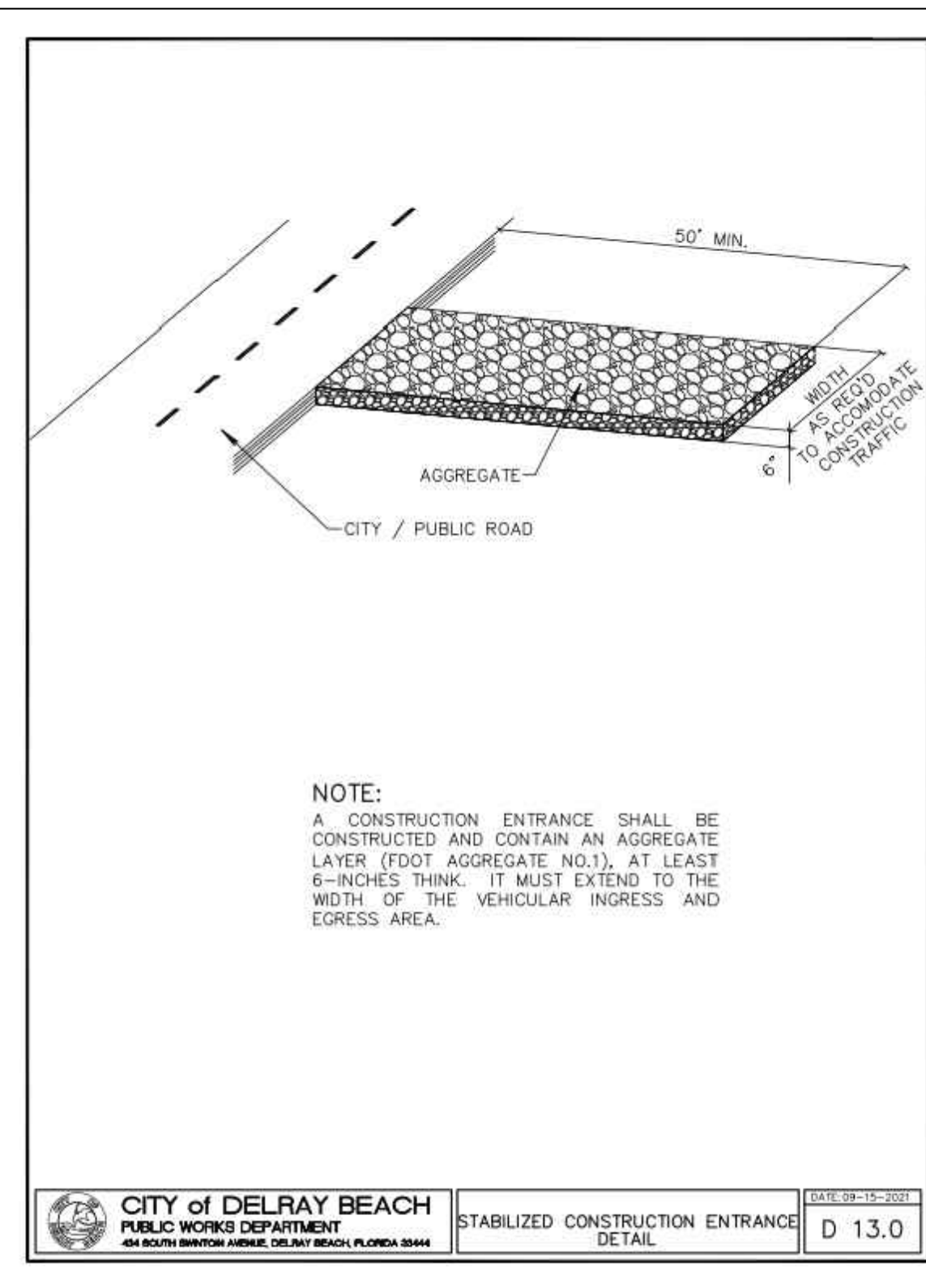
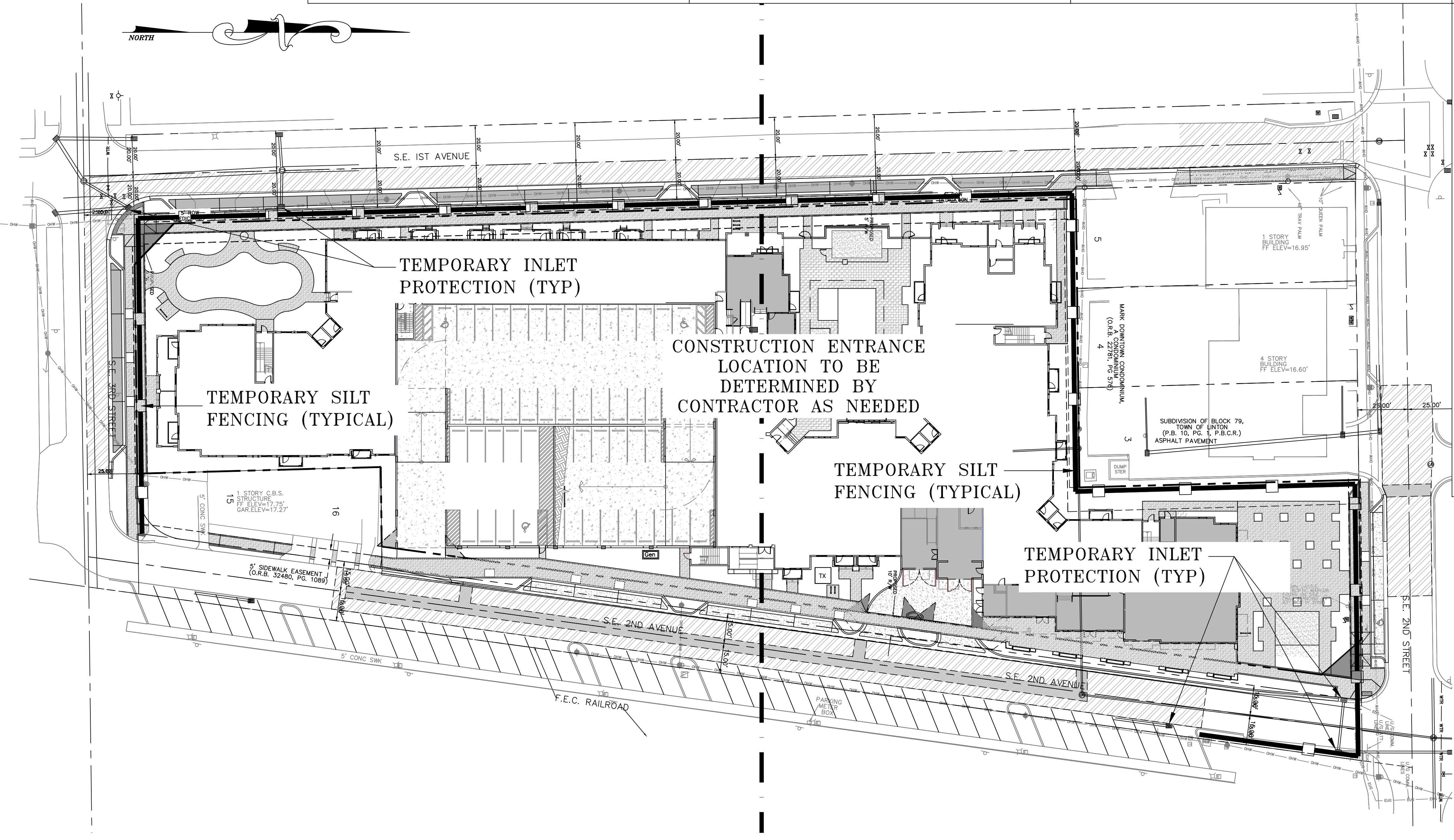
