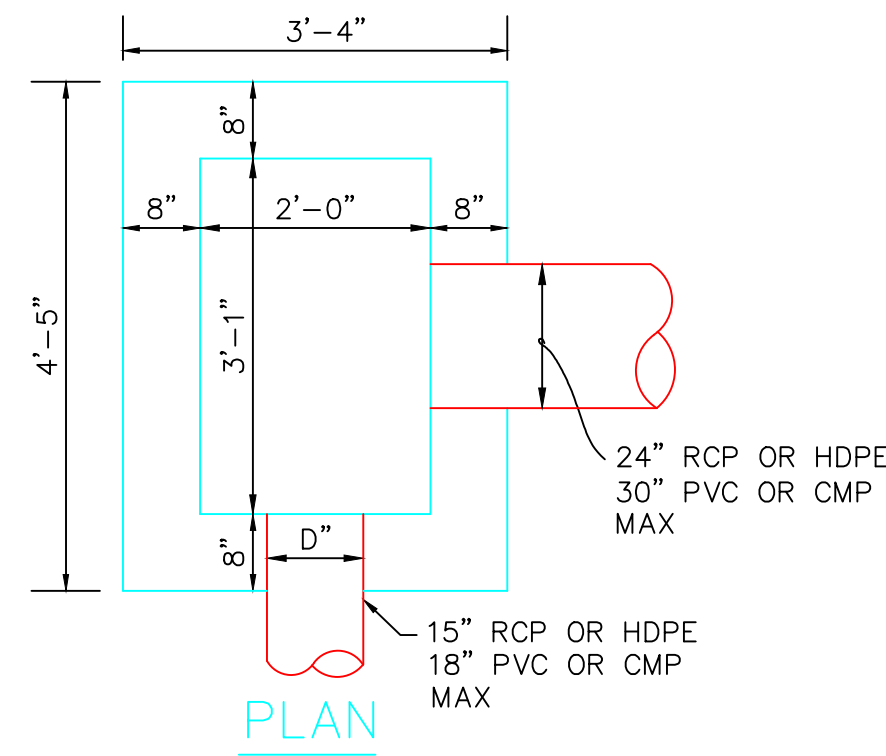


SECTION



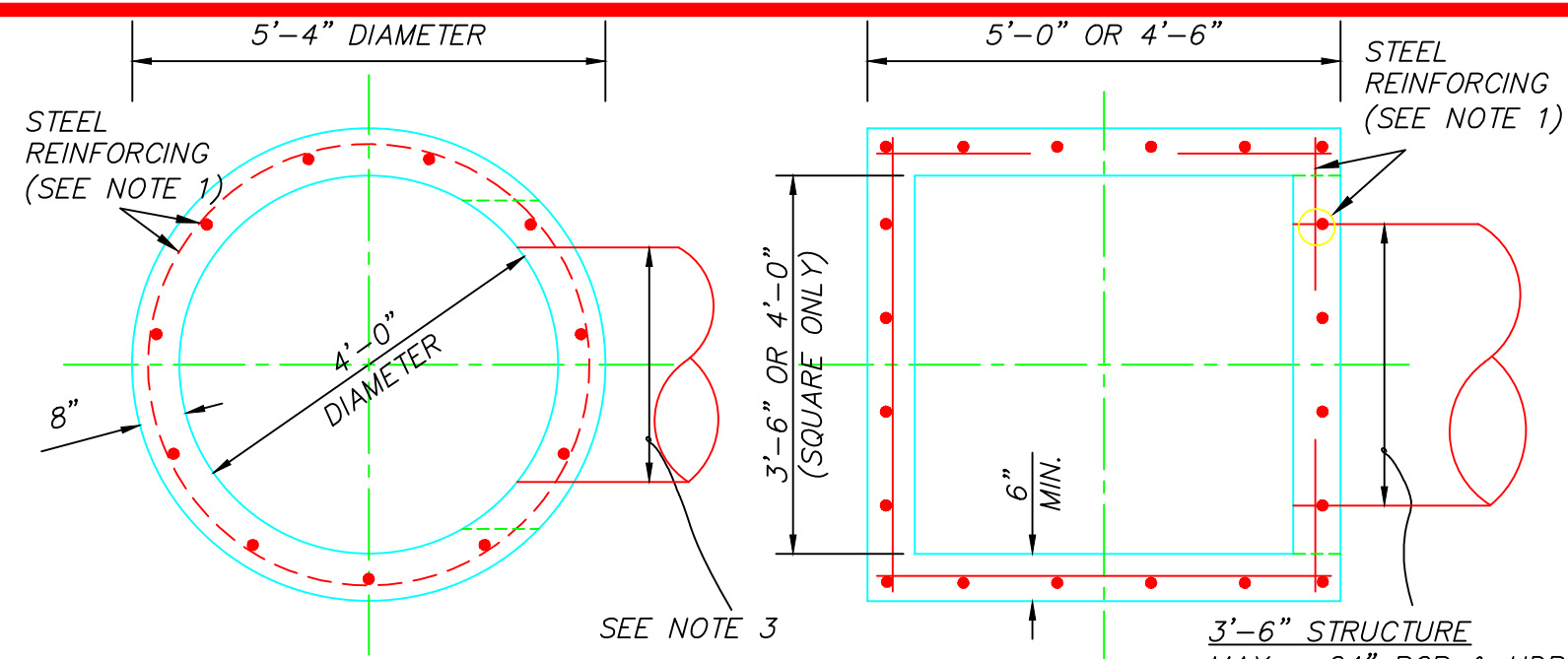
PLAN

REQUIRED INLET FRAME AND GRATE
STANDARD INLET - U.S. FOUNDRY 4155-6209 OR APPROVED EQUAL
CURB INLET - U.S. FOUNDRY 5130-6168 OR APPROVED EQUAL
VALLEY GUTTER INLET - U.S. FOUNDRY 5113-6194 OR APPROVED EQUAL
(NOTE: NO BAFFLES OR WEIRS PERMITTED IN TYPE C STRUCTURES)

TYPE "C" - DRAINAGE INLET

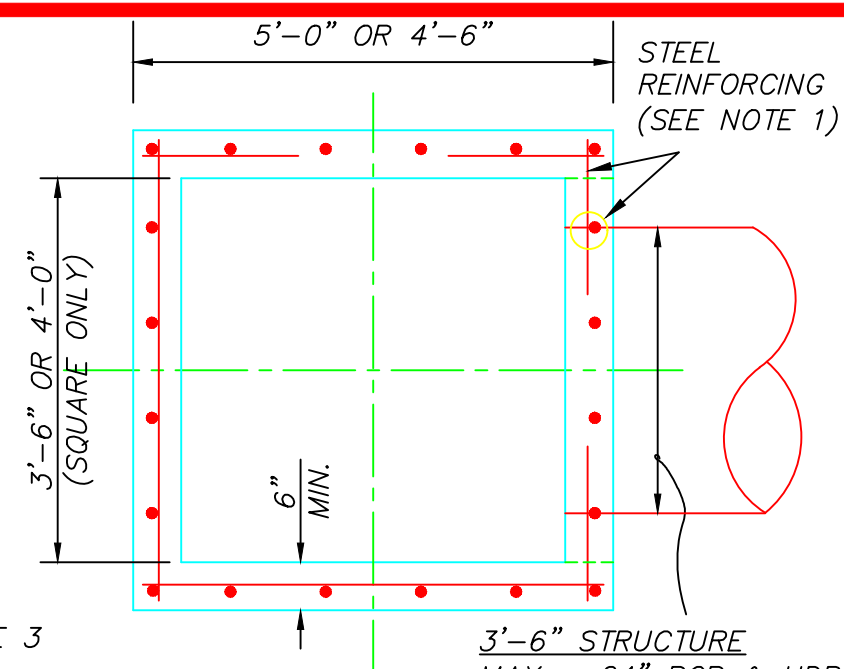
NOT TO SCALE

D-02



PLAN

ALTERNATE A



PLAN

ALTERNATE B

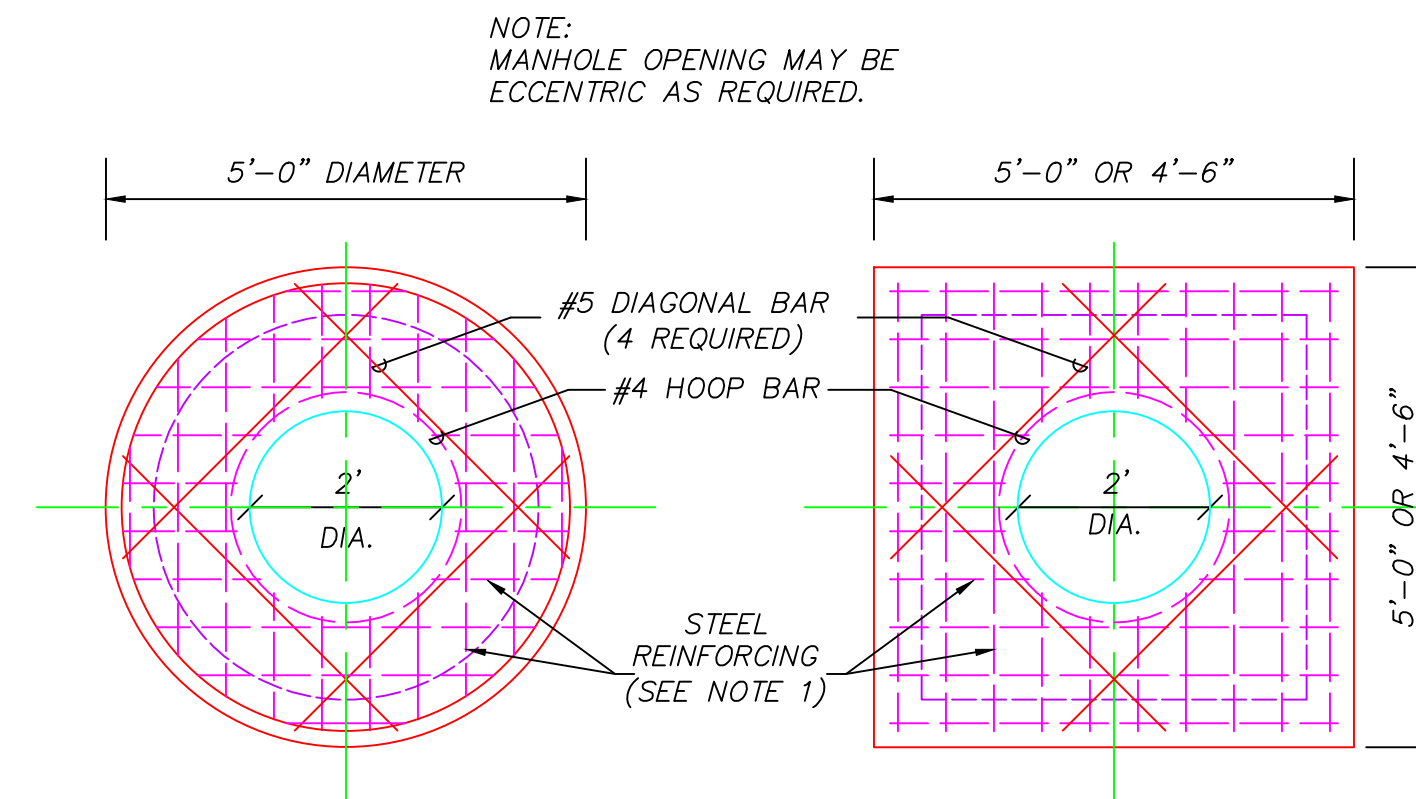
NOTES:

1. REINFORCEMENT STEEL AREA AND PLACEMENT SHALL CONFORM TO FDOT STANDARD INDEX 200 & INDEX 201 MINIMUM.
2. PROVIDE ONE EXTRA #4 BAR REINFORCEMENT EACH SIDE OF EACH OPENING AND TWO EXTRA #4 BARS AT 3" MIN SPACING ABOVE EACH OPENING PER FDOT STANDARD INDEX 200.
3. FOR ROUND STRUCTURES ENGINEER SHALL CHECK PIPE SIZES AND ENTRY ANGLES (SEE FDOT INDEX 200, 3 OF 5)

TYPE "P" - MANHOLE & INLET
STRUCTURE BOTTOM

NOT TO SCALE

D-03A



TOP VIEW

ALTERNATE A

TOP VIEW

ALTERNATE B

NOTE:

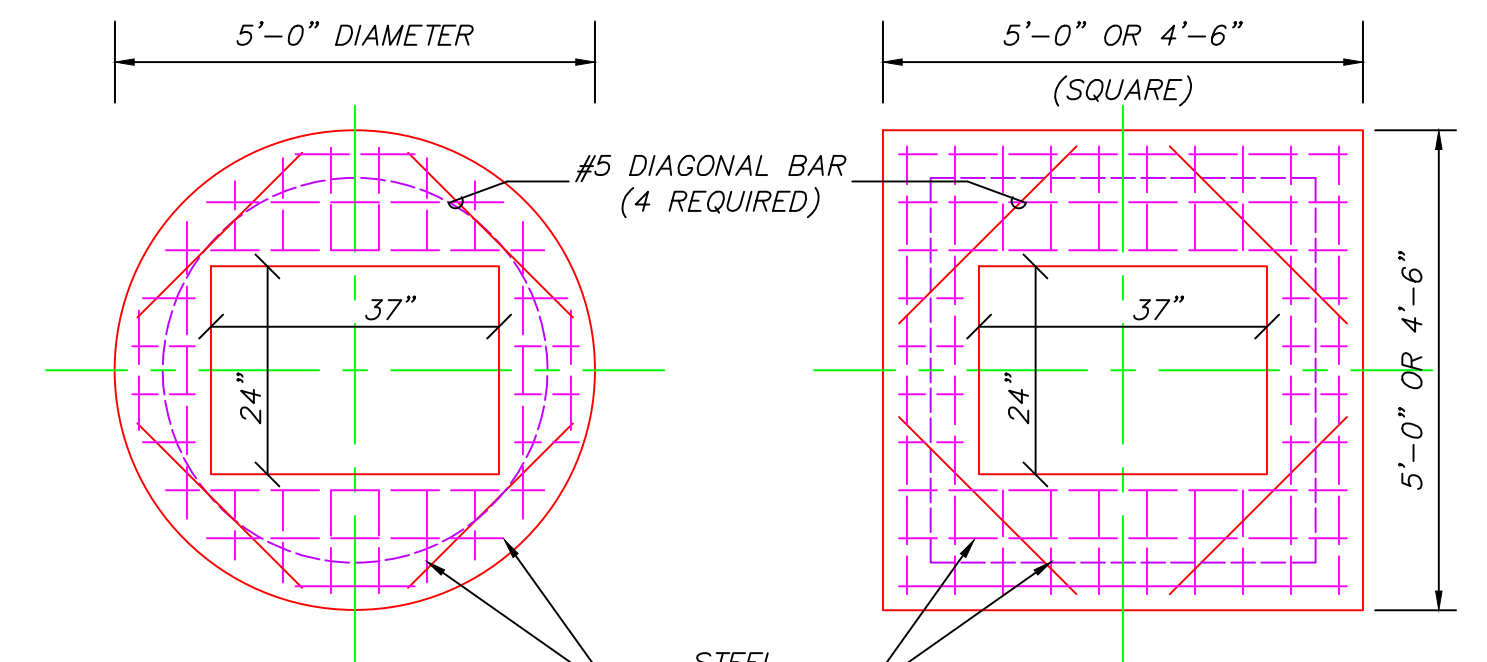
1. REINFORCEMENT STEEL AREA AND PLACEMENT SHALL CONFORM TO FDOT STANDARD INDEX 200 & INDEX 201 MINIMUM.

MANHOLE RING AND COVER - U.S. FOUNDRY
SERIES 420-C OR APPROVED EQUAL

TYPE "P" - MANHOLE
TOP SLAB

NOT TO SCALE

D-03B



TOP VIEW

ALTERNATE A

TOP VIEW

ALTERNATE B

NOTE:

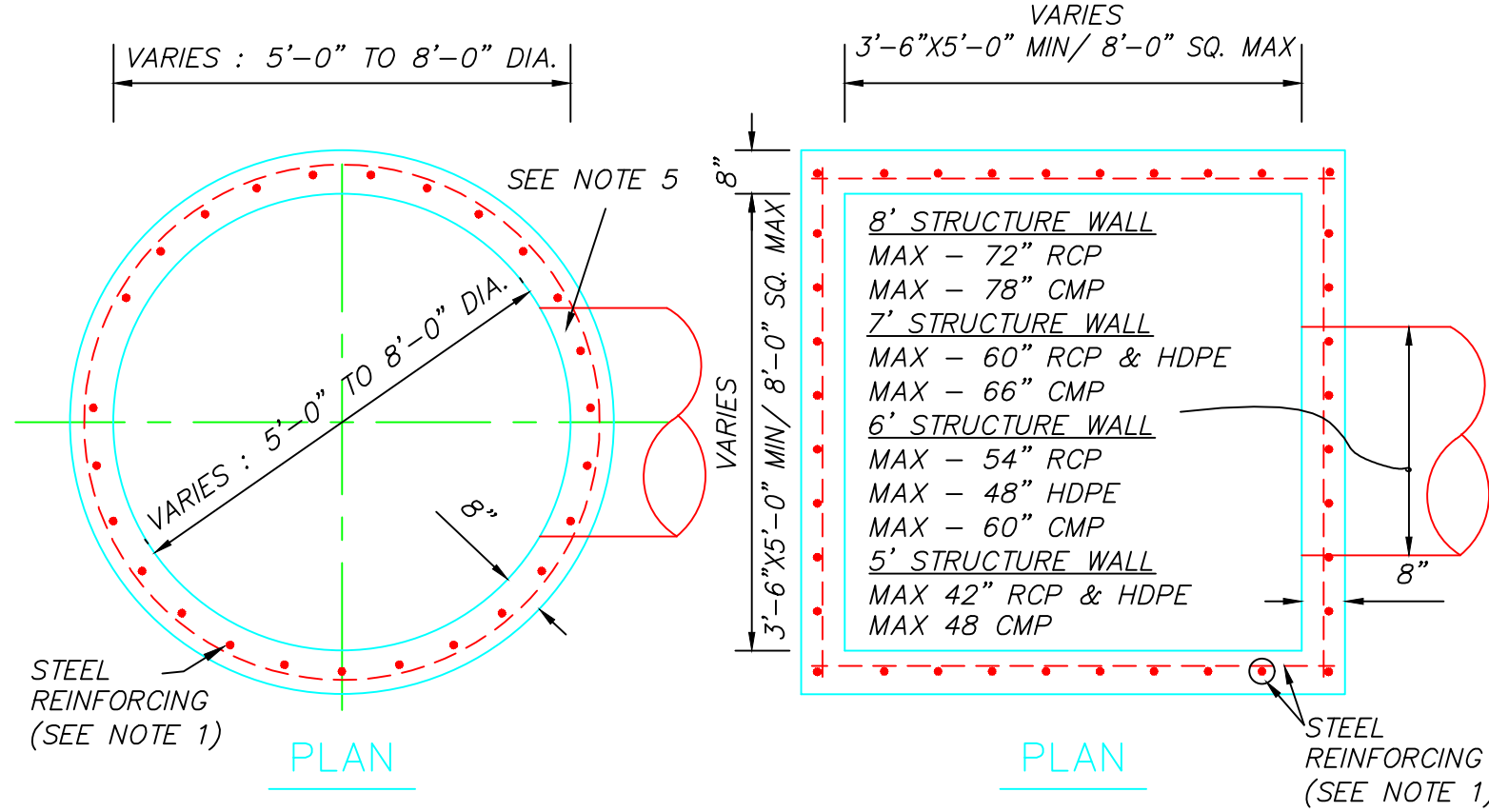
1. REINFORCEMENT STEEL AREA AND PLACEMENT SHALL CONFORM TO FDOT STANDARD INDEX 200 & INDEX 201 MINIMUM.

