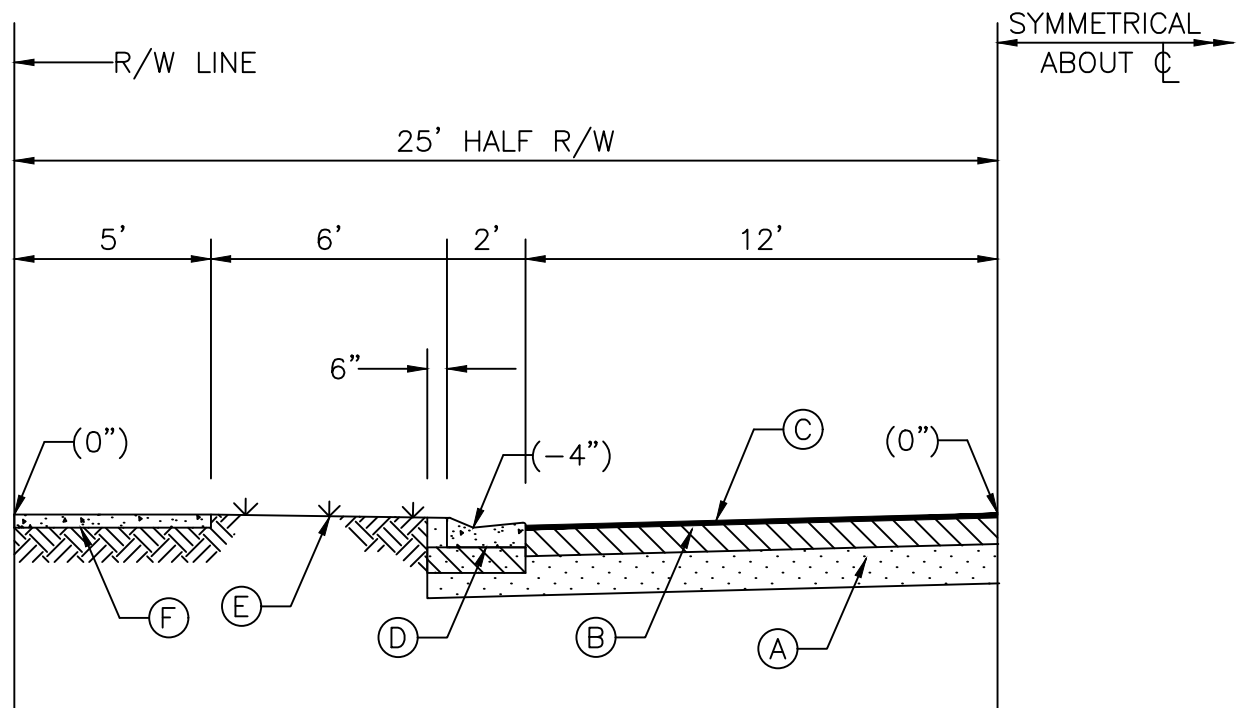
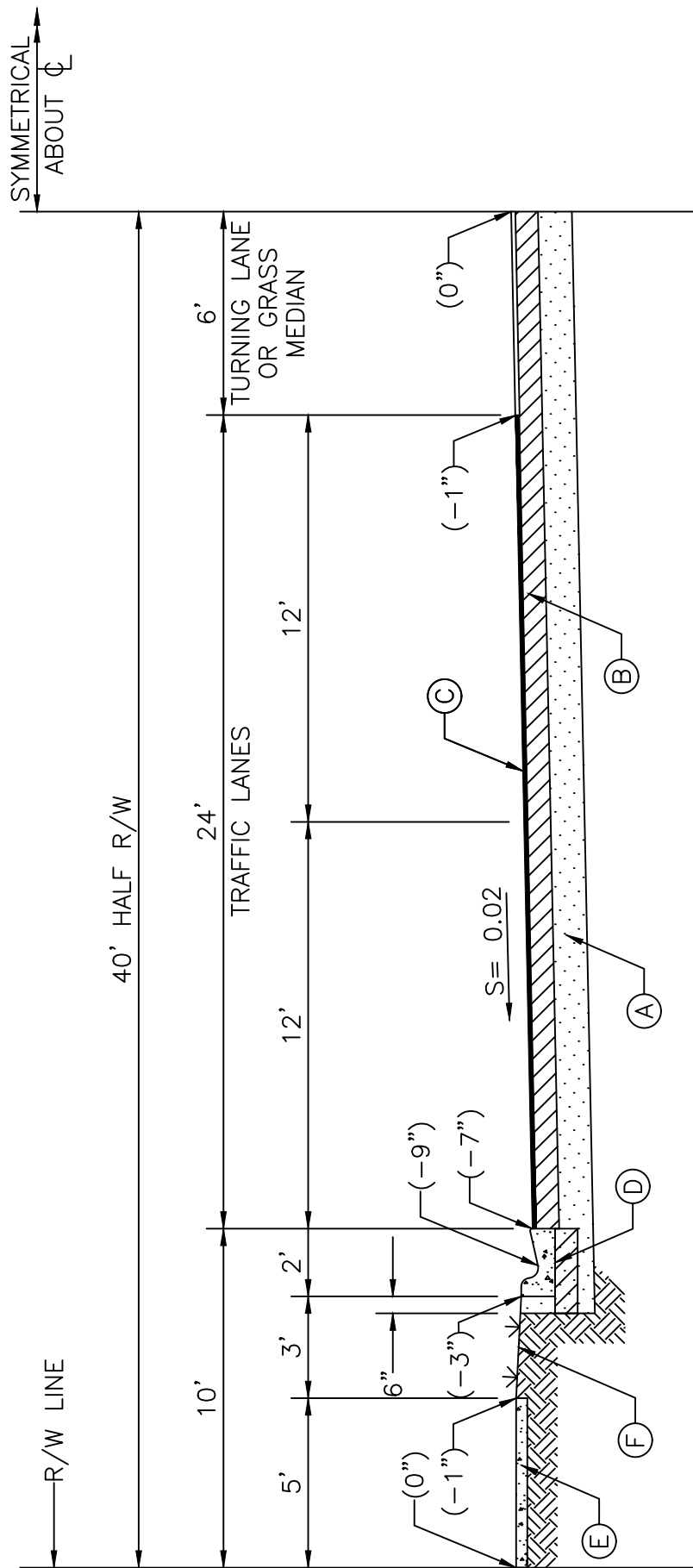




- (A) STABILIZED SUBGRADE (MIN LBR 40 PER AASHTO T-180)
- (B) BASE COURSE (MIN LBR 100 PER AASHTO T-180)
- (C) 1 1/4" ASPHALT SURFACE COURSE
- (D) MOUNTABLE GUTTER
- (E) SOD OR GRASS MULCH
- (F) CONCRETE SIDEWALK

NOTE: WHERE APPLICABLE, 5' BIKE PATH SHALL BE INSTALLED IN PLACE OF SIDEWALK, ON ONE SIDE.





- (A) STABILIZED SUBGRADE (MIN LBR 40 PER AASHTO T-180)
- (B) BASE COURSE (MIN LBR 100 PER AASHTO T-180)
- (C) ASPHALT SURFACE COURSE
- (D) CURB & GUTTER
- (E) CONCRETE SIDEWALK
- (F) SOD OR GRASS

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

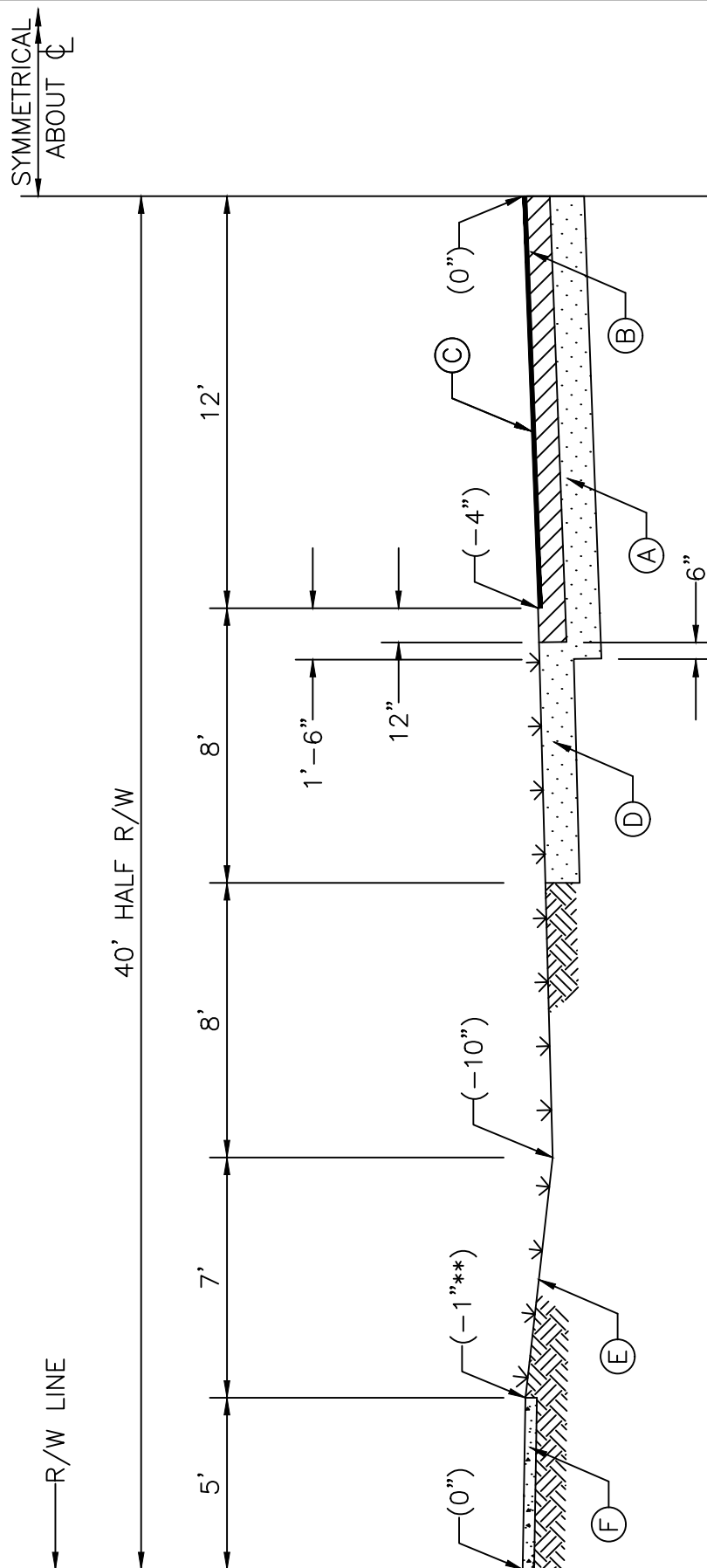
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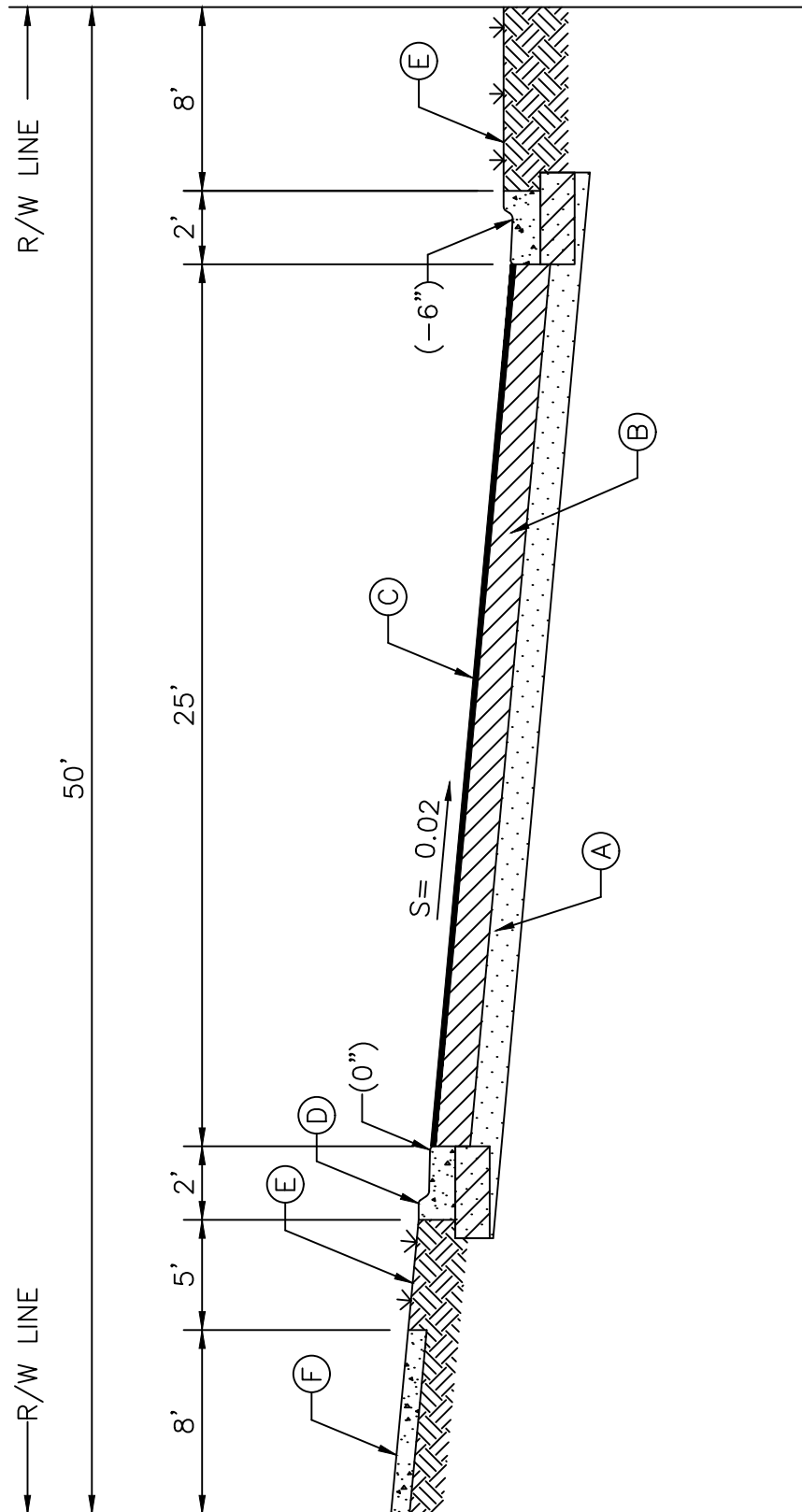
STANDARD ROAD DETAIL
COLLECTOR STREET
80' R/W (4-LANES)

R-3

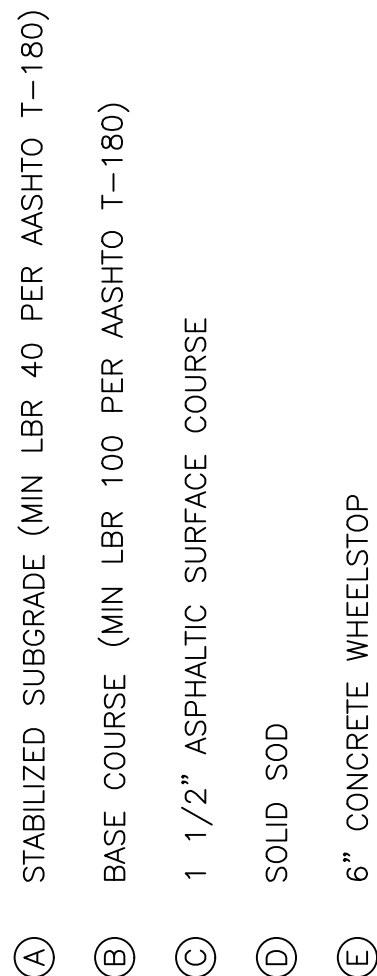


- (A) STABILIZED SUBGRADE (MIN LBR 40 PER AASHTO T-180)
- (B) BASE COURSE (MIN LBR 100 PER AASHTO T-180)
- (C) ASPHALT SURFACE COURSE
- (D) STABILIZED SHOULDER
- (E) SOD OR GRASS MULCH
- (F) CONCRETE SIDEWALK

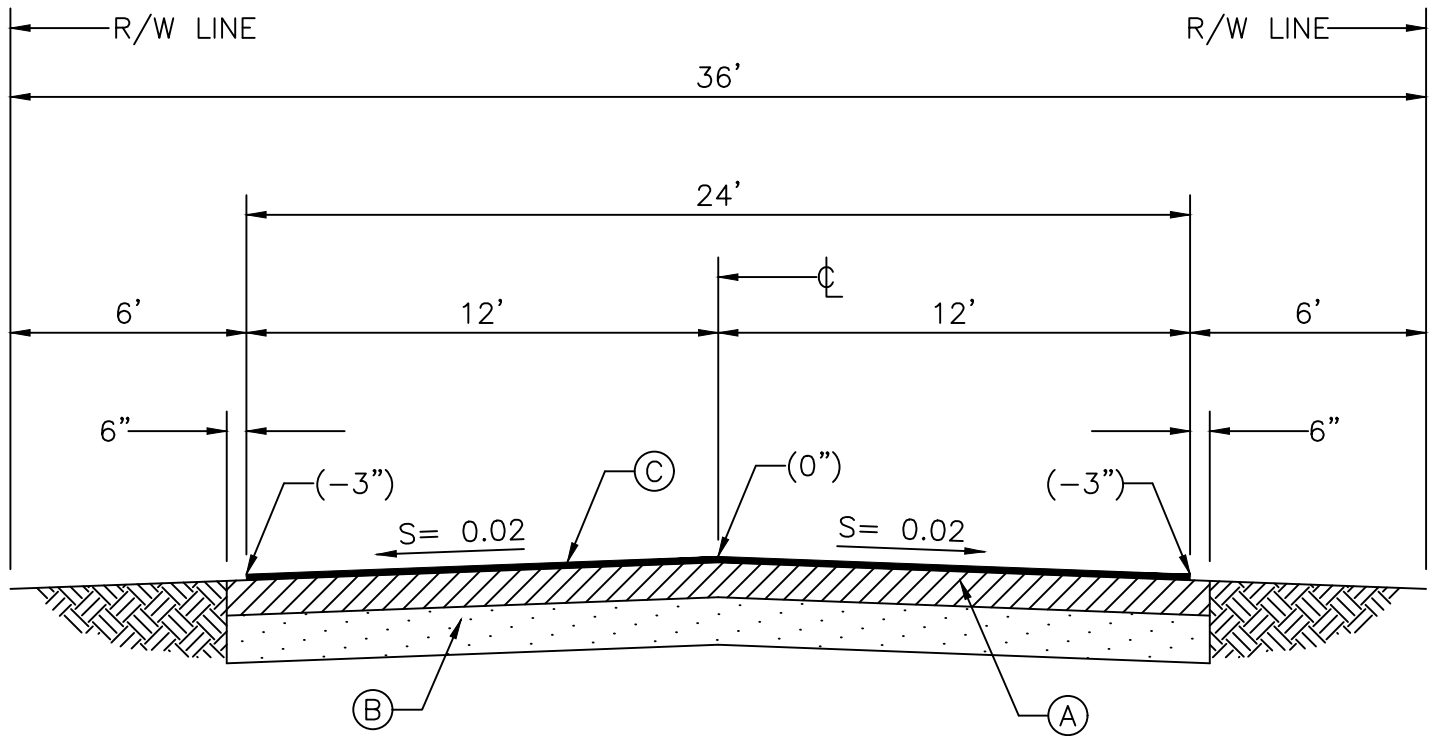
** -1" TO TOP OF SOD. SOIL SHALL BE GRADED TO ACCOUNT FOR THICKNESS OF SOD



- (A) STABILIZED SUBGRADE (MIN LBR 40 PER AASHTO T-180)
- (B) BASE COURSE (MIN LBR 100 PER AASHTO T-180)
- (C) ASPHALT SURFACE COURSE
- (D) 6" CURB & GUTTER
- (E) SOLID SOD
- (F) CONCRETE SIDEWALK

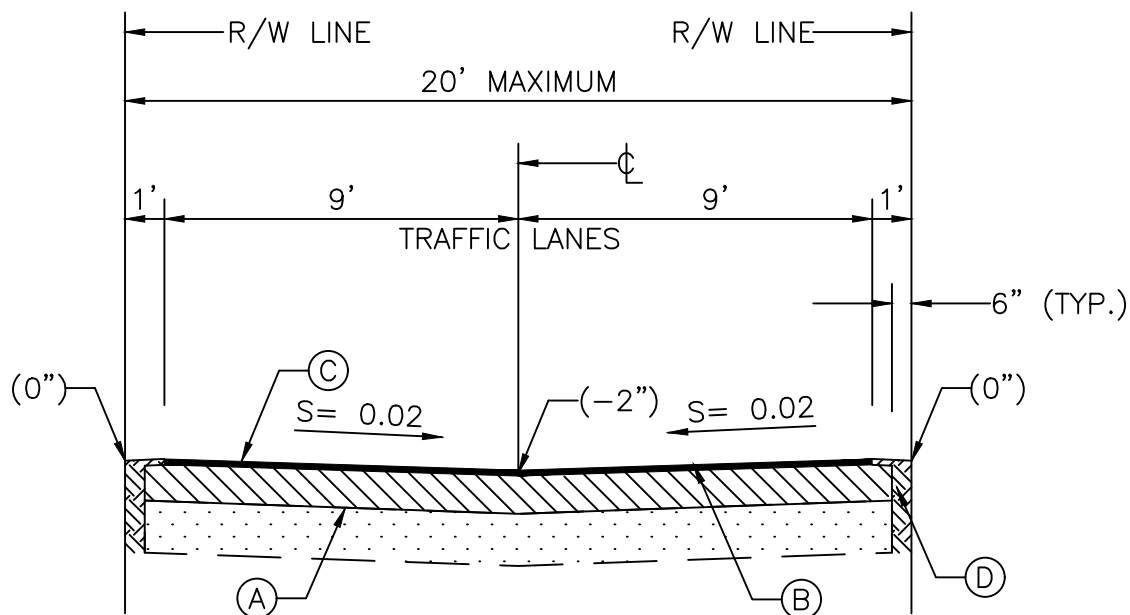


NOTE: MINIMUM PROFILE GRADE TO BE 0.02
INVERTED CROWN TO BE INCORPORATED WITH
PROPER DRAINAGE SYSTEM AND TO BE APPROVED
BY THE CITY ENGINEER.



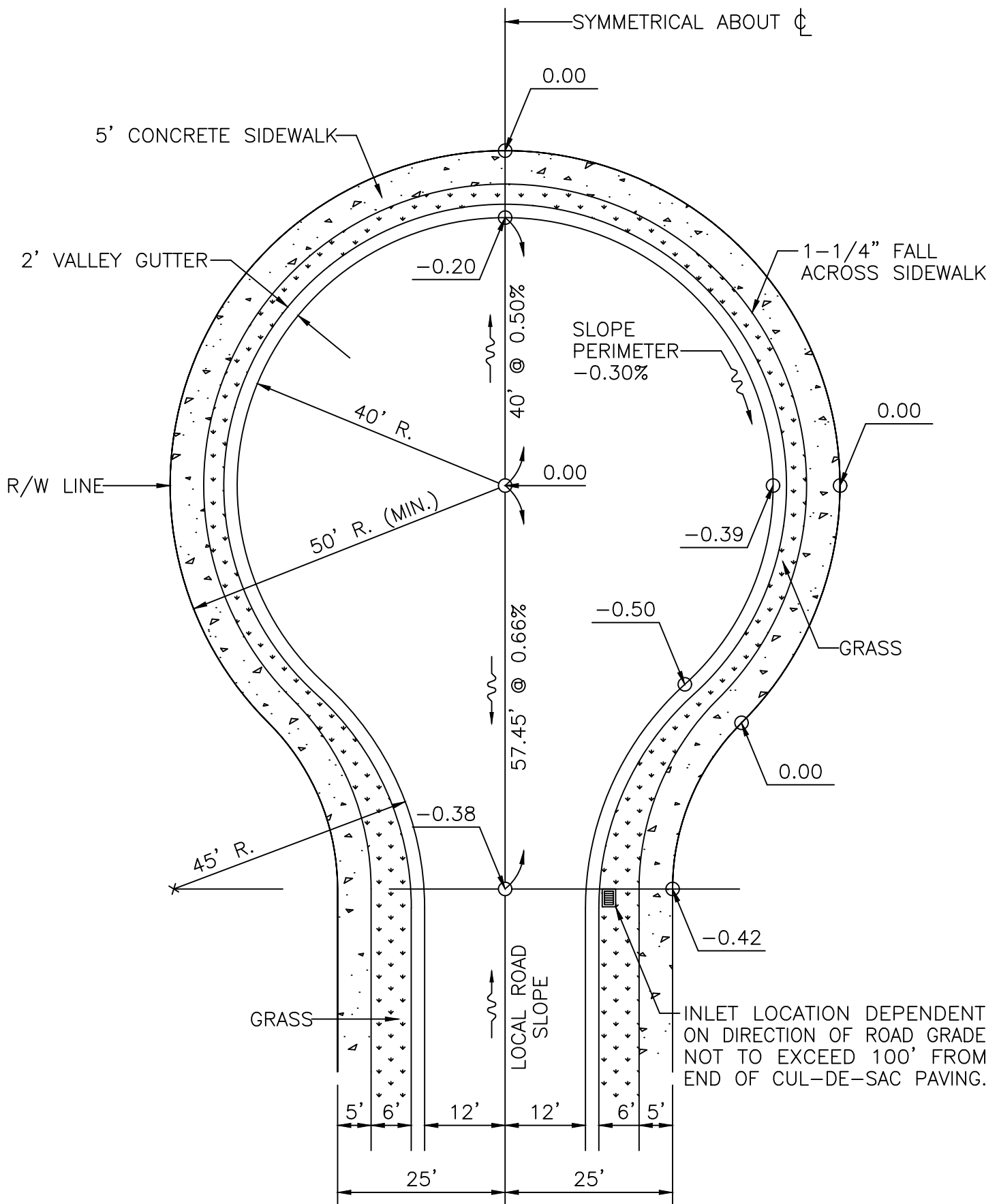
- (A) STABILIZED SUBGRADE (MIN LBR 40 PER AASHTO T-180)
- (B) BASE COURSE (MIN LBR 100 PER AASHTO T-180)
- (C) ASPHALT SURFACE COURSE

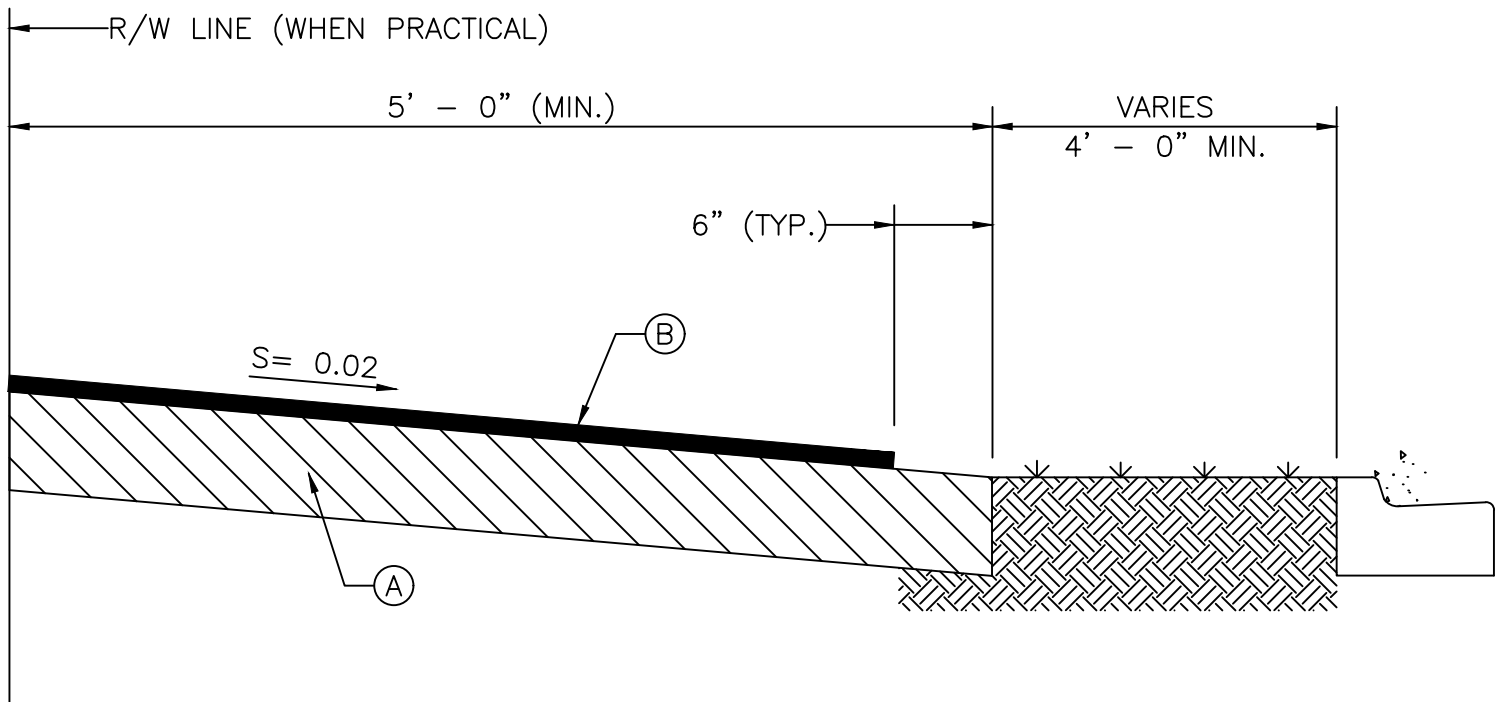
NOTE: DRAINAGE TO BE PROVIDED ON PRIVATE PROPERTY,
DRAINAGE EASEMENT REQUIRED IF WITHIN PUBLIC
RIGHT OF WAY.



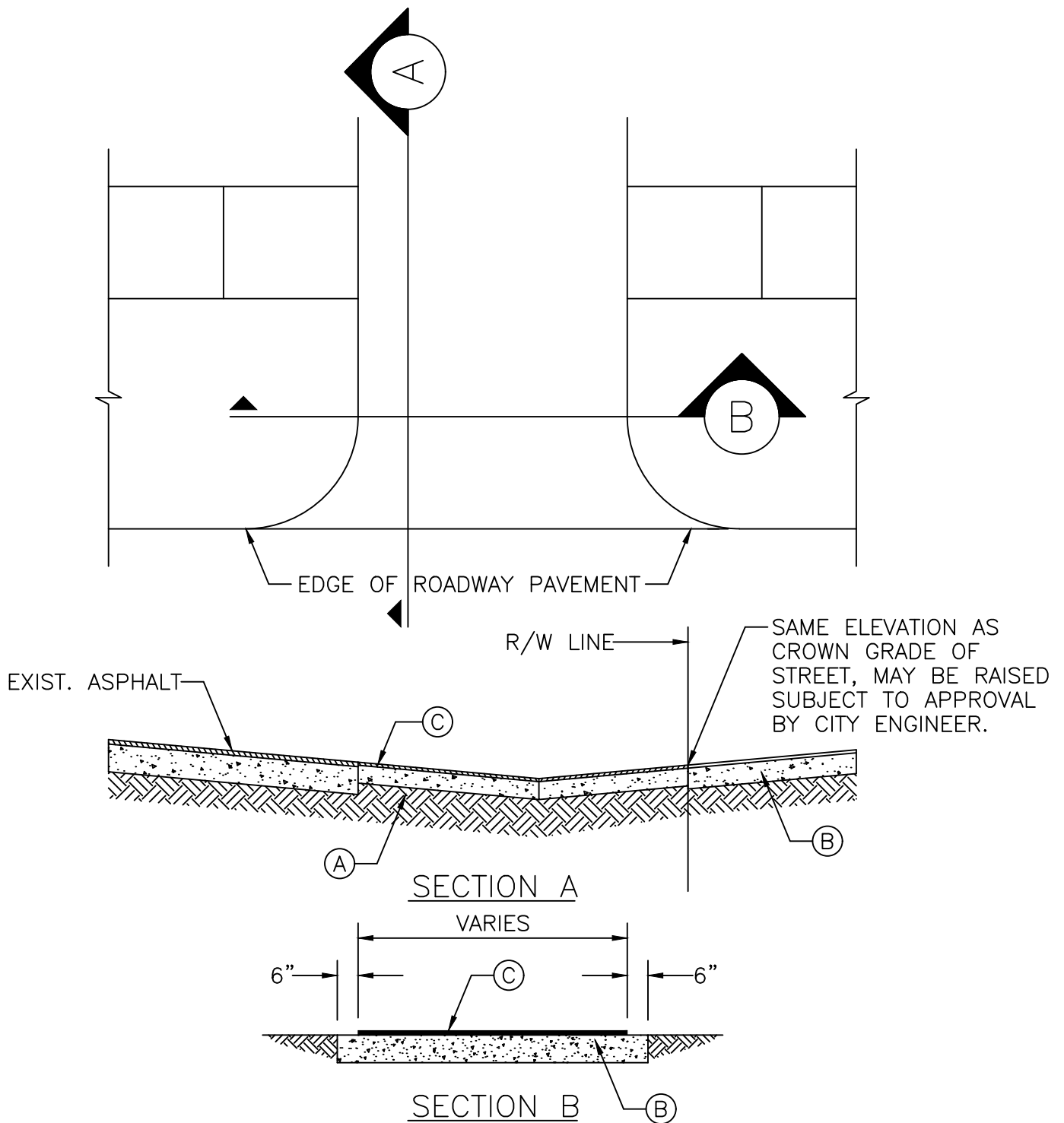
- (A) STABILIZED SUBGRADE (MIN LBR 40 PER AASHTO T-180)
- (B) BASE COURSE (MIN LBR 100 PER AASHTO T-180)
- (C) ASPHALT SURFACE COURSE
- (D) SOLID SOD

NOTE: MINIMUM PROFILE GRADE TO BE 0.02
 INVERTED CROWN TO BE INCORPORATED WITH
 PROPER DRAINAGE SYSTEM AND TO BE APPROVED
 BY THE CITY ENGINEER.



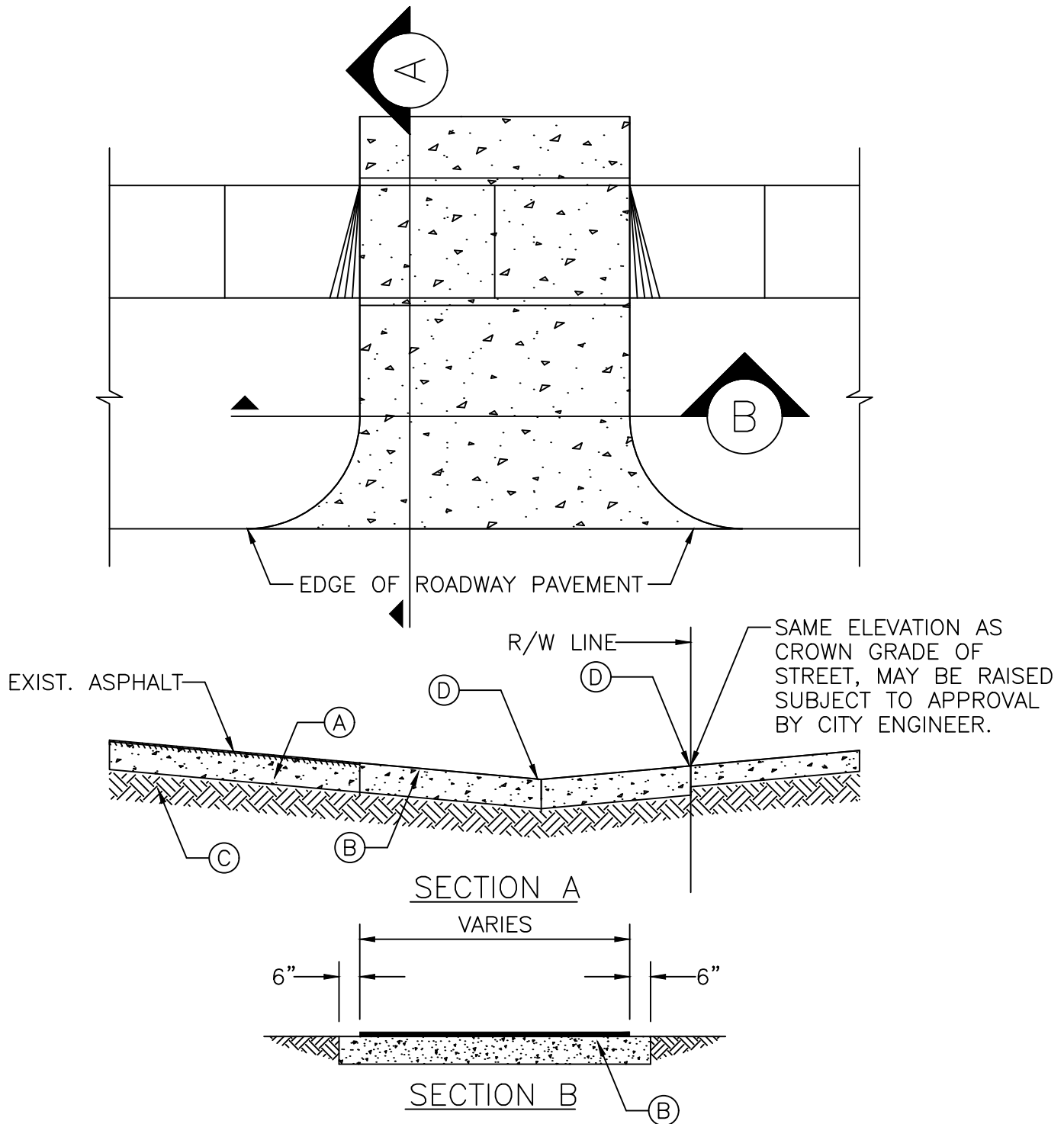


- (A) 6" COMPACTED LIMEROCK BASE COURSE (MIN LBR 100 PER AASHTO T-180)
- (B) 1.5" MIN. COMPACTED ASPHALTIC CONCRETE



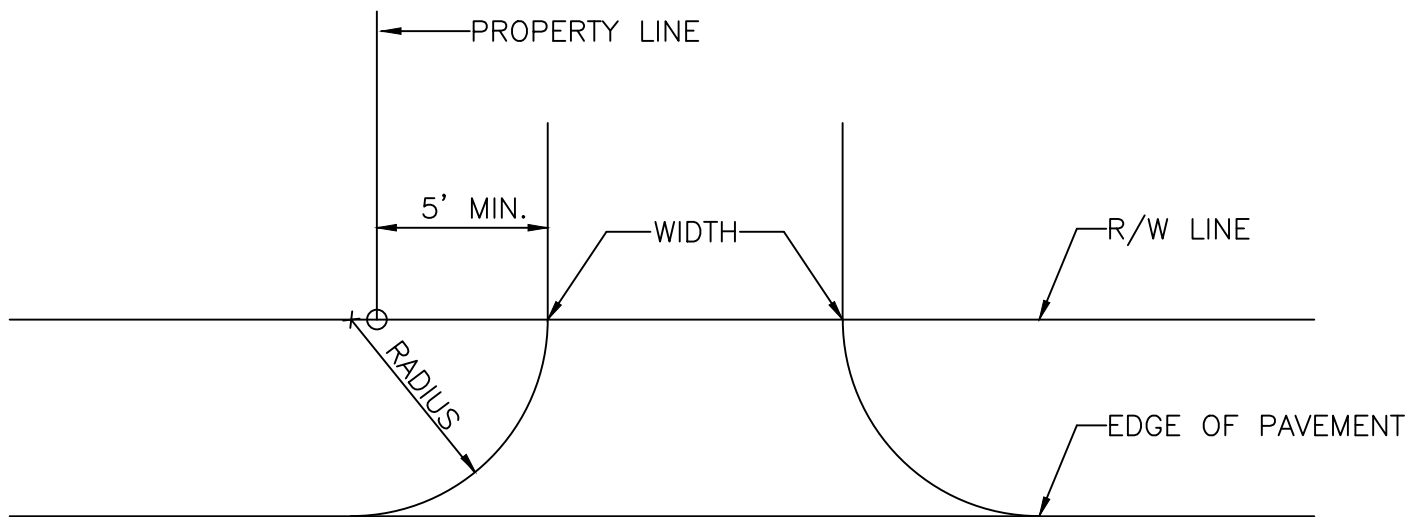
- (A) CLEAN AND COMPACT SUBGRADE.
- (B) BASE COURSE (8" THICK MIN.) (MIN LBR 100 PER AASHTO T-180)
- (C) ASPHALTIC CONCRETE SURFACE COURSE:
 1" THICK MIN. COMPACTED (RESIDENTIAL)
 1 1/2" THICK MIN. COMPACTED (COMMERCIAL & INDUSTRIAL)

NOTE: GRADING AND PREPARATION OF SUBGRADE SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO APPLICATION OF PAVING MATERIALS.



- (A) BASE COURSE (8" THICK MIN.) (MIN LBR 100 PER AASHTO T-180)
- (B) 6" MIN. 3,000 PSI CONCRETE REINFORCED WITH 6"x6" 10/10 WELDED WIRE MESH.
- (C) CLEAN AND COMPACT SUBGRADE
- (D) 1/2 " PREMOLDED EXPANSION JOINT

NOTE: ELEVATION, GRADING AND PREPARATION OF SUBGRADE AND PLACEMENT OF WIRE MESH SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO POURING CONCRETE.



OFF-STREET PARKING:

PARKING ACCESS AND DRIVEWAYS.

EACH PARKING STALL SHALL HAVE APPROPRIATE ACCESS TO A STREET OR ALLEY AND MANEUVERING AND ACCESS AISLE AREAS SHALL BE SUFFICIENT TO PERMIT VEHICLES TO ENTER AND LEAVE THE PARKING AREA IN A FORWARD MOTION, WITH THE EXCEPTION OF SINGLE FAMILY AND DUPLEX AREAS. DRIVEWAYS SHALL BE PAVED AND MEET THE REQUIREMENTS OUTLINED BELOW UNLESS VERY HIGH VOLUMES OR OTHER SPECIAL CIRCUMSTANCES WARRANT VARIATION BY THE OFFICE OF THE ENGINEER.

ACCESS DIMENSION GUIDELINES.

DIMENSION AT STREET

WIDTH (IN FEET) *

MINIMUM (ONE-WAY)	15'	MINIMUM (TWO-WAY)	24'
RESIDENTIAL (ONE-WAY)	18'	COMMERCIAL (TWO-WAY)	24'
MAXIMUM	36'		

RIGHT TURN RADIUS (IN FEET) **

MINIMUM	15' - (20' PREFERRED)
MAXIMUM	30'

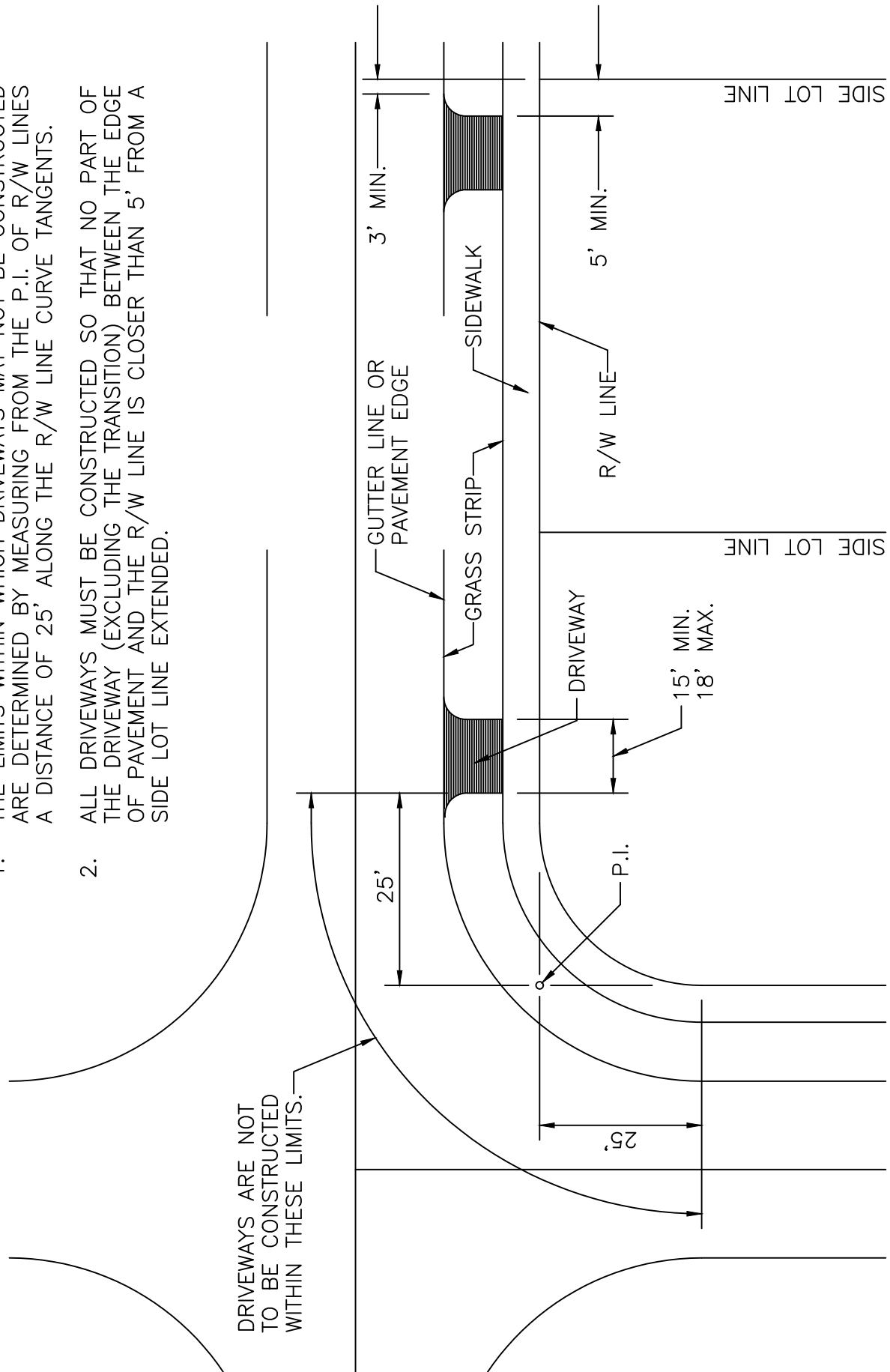
* MEASURED ALONG RIGHT-OF-WAY LINE AT INNER LIMIT OF CURBED RADIUS SWEEP OR BETWEEN RADIUS AND NEAR EDGE OF CURBED ISLAND AT LEAST FIFTY (50) SQUARE FEET IN AREA. THE MINIMUM WIDTH APPLIES PRINCIPALLY TO ONE-WAY DRIVEWAYS.

** ON SIDE OF DRIVEWAY EXPOSED TO ENTRY OR EXIT BY RIGHT TURNING VEHICLES.

NOTE: WHERE SWALES ARE PAVED OVER MORE THAN THIRTY (30) PERCENT OF LOT FRONTAGE OR EIGHTEEN (18) FEET, WHICHEVER IS GREATER, DRAINS ARE TO BE INSTALLED.

NOTES:

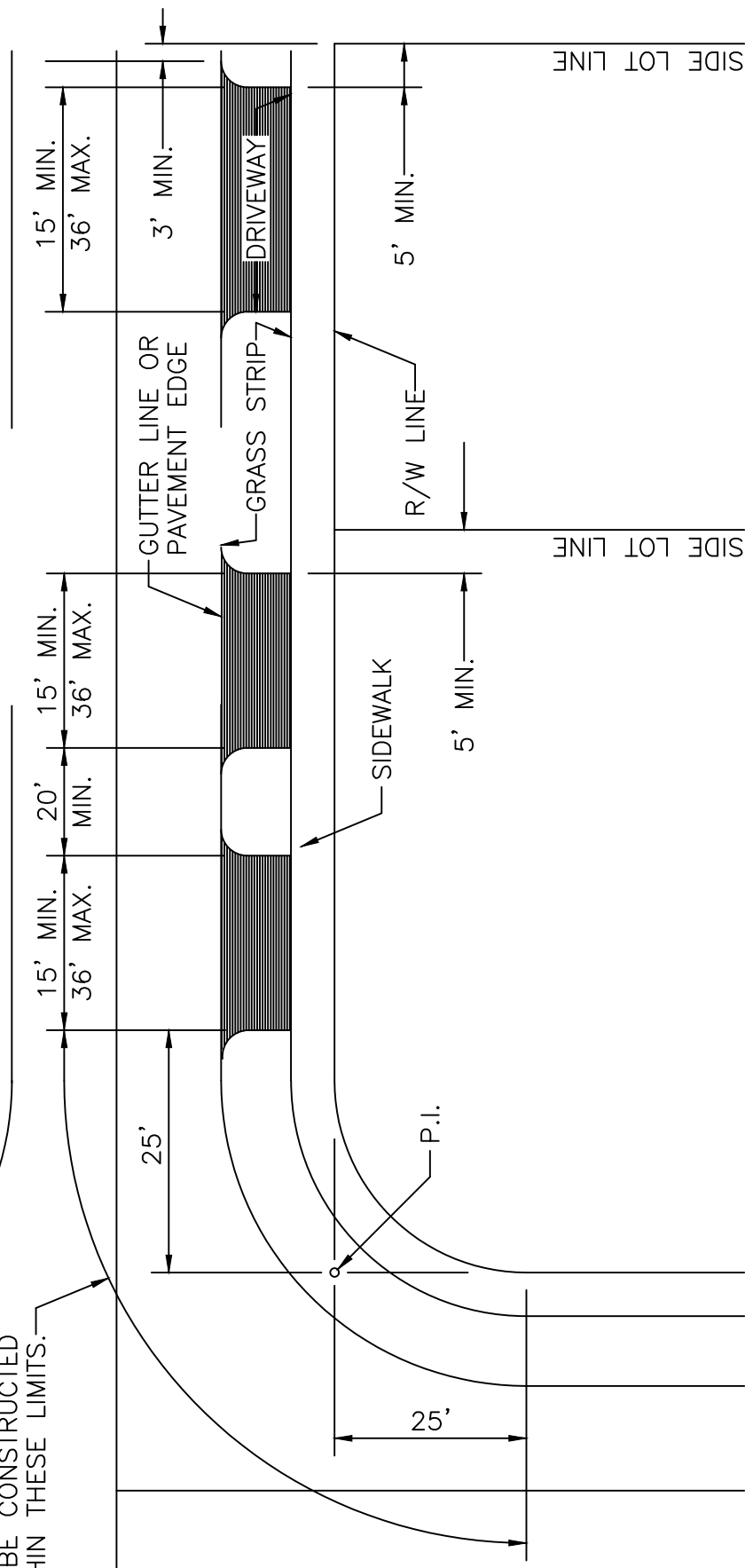
1. THE LIMITS WITHIN WHICH DRIVEWAYS MAY NOT BE CONSTRUCTED ARE DETERMINED BY MEASURING FROM THE P.I. OF R/W LINES A DISTANCE OF 25' ALONG THE R/W LINE CURVE TANGENTS.
2. ALL DRIVEWAYS MUST BE CONSTRUCTED SO THAT NO PART OF THE DRIVEWAY (EXCLUDING THE TRANSITION) BETWEEN THE EDGE OF PAVEMENT AND THE R/W LINE IS CLOSER THAN 5' FROM A SIDE LOT LINE EXTENDED.