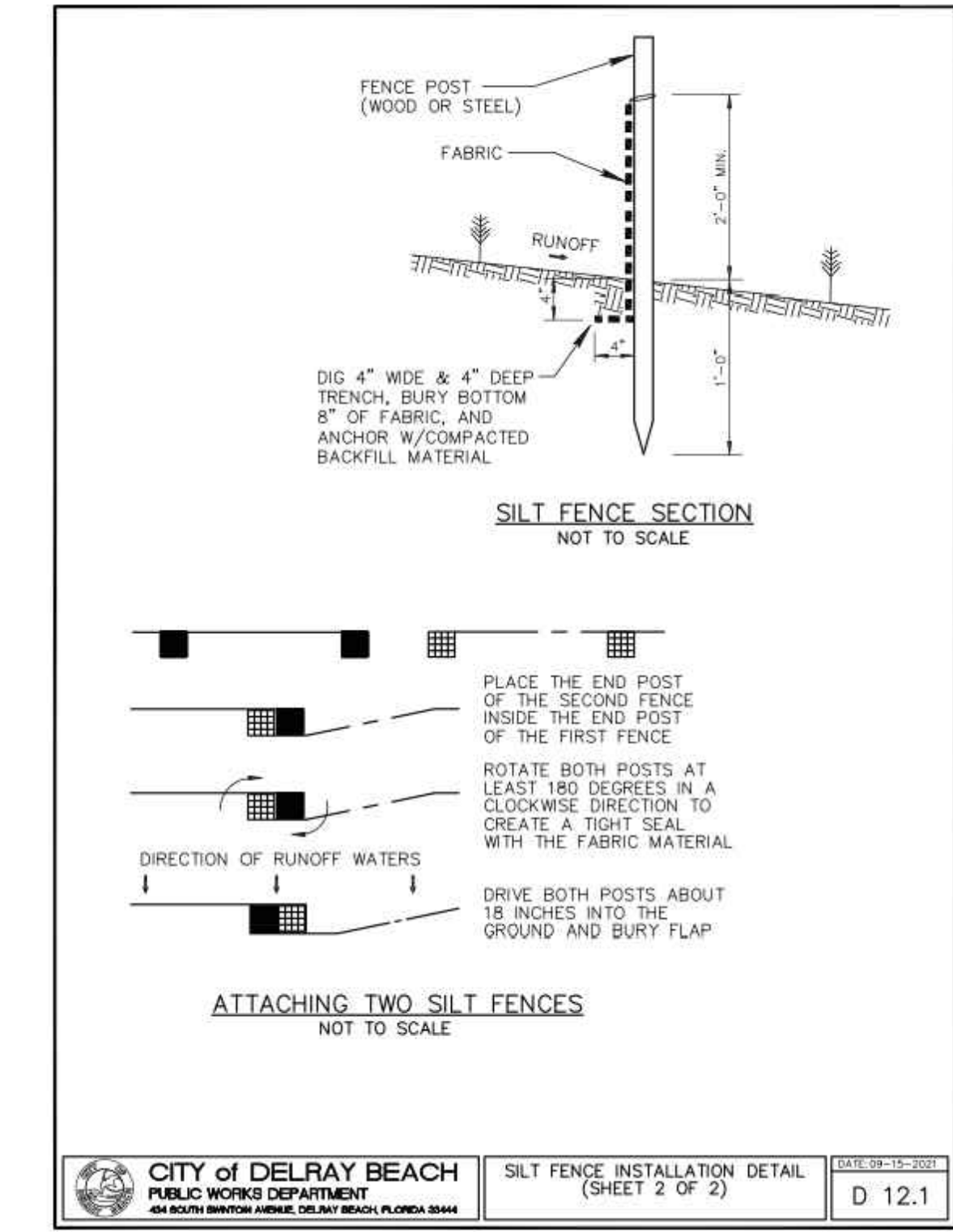
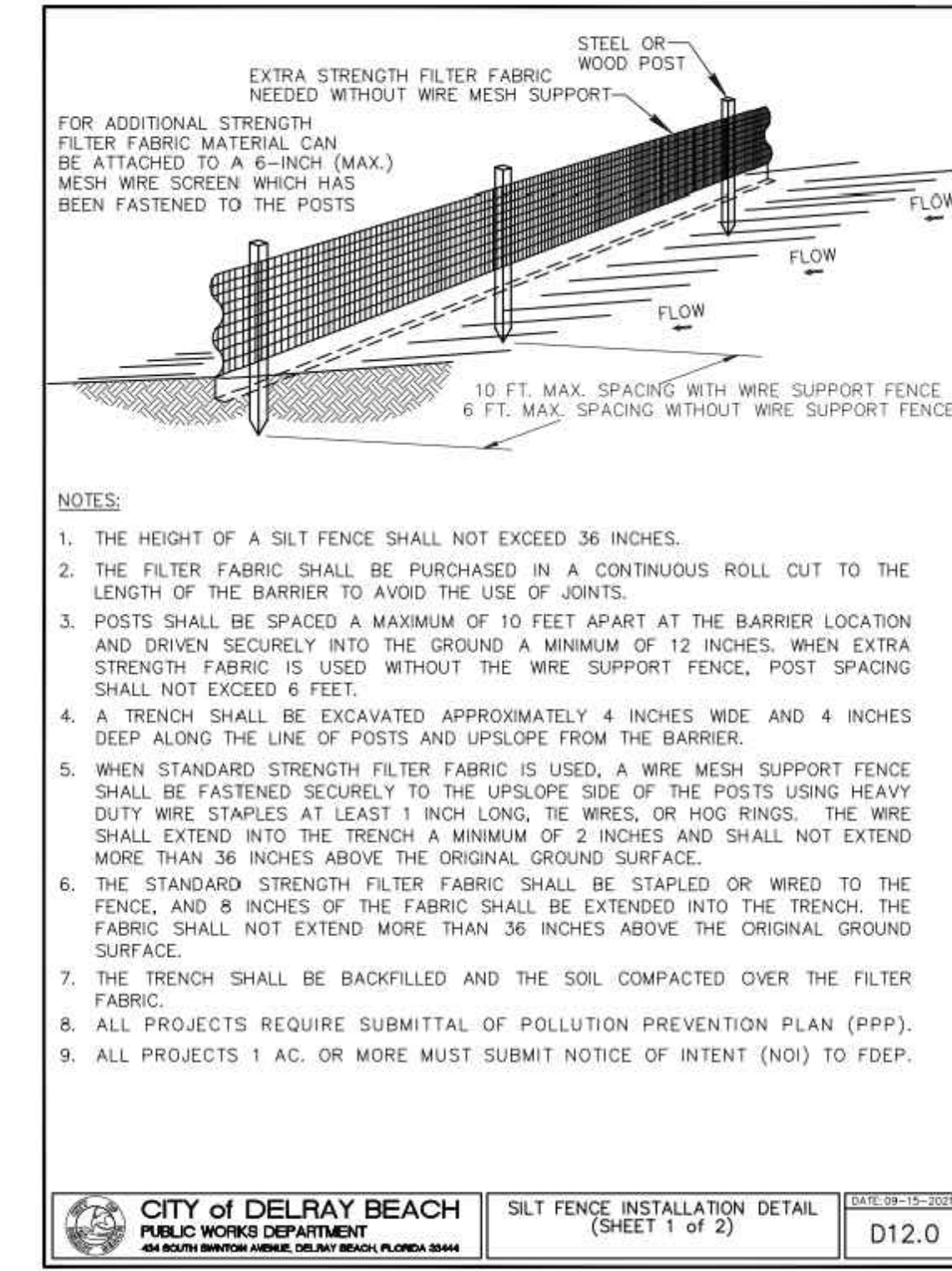
