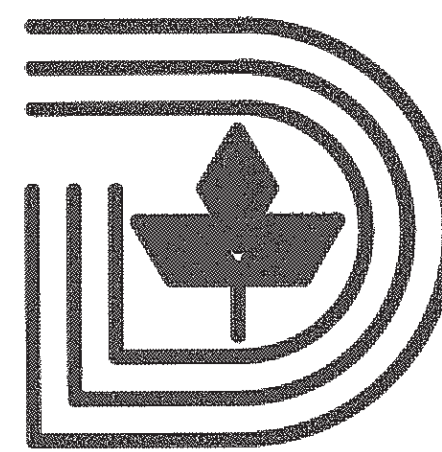


WATER AND WASTEWATER MAIN REPLACEMENT SPRING VALLEY ROAD from COIT ROAD to GOLDMARK DRIVE

GENERAL

- All work shall be done in accordance with Specifications Included in the Dallas Water Utilities contract documents.
- All existing utilities are shown at approximate locations and depths are based on the best available records and limited field data. The Engineer does not certify that all utilities are shown. The Contractor shall verify exact locations, sizes and depths of existing utilities before beginning construction (including ordering pre-cast manholes and concrete pipe if applicable). NO SEPARATE PAY ITEM.
- The Contractor shall coordinate all tie-ins with the on-site City of Dallas Inspector.
- The Contractor shall ensure that existing fire hydrants are accessible to fire trucks at all times.
- CAUTION!** Existing underground utilities involved. Call DIG TESS at 1-800-344-8377, 48 hours prior to construction for the location of any underground utilities involved in the area. NO SEPARATE PAY ITEM.
- The Contractor is responsible for the protection of ALL existing utilities and utility structures. Power poles may have to be braced at Contractor's expense. Contractor shall support underground utilities when excavating or constructing under such utilities. NO SEPARATE PAY ITEM.
- Reference to Standard Drawings shall mean those shown in the Dallas Water Utilities Standard Drawings for Water & Wastewater Construction (latest edition).
- All items of work required to complete the work as shown or implied by the plans and specified in the Contract Documents which are not listed as a pay item in the proposal shall be considered incidental.



Dallas Water Utilities City Of Dallas, Texas Contract Number: 15 - 029/030F JUNE, 2015

WATER DESIGN

- The existing water line is to be used as a service line until the proposed main has been tested, approved and placed in service.
- Abandon all valves on abandoned water mains as per DWU Standard Drawing 219. NO SEPARATE PAY ITEM.
- The contractor shall salvage fire hydrants and deliver them to 2901 Municipal Street, Monday thru Friday between 8:00 a.m. and 4:00 p.m. Contact Lindell Gaskey or Juan Nino at 214-670-8970; 24 hours prior to delivery.
- All bends, tees, fire hydrants and plugs shall be restrained type fittings. Compact fittings shall not be used. All bends shall be blocked with Class 'B' concrete as per DWU Standard Drawing pp.229-234. All fire hydrants shall be installed per DWU Standard Drawing 224. Polywrap shall be used on all cast iron fittings and fire hydrant bases.
- All water services are to be replaced from the proposed water main to the meter clearing all existing and proposed utilities and pavement. Relocate and reset all water meters as required and reconnect to existing house services. Install water deadheads to unimproved lots.
- Fire hydrant leads and barrels shall be set to grade established for the proposed paving. If the hydrant is not accessible because of existing ground conditions, the hydrant shall be raised with extension (s) as directed by the owner.
- All R.C.C.P. water mains shall be installed with bonded joints. All DJ pipe and fittings shall be polywrapped. All flanged connections are to be insulated as per DWU Standard Drawing 223.
- The Contractor shall sequence his construction such that no more than one fire hydrant is out of service at any given time.
- Backfill made on break repairs to existing water mains may have been made with crushed rock. This could present a cave-in danger to a new ditch, therefore precautions should be taken by the Contractor. NO SEPARATE PAY ITEM.
- If required by the City of Dallas Inspector, the Contractor shall install temporary water lines until the new water mains have been completed, tested, approved, and accepted by DWU. NO SEPARATE PAY ITEM.
- Water services greater than 30 feet shall be a minimum of 1 inch in diameter.

WASTEWATER DESIGN

- The Contractor shall verify the location of all wastewater laterals and construct new laterals from the wastewater main to the property line with cleanouts and reconnect to the existing laterals for all existing buildings. Deep cut connections may be required.
- The Contractor shall maintain existing wastewater service and flow at all times. NO SEPARATE PAY ITEM.
- Prior to reconnection of wastewater laterals, the Contractor shall verify whether the existing lateral is active or inactive. The Contractor is required, as a minimum, to include T.V. survey and perform dye testing. All laterals determined to be inactive shall not be reconnected. The DWU Construction Superintendent shall approve all laterals targeted for reconnection. NO SEPARATE PAY ITEM.
- The Contractor shall verify the location of all wastewater laterals and reconnect approved, active laterals to the existing lateral.
- The backfill around manholes located in existing or proposed pavement shall be flowable backfill as per NCTCOG Specifications Items 504.6.6 and 504.2.3.4. NO SEPARATE PAY ITEM.
- Removal of existing MH's, Wastewater Access Devices and Cleanouts is considered incidental unless noted otherwise.

PAVING REPLACEMENT

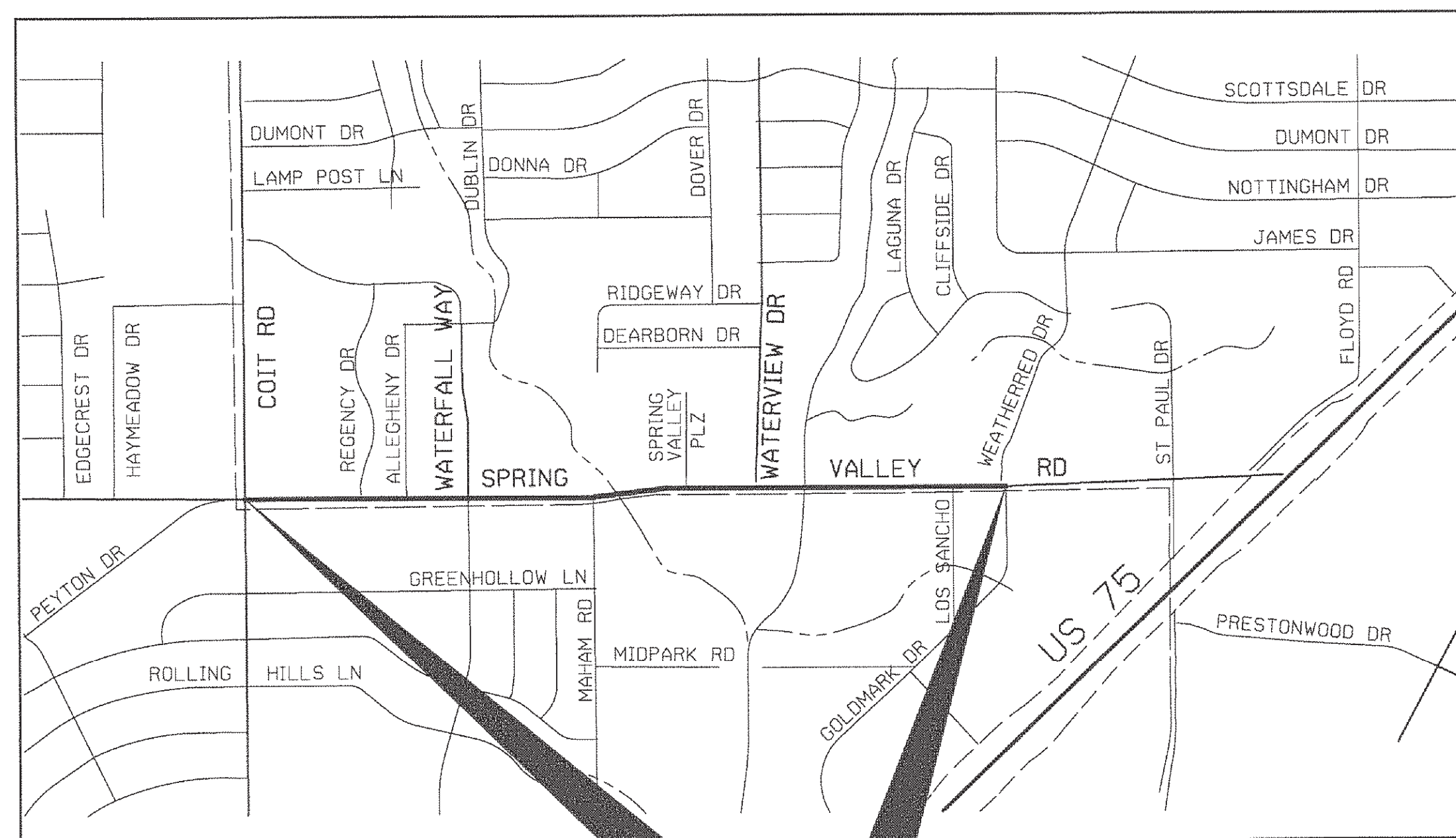
- For proposed paving, bridge and drainage plans in Spring Valley Road from Coit Road to Goldmark Drive, see County Of Dallas 15801-Sheets 1 to 34 and attachments.
- Temporary paving shall be used over all street, drive and sidewalk cuts (AND TRENCH) within proposed paving limits. Permanent paving shall be used outside proposed paving limits.
- For all construction performed outside paving limits, the contractor will be required to make paving repairs in strict accordance with the City of Dallas Pavement Cut and Repair Standards Manual (latest edition) and the City of Richardson Requirements.

TRAFFIC CONTROL

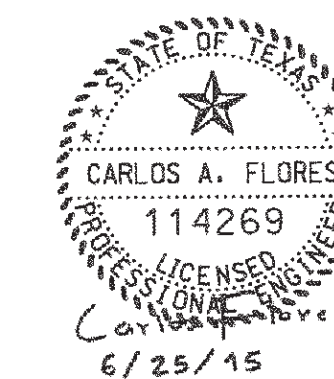
- The Contractor shall provide for the diversion of pedestrians and vehicles during the progress of work in a satisfactory manner to the on-site City of Dallas Inspector and in accordance with the City of Dallas Traffic Barricade Manual, latest edition. NO SEPARATE PAY ITEM.
- The Contractor is responsible for coordinating all new water and wastewater construction with the traffic control plan. Supplemental traffic control needed for the water and wastewater construction shall meet TxDOT traffic control standards. NO SEPARATE PAY ITEM.
- The Contractor shall maintain vehicular traffic ingress and egress properly at all times.
- The Contractor shall replace any pavement markings and signs that are removed or damaged during construction. NO SEPARATE PAY ITEM.

EXTRA NOTES

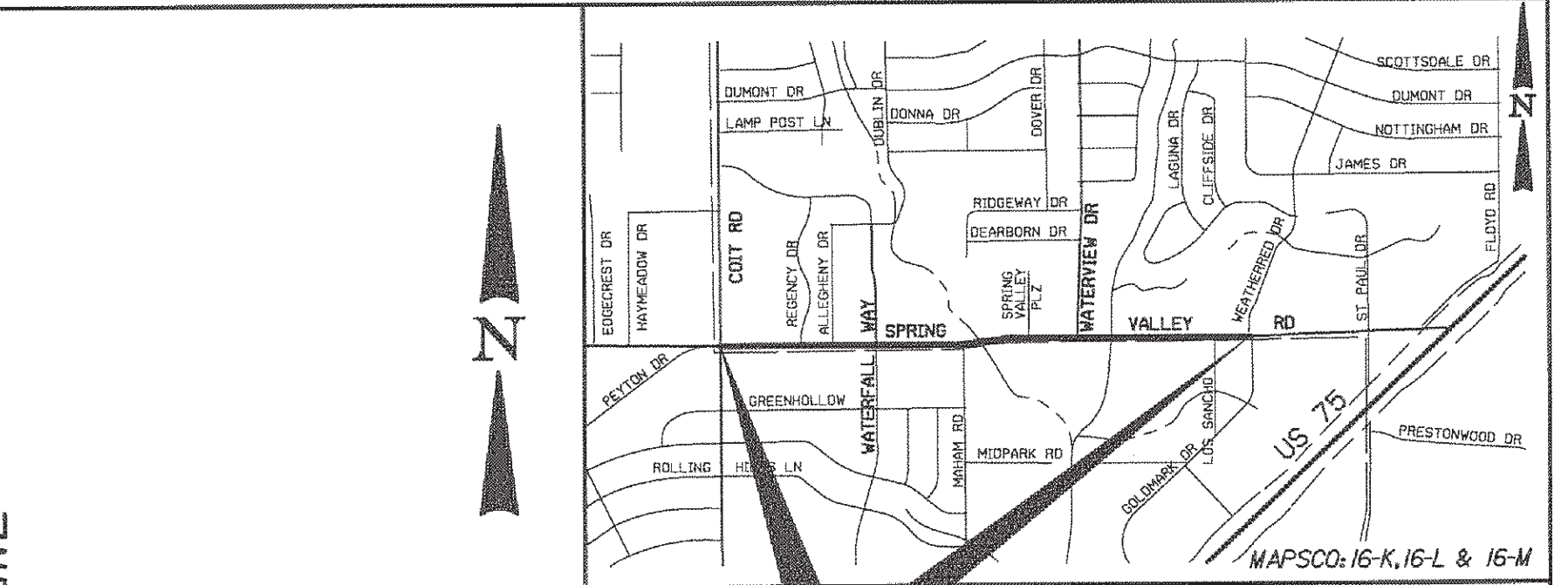
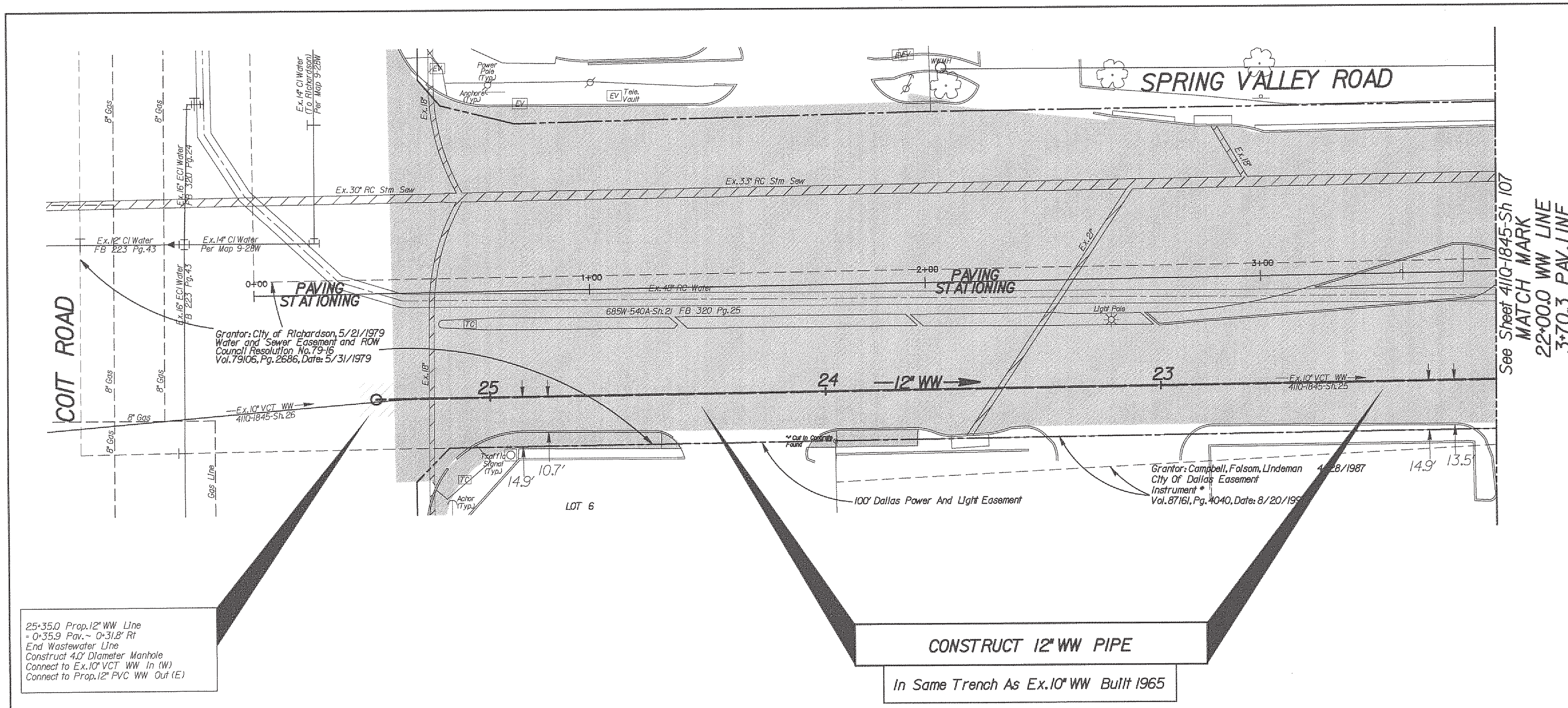
- Shut down of water mains 24" and larger shall ONLY be done during winter months of October 1st thru April 1st. Actual time shall be determined by the DWU Construction Engineer.
- Construct wastewater lateral cleanouts and water meter boxes in the proposed sidewalks where applicable.
- All existing culverts and ditches are to be restored satisfactory to the construction engineer. NO SEPARATE PAY ITEM.
- The Contractor shall provide water services with deadheads and wastewater laterals with cleanouts to all unimproved lots.
- All proposed water mains shall be PVC C900 (DR-14) Class C Embedment, except as noted on the plans.
- All water mains with no profile shall have a minimum cover as follows: 6", 8", 10", and 12" - 48" below finished street grade or 72" below unimproved grade.
- Abandon all manholes on abandoned wastewater mains per DWU Standard Drawing 316.
- Construction ditches in the traffic lanes are to be backfilled or plated after each construction period.
- The Contractor shall not damage or remove any trees or landscaping unless otherwise authorized by the City of Dallas Inspector. Any trees or landscaping that are damaged or removed during the construction shall be replaced by the contractor at his expense.
- Contractor to coordinate the tie ins to the transmission mains with the City of Dallas on-site Inspector and Distribution Division 48 hours in advance.
- Contractor to verify the position of the transmission main flange outlets before tying in. Reference Drawings *63-186-L and 63-57-V.
- Contractor to backfill the space between the proposed water and wastewater lines and the existing storm sewer laterals with flowable backfill. No Separate Pay Item.
- When a proposed wastewater main crosses a water main, the wastewater main shall be centered between the joints of the water main. The wastewater main shall be embedded in cement stabilized sand for the total of one length of one pipe segment plus 12 inches beyond the joint on each end.
- Contractor to relocate the blow off pipe from the 48-inch RC Water Main at Hunt Branch and/or any of its air valves along its alignment in case they conflict with proposed improvements. No Separate Pay Item.



Project Location
Not to Scale



411Q-1845-Sheet 105



- PAVEMENT LEGEND**
- PAVEMENT BY DWU
 - PAVEMENT BY OTHERS
 - DRIVEWAY BY OTHERS
 - MEDIAN BY OTHERS

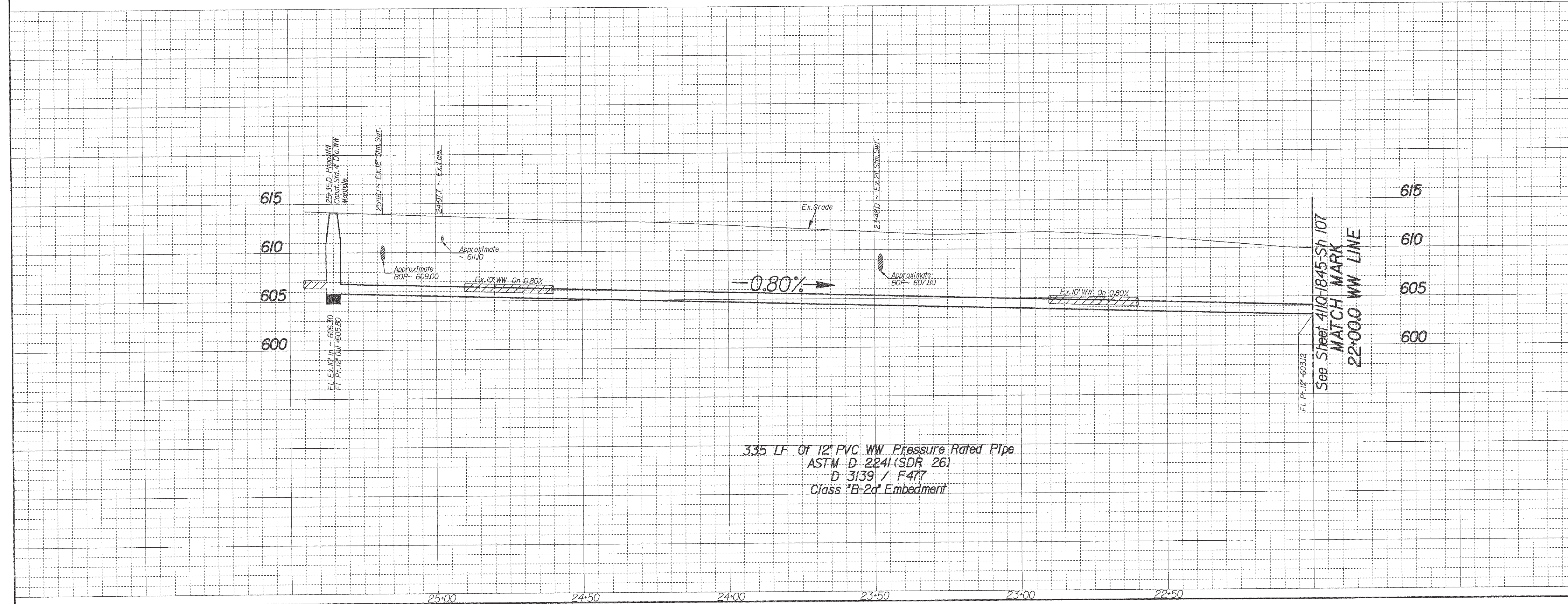
- CAUTION ~ FIBER OPTIC !**
Underground Fiber Optic Cables In Area Contact Fiber Optic Co. Two Working Days Prior To Construction. Tel: 1-800-344-8377
- CAUTION ~ GAS !**
Underground Gas Main In Area Contact AT&T Energy Corp. Two Working Days Prior To Construction. Tel: 1-800-344-8377/1-800-545-6005
- CAUTION ~ TELEPHONE !**
Underground Telephone Cables In Area Contact S.B.C. Two Working Days Prior To Construction. Tel: 1-800-344-8377
- CAUTION ~ POWER !**
Underground Electrical Cables In Area Contact TXU Two Working Days Prior To Construction. Tel: 1-800-344-8377

25'-35.0 Prop. 12" WW Line
- 0'-35.9 Pav. - 0'-31.8' Rt
End Wastewater Line
Construct 40" Diameter Manhole
Connect to Ex. 10" VCT WW In (W)
Connect to Prop. 12" PVC WW Out (E)

CONSTRUCT 12" WW PIPE
In Same Trench As Ex. 10" WW Built 1965

Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey

Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item



335 LF. Of 12" PVC WW Pressure Rated Pipe
ASTM D-2241 (SDR 26)
D 3139 / F 477
Class "B-2d" Embedment

REV. NO.	DATE	DESCRIPTION	BY
REVISIONS			
BENCHMARKS & CONTROL POINTS			
DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Haymeadow Drive: A standard Water Department Bench Mark on concrete curb on the northwest corner of the Intersection. Elevation: 625.28' DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek: A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevation: 581.85' DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive: A square is cut on concrete curb at parking lot of Lowes Theatre, On the south side of Spring Valley Road, 1369' west of centerline of St. Paul Drive. Elevation: 509.92' DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive: A square is cut on concrete curb at parking lot of Lowes Theatre, On the south side of Spring Valley Road, 148' west of centerline of St. Paul Drive. Elevation: 612.82'			
Horizontal Scale: 1" = 20' 			
Vertical Scale: 1" = 6' 			
REFERENCES			
WATER 9-28W, 9-29W & 10-30W			
WASTEWATER BH H-3 & BH H-4			
CONTRACT NO. 15-029/030F			
PROP. 8" WATER & 12" WW MAINS			
SPRING VALLEY ROAD			
FROM COIT RD. TO GOLDMARK DR.			
DALLAS WATER UTILITIES			
CITY OF DALLAS, TEXAS			
DESIGN	DRAWN	DATE	FILE
C. Flores	C. Flores	June 2015	411Q
			NUMBER
			1845
			SHEET
			106

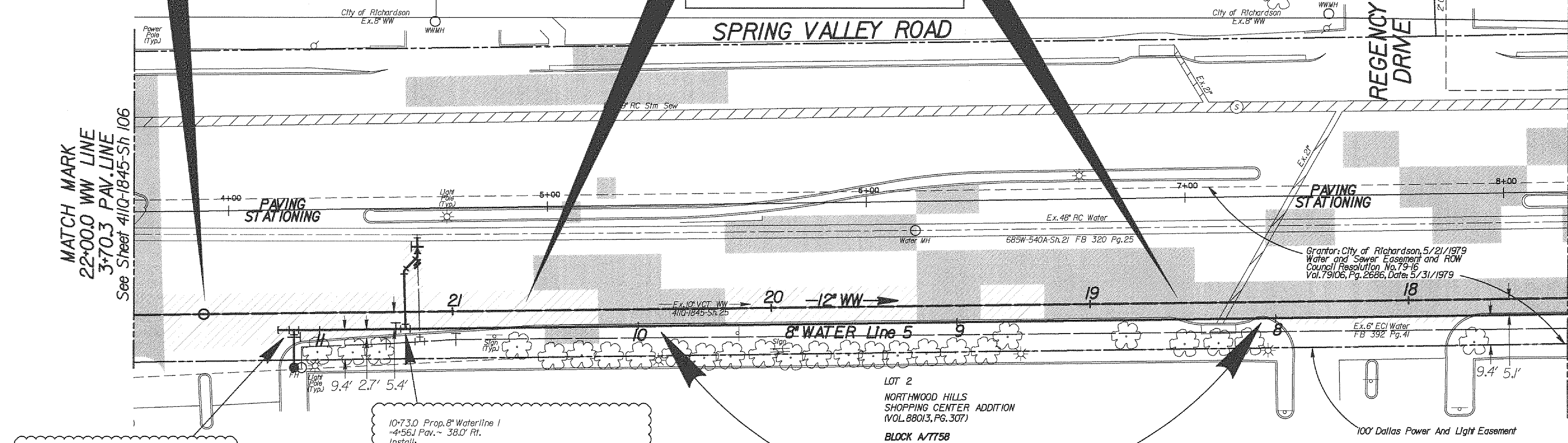
21-78.0 Prop. 12" WW Line
 - 3-91.8 Pav. ~ 32.5' Rt.
 Construct 4.0' Diameter Manhole
 Connect to Prop. 12" PVC WW In (W)
 Connect to Prop. 12" PVC WW Out (E)

(VOL. 7510, PG. 1757)

CONSTRUCT 12" WW PIPE
 In Same Trench As Ex. 10" WW Built 1965
SPRING VALLEY ROAD

PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS



MATCH MARK
 22+00.0 WW LINE
 3+70.3 PAV. LINE
 See Sheet 410-1845-Sh 106

See Sheet 410-1845-Sh 108
 MATCH MARK
 17+50.0 WW LINE
 7+08.3 WATER LINE 5
 8+20.3 PAV. LINE

11-08.0 Prop. 8" Waterline I
 - 4-20.1 Pav. ~ 37.8' Rt.
 Begin Waterline I
 Remove & Salvage Ex. FH
 Install:
 1 - 8" Blind Flange Plug (W)
 1 - 8" X 6" Tee (S)
 1 - 6" Valve (S)
 1 - Fire Hydrant (10-08.0)
 As Per DWU Std. Dwg. #224
 12 LF 8" PVC C900 (DR-14) Water Pipe -
 With Class "C" Embedment

10-73.0 Prop. 8" Waterline I
 - 4+56.1 Pav. ~ 38.0' Rt.
 Install:
 1 - 8" Valve (W)
 1 - 8" X 8" Tee (N)
 2 - 8" X 45" H. Bends
 1 - 8" X 6" Reducer
 1 - 6" Valve
 31 LF 8" PVC C900 (DR-14) Water Pipe -
 With Class "C" Embedment
 Remove Existing 6" Valve at 6" Flange Out (N)
 No Separate Pay Item
 Connect to Existing 48" RC Water at 6" Flange Out (N)
 No Separate Pay Item
 Cut & Plug Existing 8" Water Main
 No Separate Pay Item

INSTALL 8" WATER PIPE
 KIII Ex. 6" Water Built 1968

Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey.

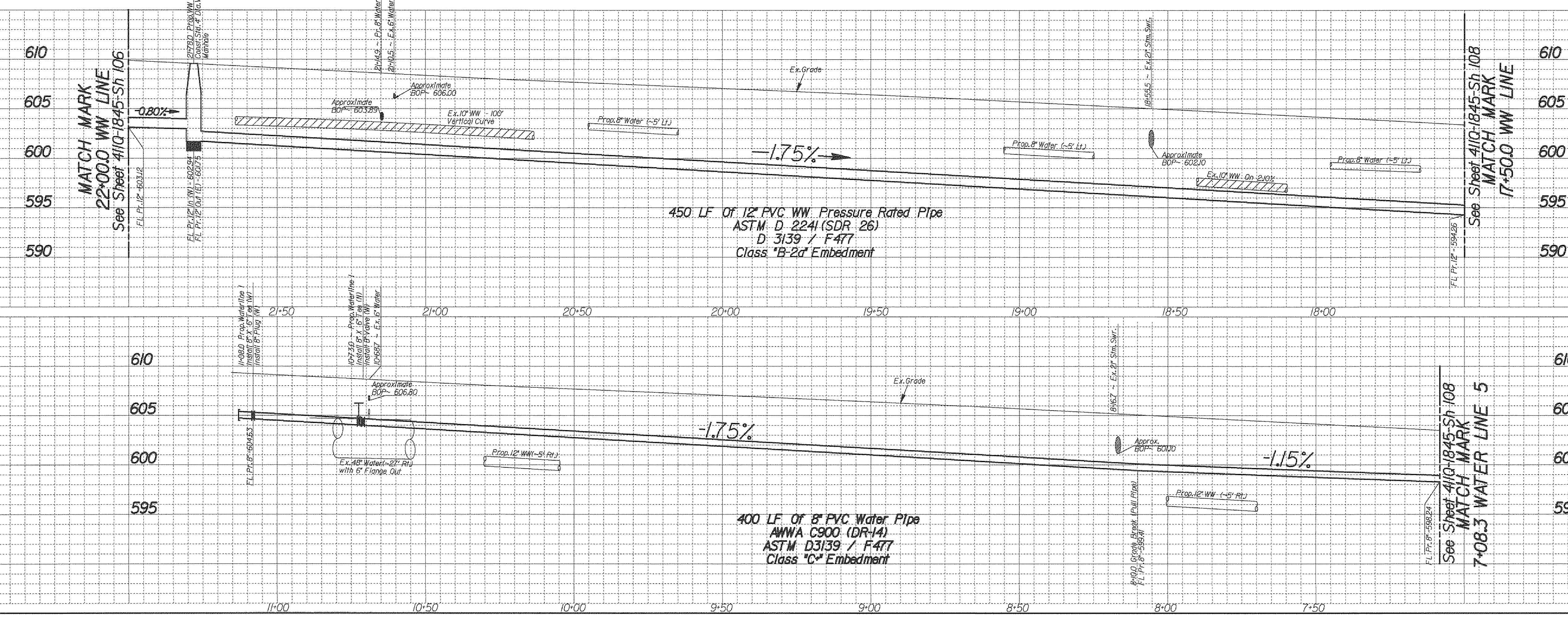
Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item.

CAUTION ~ FIBER OPTIC !
 Underground Fiber Optic Cables In Area Contact Fiber Optic Co. Two Working Days Prior To Construction. Tele: 1-800-344-8377

CAUTION ~ GAS !
 Underground Gas Main In Area Contact AT&S Energy Corp. Two Working Days Prior To Construction. Tele: 1-800-344-8377/1-800-545-6005

CAUTION ~ TELEPHONE !
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CAUTION ~ POWER !
 Underground Electrical Cables In Area Contact TXU. Two Working Days Prior To Construction. Tele: 1-800-344-8377



REV. NO.	DATE	DESCRIPTION	BY

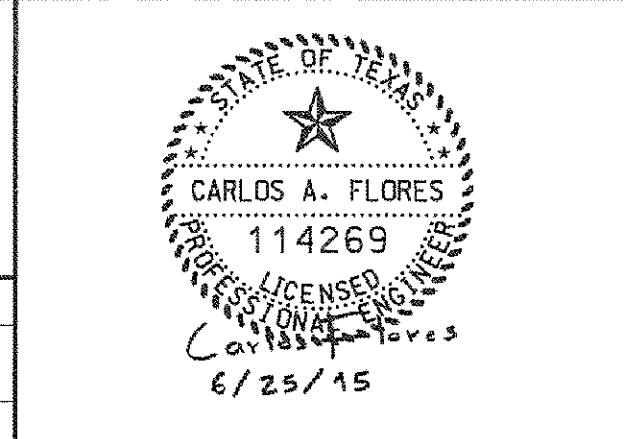
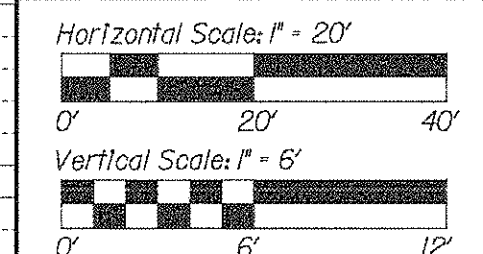
BENCHMARKS & CONTROL POINTS

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Haymeadow Drive. A Standard Water Department Bench Mark on concrete curb on the northwest corner of the Intersection. Elevation: 625.28'

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek. A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevation: 561.85'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb of parking lot of Lawas Theatre, on the south side of Spring Valley Road, 1436' west of centerline of St. Paul Drive. Elevation: 509.92'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb of parking lot of Lawas Theatre, on the south side of Spring Valley Road, 148' west of centerline of St. Paul Drive. Elevation: 612.82'



REFERENCES

WATER	9-28W, 9-29W & 10-30W
WASTEWATER	BH H-3 & BH H-4

CONTRACT NO. 15-029/030F
PROP. 8" WATER & 12" WW MAINS
SPRING VALLEY ROAD
FROM COIT RD. TO GOLDMARK DR.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
C. Flores	C. Flores	June 2015	411Q	1845	107

16+60.0 Prop. 12" WW Line
 - 9+09.8 Pav. ~ 337 Rt.
 Construct 42" Diameter Manhole
 Connect to Prop. 12" PVC WW In (W)
 Connect to Prop. 12" PVC WW Out (E)

SPRING VALLEY-COIT ADDITION
 (VOL. 7510, PG. 1757)
 RAMCO TEXCO PROPERTIES, LP.
 (VOL. 2001250, PG. 5940)

CONSTRUCT 12" WW PIPE
 In Same Trench As Ex. 10" WW Built 1965

ALLEGHENY DRIVE

SPRING VALLEY ROAD

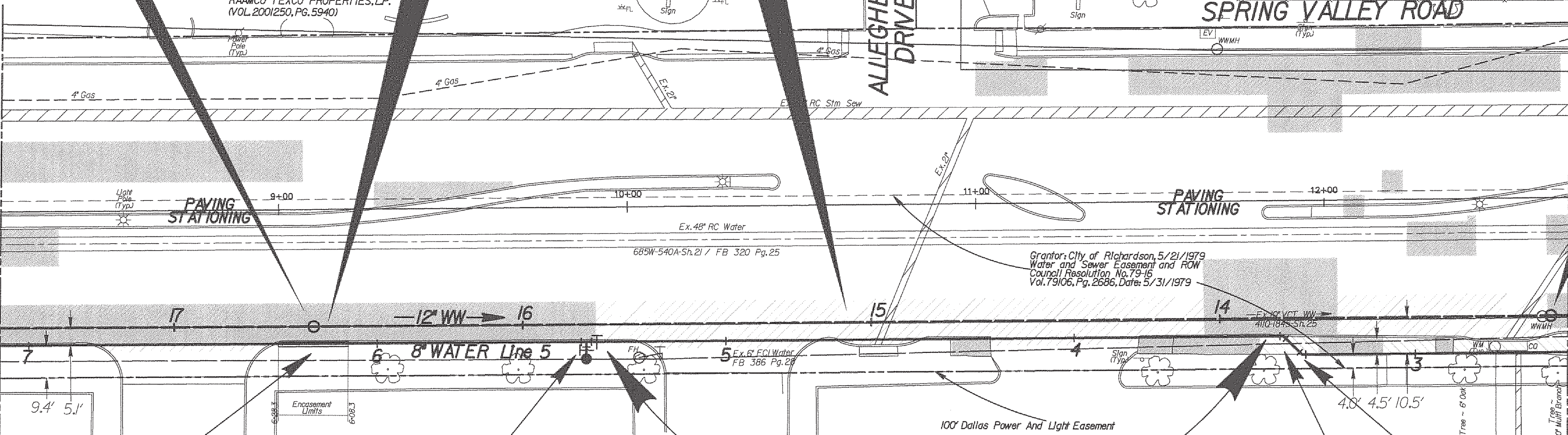
13+05.0 Prop. 12" WW Line
 - 12+64.8 Pav. ~ 340 Rt.
 Construct 42" Diameter Manhole
 Connect to Prop. 12" PVC WW In (W)
 Connect to Prop. 12" PVC WW Out (E)
 Remove Existing Manhole
 No Separate Pay Item

PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS

MATCH MARK
 17+50.0 WW LINE
 7+08.3 WATER LINE 5
 8+20.3 PAV. LINE
 See Sheet 411Q-1845-Sh 107

See Sheet 411Q-1845-Sh 109
 MATCH MARK
 13+00.0 WW LINE
 2+56.2 WATER LINE 5
 12+70.3 PAV. LINE



6+08.3 To 6+28.3 Prop. 8" Waterline I
 Install:
 20 LF 16" Pressure Rated Encasement Pipe
 Minimum 150 PSI
 Seal Ends With Grout
 By Open Cut
 As Per DWU Std. Dwg. 108 & 109

5+40.0 Prop. 8" Waterline I
 - 9+28.1 Pav. ~ 38.8 Rt.
 Remove & Salvage Ex. FH
 Install:
 1 - 8" Valve (E)
 1 - 8" X 8" Tee (S)
 1 - 6" Valve
 1 - Fire Hydrant As Per DWU Std. Dwg. *224
 5 LF 6" PVC C900 (DR-14) Water Pipe -
 With Class "C" Embedment

INSTALL 8" WATER PIPE
 Kill Ex. 6" Water Built 1968

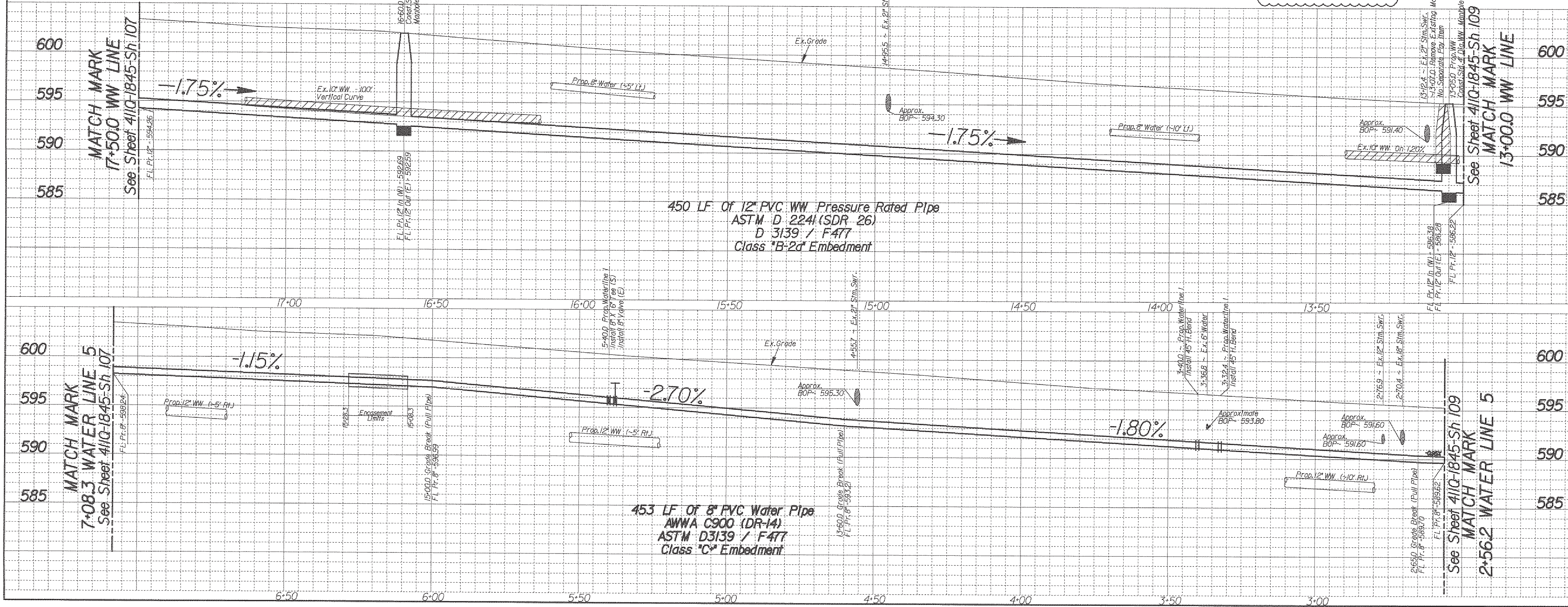
P.I. 3-32.4 Prop. 8" Waterline I
 - 11+93.4 Pav. ~ 44.4 Rt.
 Install:
 1 - 8" X 45" H. Bend

P.I. 3-40.0 Prop. 8" Waterline I
 - 11+88.1 Pav. ~ 39.0 Rt.
 Install:
 1 - 8" X 45" H. Bend

Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey.

Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item.

- CAUTION ~ FIBER OPTIC I**
 Underground Fiber Optic Cables In Area
 Contact Fiber Optic Co. Two Working Days Prior To Construction.
 Tele: 1-800-344-8377
- CAUTION ~ GAS I**
 Underground Gas Main In Area
 Contact AT&T Energy Corp. Two Working Days Prior To Construction.
 Tele: 1-800-344-8377 / 1-800-545-6005
- CAUTION ~ TELEPHONE I**
 Underground Telephone Cables In Area
 Contact S.B.C. Two Working Days Prior To Construction.
 Tele: 1-800-344-8377
- CAUTION ~ POWER I**
 Underground Electrical Cables In Area
 Contact T.X.U. Two Working Days Prior To Construction.
 Tele: 1-800-344-8377



REVISIONS

REV NO.	DATE	DESCRIPTION	BY
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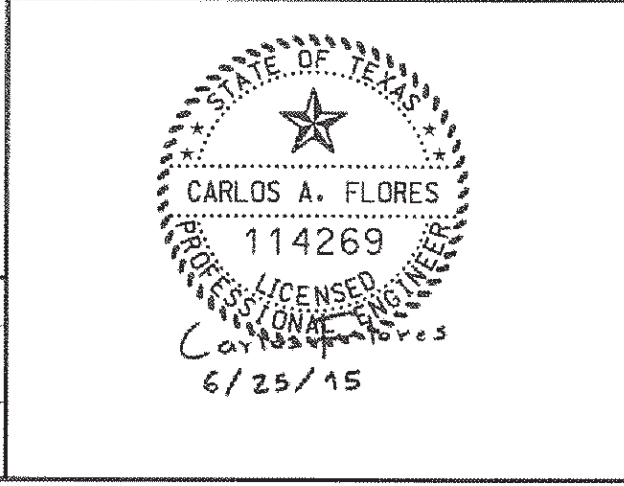
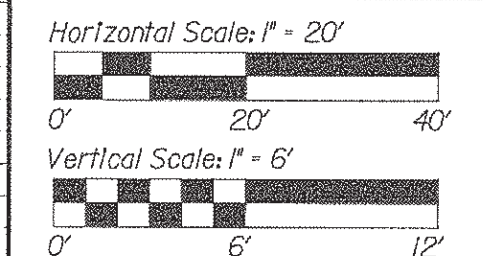
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DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek. A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevation: 561.85'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb at parking lot of Lowe's 1st floor. On the south side of Spring Valley Road, At 369' west of centerline of St. Paul Drive. Elevation: 509.92'

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REFERENCES

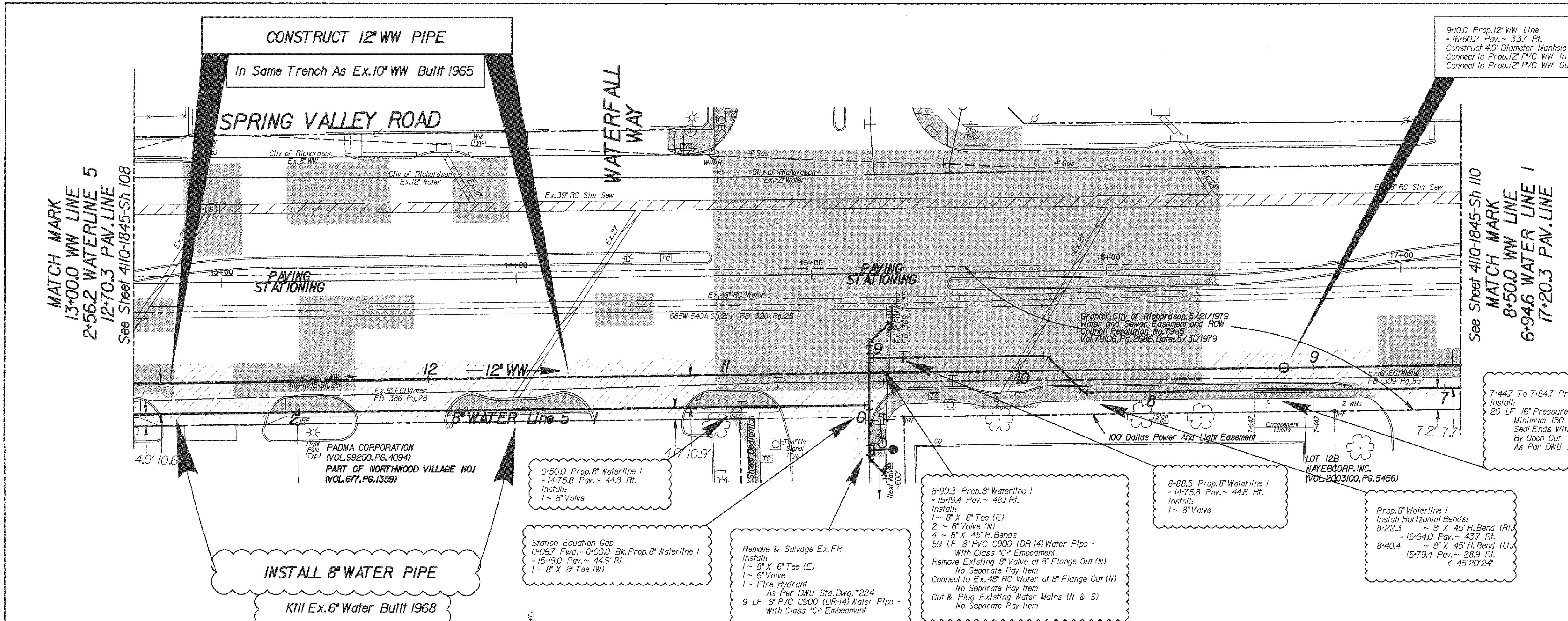
WATER
 9-28W, 9-29W & 10-30W

WASTEWATER
 BH H-3 & BH H-4

CONTRACT NO. 15-029/030F

PROP. 8" WATER & 12" WW MAINS
SPRING VALLEY ROAD
FROM COIT RD. TO GOLDMARK DR.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
C. Flores	C. Flores	June 2015	411Q	1845	108



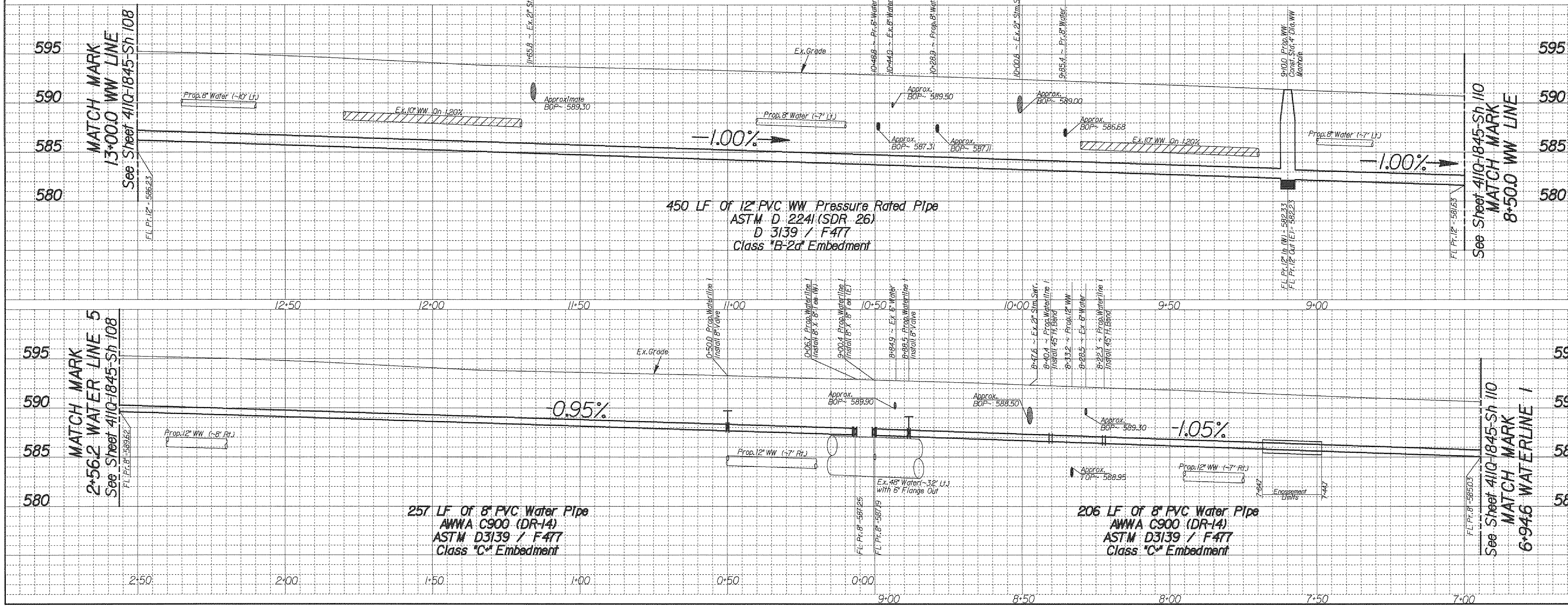
PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS

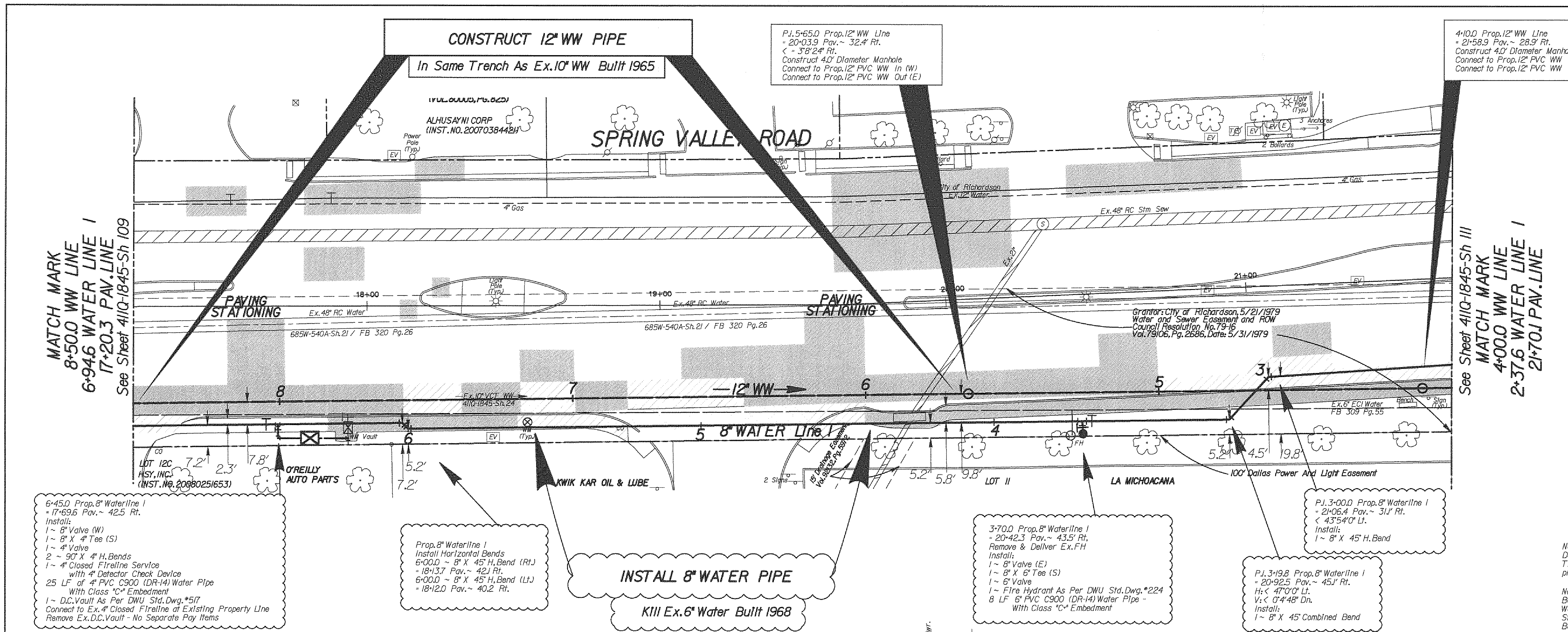
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REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
BENCHMARKS & CONTROL POINTS			
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Horizontal Scale: 1" = 20'			
Vertical Scale: 1" = 6'			
REFERENCES			
WATER 9-28W, 9-29W & 10-30W			
WASTEWATER BH H-3 & BH H-4			
CONTRACT NO. 15-029/030F			
PROP. 8" WATER & 12" WW MAINS SPRING VALLEY ROAD FROM COIT RD. TO GOLDMARK DR. DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
DESIGN	DRAWN	DATE	FILE
C. Flores	C. Flores	June 2015	411Q
			NUMBER
			1845
			SHEET
			109



PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS

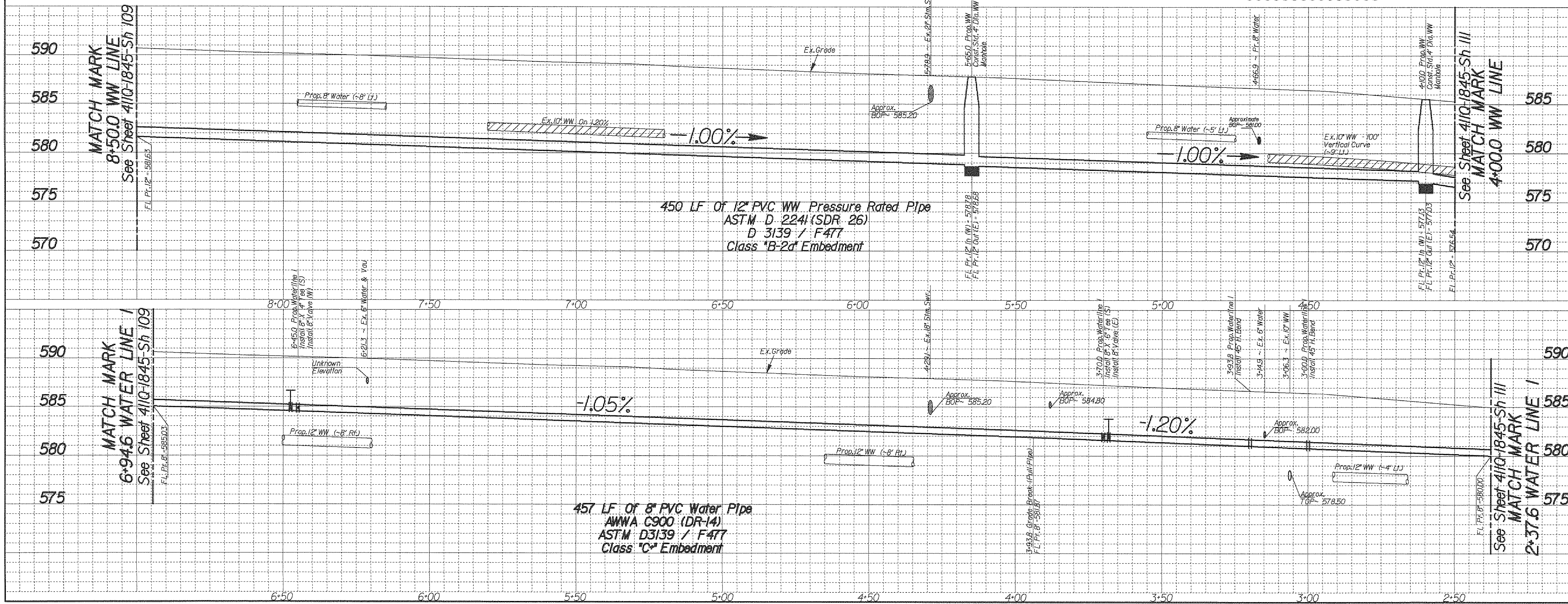
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REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY

BENCHMARKS & CONTROL POINTS

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Hymeadow Drive. A Standard Water Department Bench Mark on concrete curb on the northwest corner of the intersection. Elevation: 625.28'

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek. A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the intersection. Elevation: 561.85'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb of parking lot of Lowes Theatre on the south side of Spring Valley Road, At 363' west of centerline of St. Paul Drive. Elevation: 509.92'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb of parking lot of Lowes Theatre on the south side of Spring Valley Road, At 148' west of centerline of St. Paul Drive. Elevation: 612.82'

Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 6'

REFERENCES

WATER
9-28W, 9-25W & 10-30W

WASTEWATER
BH H-3 & BH H-4

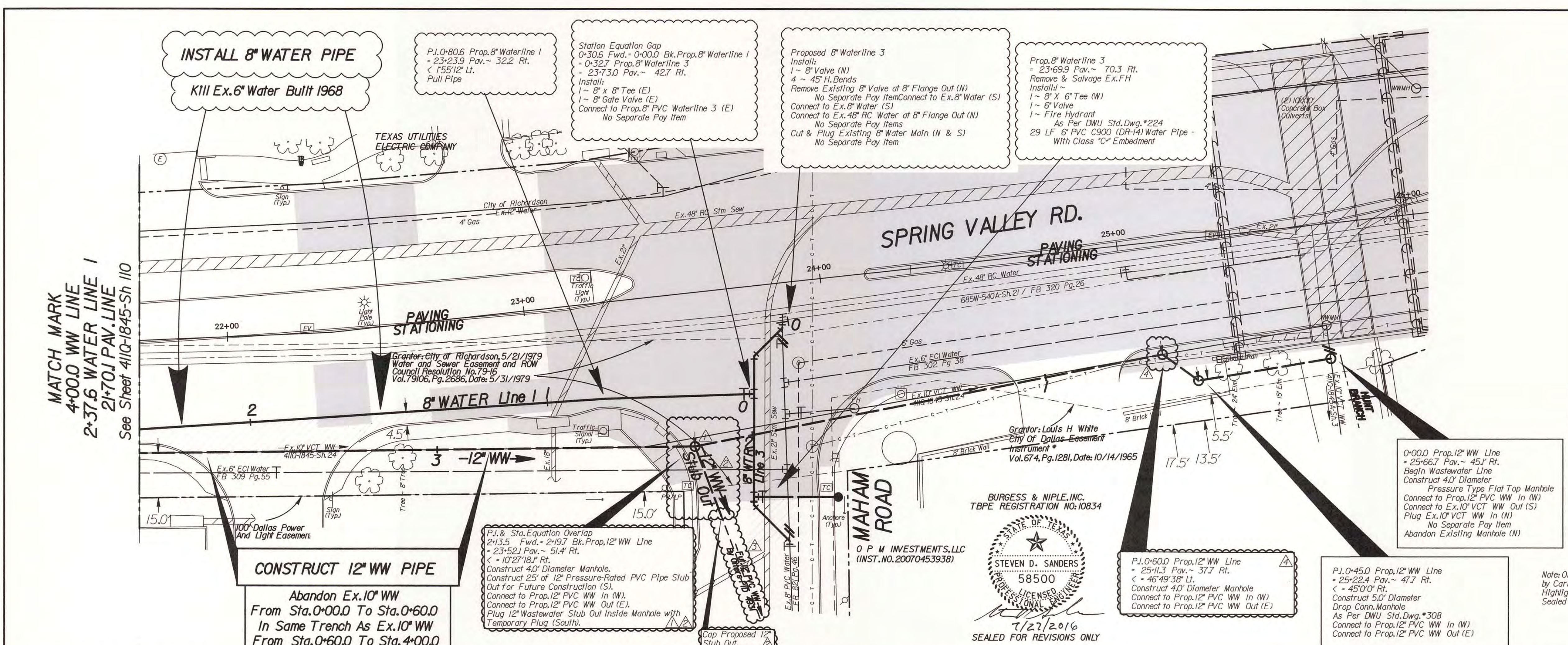
CONTRACT NO. 15-029/030F

PROP. 8" WATER & 12" WW MAINS
SPRING VALLEY ROAD
FROM COIT RD. TO GOLDMARK DR.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
C. Flores	C. Flores	June 2015	411Q	1845	110

PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS



CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working Days Prior To Construction.
Tele: 1-800-344-6377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMS Energy Corp. Two Working Days Prior To Construction.
Tele: 1-800-344-6377 / 1-800-545-6005

CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact TXU Two Working Days Prior To Construction.
Tele: 1-800-344-6377

CAUTION ~ POWER !
Underground Electrical Cables In Area
Contact TXU Two Working Days Prior To Construction.
Tele: 1-800-344-6377

Contractor to Maintain Slope of the Creek During Installation of the Proposed Wastewater Mains
No Separate Pay Item

Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey.

Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item

Note: Original Plan Sheet was Signed and Sealed by Carlos A. Flores. The Revisions to the Plan Highlighted on this Sheet are Signed and Sealed by Burgess & Niple, Inc.

BURGESS & NIPLE, INC.
T.B.P.E. REGISTRATION NO. 10834

STEVEN D. SANDERS
58500
LICENSED PROFESSIONAL ENGINEER
7/27/2016
SEALED FOR REVISIONS ONLY

REVISIONS

REV. NO.	DATE	DESCRIPTION	BY
1	7-25-2016	Manhole Shifted to the East	SDS
2	7-25-2016	Added 25' Stub Out and Cap	SDS
3	7-25-2016	Added Future 12" WW	SDS
4	7-25-2016	P.I. Angle Changed	SDS

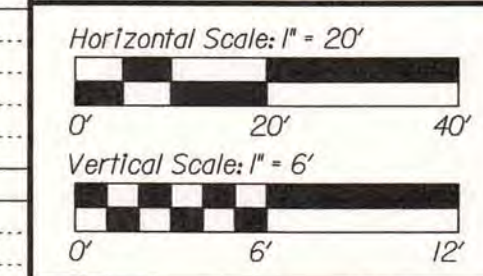
BENCHMARKS & CONTROL POINTS

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Haymeadow Drive: A Standard Water Department Benchmark on concrete curb on the northwest corner of the Intersection. Elevations: 625.28'

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek: A Standard Water Department Benchmark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevations: 561.85'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive: A square is cut on concrete curb of parking lot of Lawes Theatre, On the south side of Spring Valley Road, At 369' west of centerline of St. Paul Drive. Elevations: 509.92'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive: A square is cut on concrete curb of parking lot of Lawes Theatre, On the south side of Spring Valley Road, At 148' west of centerline of St. Paul Drive. Elevations: 612.82'



REFERENCES

WATER
9-29W, 9-29W & 10-30W

WASTEWATER
BH H-3 & BH H-4

CONTRACT NO. 15-029/030F

PROP. 8" WATER & 12" WW MAINS

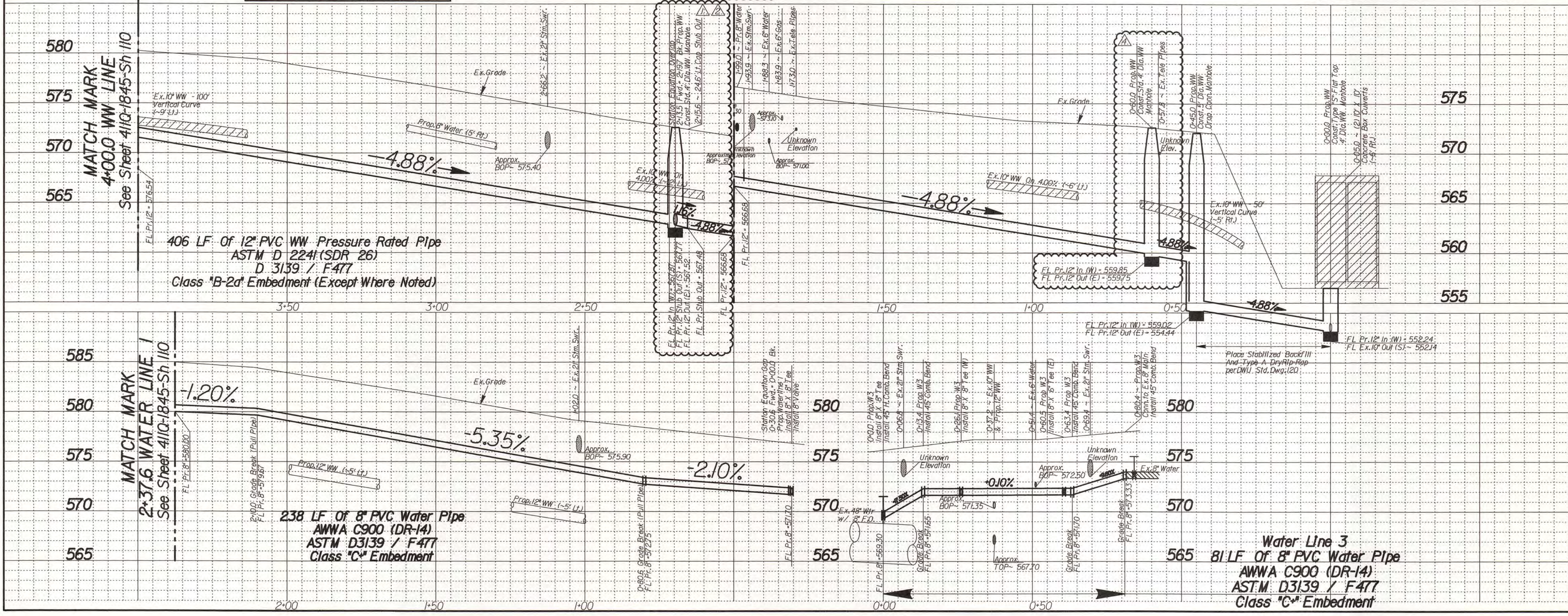
SPRING VALLEY ROAD

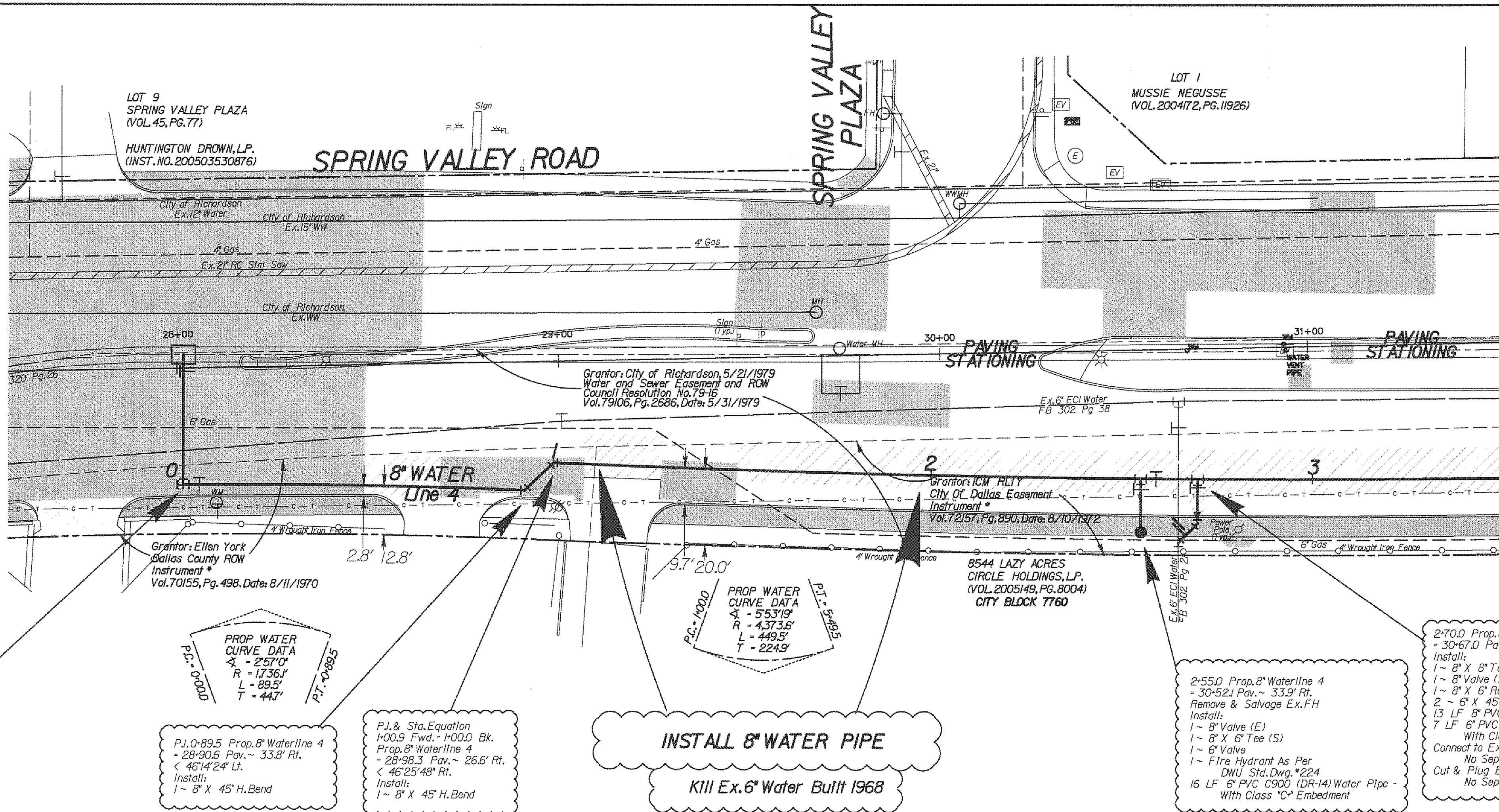
FROM COIT RD. TO GOLDMARK DR.

DALLAS WATER UTILITIES

CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
C. Flores	S. Sanders	July 2016	411Q	1845	III





PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS

See Sheet 411Q-1845-Sh 113
MATCH MARK
3-50.0 WATERLINE 4
3+51.5 PAV. LINE

- CAUTION ~ FIBER OPTIC !**
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working Days Prior To Construction.
Tele: 1-800-344-8377
- CAUTION ~ GAS !**
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005
- CAUTION ~ TELEPHONE !**
Underground Telephone Cables In Area
Contact S.B.C. Two Working Days Prior To Construction.
Tele: 1-800-344-8377
- CAUTION ~ POWER !**
Underground Electrical Cables In Area
Contact TXU Two Working Days Prior To Construction.
Tele: 1-800-344-8377

0+00.0 Prop. 8" Waterline 4
- 28'-0.0 Pav. ~ 30.6' Rt.
Install:
1 - 8" Valve (E)
1 - 8" X 8" Tee (W)
1 - 8" Blind Flange Plug (W)
1 - 8" Tapping Valve (N)
1 - 48" X 8" Tapping Sleeve (N)
35 LF 8" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment

PROP WATER CURVE DATA
P.C. = 0+00.0
P.T. = 0+88.5
A = 257.0'
R = 1736.3'
L = 89.5'
T = 44.7'

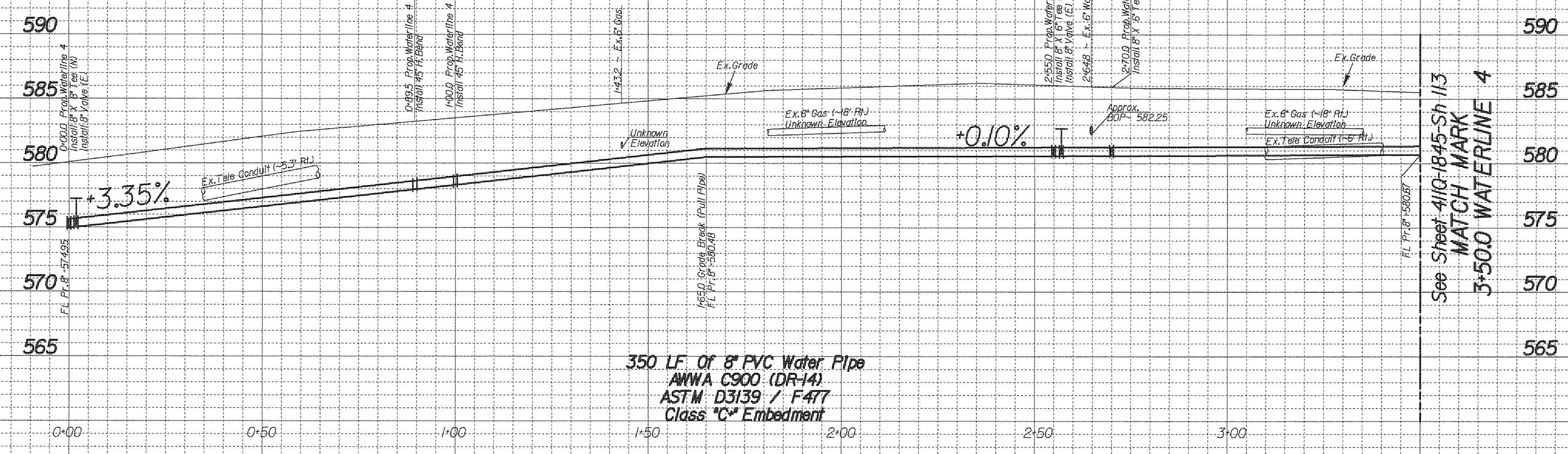
P.I. & Sta. Equation
1+00.9 Fwd. + 1+00.0 Bk.
Prop. 8" Waterline 4
- 28'-98.3 Pav. ~ 26.6' Rt.
- 46'-25'-48" Rt.
Install:
1 - 8" X 45" H. Bend

INSTALL 8" WATER PIPE
Kill Ex. 6" Water Built 1968

2+55.0 Prop. 8" Waterline 4
- 30'-52.1 Pav. ~ 33.9' Rt.
Remove & Salvage Ex. FH
Install:
1 - 8" Valve (E)
1 - 8" X 6" Tee (S)
1 - 6" Valve
1 - Fire Hydrant As Per
DWU Sta. Dwg. #224

2+70.0 Prop. 8" Waterline 4
- 30'-67.0 Pav. ~ 34.3' Rt.
Install:
1 - 8" X 8" Tee (S)
1 - 8" Valve (S)
1 - 8" X 6" Reducer
2 - 6" X 45" H. Bends
13 LF 8" PVC C900 (DR-14) Water Pipe
7 LF 6" PVC C900 (DR-14) Water Pipe
With Class "C" Embedment
Connect to Ex. 6" Water (W)
No Separate Pay Item
Cut & Plug Existing 6" Water Main (S)
No Separate Pay Item

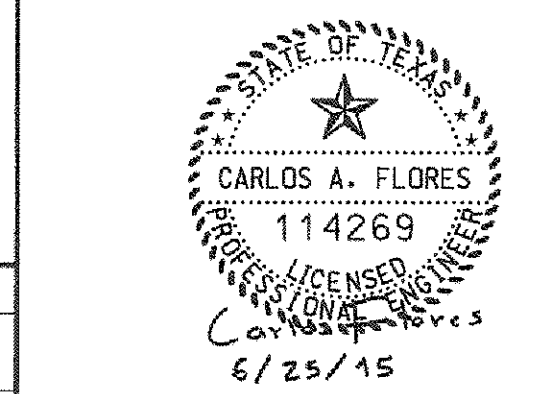
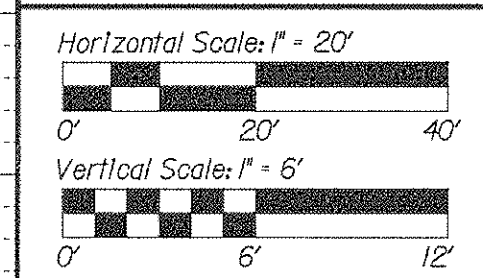
Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey.
Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item



350 LF. Of 8" PVC Water Pipe
AWWA C900 (DR-14)
ASTM D3139 / F477
Class "C" Embedment

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
1			

- BENCHMARKS & CONTROL POINTS**
- DWU BM: Standard WDBM - At the intersection of Spring Valley Road and Haymeadow Drive. A standard Water Department Bench Mark on concrete curb on the northwest corner of the intersection. Elevation: 625.28'
 - DWU BM: Standard WDBM - At the intersection of Spring Valley Road and Cottonwood Creek. A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the intersection. Elevation: 561.85'
 - DWU BM: Square Cut - At the intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb at parking lot of Lowe's Theatre, on the south side of Spring Valley Road, 369' west of centerline of St. Paul Drive. Elevation: 509.92'
 - DWU BM: Square Cut - At the intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb at parking lot of Lowe's Theatre, on the south side of Spring Valley Road, 148' west of centerline of St. Paul Drive. Elevation: 612.82'

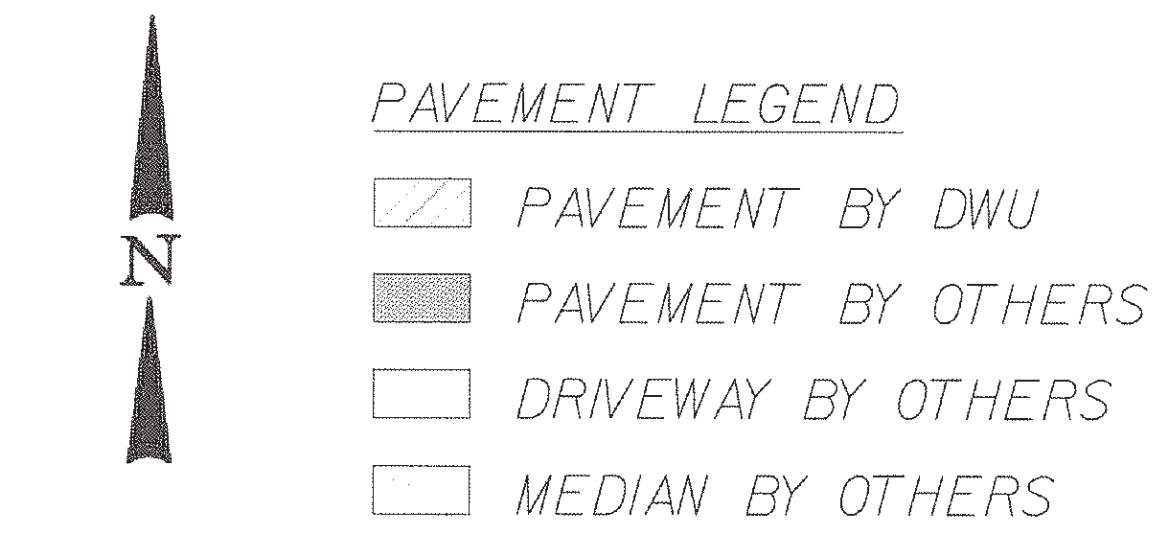
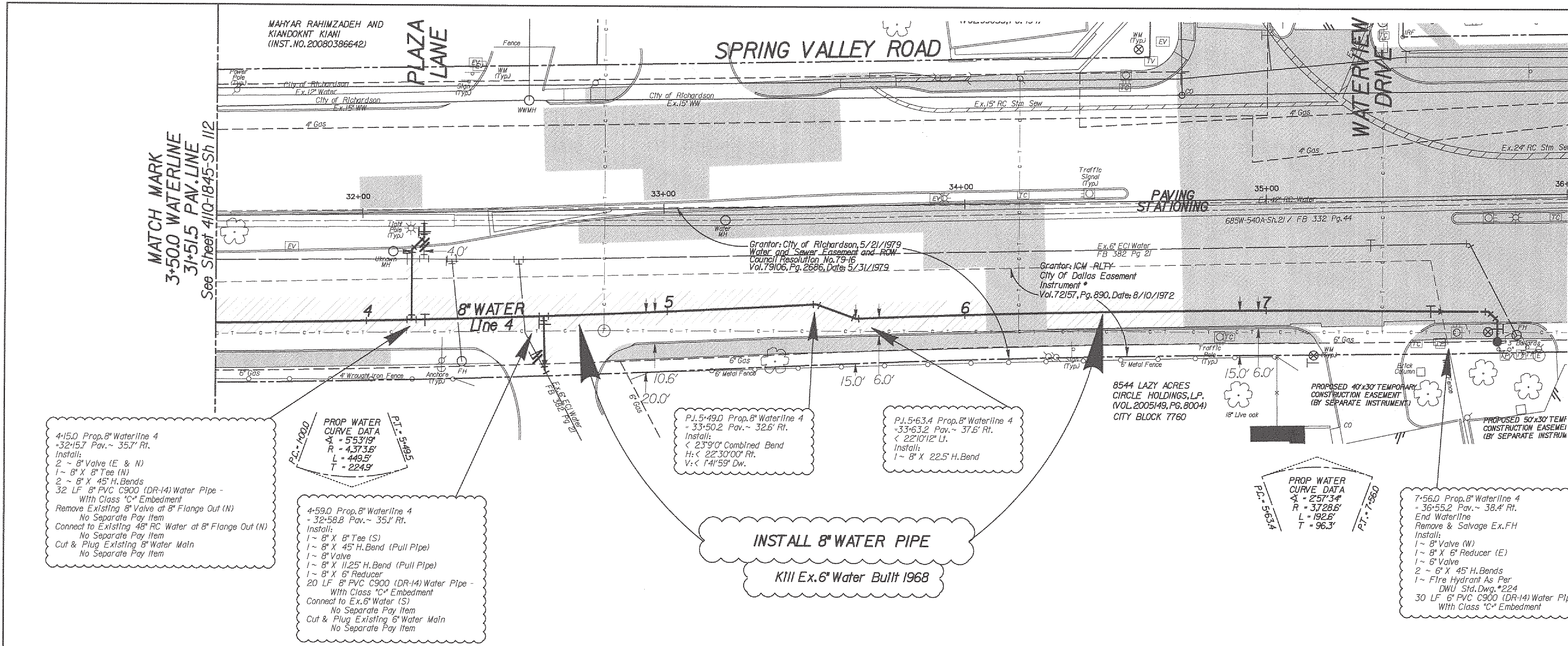


REFERENCES

WATER	9-28W, 9-29W & 10-30W
WASTEWATER	BH H-3 & BH H-4

CONTRACT NO. 15-029/030F
PROP. 8" WATER MAIN
SPRING VALLEY ROAD
FROM COIT RD. TO GOLDMARK DR.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
C. Flores	C. Flores	June 2015	411Q	1845	112



4-15.0 Prop. 8" Waterline 4
- 32+57 Pav. ~ 35.7' Rt.
Install:
2 ~ 8" Valve (E & N)
1 ~ 8" X 8" Tee (N)
2 ~ 8" X 45" H. Bends
32 LF 8" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment
Remove Existing 8" Valve at 8" Flange Out (N)
No Separate Pay Item
Connect to Existing 48" RC Water at 8" Flange Out (N)
No Separate Pay Item
Cut & Plug Existing 8" Water Main
No Separate Pay Item

4-59.0 Prop. 8" Waterline 4
- 32+58.8 Pav. ~ 35.1' Rt.
Install:
1 ~ 8" X 8" Tee (S)
1 ~ 8" X 45" H. Bend (Pull Pipe)
1 ~ 8" Valve
1 ~ 8" X 11.25" H. Bend (Pull Pipe)
1 ~ 8" X 6" Reducer
20 LF 8" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment
Connect to Ex. 8" Water (S)
No Separate Pay Item
Cut & Plug Existing 8" Water Main
No Separate Pay Item

P.I. 5-49.0 Prop. 8" Waterline 4
- 33+50.2 Pav. ~ 32.6' Rt.
Install:
1 ~ 23'9" Combined Bend
1 ~ 22'30"00" Rt.
1 ~ 14'59" Dwg.

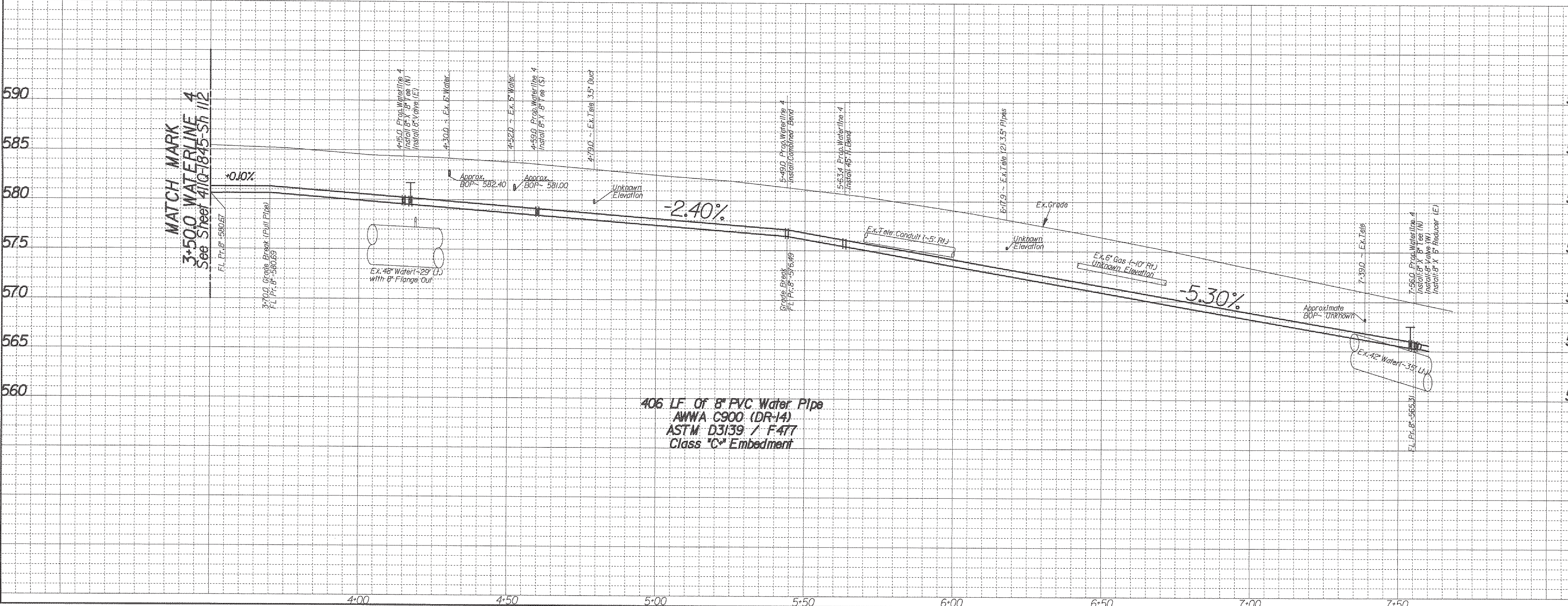
P.I. 5-63.4 Prop. 8" Waterline 4
- 33+63.2 Pav. ~ 37.6' Rt.
Install:
1 ~ 8" X 22.5" H. Bend

INSTALL 8" WATER PIPE
KIII Ex. 6" Water Built 1968

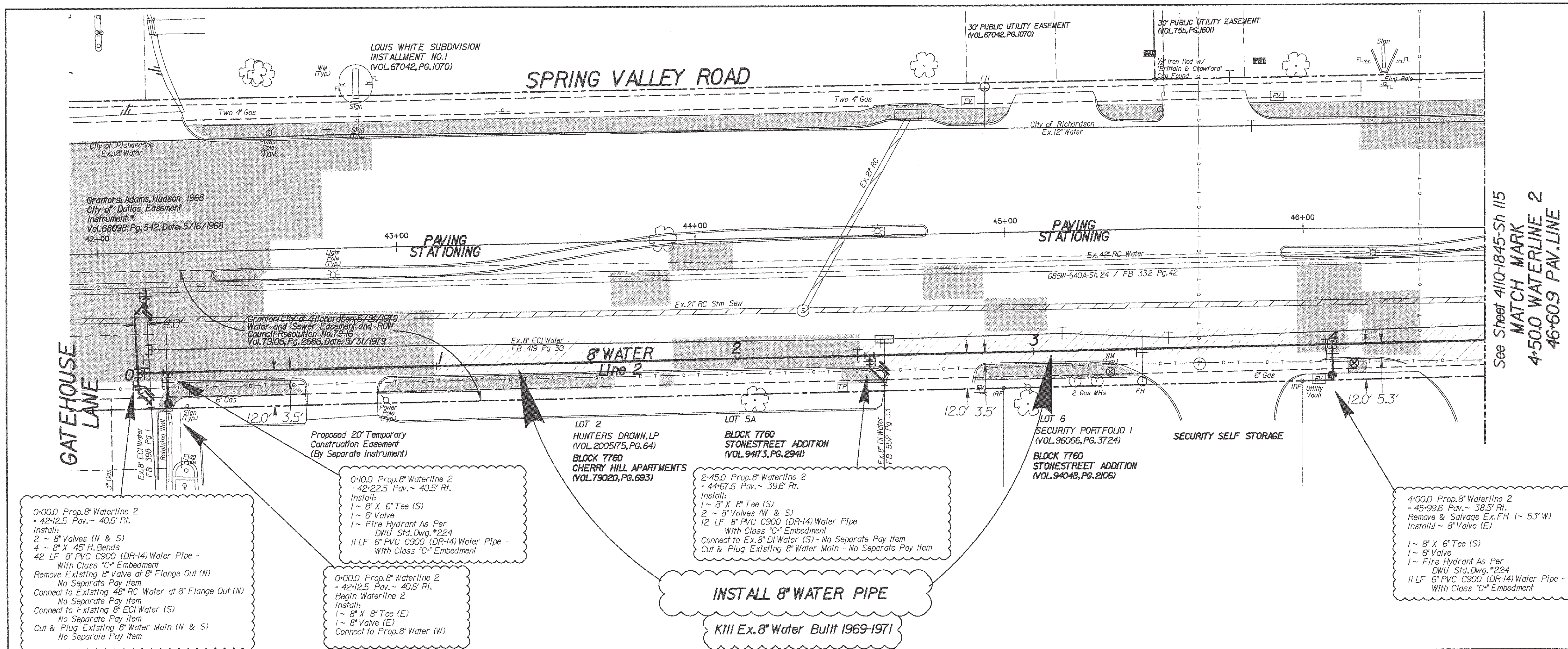
7-56.0 Prop. 8" Waterline 4
- 36+55.2 Pav. ~ 38.4' Rt.
End Waterline
Remove & Salvage Ex. FH
Install:
1 ~ 8" Valve (W)
1 ~ 8" X 6" Reducer (E)
1 ~ 6" Valve
2 ~ 6" X 45" H. Bends
1 ~ Fire Hydrant As Per
DWU Std. Dwg. #224
30 LF 6" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment

Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey.
Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item.