INLET FRAME AND GRATE U.S. FOUNDRY
STANDARD INLET
SERIES 4155-6209 OR APPROVED EQUAL
SERIES 5130-6168 OR APPROVED EQUAL
VALLEY GUTTER INLET - SERIES 5113-6194 OR APPROVED EQUAL

TYPE "P" - INLET
TOP SLAB

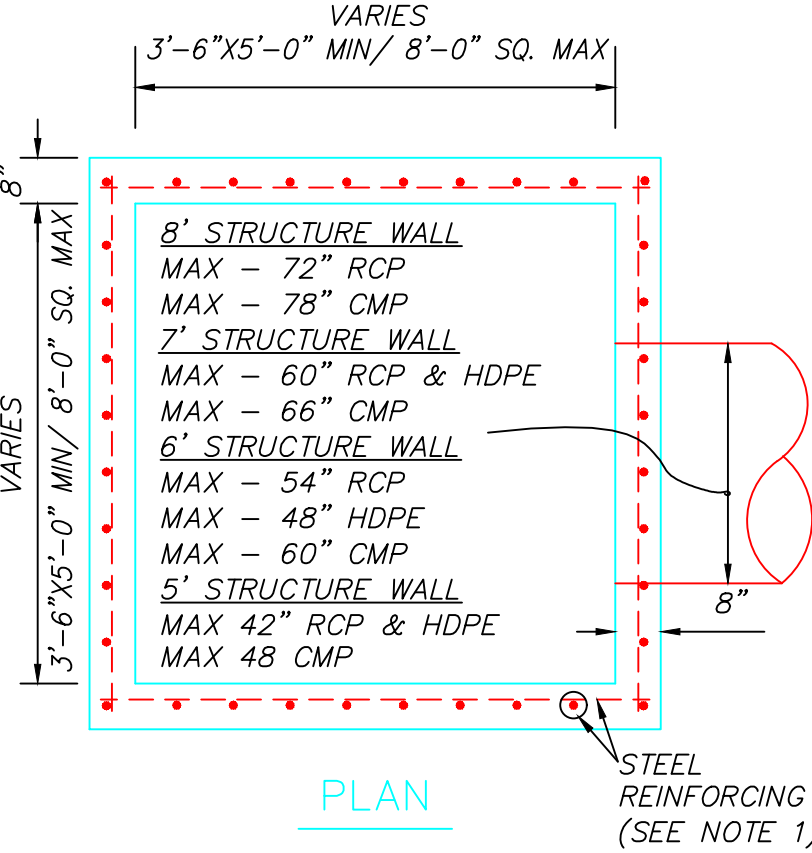
NOT TO SCALE

D-03C



PLAN

ALTERNATE A



PLAN

ALTERNATE B

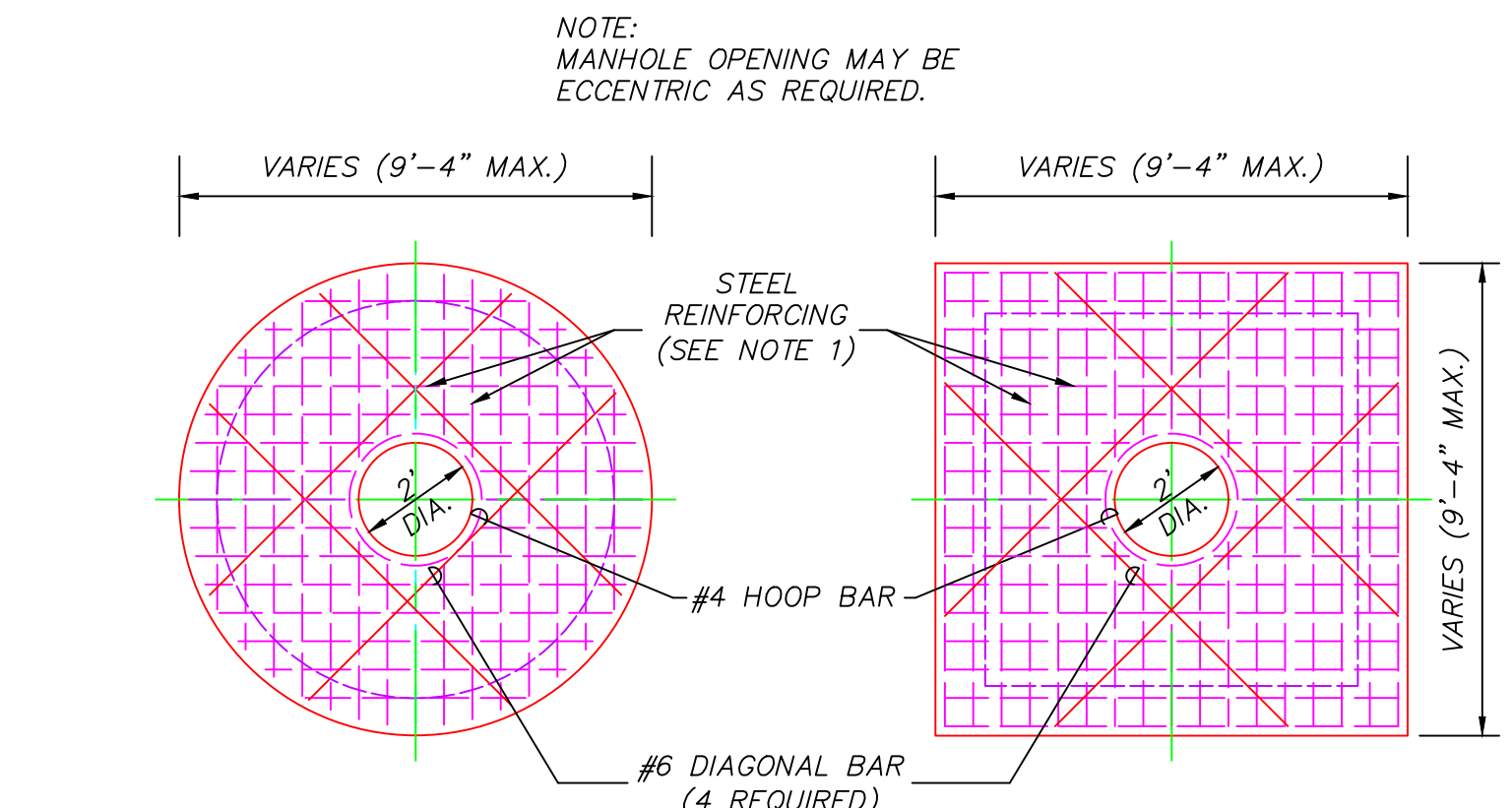
NOTES:

1. REINFORCEMENT STEEL AREA AND PLACEMENT SHALL CONFORM TO FDOT STANDARD INDEX 200 & INDEX 201 MINIMUM.
2. PROVIDE ONE EXTRA #4 BAR REINFORCEMENT EACH SIDE OF EACH OPENING AND TWO EXTRA #4 BARS AT 3" MIN SPACING ABOVE EACH OPENING PER FDOT STANDARD INDEX 200.
3. WALL LENGTH EXCEEDING 6'-0" REQUIRES TWO LAYERS OF REINFORCING WITH 2" COVER
4. STRUCTURES LARGER THAN 8' ROUND OR SQUARE REQUIRE DETAILING BY THE ENGINEER.
5. FOR ROUND STRUCTURES ENGINEER SHALL CHECK PIPE SIZES AND ENTRY ANGLES (SEE FDOT INDEX 200, 3 OF 5)

TYPE "J" - MANHOLE & INLET
STRUCTURE BOTTOM

NOT TO SCALE

D-04A



TOP VIEW

ALTERNATE A

TOP VIEW

ALTERNATE B

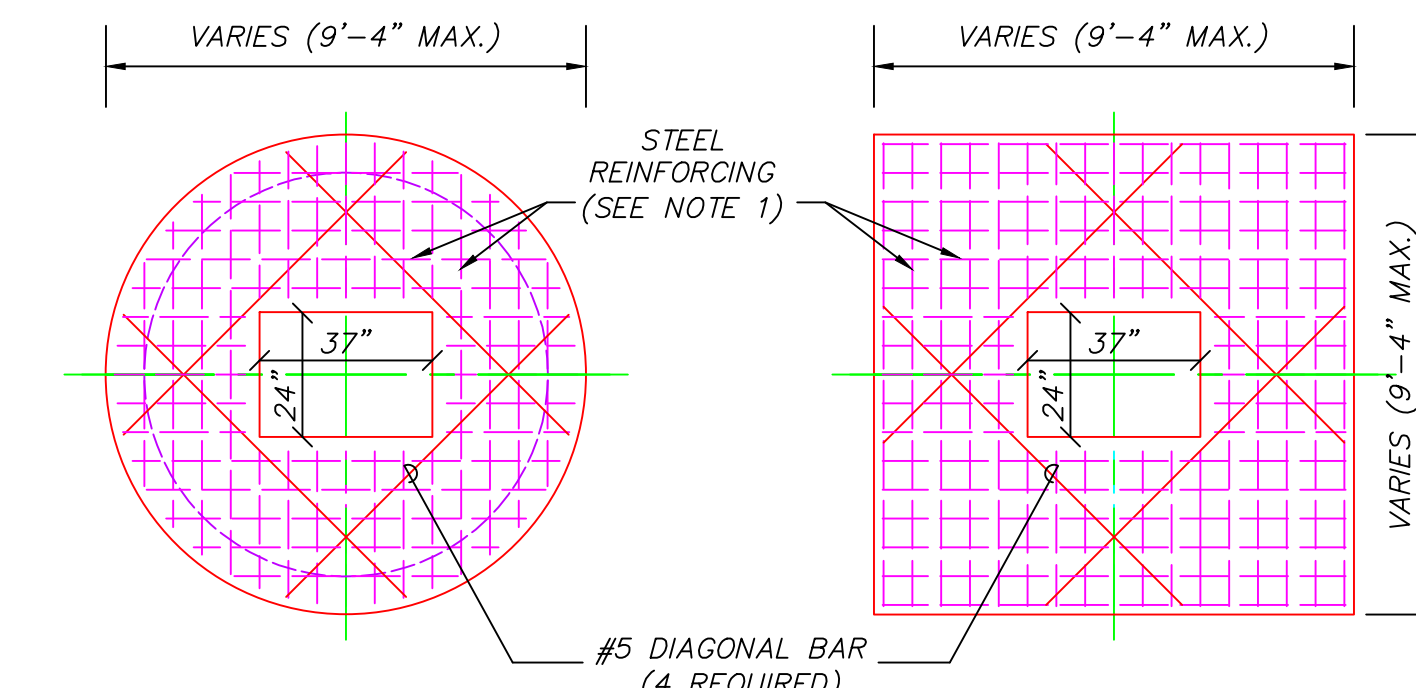
NOTE:

1. REINFORCEMENT STEEL AREA AND PLACEMENT SHALL CONFORM TO FDOT STANDARD INDEX 200 & INDEX 201 MINIMUM.

TYPE "J" - MANHOLE
TOP SLAB

NOT TO SCALE

D-04B



TOP VIEW

ALTERNATE A

TOP VIEW

ALTERNATE B

NOTE:

1. REINFORCEMENT STEEL AREA AND PLACEMENT SHALL CONFORM TO FDOT STANDARD INDEX 200 & INDEX 201 MINIMUM.

REQUIRED INLET FRAME AND GRATE
STANDARD INLET - U.S. FOUNDRY 4155-6209 OR APPROVED EQUAL
CURB INLET - U.S. FOUNDRY 5130-6168 OR APPROVED EQUAL
VALLEY GUTTER INLET - U.S. FOUNDRY 5113-6194 OR APPROVED EQUAL

TYPE "J" - INLET
TOP SLAB

NOT TO SCALE

D-04C

LEAVE BLANK - FOR CITY USE ONLY

Designed By: _____

Drawn By: _____

Checked By: _____

SYMBOL	NO.	DATE	REVISIONS	BY



COMMUNITY DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
STANDARD PAVING &
DRAINAGE DETAILS

PROJECT ENGINEER OF RECORD

LICENSE NO.: _____
STATE OF FLORIDA

PROJECT CONSULTANT

PROJECT

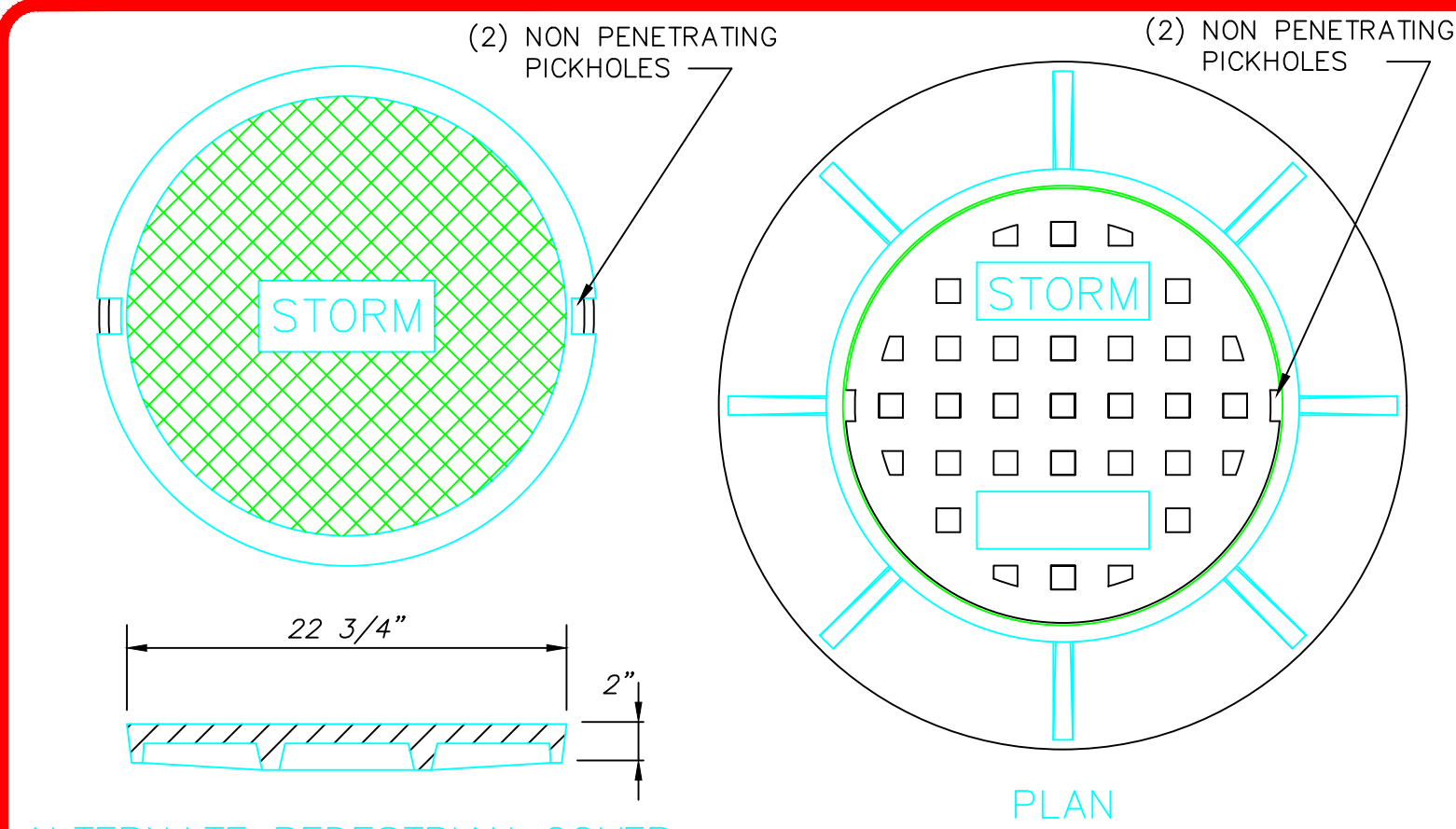
LAYOUT SAMPLE 1

DATE

NOT TO
SCALE

PROJECT
NUMBER

SHEET
NUMBER

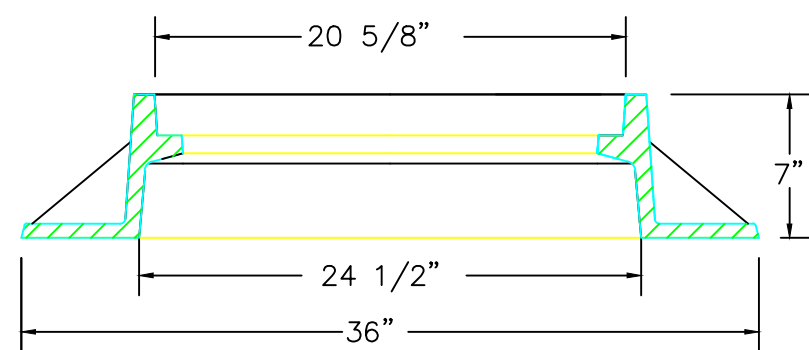


ALTERNATE PEDESTRIAN COVER

REQUIRED IN PEDESTRIAN AREAS/
SIDEWALKS

NOTES:

- 1- MATERIAL: ASTM-A48
CLASS 30B GRAY IRON
- 2- RING WT: 240 LBS. APP.
- 3- STANDARD COVER (TYPE D)
- WT: 160 LBS. APP.
- 4- PEDESTRIAN COVER (TYPE D)
- WT: 125 LBS. APP.