NOTES:

1. THE LIMITS WITHIN WHICH DRIVEWAYS MAY NOT BE CONSTRUCTED ARE DETERMINED BY MEASURING FROM THE P.I. OF R/W LINES A DISTANCE OF 25' ALONG THE R/W LINE CURVE TANGENTS.
2. ALL DRIVEWAYS MUST BE CONSTRUCTED SO THAT NO PART OF THE DRIVEWAY (EXCLUDING THE TRANSITION) BETWEEN THE EDGE OF PAVEMENT AND THE R/W LINE IS CLOSER THAN 5' FROM A SIDE LOT LINE EXTENDED.
3. WHERE TWO OR MORE DRIVEWAYS ARE CONSTRUCTED TO PROVIDE ACCESS TO THE SAME PRIVATE PROPERTY A GRASS STRIP OF 18' MINIMUM LENGTH SHALL BE PROVIDED BETWEEN THE DRIVEWAYS.

DRIVEWAYS ARE NOT
TO BE CONSTRUCTED
WITHIN THESE LIMITS.



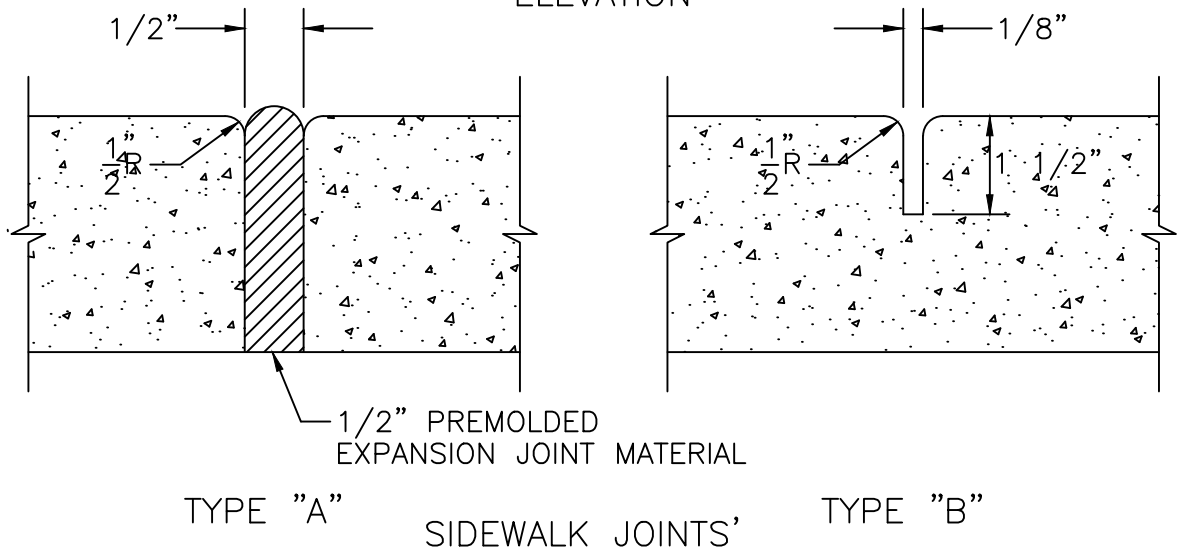
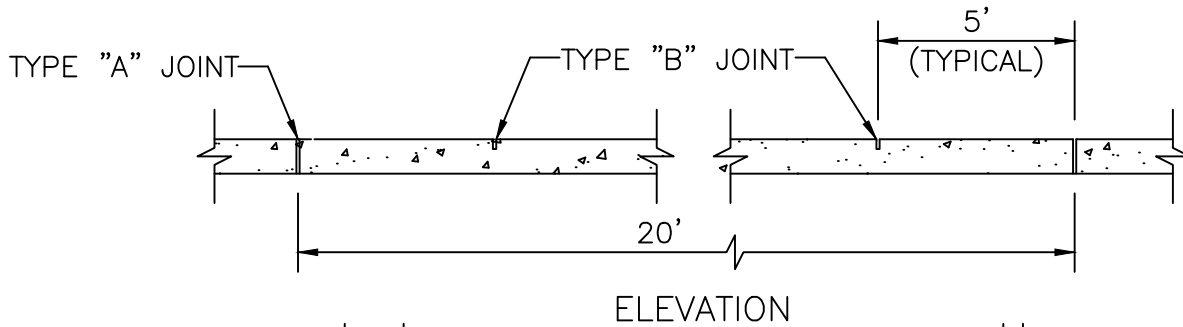
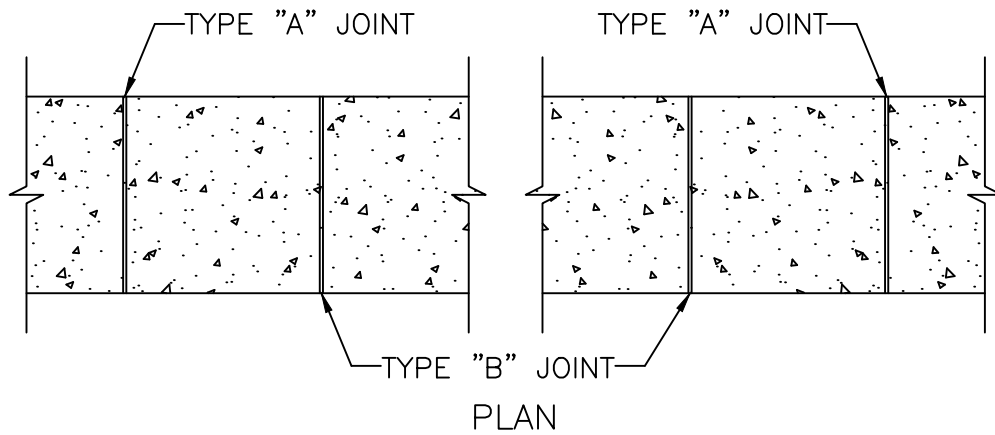
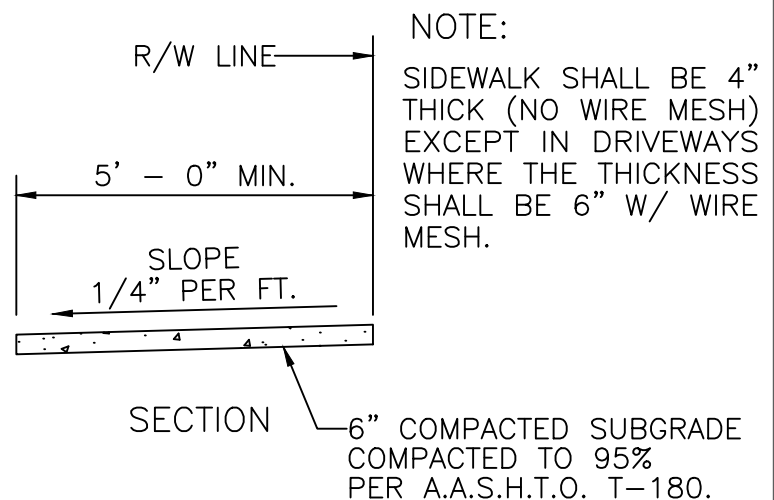
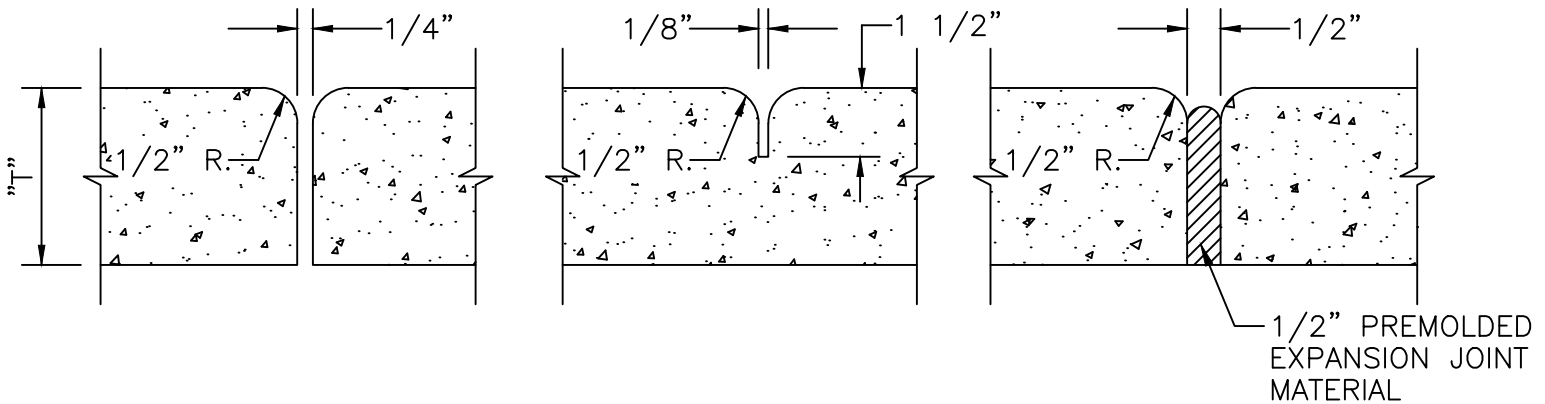
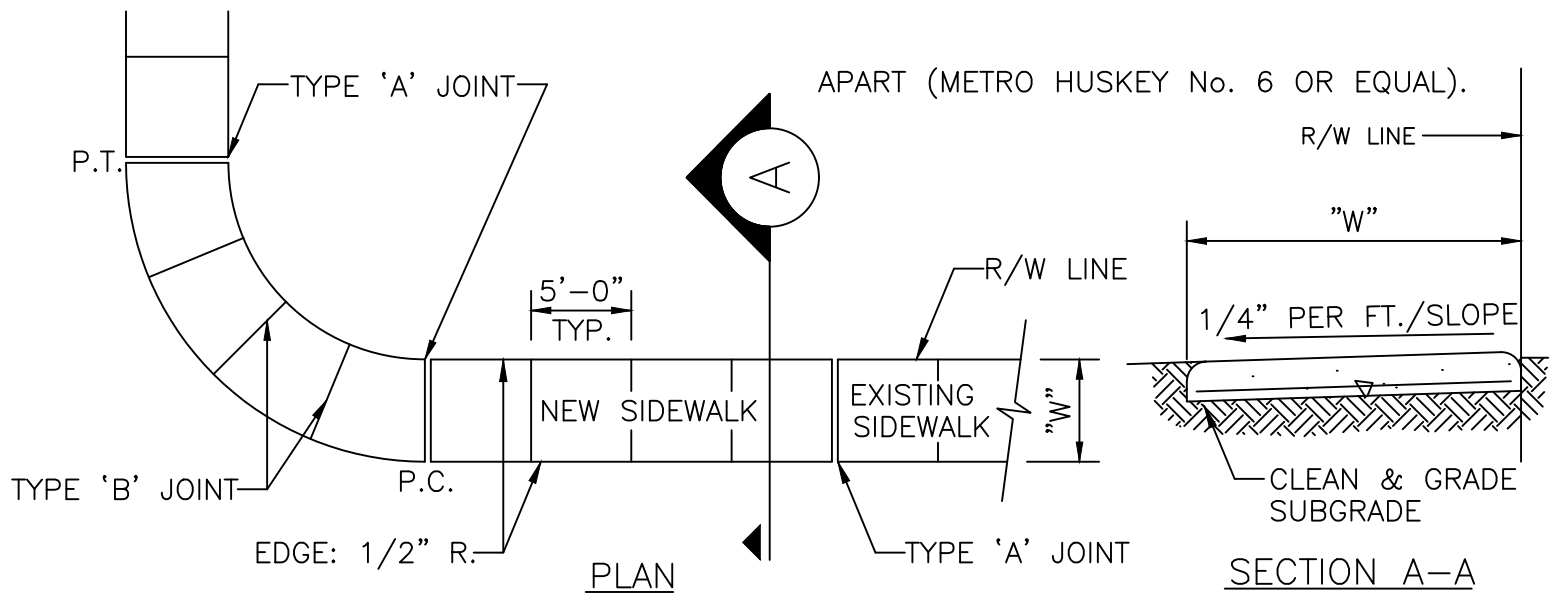


TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	P.C. AND P.T. OF CURVES.
"B"	5' CENTER TO CENTER ON SIDEWALKS.





TYPE 'A'
(OPEN TYPE JOINTS)

TYPE 'B'
(SAWED JOINTS)

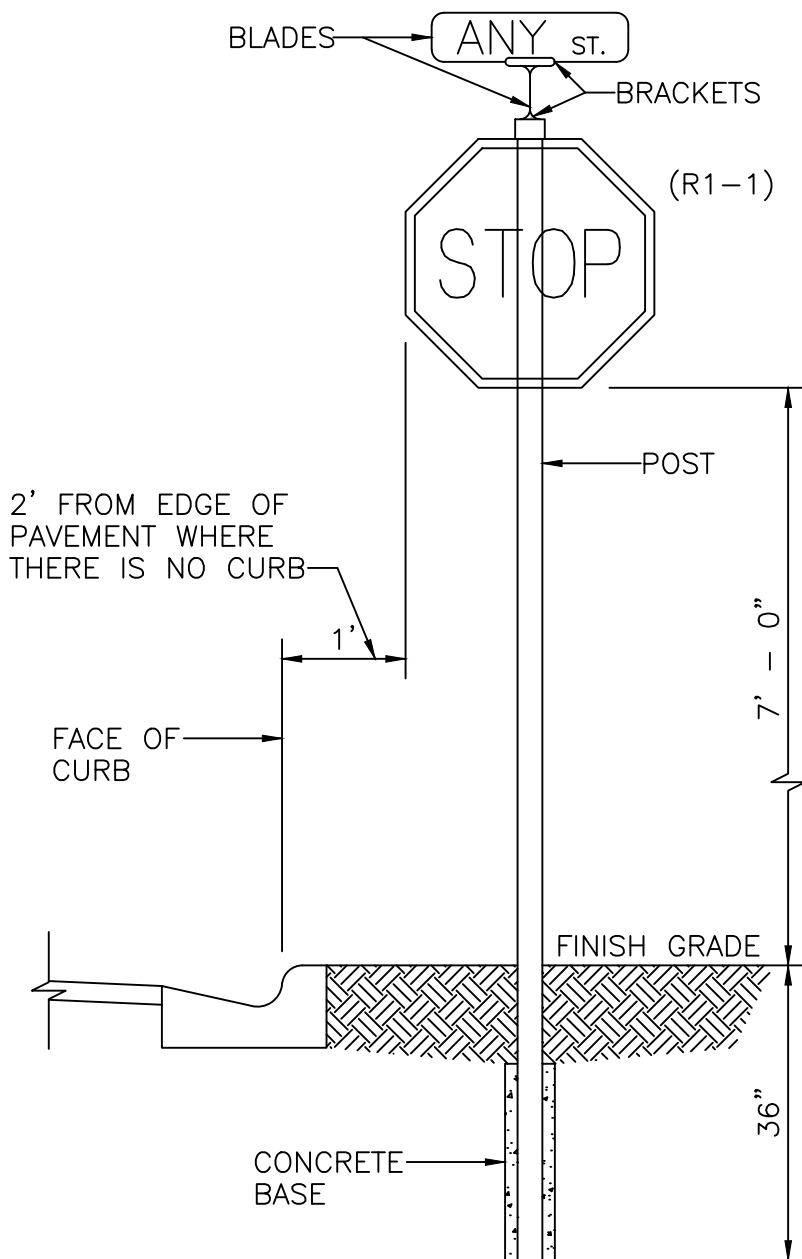
TYPE 'C'
(EXPANSION JOINTS)

SIDEWALK JOINTS

TABLE OF SIDEWALK THICKNESS - "T"	
RESIDENTIAL AREAS	4"
AT DRIVEWAYS AND OTHER AREAS	6"
TABLE OF SIDEWALK WIDTHS - W	
SINGLE - FAMILY AREAS	5'
MULTI - FAMILY AREAS	5'
OTHER AREAS AS SPECIFIED BY THE CITY ENGINEER.	

TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
'A'	P.C. AND P.T. OF CURVES. JUNCTION OF EXISTING AND NEW SIDEWALKS.
'B'	5'-0" CENTER TO CENTER ON SIDEWALKS.
'C'	* WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES.

* AT THE DISCRETION OF THE ENGINEER.



BLADE:

ALCOA #86054,6063 - T6 ALLOY, ETCHED DEGREASED, DEBURRED, WITH #1200 ALODINE FINISH, 1.50" RADIUS CORNERS WITH #2277 GREEN SCOTCHLITE BACKGROUND OR EQUAL, DIMENSIONS - 6" HEIGHT, 24", 30", OR 36" LENGTHS (SEE DETAIL).

LETTERS:

NAME - 4" SERIES "B" #2270 SCOTCHLITE (SILVER) OR EQUAL, SUFFIX - 2" SERIES "B" #2277 SCOTCHLITE (SILVER) OR EQUAL

BRACKETS:

DIE CAST HIGH STRENGTH ALUMINUM ALLOY, MINIMUM TENSILE STRENGTH 45,000 P.S.I., DEGREASED, TUMBLED AND POLISHED, SIDES OF ALL SLOTS SHALL BE SOLID METAL WITH TWO HOLES PER SLOT (SAME SIDE) DRILLED TO 7/32" AND TAPPED TO 1/4" TO RECEIVE STAINLESS STEEL ALLEN-HEAD SET SCREWS, SKIRT OF POST CAP BRACKET TO BE DRILLED AND TAPPED FOR 3 SCREWS OF WHICH NO TWO IS TO BE LESS THAN 90° OR MORE THAN 135° APART (METRO HUSKEY No. 6 OR EQUAL).

POST:

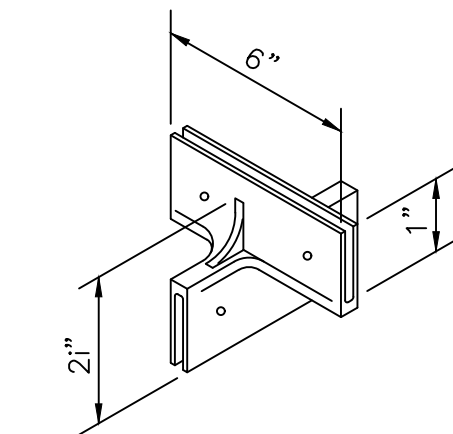
12", 3#/FT FLANGED U-CHANNEL TYPE

CONCRETE BASE:

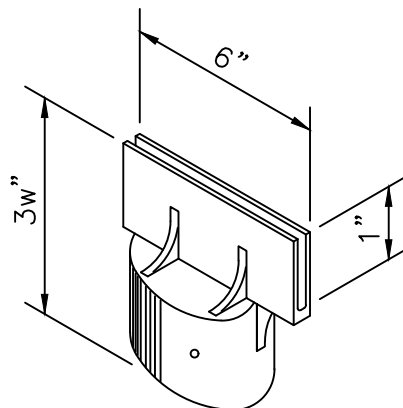
2,000 P.S.I. AS SHOWN.

LOCATION:

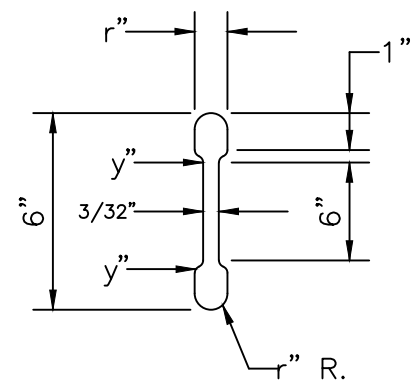
ONE PER INTERSECTION.



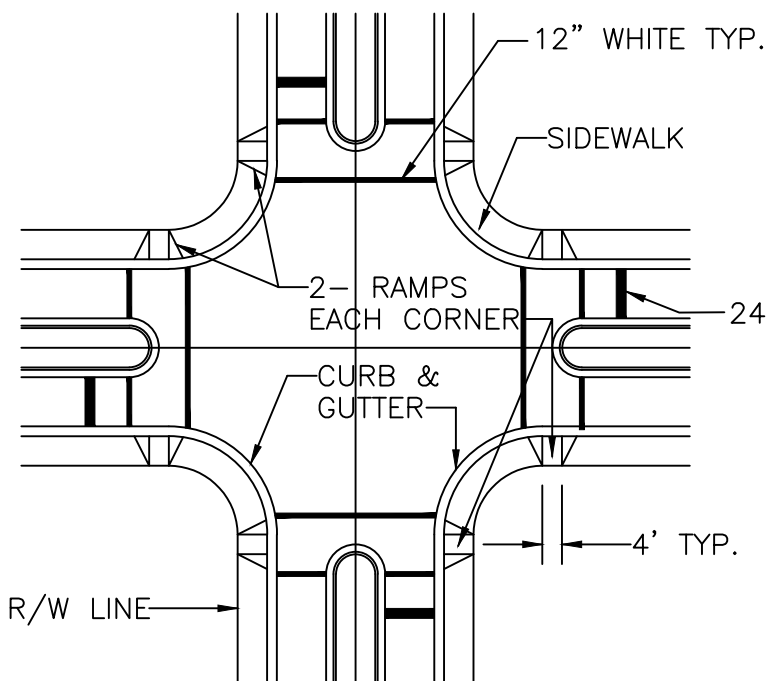
90° CROSS BRACKET
FOR EXTRUDED BLADES



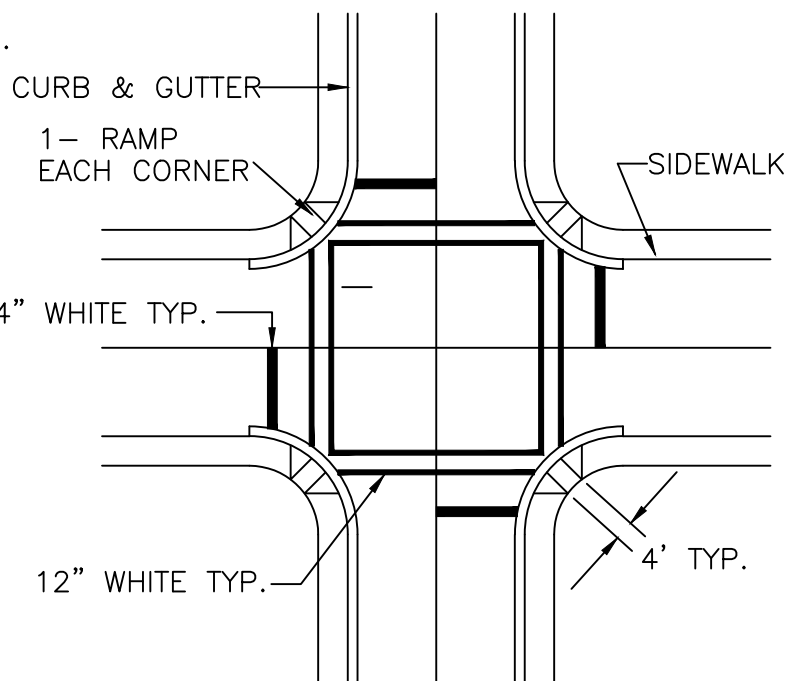
POST CAP BRACKET
FOR EXTRUDED BLADES



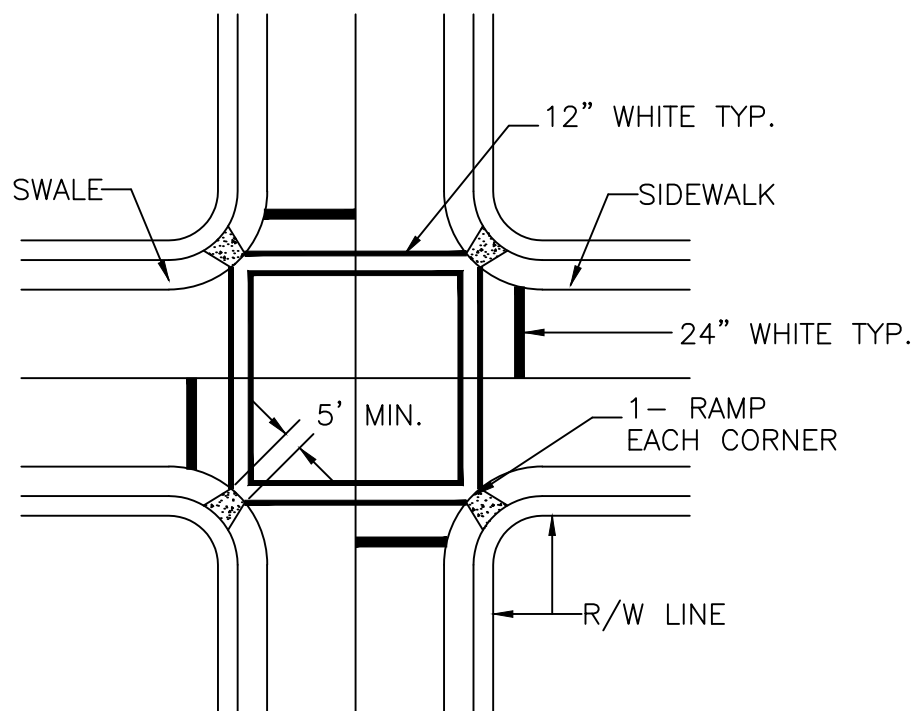
EXTRUDED BLADE SECTION



2 MAJOR ROADS
(CURB & GUTTER)



LOCAL ROADS OR ENTRANCE
TO MAJOR SHOPPING CENTER
(CURB & GUTTER)



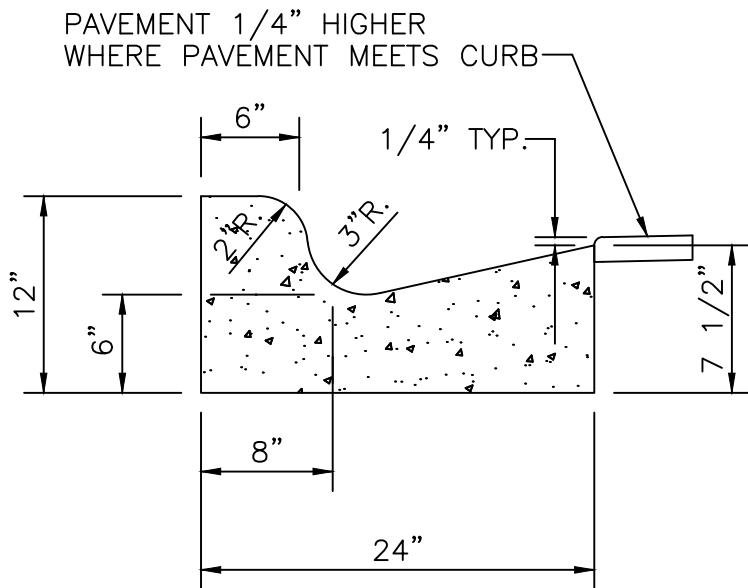
(RESIDENTIAL ROADS)

2 MAJOR ROADS, LOCAL & MAJOR
ROADS & 2 LOCAL ROADS
(SWALE) **

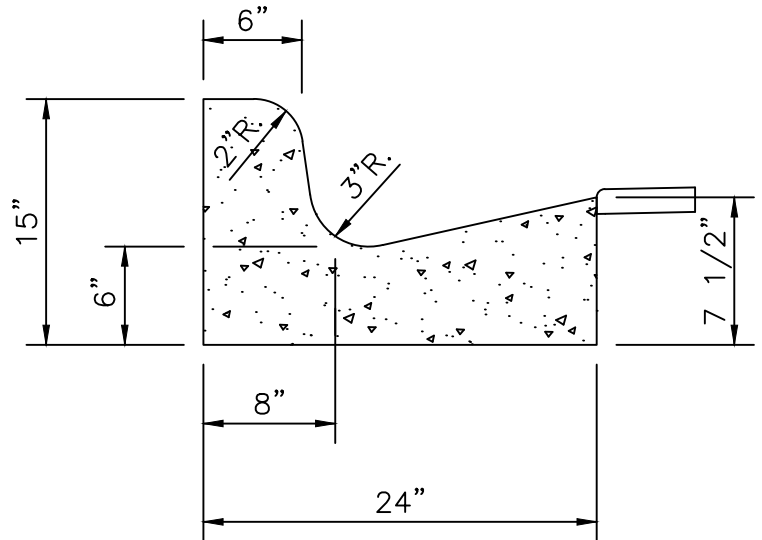
** ALTERNATE ASPHALT CONCRETE SIDEWALK RAMP
(SAME THICKNESS) MAY BE USED AS APPROVED
BY CITY ENGINEER.

NOTES:

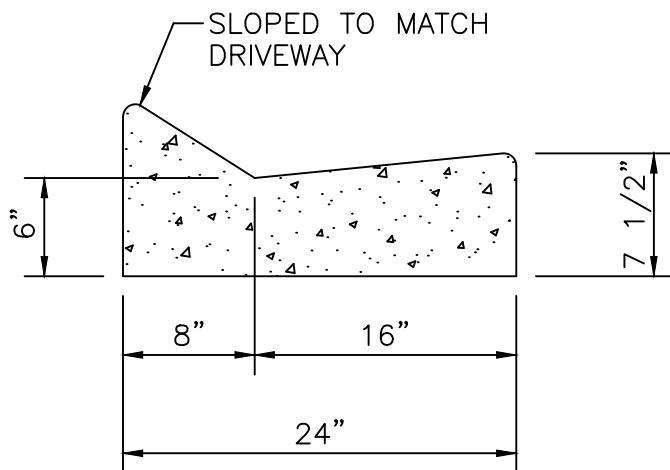
1. MAX. SLOPE OF RAMPS TO BE 12:1.
2. RAMPS MAY BE 4" THICK IN RESIDENTIAL AREAS.
3. STOP BARS MUST BE PLACED 4' FROM ALL CROSSWALKS



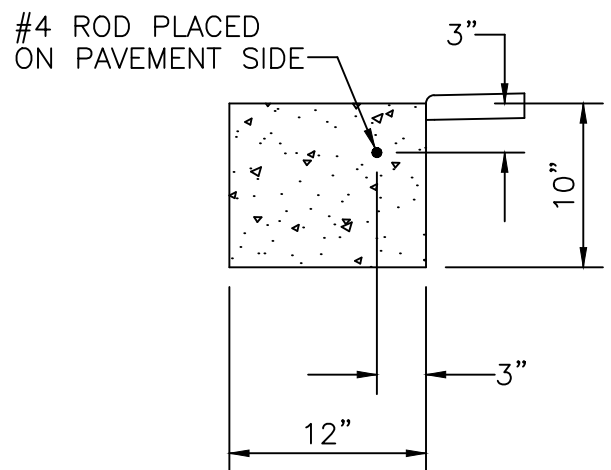
6" CURB & GUTTER



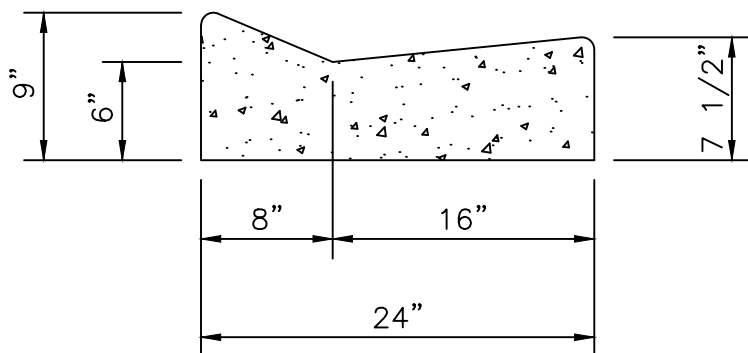
9" CURB & GUTTER



DRIVEWAY CURB



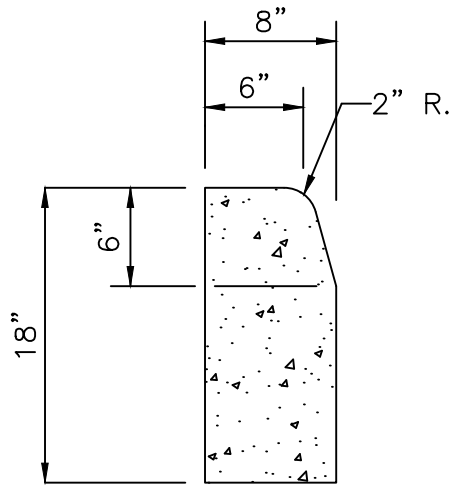
FLUSH HEADER CURB



MOUNTABLE GUTTER

NOTE:

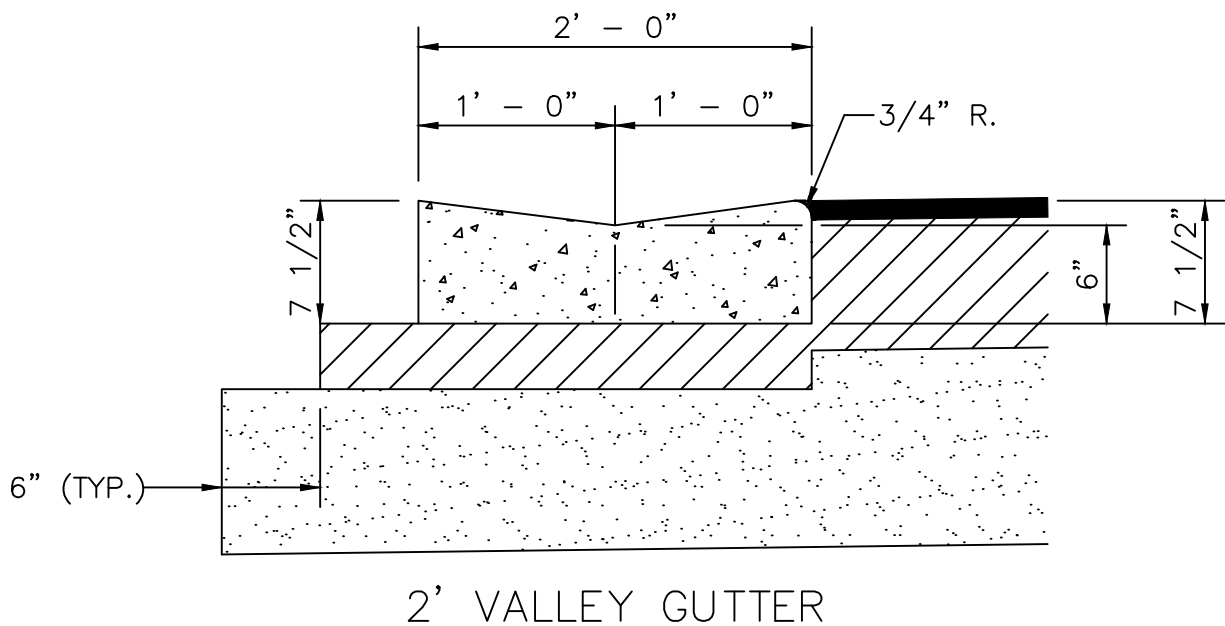
8" THICK BASE WILL EXTEND BELOW ALL CURBS

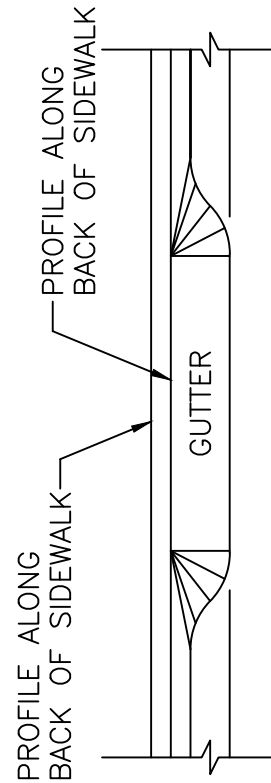
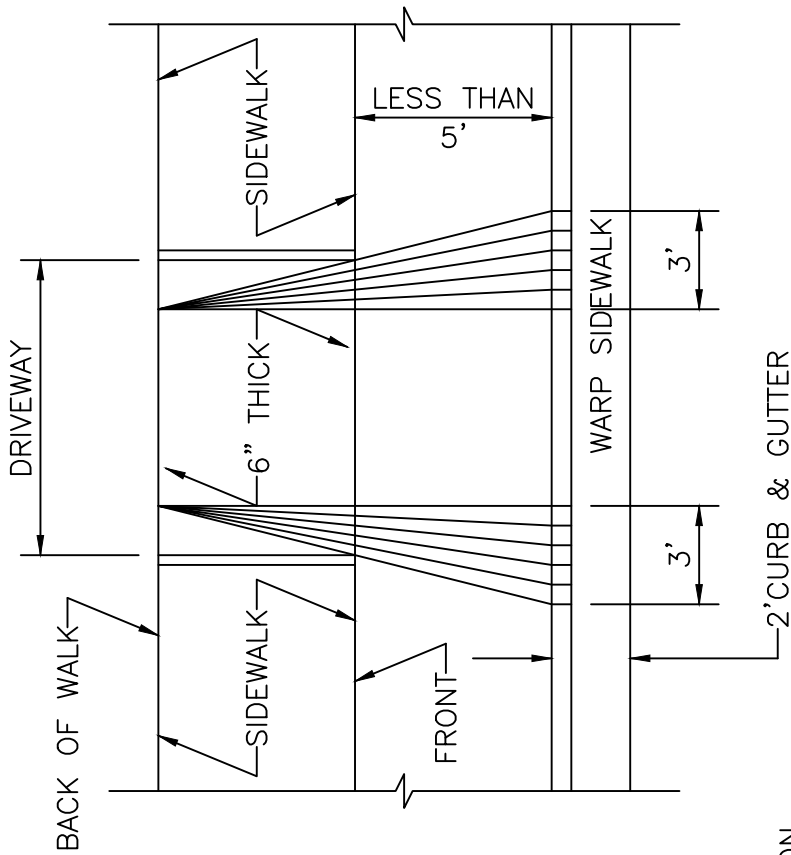
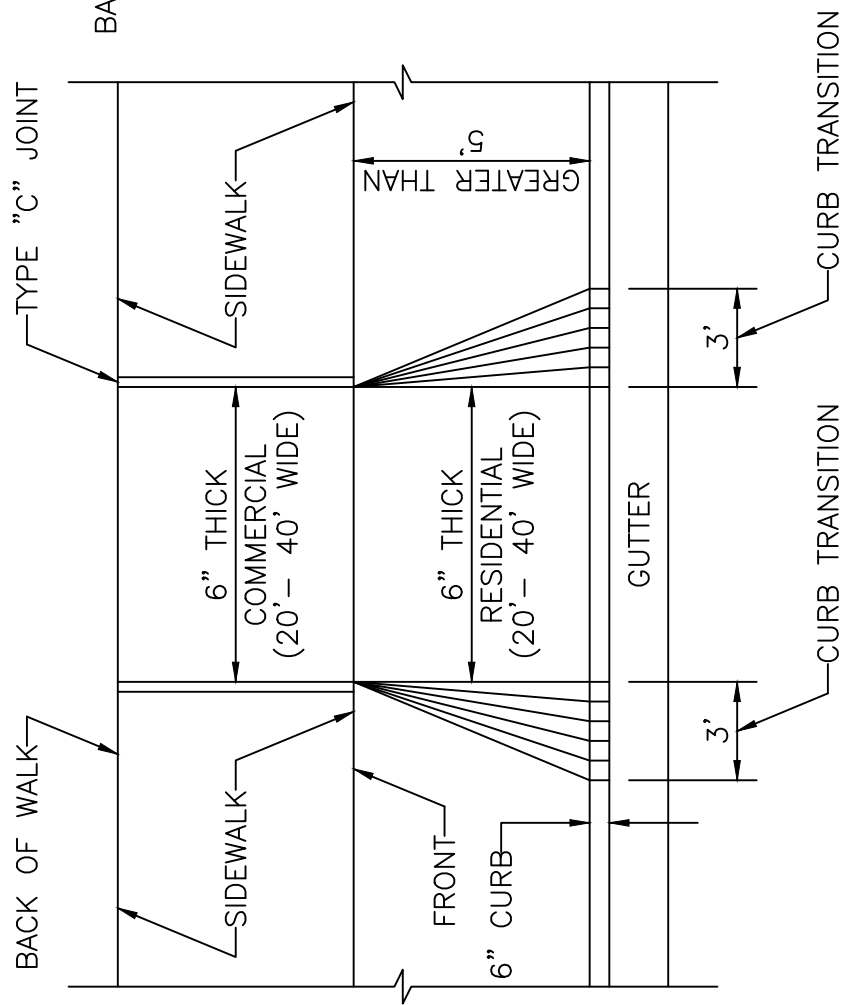


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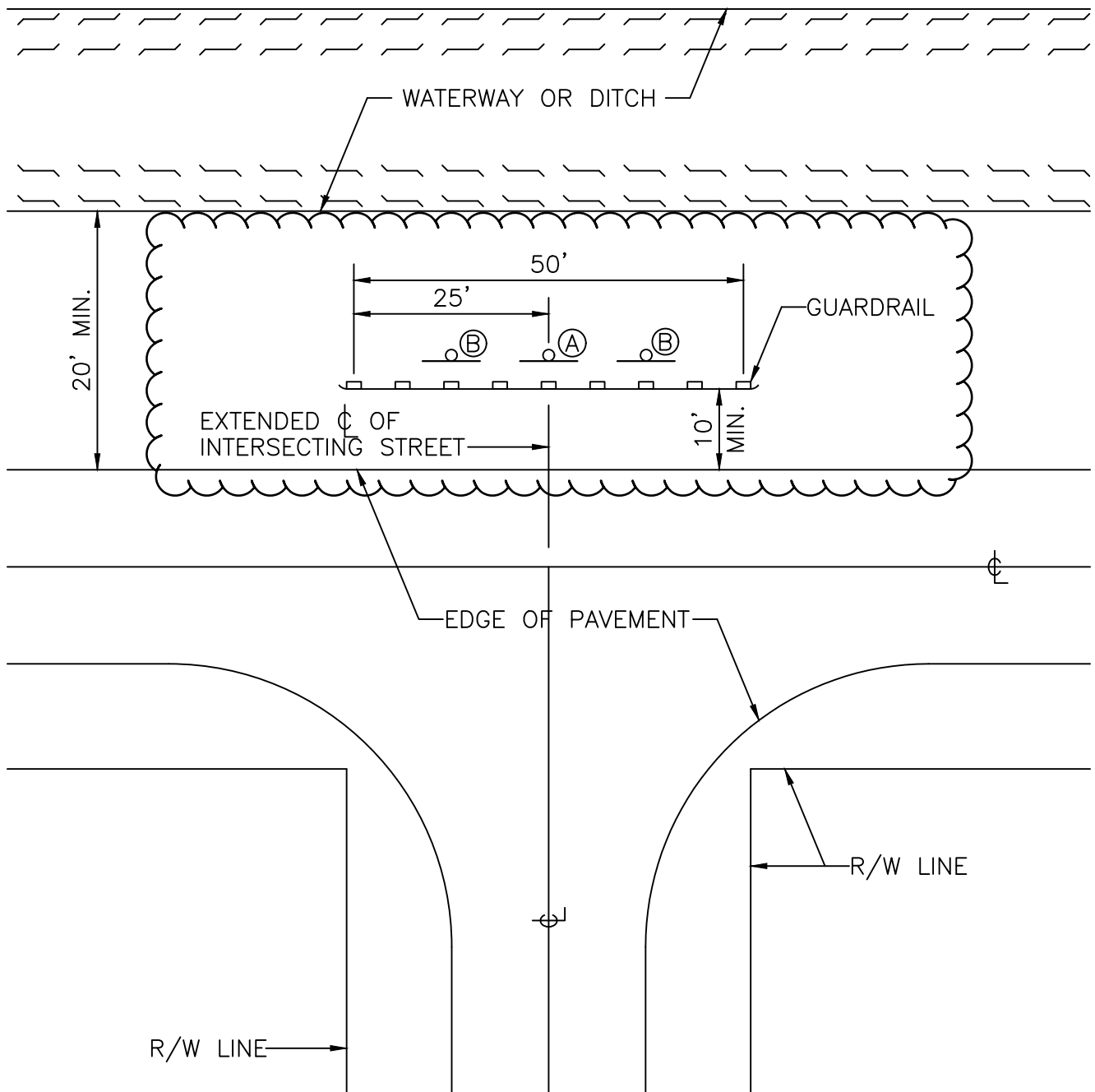
8" THICK BASE WILL
EXTEND BELOW ALL CURBS

TYPE "D" CONCRETE CURB





NOTE: CIRCULAR CURVES MAY BE REQUIRED
IN LIEU OF ABOVE F.D.O.T. METHODS.
COMMERCIAL 10' - 30' RADIUS.
RESIDENTIAL 10' - 20' RADIUS.



PLAN

NOTES:

1. GUARDRAIL MINIMUM LENGTH INSTALLATION SHALL BE 50'.
2. GUARDRAIL INSTALLATION SHALL BE PARALLEL WITH EDGE OF PAVEMENT.
3. GUARDRAIL SHALL BE PER F.D.O.T. STANDARDS (REFER TO INDEX 400).

(A). W1-7*

(B). OM4-1*

*PER MUTCD STANDARDS

"PROCEDURE FOR RESTORATION OF FLEXIBLE PAVEMENT"

THE PROCEDURE FOR BACKFILL AND PAVEMENT RESTORATION SHALL BE AS FOLLOWS:

"DENSITY TEST OF COMPACTED FILL, BACKFILL AND/OR BASE SHALL BE TAKEN AT EACH LIFT. PRIOR TO PLACEMENT OF THE SUCCEEDING LIFT OF MATERIAL, DENSITY TESTS SHALL BE TAKEN AT EACH 6" LIFT FOR BASE ROCK AND EACH 8" LIFT FOR COMPACTED FILL OR BACKFILL, ACCORDING TO THE FOLLOWING SCHEDULE".

1. FOR ANY ROAD CROSSING IN WHICH THE ROAD IS CUT AND RESTORED ONE LANE AT A TIME, ONE DENSITY TEST SHALL BE TAKEN IN EACH LANE AT EACH LIFT.
2. FOR ANY ROAD CROSSING IN WHICH THE ROAD IS CUT AND RESTORED TWO LANES AT A TIME, DENSITIES SHALL BE TESTED IN ONE LANE PER LIFT, ALTERNATING LANES WITH EACH LIFT.
3. FOR ANY ROAD CROSSING IN WHICH THE ROAD IS CUT AND RESTORED THREE LANES AT A TIME, DENSITIES SHALL BE TESTED IN TWO LOCATIONS PER LIFT, STAGGERING LOCATIONS WITH EACH SUCCESSIVE LIFT.
4. CUTS ACROSS ROADS SHALL NOT BE LEFT OPEN OVER-NIGHT UNLESS ABSOLUTELY NECESSARY. TRENCHES SHALL BE BACKFILLED AND A TEMPORARY ASPHALT APPLIED TO MAKE A SMOOTH LEVEL PATCH. THE TRENCHES SHALL THEN BE EXCAVATED THE NEXT DAY AND PERMANENT BACKFILL AND PAVEMENT INSTALLED IN ACCORDANCE WITH THESE STANDARDS. THE ONLY EXCEPTIONS WILL BE IN CASES WHERE THE FACILITY INSTALLED MUST BE TESTED BEFORE THE ROADS ARE RESTORED. IN THESE CASES, THE PERMANENT RESTORATION MUST BE PERFORMED ON THE DAY OF TESTING OR THE NEXT DAY.
5. IN CASES WHERE THE INSTALLATION PARALLELS THE ROADWAY AND DAMAGES THE PAVEMENT, THE DENSITY TESTS SHALL BE MADE EVERY 100 L.F. AT EACH LIFT, WITH TEST LOCATIONS STAGGERED 25' EACH LIFT.
6. ROADWAY BASE MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 98% OF MAXIMUM DRY DENSITY, AS DETERMINED BY A.A.S.H.T.O. T-180 (MODIFIED PROCTOR TEST). SUBGRADE MATERIAL UNDER PAVED AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY. SHOULDER AREAS AND SWALE AREAS BEYOND SHOULDERS SHALL BE COMPACTED TO A MINIMUM OF 98% OF MAXIMUM DRY DENSITY, ALL AS DETERMINED BY A.A.S.H.T.O. T-180-C (STANDARD PROCTOR TEST).
7. RESTORATION OF STRIPING, SIGNING AND SIGNALIZATION DEVICES SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PAVEMENT RESTORATION IS COMPLETED.

A COPY OF ALL PROCTOR AND FIELD DENSITY TESTS SHALL BE FURNISHED TO THE ENGINEERING DIVISION UPON REQUEST.

NOTE: THE ABOVE LISTED REPRESENTS THE MINIMUM PROCEDURE. THE INSPECTOR MAY REQUIRE ADDITIONAL TESTING IF, IN HIS/HER OPINION, CONDITIONS OR PRIOR TEST RESULTS WARRANT THEM.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

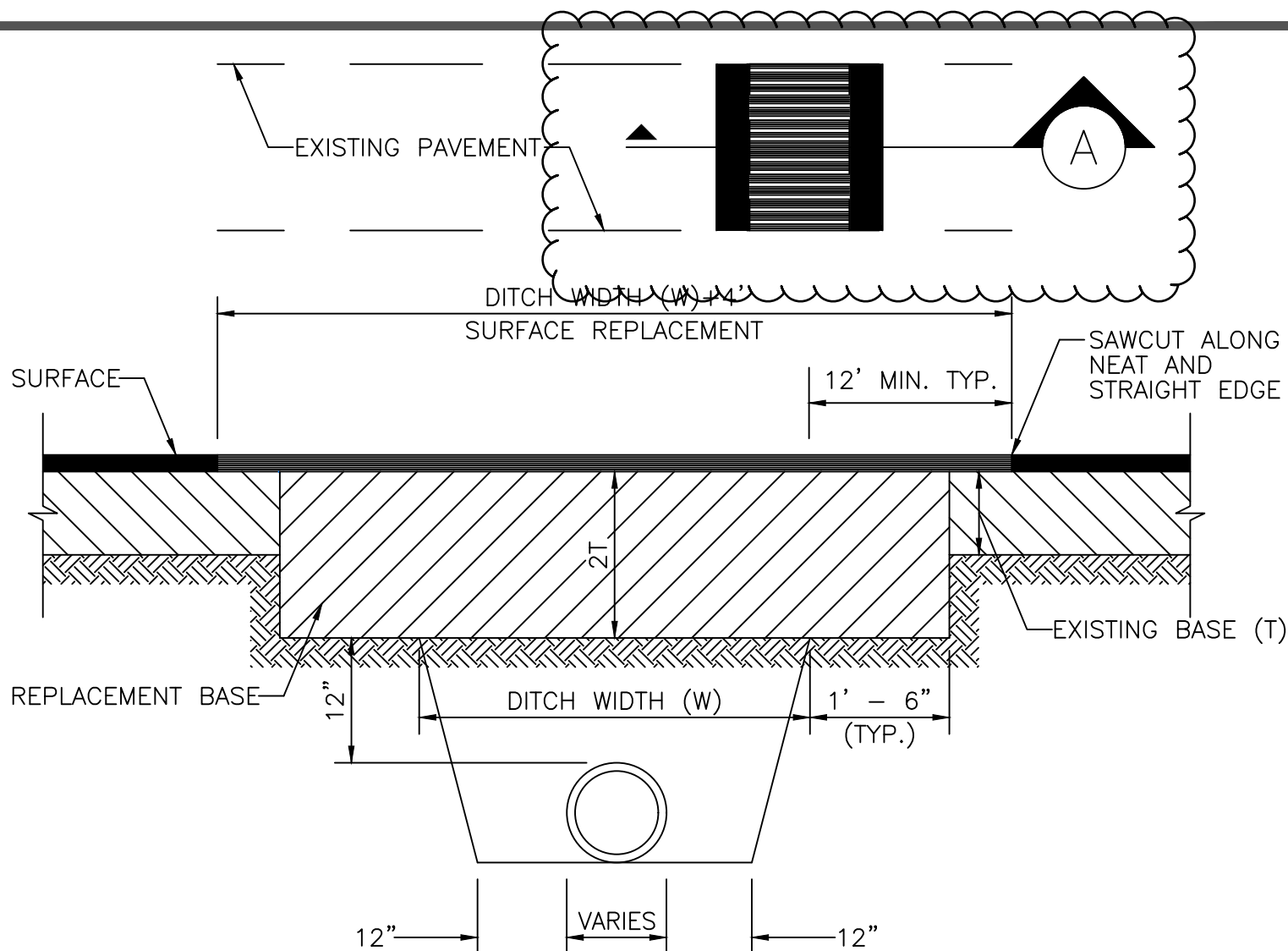
N.T.S.

