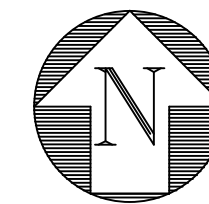


LOCATION MAP  
N.T.S.



"NOT FOR CONSTRUCTION"

LEGEND:

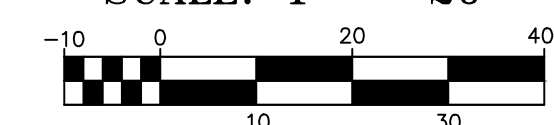
- PROPERTY LINE
- SECTION IDENTIFIER  
PLAN PAGE DETAIL PAGE
- PROPOSED ELEVATION
- DIRECTION OF FLOW
- EXISTING ELEVATION
- DENOTES AREA OF PROPOSED ASPHALT PAVING
- DENOTES AREA PROPOSED 1" MILL & OVERLAY
- DENOTES AREA OF PROPOSED BRICK PAVERS SEE DETAIL SHEET 2 - SEE LANDSCAPE PLANS FOR PATTERN
- DENOTES AREA OF PROPOSED POOL DECK BY OTHERS - SEE LANDSCAPE PLANS FOR SPECIFICATIONS
- 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 18" PERF HDPE PIPE IN 6' WIDE X 3' DEEP ROCK TRENCH (BOTTOM EL= 9.00)
- STRUCTURE TYPE-NUMBER  
RIM ELEVATION  
INVERT ELEVATION
- NYLO NYLOPLAST YARD DRAIN OR APPROVED EQUAL
- IL INLINE YARD DRAIN
- HDPE HIGH-DENSITY POLYETHYLENE PIPE

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

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

SCALE: 1" = 20'



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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: SEE LANDSCAPE  
PLANS FOR BRICK PAVEMENT  
PATTERNS

NOTE: SEE LANDSCAPE  
PLANS FOR BRICK PAVEMENT  
PATTERNS



Know what's below.  
Call before you dig.

PAVING & DRAINAGE PLAN FOR:

PHG DELRAY

200 NE 5TH AVENUE

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:  
B.A.B.

CHECKED:  
J.A.P.

DATE:  
10/01/19

JOB NO.  
18158-ENG

SHEET NO.  
1 OF 10

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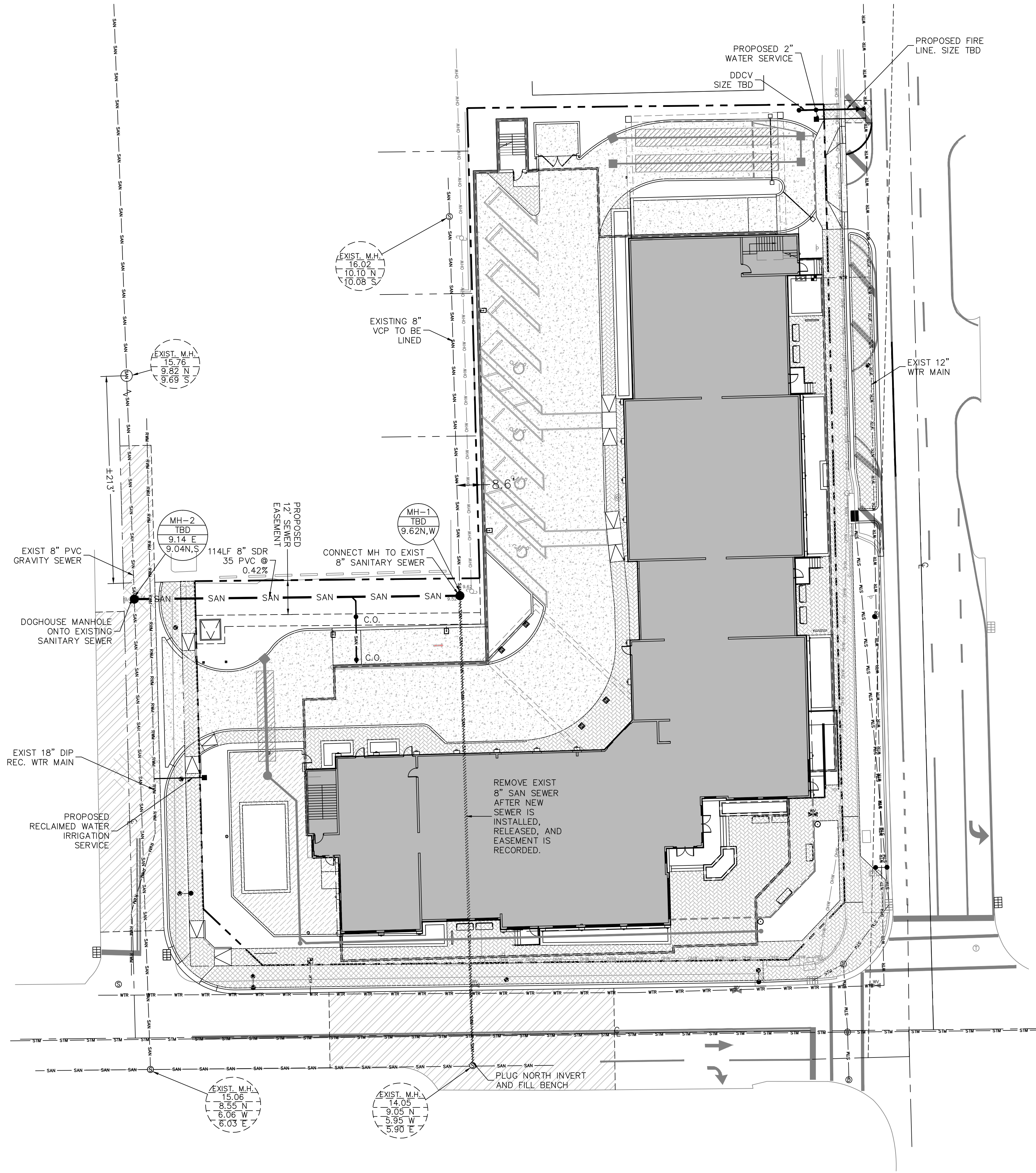
JOSEPH A. PIKE, P.E.  
FL REG # 42696

REVISIONS:

NO. DATE:

BY:



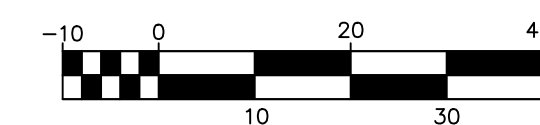


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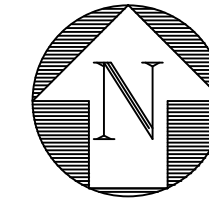
SCALE: 1" = 20'



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LOCATION MAP  
N.T.S.



LEGEND:

- PROPERTY LINE
- 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
- EXIST MH 8.57 RIM ELEVATION 2.60 E 2.50 W
- EXIST MH 8.57 RIM ELEVATION 2.60 E 2.50 W
- MH-1 TBD RIM EL INV EL

"NOT FOR CONSTRUCTION"

WATER & WASTEWATER PLAN FOR:  
PHG DELRAY  
200 NE 5TH AVENUE  
DELRAY BEACH, FLORIDA

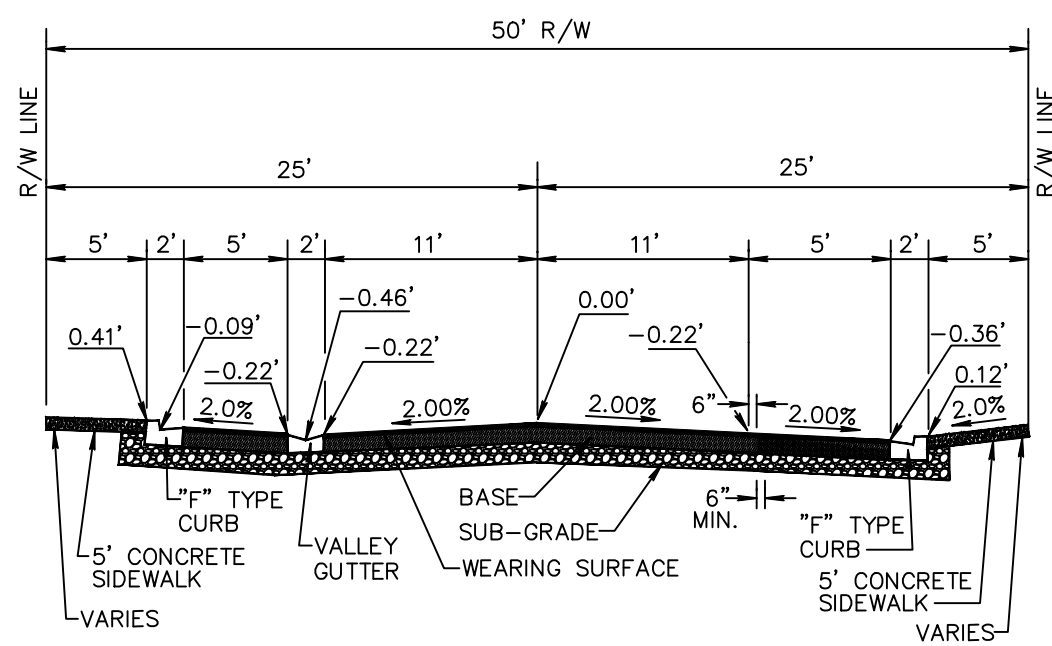
EnviroDesign Associates Inc.  
www.envirodesign.com  
ENGINEERS • ENVIRONMENTAL CONSULTANTS  
FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506  
298 Pineapple Grove Way Delray Beach, Florida 33444  
Phone: (561) 274-6500 Fax: (561) 274-8558

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FL REG # 42696

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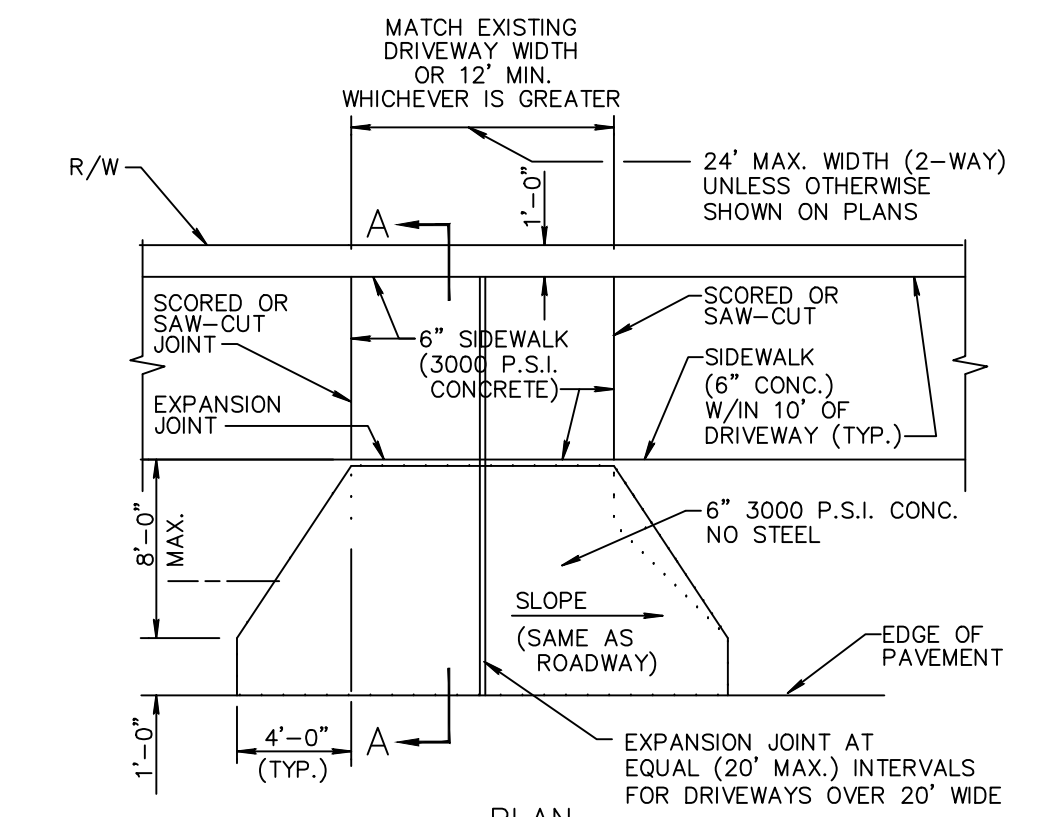




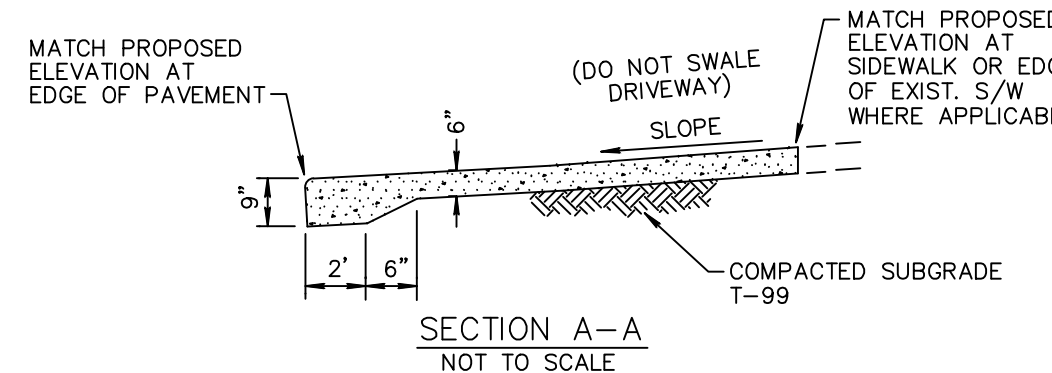
PAVEMENT SPECIFICATIONS	
WEARING SURFACE	1 1/2" TYPE S-III (2 LIFTS) SEE NOTE 2
BASE	8" LIMEROCK OR 10" CRUSHED CONCRETE COMPACTED TO 98% MAX. DENSITY PER AASHTO T-180. PRIME & TACK COAT PER FOOT SECTION 300.
SUBGRADE	12" STABILIZED (75 P.S.I. FBV) AND COMPACTED TO 98% MAX. DENSITY PER AASHTO T-180.

- NOTE:**
- VARIATION FROM MATERIAL SPECIFICATIONS WILL BE CONSIDERED ON A CASE BY CASE BASIS BY THE CITY ENGINEER.
  - 2ND LIFT SHALL NOT BE PAVED UNTIL CONSTRUCTION VEHICLES AND EQUIPMENT HAVE COMPLETED WORK.

TYPICAL 50' R/W W/ PARALLEL PARKING SECTION DETAIL RT 1.3

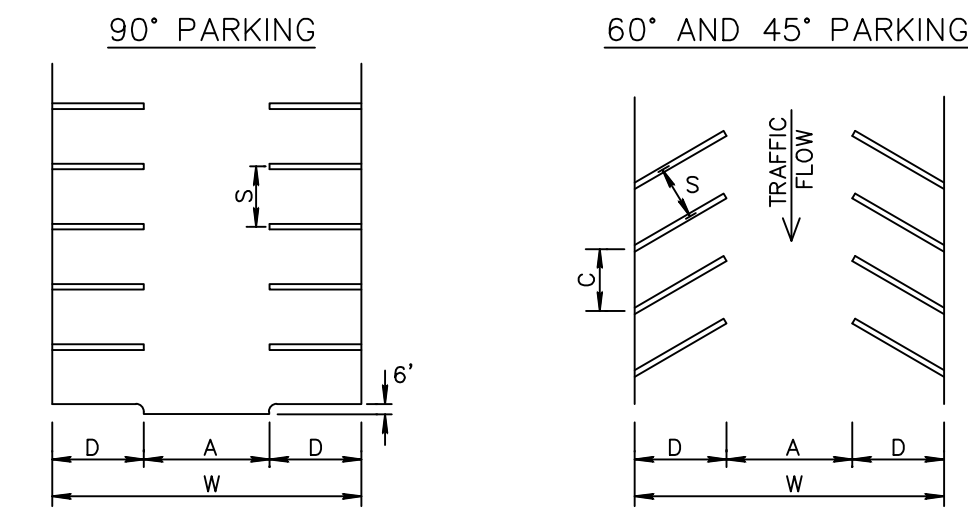


**NOTE:** SIDEWALK SHALL BE CONSTRUCTED THROUGH DRIVEWAY.



**NOTE:** ALL SIDEWALKS WITH CENTRAL BUSINESS DISTRICT SHALL BE A MINIMUM WIDTH OF 8'

CONCRETE DRIVEWAY APRON RT 9.1



A	90° PARKING
A	24.0'
S	9.0'
D	18.0'
W	60.0'

\* COMPACT CAR SPACES - 8.0'  
HANDICAP SPACES - 12.0'  
SEE RT 4.2

PARALLEL

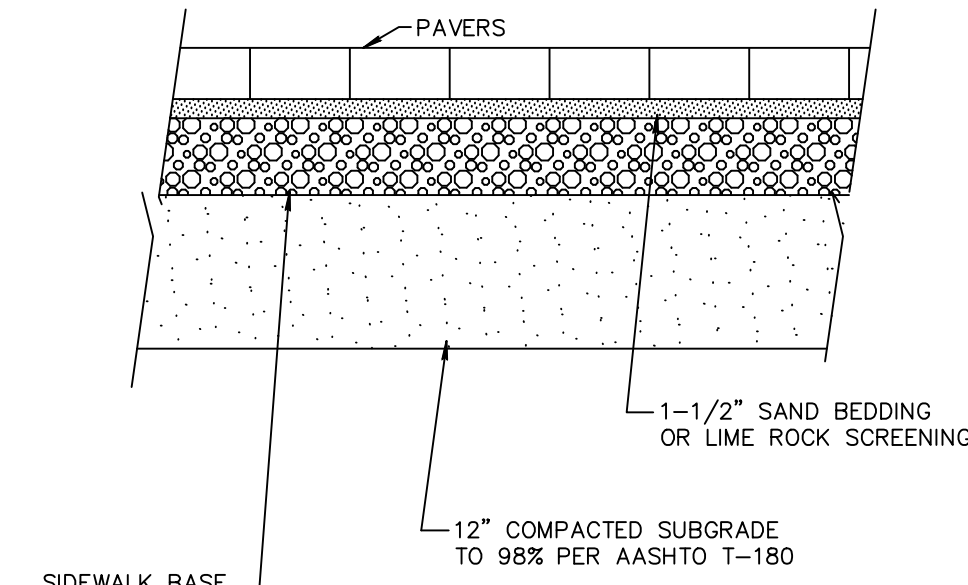
C	STALL LENGTH	22.0'
S	STALL WIDTH	8.0'

A	STANDARD	60'	45'
A	17.0'	15.0'	
C	10.5'	12.5'	
S	9.0'	9.0'	
D	20.0'	19.0'	
W	57.0'	53.0'	
HANDICAP SPACES			
C	14.0'	17.0'	
D	21.5'	21.0'	
S	12.0'	12.0'	

\* FOR TWO WAY FLOW A=24.0'

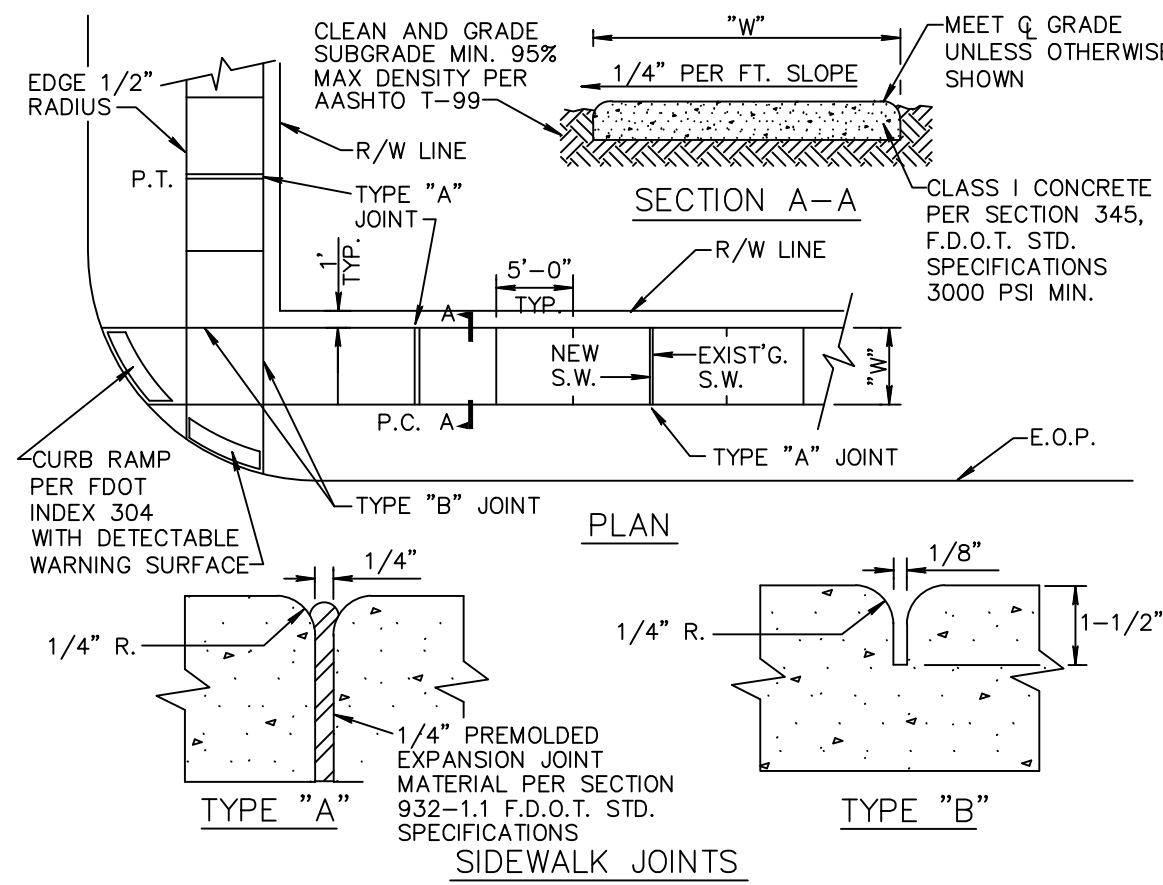
**NOTE:**  
REFER TO TYPICAL PARKING SPACE DETAIL RT 4.2 (A TO C) FOR STRIPING INFORMATION AND HANDICAPPED PARKING DIMENSIONS.  
STOP BAR BETWEEN PARKING LOT & PUBLIC R/W MUST BE THERMOPLASTIC.