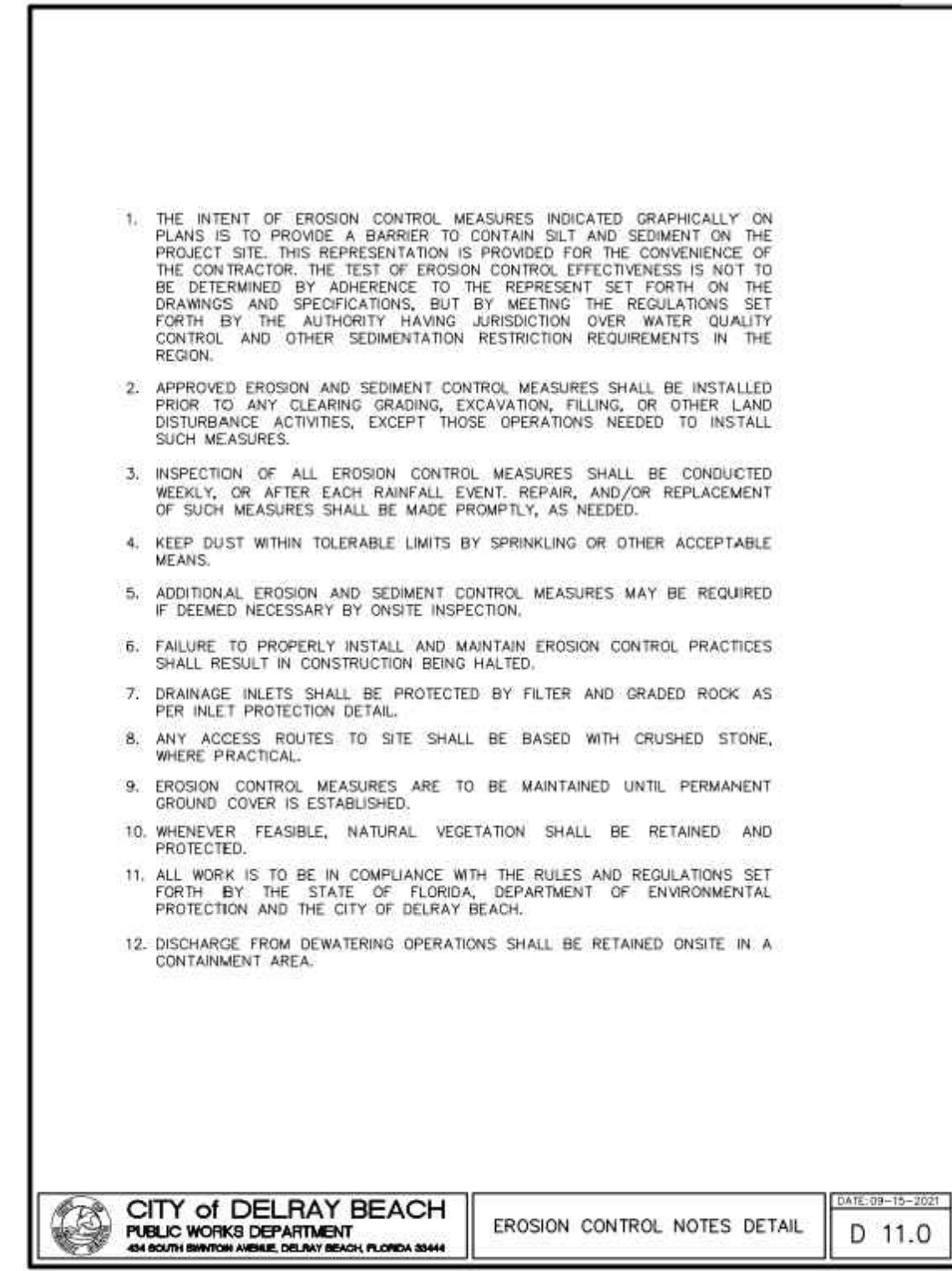
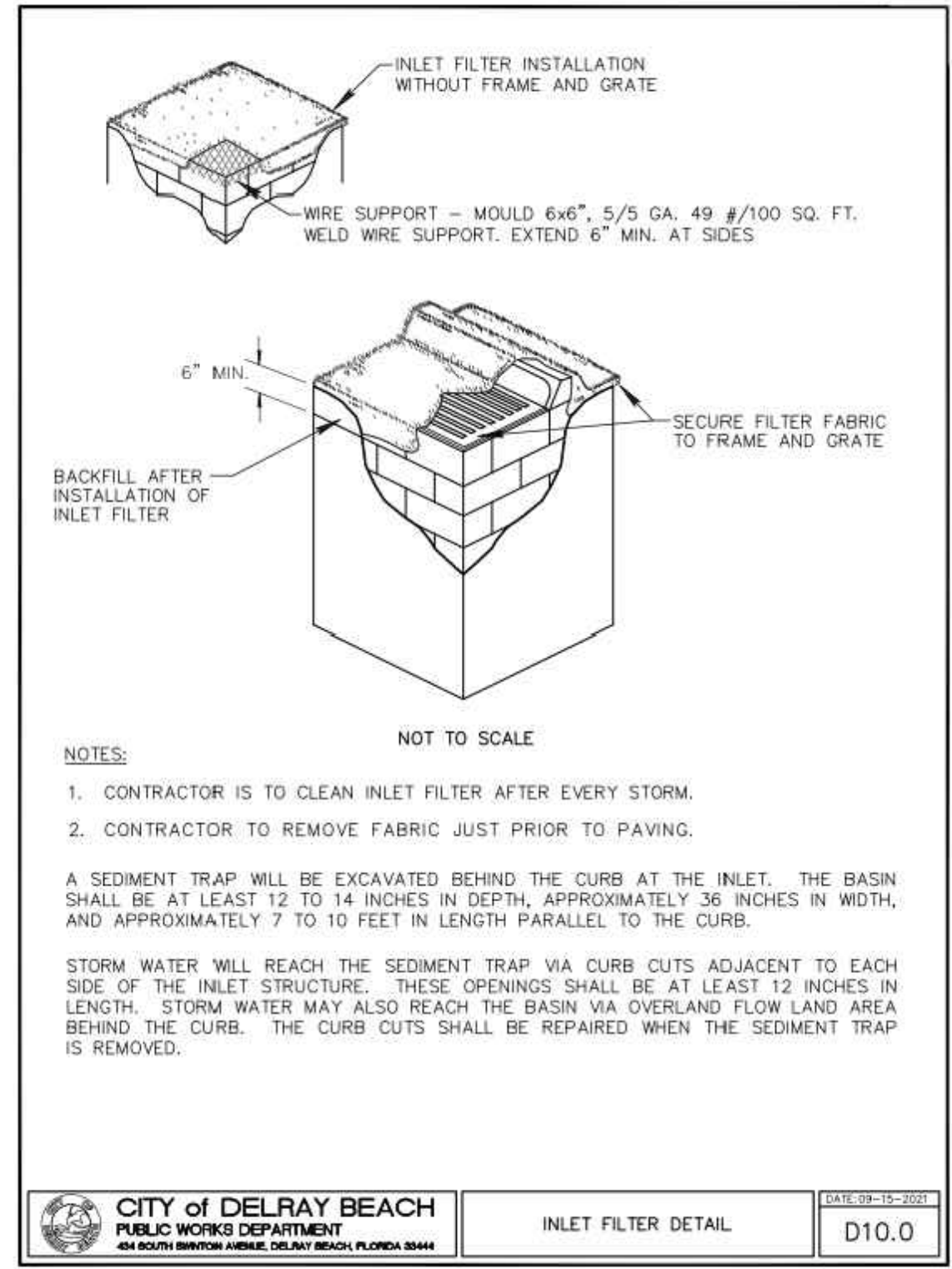
- LEGEND:**
- PROPERTY LINE
 - [Cross-hatched box] DENOTES EXIST IMPROVEMENTS TO BE REMOVED
 - [Dotted box] DENOTES EXIST STRUCTURE TO BE RELOCATED OFF-SITE BY OTHERS