- CAUTION ~ FIBER OPTIC !**
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377
- CAUTION ~ GAS !**
Underground Gas Main In Area
Contact AT&M Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-6377/1-800-545-6005
- CAUTION ~ TELEPHONE !**
Underground Telephone Cables In Area
Contact S.B.C. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377
- CAUTION ~ POWER !**
Underground Electrical Cables In Area
Contact TXU Two Working
Days Prior To Construction.
Tele: 1-800-344-8377



REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY
BENCHMARKS & CONTROL POINTS DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Haymeadow Drive; A standard Water Department Bench Mark on concrete curb on the northwest corner of the Intersection. Elevation: 625.28 DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek; A standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevation: 561.85 DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive; A square is cut on concrete curb at parking lot of Lowes Theatre, On the south side of Spring Valley Road, At 369' west of centerline of St. Paul Drive. Elevation: 569.92 DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive; A square is cut on concrete curb at parking lot of Lowes Theatre, On the south side of Spring Valley Road, At 148' west of centerline of St. Paul Drive. Elevation: 612.82			
Horizontal Scale: 1" = 20' Vertical Scale: 1" = 6'			
REFERENCES WATER 9-2BN, 9-2SN & 10-30N WASTEWATER BH H-3 & BH H-4			
CONTRACT NO. 15-029/030F PROP. 8" WATER MAIN SPRING VALLEY ROAD FROM COIT RD. TO GOLDMARK DR. DALLAS WATER UTILITIES CITY OF DALLAS, TEXAS			
DESIGN	DRAWN	DATE	FILE NUMBER SHEET
C. Flores	C. Flores	June 2015	411Q 1845 113



PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact AT&T Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact S.B.C. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Underground Electrical Cables In Area
Contact TXU Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey.
Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item

0+00.0 Prop. 8" Waterline 2
- 42+12.5 Pav. ~ 40.5' Rt.
Install:
2 ~ 8" Valves (N & S)
4 ~ 8" X 45' H. Bends
42 LF 8" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment
Remove Existing 8" Valve at 8" Flange Out (N)
No Separate Pay Item
Connect to Existing 48" RC Water at 8" Flange Out (N)
No Separate Pay Item
Connect to Existing 8" ECI Water (S)
No Separate Pay Item
Cut & Plug Existing 8" Water Main (N & S)
No Separate Pay Item

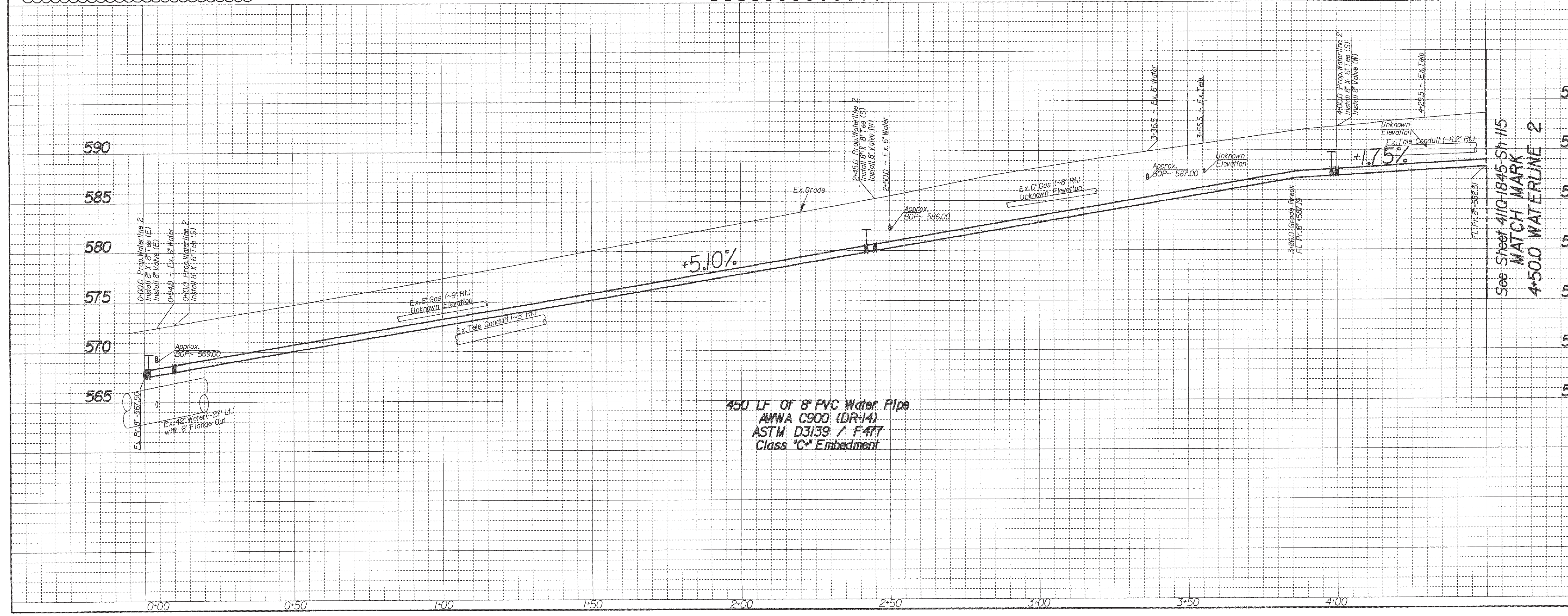
Proposed 20' Temporary
Construction Easement
(By Separate Instrument)
0+00.0 Prop. 8" Waterline 2
- 42+22.5 Pav. ~ 40.5' Rt.
Install:
1 ~ 8" X 8" Tee (S)
1 ~ 8" Valve
1 ~ Fire Hydrant As Per
DWU Std. Dwg. #224
11 LF 6" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment

0+00.0 Prop. 8" Waterline 2
- 42+12.5 Pav. ~ 40.5' Rt.
Begin Waterline 2
Install:
1 ~ 8" X 8" Tee (E)
1 ~ 8" Valve (E)
Connect to Prop. 8" Water (W)

2+45.0 Prop. 8" Waterline 2
- 44+67.5 Pav. ~ 39.6' Rt.
Install:
1 ~ 8" X 8" Tee (S)
2 ~ 8" Valves (W & S)
12 LF 8" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment
Connect to Ex. 8" DI Water (S) - No Separate Pay Item
Cut & Plug Existing 8" Water Main - No Separate Pay Item

INSTALL 8" WATER PIPE
K111 Ex. 8" Water Built 1969-1971

4+00.0 Prop. 8" Waterline 2
- 45+99.5 Pav. ~ 38.5' Rt.
Remove & Salvage Ex. FH (~ 53' W)
Install ~ 8" Valve (E)
1 ~ 8" X 6" Tee (S)
1 ~ 6" Valve
1 ~ Fire Hydrant As Per
DWU Std. Dwg. #224
11 LF 6" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment



REVISIONS

REV. NO.	DATE	DESCRIPTION	BY
1			
2			

BENCHMARKS & CONTROL POINTS

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Haymeadow Drive. A standard Water Department Bench Mark on concrete curb on the northwest corner of the Intersection. Elevations: 625.28

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek. A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevations: 561.85

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb at parking lot of Lowes Theatre, on the south side of Spring Valley Road, At 365' west of centerline of St. Paul Drive. Elevations: 509.92

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb at parking lot of Lowes Theatre, on the south side of Spring Valley Road, At 148' west of centerline of St. Paul Drive. Elevations: 512.22

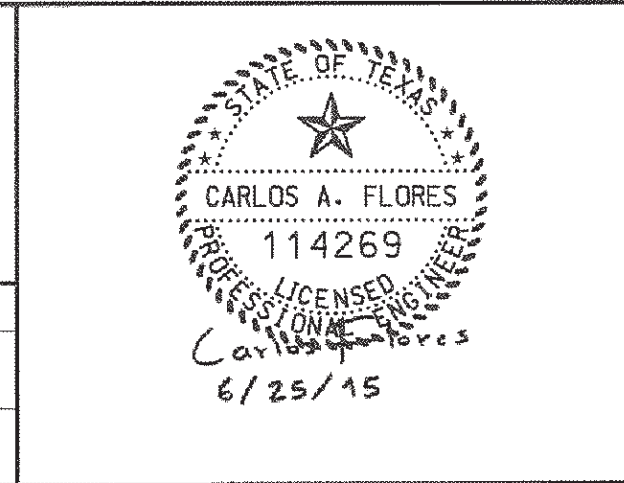
Horizontal Scale: 1" = 20'

Vertical Scale: 1" = 6'

REFERENCES

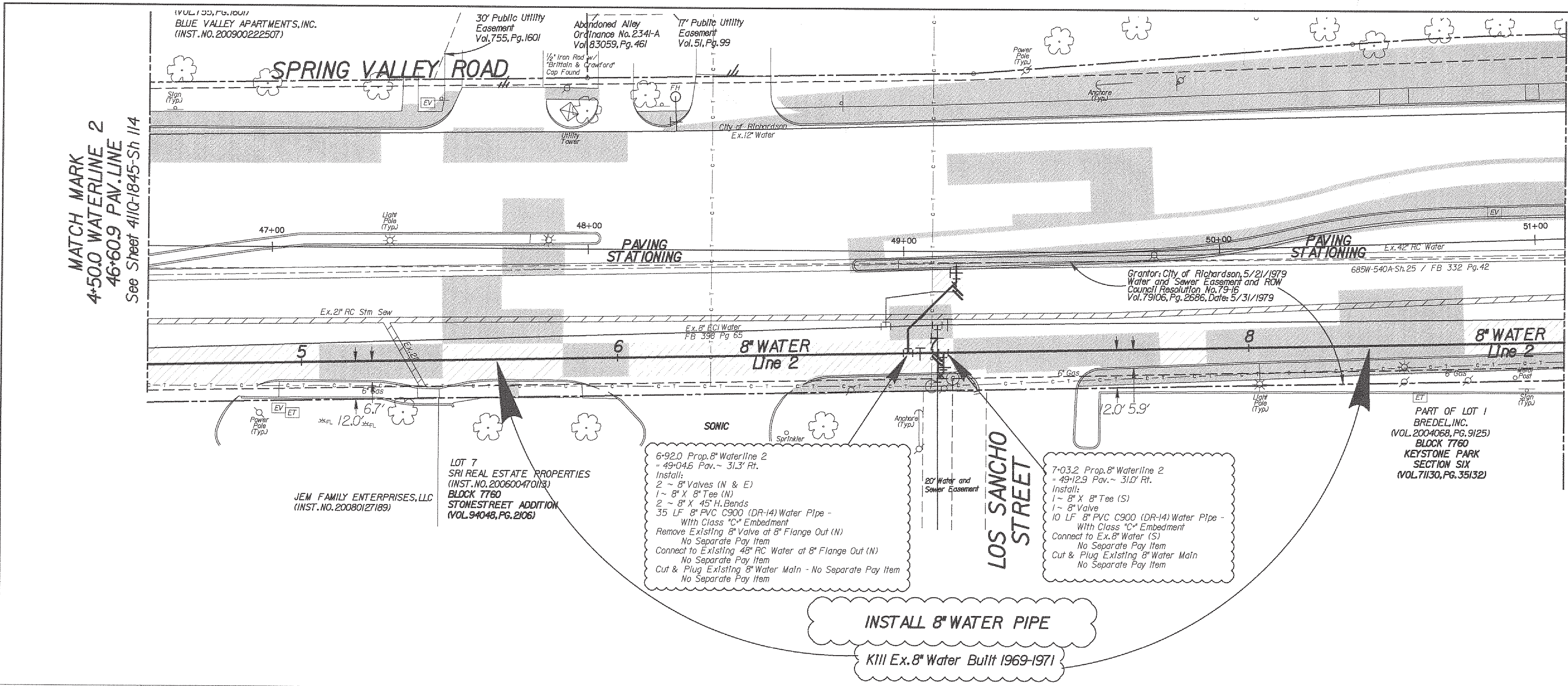
WATER
9-28W, 9-29W & 10-30W

WASTEWATER
BH H-3 & BH H-4



CONTRACT NO. 15-029/030F
PROP. 8" WATER MAIN
SPRING VALLEY ROAD
FROM COIT RD. TO GOLDMARK DR.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
C. Flores	C. Flores	June 2015	411Q	1845	114



See Sheet 411Q-1845-Sh 116
 MATCH MARK
 9+00.0 WATERLINE 2
 51+09.6 PAV.LINE

MATCH MARK
 4-50.0 WATERLINE 2
 46+60.9 PAV.LINE
 See Sheet 411Q-1845-Sh 114

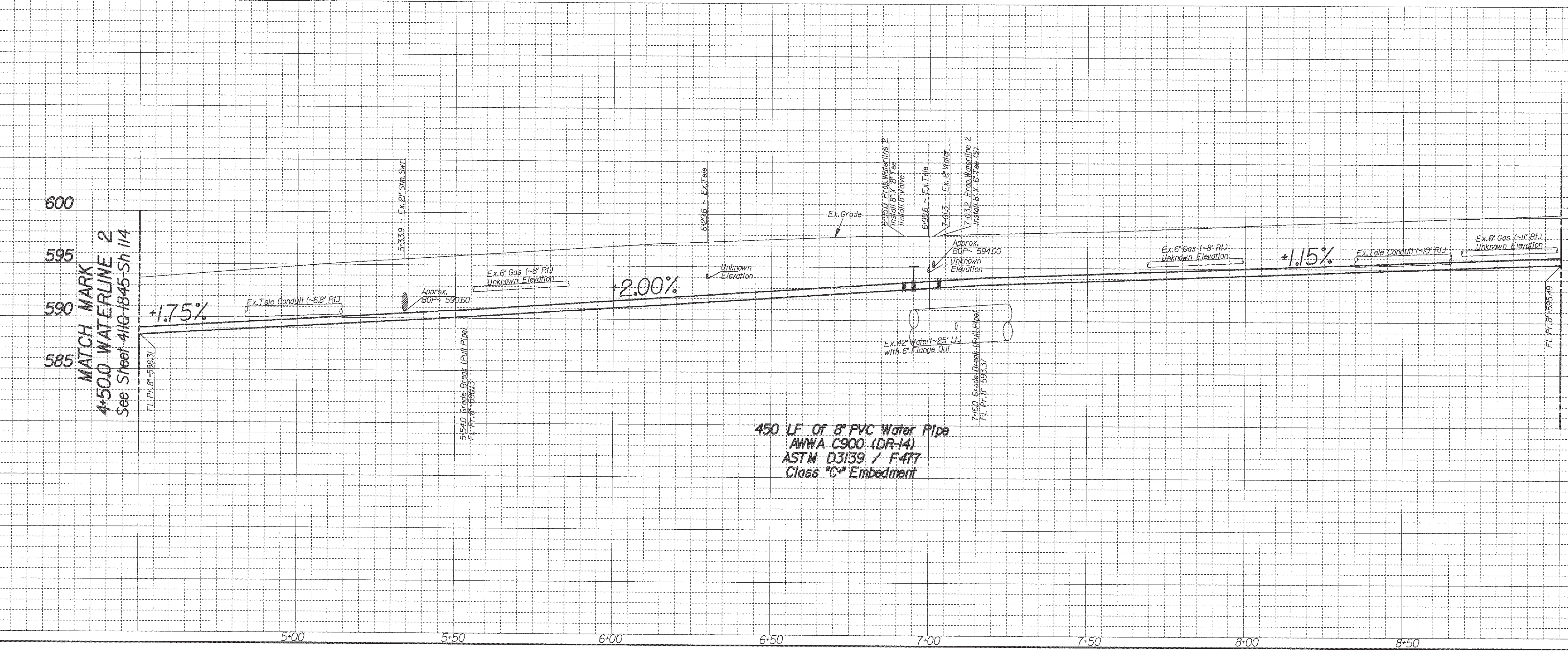
PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS

- CAUTION ~ FIBER OPTIC !**
 Underground Fiber Optic Cables In Area
 Contact Fiber Optic Co. Two Working
 Days Prior To Construction.
 Tele: 1-800-344-8377
- CAUTION ~ GAS !**
 Underground Gas Main In Area
 Contact AT&OS Energy Corp. Two Working
 Days Prior To Construction.
 Tele: 1-800-344-8377/1-800-545-6005
- CAUTION ~ TELEPHONE !**
 Underground Telephone Cables In Area
 Contact S.B.C. Two Working
 Days Prior To Construction.
 Tele: 1-800-344-8377
- CAUTION ~ POWER !**
 Underground Electrical Cables In Area
 Contact TXU Two Working
 Days Prior To Construction.
 Tele: 1-800-344-8377

Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey.
 Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item.

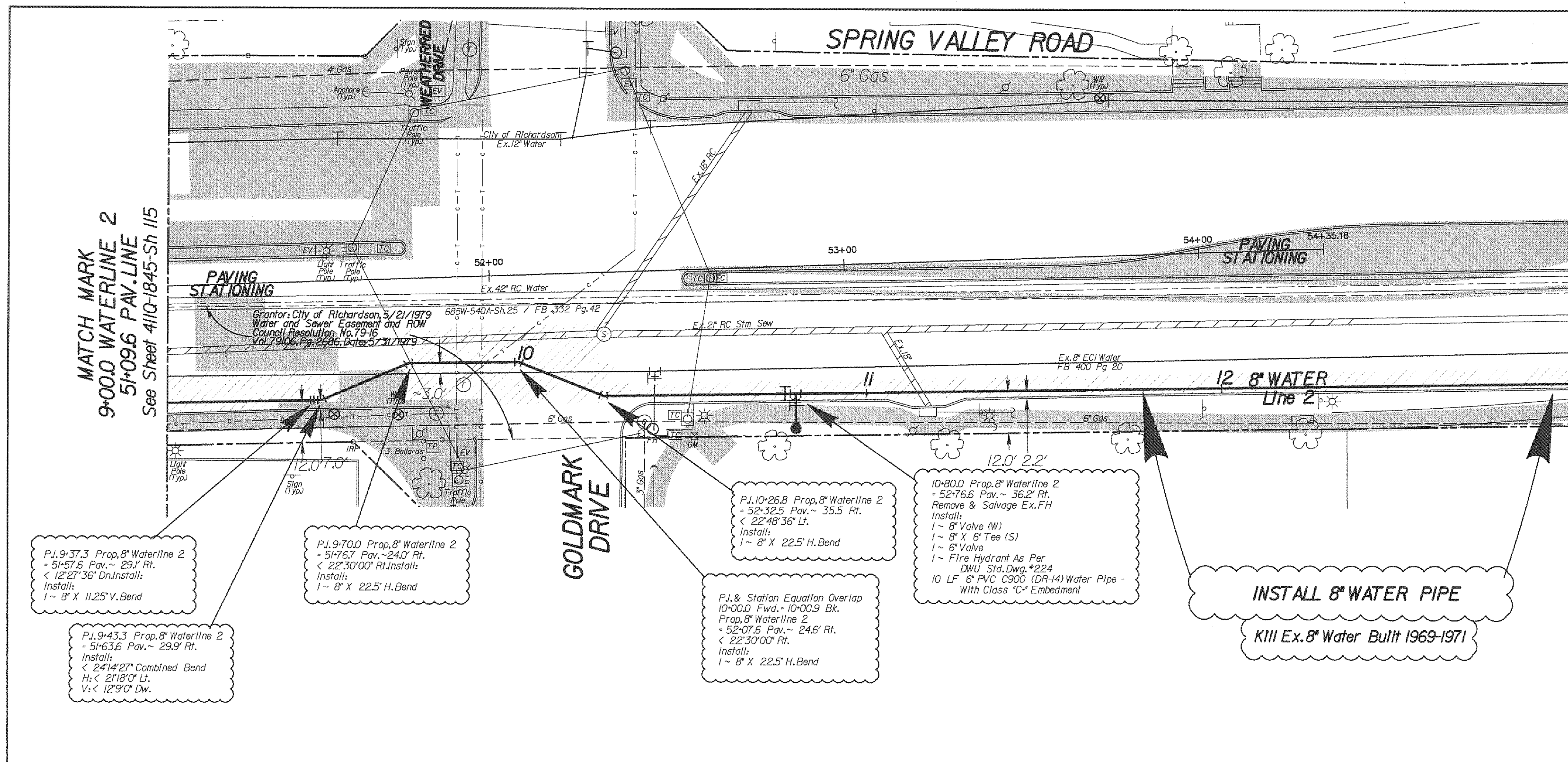
INSTALL 8" WATER PIPE
 KIII Ex. 8" Water Built 1969-1971



See Sheet 411Q-1845-Sh 116
 MATCH MARK
 9+00.0 WATERLINE 2

MATCH MARK
 4-50.0 WATERLINE 2
 See Sheet 411Q-1845-Sh 114

REVISIONS			
REV NO.	DATE	DESCRIPTION	BY
BENCHMARKS & CONTROL POINTS			
DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Haymeadow Drive; A standard Water Department Bench Mark on concrete curb on the northwest corner of the Intersection. Elevation: 592.23'			
DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek; A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevation: 593.92'			
DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive; A square is cut on concrete curb at partial lot of Lawes Theatre, On the south side of Spring Valley Road, At 369' west of centerline of St. Paul Drive. Elevation: 593.92'			
DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive; A square is cut on concrete curb at partial lot of Lawes Theatre, On the south side of Spring Valley Road, At 148' west of centerline of St. Paul Drive. Elevation: 592.23'			
Horizontal Scale: 1" = 20'			
Vertical Scale: 1" = 6'			
REFERENCES			
WATER 9-28W, 9-29W & 10-30W			
WASTEWATER BH H-3 & BH H-4			
CONTRACT NO. 15-029/030F			
PROP. 8" WATER MAIN			
SPRING VALLEY ROAD			
FROM COIT RD. TO GOLDMARK DR.			
DALLAS WATER UTILITIES			
CITY OF DALLAS, TEXAS			
DESIGN	DRAWN	DATE	FILE
C. Flores	C. Flores	June 2015	411Q
			NUMBER
			1845
			SHEET
			115



See Sheet 41IQ-1845-Sh 116A
MATCH MARK
13+00.0 WATERLINE 2

MATCH MARK
9+00.0 WATERLINE 2
5+09.6 PAV. LINE
See Sheet 41IQ-1845-Sh 115

PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS



P.I. 9+37.3 Prop. 8" Waterline 2
+ 51+57.6 Pav. ~ 29.1' Rt.
< 12°27'36" Combined Bend
Install:
1 - 8" X 11.25' V. Bend

P.I. 9+70.0 Prop. 8" Waterline 2
+ 51+76.7 Pav. ~ 24.0' Rt.
< 22°30'00" Rt. Install:
1 - 8" X 22.5' H. Bend

P.I. & Station Equation Overlap
10+00.0 Fwd. - 10+00.9 Bk.
Prop. 8" Waterline 2
+ 52+07.5 Pav. ~ 24.6' Rt.
< 22°30'00" Rt.
Install:
1 - 8" X 22.5' H. Bend

10+80.0 Prop. 8" Waterline 2
+ 52+76.6 Pav. ~ 36.2' Rt.
Remove & Salvage Ex. FH
Install:
1 - 8" Valve (W)
1 - 8" X 6" Tee (S)
1 - 6" Valve
1 - Fire Hydrant As Per
DWU Std. Dwg. #224
10 LF 8" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment

INSTALL 8" WATER PIPE
K111 Ex. 8" Water Built 1969-1971

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

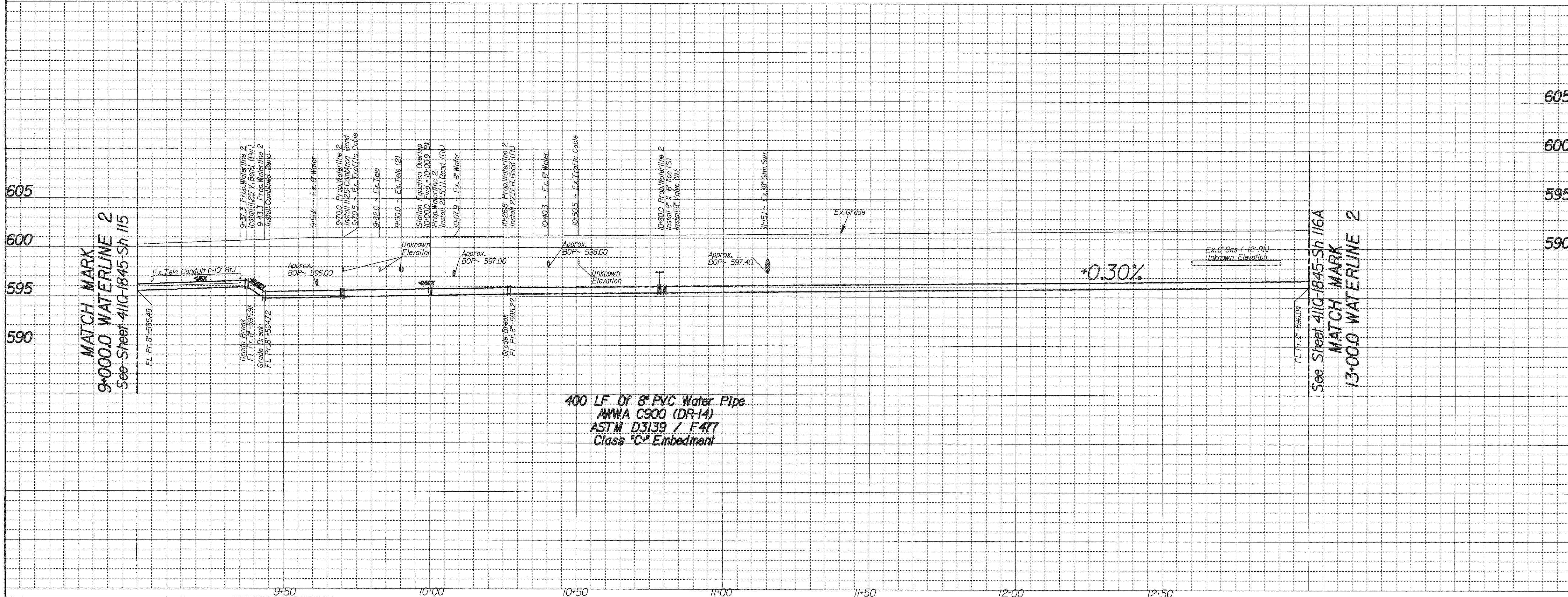
CAUTION ~ GAS !
Underground Gas Main In Area
Contact ATMOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact S.B.C. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Underground Electrical Cables In Area
Contact TXU Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

Note: Land Survey was provided by Dallas County Public Works. The design relies on the assumptions provided by the survey.

Note: Contractor to Backfill the Space Between the Proposed Water and Wastewater Lines and the Existing Storm Sewer Laterals with Flowable Backfill. No Separate Pay Item.



400 LF OF 8" PVC Water Pipe
AWWA C900 (DR-14)
ASTM D3139 / F477
Class "C" Embedment

REVISIONS			
REV. NO.	DATE	DESCRIPTION	BY

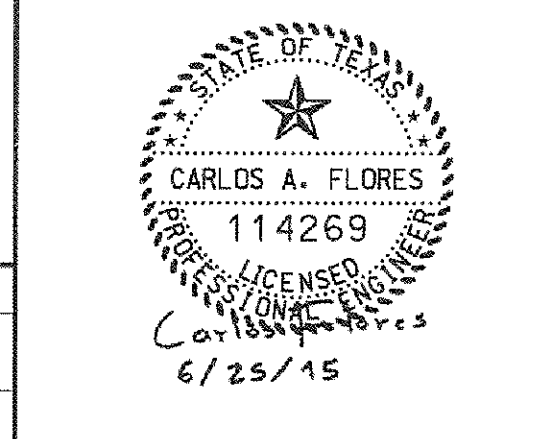
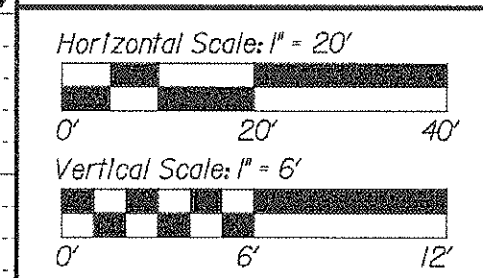
BENCHMARKS & CONTROL POINTS

605 DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Haymeadow Drive. A standard Water Department Bench Mark on concrete curb on the northwest corner of the Intersection. Elevation: 525.23'

600 DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek. A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevation: 561.55'

595 DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb of parking lot of Lewis Theatre, on the south side of Spring Valley Road, 1436' west of centerline of St. Paul Drive. Elevation: 509.92'

590 DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb of parking lot of Lewis Theatre, on the south side of Spring Valley Road, 1448' west of centerline of St. Paul Drive. Elevation: 512.82'



REFERENCES

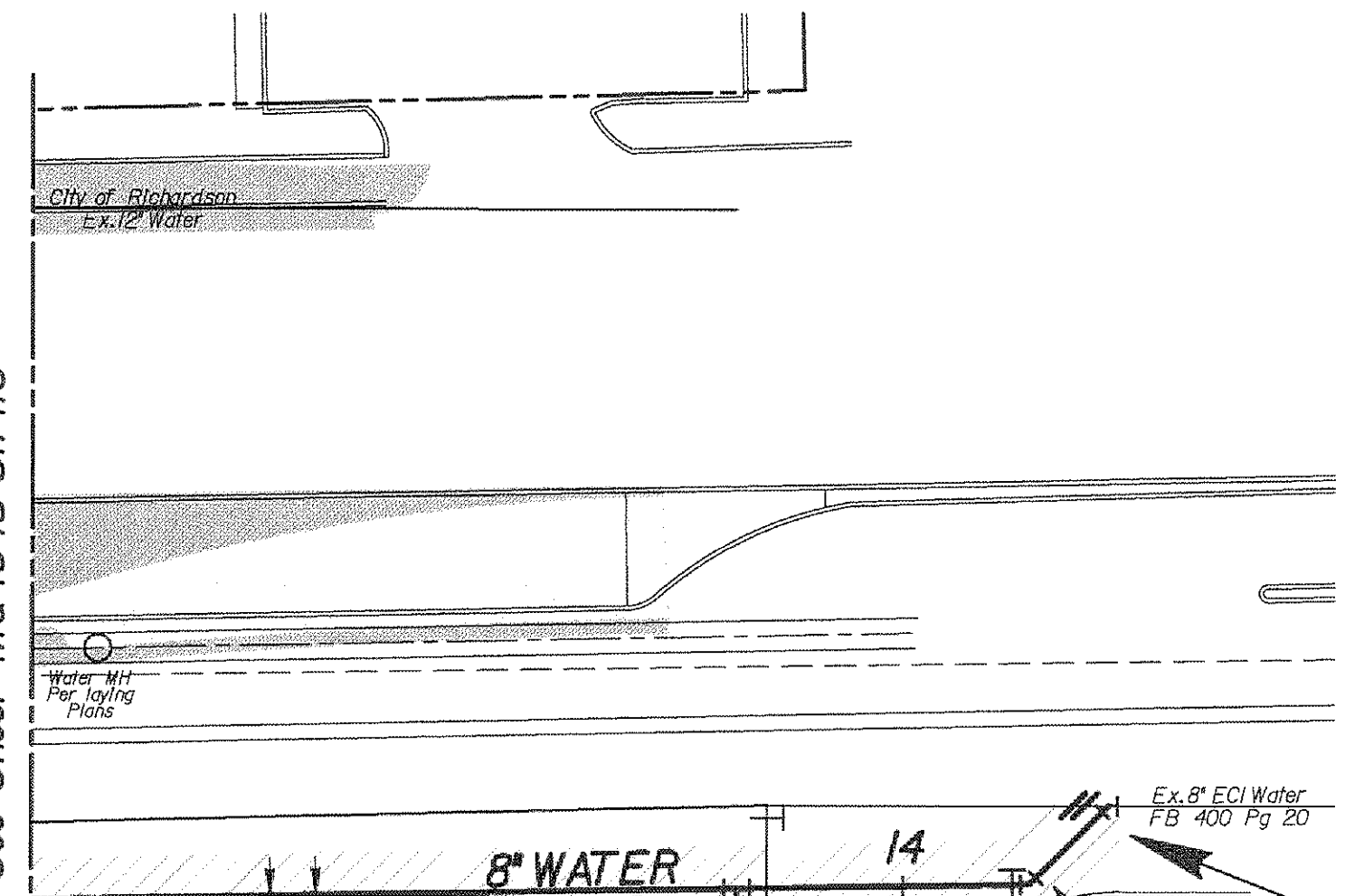
WATER	9-28W, 9-29W & 10-30W
WASTEWATER	BH H-3 & BH H-4

CONTRACT NO. 15-029/030F

PROP. 8" WATER MAIN
SPRING VALLEY ROAD
FROM COIT RD. TO GOLDMARK DR.
DALLAS WATER UTILITIES
CITY OF DALLAS, TEXAS

DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
C. Flores	C. Flores	June 2015	41IQ	1845	116

MATCH MARK
13+00.0 WATERLINE 2
See Sheet 411Q-1845-Sh 116



PAVEMENT LEGEND

- PAVEMENT BY DWU
- PAVEMENT BY OTHERS
- DRIVEWAY BY OTHERS
- MEDIAN BY OTHERS

13+81.0 Prop. 8" Waterline 2
Install:
1- 8" X 8" Tee (S)
1- 8" Valve
10 LF 8" PVC C900 (DR-14) Water Pipe -
With Class "C" Embedment
Connect to Ex. 8" Water (S)
No Separate Pay Item
Cut & Plug Existing 8" Water Main
No Separate Pay Item

INSTALL 8" WATER PIPE

K111 Ex. 8" Water Built 1969-1971

PJ.14+28.2 Prop. 8" Waterline 2
< 4500'00" Rt.
End Waterline
Install:
1- 45' X 8" H. Bend
Connect to Ex. 8" Water (E)
No Separate Pay Item
Cut & Plug Existing 8" Water Main
No Separate Pay Item

PJ.14+17.0 Prop. 8" Waterline 2
< 4500'00" Rt.
Install:
1- 8" Valve (W)
1- 45' X 8" H. Bend

CAUTION ~ FIBER OPTIC !
Underground Fiber Optic Cables In Area
Contact Fiber Optic Co. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ GAS !
Underground Gas Main In Area
Contact AT.MOS Energy Corp. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377/1-800-545-6005

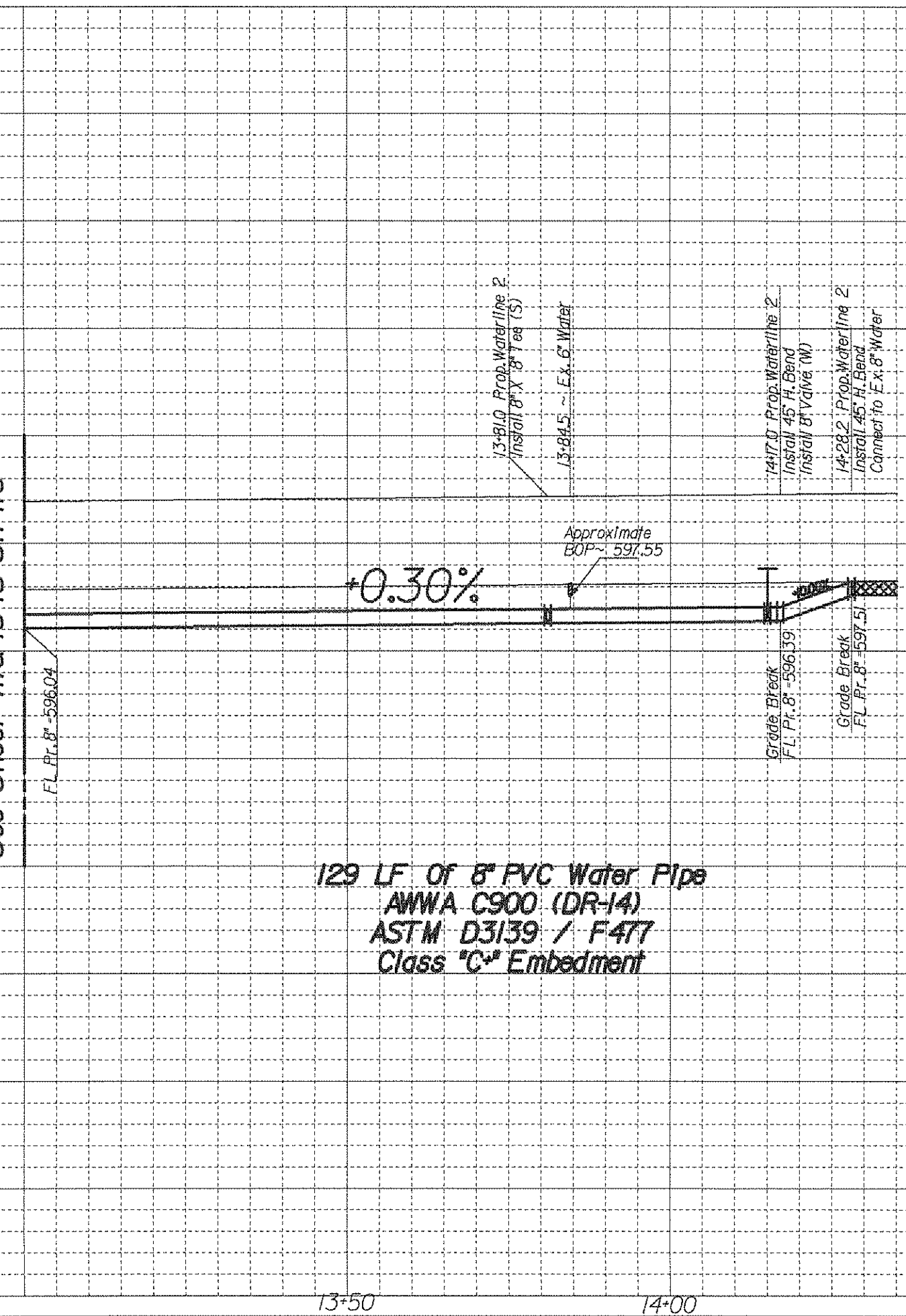
CAUTION ~ TELEPHONE !
Underground Telephone Cables In Area
Contact S.B.C. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

CAUTION ~ POWER !
Underground Electrical Cables In Area
Contact T.X.U. Two Working
Days Prior To Construction.
Tele: 1-800-344-8377

Note: Land Survey was provided by
Dallas County Public Works.
The design relies on the assumptions
provided by the survey

Note: Contractor to Backfill the Space
Between the Proposed Water and
Wastewater Lines and the Existing
Storm Sewer Laterals with Flowable
Backfill. No Separate Pay Item

MATCH MARK
13+000.0 WATERLINE 2
See Sheet 411Q-1845-Sh 116



129 LF Of 8" PVC Water Pipe
AWWA C900 (DR-14)
ASTM D3139 / F477
Class "C" Embedment

REV. NO.	DATE	DESCRIPTION	BY

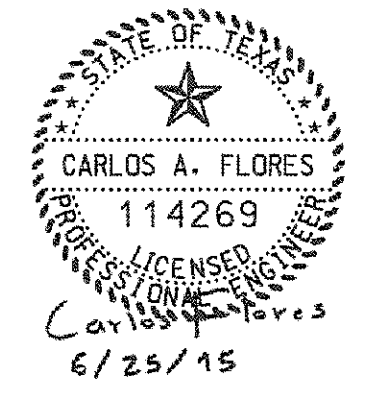
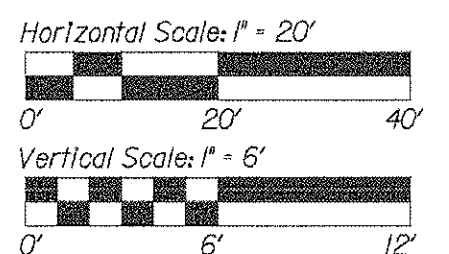
BENCHMARKS & CONTROL POINTS

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Haymeadow Drive. A standard Water Department Bench Mark on concrete curb on the northwest corner of the Intersection. Elevation: 625.28'

DWU BM: Standard WDBM - At the Intersection of Spring Valley Road and Cottonwood Creek. A Standard Water Department Bench Mark on concrete bridge over Cottonwood Creek on the northwest corner of the Intersection. Elevation: 561.85'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb of parking lot of Lowes Theatre. On the south side of Spring Valley Road, 365' west of centerline of St. Paul Drive. Elevation: 509.92'

DWU BM: Square Cut - At the Intersection of Spring Valley Road and St. Paul Drive. A square is cut on concrete curb of parking lot of Lowes Theatre. On the south side of Spring Valley Road, 148' west of centerline of St. Paul Drive. Elevation: 612.82'



REFERENCES

WATER	9-28W, 9-29W & 10-30W
WASTEWATER	BH H-3 & BH H-4

CONTRACT NO. 15-029/030F

PROP. 8" WATER MAIN

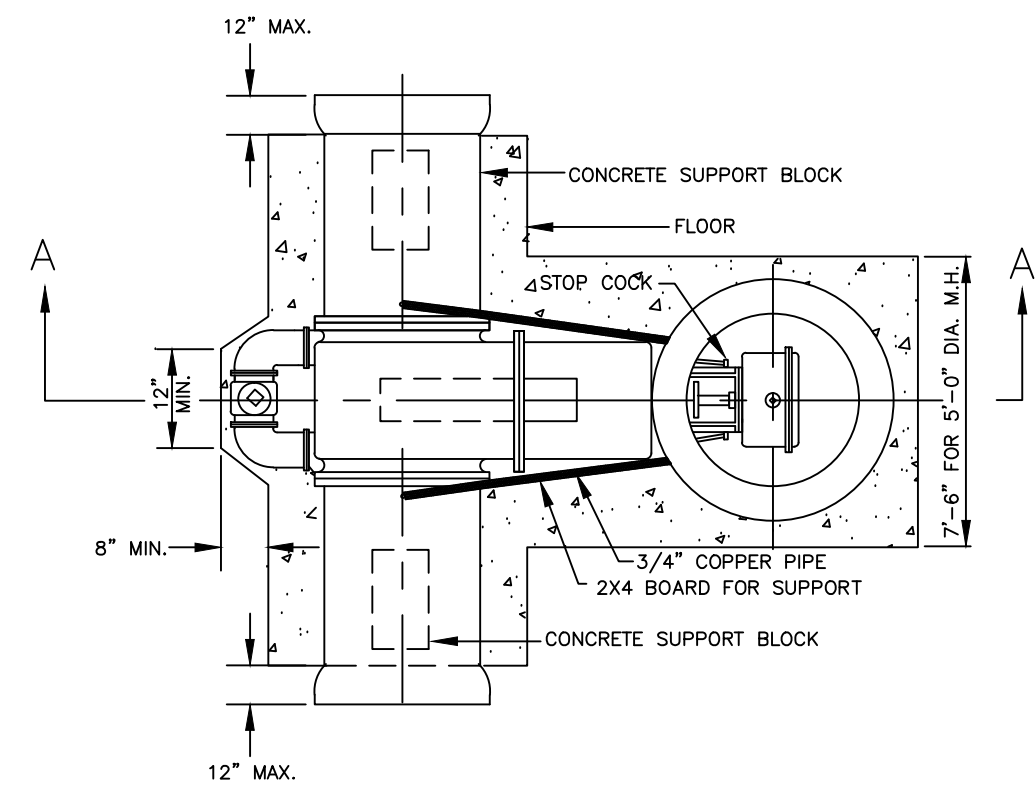
SPRING VALLEY ROAD

FROM COIT RD. TO GOLDMARK DR.

DALLAS WATER UTILITIES

CITY OF DALLAS, TEXAS

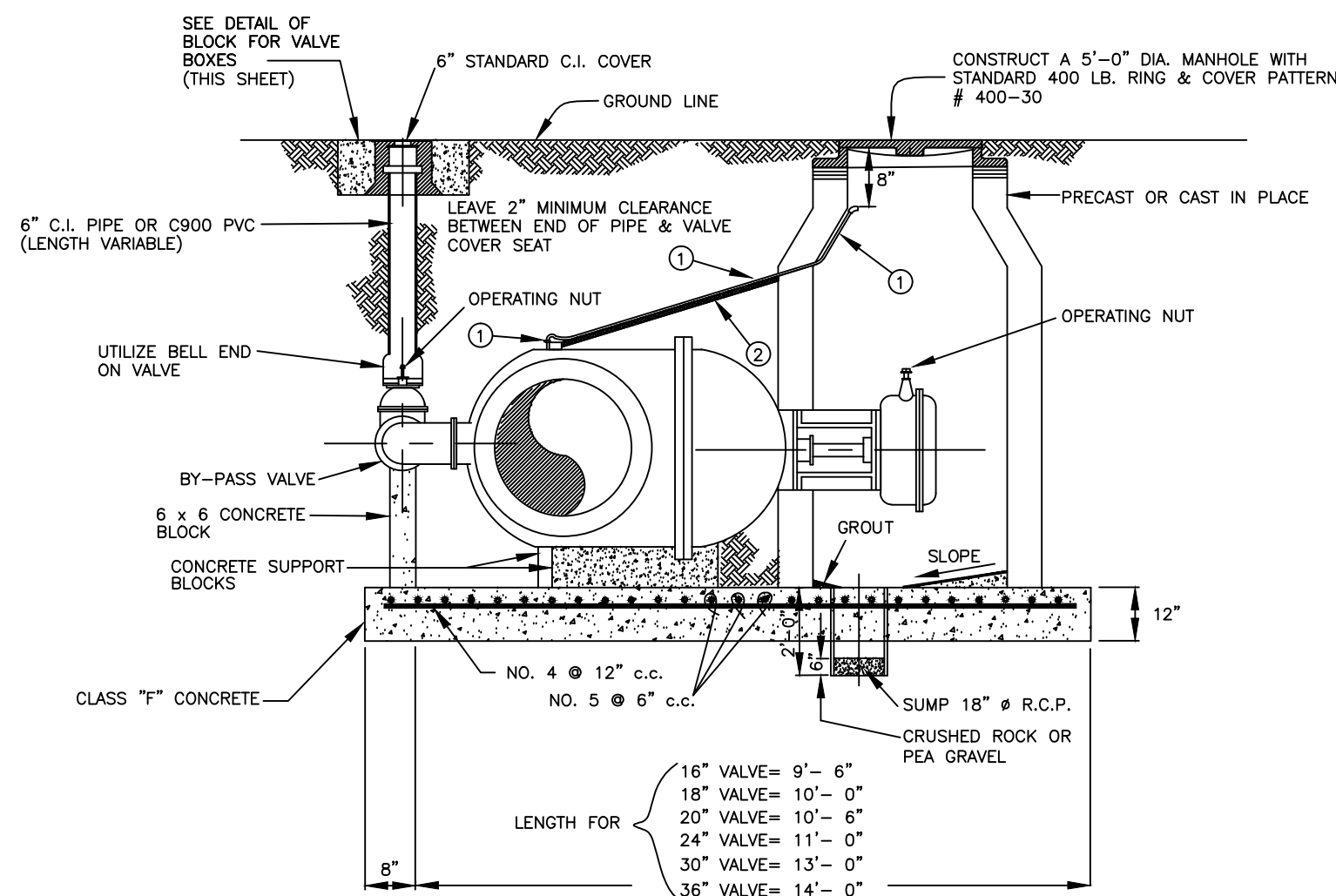
DESIGN	DRAWN	DATE	FILE	NUMBER	SHEET
C. Flores	C. Flores	June 2015	411Q	1845	116A



NOTES:

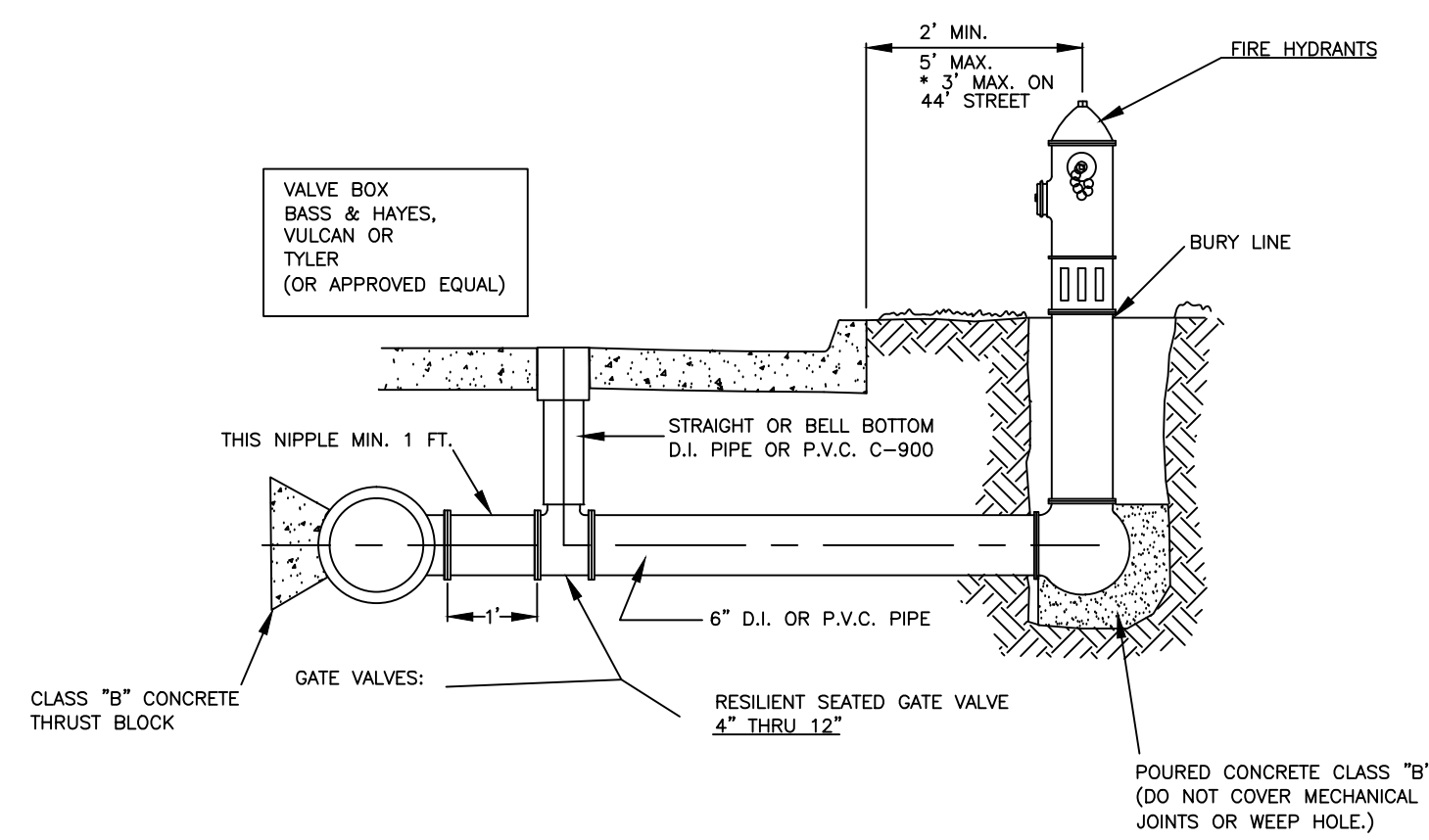
1. Valves shall have flanged ends. Flanged ends shall conform to ASA B16.1, Class 125 lb.
2. Rollers, tracks and scrapers for horizontal valves shall conform to AWWA Specification C500 with the following exception: Babbitt tracks will not be acceptable.
3. All valves 18" and larger shall be designed for horizontal pipe line unless otherwise called for. All other valves are to be vertical.
4. For cast in place or precast manholes, see sanitary sewer manholes for materials.

PLAN



SECTION A-A

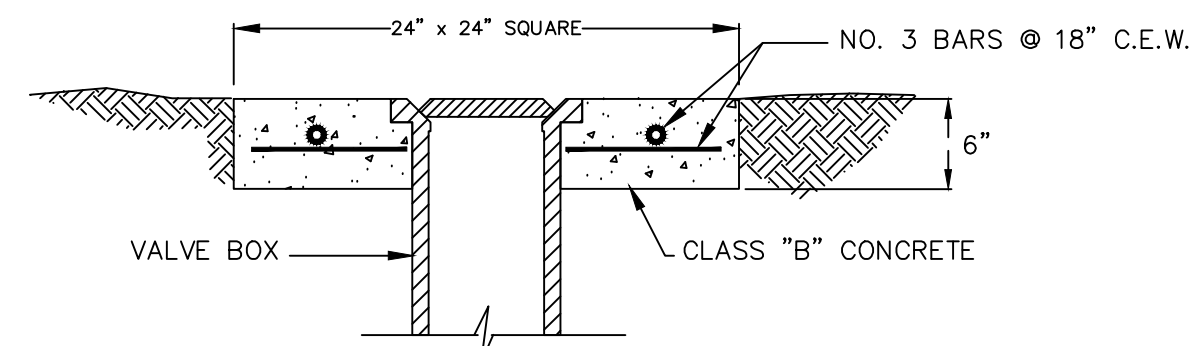
HORIZONTAL VALVE INSTALLATION



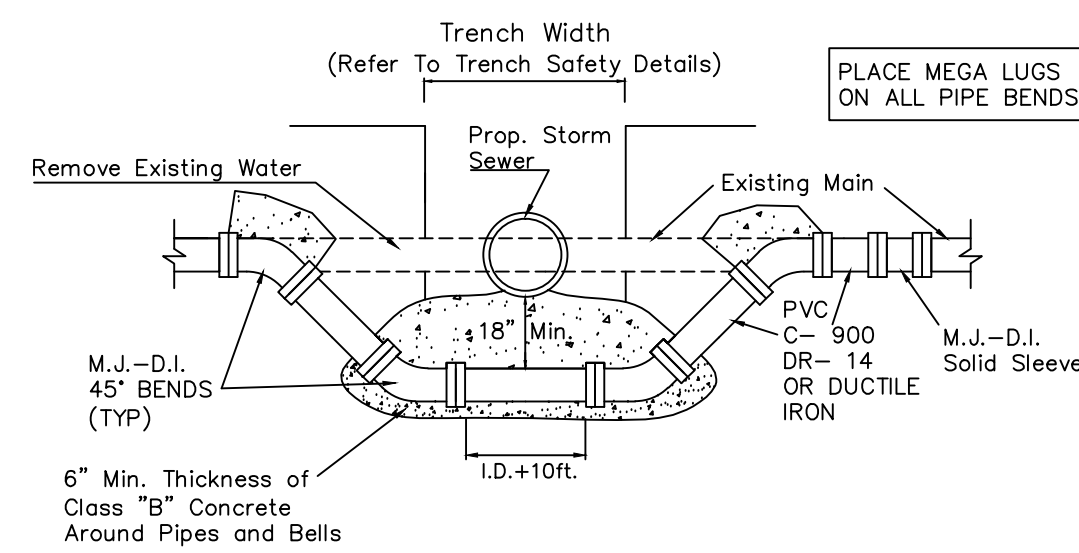
NOTES:

1. ALL FITTINGS ARE MECHANICAL JOINTS, EXCEPT VALVE TO TEES OR WYES MAY BE FLANGE TO FLANGE.
2. PLACEMENT OF FIRE HYDRANTS IN SIDEWALK IS PROHIBITED.
3. PEA GRAVEL TO BE PLACED AROUND WEEP HOLE.
4. HYDROLOCK IS NOT REQUIRED.

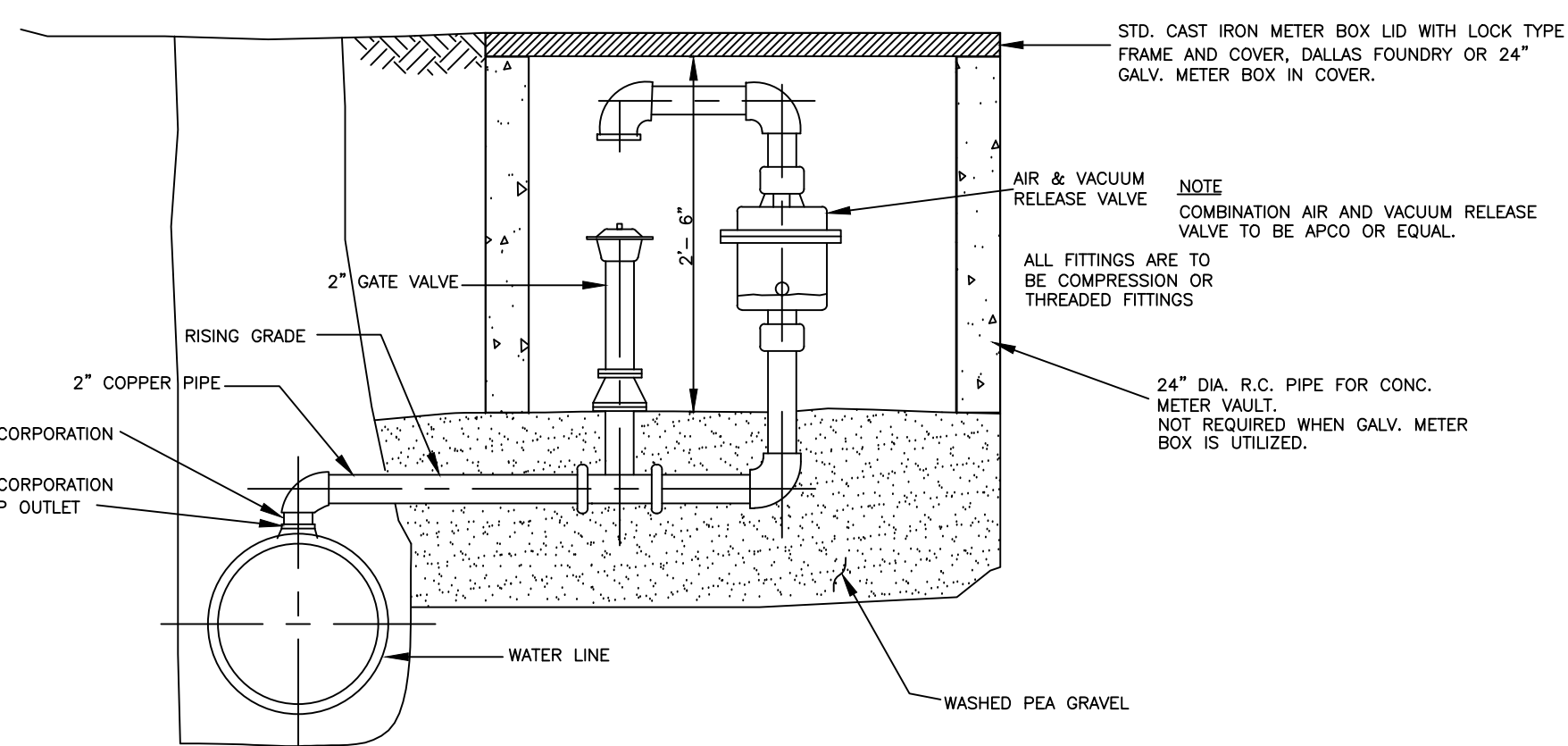
FIRE HYDRANT ASSEMBLY



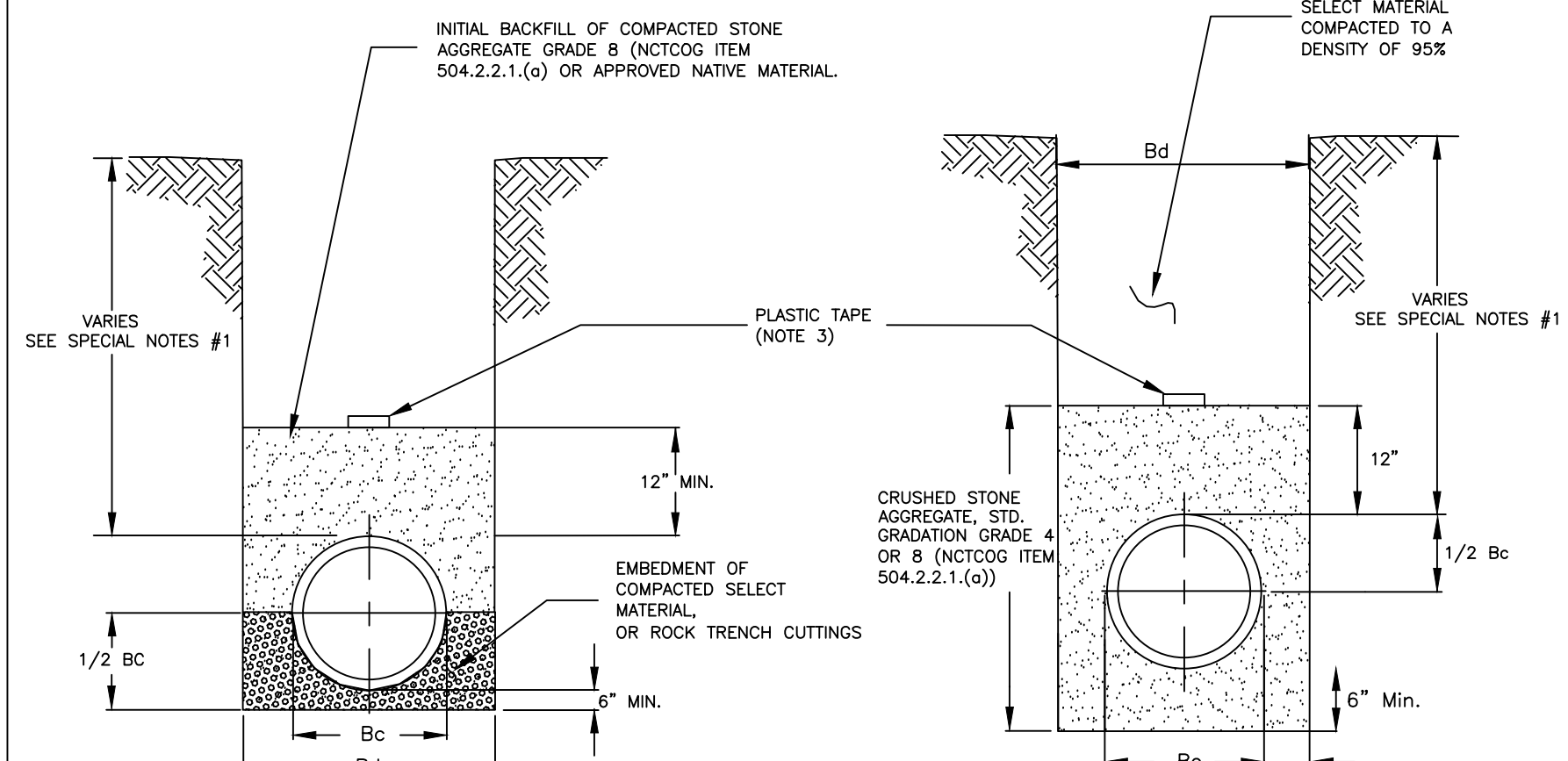
DETAIL OF BLOCK FOR VALVE BOXES NOT IN PAVEMENT



WATER MAIN LOWERING



AIR RELEASE VALVE



DUCTILE

P.V.C. C-900 (CLASS 200)

EMBEDMENT FOR WATER CONDUITS

ACCEPTED MATERIALS MANUFACTURERS (SEE NOTE 9)

GATE VALVES

M & H
CLOW

RESILIENT SEATED GATE VALVE

4" THRU 12"
MUELLER
CLOW
KENNEDY
AFC
AVK

TAPPING SLEEVES

M & H
CLOW
MUELLER
AFC
TYLER

TAPPING VALVES

M & H
CLOW
MUELLER
AFC
AVK

FIRE HYDRANTS

MUELLER #A423
M & H #129
CLOW #F2545
KENNEDY 5-1/4" K81D
AVK #2700
WATEROUS #WB-67

ADJUSTABLE VALVE BOX WITH LID

TYLER
BASS & HAYES
EAST JORDAN IRON WORKS

VALVE BOX WITH LID

FOR USE WITH C-900 P.V.C. VALVE STACK
EAST JORDAN IRON WORKS
TYLER
BASS & HAYES

STAINLESS STEEL WATERMAIN REPAIR CLAMP WITH OR WITHOUT SERVICE OUTLET

MUELLER
FORD

APPROVED PIPE

4-12" C-900-DR 14
GREATER THAN OR EQUAL TO 14" C-905-DR 18
CLASS 200, DR 14
DUCTILE IRON: CLASS 50 & 51 WITH MECHANICAL JOINT ACCESSORIES CEMENT LINED.

APPROVED FITTINGS

MADE IN USA ONLY

COMBINATION AIR VALVES

STANDARD, SINGLE- BODY DOUBLE ORIFICE
1" THRU 6"; APCO OR APPROVED EQUAL

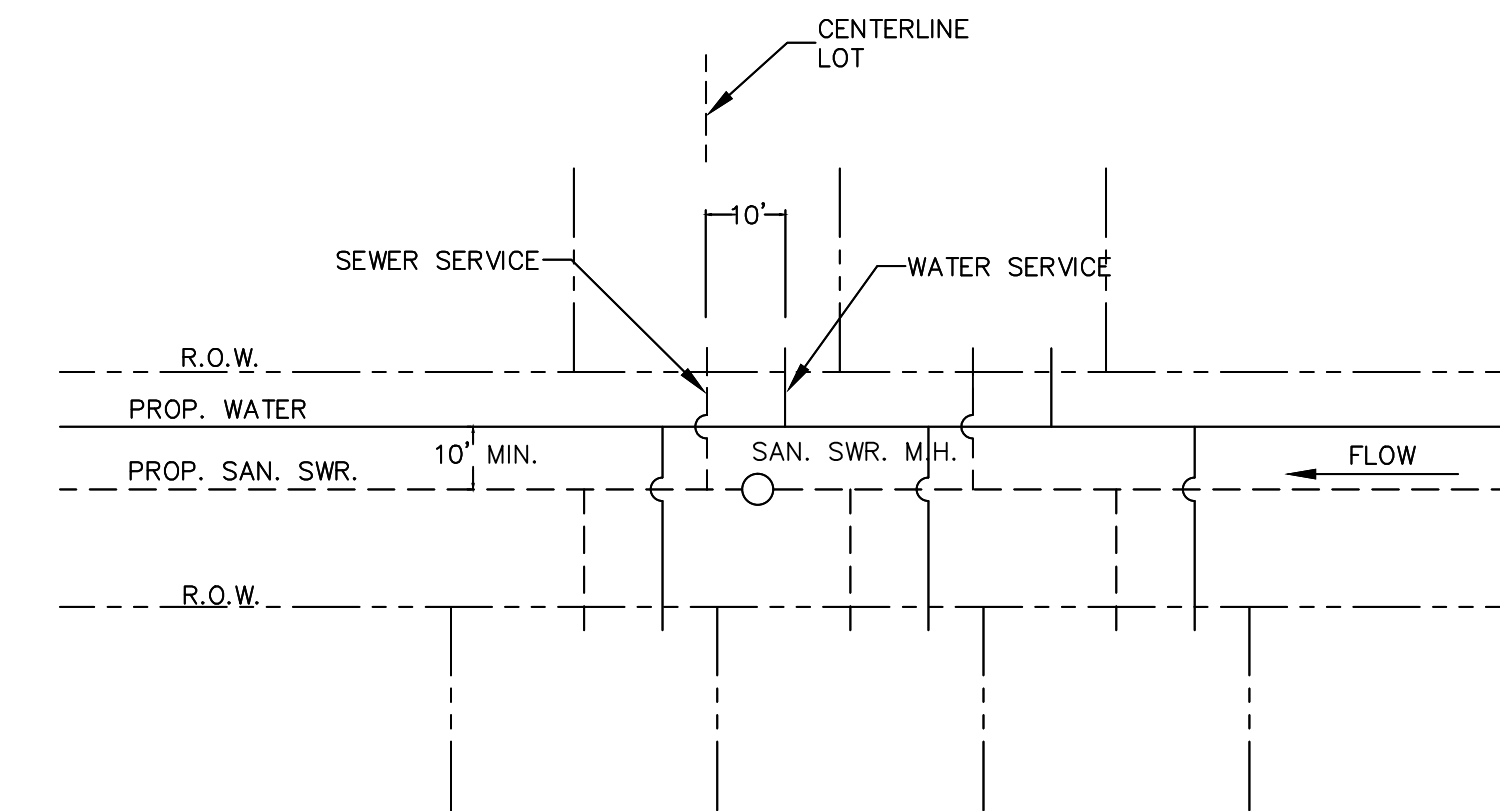
GATE VALVES FOR COMBINATION AIR VALVES

1" THRU 2"
NIBCO # T- 131; # T- 133, OR APPROVED EQUAL

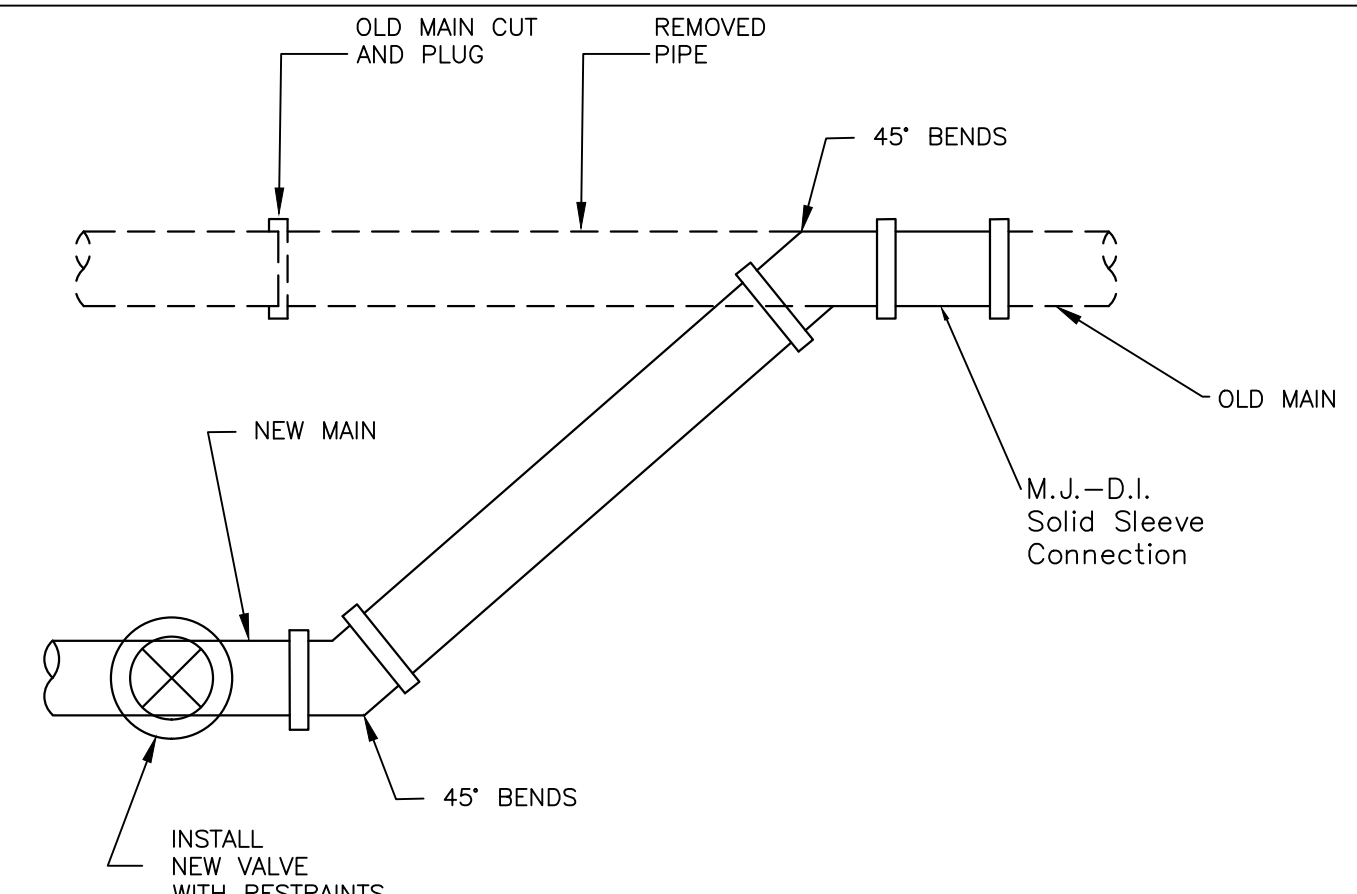
ALL MATERIALS AND WORKMANSHIP TO CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITION OF THE CITY OF RICHARDSON'S MANUAL FOR GENERAL PROCEDURES FOR THE DESIGN OF WATER AND SEWER LINES AND WATER DEPARTMENT STANDARDS.

SPECIAL NOTES:

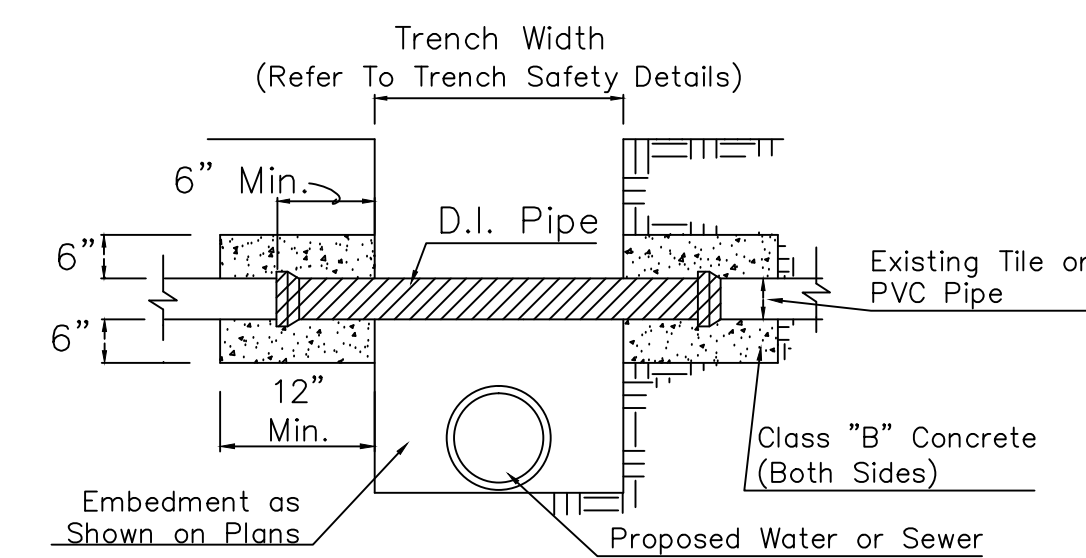
1. WATER MAINS SHALL HAVE THE FOLLOWING MINIMUM COVER BELOW STREET GRADES: 6", 3.5', 8", 4.0', 12", 5.0': LARGER, AS SHOWN ON PLANS.
2. ALL RESIDENTIAL WATER SERVICES SHALL BE 1" MINIMUM.
3. PLASTIC TAPE FOR SERVICES TO BE ATTACHED TO THE ENDS OF ALL SERVICE LINES AND EXTEND ABOVE GROUND LEVEL. THE TAPE SHALL MEET THE FOLLOWING SPECIFICATIONS:
 - a. "ALLEN MARKING TAPE" OR EQUAL.
 - b. ROLL MARKED CONTINUOUSLY, "CAUTION SEWER LINE", OR "CAUTION WATER LINE".
 - c. SIX (6) INCHES IN WIDTH.
 - d. GREEN TAPE FOR SEWER SERVICES, BLUE TAPE FOR WATER SERVICE.
4. LOCATE WATER SERVICES 10 FT. UPSTREAM OF SANITARY SEWER SERVICES.
5. ALL STUBOUTS SHALL BE ONE FULL JOINT OF PIPE.
6. REMOVE BLEEDER AND PLUG WITH BRASS PLUG.
7. CONTRACTOR SHALL MEET (TOEQ) STANDARDS FOR SEPARATION OF WATER AND SEWER CONDUITS.
8. CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, LABOR, MATERIALS, AND ANY OTHER APPURTENANCES NECESSARY TO TEST WATER AND SEWER LINES TO CITY STANDARDS.
9. APPROVED MATERIALS LIST IS AVAILABLE FROM THE UTILITY SYSTEMS MANAGER ENGINEER AT THE CITY OF RICHARDSON SERVICE CENTER 1260 COLUMBIA DRIVE, RICHARDSON, TEXAS. TELEPHONE 972-744-4411.



TYPICAL LOT SERVICE DETAIL



WATER MAIN CONNECTION DETAIL

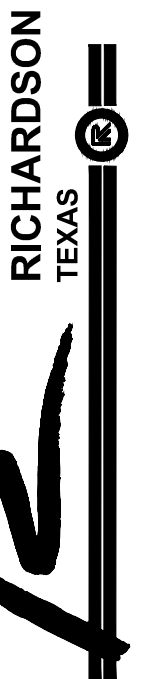


UTILITY SUPPORT DETAIL

Revisions:

City of Richardson
411 W. Arapaho Road
Suite 204
Richardson, Texas 75080
voice: 972 744-4280
fax: 972 744-5804

Drawn By: RGB
Checked By: COR



STANDARD DETAILS
City of Richardson, Texas

NO ADDITIONS OR CHANGES TO STANDARD DETAIL SHEETS UNLESS APPROVED BY CITY OF RICHARDSON

24"x36" Scale: NTS

11"x17" Scale: NTS

Vertical Scale: NA

Project Number: XXX

Issue Date: 01 MAY 14

Sheet Title:

WATER

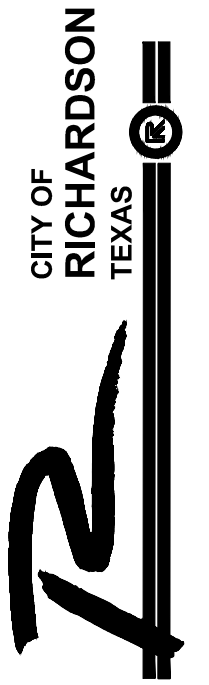
Sheet No.:

C-1

Revisions:

City of Richardson
411 W. Arapaho Road
Suite 204
Richardson, Texas 75080
voice: 972 744-4280
fax: 972 744-5804

Drawn By: RGB
Checked By: COR



STANDARD DETAILS

City of Richardson, Texas

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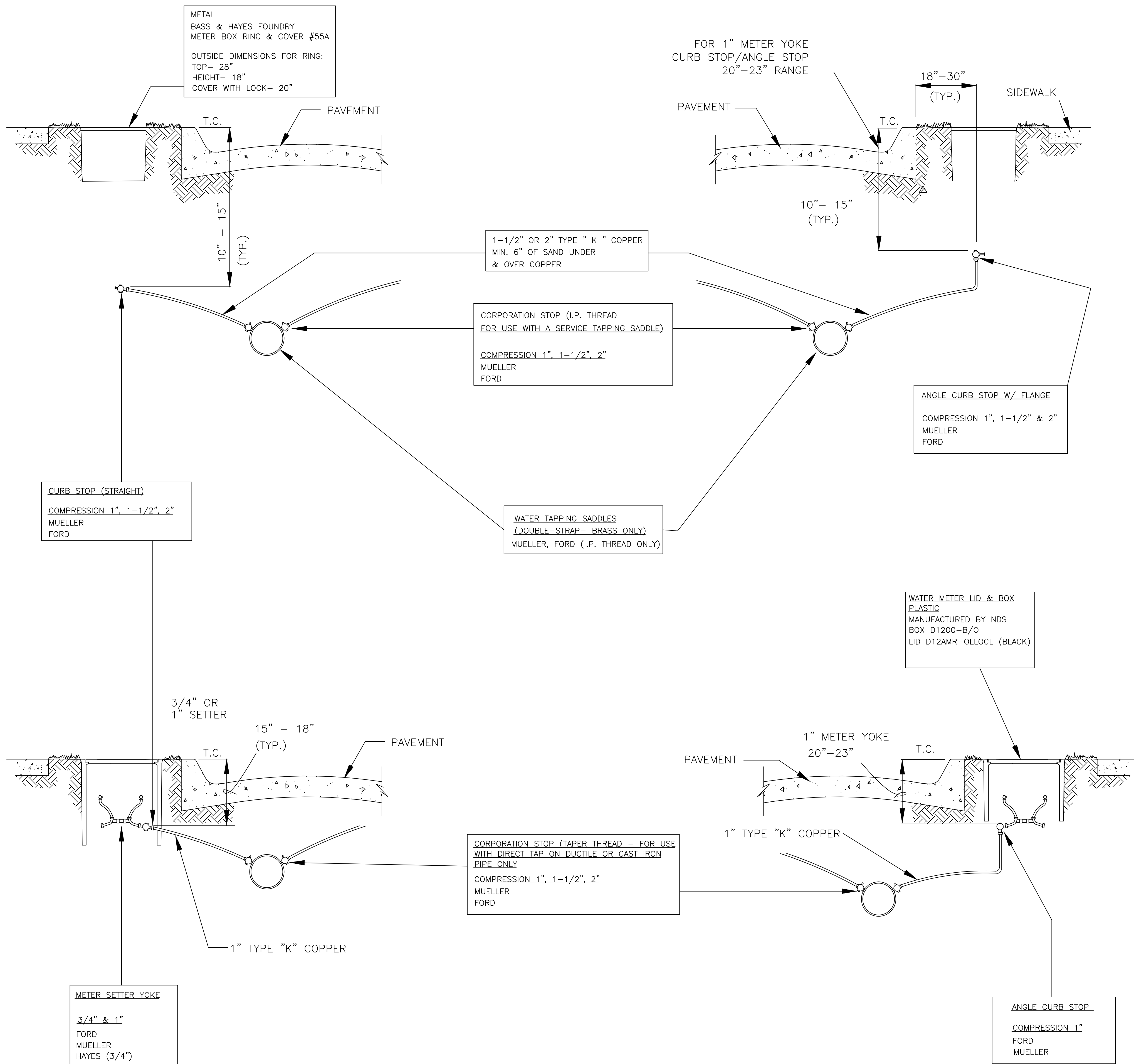
Issue Date: 01 MAY 14

Sheet Title:

WATER SERVICE

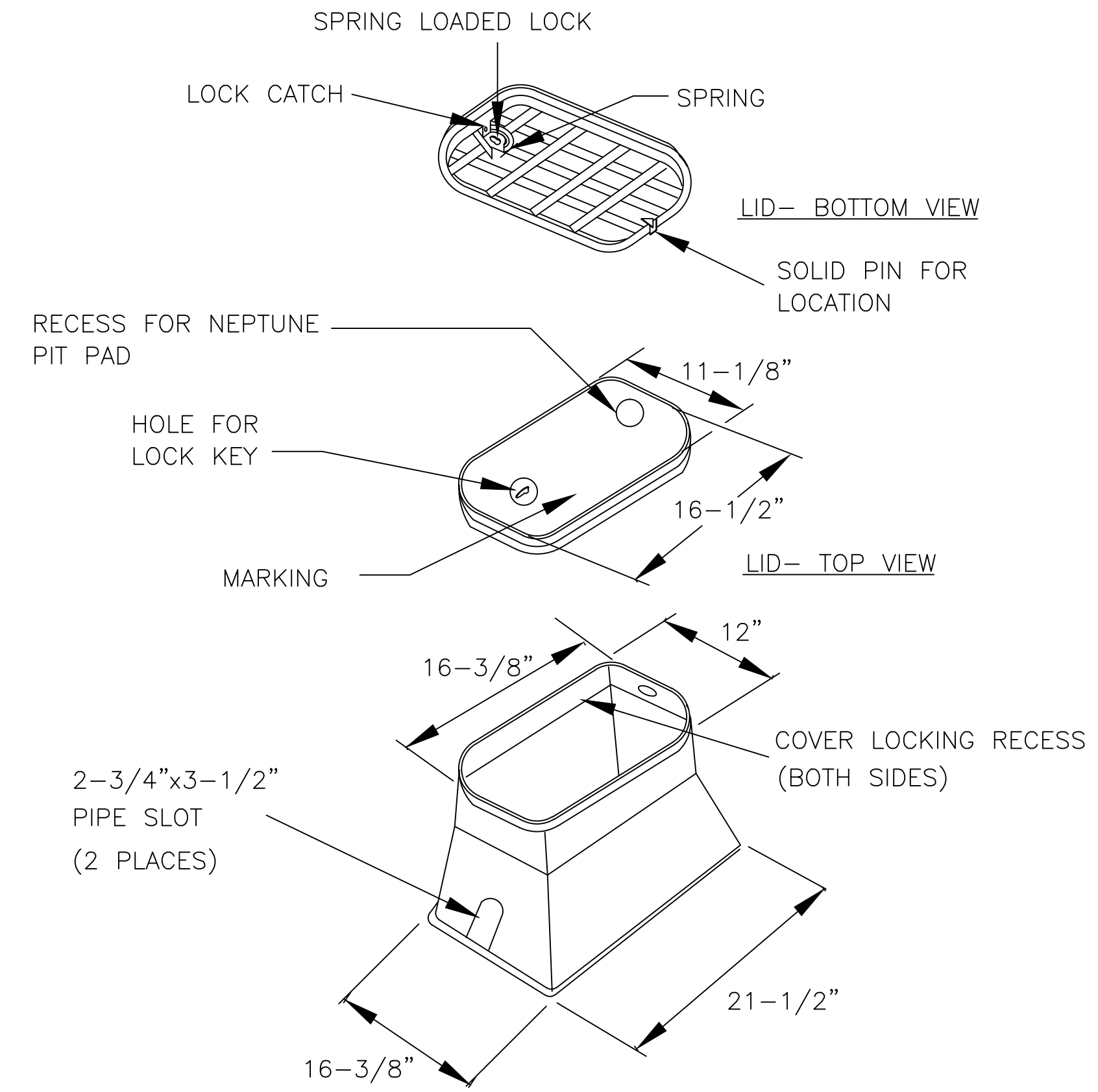
Sheet No.:

C-2



WATER METER LID AND BOX

MANUFACTURED BY NDS
SEE NOTE 2



MISCELLANEOUS METER FITTINGS

(PROVIDED BY CONTRACTOR)

3/4" METER INSTALLATIONS:

- 1" to 3/4" brass pipe thread reducer, any brand.
- 3/4" x 3" brass nipple, any brand.
- For 1" angle stops: 1- 1/4" x 3/4" water meter bushings.
- Acceptable Brands: Ford or approved equal brand, see Note 2.
- One plastic Water Meter Box and lid, NDS brand, see Note 2.

1" METER INSTALLATIONS:

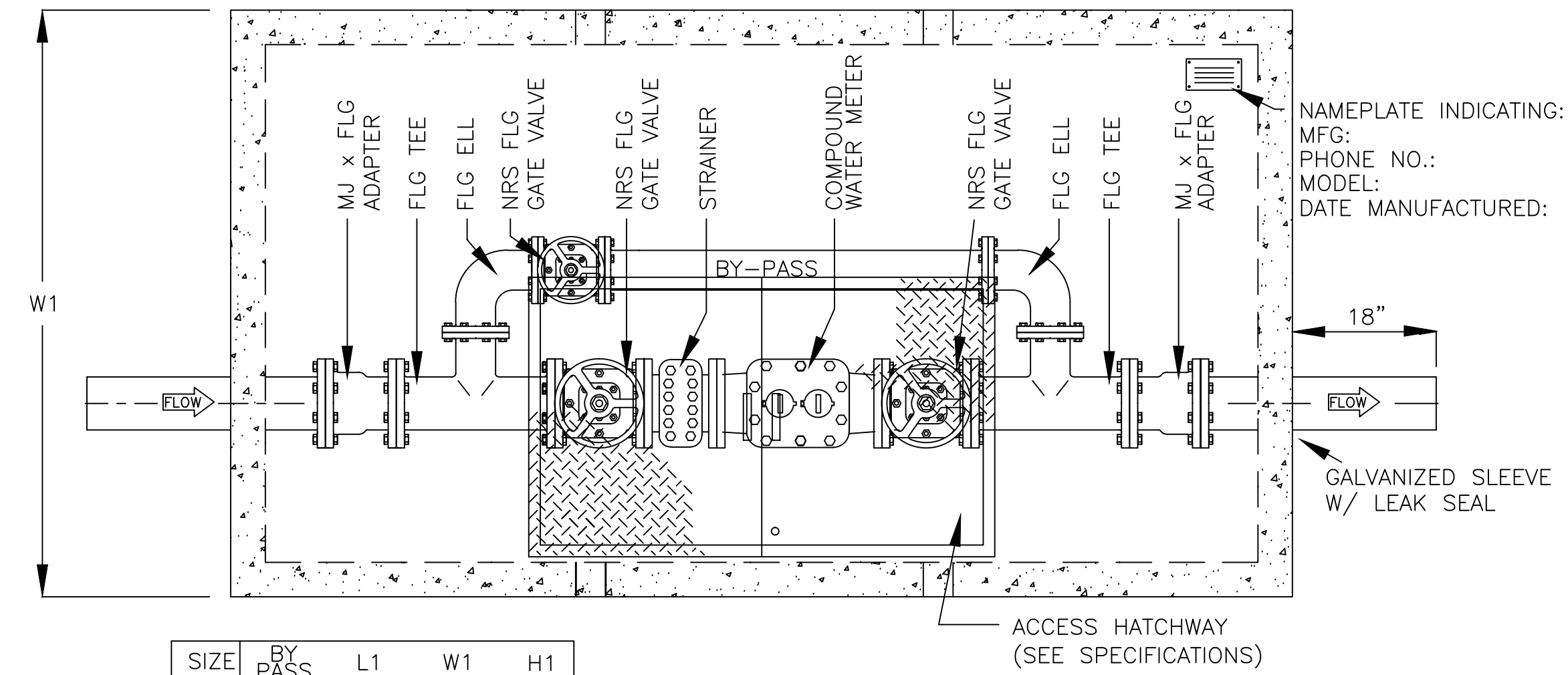
- 1" x 3" brass nipple, any brand.
- For 1" angle stops: 1- 1/4" x 1" water meter bushings.
- Acceptable Brands: Jones, Mueller, and Ford, see Note 2.
- One plastic Water Meter Box and lid, NDS brand, see Note 2.