PARKING LOTS DETAIL RT 4.1



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

PAVER BRICK SECTION DETAIL RT 10.1a

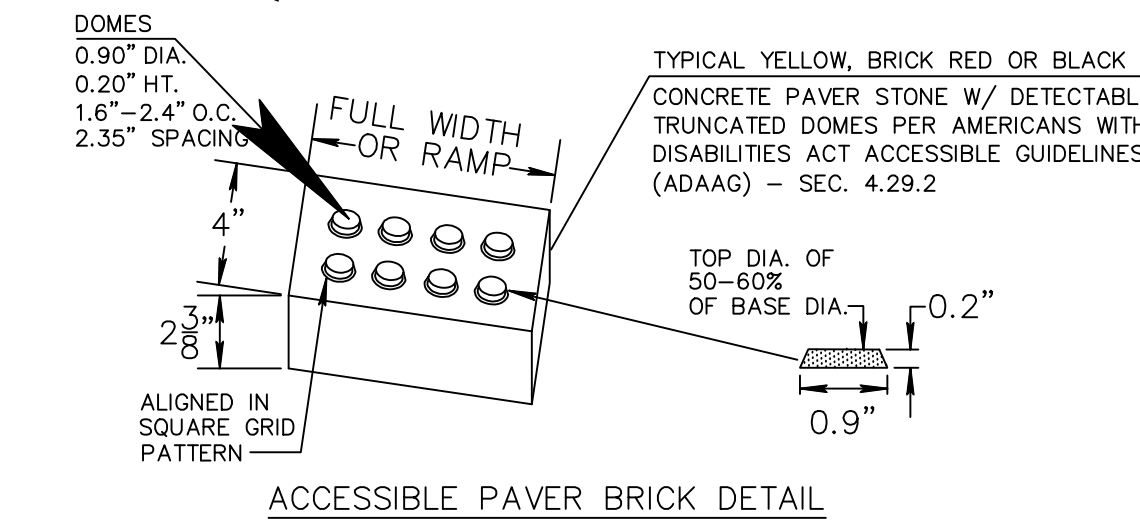
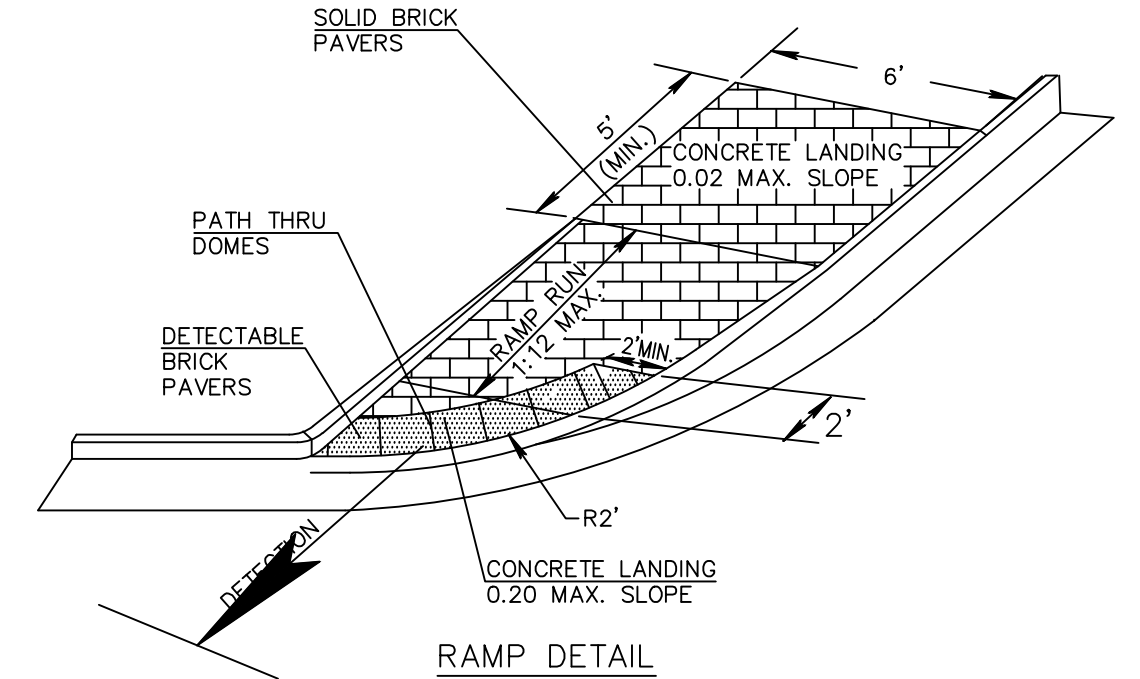


- NOTE:**
- ALL SIDEWALKS SHALL BE CONSTRUCTED THRU DRIVEWAYS.
  - ALL SIDEWALKS SHALL INCLUDE ADA COMPLIANT RAMP @ INTERSECTIONS.
  - ALL SIDEWALKS SHALL INCLUDE CROSS SLOPE AND RUNNING SLOPE IN ACCORDANCE WITH ADA REQUIREMENTS.
  - CURB RAMP DETECTABLE WARNING SURFACE SHALL EXTEND THE FULL WIDTH OF THE RAMP AND 24" DEEP

RESIDENTIAL AREAS	4"
WITHIN 10' OF CROSS-STREETS, AT DRIVEWAYS & OTHER AREAS	6" 9" (E.O.P.)
TABLE OF SIDEWALK WIDTHS - "W"	
SINGLE-FAMILY AREAS	5'
MULTI-FAMILY AREAS	5'
OTHER AREAS AS SPECIFIED BY THE CITY ENGINEER.	

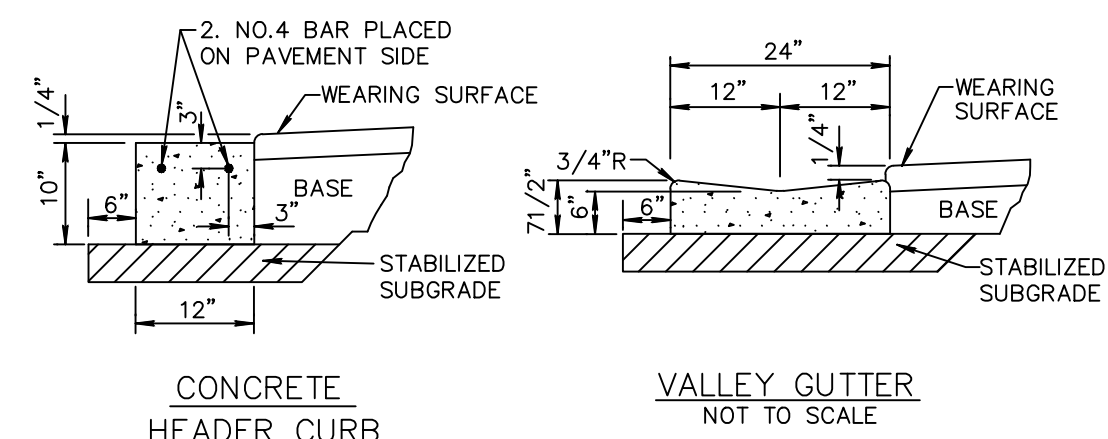
TYPE	LOCATION
"A"	P.C. AND P.T. OF CURVES JUNCTION OF EXISTING & NEW SIDEWALKS & EVERY 30'
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS SCORED DURING PLACEMENT OR SAWCUT WITHIN 24 HOURS OF PLACEMENT.
"A"	WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES.

SIDEWALK CONSTRUCTION RT 5.1



- NOTE:**
- IN ADDITION TO CURB RAMP TRUNCATED DOMES ARE REQUIRED AT ALL AREAS OF PERIL.

DETECTABLE WARNING RAMP IN PAVER SIDEWALK TYPICAL DETAIL RT 10.3



CONCRETE HEADER CURB NOT TO SCALE

VALLEY GUTTER NOT TO SCALE

CONCRETE CURB NOT TO SCALE

CONCRETE CURB AND GUTTER NOT TO SCALE

F.D.O.T. TYPE "D"

F.D.O.T. TYPE "F"

CONCRETE CURB NOT TO SCALE

CONCRETE CURB AND GUTTER NOT TO SCALE

CONCRETE CURB NOT TO SCALE

CONCRETE CURB AND GUTTER NOT TO SCALE

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SUNSHINE STATE ONE CALL OF FLORIDA, INC.

"NOT FOR CONSTRUCTION"

PAVING & DRAINAGE DETAILS FOR:

PHG DELRAY

200 NE 5TH AVENUE

DELRAY BEACH, FLORIDA



**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:**

09/28/19

**JOB NO.**

18158-DTL

**SHEET NO.**

3 OF 10

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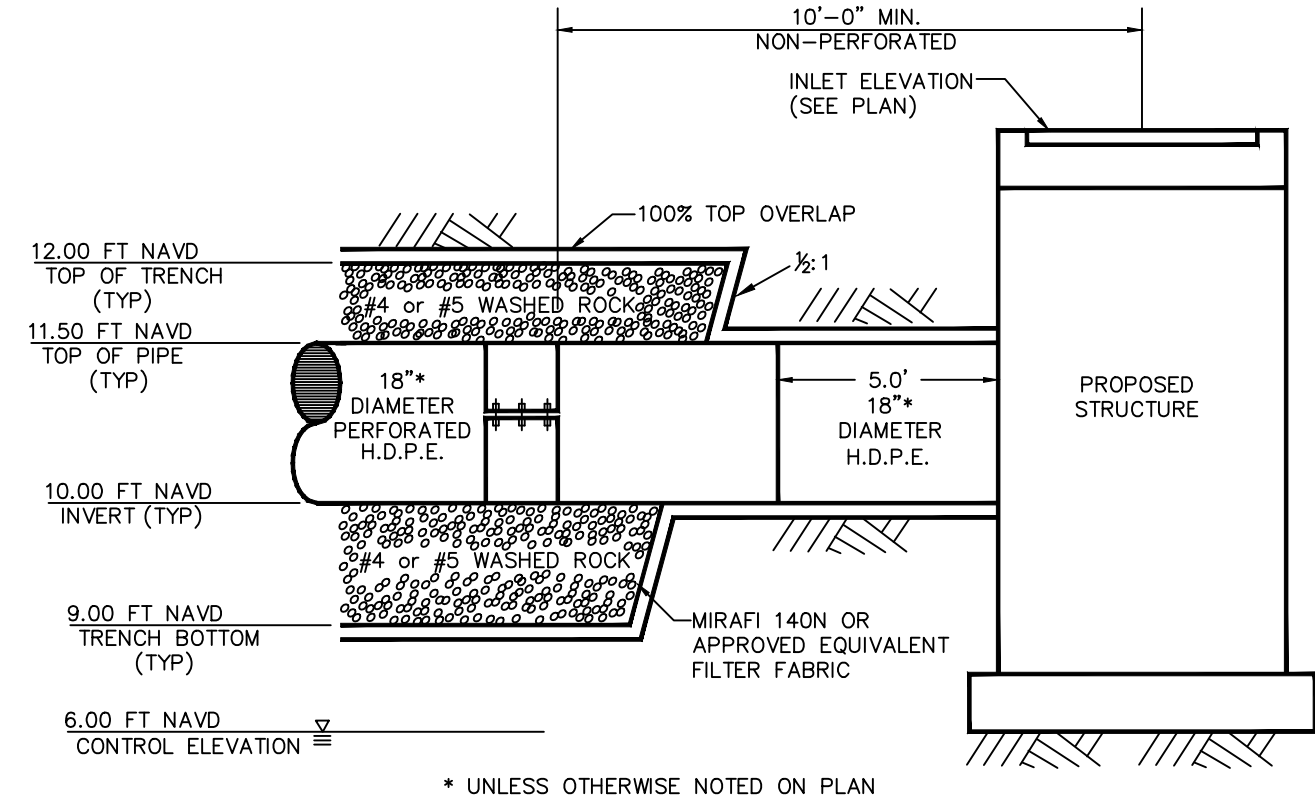
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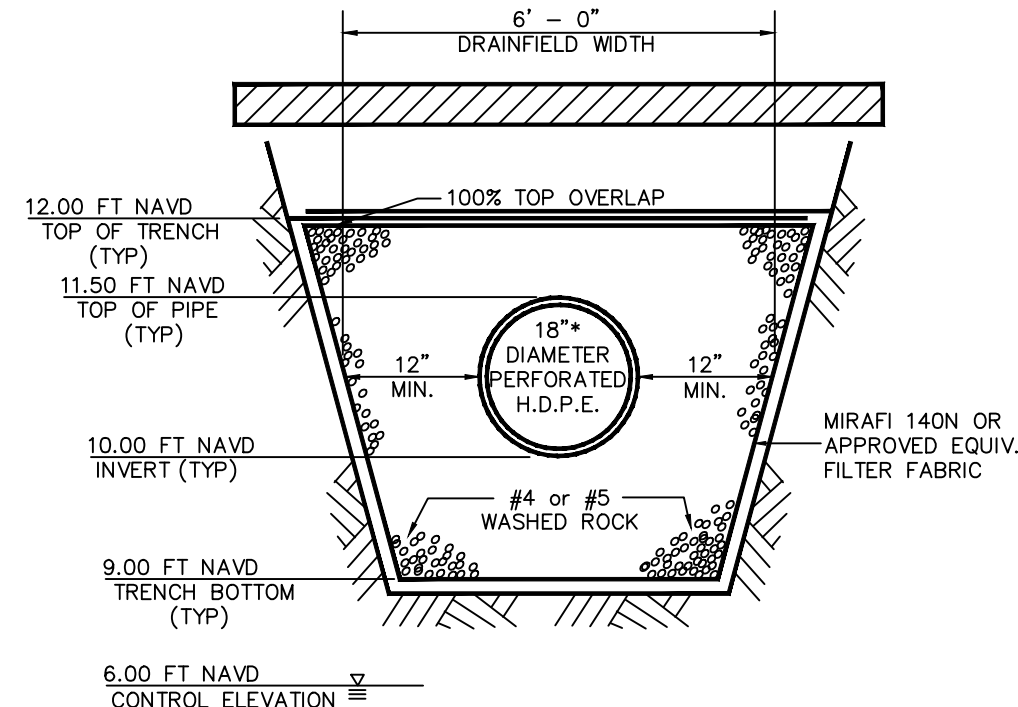
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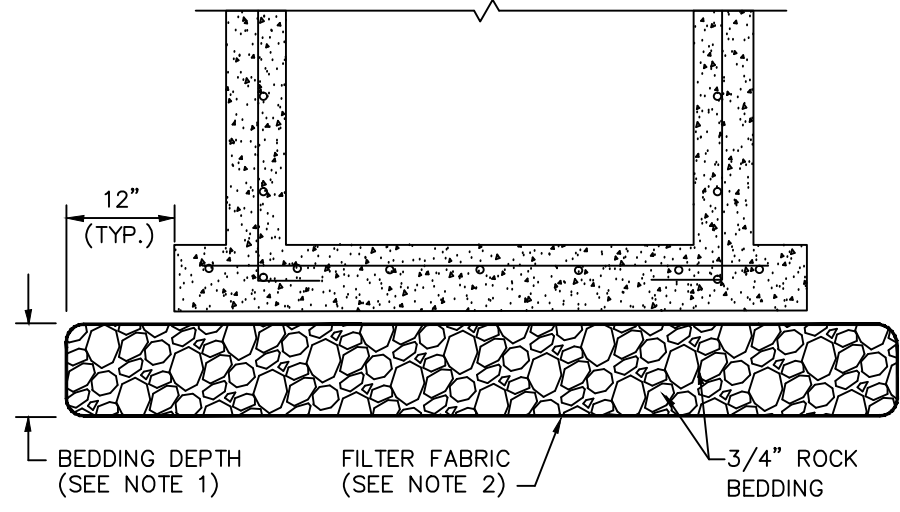




PERFORATED PIPE TRENCH  
N.T.S.



PERFORATED PIPE TRENCH  
N.T.S.

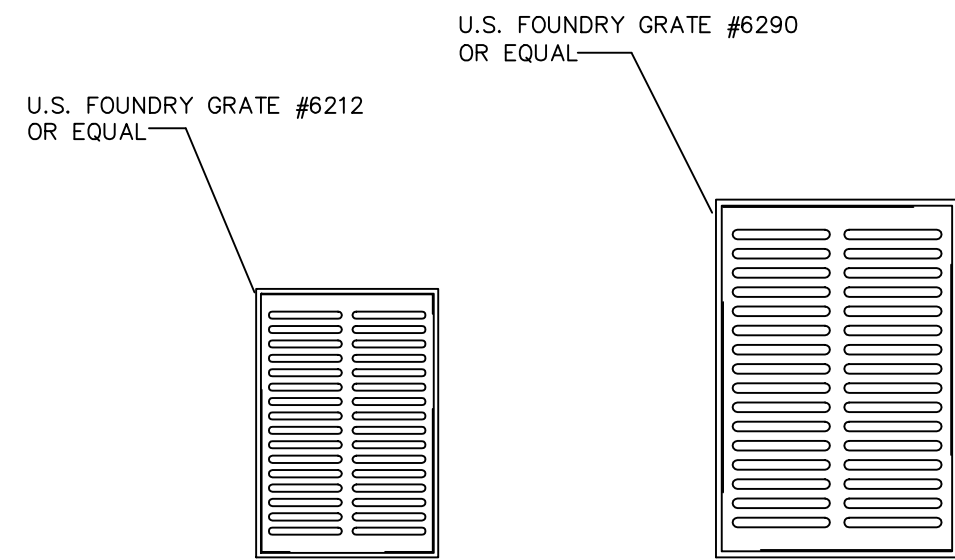


NOTES:

- 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.

STANDARD BEDDING D 3.1

INLET TYPE	DIMENSIONS		GRATE TYPE	MAX. PIPE SIZE	
	A	B		WALL A	WALL B
'C'	2'-0"	3'-1"	U.S. FOUNDRY No. 6212	15" R.C.P.	24" R.C.P.
'E'	3'-0"	4'-5"	U.S. FOUNDRY No. 6290	24" R.C.P.	36" R.C.P.