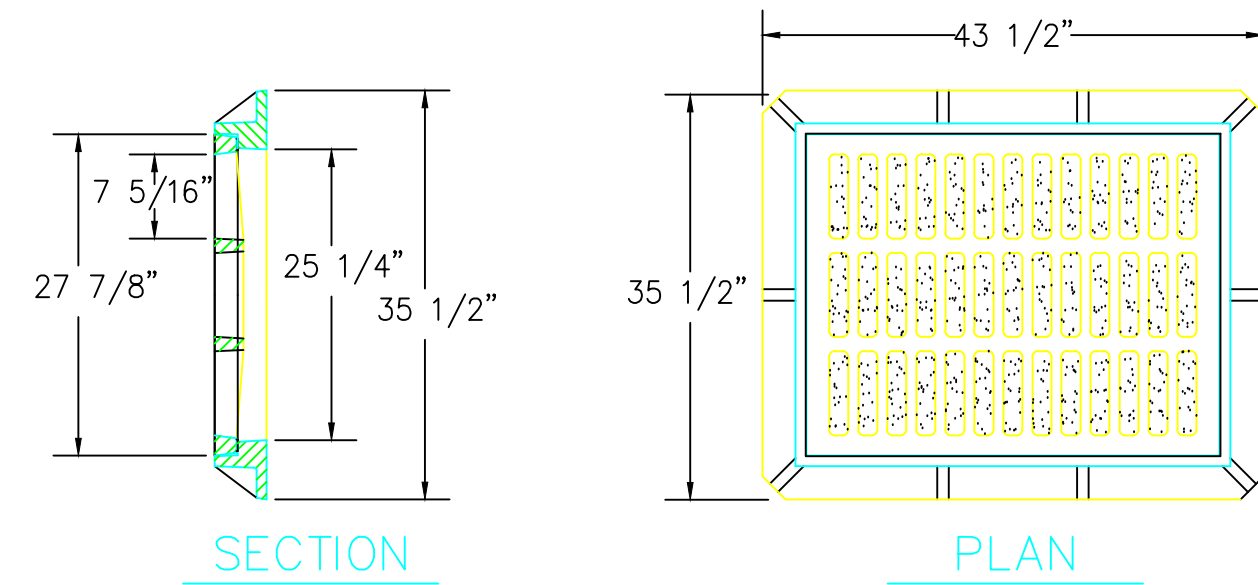


STANDARD DRAINAGE MANHOLE
RING AND COVER

U.S. FOUNDRY #420-C RING AND COVER OR APPROVED EQUAL

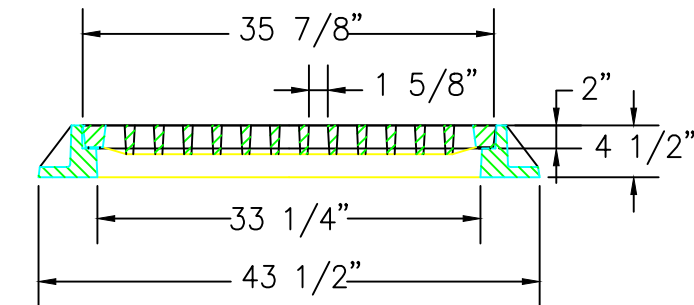
NOT TO SCALE

D-05



NOTES:

- 1- MATERIAL: ASTM-A48
CLASS 30B GRAY IRON
- 2- FRAME WT: 335 LBS. APP.
- 3- GRATE WT: 265 LBS. APP.



ELEVATION

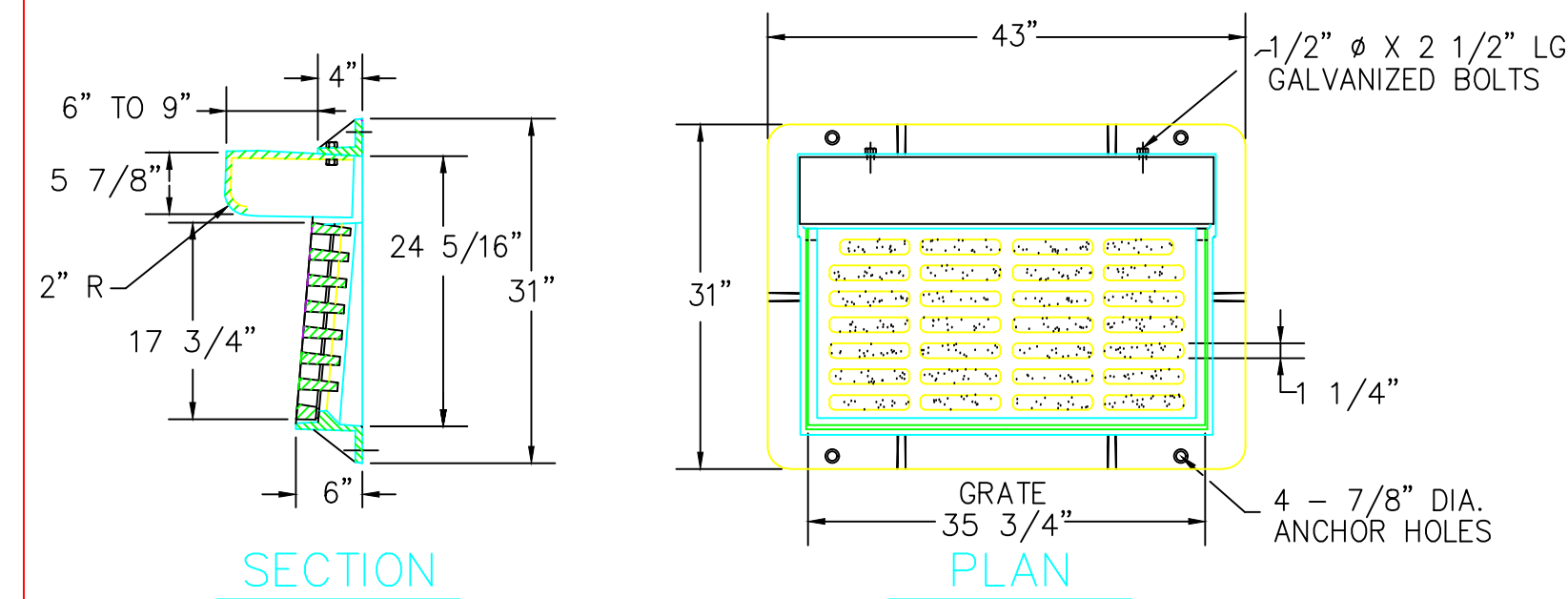
N.T.S.

U.S. FOUNDRY #4155-6209
FRAME AND GRATE OR APPROVED EQUAL
PEDESTRIAN & BICYCLE COMPATIBLE

INLET FRAME AND GRATE

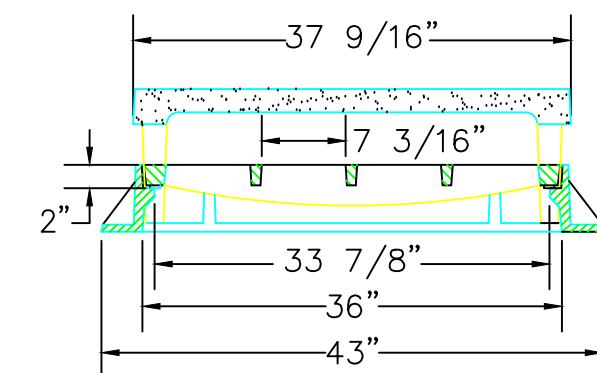
NOT TO SCALE

D-06



NOTES:

- 1- MATERIAL: ASTM-A48
CLASS 30B GRAY IRON.
- 2- FRAME WT: 195 LBS. APP.
- 3- GRATE WT: 215 LBS. APP.
- 4- HOOD WT: 125 LBS. APP.



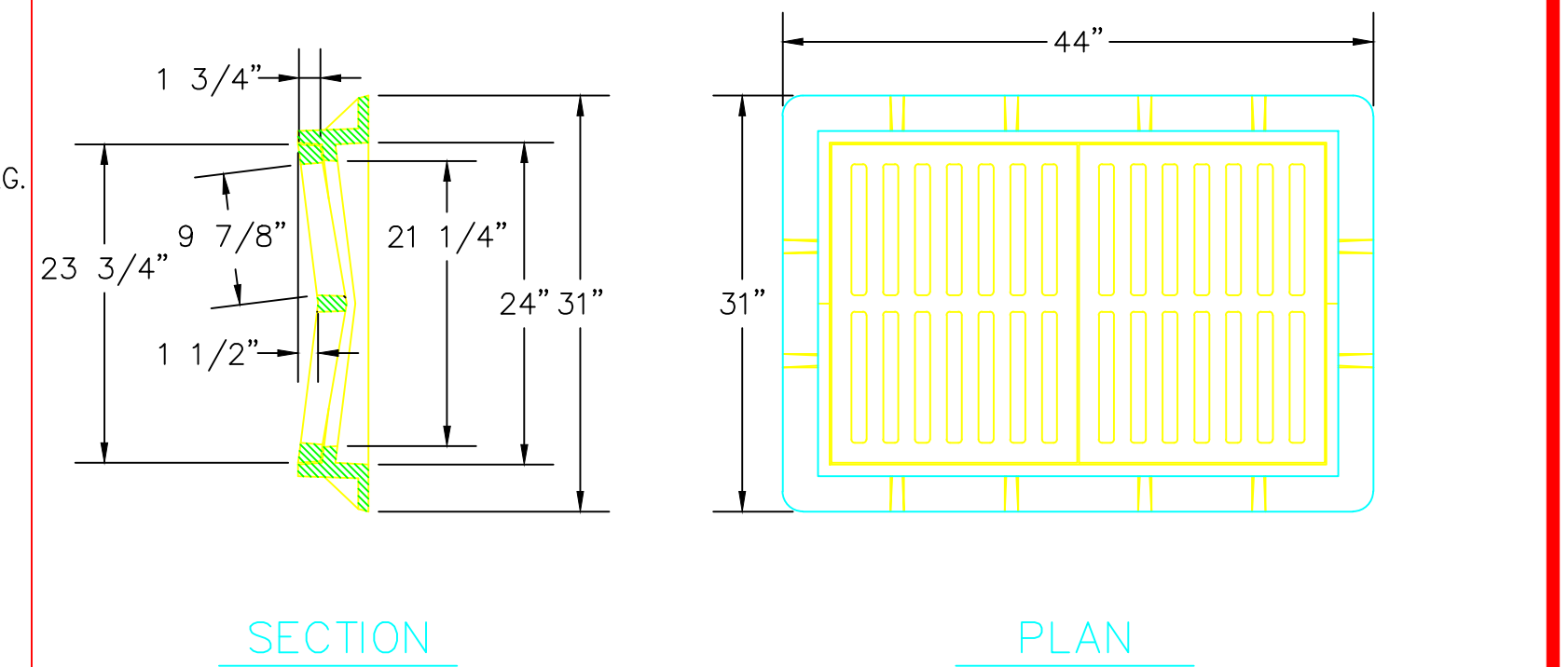
ELEVATION

U.S. FOUNDRY #5130-6168
FRAME AND GRATE OR APPROVED EQUAL
PEDESTRIAN & BICYCLE COMPATIBLE

CURB INLET - TYPE "9"
HOODED FRAME AND GRATE

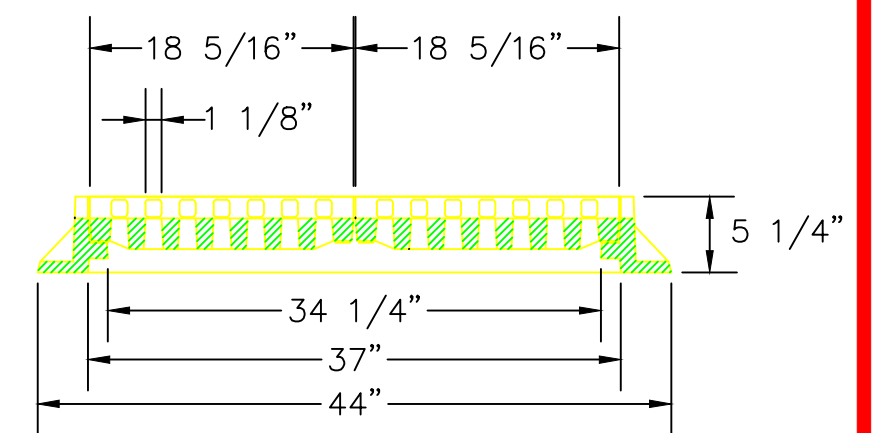
NOT TO SCALE

D-07



NOTES:

- 1- MATERIAL: ASTM-A48 CLASS 30B
GRAY IRON.
- 2- FRAME WT: 290 LBS. APP.
- 3- GRATE WT: 120 LBS. APP. EA.



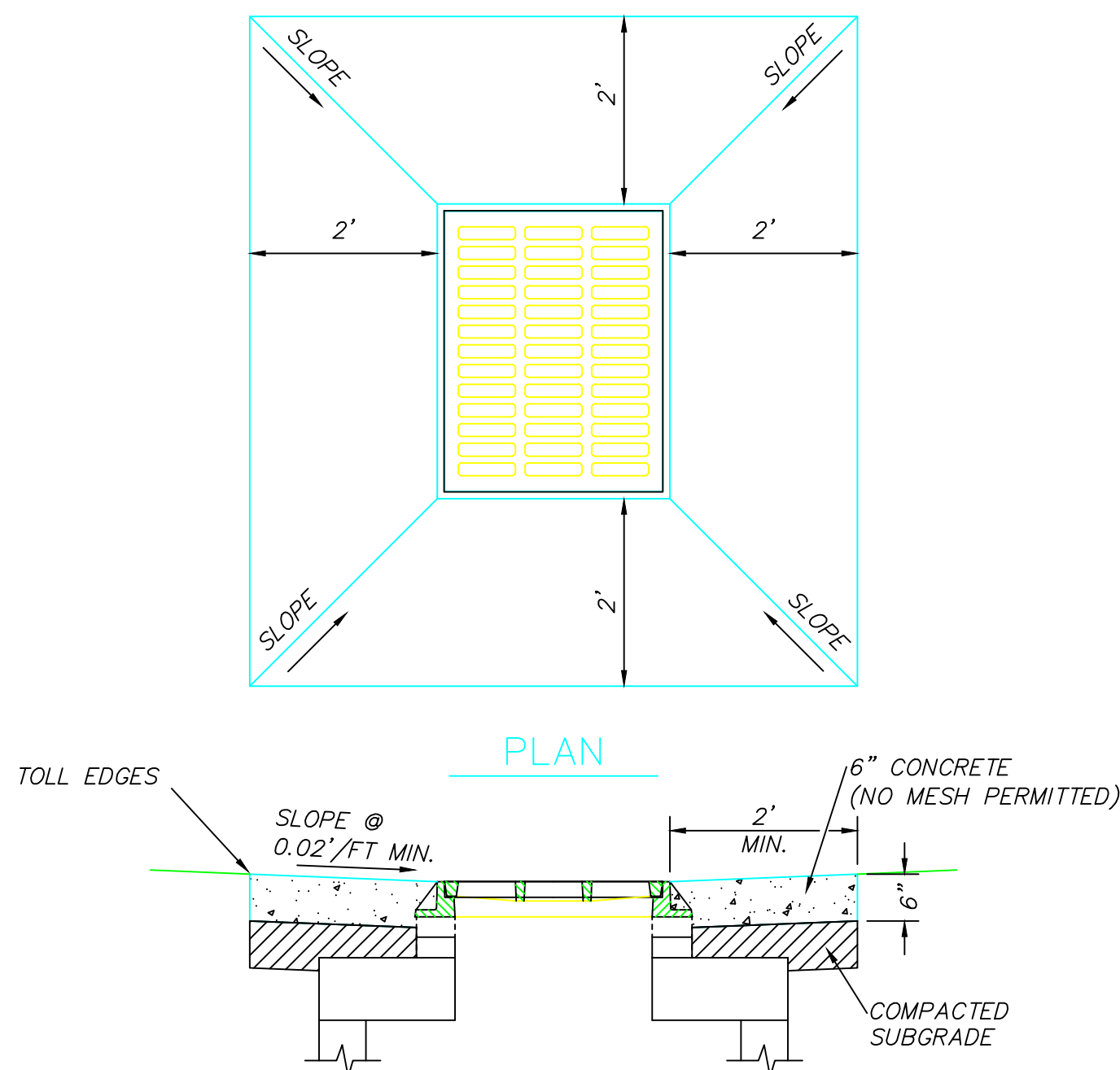
ELEVATION

N.T.S.
U.S. FOUNDRY #5113-6194 FRAME AND
GRATE OR APPROVED EQUAL
PEDESTRIAN & BICYCLE COMPATIBLE
DO NOT INSTALL THIS GRATE IN CURB RADIUS

VALLEY GUTTER INLET
STANDARD FRAME AND GRATE

NOT TO SCALE

D-08

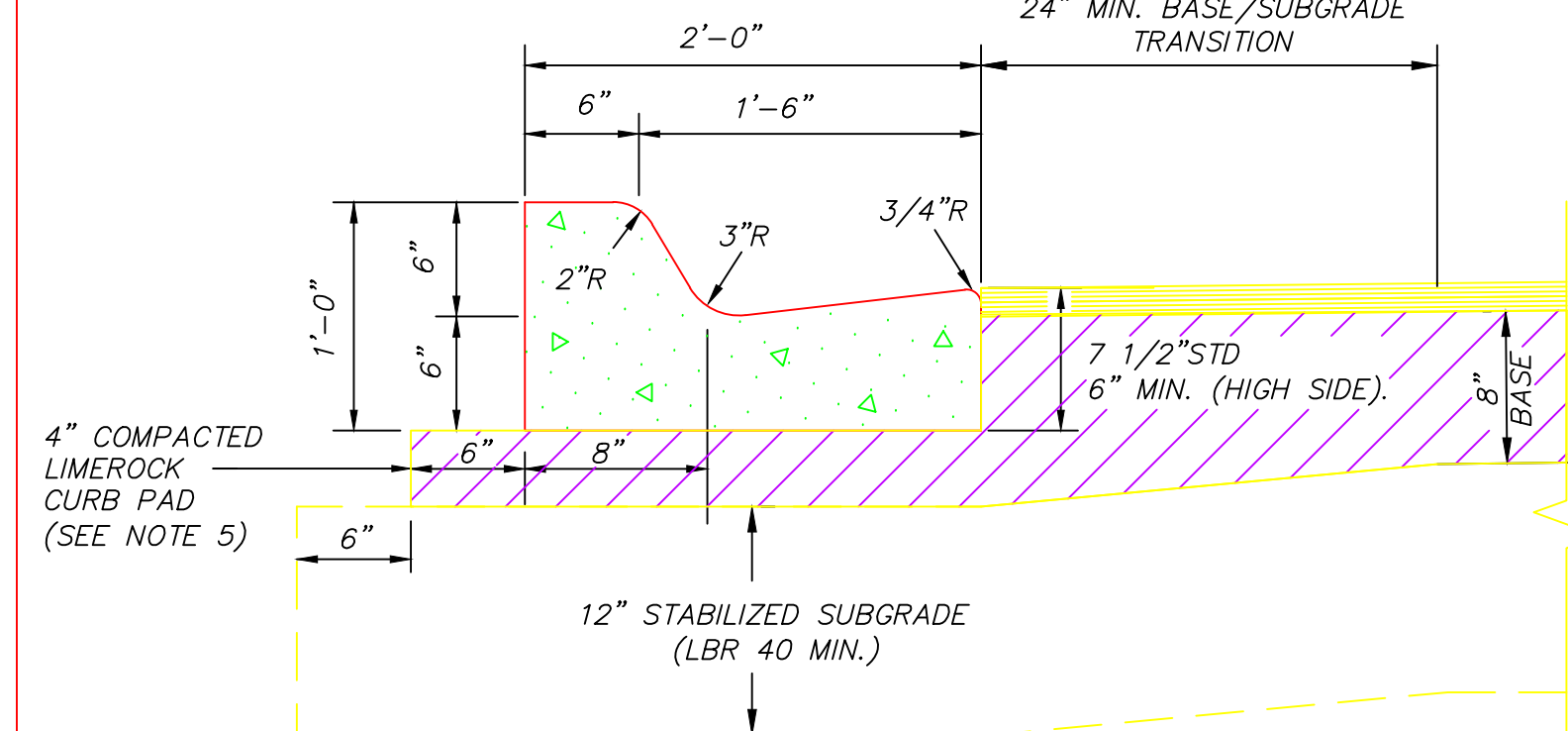


- NOTES:
1. CONSTRUCT 2' WIDE (MIN.) APRON AROUND INLET (4 SIDES).
 2. APRON AROUND CATCH BASIN SHALL BE 6" THICK CONCRETE ON COMPACTED SUBGRADE.
 3. CONCRETE SHALL BE 3000 P.S.I. MIN. @ 28 DAYS.
 4. SLOPE OF APRON SHALL MATCH EXISTING GROUND SLOPE OR 2% MINIMUM.
 5. PROVIDE LIGHT BROOM FINISH ON CONCRETE SURFACE AND TOOL ALL EXPOSED EDGES.