1- 1/2" & 2" METER INSTALLATIONS:

- 3" long brass nipple, any brand.
- 2 bolt meter flange: all brass with female pipe thread connections, any brand.
- 28" x 18" galvanized meter box with utility key lock.
- Bass & Hayes #55A

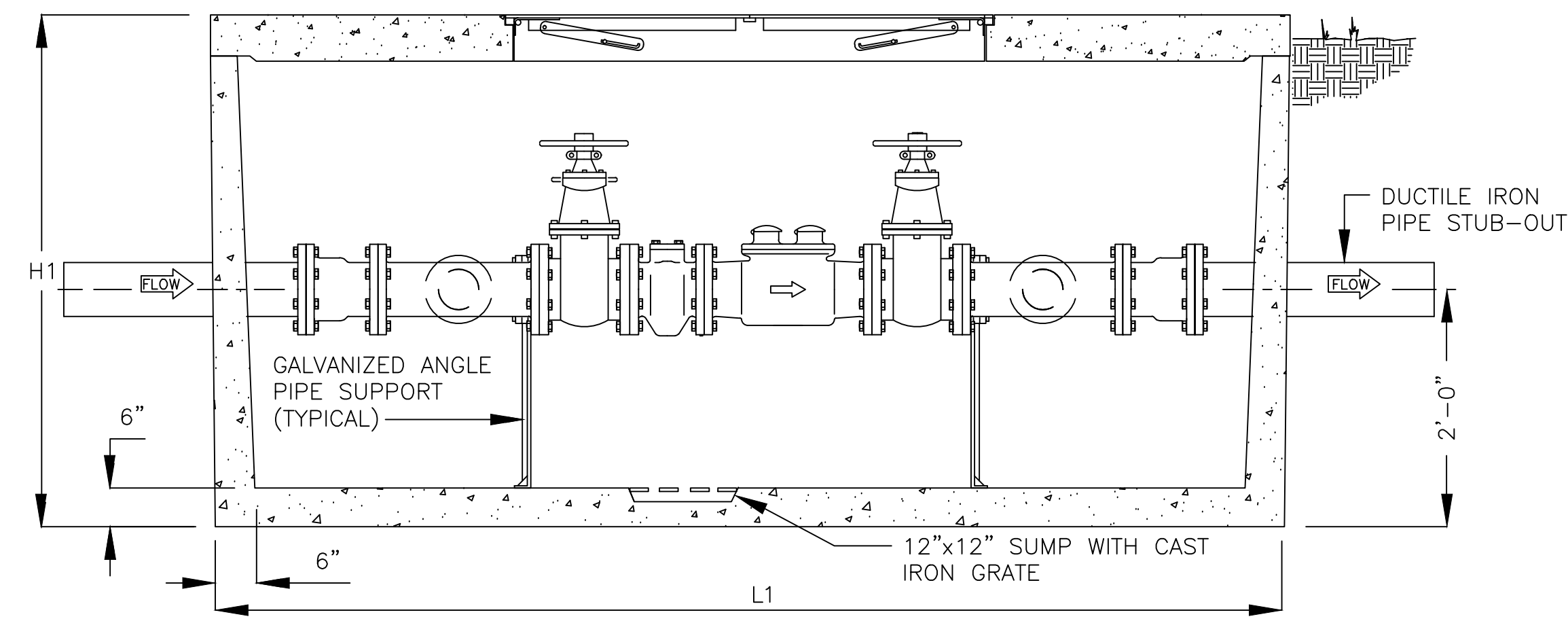
NOTES:

- Dimensions shown are approximate.
- Approved materials list is available from the Water Utility Systems Manager Engineer at the City of Richardson Service Center 1260 Columbia Drive, Richardson, Texas. Telephone 972-744-4411.
- Flare fittings are not allowed.
- Center Meter in Parkway between sidewalk and back of curb. Do not place box in sidewalk.



SIZE	BY PASS	L1	W1	H1
4"	2"	8'-8"	4'-8"	4'-6"
6"	4"	11'-0"	6'-0"	4'-6"

PLAN VIEW



ELEVATION

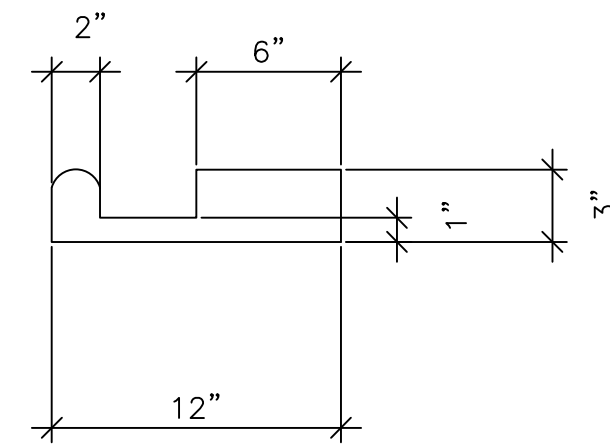
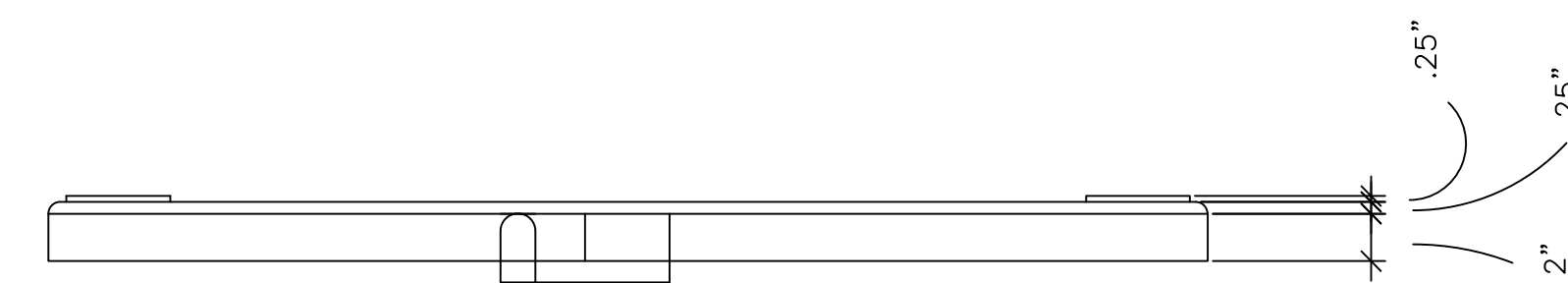
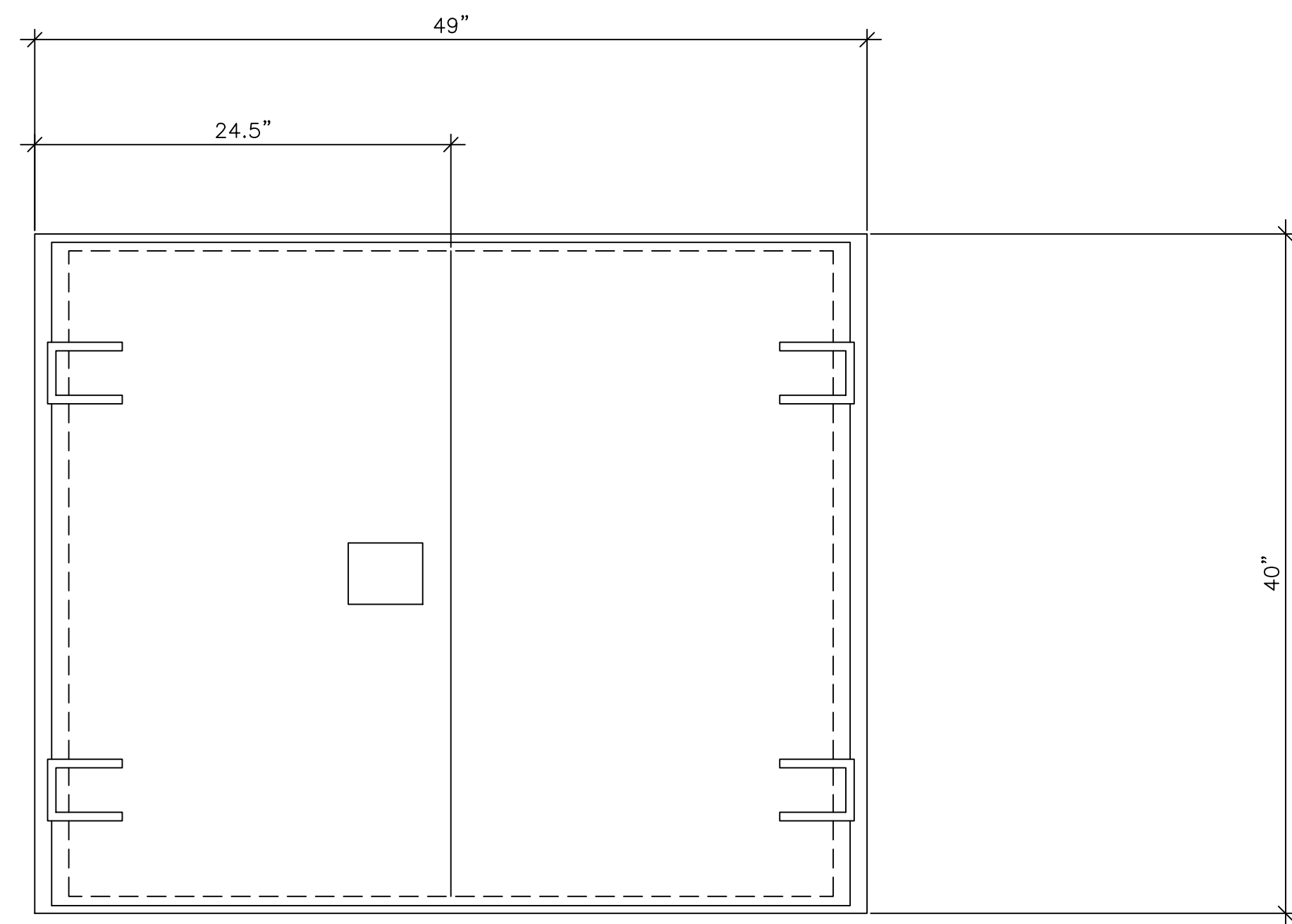
PIPE AND FITTINGS SHALL BE DUCTILE IRON

SPECIFICATIONS

- CONCRETE : CLASS 1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR AND FIRST STAGE OF WALL WITH SECTIONAL RISER TO REQUIRED DEPTH.
- REINFORCEMENT: GRADE 60 REINFORCED STEEL BAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.
- HATCHWAY: 3' X 5' GALVANIZED STEEL DOUBLE LEAF SPRING ASSISTED HATCHWAY - TRAFFIC RATED W/ SLAM LOCK.

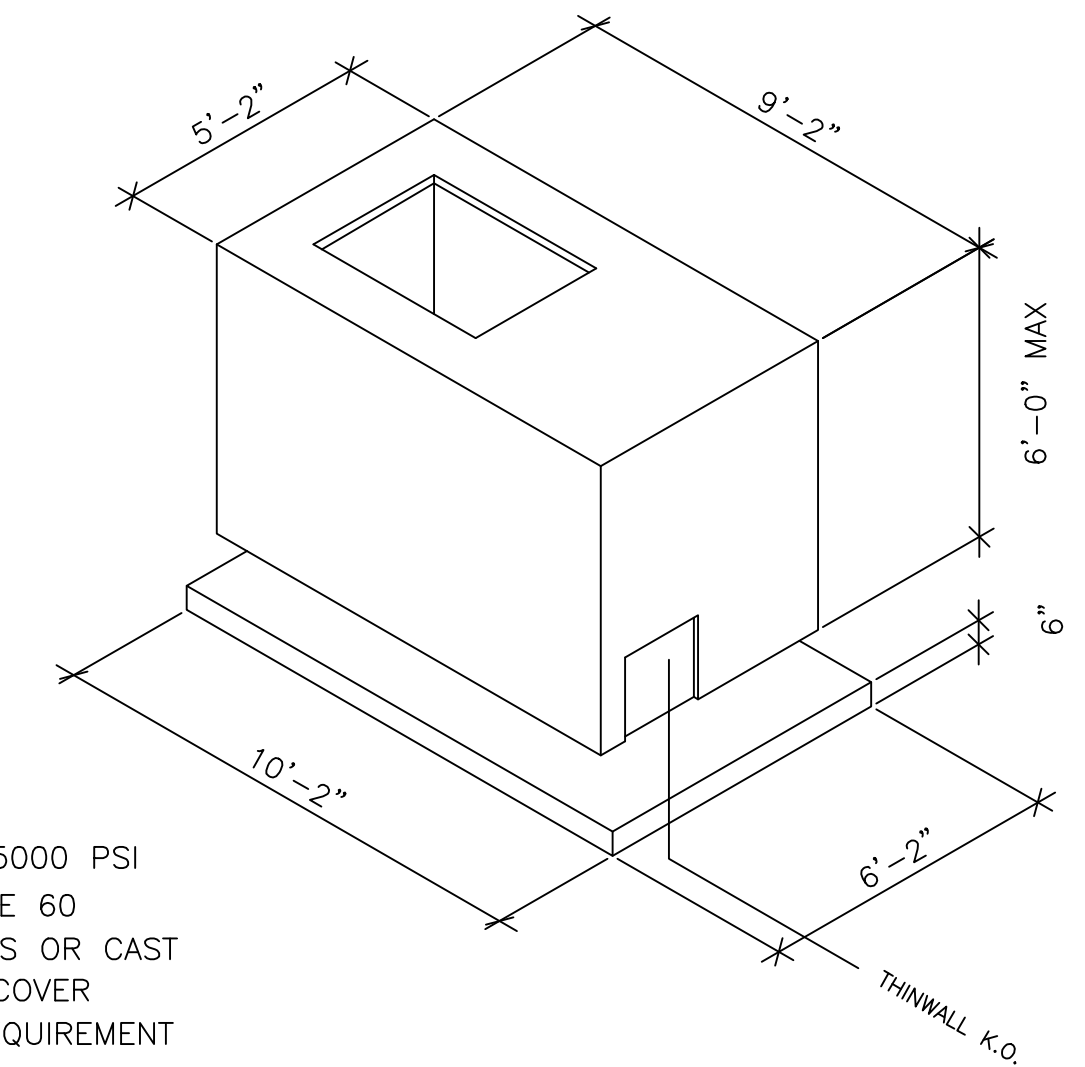
1. PRECAST VAULT SHALL BE FROM HANSEN PIPE & PRECAST, GRAND PRAIRIE, TEXAS PLANT OR APPROVED OTHER EQUAL.
2. DIMENSIONS SHOWN ARE APPROXIMATE ONLY.
3. SHOP DRAWINGS SHALL BE SUBMITTED BY CONTRACTOR FOR APPROVAL BY THE ENGINEER AND ACCEPTANCE BY CITY OF RICHARDSON PRIOR TO CONSTRUCTION.

DOMESTIC WATER METER VAULT



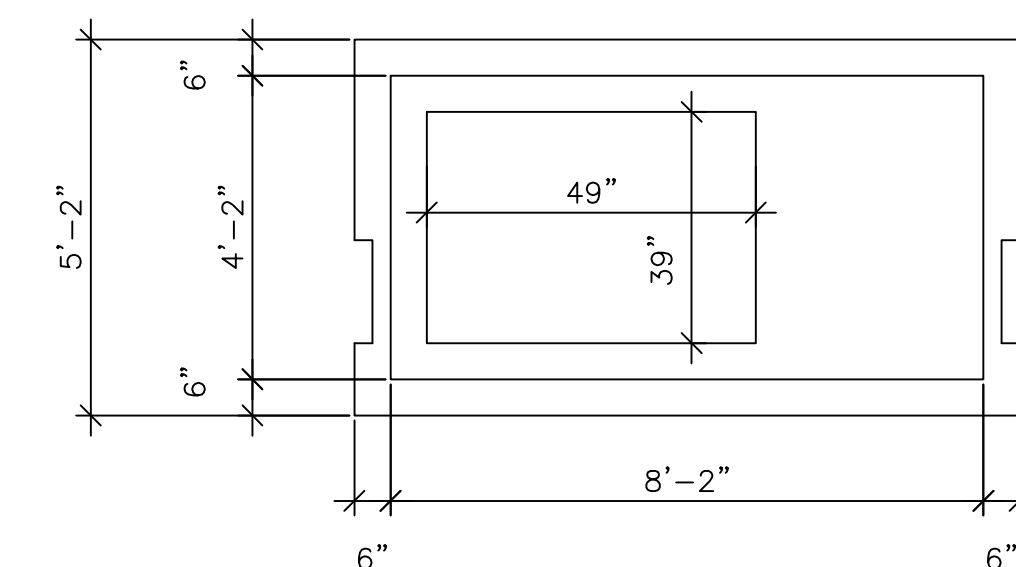
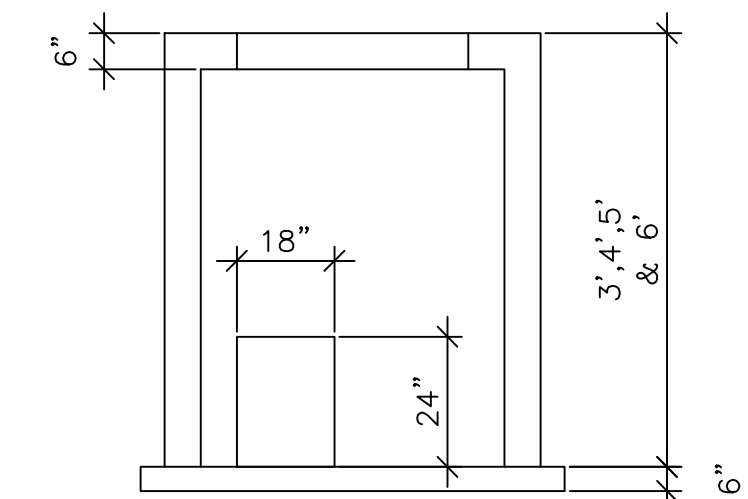
1. NON-STICKING HINGES
2. LOCKING HASP FOR YOUR LOCK
3. FACTORY APPLIED PRIME COAT
4. EASY OPENING HANDLE
5. 1/4" PLATE DOOR

DOUBLE LEAF METAL DOOR



1. CONCRETE: 5000 PSI
2. REINF. GRADE 60
3. METAL DOORS OR CAST IN RING & COVER PER JOB REQUIREMENT
4. FLOOR SLAB OPTIONAL

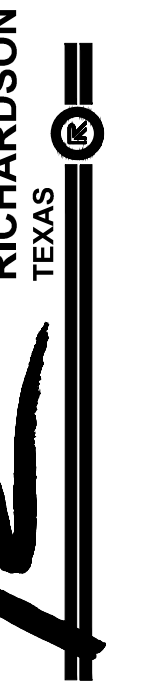
**HANSEN PIPE & PRECAST
COMPOUND METER VAULT
GRAND PRAIRIE, TEXAS PLANT**



Revisions:

City of Richardson
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fax: 972 744-5804

Drawn By: RGB
Checked By: COR



**STANDARD
DETAILS**
City of Richardson, Texas

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24"x36" Scale: NTS

11"x17" Scale: NTS

Vertical Scale: NA

Project Number: XXX

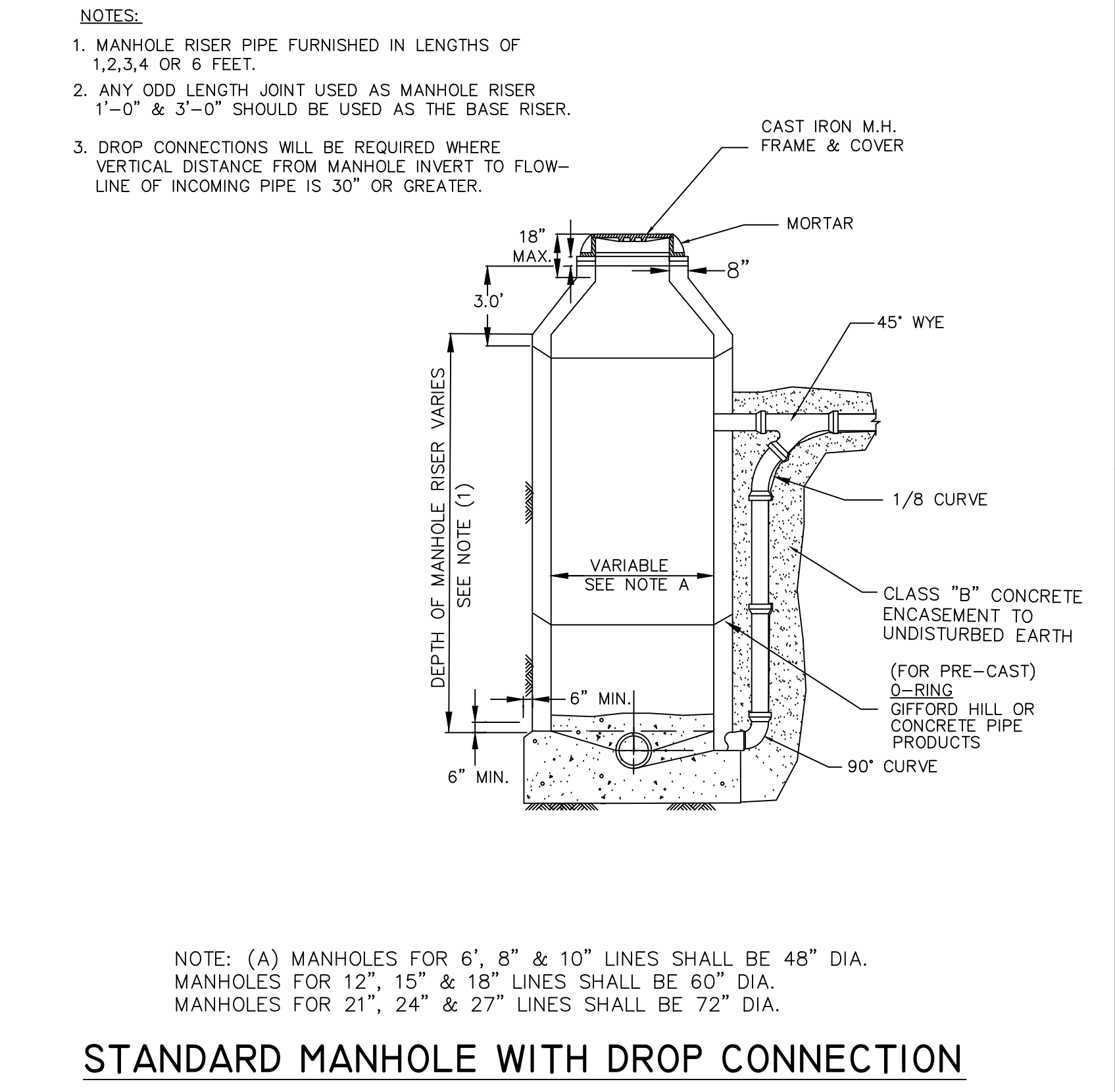
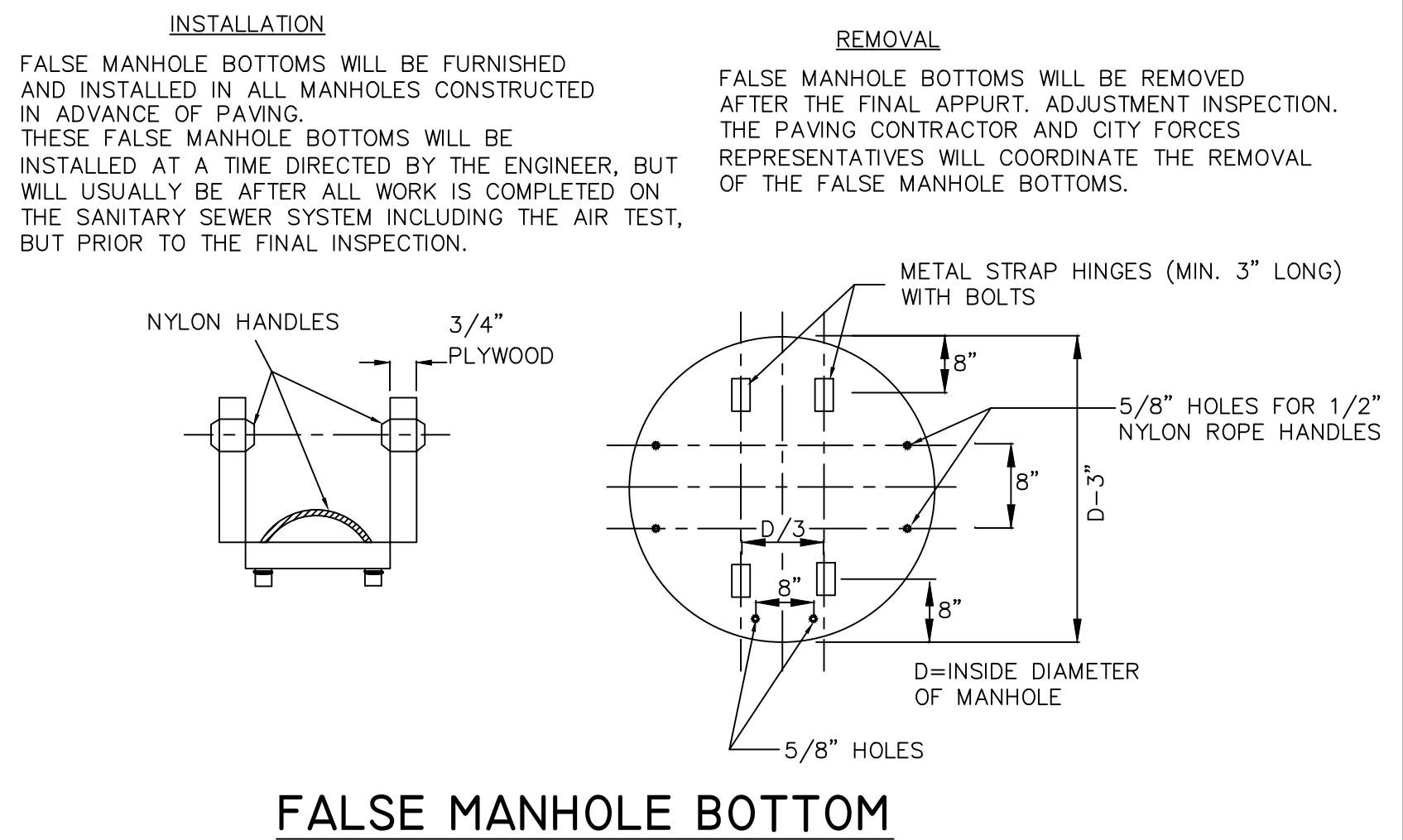
Issue Date: 01 MAY 14

Sheet Title:

**WATER
VAULT**

Sheet No.:

C-3



SEWER COLLECTION MATERIALS

STANDARD BOLT DOWN TYPE RING & COVER
(To be used on trunklines, areas of flooring, or as specified)
5/8" stainless hex cap screws
Acceptable Brands:
Boss & Hayes VRM-30 Watertight or approved equal

STANDARD 400 LB RING & LID
(To be used at all times)
Pattern #400-30D
Acceptable Brands:
Boss & Hayes VRM-30 or approved equal

STANDARD 400 LB RING EXTENSION
Pattern #400-30
3" Rise Only
Acceptable Brands:
Boss & Hayes

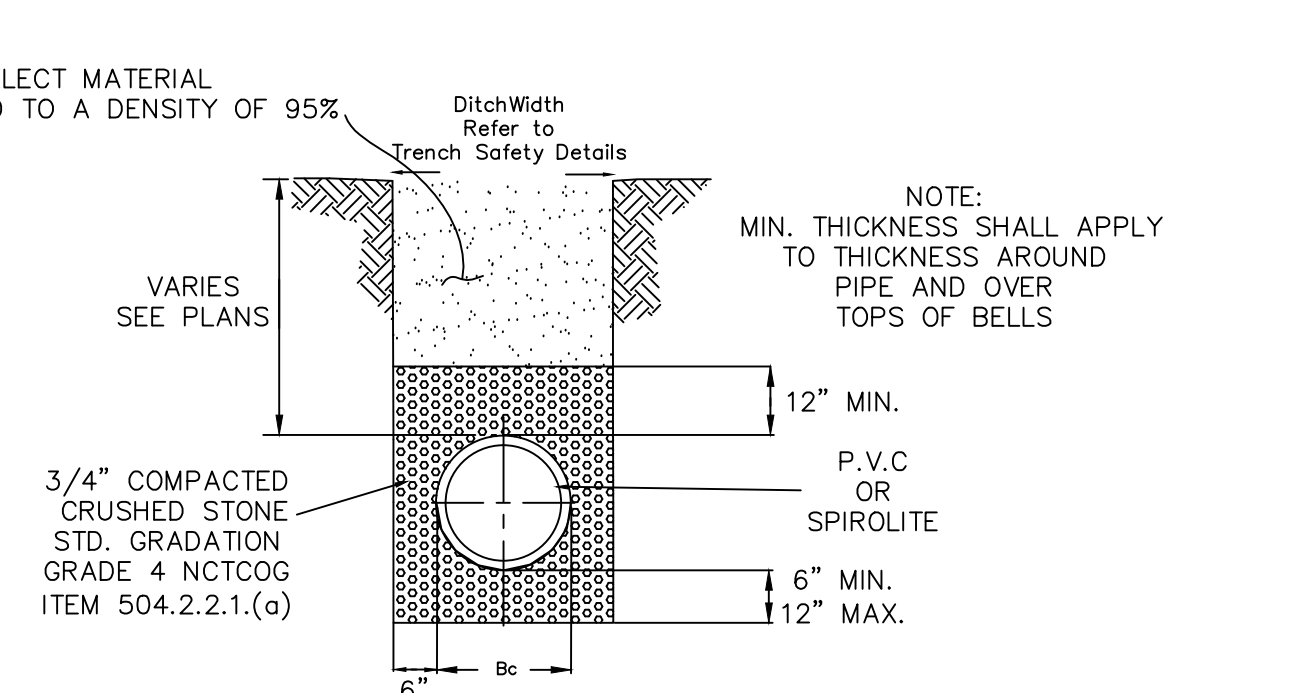
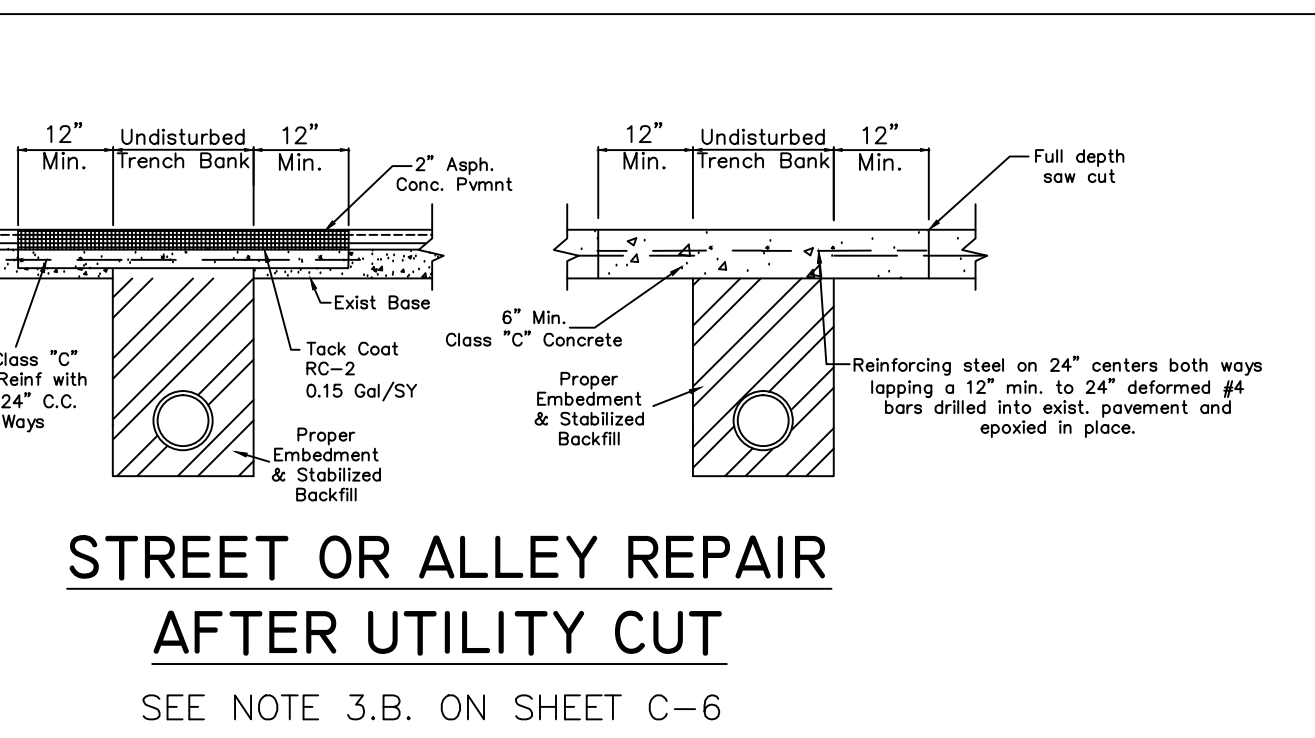
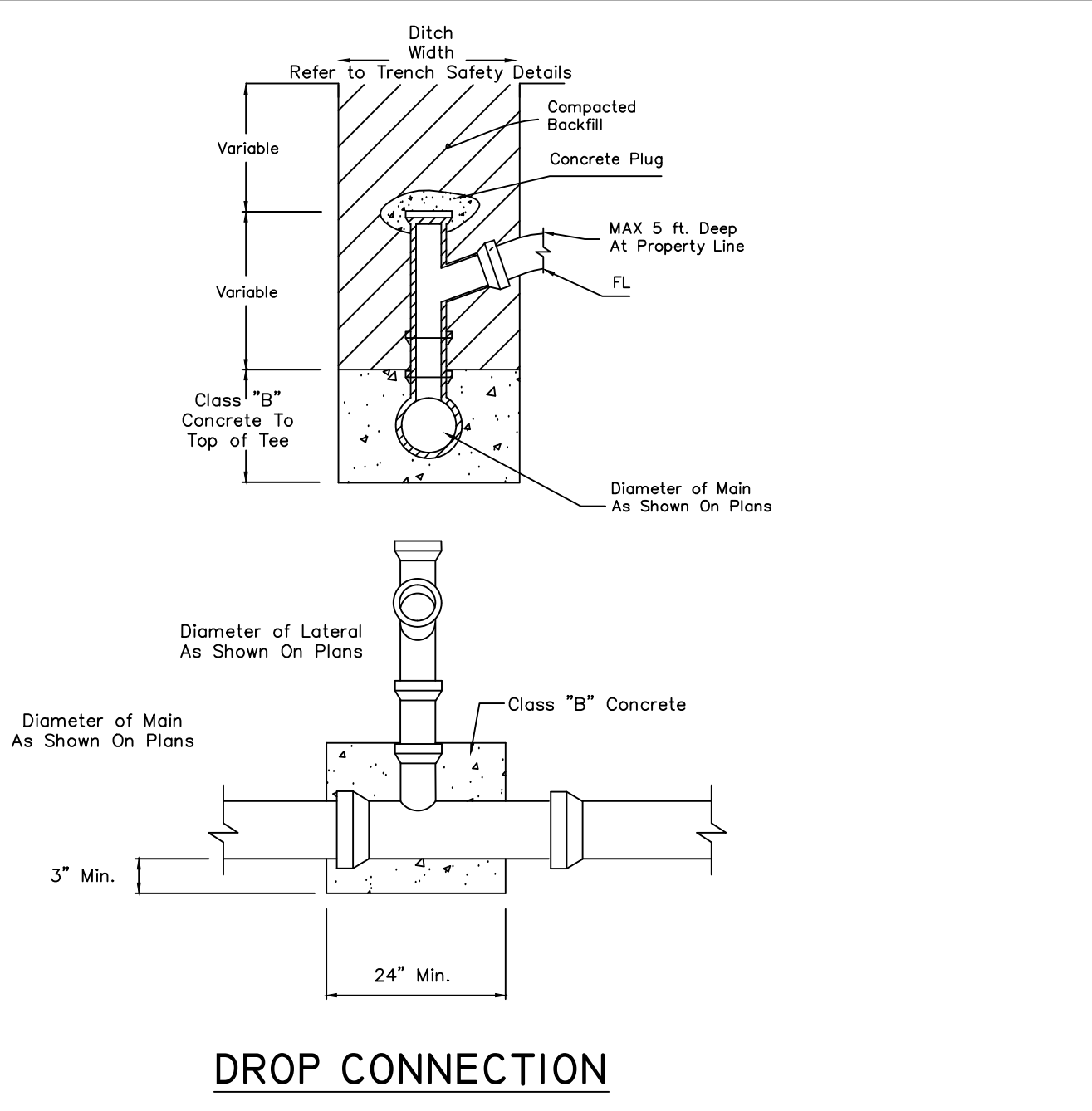
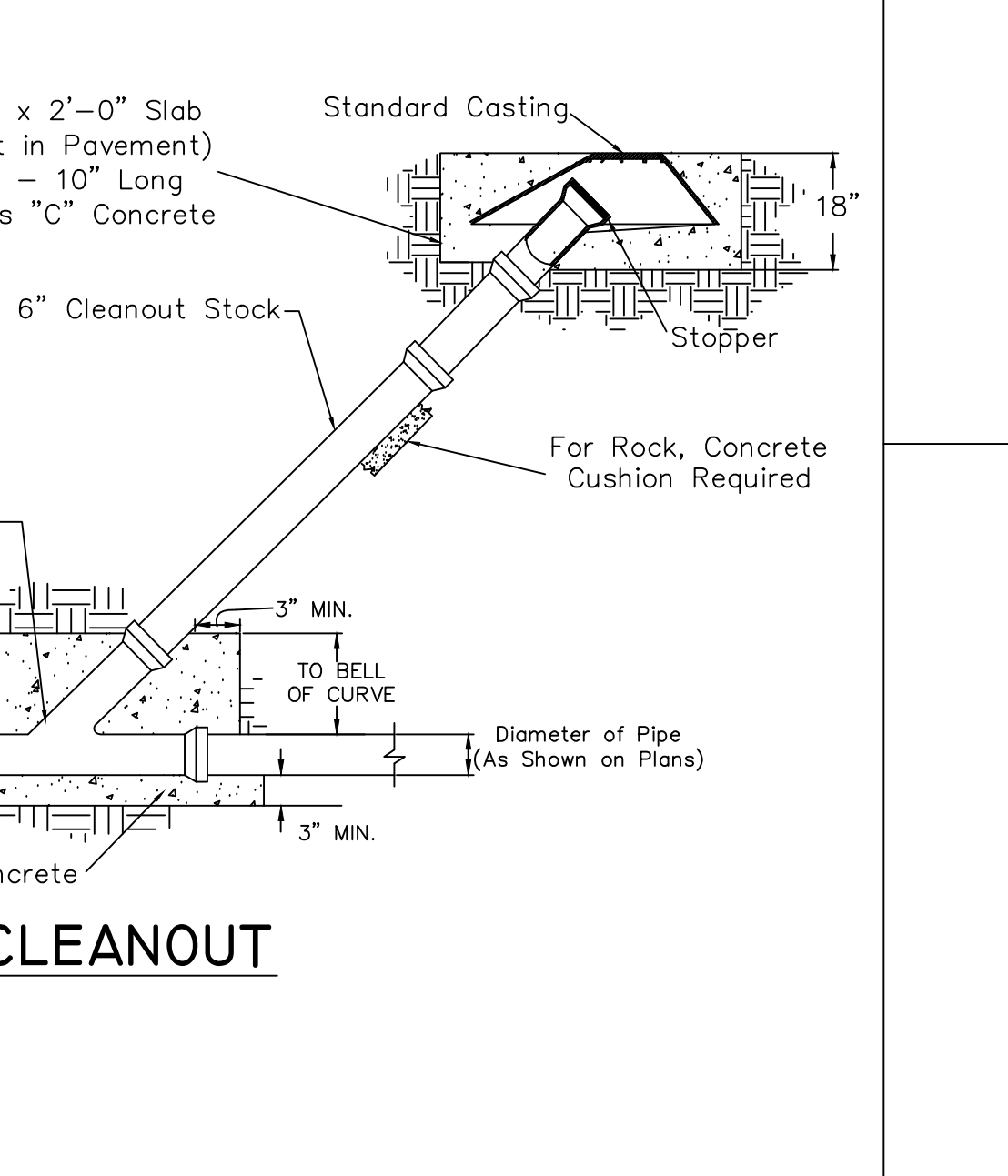
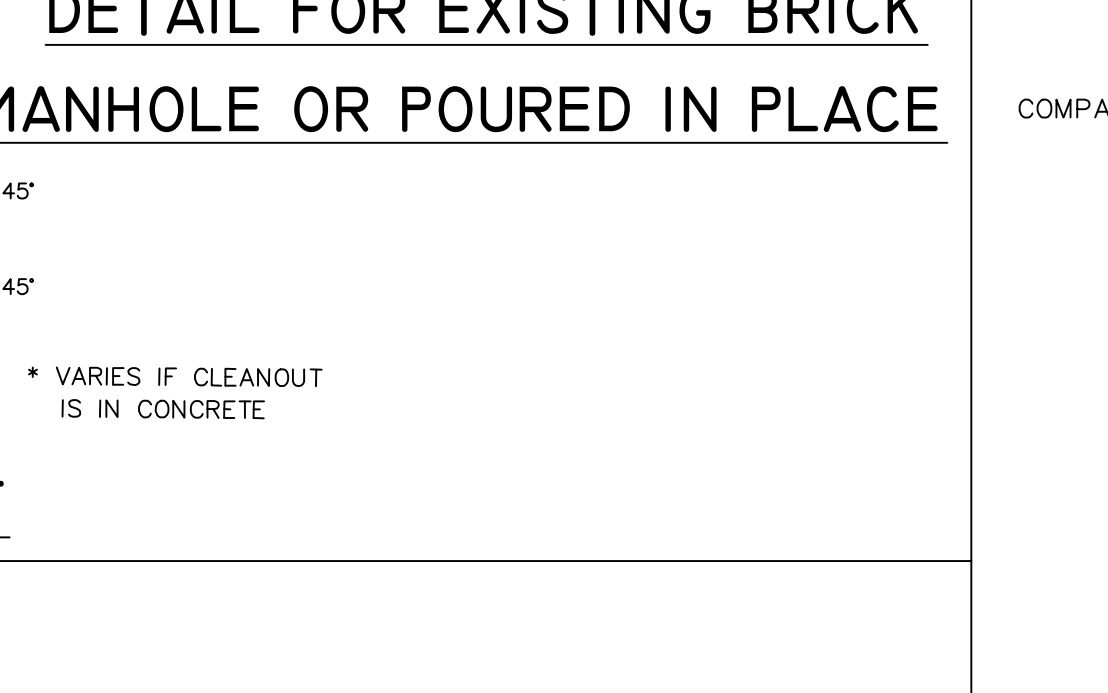
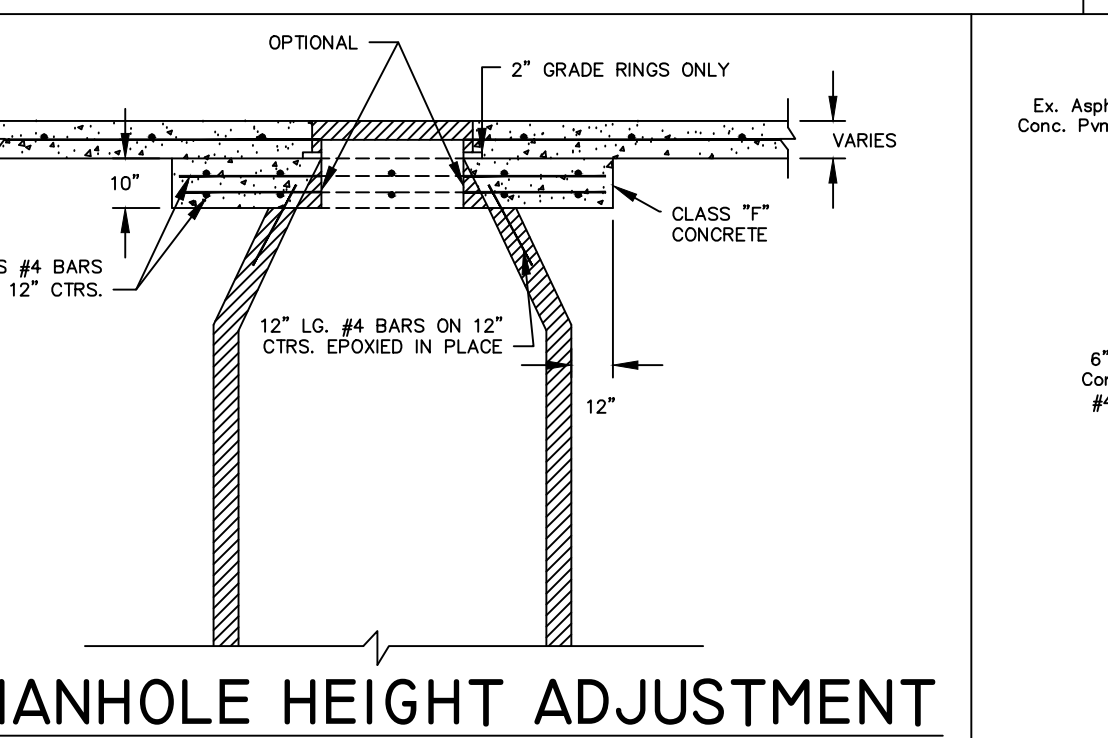
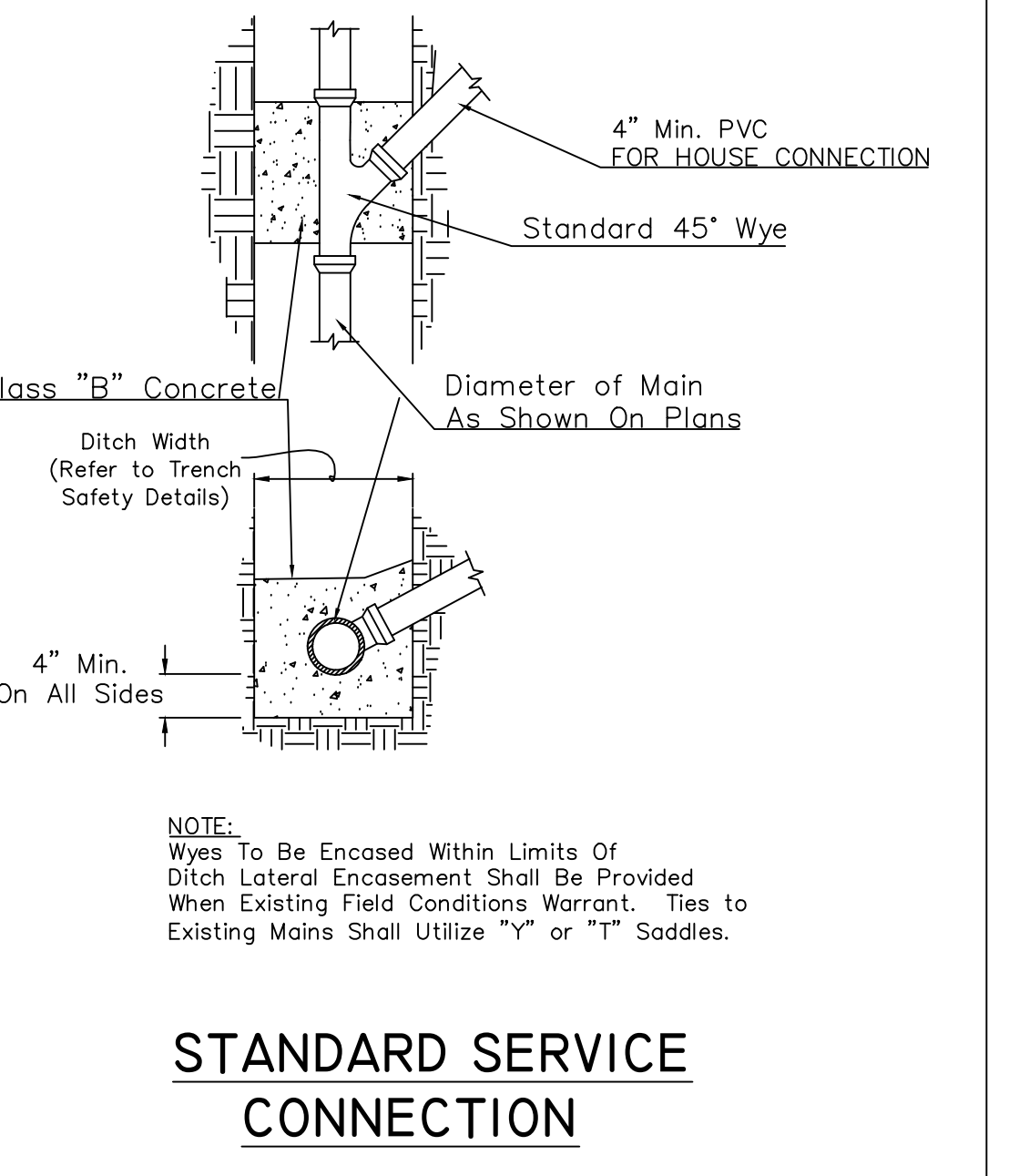
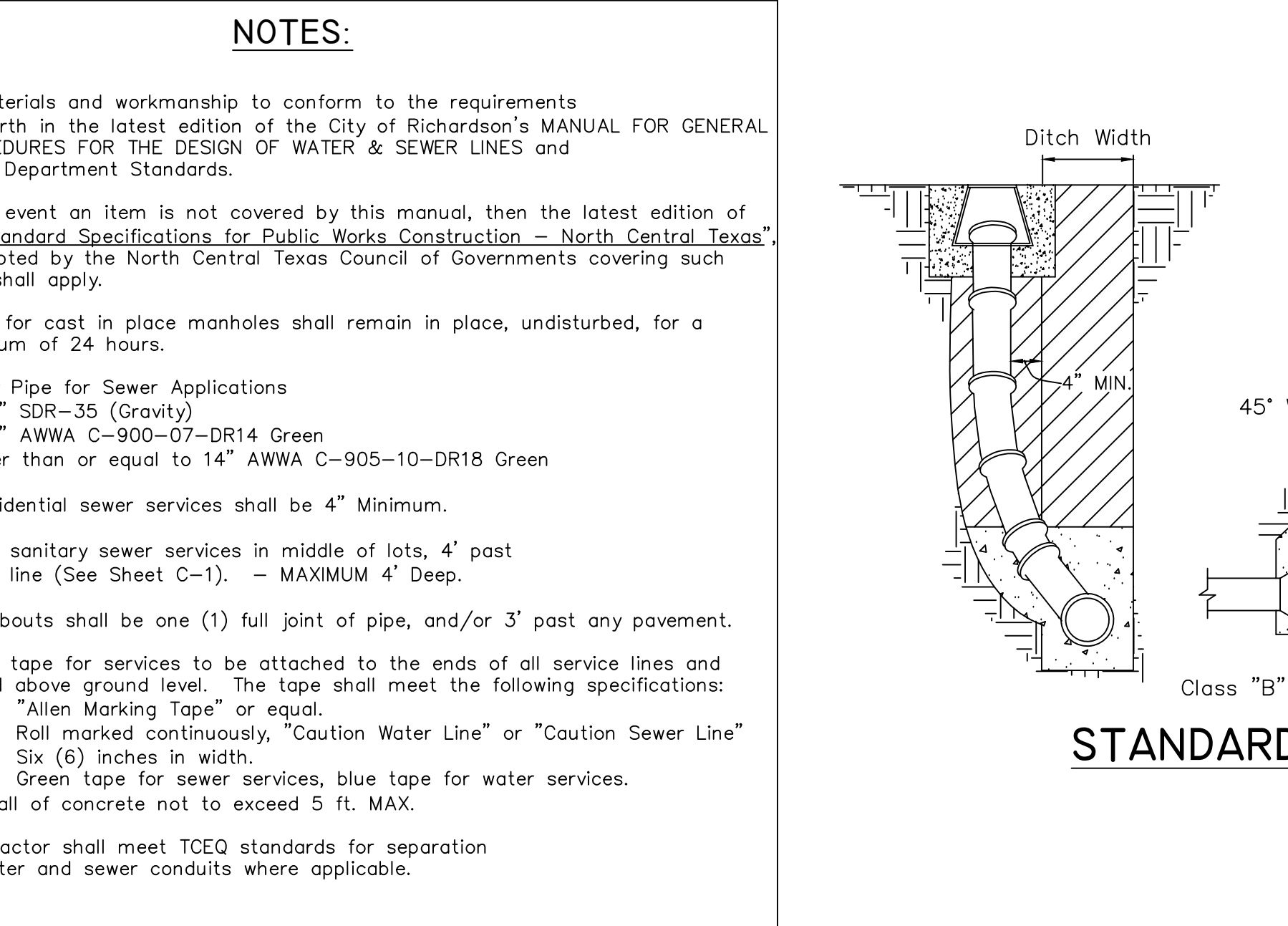
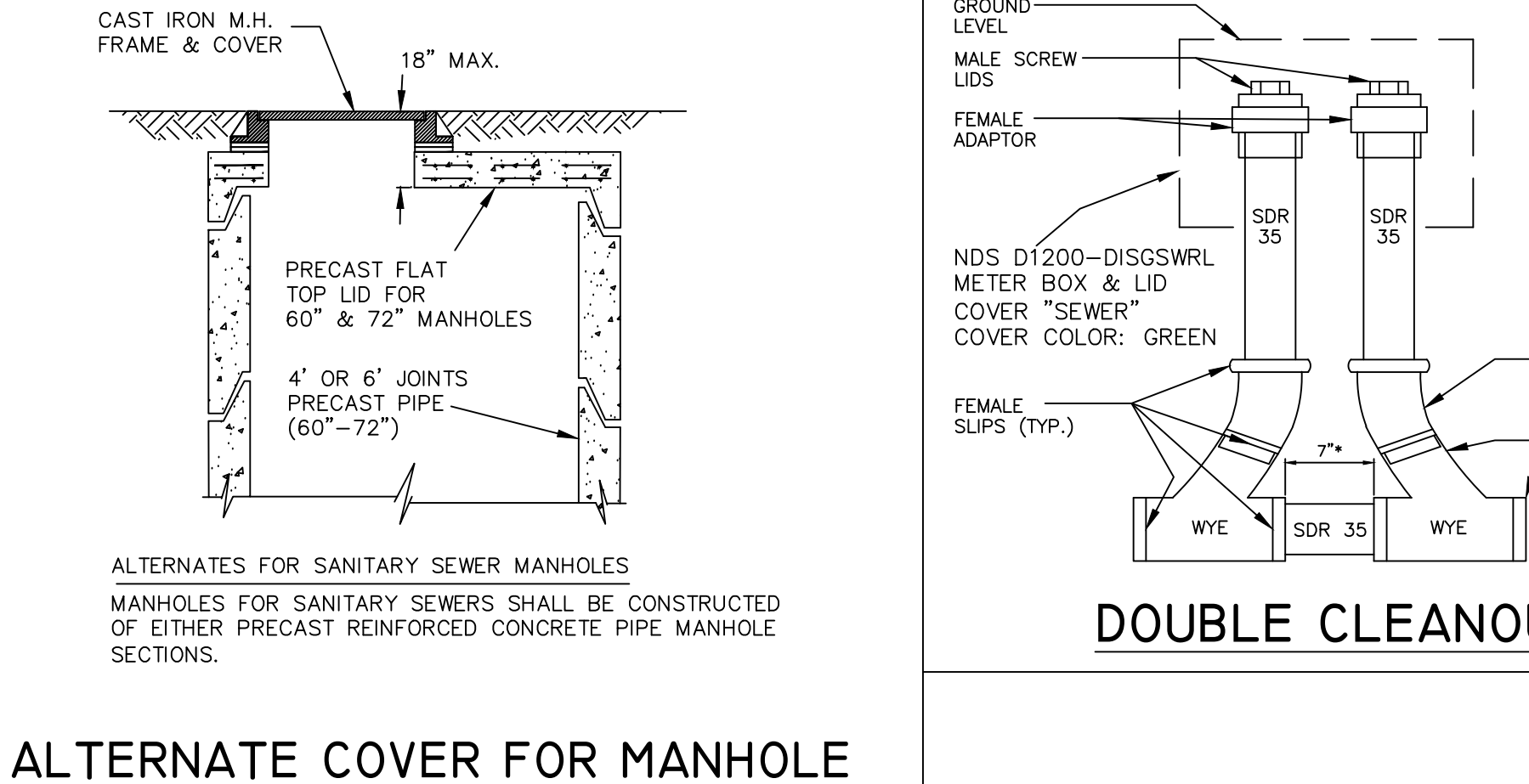
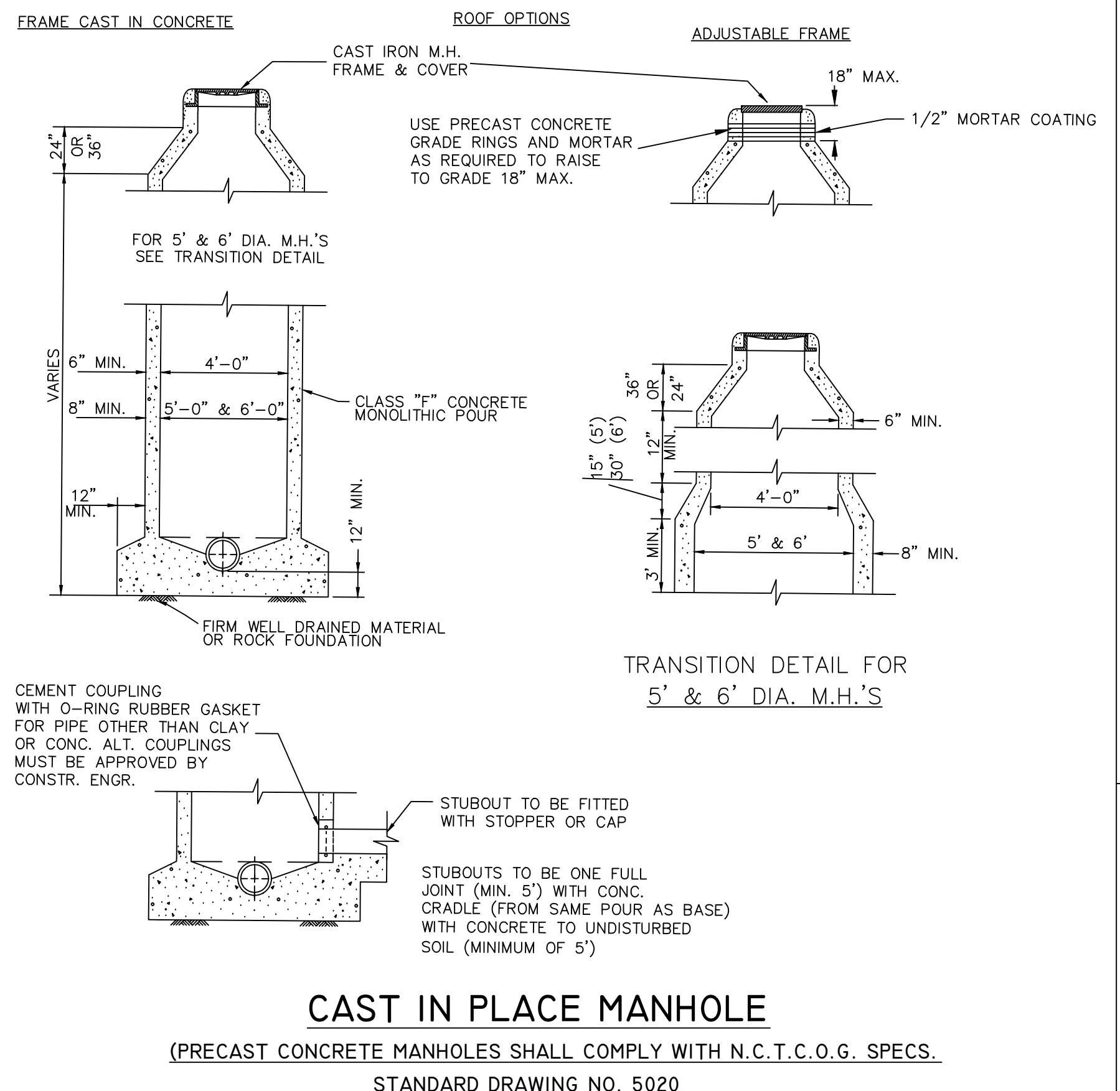
MANHOLE PIPE CONNECTOR
Designed to meet the resilient connectors requirements of ASTM C-923
Acceptable Brands:
Vulcan or Equal
Tyler

STANDARD SANITARY SEWER FIELD CLEANOUT
Pattern #339
Acceptable Brands:
Vulcan or Equal
Tyler

MANHOLE PIPE CONNECTORS
GPK Manhole Couplings
Ultra-Rib Manhole Sleeve Coupling
CEMENT COUPLING WITH O-RING RUBBER GASKET FOR PIPE OTHER THAN CLAY OR CONC. ALT. COUPLINGS MUST BE APPROVED BY CONSTR. ENGR.

NOTES:

- All materials and workmanship to conform to the requirements set forth in the latest edition of the City of Richardson's MANUAL FOR GENERAL PROCEDURES FOR THE DESIGN OF WATER & SEWER LINES and Water Department Standards.
- In the event an item is not covered by this manual, then the latest edition of the "Standard Specifications for Public Works Construction - North Central Texas" as adopted by the North Central Texas Council of Governments covering such items shall apply.
- Forms for cast in place manholes shall remain in place, undisturbed, for a minimum of 24 hours.
- Gravity Pipe for Sewer Applications
4"-15" SDR-35 (Gravity)
4"-12" AWWA C-900-07-DR14 Green
Greater than or equal to 14" AWWA C-905-10-DR18 Green
- All residential sewer services shall be 4" Minimum.
- Locate sanitary sewer services in middle of lots, 4' past R.O.W. line (See Sheet C-1). - MAXIMUM 4' Deep.
- All stubouts shall be one (1) full joint of pipe, and/or 3' past any pavement.
- Plastic tape for services to be attached to the ends of all service lines and extend above ground level. The tape shall meet the following specifications:
A. "Alien Marking Tape" or equal.
B. Roll marked continuously, "Caution Water Line" or "Caution Sewer Line"
C. Six (6) inches in width.
D. Green tape for sewer services, blue tape for water services.
- Free fall of concrete not to exceed 5 ft. MAX.
- Contractor shall meet TCEQ standards for separation of water and sewer conduits where applicable.

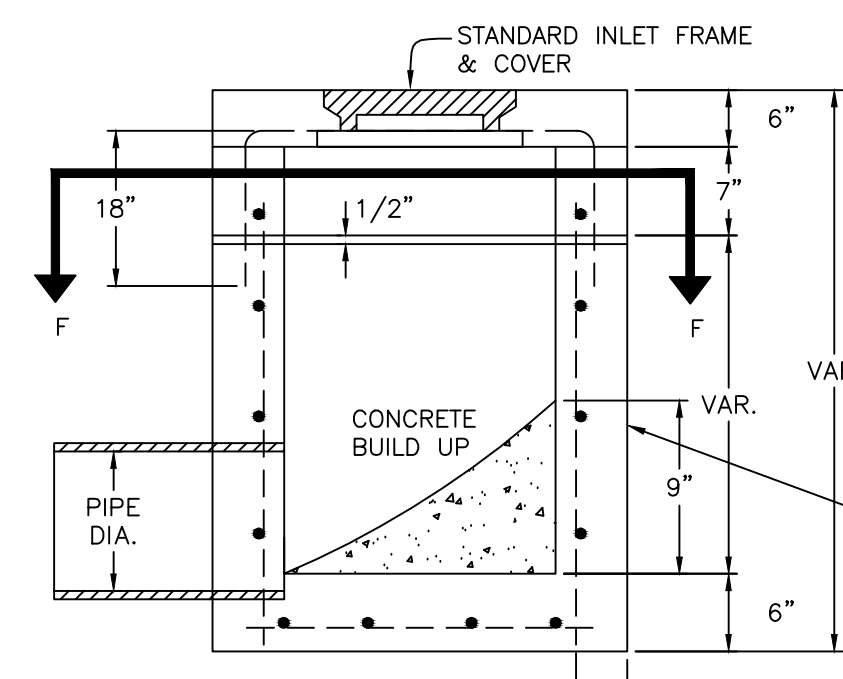


Revisions:

City of Richardson
411 W. Arapaho Road
Suite 204
Richardson, Texas 75080
voice: 972 744-4280
fax: 972 744-5804

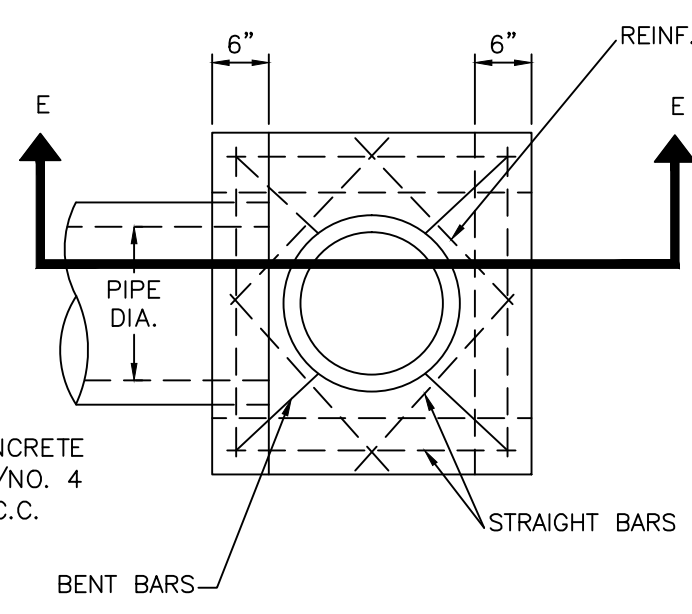
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Checked By: COR

STANDARD DETAILS
City of Richardson, Texas



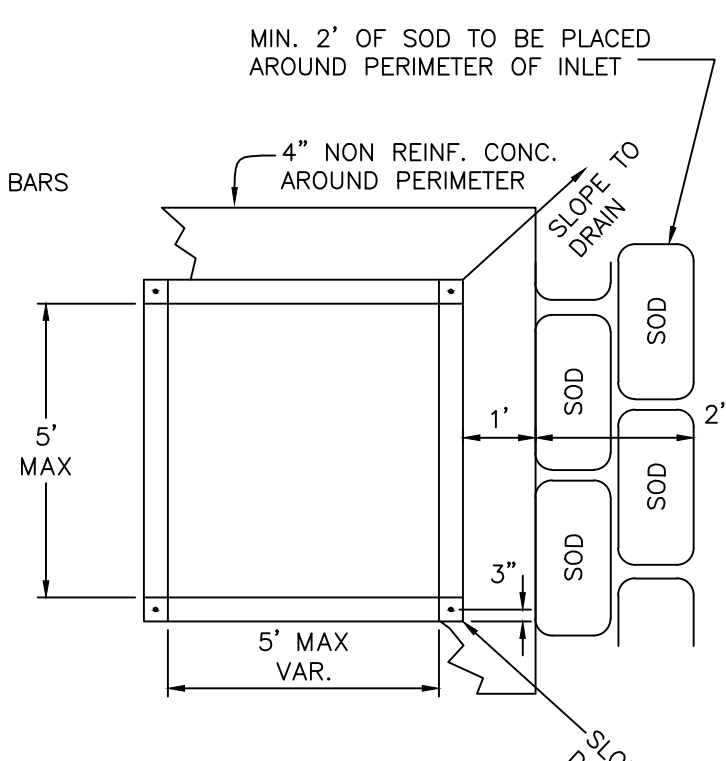
SECTION EE

NOTE:
TOP OF INLET ELEVATION SHALL BE AT OR BELOW THE LOWEST ADJACENT CURB.

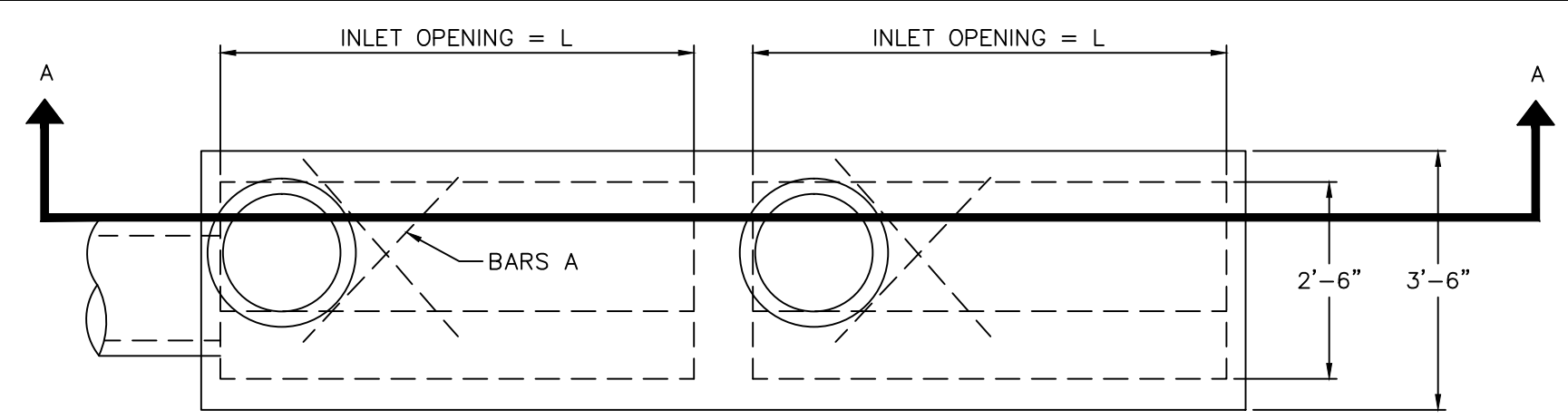


PLAN

"Y" TYPE INLET

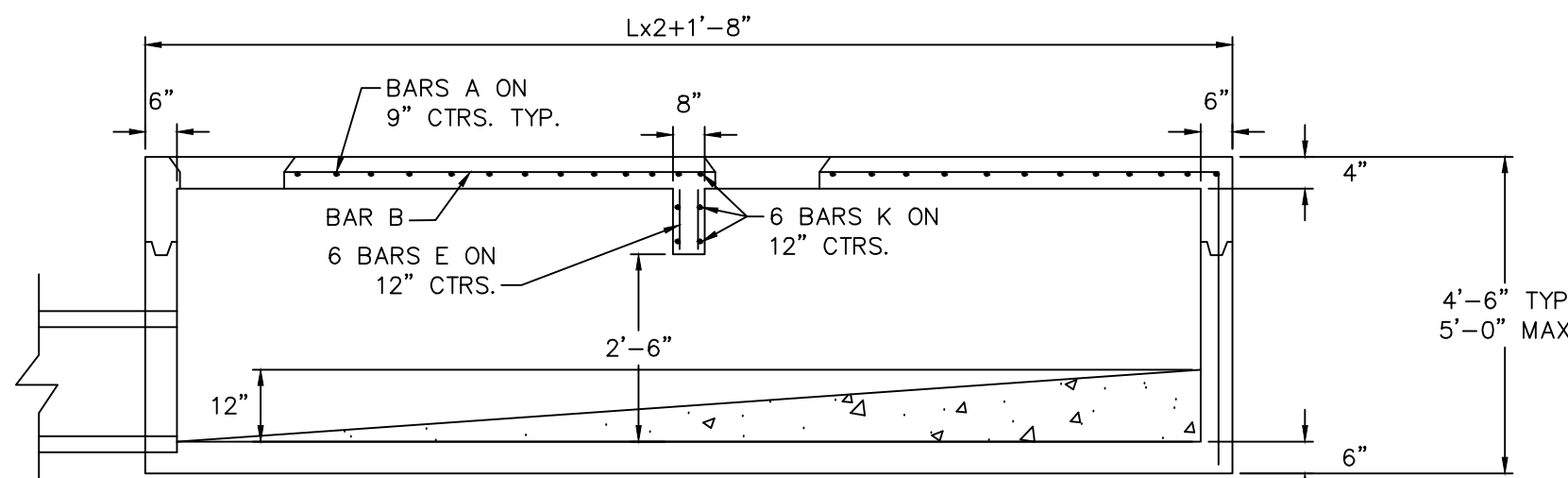


SECTION FF

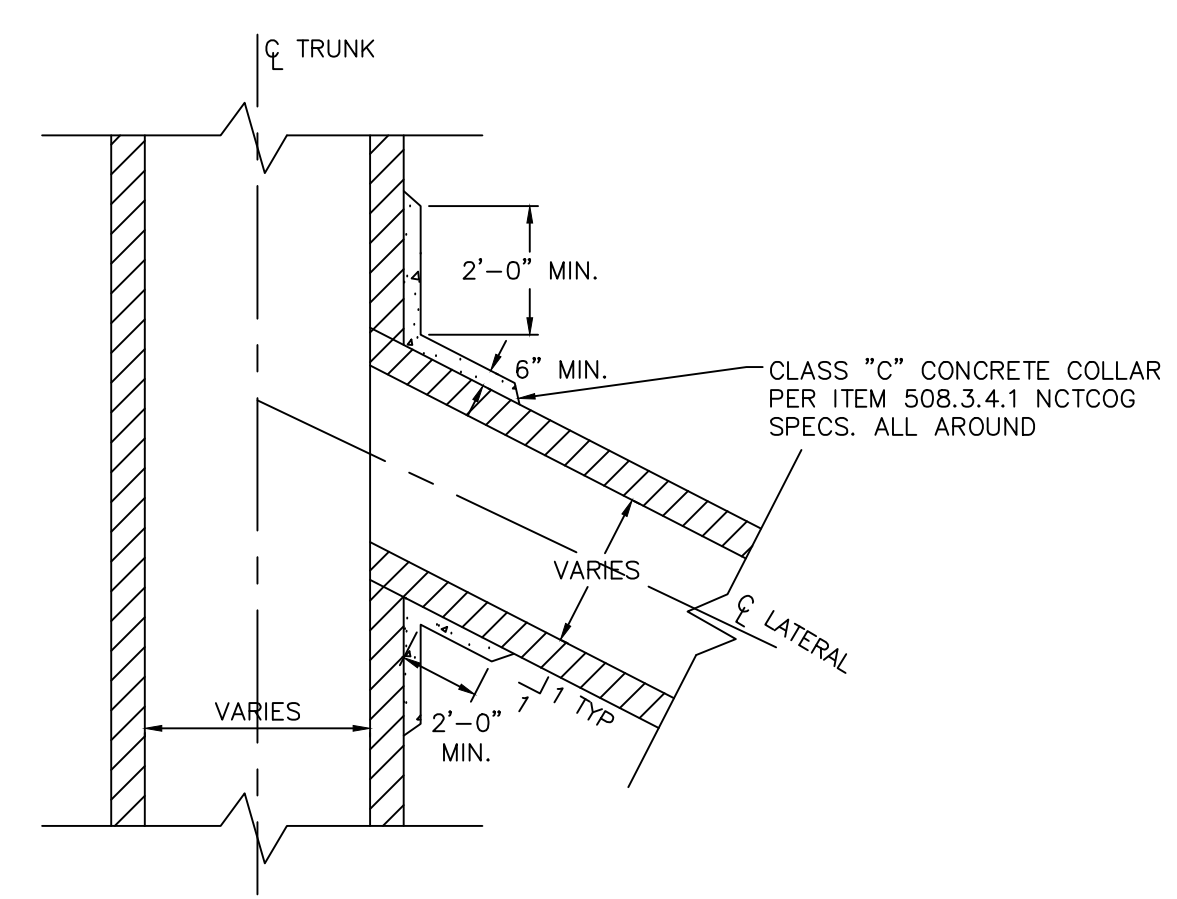


PLAN COMBINATION INLETS

TO BE USED IN CONSTRUCTING 12", 14", 16", 18" & 20" INLETS

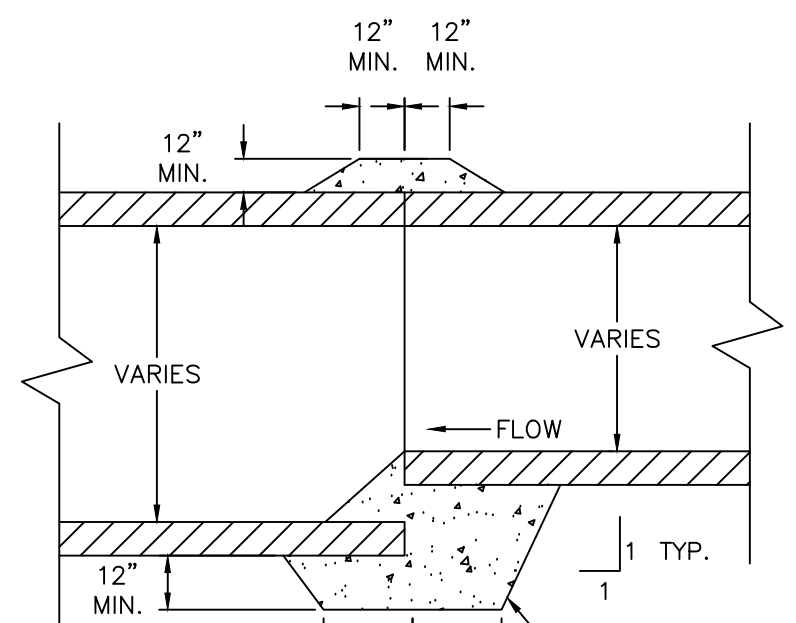


SECTION A-A COMBINATION INLETS

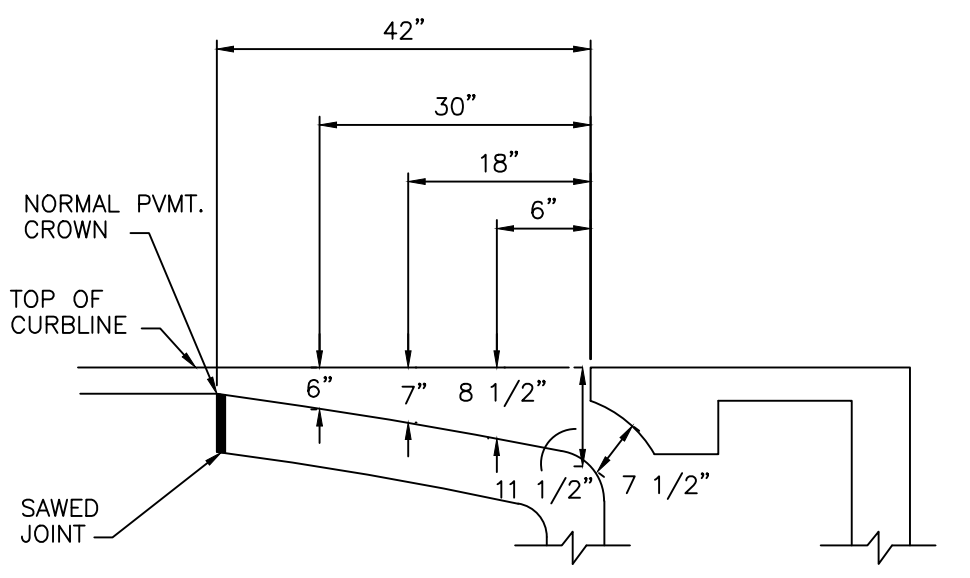


CONCRETE COLLAR FOR WYE CONNECTION

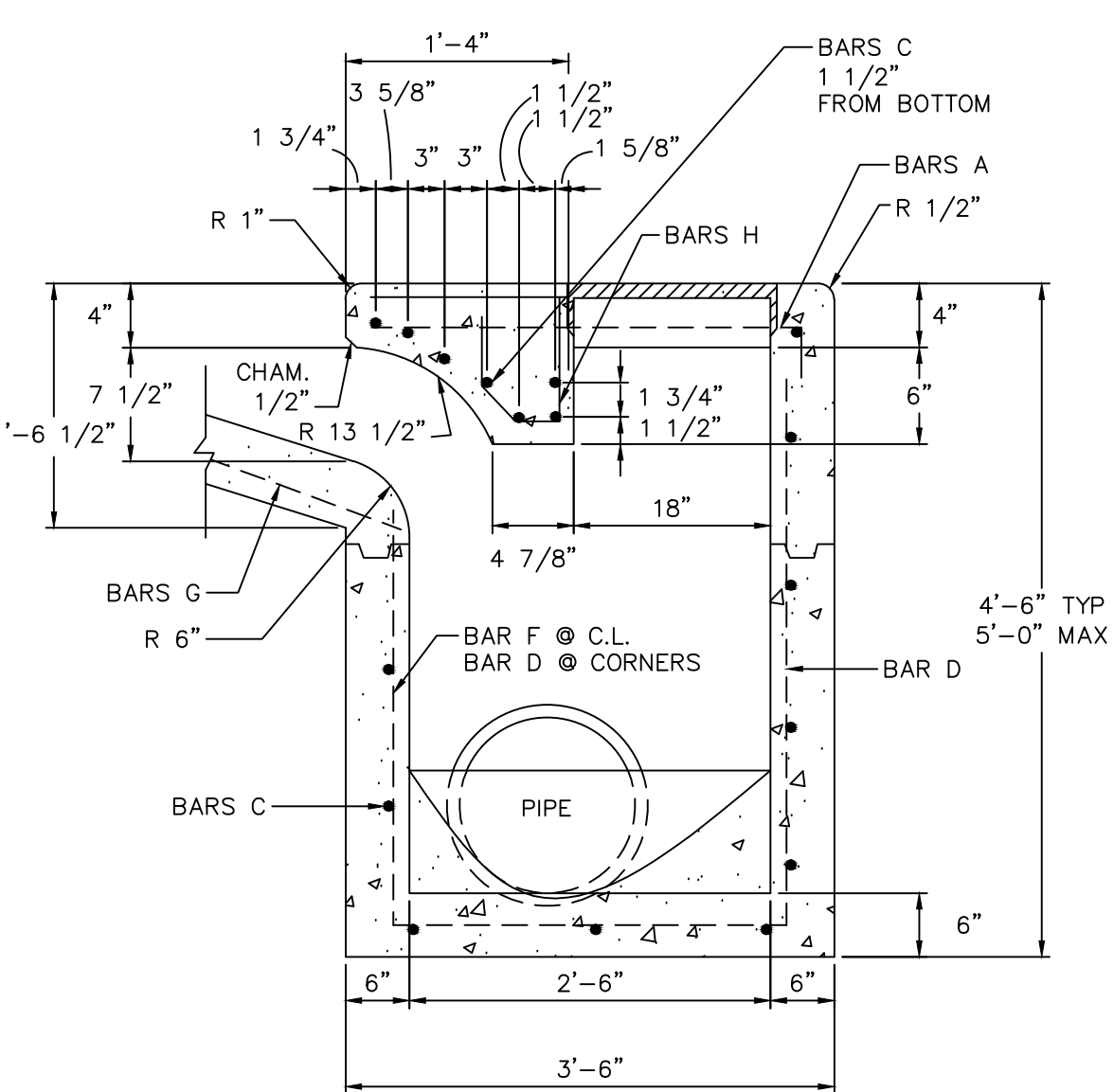
NOTE:
ALL PIPE CONNECTIONS 48" AND SMALLER SHALL BE FACTORY WYES



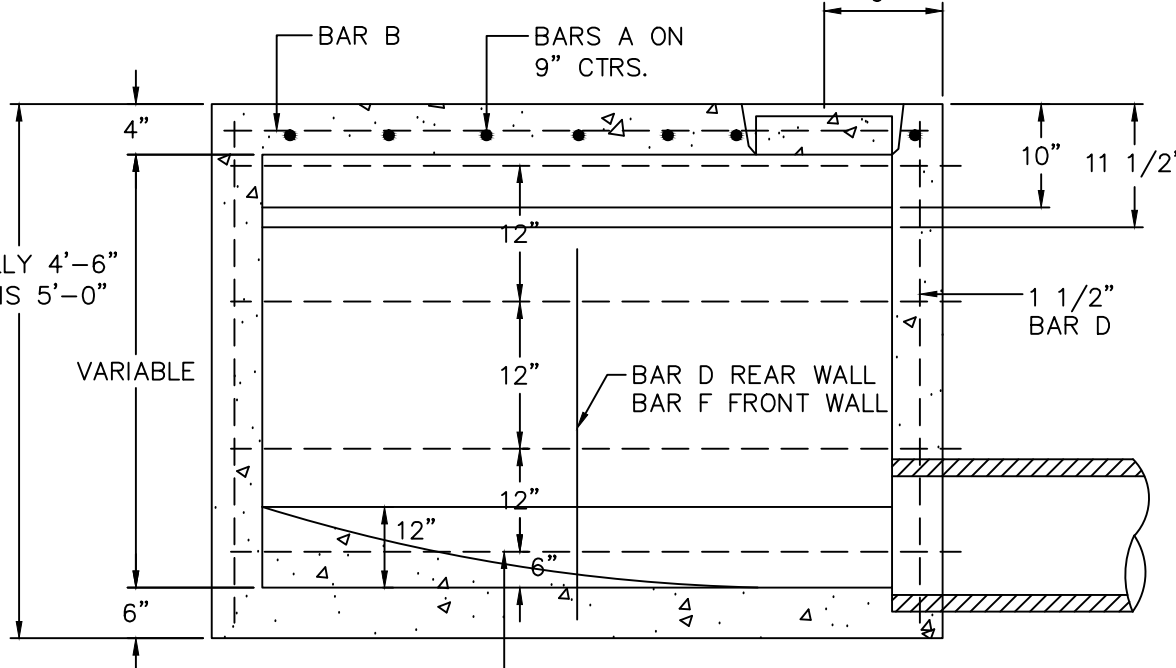
CONCRETE COLLAR FOR PIPE TO PIPE CONNECTION