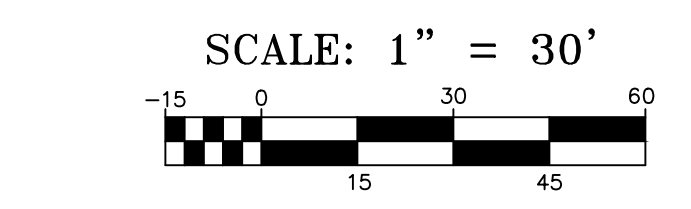
CALL 48 HOURS BEFORE YOU DIG.
IT'S THE LAW
1-800-432-4770
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

SCALE: 1" = 30'
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ENGINEER REPRESENTING ENVIRODESIGN ASSOCIATES, INC.

DEMOLITION PLAN FOR: DELRAY SWAN		SE 2ND ST & SE 2ND AVE DELRAY BEACH, FLORIDA	
BY: BAB		NO. 10/25/23	
DATE: 5/17/23		REVISIONS: REVISE PER CITY COMMENTS	
BY: BAB		NO. 10/25/23	
DATE: 10/25/23		REVISIONS: NO CHANGES	
NOT VALID WITHOUT ENGINEER'S SEAL		JOSEPH A. PIKE, P.E. FL REG # 42696	
DRAWN: B.A.B.		CHECKED: J.A.P.	
DATE: 10/26/23		JOB NO. 21058-ENG	
SHEET NO. 13 OF 14		SHEET NO. 13 OF 14	