CATCH BASIN
APRON DETAIL

NOT TO SCALE

D-18



TYPE "F" CURB AND GUTTER

N.T.S.

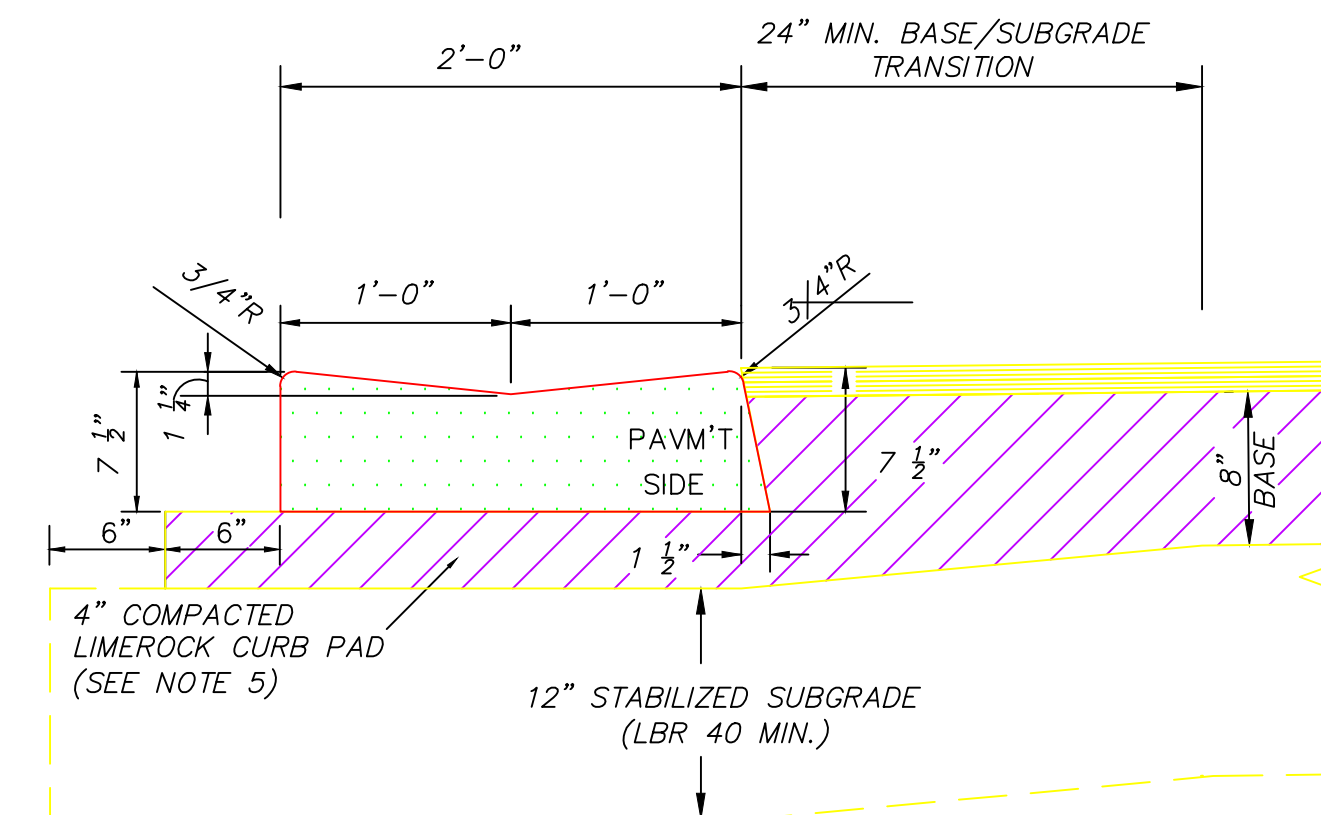
CURB NOTES:

1. WHEN USED ON THE HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF TYPE "F"
GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT.
2. PROVIDE 1/4" WIDE CONTRACTION JOINT A MINIMUM OF 1-1/2" DEEP AND AT 10'
SPACING MAXIMUM FOR ALL CURBS.
3. CONCRETE SHALL BE 3000 P.S.I. MIN. @ 28 DAYS.
4. FOR COMMUNITY DEVELOPMENT DEPARTMENT CAPITAL PROJECT DIVISION PROJECTS
COST OF CURB PAD TO BE INCLUDED IN COST OF CURB.
5. COMPACT CURB PAD TO A DENSITY OF 98% OF AASHTO T-180 SPECIFICATION.

TYPE "F" CURB & GUTTER DETAILS

NOT TO SCALE

D-12



2' VALLEY GUTTER CURB

N.T.S.

CURB NOTES:

1. PROVIDE 1/4" WIDE CONTRACTION JOINT A MINIMUM OF 1-1/2" DEEP AND AT 10'
SPACING MAXIMUM FOR ALL CURBS.
2. CONCRETE SHALL BE 3000 P.S.I. MIN. @ 28 DAYS.
3. FOR COMMUNITY DEVELOPMENT DEPARTMENT CAPITAL PROJECT DIVISION PROJECTS
COST OF CURB PAD TO BE INCLUDED IN COST OF CURB.
4. SEE PAVEMENT MINIMUM PAVEMENT DESIGN SECTION FOR COMPACTION REQUIREMENTS.
5. COMPACT CURB PAD TO A DENSITY OF 98% OF AASHTO T-180 SPECIFICATION.

VALLEY GUTTER CURB DETAILS

NOT TO SCALE

D-13

LEAVE BLANK - FOR CITY USE ONLY

Designed By: _____
Drawn By: _____
Checked By: _____

SYMBOL	NO.	DATE	REVISIONS	BY



COMMUNITY DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
STANDARD PAVING &
DRAINAGE DETAILS

PROJECT ENGINEER OF RECORD

LICENSE NO.: _____
STATE OF FLORIDA

PROJECT CONSULTANT

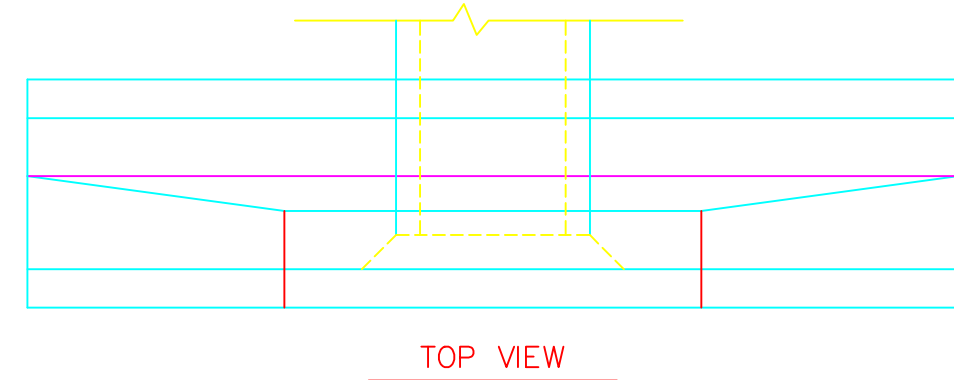
PROJECT
LAYOUT SAMPLE 2

DATE

NOT TO
SCALE

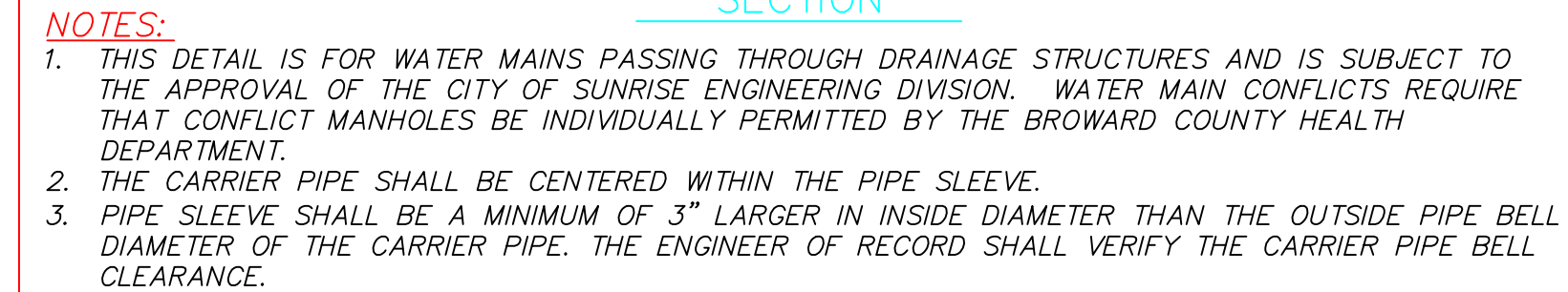
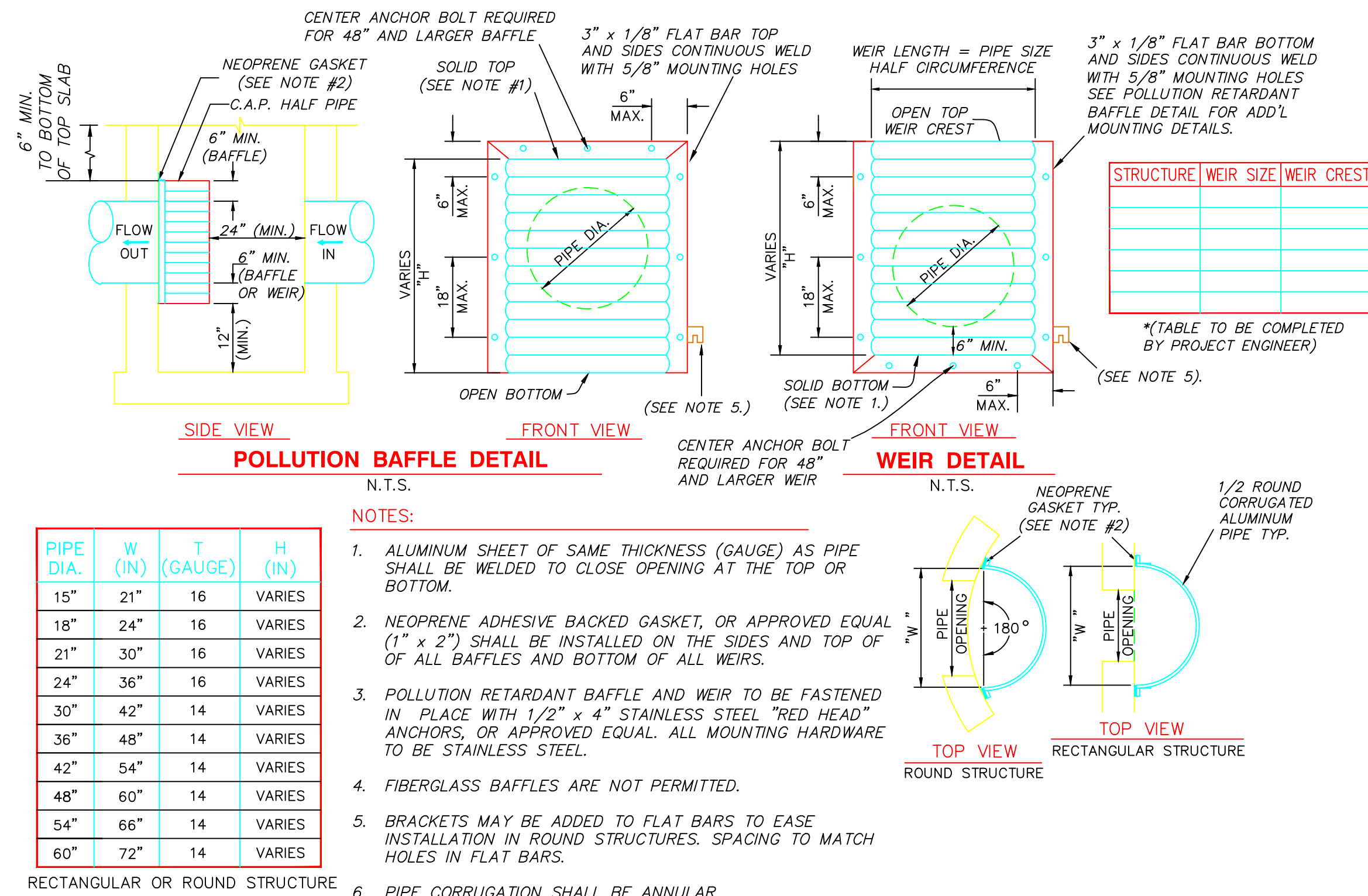
PROJECT
NUMBER

SHEET
NUMBER

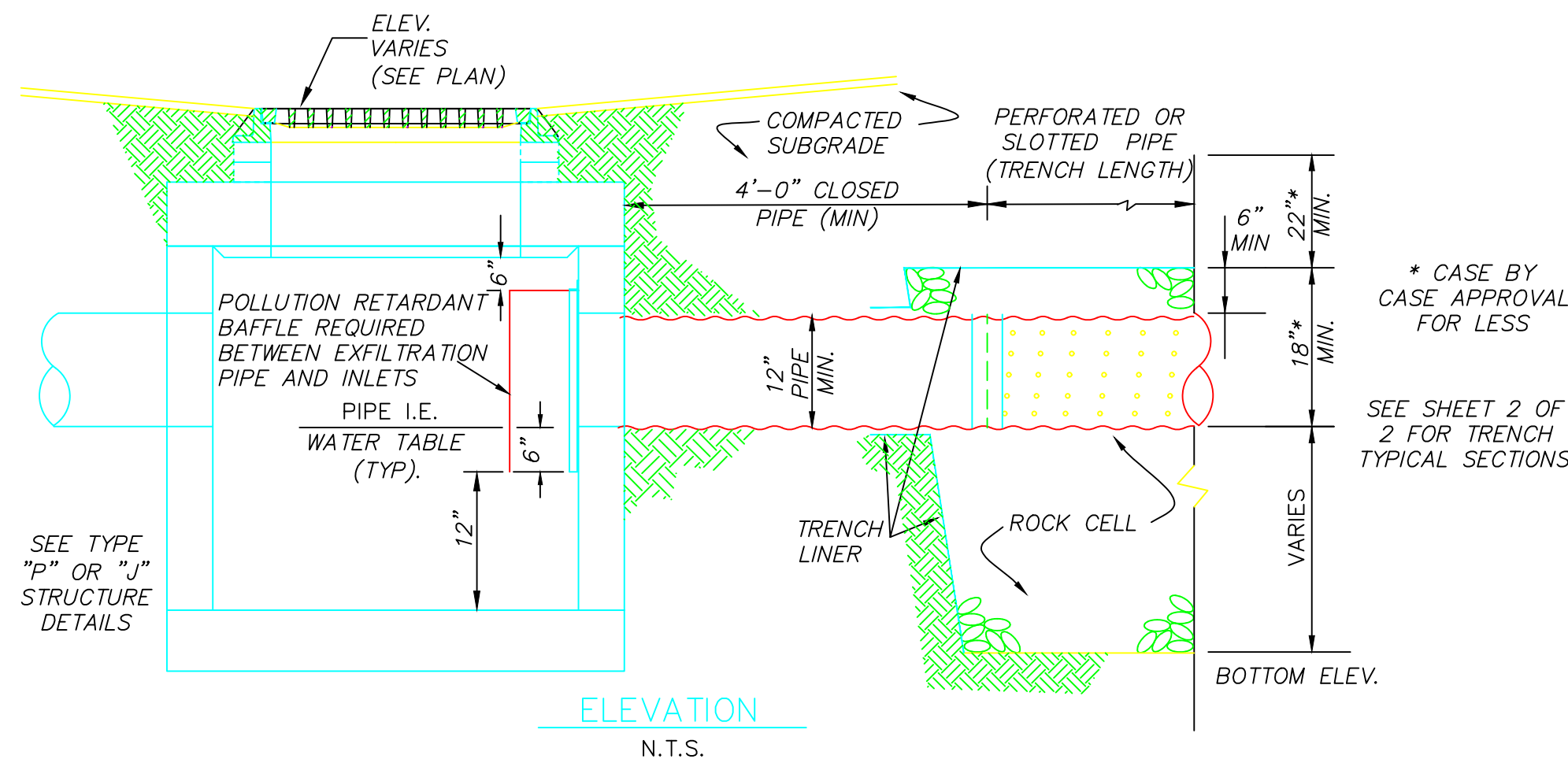


1. FOR MULTIPLE PIPES OR SKEWED PIPE SEE FDOT INDEX 250 FOR ADDITIONAL DETAILS.
2. TOP OF ENDWALL TO BE SET NO LOWER THAN 12 INCHES ABOVE THE CONTROL WATER ELEVATION. WHERE THE STANDARD ENDWALL DESIGN WILL NOT PERMIT MEETING MINIMUM TOP ELEVATION ENGINEER SHALL PROVIDE MODIFIED ENDWALL DESIGN TO MEET REQUIRED ELEVATION.