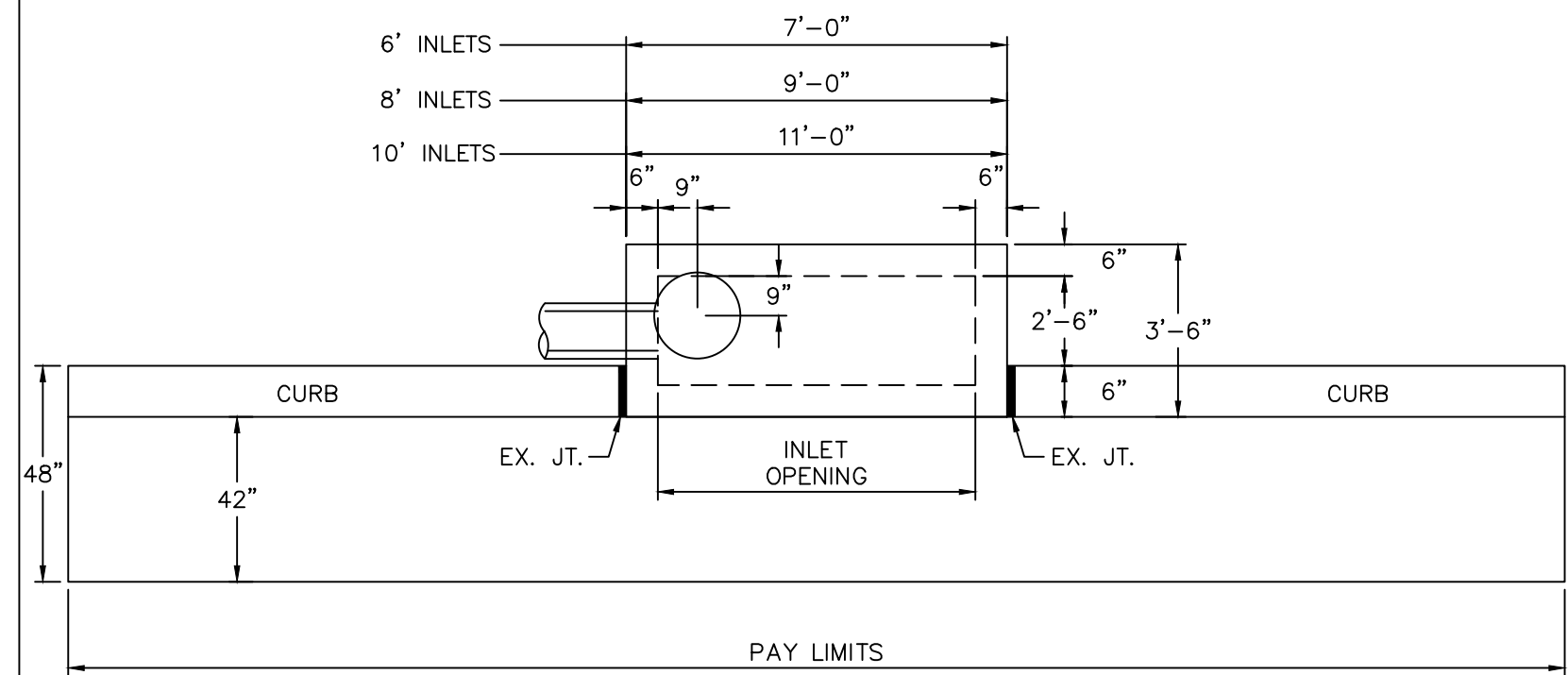
INLET THROAT DETAIL



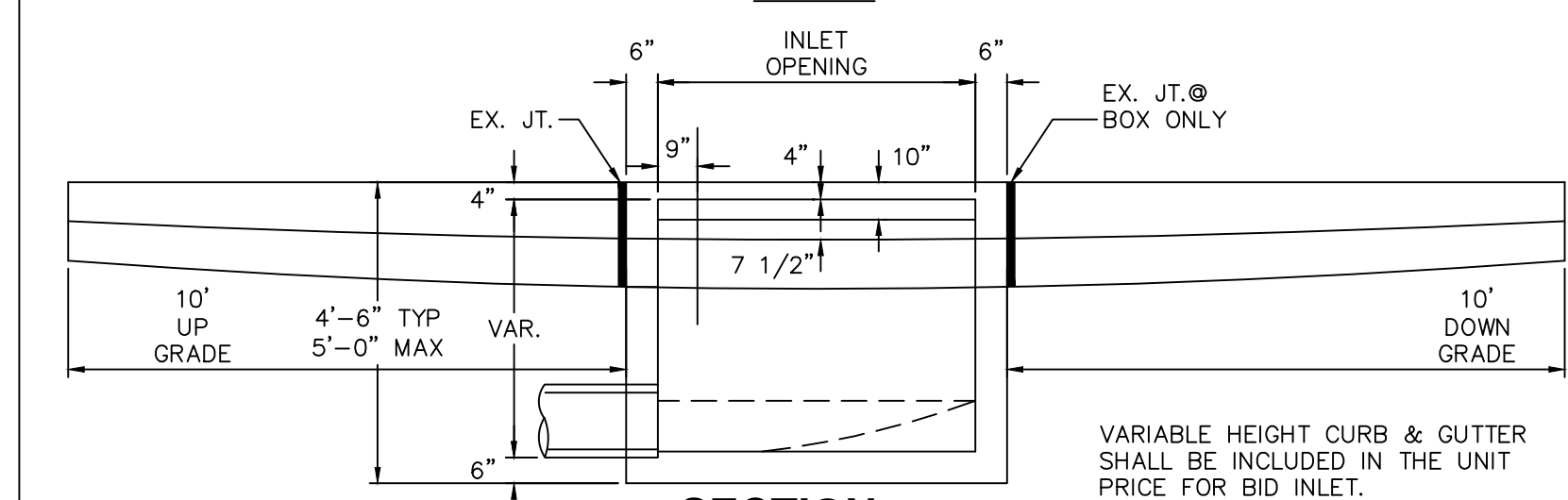
END VIEW 6, 8, & 10 FT. INLETS



FRONT VIEW 6, 8, & 10 FOOT INLETS

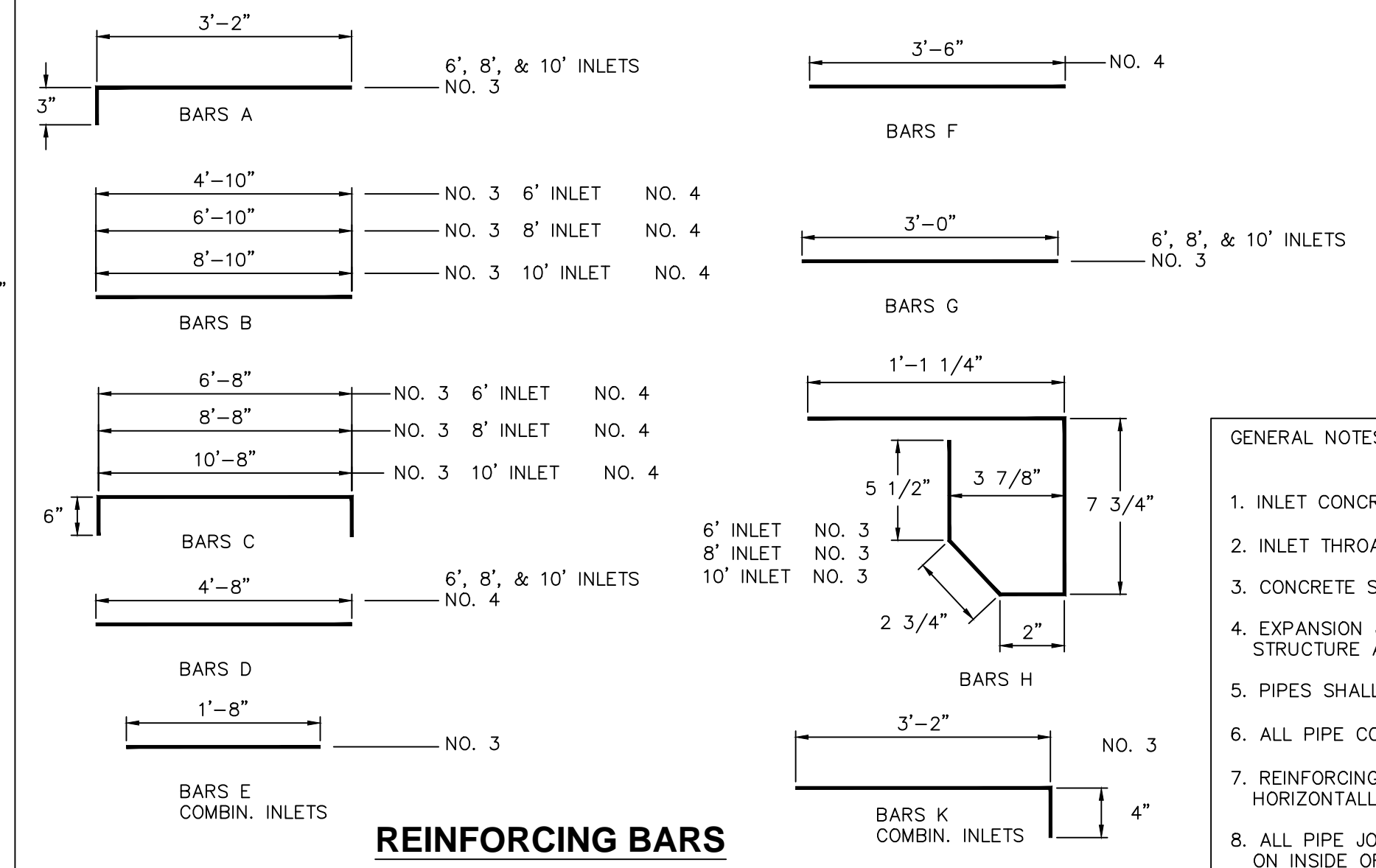


PLAN

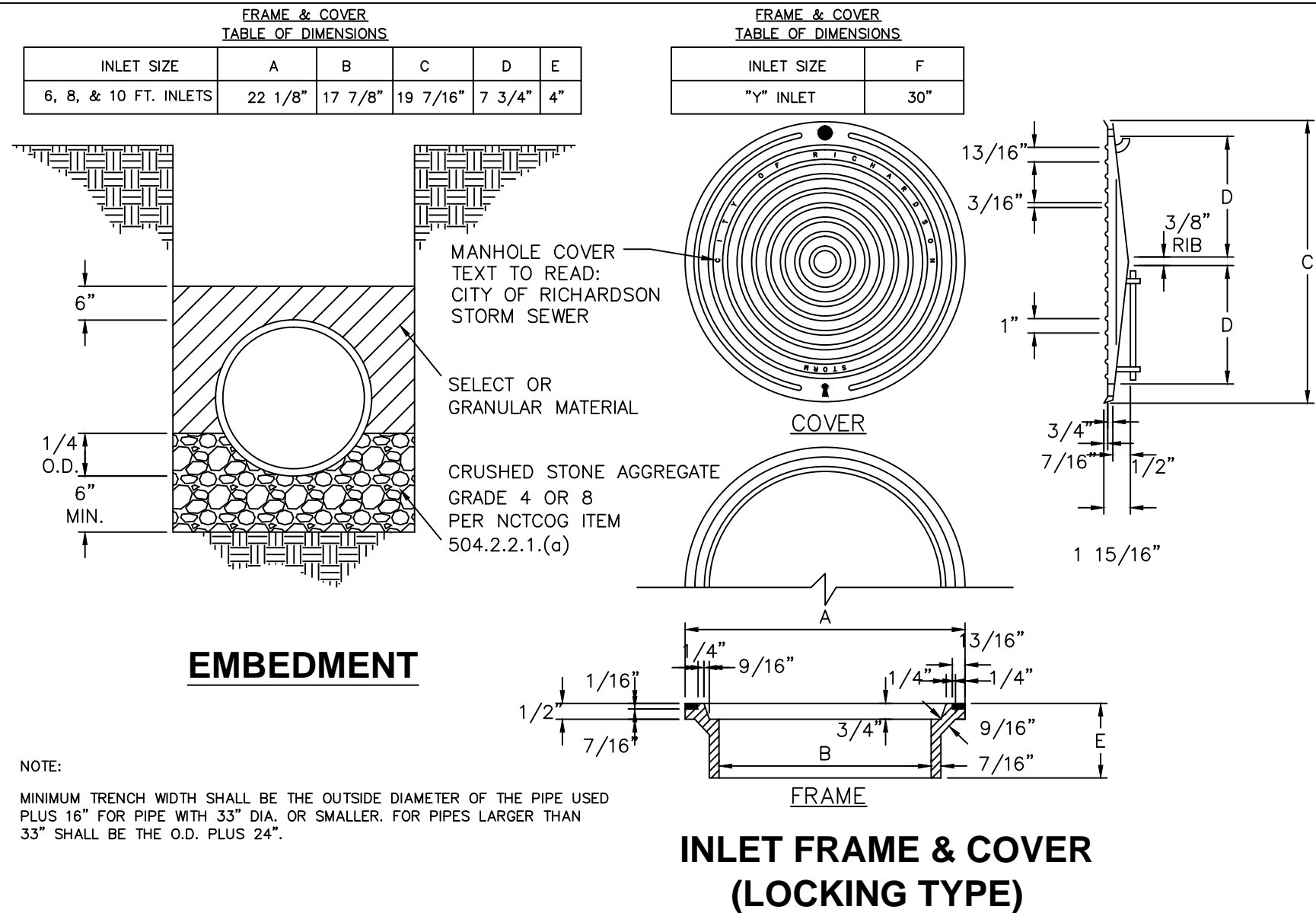


SECTION

6, 8, & 10 FT. INLETS (SEE INLET THROAT DETAIL)



REINFORCING BARS

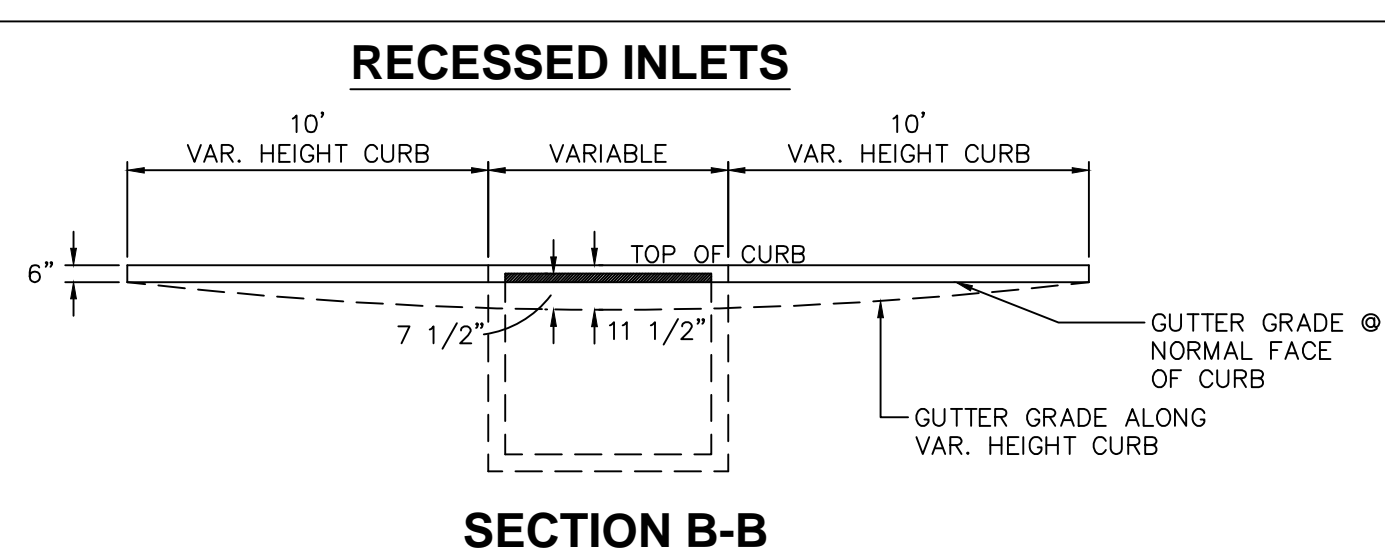


EMBEDMENT

INLET FRAME & COVER (LOCKING TYPE)

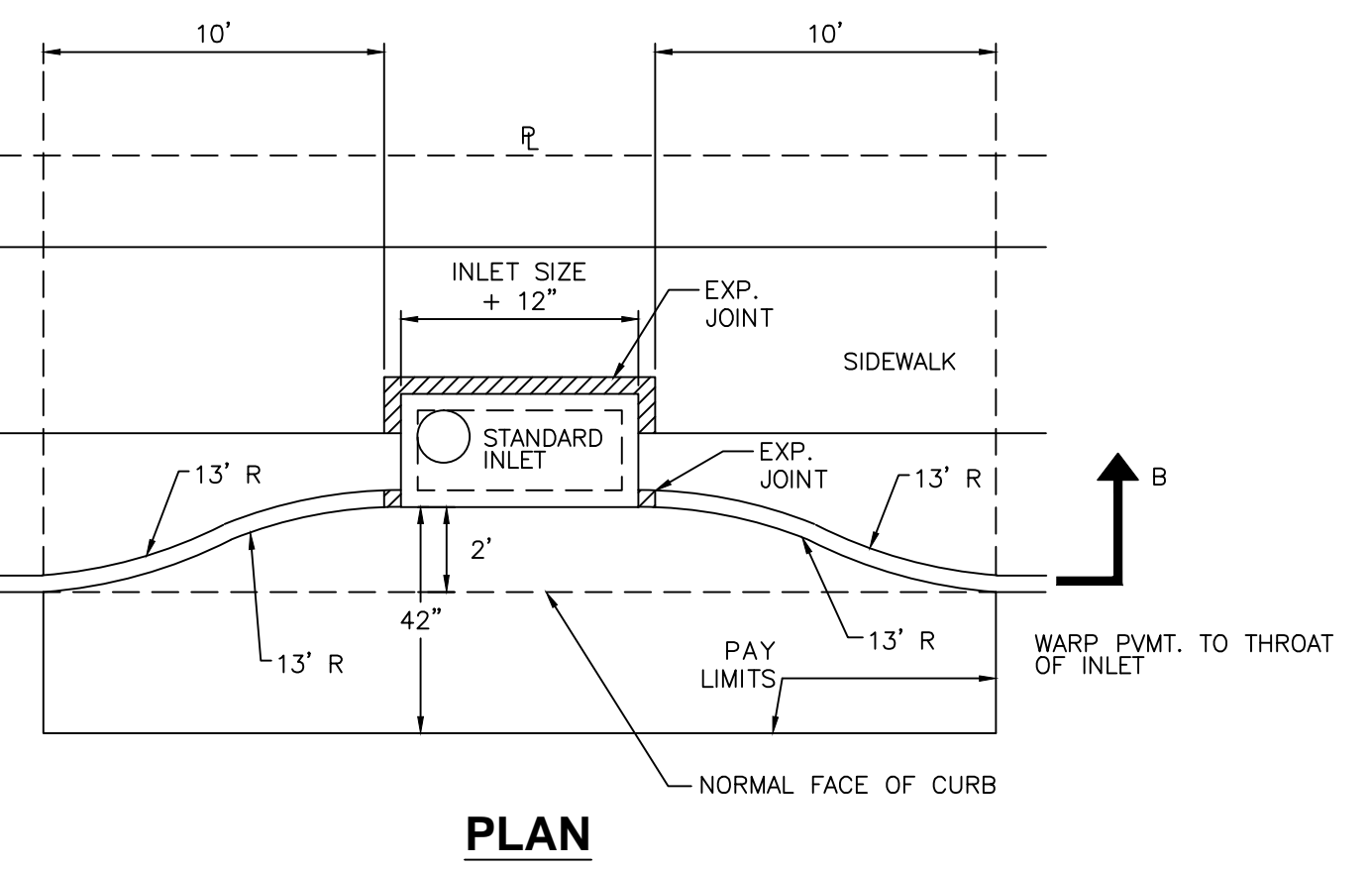
- GENERAL NOTES
1. INLET CONCRETE SHALL BE CLASS "A".
 2. INLET THROAT CONCRETE SHALL BE CLASS "C".
 3. CONCRETE SHALL HAVE A TROWEL AND BRUSH FINISH.
 4. EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN INLET STRUCTURE AND CURB.
 5. PIPES SHALL ONLY CONNECT TO THE ENDS OR SIDES OF INLETS.
 6. ALL PIPE CONNECTIONS 48" AND SMALLER SHALL BE FACTORY WYES.
 7. REINFORCING STEEL- NO. 3 12" O.C.E.W. EQUALLY SPACED HORIZONTALLY IN INLET FOOTINGS.
 8. ALL PIPE JOINTS SHALL SHOW EVIDENCE OF JOINT MATERIAL 360° ON INSIDE OF PIPE.
 9. NO PRECAST STRUCTURES ALLOWED FOR STORM SEWER.
 10. SEE SHEET C-10 FOR STORM SEWER MANHOLE DETAILS.
 11. SEE C-9 FOR ALLEY INLETS.

REINFORCING PLAN



RECESSED INLETS

SECTION B-B

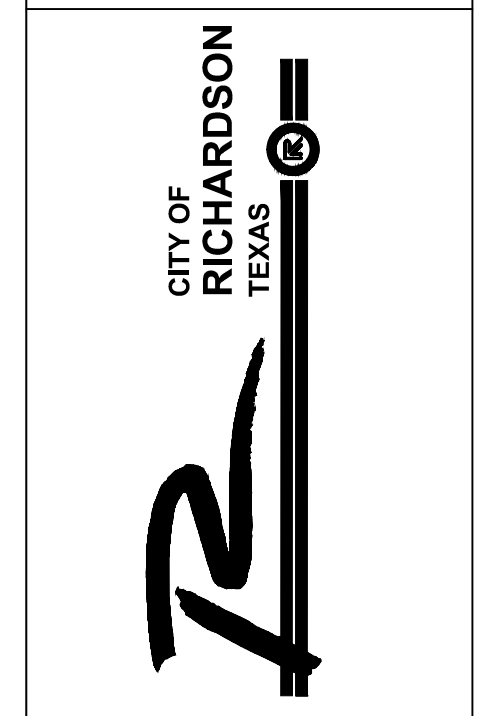


PLAN

Revisions:

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Drawn By: RGB
Checked By: COR

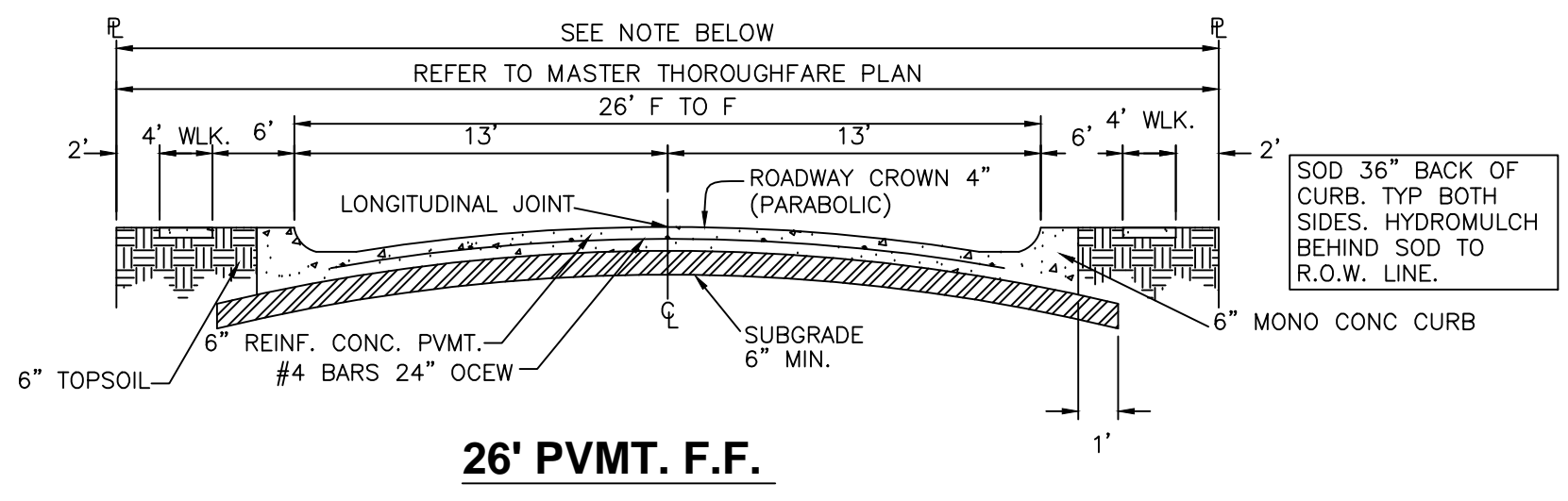
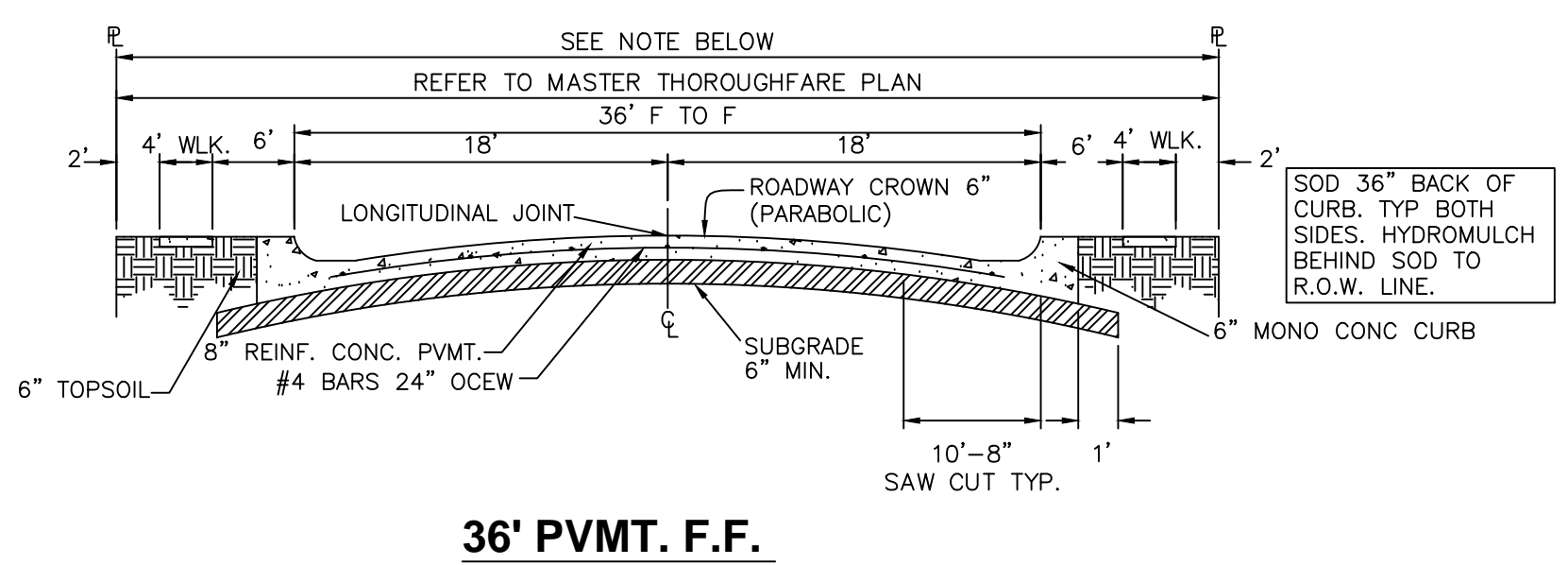
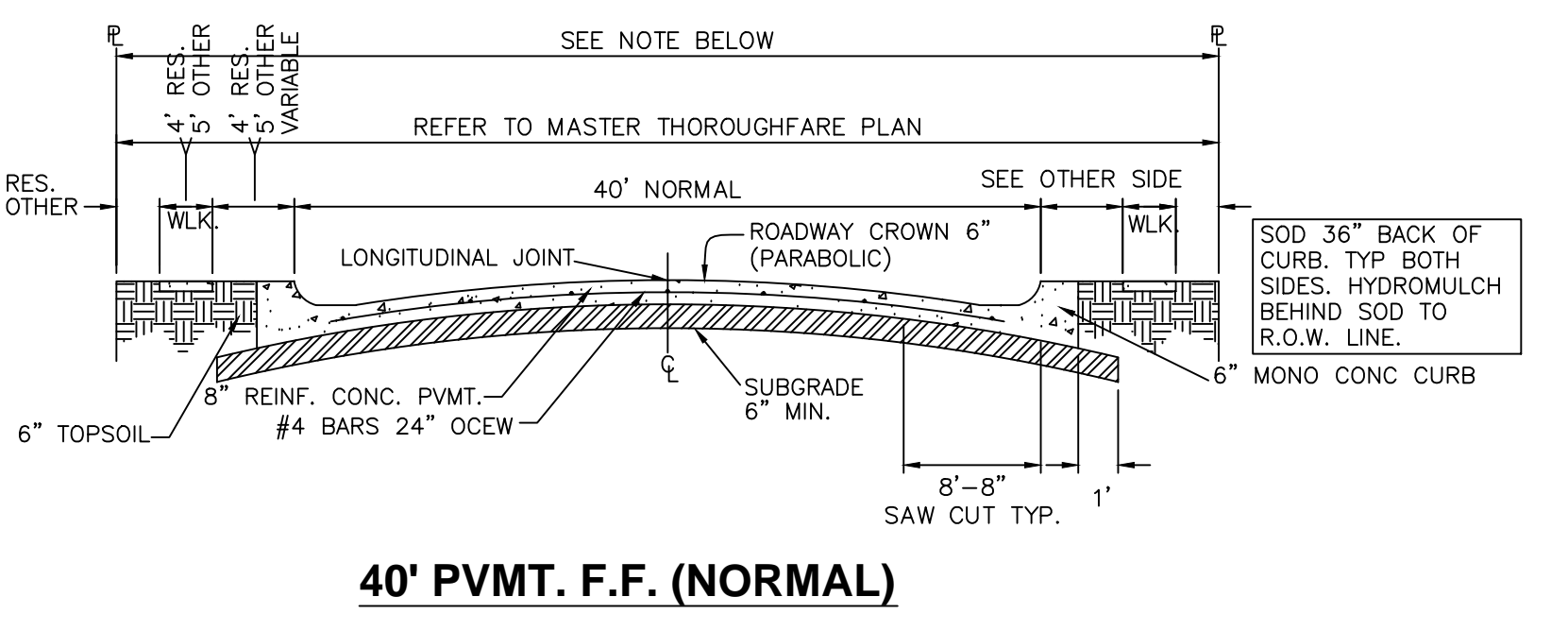
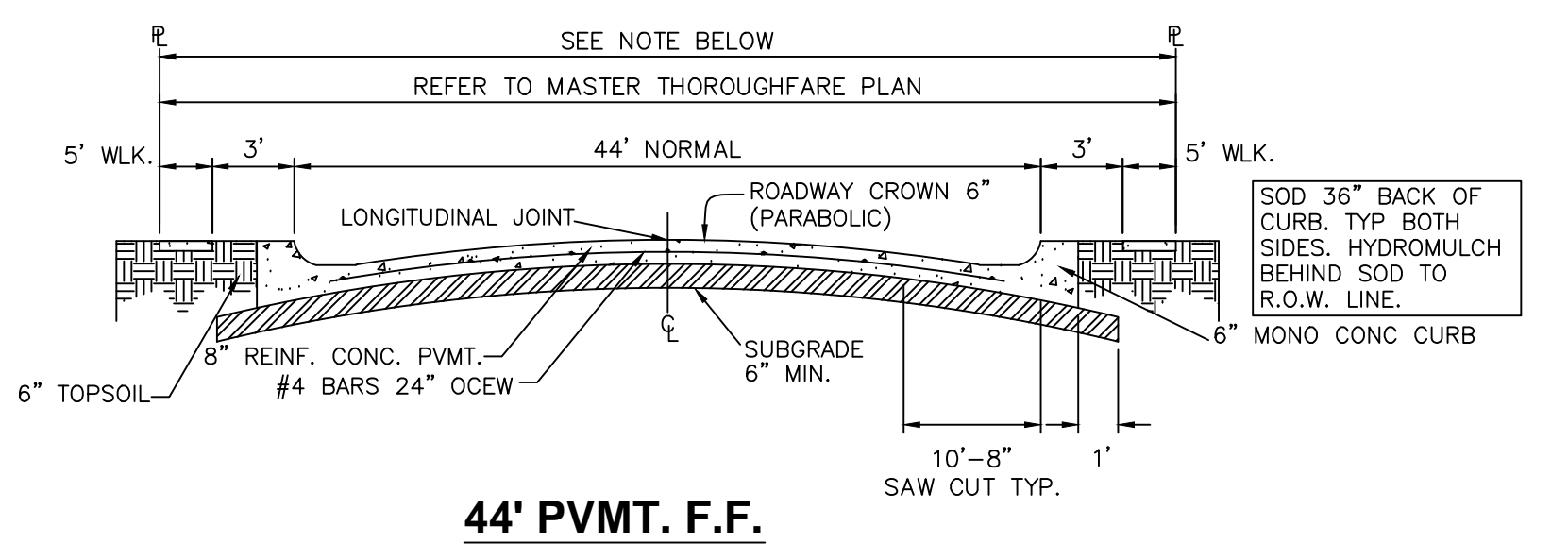


STANDARD DETAILS
City of Richardson, Texas

NO ADDITIONS OR CHANGES TO STANDARD DETAIL SHEETS UNLESS APPROVED BY CITY OF RICHARDSON

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11"x17" Scale: NTS
Vertical Scale: NA
Project Number: XXX
Issue Date: 01 MAY 14
Sheet Title:

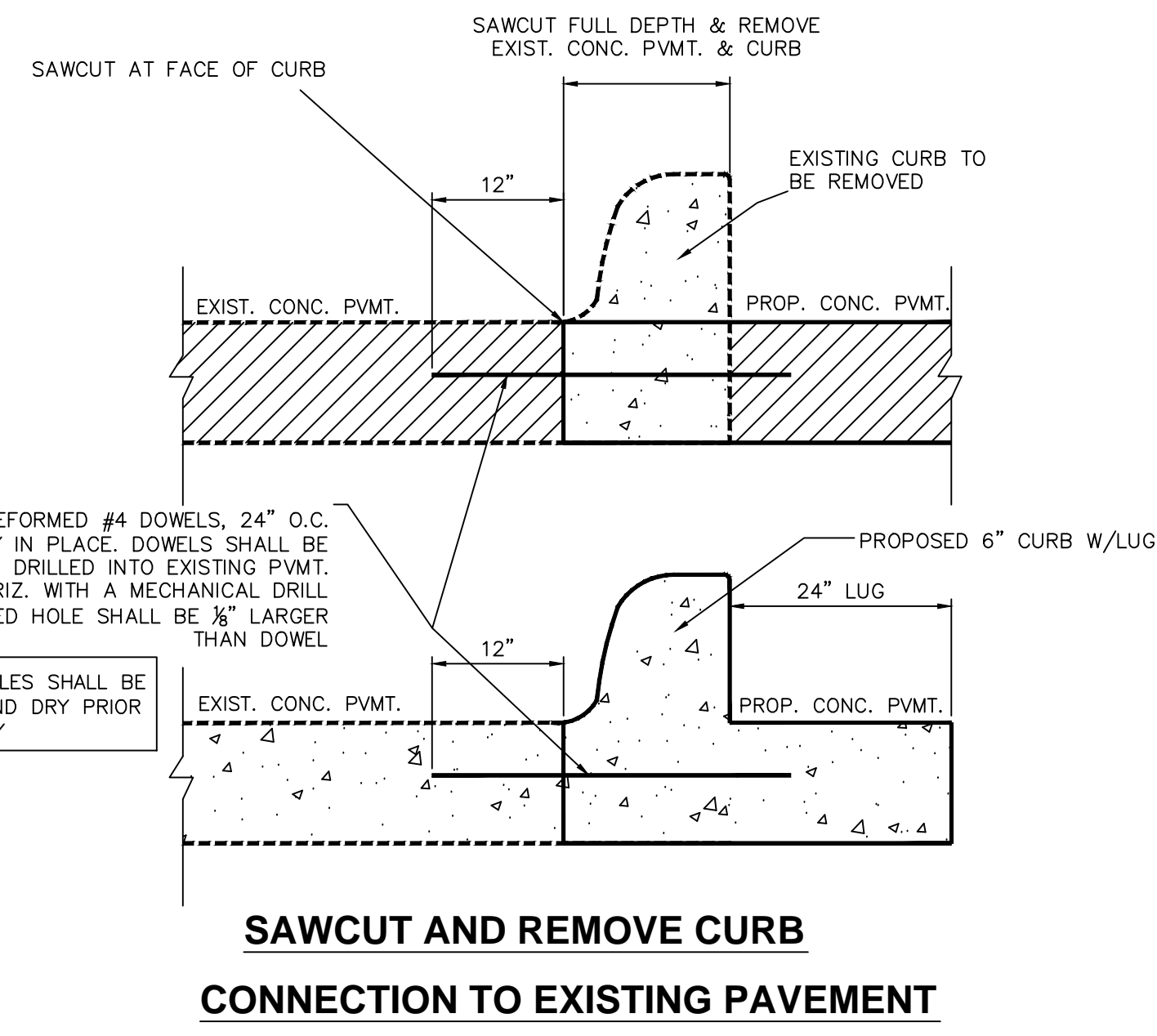
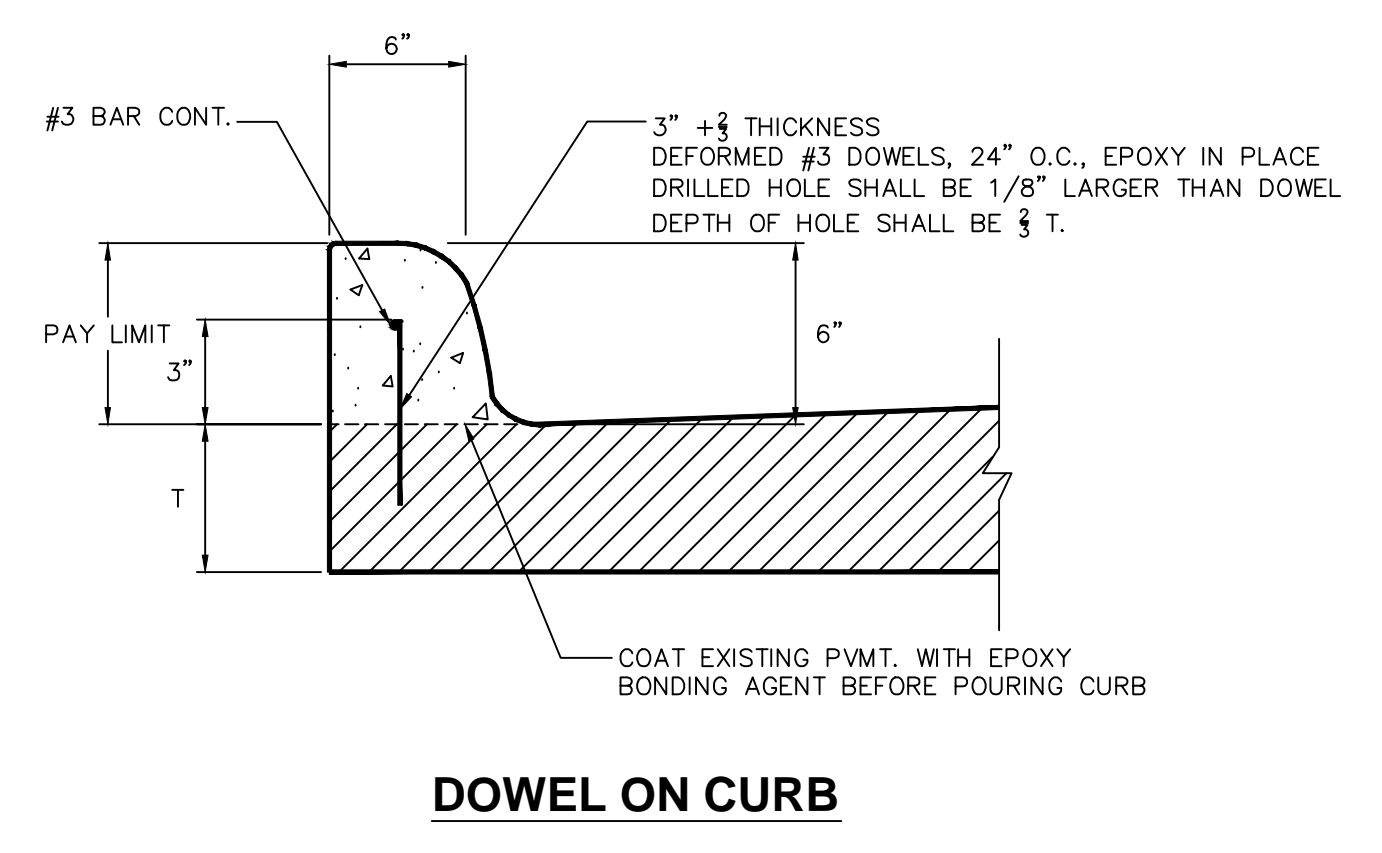
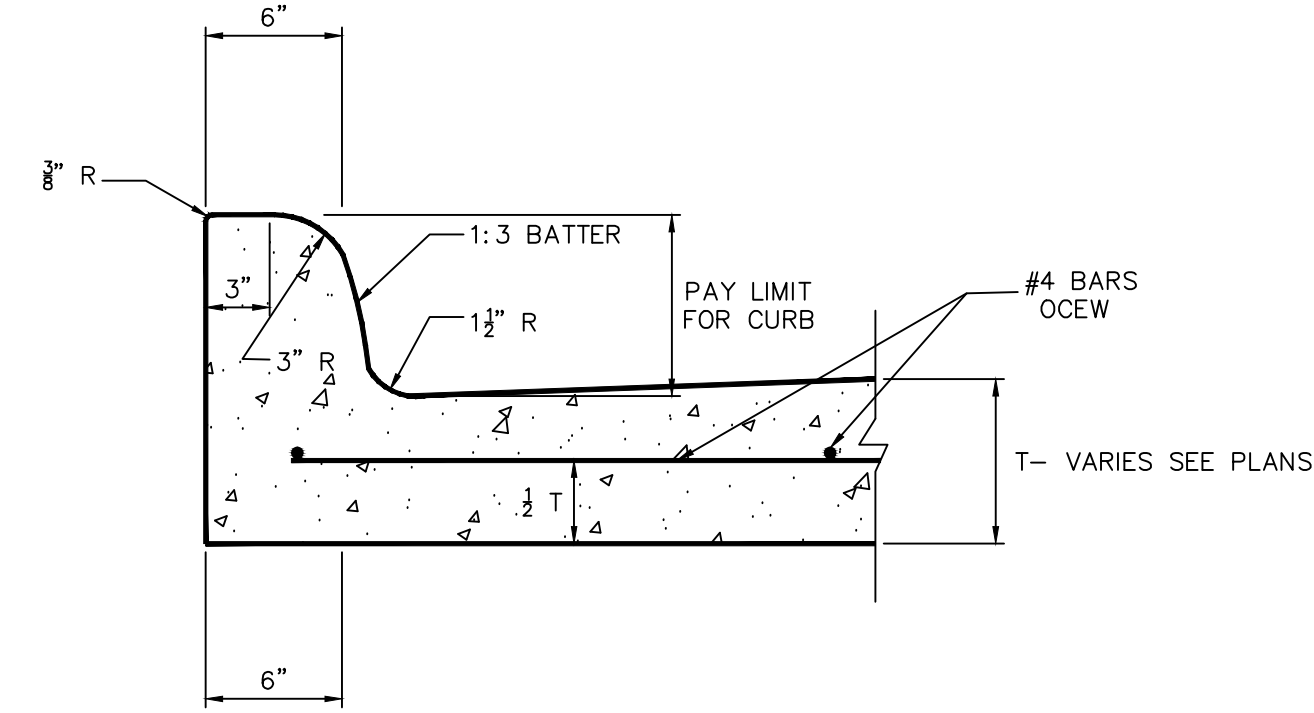
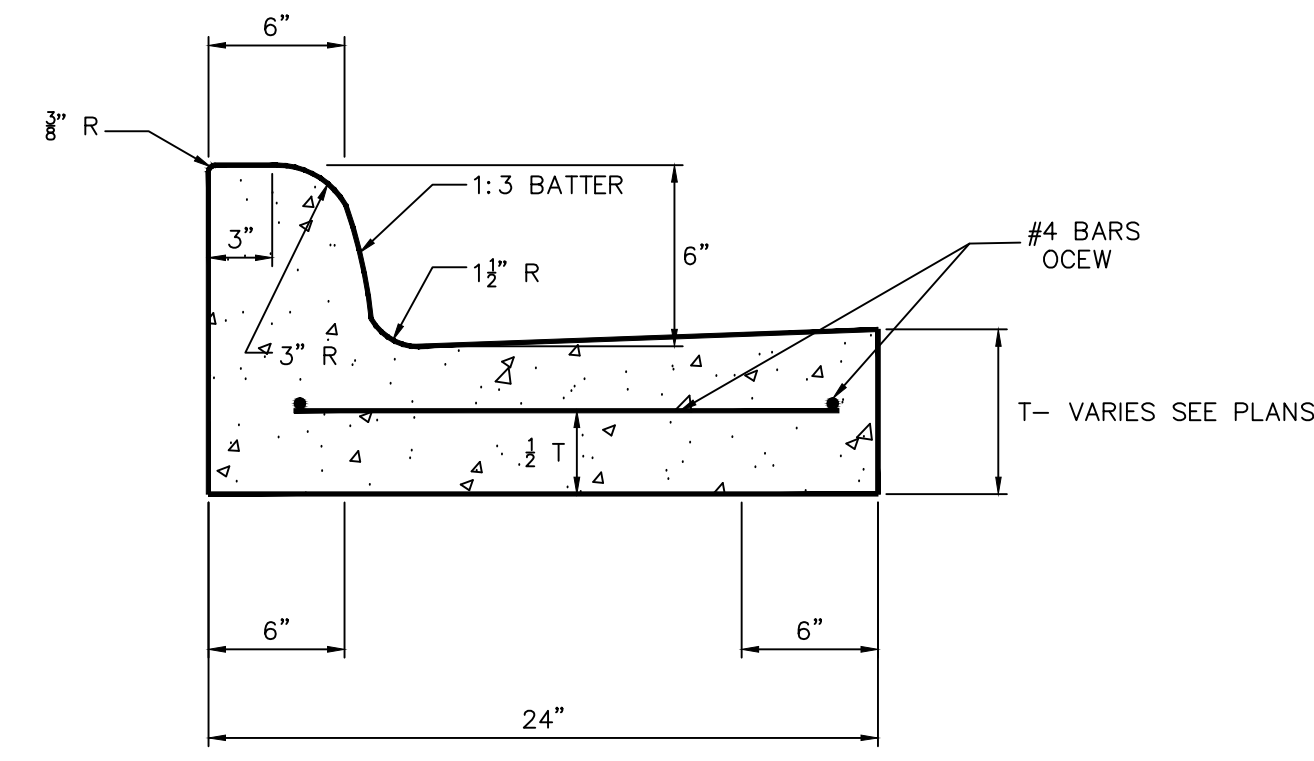
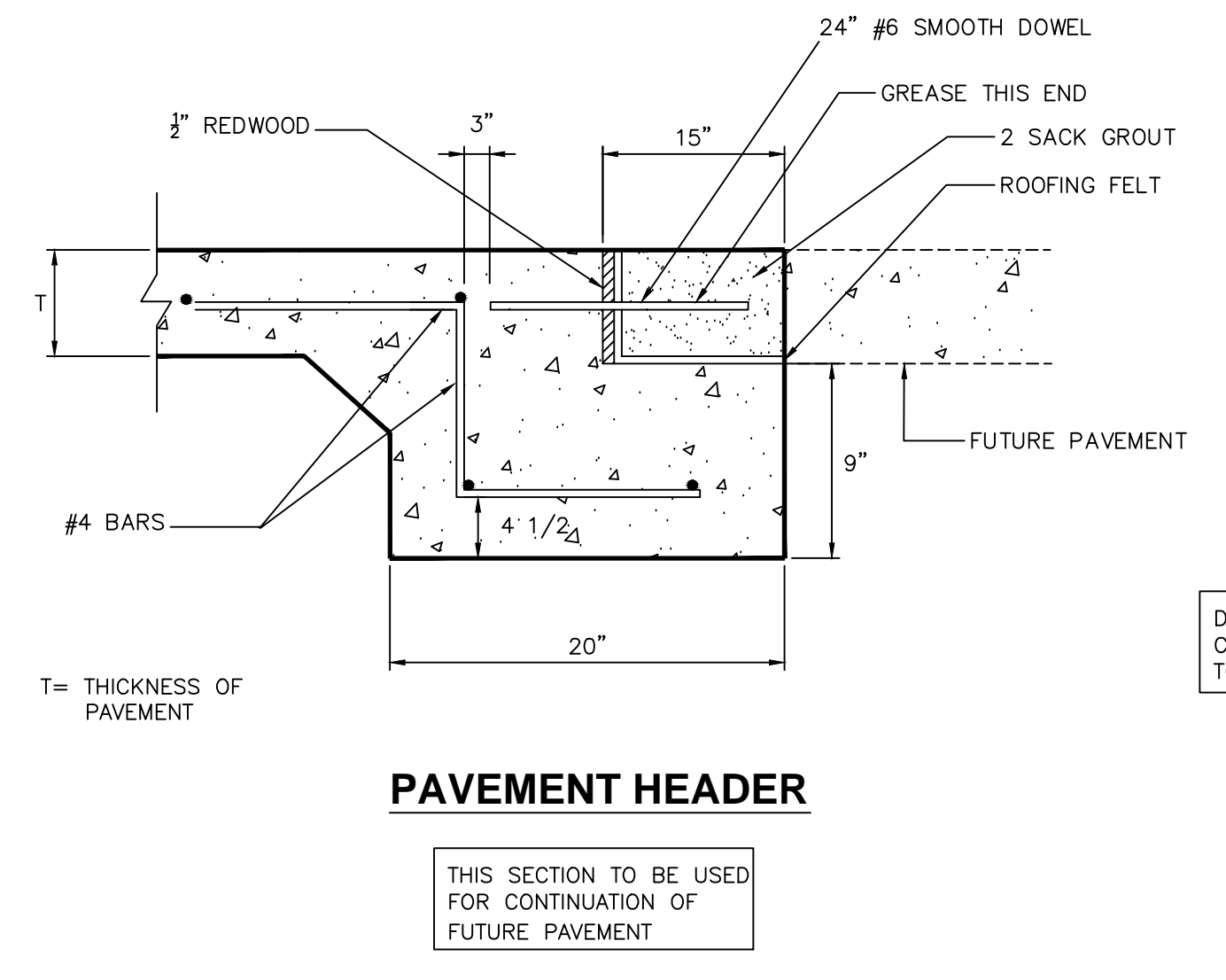
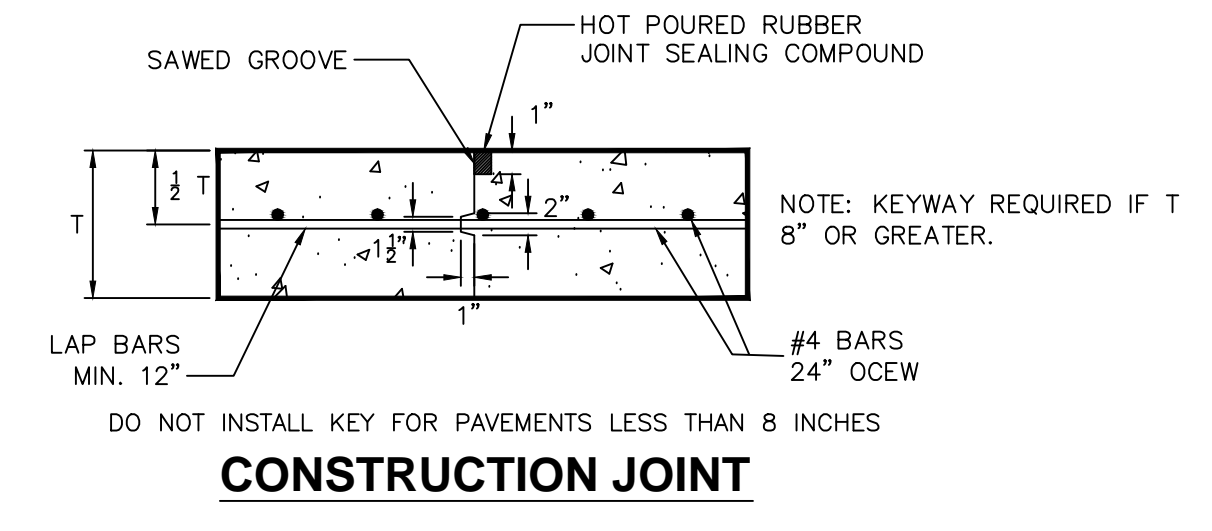
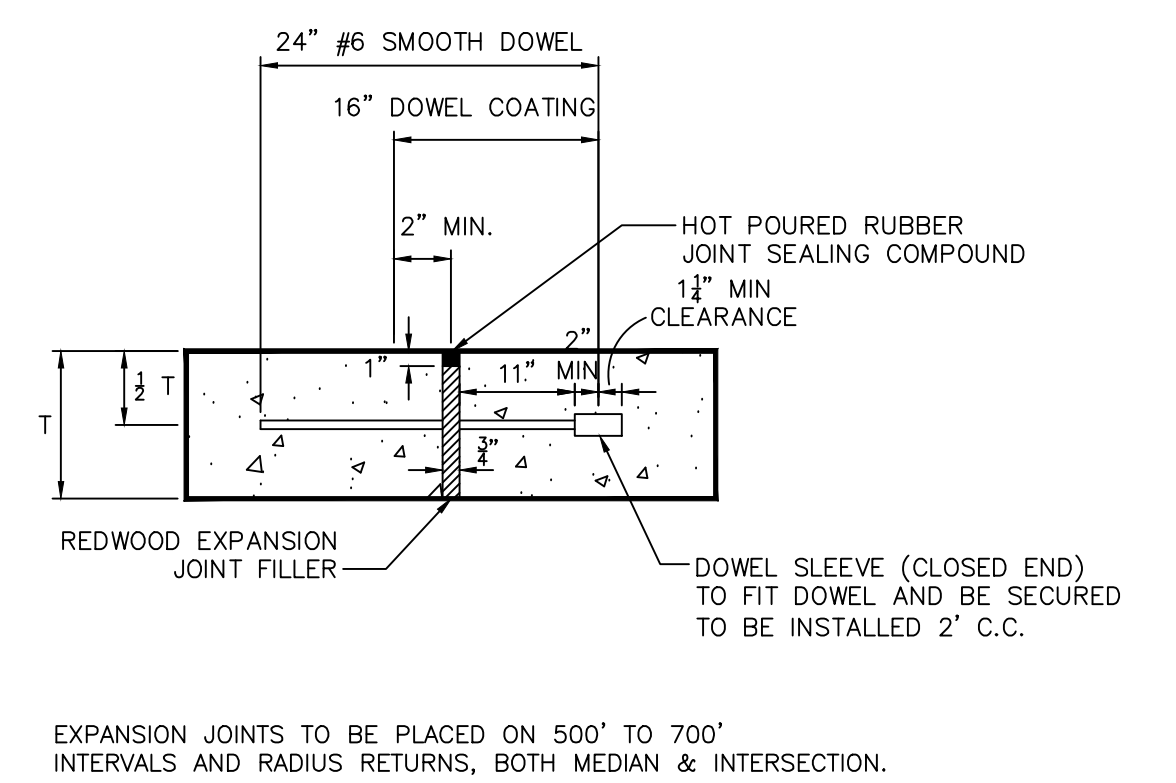
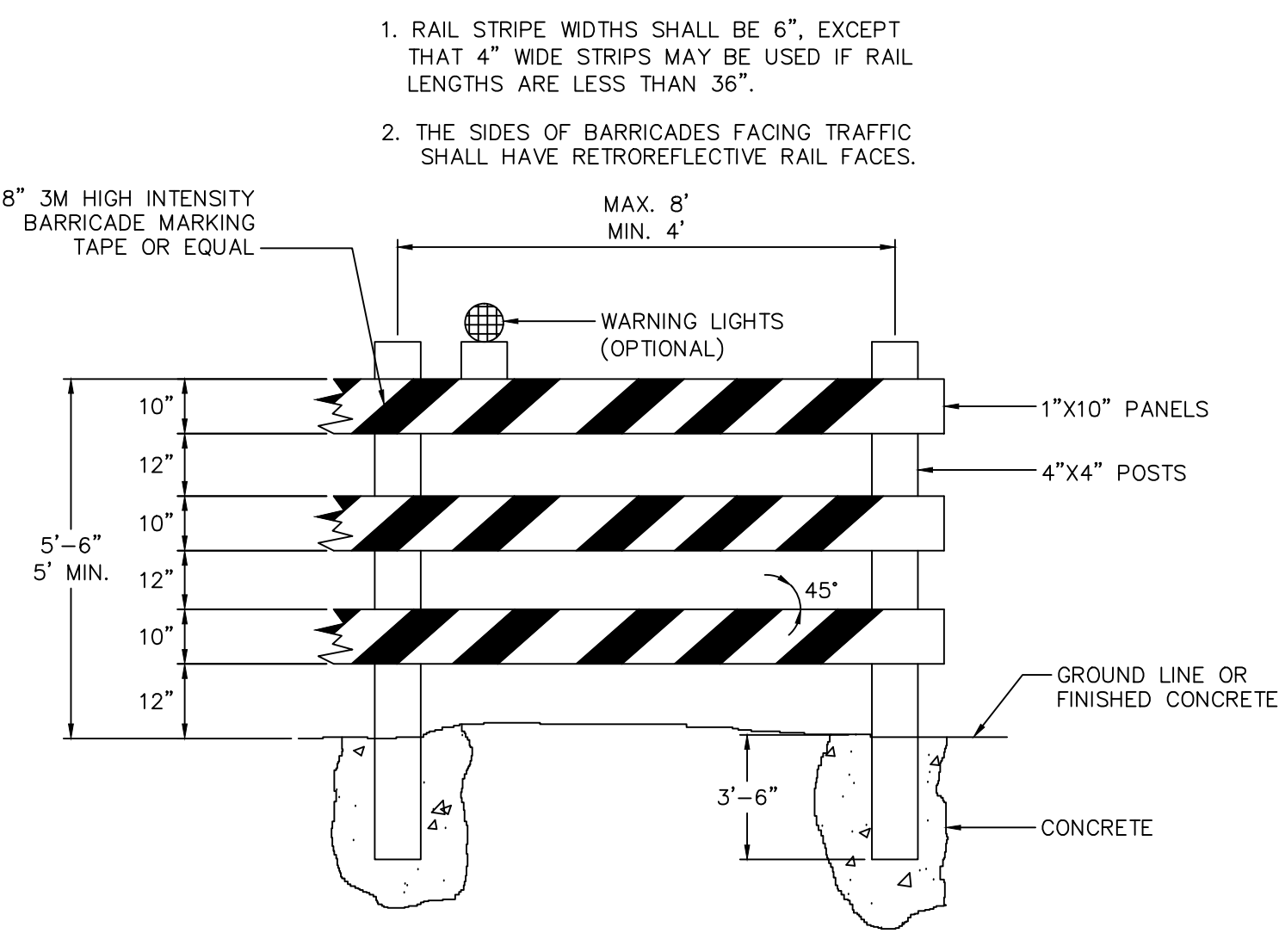
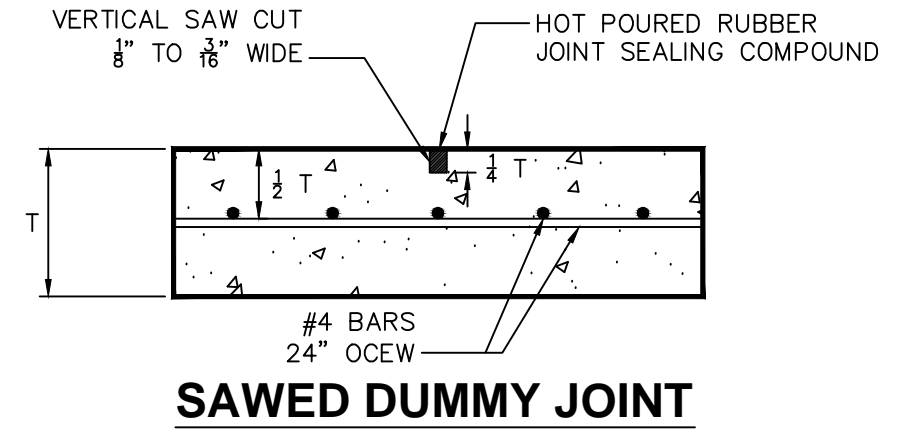
STORM SEWER
Sheet No.:
C-5



- NOTE:**
- ALL R.O.W. SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR @ -2% TO +4% OPTIMUM MOISTURE.
 - SIDEWALK WIDTH VARIES ACCORDING TO ZONING, AND PRESENCE OF SCREENING WALL.

TABLE OF CROWN HEIGHTS

ROADWAY WIDTH	TOTAL CROWN	3/4 POINT	MID-POINT	1/4 POINT
26'	4"	2-1/4"	1"	1/4"
36'	6"	3-3/8"	1 1/2"	3/8"
40'	6"	3-3/8"	1 1/2"	3/8"
44'	6"	3-3/8"	1 1/2"	3/8"



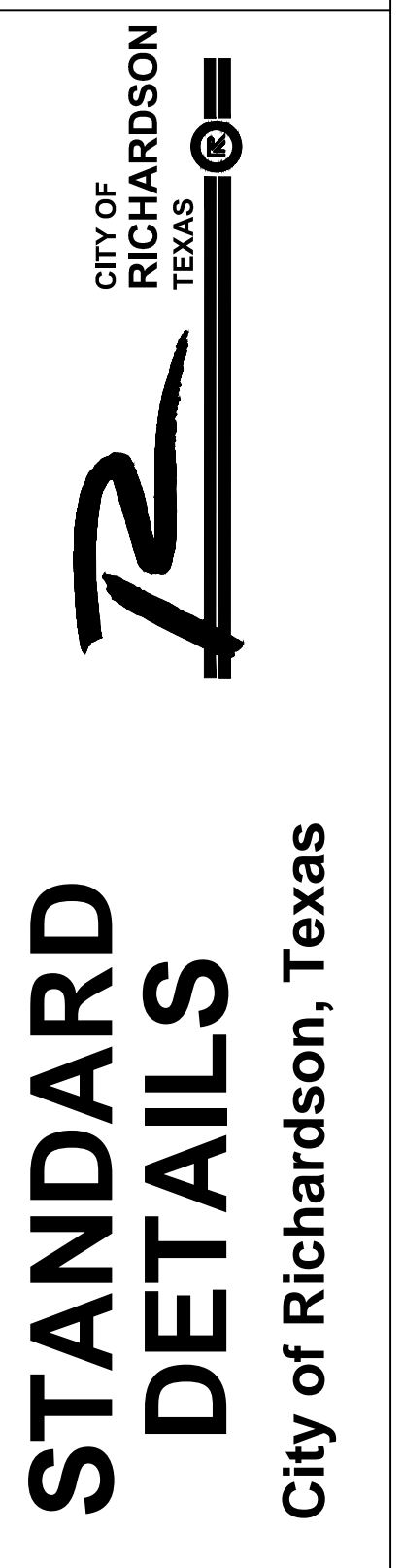
- NOTES:**
- STREET CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION NORTH CENTRAL TEXAS." FOR THE DESIGN OF WATER AND SEWER LINES AND WATER DEPARTMENT STANDARDS.
 - ALL STREET PAVEMENT SHALL BE CLASS "C" CONCRETE PER NCTCOG ITEM 303.3.4.2(a), REINFORCED WITH #4 BARS, GRADE 60 SHOWN BOTH SPACED 24" O.C.E.W. HAND FINISHING WILL BE AS PER ITEM 303.5.6.2
 - ALL PARKWAYS SHALL SLOPE A MIN. OF 1/4" PER FOOT UP FROM THE CURB TO THE RIGHT-OF-WAY LINE, THEN AT A MAX 3:1 SLOPE TO MATCH EXISTING GRADE.
 - SAWING AND SEALING OF ALL LONGITUDINAL AND TRANSVERSE PAVEMENT JOINTS SHALL BE CONSIDERED SUBSIDIARY TO ALL PAVING ITEMS.
 - FOR PLACING OF CONCRETE PAVEMENT REFER TO ITEM 303.5.5 OF "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION NORTH CENTRAL TEXAS."
 - FOR MAXIMUM SLUMP OF CONCRETE FOR PAVEMENT REFER TO ITEM 303.3.4.4 OF "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION NORTH CENTRAL TEXAS."
 - ALL NONRESIDENTIAL PAVEMENT SHALL BE A MINIMUM OF 8" THICK, REINFORCED WITH #4 BARS, GRADE 60.
 - ALL COMMERCIAL AND RESIDENTIAL DRIVEWAYS SHALL BE CLASS "C" CONCRETE WITH #4 BARS GRADE 60 SPACED AT 24" OCEW.
- PORTLAND CEMENT CONCRETE PAVEMENT:**
- STANDARD SPECIFICATIONS ITEM 303.2.1.3 - "COARSE AGGREGATES" SHALL BE AMENDED THE FIRST SENTENCE IS DELETED AND REPLACED AS FOLLOWS "COARSE AGGREGATES SHALL BE 100% CRUSHED STONE"
 - STANDARD SPECIFICATIONS ITEM 303 SHALL BE AMENDED AS FOLLOWS:
 - ITEM 303.2.4. FLY ASH IS ALLOWED: MAX 20% BY WEIGHT
 - ITEM 303.2.5 SHALL BE DELETED. NO MINERAL FILLER IS ALLOWED
 - ITEM 303.2.6 SHALL BE DELETED. NO FIBROUS REINFORCEMENT ALLOWED
 - STANDARD SPECIFICATIONS ITEM 303 SHALL BE AMENDED TO INCLUDE THE FOLLOWING:
 - ALL EQUIPMENT NECESSARY TO CONSTRUCT CONCRETE PAVEMENT SHALL BE APPROVED BY THE OWNER PRIOR TO STARTING THE PAVING OPERATION. PAVING EQUIPMENT REQUIREMENTS ARE
 - SIDEWALKS LESS THAN 8" IN WIDTH**
NO PAVING MACHINE REQUIRED. STINGER VIBRATORS AND METAL STRAIGHT EDGES SHALL BE USED TO CONSOLIDATE THE CONCRETE.
 - SIDEWALKS 8" IN WIDTH OR WIDER**
VIBRATING SCREED WITH TWO HAND HELD STINGER VIBRATORS SHALL BE USED TO CONSOLIDATE THE CONCRETE.
 - PARKING LOTS AND TURN LANES**
VIBRATING SCREED WITH TWO HAND HELD STINGER VIBRATORS SHALL BE USED TO CONSOLIDATE THE CONCRETE.
 - NEW STREET AND ALLEY PAVEMENT**
SLIPFORM PAVING EQUIPMENT AS DESCRIBED IN ITEM 303.4.3 OF THE STANDARD SPECIFICATIONS SHALL BE USED.
 - STREET AND ALLEY REPAIRS**
PAVING EQUIPMENT WILL BE DETERMINED BY THE OWNER.
 - FULL WIDTH ALLEY REPLACEMENT**
VIBRATING SCREED WITH TWO HAND HELD STINGER VIBRATORS SHALL BE USED TO CONSOLIDATE THE CONCRETE.

- NEW PAVEMENT: STREET AND ALLEY PAVEMENT SHALL BE TEXTURED WITH A NYLON BAKER BROOM THAT IS CLEAN AND FREE OF GROUT BUILDUP. DRAG BROOM LONGITUDINALLY OVER THE PAVEMENT AFTER BLEED WATER HAS EVAPORATED (CONCRETE WILL APPEAR DULL) BUT BEFORE CONCRETE HAS ATTAINED ITS INITIAL SET.
 - NEW SIDEWALK: SHALL BE TEXTURED WITH A TRANSVERSELY WITH A LIGHT BROOM FINISH. HAND FINISHING SHALL BE PER ITEM 303.5.6.2
 - PAVEMENT PATCHING: STREET AND ALLEY PAVEMENT SHALL BE TEXTURED LONGITUDINALLY WITH A HORSEHAIR BROOM OR A BURLAP DRAG FINISH.
- C. CONCRETE TEMPERATURES**
- MAY 1 THROUGH SEPTEMBER 30
- ALL MIXES AND MIX DESIGNS SHALL INCLUDE A RETARDING AGENT.
 - CONCRETE TEMPERATURE PRIOR TO PLACEMENT SHALL NOT EXCEED 95°F. (35°C).
 - THE TIME INTERVAL (FROM ADDITION OF INITIAL WATER):
- | AGITATED CONCRETE | | |
|--------------------------------|------------|--|
| 90°F OR ABOVE (32.2°C) | 45 MINUTES | |
| 75°F TO 89°F (23.9° TO 31.6°C) | 60 MINUTES | |
| 35°F TO 74°F (1.6° TO 23.3°C) | 90 MINUTES | |
- | NON AGITATED CONCRETE | | |
|-------------------------------|------------|--|
| 80°F OR ABOVE (26.6°C) | 15 MINUTES | |
| 35°F TO 79°F (1.6° TO 26.1°C) | 30 MINUTES | |
- OCTOBER 1 THROUGH APRIL 30
- CONCRETE TEMPERATURE PRIOR TO PLACEMENT SHALL NOT EXCEED 95°F. (35°C).
 - THE TIME INTERVAL (FROM ADDITION OF INITIAL WATER):
- | AGITATED CONCRETE | | |
|--------------------------------|------------|--|
| 90°F OR ABOVE (32.2°C) | 45 MINUTES | |
| 75°F TO 89°F (23.9° TO 31.6°C) | 60 MINUTES | |
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Revisions:

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Drawn By: RGB
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24"x36" Scale: NTS

11"x17" Scale: NTS

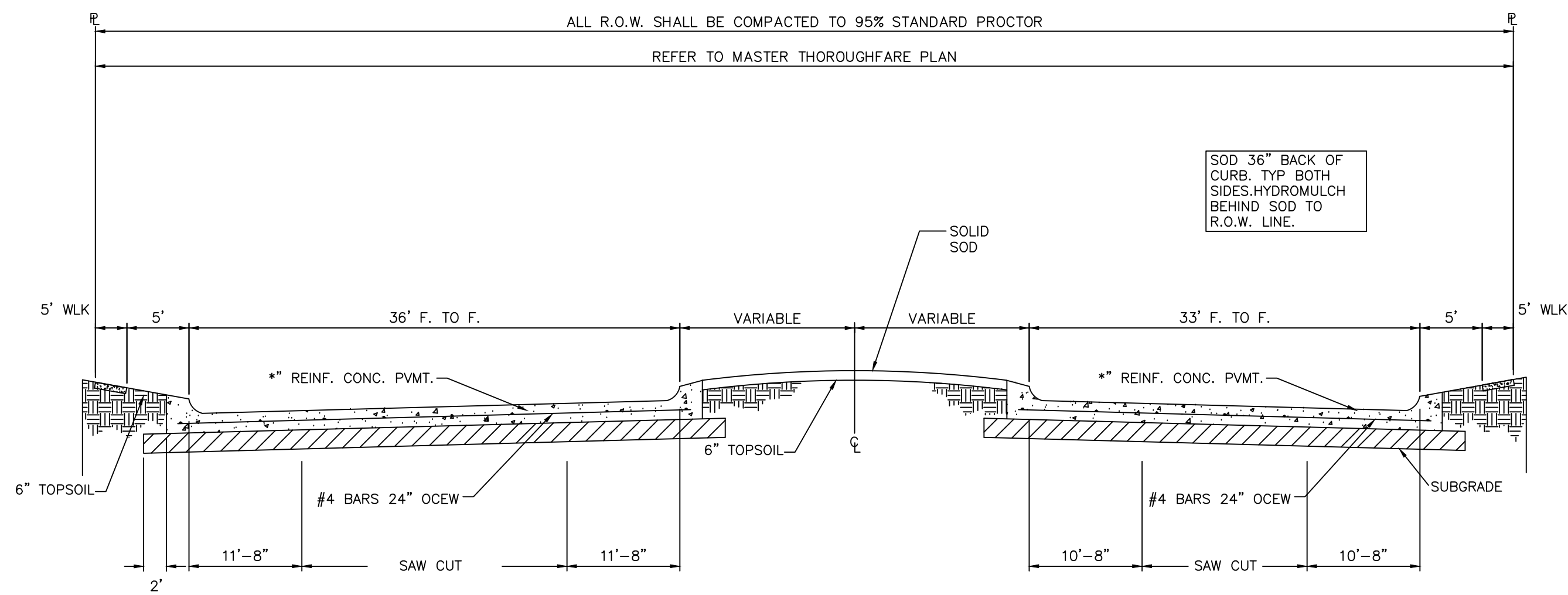
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Project Number: XXX

Issue Date: 01 MAY 14

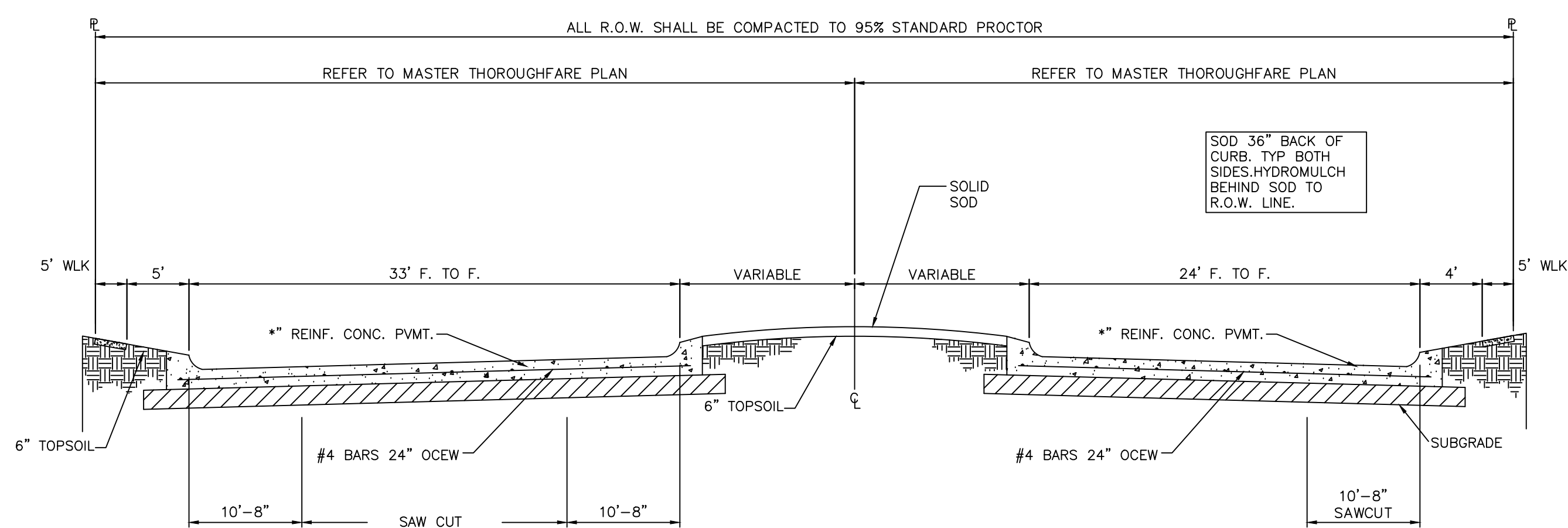
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Sheet No.: **C-6**

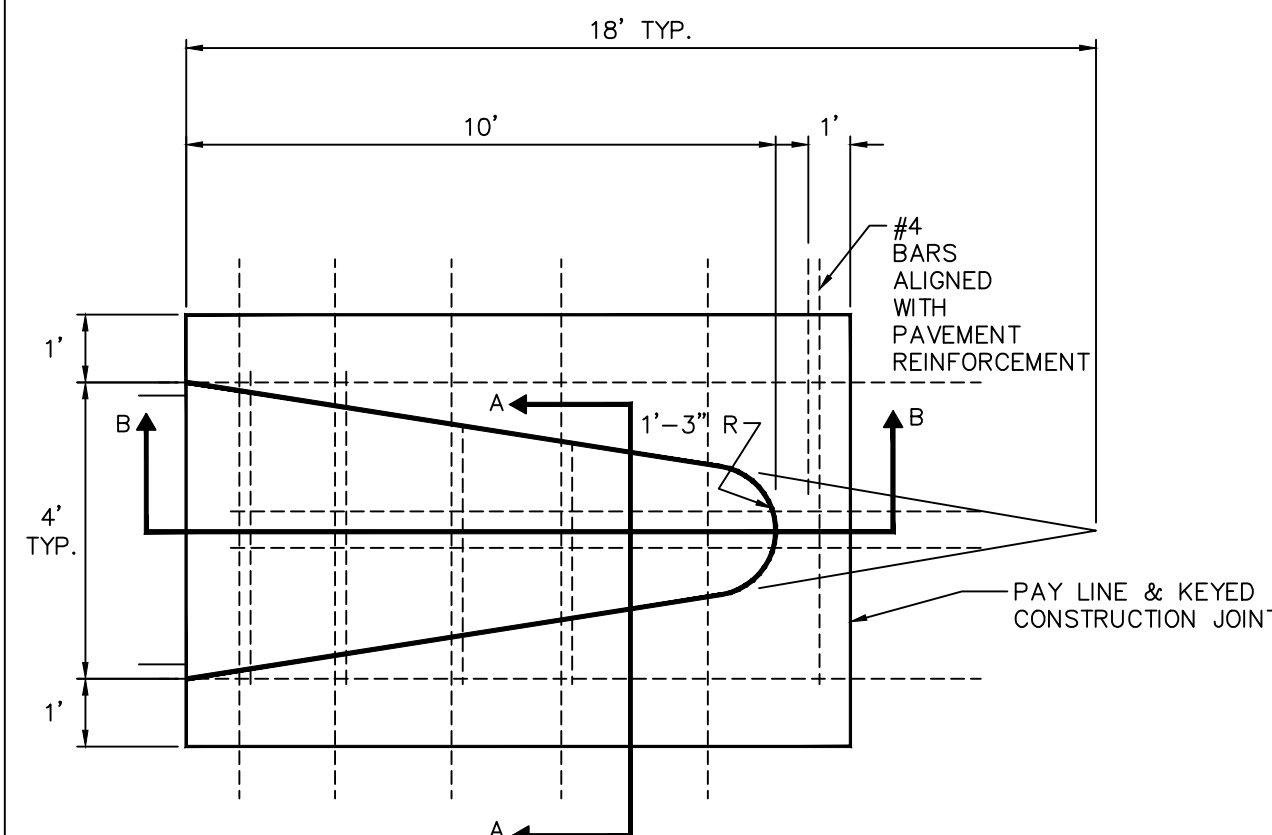


36'-33' PVMT. F.F.

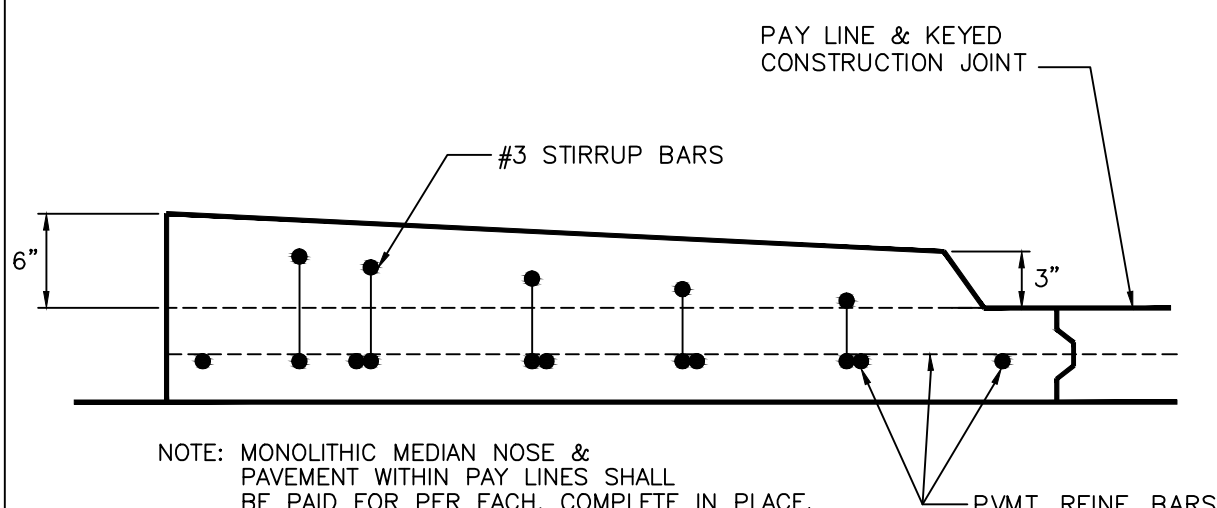
* 8" THK WITH LIME TREATED SUBGRADE
 9" THK WITHOUT LIME TREATED SUBGRADE
 10" THK AT ALL THOROUGHFARE TO THOROUGHFARE INTERSECTIONS, FROM RADIUS RETURN TO RADIUS RETURN



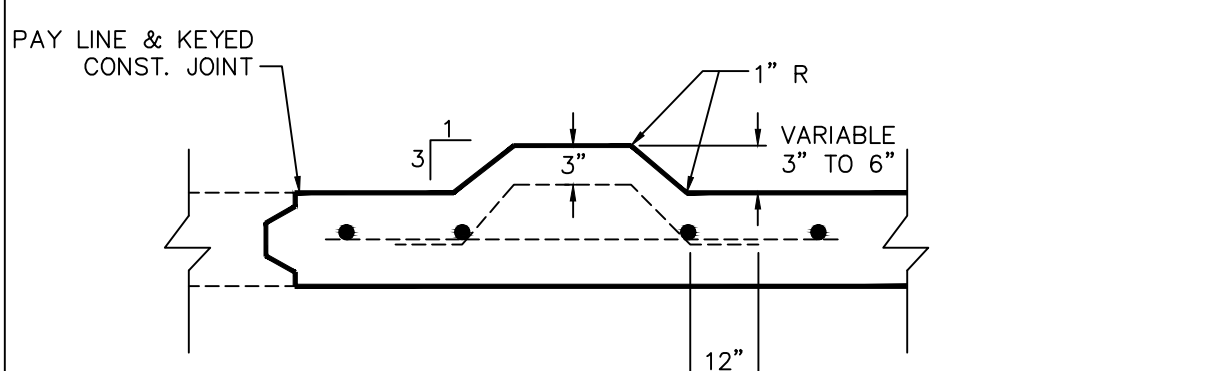
22'-33' PVMT. F.F. TYPICAL PVMT. SECTION-DIVIDED ROADWAY



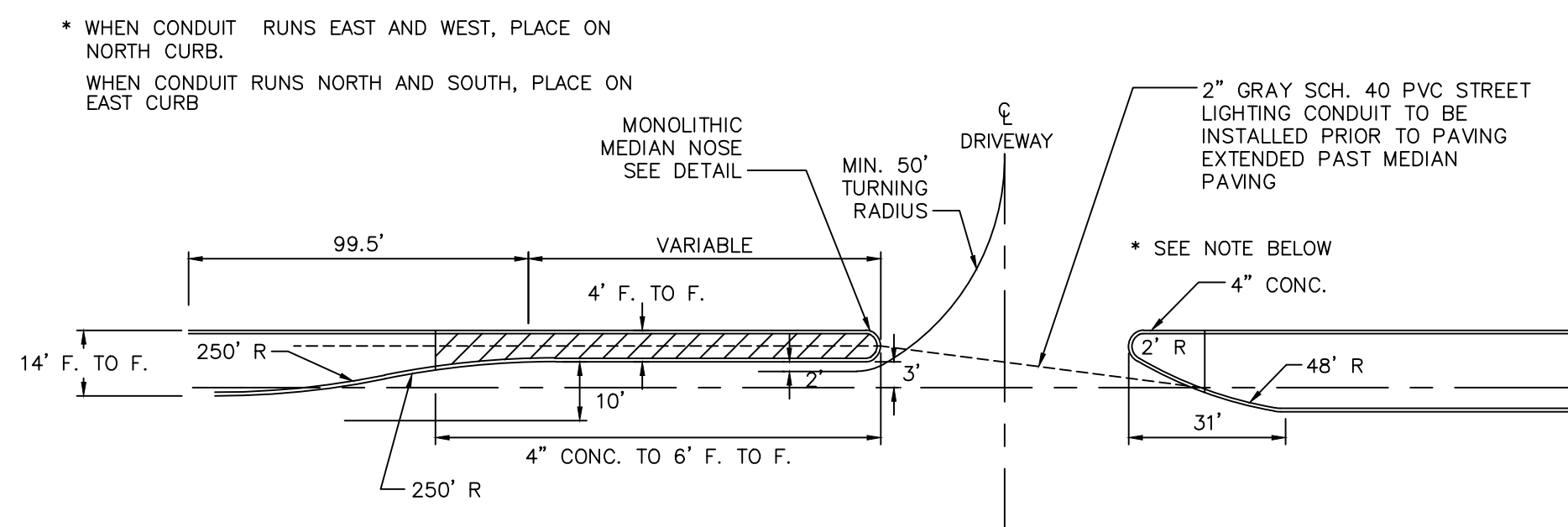
MONOLITHIC MEDIAN NOSE



SECTION B-B



SECTION A-A

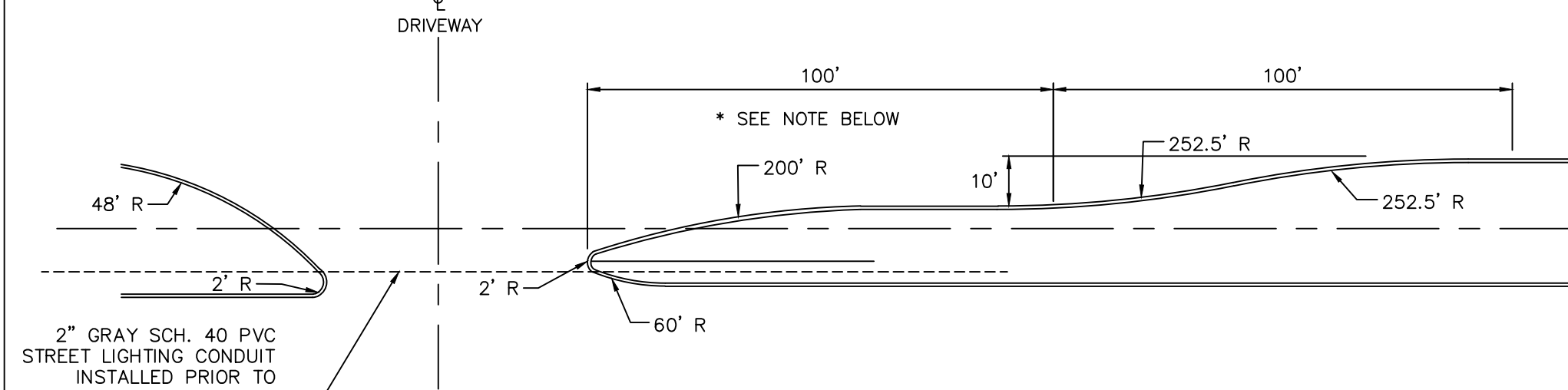


• WHEN CONDUIT RUNS EAST AND WEST, PLACE ON NORTH CURB.
 WHEN CONDUIT RUNS NORTH AND SOUTH, PLACE ON EAST CURB

SEE STREET MARKING STANDARD DETAIL FOR BUTTON TYPE AND LOCATION

LEFT TURN LANE FOR 14 FOOT MEDIAN

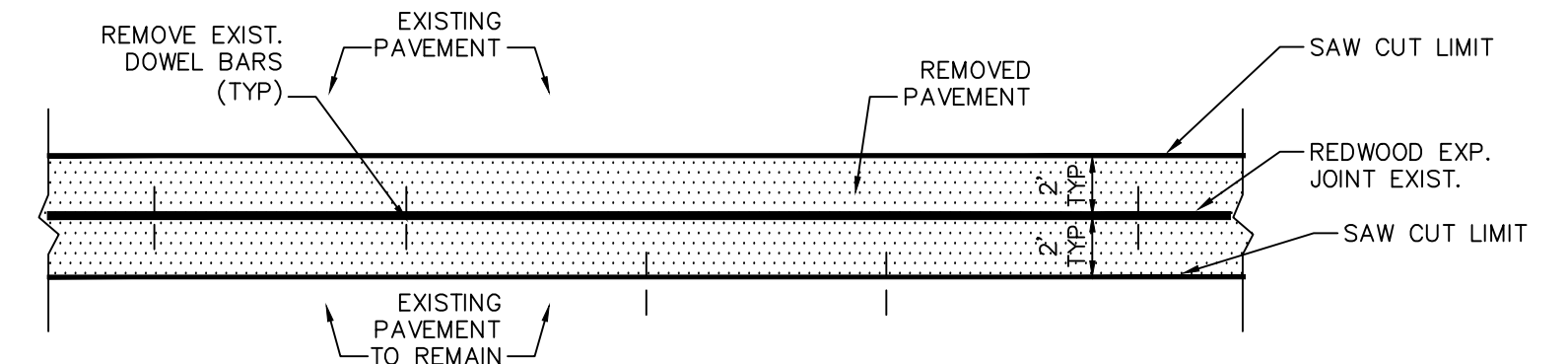
ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED



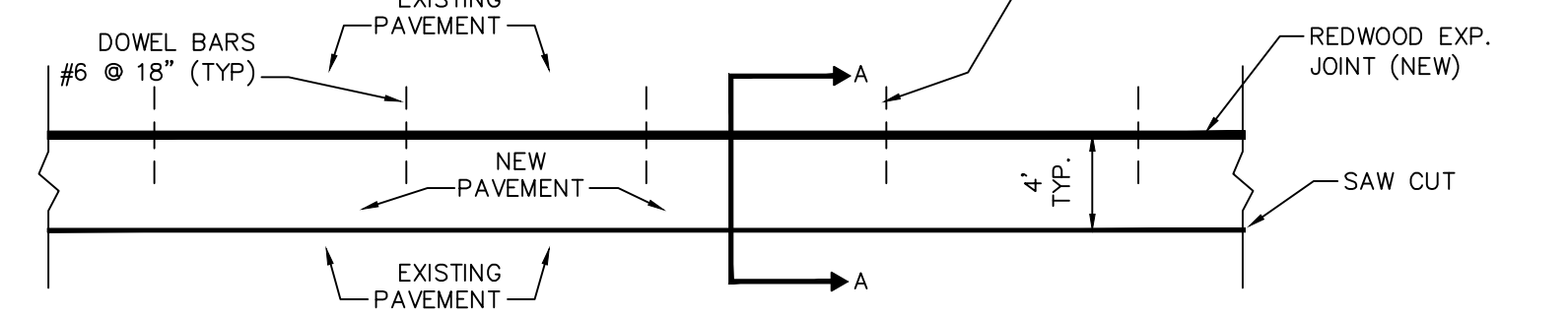
• WHEN CONDUIT RUNS EAST AND WEST, PLACE ON NORTH CURB.
 WHEN CONDUIT RUNS NORTH AND SOUTH, PLACE ON EAST CURB

SEE STREET MARKING STANDARD DETAIL FOR BUTTON TYPE AND LOCATION

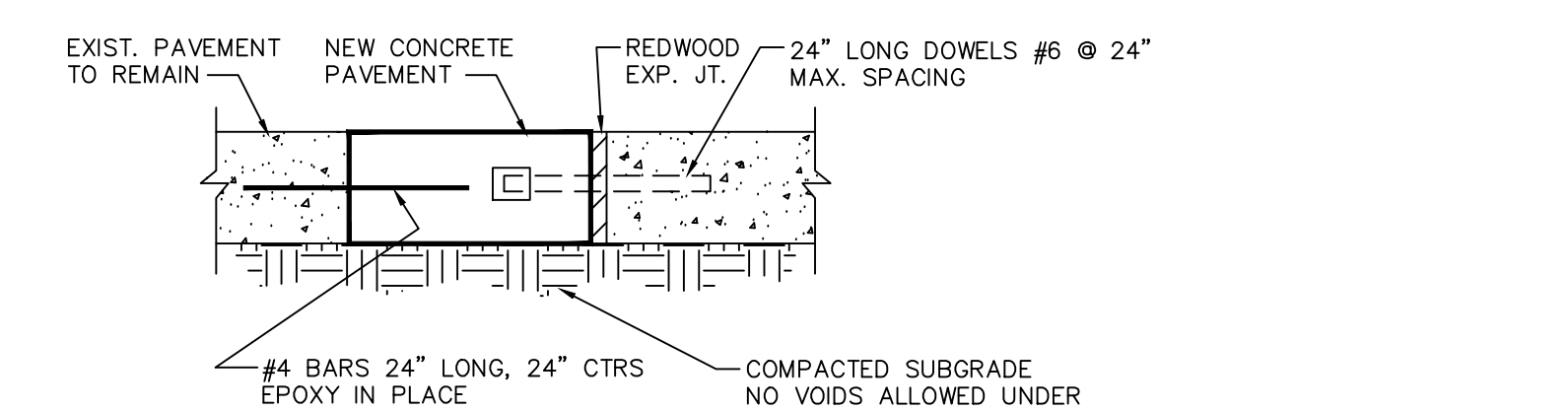
LEFT TURN LANE FOR 28 FOOT (OR LARGER) MEDIAN