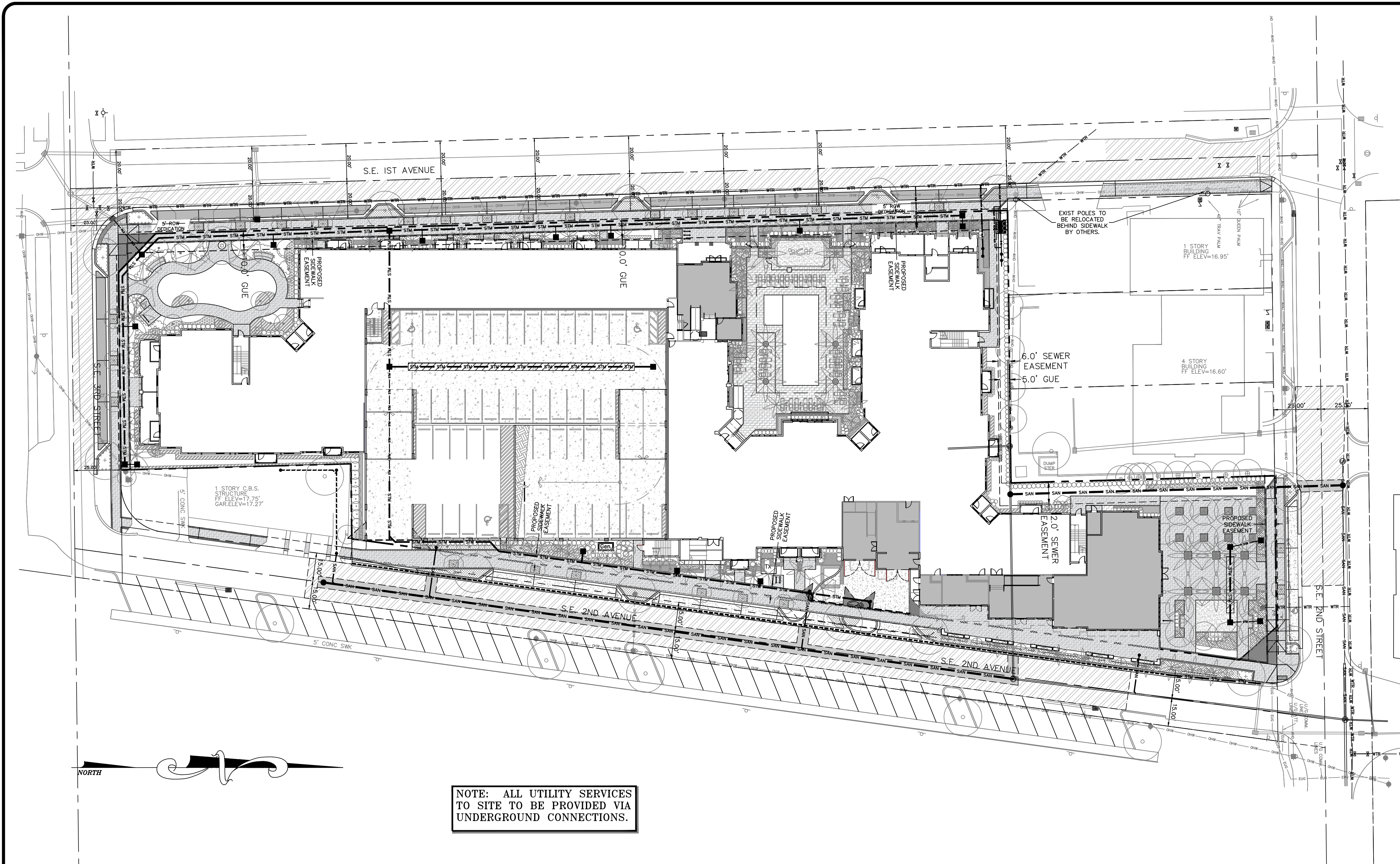
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"NOT FOR CONSTRUCTION"