	OPENING AREA (S.F.)	DIMENSIONS					
D		A	B	C	E	F	G
15"	1.23	1'-11"	1'-2"	4'-0"	1'-10"	1'-2"	0'-6"
18"	1.77	2'-2"	1'-3"	4'-6"	1'-11"	1'-3"	1'-0"
21"	2.41	2'-5"	1'-4"	5'-0"	2'-0"	1'-4"	1'-6"
24"	3.14	2'-8"	1'-4"	5'-6"	2'-9"	1'-4"	2'-0"
27"	3.98	2'-11"	1'-5"	6'-0"	2'-11"	1'-5"	2'-6"
30"	4.91	3'-2"	1'-6"	6'-6"	2'-2"	1'-6"	3'-0"
36"	7.07	3'-8"	1'-8"	7'-6"	2'-4"	1'-8"	4'-0"
42"	9.62	4'-2"	1'-10"	8'-6"	2'-6"	2'-0"	5'-0"
48"	12.57	4'-8"	2'-1"	9'-6"	2'-9"	2'-0"	6'-0"
54"	15.90	5'-2"	2'-6"	10'-6"	3'-2"	2'-3"	7'-0"



D-17

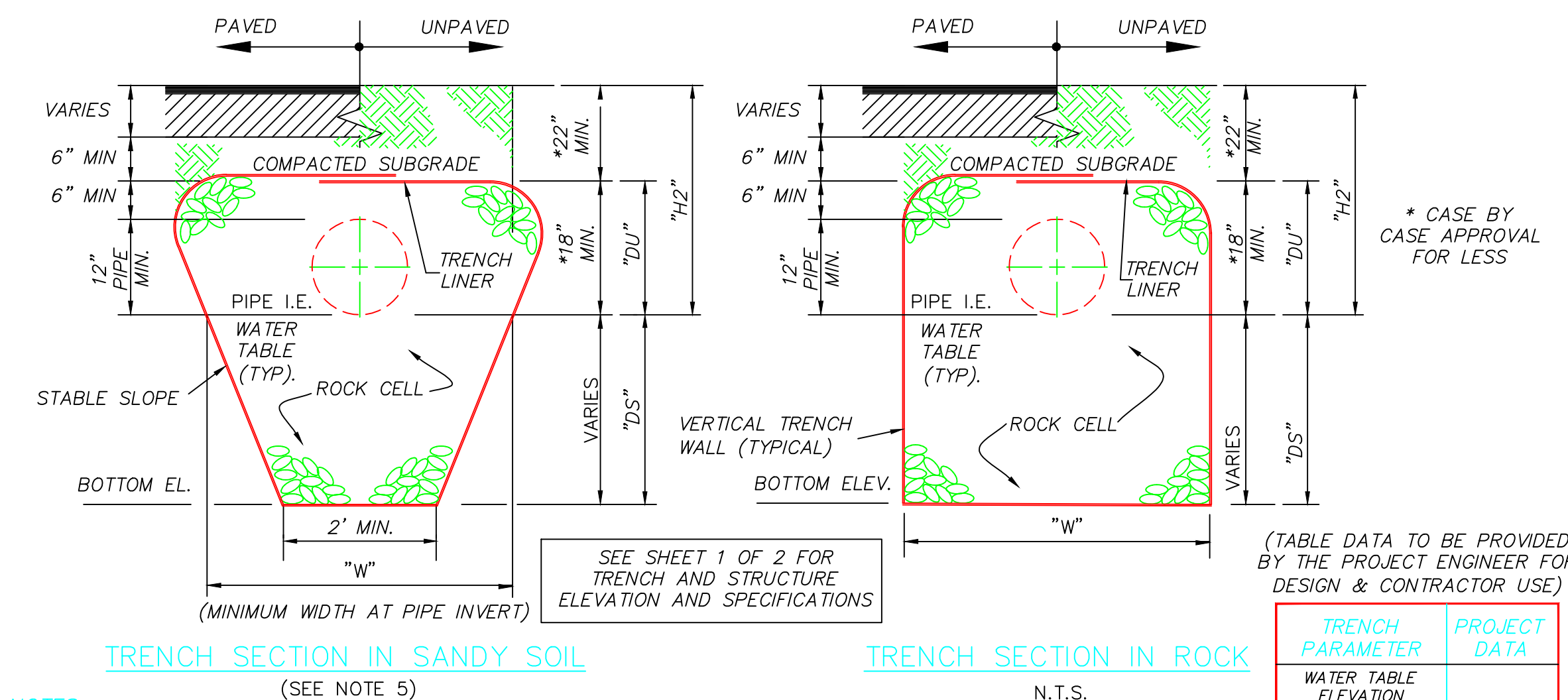


1. EXFILTRATION PIPE SHALL BE 4-2000 PVC CORRUGATED PIPE, HDPE CORRUGATED PIPE, ALUMINUM CORRUGATED METAL PIPE OR SLOTTED REINFORCED CONCRETE PIPE, OR OTHER MATERIALS AS APPROVED BY THE CITY OF SUNRISE. ALL PIPE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. PROVIDE GASKETS FOR RCP & PVC PIPE, GASKETS ARE OPTIONAL FOR CMP & HDPE PIPE WITHIN THE ROCK CELL. ALL EXFILTRATION SYSTEM PIPE SHALL BE LAID WITH 0.0% SLOPE.
2. ROCK FOR THE EXFILTRATION TRENCH SHALL CONSIST OF FDOT #4 AGGREGATE. THERE SHALL BE FIVE FEET WATER WASHED FREE OF DETERIORATIVE MATERIAL. AGGREGATE IS NOT TO BE USED IN TRENCH. TRENCH LENGTH IS MEASURED BY THE LENGTH OF PERFORATED PIPE ONLY. ALL PIPES SHALL CONNECT TO STRUCTURES - NO DEAD END EXFILTRATION PIPE IS ALLOWED.

3. SIDES AND TOP OF TRENCH SHALL BE LINED WITH ONE LAYER OF WOVEN OR NON-WOVEN PLASTIC TYPE FILTER CLOTH. OVERLAP TRENCH LINING MATERIAL A MINIMUM OF TWO FEET AT TOP OF TRENCH AND WRAP PIPE AT TRENCH ENDS. CLOTH FABRIC ENDS AT PIPE WITH A STAINLESS STEEL STRAP AROUND PIPE. ALL MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
4. BIO-BARRIER SHALL BE INSTALLED ADJACENT TO EXFILTRATION TRENCH WHEN EXISTING OR PROPOSED TREES ARE LOCATED WITHIN 10 FEET OF THE CENTERLINE OF PIPE. INSTALLATION OF BIO-BARRIER SHALL BE IN ACCORDANCE WITH CITY LANDSCAPE DETAILS.
5. DESIGN CALCULATIONS FOR EXFILTRATION TRENCH SHALL COMPLY WITH THE CRITERIA ESTABLISHED BY THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT. SEE SHEET 2 OF 2 FOR DESIGN CONSIDERATIONS.

NOT TO SCALE

(D-11A)



1. EXFILTRATION TRENCH PARAMETERS FOR DESIGN
 - "W" = TRENCH WIDTH
 - "Ds" = SATURATED TRENCH BELOW WATER TABLE (FROM WATER CONTROL ELEVATION TO BOTTOM OF TRENCH)
 - "Du" = UNSATURATED TRENCH ABOVE WATER TABLE (FROM WATER CONTROL ELEVATION TO TOP OF TRENCH)
 - "H2" = DISTANCE OF GROUND SURFACE TO WATER TABLE
2. NOTE THAT FOR EXFILTRATION TRENCHES THAT DISCHARGE TO A CONTROL WEIR H2 AND Du WILL BE LIMITED IN THE DESIGN TO THE DISTANCE FROM THE CREST OF THE WEIR TO THE WATER TABLE.
3. FOR DESIGN OF TRENCH SEE SOUTH FLORIDA WATER MANAGEMENT DISTRICT "PERMIT INFORMATION MANUAL VOLUME IV," SURFACE WATER DESIGN AIDS SECTION, FIGURE "E-4"
4. NO CONFLICT PIPES WILL BE PERMITTED WITHIN THE EXFILTRATION TRENCH ROCK. FOR ALL UTILITY CONFLICT CROSSINGS FOR EXFILTRATION TRENCH PROVIDE A 15' GAP IN THE TRENCH AND PROVIDE NON-PERFORATED DRAINAGE PIPE. CENTER CONFLICTING UTILITY PIPE CROSSING IN THE NON-PERFORATED PIPE SECTION.
5. AVERAGE CROSS SECTIONAL AREA FOR TRENCH CONSTRUCTION IN SAND CONDITIONS SHALL AT MINIMUM MATCH IDEAL VERTICAL SIDE TRENCH AREA CROSS SECTIONAL AREA.

NOT TO SCALE

TRENCH PARAMETER	PROJECT DATA
WATER TABLE ELEVATION	
AVG. GROUND ELEVATION	
PIPE FLOW LINE ELEVATION	
TRENCH WIDTH "W"	
TRENCH BOTTOM ELEVATION	
UNSATURATED TRENCH "du"	
SATURATED TRENCH "ds"	
DISTANCE TO WATER TABLE "h2"	

Designed By: _____

Drawn By: _____

Checked By: _____

S	N	D	R	B
YMBOL	O.	ATE	EVISIONS	Y



COMMUNITY DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
STANDARD PAVING &
DRAINAGE DETAILS

PROJECT ENGINEER OF RECORD

LICENSE NO.: _____
STATE OF FLORIDA

PROJECT CONSULTANT

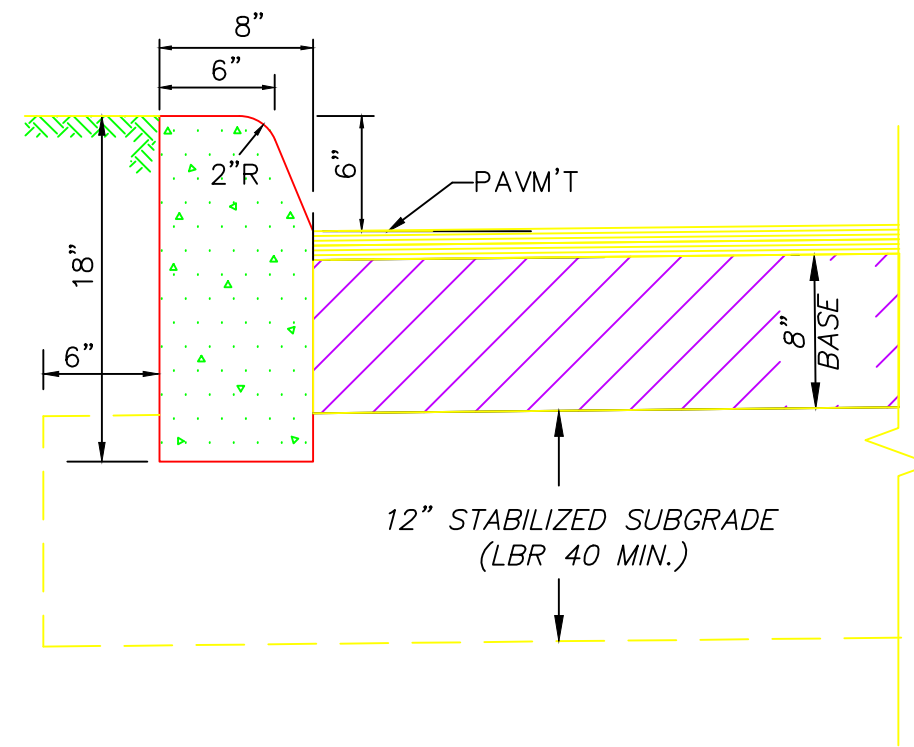
PROJECT

LAYOUT SAMPLE 3

DATE _____

NOT T
SCALE

PROJECT
NUMBERSHEET
NUMBER



TYPE "D" CURB
N.T.S.

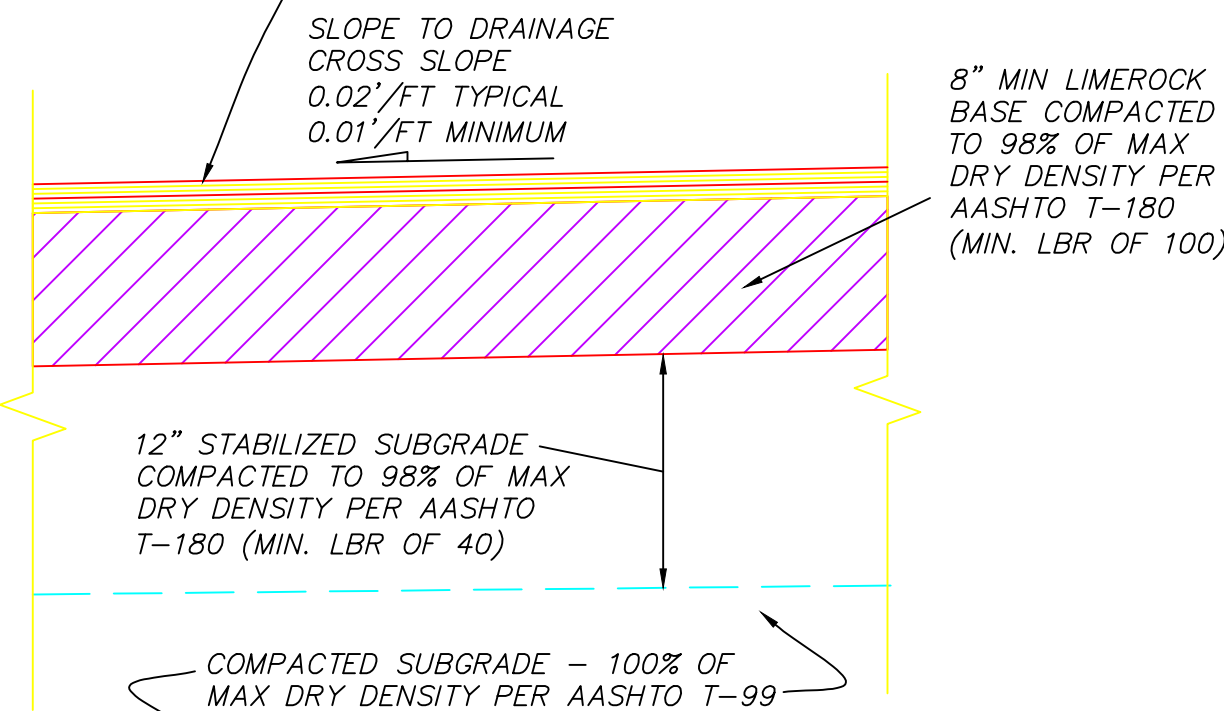
CURB NOTES:

1. PROVIDE 1/4" WIDE CONTRACTION JOINT A MINIMUM OF 1-1/2" DEEP AND AT 10' SPACING MAXIMUM FOR ALL CURBS.
2. CONCRETE SHALL BE 3000 P.S.I. MIN. @ 28 DAYS.
3. TYPE "D" CURB FOR PARKING LOTS MAY BE INSTALLED AS "TRENCHED" D CURB WITH EXTRUDED TOP AT THE CONTRACTOR'S OPTION. TRENCHED CURB REQUIRES CITY TRENCH INSPECTION AND APPROVAL. EXTRUDED CURB MUST BE PLACED WITHIN 15 MINUTES OF PLACEMENT OF TRENCH CONCRETE. EXTRUDED CURB AND TRENCH CONCRETE SHALL BE MONOLITHIC.

TYPE "D" CURB DETAILS
NOT TO SCALE D-14

1-1/2" MIN. THICKNESS TYPE S* ASPHALTIC CONCRETE PLACED IN (2) LIFTS. SECOND LIFT TO BE INSTALLED AFTER FINAL LANDSCAPING AND IRRIGATION INSPECTIONS.