REVISED:

SEPT. 18

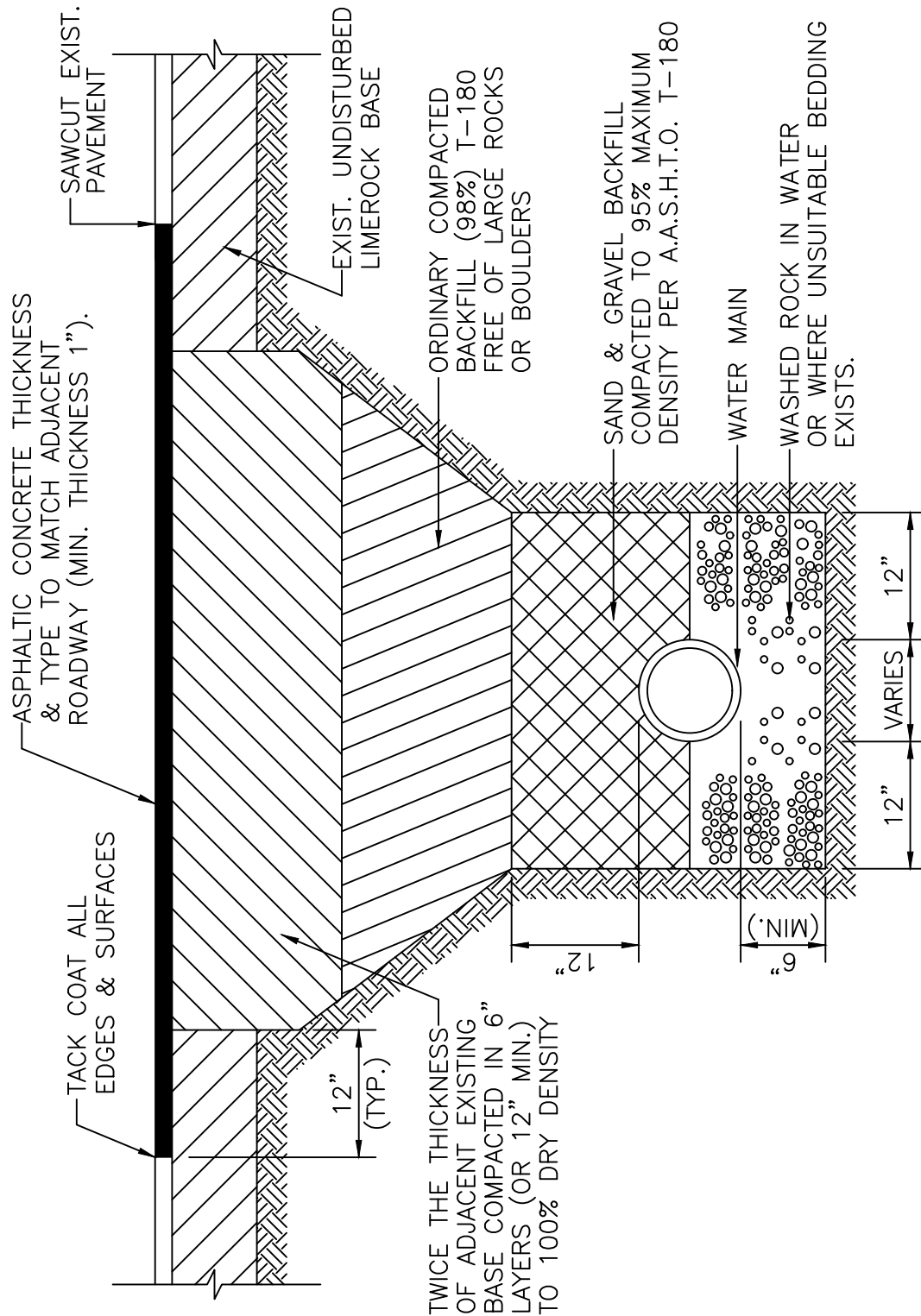
STANDARD ROAD DETAIL
JOINT DETAILS &
TYPICAL CONSTRUCTION

R-24



NOTES:

1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE. MINIMUM 8", MAXIMUM 18".
2. BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM (LOOSE MEASUREMENT) LAYERS AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACED TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
5. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
6. BASE MATERIAL SHALL HAVE A MINIMUM LBR. OF 100 AND A MINIMUM CARBONATE CONTENT OF 70% (60% FOR LOCAL STREETS).
7. IF THE DITCH IS FILLED TEMPORARILY IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL PLACED WITH A PERMANENT PATCH.
8. BACKFILL SHALL BE IN ACCORDANCE WITH DETAIL R-24, EXCEPT AS SHOWN ABOVE.

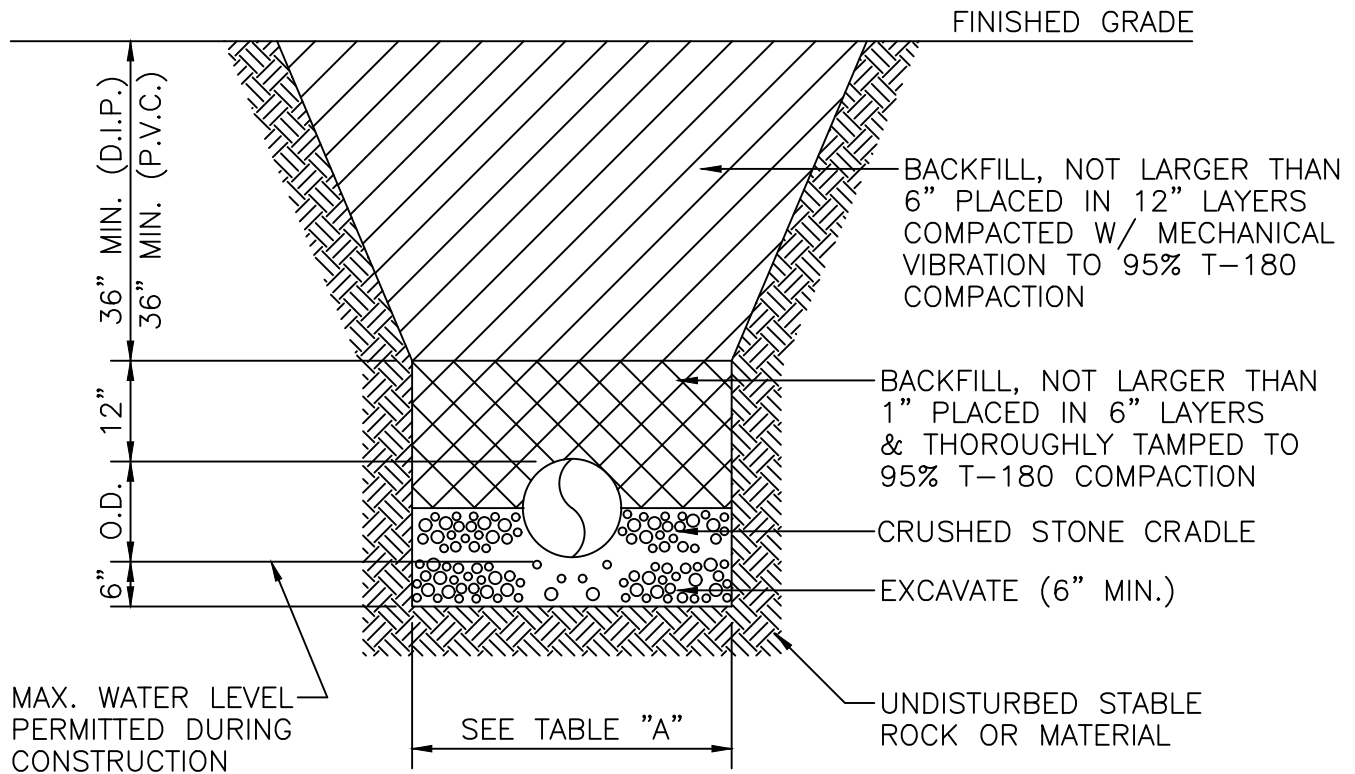


CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:
N.T.S.
REVISED:
SEPT. 18

STANDARD ROAD DETAIL
PAVEMENT RESTORATION
LOCAL ROADS—WATER MAIN

R-27



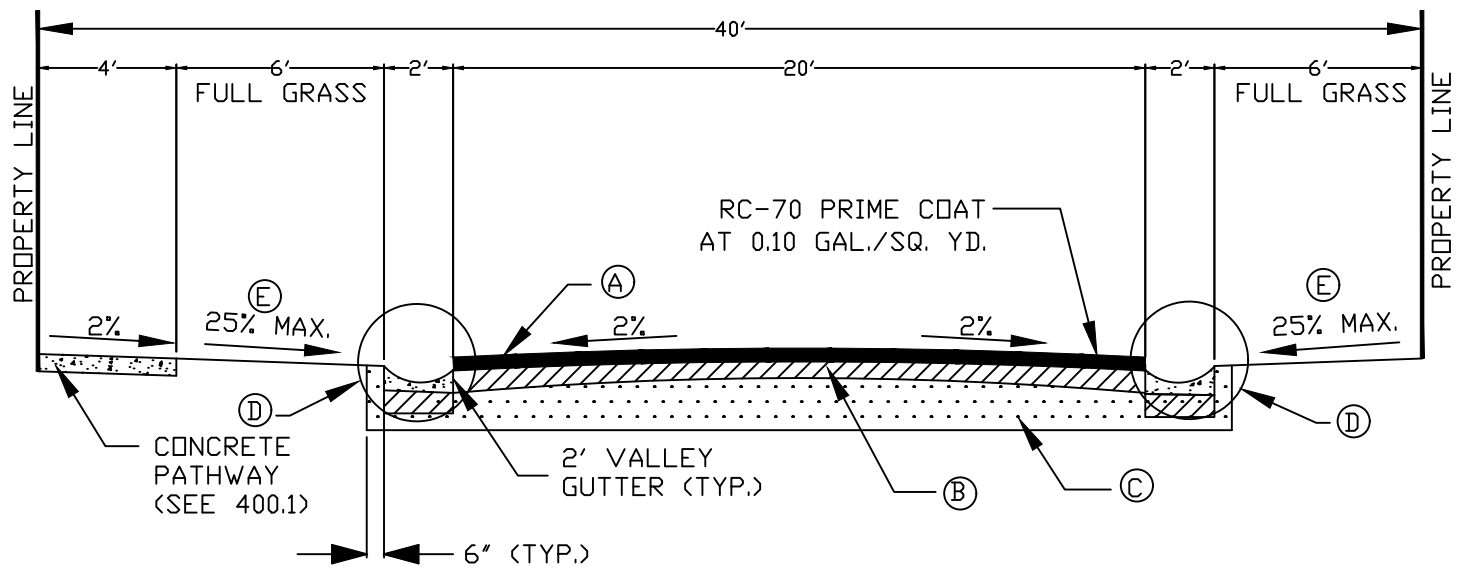
NOTE:

1. MAXIMUM DENSITY AS DETERMINED BY A.A.S.H.T.O.
2. MAXIMUM DEPTH TO BOTTOM OF PRESSURE MAINS SHALL NOT EXCEED SIX (6) FEET UNLESS OTHERWISE APPROVED BY THE CITY OF LAUDERHILL UTILITY DEPARTMENT.

TABLE "A"		
PIPE SIZE	DEPTH OF BACKFILL AT WHICH TRENCH WIDTH IS TO BE LIMITED	MAXIMUM TRENCH WIDTH
6"	15"	2'-6"
8"	15"	3'-0"
10"	12"	3'-0"
12"	12"	3'-3"
15"	12"	3'-6"
18"	12"	3'-9"
24"	12"	4'-3"
30"	12"	4'-9"

DIMENSIONS SHOWN APPLY TO ALL FOUNDATIONS





- ① WEARING SURFACE: SEE DETAIL R-31
- ② BASE: SEE DETAIL R-31
- ③ SUBGRADE: SEE DETAIL R-31
- ④ PAVEMENT EDGE: SEE DETAIL R-21
- ⑤ NOT TO EXCEED 10% IN LOT ACCESS & DRIVEWAY AREAS.

NOTE: THIS SECTION TO BE USED
FOR PRIVATE STREETS ONLY.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:
N.T.S.

REVISED:
SEPT. 18

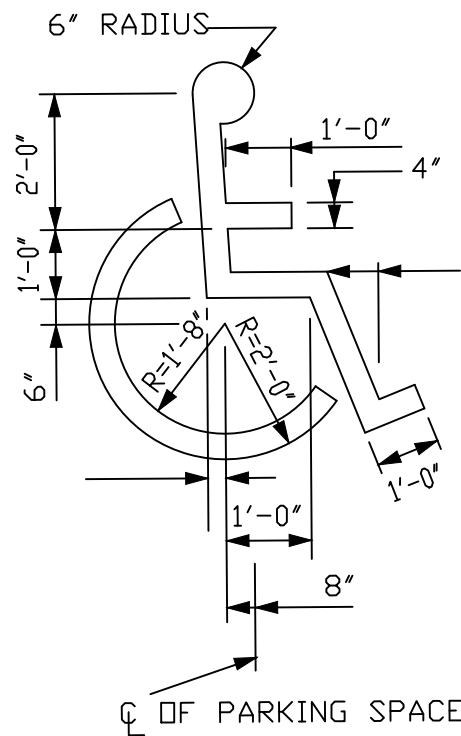
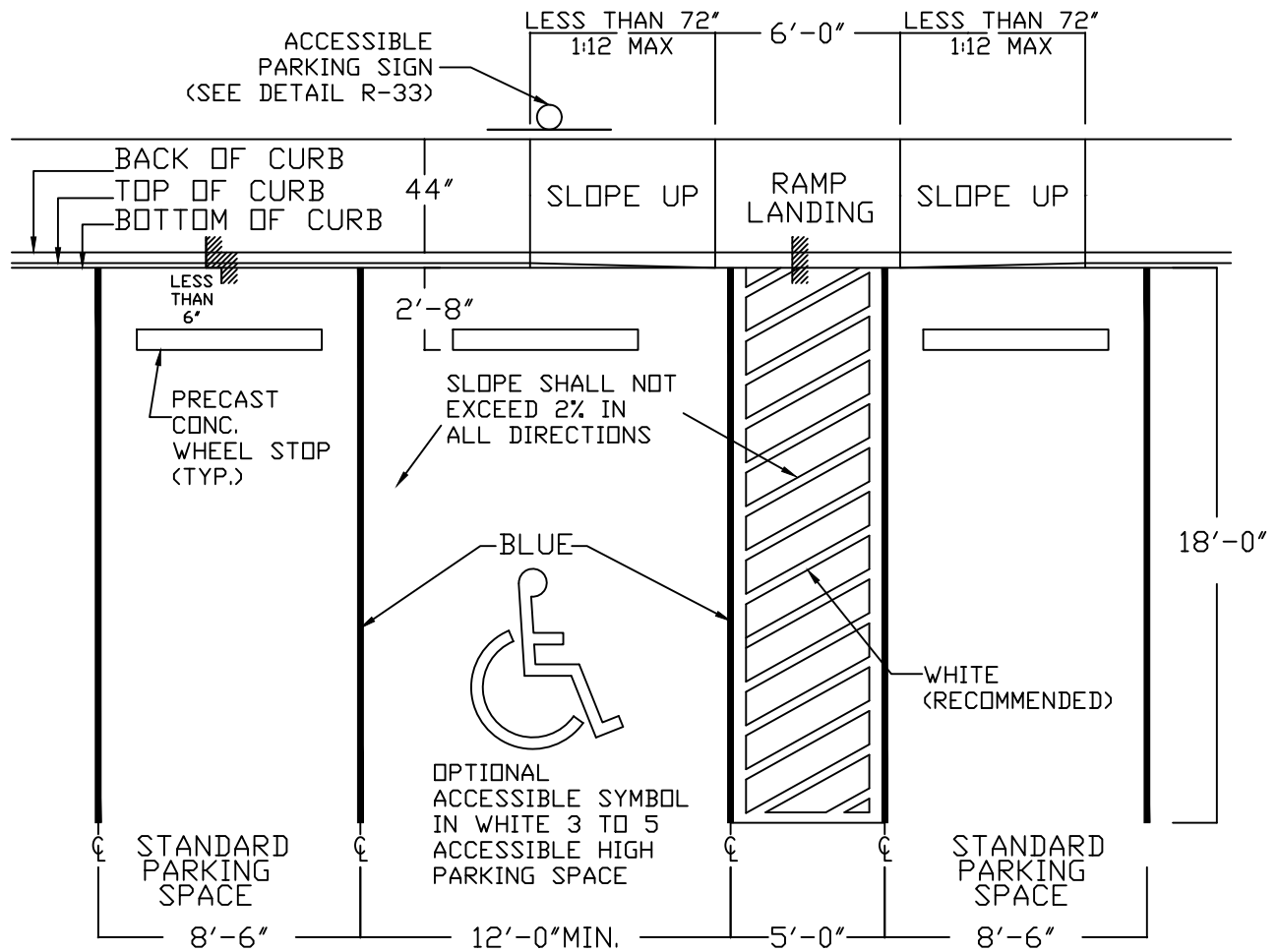
STANDARD ROAD DETAIL
RESIDENTIAL ACCESS ST.
CROWN SECTION WITH
40' RIGHT-OF-WAY

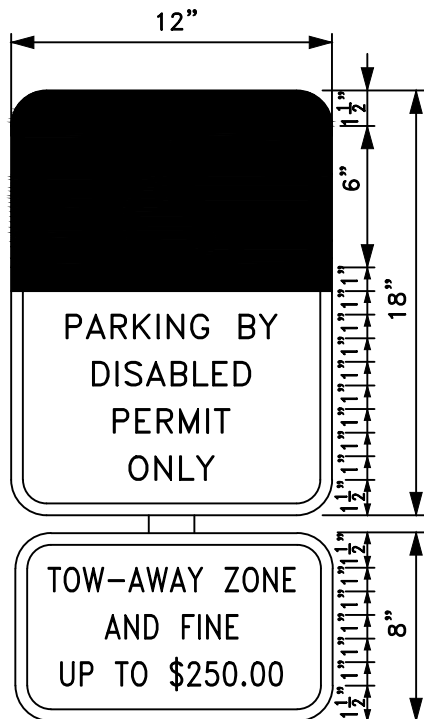
R-30

TABLE OF MATERIALS AND CONSTRUCTION STANDARDS: RESIDENTIAL ACCESS AND LOCAL STREETS

COMPONENT (1)	DESCRIPTION OF MATERIALS	CONSTRUCTION STANDARDS MINIMUM IN PLACE		NOTES
		THICKNESS (2)	METHOD (3)	
A	TYPE SP-12.5 ASPHALTIC CONCRETE	1 - ¼"	ONE (1) LIFT	
	TYPE SP-9.5 ASPHALTIC CONCRETE	1 - ½"	TWO (2) EQUAL LIFTS	TACK COAT REQUIRED WITH MULTIPLE LIFTS
B	LIMEROCK	8"	COMPACTED	SEE DETAIL DRAWINGS FOR PRIME COAT NOTATION, MIN LBR 100
	SHELL	8"	COMPACTED	MIN LBR 100
	CRUSHED CONCRETE	8"	COMPACTED	MIN LBR 100
C	SUBGRADE	12"	COMPACTED	MIN LBR 40

- (1) A = PAVEMENT
B = BASE
C = SUBGRADE
(2) ALL DIMENSIONS REFER TO FINISHED THICKNESS.
(3) COMPACTED TO AT LEAST 98% MAXIMUM DENSITY PER
A.A.S.H.T.O. T-180.





FTP-20-06

2" RADII 3/8" BORDER

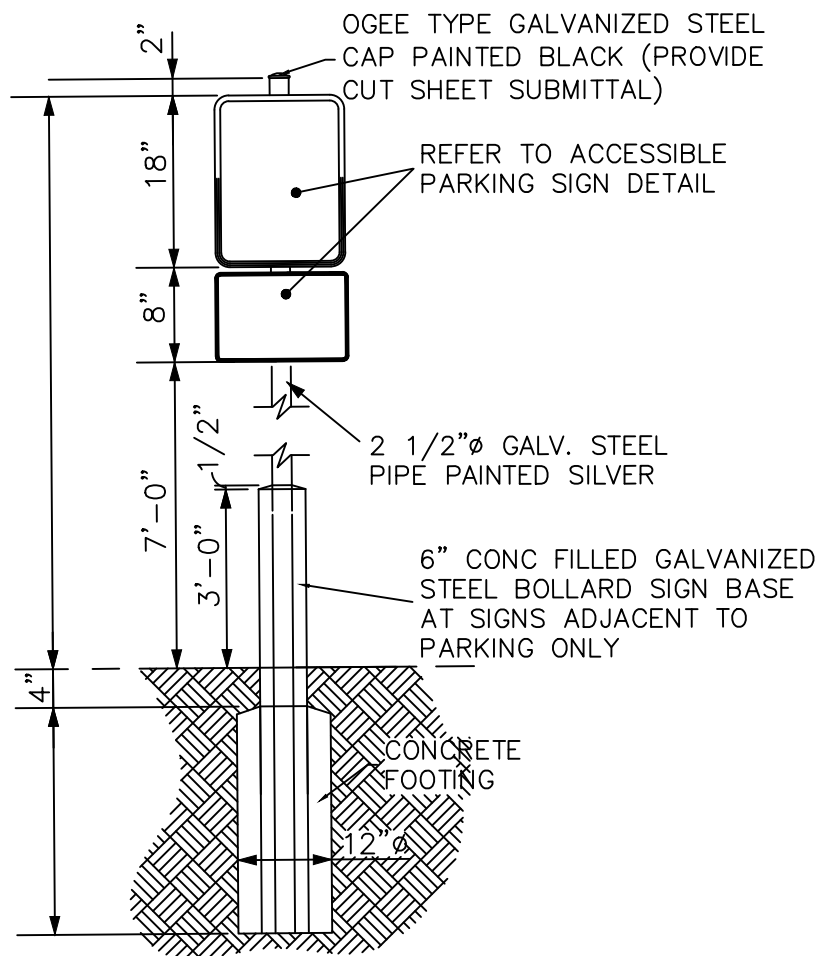
1" SERIES C LEGEND

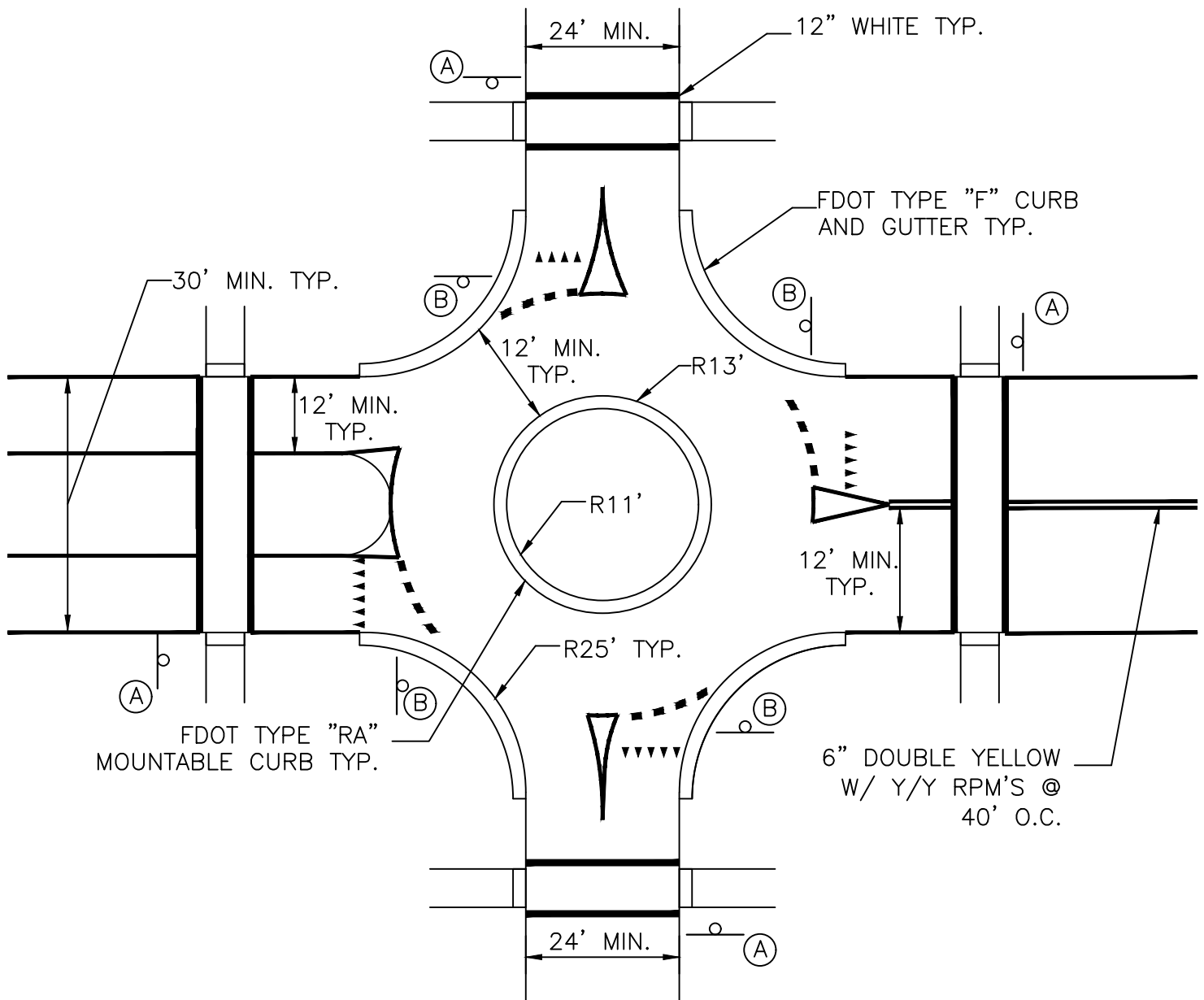
COLOR	TOP	BOTTOM
BACKGROUND	BLUE	WHITE
LEGEND AND BORDER	WHITE	BLACK

1" RADII 3/8" BORDER

1" SERIES C LEGEND

COLOR	
BACKGROUND	WHITE
LEGEND AND BORDER	BLACK





- (1) ALL PAVEMENT MARKINGS SHALL BE ALKYD BASED THERMOPLASTIC AND FULLY RETROREFLECTORIZED.
- (2) ALL PAVEMENT MARKINGS ON PAVER SYSTEMS SHALL BE 3M 5730/31 TAPE AND APPLIED WITH AN E44 CONTACT CEMENT AS PER MANUFACTURER'S SPECIFICATIONS.
- (3) ALL PAVEMENT MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
- (4) SEE FDOT INDEX NO. 17352 FOR PLACEMENT OF RPM'S.
- (5) RPM'S SHALL BE CLASS "B" 911 OR EQUIVALENT, APPLIED WITH EPOXY OR BITUMINOUS ADHESIVE.
- (6) FDOT APPROVED SEALER SHALL BE USED WHEN APPLYING MARKINGS ON CONCRETE.

(7) EXISTING MARKINGS SHALL BE REMOVED BY WATER BLASTING OR SANDBLASTING ONLY.

(8) PAVEMENT MARKING REFLECTIVITY SHALL BE 250 MILlicANDELLAS FOR WHITE AND 175 MILlicANDELLAS FOR YELLOW

(9) MINIMUM 50' R/W PER DETAIL R-1

(A) PEDESTRIAN CROSSING SIGN PER MUTCD

(B) YIELD TO TRAFFIC IN CIRCLE SIGN PER MUTCD

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

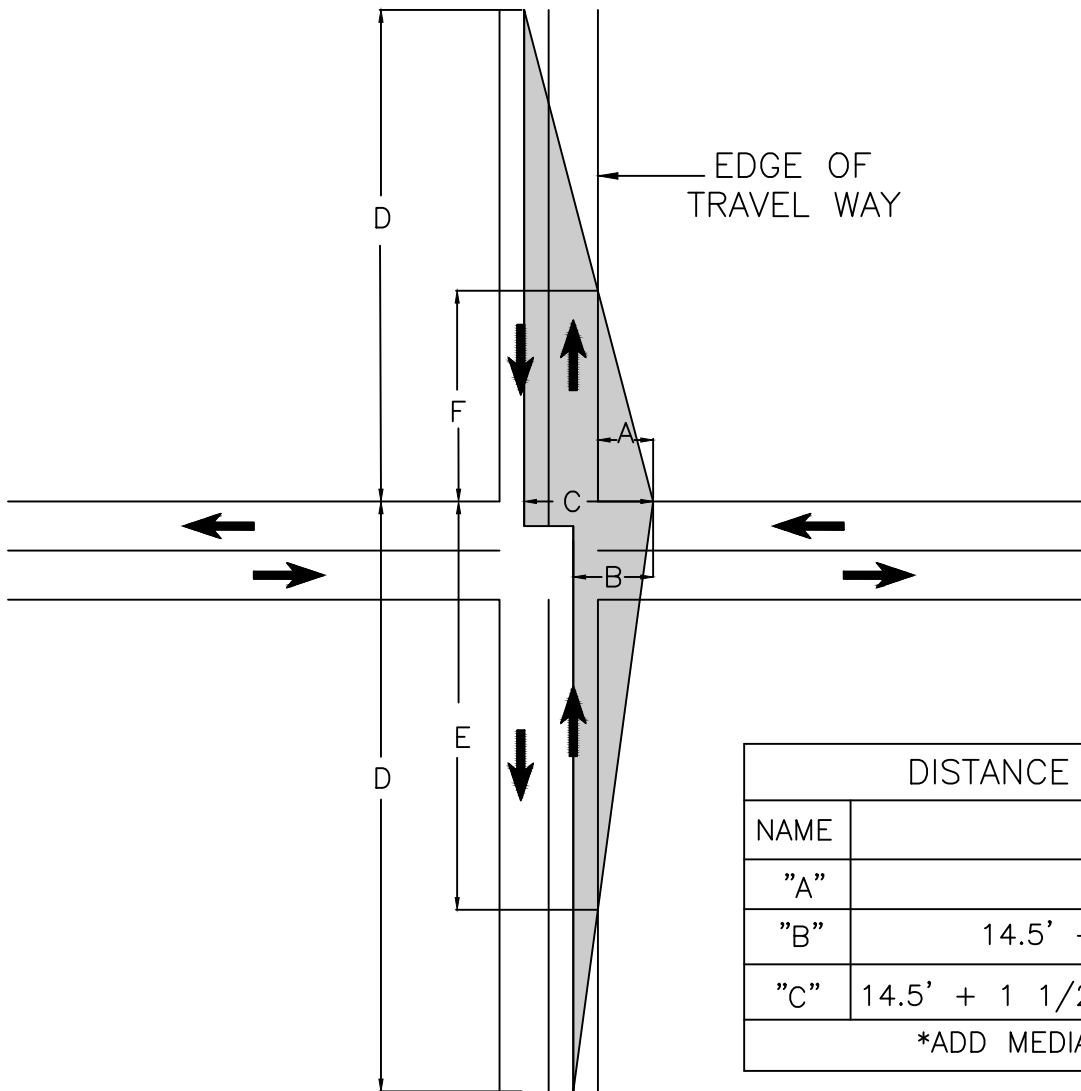
NT.S.

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SEPT. 18

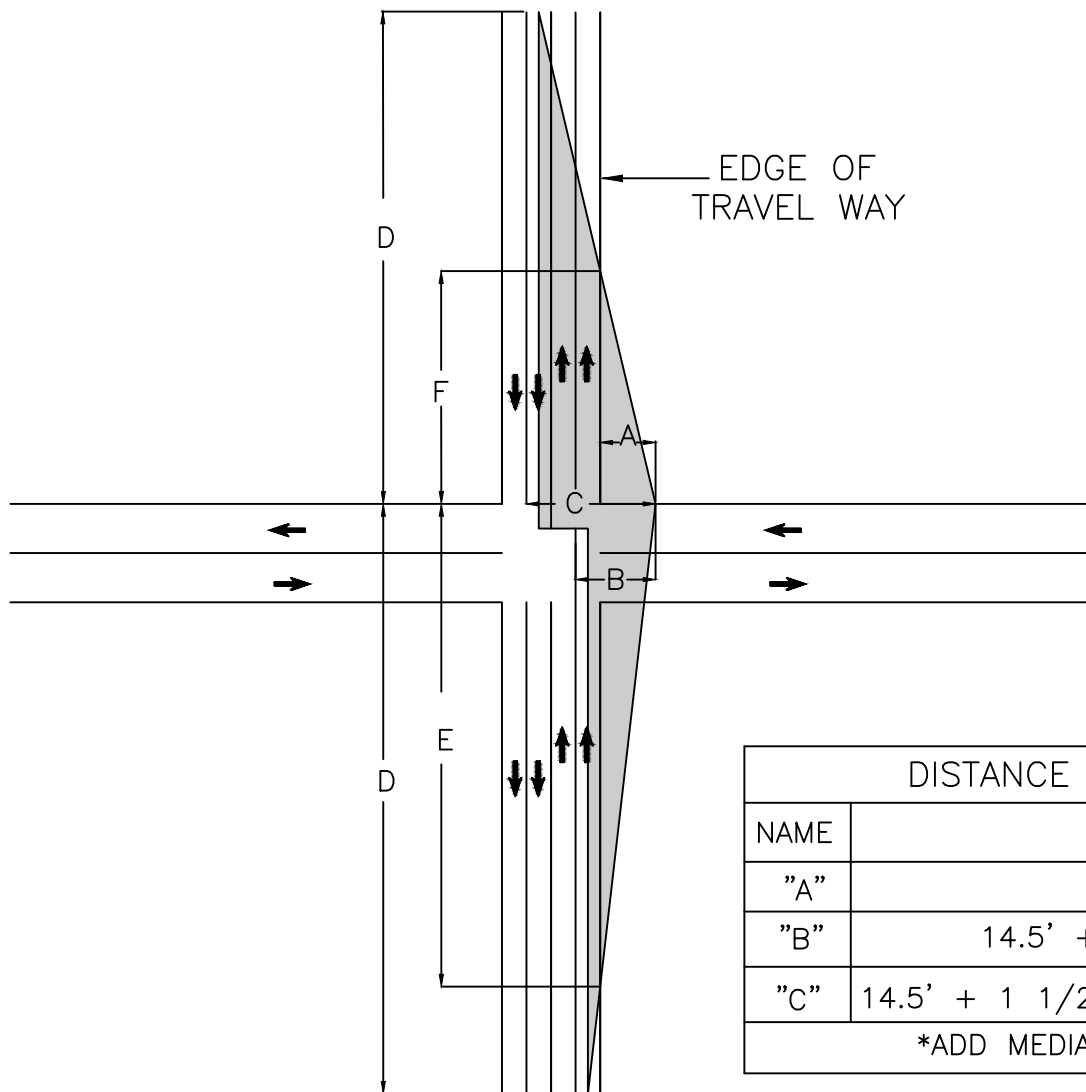
STANDARD ROAD DETAIL
ROUND A BOUT
STRIPING AND CURBING

R-34



DISTANCE TABULATION	
NAME	DISTANCE
"A"	14.5'
"B"	14.5' + 1/2 LANE WIDTH
"C"	14.5' + 1 1/2 LANE WIDTH + MEDIAN*
*ADD MEDIAN WIDTH IF PRESENT	

DESIGN VEHICLE	PASSENGER			SU			COMBINATION		
DESIGN SPEED	"D"	"E"	"F"	"D"	"E"	"F"	"D"	"E"	"F"
30 MPH	335'	240'	150'	420'	295'	190'	510'	360'	225'
35 MPH	390'	275'	175'	490'	345'	220'	595'	420'	265'
40 MPH	445'	315'	200'	560'	395'	250'	680'	480'	305'
45 MPH	500'	350'	225'	630'	445'	280'	765'	540'	340'
50 MPH	555'	390'	250'	700'	495'	310'	845'	600'	375'
55 MPH	610'	430'	275'	770'	545'	345'	930'	660'	415'
60 MPH	665'	470'	300'	840'	595'	375'	1015'	720'	450'
65 MPH	720'	510'	325'	910'	645'	405'	1100'	780'	490'



DISTANCE TABULATION	
NAME	DISTANCE
"A"	14.5'
"B"	14.5' + 1/2 LANE WIDTH
"C"	14.5' + 1 1/2 LANE WIDTH + MEDIAN*
*ADD MEDIAN WIDTH IF PRESENT	

DESIGN VEHICLE	PASSENGER			SU			COMBINATION		
DESIGN SPEED	"D"	"E"	"F"	"D"	"E"	"F"	"D"	"E"	"F"
30 MPH	355'	250'	115'	450'	320'	150'	540'	380'	175'
35 MPH	415'	295'	135'	525'	370'	170'	640'	445'	205'
40 MPH	475'	335'	155'	600'	425'	195'	720'	510'	235'
45 MPH	530'	375'	175'	675'	475'	220'	810'	570'	265'
50 MPH	590'	415'	195'	750'	530'	245'	900'	635'	295'
55 MPH	650'	460'	210'	825'	585'	270'	990'	700'	320'
60 MPH	705'	500'	230'	900'	635'	295'	1080'	765'	350'
65 MPH	765'	540'	250'	975'	690'	320'	1170'	825'	380'

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

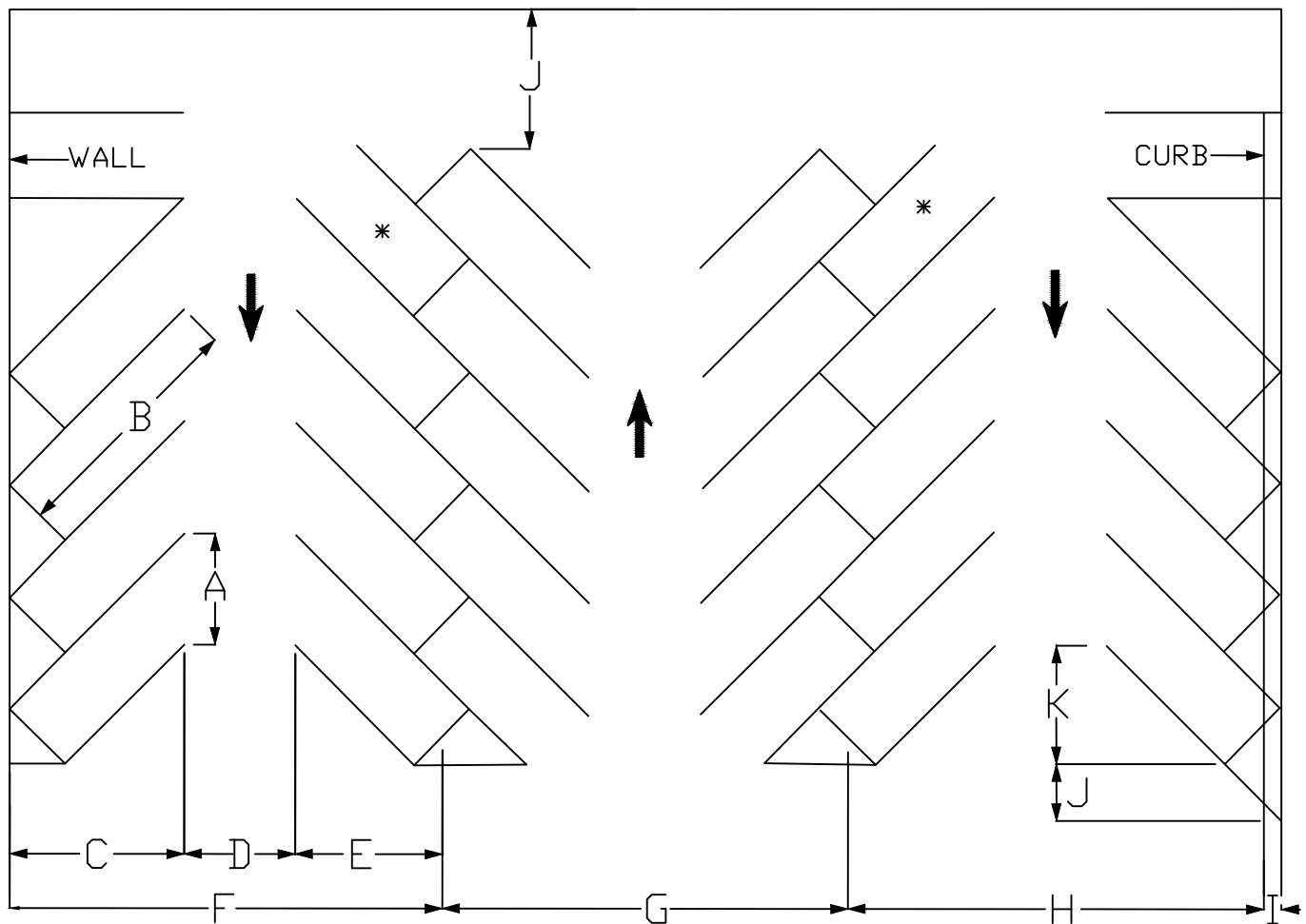
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SEPT. 18

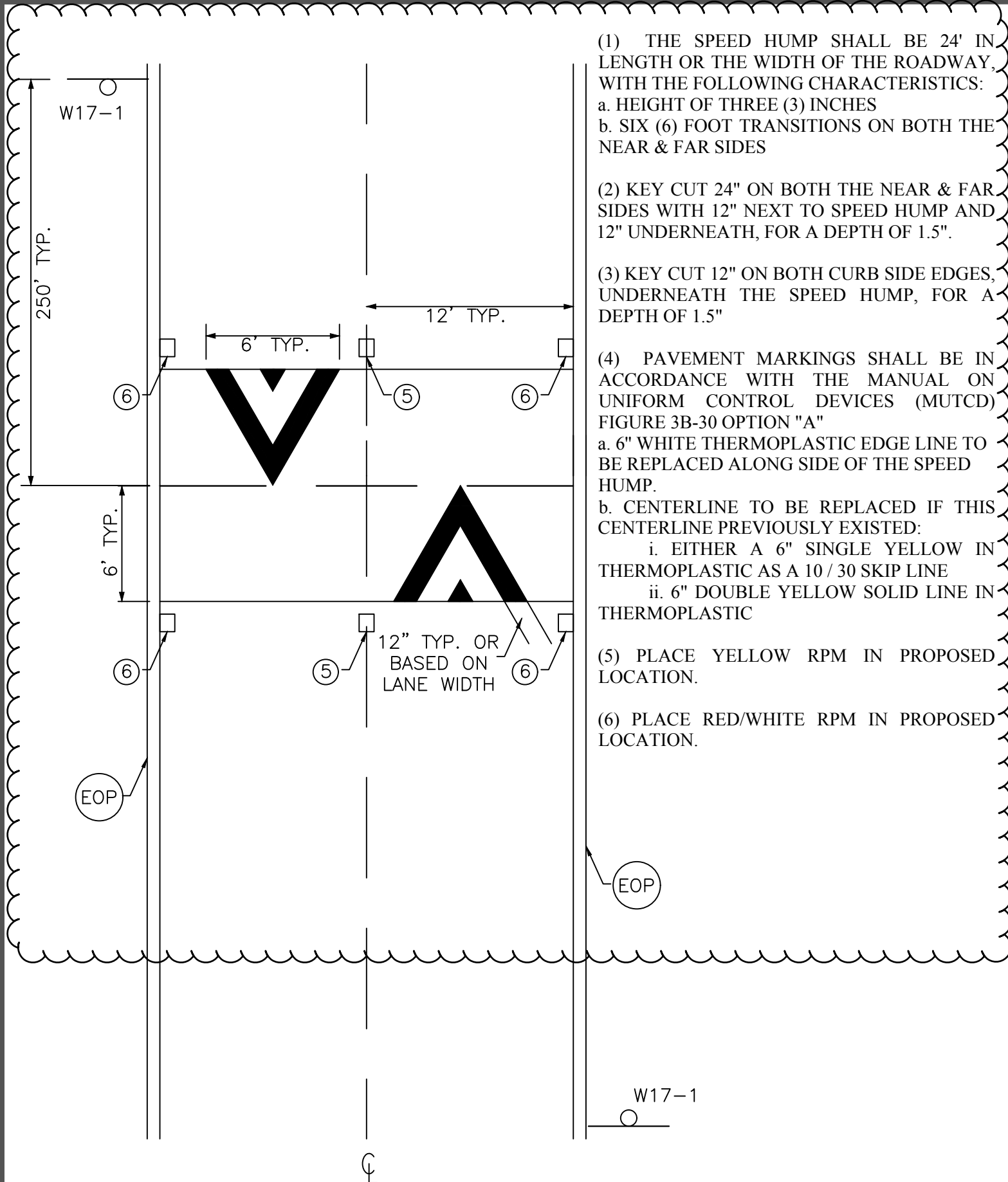
STANDARD ROAD DETAIL
APPROACH SITE TRIANGLES
(4 LANES)

R-36



* = STALL NOT ACCESSIBLE IN CERTAIN LAYOUTS

DIMENSION		ANGLE			
		45°	60°	75°	90°
STALL WIDTH, PARALLEL TO SIDE	"A"	12.0'	9.8'	8.8'	8.5'
STALL LENGTH OF LINE	"B"	26.5'	22.9'	20.3'	18.0'
STALL DEPTH TO WALL	"C"	18.7'	19.8'	19.6'	18.0'
AISLE WIDTH BETWEEN STALLS	"D"	12.0'	17.0'	21.0'	22.0'
STALL DEPTH, INTERLOCK	"E"	15.7'	17.7'	18.5'	18.0'
MODULE, WALL TO INTERLOCK	"F"	46.5'	54.6'	59.1'	58.0'
MODULE, INTERLOCKING	"G"	43.5'	52.4'	58.0'	58.0'
MODULE, INTERLOCK TO CURB	"H"	44.7'	52.4'	56.7'	55.5'
BUMBER OVERHANG (TYP.)	"I"	1.8'	2.2'	2.4'	2.5'
OFFSET	"J"	6.0'	2.5'	0.6'	0.0'
SETBACK	"K"	12.7'	9.0'	4.7'	0.0'



(1) THE SPEED HUMP SHALL BE 24' IN LENGTH OR THE WIDTH OF THE ROADWAY, WITH THE FOLLOWING CHARACTERISTICS:

- a. HEIGHT OF THREE (3) INCHES
- b. SIX (6) FOOT TRANSITIONS ON BOTH THE NEAR & FAR SIDES

(2) KEY CUT 24" ON BOTH THE NEAR & FAR SIDES WITH 12" NEXT TO SPEED HUMP AND 12" UNDERNEATH, FOR A DEPTH OF 1.5".

(3) KEY CUT 12" ON BOTH CURB SIDE EDGES, UNDERNEATH THE SPEED HUMP, FOR A DEPTH OF 1.5"

(4) PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM CONTROL DEVICES (MUTCD) FIGURE 3B-30 OPTION "A"

a. 6" WHITE THERMOPLASTIC EDGE LINE TO BE REPLACED ALONG SIDE OF THE SPEED HUMP.

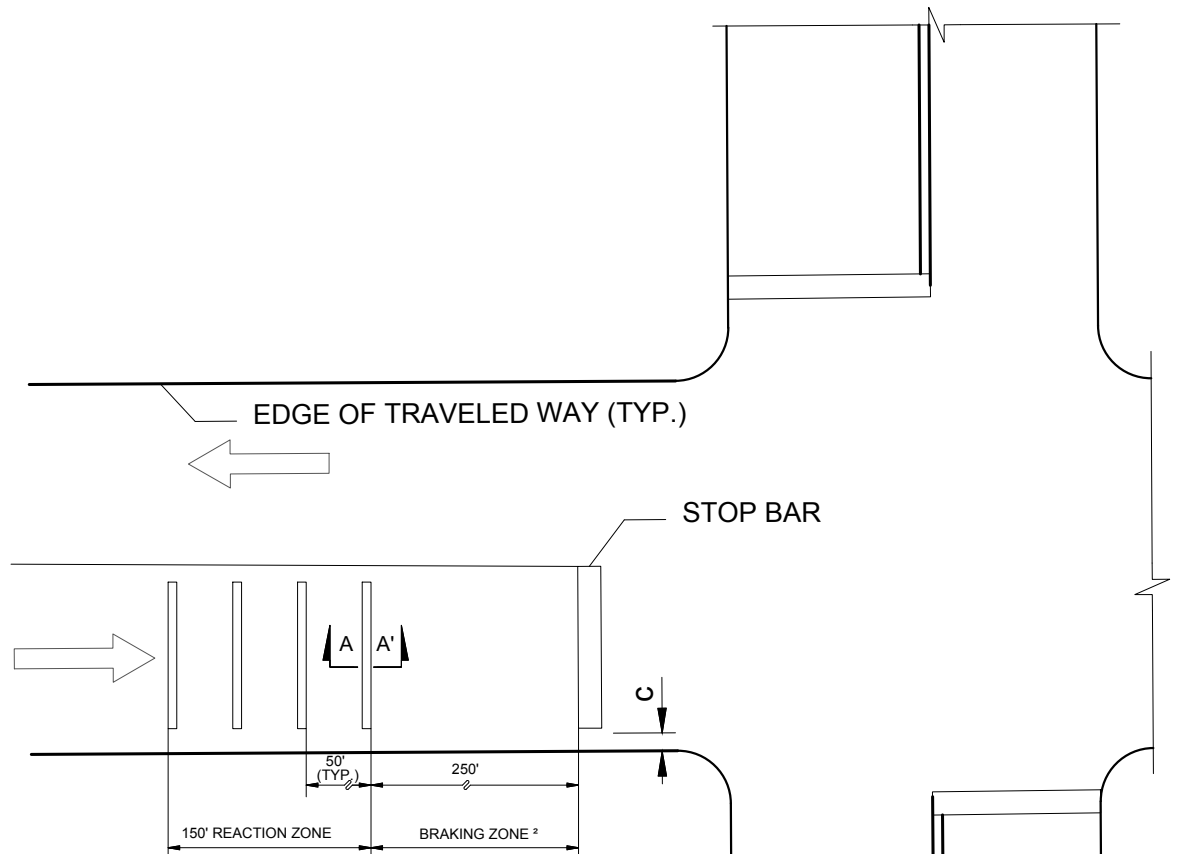
b. CENTERLINE TO BE REPLACED IF THIS CENTERLINE PREVIOUSLY EXISTED:

- i. EITHER A 6" SINGLE YELLOW IN THERMOPLASTIC AS A 10 / 30 SKIP LINE

- ii. 6" DOUBLE YELLOW SOLID LINE IN THERMOPLASTIC

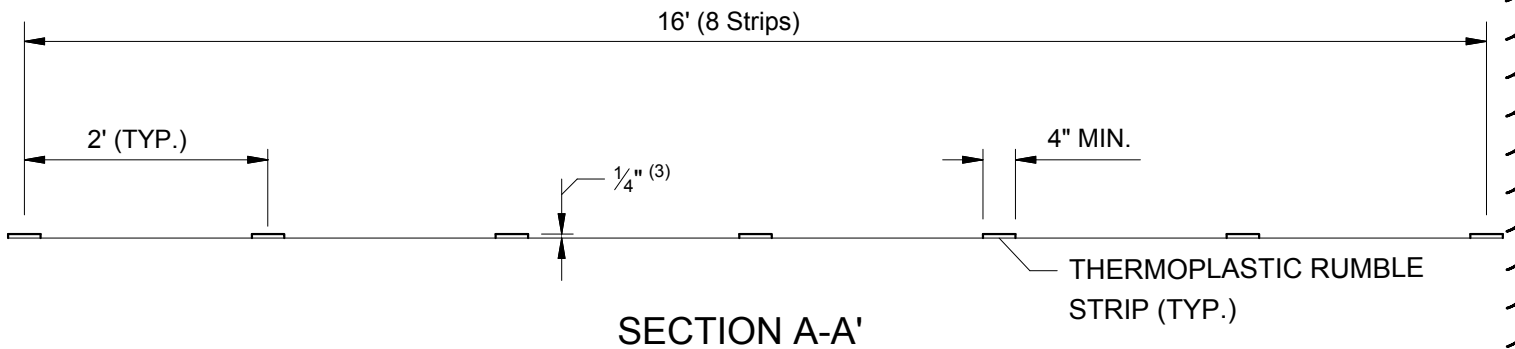
(5) PLACE YELLOW RPM IN PROPOSED LOCATION.