BY:	BAB	REVISIONS:	DATE:	NO.	NOT VALID WITHOUT ENGINEER'S SEAL	JOSEPH A. PIKE, P.E. FL REG # 42696
	BAB	REVISE PER CITY COMMENTS	5/17/23	Δ		
	BAB	REVISE TO MATCH SITE PLAN REVISIONS	10/25/23	Δ		
POLLUTION PREVENTION PLAN FOR: DELRAY SWAN SE 2ND ST & SE 2ND AVE DELRAY BEACH, FLORIDA						
ENGINEERS • ENVIRONMENTAL CONSULTANTS EnviroDesign Associates Inc. www.envirodesign.com FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506 298 Pineapple Grove Way Delray Beach, Florida 33444 Phone: (561) 274-8558 Fax: (561) 274-8558						
DRAWN: B.A.B. CHECKED: J.A.P. DATE: 10/26/23 JOB NO. 21058-ENG SHEET NO. 14 OF 14						

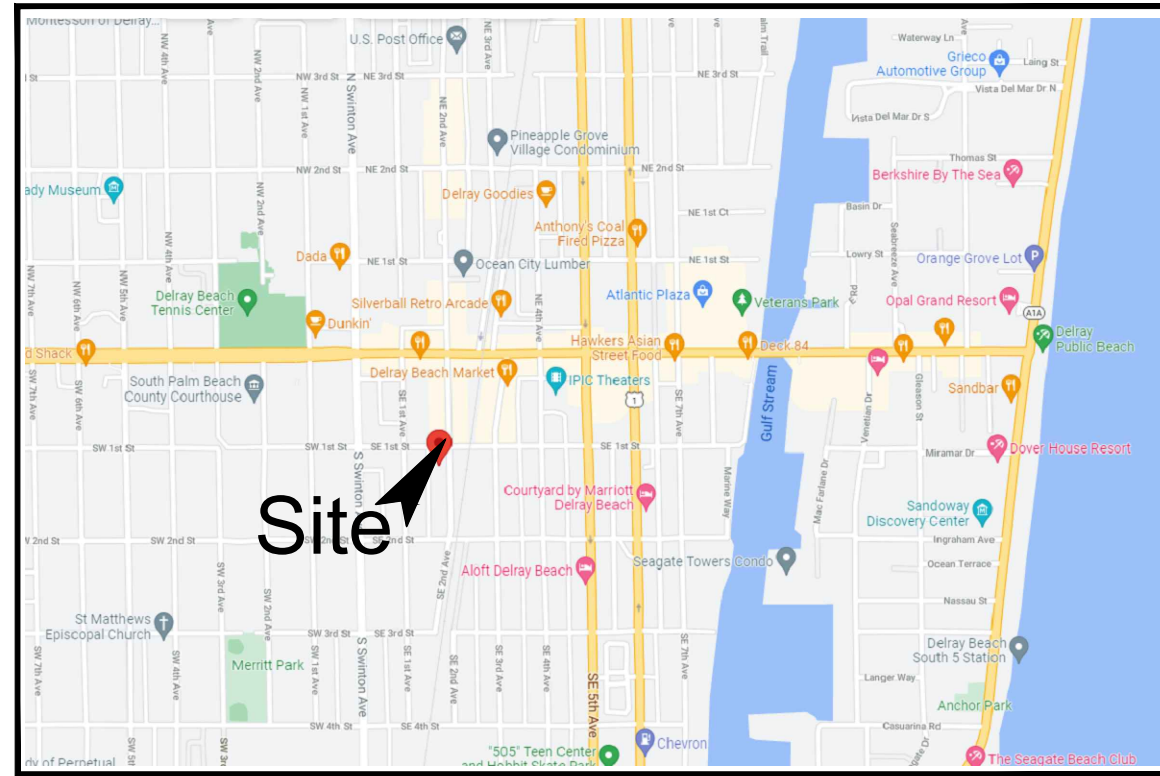


NOTE: ALL UTILITY SERVICES
TO SITE TO BE PROVIDED VIA
UNDERGROUND CONNECTIONS.

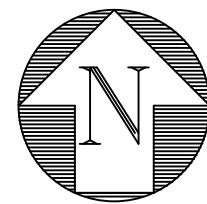
LEGEND:

- | | | | | |
|-----|------------------------------------|-----|-----|------------------------------|
| --- | PROPERTY LINE | --- | STM | EXISTING STORM LINE |
| --- | PROPOSED STORM LINE | --- | SAN | EXISTING SANITARY SEWER LINE |
| --- | PROPOSED SANITARY SEWER LINE | --- | WTR | EXISTING WATER LINE |
| --- | PROPOSED WATER LINE | --- | OHW | EXISTING OVERHEAD LINES |
| --- | PROPOSED ELECTRIC UNDERGROUND LINE | --- | GAS | EXISTING GAS LINES |
| --- | PROPOSED GAS LINE | | | |

NOTE: CONTRACTOR TO FIELD
VERIFY EXACT LOCATION, SIZE, AND
ELEVATION OF ALL IMPROVEMENTS
AT TIME OF CONSTRUCTION AND
REPORT ANY DISCREPANCIES TO
ENVIRODESIGN ASSOCIATES, INC.



LOCATION MAP
N.T.S.



"NOT FOR CONSTRUCTION"

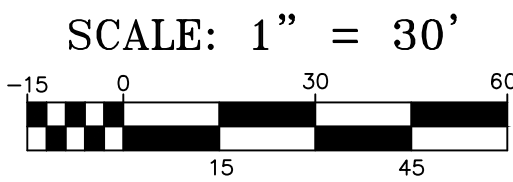
UTILITY PROVIDER SIGNOFF:

FPL:	SIGNATURE _____	TITLE _____
	PRINT NAME _____	DATE _____
COMCAST:	SIGNATURE _____	TITLE _____
	PRINT NAME _____	DATE _____
AT&T:	SIGNATURE _____	TITLE _____
	PRINT NAME _____	DATE _____
FPU:	SIGNATURE _____	TITLE _____
	PRINT NAME _____	DATE _____

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Know what's below.
Call before you dig.

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COMPOSITE UTILITY PLAN FOR:
DELRAY SWAN
SE 2ND ST & SE 2ND AVE
DELRAY BEACH, FLORIDA

EnviroDesign Associates Inc.
www.envirodesign.com
ENGINEERS • ENVIRONMENTAL CONSULTANTS
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506
298 Pineapple Grove Way Delray Beach, Florida 33444
Phone: (561) 274-6500 Fax: (561) 274-8558

DRAWN:
B.A.B.

CHECKED:
J.A.P.

DATE:
10/26/23

JOB NO.
21058-ENG

SHEET NO.
1 OF 1

BY:	DATE:	REVISIONS:	NOT VALID WITHOUT ENGINEER'S SEAL
BAB	5/17/23	REVISE PER CITY COMMENTS	
BAB	10/25/23	SIDEWALK EXTENSIONS AND RELOCATE POWER POLES	

JOSEPH A. PIKE, P.E.
FL REG # 42696