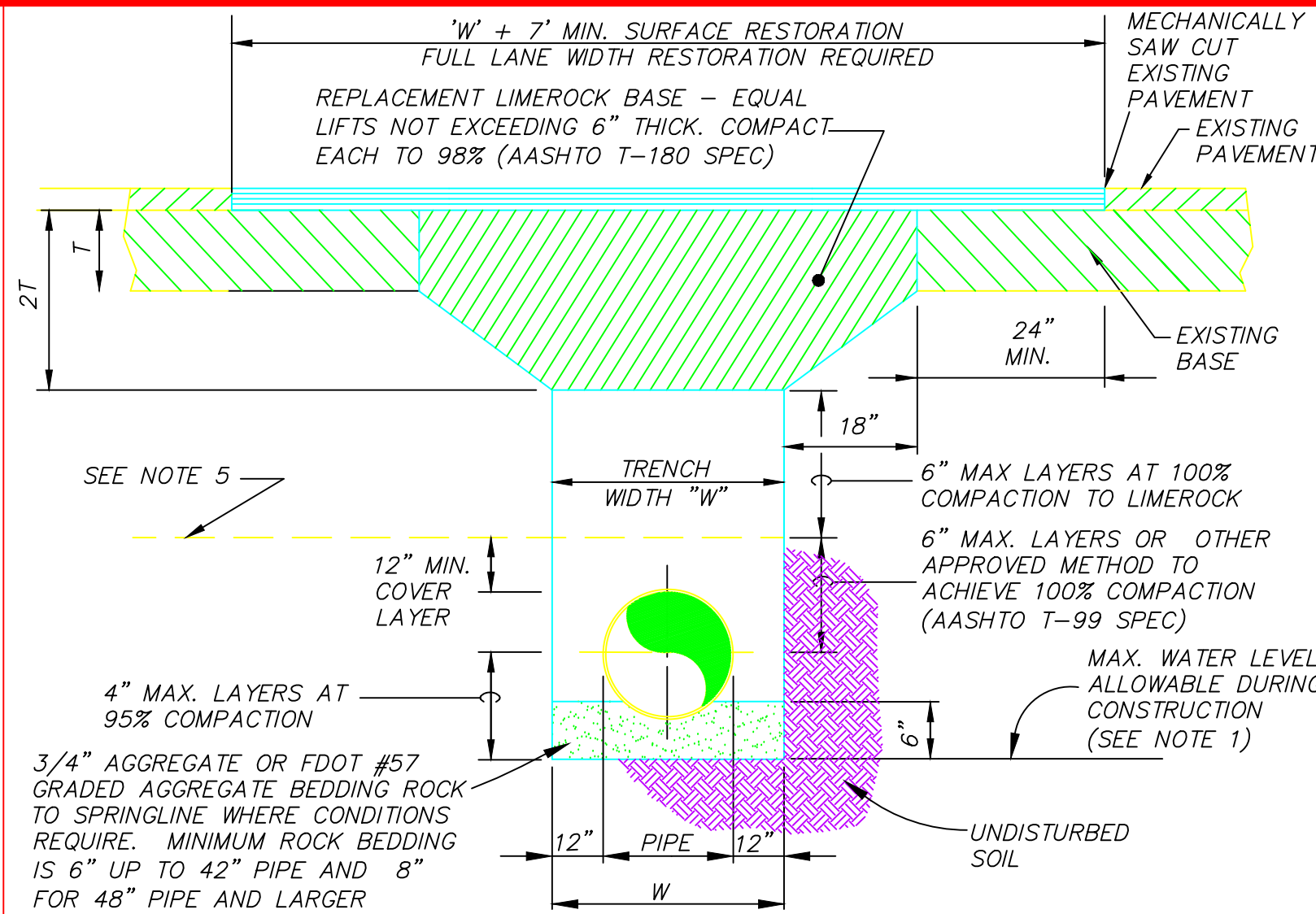
*ASPHALTIC CONCRETE PAVEMENT NOTE
TYPE S-3 LIFT THICKNESS 3/4" MIN. TO 1" MAX.
TYPE S-1 LIFT THICKNESS 1-1/4" MIN. TO 2" MAX.
FOR MINIMUM PAVEMENT THICKNESS OF 1-1/2" USE TWO 3/4" LIFTS OF TYPE S-3 A.C.



NOTES:

1. STABILIZED SUBGRADE SHALL HAVE A MINIMUM LIMEROCK BEARING RATIO (LBR) OF 40 AND IS REQUIRED FOR ALL NEW PAVEMENT CONSTRUCTION. ALL STABILIZED SUBGRADE SHALL BE STRING LINED FOR GRADE AND PASS ALL REQUIRED DENSITY TESTING PRIOR TO PLACEMENT OF LIMEROCK BASE. AREAS BELOW DESIGN GRADE MAY BE CORRECTED BY PLACEMENT OF ADDITIONAL LIMEROCK MATERIAL. AREAS ABOVE DESIGN GRADE MUST BE CORRECTED AND REINSPECTED PRIOR TO LIMEROCK PLACEMENT.
2. LIMEROCK BASE FOR ROADWAYS AND PARKING LOTS SHALL BE A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM. BASE THICKNESS GREATER THAN 8" SHALL BE PLACED IN EQUAL LIFTS NOT EXCEEDING 6".
3. PRIME COAT SHALL BE APPLIED TO ALL FINISHED LIMEROCK BASE SURFACES AFTER BOARDING AND DENSITY INSPECTIONS. APPLICATION RATES AND MATERIALS SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS.
4. TACK COAT SHALL BE PLACED AS REQUIRED ON EXISTING ASPHALT SURFACES BEFORE APPLICATION OF AN OVERBUILD LAYER AND TO NEW SURFACES BETWEEN LIFTS. APPLICATION RATES AND MATERIALS SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS.
5. FINAL PAVEMENT LIFT CANNOT BE PLACED UNTIL ALL PROJECT LANDSCAPING IS IN PLACE AND THE IRRIGATION SYSTEM IS INSTALLED AND APPROVED.

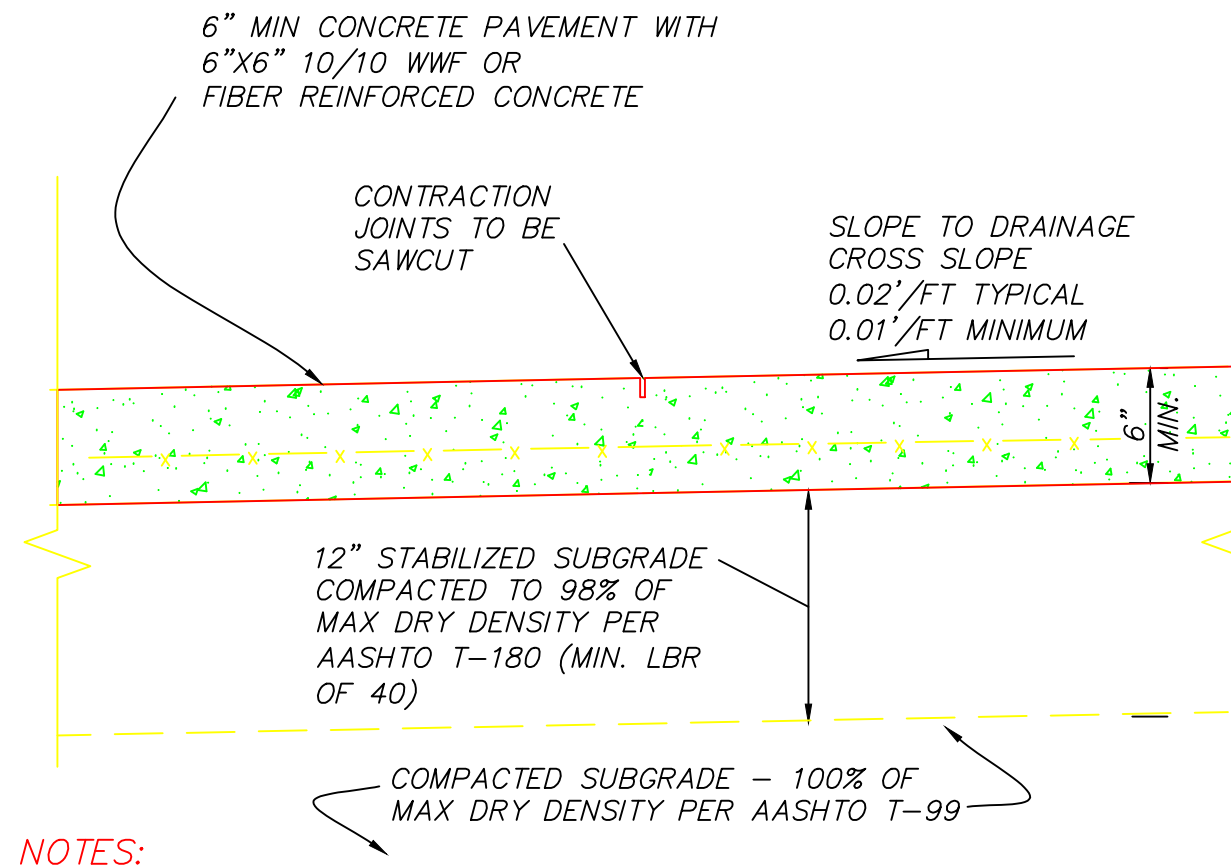
ASPHALTIC CONCRETE PAVEMENT DETAIL
MINOR ROADWAYS AND PARKING LOTS
NOT TO SCALE D-20



TRENCH & RESTORATION NOTES:

1. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE PROVIDE APPROVED METHOD OF CONSTRUCTION.
2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
3. NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING AND SHALL HAVE LAPPED AND FEATHERED JOINTS. (2" MIN. THICKNESS)
4. ALL ROADWAY RESTORATION SHALL COMPLY WITH THE CITY OF SUNRISE REQUIREMENTS OR OTHER JURISDICTIONAL AUTHORITIES WHERE APPLICABLE.
5. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LINE.
6. BACKFILL COMPACTION SHALL BE IN ACCORDANCE WITH CITY OF SUNRISE STANDARDS. COMPACTION PERCENTAGES FOR BACKFILL REFER TO AASHTO T-99 STANDARD PROCTOR. COMPACTION PERCENTAGES FOR ROCK BASE REFER TO AASHTO T-180 MODIFIED PROCTOR SPEC.
7. SURFACE RESTORATION WIDTH MAY BE ADJUSTED BY THE CITY.
8. FULL LANE RESTORATION REQUIRED. EXISTING PAVEMENT TO BE MILLED 1" MINIMUM OR REMOVED TO BASE ROCK OUTSIDE THE TRENCH AREA.
9. MAINTAIN TRENCH WALL PER OSHA REQUIREMENTS AND STATE OF FLORIDA TRENCH SAFETY ACT.

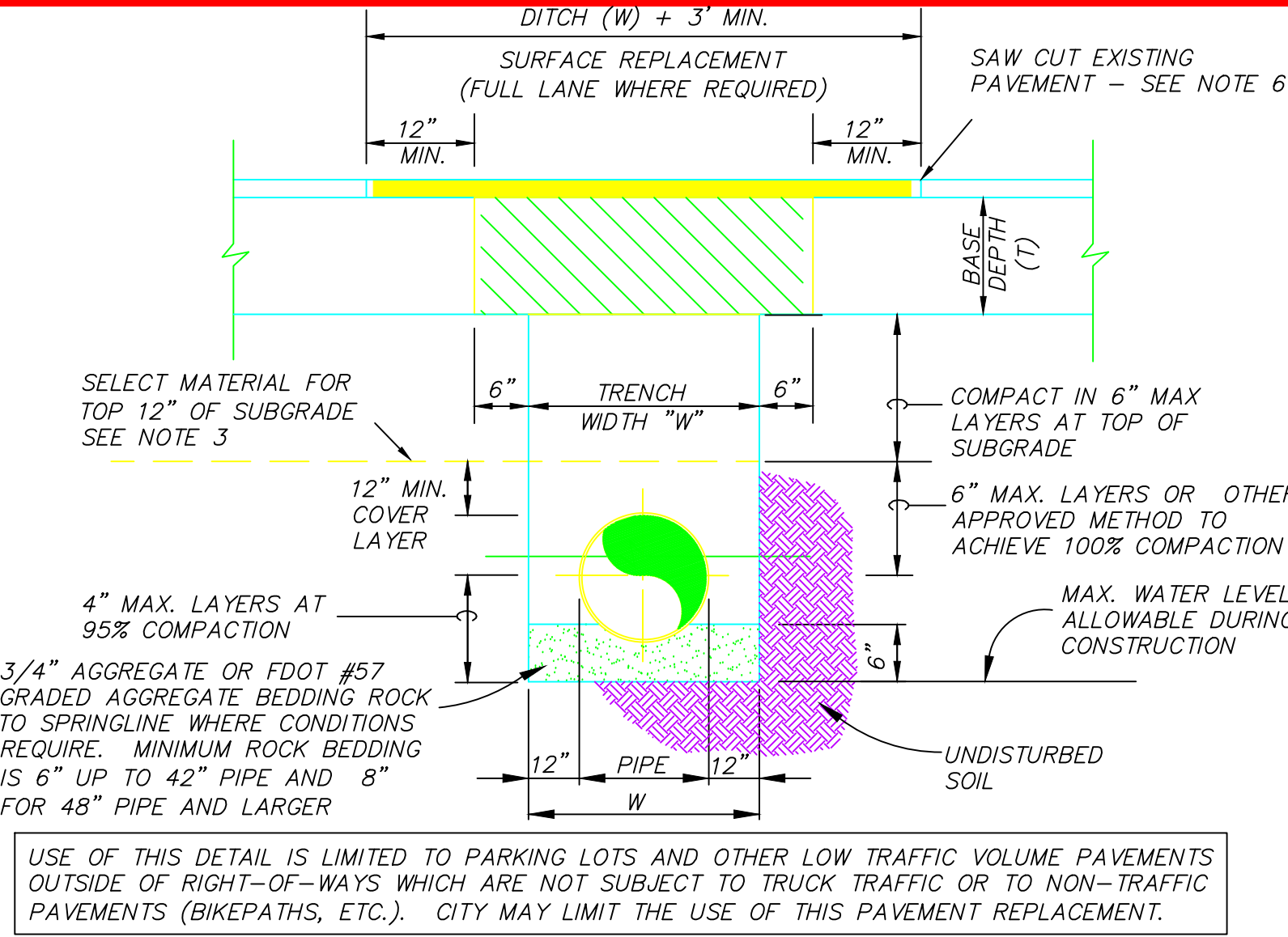
TYPE 1 - TRENCH AND PAVEMENT
RESTORATION FOR DRAINAGE
NOT TO SCALE D-15A



NOTES:

1. STABILIZED SUBGRADE SHALL HAVE A MINIMUM LIMEROCK BEARING RATIO (LBR) OF 40 AND IS REQUIRED FOR ALL NEW PAVEMENT CONSTRUCTION. ALL STABILIZED SUBGRADE SHALL BE STRING LINED FOR GRADE AND PASS ALL REQUIRED DENSITY TESTING PRIOR TO PLACEMENT OF CONCRETE PAVEMENT. ALL AREAS FOUND TO BE ABOVE OR BELOW THE DESIGN GRADE MUST BE CORRECTED AND REINSPECTED PRIOR TO CONCRETE PAVEMENT CONSTRUCTION.
2. CONCRETE PAVEMENT SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
3. DESIGN OF CONSTRUCTION, EXPANSION AND CONTRACTION JOINTS AND LOCATIONS SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER. DESIGN SHALL PROVIDE UNIFORM SPACING AND ACHIEVE CONTROLLED CRACKING. EXPANSION JOINTS ARE REQUIRED WHERE THE CONCRETE PAVEMENT MEETS CURBING.
4. ALL CONCRETE PAVEMENT SHALL BE CURED IN ACCORDANCE WITH FDOT SPECIFICATIONS AND SHALL HAVE A BROOM FINISH.
5. COLORED AND/OR STAMPED CONCRETE PAVEMENT WILL REQUIRE CITY APPROVAL OF BOTH THE COLOR AND STAMP PATTERN.
6. CONCRETE PAVEMENT SHALL BE SAWCUT ALONG ALL CITY OF SUNRISE EASEMENT LINES.
7. USE OF CONCRETE PAVEMENT TO BE APPROVED BY THE CITY OF SUNRISE.

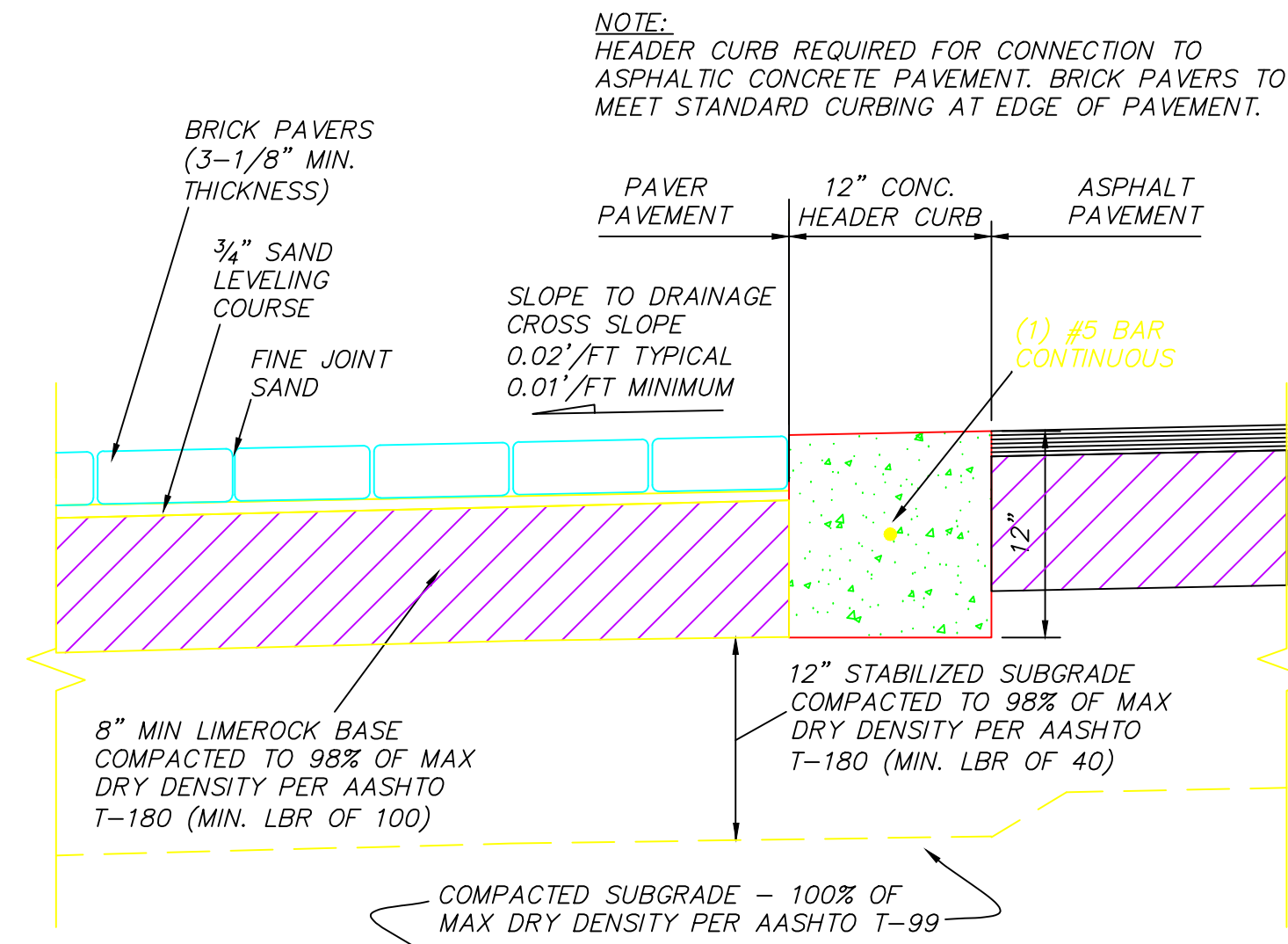
CONCRETE PAVEMENT DETAIL
MINOR ROADWAYS AND PARKING LOTS
NOT TO SCALE D-21



NOTES:

1. BASE MATERIAL EXCEEDING 8" THICK SHALL BE PLACED IN MULTIPLE EQUAL LIFTS NOT EXCEEDING 6" IN THICKNESS AND SHALL MATCH EXISTING BASE THICKNESS. COMPACT BASE THOROUGHLY BY ROLLING OR TAMPING TO A MINIMUM DENSITY OF 98% PER AASHTO T-180 MODIFIED PROCTOR SPEC.
2. THE TOP 12" OF THE SUBGRADE SHALL BE SELECT STABILIZED MATERIAL WITH A MINIMUM LBR OF 40. AN ADDITIONAL 6" LAYER OF LIMEROCK MAY BE USED IN PLACE OF THE STABILIZED MATERIAL IF THE AVAILABLE MATERIALS DO NOT MEET THE MINIMUM LBR-40 REQUIREMENTS.
3. BACKFILL COMPACTION SHALL BE IN ACCORDANCE WITH CITY OF SUNRISE STANDARDS. COMPACTION PERCENTAGES FOR BACKFILL REFER TO AASHTO T-99 STANDARD PROCTOR.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE. (1" MIN. THICKNESS) SURFACE RESTORATION WIDTH MAY BE ADJUSTED BY THE CITY.
5. PAVEMENT SURFACE SHALL BE REMOVED A MINIMUM OF 12" ON EACH SIDE OF THE TRENCH BEYOND UNDISTURBED BASE. RESTORE FULL LANE WHERE REQUIRED. FOR FULL LANE RESTORATION EXISTING PAVEMENT TO BE MILLED 1" MINIMUM OR REMOVED TO BASE ROCK OUTSIDE THE TRENCH AREA.
6. EXISTING ASPHALT PAVEMENT SHALL BE SAW CUT AT EXPOSED EDGES. ALL ASPHALT JOINTS SHALL BE MECHANICALLY SAWED.
7. MAINTAIN TRENCH WALL PER OSHA REQUIREMENTS AND STATE OF FLORIDA TRENCH SAFETY ACT.