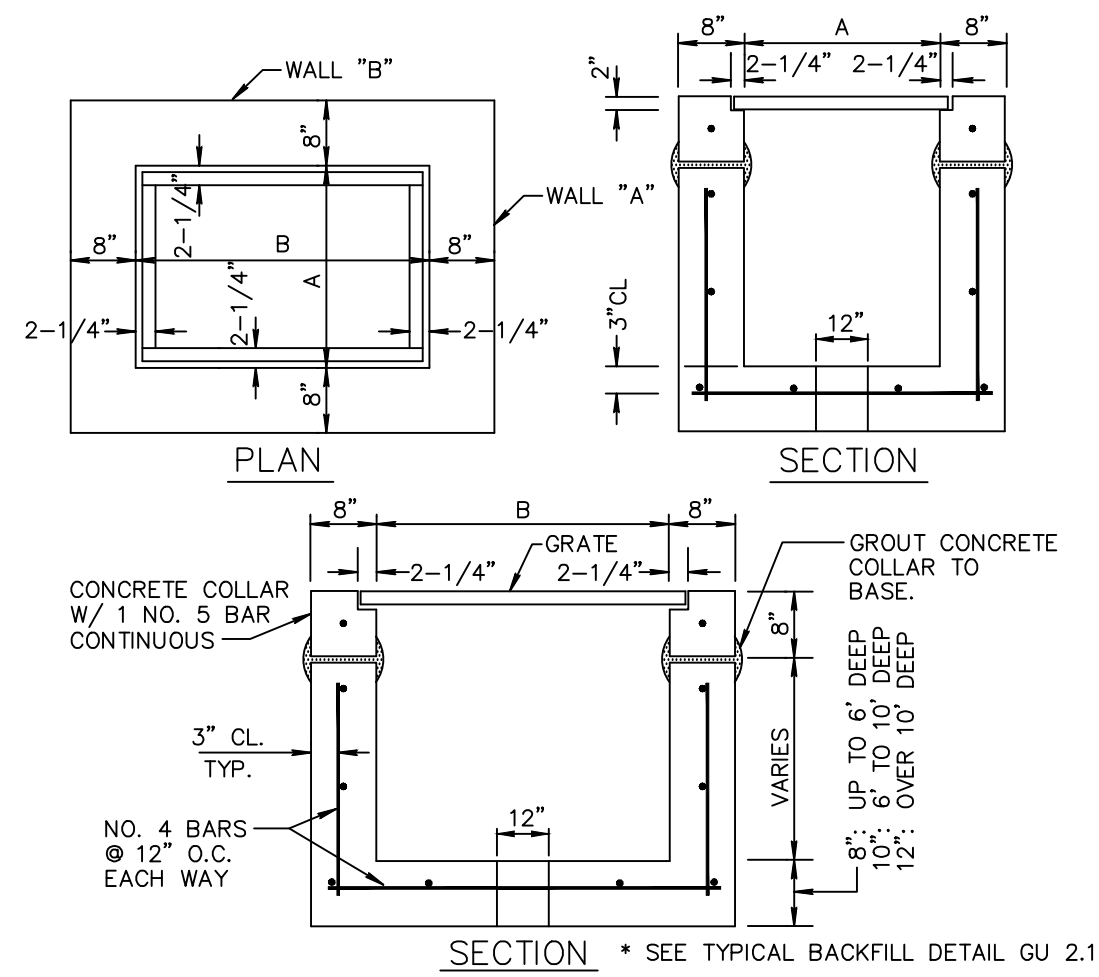
TYPE "C"

TYPE "E"

NOTES:

- ALL GRATES SHALL BE SUITABLE FOR H-20 LOADING (HIGHWAY TRAFFIC LOADS)
- WHEN INSTALLED IN PAVEMENT OR WITHIN 6" OF PAVEMENT USE U.S.F. 4160-6210

TYPE C & E INLET GRATE DETAIL D 6.1

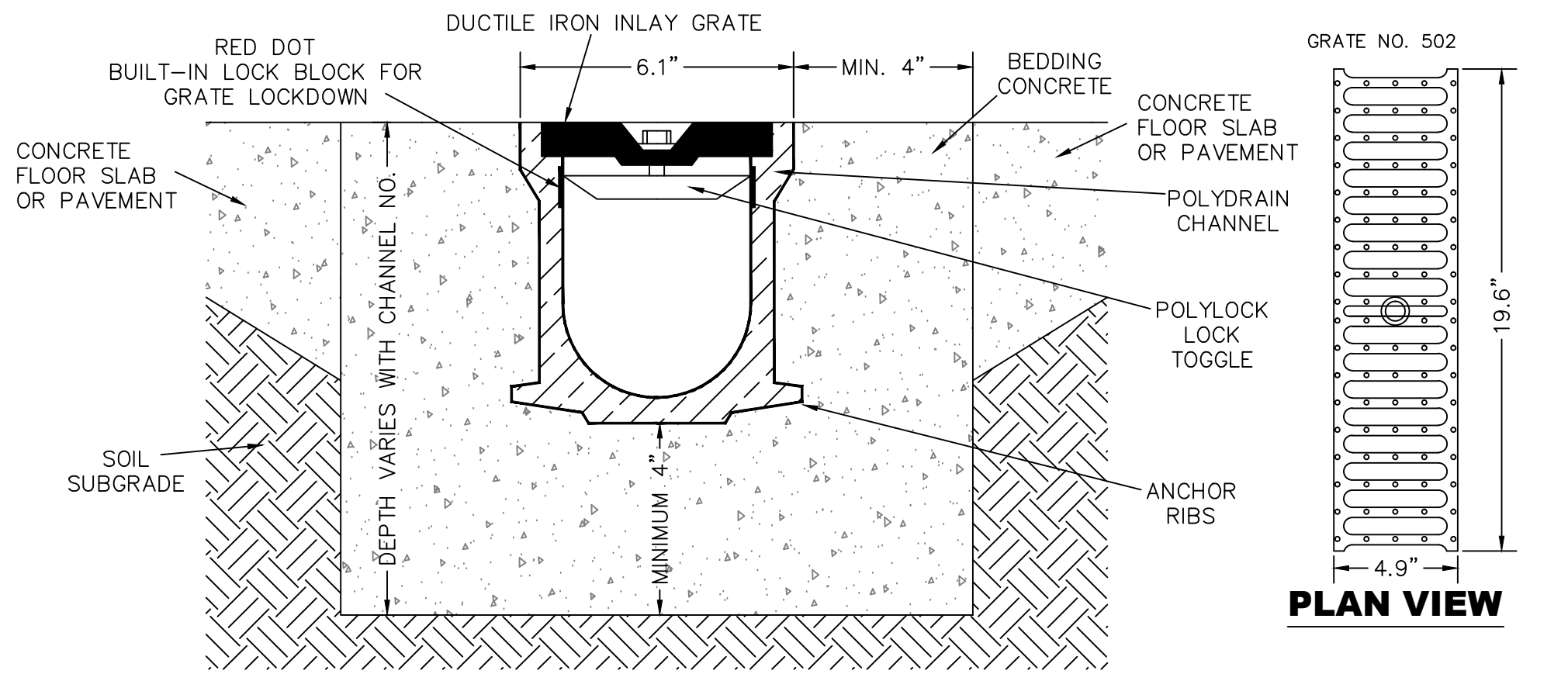


INLET TYPE	DIMENSIONS		GRATE TYPE	MAX. PIPE SIZE	
	A	B		WALL A	WALL B
'C'	2'0"	3'1"	U.S. FOUNDRY NO. 6212	15" R.C.P.	24" R.C.P.
'E'	3'0"	4'6"	U.S. FOUNDRY NO. 6290	24" R.C.P.	36" R.C.P.

NOTES:

- INLET TO BE PRECAST WITH CLASS 'A' 4000 P.S.I. CONCRETE.
- ALL EXPOSED CORNERS AND EDGES TO BE CHAMFERED 3/4".
- 12" DIA. WEEP HOLE REQUIRED ON ALL STRUCTURES WHICH HAVE A BOTTOM ELEVATION ABOVE THE WATER TABLE EXCEPT IN WELLFIELDS.
- 18" SUMP REQUIRED IN ALL DRAINAGE STRUCTURES.
- SEE BEDDING DETAIL D 3.1
- ALL STRUCTURES TO BE 4 SIDED ANGLE SHOULDERS.

TYPE C & E INLET DETAIL D 7.1



CROSS SECTIONAL VIEW  
TRENCH DRAIN  
NTS

ABT, INC. P.O. Box 837/259 Murdock Road/Troutman, N.C. 28166  
800-438-6057 (U.S., Canada and Mexico ) or (704) 528-9806  
Fax: (704) 528-5478



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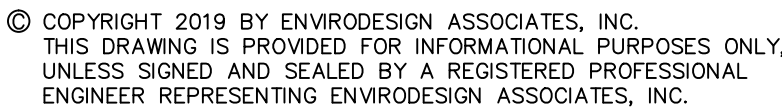
SHEET NO.  
4 OF 10



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 &amp; 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. MINIMUM ROAD CROWN ELEVATION SHALL BE EL. N/A 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>