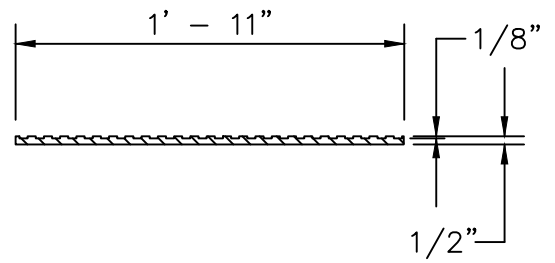
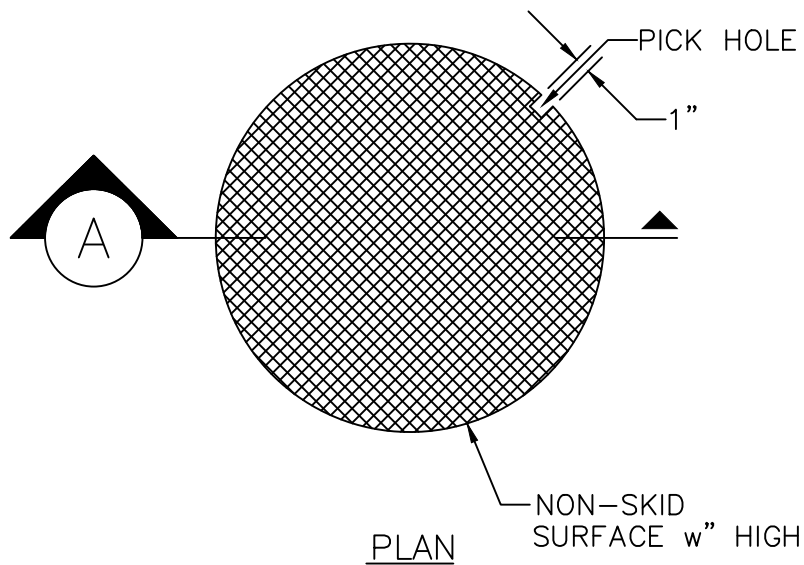
(6) PLACE RED/WHITE RPM IN PROPOSED LOCATION.



NOTES:

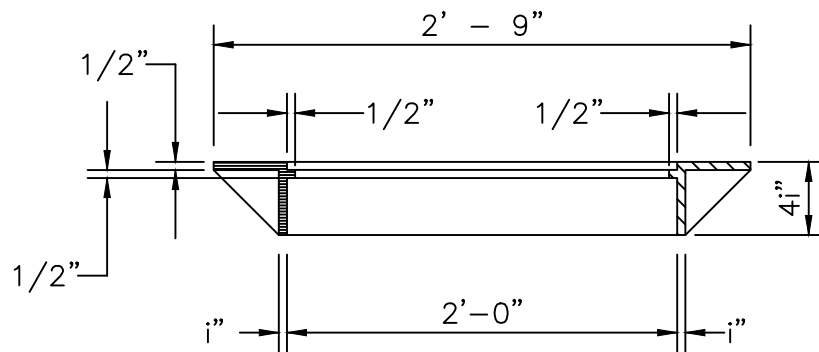
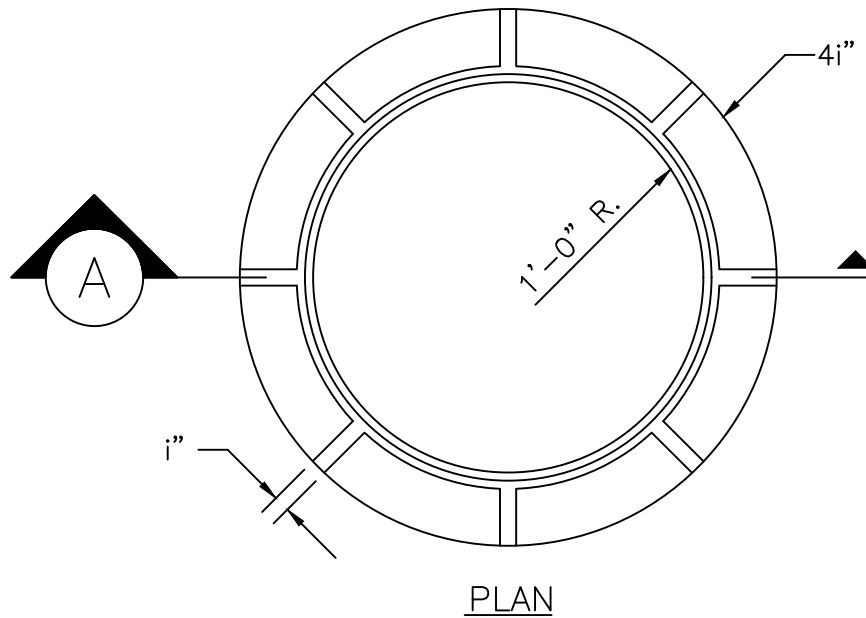
- 1) $C = 0'$ FOR ROADWAYS WITH PAVED SHOULDERS
 $C = 1.5'$ FOR ROADWAYS WITHOUT PAVED SHOULDERS
- 2) BRAKING ZONE DISTANCE MAY BE DECREASED IN URBAN AREAS WITH LOW OPERATING SPEEDS.
- 3) USE MULTIPLE APPLICATION TO ACHIEVE DESIRED $\frac{1}{4}"$ THICKNESS
- 4) ALL RUMBLE STRIPS SHALL BE THERMOPLASTIC WHITE.





SECTION A-A

COVER DETAIL



SECTION A-A

FRAME DETAIL

NOTE:

1. USE IN SIDEWALK ONLY.

MIN. WEIGHTS

FRAME: 118 LBS.
COVER: 70 LBS

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LAUDERHILL, FLORIDA

SCALE:

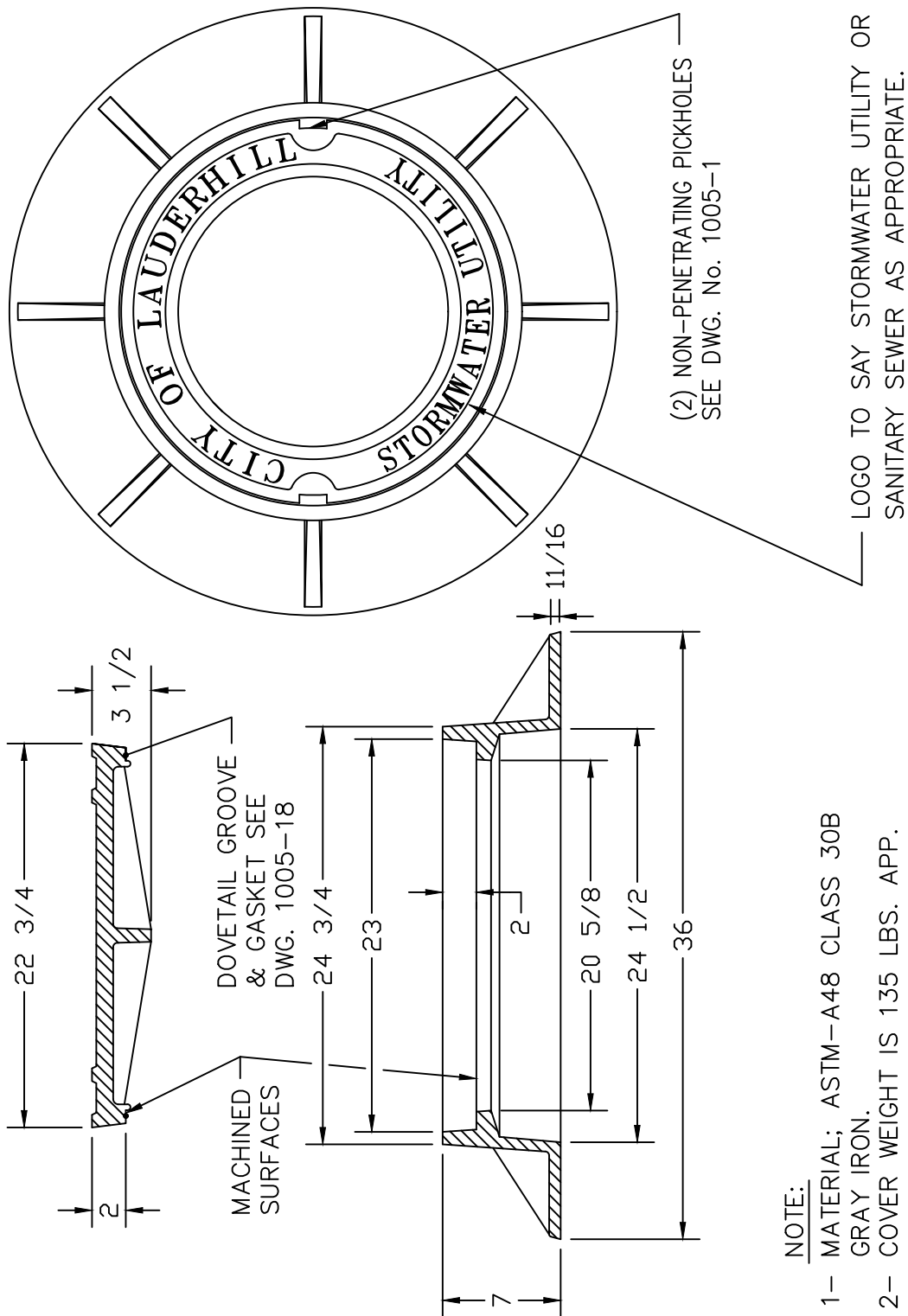
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STANDARD STORM
DRAINAGE DETAIL
CURB INLET
FRAME AND COVER

D-1



NOTE:

- 1- MATERIAL; ASTM-A48 CLASS 30B
GRAY IRON.
- 2- COVER WEIGHT IS 135 LBS. APP.
- 3- RING WEIGHT IS 240 LBS. APP.
- 4- MANHOLE COVER IS USF TYPE XC-B

CITY OF LAUDERHILL
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LAUDERHILL, FLORIDA

SCALE:

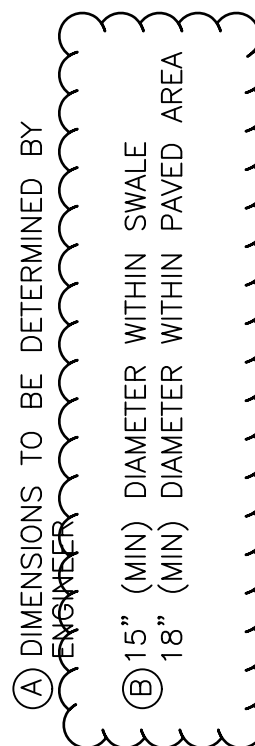
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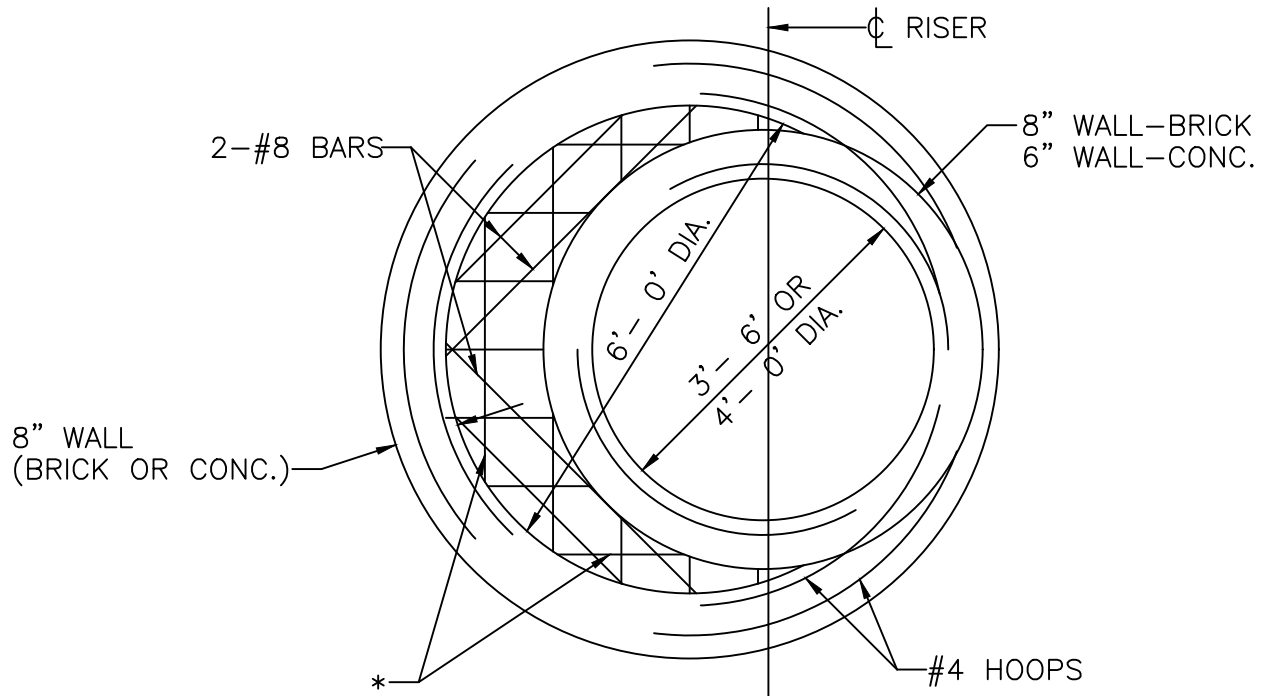
REVISED:

SEPT. 18

STANDARD STORM
DRAINAGE DETAIL
STORM SEWER MANHOLE
FRAME AND COVER

D-2



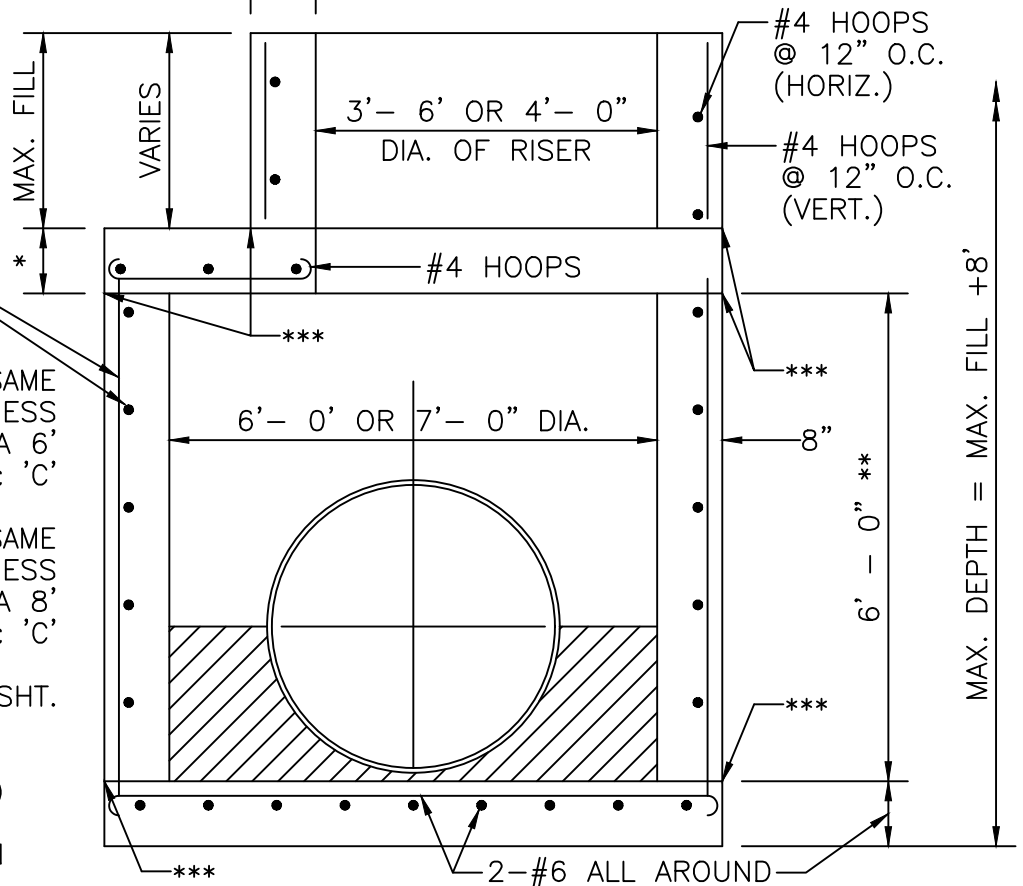


PLAN

8" WALL-BRICK
6" WALL-CONC.

ONE CAGE

#5 BARS, @ 12"
O.C. (BOTH WAYS)
IN CENTER 1/3
OF WALL



SECTION

ALTERNATE "A"

NOTES:

1. FOR 6' DIA. BOX USE THE SAME SLAB REINFORCING, THICKNESS AND FILL HEIGHT AS FOR A 6' WIDTH BOX ALTERNATE 'B' & 'C'
2. FOR 7' DIA. BOX USE THE SAME SLAB REINFORCING, THICKNESS AND FILL HEIGHT AS FOR A 8' WIDTH BOX ALTERNATE 'B' & 'C'
3. FOR GENERAL NOTES SEE SHT. D-7

* SEE NOTES (SHT. D-7)

** UNLESS OTHERWISE SHOWN ON PLANS.

*** CONSTRUCTION JOINT PERMITTED.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

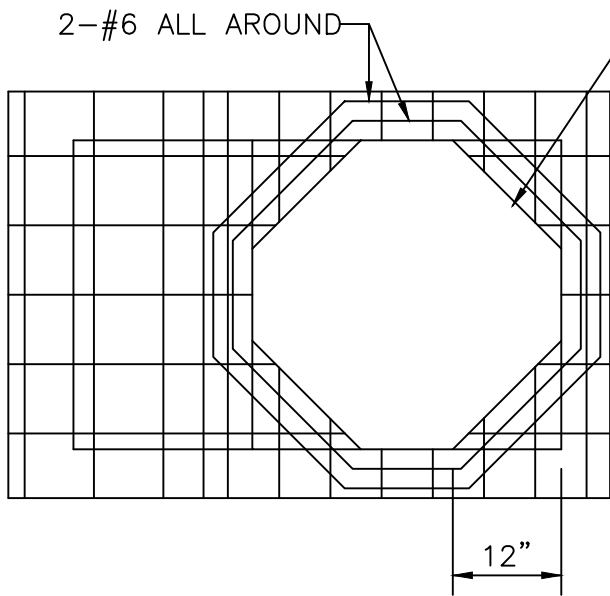
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STANDARD STORM
DRAINAGE DETAIL
INLET, MANHOLE &
JUNCTION BOX (TYPE J)

D-4



PLAN

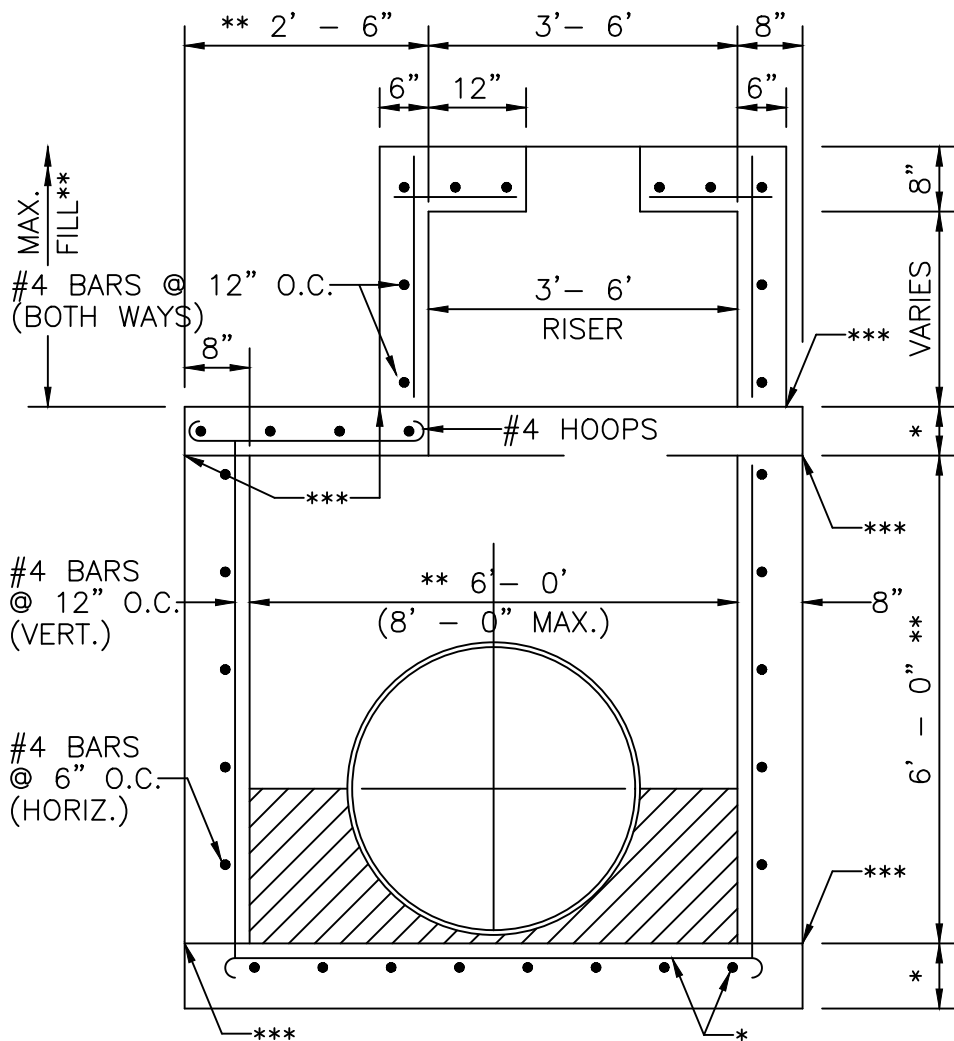
FILLET CORNERS
(SEE GENERAL NOTE 5,
SHEET D-7).

* SEE NOTES (SHT. D-7)

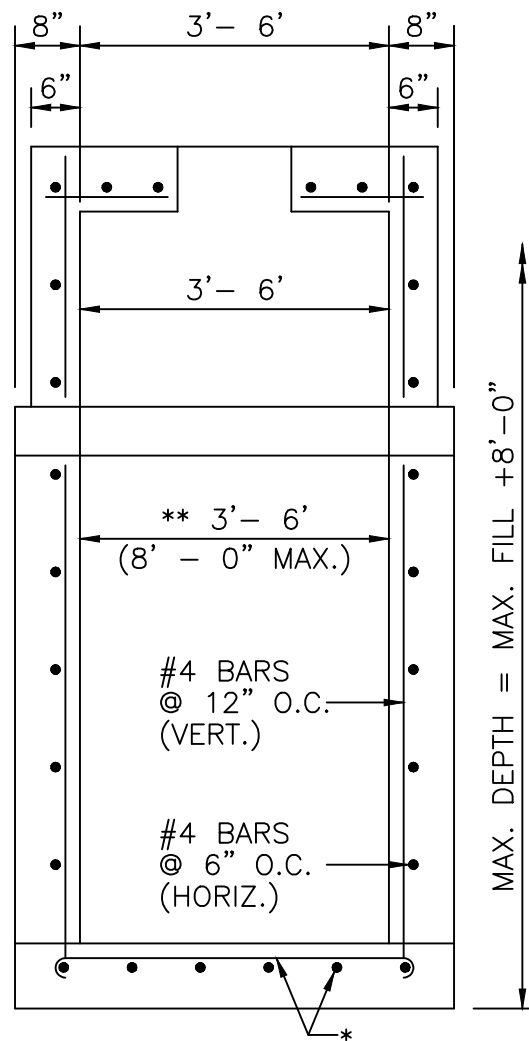
** UNLESS OTHERWISE SHOWN
ON PLANS.

*** CONSTRUCTION JOINT
PERMITTED.

TOP AND BOTTOM SLAB TABLE TYPE "J"						
TYPE J, ALT. 'B' (M.S. CONC.)				TYPE J, ALT. 'C' (3000 P.S.I. CONC.)		
BOX WIDTH	SLAB THICK- NESS	ALLOWABLE FILL OVER TOP SLAB	REINF. ON TOP & BOTTOM SLAB	SLAB THICK- NESS	ALLOWABLE FILL OVER TOP SLAB	REINF. ON TOP & BOTTOM SLAB
3'-6"	8"	MIN. 2' TO MAX. 20'	#6 @6" O.C., B.W.	8"	MIN. 2' TO MAX. 20'	#6 @6" O.C., B.W.
5'-0"	8"	2' TO 11'	#6 @6" O.C., B.W.	8"	2' TO 25'	#6 @6" O.C., B.W.
5'-0"	10'	2' TO 18'	#6 @6" O.C., B.W.	10'	2' TO 27'	#7 @6" O.C., B.W.
6'-0"	8"	3' TO 7'	#6 @6" O.C., B.W.	8"	8' TO 20'	#6 @6" O.C., B.W.
6'-0"	10"	2' TO 14'	#6 @6" O.C., B.W.	10"	2' TO 25'	#7 @6" O.C., B.W.
8'-0"	10"	2' TO 7'	#6 @6" O.C., B.W.	10"	2' TO 11'	#7 @6" O.C., B.W.



SECTION



END ELEVATION

ALTERNATE 'B' & 'C'

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

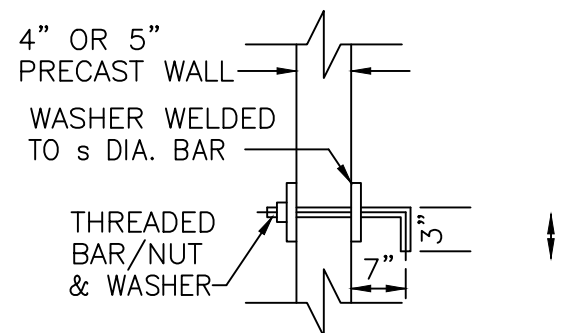
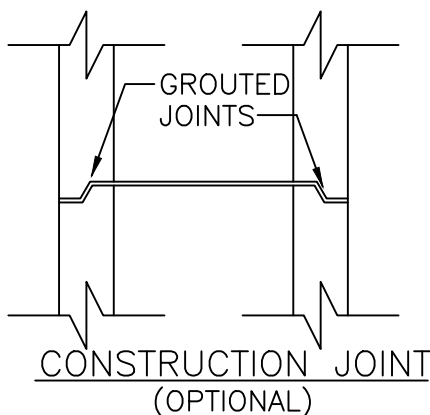
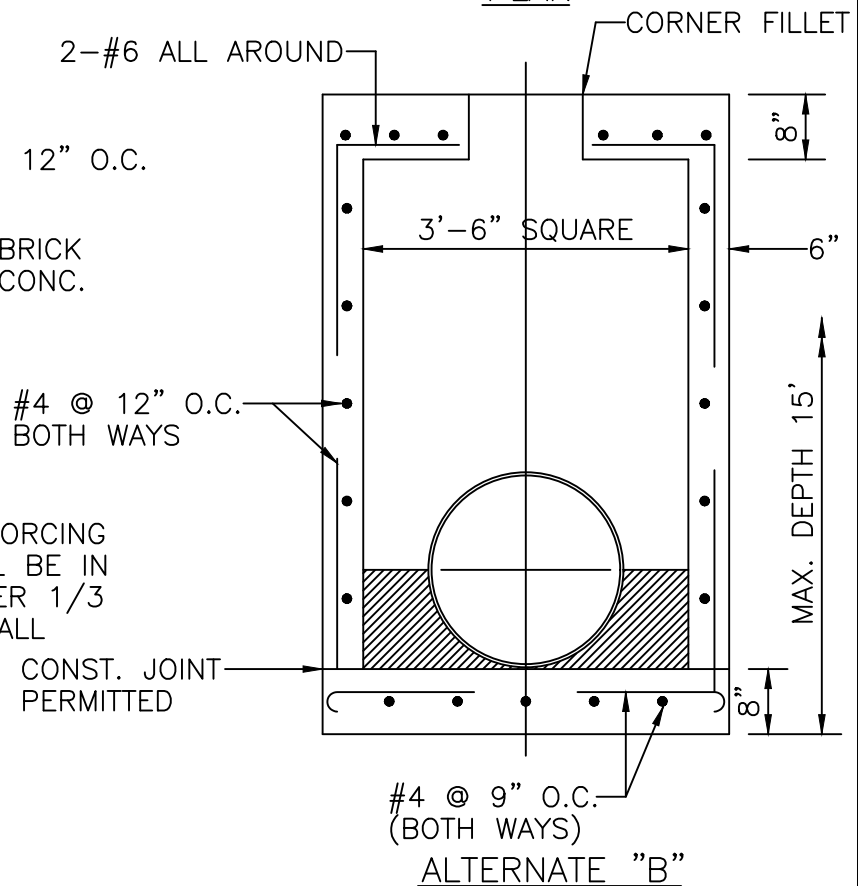
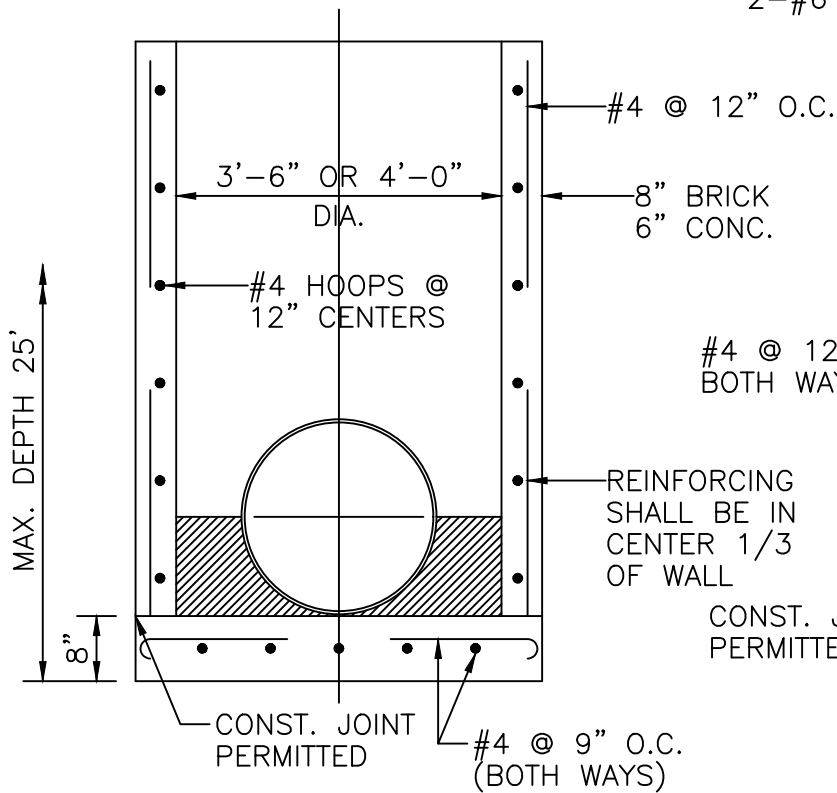
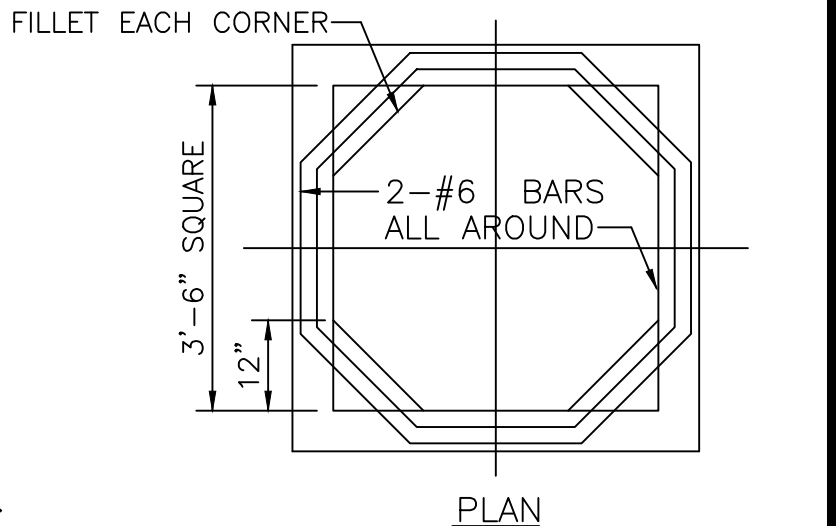
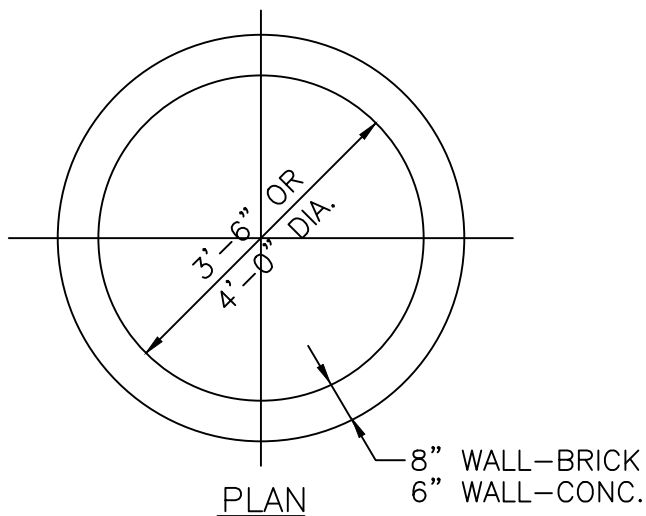
NOTES:

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STANDARD STORM
DRAINAGE DETAIL
INLET, MANHOLE &
JUNCTION BOX (TYPE J)

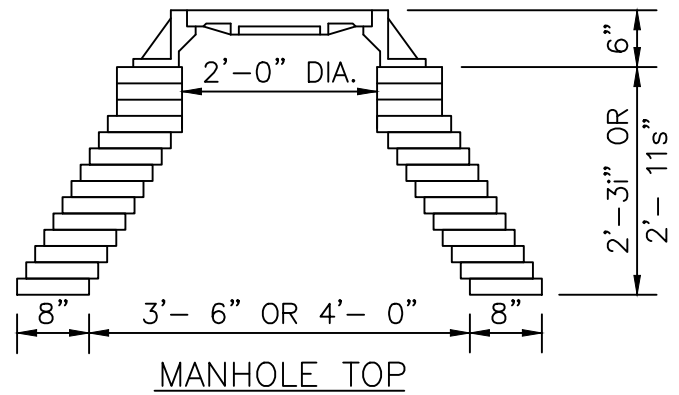
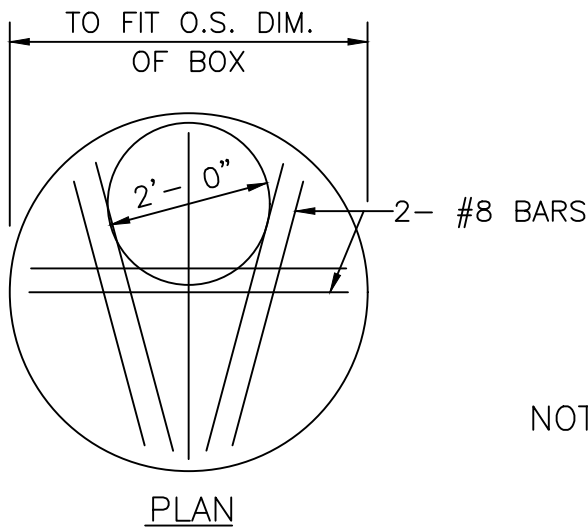
D-5



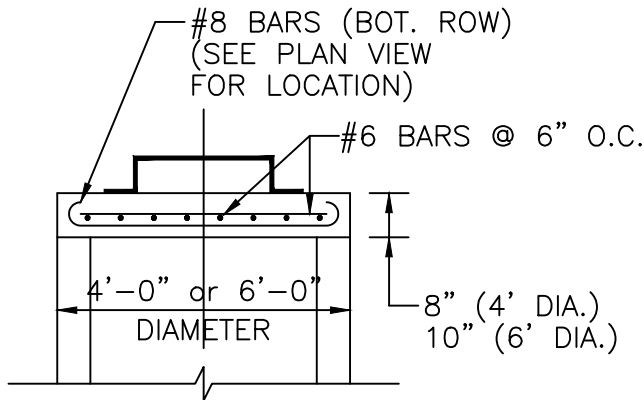
INSTALLATION IN PRECAST UNITS

GENERAL NOTES:

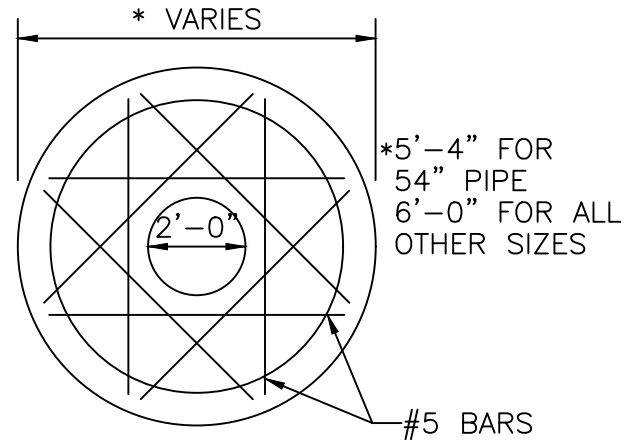
1. CIRCULAR STRUCTURES (ALTERNATES 'A') MAY BE CONSTRUCTED OF CONCRETE OR BRICK, BUT RECTANGULAR STRUCTURES (ALTERNATES 'B' & 'C') SHALL BE CONSTRUCTED OF CONCRETE ONLY. THE CONCRETE MAY BE CAST-IN-PLACE OR PRECAST.
2. WALL REINFORCEMENT AND THICKNESS ARE FOR EITHER CAST-IN-PLACE OR PRECAST CONCRETE EXCEPT THAT FOR PRECAST CIRCULAR UNITS A.S.T.M. SPECIFICATIONS C-76, TABLE III, FOR B WALL REINFORCED CONCRETE PIPE OR PRECAST CIRCULAR UNITS IN ACCORDANCE WITH ASTM SPECIFICATION C-478 WILL BE ACCEPTABLE. TOP AND FLOOR SLAB THICKNESS AND REINFORCEMENT ARE FOR ALL TYPES OF CONSTRUCTION.
3. PRECAST TOP AND/OR FLOOR SLABS MAY BE OF THE SAME CONCRETE AS SPECIFIED IN ASTM SPECIFICATIONS C-478 FOR PRECAST CIRCULAR UNITS.
4. SMOOTH FLOW CHANNELS COMPOSED OF CONCRETE, OR BRICK AND MORTAR, SHALL BE CONSTRUCTED IN THE BOTTOMS OF ALL STRUCTURES TO A DEPTH EQUAL TO HALF THE DIAMETER OF THE LARGEST PIPE.
5. CORNER FILLETS SHOWN FOR RECTANGULAR STRUCTURES ARE NECESSARY ONLY WHEN STRUCTURES ARE USED IN CONJUNCTION WITH CIRCULAR TOPS.
6. STRUCTURES SHALL BE SECURED TO INLET THROATS, RISERS OR MANHOLE TOPS WITH A MINIMUM OF 6-No. 4 BARS 12" LONG, OR AS SHOWN ON SHEET 2.
7. ANY INLET, MANHOLE, OR JUNCTION BOX MAY BE USED IN CONJUNCTION WITH ANY INLET THROAT OR MANHOLE TOP.
8. MORTAR USED TO SEAL THE PIPE IN THE WALLS OF THE PRECAST UNITS SHALL BE OF SUCH A MIX THAT SHRINKAGE WILL NOT CAUSE LEAKAGE INTO OR OUT OF THE UNITS. MAXIMUM OPENING FOR PIPE SHALL BE MAXIMUM REQUIRED O.D. + 6".
9. THE OUTSIDE OF BRICK WALLS SHALL BE PLASTERED WITH 1:2 CEMENT MORTAR.



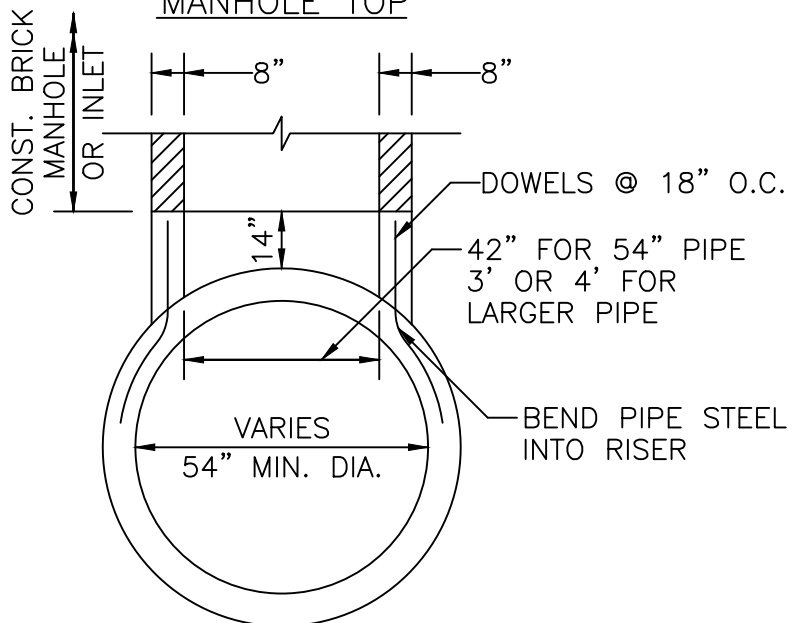
NOTE: UNIT MAY BE PRECAST OR CAST IN PLACE CONCRETE CONSTRUCTION. WALL THICKNESS & STEEL SAME AS USED FOR SUPPORTING UNIT WALL. ECCENTRIC CONE MAY BE USED.



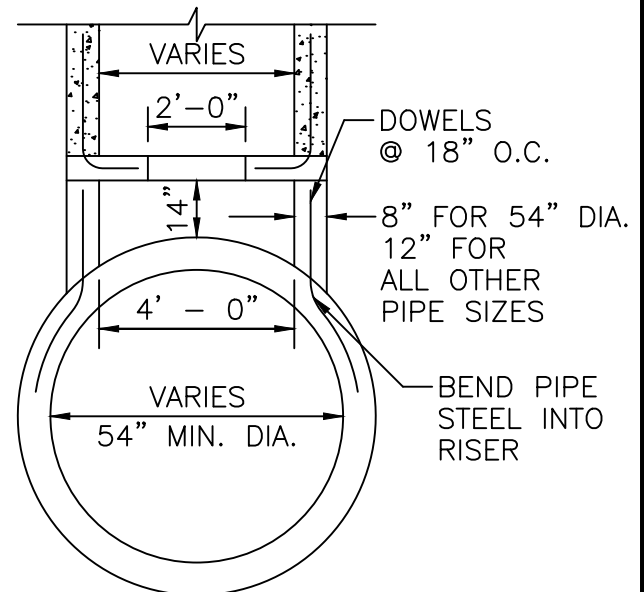
JUNCTION BOX OR
MANHOLE TOP



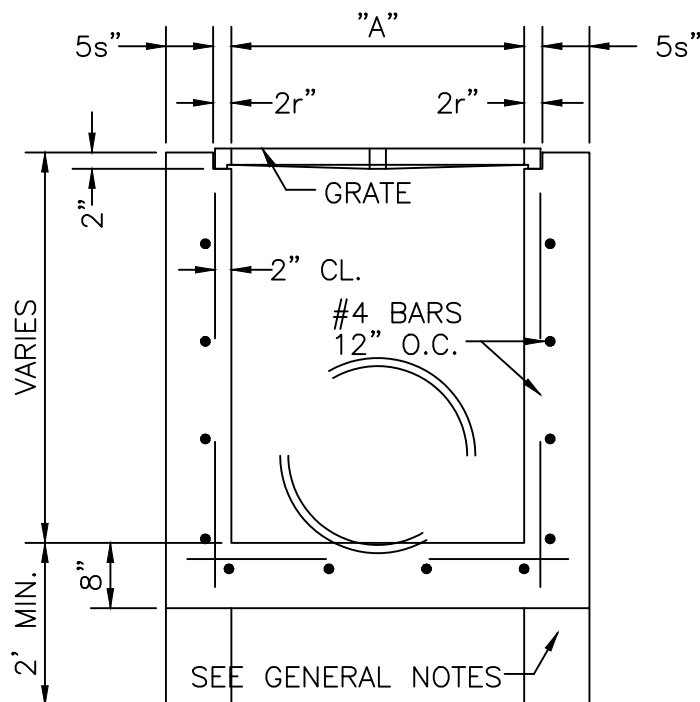
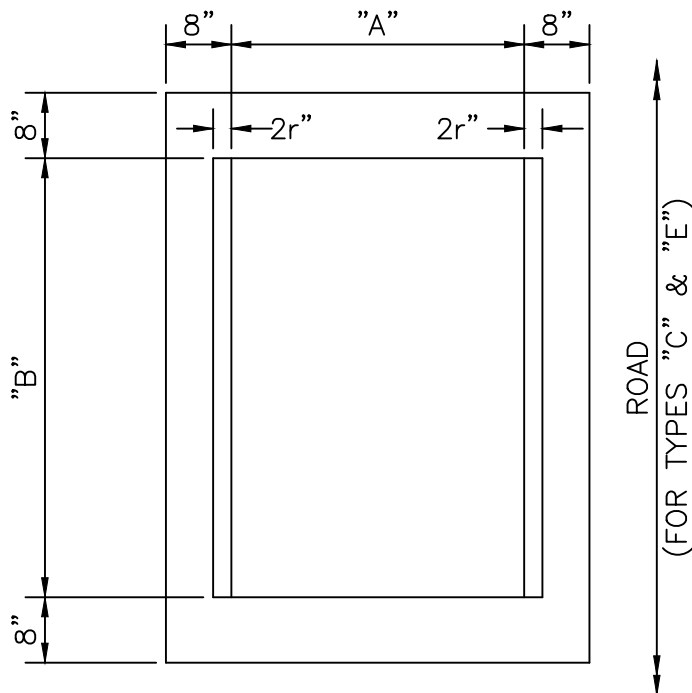
CONCRETE SLAB
REINFORCEMENT



BRICK INLET OR MANHOLE
ON PRECAST CONCRETE RISER

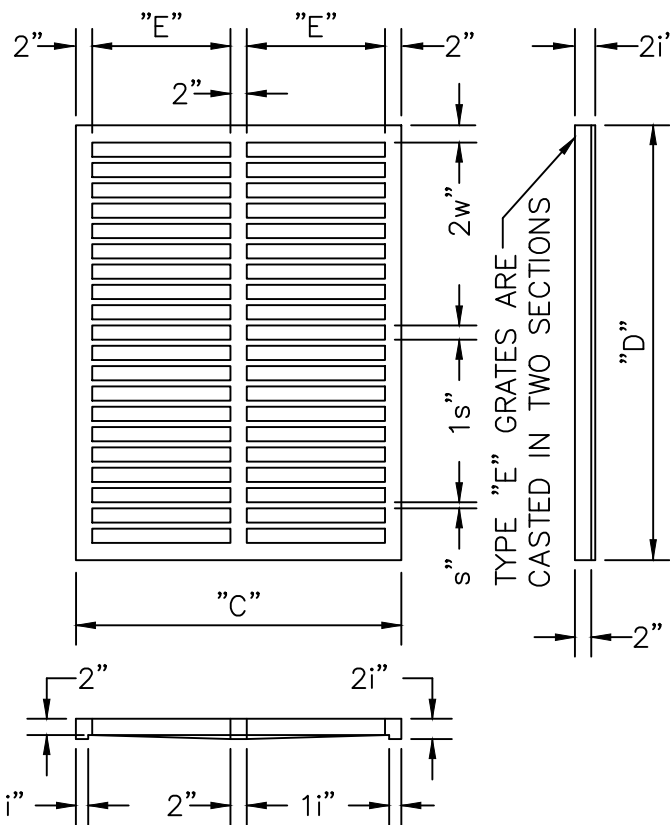


REINF. CONC. INLET OR MANHOLE
ON PRECAST CONCRETE RISER



TYPE INLET	DIMENSIONS					MAX. SIZE R.C.P.
	"A"	"B"	"C"	"D"	"E"	
"C"	2'-0"	3'-1"	2'-4"	3'-0"	11"	18"
"E"	3'-0"	4'-6"	3'-4"	4'-4"	1'-5"	30"
"E MOD"*	3'-0"	4'-6"	3'-4"	4'-4"	1'-5"	48"

NOTE: SEE STD. PLAN FOR DETAILS WHEN USING THIS TYPE INLET WITH VALLEY GUTTER ROAD SECTIONS.



BEVELED EDGES:

ALL EXPOSED CORNERS AND EDGES TO BE CHAMFERED s ".

FOUNDATION MATERIAL:

WHERE MATERIAL UNSATISFACTORY FOR FOUNDATION IS ENCOUNTERED AT FLOW LINE, OMIT FLOOR AND CARRY WALLS DOWN TO SATISFACTORY FOUNDATION. BACKFILL TO FLOW LINE WITH CLEAN SAND.

GRATES:

CAST IRON GRATES IN ACCORDANCE WITH FLA. D.O.T. SPECS.

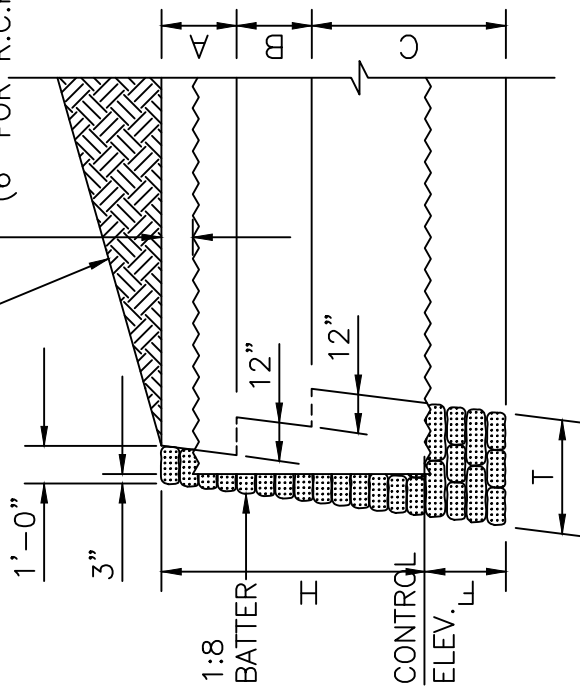
* INLET TYPES:

INLETS ARE TO BE AS SHOWN HEREON. TYPE "E MOD." IS A TYPE "E" TURNED 90° TO RECEIVE R.C.P. UP TO 48" DIA. INLETS RECEIVING R.C.P. LARGER THAN 48" DIA. SHALL BE IN ACCORDANCE WITH FLA. D.O.T. STANDARDS.

MATERIAL:

INLET WALLS AND FOOTING MAY EITHER BE POURED-IN-PLACE 2500 LB. CONC.; OR PRECAST CLASS "A" 3000 L.B. CONC.; OR STANDARD MANHOLE BRICK (NO BLOCK) WITH 1" PLASTER (NO LIME) WITH 8" PRECAST CAP.

FRONT SLOPE
VARIES (9" FOR C.M.P.)
(6" FOR R.C.P.)