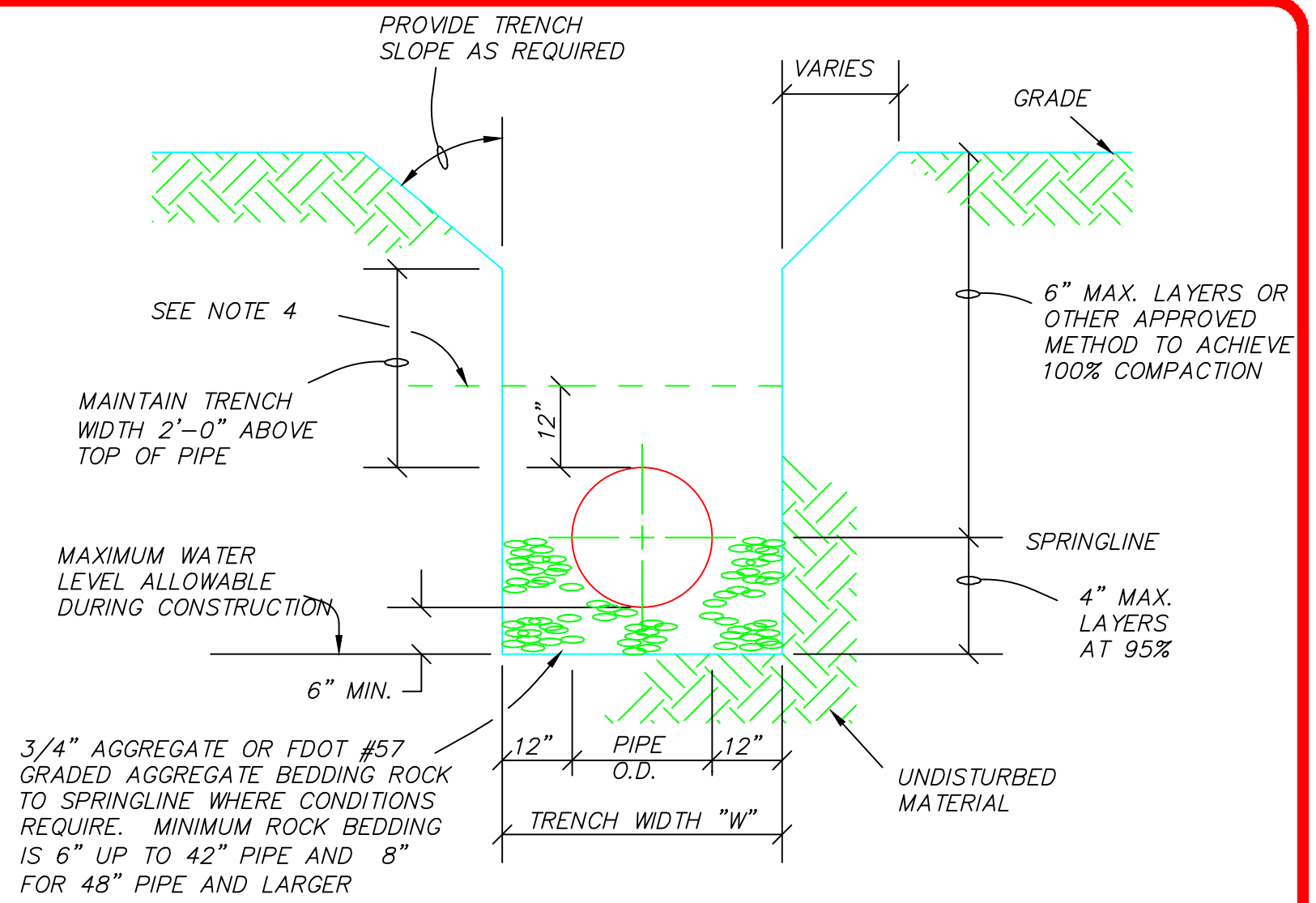
TYPE 2 - TRENCH AND PAVEMENT
RESTORATION - LIMITED AREAS
NOT TO SCALE D-15B



NOTES:

1. STABILIZED SUBGRADE SHALL HAVE A MINIMUM LIMEROCK BEARING RATIO (LBR) OF 40 AND IS REQUIRED FOR ALL NEW PAVEMENT CONSTRUCTION. ALL STABILIZED SUBGRADE SHALL BE STRING LINED FOR GRADE AND PASS ALL REQUIRED DENSITY TESTING PRIOR TO PLACEMENT OF CONCRETE PAVER SYSTEM. ALL AREAS FOUND TO BE ABOVE OR BELOW THE DESIGN GRADE MUST BE CORRECTED AND REINSPECTED PRIOR TO PAVER CONSTRUCTION.
2. LIMEROCK BASE FOR ROADWAYS AND PARKING LOTS SHALL BE A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM. BASE THICKNESS GREATER THAN 8" SHALL BE INSTALLED IN EQUAL LIFTS NOT EXCEEDING 6".
3. BASE PRIME COAT WILL NOT BE REQUIRED FOR BRICK PAVER BASE.
4. SHOP DRAWING AND SUBMITTALS REQUIRED FOR THE PROPOSED PAVER MODULES, PAVER PATTERN, LEVELING SAND AND JOINT SAND MATERIALS. PAVERS SHALL BE LAID LEVEL TO ALL ADJACENT PAVERS AND TO THE FINISH GRADE WITH A TOLERANCE OF 1/4".
5. PAVER PAVEMENT SHALL BE PROTECTED FROM ALL TRAFFIC UNTIL COMPLETED AND APPROVED FOR USE BY THE CITY ENGINEERING DIVISION INSPECTOR.
6. USE OF BRICK PAVER PAVEMENT WILL REQUIRE APPROVAL BY THE CITY. APPROVAL SHALL INCLUDE LOCATION, COLOR AND PAVER PATTERN.

BRICK PAVER PAVEMENT DETAIL
MINOR ROADWAYS AND PARKING LOTS
NOT TO SCALE D-22



TRENCH DETAIL

TRENCH CONSTRUCTION NOTES

1. WHERE SOIL CONDITIONS CANNOT BE MAINTAINED AS SHOWN ABOVE THE CONTRACTOR SHALL PROVIDE HIS ALTERNATE PLAN FOR TRENCH CONSTRUCTION TO THE ENGINEER OF RECORD AND THE CITY FOR APPROVAL.
2. SHEETING REQUIREMENTS WILL BE DETERMINED IN THE FIELD. SEE PROJECT SPECIFICATIONS.
3. COMPACTION PERCENTAGES REFER TO AASHTO T-99 STANDARD PROCTOR.
4. MECHANICAL COMPACTION NOT ALLOWED BELOW 12" ABOVE THE PIPE.
5. PVC AND HDPE PIPE TO HAVE ROCK BACKFILL TO PIPE SPRINGLINE AND SAND OR AGGREGATE BEDDING AND/OR ENVELOPE AS REQUIRED IN AREAS WHERE TRENCH BACKFILL IS NOT SUITABLE DUE TO ROCK. ENVELOPE TO BE MIN. 12 INCHES AROUND THE PIPE.
6. MAINTAIN TRENCH WALL PER OSHA REQUIREMENTS AND STATE OF FLORIDA TRENCH SAFETY ACT.

DRAINAGE TRENCH
CONSTRUCTION DETAILS
NOT TO SCALE D-16

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COMMUNITY DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
STANDARD PAVING &
DRAINAGE DETAILS

PROJECT ENGINEER OF RECORD

LICENSE NO.: _____
STATE OF FLORIDA

PROJECT CONSULTANT

PROJECT

LAYOUT SAMPLE 4

DATE
NOT TO
SCALE

PROJECT
NUMBER

SHEET
NUMBER

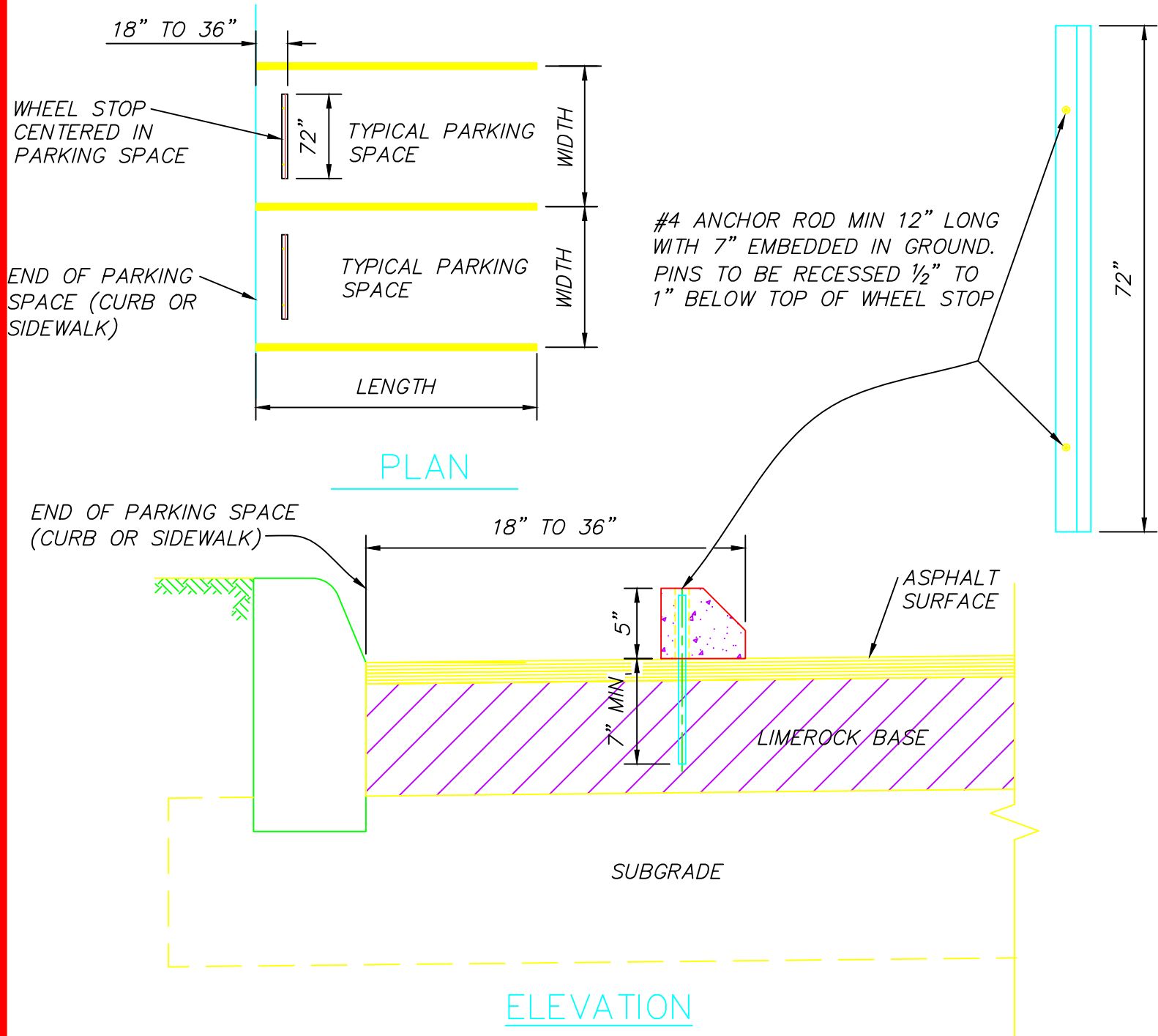
GENERAL DRAINAGE STRUCTURES NOTES:

- WALLS OF CIRCULAR STRUCTURES [ALTERNATE "A"] OR RECTANGULAR STRUCTURES [ALTERNATE "B"] SHALL BE CONSTRUCTED OF PRECAST CONCRETE. USE OF CAST IN PLACE STRUCTURES WILL BE APPROVED ON A CASE BY CASE BASIS.
- WALL REINFORCEMENT AND THICKNESS ARE FOR EITHER CAST-IN-PLACE OR PRECAST CONCRETE UNITS EXCEPT THAT THE MANUFACTURER MAY FURNISH PRECAST CIRCULAR UNITS IN ACCORDANCE WITH A.S.T.M. SPECIFICATION C-478 UP TO 96" IN DIA. OR PRECAST CIRCULAR UNITS A.S.T.M. SPECIFICATION C-76, TABLE III, FOR "B" WALL CONCRETE PIPE WITH 6" MINIMUM WALL THICKNESS.
- TOP AND FLOOR SLAB THICKNESS AND REINFORCEMENT ARE FOR ALL TYPES OF CONSTRUCTION.
- ELLIPTICAL STEEL, A.S.T.M. SPECIFICATION C-76 TABLE III, "B" WALL, IS MODIFIED TO USE A CIRCULAR CAGE OF STEEL AREA EQUAL TO THAT OF THE ELLIPTICAL CAGE AND PLACED IN THE CENTER ONE-THIRD OF THE WALL. THIS MODIFICATION IS FOR PRECAST CIRCULAR UNITS PRODUCED IN ACCORDANCE WITH A.S.T.M. C-76.
- RECTANGULAR STRUCTURES MAY BE ROTATED AS DIRECTED BY THE ENGINEER IN ORDER TO FACILITATE CONNECTIONS BETWEEN THE STRUCTURE WALLS AND THE STORM SEWER PIPES.
- EMBEDMENT HOOKS IN THE TOP AND BOTTOM SLABS MAY BE REPLACED WITH STRAIGHT EMBEDMENTS.
- ALL STEEL BARS SHALL HAVE 2" MINIMUM COVER UNLESS OTHERWISE SHOWN. HORIZONTAL STEEL IN RECTANGULAR STRUCTURES SHALL BE LAPPED A MINIMUM OF 24 BAR DIAMETERS AT CORNERS.
- INLET THROATS, RISERS OR MANHOLE TOPS SHALL BE SECURED TO STRUCTURES WITH A KEYWAY UNLESS OTHERWISE PERMITTED BY THE CITY OF SUNRISE ENGINEERING DIVISION.
- RINGS AND COVERS AND GRATE AND FRAMES FOR MANHOLES AND CATCH BASINS SHALL BE TRAFFIC BEARING DESIGN, AND COMPLY WITH CITY OF SUNRISE STANDARDS. PLACEMENT OF MANHOLE RINGS AND INLET GRATES REQUIRES A MINIMUM OF ONE AND A MAXIMUM OF FOUR COURSES OF MORTARED BRICK SUPPORT BETWEEN THE CASTING AND THE CONCRETE STRUCTURE.

GENERAL DRAINAGE STRUCTURE NOTES

NOT TO SCALE

D-01B



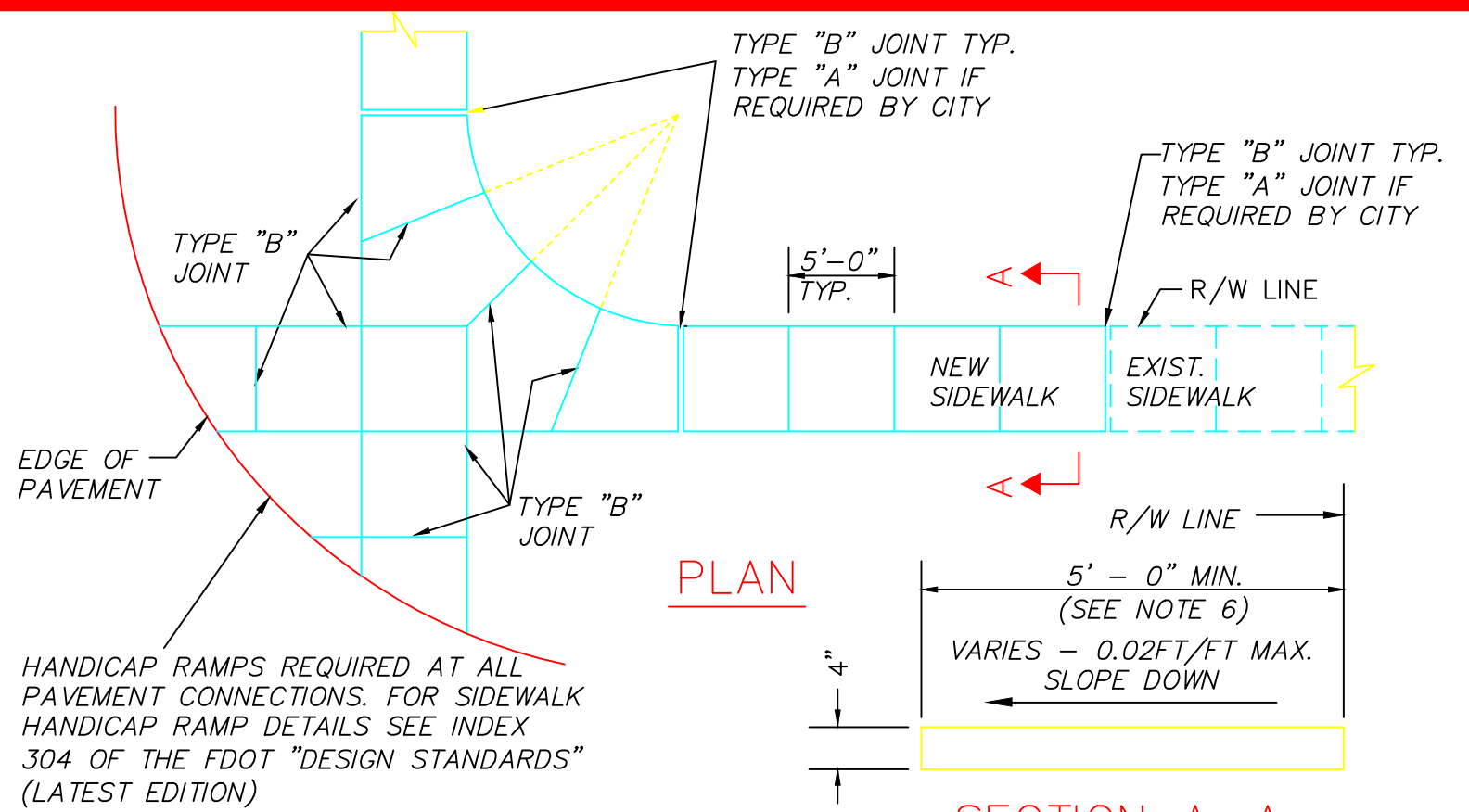
NOTES:

- WHEELSTOP SIZES MAY VARY DEPENDING ON MANUFACTURER.
- WHEELSTOPS SHALL BE UNPAINTED OR PAINTED WHITE OR YELLOW EXCEPT AT HANDICAP SPACES WHICH SHALL IN ALL CASES BE UNPAINTED.
- ANCHOR RODS SHALL BE MINIMUM OF #4 REBAR, 12" LONG WITH 7" MINIMUM EMBEDMENT.
- IN PAVER AREAS THE ANCHOR RODS SHALL BE A MINIMUM OF 18" LONG. HOLES SHALL BE PRE-DRILLED.
- WHEELSTOPS ARE REQUIRED ON ALL ANGLED PARKING SPACES (EXCEPT PARALLEL SPACES) AND ALL PARKING SPACES LESS THAN 20 FEET IN LENGTH.
- DISTANCE FROM END OF PARKING TO FACE OF WHEELSTOP SHALL BE THE SAME THROUGHOUT THE PROJECT.