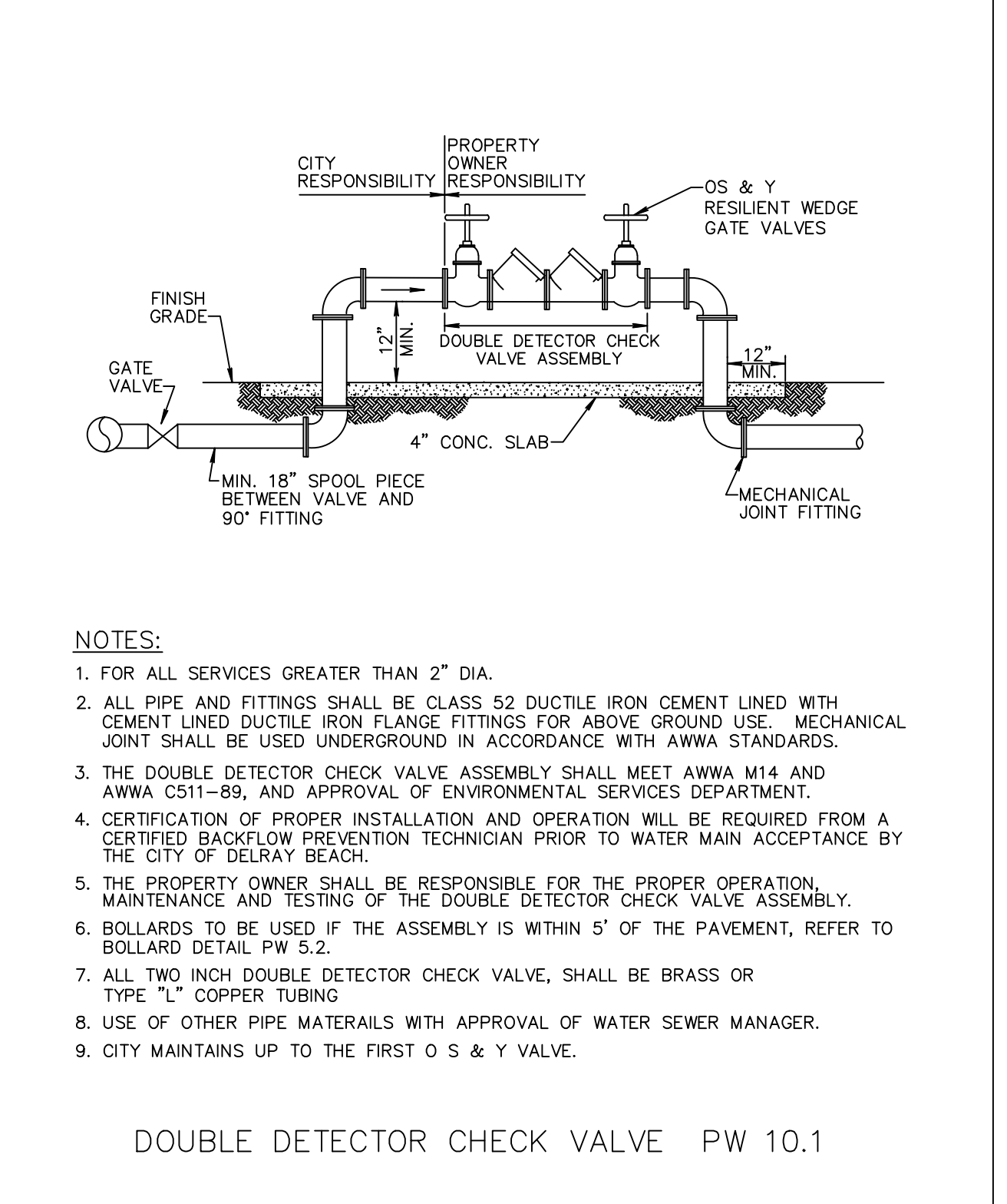
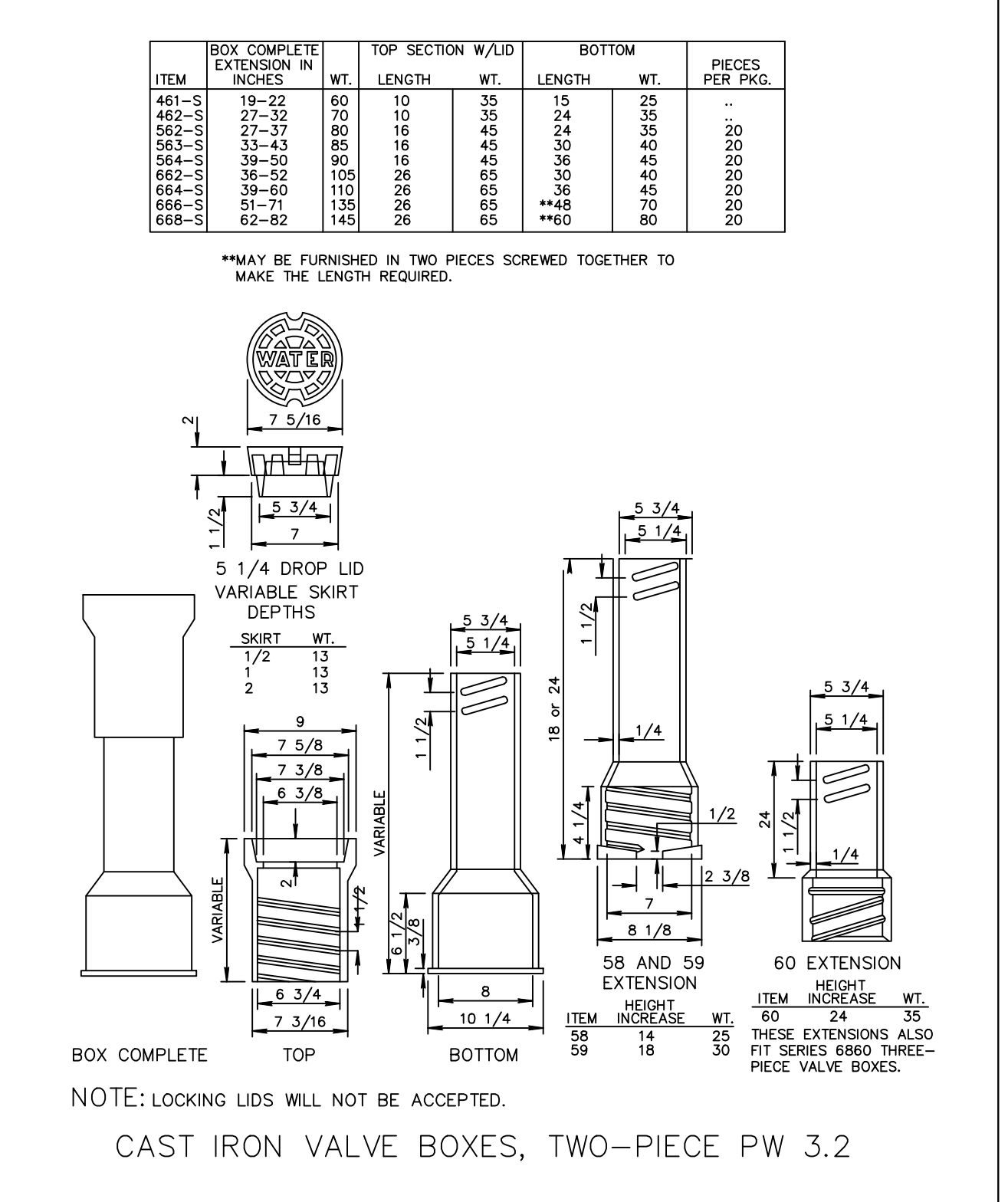
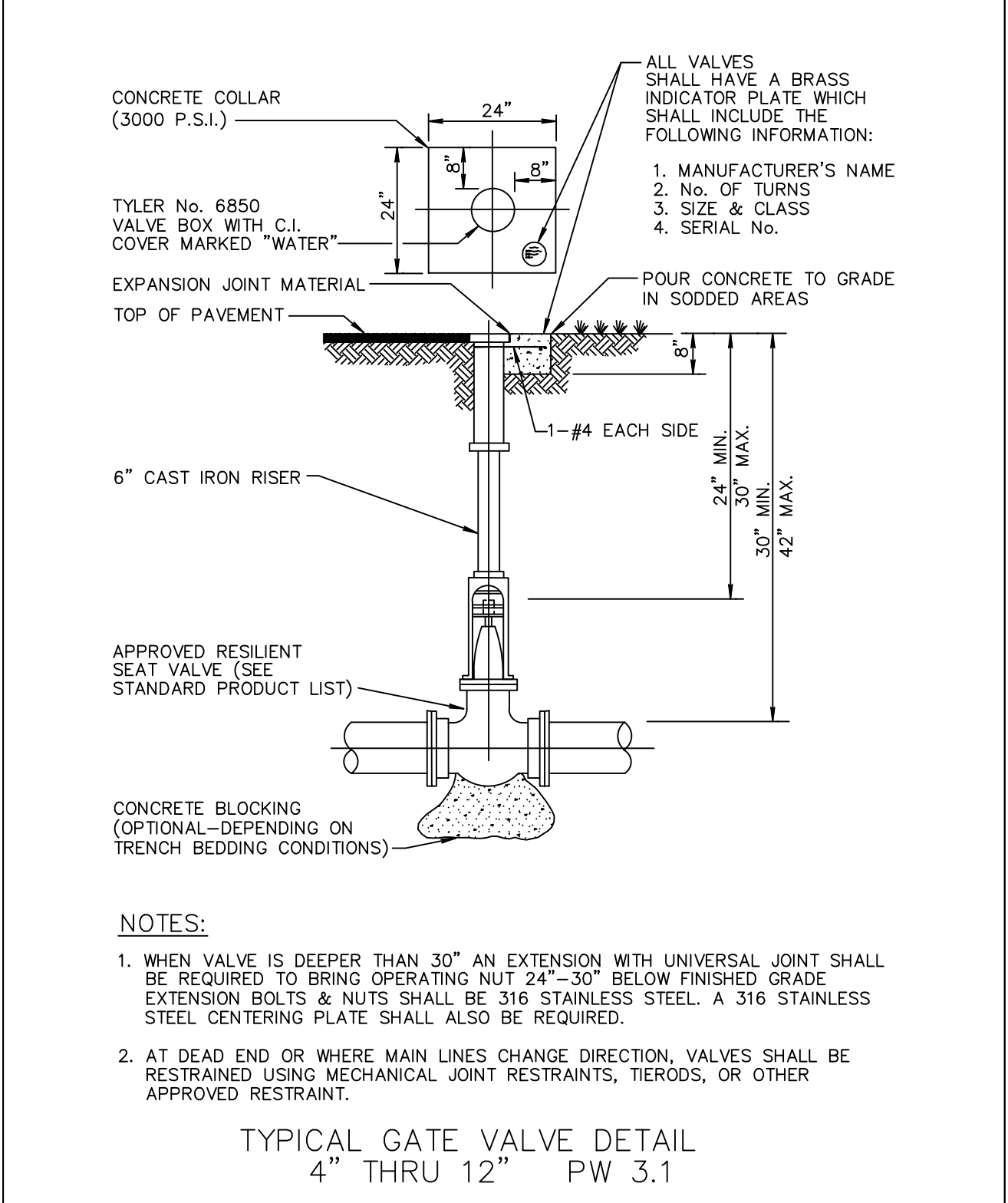
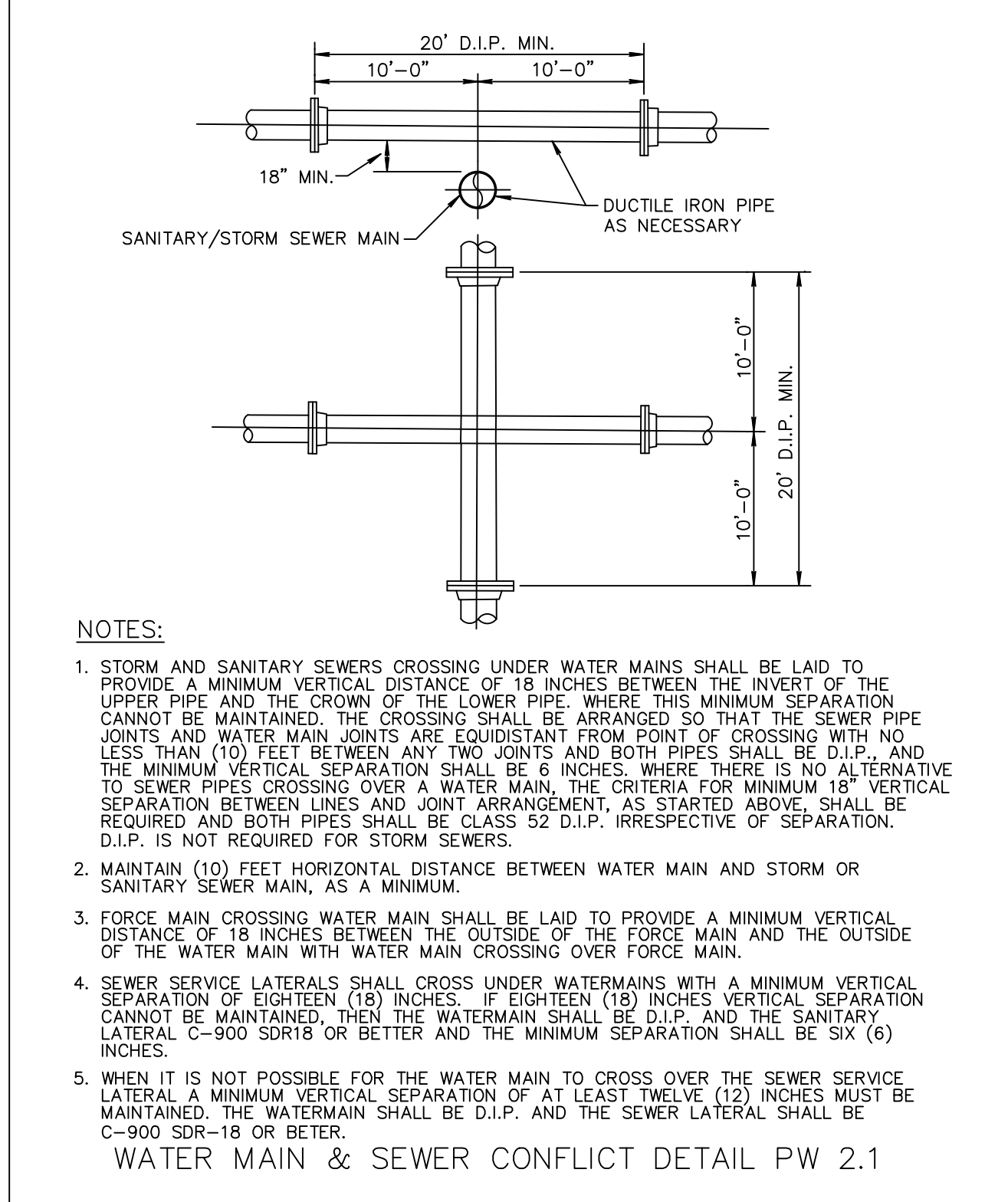
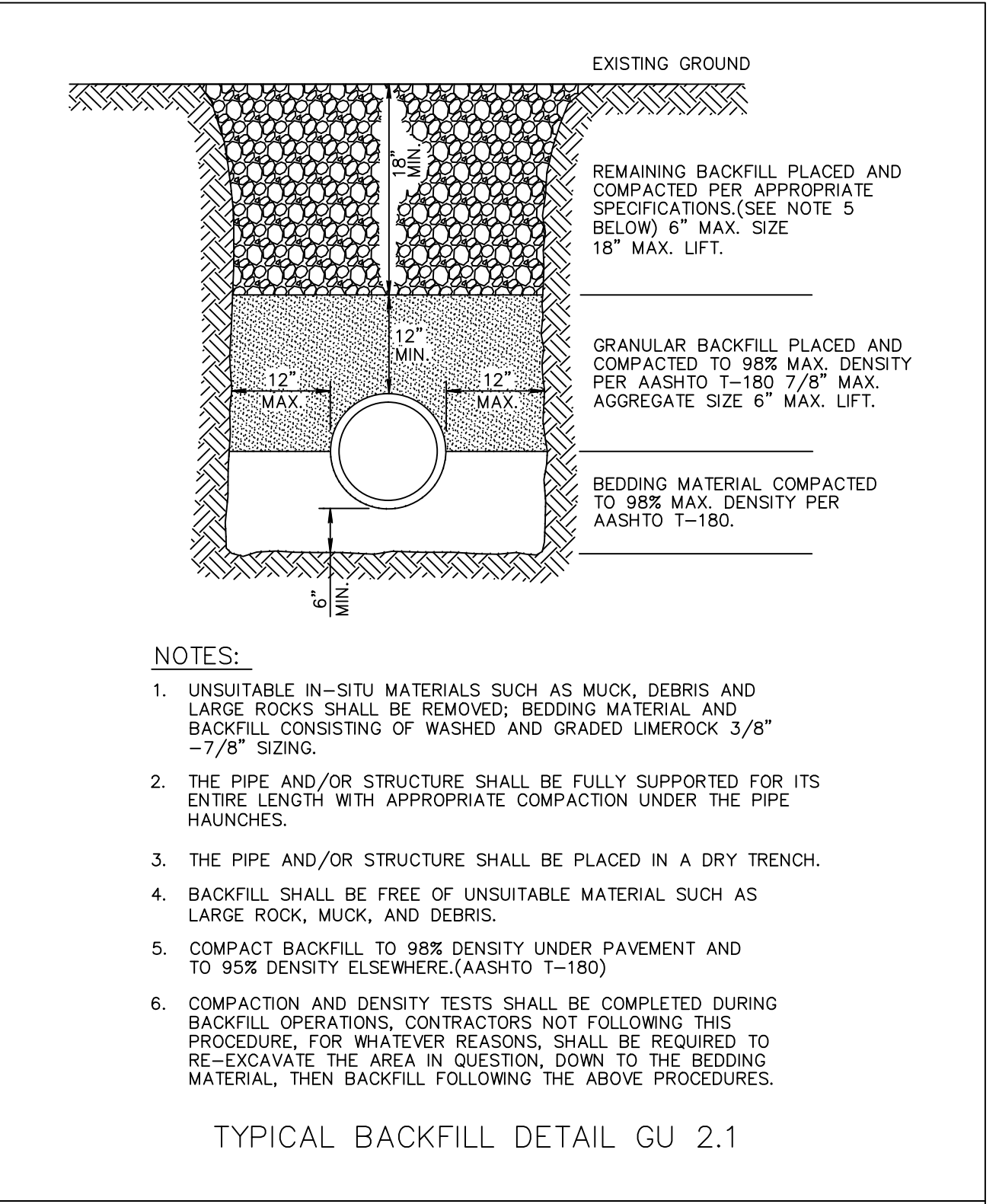
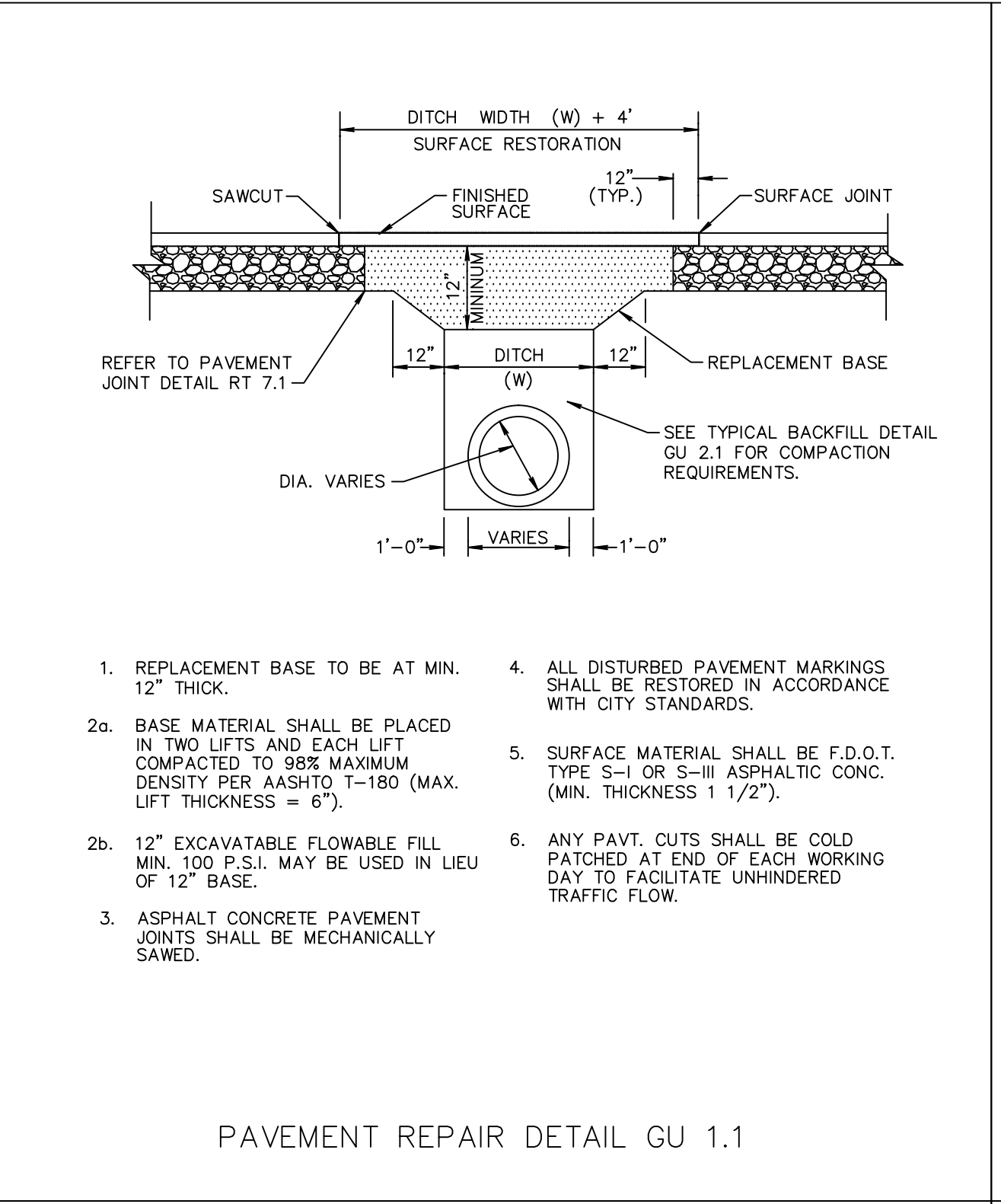
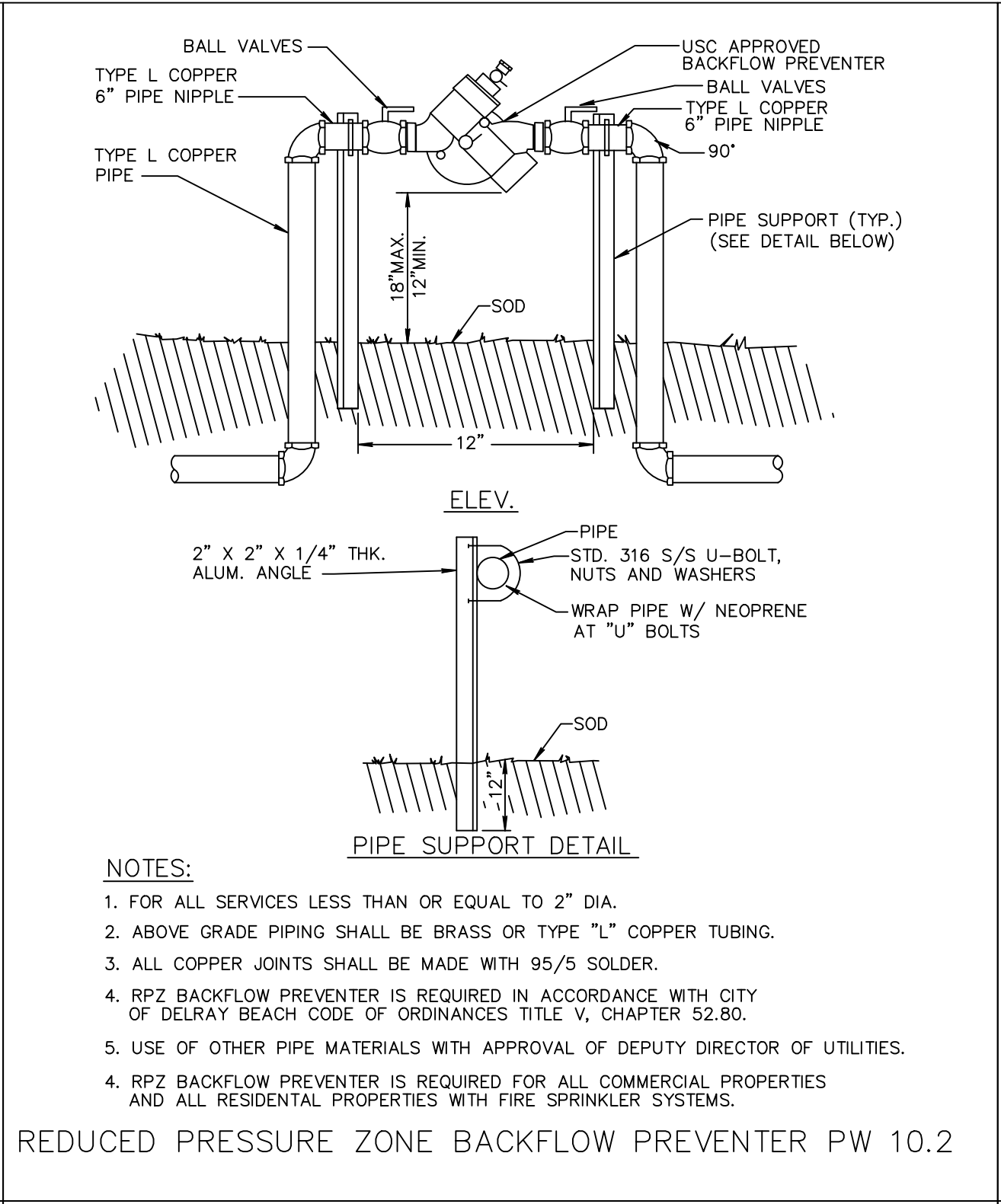
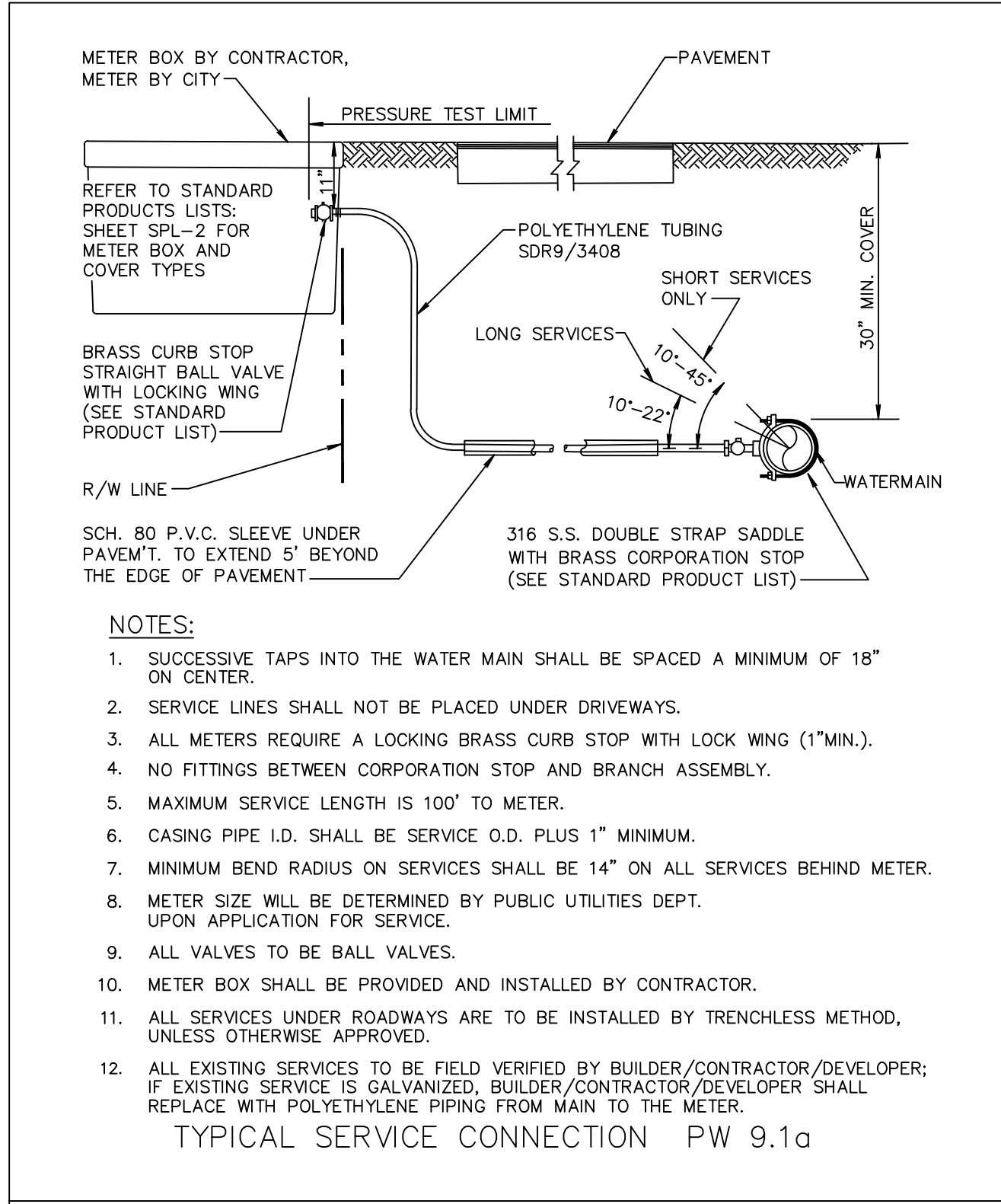
GENERAL NOTES	
1. CONTRACTOR SHALL PROTECT ALL PERMANENT REFERENCE MONUMENTS AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID SURVEY MARKERS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF PERMANENT REFERENCE MONUMENTS DISTURBED DURING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.	AS PAVING SHALL DEVELOP 3000 p.s.i. (MINIMUM) 28 DAYS COMPRESSIVE STRENGTH.
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.	11. ALL UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL UTILITY.
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.	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.
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.	13. ALL MATERIALS AND WORKMANSHIP MUST BE IN ACCORDANCE WITH THE LOCAL UTILITY STANDARDS AND SPECIFICATIONS.
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 15.50' (WHICH IS ABOVE THE 100-YEAR FREQUENCY STORM).	14. THE CONTRACTOR SHALL CALL SUNSHINE 1-800-432-4770 48 HOURS BEFORE DIGGING FOR FIELD LOCATIONS OF UNDERGROUND UTILITIES.
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.	15. CORRUGATED ALUMINUM PIPE USED BENEATH PAVEMENT SHALL BE IN CONFORMANCE WITH SEC. 8.24.E.5.I
7. CONTRACTOR SHALL BE RESPONSIBLE TO SECURE AND PAY FOR, AT NO ADDITIONAL COST TO THE OWNER, ALL NECESSARY PERMITS, FEES AND LICENSES.	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.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR GIVING THE REQUIRED NOTICES AND COMPLYING WITH ALL PERMIT(S) CONDITIONS.	17. ALL LIMEROCK AND BASE MATERIALS SHALL BE REMOVED FROM THE PLANTER AREAS/ISLANDS AND REPLACED WITH APPROPRIATE PLANTING SOIL PRIOR TOT THE LANDSCAPING OF THE SITE.
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.	18. THE REMOVAL OF ANY TREE ON THE SITE IS PROHIBITED WITHOUT THE REQUIRED PERMITS.
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	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.)