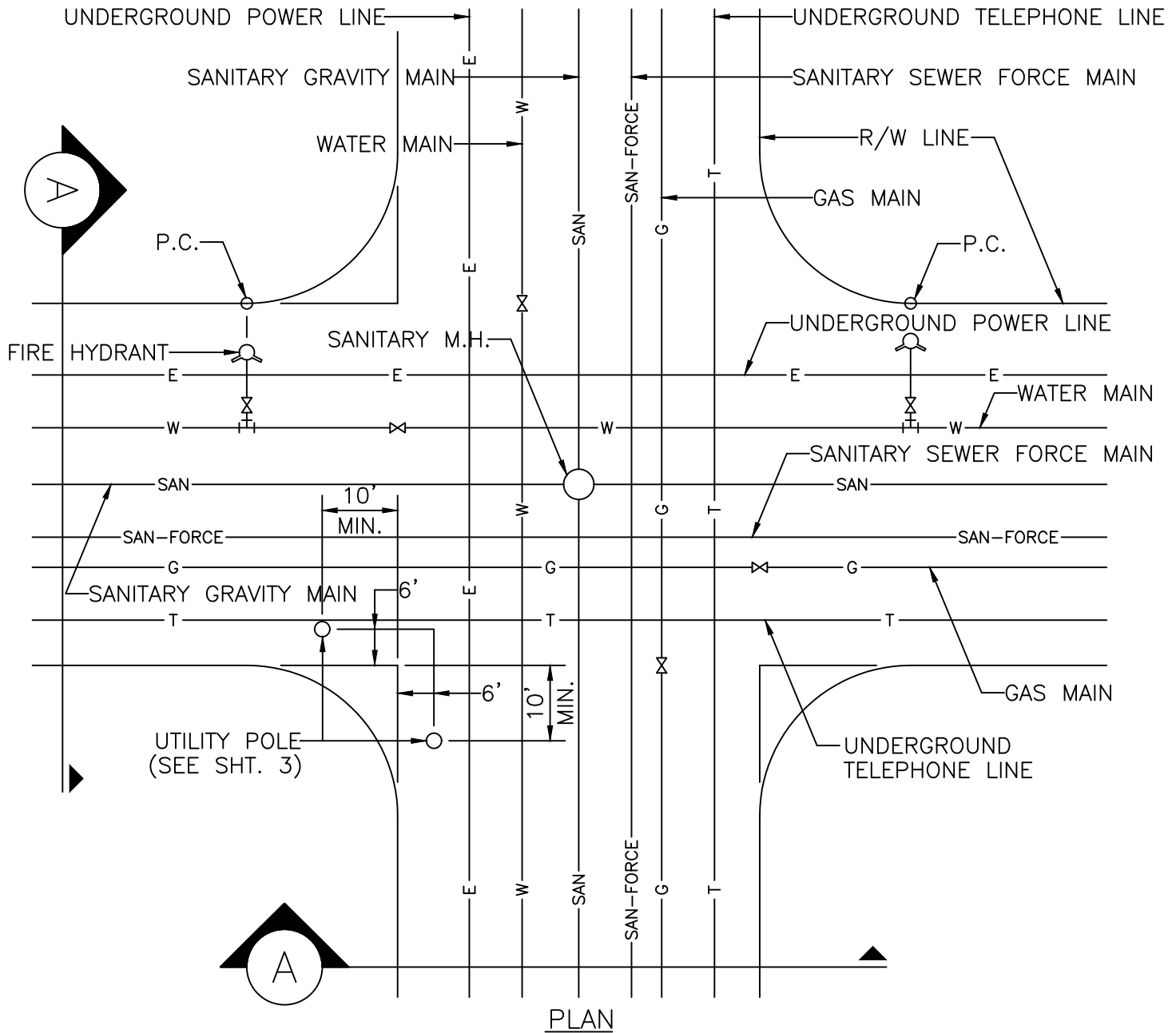


SECTION A-A

FRONT ELEVATION

TABLE OF DIMENSIONS AND QUANTITIES FOR ONE ENDWALL

SIZE OF PIPE	H	T	A	B	C	F	X	ONE CULVERT			TWO CULVERTS			THREE CULVERTS			FOUR CULVERTS		
								L	RIPRAP C.Y.	C.P. C.M.P.	L	RIPRAP C.Y.	C.P. C.M.P.	L	RIPRAP C.Y.	C.P. C.M.P.	L	RIPRAP C.Y.	C.P. C.M.P.
18"	2'-3"	1'-0"	4'-0"	0'-0"	0'-0"	1'-9"	2'-10"	8'-9"	1.2	1.2	11'-7"	1.5	1.6	14'-5"	1.8	1.9	17'-3"	2.1	2.3
24"	2'-9"	2'-0"	2'-0"	2'-6"	0'-0"	1'-9"	3'-5"	10'-3"	2.4	2.5	13'-8"	3.0	3.2	17'-1"	3.7	4.0	20'-6"	4.3	4.7
30"	3'-4"	2'-0"	2'-0"	3'-2"	0'-0"	1'-10"	4'-3"	12'-0"	3.3	3.4	16'-3"	4.2	4.5	20'-6"	5.1	5.5	24'-9"	6.0	6.5
36"	3'-10"	2'-0"	2'-0"	3'-8"	0'-0"	1'-10"	5'-1"	13'-6"	4.0	4.2	18'-7"	5.2	5.7	23'-8"	6.3	6.9	28'-9"	7.4	8.2
42"	4'-5"	3'-0"	2'-0"	2'-0"	2'-4"	1'-11"	6'-0"	15'-3"	6.4	6.7	21'-3"	8.3	8.9	27'-3"	10.2	11.2	33'-3"	12.3	13.4
48"	4'-11"	3'-0"	2'-0"	2'-0"	2'-10"	1'-11"	6'-9"	16'-9"	7.7	8.1	23'-6"	10.0	10.8	30'-3"	12.3	13.5	37'-0"	14.5	16.2
54"	5'-6"	3'-0"	2'-0"	2'-0"	3'-6"	2'-0"	7'-8"	18'-6"	9.5	10.1	26'-2"	12.4	13.5	33'-10"	15.3	17.0	41'-6"	18.2	20.4
60"	6'-0"	3'-0"	2'-0"	2'-0"	4'-0"	2'-0"	8'-6"	20'-0"	11.0	11.7	28'-6"	14.4	15.8	37'-0"	17.8	19.8	45'-6"	21.1	23.8
66"	6'-7"	3'-0"	2'-0"	2'-0"	4'-8"	2'-1"	9'-3"	21'-9"	13.2	14.1	31'-0"	17.2	18.9	40'-3"	21.2	23.7	49'-6"	25.1	28.5
72"	7'-1"	3'-0"	2'-0"	2'-0"	5'-2"	2'-1"	10'-0"	23'-3"	15.0	16.0	33'-3"	19.4	21.4	43'-3"	23.9	26.8	53'-3"	28.3	32.3
78"	7'-8"	3'-0"	2'-0"	2'-0"	5'-10"	2'-2"	10'-9"	25'-0"	17.5	18.7	35'-9"	22.6	25.0	46'-6"	27.8	31.3	57'-3"	32.9	37.6
84"	8'-2"	3'-0"	2'-0"	2'-0"	6'-4"	2'-2"	11'-8"	26'-6"	19.5	20.9	38'-2"	25.3	28.1	49'-10"	31.1	35.2	61'-6"	36.9	42.4



NOTES:

1. ALL MAIN VALVES AT INTERSECTIONS SHALL BE LOCATED AT THE INTERSECTION OF THE MAIN WITH THE PROJECTION OF THE R/W LINE.
2. FIRE HYDRANTS AT INTERSECTIONS SHALL BE LOCATED AT THE P.C. OF THE RIGHT-OF-WAY LINE.
3. ALL UNDERGROUND UTILITIES SHALL BE PLACED PARALLEL OR PERPENDICULAR TO THE CENTERLINE OF THE RIGHT-OF-WAY.
4. ALL SANITARY SEWER MANHOLES AT INTERSECTION SHALL BE LOCATED AT THE CENTERLINE OF THE INTERSECTING STREETS.

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ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

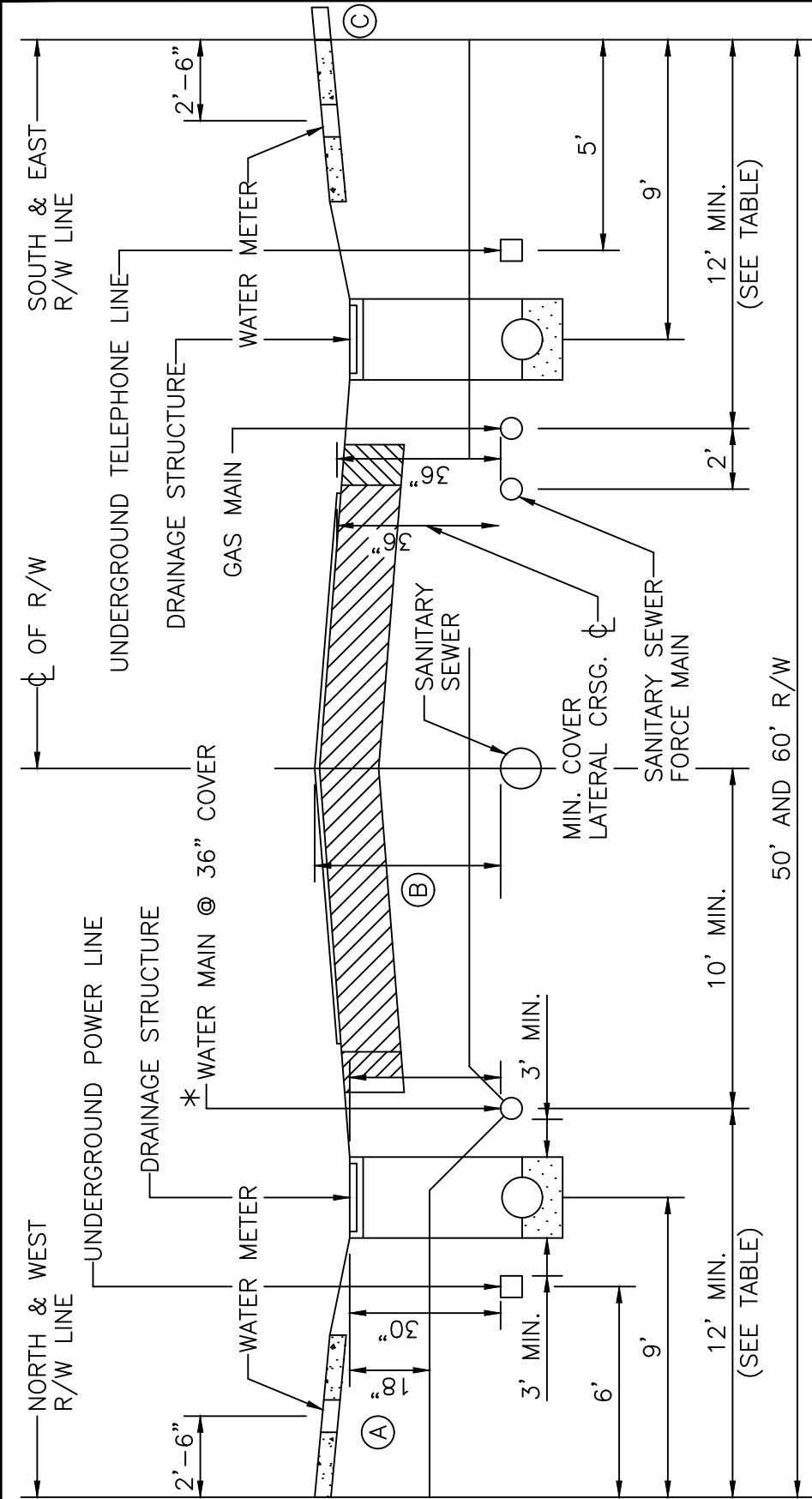
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SEPT. 18

GENERAL DETAIL
UTILITY PLACEMENT WITHIN
PUBLIC RIGHTS-OF-WAY
FOR RESIDENTIAL STREETS

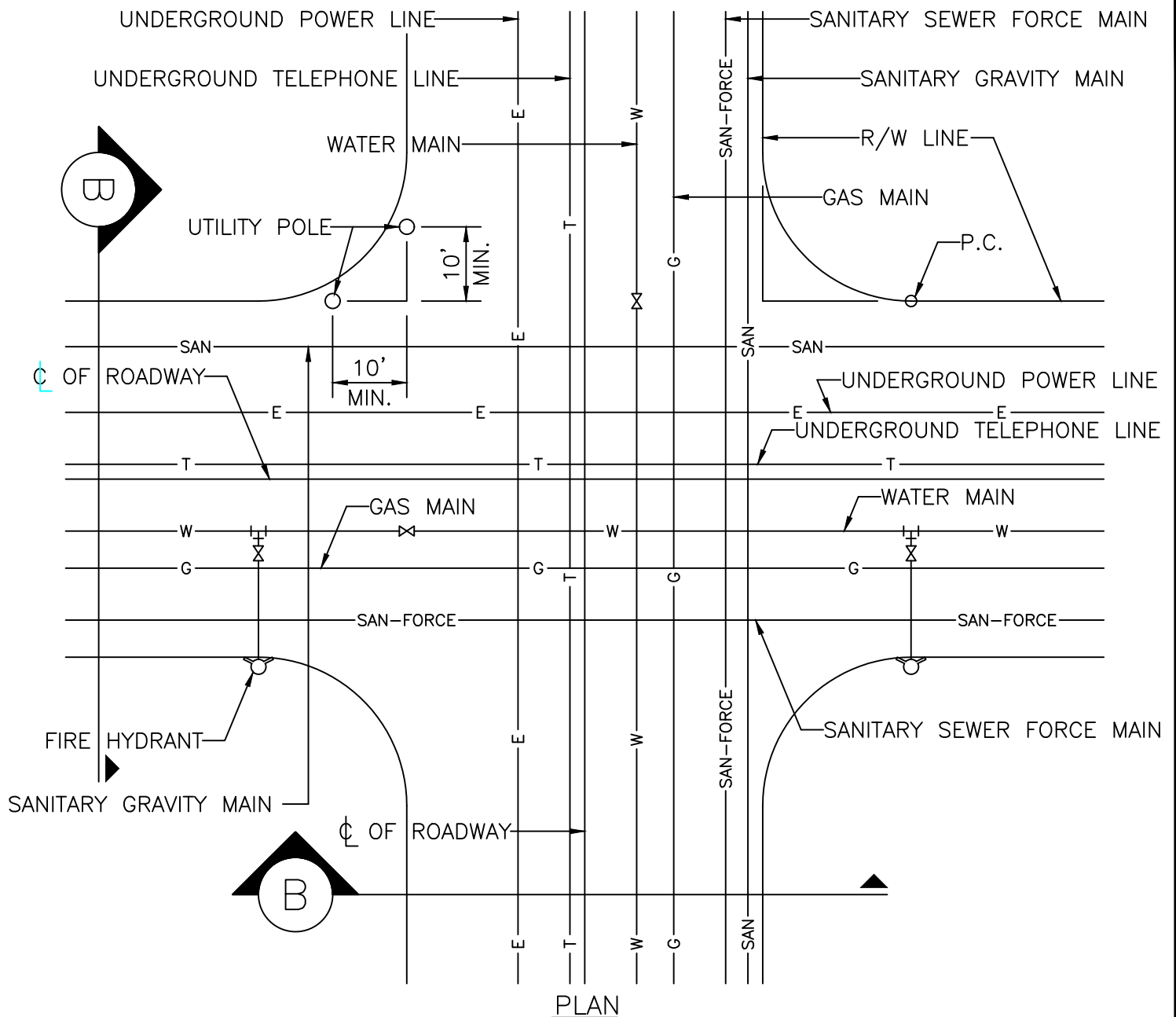
G-1



SECTION A-A

NOTES:

1. ALL CONSTRUCTION OR ADJUSTMENT OF UNDERGROUND UTILITIES MUST BE COMPLETED BEFORE FINAL ASPHALTIC CONCRETE SURFACE MAY BE PLACED.
2. IN ALL C & G SECTIONS AND ALL R/W'S OVER 50' WIDE WHEN POLES ARE PERMITTED THEY SHALL BE PLACED AT THE R/W LINE.
- *3. WHERE UTILITY CROSSES ARTERIAL, USE MINIMUM 36" COVER THROUGH ARTERIAL.



NOTES:

1. ALL MAIN VALVES AT INTERSECTIONS SHALL BE LOCATED AT THE INTERSECTION OF THE MAIN WITH THE PROJECTION OF THE R/W LINE.
2. FIRE HYDRANTS AT INTERSECTIONS SHALL BE LOCATED AT THE P.C. OF THE RIGHT-OF-WAY LINE.
3. ALL UNDERGROUND UTILITIES SHALL BE PLACED PARALLEL OR PERPENDICULAR TO THE CENTERLINE OF THE RIGHT-OF-WAY.
4. ACCESS MANHOLES SHALL NOT BE PLACED IN TRAFFIC LANES UNLESS SPECIAL APPROVAL IS OBTAINED. MEDIAN AND SIDEWALK AREAS SHALL BE USED.

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LAUDERHILL, FLORIDA

SCALE:

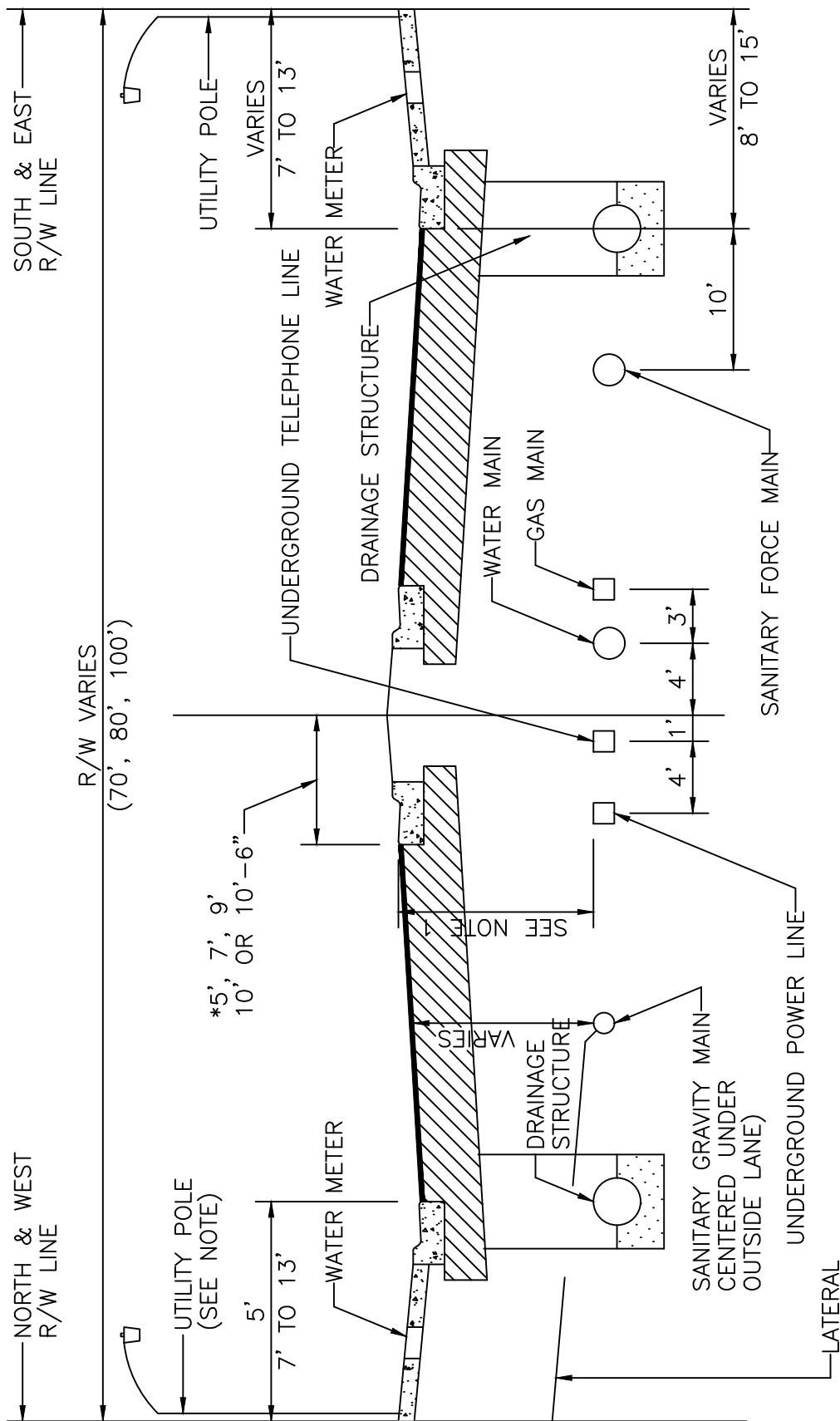
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GENERAL DETAIL
UTILITY PLACEMENT WITHIN
PUBLIC RIGHTS-OF-WAY
FOR ARTERIAL STREETS

G-3



SECTION B-B

NOTES:

1. PROVIDE MINIMUM OF 36" COVER ON ALL UTILITIES GREATER COVER MAY BE REQUIRED ON UTILITIES LARGER THAN 24" AT INTERSECTING ARTERIALS.
2. NO UTILITY POLES TO BE PLACED ON ARTERIALS EXCEPT BY SPECIAL APPROVAL.
3. FIRE HYDRANTS TO BE PLACED AT BACK OF SIDEWALK, UNLESS APPROVED OTHERWISE.

* PAINTED MEDIAN
10' TOTAL WIDTH

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LAUDERHILL, FLORIDA

SCALE:
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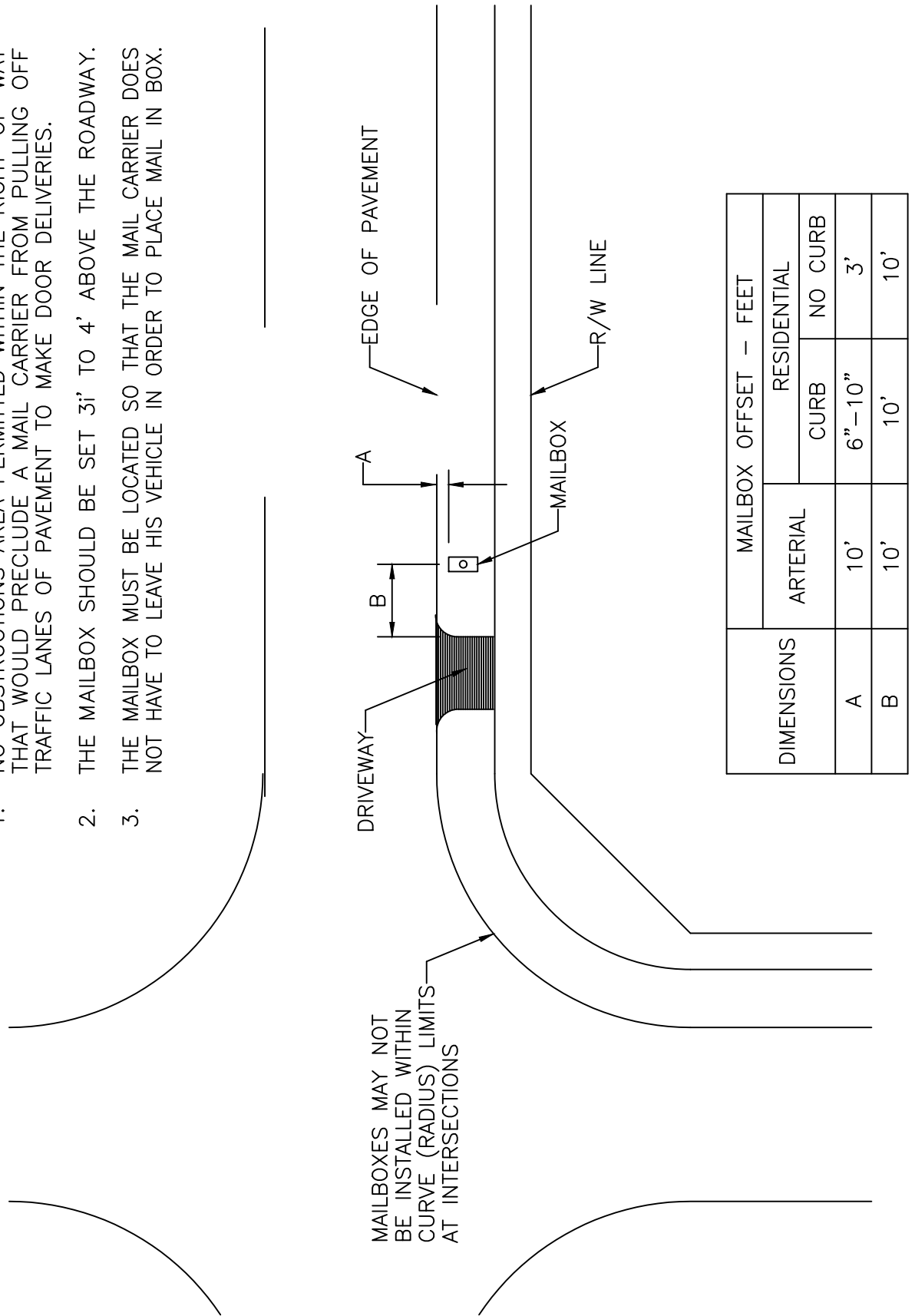
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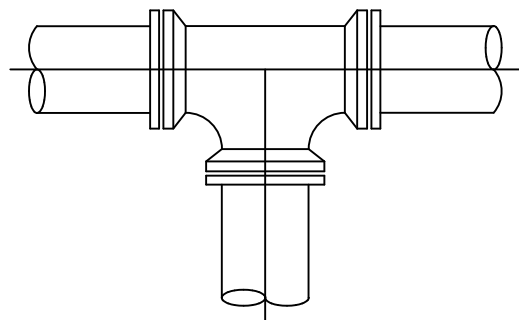
GENERAL DETAIL
UTILITY PLACEMENT WITHIN
PUBLIC RIGHTS-OF-WAY
FOR ARTERIAL STREETS

G-4

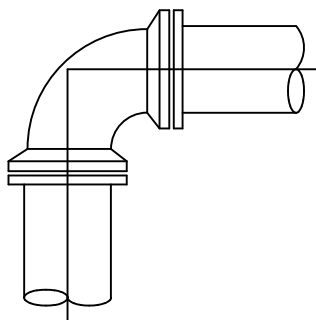
NOTES:

1. NO OBSTRUCTIONS AREA PERMITTED WITHIN THE RIGHT-OF-WAY THAT WOULD PRECLUDE A MAIL CARRIER FROM PULLING OFF TRAFFIC LANES OF PAVEMENT TO MAKE DOOR DELIVERIES.
2. THE MAILBOX SHOULD BE SET 3' TO 4' ABOVE THE ROADWAY.
3. THE MAILBOX MUST BE LOCATED SO THAT THE MAIL CARRIER DOES NOT HAVE TO LEAVE HIS VEHICLE IN ORDER TO PLACE MAIL IN BOX.

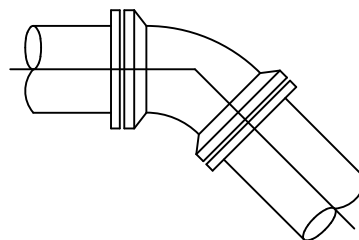




TEE & WYE



90° BEND



45° & 22 1/2° BEND

RESTRAINED PIPE LENGTH (LINEAL FEET)					
PIPE SIZE	TEE & WYE	90°BEND	45°BEND	22 1/2°BEND	11 1/4°BEND
6"	27	27	16	9	5
8"	34	34	20	11	6
10"	41	41	24	14	7
12"	48	48	28	16	8
14"	55	55	32	18	10
16"	62	62	35	20	11
18"	69	69	39	22	12
20"	75	75	42	24	13
24"	87	87	49	27	14
30"	104	104	57	31	17
36"	120	120	65	35	19
42"	134	134	72	39	21
48"	147	147	79	42	22
54"	160	160	85	45	24

NOTE: THE FIGURES IN THIS TABLE ARE BASED ON 150 PSI TEST PRESSURE WITH 2.5 FEET OF COVER AND 2000 POUNDS PER SQUARE FOOT SOIL BEARING AGAINST UNDISTURBED TRENCH. A 20% SAFETY FACTOR HAS BEEN ADDED.

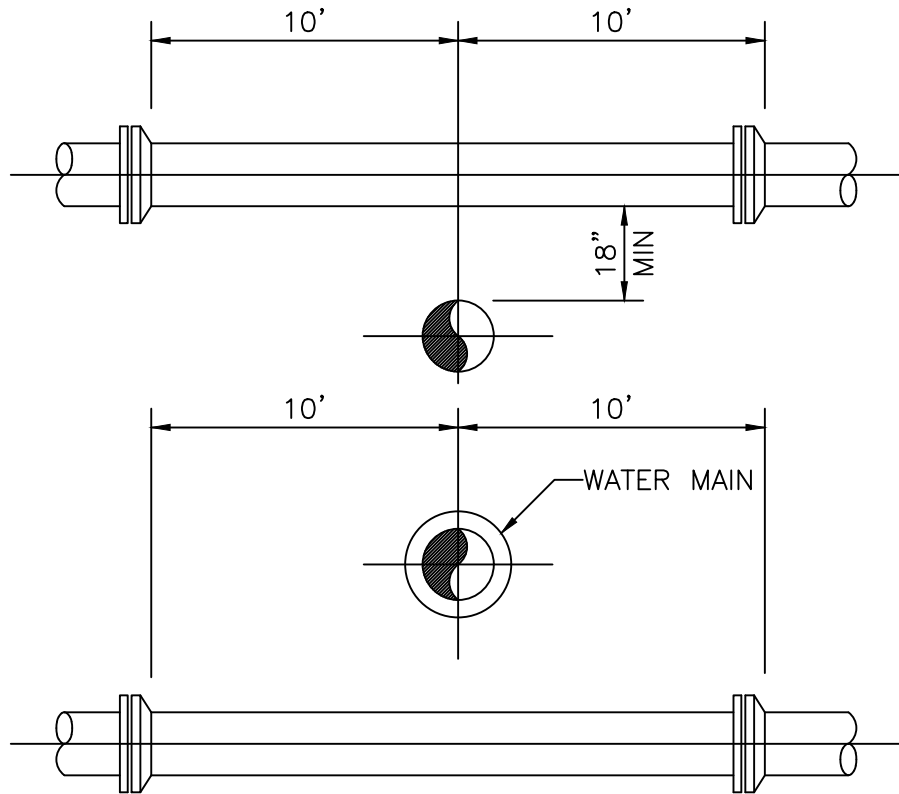
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LAUDERHILL, FLORIDA

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GENERAL DETAIL
RESTRAINED JOINT DETAIL

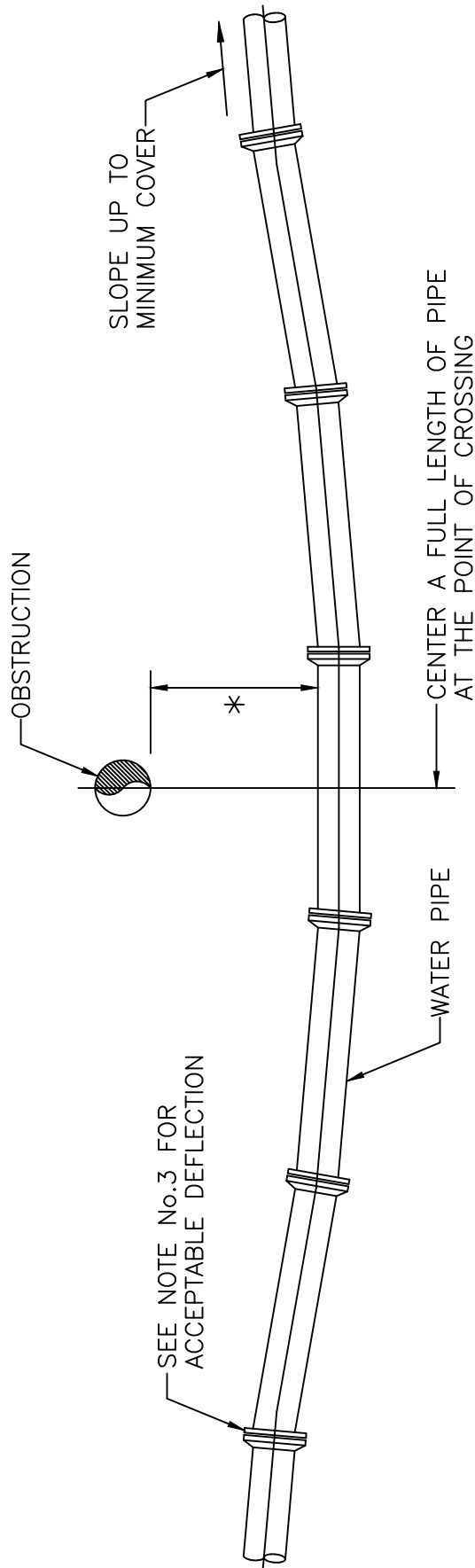
G-6



NOTES:

1. A WATER MAIN SHOULD CROSS OVER PIPES WHEREVER POSSIBLE MAINTAINING A 36 INCH COVER FOR P.V.C., 36 INCH COVER FOR D.I.P. AND 18 INCH SEPARATION AS MINIMUMS.
2. WHEREVER A WATER MAIN CROSSES UNDER A SEWER MAIN, OR CROSSES OVER WITH LESS THAN 18 INCHES VERTICAL SEPARATION, THEN D.I.P. SHALL BE USED FOR BOTH PIPES FOR A DISTANCE OF 20 FEET CENTERED ON CROSSING WITH NO JOINTS WITHIN 10 FEET OF THE CROSSING.
3. 18 INCH SEPARATION SHOULD BE MAINTAINED BETWEEN ALL PIPES (STORM, SEWER, WATER) WHENEVER POSSIBLE. 12 INCHES IS THE ABSOLUTE MINIMUM SEPARATION WITH D.I.P. REQUIRED FOR ANY SEPARATION LESS THAN 18 INCHES.
4. MAINTAIN 6 FEET HORIZONTAL SEPARATION BETWEEN WATER AND SEWER AS A MINIMUM.
5. 5 FOOT HORIZONTAL CLEARANCE SHALL BE PROVIDED BETWEEN UTILITIES AND ANY OBSTRUCTIONS (CATCH BASINS, CONCRETE POLES, ETC.)
6. 5 FOOT HORIZONTAL CLEARANCE SHALL BE PROVIDED BETWEEN UTILITIES AND TREES.

FINISHED GRADE



NOTES:

1. (*) 18" MINIMUM CLEARANCE REQUIRED FOR WATER AND SEWER MAIN CROSSINGS, 12" MINIMUM CLEARANCE REQUIRED FOR OTHER UTILITY CROSSINGS.
2. THE DEFLECTION TYPE CROSSING SHALL BE USED WHENEVER POSSIBLE. ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER SHALL THE FITTING TYPE CROSSING BE ALLOWED.
3. CONSTRUCT CROSSING USING 75% OF MANUFACTURES MAXIMUM JOINT DEFLECTION (MAXIMUM).

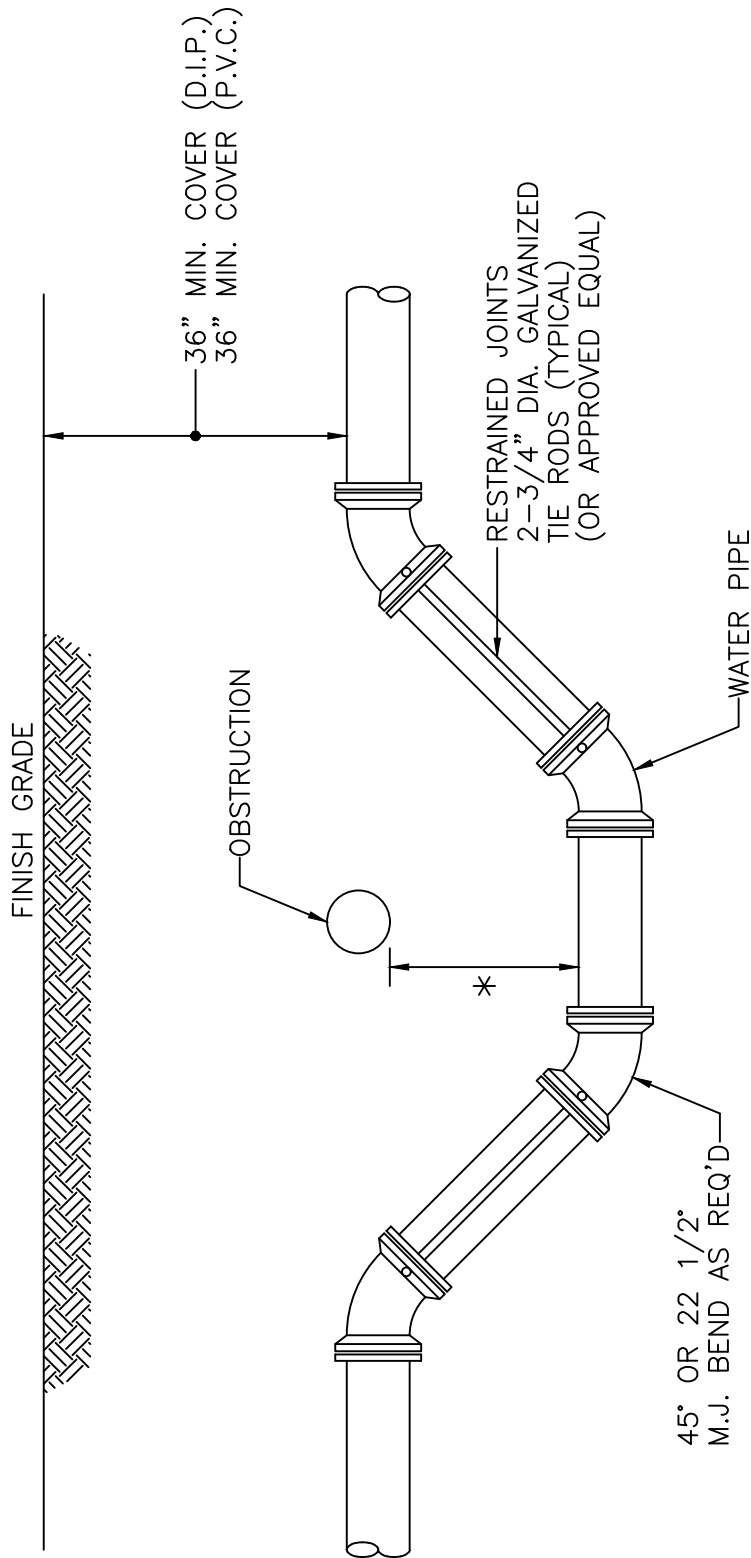
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LAUDERHILL, FLORIDA

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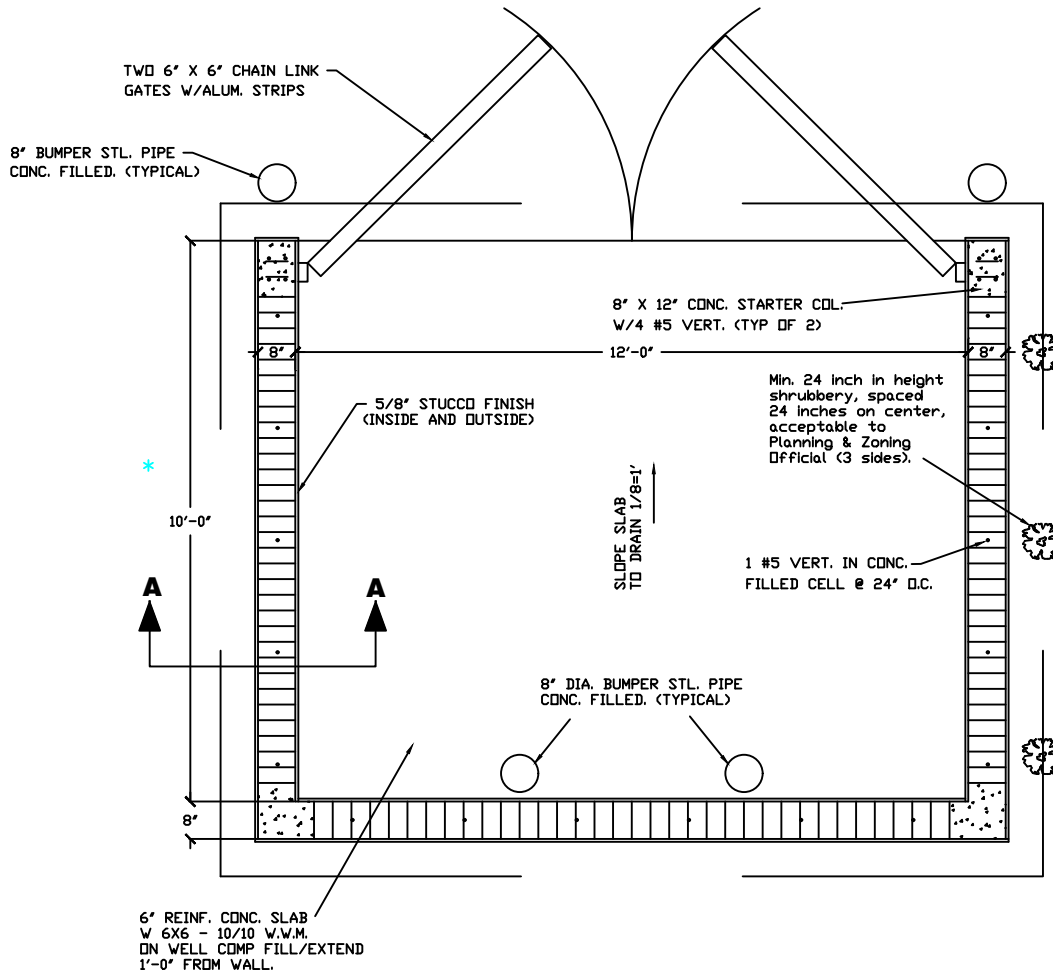
GENERAL DETAIL
UTILITY CROSSING
DEFLECTION TYPE

G-8



NOTES:

1. (*) 18" MINIMUM CLEARANCE REQUIRED FOR WATER & SEWER MAIN CROSSINGS, 12" MIN. CLEARANCE REQUIRED FOR OTHER UTILITIES CROSSINGS.
2. COAT TIE RODS WITH A COAL TAR ENAMEL AFTER ASSEMBLY (2 COATS MINIMUM).
3. TIE RODS MAY BE OMITTED WHEN OTHER APPROVED METHODS OF RESTRAINING ARE UTILIZED.



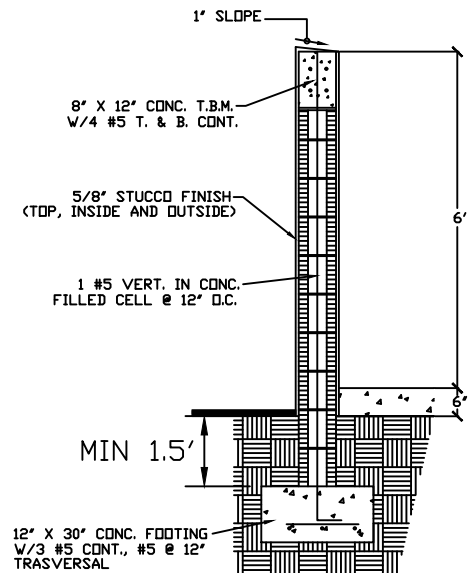
GARBAGE DUMPSTER ENCLOSURE DETAIL

SCALE 3/8" = 1'-0"

NOTES

1. Concrete min. 4,000 p.s.i. Reinforcement shown min.
2. Locate per site plan for adequate truck access.
3. Min. 25 feet setback from residential property.
4. Dumpsters for restaurants and food processing establishments require sanitary sewer connection and hose bib as specified in FAC 64E-11.007(6).

*6'-0" Dimension for Optional 2 Cubic Yard Dumpster



SECTION A-A

SCALE 3/8" = 1'-0"

CITY OF LAUDERHILL
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LAUDERHILL, FLORIDA

SCALE:

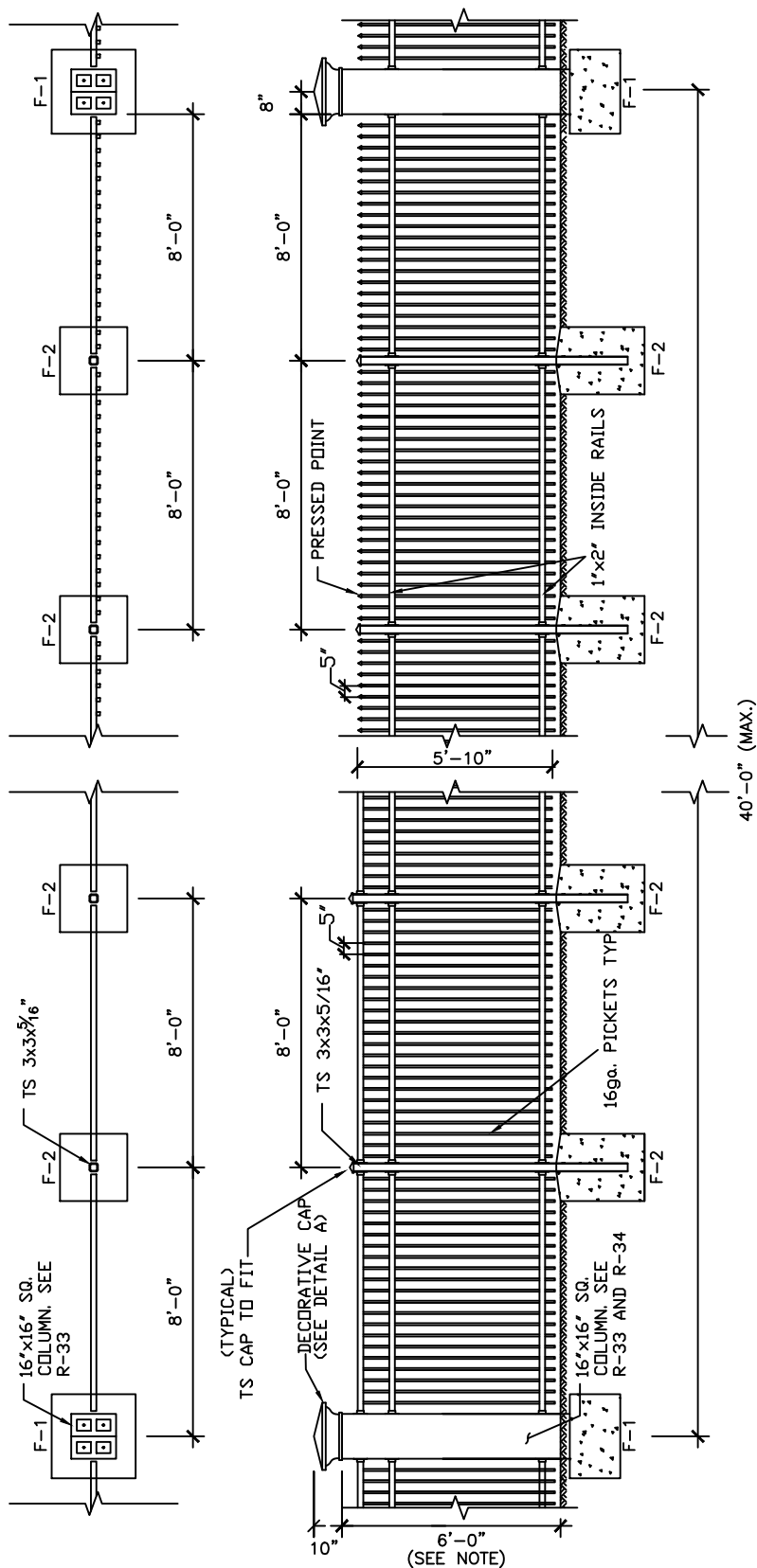
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STANDARD
DUMPSTER
DETAIL

G-10

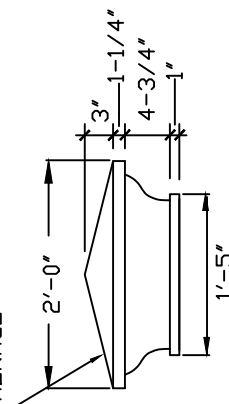


SPECIFICATIONS		
COMPONENT	DIMENSIONS	STEEL TYPE
PICKETS*	1" X 1"	16 GAGE
PICKET SPACE	5" O.C.	
RAILS (2)	1" X 2"	16 GAGE
POSTS*	3" X 3" X 5" 16	16 GAGE
COLOR	BLACK POWDER COAT	
OTHER	PANELS TO ATTACH TO POSTS WITH BRACKETS	

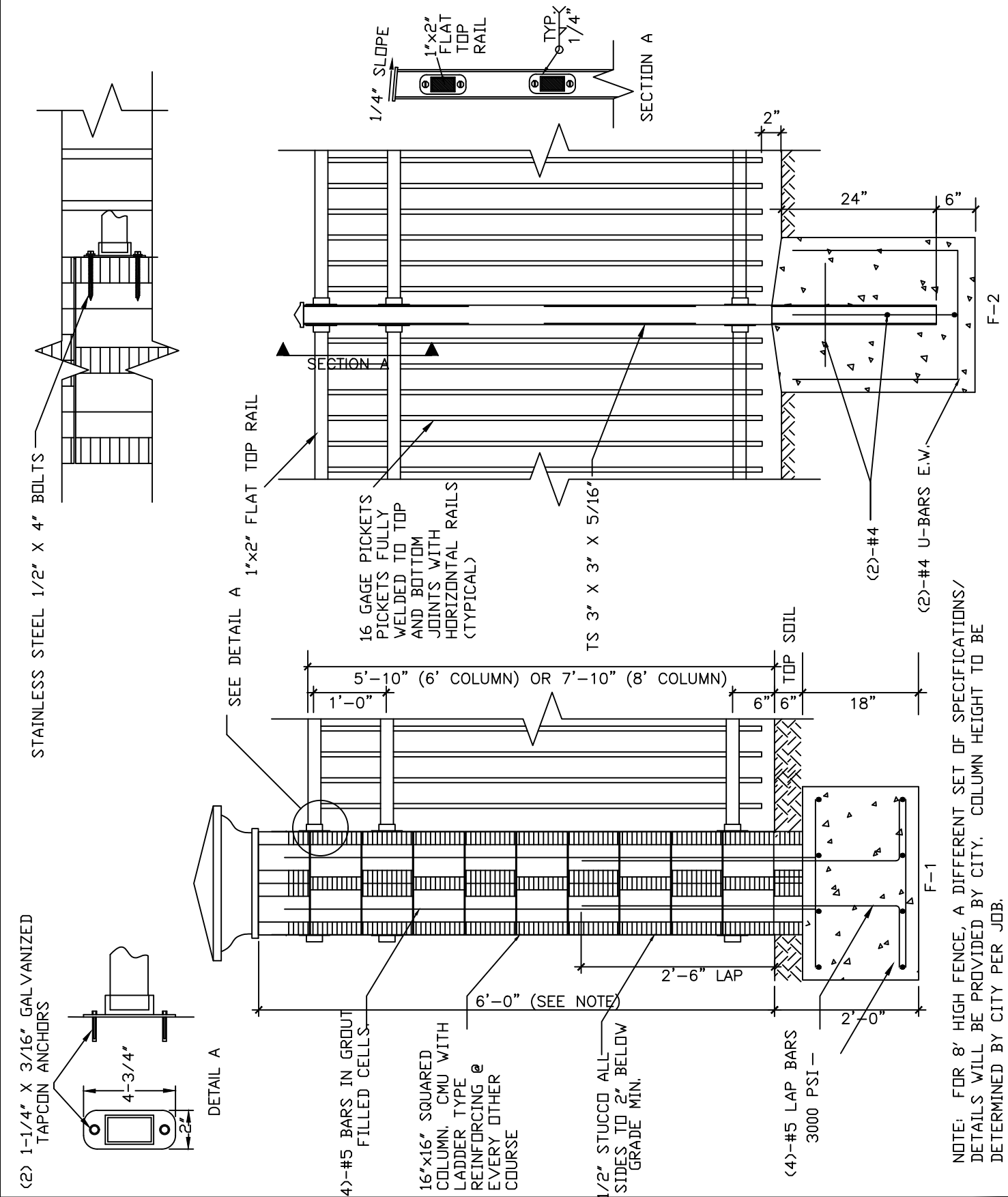
FOOTING SCHEDULE			
MARK	SIZE	REINFORCEMENT	REMARKS
F-1	2'-6"x2'-6"x 18" DEEP	(4)-#5 E.W. TOP & BOTTOM	-
F-2	2'-0"x2'-0"x 30" DEEP	(2)-#4 U-BARS E.W.	-

NOTE: FOR 8' HIGH FENCE, A DIFFERENT SET OF SPECIFICATIONS/DETAILS WILL BE PROVIDED BY OWNER. COLUMN HEIGHT TO BE DETERMINED BY CITY PER JOB.