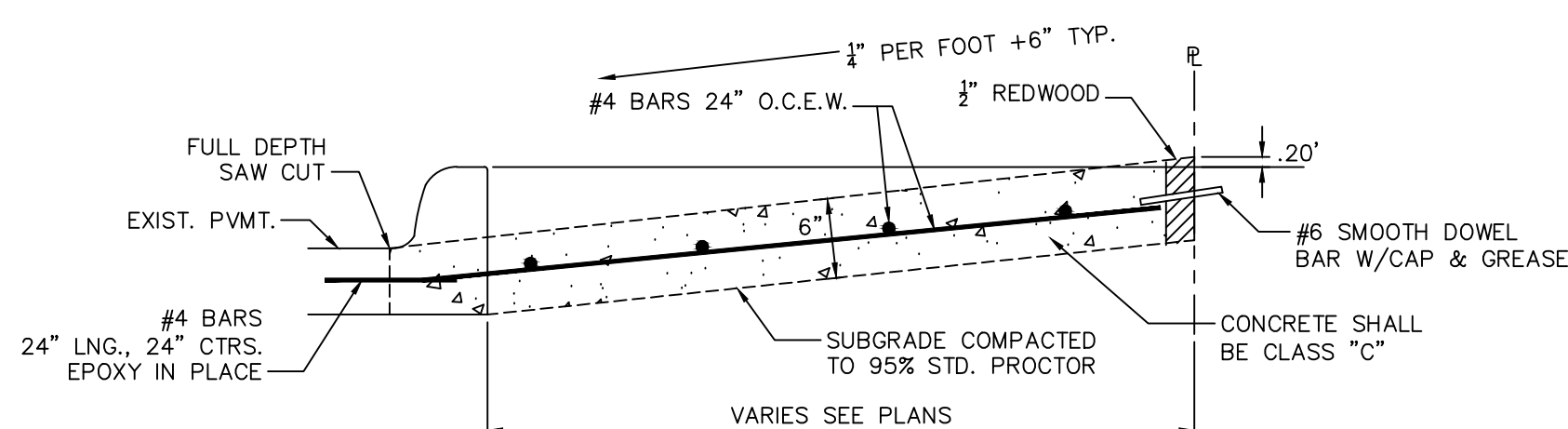
REPLACE PLAN



EXISTING PLAN

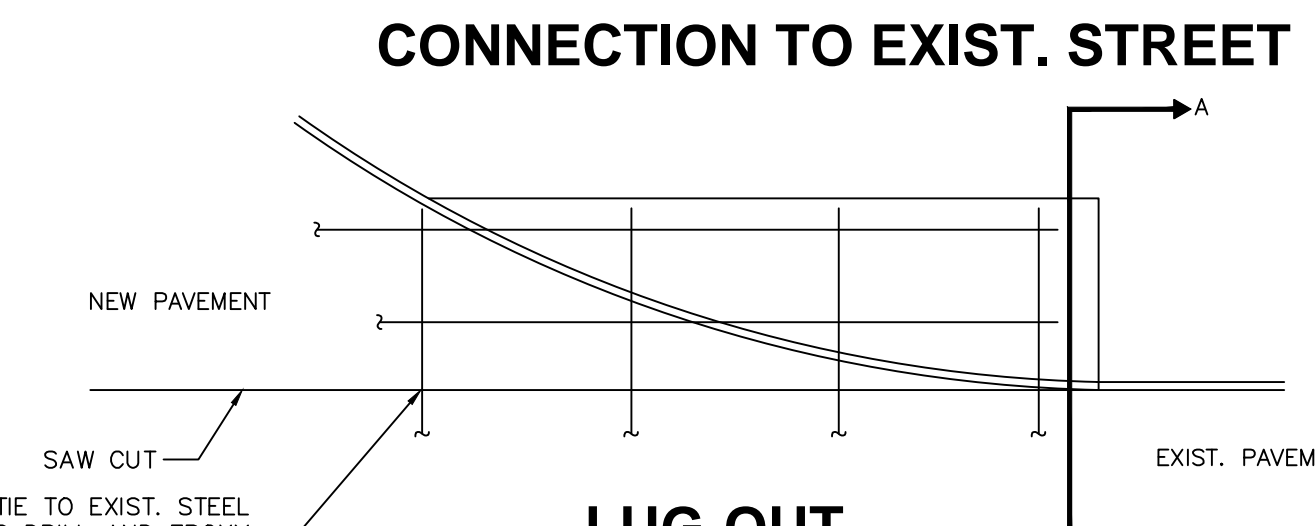


REDWOOD EXPANSION JOINT REPLACEMENT CURB TO CURB ONLY

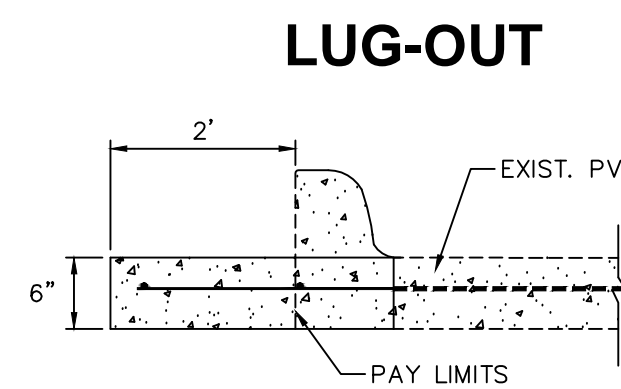


TYP. COMMERCIAL DRIVE APPROACH

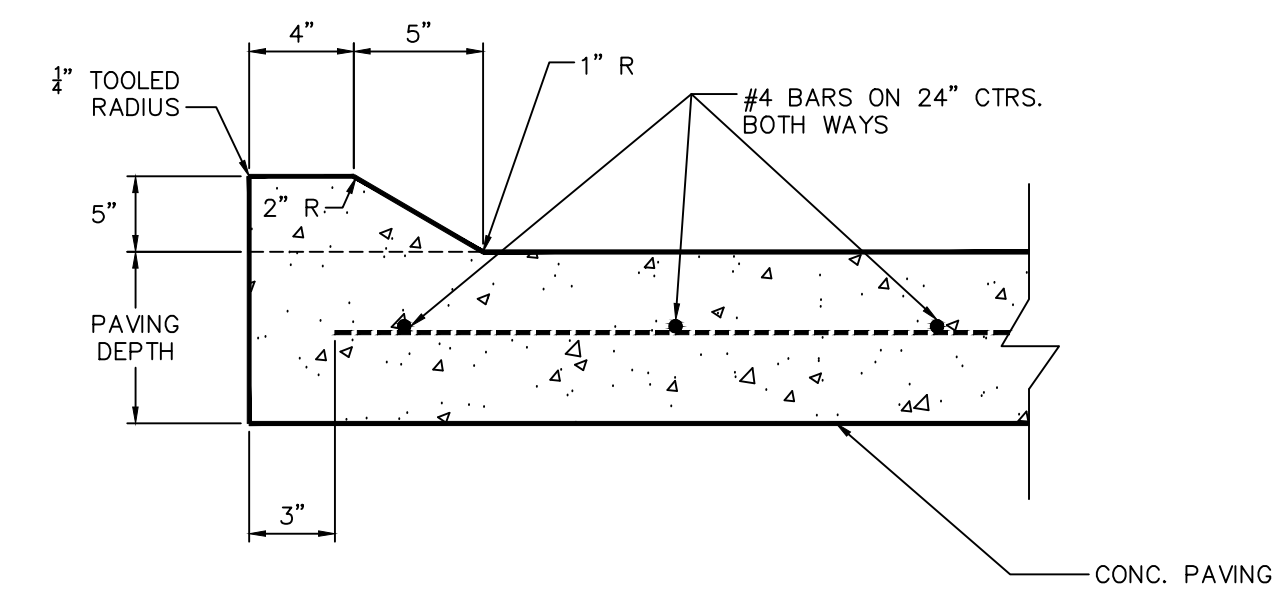
NOTE: DRIVE TO HAVE MAXIMUM OF 2% CROSS SLOPE @ SIDEWALK CROSSING



LUG-OUT



SECTION A-A



MOUNTABLE MONOLITHIC CURB TYPE 1

- NOTES:
- STREET CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION NORTH CENTRAL TEXAS."
 - ALL STREET PAVEMENT SHALL BE CLASS "C" CONCRETE PER ITEM 303.3.4.2, REINFORCED WITH #4 BARS, GRADE 60 SHOWN BOTH SPACED 24" O.C.E.W. HAND FINISHING WILL BE AS PER ITEM 303.5.6.2.
 - ALL PARKWAYS SHALL SLOPE A MIN. OF 1/4" PER FOOT UP FROM THE CURB TO THE RIGHT-OF-WAY LINE, THEN AT A MAX 3:1 SLOPE TO MATCH EXISTING GRADE.
 - SAWING AND SEALING OF ALL LONGITUDINAL AND TRANSVERSE PAVEMENT JOINTS SHALL BE CONSIDERED SUBSIDIARY TO ALL PAVING ITEMS.
 - FOR PLACING OF CONCRETE PAVEMENT REFER TO ITEM 303.5.5 OF "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION NORTH CENTRAL TEXAS."
 - FOR MAXIMUM SLUMP OF CONCRETE FOR PAVEMENT REFER TO ITEM 303.3.4.4 OF "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION NORTH CENTRAL TEXAS."
 - ALL MEDIAN PAVEMENT SHALL BE CLASS "A" CONCRETE, REINFORCED WITH #4 BARS, GRADE 60, MIN. AT 24" O.C.E.W

Revisions:

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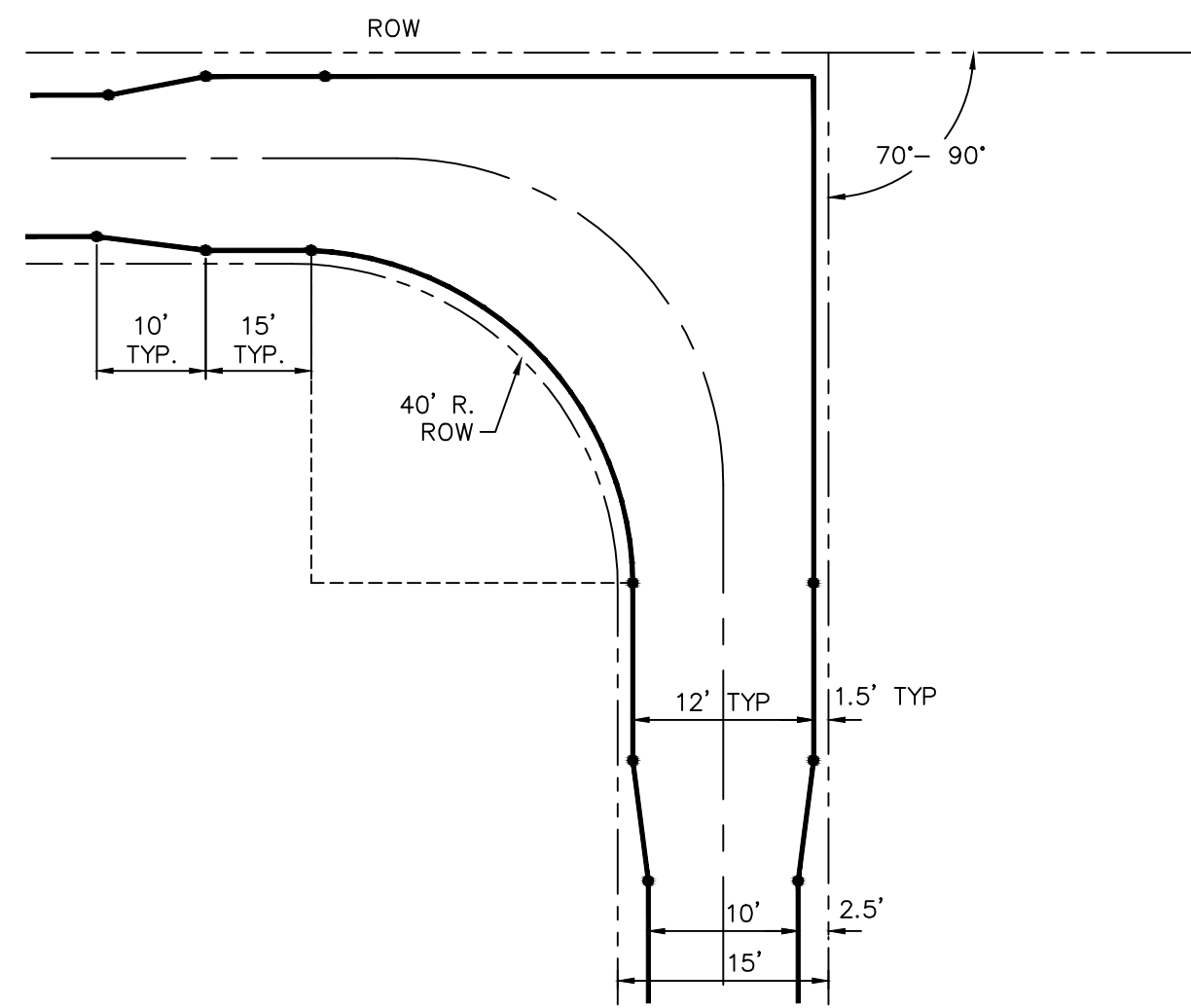
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CITY OF RICHARDSON TEXAS

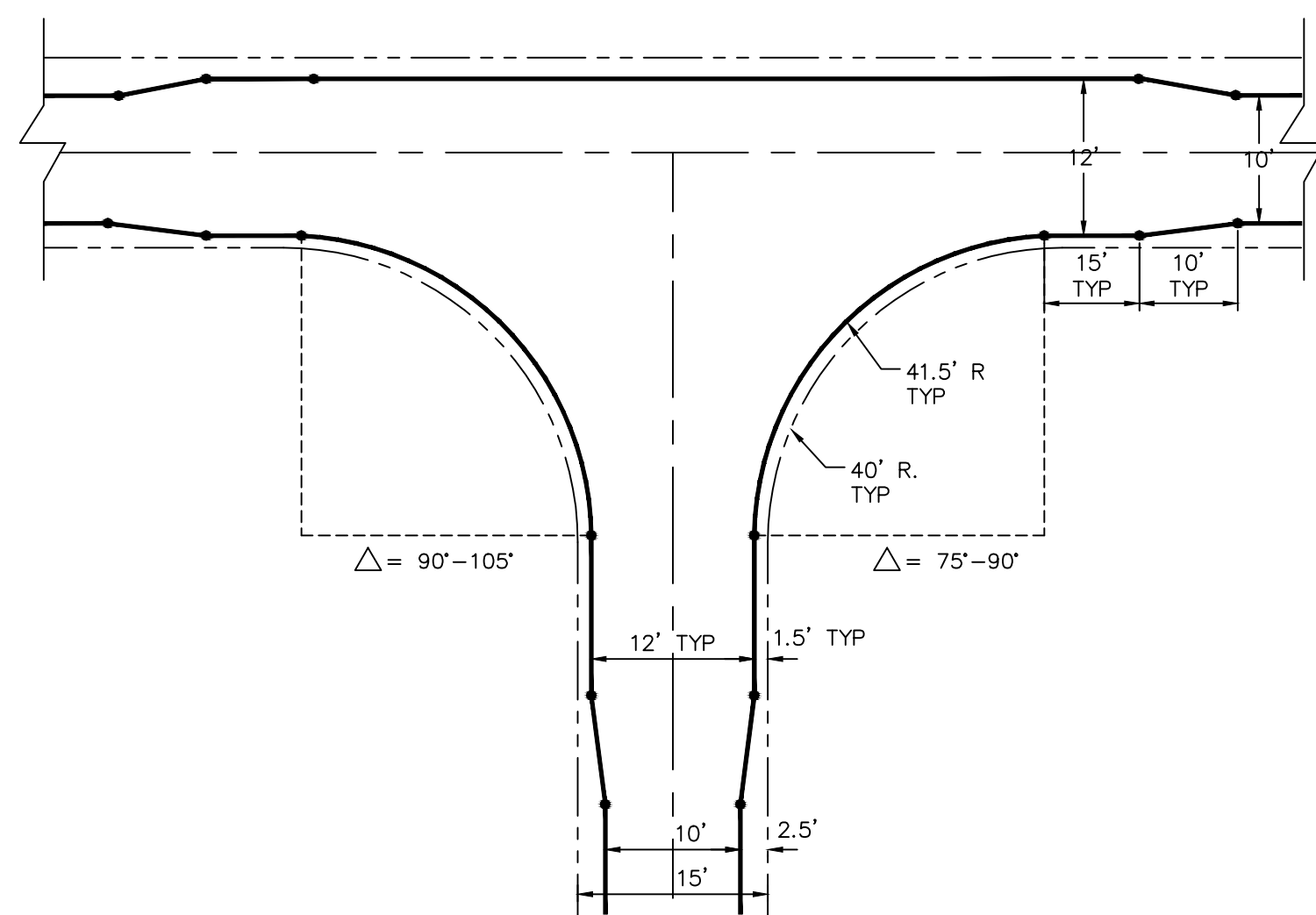
STANDARD DETAILS
 City of Richardson, Texas

NO ADDITIONS OR CHANGES TO STANDARD DETAIL SHEETS UNLESS APPROVED BY CITY OF RICHARDSON

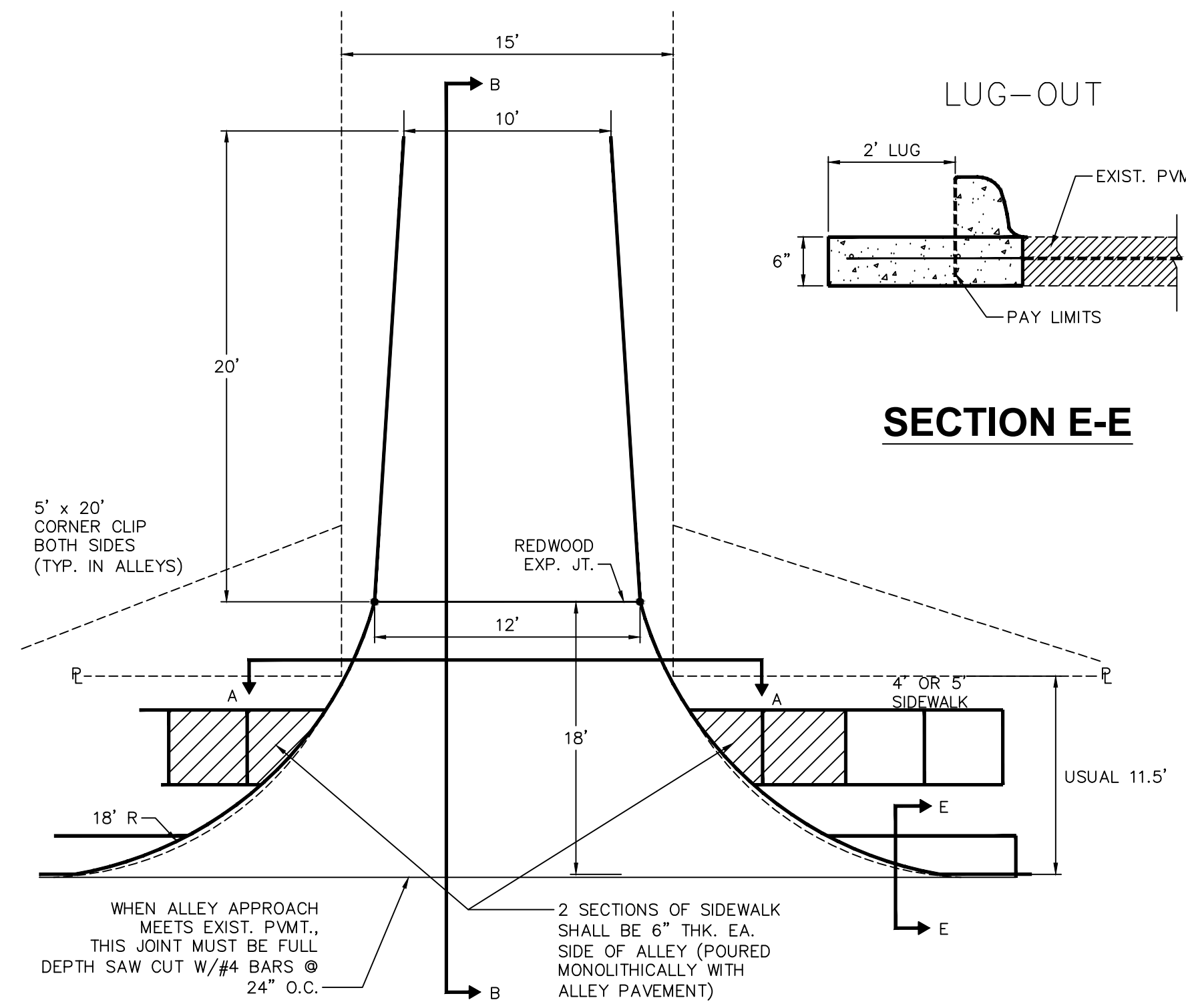
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 Vertical Scale: NA
 Project Number: XXX
 Issue Date: 01 MAY 14
 Sheet Title: **STREET**
 Sheet No.: **C-7**



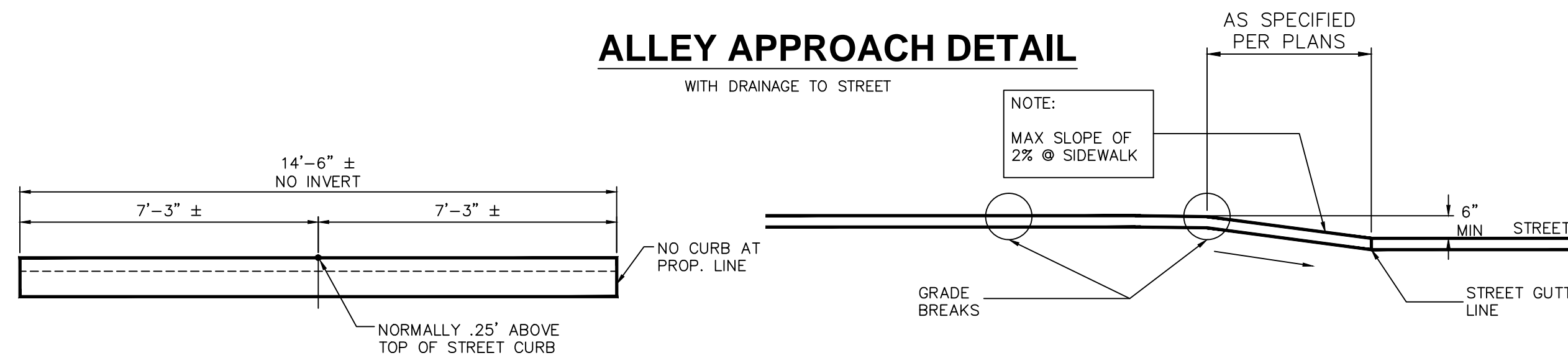
ALLEY INTERSECTION DETAIL



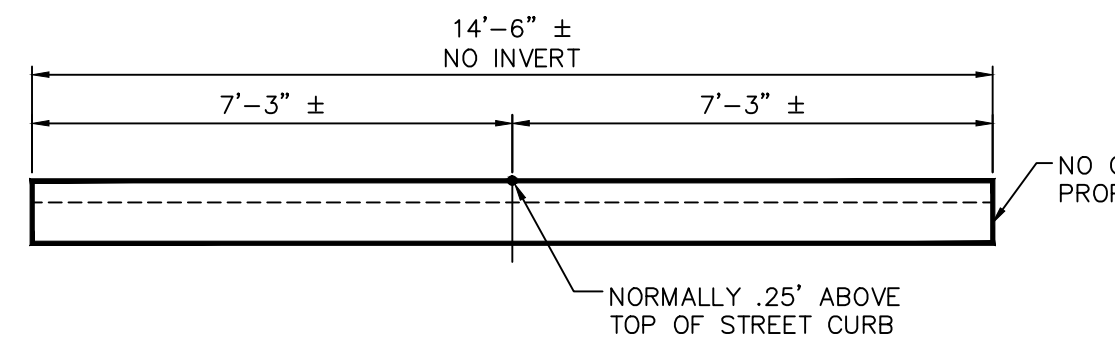
ALLEY INTERSECTION DETAIL



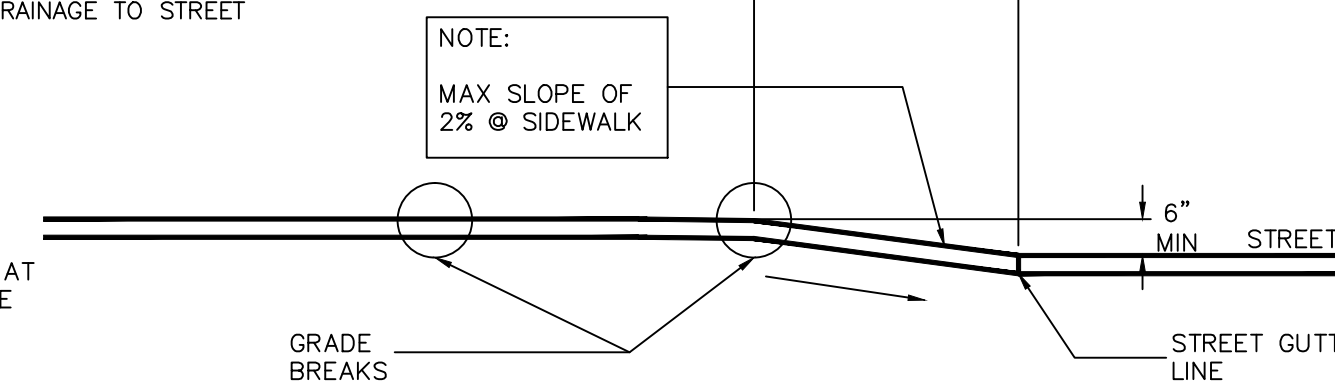
SECTION E-E



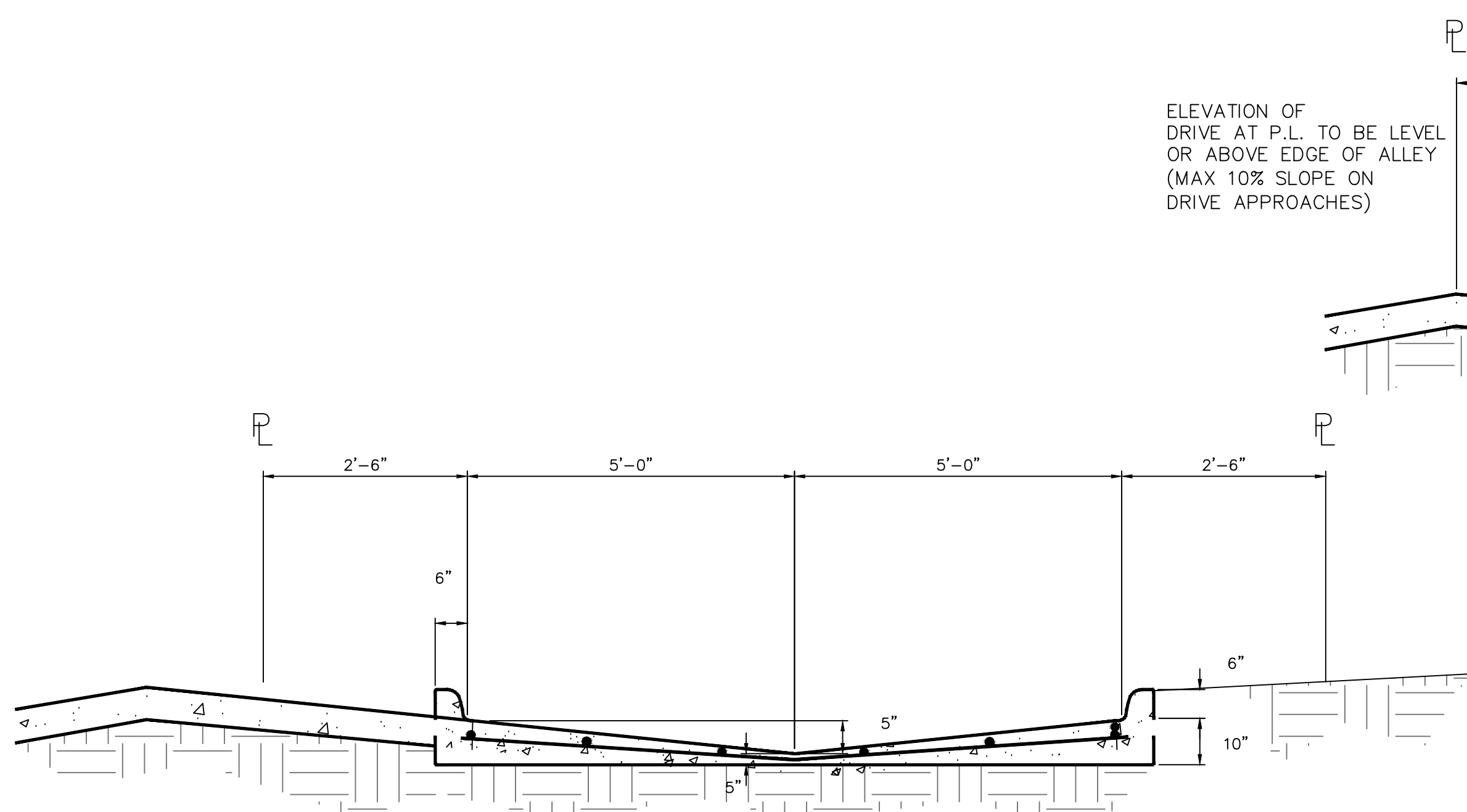
ALLEY APPROACH DETAIL



SECTION A-A

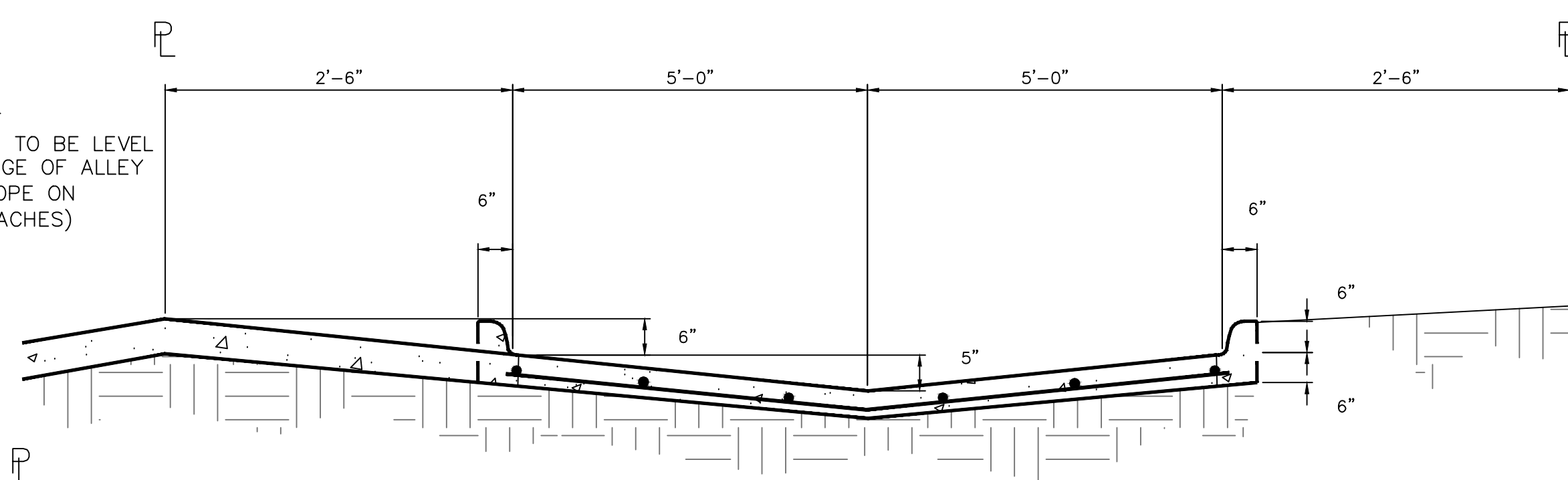


SECTION B-B



STANDARD ALLEY DETAIL

ALTERNATE ALLEY CROSS SECTION MAY BE USED IN LIEU OF STANDARD CROSS SECTION HOWEVER, NO ADDITIONAL COMPENSATION WILL BE PROVIDED TO THE CONTRACTOR.



**ALTERNATE ALLEY DETAIL
(SLIP FORM ONLY)**

NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION NORTH CENTRAL TEXAS."
- ALL ALLEY PAVEMENT SHALL BE CLASS "C" CONCRETE PER ITEM 303.3.4.2, REINFORCED WITH #4 BARS, GRADE 60 SPACED 24" O.C.E.W. ONE SACK OF CEMENT TO BE ADDED FOR HAND POURS
- ALL JOINTS, SAWING AND SEALING OF LONGITUDINAL AND TRANSVERSE PAVEMENT JOINTS SHALL BE CONSIDERED SUBSIDIARY TO ALL PAVING ITEMS.
- FOR PLACING OF CONCRETE PAVEMENT REFER TO ITEM 303.5.5.
- FOR MAXIMUM SLUMP OF CONCRETE FOR PAVEMENT REFER TO ITEM 303.4.4.
- ALTERNATE ALLEY CROSS SECTION MAY BE USED IN LIEU OF STANDARD ALLEY CROSS SECTION HOWEVER, NO ADDITIONAL COMPENSATION WILL BE PROVIDED TO THE CONTRACTOR.
- SEE SHEET C-6 FOR JOINT DETAILS
- INLETS SHALL NOT BE LOCATED IN ALLEY TRANSITIONS

PORTLAND CEMENT CONCRETE PAVEMENT

- STANDARD SPECIFICATIONS ITEM 303.2.1.3 - "COARSE AGGREGATES" SHALL BE AMENDED THE FIRST SENTENCE IS DELETED AND REPLACED AS FOLLOWS
"COARSE AGGREGATES SHALL BE 100% CRUSHED STONE"
- STANDARD SPECIFICATIONS ITEM 303 SHALL BE AMENDED AS FOLLOWS:
 - ITEM 303.2.4. FLY ASH IS ALLOWED MAX 20% BY WEIGHT
 - ITEM 303.2.5 SHALL BE DELETED. NO MINERAL FILLER IS ALLOWED
 - ITEM 303.2.6 SHALL BE DELETED. NO FIBROUS REINFORCEMENT ALLOWED
- STANDARD SPECIFICATIONS ITEM 303 SHALL BE AMENDED TO INCLUDE THE FOLLOWING:
 - ALL EQUIPMENT NECESSARY TO CONSTRUCT CONCRETE PAVEMENT SHALL BE APPROVED BY THE OWNER PRIOR TO STARTING THE PAVING OPERATION. PAVING EQUIPMENT REQUIREMENTS ARE AS FOLLOWS:
 - NEW STREET AND ALLEY PAVEMENT**
SLIPFORM PAVING EQUIPMENT AS DESCRIBED IN ITEM 303.4.3 OF THE STANDARD SPECIFICATIONS SHALL BE USED.
 - STREET AND ALLEY REPAIRS**
PAVING EQUIPMENT WILL BE DETERMINED BY THE OWNER.
 - FULL WIDTH ALLEY REPLACEMENT**
VIBRATING SCREED WITH TWO HAND HELD STINGER VIBRATORS SHALL BE USED TO CONSOLIDATE THE CONCRETE.
 - CONCRETE FINISH
NEW PAVEMENT: STREET AND ALLEY PAVEMENT SHALL BE TEXTURED WITH A NYLON BAKER BRUSH THAT IS CLEAN AND FREE OF GROUT BUILDUP. DRAG BROOM LONGITUDINALLY OVER THE PAVEMENT AFTER BLEED WATER HAS EVAPORATED (CONCRETE WILL APPEAR DULL) BUT BEFORE CONCRETE HAS ATTAINED ITS INITIAL SET.

C. CONCRETE TEMPERATURES

MAY 1 THROUGH SEPTEMBER 30

- ALL MIXES AND MIX DESIGNS SHALL INCLUDE A RETARDING AGENT.
- CONCRETE TEMPERATURE PRIOR TO PLACEMENT SHALL NOT EXCEED 95°F, (35°C).
- THE TIME INTERVAL (FROM ADDITION OF INITIAL WATER):

AGITATED CONCRETE		
90°F OR ABOVE	(32.2°C)	45 MINUTES
75°F TO 89°F	(23.9° TO 31.6°C)	60 MINUTES
35°F TO 74°F	(1.6° TO 23.3°C)	90 MINUTES
NON AGITATED CONCRETE		
80°F OR ABOVE	(26.6°C)	15 MINUTES
35°F TO 79°F	(1.6° TO 26.1°C)	30 MINUTES

OCTOBER 1 THROUGH APRIL 30

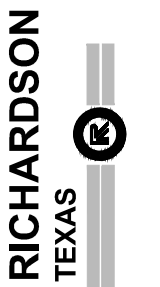
- CONCRETE TEMPERATURE PRIOR TO PLACEMENT SHALL NOT EXCEED 95°F, (35°C).
- THE TIME INTERVAL (FROM ADDITION OF INITIAL WATER):

AGITATED CONCRETE		
90°F OR ABOVE	(32.2°C)	45 MINUTES
75°F TO 89°F	(23.9° TO 31.6°C)	60 MINUTES
35°F TO 74°F	(1.6° TO 23.3°C)	90 MINUTES
NON AGITATED CONCRETE		
80°F OR ABOVE	(26.6°C)	15 MINUTES
35°F TO 79°F	(1.6° TO 26.1°C)	30 MINUTES

Revisions:

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Checked By: COR



**STANDARD
DETAILS**
City of Richardson, Texas

NO ADDITIONS OR CHANGES
TO STANDARD DETAIL
SHEETS UNLESS APPROVED
BY CITY OF RICHARDSON

24"x36" Scale: NTS

11"x17" Scale: NTS

Vertical Scale: NA

Project Number: XXX

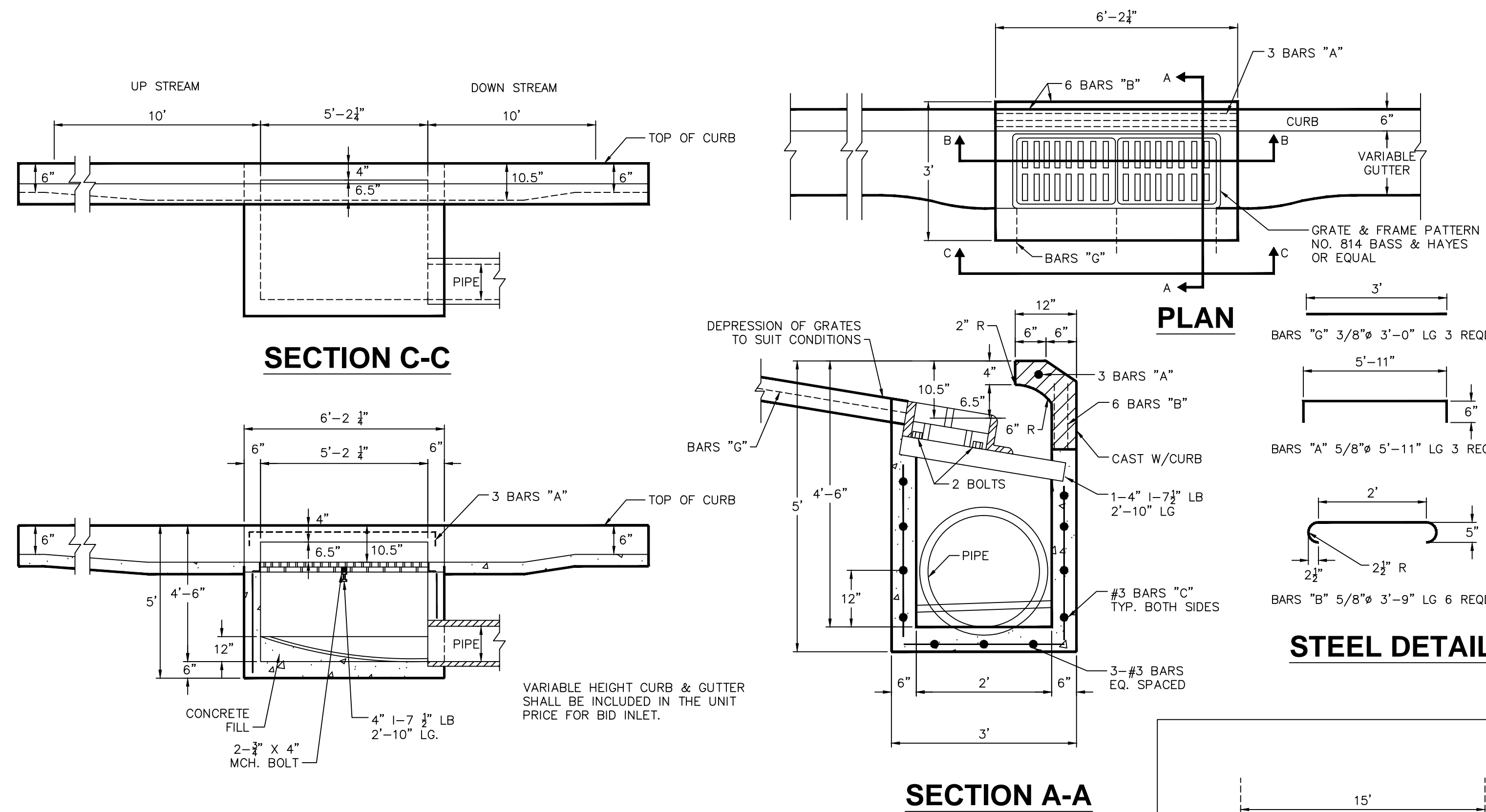
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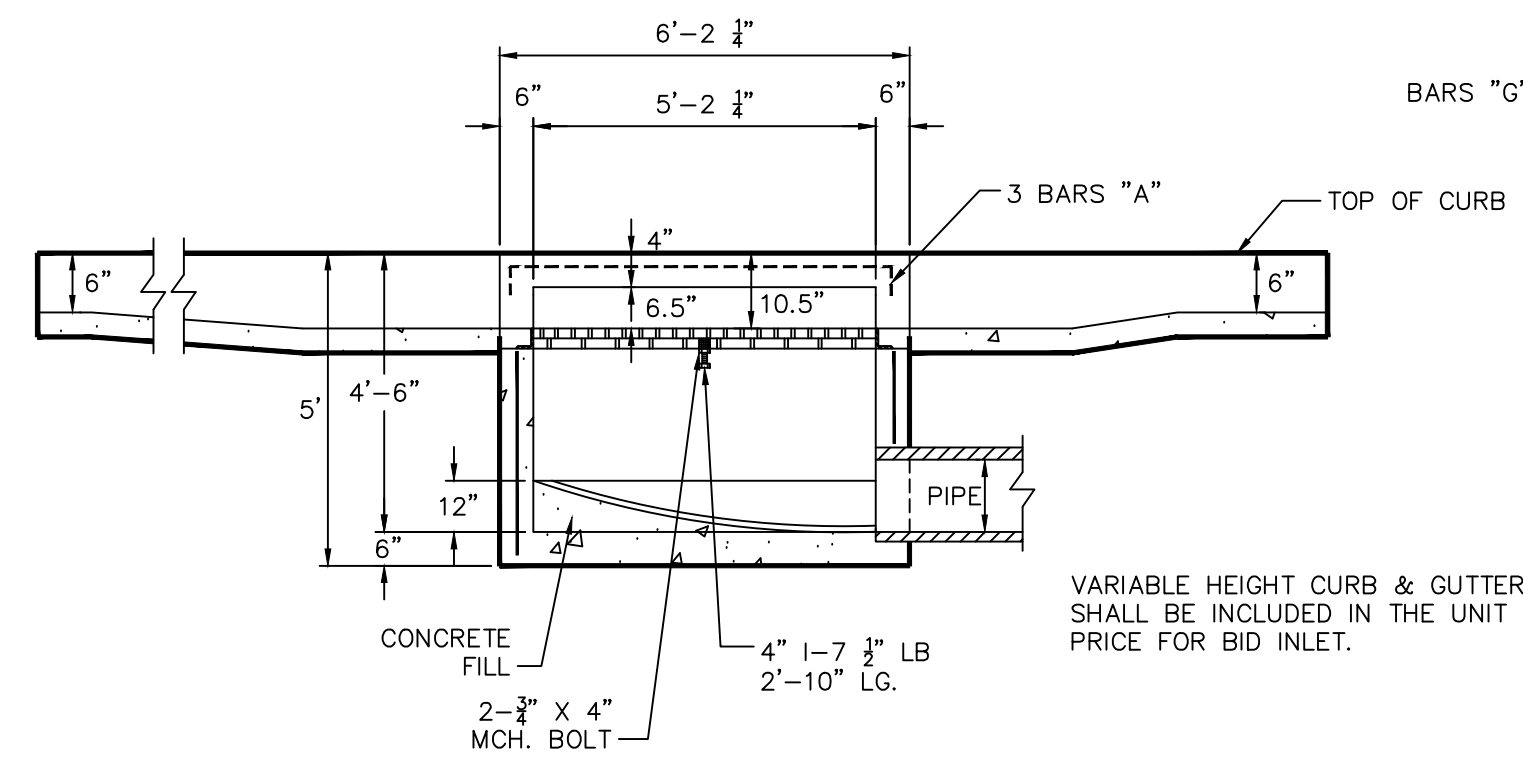
ALLEY

Sheet No.:

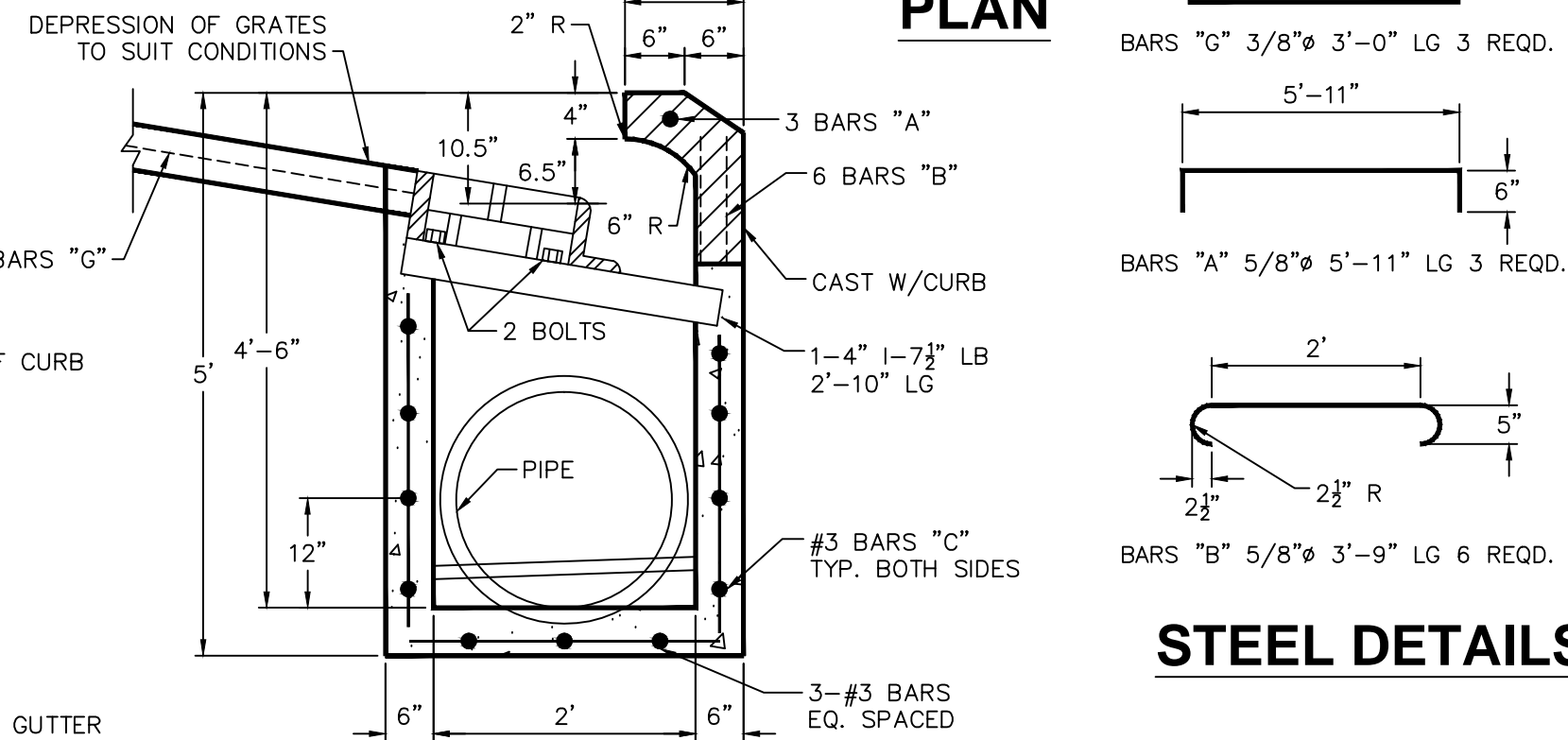
C-8



SECTION C-C



SECTION B-B



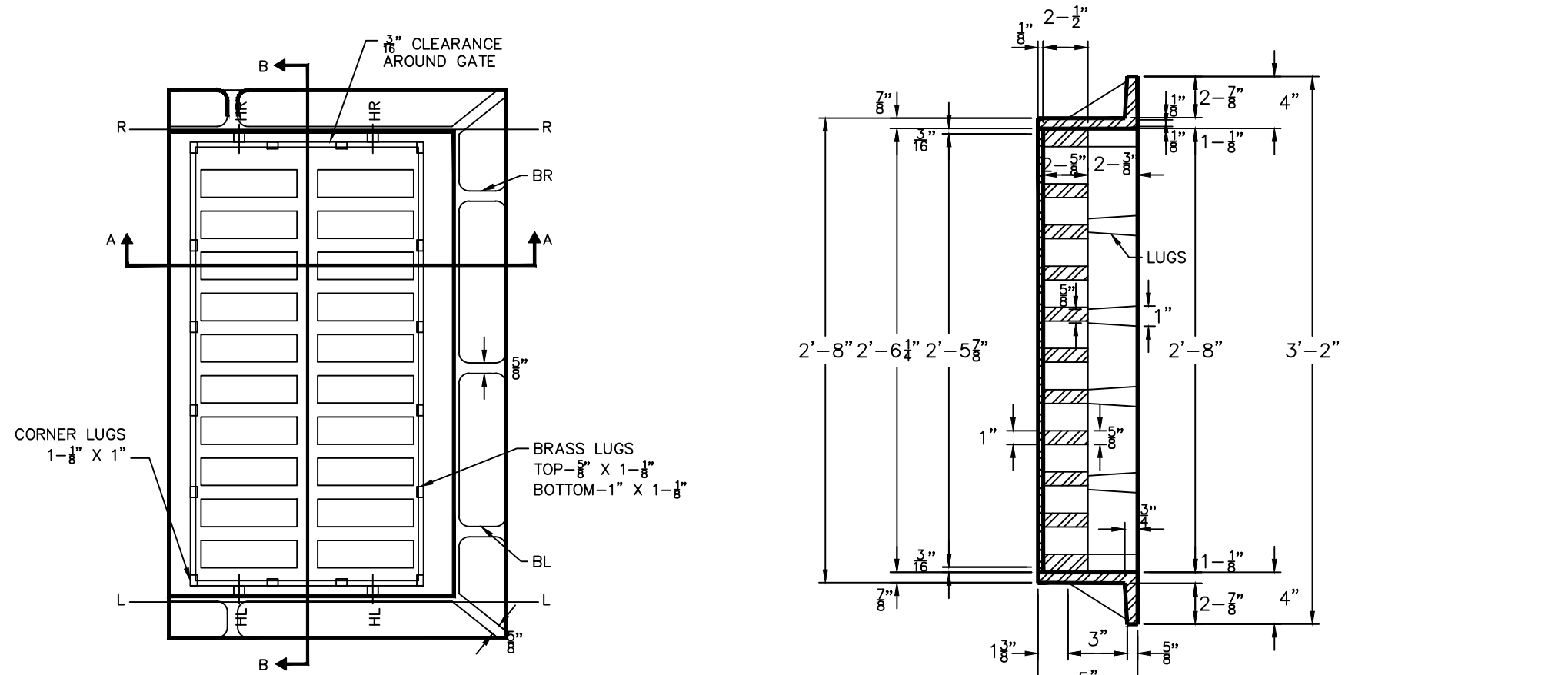
STEEL DETAILS



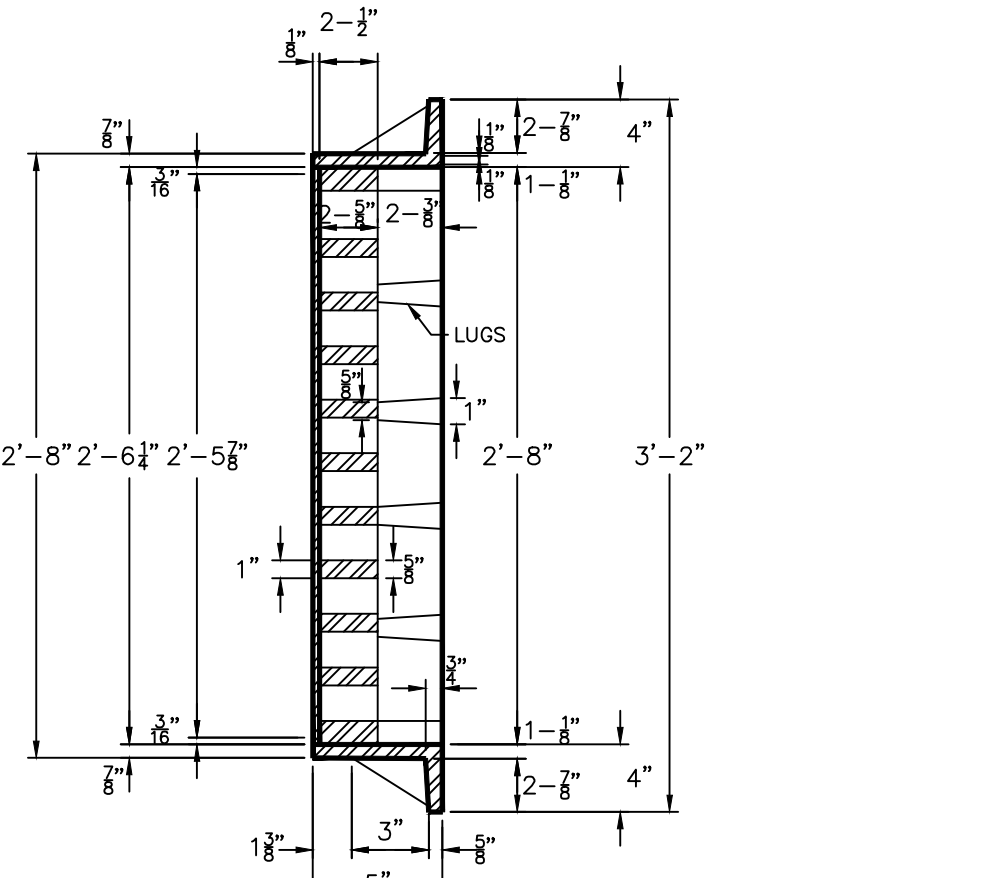
SECTION A-A

REINFORCING STEEL- NO. 3 1/2\"/>

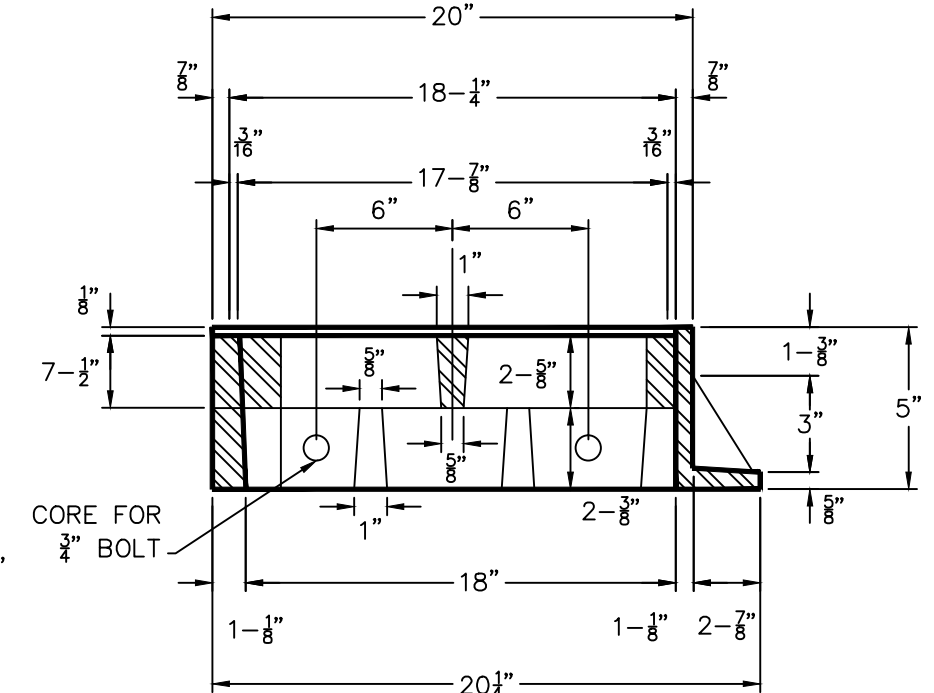
DOUBLE GRATE INLET



PLAN



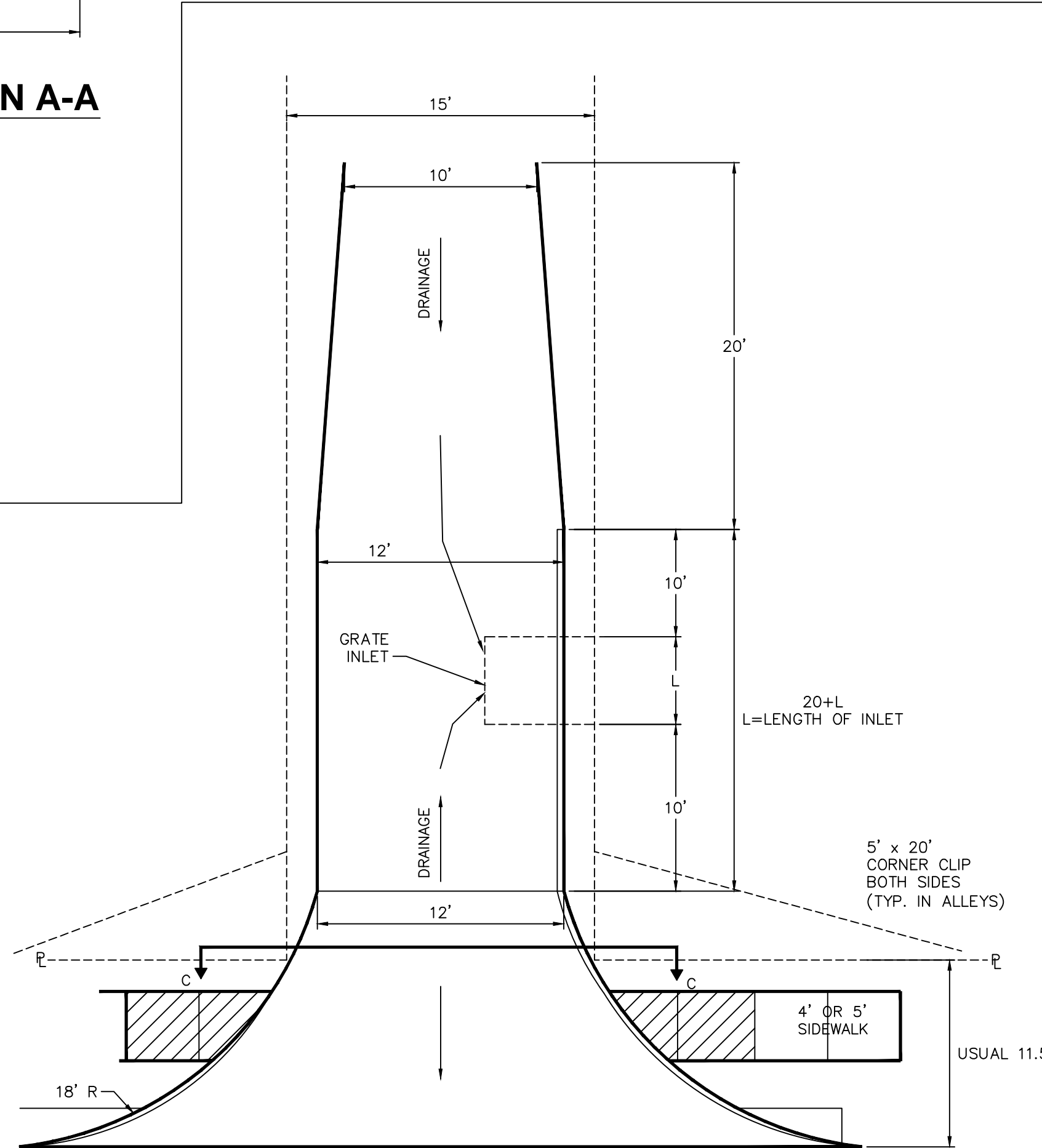
SECTION B-B



SECTION A-A

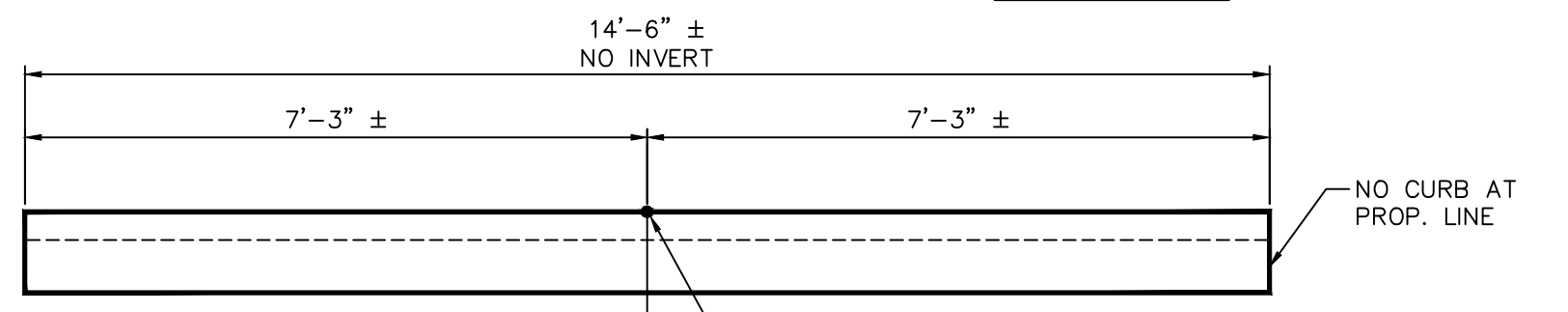
FOR STD. SINGLE GRATE INLETS: FRAME AS SHOWN, OMITTING BOLT HOLES AND BRACKETS "BR" AND "BL".
 FOR STD. DOUBLE GRATE INLETS: RIGHT FRAME AS SHOWN, OMITTING FLANGE ON LINE "L-L", PUT ON BRACKET "BL" AND CORE HOLES "HL"; LEFT FRAME AS SHOWN, OMITTING FLANGE ON LINE "R-R", PUT ON BRACKET "BR", AND CORE HOLES "HR".
 FOR STD. TRIPLE GRATE INLET: MAKE ONE RIGHT FRAME, ONE LEFT FRAME, AND ONE FRAME OMITTING BOTH END FLANGES. PUT ON BRACKETS "BR" AND "BL" AND CORE HOLES "HR" AND "HL".
 THE AVERAGE WEIGHT OF ALL GRATES SHALL NOT BE LESS THAN 153 LBS. THE AVERAGE WEIGHT OF A SINGLE GRATE INLET FRAME SHALL NOT BE LESS THAN 185 LBS. THE DOUBLE GRATE INLET FRAMES SHALL NOT BE LESS THAN 177 LBS., AND THE CENTER FRAMES SHALL NOT BE LESS THAN 170 LBS. EACH.
 ALL MATERIALS SHALL CONFORM TO THE SPECS. FOR "CAST IRON" AND BE MADE IN THE USA.

INLET GRATE & FRAME

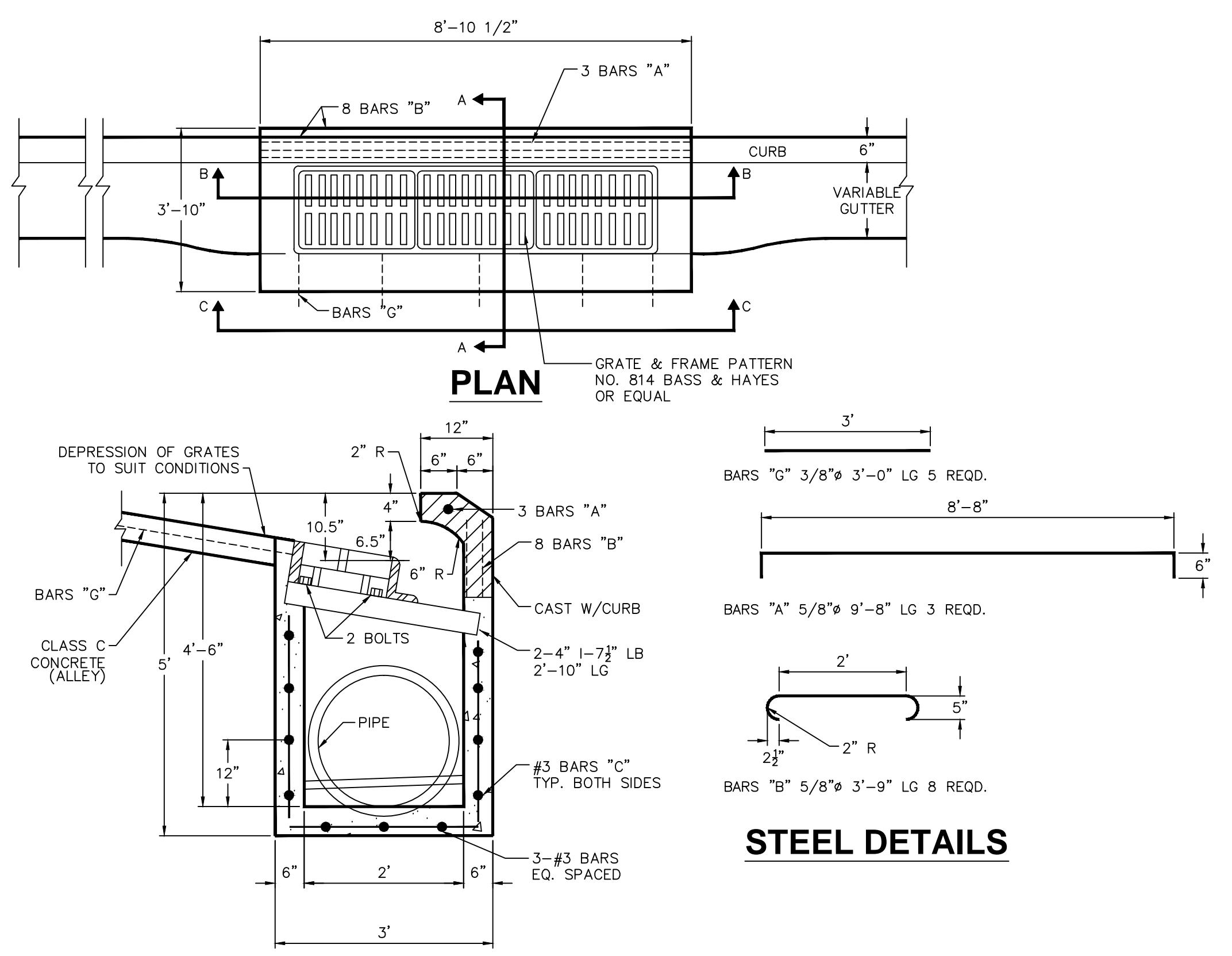


ALLEY W/GRATE INLET (INLET LOCATION)

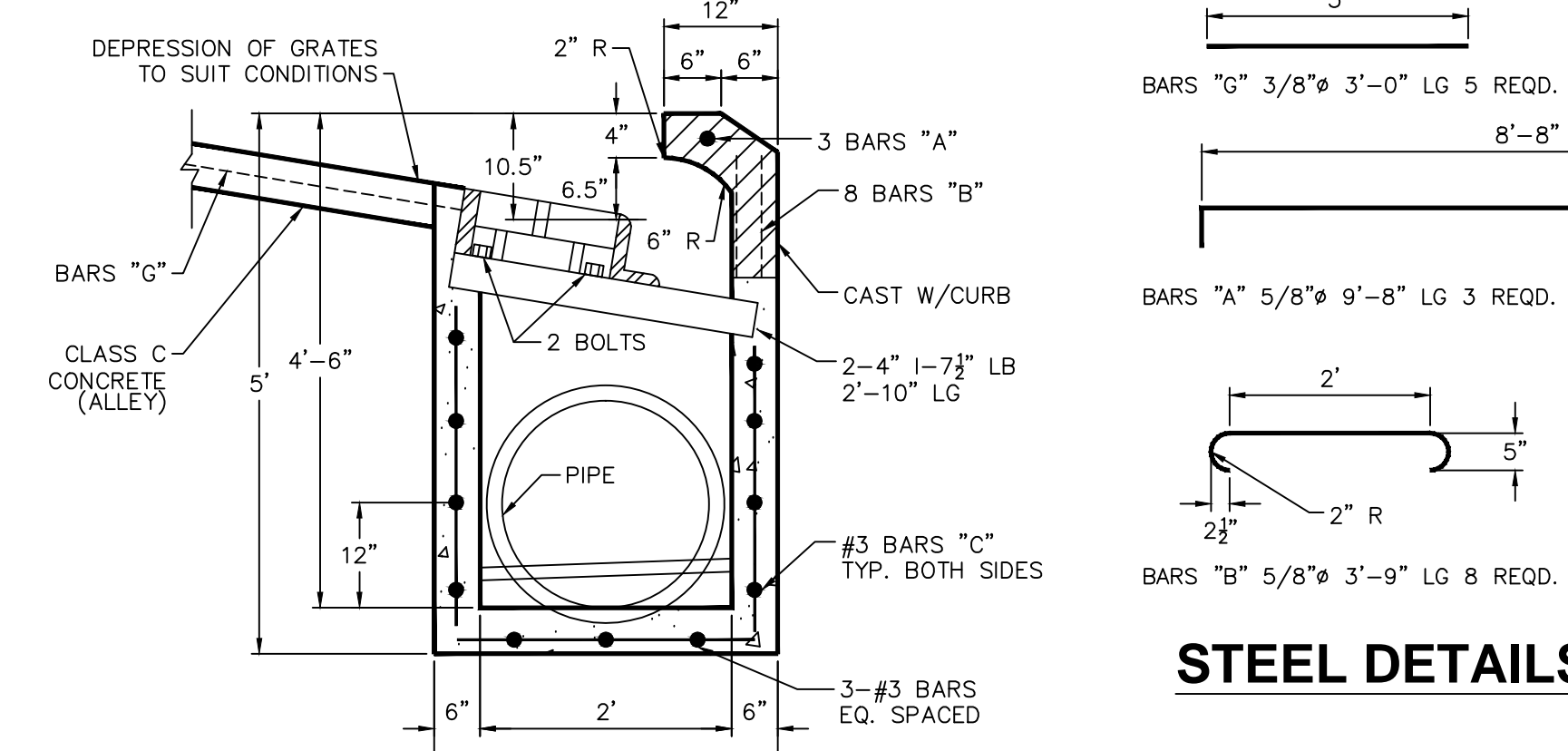
NOTE:
MAX SLOPE OF 2% @ SIDEWALK



SECTION C-C



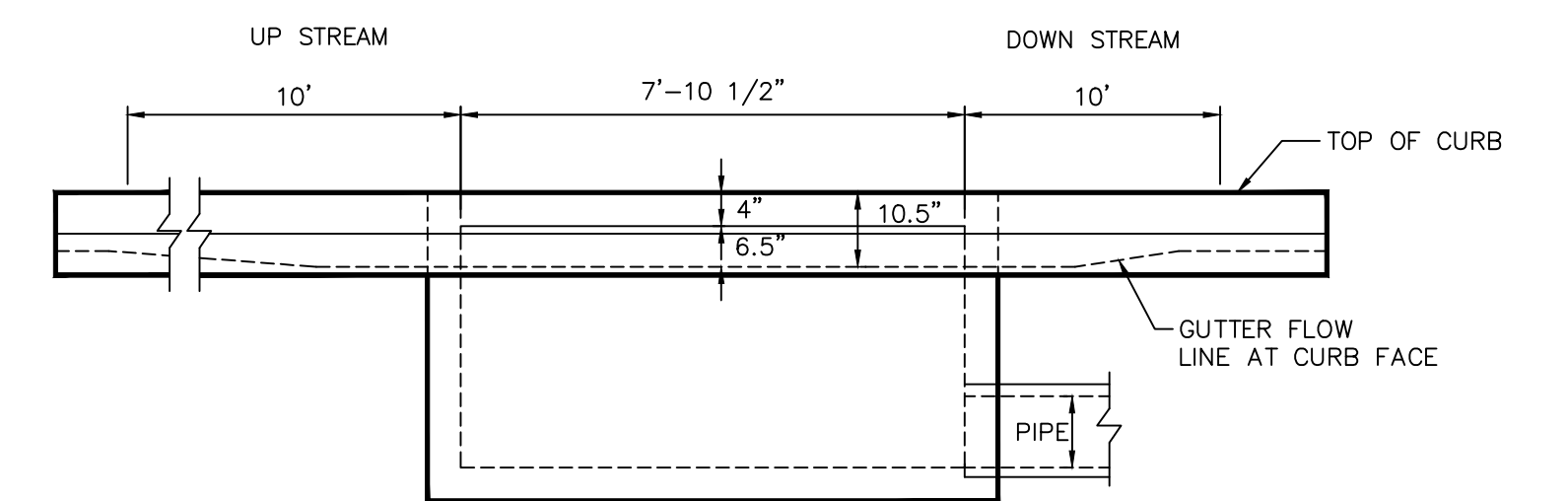
PLAN



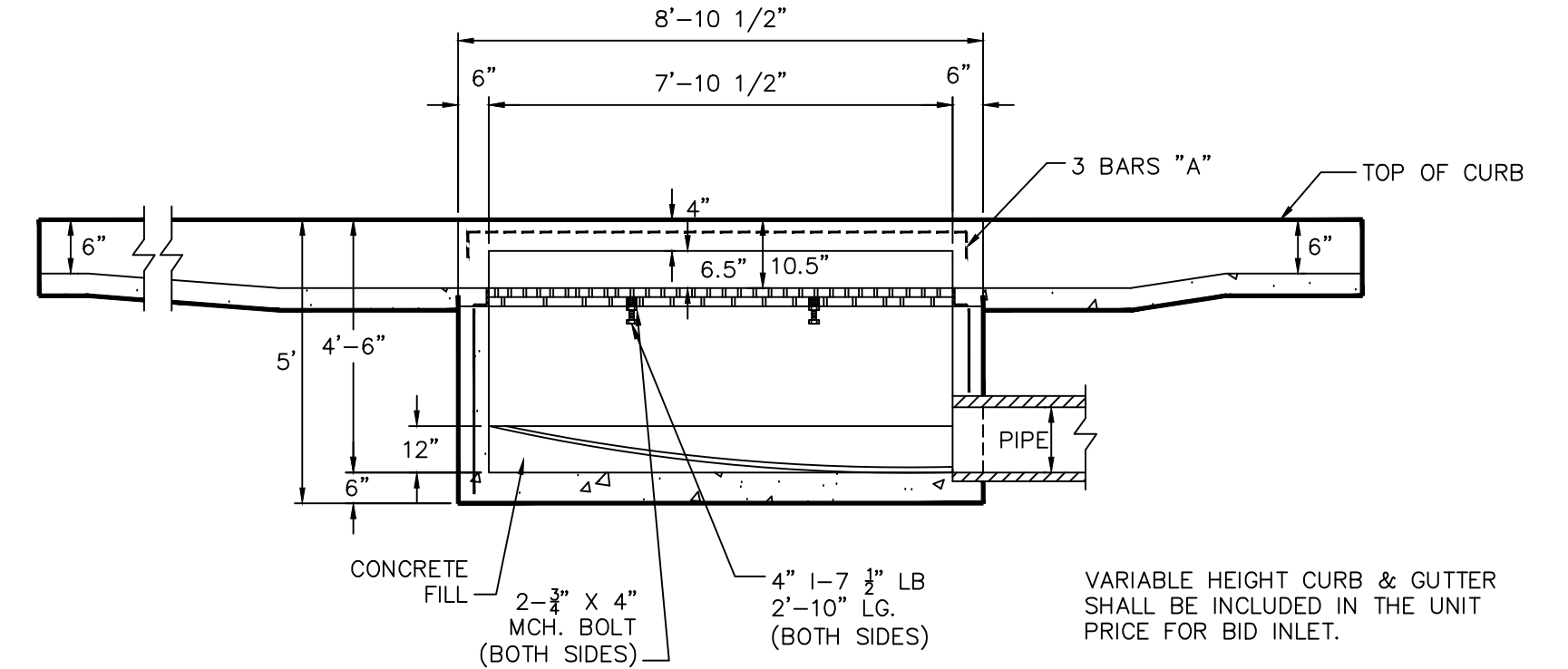
STEEL DETAILS



SECTION A-A



SECTION C-C



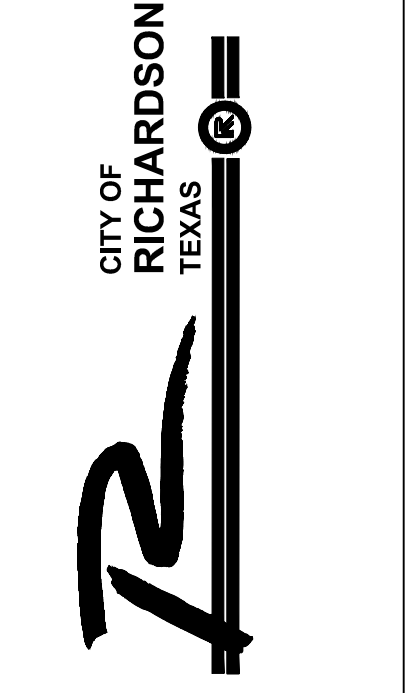
SECTION B-B

TRIPLE GRATE INLET

NOTES:
1. CONCRETE SHALL BE CLASS A FOR INLET BOXES.
2. ALLEY PAVEMENT SHALL BE CLASS C CONCRETE.