WHEELSTOP DETAIL

NOT TO SCALE

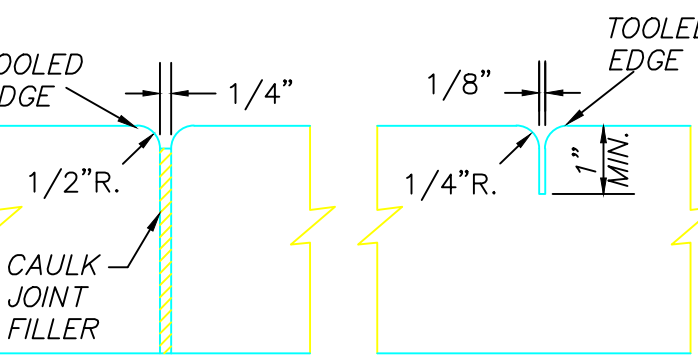
D-25



NOTES:

- FOR NEW SIDEWALK LOCATIONS SUBGRADE BELOW SIDEWALK SHALL BE A MIN. L.B.R.=40 COMPACTED TO 98% OF MAX. DENSITY PER A.A.S.H.T.O. T-180.
- CONCRETE TO BE 3,000 P.S.I. @ 28 DAYS
- ALL JOINTS AND EDGES OF NEW SIDEWALK SHALL BE TOOLED. NO SAWCUT JOINTS ARE PERMITTED IN NEW SIDEWALK.
- THE USE OF WIRE MESH REINFORCEMENT IN SIDEWALK WILL NOT BE PERMITTED
- SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE "AMERICAN WITH DISABILITIES ACT". CROSS SLOPES SHALL NOT EXCEED 0.02/FT (2.0%).
- ALL SIDEWALKS SHALL BE 4" THICK EXCEPT AT DRIVEWAY CROSSINGS AND OTHER VEHICULAR CROSSING AREAS WHERE THE SIDEWALK SHALL BE A MINIMUM OF 6" THICK.
- MINIMUM WIDTH OF SIDEWALK PLACED AT BACK OF CURB IS 6'-0".
- FOR TYPE "A" EXPANSION JOINTS PRE-MOULDED EXPANSION MATERIAL IS NOT PERMITTED. EXPANSION JOINTS TO BE USED ONLY IF APPROVED BY THE ENGINEERING DIVISION AND SHALL BE SEALED WITH APPROVED FLEXIBLE RUBBERIZED CAULK.
- SIDEWALKS SHALL HAVE A LIGHT BROOM FINISH.

SECTION A-A



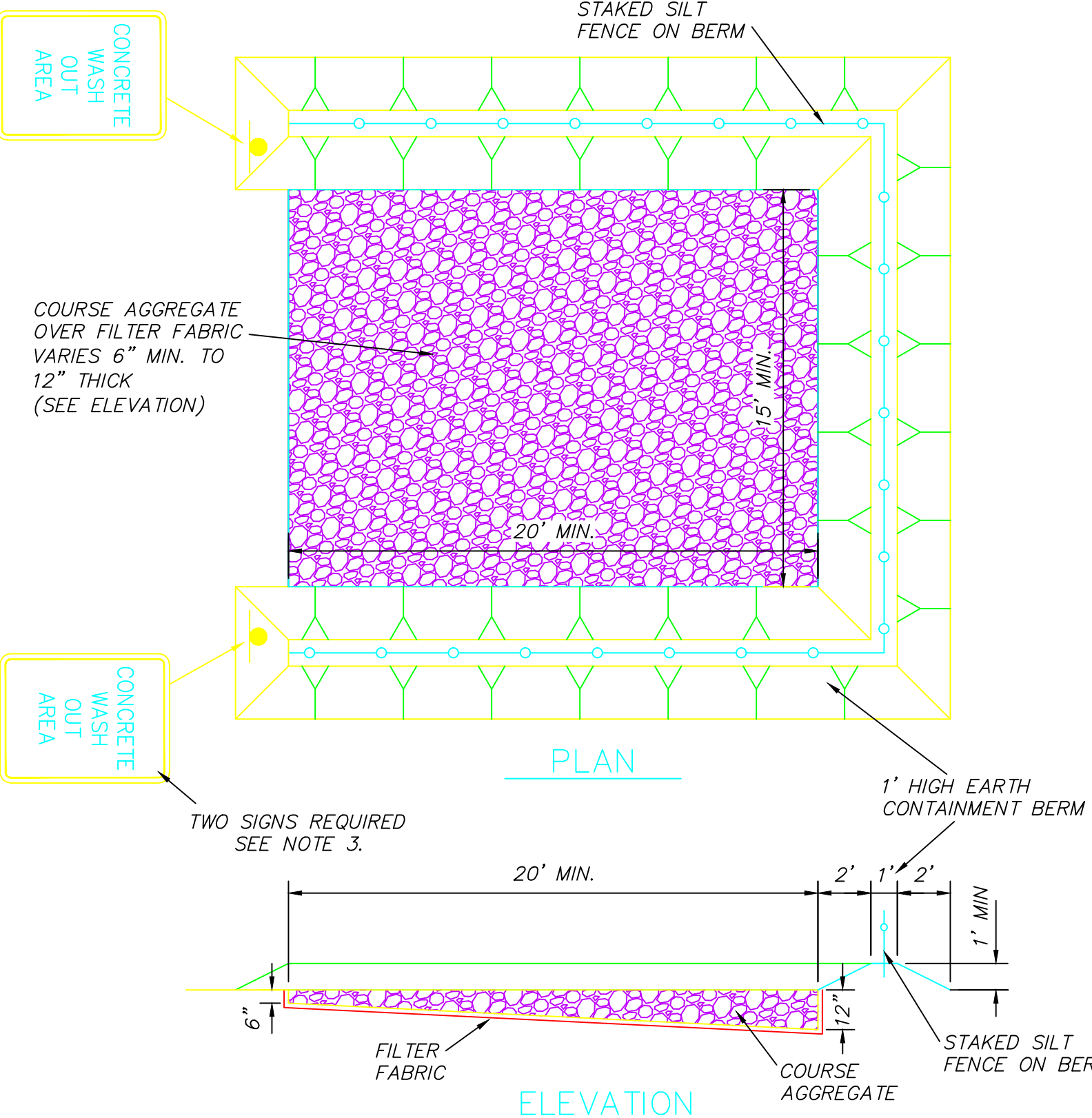
SIDEWALK JOINTS

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	ONLY WHERE DIRECTED BY THE CITY
"B"	5'-0" MINIMUM CENTER TO CENTER ON SIDEWALK

SIDEWALK CONSTRUCTION DETAILS

NOT TO SCALE

D-17



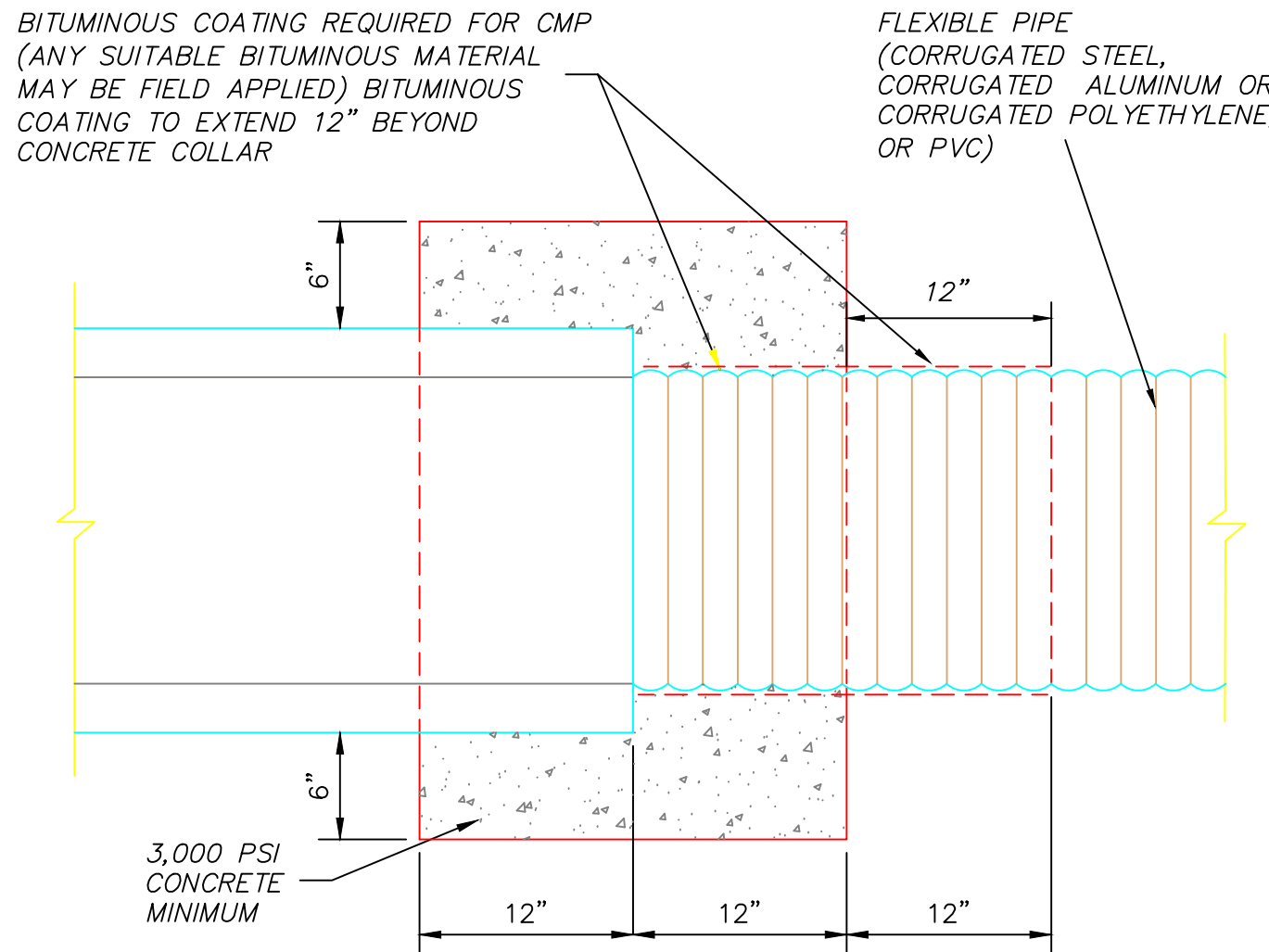
NOTES:

- ALL MATERIAL SHALL BE REMOVED FROM THE SITE AT THE END OF THE PROJECT.
- AGGREGATE SHALL BE REPLACED AS DIRECTED BY THE ENGINEER OF RECORD AND/OR THE CITY WHEN EXCESSIVE MATERIALS BUILDUP RENDERS THE WASH OUT AREA NO LONGER FUNCTIONAL.
- SIGNS SHALL BE 18" X 12" MIN. SIZE WITH 2" BLACK LETTERING ON A WHITE BACKGROUND AND MOUNTED A MINIMUM OF 7 FEET ABOVE GRADE FROM THE LOWEST EDGE OF THE SIGN FACE.

CONCRETE TRUCK WASH OUT AREA

NOT TO SCALE

D-26



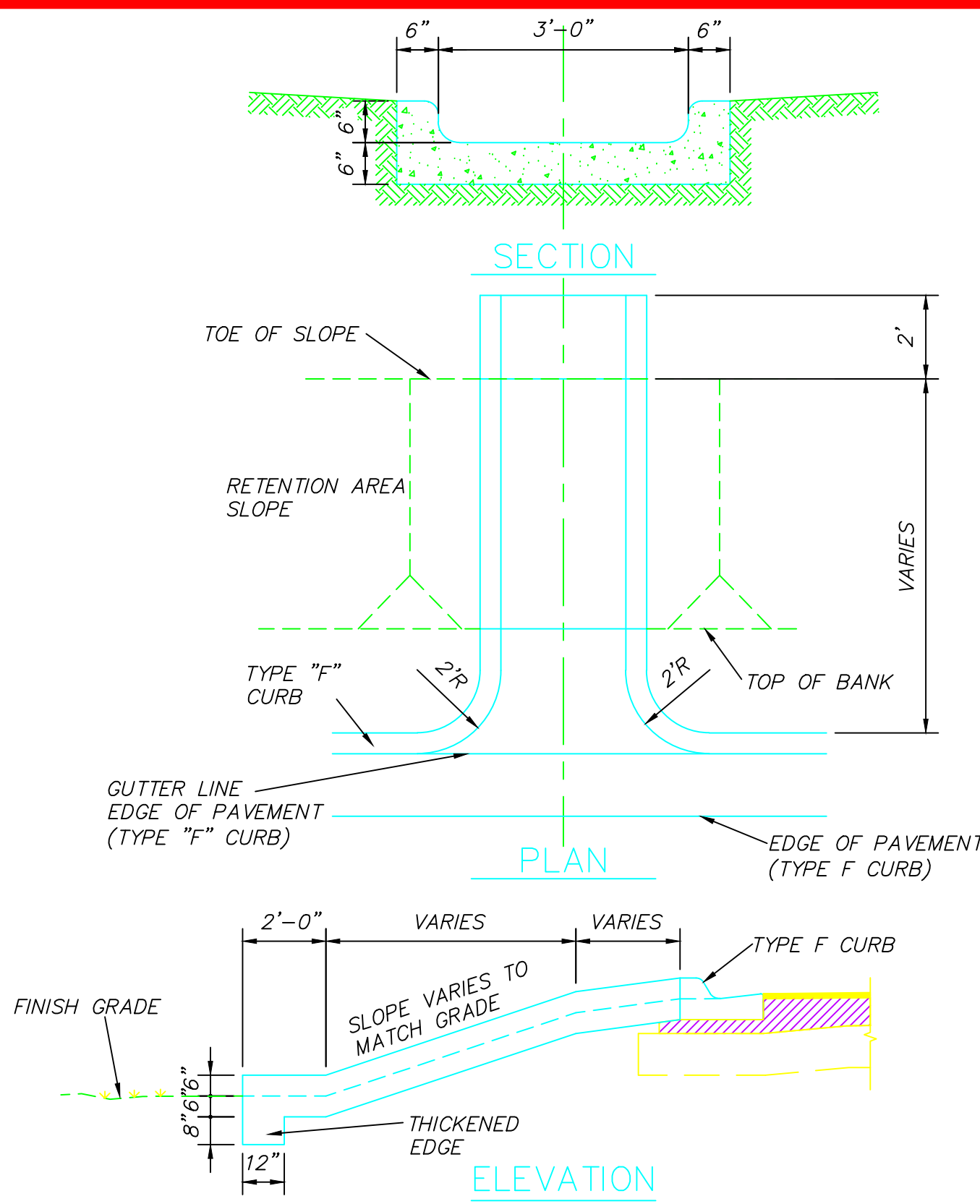
NOTES:

- A CONCRETE JACKET SHALL NOT BE USED TO JOIN:
 - METAL PIPE OF DISSIMILAR MATERIALS.
 - FLEXIBLE PIPE WHEN THE MAXIMUM COVER REQUIRED IN ACCORDANCE WITH FDOT INDEX No. 205 CANNOT BE OBTAINED.
- ALL FORMWORK SHALL BE REMOVED AFTER COMPLETION.
- PREMANUFACTURED DISSIMILAR PIPE CONNECTIONS MAY BE USED - SHOP DRAWINGS ARE REQUIRED.

DISSIMILAR PIPE CONNECTION DETAIL

NOT TO SCALE

D-23



NOTES:

- CONCRETE SHALL BE 3000 P.S.I. MIN. @ 28 DAYS. BROOM FINISH AND TOOL EDGES.
- SLOPE OF FLUME SHALL MATCH EXISTING GROUND SLOPE OR 2% MINIMUM.
- FLUME SHALL BE CONSTRUCTED ON A COMPACTED SUBGRADE.

CONCRETE FLUME

NOT TO SCALE

D-24

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COMMUNITY DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
STANDARD PAVING &
DRAINAGE DETAILS

PROJECT ENGINEER OF RECORD

LICENSE NO.: _____
STATE OF FLORIDA

PROJECT CONSULTANT

PROJECT

LAYOUT SAMPLE 5

DATE

NOT TO
SCALE

PROJECT
NUMBER

SHEET
NUMBER