PRECAST CONCRETE
IMITATION KEYSTONE
COLUMN CAP, PROVIDE
RECESS & BOTTOM
TO KEY IN GROUT FOR
POSITIVE ANCHORAGE



DETAIL A



CONCRETE

1. CONCRETE ELEMENTS TO HAVE THE FOLLOWING STRENGTHS:

A. FOUNDATIONS 3000 PSI

2. ALL CONCRETE SHALL BE READY MIX, HAVE A MINIMUM COMPRESSIVE STRENGTH OF :

A. 3000 PSI @ 28 DAYS AND HAVE A MINIMUM OF 517 LBS. OF CEMENT PER CUBIC YARD.

B. SLUMPS SHALL BE 3 MINIMUM AND 5 MAXIMUM.

C. CONCRETE SHALL HAVE 3 +/- 1.5 PERCENT AIR ENTRAINMENT.

3. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE ACI BUILDING CODE (ACI 318 / LATEST EDITION), THE ACI DETAILING MANUAL (ACI 315 / LATEST EDITION), AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301 / LATEST EDITION).

4. SUBMIT ALL REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL PRIOR TO ANY FABRICATION.

5. CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS REQUIRED BY THE ACI SPECIFICATIONS.

6. LAP ALL BARS MINIMUM 48 DIAMETERS UNLESS OTHERWISE NOTED ON DRAWINGS. LAP ALL W.W.F. A MINIMUM OF 6" UNLESS OTHERWISE NOTED.

DESIGN LOADS:

WIND LOAD =

SPEED = 150 MPH
IMPORTANCE FACTOR = 1.0
EXPOSURE = C

GENERAL NOTES:

MASONRY

1. MASONRY UNITS SHALL BE ASTM C90 GRADE N WITH MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI ON NET OF INDIVIDUAL UNITS. ALL CMU SHALL BE LAID IN A FULL BED OF MORTAR IN RUNNING BOND (U.N.O.)

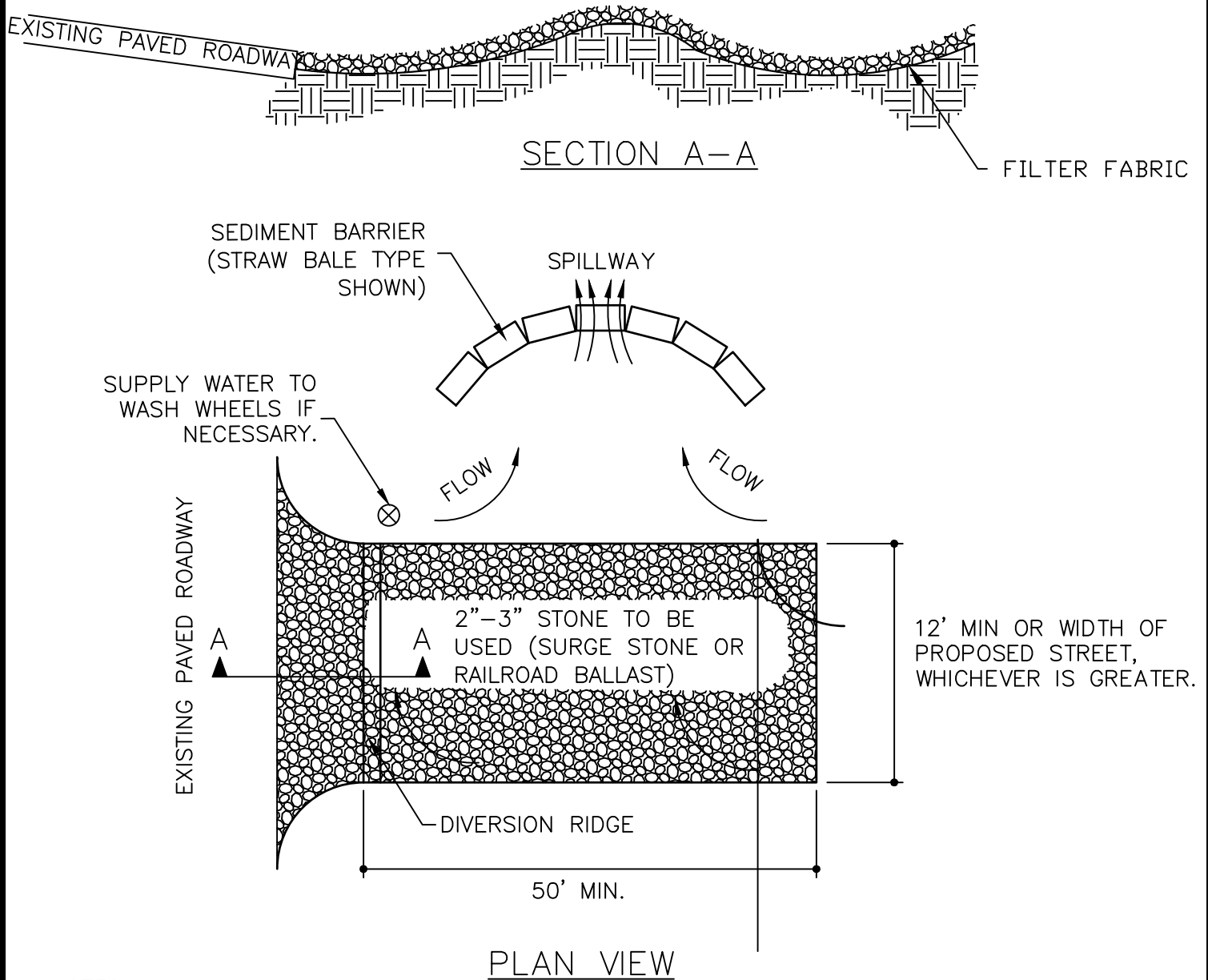
2. ALL MORTAR SHALL BE TYPE S OR TYPE M, IN ACCORDANCE WITH ASTM SPECIFICATION C270 WITH A MINIMUM COMPRESSIVE STRENGTH OF 1,800 PSI AT 28 DAYS, (2,500 WITH TYPE M), FROM FIELD OBTAINED TEST CUBES. (MIN. OF TWO)

3. GROUT SHALL BE A HIGH SLUMP MIX IN ACCORDANCE WITH ASTM SPECIFICATION C476 HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI FROM FIELD OBTAINED TEST CUBES, (MIN. OF TWO).

FENCE FINISH

1. ALL STEEL TO BE HOT DIPPED GALVANIZED & POWDER COATED PAINT (COLOR TO BE PROVIDED BY OWNER)

2. 16 GAGE PICKETS



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABLIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

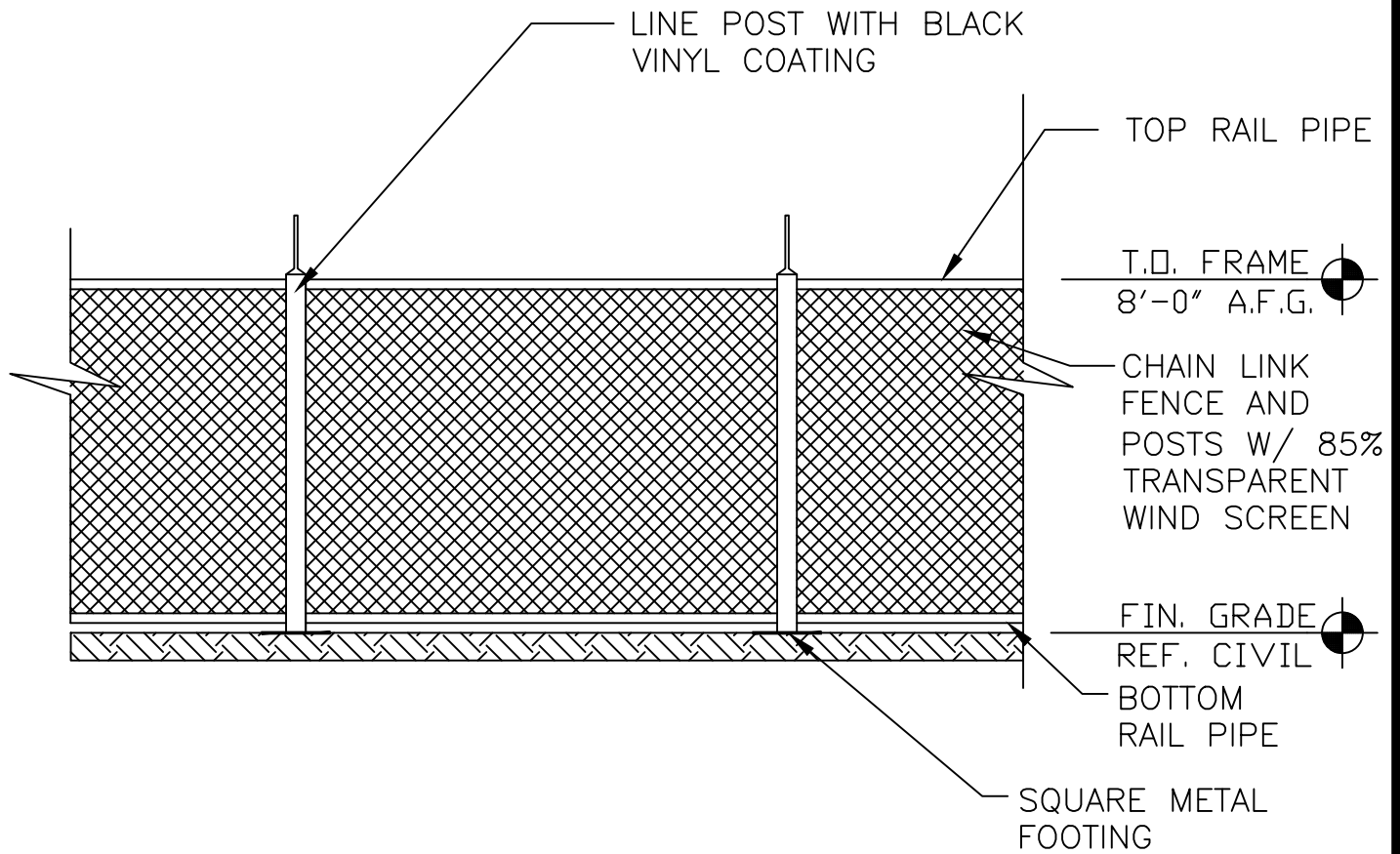
CITY OF LAUDERHILL
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LAUDERHILL, FLORIDA

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SEPT. 18

STANDARD
CONSTRUCTION
ENTRANCE DETAIL

G-15

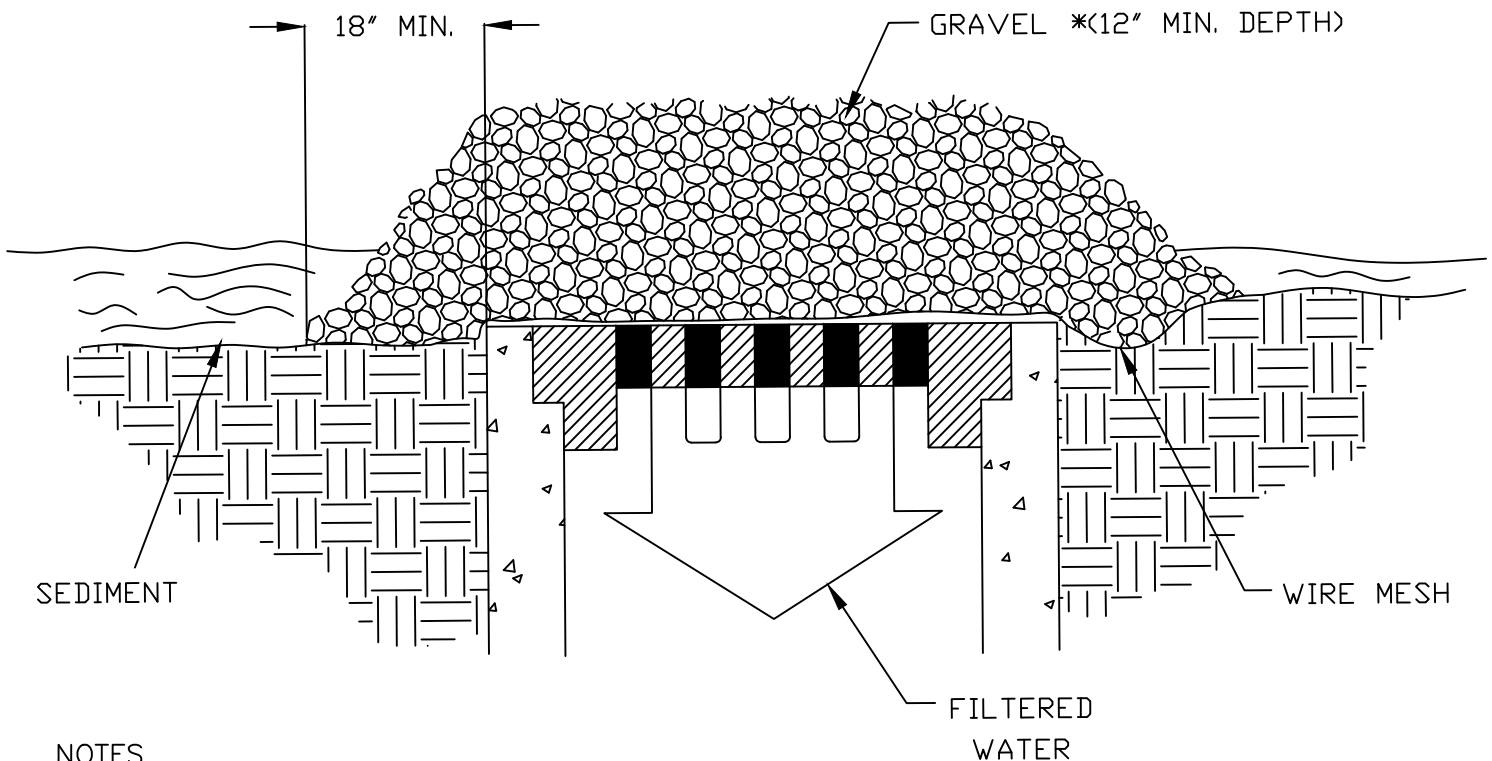


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SCALE:
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STANDARD
WIND FENCE DETAIL

G-16



NOTES

1. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF ONE FOOT (30 CM) BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH $\frac{1}{2}$ INCH (13 MM) OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED AT LEAST 1 FT. (30 CM).

2. FDOT NO. 1 COARSE AGGREGATE (1.5" TO 3.5" STONE)(4-9CM) SHALL BE PLACED OVER THE WIRE MESH AS SHOWN. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES. OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.

3. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY

4. AN ALTERNATIVE FILTER FABRIC OR SEDIMENT FILTER SACK MAY BE USED FOR INLET IN PAVED AREAS

SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

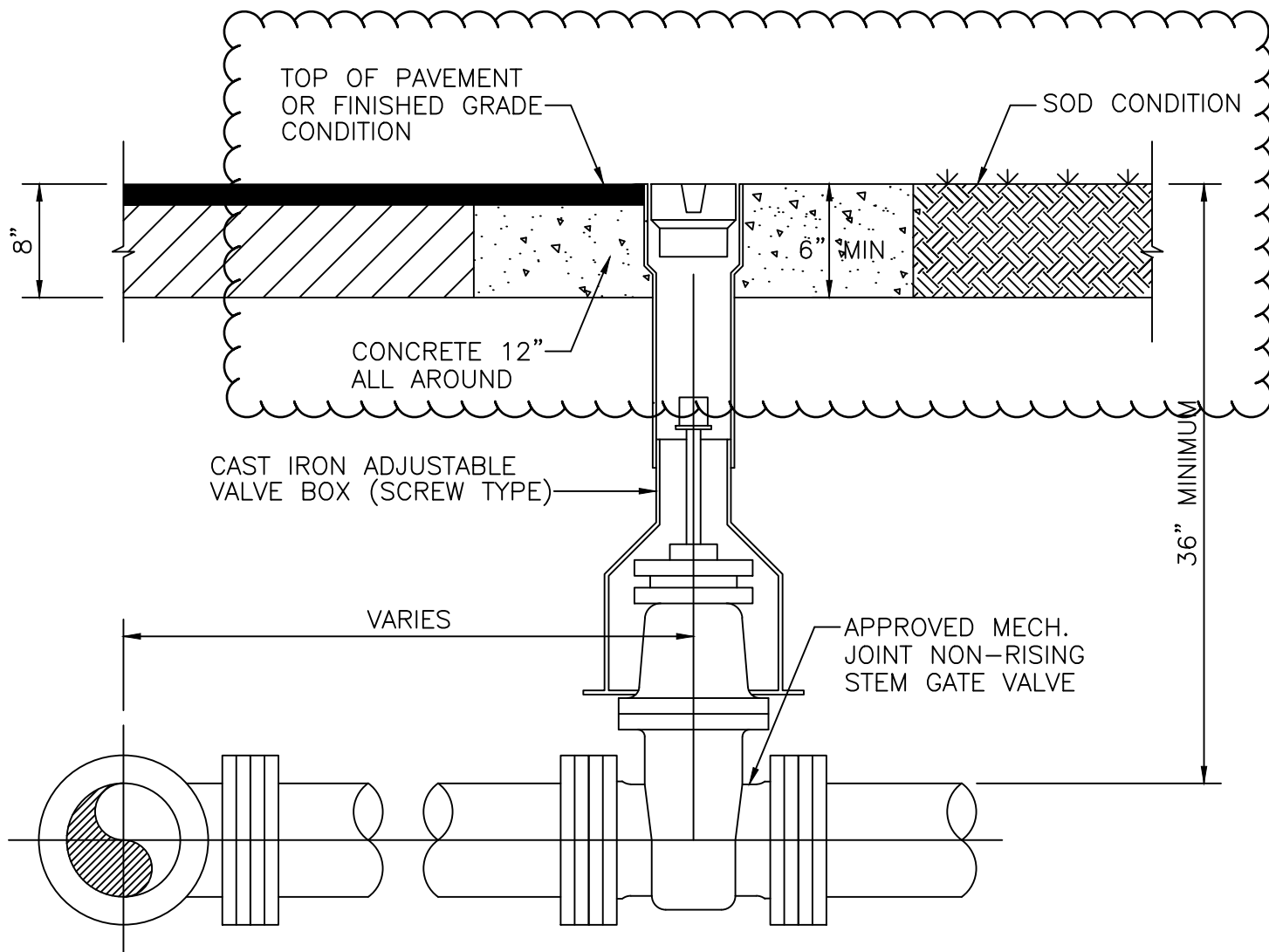
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STANDARD STORM
DRAINAGE DETAIL
INLET PROTECTION
DEVICE

G-17



CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

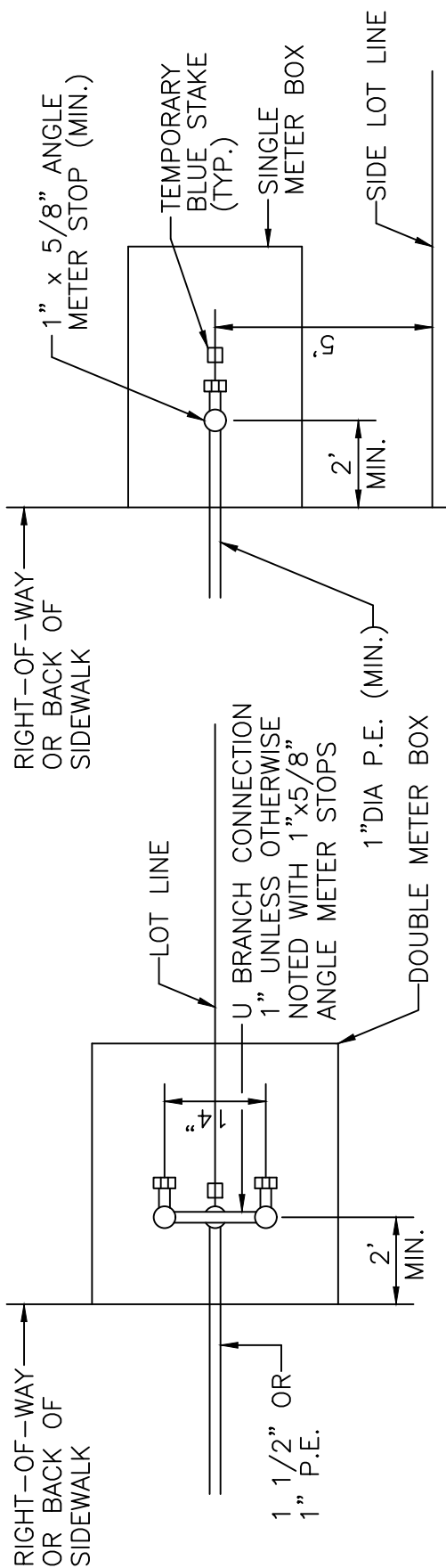
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STANDARD WATER
SUPPLY DETAIL
TYPICAL VALVE SETTING

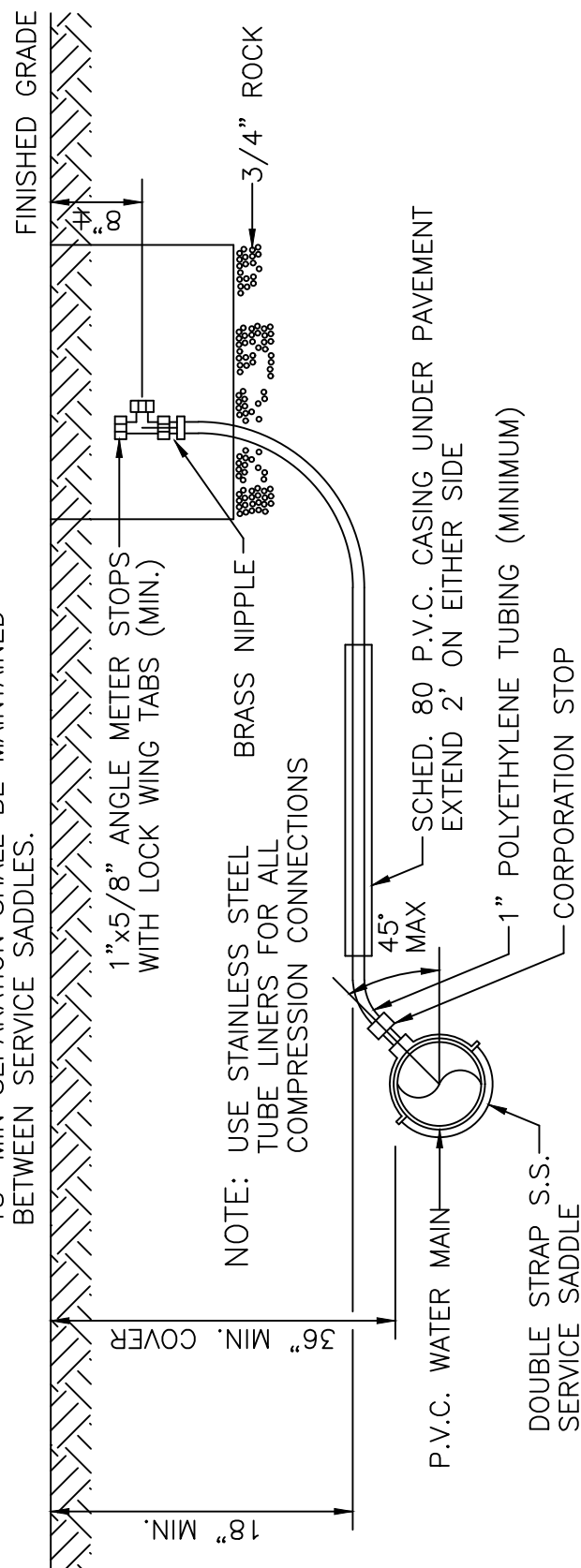
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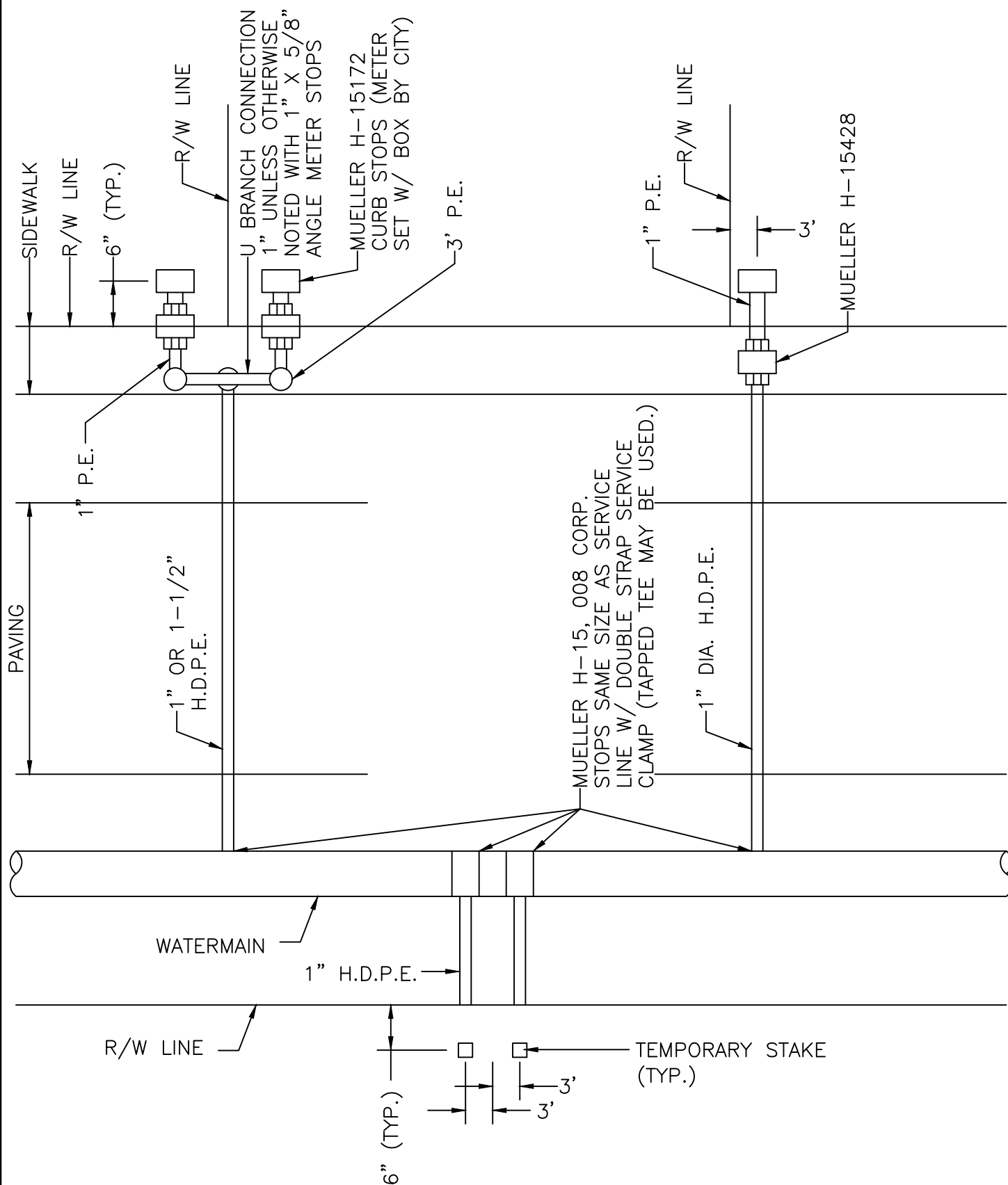


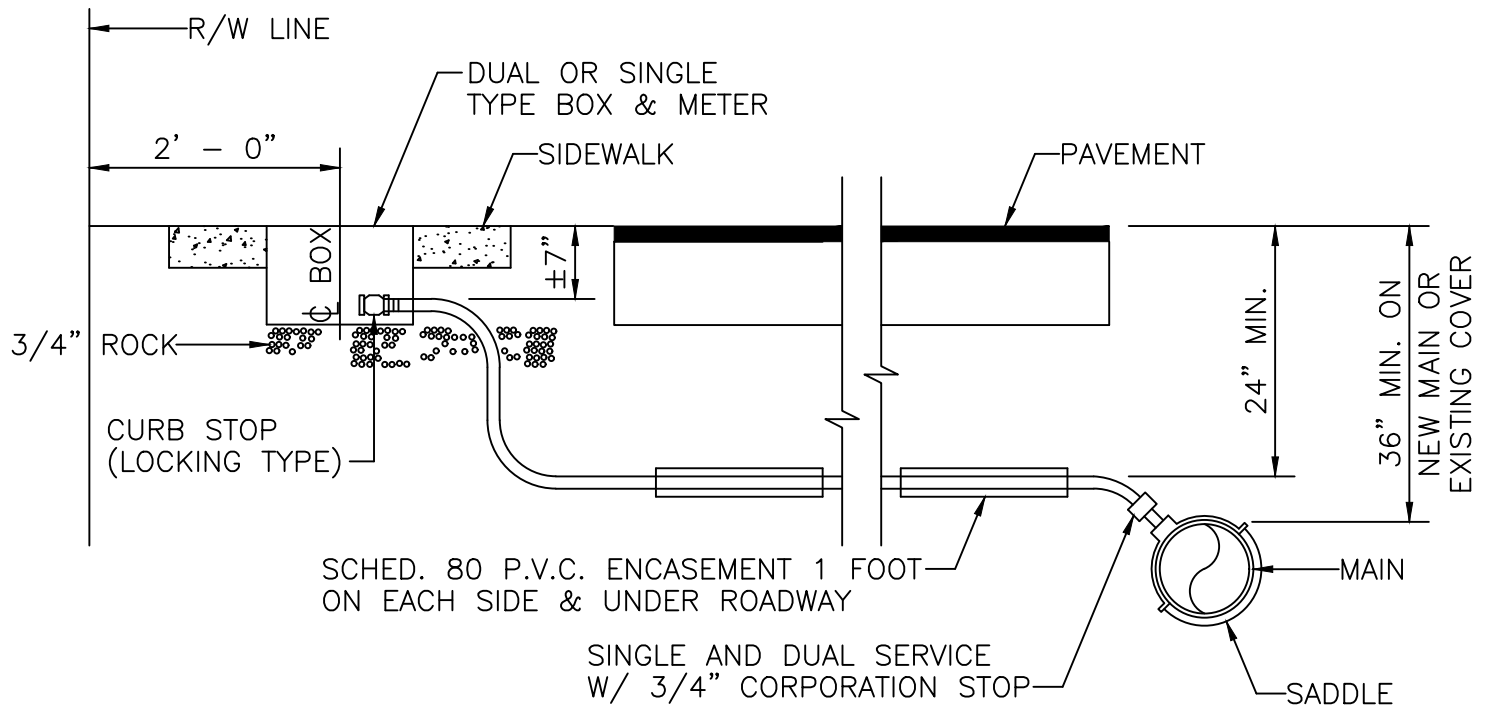
DOUBLE SERVICE PLAN

SINGLE SERVICE PLAN

NOTE: METER AND METER BOX SUPPLIED & INSTALLED BY CITY. BACKFLOW PREVENTER SHALL BE INSTALLED DOWNSTREAM OF METER PER CODE. 18" MIN SEPARATION SHALL BE MAINTAINED BETWEEN SERVICE SADDLES.



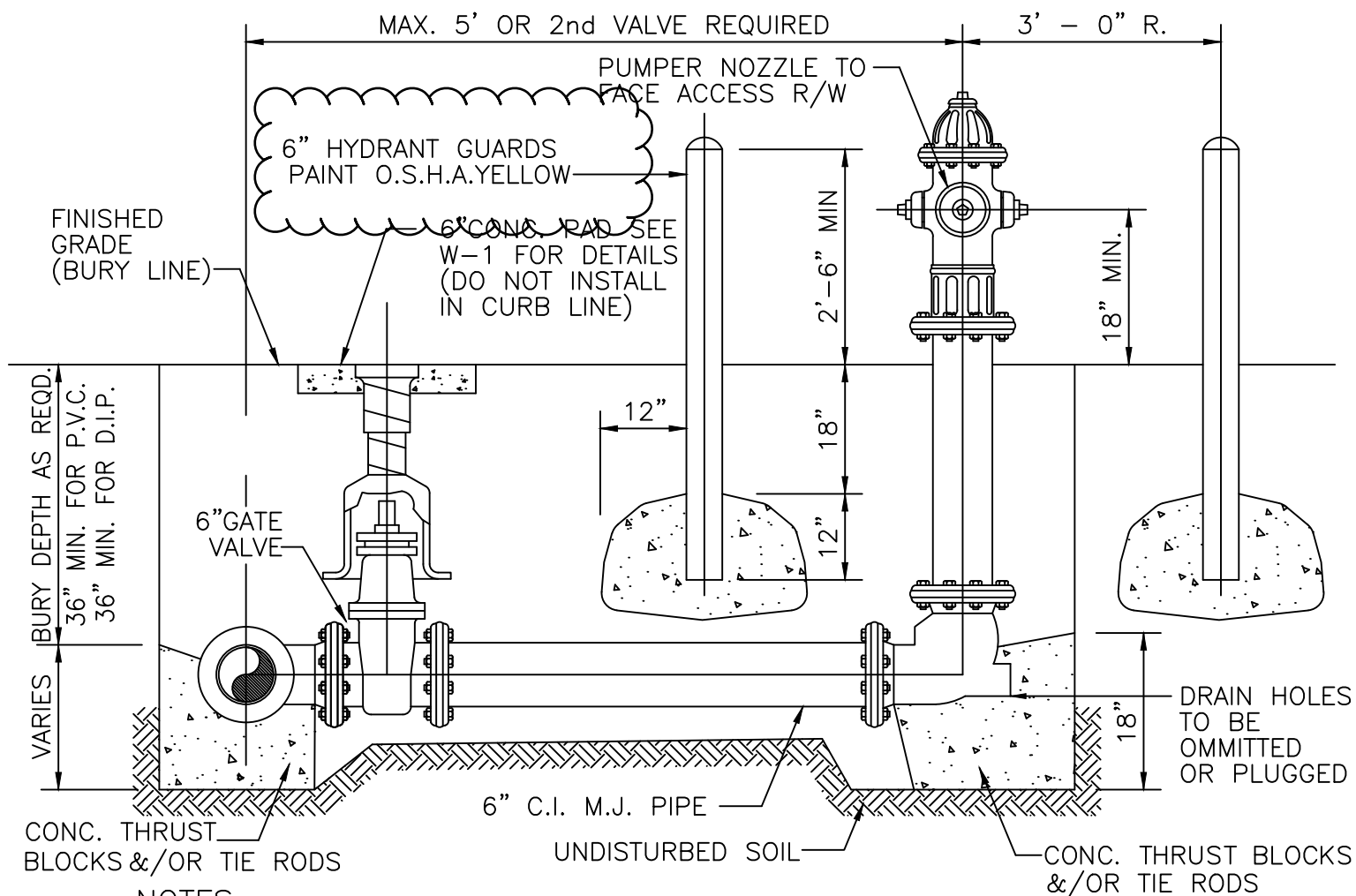




FOR SERVICE LINES LARGER THAN
1" H.D.P.E.

NOTES:

1. SUCCESSIVE TAPS INTO WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET.
2. WHERE NO SIDEWALK EXISTS, METER BOXES TO BE PLACED ON INSIDE OF SIDEWALK OR AT PROPERTY LINE.
3. H.D.P.E. SERVICE LINE SHALL BE CONTINUOUS FROM CORPORATION STOP TO CURB STOP WITH NO FITTINGS IN BETWEEN.
4. ALL 3/4" METERS REQUIRE A 3/4" CURB STOP.
5. ALL 1" METERS REQUIRE A 1" CURB STOP, LARGER SERVICES REQUIRE APPROVED GATE VALVE.
6. ALL DUAL METER INSTALLATIONS REQUIRE A "U-BRANCH" ASSEMBLY.



NOTES:

1. HYDRANT GUARDS TO BE SCH.40 G.S.P. FILLED WITH CONCRETE, AS REQUIRED BY THE UTILITY DEPARTMENT.
2. OMIT REAR GUARDS IN LOCATIONS WHERE SIDEWALKS EXIST.
3. TIE RODS MAY BE OMITTED WHEN OTHER APPROVED ANCHORS ARE USED.
4. HYDRANT SET BACK SHALL CONFORM TO D.O.T. REQUIREMENTS WHERE APPLICABLE.
5. HYDRANT CENTERLINE TO BE LOCATED AT P.C. OF BLOCK CORNER RADIUS OR AT COMMON PROPERTY LINE BETWEEN ADJACENT LOTS.
6. HYDRANT SHALL BE 3 WAY 5 1/4" WITH 3'-6" BURY DEPTH. PUMPER NOZZLE TO FACE STREET. PAINT OSHA YELLOW. HYDRANT TOP TO BE PAINTED PER NFPA 291.
7. HYDRANT VALVE TO BE INSTALLED AS CLOSE TO MAIN AS POSSIBLE.
8. HYDRANT BURY LINE TO MATCH STREET CROWN ELEVATION.
9. TIE RODS SHALL BE 2 EA. 5/8" GALV. AND COATED WITH KOPPERS 300M OR APPROVED EQUAL.
10. A 7.5 FOOT CLEAR RADIUS SHALL BE MAINTAINED AROUND HYDRANT.
11. A BLUE RPM MARKER WILL BE PLACED ON CENTERLINE OF STREET

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

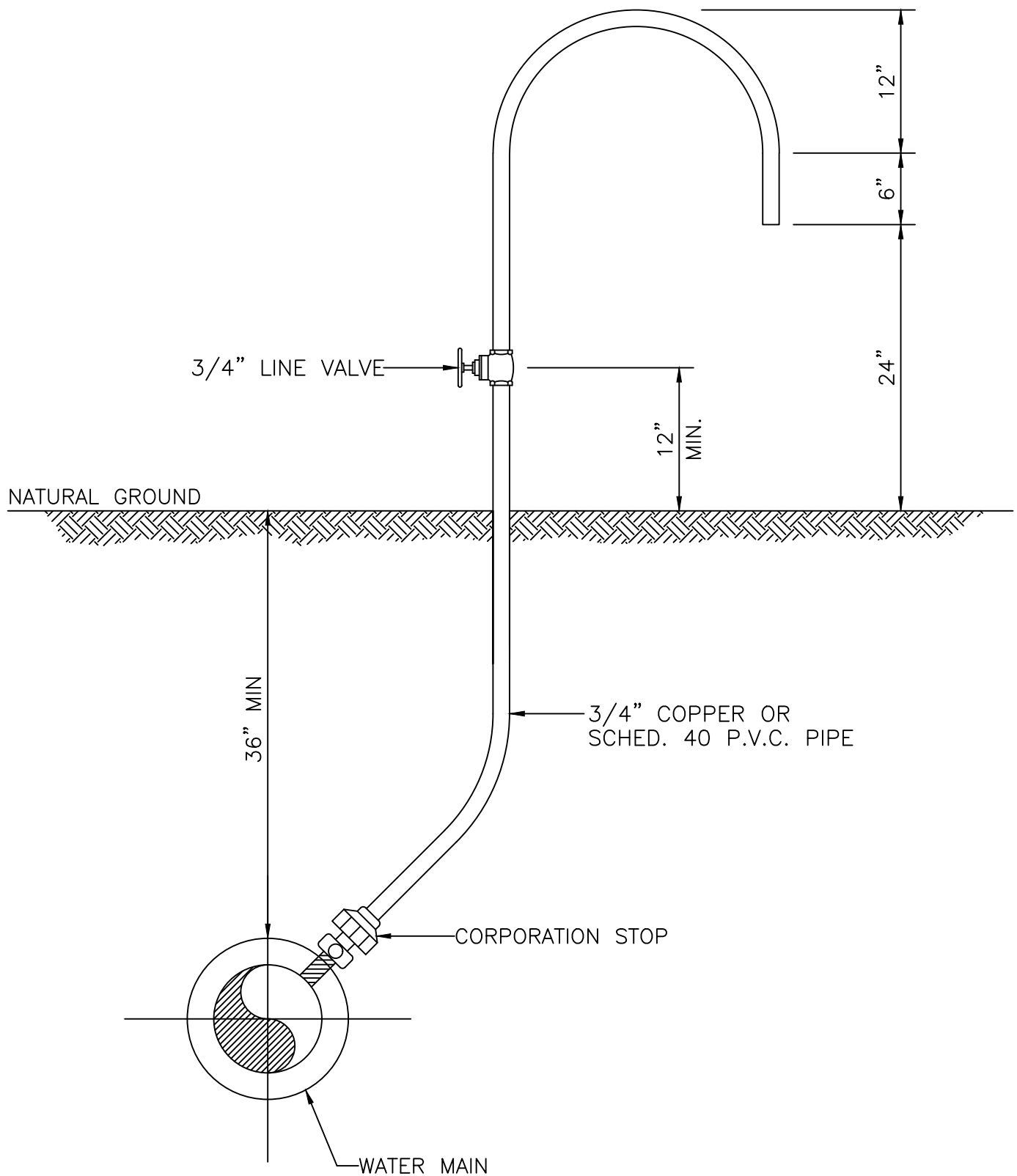
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SEPT. 18

STANDARD WATER
SUPPLY DETAIL
FIRE HYDRANT DETAIL

W-5



CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

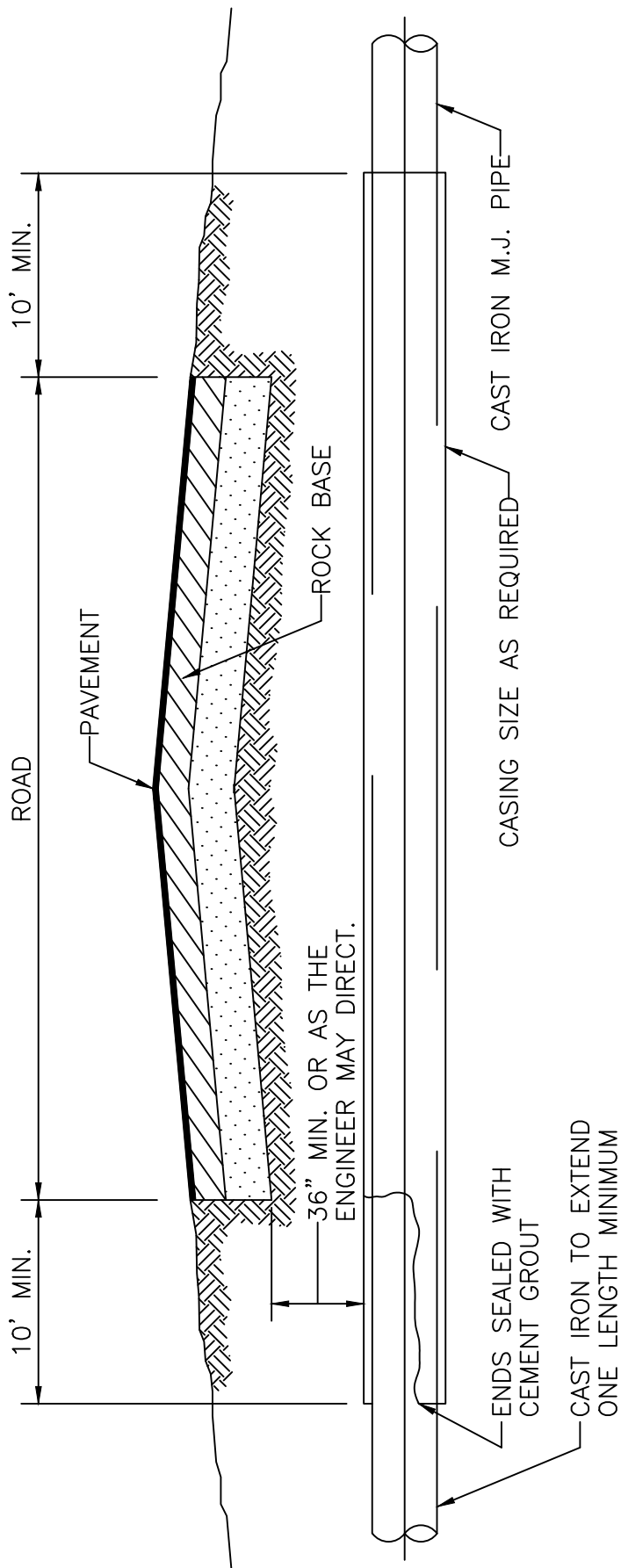
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STANDARD WATER
SUPPLY DETAIL
BACTERIOLOGICAL
SAMPLING POINT

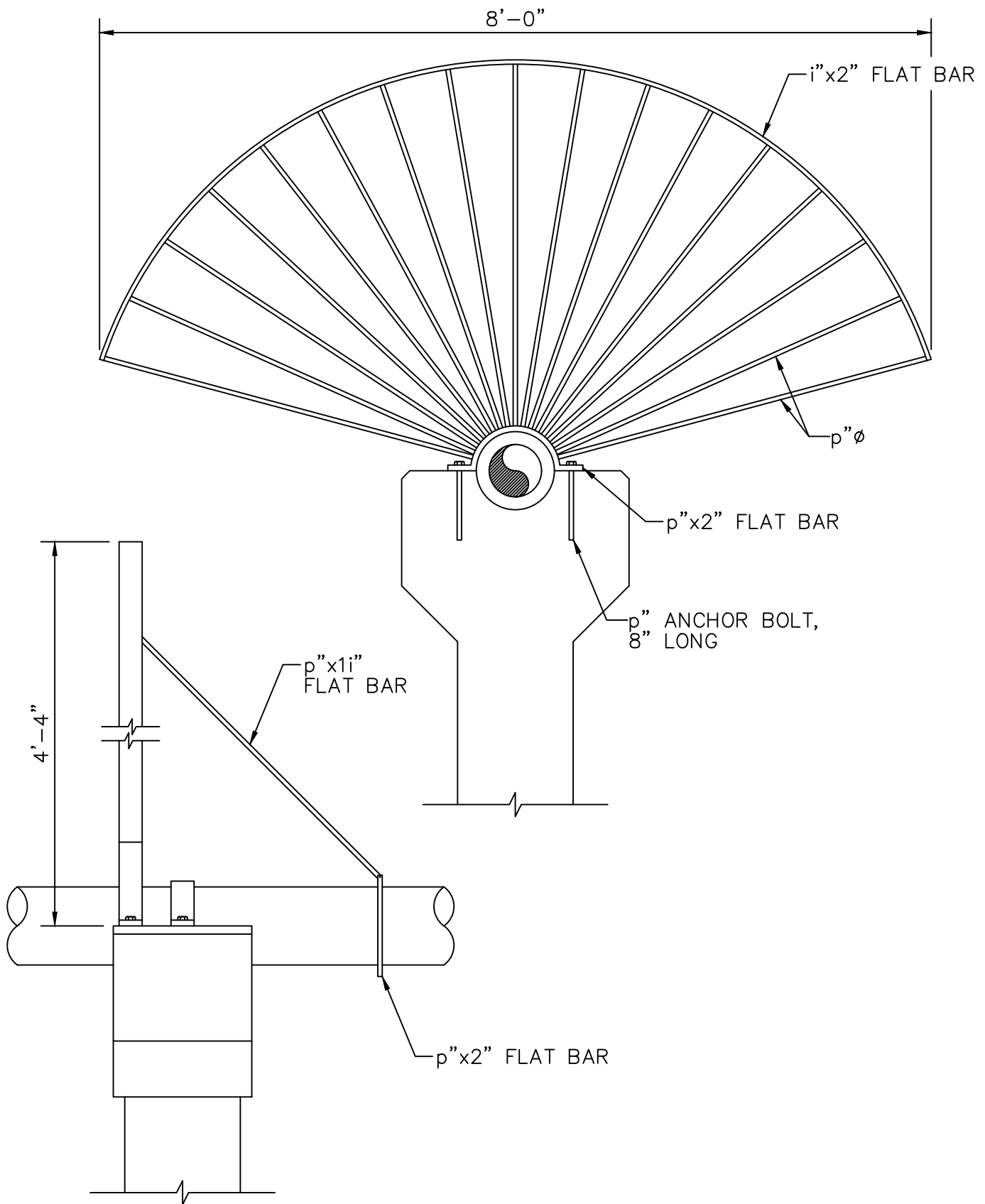
W-6



PIPE SIZE	OUTSIDE DIA. SPIGOT JOINT	OUTSIDE DIA. MECH. JOINT	SCHEDULE 60 STEEL CASING
8"	12.75	13.37"	16"
10"	14.38	15.62"	18"
12"	17.25	17.88"	20"
14"	19.62	20.25"	24"
16"	22.00	22.50"	24"
18"	23.75	24.75"	30"
20"	26.30	27.00"	30"
24"	30.50	31.50"	36"
30"	37.50	39.12"	42"
36"	43.75	46.00"	48"
42"	49.00	53.12"	54"
48"	55.50	60.00"	72"

NOTE:

1. NORMALLY CASING PIPE IS 6" LARGER THAN O.D. OF BELL OF C.I. PIPE.



CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

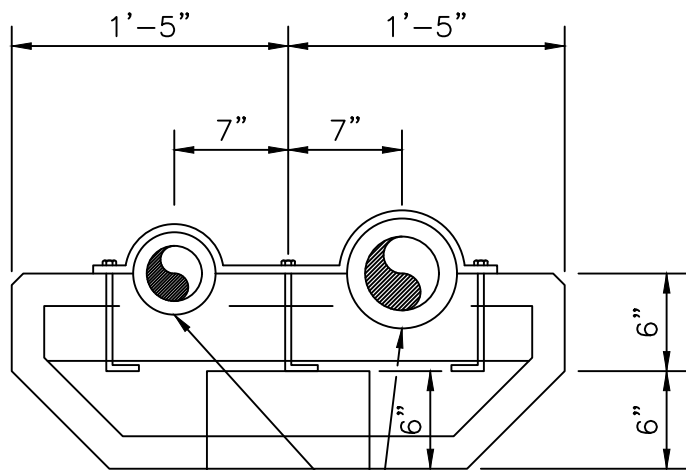
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STANDARD WATER
SUPPLY DETAIL
FAN GUARD

W-8



2 LAYERS 55 LB.
ASPHALT SATURATED
FELT ROOFING PAPER

10"x10" PRESTRESSED
CONC. PILE, TYPE 1A

t"x2" STEEL STRAP
(HOT DIP GALV.)