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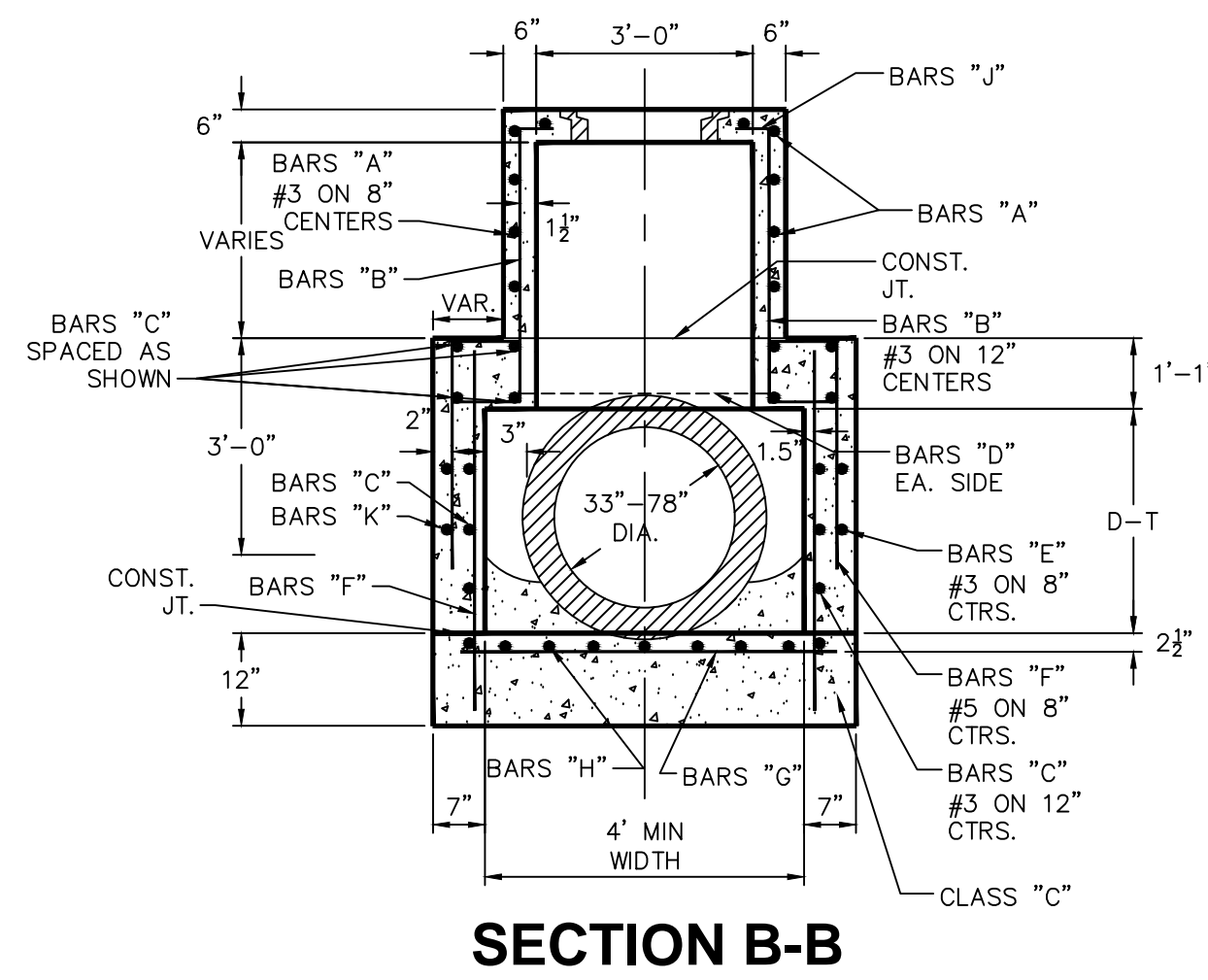


STANDARD DETAILS
City of Richardson, Texas

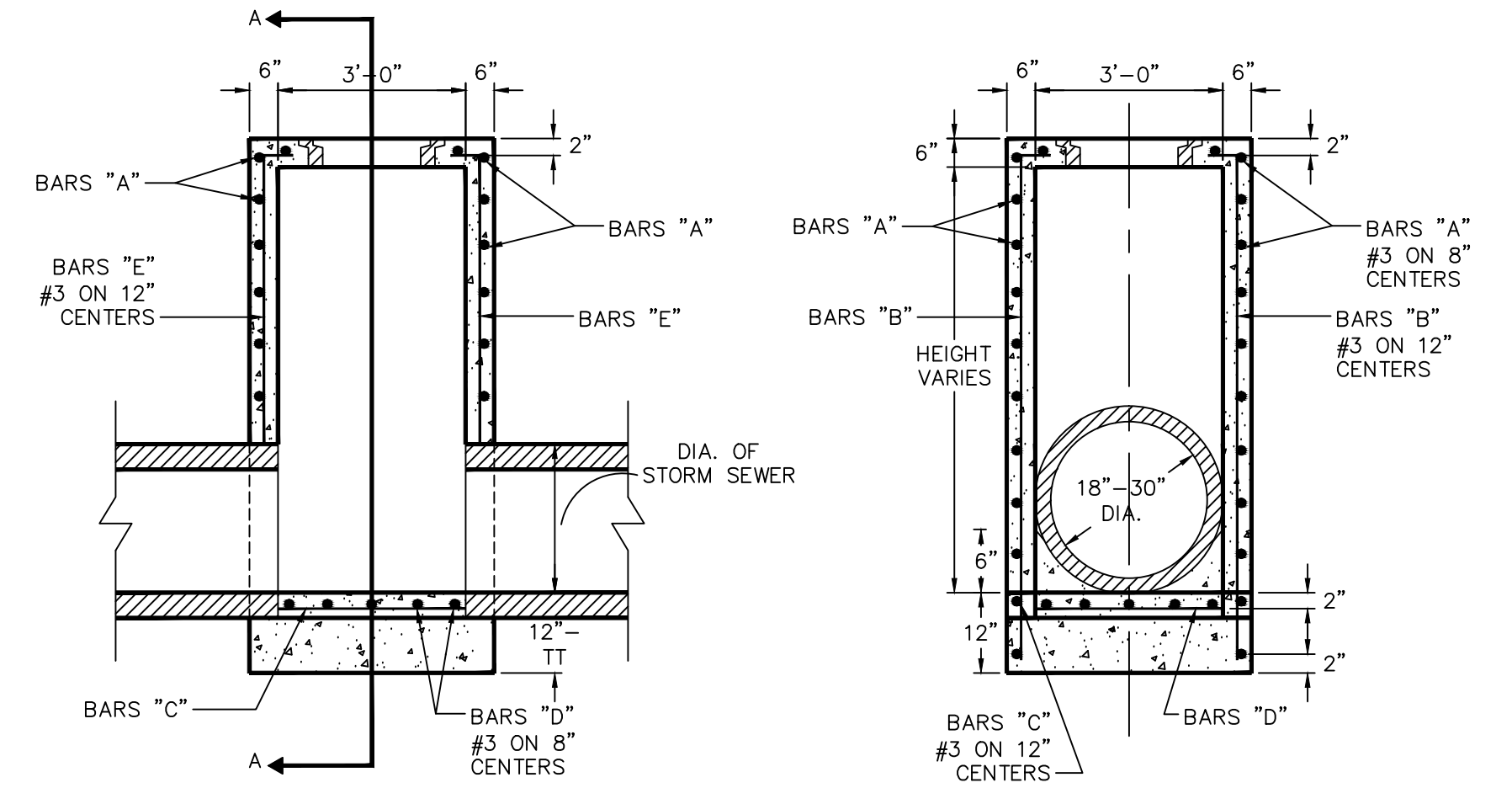
NO ADDITIONS OR CHANGES TO STANDARD DETAIL SHEETS UNLESS APPROVED BY CITY OF RICHARDSON

24"x36" Scale: NTS
 11"x17" Scale: NTS
 Vertical Scale: NA
 Project Number: XXX
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 Sheet Title:
ALLEY
 Sheet No.:

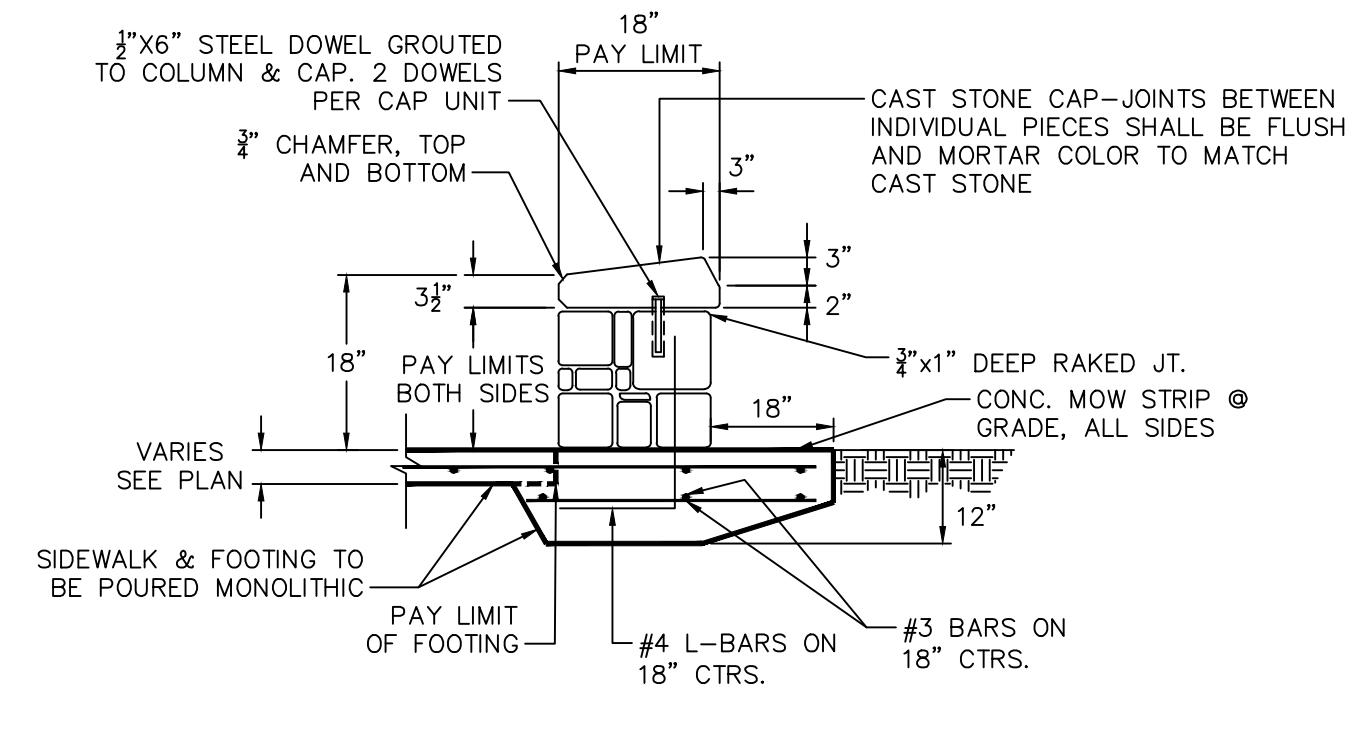
C-9



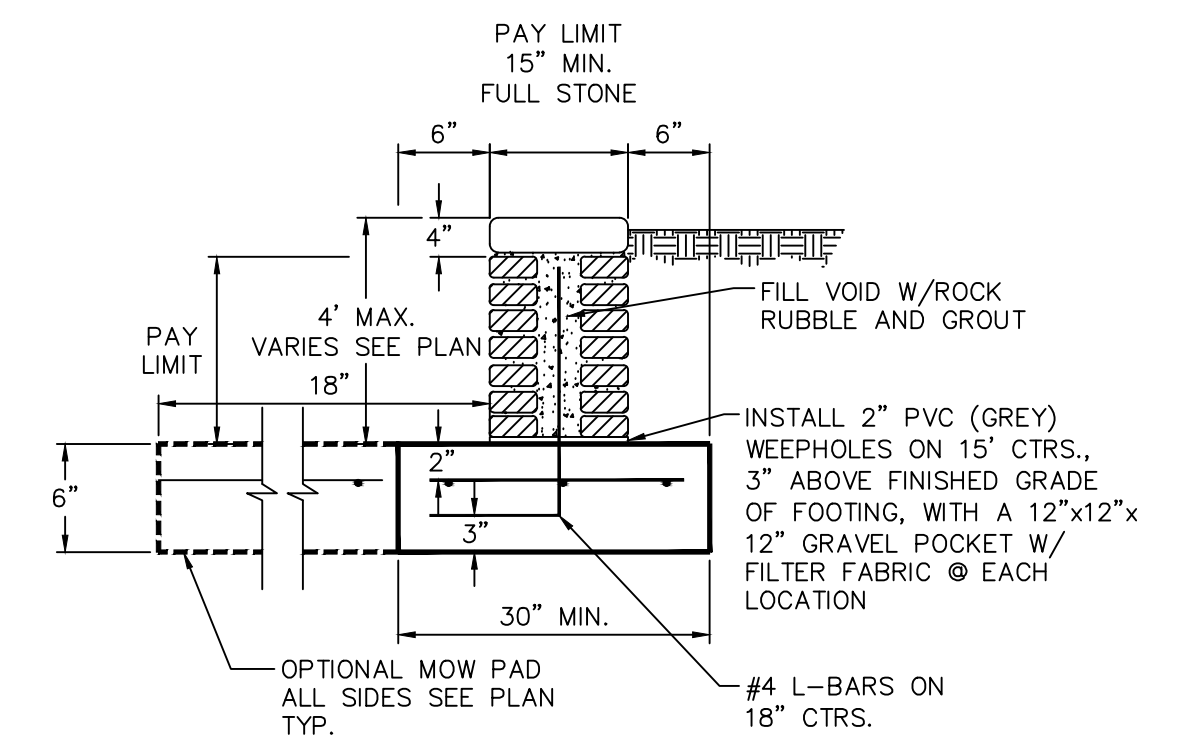
SECTION B-B



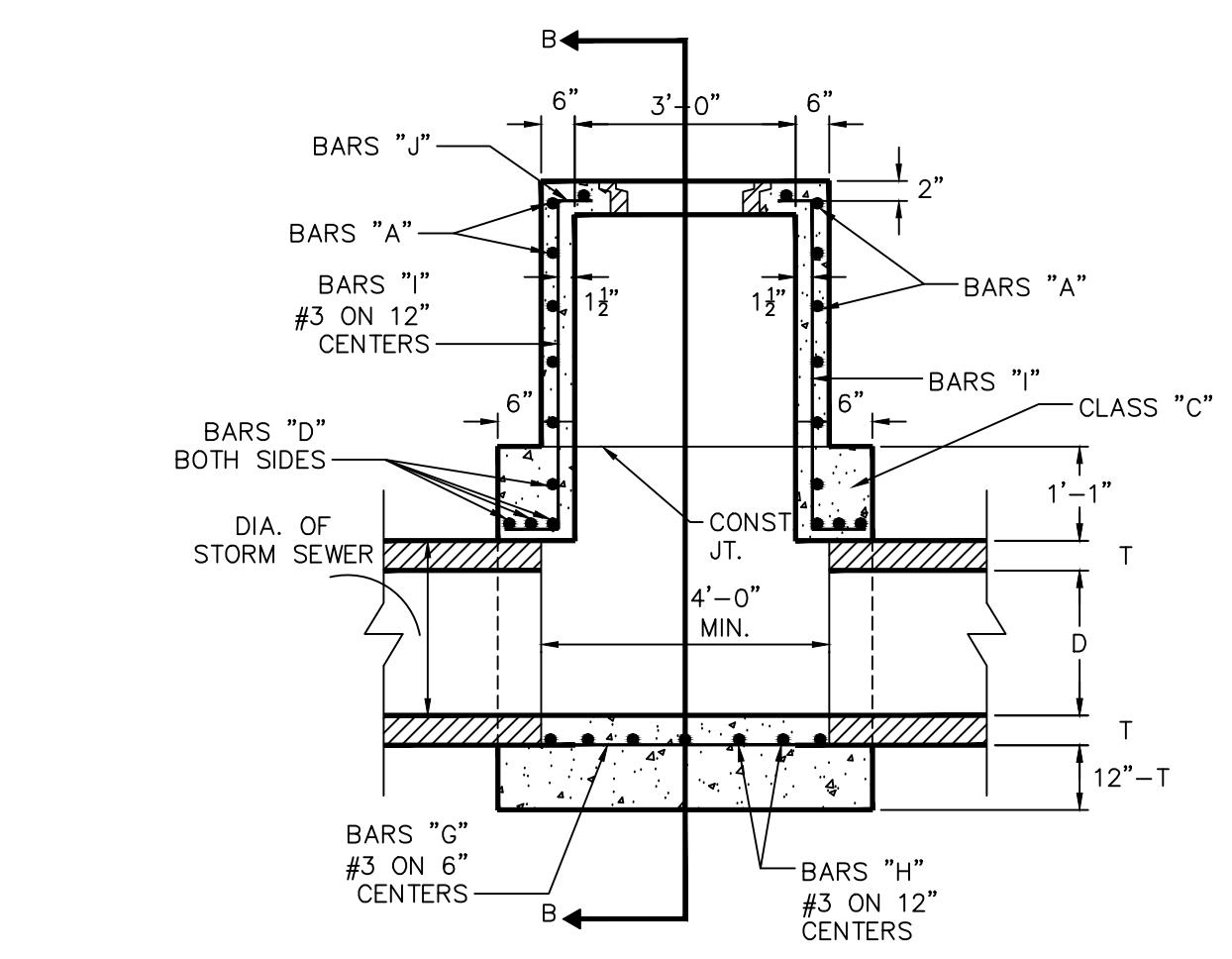
ELEVATION SECTION A-A
CLASS "C" CONCRETE
TYPE A STORM SEWER MANHOLE
 FOR PIPE 18" TO 30" IN DIAMETER



MILSAP SEATWALL



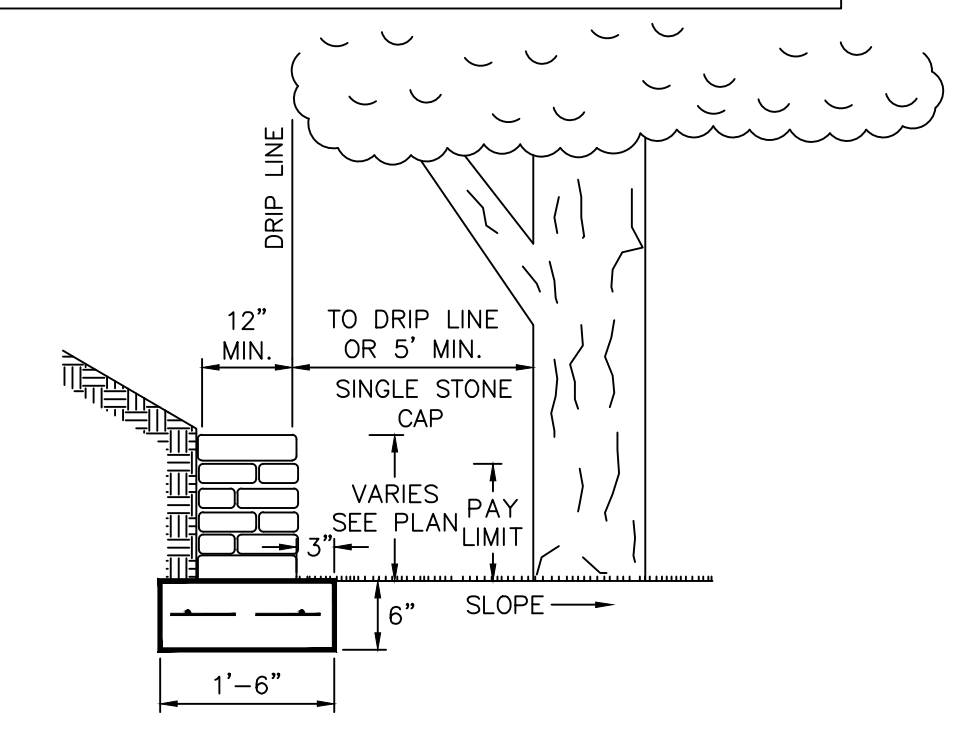
RETAINING WALL SECTION



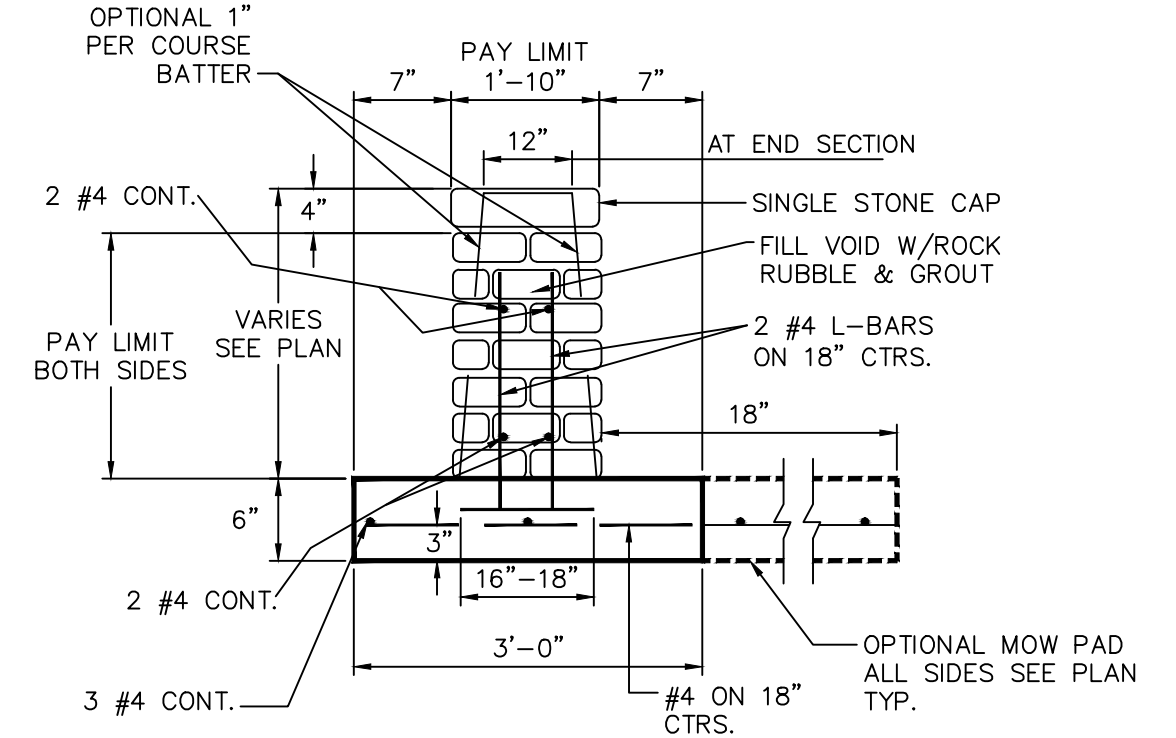
ELEVATION
TYPE B STORM SEWER MANHOLE
 FOR PIPE 33" TO 78" IN DIAMETER

NOTE: FRAME AND COVER SHALL BE BASS & HAYES VRM-30" EQUAL PATTERN AND SHALL BE OF GRAY CAST IRON CONFORMING TO ASTM SPEC. A-40 FOR CLASS 30 CAST IRON. COVER MARKED "CITY OF RICHARDSON STORM SEWER".

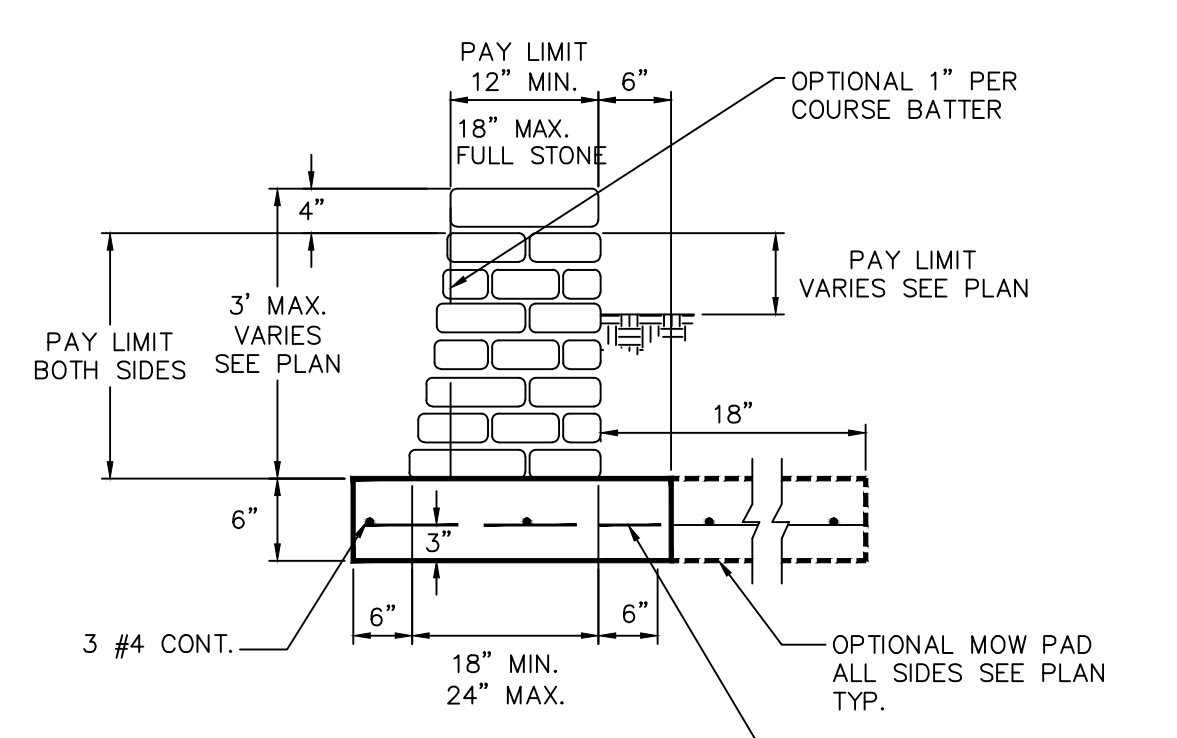
BAR	SIZE	SPACING
A	#3	8" ON CENTER
B	#3	12" ON CENTER
C	#3	12" ON CENTER
D	#3	8" ON CENTER
E	#3	12" ON CENTER
F	#5	8" ON CENTER
G	#3	6" ON CENTER
H	#3	12" ON CENTER
I	#3	12" ON CENTER
J	#3	12" ON CENTER
K	#3	12" ON CENTER



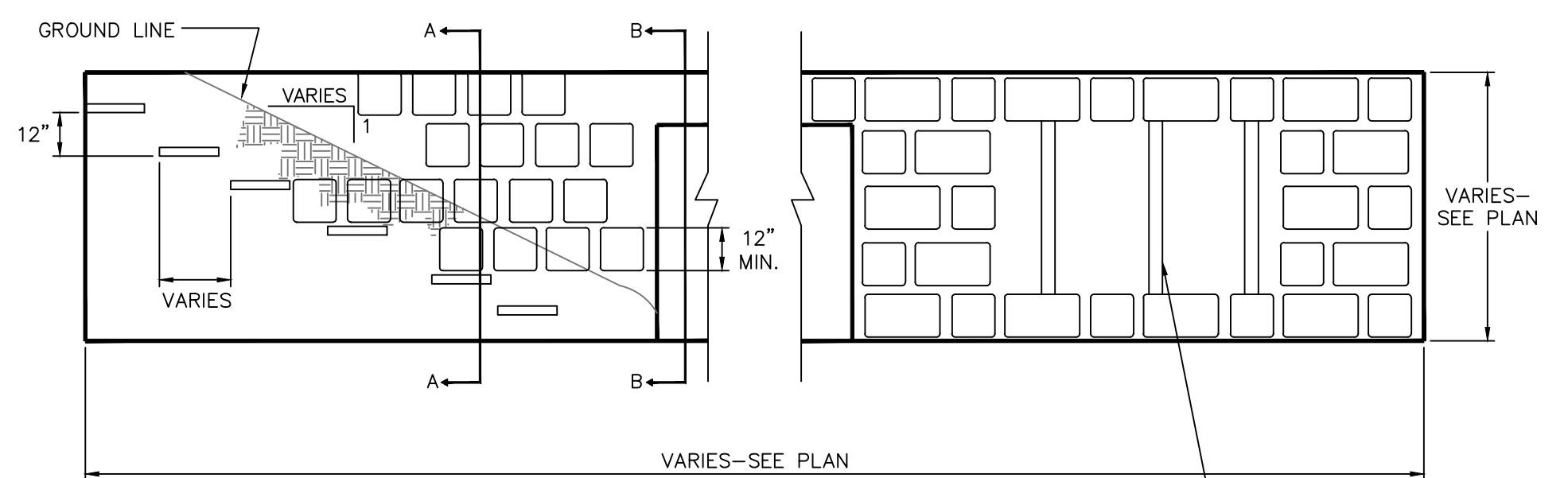
TREE WELL RETAINING WALL



GUARD WALL SECTION



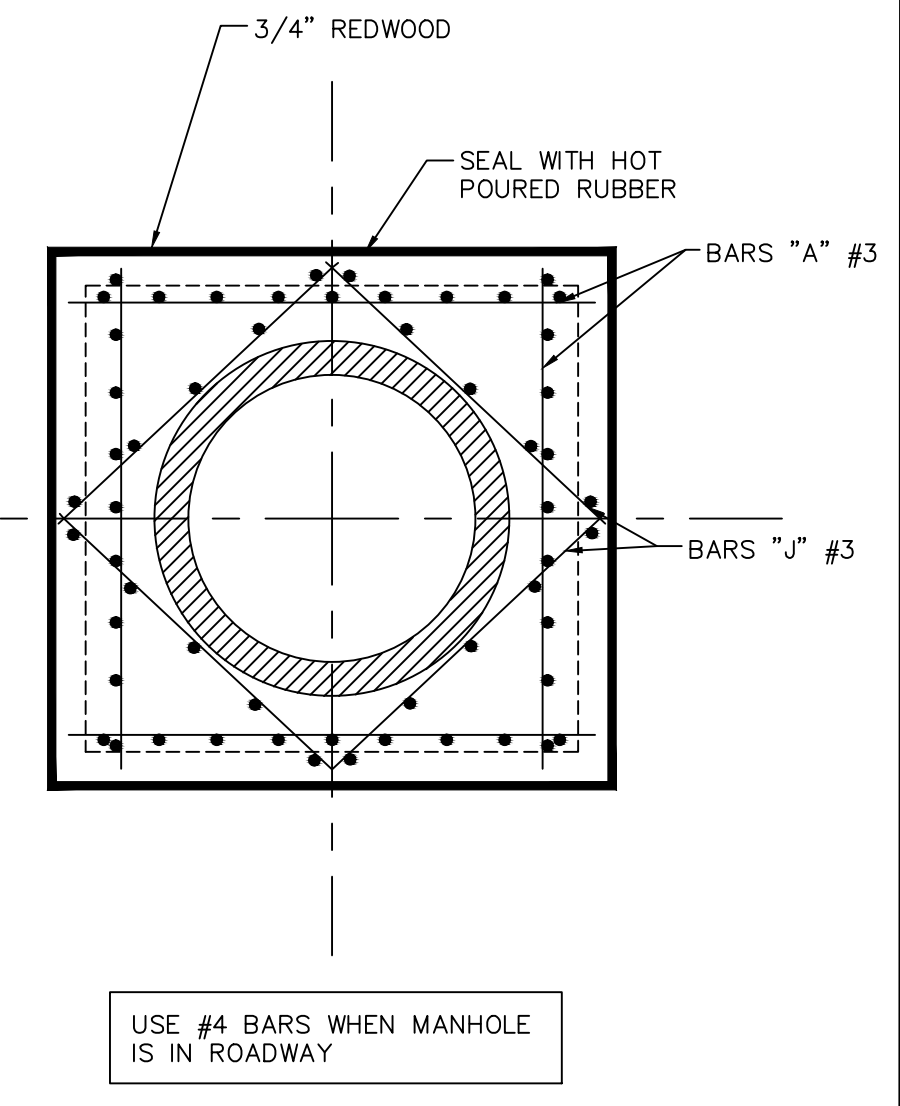
LANDSCAPE WALL SECTION



HEADWALL WITH MILSAP STONE FASCIA

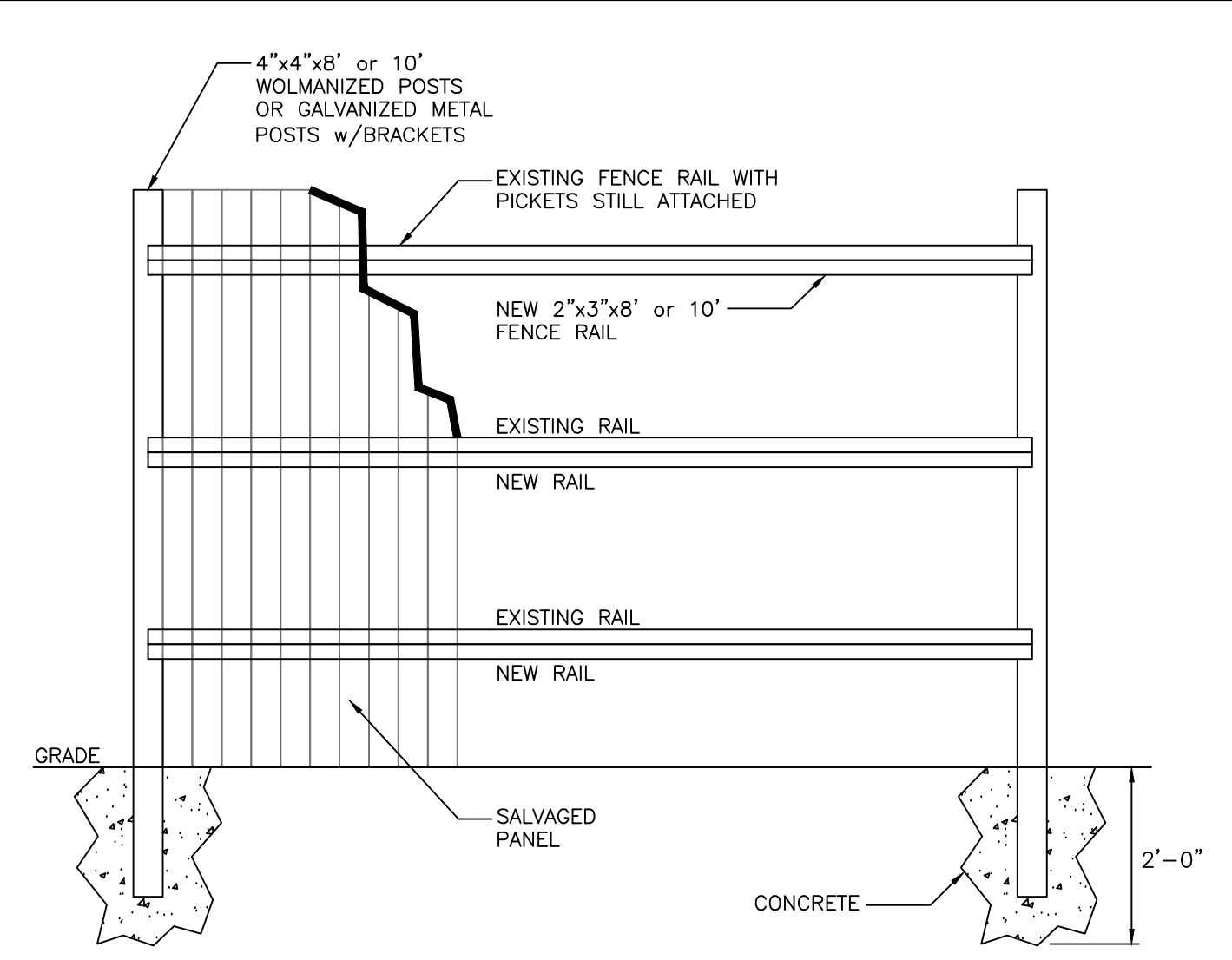
STONE MASONRY NOTES

- ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED $\frac{3}{4}$ ".
- REINFORCING STEEL SHALL BE PLACED WITH THE OUTSIDE BARS 2" FROM THE SURFACE OF THE CONCRETE, UNLESS NOTED OTHERWISE.
- DOVETAIL SLOTS, WHERE REQUIRED, SHALL BE 20 GAUGE, GALVANIZED. CODE NUMBER DAS-920 MANUFACTURED BY GATEWAY BUILDING PRODUCTS OR ENGINEER APPROVED EQUAL AND SHALL BE SPACED @ 4'-0" O.C. MAX.
- DOVETAIL STONE ANCHORS SHALL BE $\frac{1}{2}$ "x $\frac{1}{2}$ " SPACED AT 1'-0" O.C. THE FULL LENGTH OF SLOT.
- CAPSTONE SHALL BE FULL WIDTH OF WALL (UNLESS OTHERWISE SPECIFIED) AND A MINIMUM OF 1' LONG. CAPSTONE SHALL BE A SEPARATE PAY ITEM.
- FACE OF WALLS SHALL BE PAID FOR IN SQUARE FEET.
- CONCRETE FOOTING SHALL BE A SEPARATE PAY ITEM.
- ALL CONCRETE SHALL BE CLASS "A", UNLESS OTHERWISE NOTED.
- ALL JOINTS SHALL BE $\frac{3}{4}$ " THICK x $\frac{3}{4}$ " DEEP RANKED.
- ALL MORTAR SHALL BE TYPE "S".
- LOCATION OF STONEWALLS WILL COMPLY WITH CITY'S SIGHT DISTANCE/HEIGHT REQUIREMENTS.
- IF THE WALL IS WITHIN 10 FT. OF PARKWAY, THE STRUCTURE WILL BE BREAKAWAY.
- CONTRACTOR SHALL PROVIDE A MOCKUP A MINIMUM OF 4' X 4' FOR APPROVAL (NO SEPARATE PAY ITEM)

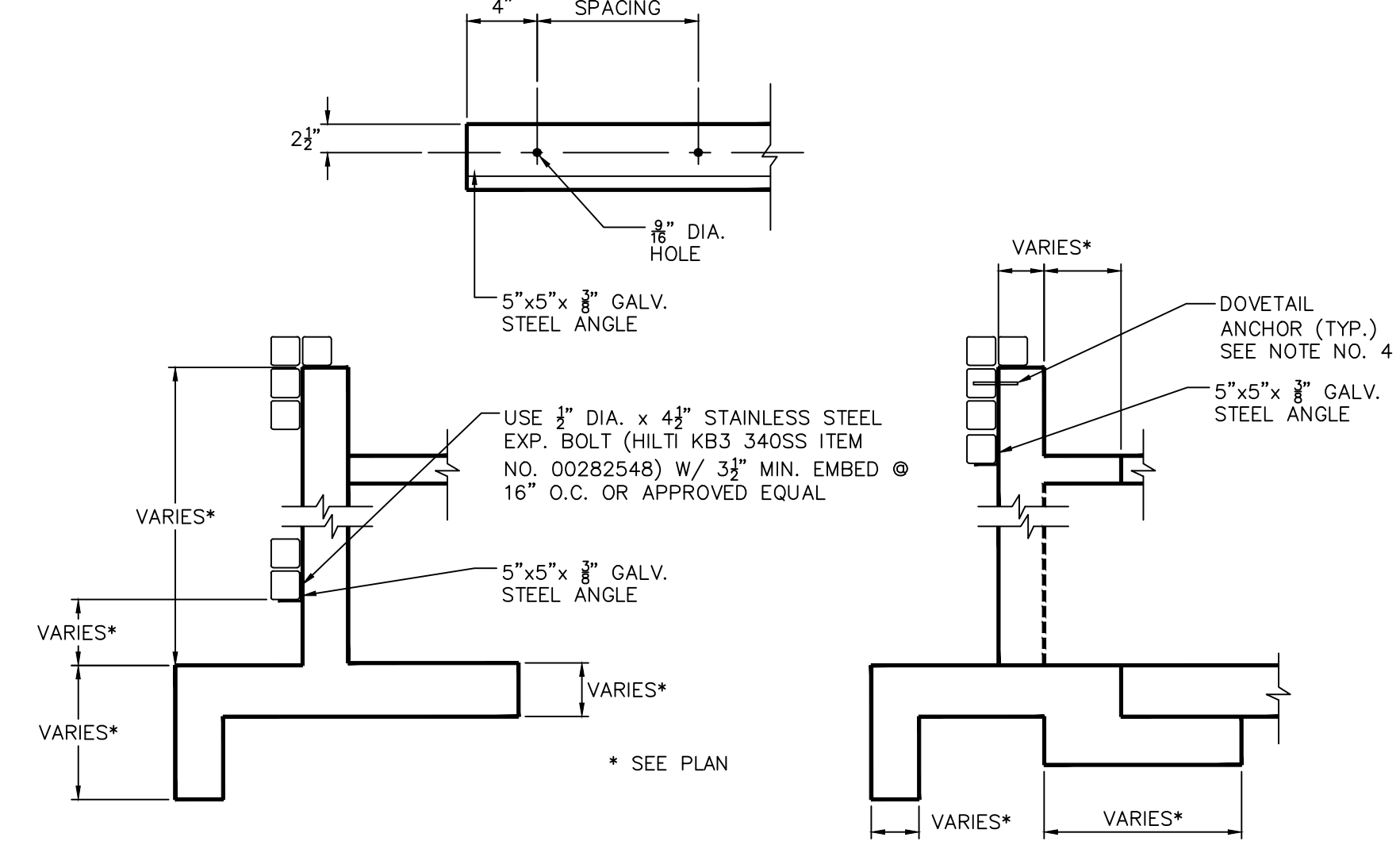


TOP PLAN
TYPE A & TYPE B
STORM SEWER MANHOLE

MAXIMUM PIPE SIZE TO BE USED 78"



WOODEN FENCE RELOCATION DETAIL



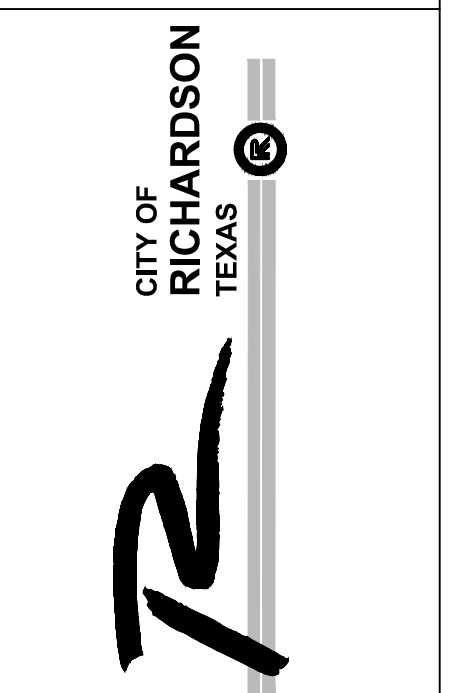
SECTION A-A

SECTION B-B

Revisions:

City of Richardson
 411 W. Arapaho Road
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 Checked By: COR



STANDARD DETAILS
 City of Richardson, Texas

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11"x17" Scale: NTS

Vertical Scale: NA

Project Number: XXX

Issue Date: 01 MAY 14

Sheet Title: **MISC. DETAILS**

Sheet No.:

C-10

NOTES:

- CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE PUBLIC WORKS CONSTRUCTION STANDARDS, NORTH CENTRAL TEXAS.
- ALL JOINTS SHALL BE CONSIDERED SUBSIDIARY TO ALL PAVING ITEMS.
- FOR PLACING OF CONCRETE PAVEMENT REFER TO ITEM 303.5.5.
- FOR MAXIMUM SLUMP OF CONCRETE FOR PAVEMENT REFER TO ITEM 303.4.4.

PORTLAND CEMENT CONCRETE PAVEMENT

- STANDARD SPECIFICATIONS ITEM 303.2.1.3 - 'COARSE AGGREGATES' SHALL BE AMENDED THE FIRST SENTENCE IS DELETED AND REPLACED AS FOLLOWS "COARSE AGGREGATES SHALL BE 100% CRUSHED STONE"
- STANDARD SPECIFICATIONS ITEM 303 SHALL BE AMENDED AS FOLLOWS:
 - ITEM 303.2.4. FLY ASH IS ALLOWED MAX 20% BY WEIGHT
 - ITEM 303.2.5 SHALL BE DELETED. NO MINERAL FILLER IS ALLOWED
 - ITEM 303.2.6 SHALL BE DELETED. NO FIBROUS REINFORCEMENT ALLOWED

- STANDARD SPECIFICATIONS ITEM 303 SHALL BE AMENDED TO INCLUDE THE FOLLOWING:

- ALL EQUIPMENT NECESSARY TO CONSTRUCT CONCRETE PAVEMENT SHALL BE APPROVED BY THE OWNER PRIOR TO STARTING THE PAVING OPERATION. PAVING EQUIPMENT REQUIREMENTS ARE AS FOLLOWS:

1. **SIDEWALKS LESS THAN 8' IN WIDTH**

NO PAVING MACHINE REQUIRED. STINGER VIBRATORS AND METAL STRAIGHT EDGES SHALL BE USED TO CONSOLIDATE THE CONCRETE.

2. **SIDEWALKS 8' IN WIDTH OR WIDER**

VIBRATING SCREED WITH TWO HAND HELD STINGER VIBRATORS SHALL BE USED TO CONSOLIDATE THE CONCRETE.

B. **CONCRETE FINISH**

SIDEWALK TO BE LIGHT BROOM FINISH.

CONCRETE TEMPERATURES

- MAY 1 THROUGH SEPTEMBER 30
- ALL MIXES AND MIX DESIGNS SHALL INCLUDE A RETARDING AGENT.
 - CONCRETE TEMPERATURE PRIOR TO PLACEMENT SHALL NOT EXCEED 95°F, (35°C).
 - THE TIME INTERVAL (FROM ADDITION OF INITIAL WATER):

AGITATED CONCRETE

90°F OR ABOVE	(32.2°C)	45 MINUTES
75°F TO 89°F	(23.9° TO 31.6°C)	60 MINUTES
35°F TO 74°F	(1.6° TO 23.3°C)	90 MINUTES

NON AGITATED CONCRETE

80°F OR ABOVE	(26.6°C)	15 MINUTES
35°F TO 79°F	(1.6° TO 26.1°C)	30 MINUTES

OCTOBER 1 THROUGH APRIL 30

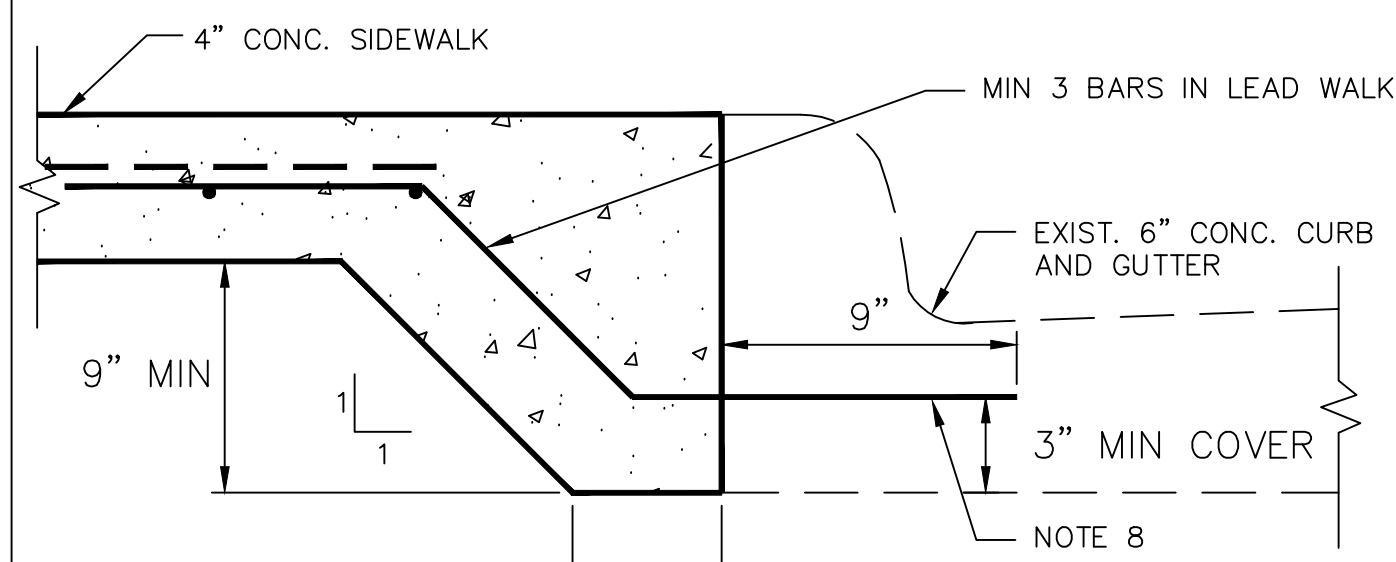
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AGITATED CONCRETE

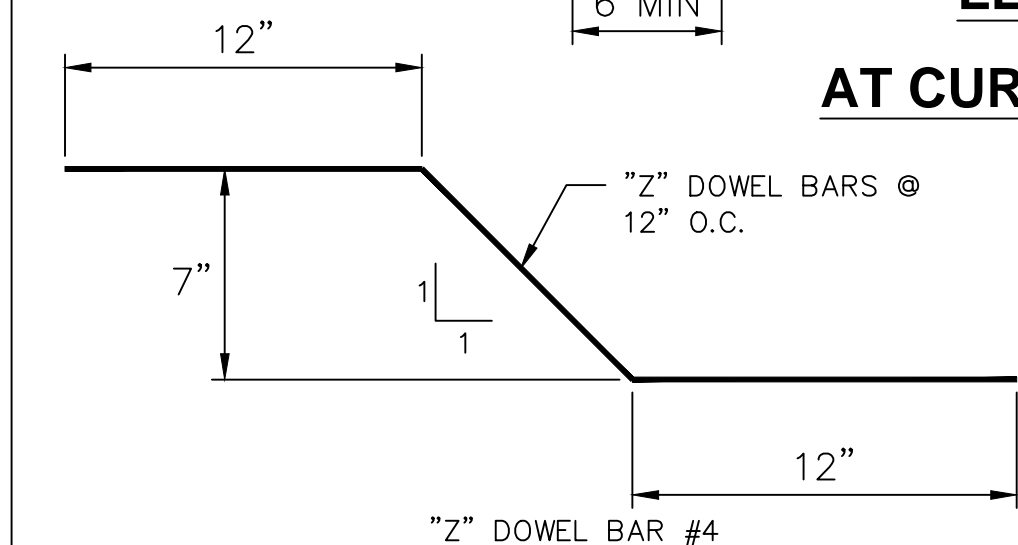
90°F OR ABOVE	(32.2°C)	45 MINUTES
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NON AGITATED CONCRETE

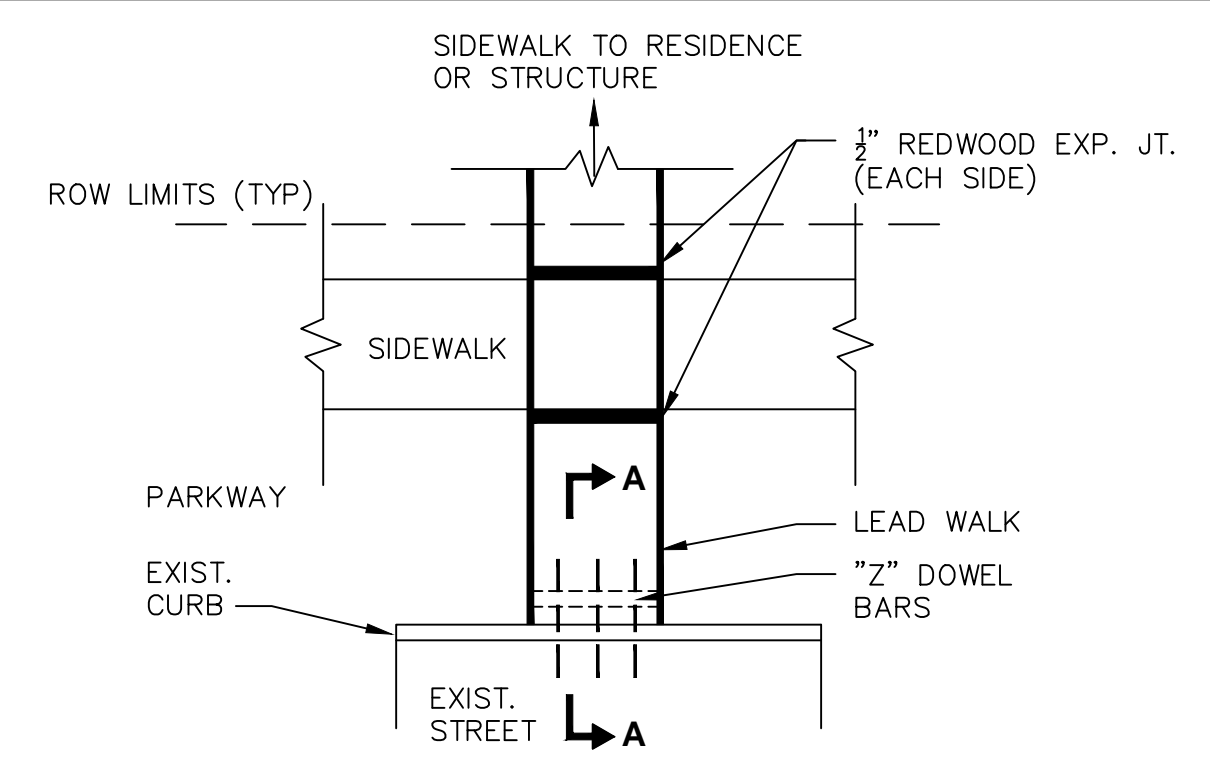
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35°F TO 79°F	(1.6° TO 26.1°C)	30 MINUTES



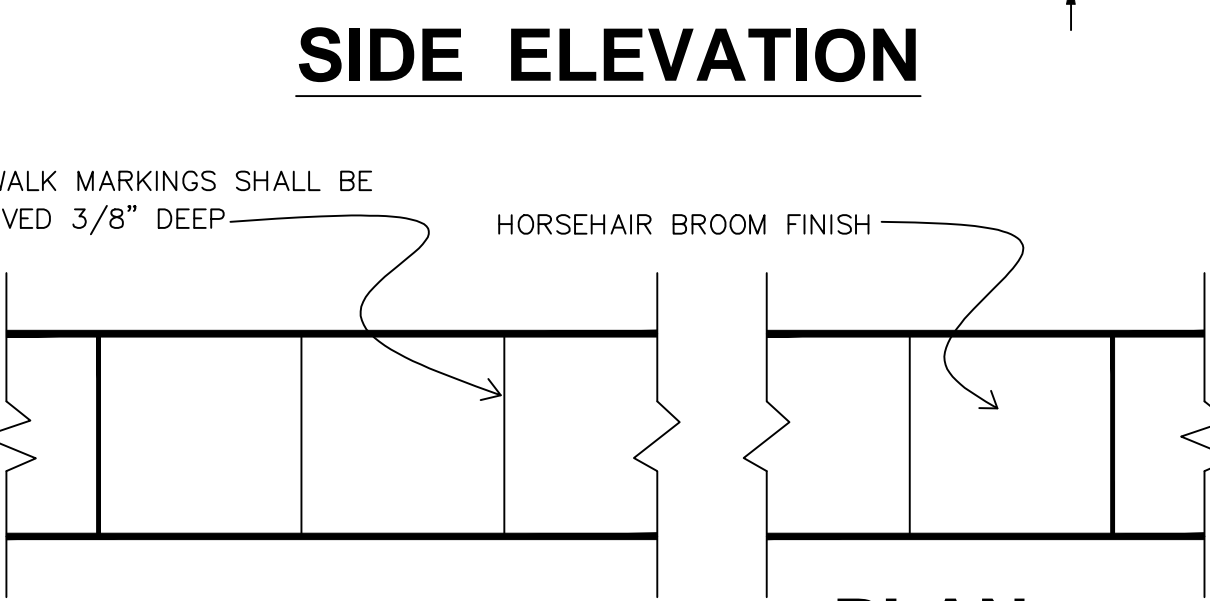
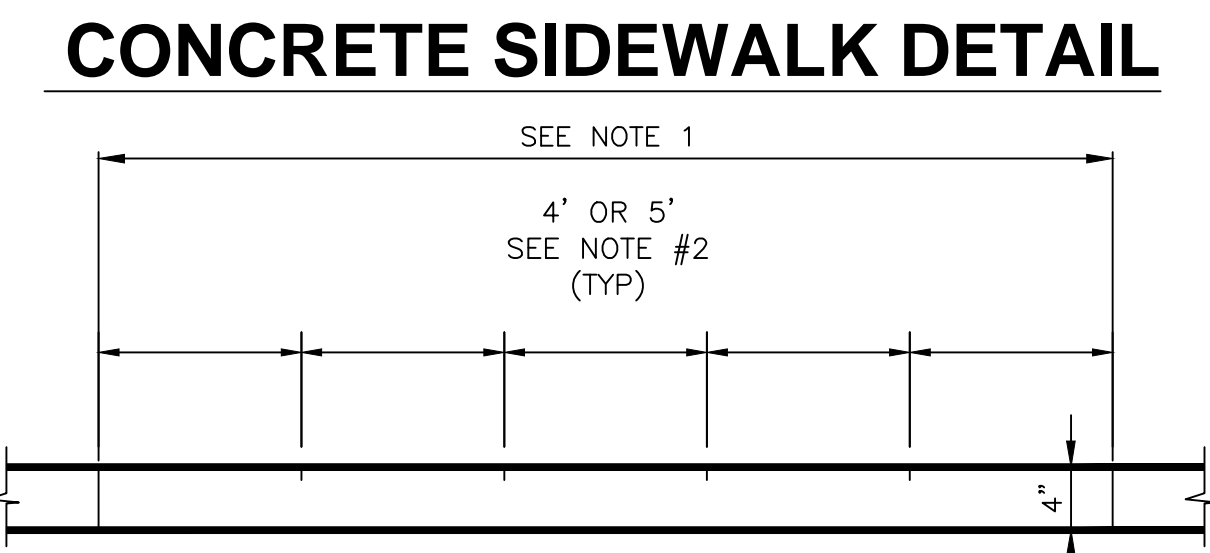
LEAD WALK AT CURB SECTION A-A



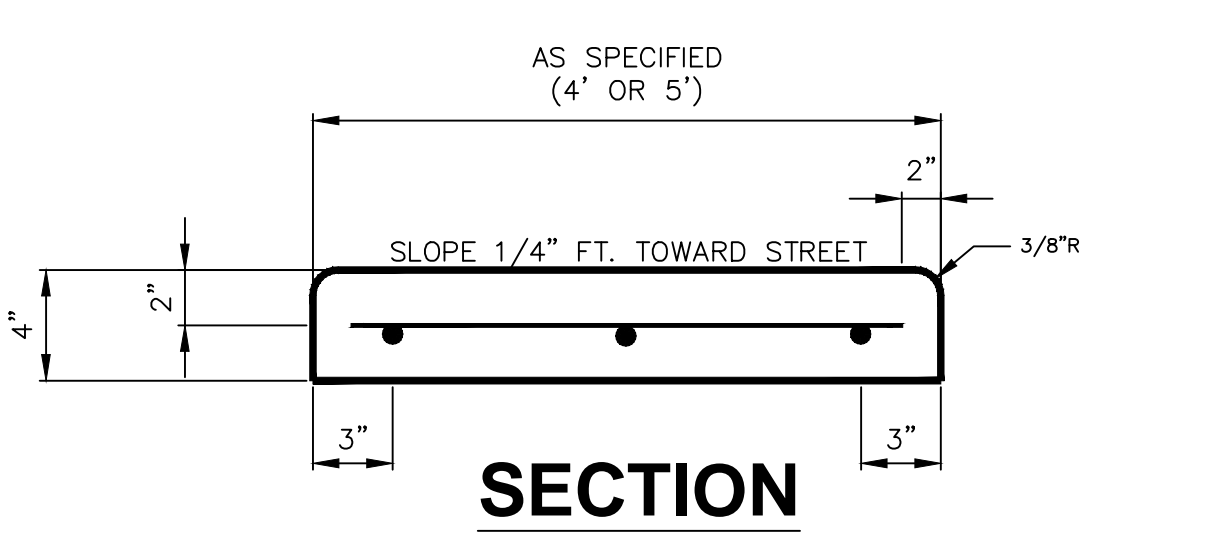
- 1/2" EXPANSION JOINTS SHALL BE SPACED AT 30' MAXIMUM INTERVALS, OR AS OTHERWISE SPECIFIED. JOINTS SHALL BE REDWOOD WITH THREE (3) #3 2' SLIP DOWELS WITH END CAPS AT EQUAL SPACING.
- TOOL GROOVE EVERY 5' ON 5' WALKS AND EVERY 4' ON 4' WALKS.
- SIDEWALKS SHALL BE CLASS "A" CONCRETE.
- WHEN CONCRETE WALK IS ADJACENT TO EXISTING CONCRETE, DEPTH OF BITUMINOUS EXPANSION JOINT FILLER SHALL BE SUFFICIENT TO PREVENT CONCRETE TO CONCRETE CONTACT BETWEEN WALK AND CONCRETE. WHEN SIDEWALK IS LOCATED AT THE BACK OF CURB THE NO. 3 REBAR AT 24" O.C. FOR THE SIDEWALK SHOULD EXTEND TO A DEPTH OF APPROXIMATELY 3" INTO THE BACK OF THE CURB AND SHOULD BE ANCHORED IN PLACE WITH EPOXY RESIN.
- SIDEWALK SUBGRADE SHALL BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR DENSITY.
- A MAXIMUM OF 1" OF SAND MAY BE USED FOR LEVEL UP ONLY.
- NO "WHIRLEY BIRD" TYPE FINISHING MACHINES WILL BE ALLOWED.
- EPOXY DOWELS IN PLACE. DRILLED HOLE SHALL BE 1/8" LARGER THAN DOWEL. USE MECHANICAL DRILL AND INSTALL DOWELS HORIZONTAL INTO EXISTING PAVEMENT. CLEAN AND DRY DRILL HOLES PRIOR TO APPLYING EPOXY.



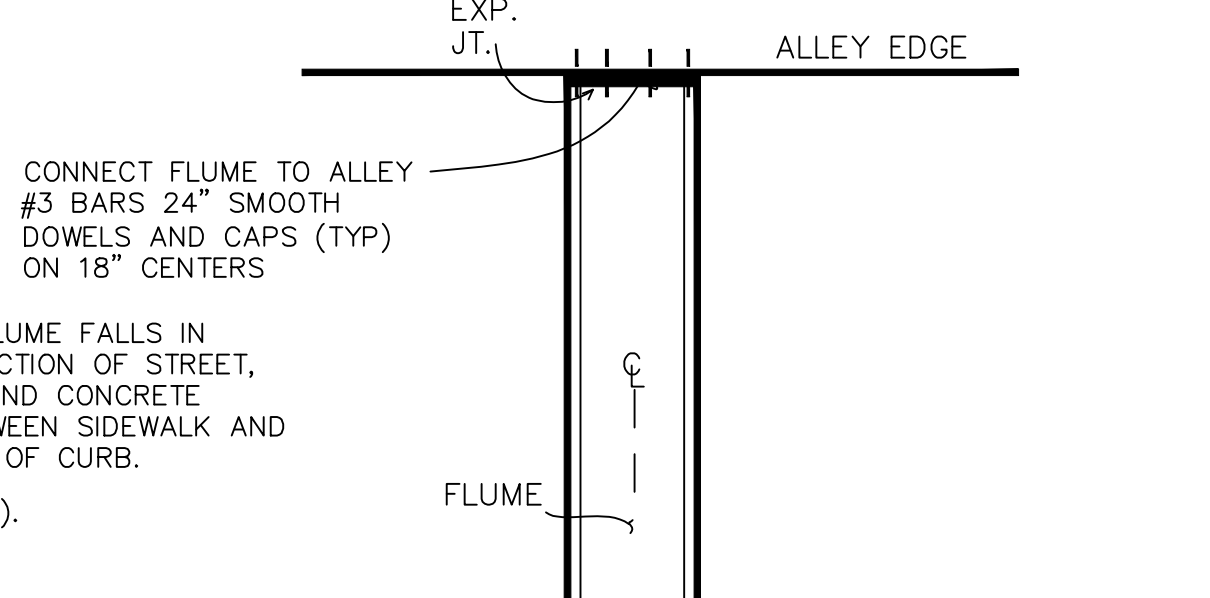
LEAD WALK REPLACEMENT PLAN



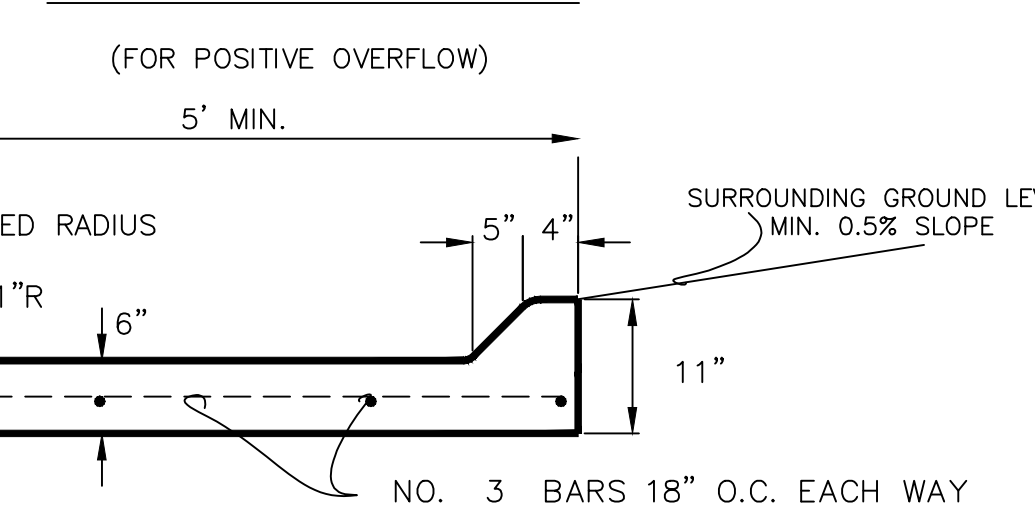
CONCRETE SIDEWALK DETAIL SIDE ELEVATION



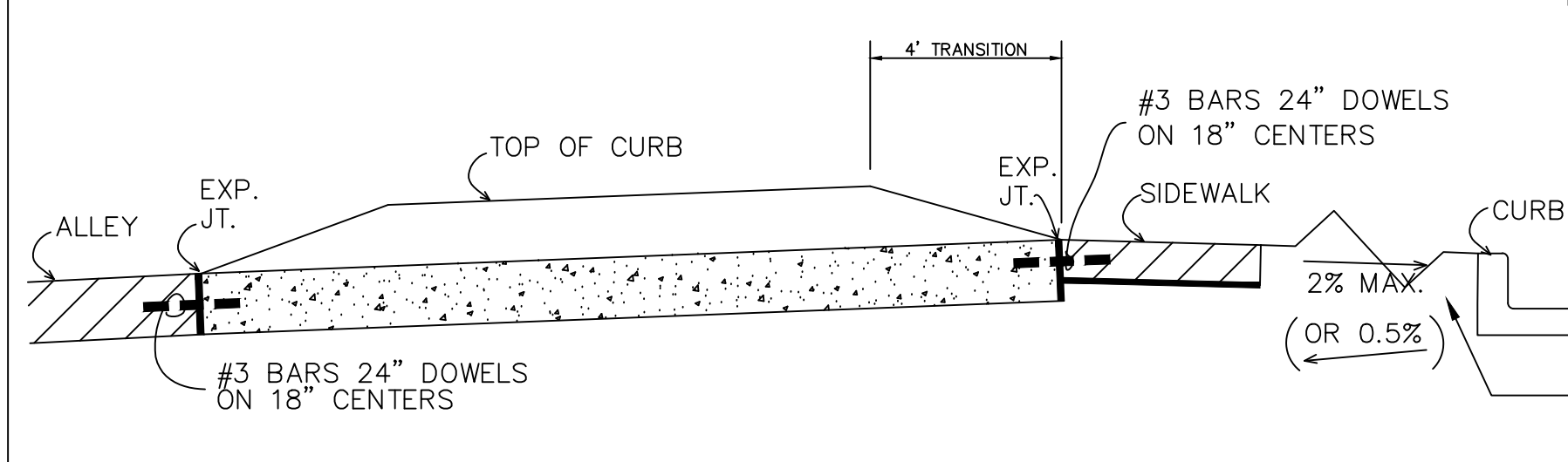
CONCRETE SIDEWALK DETAIL PLAN



FLUME DETAIL

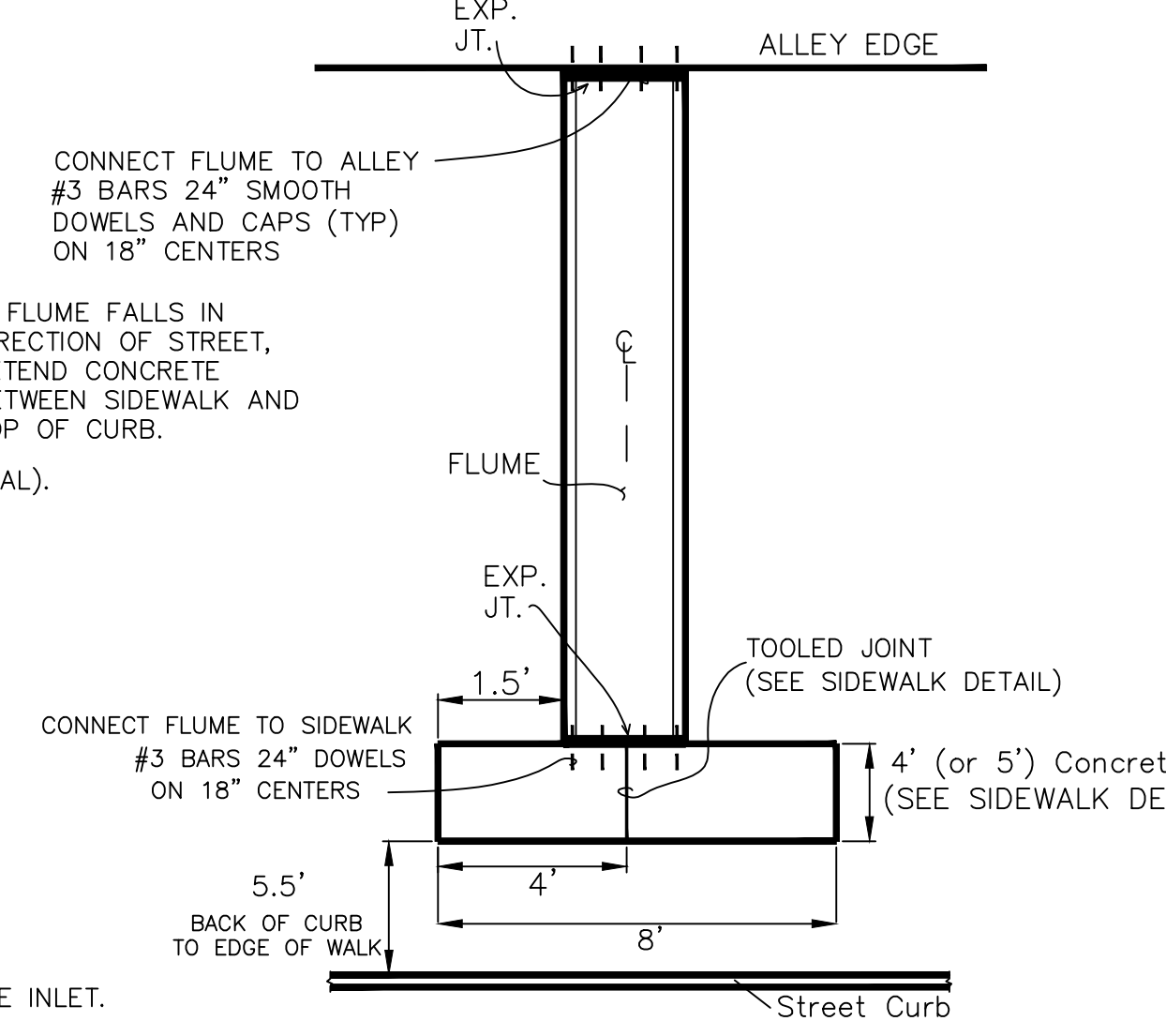


FLUME PLAN



FLUME SECTION

- FLUMES LOCATED BETWEEN RESIDENTIAL LOTS SHALL TIE TO ALLEY AND SIDEWALK.
- FLUMES SHALL BE CLASS "A" CONCRETE WITH EXPOSED AGGREGATE FINISH (1" - #4 LATTIMORE RIVER GRAVEL OR EQUAL).
- 1/2" EXPANSION JOINTS SHALL BE SPACED 40' MAX. INTERVALS, OR AS SPECIFIED AND JOINTS SHALL BE REDWOOD WITH THREE (3) #3 2' SLIP DOWELS WITH THE END CAPS AT EQUAL SPACING AND SEALED.
- FLUME AND SIDEWALK SUBGRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- 1/4" SAW JOINTS SHALL BE SPACED AT 20' MAX. INTERVALS.
- AN 8' LONG SECTION OF 4' (OR 5') WIDE SIDEWALK WILL BE CONSTRUCTED, AND CONNECTED, WITH THE FLUME THE SIDEWALK WILL HAVE A STANDARD SIDEWALK FINISH (NOT EXPOSED AGGREGATE).
- FLUMES ARE TO BE CONSTRUCTED TO PROVIDE POSITIVE OVERFLOW DRAINAGE ACCORDING TO THE FOLLOWING:
 - LOW POINT INLET IN STREET: FLUME TO SLOPE FROM STREET TO ALLEY.
 - LOW POINT INLET IN ALLEY: FLUME TO SLOPE FROM ALLEY TO STREET.
- MINIMUM SLOPE OF FLUME TO BE 0.5% (REFER TO DRAINAGE PLAN).
- WHERE INLETS ARE CLOSER THAN 6 INCHES FROM SIDEWALK, THE SIDEWALK SHOULD BE WIDENED TO ABUT AGAINST THE INLET.

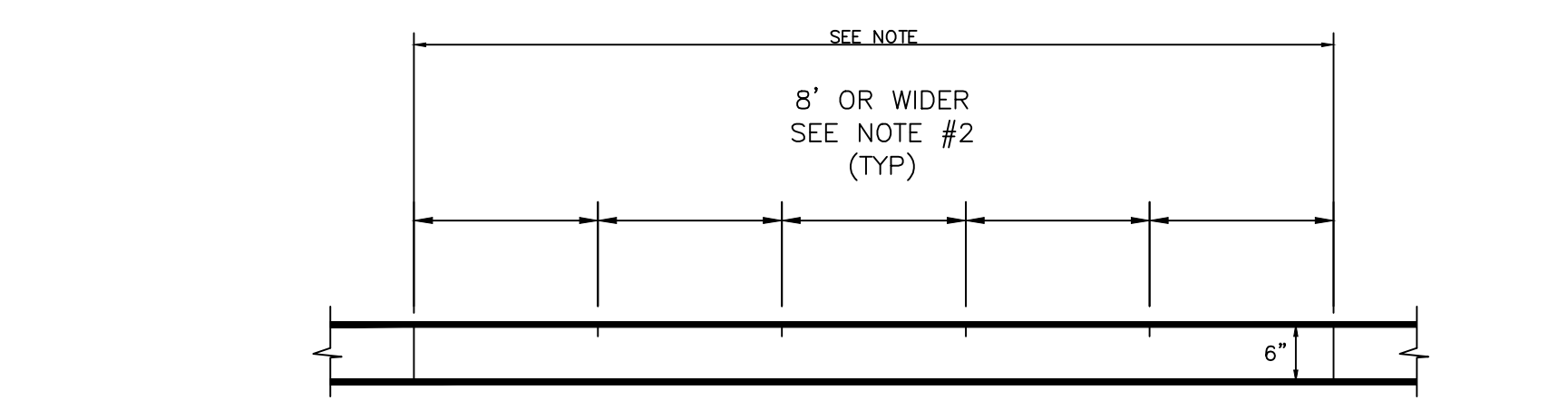


FLUME SECTION

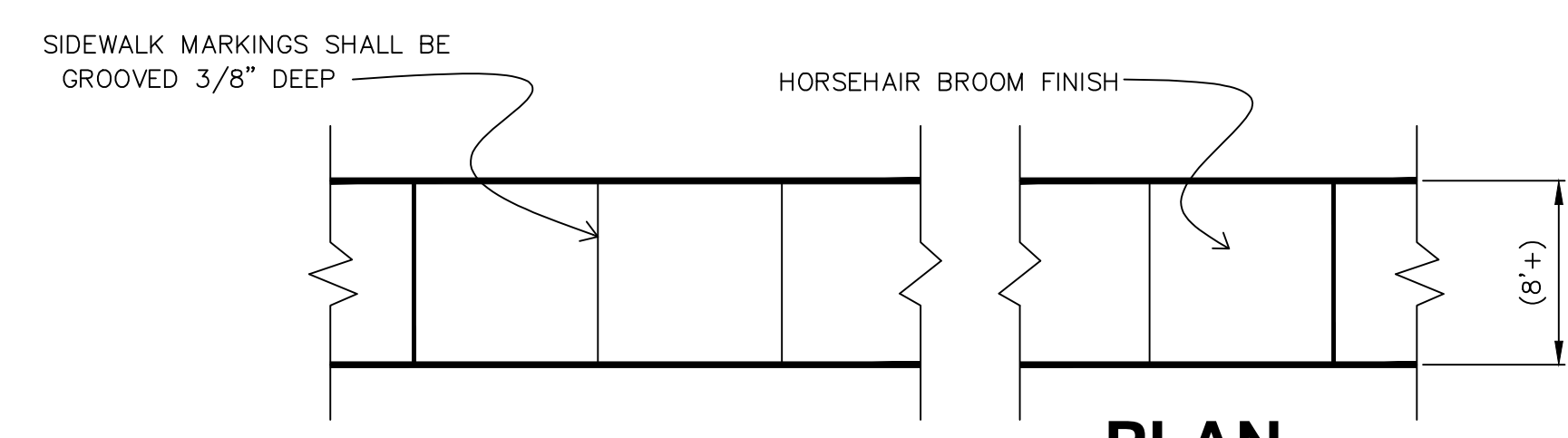
SEE SHEET C-12 FOR BARRIER FREE RAMP DETAILS

CONCRETE SIDEWALK DETAIL FOR SIDEWALKS 8' OR WIDER

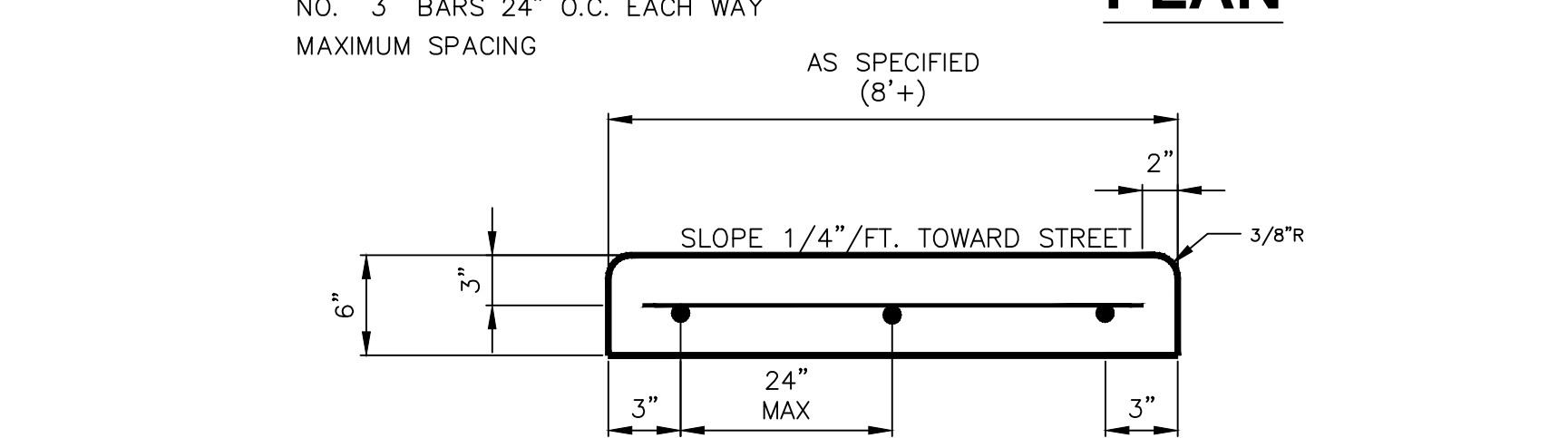
- 1/2" EXPANSION JOINTS SHALL BE SPACED AT 60' MAXIMUM INTERVALS, OR AS OTHERWISE SPECIFIED. JOINTS SHALL BE REDWOOD WITH FIVE (5) #3 2' SLIP DOWELS WITH END CAPS AT EQUAL SPACING.
- TOOL GROOVE EVERY 8' ON 8' WALKS.
- SIDEWALKS SHALL BE CLASS "A" CONCRETE.
- WHEN CONCRETE WALK IS ADJACENT TO EXISTING CONCRETE, DEPTH OF BITUMINOUS EXPANSION JOINT FILLER SHALL BE SUFFICIENT TO PREVENT CONCRETE TO CONCRETE CONTACT BETWEEN WALK AND CONCRETE. WHEN SIDEWALK IS LOCATED AT THE BACK OF CURB THE NO. 3 REBAR AT 24" O.C. FOR THE SIDEWALK SHOULD EXTEND TO A DEPTH OF APPROXIMATELY 3" INTO THE BACK OF THE CURB AND SHOULD BE ANCHORED IN PLACE WITH EPOXY RESIN.
- SIDEWALK SUBGRADE SHALL BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR DENSITY.
- A MAXIMUM OF 1" OF SAND MAY BE USED FOR LEVEL UP ONLY.
- NO "WHIRLEY BIRD" TYPE FINISHING MACHINES WILL BE ALLOWED.
- SEAL ALL JOINTS WITH GRAY RUBBERIZED SEALANT.



SIDE ELEVATION



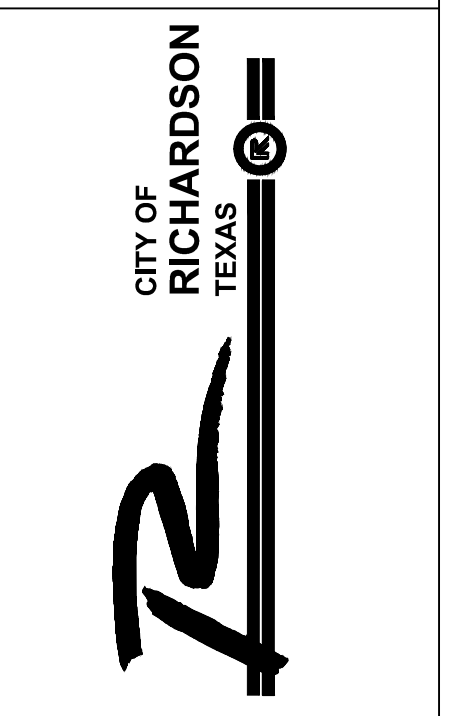
PLAN



SECTION

Revisions:

City of Richardson
411 W. Arapaho Road
Suite 204
Richardson, Texas 75080
voice: 972 744-4280
fax: 972 744-5804
Drawn By: RGB
Checked By: COR



STANDARD DETAILS
City of Richardson, Texas

NO ADDITIONS OR CHANGES TO STANDARD DETAIL SHEETS UNLESS APPROVED BY CITY OF RICHARDSON

24"x36" Scale: NTS

11"x17" Scale: NTS

Vertical Scale: NA

Project Number: XXX

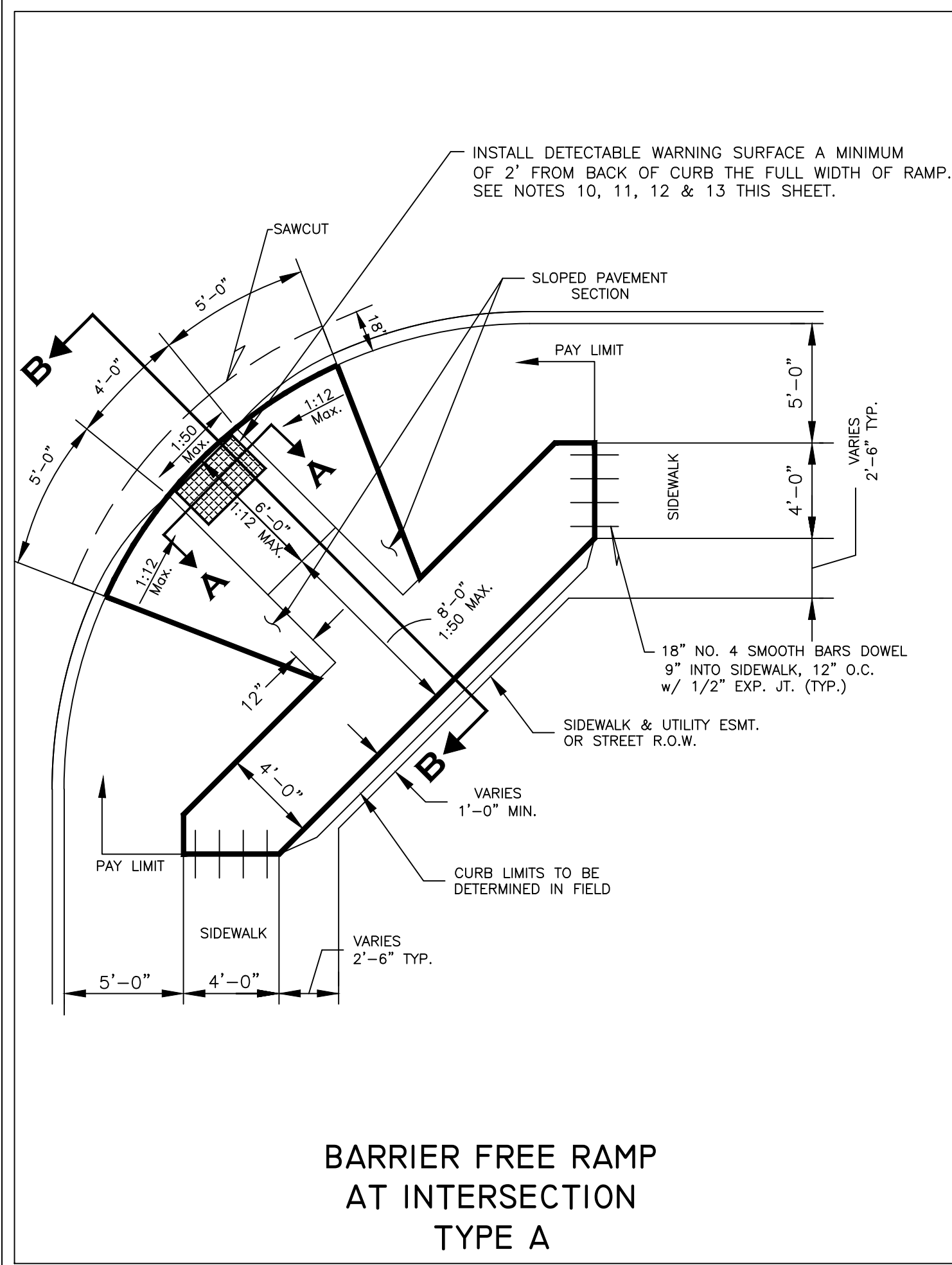
Issue Date: 06 MAR 15

Sheet Title:
SIDEWALK/ FLUME

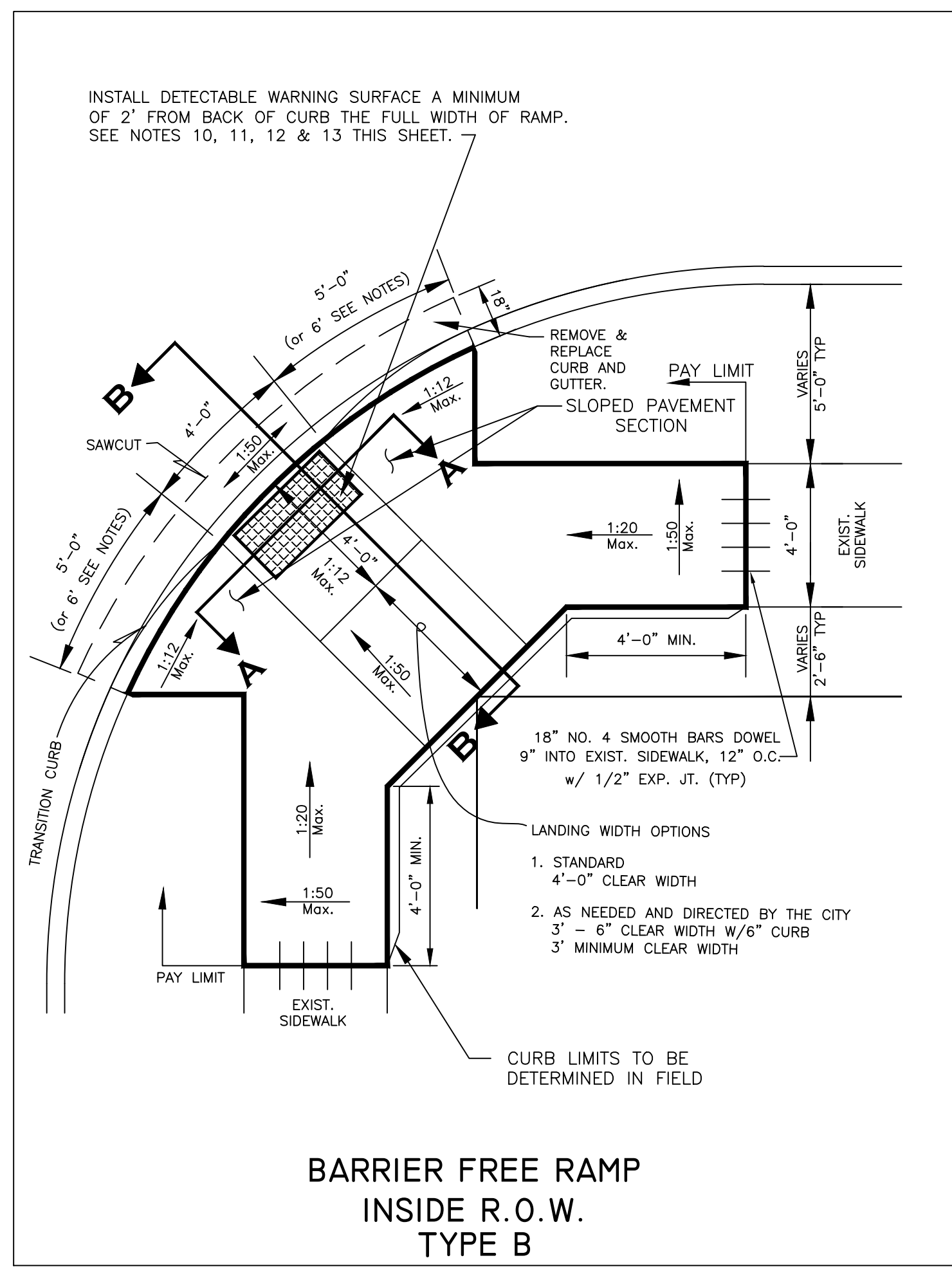
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C-11

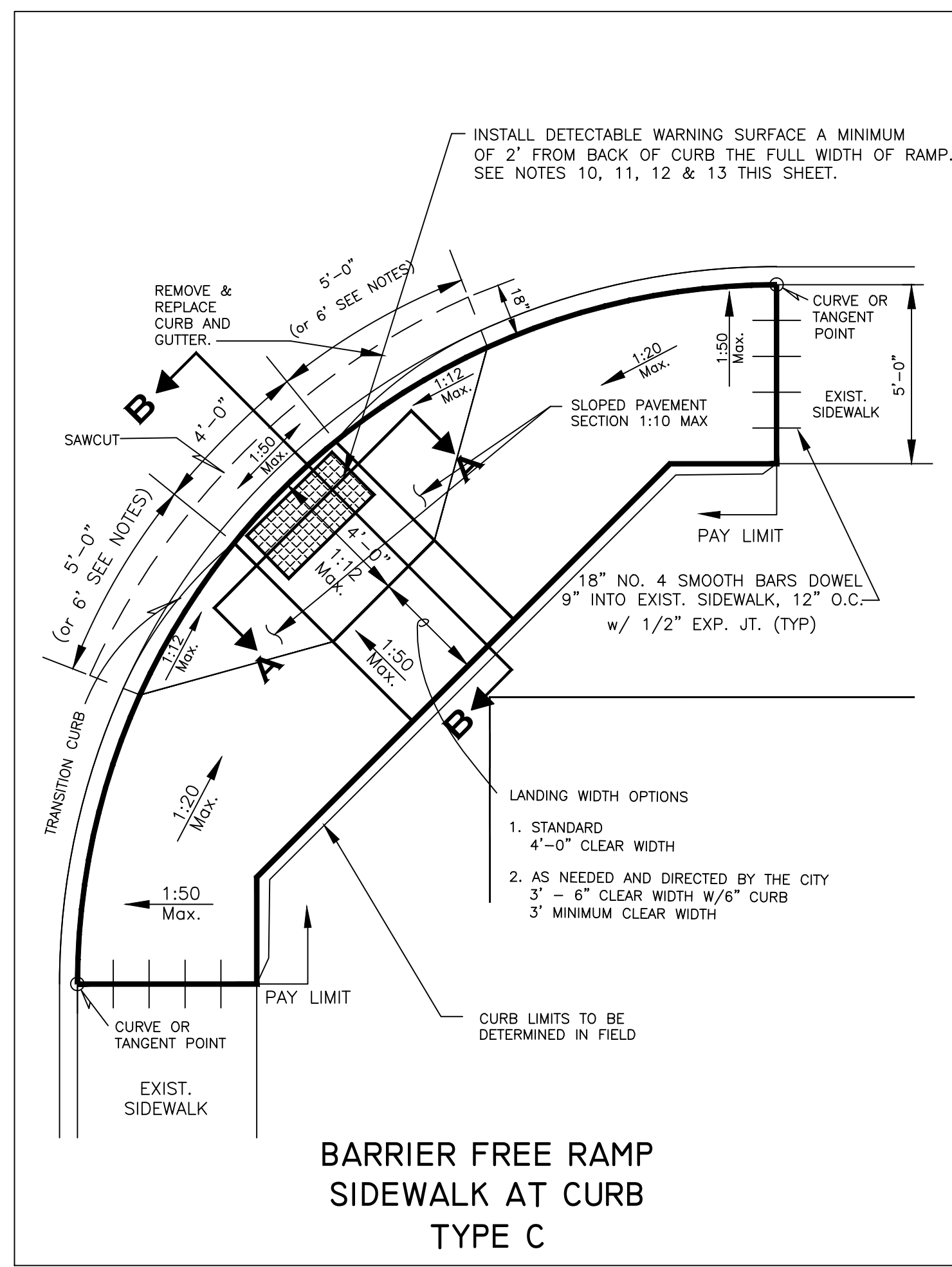
Revisions:



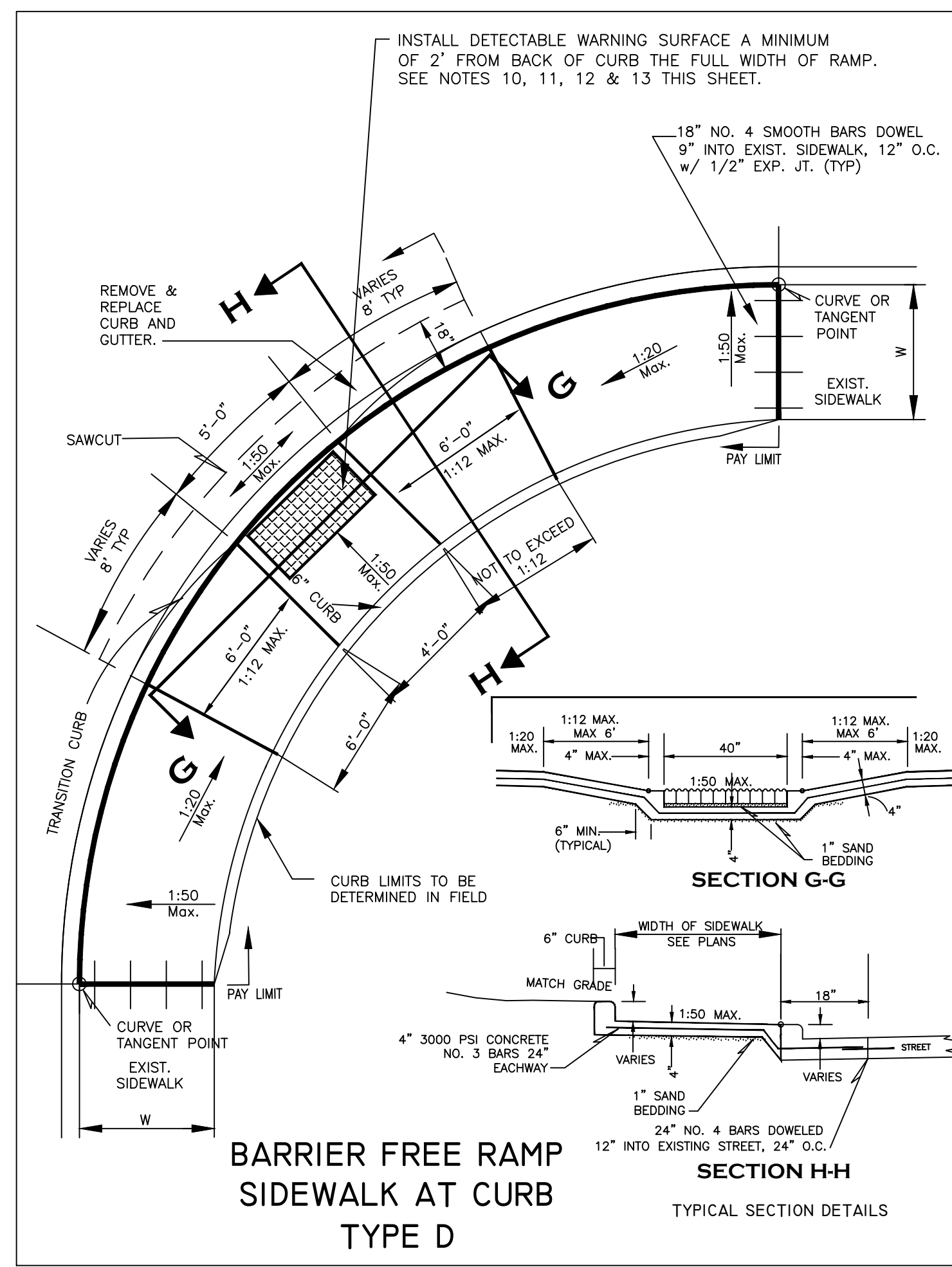
BARRIER FREE RAMP AT INTERSECTION TYPE A



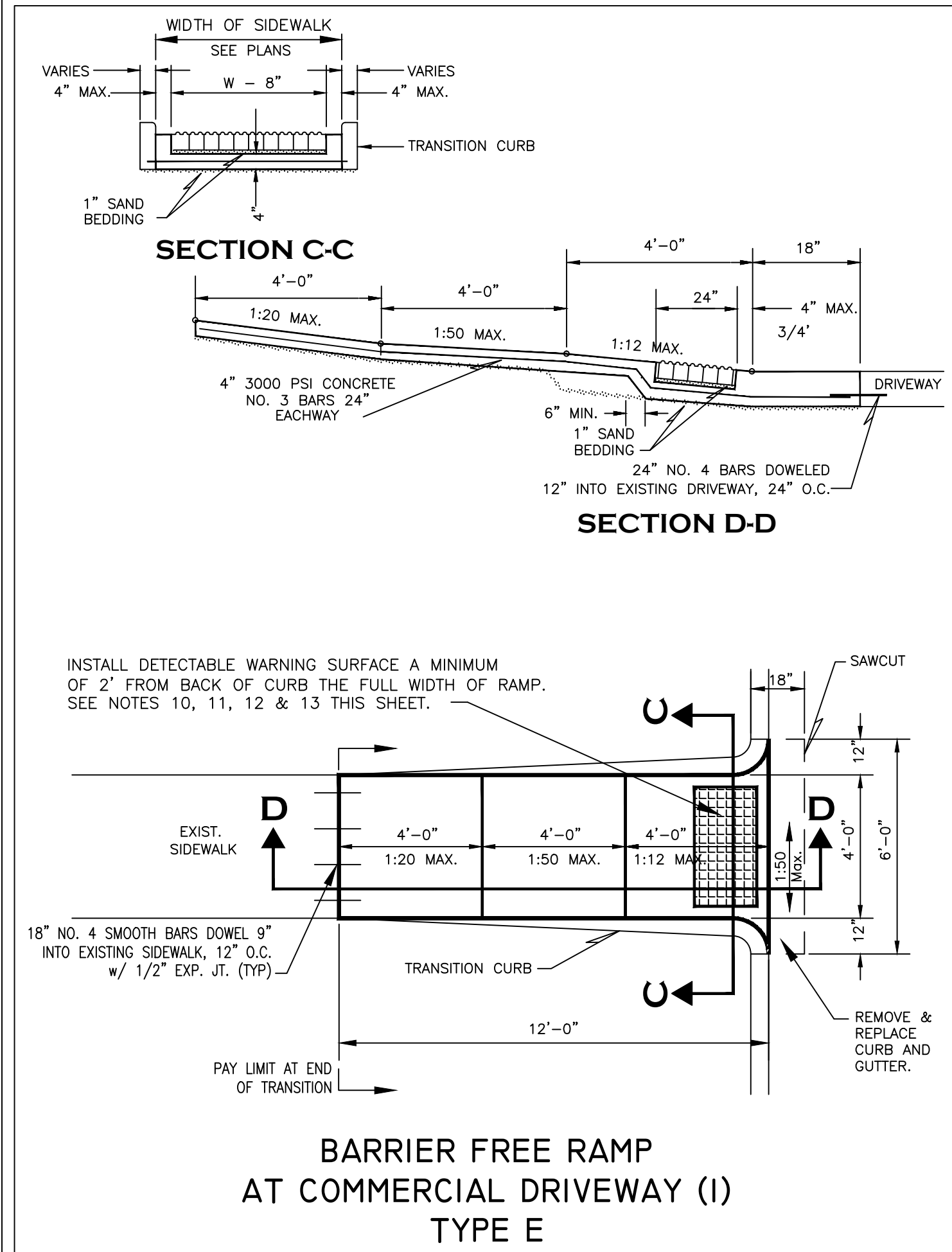
BARRIER FREE RAMP INSIDE R.O.W. TYPE B



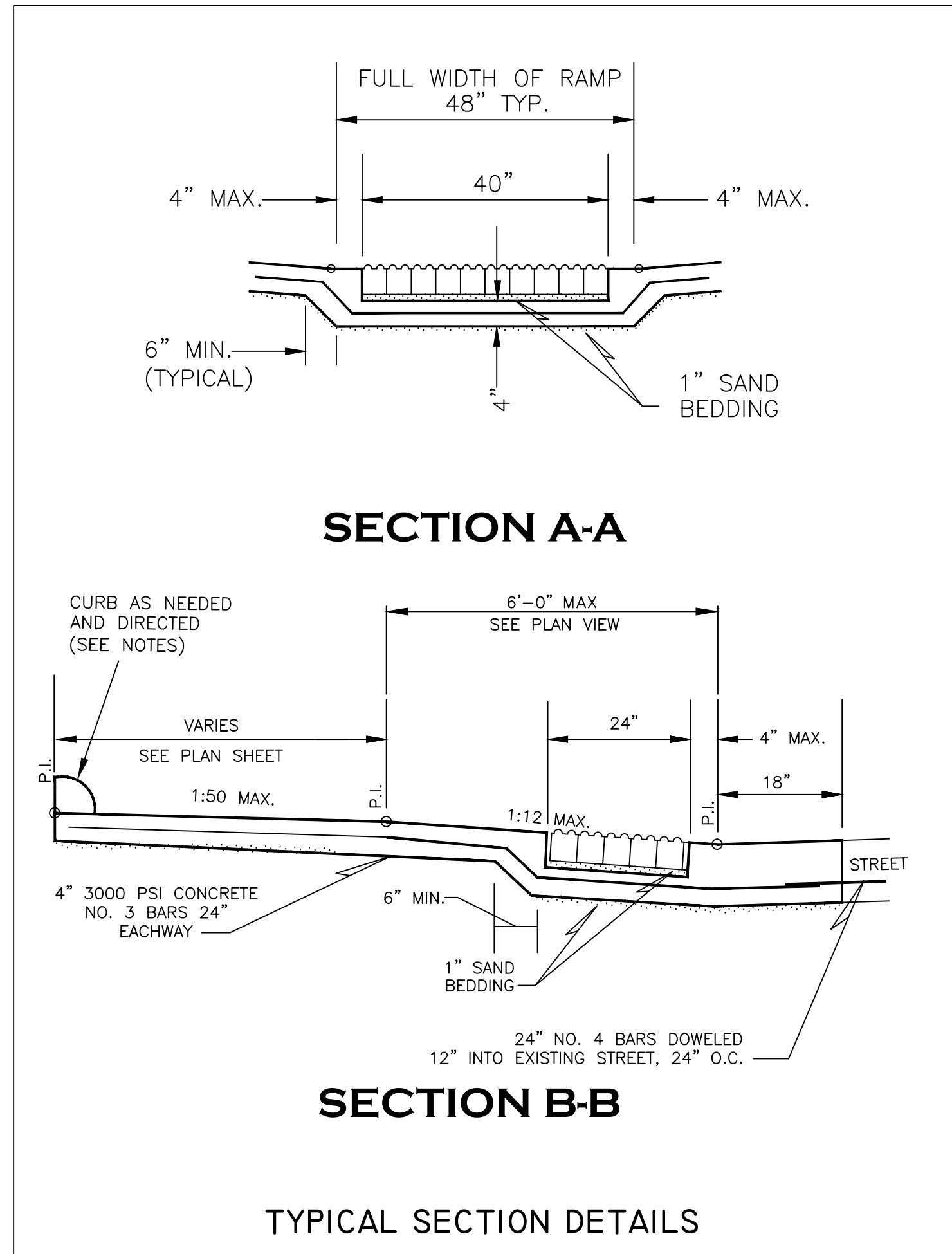
BARRIER FREE RAMP SIDEWALK AT CURB TYPE C



BARRIER FREE RAMP SIDEWALK AT CURB TYPE D



BARRIER FREE RAMP AT COMMERCIAL DRIVEWAY (I) TYPE E



TYPICAL SECTION DETAILS

NOTES:

- DIMENSIONS SHOWN ON STANDARD DETAILS ARE APPROXIMATE AND WILL VARY DEPENDING ON EXISTING SIDEWALK AND STREET LONGITUDINAL AND CROSS SLOPES. DIMENSIONS SHOWN ASSUME EXISTING LONGITUDINAL AND CROSS SLOPES ARE LESS THAN 2%. RAMP LOCATIONS WITH LONGITUDINAL OR CROSS SLOPES EXCEEDING 2% SHOULD BE ADDRESSED BY SEPARATE DESIGN DETAILS THAT COMPLY WITH TEXAS ACCESSIBILITY STANDARDS AND MATCH CITY OF RICHARDSON STANDARD DETAILS IN APPEARANCE AS MUCH AS POSSIBLE.
- RAMPS FOR SIDEWALKS (WITH WIDTHS OTHER THAN SHOWN ON THESE DETAILS) SHOULD BE ADJUSTED TO FIT DIMENSIONS OF THE APPROACH SIDEWALKS CALLED FOR ON PLAN SHEETS.
- FULL LENGTH OF RAMP (SLOPE OF 1:12) NOT TO EXCEED 6' IN LENGTH.
- PAYMENT FOR INSTALLATION OF BARRIER FREE RAMP SHALL INCLUDE SAWCUT, REMOVAL AND DISPOSAL OF EXISTING CURB AND GUTTER, SIDEWALK, ALL EXCAVATION NECESSARY TO CONSTRUCT RAMPS PER CITY STANDARDS, INCLUDING ALL LABOR, MATERIAL AND OTHER MISCELLANEOUS APPERTANCES.
- THE CONTRACTOR MUST NOTIFY THE CITY PRIOR TO INSTALLATION OF CONCRETE IF THE APPROACH SLOPE OF THE EXISTING SIDEWALK EXCEEDS 1:20 (5%) OR HAS A CROSSFALL GREATER THAN 1:50 (2%) AND NO DESIGN DETAILS ARE PROVIDED FOR THAT SPECIFIC LOCATION.
- CONTRACTOR TO VERIFY ALL SLOPES PRIOR TO POURING CONCRETE. ALL SLOPES SHOULD BE IN COMPLIANCE WITH APPLICABLE STANDARDS FROM THE TEXAS DEPARTMENT OF LICENSING AND REGULATION.
- MINIMUM LANDING CLEAR WIDTH TO BE 48", UNLESS OTHERWISE DIRECTED BY THE CITY. WHEN LANDING IS LESS THAN 48" CLEAR WIDTH THE STREET CURB TRANSITION TO BE INCREASED FROM 5' TO 6' IN LENGTH.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSURE SLOPES MEET REQUIREMENTS OF THE TEXAS ACCESSIBILITY STANDARDS.
- A CURB SHALL BE CONSTRUCTED AT THE BACK OF THE WHEELCHAIR RAMP WHEN ELEVATION DIFFERENCE EXCEEDS 8".
- DETECTABLE WARNING SHALL BE 24" IN LENGTH THE FULL WIDTH OF RAMP AT BACK OF CURB (LESS 4" BORDER FOR BRICK PAVERS) AND BE AS SPECIFIED EXCEPT AT INTERSECTIONS WHERE EXISTING RAMPS ON ADJACENT CORNERS PROVIDE DETECTABLE WARNING FOR THE FULL LENGTH AND WIDTH OF RAMP. WHERE EXISTING RAMPS ON ADJACENT CORNERS PROVIDE DETECTABLE WARNING FOR THE FULL LENGTH AND WIDTH OF RAMP THE RAMPS SHALL BE MADE TO MATCH ADJACENT RAMPS IN COMPLIANCE WITH TEXAS ACCESSIBILITY STANDARDS.
- BRICK PAVERS SHALL BE 7 3/8" x 3 1/8" x 2 3/8" WITH "CHARCOAL" COLOR MEETING ADA SECTION 4.29.2 (PAVESTONE DETECTABLE WARNING PAVES OR APPROVAL EQUAL). PAVERS SHALL HAVE DETECTABLE WARNING THAT CONSIST OF RAISED TRUNCATED DOMES WITH A DIA. OF 0.9 IN. (23MM), A HEIGHT OF NOMINAL 0.2 IN. (5MM) AND A CENTER TO CENTER SPACING OF NOMINAL 2.35 IN. (60MM). PAVERS SHALL BE SAWED (NOT BROKEN)
- A VIBRATORY PLATE SHALL BE USED TO CONSOLIDATE PAVERS AFTER INSTALLATION. CONTRACTOR SHALL PREVENT DAMAGE TO PAVERS FROM VIBRATORY PLATE BY COVERING PAVERS WITH PLYWOOD, OR OTHER METHOD APPROVED BY THE CITY. ANY DAMAGE PAVERS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE
- ADA REPLACEABLE (WET SET) COMPOSITE TACTILE WARNING SURFACE UNIT (GRAY) AVAILABLE FROM ADA SOLUTIONS MAY BE INSTALLED INSTEAD OF SPECIFIED TRUNCATED DOME BRICK PAVERS. CONTRACTOR SHALL PROVIDE A MINIMUM 4" CONCRETE THICKNESS BENEATH THE ADA REPLACEABLE COMPOSITE TACTILE WARNING SURFACE UNIT. THE TYPICAL BOX LEAVE OUT AND DEEPER CONCRETE SECTION FOR PAVERS SHOWN IN DETAILS IS NOT REQUIRED.