CITY OF DELRAY BEACH GENERAL NOTES	
DEFINITIONS	
1. CITY – THE CITY OF DELRAY BEACH	
2. CONTRACTOR – UTILITY CONTRACTOR AND ALL UTILITY SUBCONTRACTORS	
3. ENGINEER – ENGINEER RESPONSIBLE FOR INSPECTION AND CERTIFICATION	
PROCEDURE	
1. A PRE-CONSTRUCTION MEETING IS TO BE HELD PRIOR TO DELIVERY OF MATERIALS AND INITIATION OF ANY WATER AND SEWER CONSTRUCTION. THE MEETING SHALL BE ATTENDED BY THE CITY, CONTRACTOR, SUBCONTRACTORS, ENGINEER AND OTHER INTERESTED PARTIES.	PROVIDE FOR THE SAFETY OF THE PUBLIC IN THE WORK AREA. THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC MAINTENANCE PLAN PRIOR TO CONSTRUCTION.
2. ANY REVISIONS TO THE APPROVED PLANS MUST BE APPROVED BY THE CITY PRIOR TO THE PRE-CONSTRUCTION MEETING.	20. EXISTING BASE MATERIAL THAT IS REMOVED DURING CONSTRUCTION SHALL NOT BE USED IN THE CONSTRUCTION OF NEW LIMEROCK BASE.
3. A MINIMUM OF THREE (3) COPIES OF THE CURRENT APPROVED PRODUCT LIST AND ALL NECESSARY SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO SCHEDULING THE PRE-CONSTRUCTION MEETING. ALL PIPE MANUFACTURERS SHALL SUBMIT THREE (3) COPIES OF AN AFFIDAVIT THAT THE PIPE AND COATINGS WERE MANUFACTURED IN ACCORDANCE WITH AWWA C151/A21.51-91.	21. ALL VEGETATION, DEBRIS, CONCRETE OR OTHER UNSUITABLE MATERIAL SHALL BE LEGALLY DISPOSED OF OFF-SITE IN AN AREA AT THE CONTRACTORS EXPENSE.
4. ALL APPLICABLE PERMITS MUST BE OBTAINED WITH COPIES PROVIDED TO THE CITY PRIOR TO COMMENCEMENT OF CONSTRUCTION.	22. CONTRACTOR SHALL UTILIZE CONSTRUCTION METHODS AND DEVICES, SUCH AS TURBIDITY SCREENS, CURTAINS AND FLOATING SILT BARRIERS WHERE NECESSARY IN ORDER TO COMPLY WITH ALL STATE AND LOCAL WATER QUALITY STANDARDS.
5. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.	23. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE CLASS III, UNLESS OTHERWISE NOTED.
6. ALL MATERIALS SUPPLIED SHALL CONFORM TO PRODUCT LIST AND SHOP DRAWINGS AS APPROVED BY THE CITY PRIOR TO CONSTRUCTION. ALL REQUESTS FOR MATERIAL SUBSTITUTION SHALL BE APPROVED PRIOR TO DELIVERY OF THESE MATERIALS TO THE JOB SITE.	24. ALL PAVED SURFACES SHALL BE PROPERLY MARKED PRIOR TO HOURS OF DARKNESS. PERMANENT PAVEMENT MARKING STALLS SHALL BE LAID OUT USING MARKING CHALK. LAYOUT TO BE REVIEWED BY THE CITY PRIOR TO PLACEMENT OF FINAL MARKING.
7. THE LOCATION OF THE EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY IF OTHER UTILITIES (NOT SHOWN ON THE PLAN) EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD THERE BE UTILITY CONFLICTS, THE CONTRACTOR SHALL INFORM THE CITY AND NOTIFY THE RESPECTIVE UTILITY OWNER TO RESOLVE THE UTILITY CONFLICTS AND THE UTILITY ADJUSTMENTS AS REQUIRED.	25. EMBANKMENT (FILL) AND EXCESS MATERIAL REQUIRED FOR ROADWAY RECONSTRUCTION AND UTILITY INSTALLATIONS SHALL BE SUPPLIED AND/OR DISPOSED OF BY THE CONTRACTOR. ALL COSTS ASSOCIATED WITH EARTHWORK REQUIREMENTS TO COMPLETE THE ROADWAY RECONSTRUCTION AND UTILITY IMPROVEMENTS SHALL BE INCLUDED IN THE COSTS OF OTHER APPROPRIATE PAY ITEMS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY, AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.	26. CONTINUITY OF WATER AND SEWER SERVICE TO CITY UTILITY CUSTOMERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THIS PROJECT. IF A BREAK IN SERVICE IS UNAVOIDABLE TO ACCOMMODATE CONNECTION OF NEW FACILITIES, IT SHALL BE SCHEDULED FOR OFF PEAK HOURS WITH THE CITY. DETERMINATION OF SERVICE BREAK REQUIREMENT WILL BE MADE BY THE CITY.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATIONS OF ALL OTHER UTILITY FACILITIES.	27. SITE INFORMATION BASED ON A SURVEY PREPARED BY: CAULFIELD & WHEELER, INC.
10. THE CONTRACTOR SHALL SCHEDULE INSPECTIONS AND TESTS WITH THE CITY A MINIMUM OF 24 HOURS IN ADVANCE.	28. THE EXTENT OF ROAD CONSTRUCTION WORK TO BE COMPLETED BY THE CONTRACTOR, WITHIN THE FORECLOSED RIGHT-OF-WAY, SHALL BE DETERMINED BY THE CITY AND COORDINATED WITH THE FLORIDA EAST COAST RAILWAY COMPANY AT THE TIME OF CONSTRUCTION.
11. A CONTRACTOR SHALL NOT DISTURB EXISTING CITY MAINS OR STRUCTURES WITHOUT THE PRESENCE OF A CITY INSPECTOR. CITY UTILITY SYSTEM VALVES AND APPURTENANCES MAY ONLY BE OPERATED BY CITY PERSONNEL.	29. RELOCATION OF UTILITY POLES AND GAS PIPE LINES SHALL BE COORDINATED BY THE CONTRACTOR WITH FLORIDA POWER AND LIGHT, AND FLORIDA PUBLIC UTILITIES, RESPECTIVELY. EACH UTILITY HAS BEEN NOTIFIED THAT THEY WILL BE REQUIRED TO RELOCATE THEIR UTILITIES.
12. FACILITIES PROPOSED HEREIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS. DEVIATIONS FROM THE APPROVED PLANS MUST BE APPROVED IN ADVANCE BY THE CITY.	30. ALL CITY OF DELRAY BEACH STANDARD DETAILS INCLUDED IN THE CIVIL PLANS PREPARED BY ENVIRODESIGN ASSOCIATES, INC. HAVE NOT BEEN MODIFIED FROM THEIR ORIGINAL CONTENT.
13. UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL ACCEPTANCE OF THE WORK, A FINAL INSPECTION SHALL VERIFY PROPER ADHERENCE TO ALL FACETS OF THE PLANS AND SPECIFICATIONS.	31. CONTRACTOR TO FIELD VERIFY EXACT LOCATION, SIZE, AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENVIRODESIGN ASSOCIATES, INC.
14. PAVING, DRAINAGE AND TRAFFIC CONSTRUCTION SHALL CONFORM TO FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND DESIGN STANDARDS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND PALM BEACH COUNTY TYPICAL T-P-17 (LATEST REVISION) UNLESS SHOWN OTHERWISE.	32. NO PROPOSED IMPROVEMENTS, BUILDINGS OR ANY KIND OF CONSTRUCTION CAN BE PLACED ON OR WITHIN ANY WATER, SEWER OR DRAINAGE EASEMENTS, UNLESS APPROVED BY THE CITY OF DELRAY BEACH CITY ENGINEER.
15. AS-BUILT DRAWINGS SHALL BE PREPARED BY A REGISTERED LAND SURVEYOR, REGISTERED IN THE STATE OF FLORIDA, AND SUBMITTED BY THE CONTRACTOR TO THE CITY.	33. NO PROPOSED STRUCTURES SHALL BE INSTALLED WITHIN A HORIZONTAL DISTANCE OF 10- FEET FROM ANY EXISTING OR PROPOSED WATER, SEWER OR DRAINAGE FACILITIES, UNLESS APPROVED BY THE CITY OF DELRAY BEACH CITY ENGINEER.
16. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553-851 FOR PROTECTION OF UNDERGROUND GAS PIPE LINES.	34. NOTE: ANY TREES OR SHRUBS PLACED WITHIN WATER, SEWER OR DRAINAGE EASEMENTS, THEY SHALL CONFORM TO THE CITY OF DELRAY BEACH STANDARD DETAILS; LD 1.1 & LD 1.2
17. CONTRACTOR SHALL NOTIFY SUNSHINE STATE ONE (1-800-432-4770) 48 HOURS IN ADVANCE OF CONSTRUCTION.	35. ALL SIDEWALKS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA REQUIREMENTS. ALL SIDEWALKS NOT TO EXCEED 1:48 CROSS-SLOPE AND 1:20 RUNNING SLOPES. ALL RAMPS NOT TO EXCEED 1:48 CROSS-SLOPE AND 1:12 RUNNING SLOPES WITH MAXIMUM RISE AND RUNS PER ADA REQUIREMENTS WITH RAILINGS WHERE NEEDED. LANDINGS WITH 1:48 CROSS- AND RUNNING-SLOPES ARE TO BE PROVIDED AT TOPS AND BOTTOMS OF ALL RAMPS.
18. GRADES SHOWN ON PLANS ARE FINISHED GRADES. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST EXISTING SANITARY SEWER MANHOLE TOPS AND VALVE BOX COVERS TO FINISHED GRADE.	36. CITY OF DELRAY BEACH UTILITY DIVISION MUST BE CONTACTED AT LEAST 48 HOURS PRIOR TO ANY SHUTDOWN AND/OR REMOVAL OF EXISTING WATER MAIN OR SANITARY SEWER LINES AT 561-243-7312.
19. CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES DURING CONSTRUCTION AND SHALL BE REQUIRED TO PROVIDE ALL BARRICADES, LIGHTING, SIGNAGE AND FLAGMEN AS NECESSARY TO	37. THE EXISTING SANITARY SEWER LINE MUST BE TELEVIEWED PRIOR TO AND AFTER ANY SANITARY SEWER SERVICE CONNECTION, REMOVAL AND/OR ABANDONMENT.
	38. UPON APPROVAL AND RECEIPT OF PERMIT, THE CONTRACTOR SHALL CONTACT THE CITY OF DELRAY BEACH DEPUTY DIRECTOR OF CONSTRUCTION AT 561-243-7320 TO SCHEDULE A PRECONSTRUCTION MEETING PRIOR TO STARTING ANY SITE WORK.
	39. ALL WATER METER SIZES TO BE DETERMINED BY PLUMBING ENGINEERING OF RECORD AND SHALL BE CHECKED AND AUTHORIZED BY CITY OF DELRAY BEACH UTILITIES DIVISION.
	40. ALL CITY OF DELRAY BEACH 2016 STANDARD DETAILS INCLUDED IN THIS SET OF PLANS AND DETAILS HAVE NOT BEEN MODIFIED FROM THEIR ORIGINAL CONTENT.



**5 OF 10**





"NOT FOR CONSTRUCTION"

BY: .

REVISIONS:

DATE:

NO. 1

NOT VALID WITHOUT ENGINEER'S SEAL

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

WATER & WASTEWATER DETAILS FOR:  
PHG DELRAY  
200 NE 5TH AVENUE  
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:  
09/28/19

JOB NO.  
18158-DTL

SHEET NO.  
6 OF 10



CALL 48 HOURS BEFORE YOU DIG.

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

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

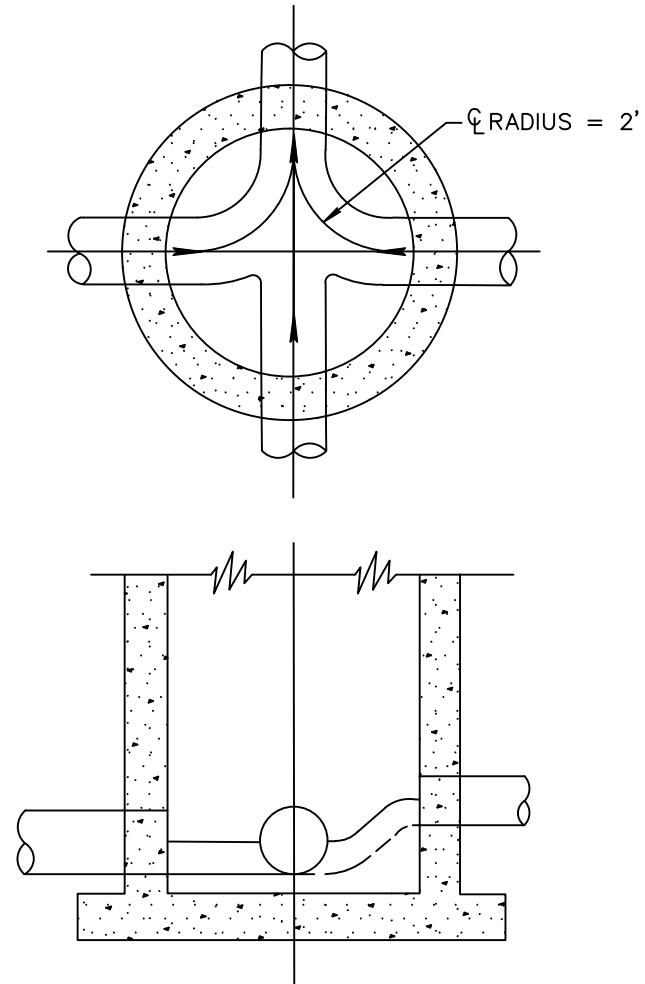
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GRAVITY SEWER NOTES

1. MANHOLES SHALL BE INSPECTED BY THE ENGINEER BEFORE PLACEMENT AND SURFACE TREATMENT.
2. ALL OPENINGS IN PRECAST MANHOLES SHALL BE CAST AT TIME OF MANUFACTURE. CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE ENTRY ONLY.
3. ALL MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE.
4. (PVC) GRAVITY SEWER PIPE SHALL CONFORM TO ASTM D 3034, SDR 35, LATEST REVISIONS, WITH PUSH ON RUBBER GASKET JOINTS.
5. (DIP) GRAVITY SEWER PIPE SHALL BE CLASS 350, EPOXY LINED OR AS OTHERWISE APPROVED BY ENVIRONMENTAL SERVICES DEPARTMENT.
6. NO SERVICE CONNECTIONS, WYES, SERVICES OR VALVES WILL BE PERMITTED IN RESIDENTIAL DRIVEWAYS.
7. 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.
8. 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.
9. PVC SHALL BE LAID IN STRICT CONFORMANCE TO MANUFACTURER'S SPEC (JOINS MANVILLE RING TIE PVC PIPE INSTALLATION GUIDE OR EQUAL). BACKFILLING OF UTILITY TRENCHES WILL NOT BE ALLOWED UNTIL INSPECTED BY THE ENGINEER.
10. 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.
11. 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.
12. 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.
13. 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 ROCK BASE 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.
14. EACH LINE SEGMENT SHALL BE LAMPED TO DETERMINE PROPER ROUNDNESS.
15. 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.
16. 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.
17. NO PROPOSED STRUCTURES SHALL BE INSTALLED WITHIN A HORIZONTAL DISTANCE OF 10- FEET FROM ANY EXISTING OR PROPOSED SANITARY SEWER FACILITY.
18. ANY PIPE INTRODUCED INTO AN EXISTING MANHOLE MUST HAVE CARBOLINE BITUMASTIC 300M OR APPROVED EQUAL APPLIED EXTERNALLY WITHIN A MINIMUM 2-FOOT RADIUS OF OPENING AND THE ENTIRE MANHOLE MUST HAVE SEWPER COAT OR APPROVED EQUAL APPLIED INTERNALLY.
19. ANY REHABILITATION TO AN EXISTING MANHOLE MUST BE INTERNALLY STRIPPED AND LINED WITH SEWPER COAT OR APPROVED EQUAL.

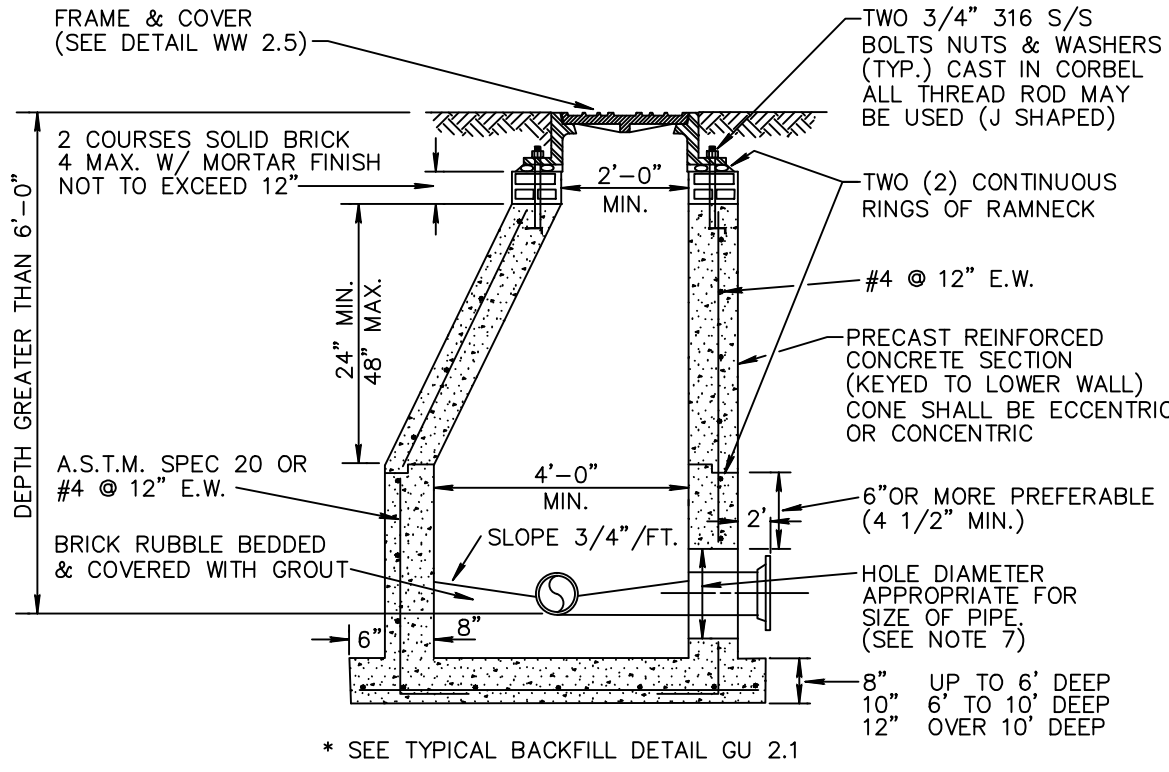
GRAVITY SEWER NOTES WW 1.1



NOTES:

1. ALL INVERT CHANNELS ARE TO BE CONSTRUCTED FOR SMOOTH FLOW WITHOUT OBSTRUCTION OR TURBULENCE.
2. PROPERLY SHAPED SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS TO PROVIDE FOR SMOOTH FLOWS.
3. SERVICE LATERALS SHALL NOT ENTER MANHOLES.
4. 2500 PSI CONCRETE ONLY PERMITTED AS FLOW CHANNEL BUILDUP.