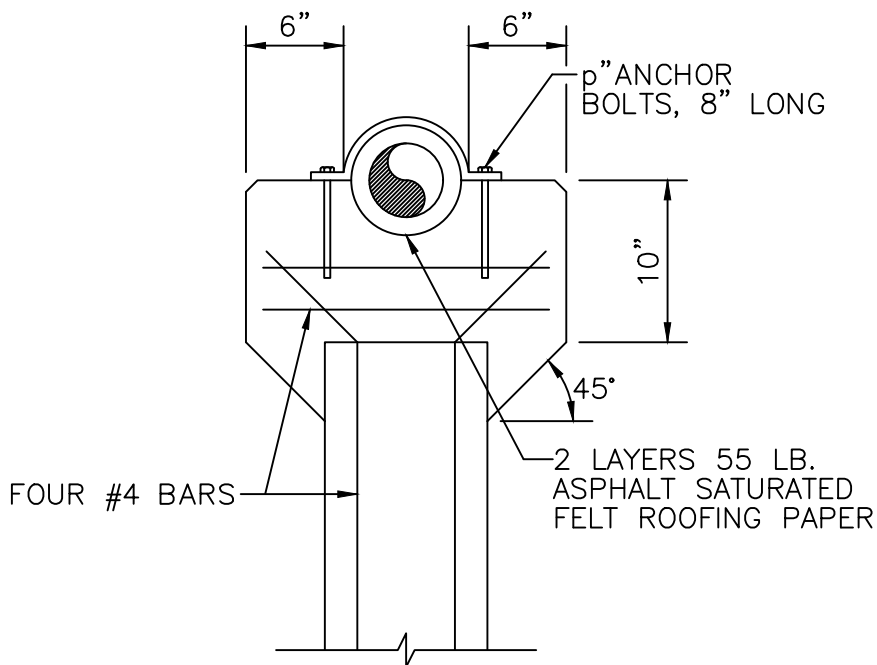
p" ANCHOR
BOLTS, 8" LONG

#4 BARS

1'-8"

ALL EXPOSED
CORNERS s"
CHAMFER

DUAL CROSSING SUPPORT

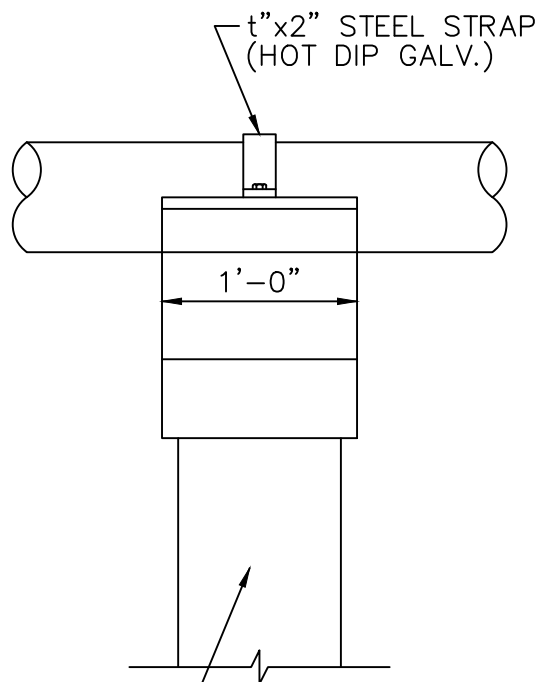


FOUR #4 BARS

2 LAYERS 55 LB.
ASPHALT SATURATED
FELT ROOFING PAPER

10"x10" PRESTRESSED
CONC. PILE, TYPE 1A

SINGLE CROSSING SUPPORT



t"x2" STEEL STRAP
(HOT DIP GALV.)

1'-0"

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

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STANDARD WATER

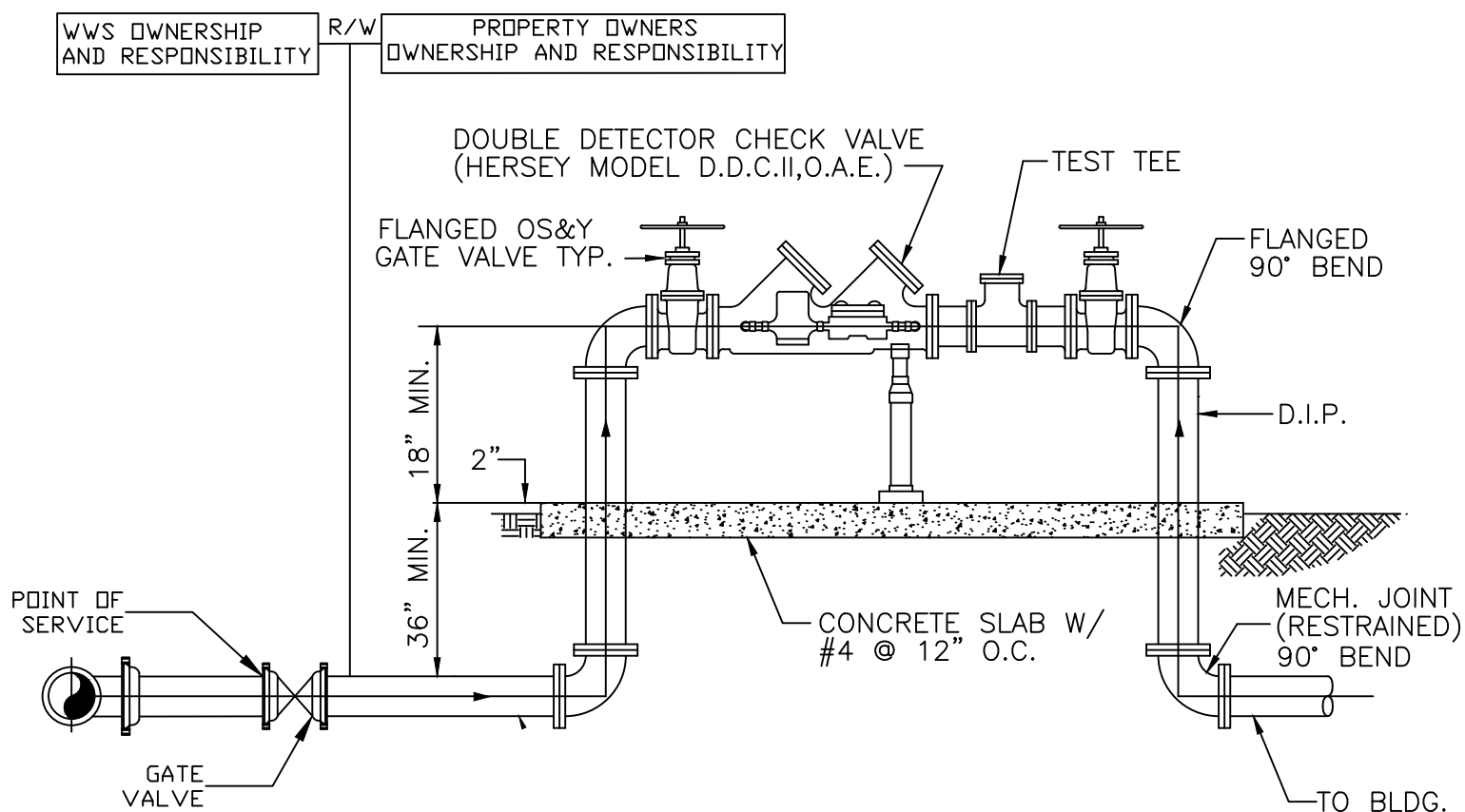
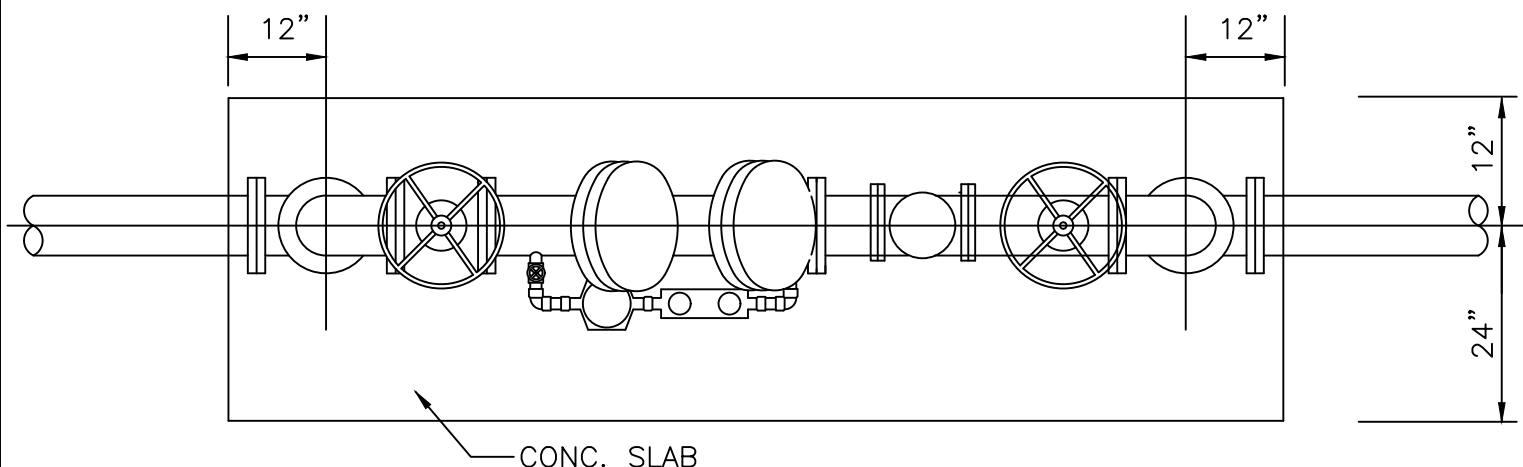
SUPPLY DETAIL

CANAL CROSSING SUPPORT

W-9



1. ALL PIPE SHALL BE CAST IRON, DUCTILE IRON, OR PREFABRICATED STEEL WITH FLANGED FITTINGS.
2. SPAN LENGTHS AS REQUIRED BY PERMITTING AGENCY.
3. FAN GUARDS ARE REQUIRED. SEE W-8. LOCATIONS VARY WITH FIELD CONDITIONS.
4. MINIMUM CLEARANCE BETWEEN WATER LEVEL & MAIN AS REQUIRED BY PERMITTING AGENCY.



NOTES:

1. ALL PIPING SHALL BE D.I.P. CL 350 AS APPLICABLE TO MINIMUM STANDARDS.
2. ALL LOW FLOW METER PIPING SHALL BE BRASS OR COPPER.
3. PIPING & ASSEMBLY SHALL BE PAINTED WITH POLYURETHANE SYSTEM.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

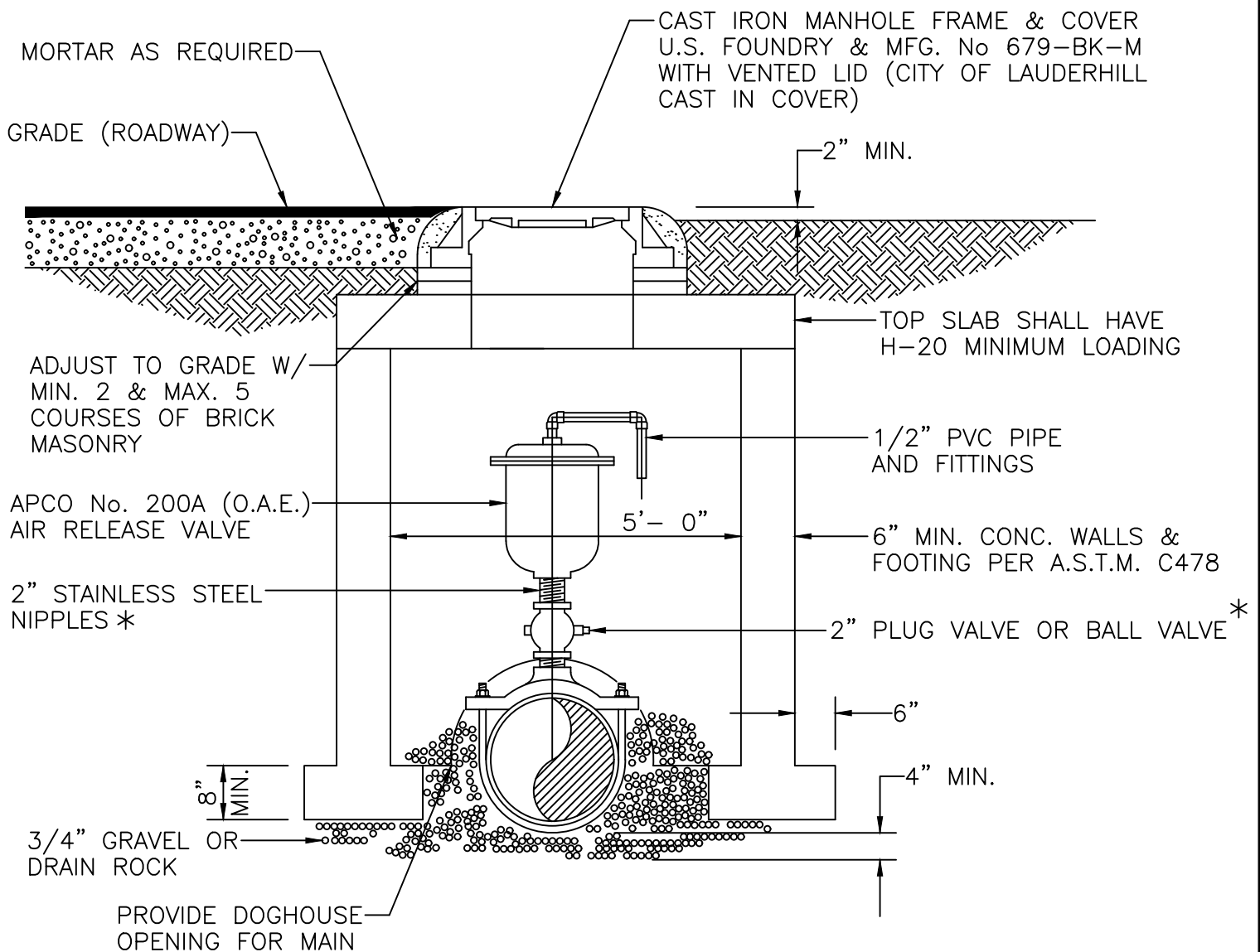
N.T.S.

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SEPT. 18

STANDARD WATER
SUPPLY DETAIL
DOUBLE DETECTOR CHECK
VALVE FOR FIRE LINE

W-11



NOTES:

1. INSIDE DIAMETER OF MANHOLE SHALL BE 6'-0" IF WATER MAIN IS LARGER THAN 24" DIAMETER.
2. PRECAST CONCRETE MANHOLE ENCLOSURE WITH DOG-HOUSE TYPE OPENINGS AND NO BOTTOM.
3. ACTUAL LOCATION OF MANHOLE SHALL BE DETERMINED BY ENGINEER IN THE FIELD.
4. PAINT INTERIOR WITH 2 COATS, AND EXTERIOR WITH 1 COAT OF COAL TAR EPOXY.
5. * FITTINGS MAY BE 1" FOR WATER MAIN 12" OR LESS.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

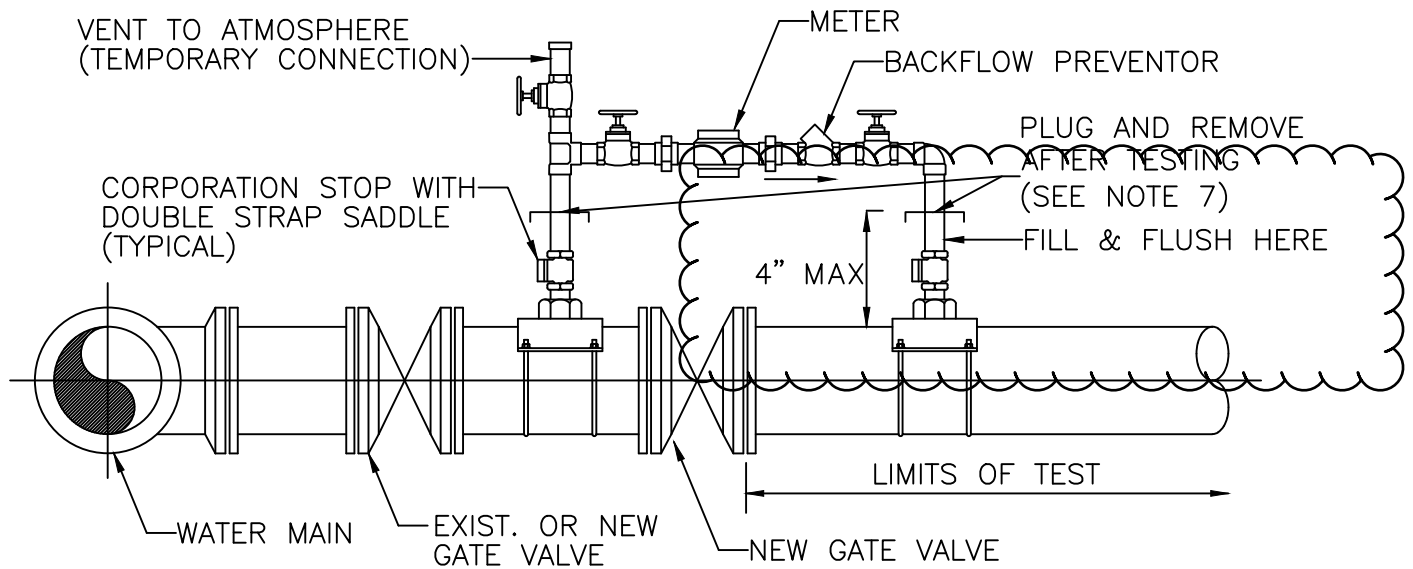
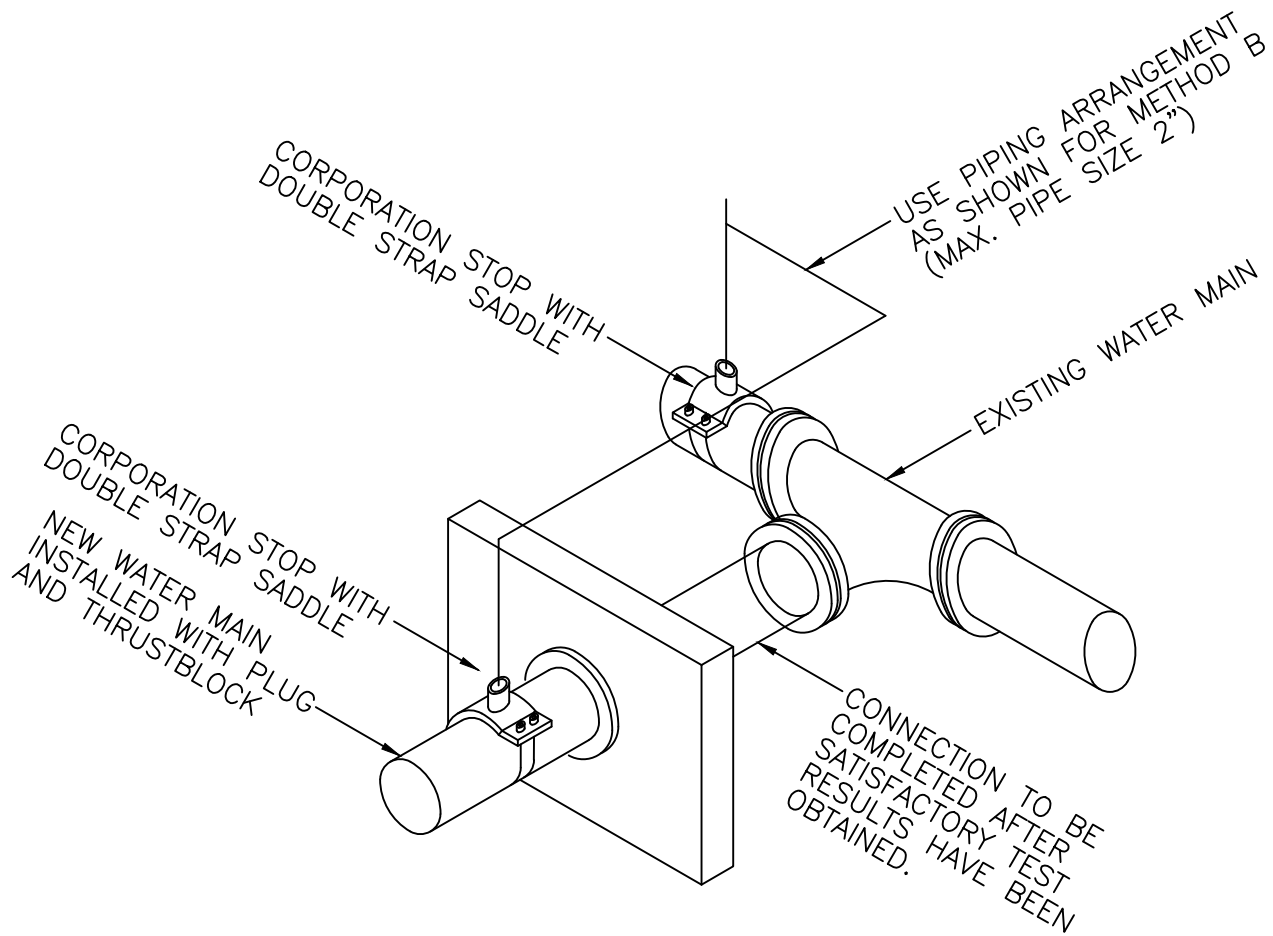
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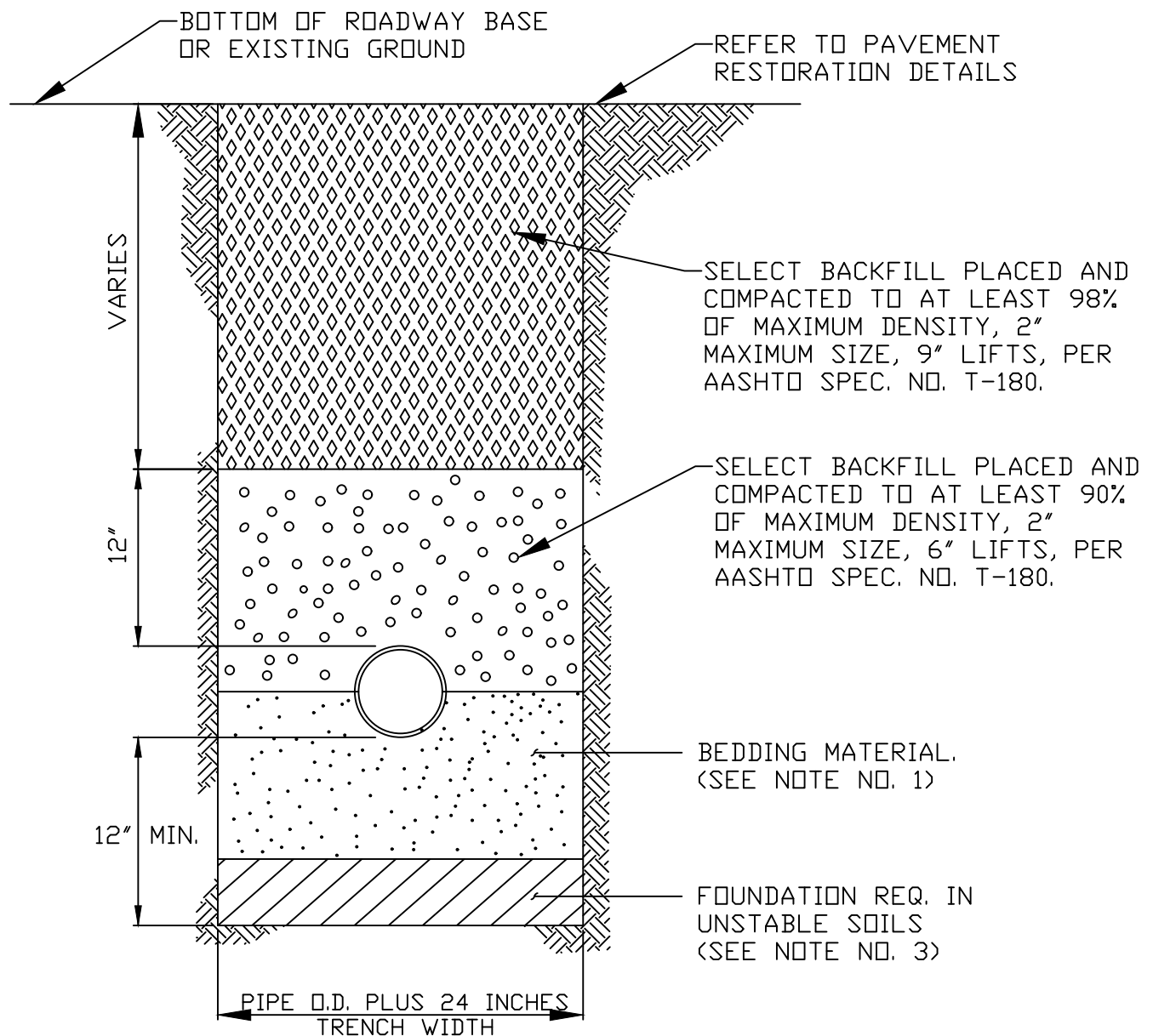
STANDARD WATER
SUPPLY DETAIL
AIR RELEASE VALVE

W-12



NOTES:

1. WATER MAIN TO BE PRESSURE TESTED AND DISINFECTED ACCORDING TO BROWARD COUNTY PUBLIC HEALTH UNIT REGULATIONS, AWWA, AND MUNICIPAL SPECIFICATIONS IN EFFECT.
2. BACTERIOLOGICAL TESTS ARE TO BE PERFORMED BY THE CONTRACTOR AND AN APPROVED TESTING LABORATORY.
3. REMOVE TEMPORARY CONNECTION AT SADDLE ON NEW MAINS AFTER FILLING AND FLUSHING HAS BEEN COMPLETED AND MAIN CERTIFIED BY HEALTH DEPARTMENT, REPLACE WITH BRASS PLUG.
4. PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.
5. FILLING AND FLUSHING LOCATIONS SHALL BE COORDINATED BY THE CONTRACTOR, ENGINEER, AND CITY.
6. VENT TO ATMOSPHERE SHALL REMAIN OPEN DURING ALL PHASES OF PRESSURE TESTING.
7. REMOVAL AND PLUG OF FILLING AND FLUSHING SHALL BE WITNESSED BY THE CITY OF LAUDERHILL PRIOR TO BACKFILLING. MAXIMUM OF 4" SHALL BE ETRUDING FROM TOP OF WATER MAIN AFTER PLUG IS PLACED.



NOTES:

1. BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAX SIZE, OR WASHED AND GRADED LIMEROCK $\frac{3}{8}$ " - $\frac{7}{8}$ " IN DIAMETER, COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-180.
2. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.
3. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT, CLAYS, AND FINE SANDS BELOW THE WATER TABLE, A FOUNDATION IS REQUIRED, AS DETERMINED BY THE ENGINEER OF RECORD.
4. POLYETHYLENE ENCASEMENT OF CAST IRON VALVES, PIPE AND FITTING, IF REQUIRED, SHALL BE PER ANSI/AWWA C105/A21.5. METHOD A,B, OR C FOR TYPE 1 CLASS C TUBE, MIN. 8 MILS

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

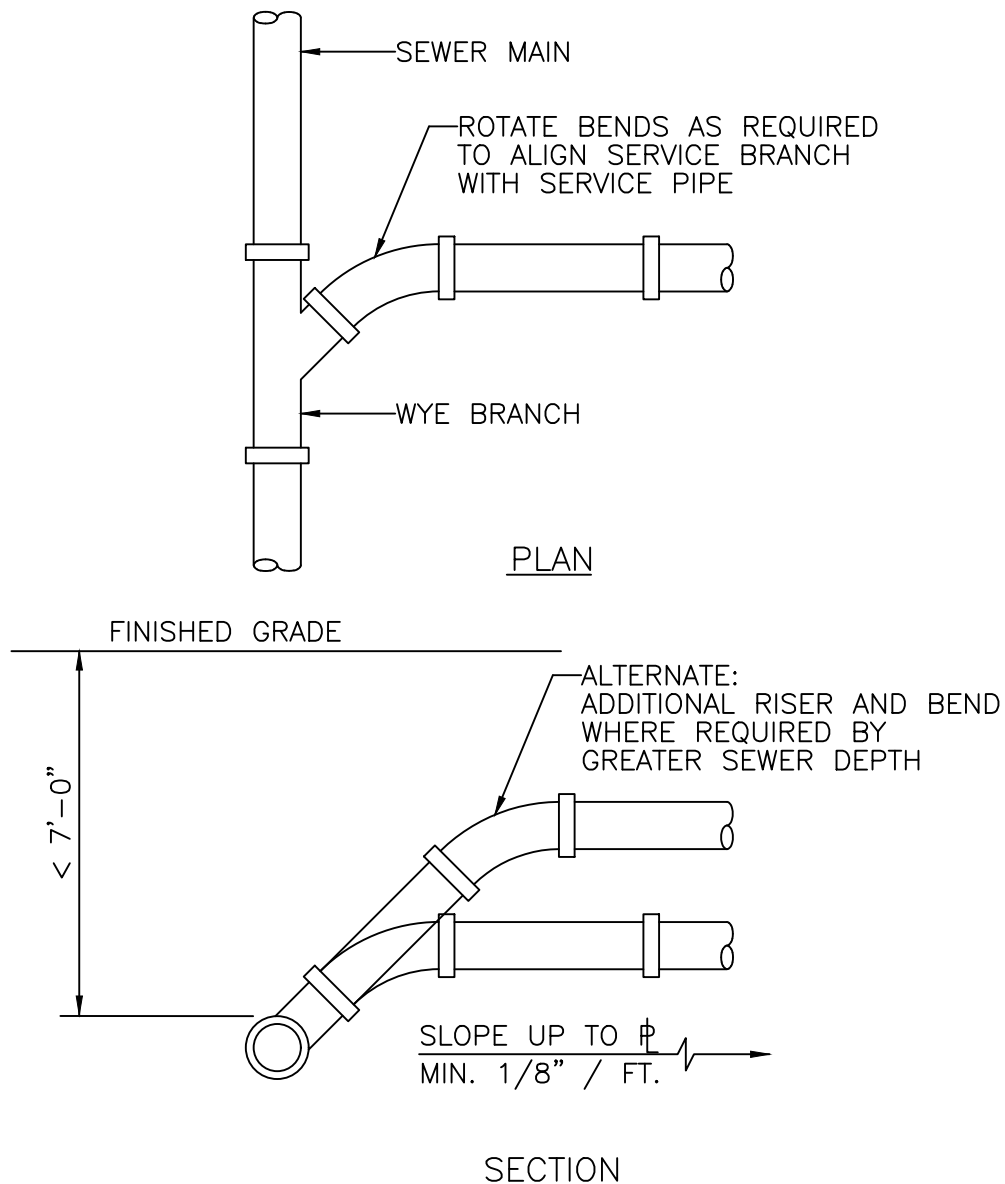
N.T.S.

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SEPT. 18

STANDARD WATER
SUPPLY DETAIL
TYPICAL TRENCH
CONSTRUCTION

W-15



NOTE: SHALLOW CONNECTION WHERE TOP OF MAIN IS LESS THAN 7'-0" DEEP.

NOTES:

1. UNLESS OTHERWISE REQUIRED, SERVICE LATERALS SHALL TERMINATE AT PROPERTY LINE AT A DEPTH OF 3 FEET TO THE INVERT.
2. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" x 2" TREATED STAKE.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED PLUG.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

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REVISED:

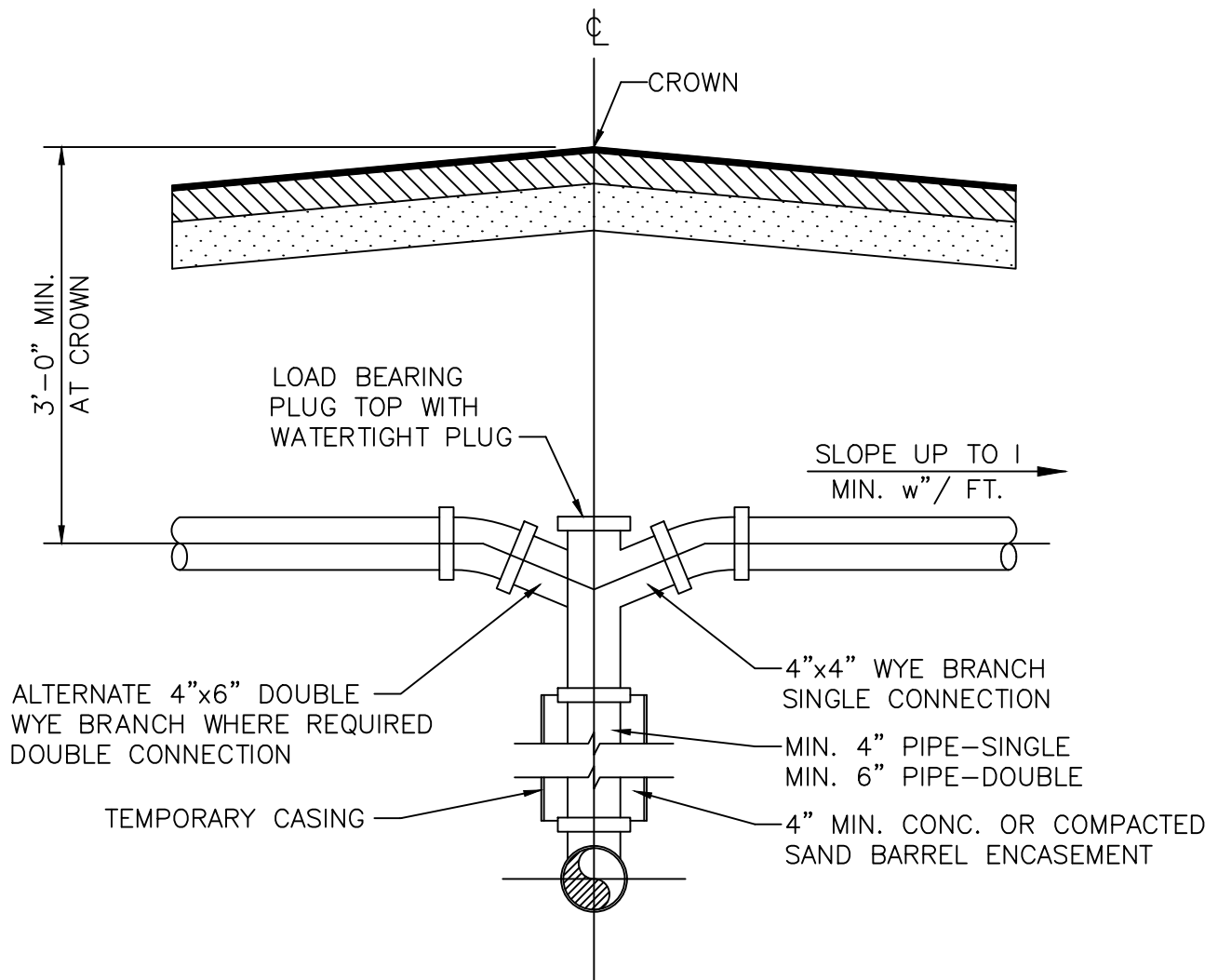
SEPT. 18

STANDARD SANITARY

SEWER DETAIL

WYE BRANCH CONNECTION

S-1



SECTION
WHERE TOP OF SEWER IS
7'-0" OR DEEPER

NOTES:

1. UNLESS OTHERWISE REQUIRED, SERVICE LATERALS SHALL TERMINATE AT 1 AT A DEPTH OF (3) FEET TO THE INVERT.
2. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2"x2" TREATED STAKE.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED PLUG.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

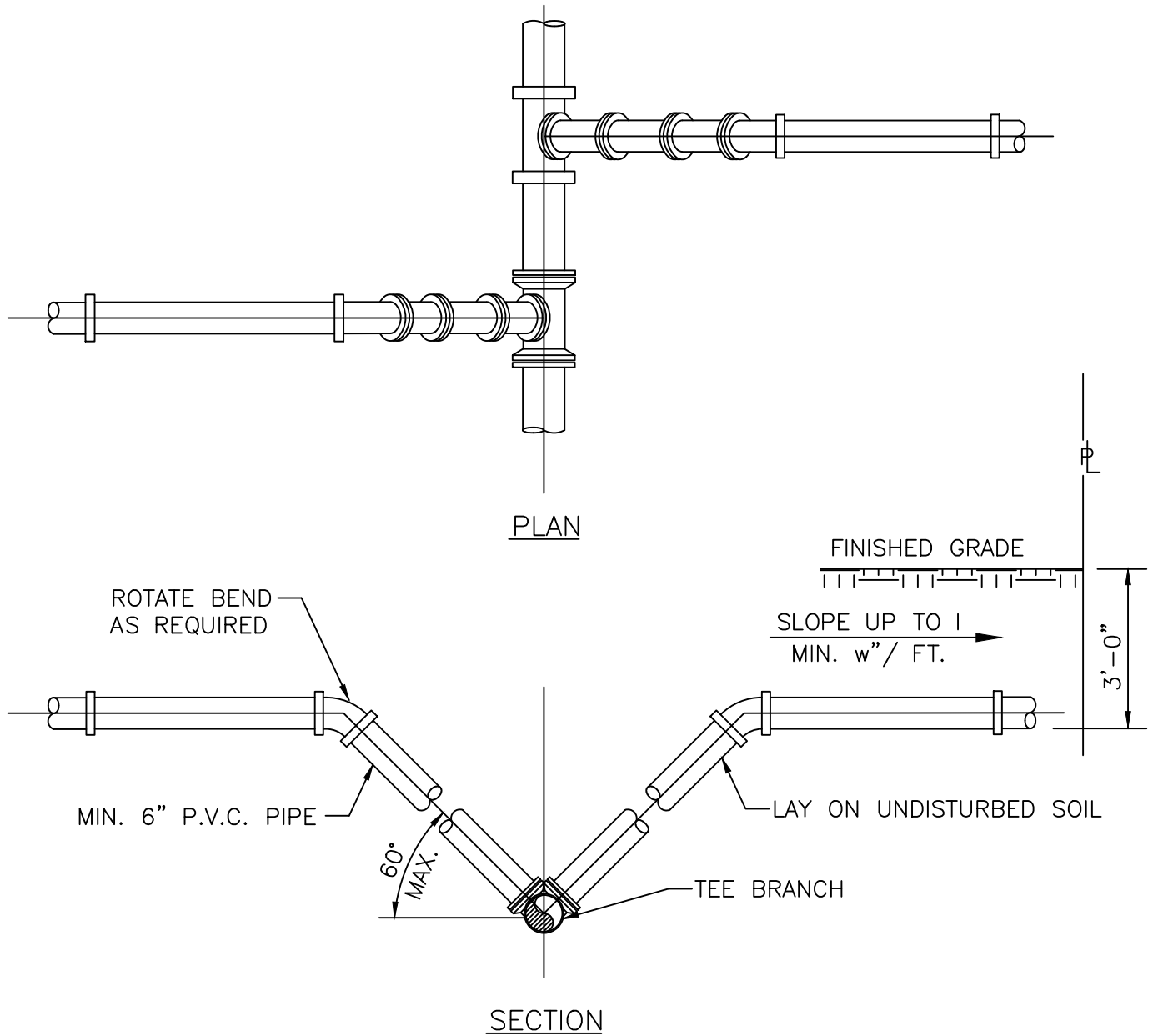
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SEPT.18

STANDARD SANITARY
SEWER DETAIL
RISER CONNECTION

S-2



NOTES:

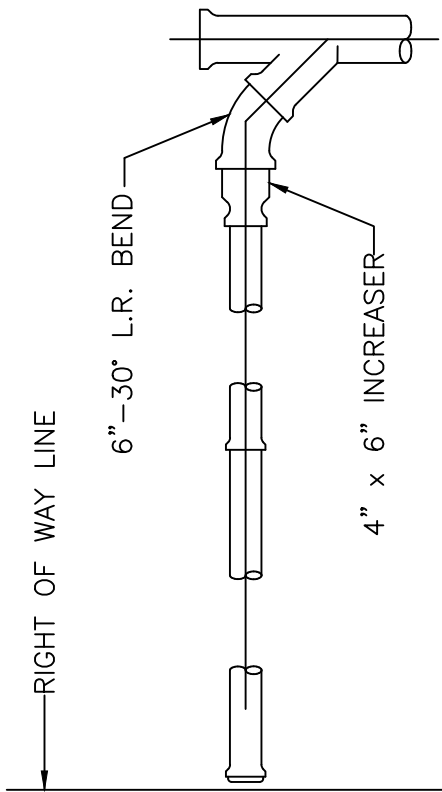
1. UNLESS OTHERWISE REQUIRED, SERVICE LATERALS SHALL TERMINATE AT 1' AT A DEPTH OF (3) FEET TO THE INVERT.
2. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2"x2" TREATED STAKE, OR OTHER APPROVED MARKER.
3. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED PLUG.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

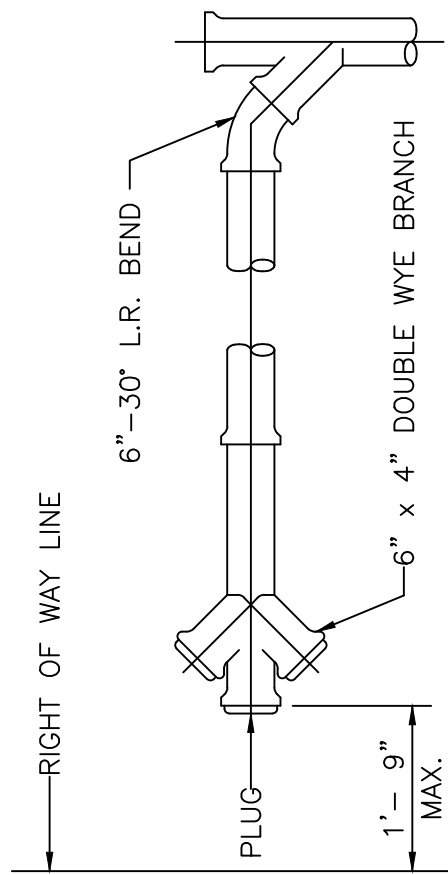
SCALE:
N.T.S.
REVISED:
SEPT.18

STANDARD SANITARY
SEWER DETAIL
ALTERNATE RISER CONNECTION
TOP OF SEWER, 7' OR DEEPER

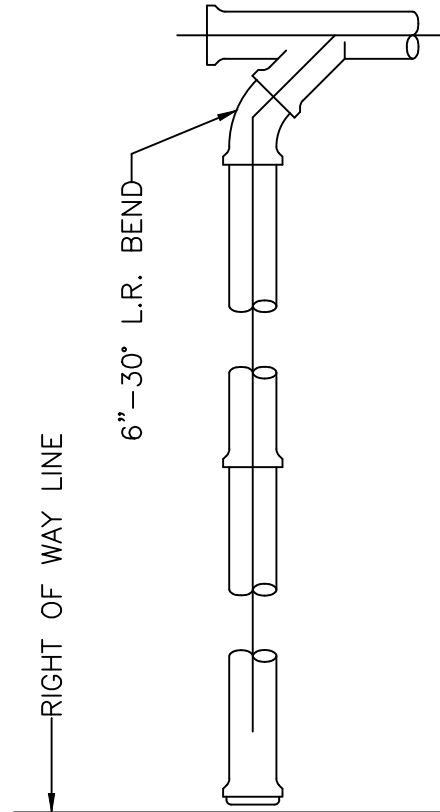
S-3



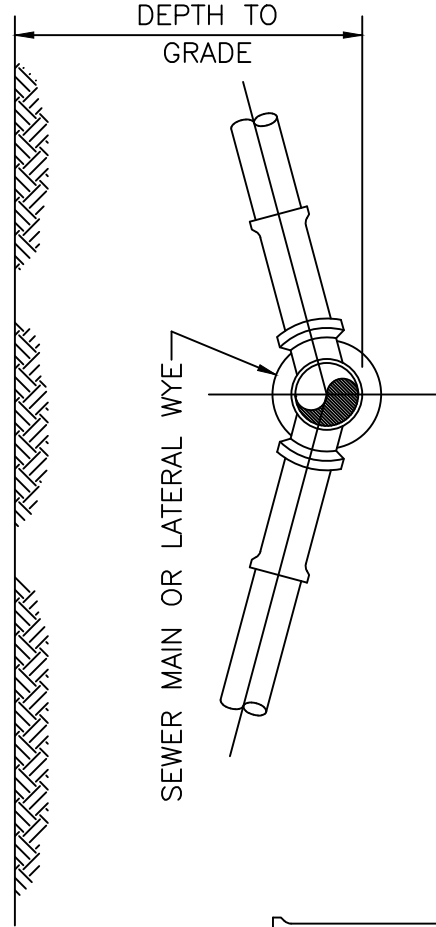
SINGLE SERVICE CONNECTION
(RESIDENTIAL ONLY)



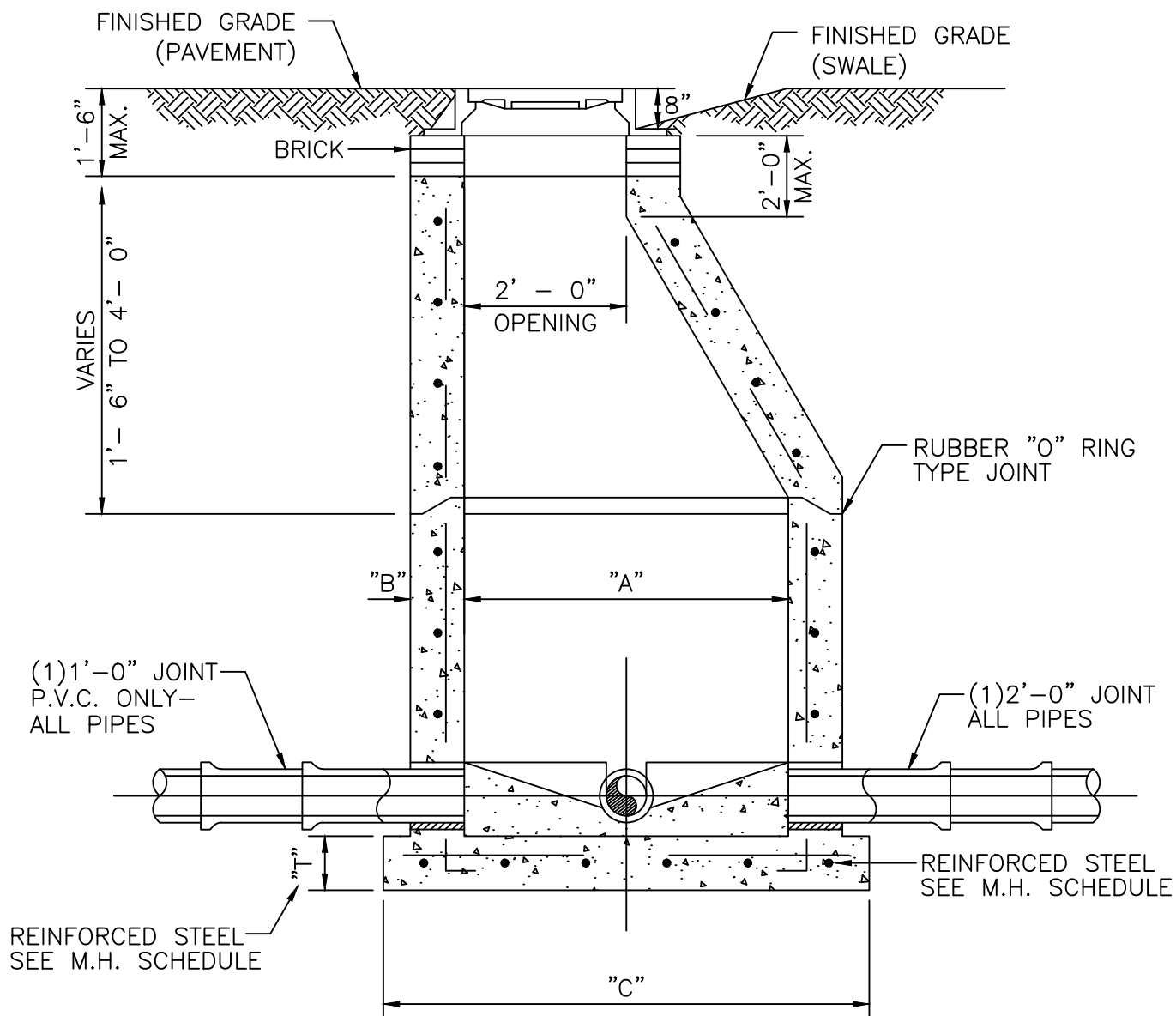
DOUBLE SERVICE CONNECTION
(AT PROPERTY LINE)



SINGLE SERVICE CONNECTION
(OTHER THAN RESIDENTIAL)



SERVICE CONNECTION



STANDARD MANHOLE
DEPTH 5'-0" & GREATER

TYPICAL MANHOLE DIMENSIONS					
PIPE DIA.	"A"	"B"	"C"	BOTT. SLAB "T"	REINF. STEEL
8" - 24"	4'-0"	8"	70"	8"	#4@12" E.W.
30" - 36"	5'-0"	8"	84"	10"	#5@12" E.W.
48"	6'-0"	8"	96"	12"	#5@12" E.W.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

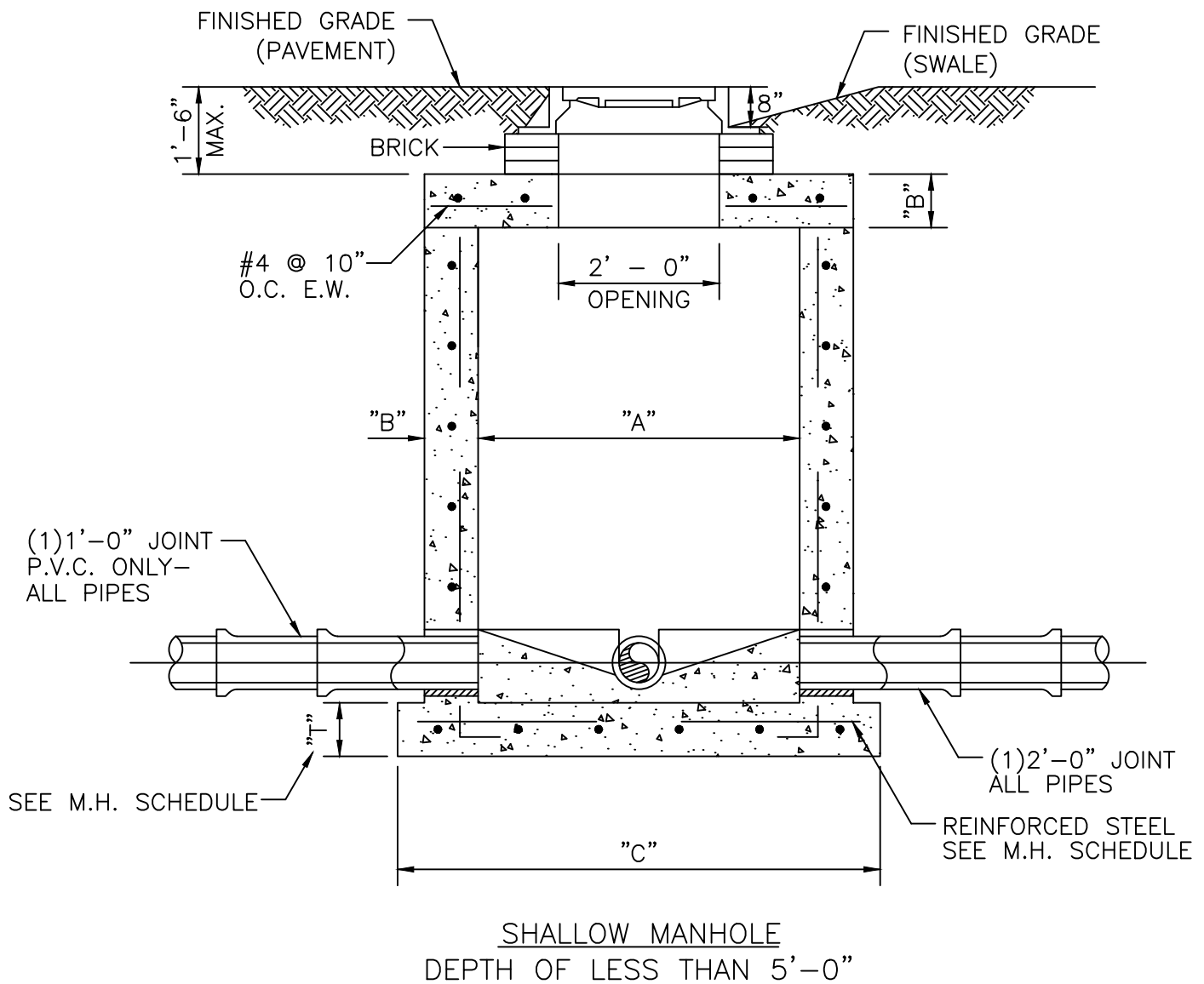
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SEPT.18

STANDARD SANITARY
SEWER DETAIL
SANITARY SEWER MANHOLE

S-5



TYPICAL MANHOLE DIMENSIONS					
PIPE DIA.	"A"	"B"	"C"	BOTT. SLAB "T"	REINF. STEEL
8" - 24"	4'-0"	8"	70"	8"	#4@12" E.W.
30" - 36"	5'-0"	8"	84"	10"	#5@12" E.W.
48"	6'-0"	8"	96"	12"	#5@12" E.W.