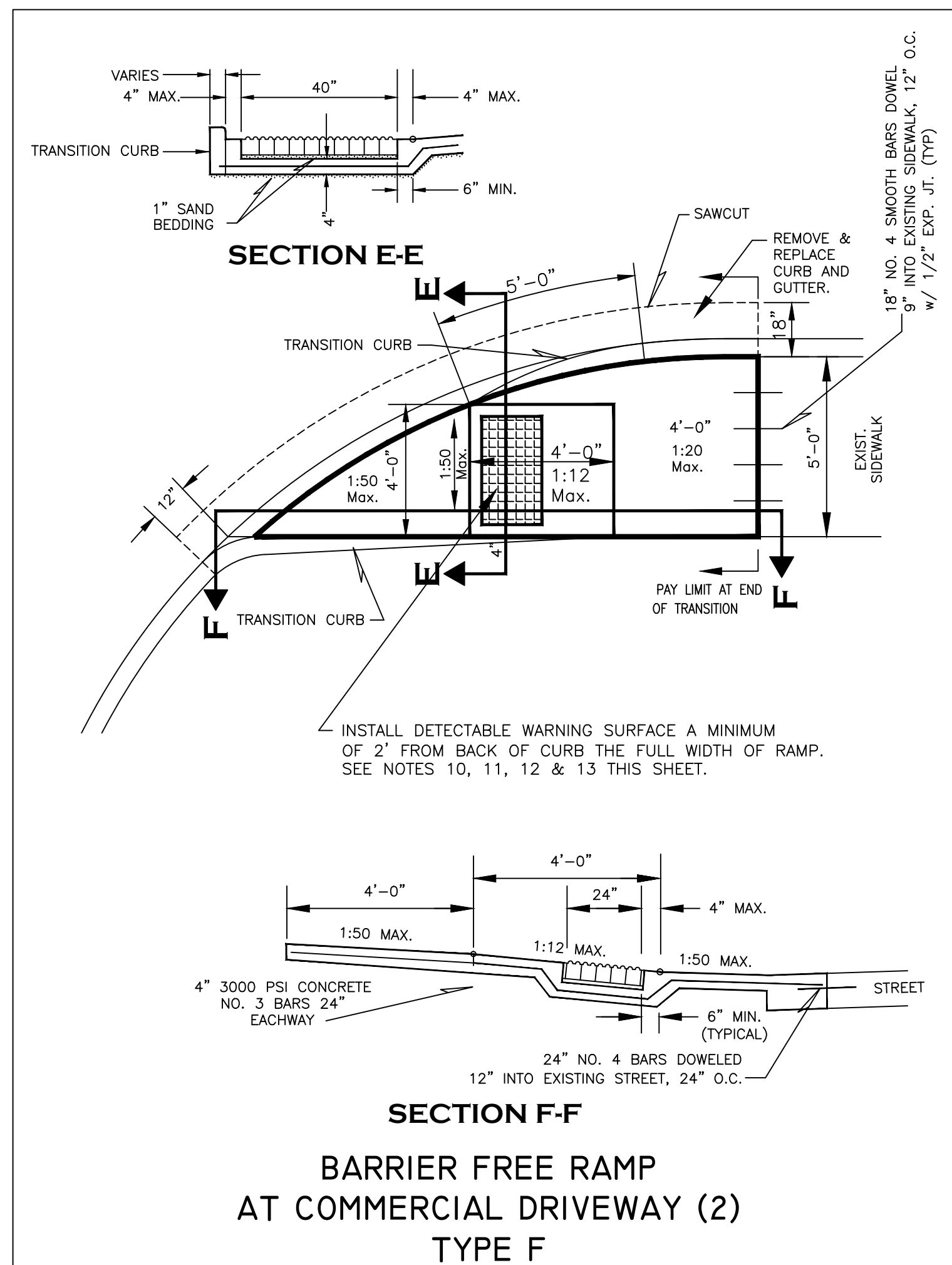
CONVERSIONS
 1:12 - APPROXIMATELY 8.3%
 1:20 - APPROXIMATELY 5%
 1:50 - APPROXIMATELY 1/4" per 1' or 2%

City of Richardson
 411 W. Arapaho Road
 Suite 204
 Richardson, Texas 75080
 voice: 972 744-4280
 fax: 972 744-5804
 Drawn By: RGB
 Checked By: COR

STANDARD DETAILS
 City of Richardson, Texas

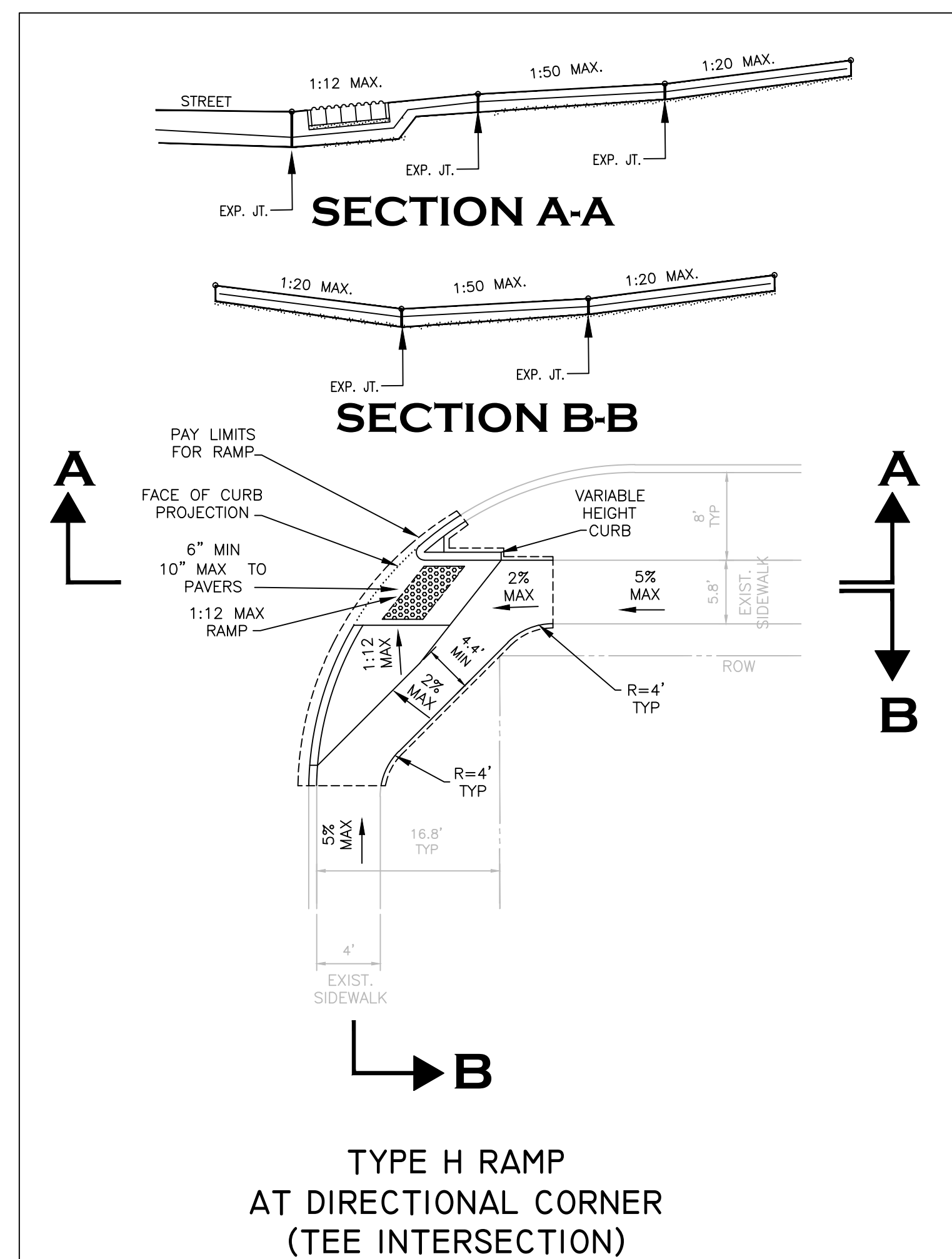
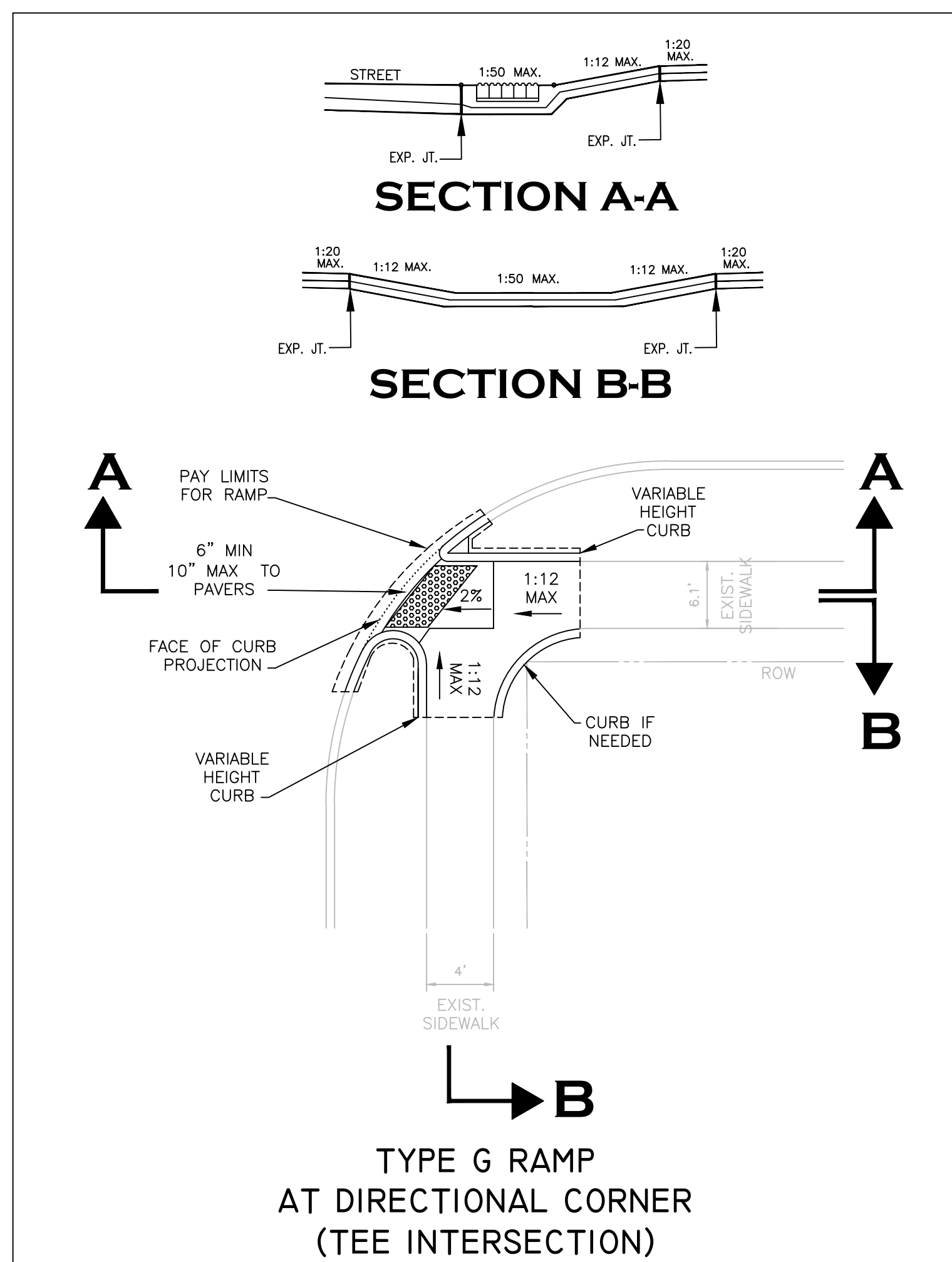
NO ADDITIONS OR CHANGES TO STANDARD DETAIL SHEETS UNLESS APPROVED BY CITY OF RICHARDSON

24"x36" Scale: NTS
 11"x17" Scale: NTS
 Vertical Scale: NA
 Project Number: XXX
 Issue Date: 01 MAY 14
 Sheet Title: **BARRIER FREE RAMPS**
 Sheet No.:



- NOTES:**
- DIMENSIONS SHOWN ON STANDARD DETAILS ARE APPROXIMATE AND WILL VARY DEPENDING ON EXISTING SIDEWALK AND STREET LONGITUDINAL AND CROSS SLOPES. DIMENSIONS SHOWN ASSUME EXISTING LONGITUDINAL AND CROSS SLOPES ARE LESS THAN 2%. RAMP LOCATIONS WITH LONGITUDINAL OR CROSS SLOPES EXCEEDING 2% SHOULD BE ADDRESSED BY SEPARATE DESIGN DETAILS THAT COMPLY WITH TEXAS ACCESSIBILITY STANDARDS AND MATCH CITY OF RICHARDSON STANDARD DETAILS IN APPEARANCE AS MUCH AS POSSIBLE.
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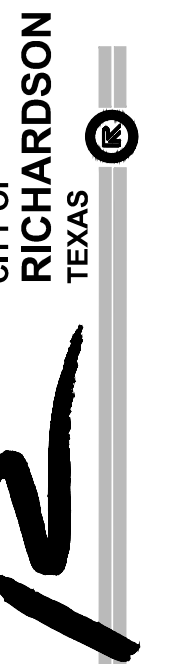
CONVERSIONS
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Revisions:

City of Richardson
 411 W. Arapaho Road
 Suite 204
 Richardson, Texas 75080
 voice: 972 744-4280
 fax: 972 744-5804

Drawn By: RGB
 Checked By: COR



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 City of Richardson, Texas

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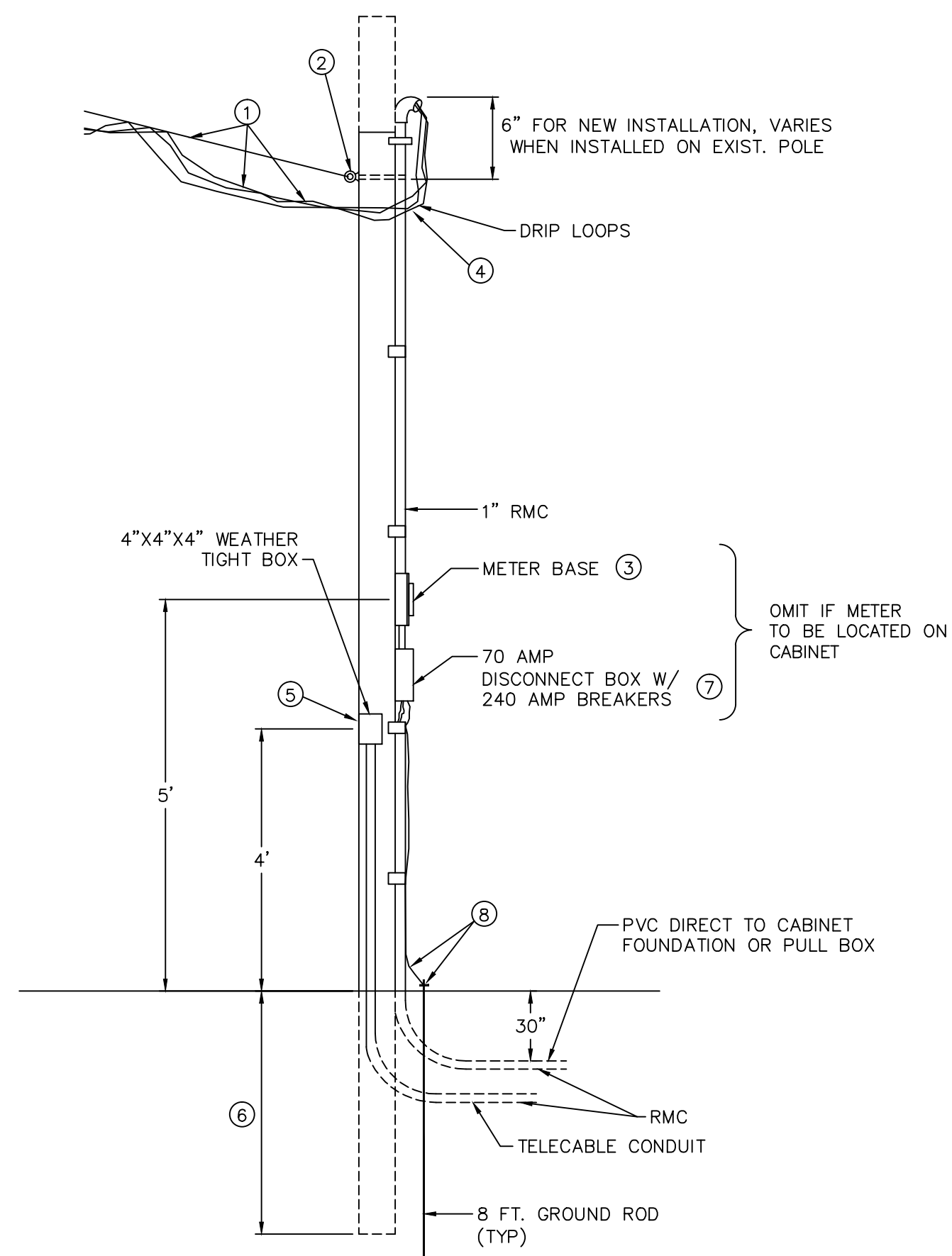
Issue Date: 01 MAY 14

Sheet Title:

BARRIER FREE RAMPS

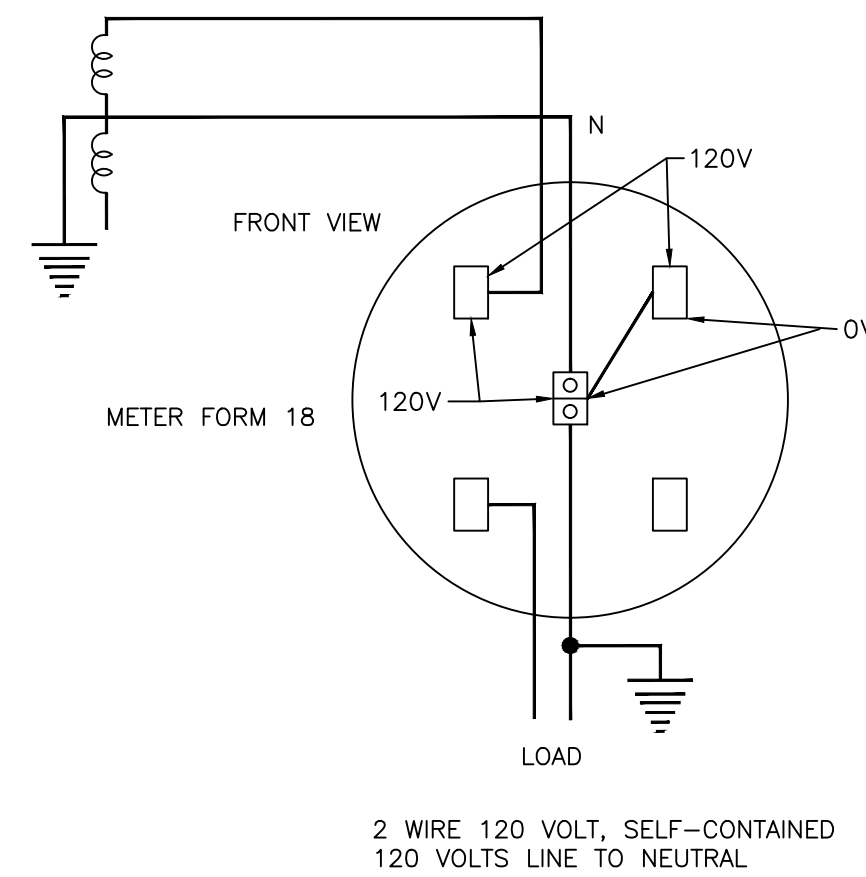
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C-13

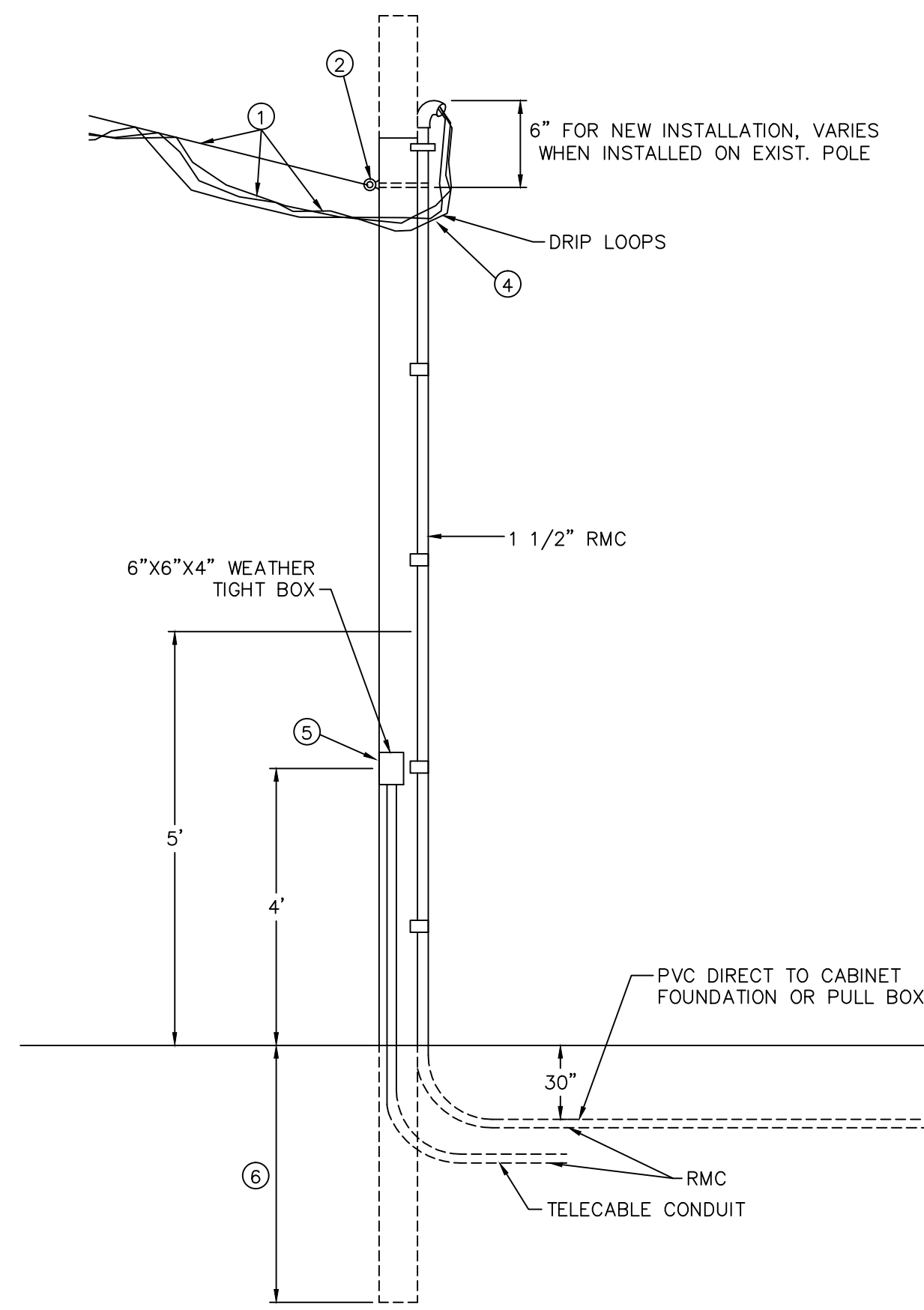


ELECTRIC SERVICE TO TYPICAL PERMANENT METER POLE INSTALLATION

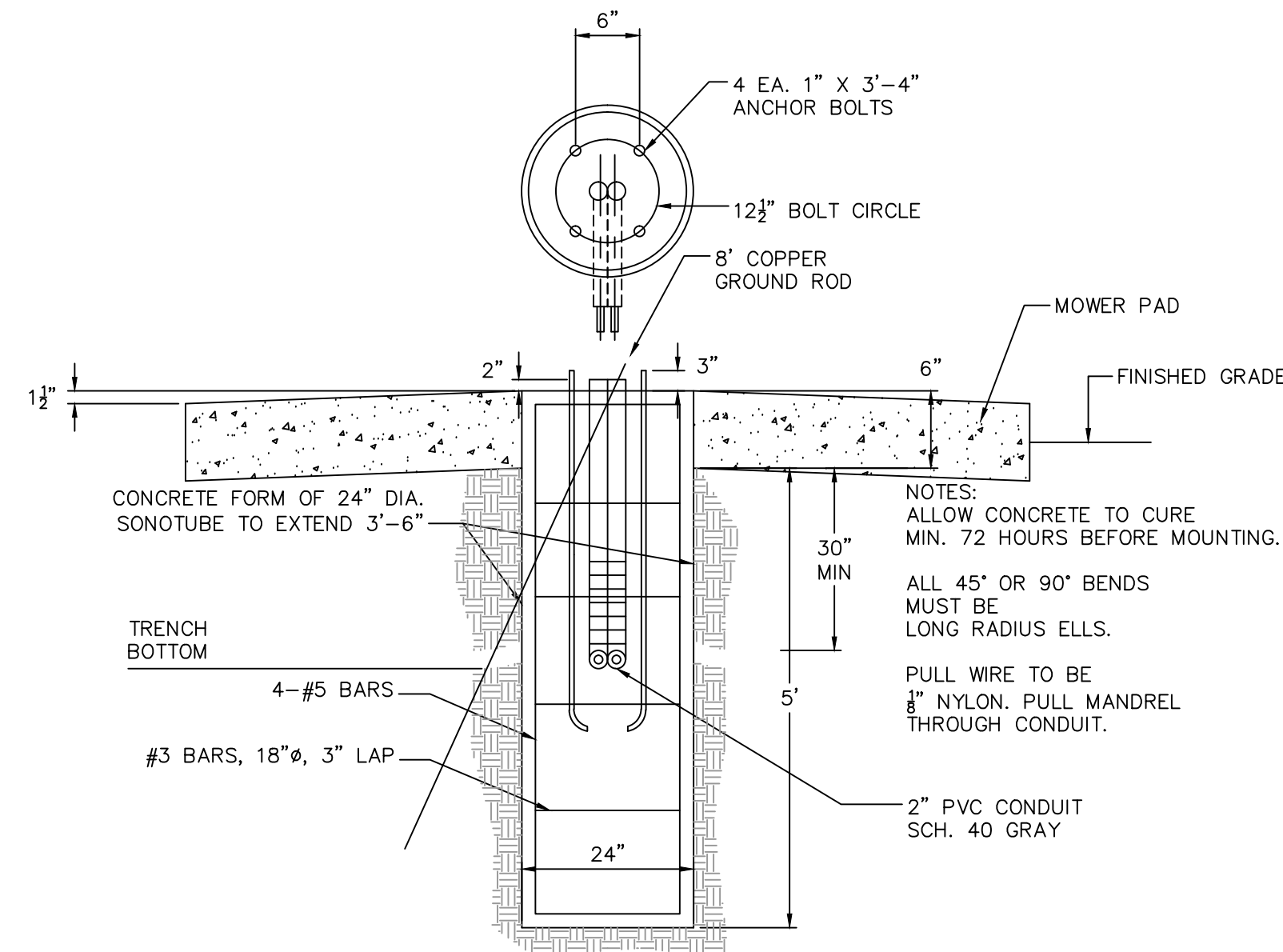
- NOTES:
- SERVICE DROP PROVIDED AND INSTALLED BY POWER COMPANY.
 - SERVICE ATTACHMENT PROVIDED BY POWER COMPANY AND INSTALLED BY CONTRACTOR.
 - METER SOCKET PROVIDED BY POWER COMPANY AND INSTALLED BY CONTRACTOR.
 - SERVICE ENTRANCE CONDUCTOR AND SERVICE RACEWAY PROVIDED AND INSTALLED BY CONTRACTOR. CONDUCTORS TO EXTEND 24" MIN. OUTSIDE SERVICE HEAD FOR CONNECTION TO SERVICE DROP. MINIMUM #6 COPPER CONDUCTOR TO BE NEC APPROVED PHASE CONDUCTORS BLACK INSULATION NEUTRAL CONDUCTORS WHITE OR BARE.
 - CONTRACTOR TO PROVIDE AND INSTALL SUPPORT FOR SERVICE ATTACHMENT AND METER SOCKET. CREOSOTE POLE (OR EQUAL) TO BE 5" MIN. DIA. AT TOP. STEEL POLE TO BE 4" MIN. OUTSIDE DIAMETER. SUPPORT TO BE SUFFICIENT HEIGHT FOR THE SERVICE DROP TO MEET MIN. CLEARANCES.
 - POLE TO BE SET IN 4 FEET OF TAMPED EARTH OR CONCRETE WHERE SOIL CONDITIONS WARRANT. PIPE TO BE SET IN 4 FEET OF CONCRETE.
 - WEATHERPROOF SERVICE SWITCH TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
 - CONTRACTOR'S GROUND CONDUCTOR #6 COPPER MINIMUM TO APPROVED ELECTRODE.
 - CONTRACTOR INSTALLATION TO MEET ALL REQUIREMENTS OF NATIONAL ELECTRICAL CODE AND LOCAL ORDINANCES.



METER SOCKET CONNECTIONS AND VOLTAGES 4-TERMINAL SOCKET



ELECTRIC SERVICE TO TYPICAL PERMANENT PEDESTAL INSTALLATION

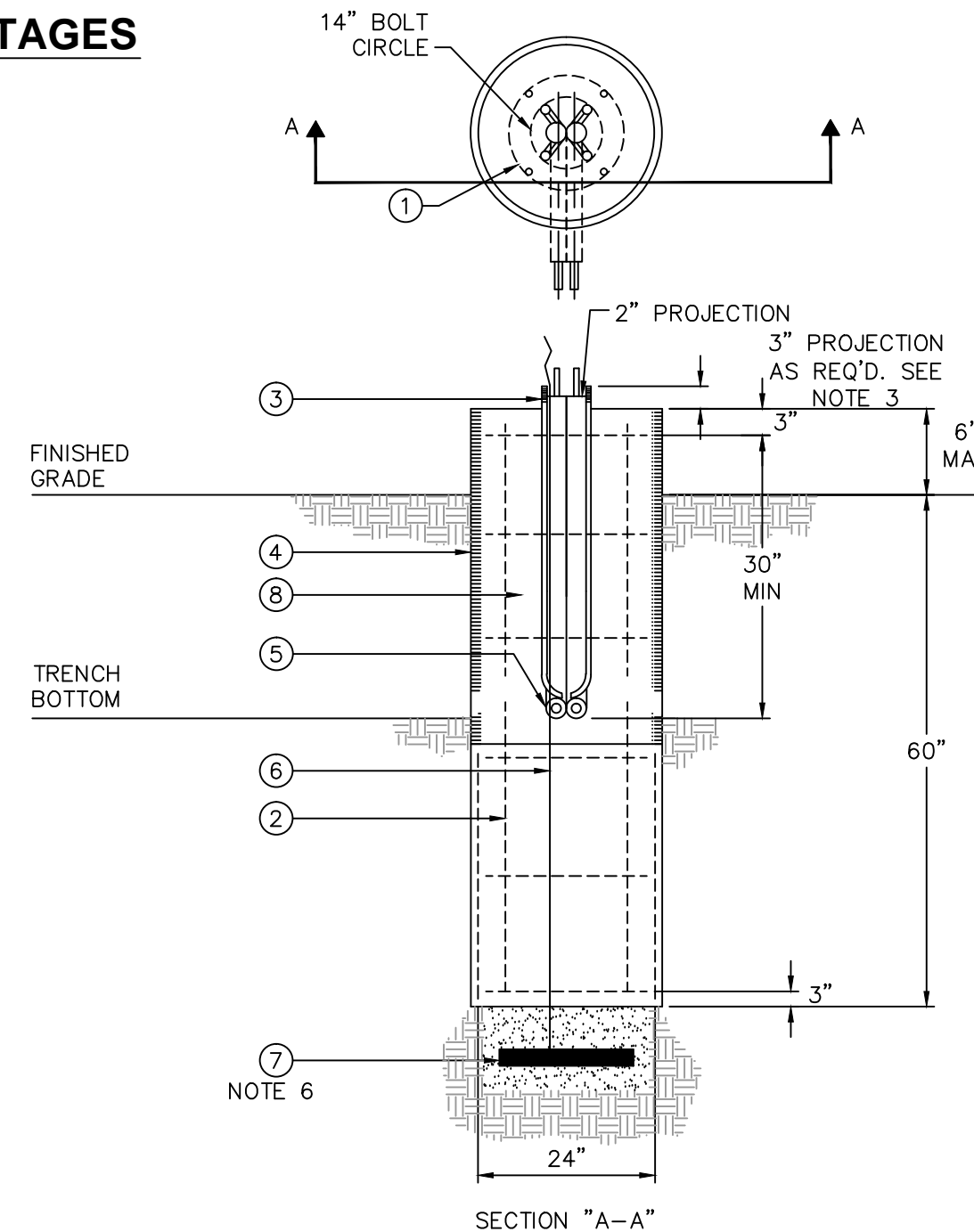


CITY OF RICHARDSON STREET LIGHT FOUNDATION 40' SQUARE STEEL POLE C.O.R.

STREET LIGHT FOUNDATION NOTES

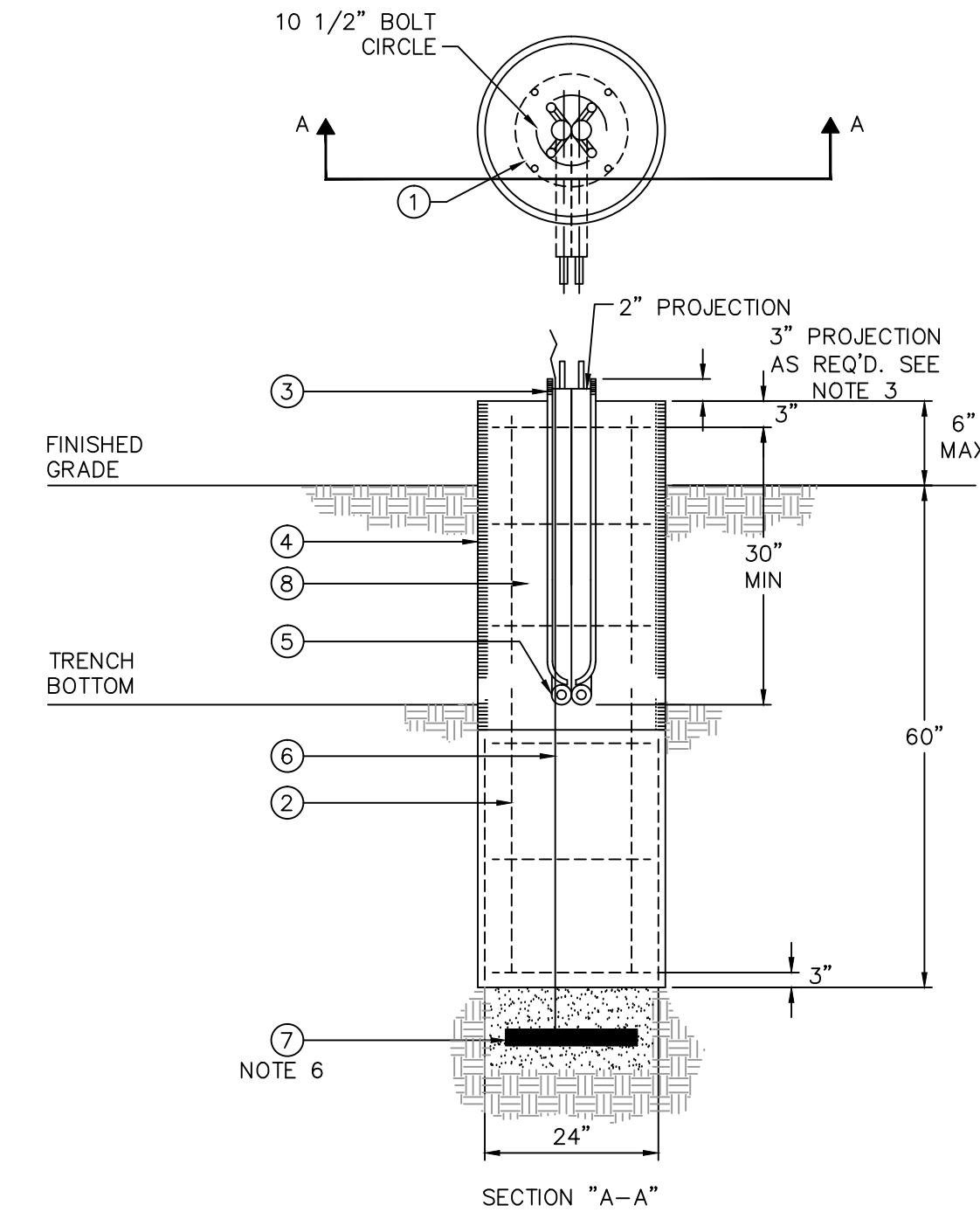
- CONDUIT, TRENCHES AND BASES MUST BE INSPECTED BY C.O.R. DISTRIBUTION DEPT. BEFORE ANY BACK-FILLING OR CONCRETE WORK IS DONE. FAILURE TO HAVE INSPECTION WILL RESULT IN REMOVAL OF WORK. CALL 881-5400 FOR INSPECTION.
- ANCHOR BOLTS WILL BE FURNISHED BY CITY OF RICHARDSON.
- PROVIDE AN 8 FT. LONG GROUND ROD FOR CONNECTION OF WIRE TO POLE.
- MOWER PAD IS REQUIRED ONLY WHEN STREET LIGHTS ARE LOCATED IN GRASS AREA. PAD WILL BE SUBSIDIARY TO STREET LIGHT FOUNDATION.
- ON PAVED MEDIANS, FOUNDATION SHALL BE FLUSH WITH HIGHEST CURB.

ONCOR/TXU STREET LIGHT FOUNDATION 25', 30' & 40' SQUARE STEEL POLE 40' M.H. ROUND STEEL POLE



ITEM	QTY	DESCRIPTION	TSN	AUN	MACRO AUN
1	6	#3 REBAR 18" DIA. HOOP. 3 IN. OVERLAP	314470		
2	4	#6 REBAR STRAIGHT. 50 IN. LONG	317821		
3	4	ANCHOR BOLT, GALV 1 IN. (SUPPLIED W/POLE)			
4	AS REQ'D	CONCRETE FOUNDATION TUBE 24 IN. DIA.	313841		
5	AS REQ'D	CONDUIT PVC OR PEC (NOT IN FOUND. AUN)		SLF01	21332001
6	.5 LB	WIRE #6 COPPER SOLID	310091		
7	1	GROUND, POLE BUTT WIRE COIL			
8	AS REQ'D	CONCRETE			

* 1 1/4" ANCHOR BOLT REQ'D. W/40' POLE

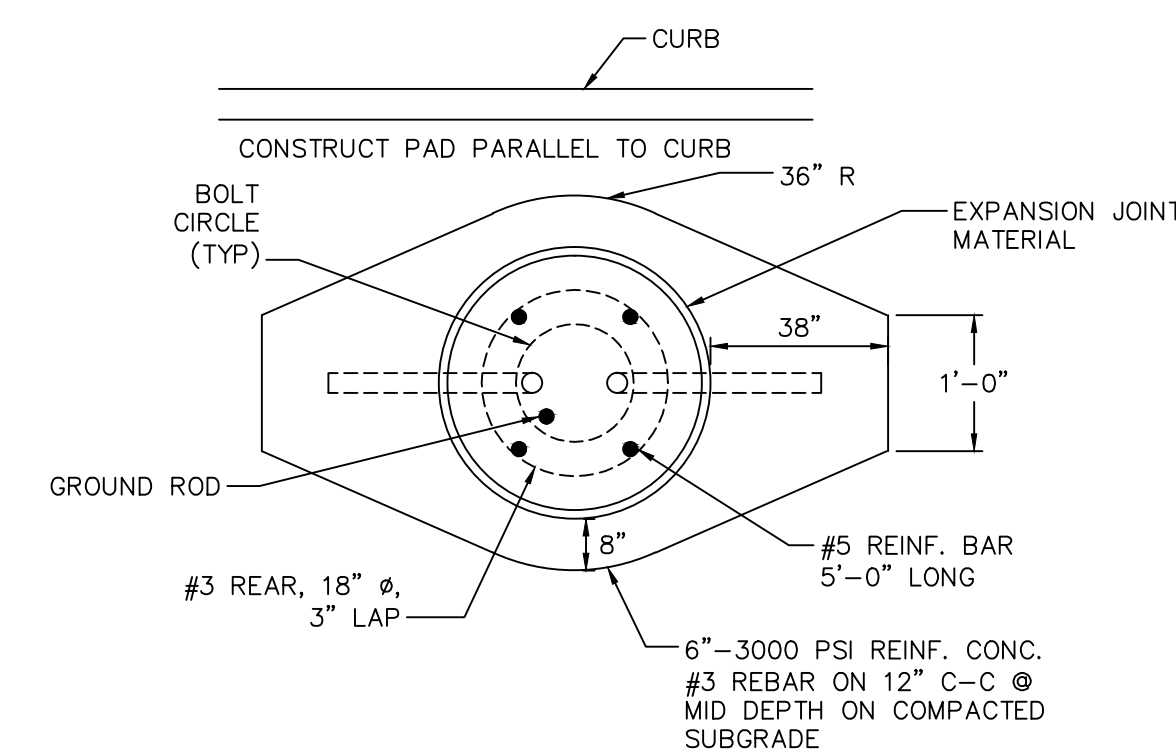


ONCOR/TXU STREET LIGHT FOUNDATION 25' M.H. & 30' M.H. ROUND STEEL POLE

NOTES:

- CONCRETE TO BE MINIMUM 3000 PSI AT 28 DAYS. (6 SACK) MAXIMUM AGGREGATE 3". TOP OF FOUNDATION TO BE TROWELED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.
- REBAR HOOPS ARE TIED BEGINNING 3" BELOW TOP OF CONCRETE FORM AND ARE REPEATED AT APPROXIMATE 1 FT. INTERVALS TO BOTTOM OF FOUNDATION.
- CONTRACTOR TO PROVIDE ANCHOR BOLTS. ANCHOR BOLTS ARE NOT SUPPLIED WITH POLE. USE TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS. PROJECTION OF 3 IN. ON 25' & 30 FT. SQUARE AND 3 1/2 IN. ON 40 FT. SQUARE AND 37 FT. ROUND POLES.
- CONCRETE FORM OF SONOTUBE TO EXTEND TO BOTTOM OF TRENCH OR AS NEEDED.
- PROVIDE 24" PIGTAIL FOR CONNECTION OF GROUND WIRE TO POLE.
- A MINIMUM OF 12' OF BARE #6 SD CU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT.
- IF SOIL HAS BEEN DISTURBED, EXTEND FOUNDATION BY DEPTH OF DISTURBED SOIL.
- MOWER PAD IS REQUIRED ONLY WHEN STREET LIGHTS ARE LOCATED IN GRASS AREA. PAD WILL BE SUBSIDIARY TO STREET LIGHT FOUNDATION.

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MOWER PAD

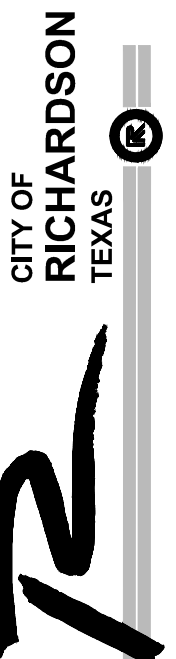
NOTES:

- CONCRETE TO BE MINIMUM 3000 PSI AT 28 DAYS. (6 SACK) MAXIMUM AGGREGATE 3". TOP OF FOUNDATION TO BE TROWELED TO A FLAT AND LEVEL SURFACE. AVOID EXCESSIVE TROWELING. CONCRETE TO SET A MINIMUM OF 72 HOURS BEFORE POLE INSTALLATION.
- REBAR HOOPS ARE TIED BEGINNING 3" BELOW TOP OF CONCRETE FORM AND ARE REPEATED AT APPROXIMATE 1 FT. INTERVALS TO BOTTOM OF FOUNDATION.
- CONTRACTOR TO PROVIDE ANCHOR BOLTS. ANCHOR BOLTS ARE NOT SUPPLIED WITH POLE. USE TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ALIGNING ANCHOR BOLTS.
- CONCRETE FORM OF SONOTUBE TO EXTEND TO BOTTOM OF TRENCH OR AS NEEDED.
- PROVIDE 24" PIGTAIL FOR CONNECTION OF GROUND WIRE TO POLE.
- A MINIMUM OF 12' OF BARE #6 SD CU WIRE TO BE PLACED IN BOTTOM OF HOLE AND COVERED WITH 2" OF DIRT.
- IF SOIL HAS BEEN DISTURBED, EXTEND FOUNDATION BY DEPTH OF DISTURBED SOIL.
- MOWER PAD IS REQUIRED ONLY WHEN STREET LIGHTS ARE LOCATED IN GRASS AREA. PAD WILL BE SUBSIDIARY TO STREET LIGHT FOUNDATION.

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STANDARD DETAILS
City of Richardson, Texas

NO ADDITIONS OR CHANGES TO STANDARD DETAIL SHEETS UNLESS APPROVED BY CITY OF RICHARDSON

24"x36" Scale: NTS

11"x17" Scale: NTS

Vertical Scale: NA

Project Number: XXX

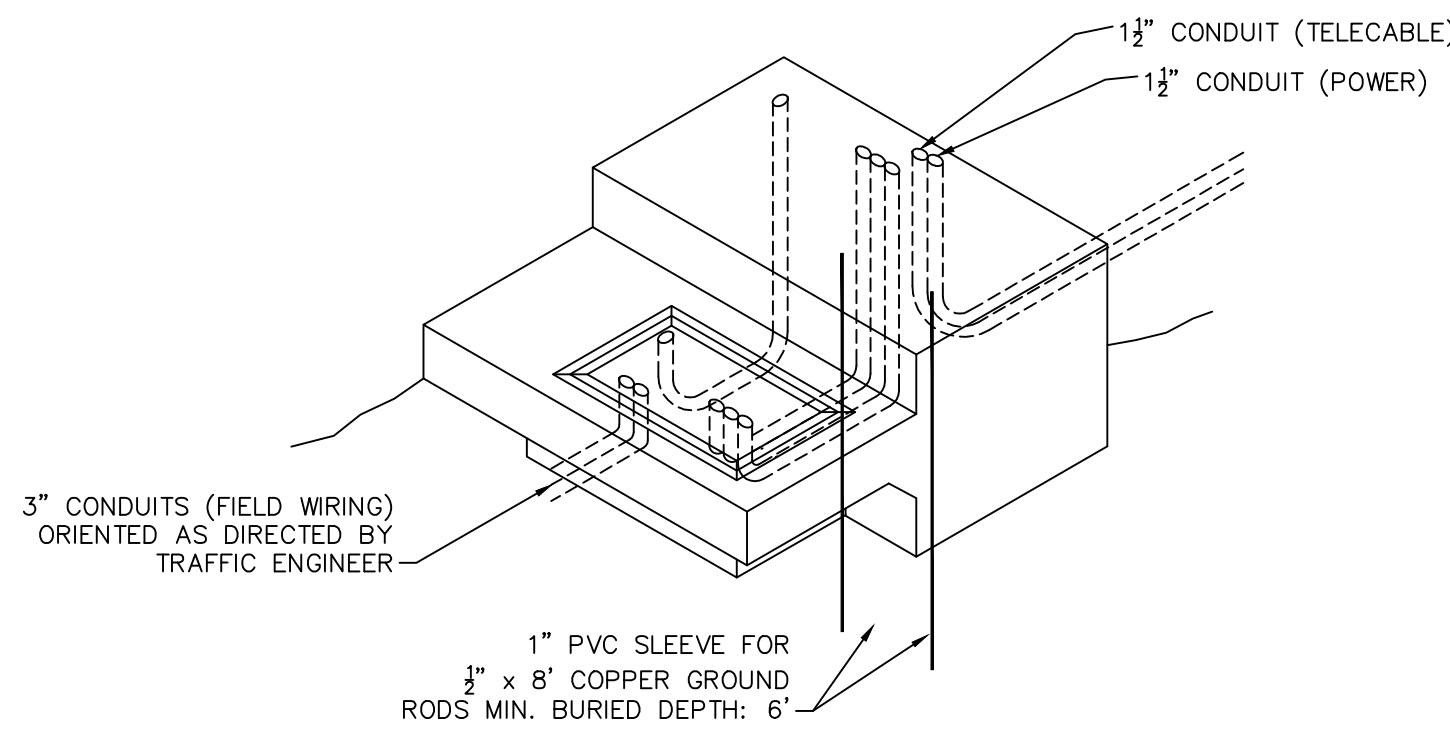
Issue Date: 01 MAY 14

Sheet Title:

TRAFFIC

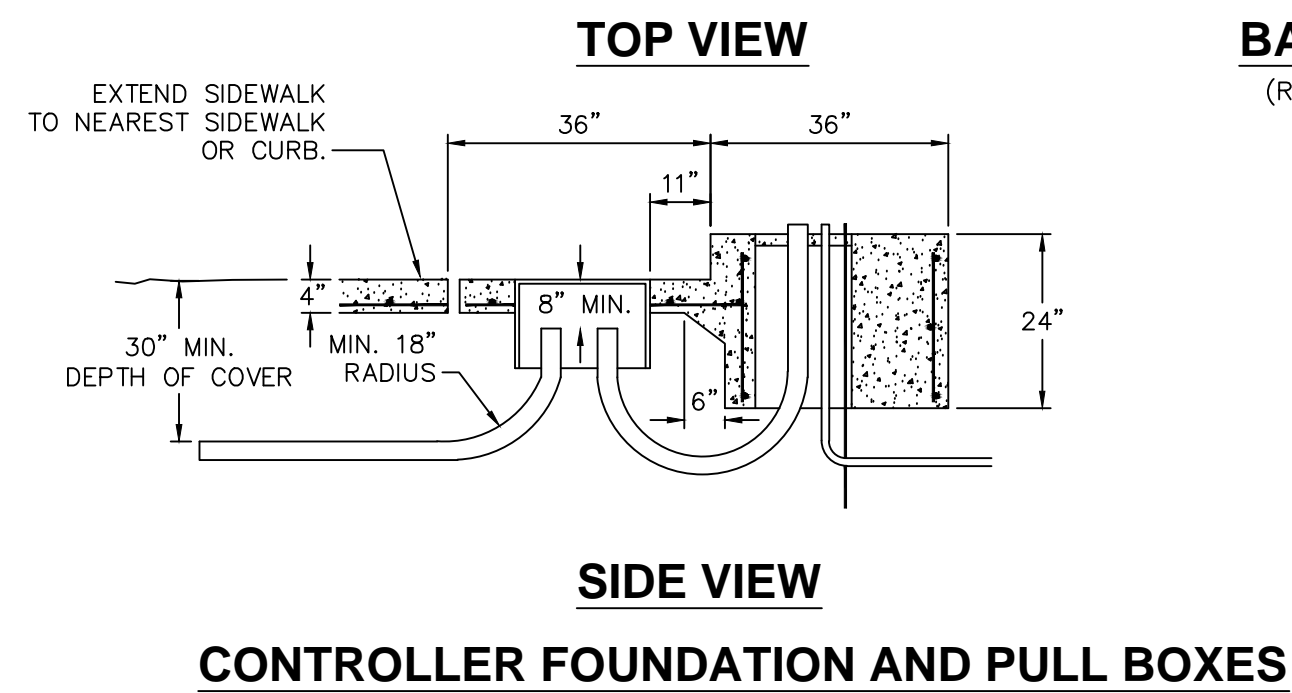
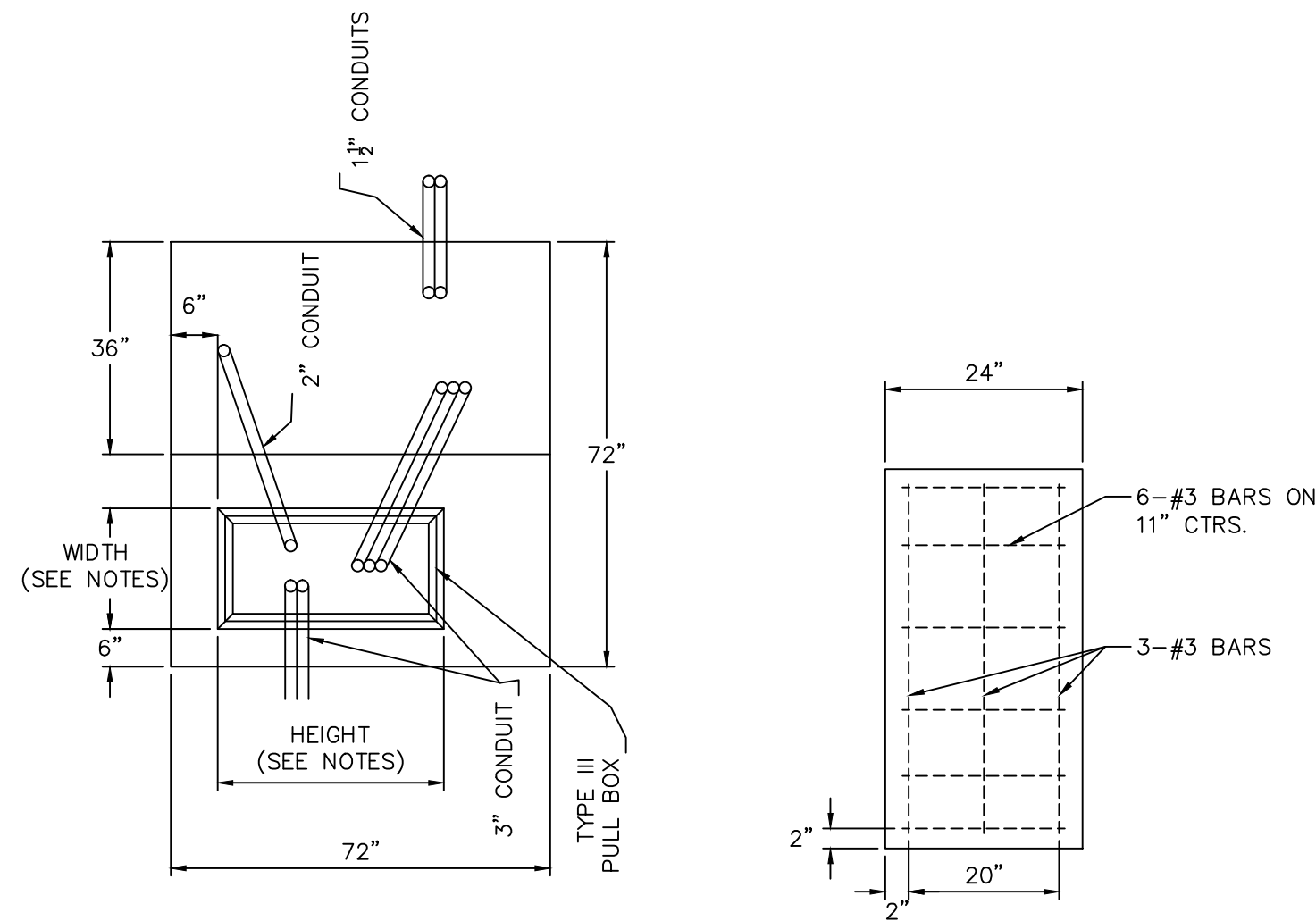
Sheet No.:

T-1

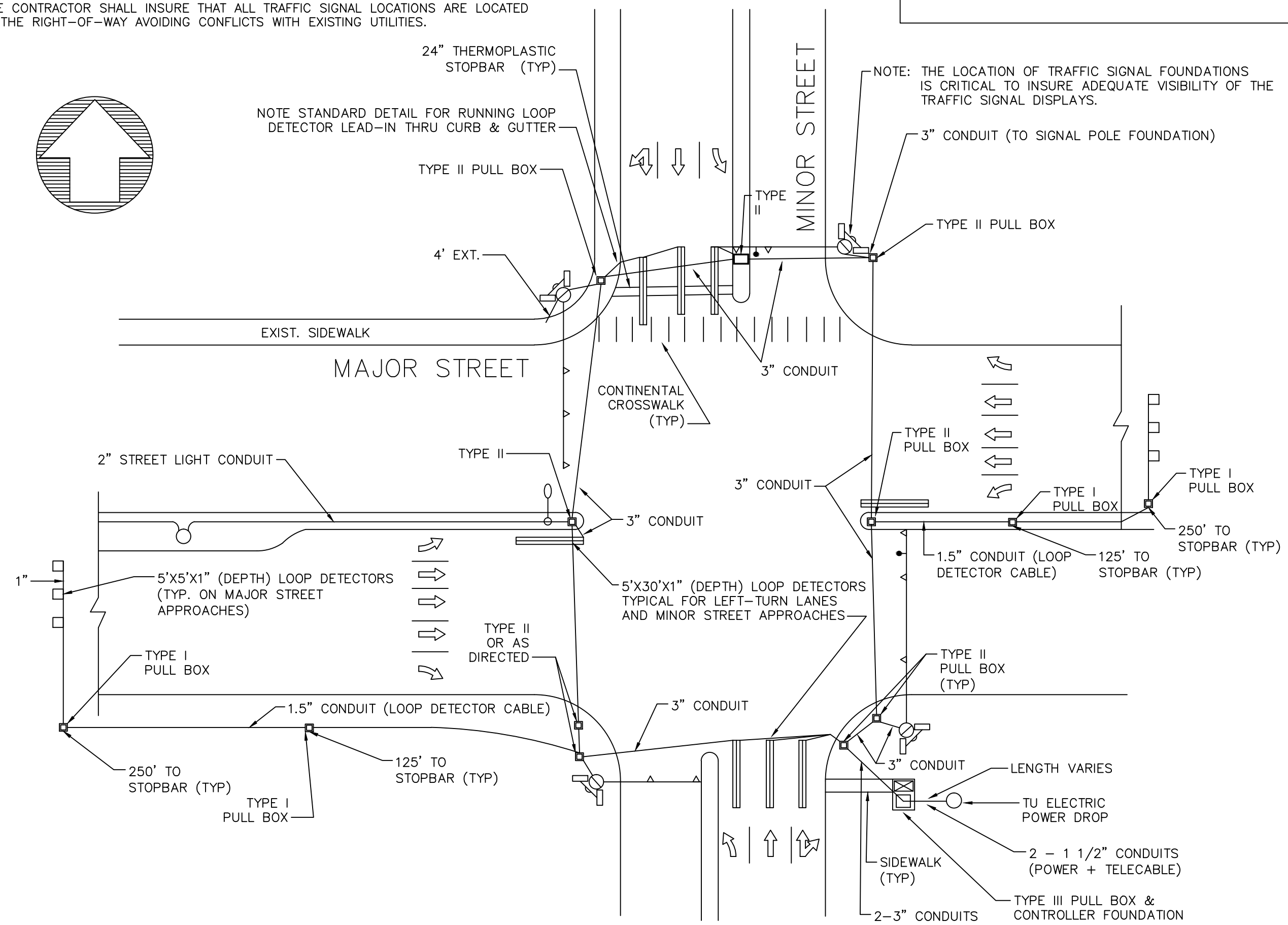
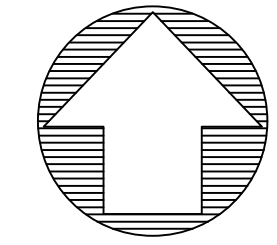


- NOTES:
- PULL BOXES SHALL BE POLYMER CONCRETE REINF. BY HEAVY WEAVE FIBERGLASS AND RATED FOR A MIN. LOAD OF 8,000 LBS. OVER A 10"x10" AREA.
 - TYPE III PULL BOXES SHALL BE USED FOR CONTROLLER FOUNDATIONS. ALL OTHER TYPES ARE SHOWN ON THE PLANS.
 - EXTERIOR DIMENSIONS FOR PULL BOXES ARE AS FOLLOWS:

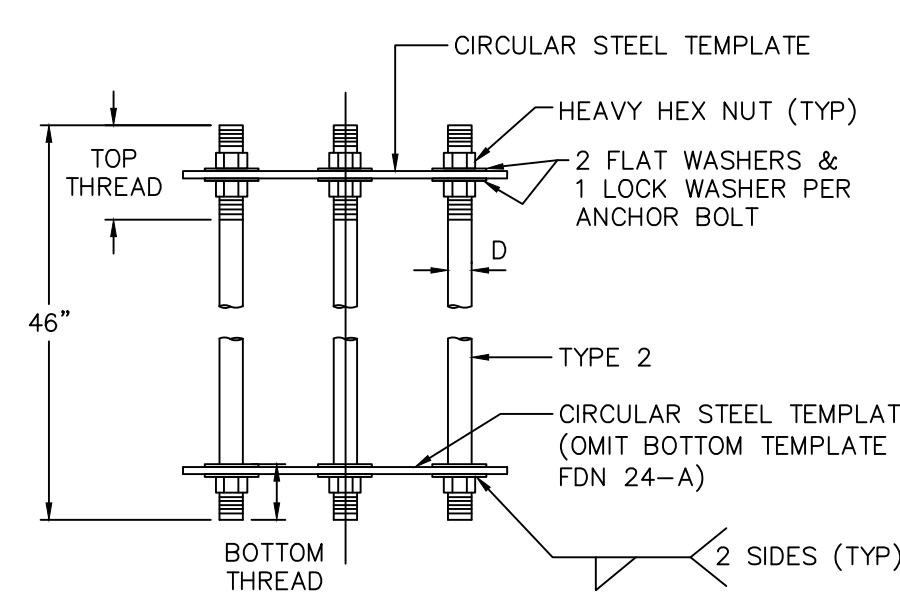
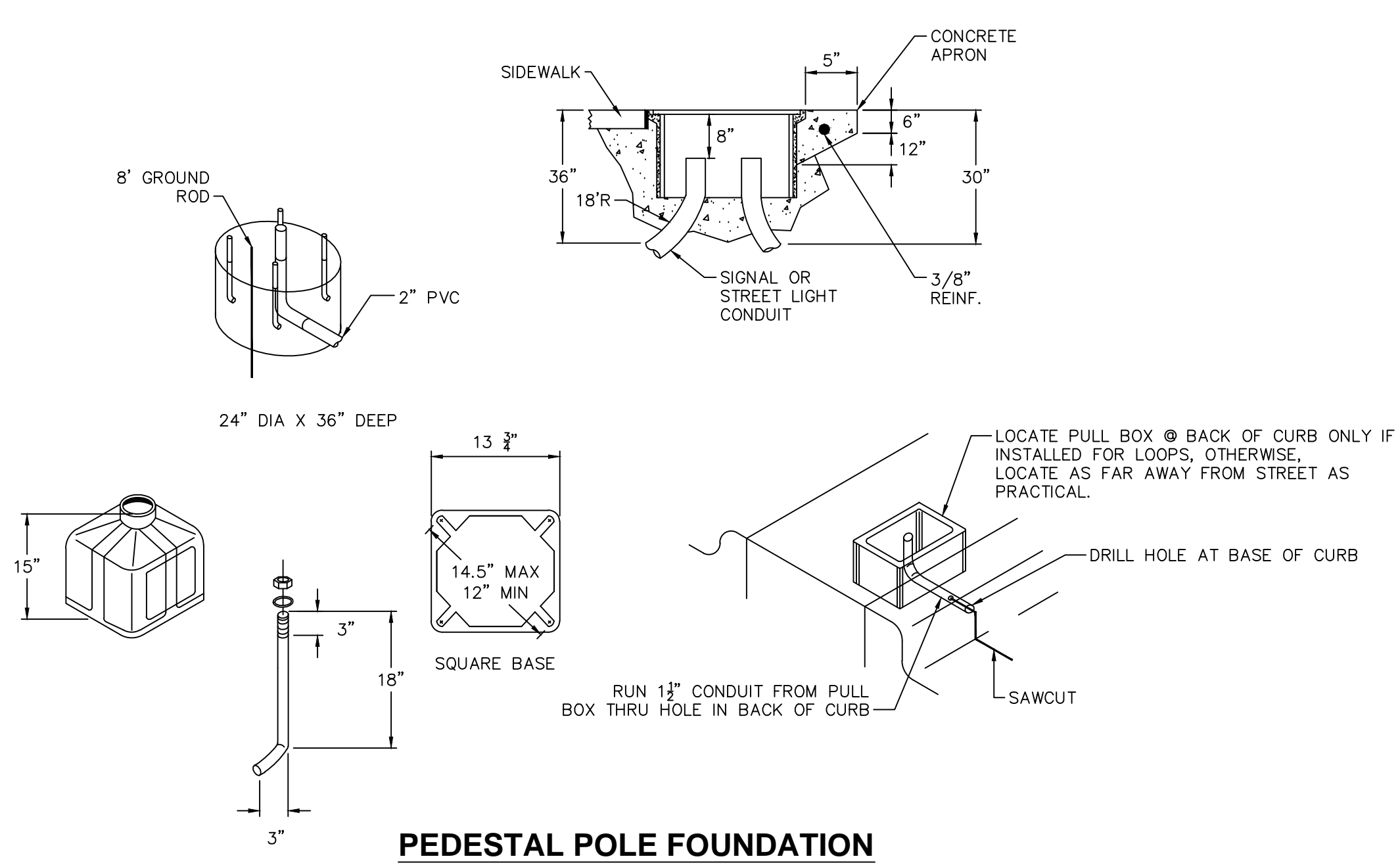
WIDTH:	HEIGHT:	LENGTH:
I. 14"	12 1/2"	14"
II. 16 1/2"	12"	27 1/2"
III. 20 3/8"	12"	33 3/8"
 - ALL PULL BOXES SHALL BE SUPPORTED WITH CONCRETE BRICK IN EACH CORNER.
 - ALL PULL BOXES SHALL HAVE THE LOGO "TRAFFIC SIGNAL OR STREET LIGHTING" AS REQUIRED.
 - ALL PULL BOXES NOT IN SIDEWALK OR MEDIAN PAVING SHALL HAVE A 5" APRON.



NOTE: THE CONTRACTOR SHALL NOTIFY THE CITY OF RICHARDSON AT 972-744-4460 AT LEAST 3 DAYS PRIOR TO SIGNAL CONSTRUCTION AFTER UTILITY LOCATES ARE SECURE. THE CITY SHALL APPROVE LOCATIONS FOR TRAFFIC SIGNAL FOUNDATIONS AND PULL BOXES. THE CONTRACTOR SHALL INSURE THAT ALL TRAFFIC SIGNAL LOCATIONS ARE LOCATED IN THE RIGHT-OF-WAY AVOIDING CONFLICTS WITH EXISTING UTILITIES.



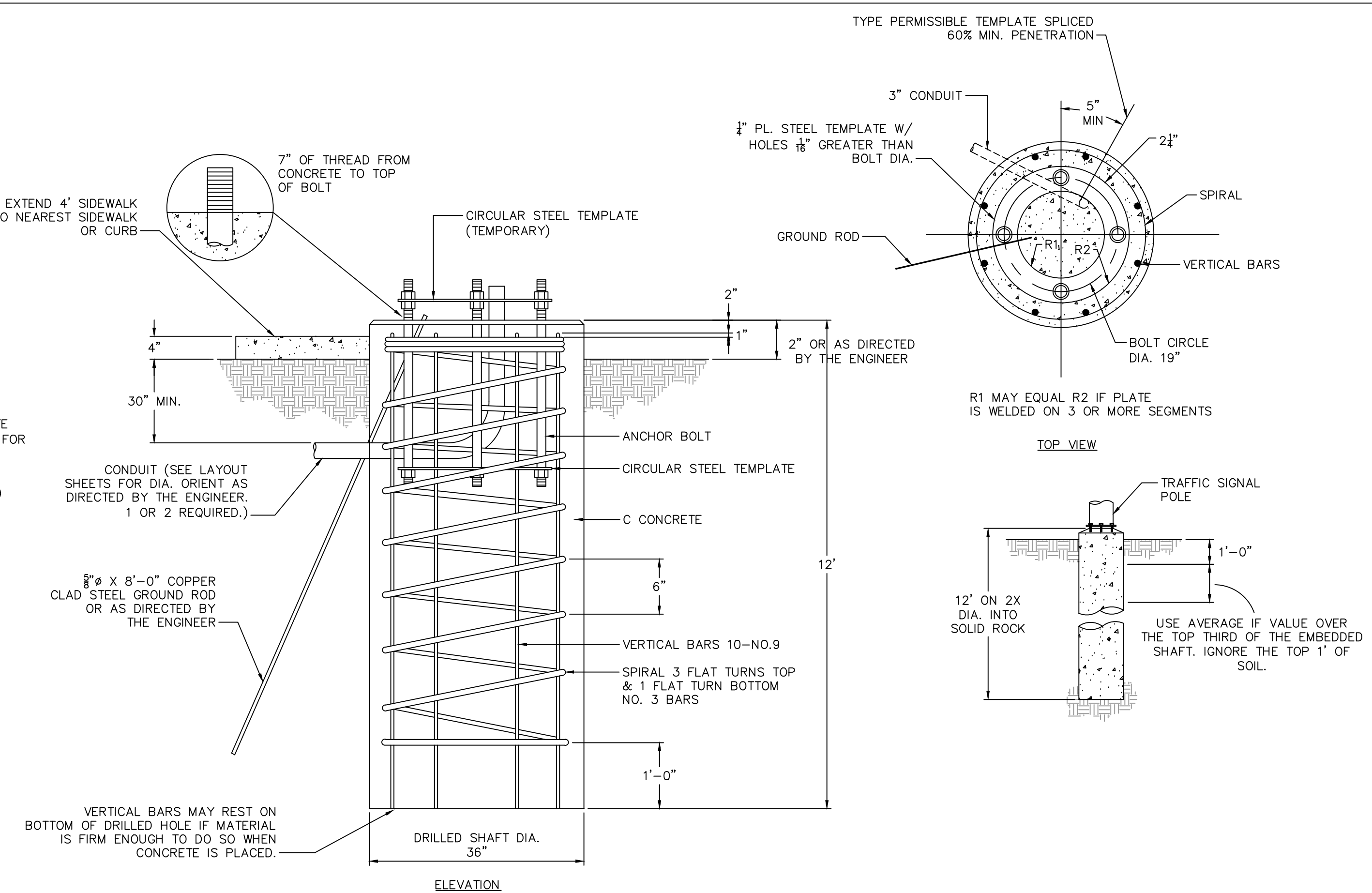
TYPICAL DETAILS FOR TRAFFIC SIGNAL CONSTRUCTION



NUT ANCHOR (TYPE 2)

INSTALLATION PROCEDURE:

THREADS OF ANCHOR BOLTS SHALL BE COATED WITH PIPE JOINT COMPOUND OR TAPE PRIOR TO INSTALLATION OF CONCRETE. ANY EXCESS CONCRETE ON THREADS SHALL BE REMOVED.



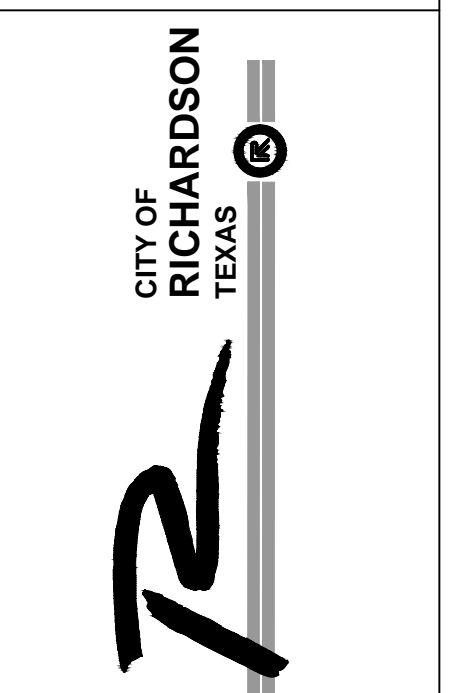
SIGNAL FOUNDATION DETAIL

- ANCHOR BOLTS SHALL BE INSTALLED SO
- BOLTS ARE IN TENSION AND 2 BOLTS ARE IN COMPRESSION FROM THE MAST ARM.