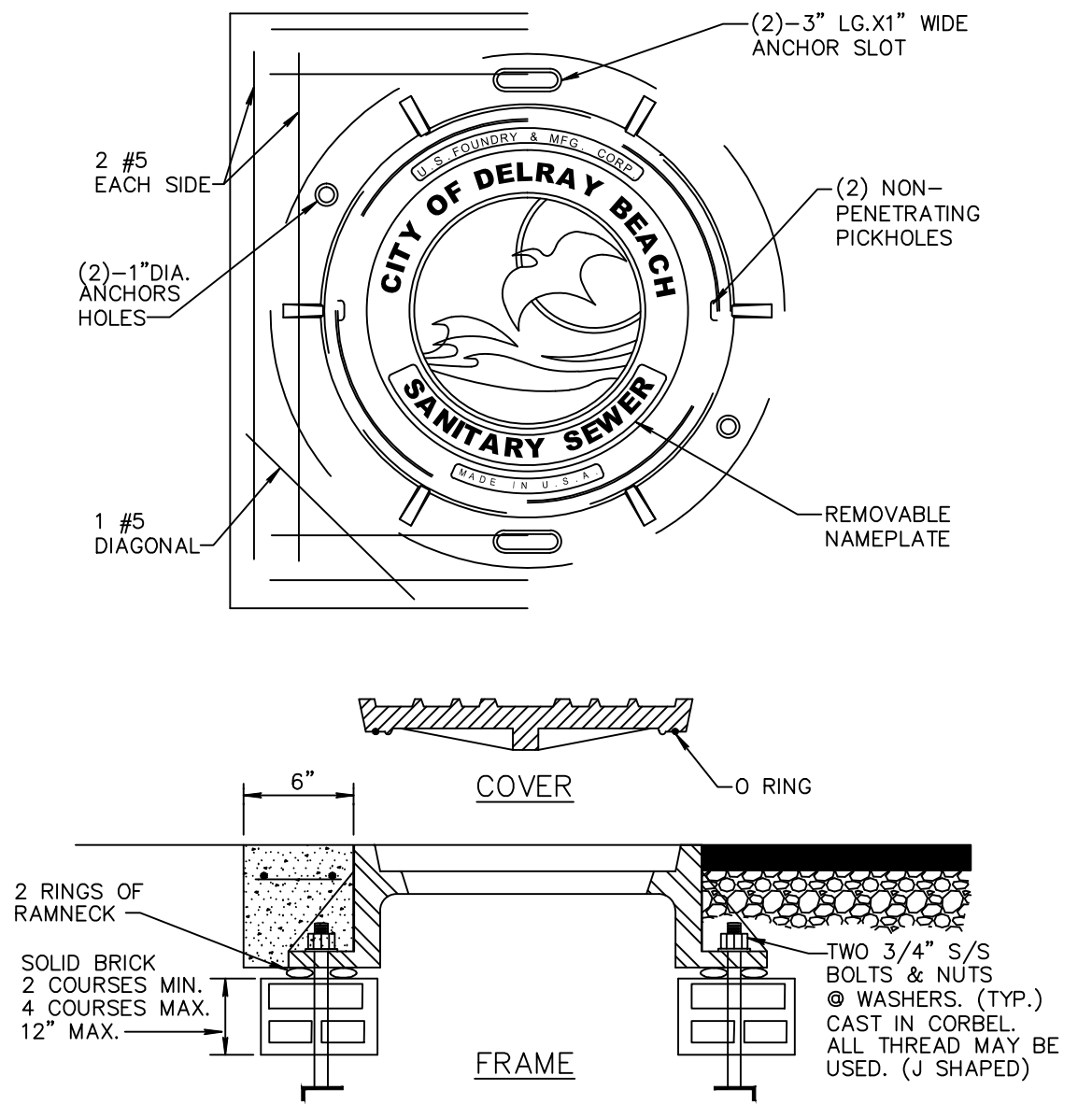
INVERT FLOW CHANNELS WW 2.4



NOTES:

1. PRECAST CONCRETE TYPE II 4000 P.S.I.
2. RAMNEK AT ALL RISER JOINTS WITH GROUT ON INSIDE AND OUTSIDE AT ALL RISER JOINTS.
3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
4. FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT INFLUENT INTO FLOW STREAM.
5. LIFT HOLES SHALL BE FILLED WITH EXPANDABLE GROUT
6. ALL PIPE HOLES SHALL BE PRECAST.
7. CAST IN PLACE FLEXIBLE PIPE- TO MANHOLE CONNECTOR (LOCK JOINT FLEXIBLE SLEEVE ELASTOMER EPDM OR RUBBER GASKET WITH GLASS FIBER REINFORCED NYLON 6/6 INTERNAL EXPANSION RING) INSTALLED PER MANUFACTURER.
8. 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.
9. MANHOLE FABRICATION SHALL BE IN ACCORDANCE W/ ASTM C-478, LATEST STANDARD.
10. IF THE STRUCTURE IS INSTALLED IN WATER TABLE MUST HAVE BEDDING. (SEE DETAIL BEDDING WW6.1)

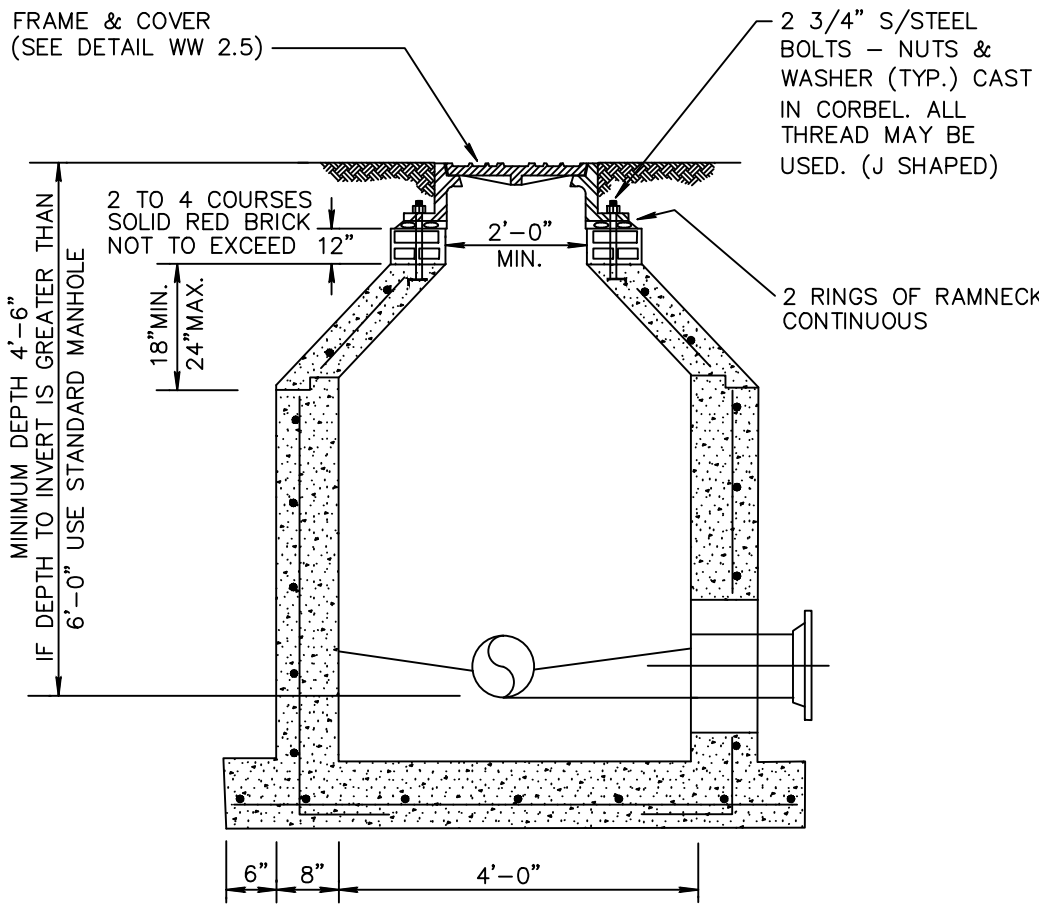
STANDARD MANHOLE DETAIL WW 2.1



NOTES:

1. COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT.
2. COVER SHALL BE U.S. MR-ORS AND RING SHALL BE USF 576 RING WITH BITUMASTIC COAL TAR.
3. MANHOLE ADJUSTING RINGS SHALL BE CAST IRON, USF TYPE B.

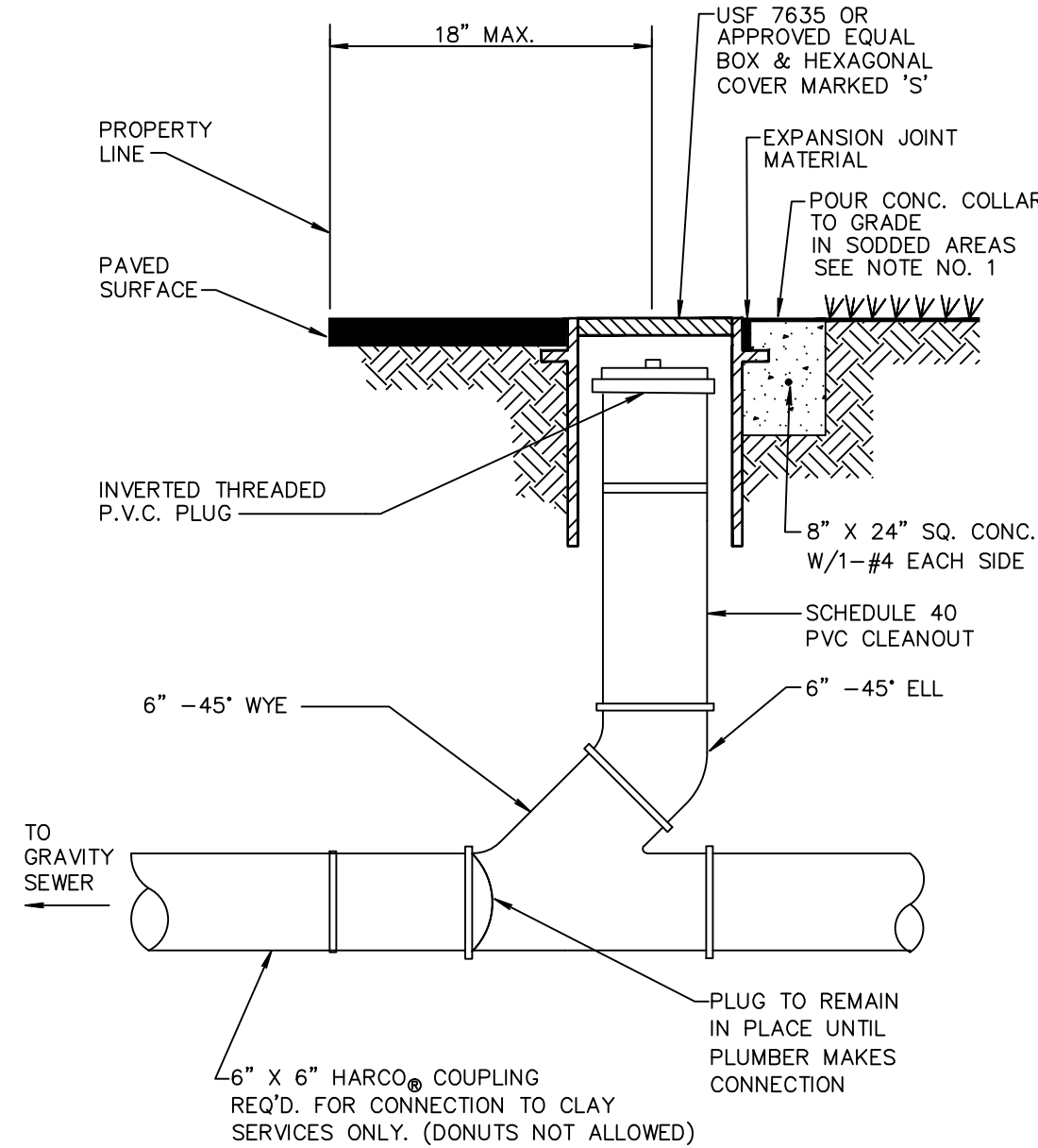
SANITARY SEWER MANHOLE FRAME AND COVER WW 2.5



NOTE:

ALL STANDARD MANHOLE NOTES AND DETAILS ARE APPLICABLE (DETAIL WW 2.1).

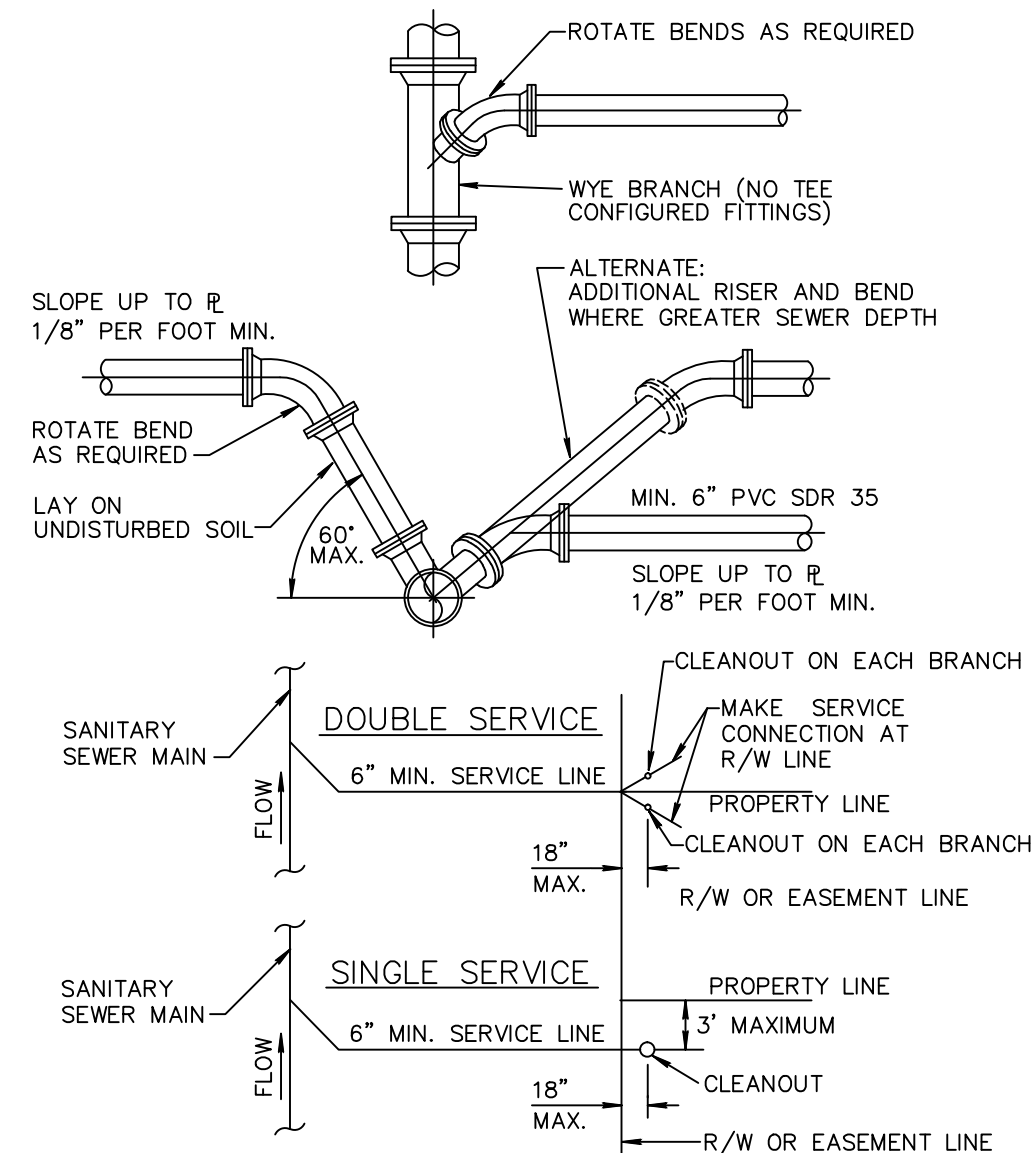
SHALLOW MANHOLE DETAIL WW 2.2



NOTE:

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

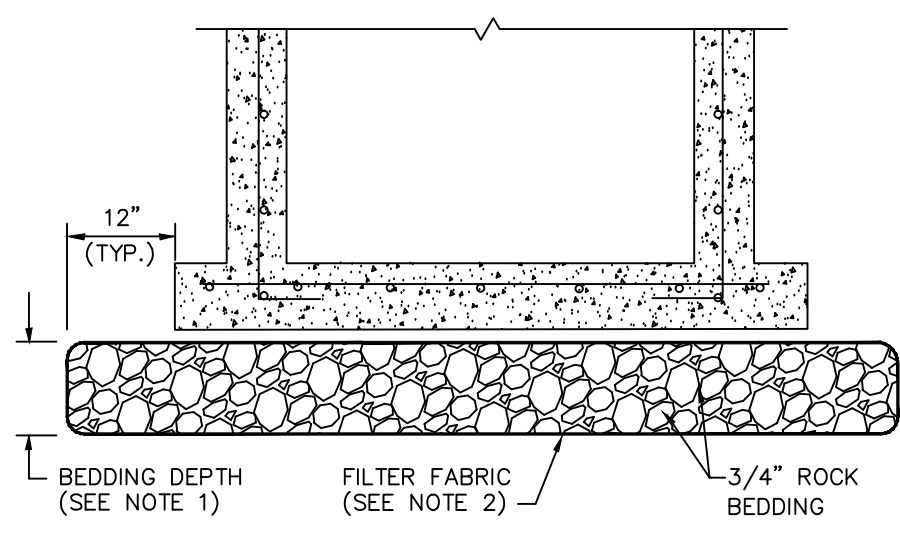
TYPICAL COMMERCIAL CLEANOUT WW 5.2



NOTE:

1. SERVICE LATERALS SHALL TERMINATE INSIDE PROPERTY LINE A DEPTH OF 3 FEET AND MARKED WITH A 2"X 4" TREATED STAKE.
2. CLEANOUT INSTALLATION SHALL BE PROPERTY OWNERS RESPONSIBILITY AND SHALL BE INSTALLED BY LICENSED PLUMBER.
3. SEE DETAIL PW 2.1 FOR SEPARATION REQUIREMENTS.

SEWER SERVICE CONNECTIONS WW 4.1



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.

STANDARD BEDDING DETAIL



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"NOT FOR CONSTRUCTION"

WATER & WASTEWATER DETAILS FOR:

PHG DELRAY

200 NE 5TH AVENUE

DELRAY BEACH, FLORIDA



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.

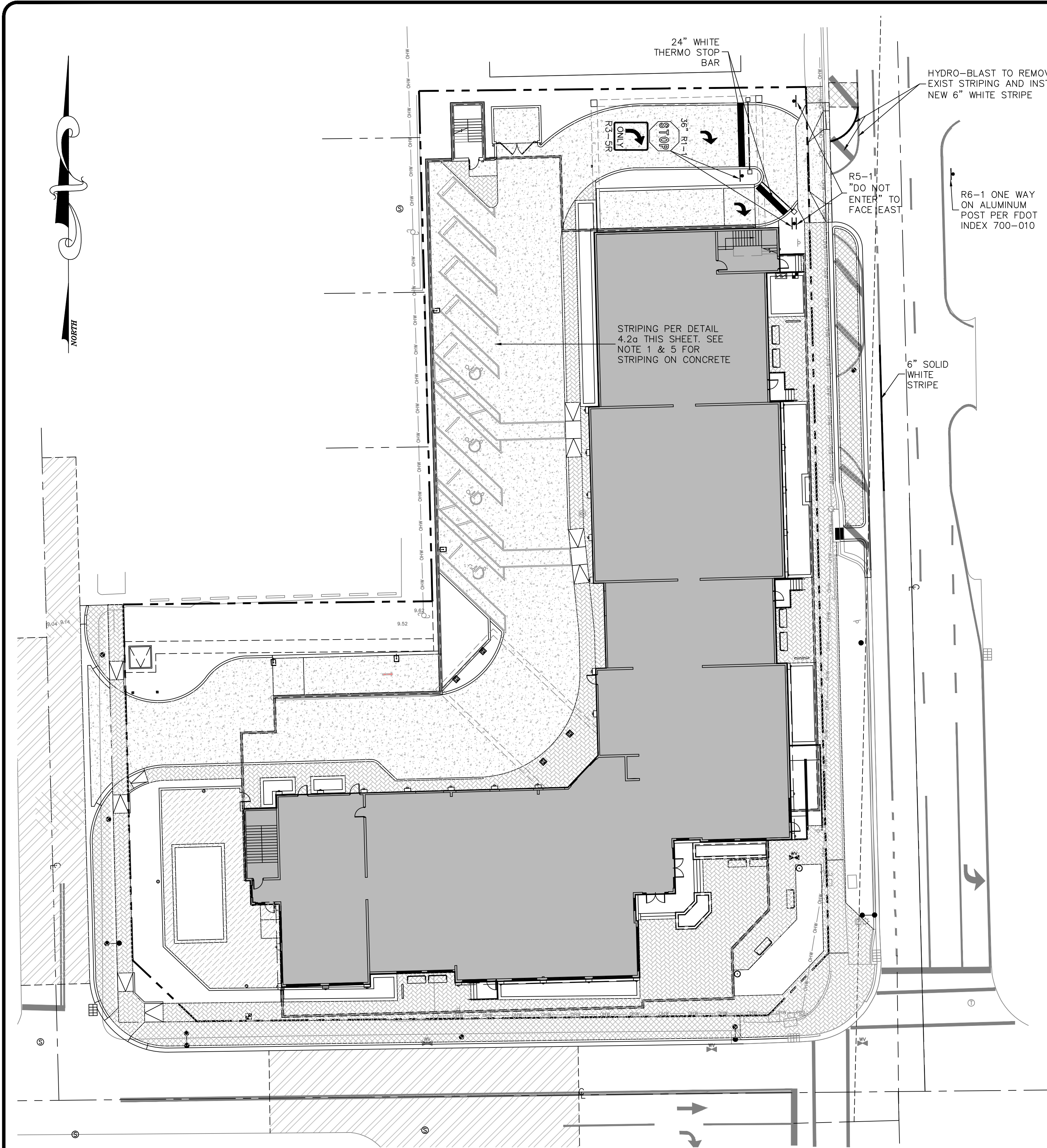
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J.A.P.