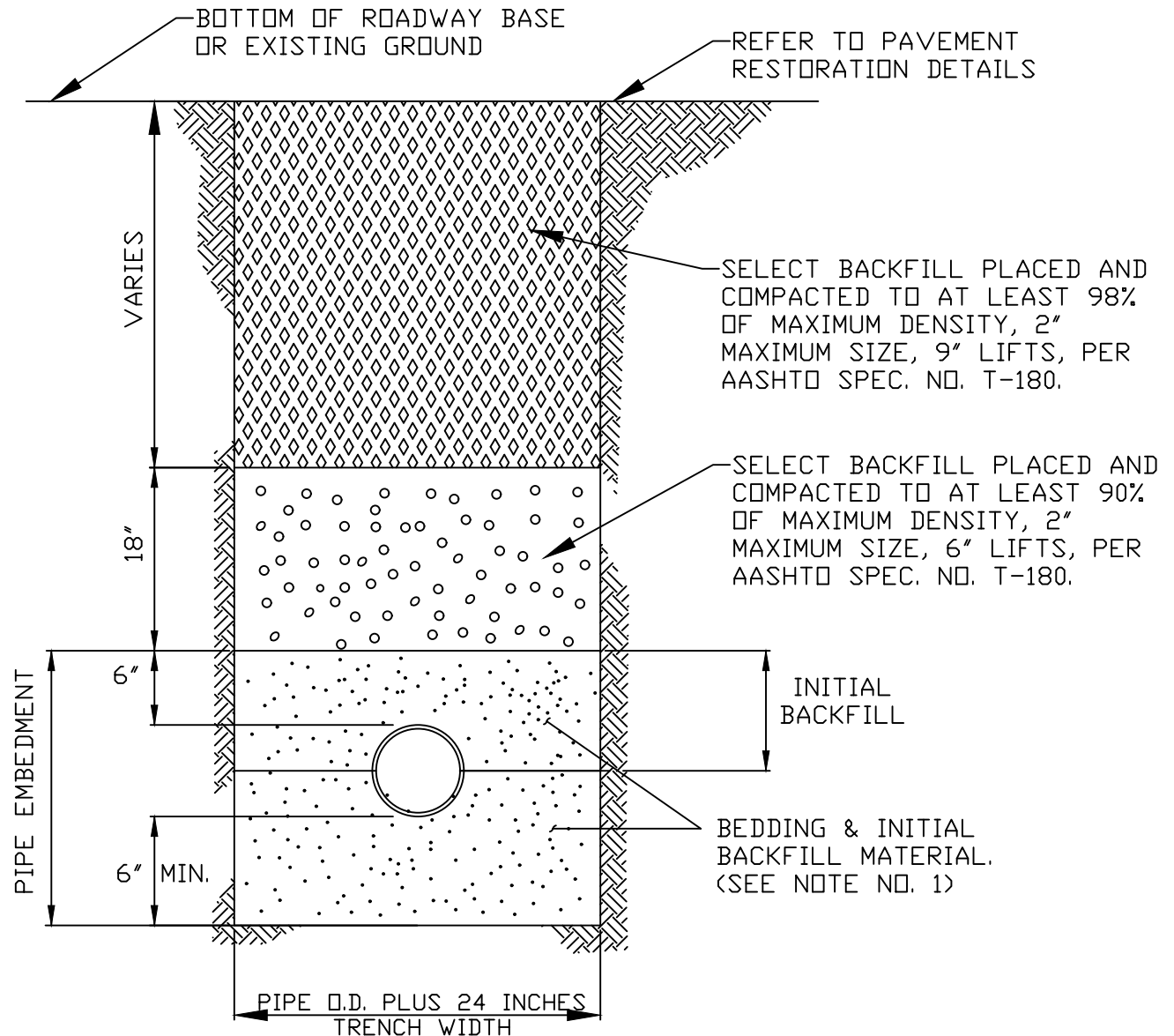
CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:
N.T.S.

REVISED:
SEPT. 18

STANDARD SANITARY
SEWER DETAIL
SANITARY SEWER MANHOLE

S-6



NOTES:

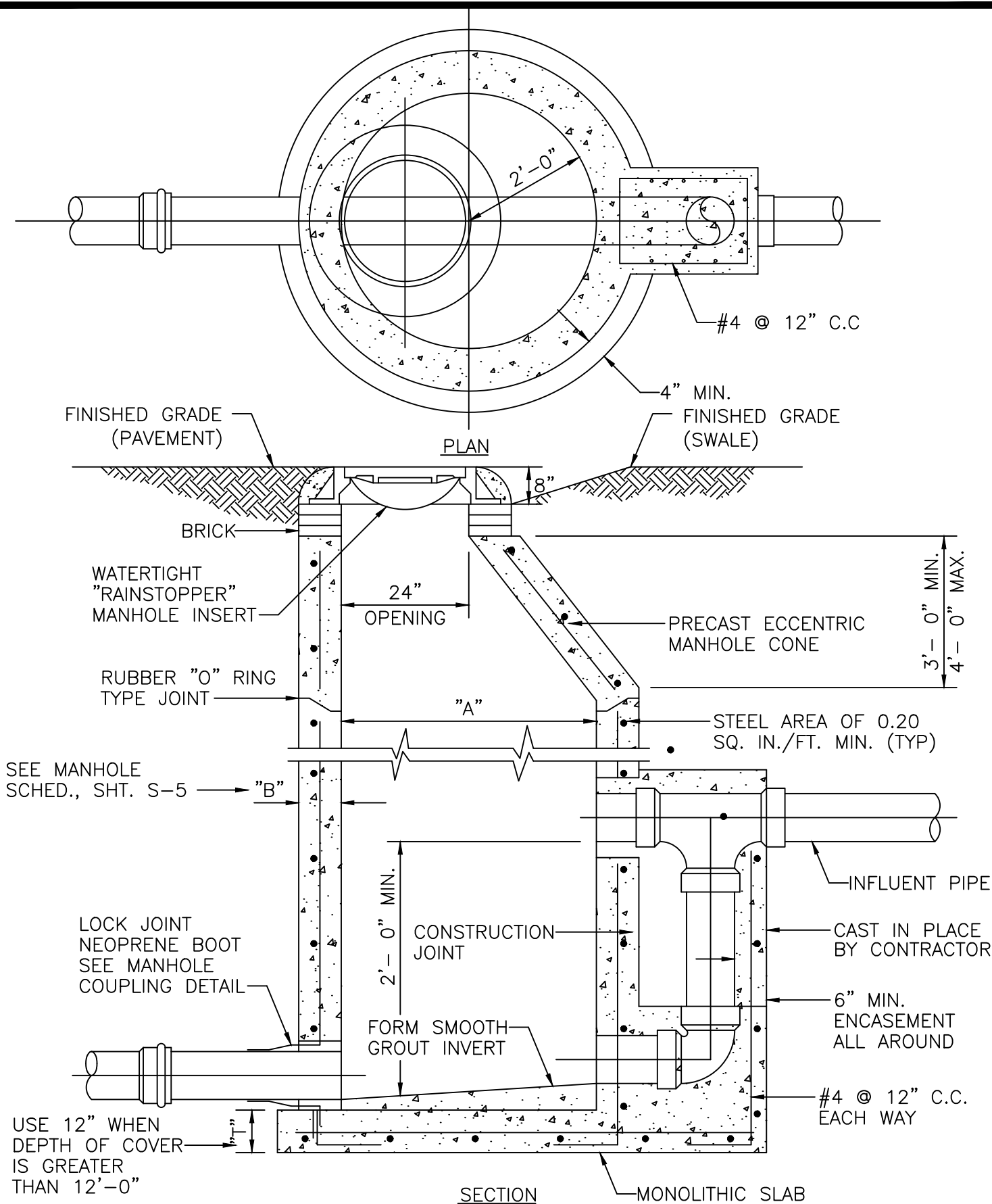
1. BEDDING & INITIAL BACKFILL MATERIAL SHALL CONSIST OF CAREFULLY PLACED AND HAND COMPACTED CLASS 1 MATERIAL. CLASS 1 MATERIALS CONSIST OF ANGULAR, $\frac{1}{4}$ TO $\frac{3}{4}$ INCH WELL GRADED STONE. WELL GRADED STONE CAN INCLUDE WASHED AND GRADED LIMEROCK.
2. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.
3. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS BELOW THE WATER TABLE, AND FINE SANDS BELOW THE WATER TABLE, A FOUNDATION IS REQUIRED AS DETERMINED BY THE ENGINEER OF RECORD.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:
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REVISED:
SEPT.18

STANDARD SANITARY
SEWER DETAIL
TYPICAL TRENCH
CONSTRUCTION

S-7



CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

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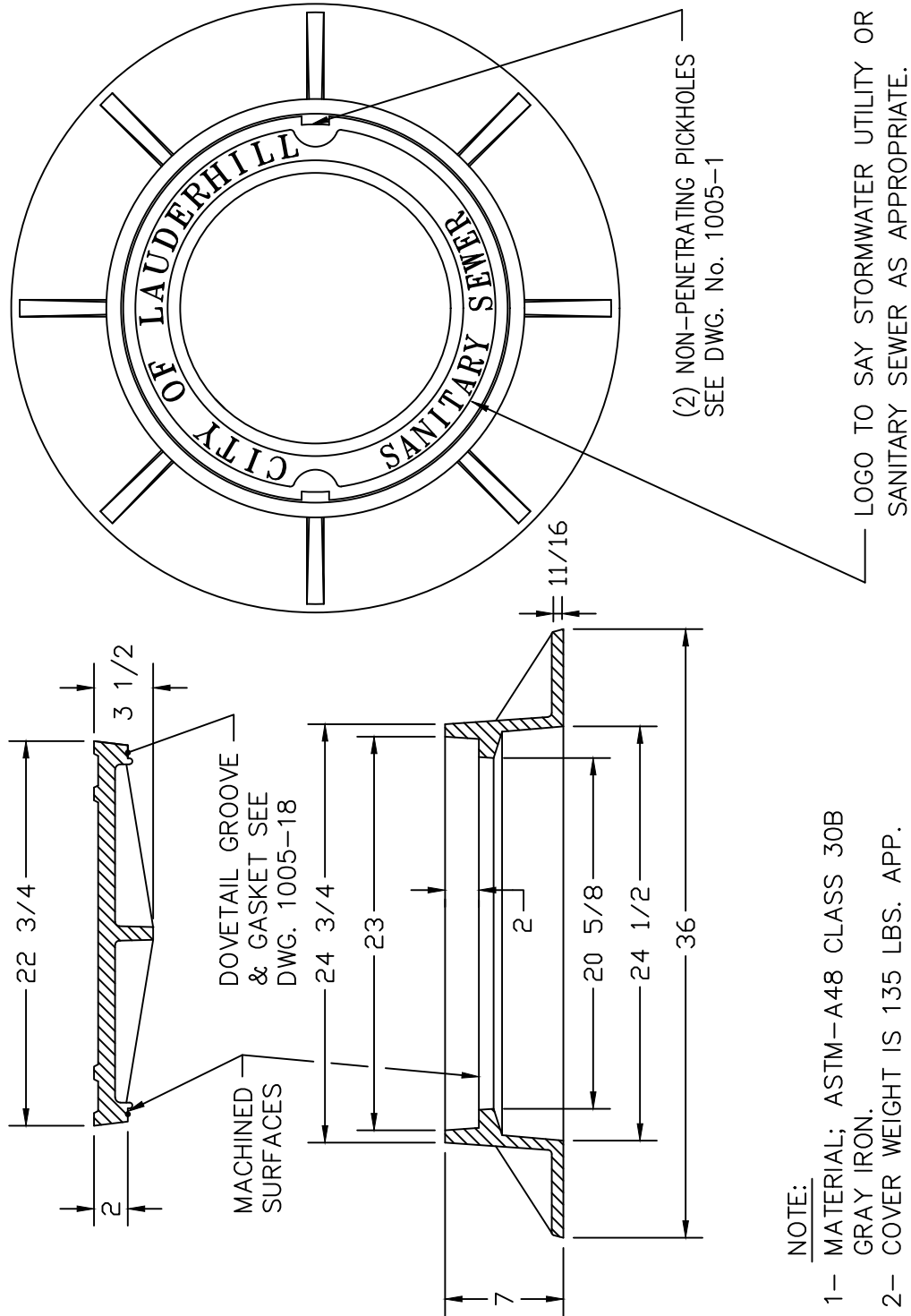
SEPT. 18

STANDARD SEWER DETAIL

PRECAST OUTSIDE

DROP MANHOLE

S-8



NOTE:

- 1- MATERIAL; ASTM-A48 CLASS 30B
GRAY IRON.
- 2- COVER WEIGHT IS 135 LBS. APP.
- 3- RING WEIGHT IS 240 LBS. APP.
- 4- MANHOLE COVER IS USF TYPE XC-B

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

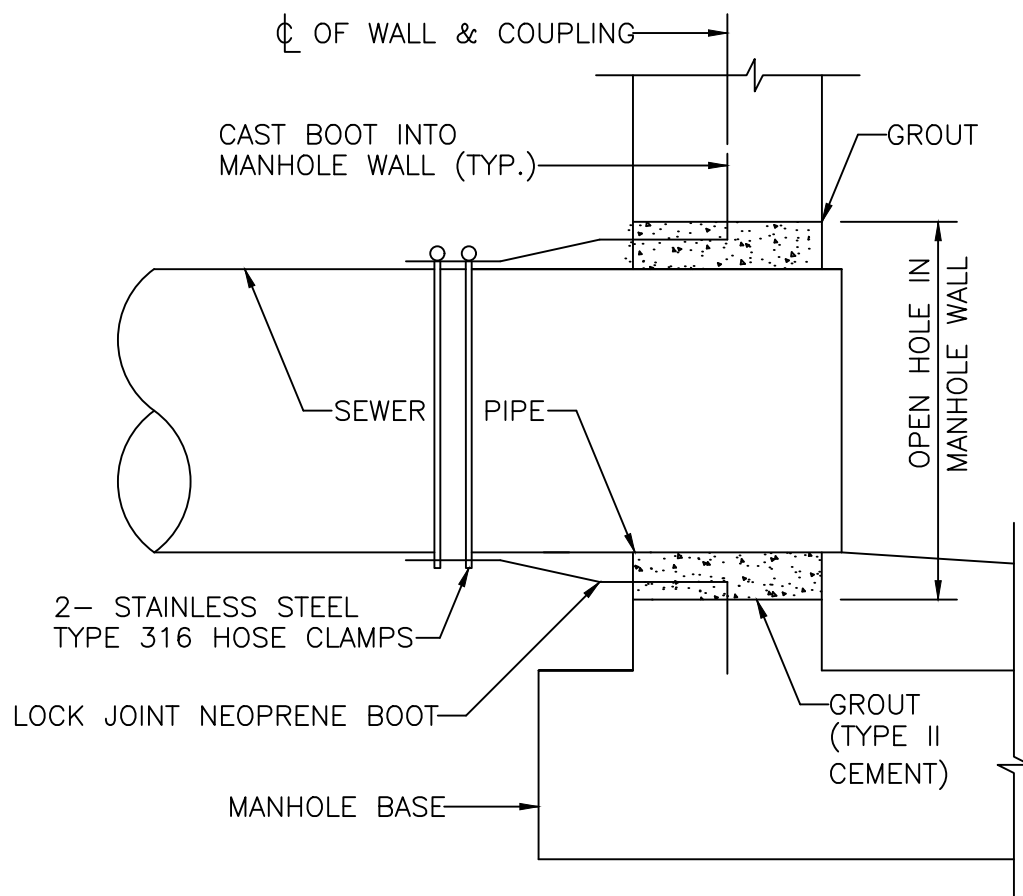
N.T.S.

REVISED:

SEPT.18

STANDARD SANITARY
SEWER DETAIL
MANHOLE
FRAME AND COVER

S-9



CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

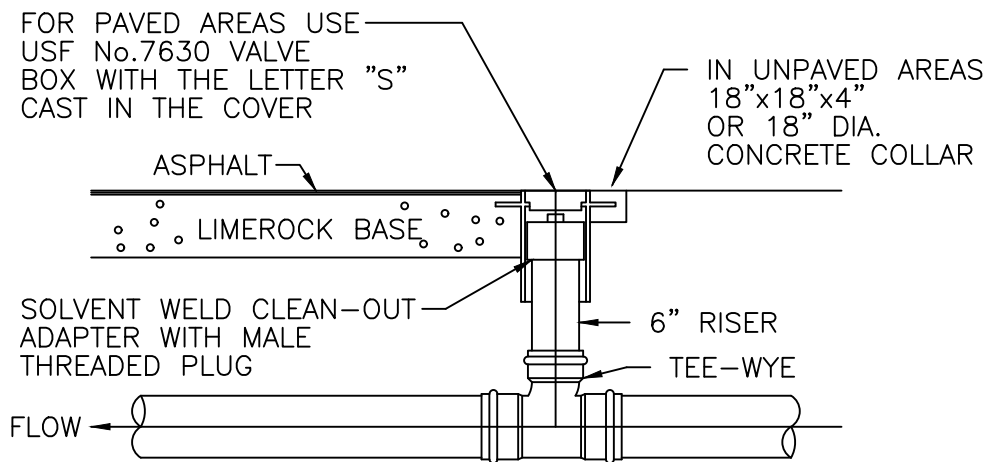
N.T.S.

REVISED:

SEPT.18

STANDARD SANITARY
SEWER DETAIL
MANHOLE COUPLING DETAIL

S-10



NOTE:

ROUGH IN RISER TO 1 FOOT ABOVE FINISHED
GRADE, AND CAP. CUT BACK TO FINISHED
GRADE AFTER PROJECT CLOSE-OUT.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

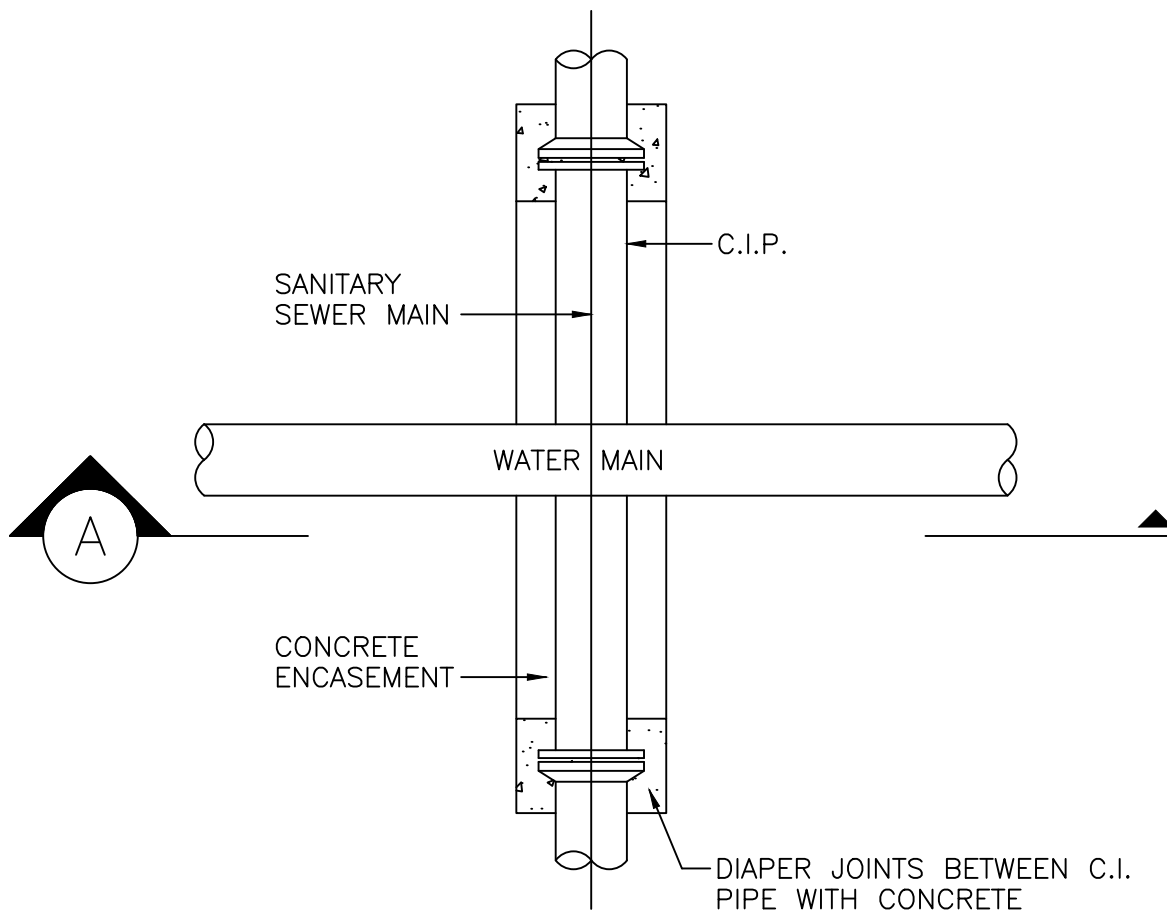
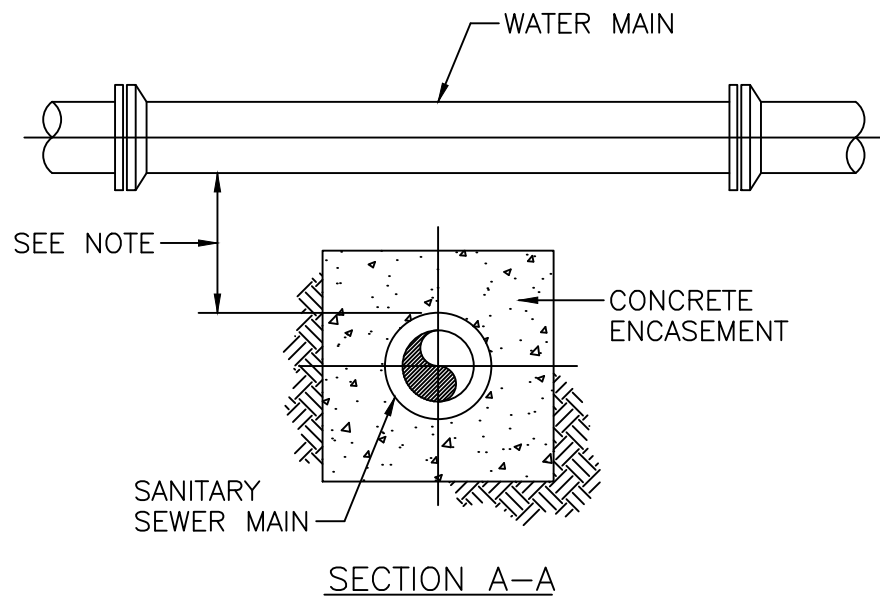
N.T.S.

REVISED:

SEPT.18

STANDARD SANITARY
SEWER DETAIL
CLEANOUT

S-11



NOTE:

CONCRETE ENCASEMENT OF PIPE REQUIRED WHERE
VERTICAL CLEARANCE BETWEEN SEWER MAIN AND
WATER MAIN IS LESS THAN 18 INCHES.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

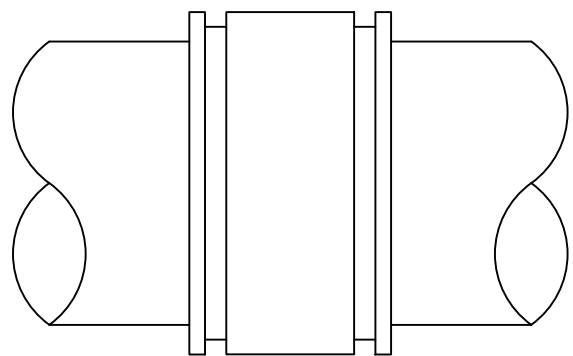
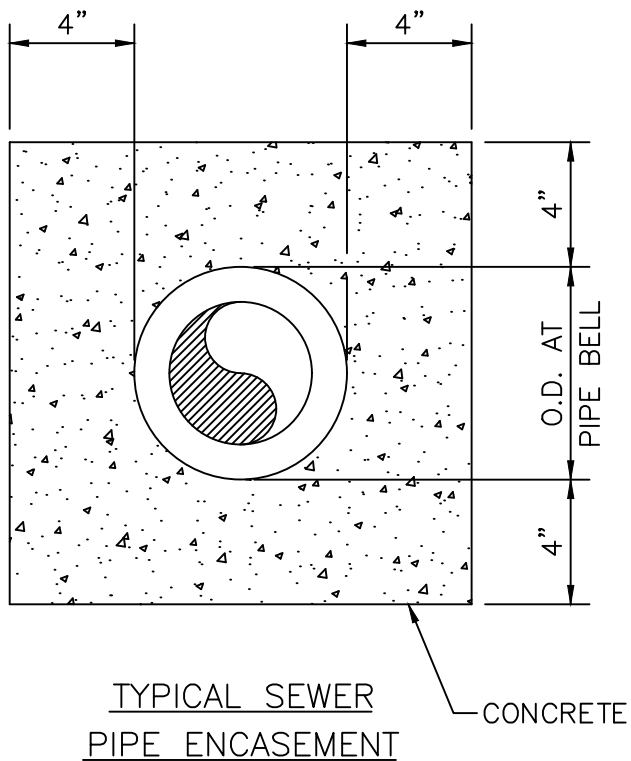
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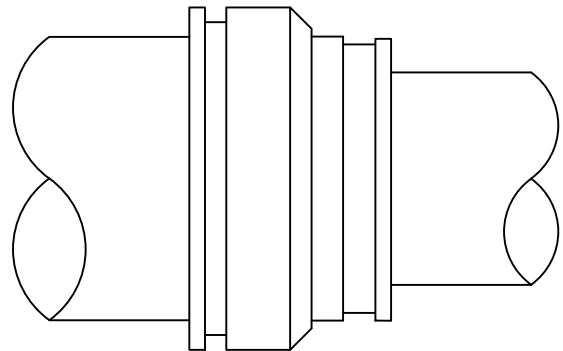
SEPT. 18

STANDARD SANITARY
SEWER DETAIL
ENCASEMENT DETAIL

S-12



FELXIBLE COUPLINGS



FERNCO FLEXIBLE REDUCER COUPLING

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

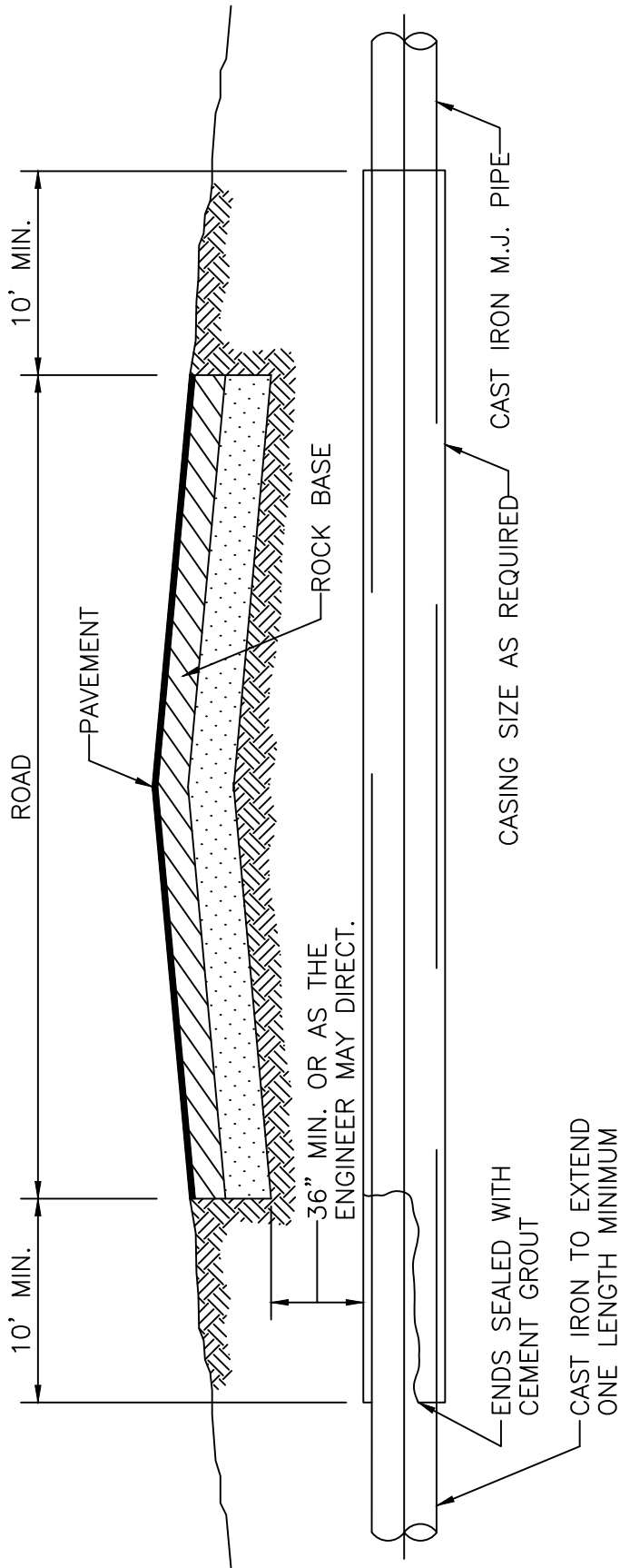
N.T.S.

REVISED:

SEPT.18

STANDARD SANITARY
SEWER DETAIL
PIPE ENCASEMENT

S-13



PIPE SIZE	OUTSIDE DIA. SPIGOT JOINT	OUTSIDE DIA. MECH. JOINT	SCHEDULE 60 STEEL CASING
8"	12.75	13.37"	16"
10"	14.38	15.62"	18"
12"	17.25	17.88"	20"
14"	19.62	20.25"	24"
16"	22.00	22.50"	24"
18"	23.75	24.75"	30"
20"	26.30	27.00"	30"
24"	30.50	31.50"	36"
30"	37.50	39.12"	42"
36"	43.75	46.00"	48"
42"	49.00	53.12"	54"
48"	55.50	60.00"	72"

NOTE:

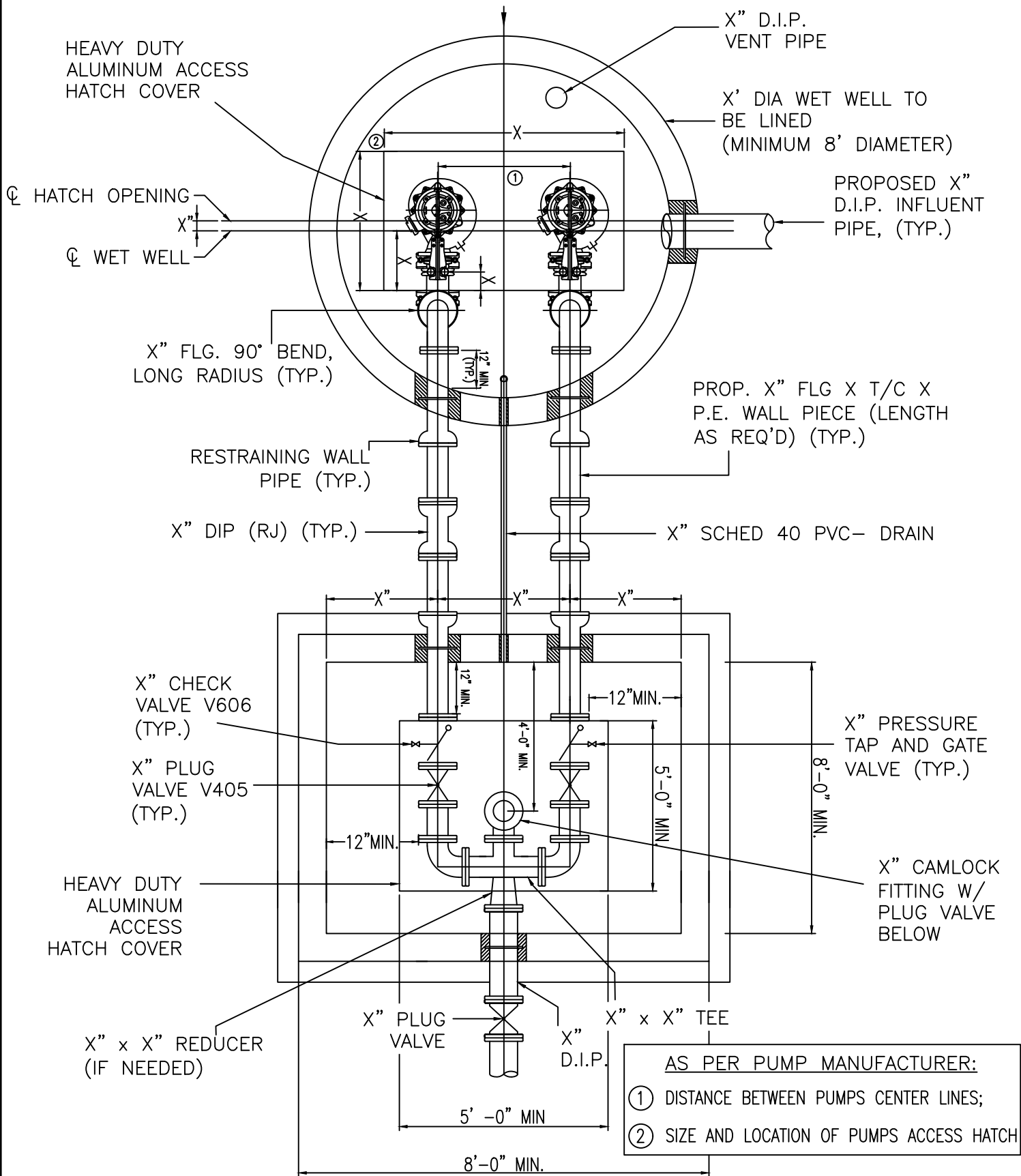
1. NORMALLY CASING PIPE IS 6" LARGER THAN O.D. OF BELL OF C.I. PIPE.

CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:
N.T.S.
REVISED:
SEPT.18

STANDARD DETAIL
SANITARY SEWER
SYSTEM
CASING INSTALLATION

S-14

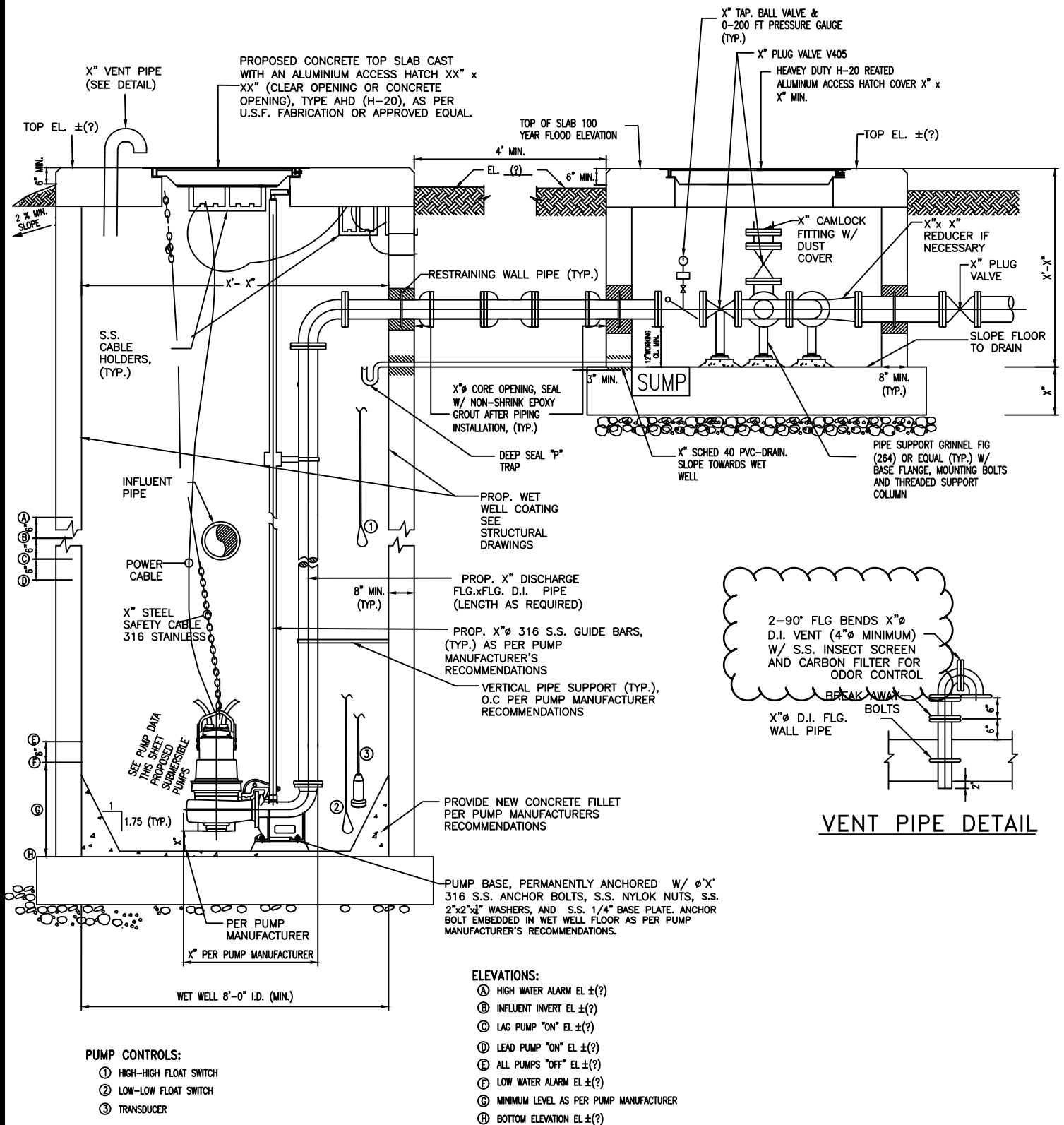


CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:
N.T.S.
REVISED:
SEPT.18

STANDARD SANITARY
SEWER DETAIL
WET WELL PLAN

S-15



CITY OF LAUDERHILL
ENGINEERING DEPARTMENT
LAUDERHILL, FLORIDA

SCALE:

N.T.S.

REVISED:

SEPT.18

STANDARD SANITARY
SEWER DETAIL
WET WELL SECTION

S-16

NOTES:

- 1). ALL PUMPS SHALL BE EXPLOSION PROOF
- 2). CONTRACTOR SHALL VERIFY EXISTING UNDERGROUND UTILITIES IN APPLICATIONS, ELEVATIONS, AND QUALITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL VERIFY EXISTING PIPING TO REMAIN BEFORE ORDERING NEW PIPE AND FITTINGS FOR CONNECTIONS. THE CONTRACTOR SHALL INSPECT AND VERIFY ALL SITE CONDITIONS, DIMENSIONS, ELEVATIONS ETC. AND COORDINATE WITH OTHER TRADES PRIOR TO CONSTRUCTION. WORK SHALL BE SCHEDULED ACCORDING TO SPECIFIED CONSTRUCTION SEQUENCE.
- 3). PAY ATTENTION TO AVOID DISTURBING EXISTING ELECTRICAL SERVICE IN THE AREA UNDER CONSTRUCTION (FOR EXISTING FACILITIES ONLY).
- 4). ALL ELEVATIONS FOR UNDERGROUND UTILITIES SHOWN ARE T.O.P. ELEVATIONS UNLESS OTHERWISE SPECIFIED.
- 5). ALL PIPING, UNLESS SPECIFIED, TO USE DUCTILE IRON WITH LINING OF SEWER APPLICATION. FITTINGS AND CONNECTIONS UNDERGROUND TO USE MECHANICAL JOINT WITH RESTRAINTS; FITTINGS ABOVE GROUND OR IN VAULT TO USE FLANGE JOINT.
- 6). PROTECT ALL UNDERGROUND FITTING WITH BOLT CONNECTIONS IN DIRECT CONTACT WITH SOIL WITH TWO COATS OF BITUMASTIC MATERIAL OR APPROVED EQUAL. PROVIDE DIELECTRIC FITTINGS BETWEEN TWO DIFFERENT PIPING MATERIALS.
- 7). PIPE SUPPORTS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- 8). PROPOSED WET WELL SHALL BE CYLINDRICAL TYPE MADE OF REINFORCED CONCRETE WITH DEPTH NO GREATER THAN 24 FEET.
- 9). PROVIDE SPARK-PROOF CONTACT BETWEEN PUMPS AND GUIDE RAIL SYSTEM.
- 10). ALL PUMP CONTROLS SHALL BE SET AS PER DESIGN REQUIREMENTS.

PUMP DATA:

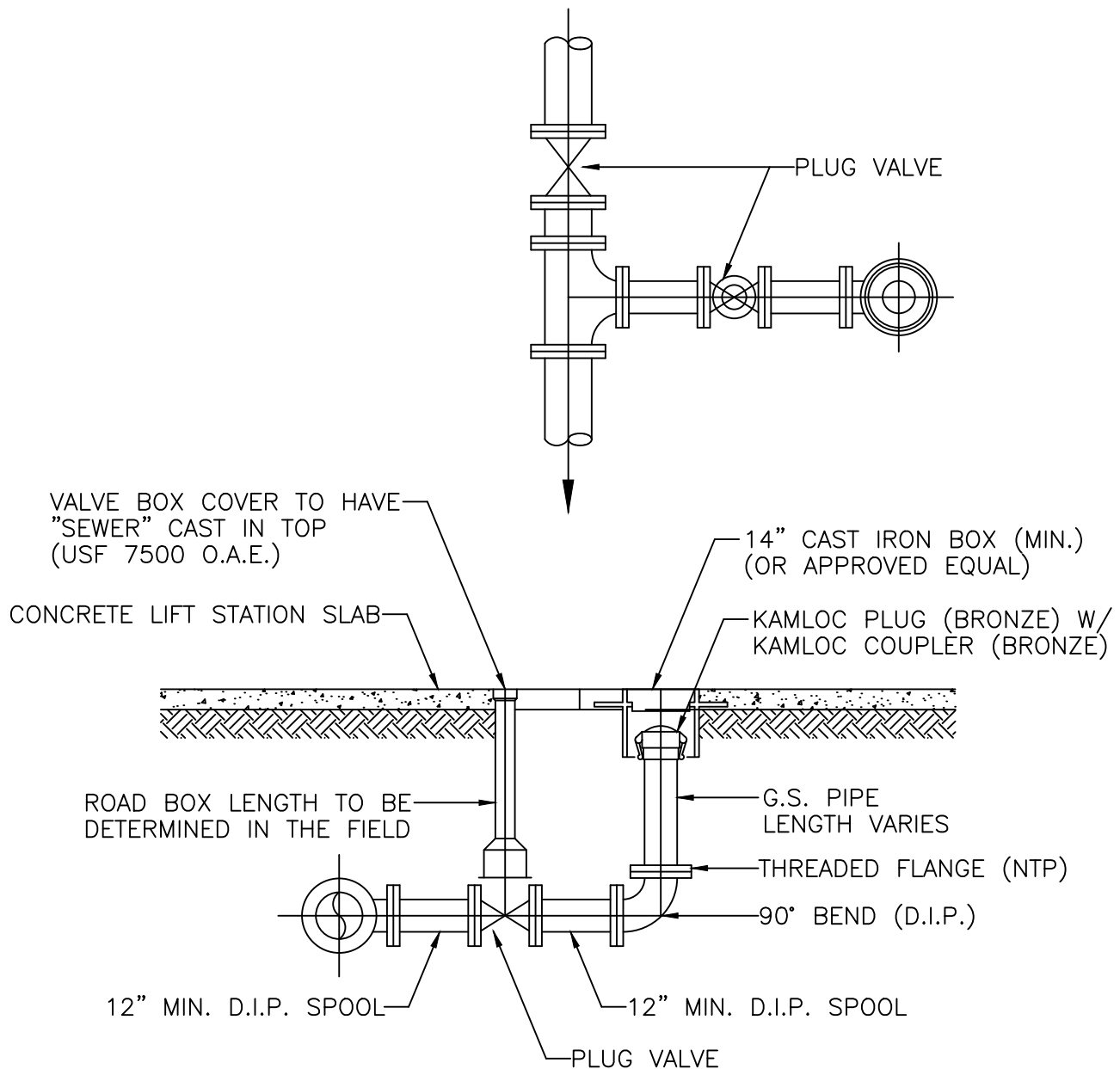
FLUID		RAW SEWAGE
INSTALLATION LOCATION		ADDRESS:
PUMP TYPE	SUBMERSIBLE PUMP	
RATED POINT	CAPACITY, GPM	???
	TDH, FEET	???
SHUT OFF HEAD, FT		???
CONTINUOUS OPERATING RANGE	MAXIMUM TDH, FT	???
	CAPACITY, GPM	???
	MINIMUM TDH, FT	???
	CAPACITY, GPM	???
	NPSHR, FT	???
	PUMP EFFICIENCY	AT B.E.P., % MIN. @ RUNOUT, % ???
PUMP CONSTRUCTION	CASING	CAST IRON CLASS 35B
	IMPELLER	CAST IRON CLASS 35B
	SHAFT	AISI 420 S.S.
	BEARINGS L-10 LIFE, HRS.	???
	MAX. SHAFT DEFLECTION IN OPERATING RANGE, MILS	2
	MAX. VEL. OF VIBRATIONS IN OP. RANGE, INCH/SEC	0.15
	SUCTION, INCHES	-
	DISCHARGE, INCHES	???
ELECTRIC MOTOR	RATED HP	???
	RPM	???
	VOLTS/PHASE/Hz/S.F.	???
	AMBIENT TEMP. FOR MOTOR RATING, °C	40
	MAXIMUM TEMP. RISE, °C	40
	BEARINGS L-10 LIFE, HRS.	???
	MAX. VIBRATION AMP., MILS	0.1
	NOISE LEVEL, dB@1 METER	-
	NEMA DESIGN CODE LETTER	B
	START. CURR. LETTER CODE	G
	INSULATION CLASS	H
	MOTOR RATED HP NOT OVERLOADED AT ANY POINT IN THE PUMPS PERFORMANCE CURVE	
	MANUFACTURERS & MODELS	PUMP ??? MODEL ???; ??? IMPELLER MOTOR ???

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REVISED:
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STANDARD SANITARY
SEWER DETAIL
WET WELL NOTES

S-17



NOTES:

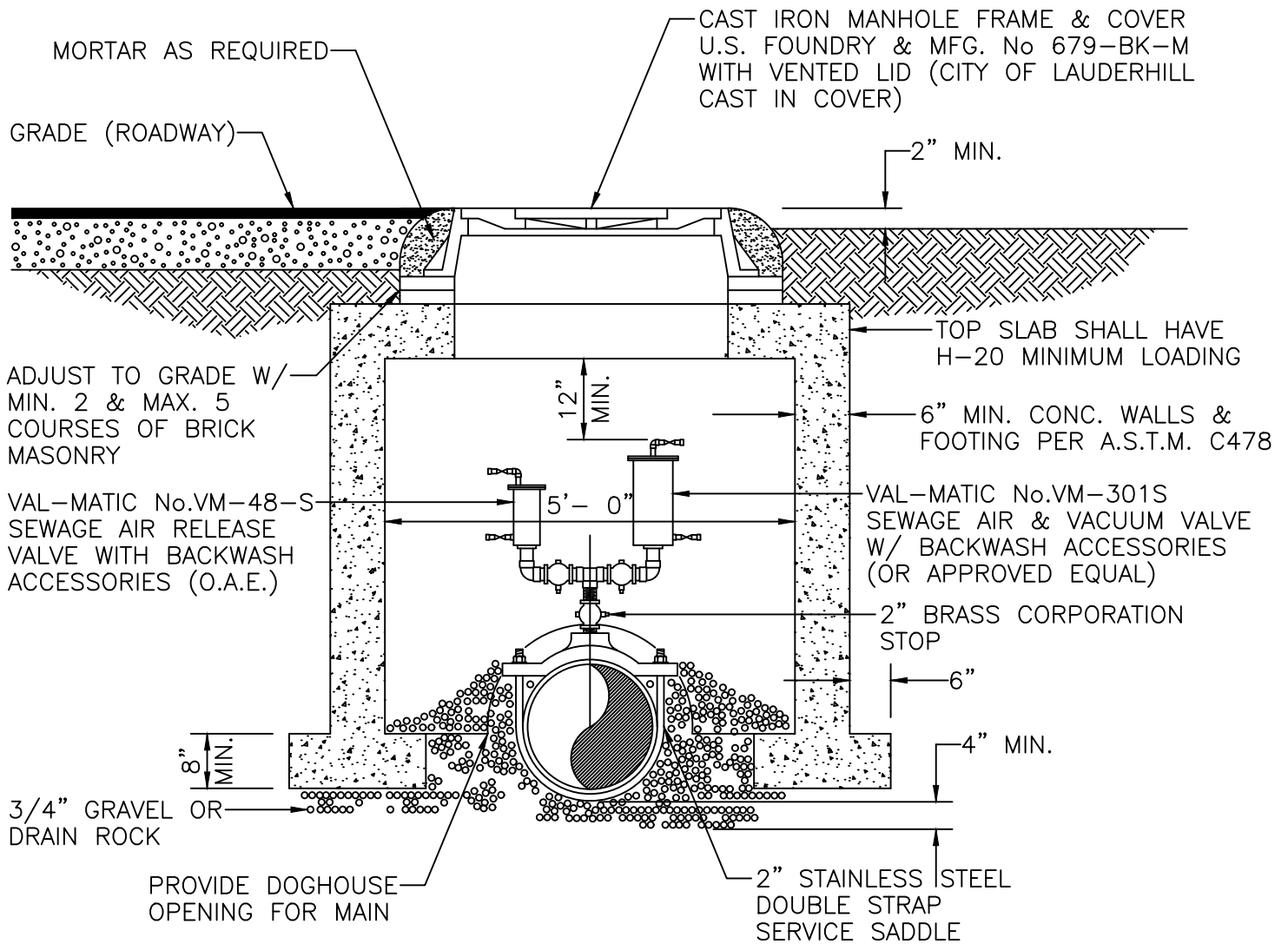
1. MECHANICAL JOINT PIPE WITH TIE RODS OR RESTRAINED JOINTS MAY BE USED WITH THE APPROVAL OF THE UTILITY ENGINEER.
2. EMERGENCY BY-PASS PIPING SHALL BE 6" (MINIMUM).

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SCALE:
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STANDARD SANITARY
SEWER DETAIL
LIFT STATION
EMERGENCY BY-PASS

S-18



NOTES:

1. INSIDE DIAMETER OF MANHOLE SHALL BE 6'- 0" IF FORCE MAIN IS LARGER THAN 24" DIAMETER.
2. PRECAST CONCRETE MANHOLE ENCLOSURE WITH DOG-HOUSE TYPE OPENINGS AND NO BOTTOM.
3. ACTUAL LOCATION OF MANHOLE SHALL BE DETERMINED BY ENGINEER IN THE FIELD.
4. PAINT INTERIOR WITH 2 COATS, AND EXTERIOR WITH 1 COAT OF COAL TAR EPOXY.

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LAUDERHILL, FLORIDA

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SEPT. 18

STANDARD SANITARY
SEWER DETAIL
AIR RELEASE VALVE

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