DATE:  
09/28/19

JOB NO.  
18158-DTL

SHEET NO.  
7 OF 10

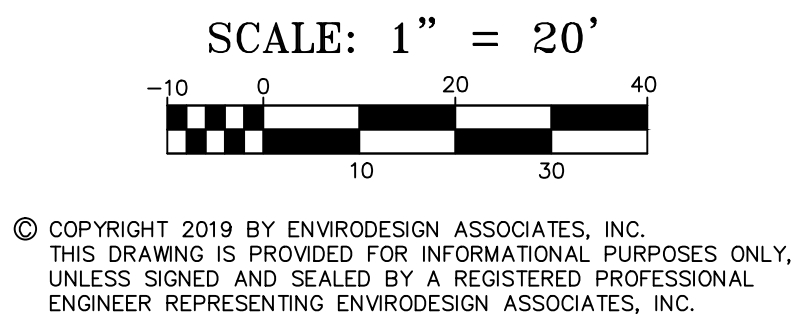




NOTE: CONTRACTOR TO FIELD VERIFY EXACT LOCATION, SIZE, AND ELEVATION OF ALL IMPROVEMENTS AT TIME OF CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENVIRODESIGN ASSOCIATES, INC.



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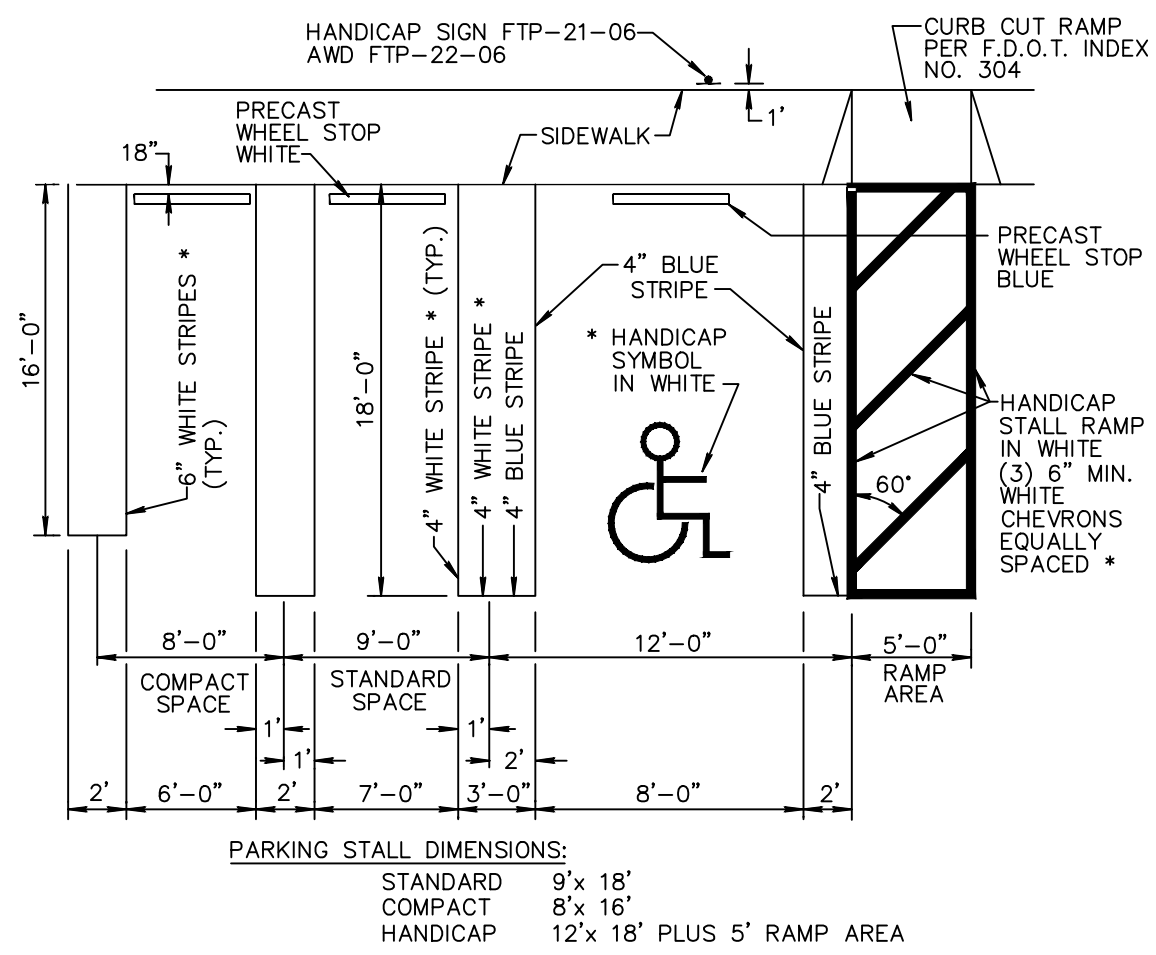


**PAVEMENT MARKING SPECIFICATIONS**  
All Pavement markings to be installed per these typicals, plans and specifications, and as directed by the City Engineer and shall conform to the requirements of F.D.O.T. and the manual on uniform traffic control devices, (MUTCD).

**PERMANENT MARKINGS**  
Installation: All markings shall be installed by the extruded method.  
- Markings shall be free of weaves, bows, drips, drops, and other degrading items.  
Chalk shall be used for all layout markings  
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.

PAVEMENT MARKING SPECIFICATIONS RT 8.1a  
(Sheet 1 of 2)



- \* NOTES:
- ON LIGHT COLORED SURFACE I.E. CONCRETE ALL HANDICAP MARKINGS SHALL BE BLUE AND STANDARD PARKING STRIPING SHALL BE 3" WHITE WITH 1" BLACK BORDER.
  - ALL STRIPPING WITHIN PUBLIC RIGHT-OF-WAY SHALL BE 6 INCHES.
  - ALL MEASUREMENTS ARE FROM CENTER LINE.
  - ALL COMPACT SPACES MUST HAVE "COMPACT" STENCILED WITH BLACK PAINT ON WHEEL STOP.
  - BLUE STRIPE & H/C SYMBOL AND WALKWAY ON CONCRETE
  - 24" STOP BAR BETWEEN ALL PARKING LOTS AND PUBLIC R/W SHALL BE THERMOPLASTIC AND PER FDOT SPECIFICATIONS AND STOP SIGN R1-1

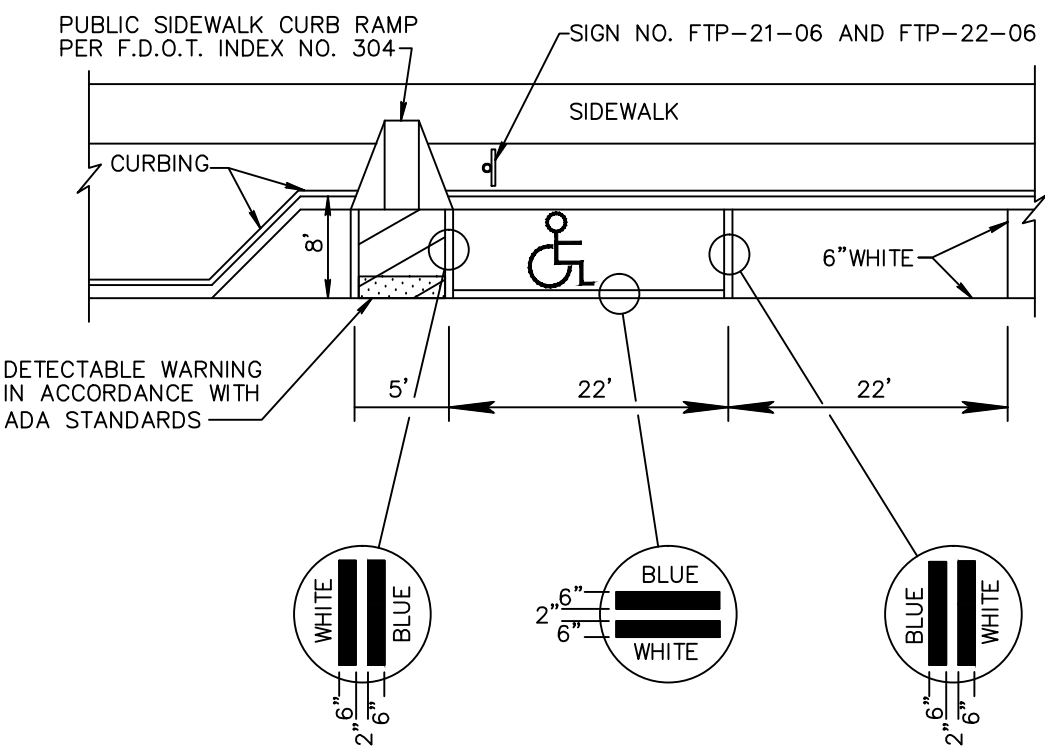
TYPICAL PARKING SPACES  
(1 OF 3)  
DETAIL RT 4.2a

**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.

PAVEMENT MARKING SPECIFICATIONS RT 8.1b  
(Sheet 2 of 2)



- NOTE:
- HANDICAPPED PARKING SPACE MUST BE FIRST OR LAST PARALLEL PARKING SPACE IN THE ROW. ADJACENT TO LANDSCAPE ISLAND. IF SPACE, IS AT THE FRONT OF PARKING ROW ACCESS PANEL MUST BE IN FRONT OF CAR AND IF SPACE IS AT THE END OF PARKING ROW ACCESS PANEL MUST BE AT THE REAR OF CAR.
  - WHEN PARKING SPACE IS ADJACENT TO LANDSCAPE ISLAND SPACE MAYBE REDUCED TO 20' FROM THE STANDARD 22' LENGTH.

TYPICAL PARKING SPACES  
(3 OF 3)  
DETAIL RT 4.2c

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BY:

REVISIONS:

DATE:

NO.

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

ENVIRONMENTAL CONSULTANTS

FLORIDA CERTIFICATE OF AUTHORIZATION No. 6506

298 Pineapple Grove Way Delray Beach, Florida 33444

Phone: (561) 274-6500

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CIVIL SITE IMPROVEMENTS PLAN FOR:

PHG DELRAY

200 NE 5TH AVENUE

DELRAY BEACH, FLORIDA

DRAWN:

B.A.B.

CHECKED:

J.A.P.

DATE:

10/01/19

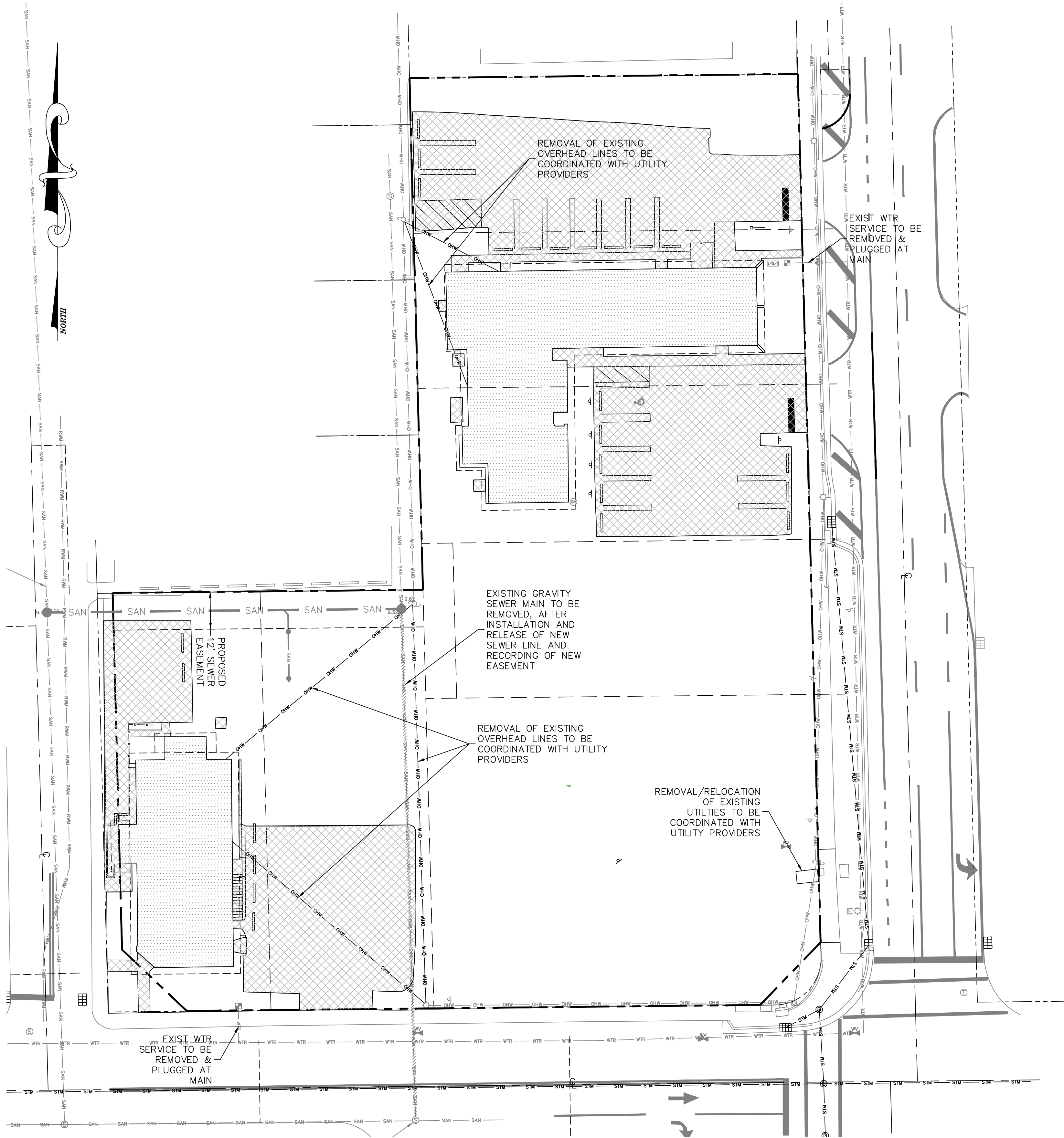
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LOCATION MAP  
N.T.S.

LEGEND:

- PROPERTY LINE
- DENOTES EXIST IMPROVEMENTS TO BE REMOVED
- DENOTES EXIST STRUCTURE TO BE RELOCATED OFF-SITE BY OTHERS

DEMOLITION NOTES:

- THE CONTRACTOR SHALL COORDINATE THE REMOVAL OF ALL EXISTING ON-SITE UTILITIES WITH THE UTILITY PROVIDERS PRIOR TO REMOVAL OF ANY UTILITIES.
- 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.
- THE CONTRACTOR SHALL PLUG/CAP ALL EXISTING WATER AND SEWER SERVICES NOT TO REMAIN AT THE MAIN AND REMOVE ALL ABANDONED LINES.
- 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.
- 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.
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED DEMOLITION PERMITS.
- THE CONTRACTOR SHALL PROVIDE DUST AND POLLUTION PREVENTION MEASURES PRIOR TO, AND MAINTAIN DURING, ANY DEMOLITION WORK. SEE DETAILS ON SHEET 10.
- TRENCH RESTORATION ASSOCIATED WITH DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE TRENCH RESTORATION DETAILS INCLUDED ON SHEET 6.
- 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.

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DEMOLITION PLAN FOR:  
PHG DELRAY  
200 NE 5TH AVENUE  
DELRAY BEACH, FLORIDA

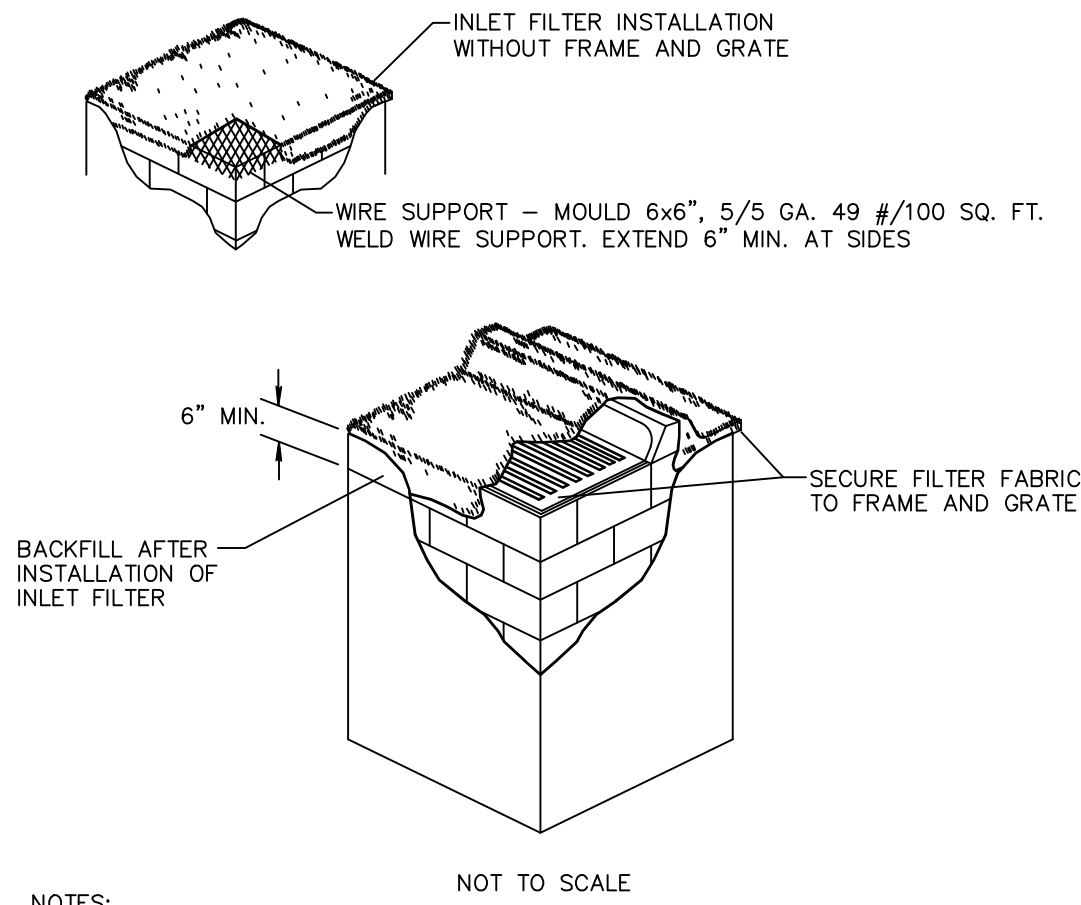
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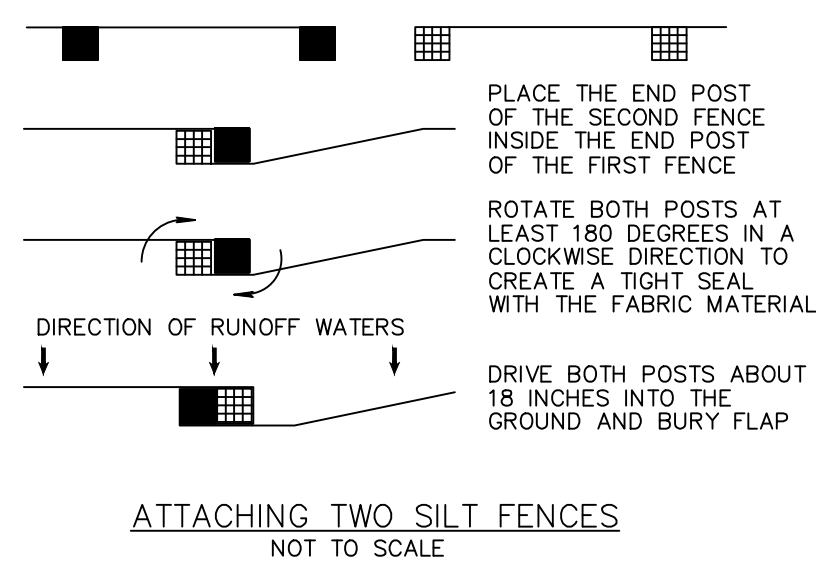
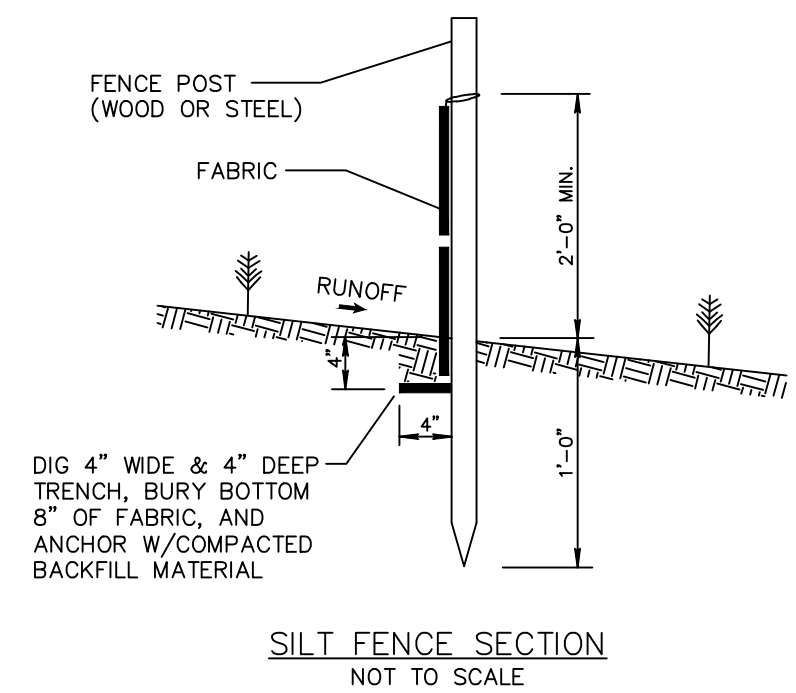
NOTES:

- CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM.
- CONTRACTOR TO REMOVE FABRIC JUST PRIOR TO PAVING.

A SEDIMENT TRAP WILL BE EXCAVATED BEHIND THE CURB AT THE INLET. THE BASIN SHALL BE AT LEAST 12 TO 14 INCHES IN DEPTH, APPROXIMATELY 36 INCHES IN WIDTH, AND APPROXIMATELY 7 TO 10 FEET IN LENGTH PARALLEL TO THE CURB.

STORM WATER WILL REACH THE SEDIMENT TRAP VIA CURB CUTS ADJACENT TO EACH SIDE OF THE INLET STRUCTURE. THESE OPENINGS SHALL BE AT LEAST 12 INCHES IN LENGTH. STORM WATER MAY ALSO REACH THE BASIN VIA OVERLAND FLOW LAND AREA BEHIND THE CURB. THE CURB CUTS SHALL BE REPAIRED WHEN THE SEDIMENT TRAP IS REMOVED.

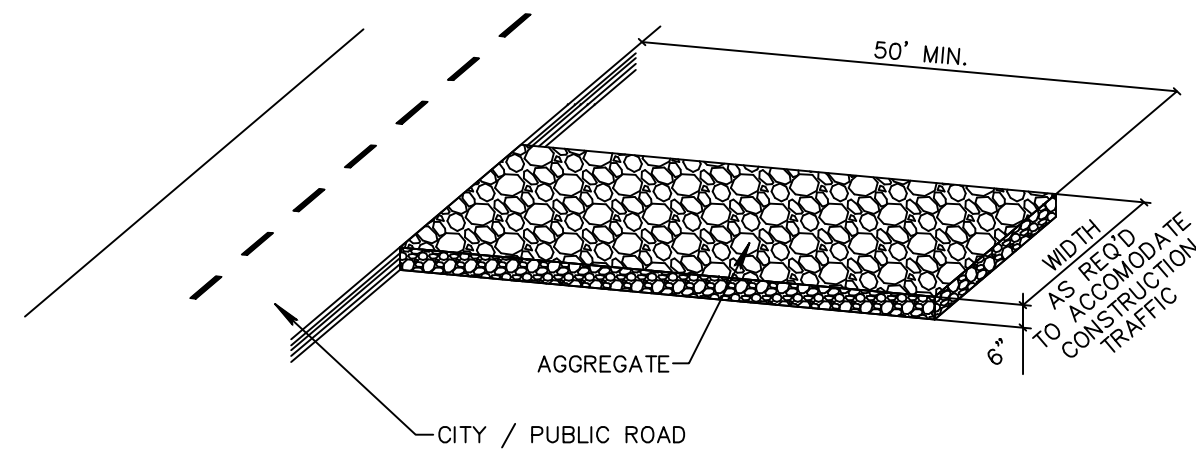
INLET FILTER DETAIL D 8.1



SILT FENCE INSTALLATION DETAIL D 9.1b  
Sheet 2 of 2

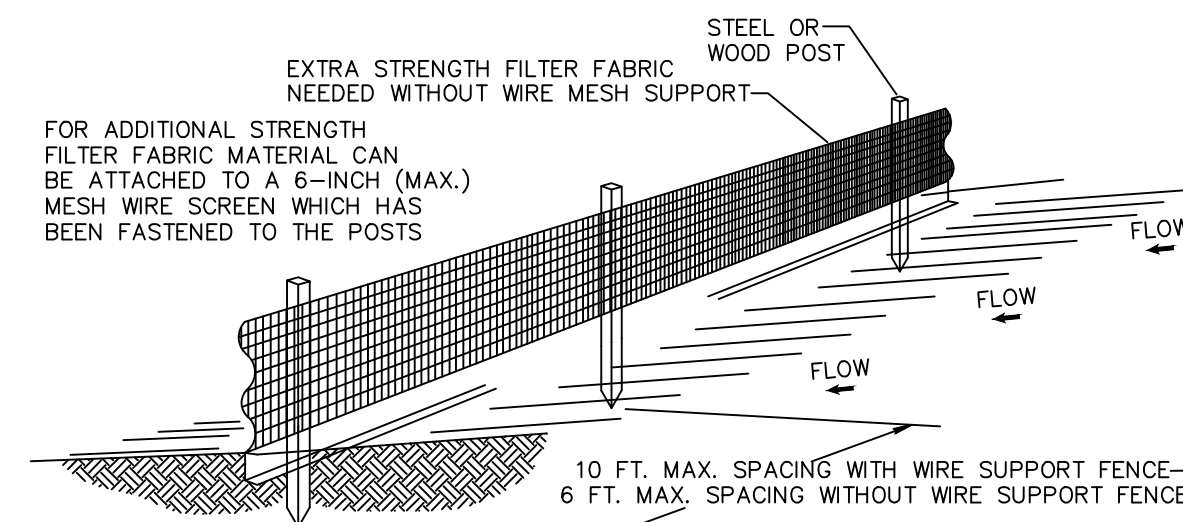
- THE INTENT OF EROSION CONTROL MEASURES INDICATED GRAPHICALLY ON PLANS IS TO PROVIDE A BARRIER TO CONTAIN SILT AND SEDIMENT ON THE PROJECT SITE. THIS REPRESENTATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE TEST OF EROSION CONTROL EFFECTIVENESS IS NOT TO BE DETERMINED BY ADHERENCE TO THE REPRESENT SET FORTH ON THE DRAWINGS AND SPECIFICATIONS, BUT BY MEETING THE REGULATIONS SET FORTH BY THE AUTHORITY HAVING JURISDICTION OVER WATER QUALITY CONTROL AND OTHER SEDIMENTATION RESTRICTION REQUIREMENTS IN THE REGION.
- APPROVED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING, GRADING, EXCAVATION, FILLING, OR OTHER LAND DISTURBANCE ACTIVITIES, EXCEPT THOSE OPERATIONS NEEDED TO INSTALL SUCH MEASURES.
- INSPECTION OF ALL EROSION CONTROL MEASURES SHALL BE CONDUCTED WEEKLY, OR AFTER EACH RAINFALL EVENT, REPAIR, AND/OR REPLACEMENT OF SUCH MEASURES SHALL BE MADE PROMPTLY, AS NEEDED.
- KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED IF DEEMED NECESSARY BY ONSITE INSPECTION.
- FAILURE TO PROPERLY INSTALL AND MAINTAIN EROSION CONTROL PRACTICES SHALL RESULT IN CONSTRUCTION BEING HALTED.
- DRAINAGE INLETS SHALL BE PROTECTED BY FILTER AND GRADED ROCK AS PER INLET PROTECTION DETAIL.
- ANY ACCESS ROUTES TO SITE SHALL BE BASED WITH CRUSHED STONE, WHERE PRACTICAL.
- EROSION CONTROL MEASURES ARE TO BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED.
- ALL WORK IS TO BE IN COMPLIANCE WITH THE RULES AND REGULATIONS SET FORTH BY THE STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE CITY OF DELRAY BEACH.
- DISCHARGE FROM DEWATERING OPERATIONS SHALL BE RETAINED ONSITE IN A CONTAINMENT AREA.

EROSION CONTROL NOTES DETAIL D9.1



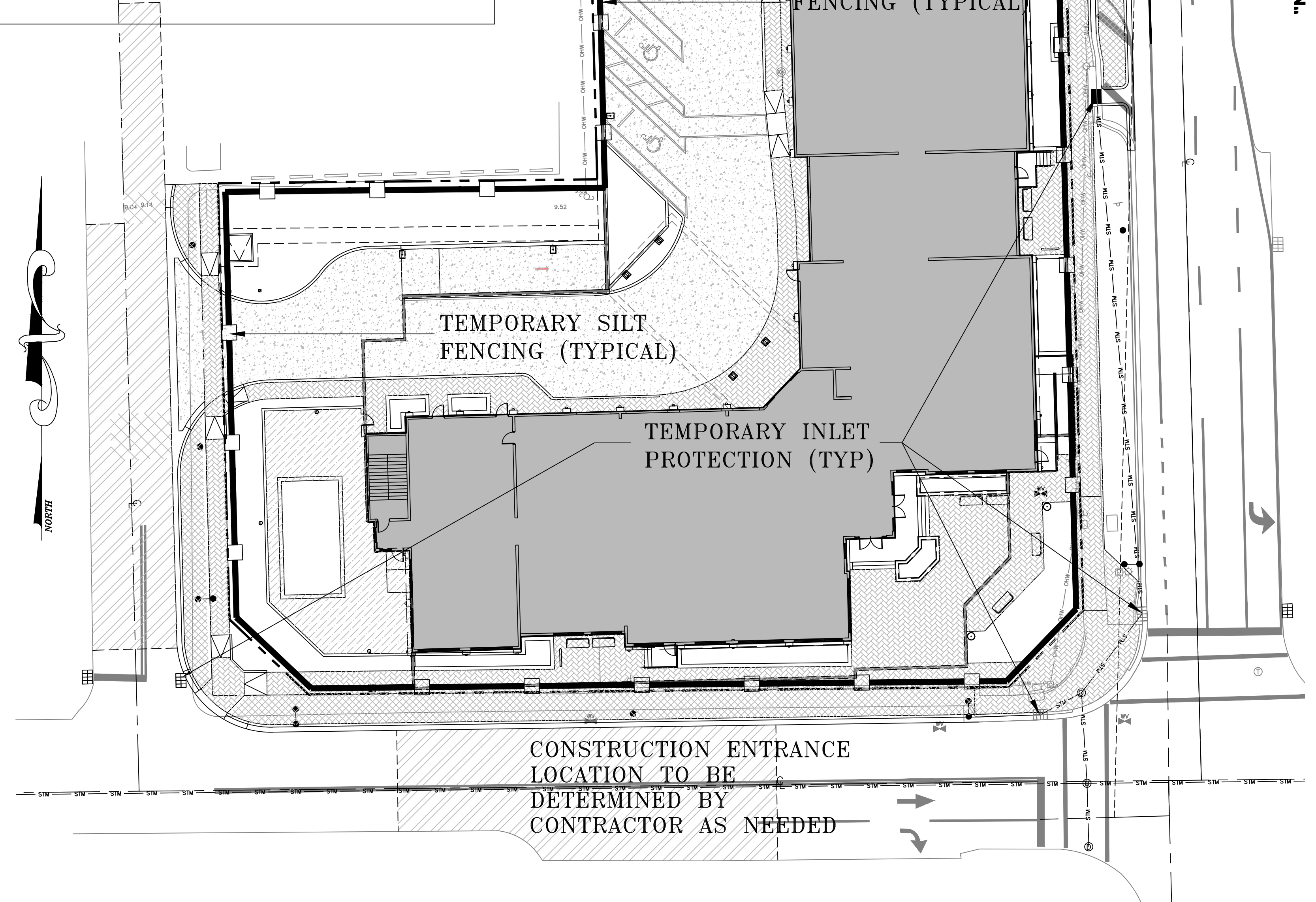
NOTE:  
A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AND CONTAIN AN AGGREGATE LAYER (FOOT AGGREGATE NO.1), AT LEAST 6-INCHES THICK. IT MUST EXTEND TO THE WIDTH OF THE VEHICULAR INGRESS AND EGRESS AREA.

STABILIZED CONSTRUCTION ENTRANCE DETAIL D9.1C



- NOTES:
- THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (90 CM).
  - THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
  - POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET (3 M) APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES (30 CM). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (1.8 M).
  - A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES (10 CM) WIDE AND 4 INCHES (10 CM) DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
  - WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH (25 MM) LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES (5 CM) AND SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
  - THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES (20 CM) OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH, THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
  - THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
  - ALL PROJECTS REQUIRE SUBMITTAL OF POLLUTION PREVENTION PLAN (PPP).
  - ALL PROJECTS 1 AC. OR MORE MUST SUBMIT NOTICE OF INTENT (NOI) TO FDEP.

SILT FENCE INSTALLATION DETAIL D 9.1a  
Sheet 1 of 2



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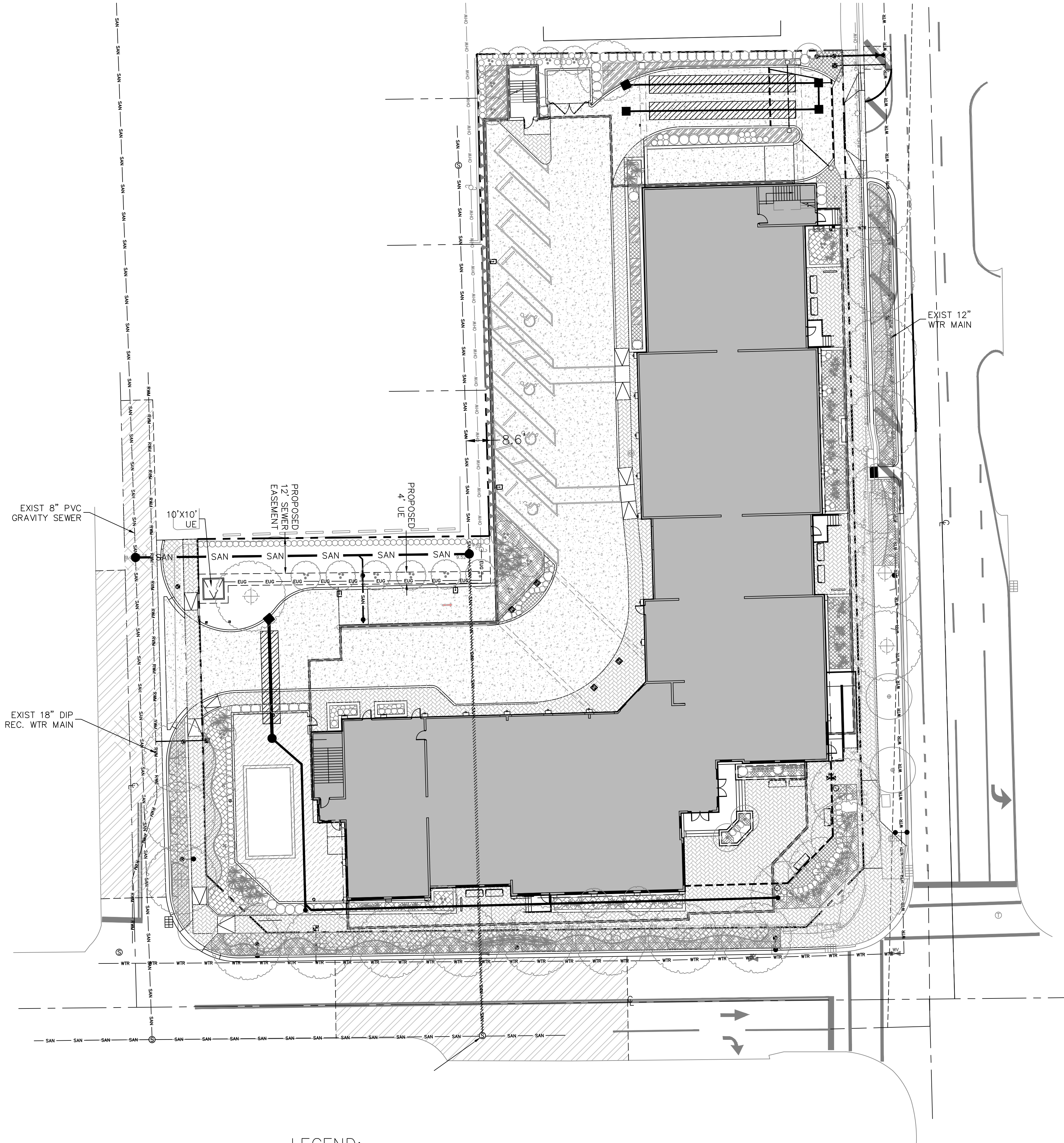
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POLLUTION PREVENTION PLAN FOR:  
PHG DELRAY  
200 NE 5TH AVENUE  
DELRAY BEACH, FLORIDA

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|  | PROPERTY LINE                      |  | EXISTING STORM LINE          |
|  | PROPOSED STORM LINE                |  | EXISTING SANITARY SEWER LINE |
|  | PROPOSED SANITARY SEWER LINE       |  | EXISTING WATER LINE          |
|  | PROPOSED WATER LINE                |  | EXISTING OVERHEAD LINES      |
|  | PROPOSED ELECTRIC UNDERGROUND LINE |  | EXISTING GAS LINES           |
|  | PROPOSED GAS LINE                  |  |                              |

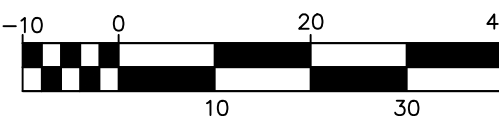
NOTE: CONTRACTOR TO FIELD  
VERIFY EXACT LOCATION, SIZE, AND  
ELEVATION OF ALL IMPROVEMENTS  
AT TIME OF CONSTRUCTION AND  
REPORT ANY DISCREPANCIES TO  
ENVIRODESIGN ASSOCIATES, INC.



Know what's below.  
Call before you dig.

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

SCALE: 1" = 20'



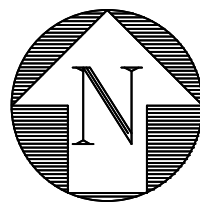
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UNLESS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL  
ENGINEER REPRESENTING ENVIRODESIGN ASSOCIATES, INC.

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 _____



LOCATION MAP  
N.T.S.



"NOT FOR CONSTRUCTION"

COMPOSITE UTILITY PLAN FOR:  
**PHG DELRAY**  
200 NE 5TH AVENUE  
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:  
10/01/19

JOB NO.  
18158-ENG

SHEET NO.  
1 OF 1

NO.	DATE	REVISIONS	BY
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NOT VALID WITHOUT  
ENGINEER'S SEAL

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