Revisions:

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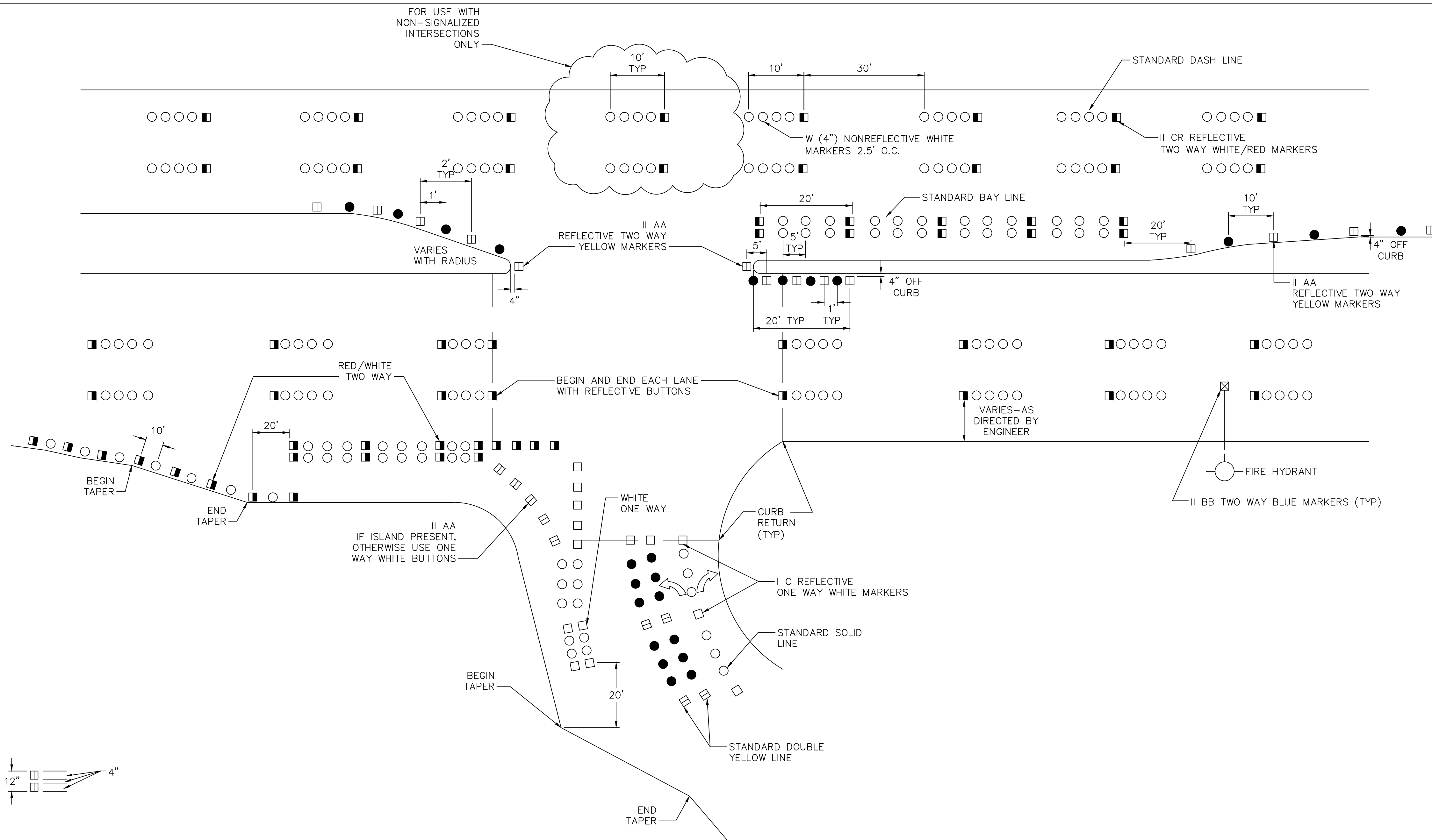


STANDARD DETAILS
City of Richardson, Texas

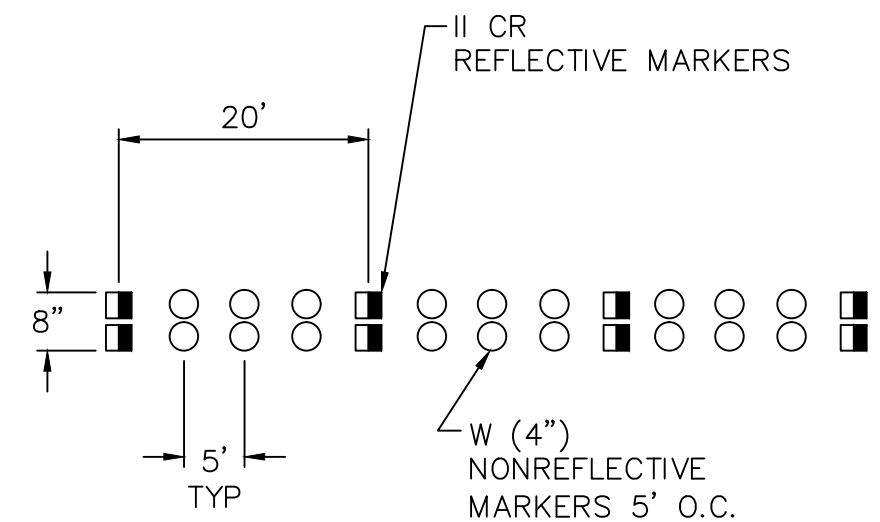
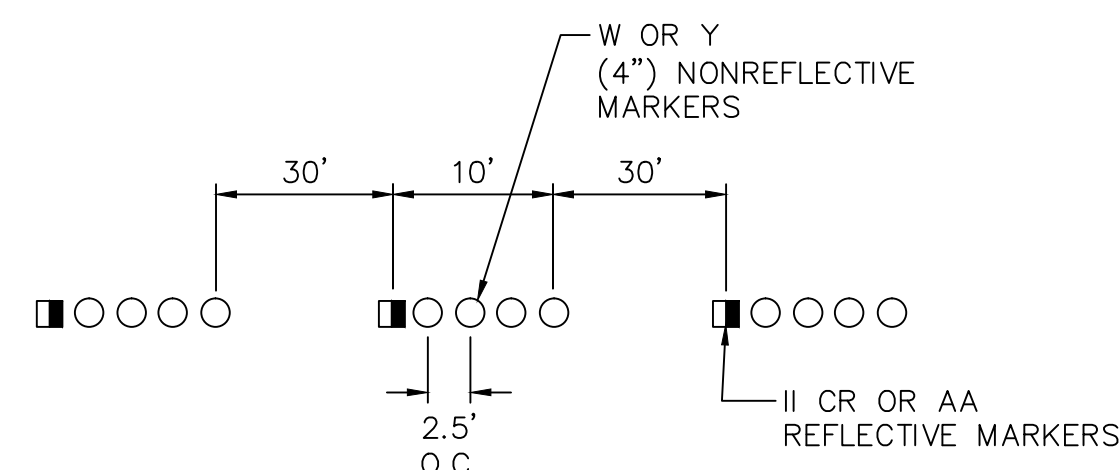
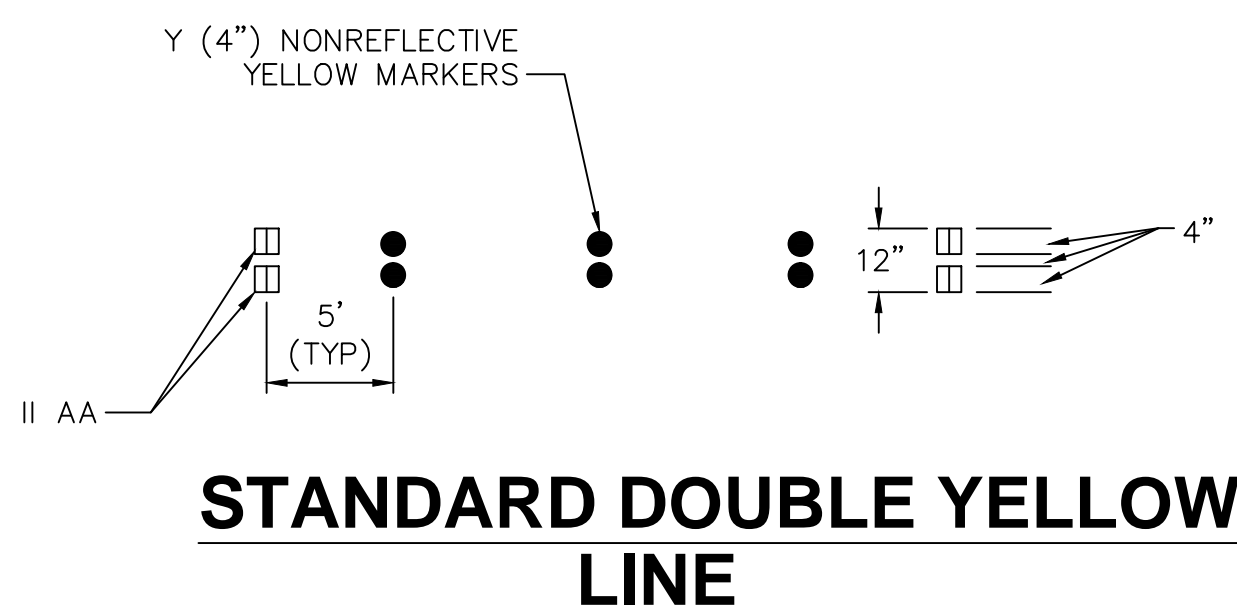
NO ADDITIONS OR CHANGES TO STANDARD DETAIL SHEETS UNLESS APPROVED BY CITY OF RICHARDSON

24"x36" Scale: NTS
11"x17" Scale: NTS
Vertical Scale: NA
Project Number: XXX
Issue Date: 01 MAY 14
Sheet Title: TRAFFIC
Sheet No.:

T-2



**CITY OF RICHARDSON
RAISED MARKINGS STANDARD DETAIL**

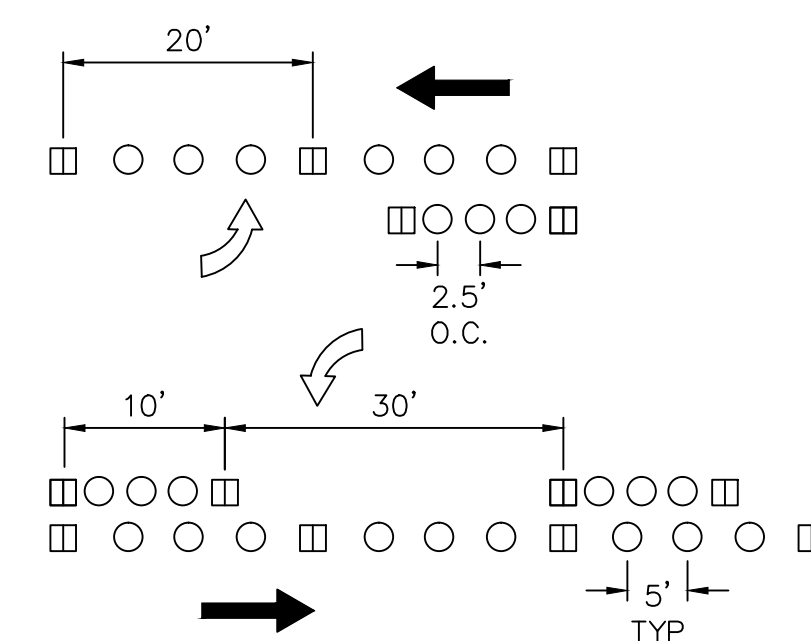
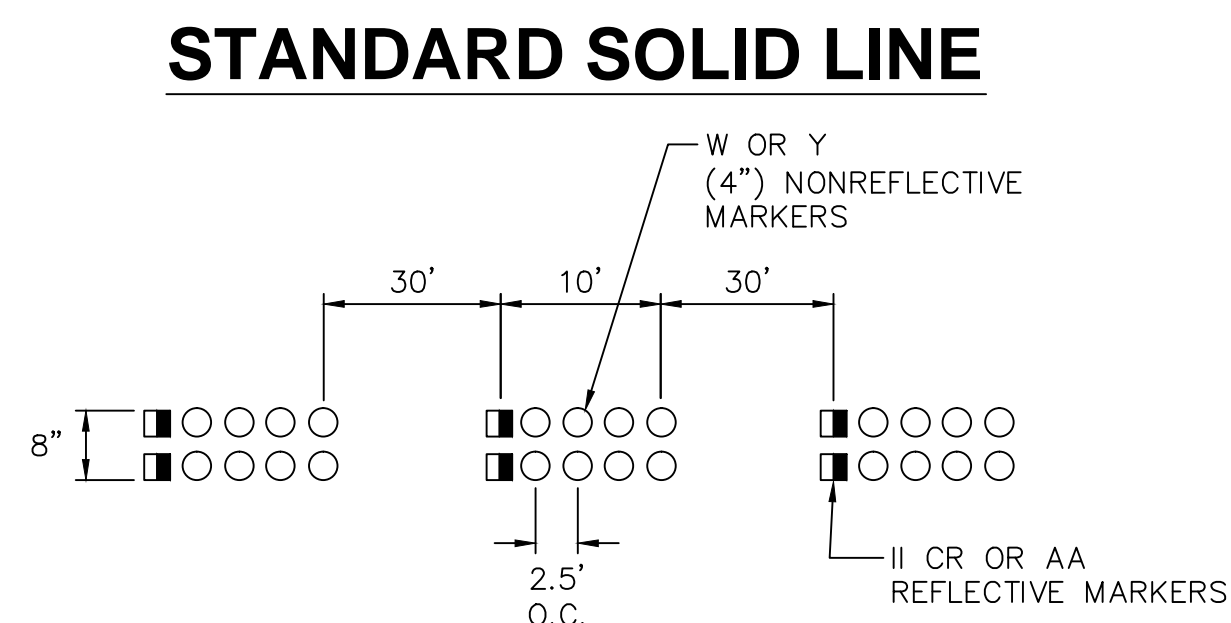
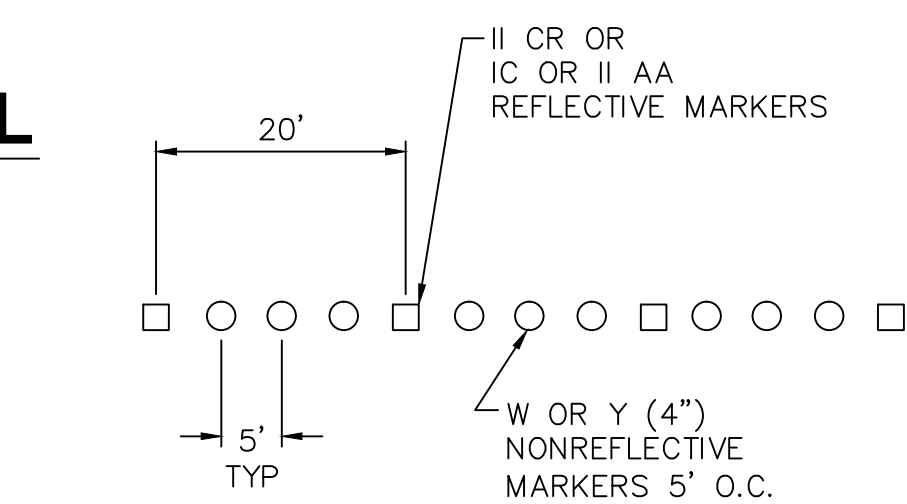


LEGEND

- II CR (4" SQUARE) TWO WAY REFLECTIVE RED/WHITE MARKER
- II AA (4" SQUARE) TWO WAY REFLECTIVE YELLOW MARKER
- ⊠ II BB (4" SQUARE) TWO WAY REFLECTIVE BLUE MARKER
- I C (4" SQUARE) ONE WAY REFLECTIVE WHITE MARKER
- W (4" ROUND) NON REFLECTIVE WHITE MARKER
- Y (4" ROUND) NON REFLECTIVE YELLOW MARKER

C.O.R. WILL PROVIDE INITIAL DETAIL ASSISTANCE IN PAVING MARKING LAYOUT (AS REQUIRED)

MATERIALS AS PER COR SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.



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**STANDARD
DETAILS**
City of Richardson, Texas

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Project Number: XXX

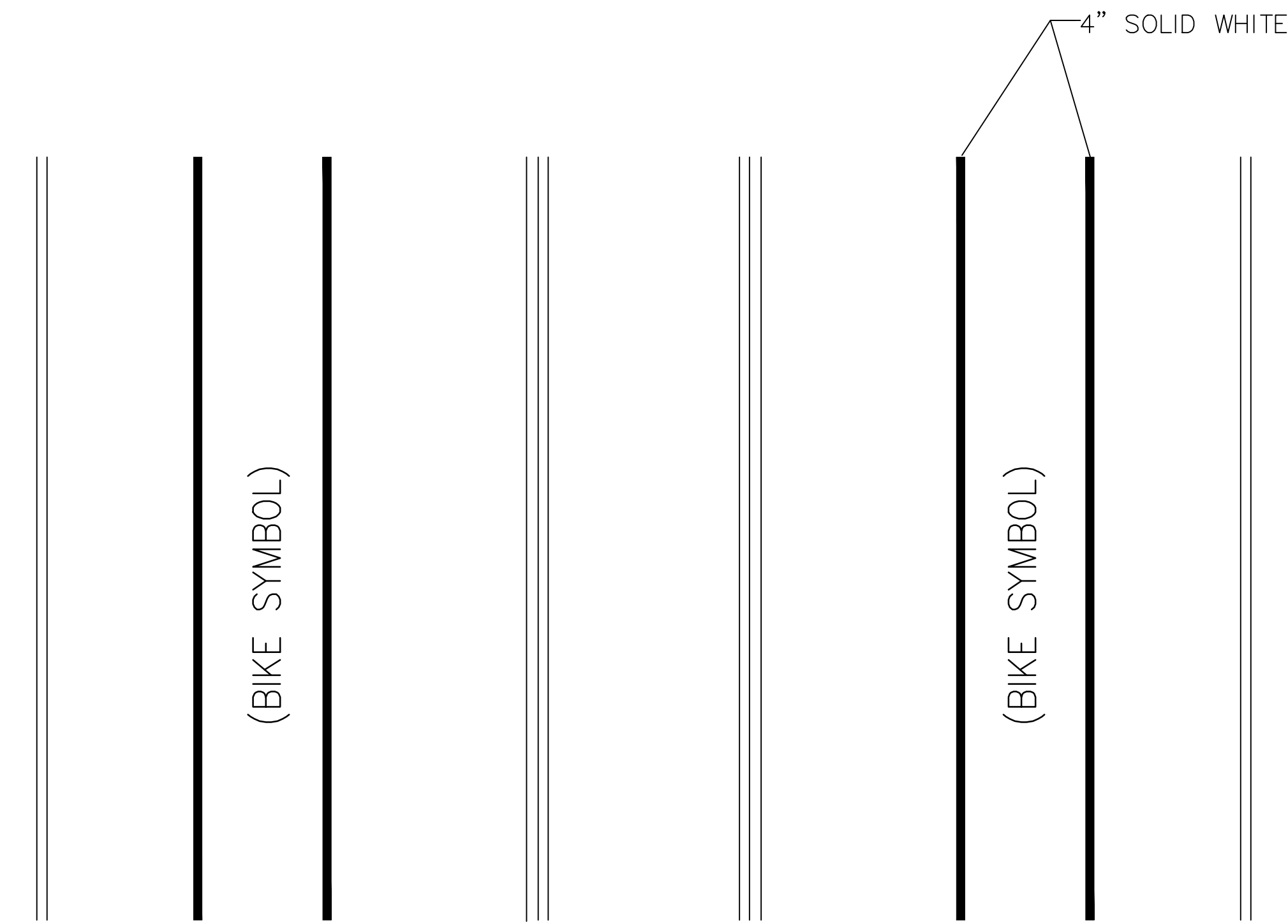
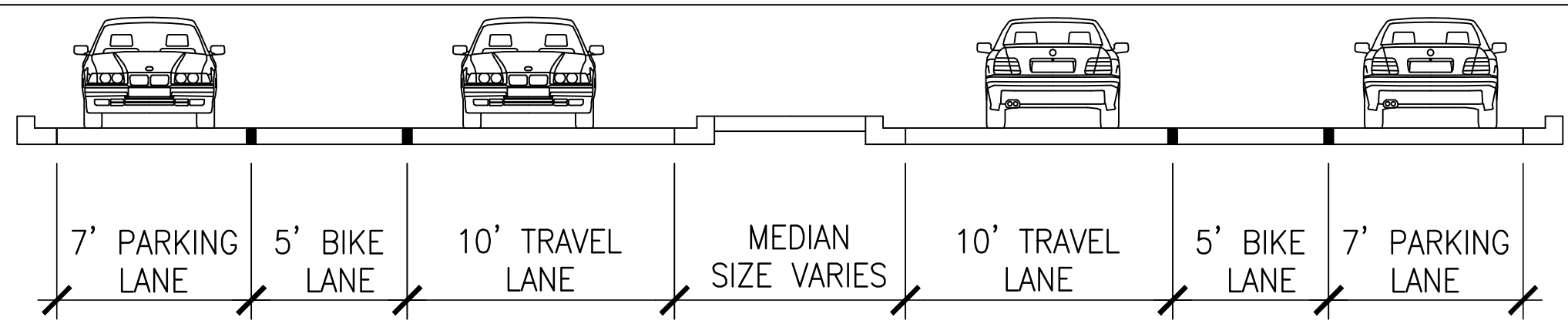
Issue Date: 10 JUL 14

Sheet Title:

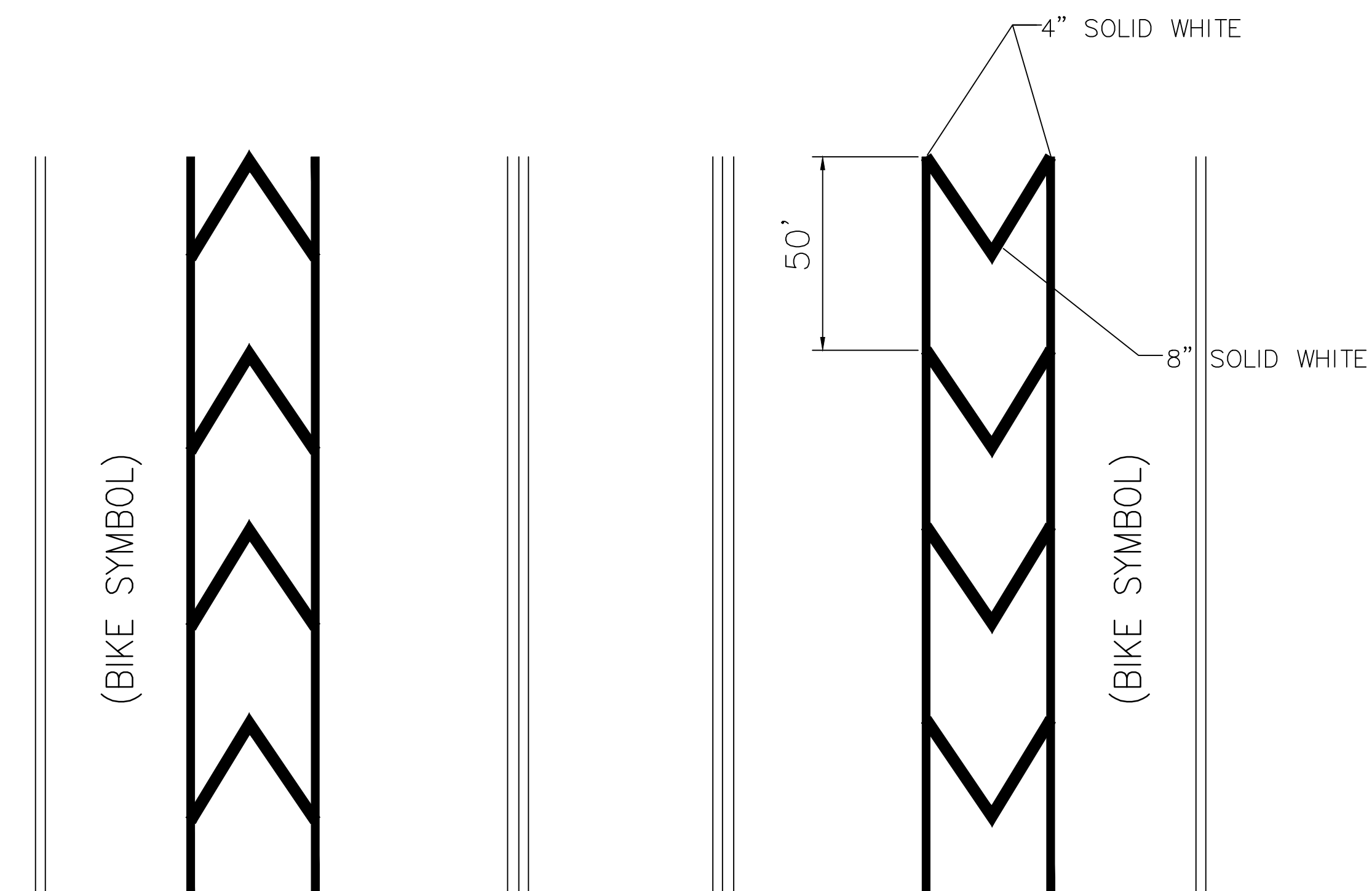
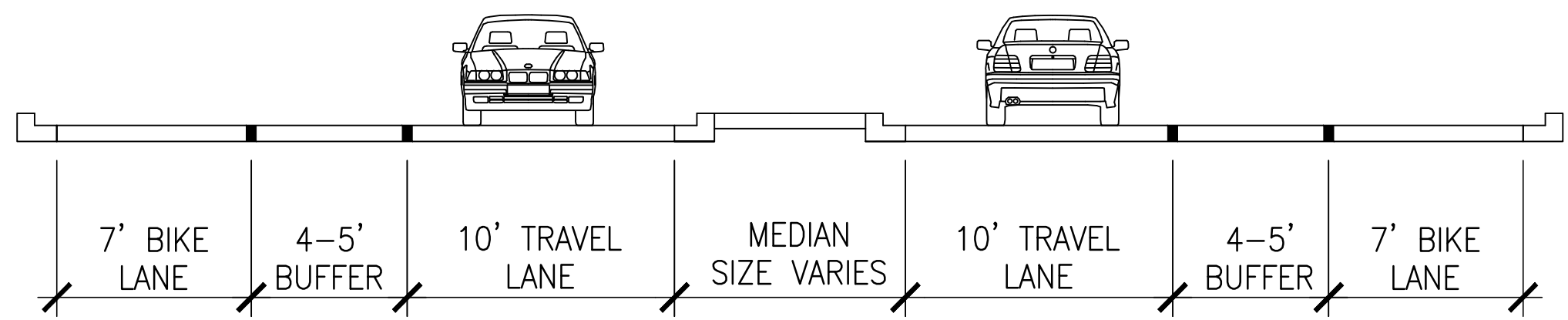
TRAFFIC

Sheet No.:

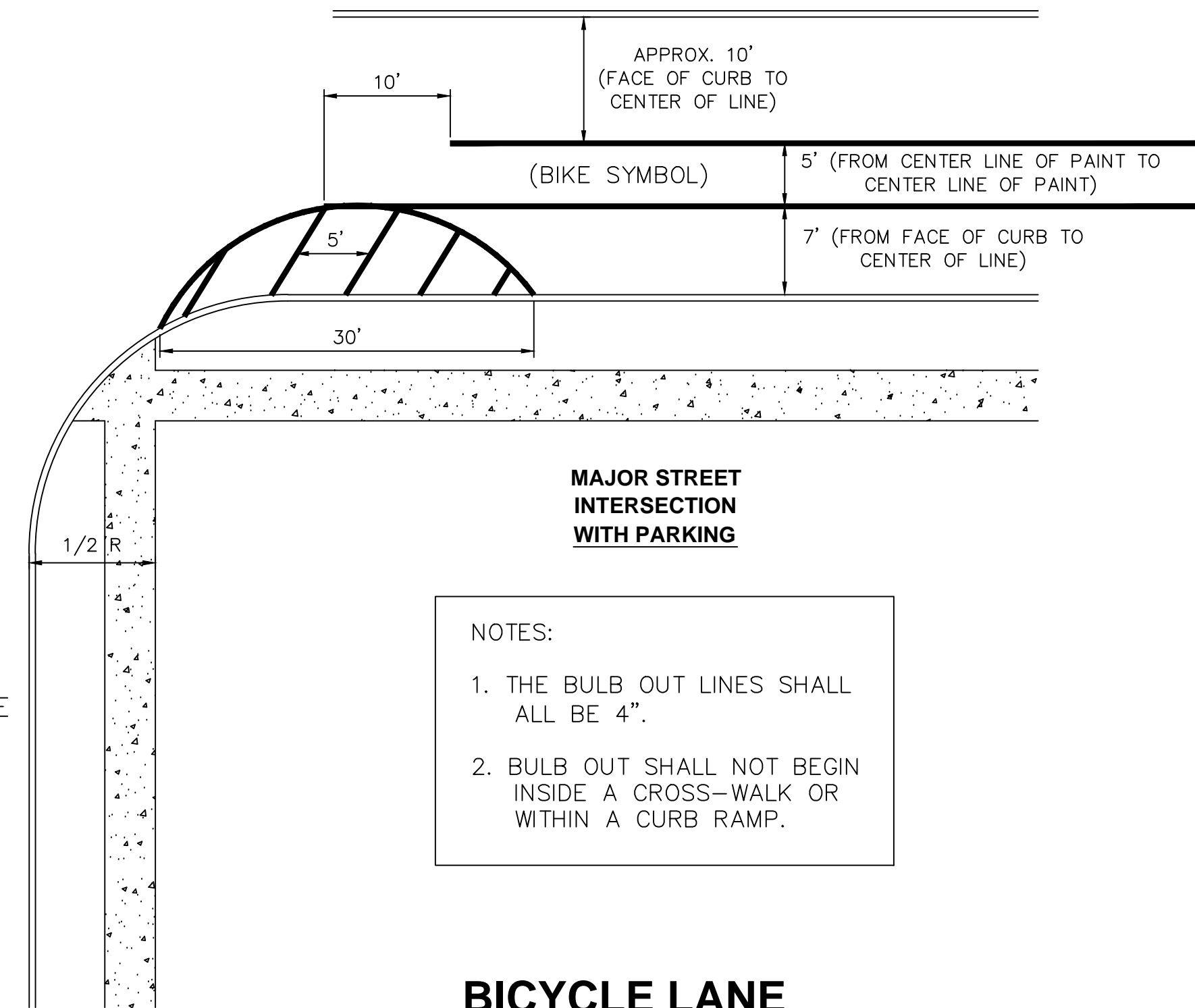
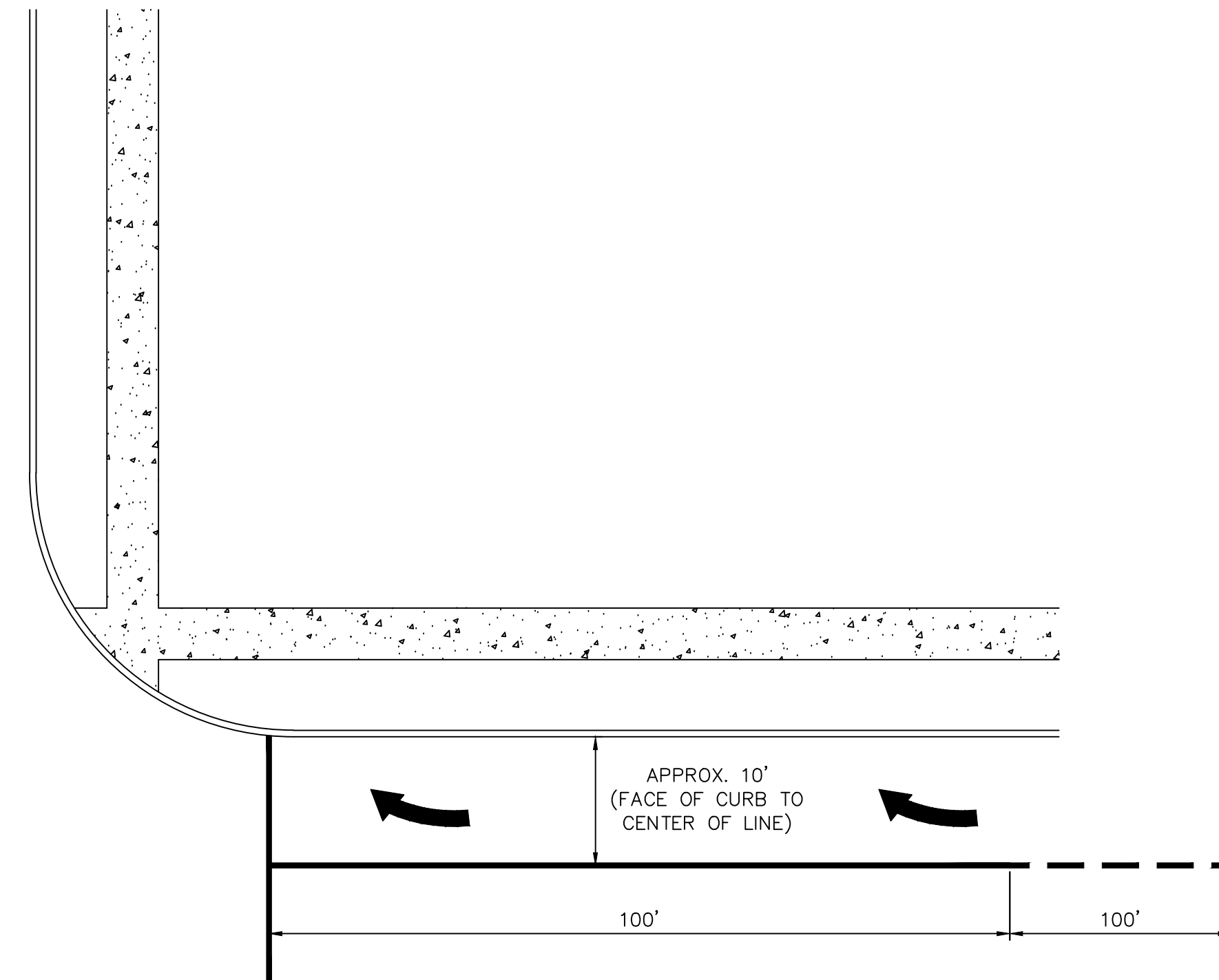
T-3



WITH PARKING



WITHOUT PARKING



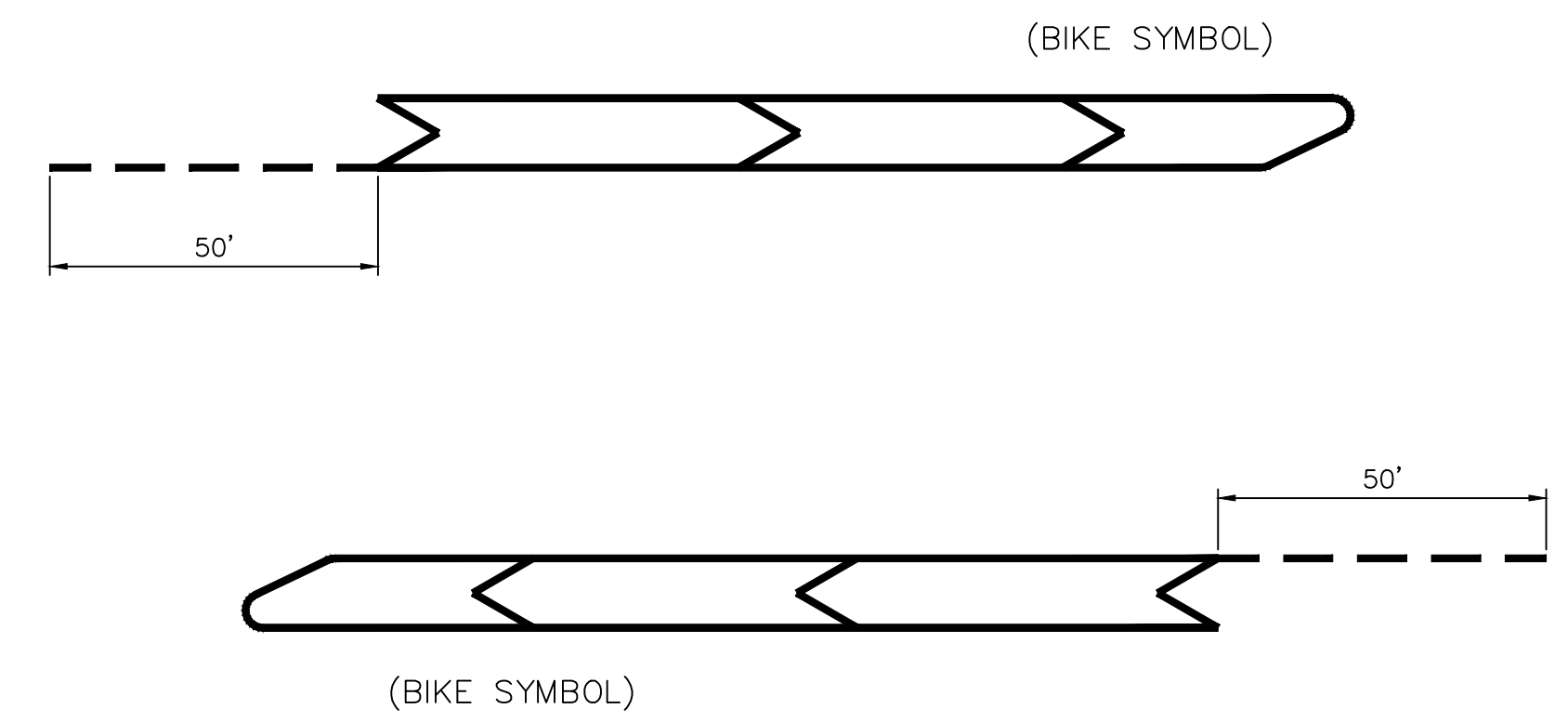
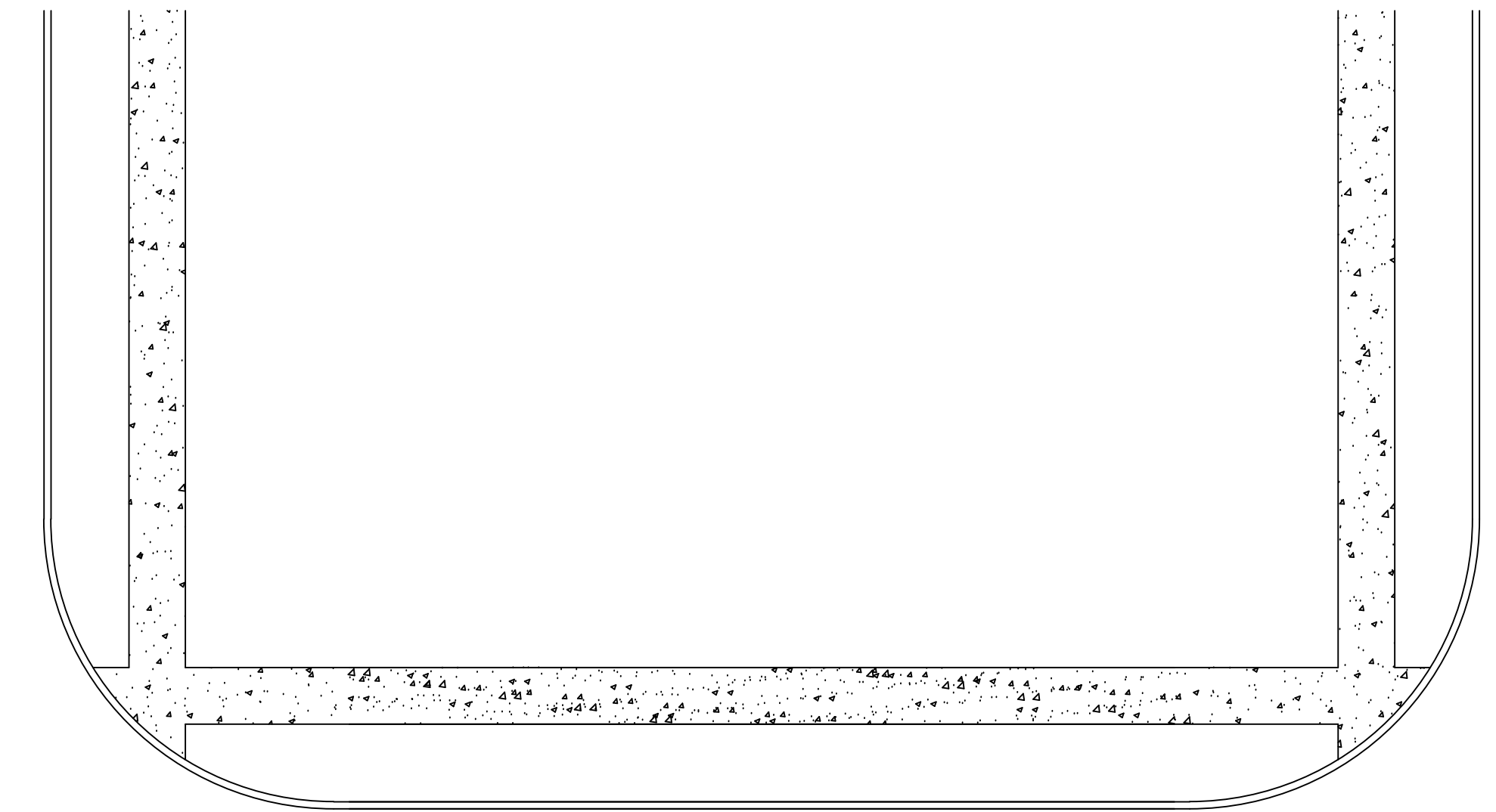
MAJOR STREET INTERSECTION WITH PARKING

NOTES:

1. THE BULB OUT LINES SHALL ALL BE 4".
2. BULB OUT SHALL NOT BEGIN INSIDE A CROSS-WALK OR WITHIN A CURB RAMP.

BICYCLE LANE DETAIL (TYP) SURFACE MARKINGS

MATERIALS AS PER COR SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.



MINOR STREET INTERSECTION WITHOUT PARKING

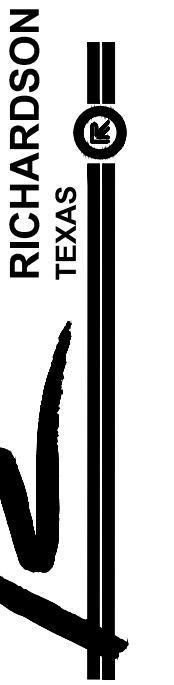
BICYCLE LANE DETAIL (TYP) SURFACE MARKINGS

MATERIALS AS PER COR SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

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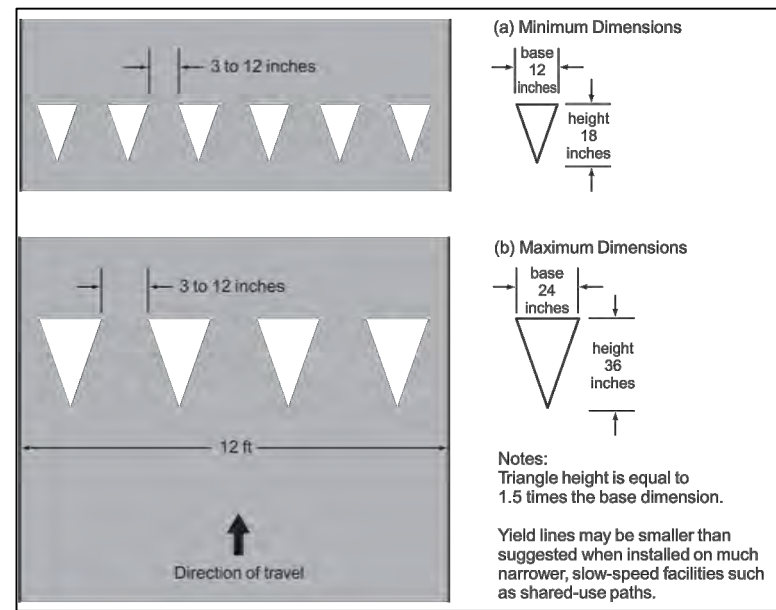
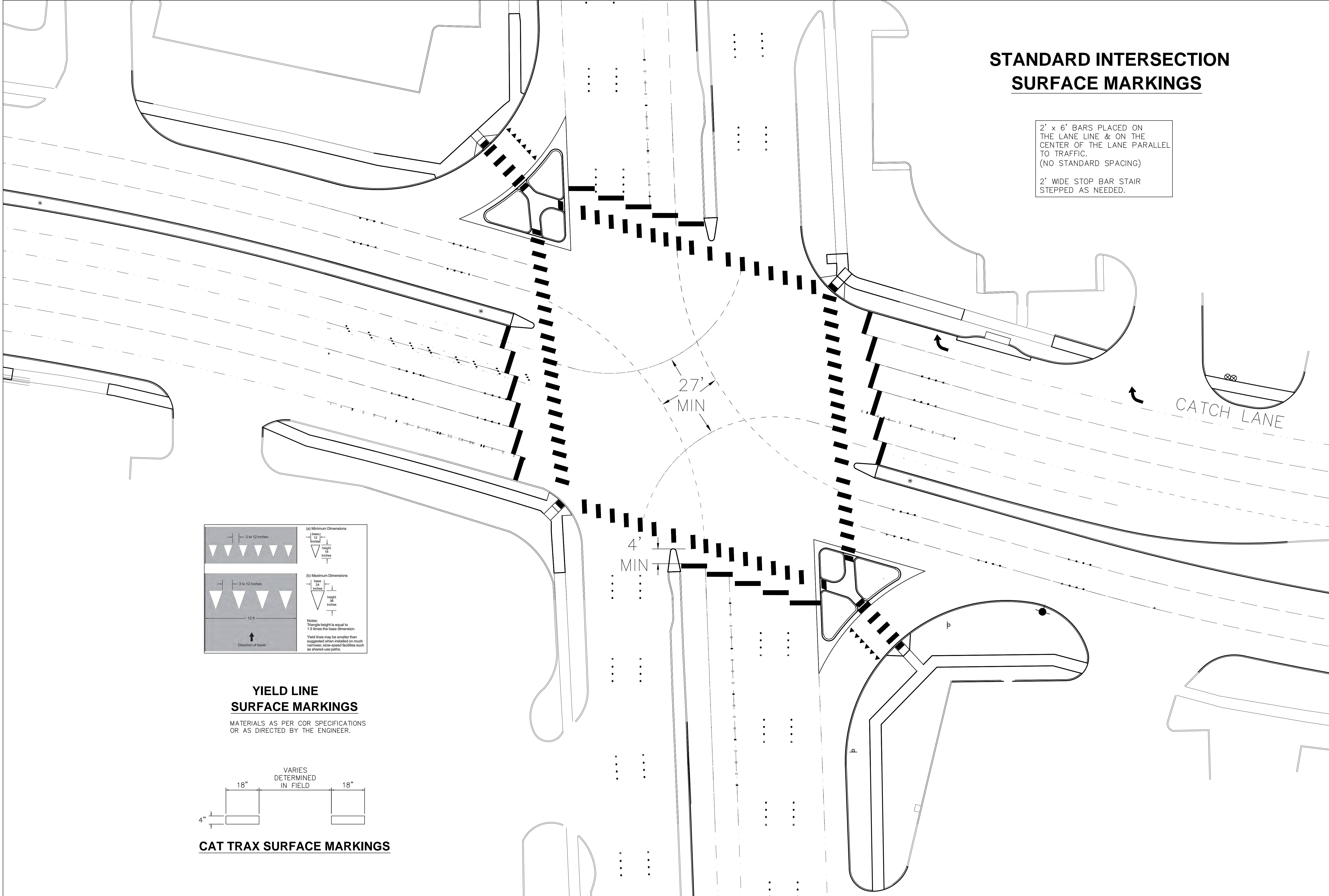
Sheet No.:

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STANDARD INTERSECTION SURFACE MARKINGS

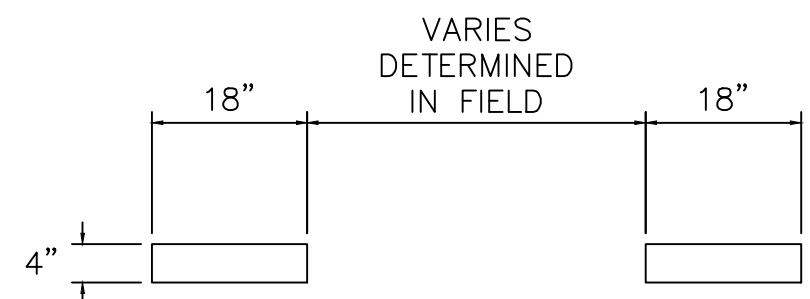
2' x 6' BARS PLACED ON THE LANE LINE & ON THE CENTER OF THE LANE PARALLEL TO TRAFFIC.
(NO STANDARD SPACING)

2' WIDE STOP BAR STAIR STEPPED AS NEEDED.



YIELD LINE SURFACE MARKINGS

MATERIALS AS PER COR SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

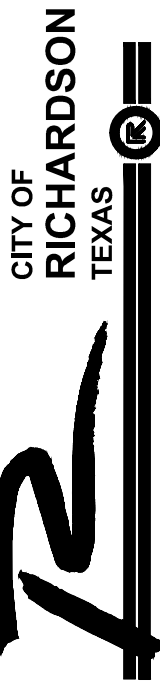


CAT TRAX SURFACE MARKINGS

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City of Richardson, Texas

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Project Number: XXX

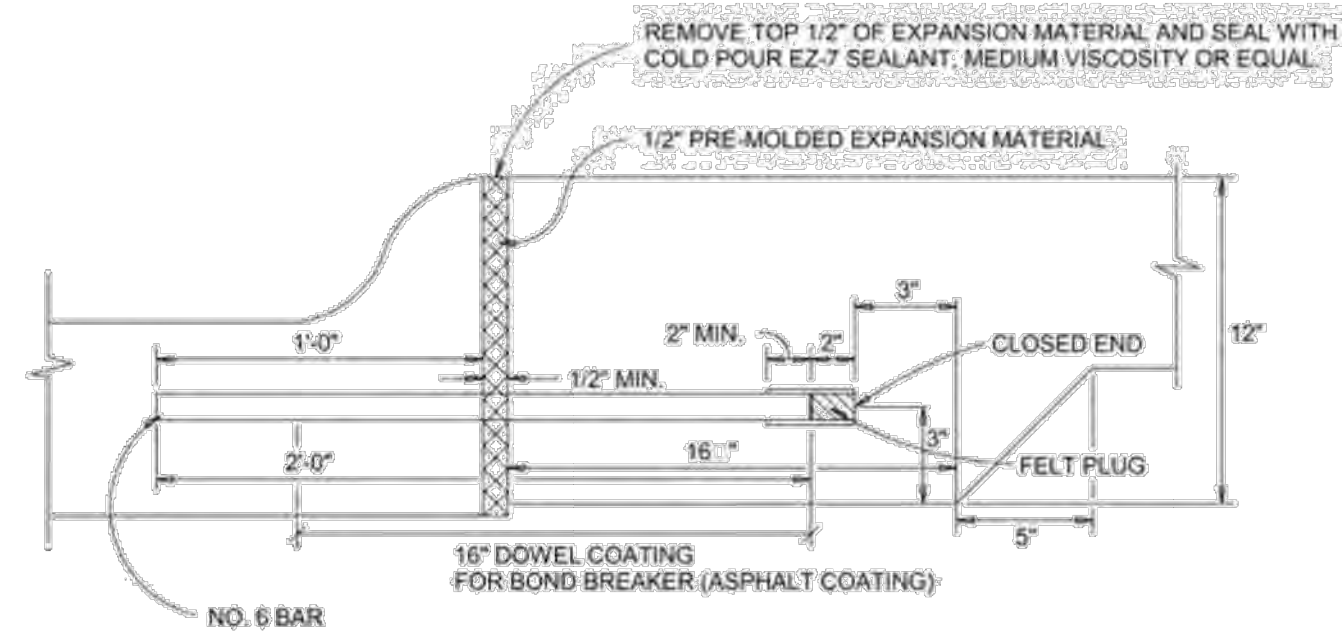
Issue Date: 10 JUL 14

Sheet Title:

TRAFFIC

Sheet No.:

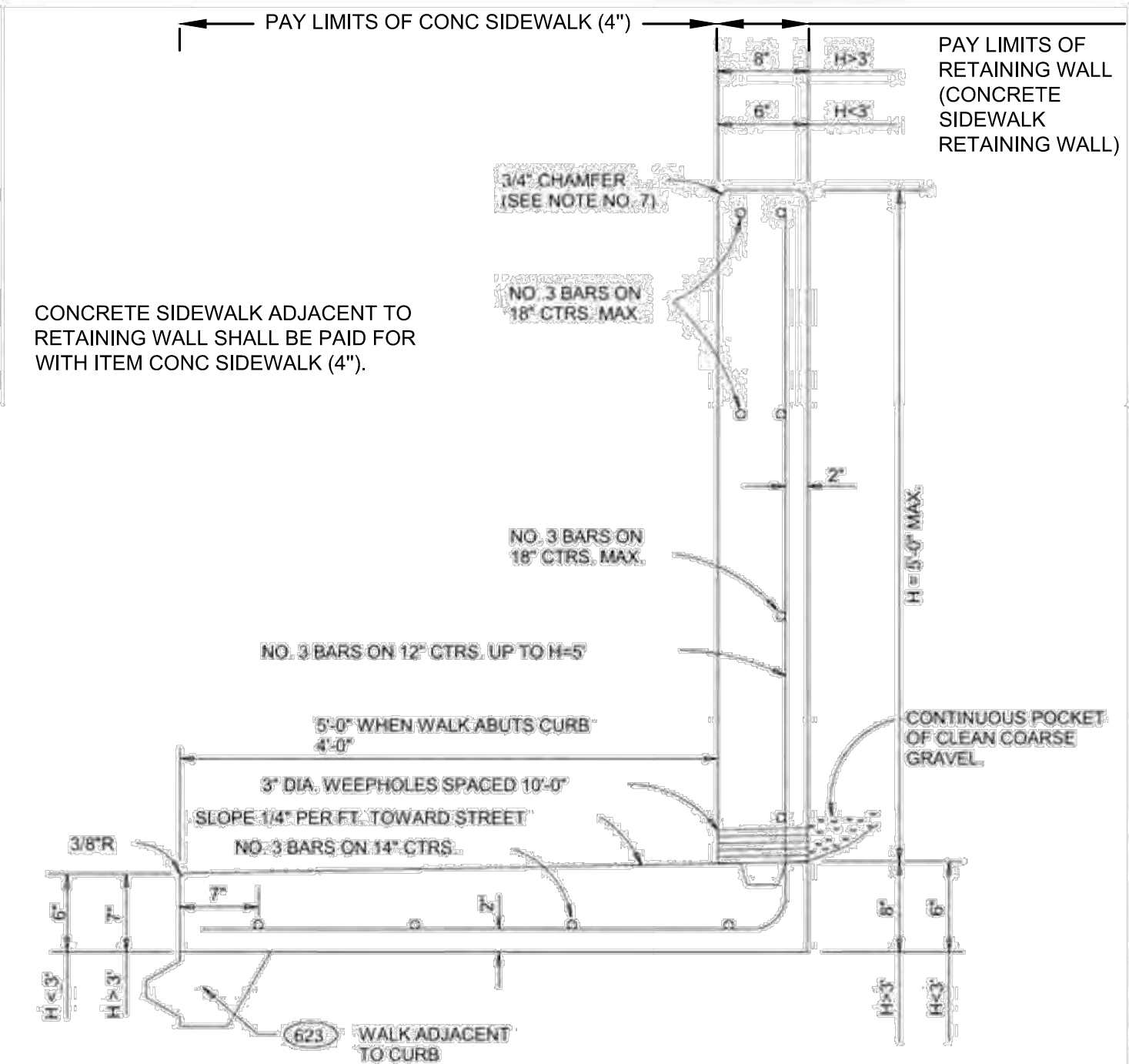
T-5



EXPANSION JOINT DETAIL AGAINST CURB

(FOR WALLS OVER 5 FEET IN HEIGHT WITH FOOTING ABUTTING BACK OF CURB.)

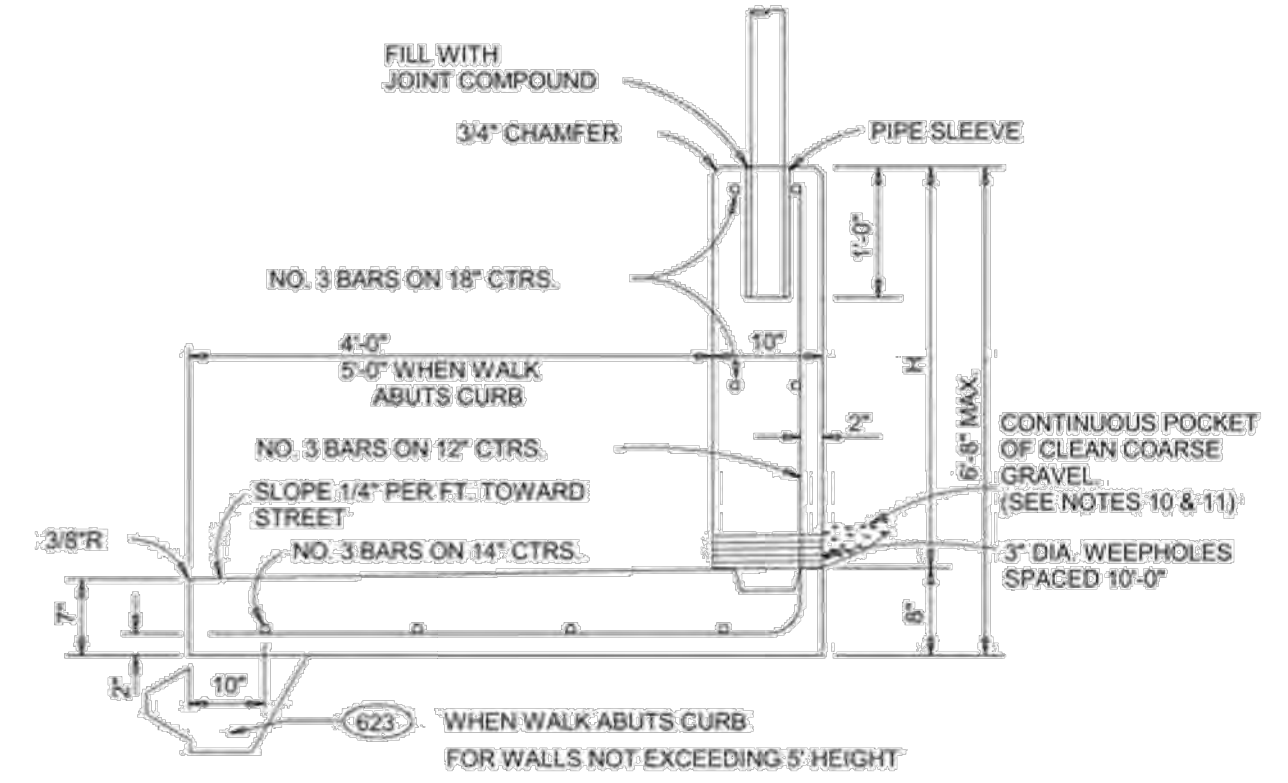
1. DOWELS SHALL BE COATED WITH BOND BREAKER ON WALL FOOTING SIDE AS SHOWN.
2. SPACING SHALL BE 12" ON CENTER, NO. 6 DOWEL BARS.
3. THE SLEEVE FOR DOWEL SHALL HAVE AN INSIDE DIAMETER OF 7/8" AND BE OF A QUALITY AND DESIGN TO PROVIDE FREE MOVEMENT OF THE DOWEL.
4. ENTIRE DOWEL AND SLEEVE ASSEMBLY WITH JOINT FILLER MATERIAL SHALL BE SECURED IN POSITION PARALLEL WITH THE FOOTING SURFACE BY A METHOD APPROVED BY THE ENGINEER PRIOR TO POURING OPERATION.



TYPE 6 RETAINING WALL

COMBINATION CANTILEVER & WALK

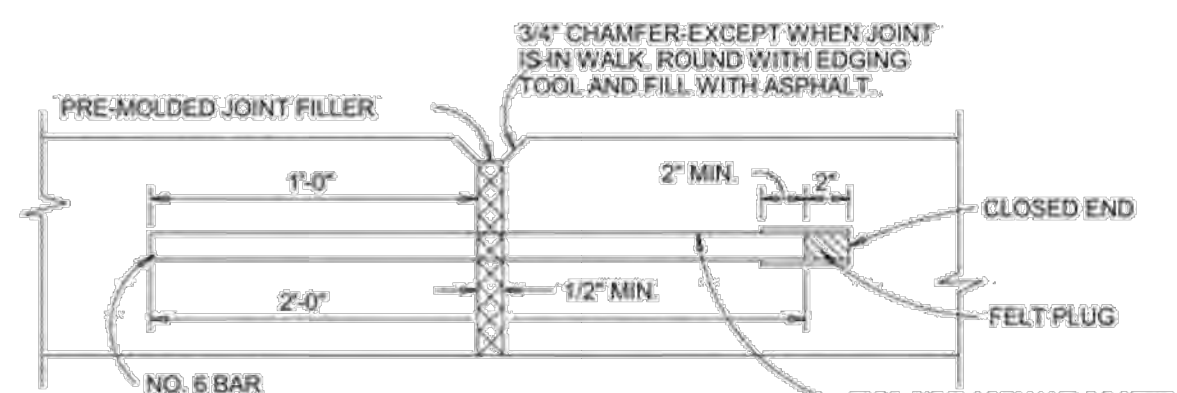
WALL GREATER THAN H=5'-0" REQUIRES SPECIAL ENGINEERING ANALYSIS



TYPE 7 RETAINING WALL

COMBINATION CANTILEVER & WALK WITH FENCE

FENCE TO BE A SEPARATE PAY ITEM

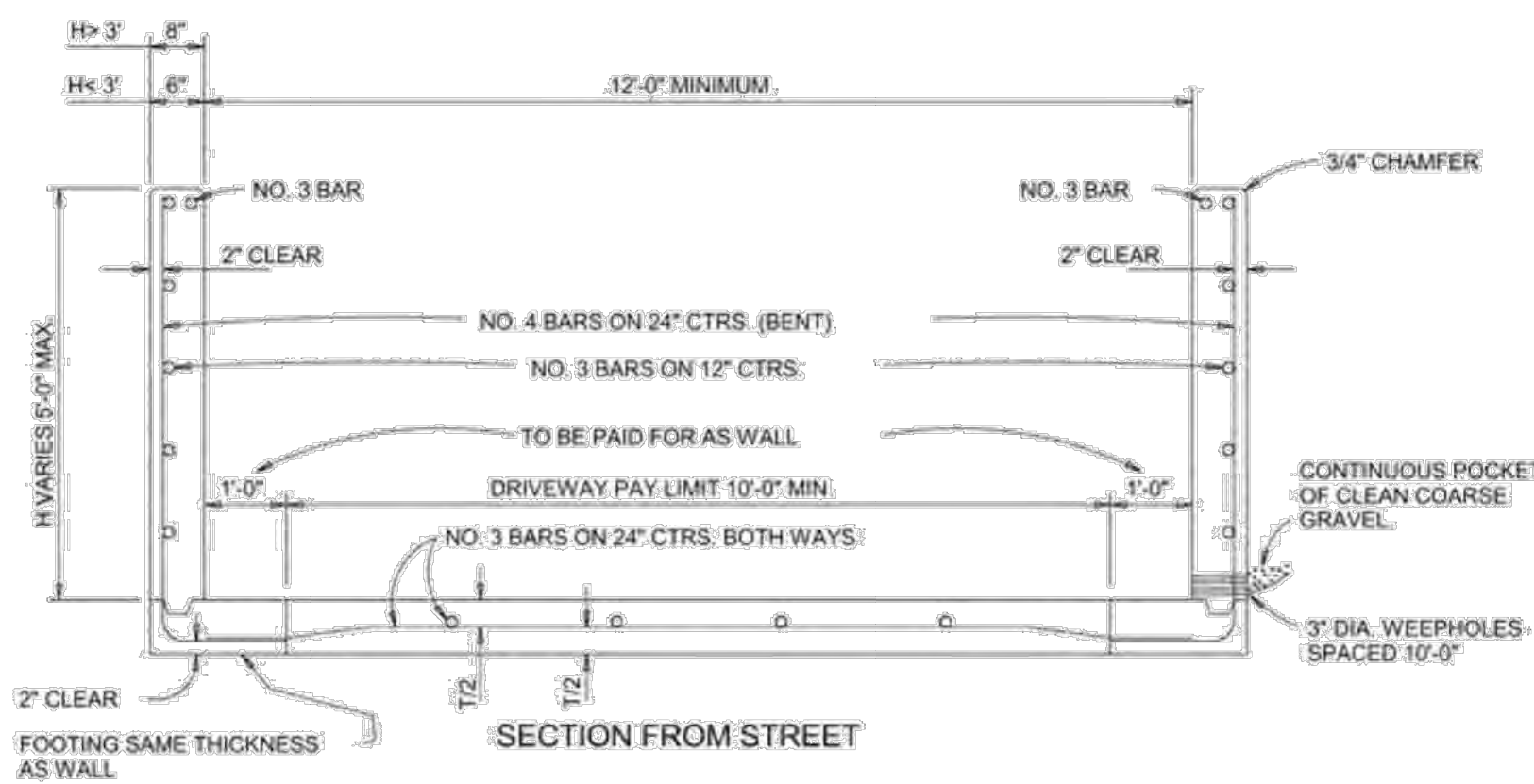


EXPANSION JOINT DETAIL IN WALL

THE DOWELS SHALL BE SPACED 1'-0" MAXIMUM BEGINNING 1'-0" ABOVE FOOTING. A MINIMUM OF 2 DOWELS TO BE USED IN EACH JOINT. THE SLEEVE FOR DOWEL SHALL HAVE AN INSIDE DIAMETER OF 7/8" AND BE OF A QUALITY AND DESIGN TO PROVIDE FREE MOVEMENT OF THE DOWEL. THE ENTIRE DOWEL AND SLEEVE ASSEMBLY SHALL BE SECURED IN POSITION PRIOR TO POURING OPERATIONS.

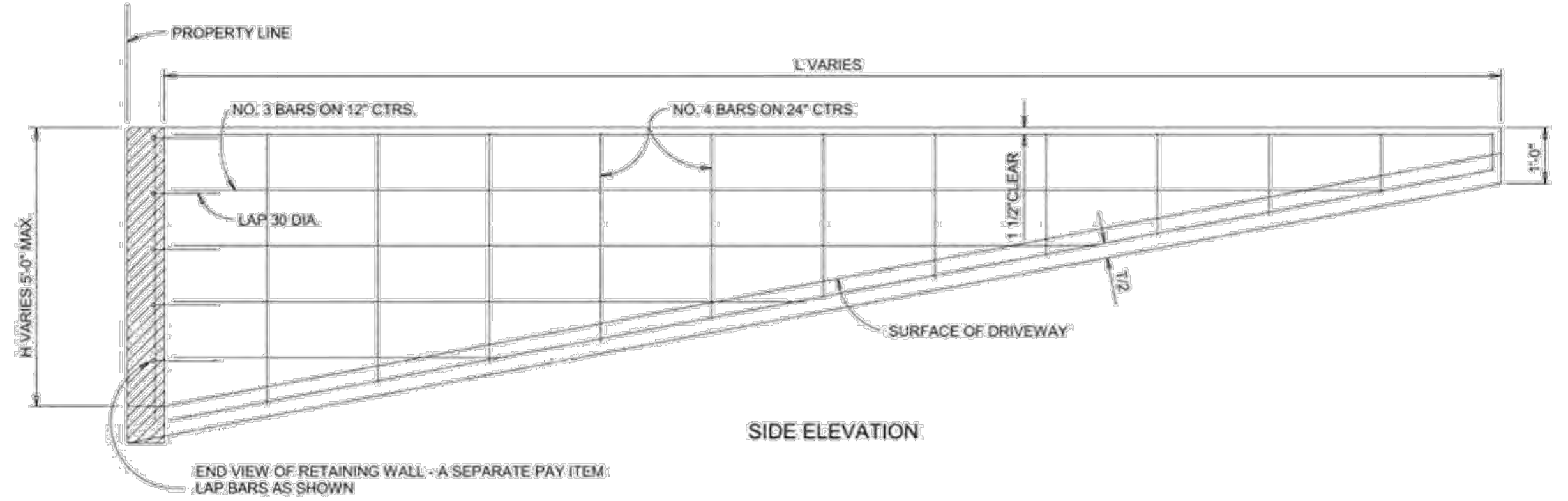
THE EXPANSION JOINT SHALL EXTEND THROUGHOUT THE STEM AND WALK SECTION IN CONTINUOUS VERTICAL PLANE. ALL OTHER DETAILS TO BE AS ABOVE.

SPACING OF JOINTS SHALL BE 45' MAXIMUM FOR TYPES 6 THRU 8.



TYPE 8 RETAINING WALL

FOR DRIVEWAY THROUGH PROPERTY LINE RETAINING WALL

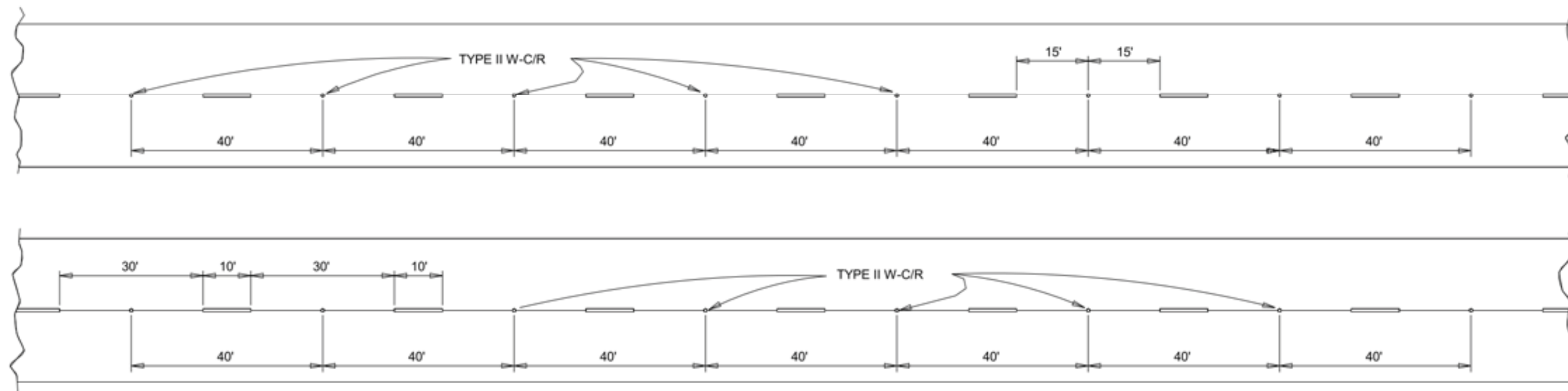


SIDE ELEVATION

GENERAL NOTES FOR RETAINING WALLS, ALL TYPES (U.N.O.):

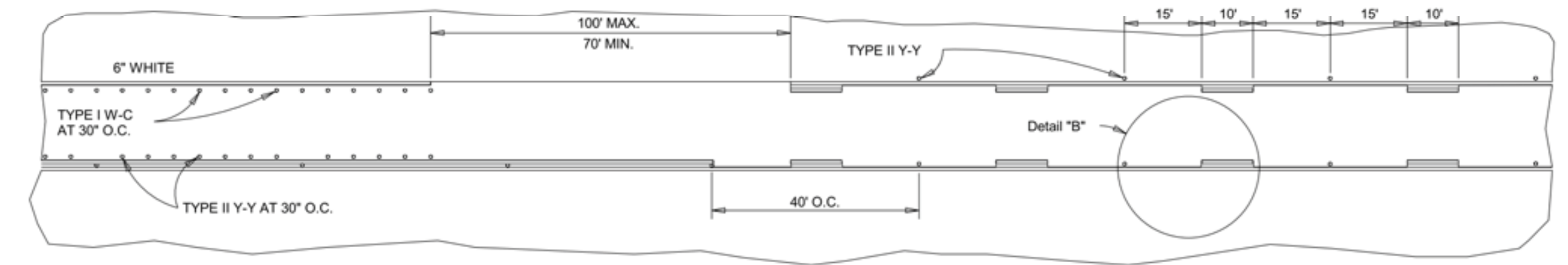
1. RETAINING WALLS SHALL BE BUILT WITH PERFORATED DRAIN SYSTEM INSTEAD OF WEEP HOLES WHENEVER FEASIBLE.
2. BARS SHALL CONFORM TO ITEM 2.2.6 OF NCTOOG SPECIFICATIONS.
3. BAR LAPS SHALL BE 30 DIAMETERS.
4. ALL EXPOSED SURFACES EXCEPT DRIVEWAY AND WALK SHALL RECEIVE A CARBORUNDUM OR APPROVED PAINTED FINISH.
5. DRIVEWAY AND WALK SHALL RECEIVE A NON-SKID WOOD FLOAT FINISH.
6. EXPOSED EDGES AND CORNERS TO BE ROUNDED OR CHAMFERED AS INDICATED HEREIN. (CHAMFER ON BACK OF WALL MAY BE ELIMINATED TO PERMIT MOWING)
7. WEEP HOLES SHALL BE FORMED BY FIBER DUCT 3" O.D.
8. FOR WALL TYPES 6 & 7, THE WALKWAY WIDTH MAY BE INCREASED WHEN SPECIFIED ON THE PLANS, BUT SHALL NOT BE DECREASED UNLESS A SPECIAL DETAILED DESIGN IS PROVIDED IN THE PLANS AND SPECIFICATIONS.
9. WEEP HOLES OR PERFORATED DRAIN SYSTEM MAY BE DELETED FOR RETAINING WALLS NOT EXCEEDING 3' IN HEIGHT WHEN APPROVED BY THE ENGINEER.
10. EXPANSION JOINTS SHALL BE CONSTRUCTED BETWEEN STREET CURB AND RETAINING WALL FOOTINGS ABUTTING BACK OF CURBS WHEN RETAINING WALL HEIGHT EXCEEDS 5'. (SEE DETAIL ABOVE). FOR WALLS LESS THAN OR EQUAL TO 5' IN HEIGHT, SIDEWALK LUGS SHALL BE CONSTRUCTED AT BACK OF CURB INTEGRAL WITH THE RETAINING WALL FOOTING. (NO EXPANSION MATERIAL).

STANDARD RETAINING WALLS					
TYPES 6-8					
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION					
CITY OF DALLAS, TEXAS					
DESIGN	DRAWN	DATE	FILE	NO.	PAGE NO.
C. O. D.	A. B. & A.	APRIL 1997	251D	1	3003

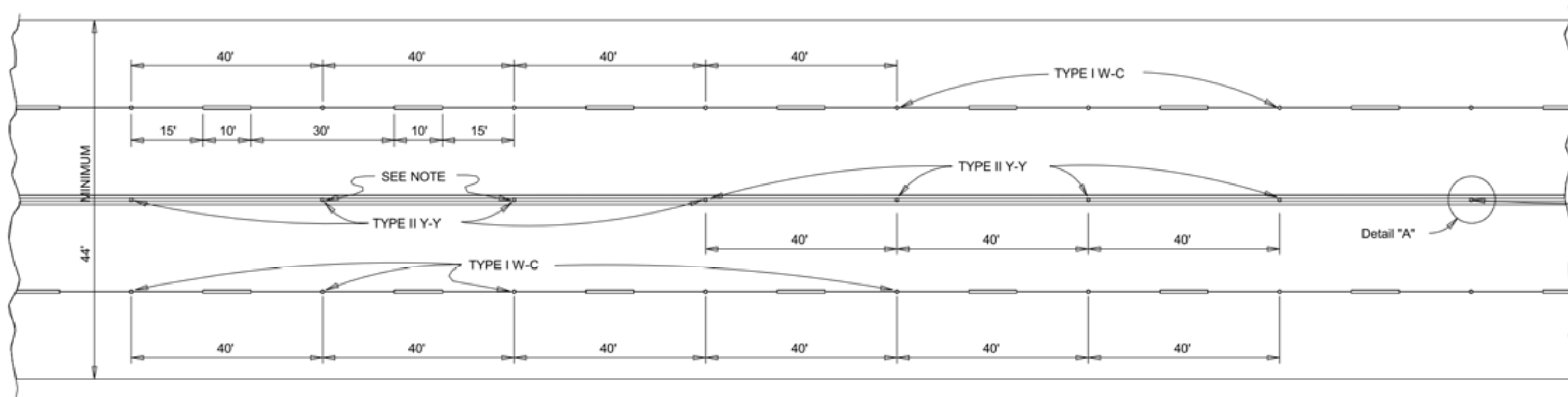


LANE LINES FOR DIVIDED ARTERIALS

INDIVIDUAL UNIT TRAFFIC BUTTONS TYPE II W-C/R RED FACE TOWARD WRONG WAY TRAFFIC SHALL BE SPACED ON 40' CENTERS.



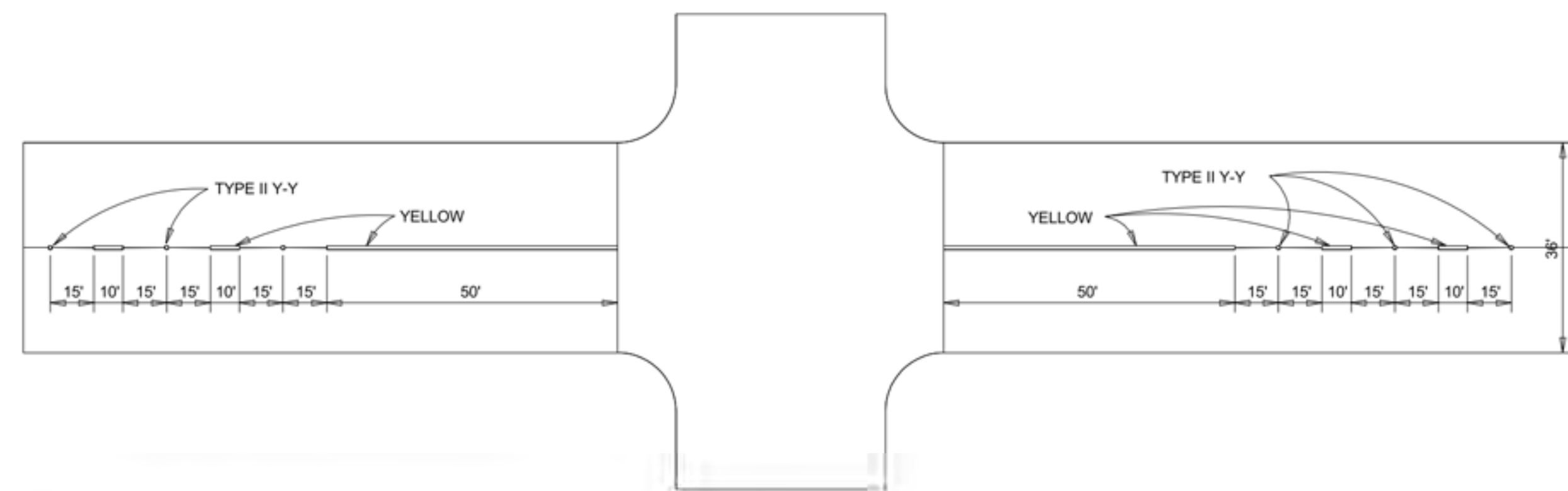
CONTINUOUS LEFT TURN LANE MARKINGS



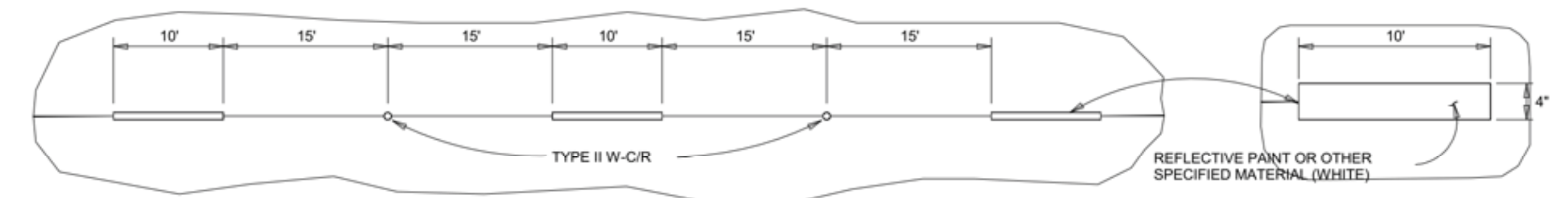
LANE LINES & CENTER LINES FOR UNDIVIDED MINOR ARTERIALS (44' or more in width)

INDIVIDUAL UNIT TRAFFIC BUTTONS TYPE I W-C, CLEAR FACE TOWARD NORMAL TRAFFIC, SHALL BE SPACED ON 40' CENTERS.

NOTE: USE 4" TYPE II Y-Y TRAFFIC BUTTONS BETWEEN DOUBLE YELLOW LINES AT 40' O.C.



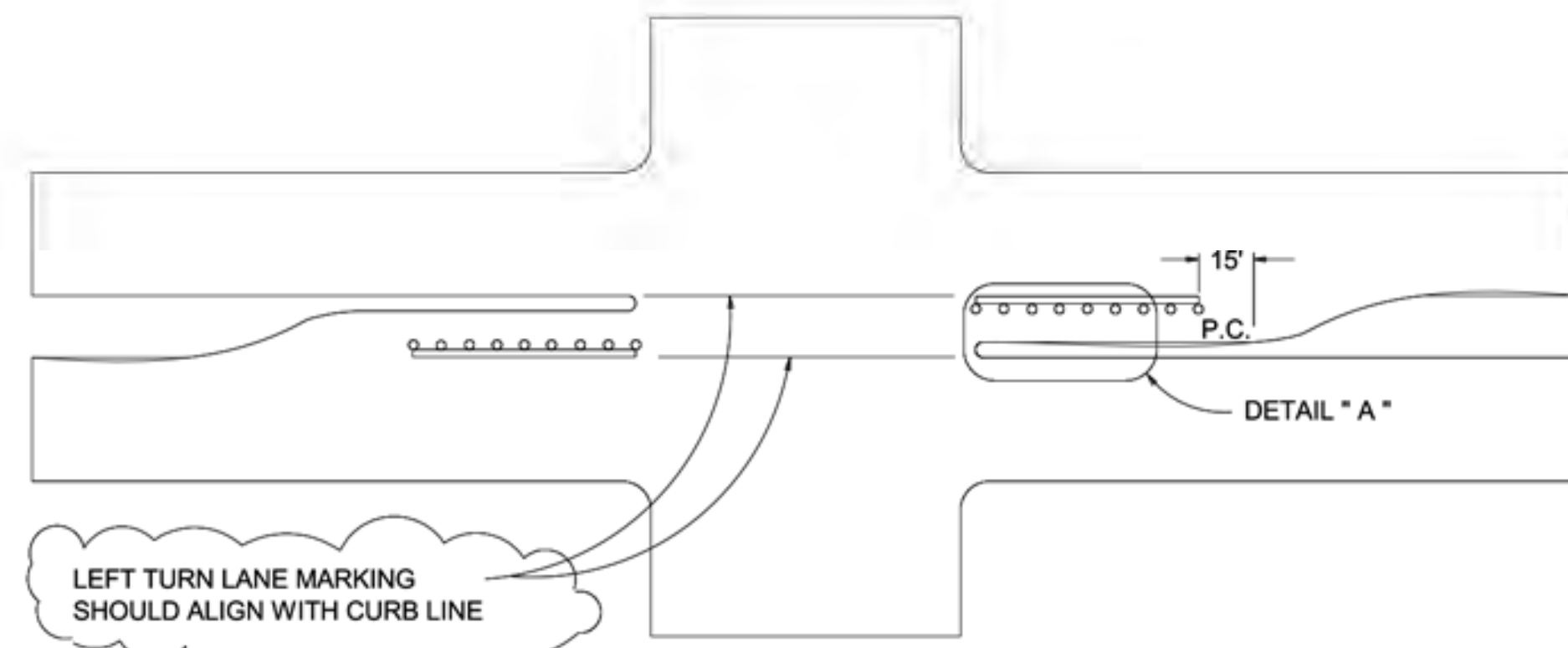
PAVEMENT MARKINGS 36' LOCAL & COLLECTOR STREETS



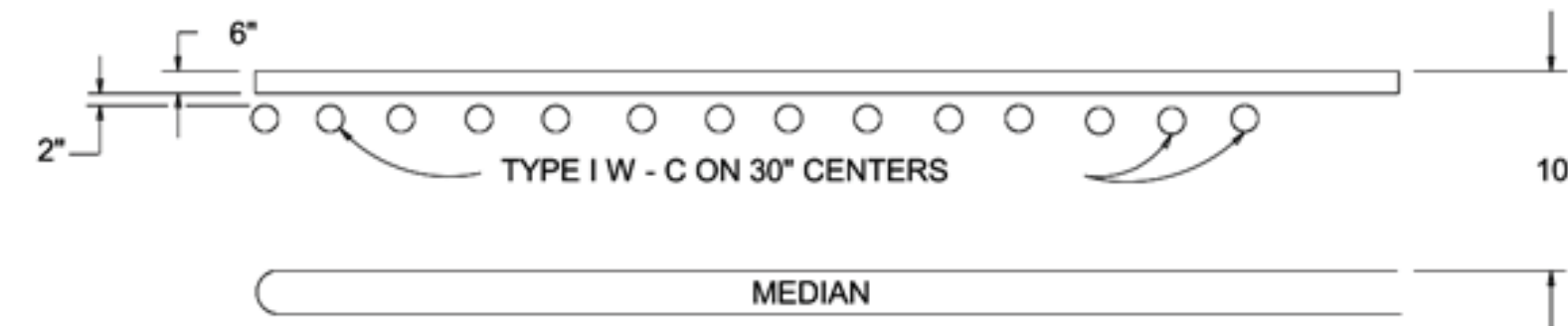
TRAFFIC LANE LINE MARKINGS (Typical)

TRAFFIC BUTTONS TYPE II W-C/R SHALL BE SPACED ON 40' CENTERS WITH A CLEAR FACE TOWARD NORMAL TRAFFIC AND THE RED FACE TOWARD WRONG WAY TRAFFIC.

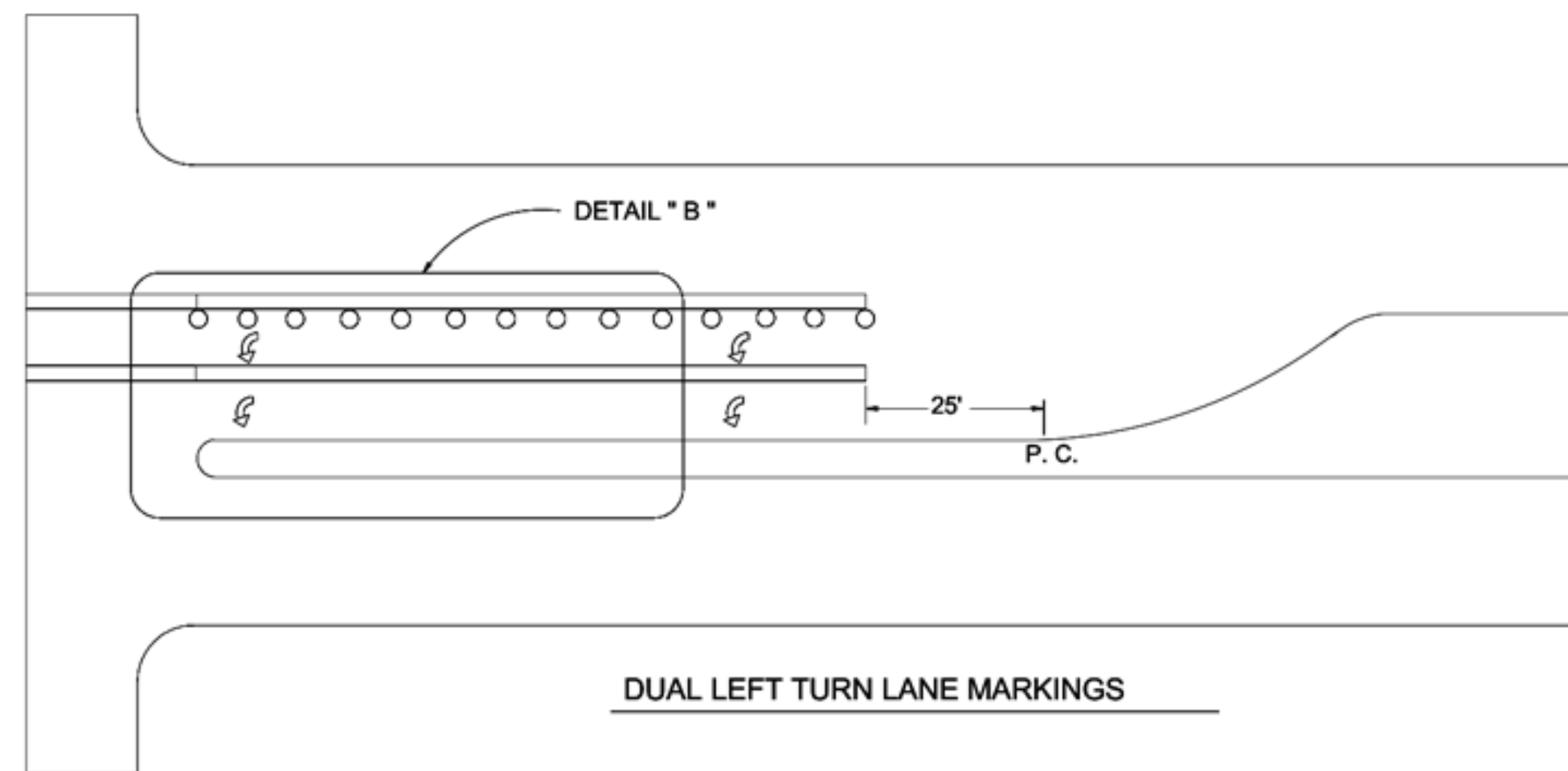
TYPICAL PAVEMENT MARKINGS						
FOR						
CITY STREETS						
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION						
CITY OF DALLAS, TEXAS						
DESIGN	DRAWN	DATE	FILE	NO.	PAGE NO.	
C. O. D.	A. B. & A.	APRIL 1997	251D	1	5003	



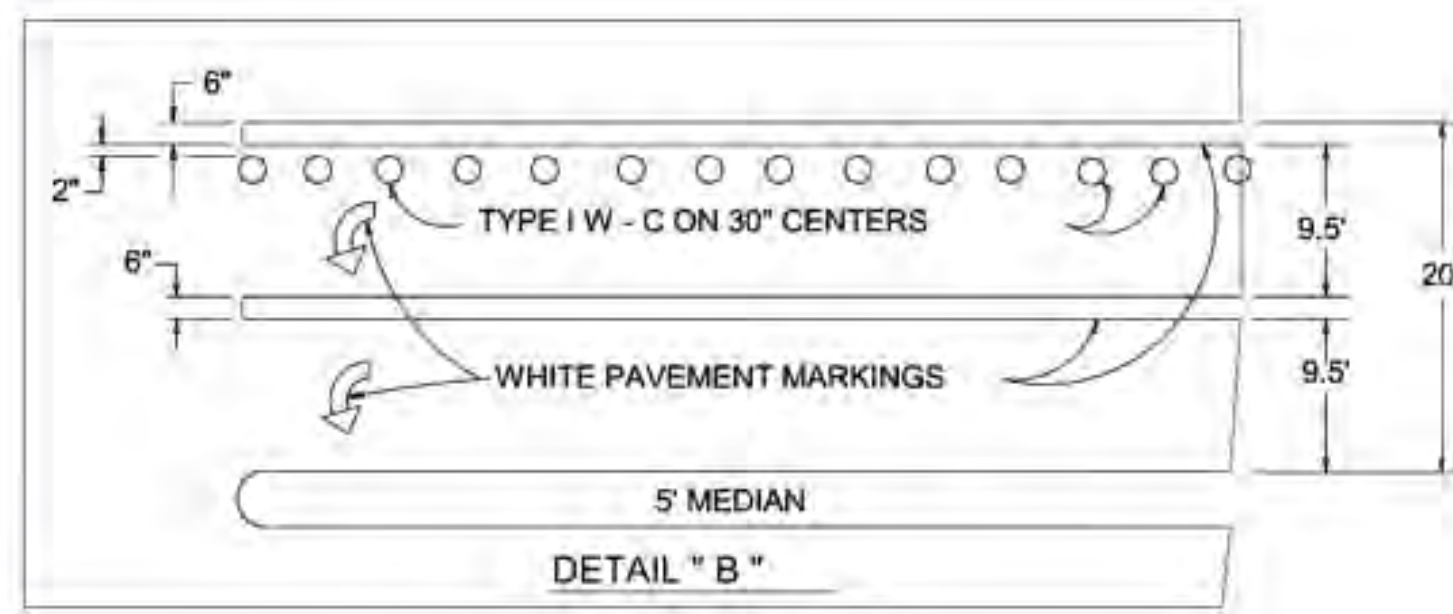
STANDARD LEFT TURN LANE MARKINGS



DETAIL "A"

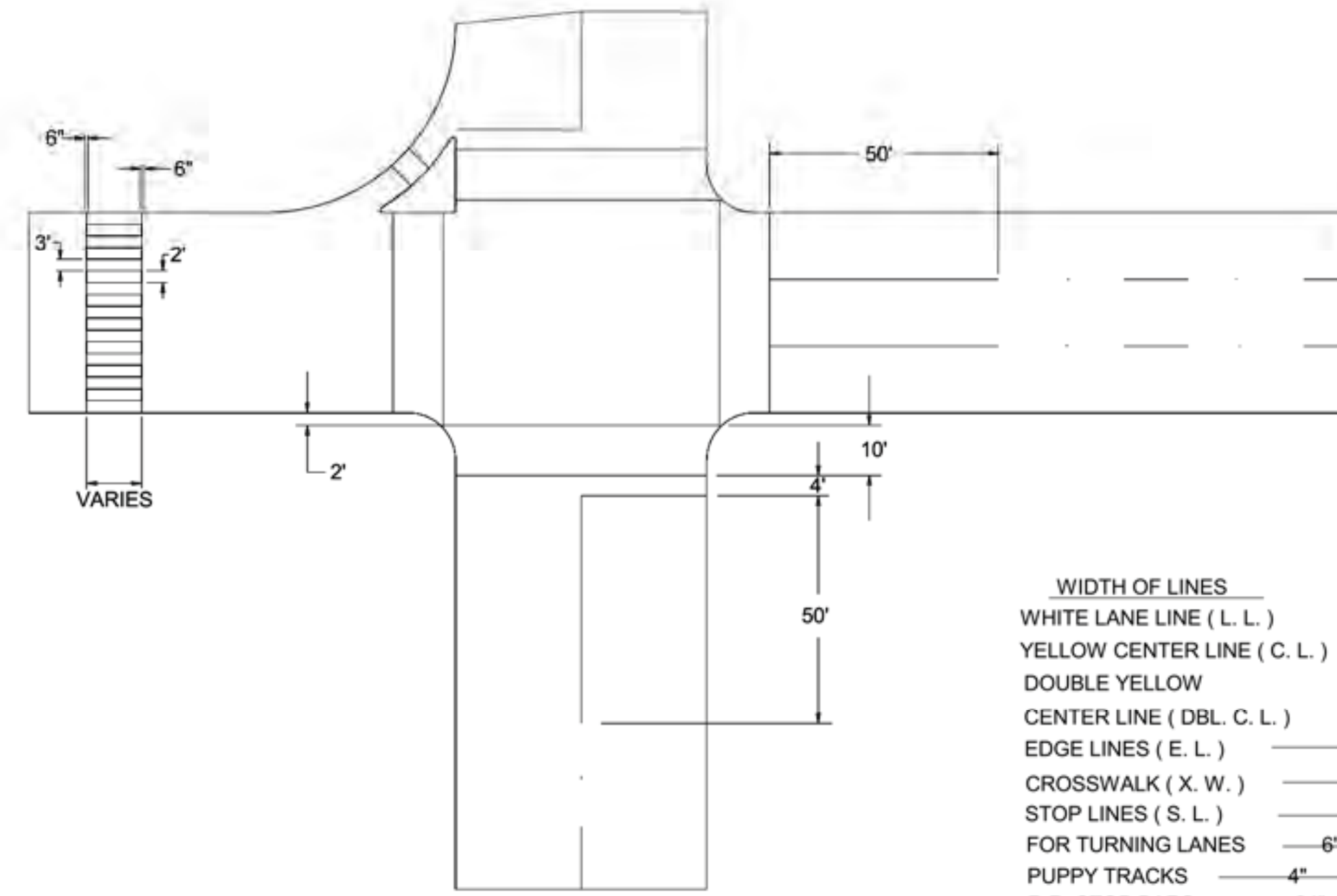


DUAL LEFT TURN LANE MARKINGS



DETAIL "B"

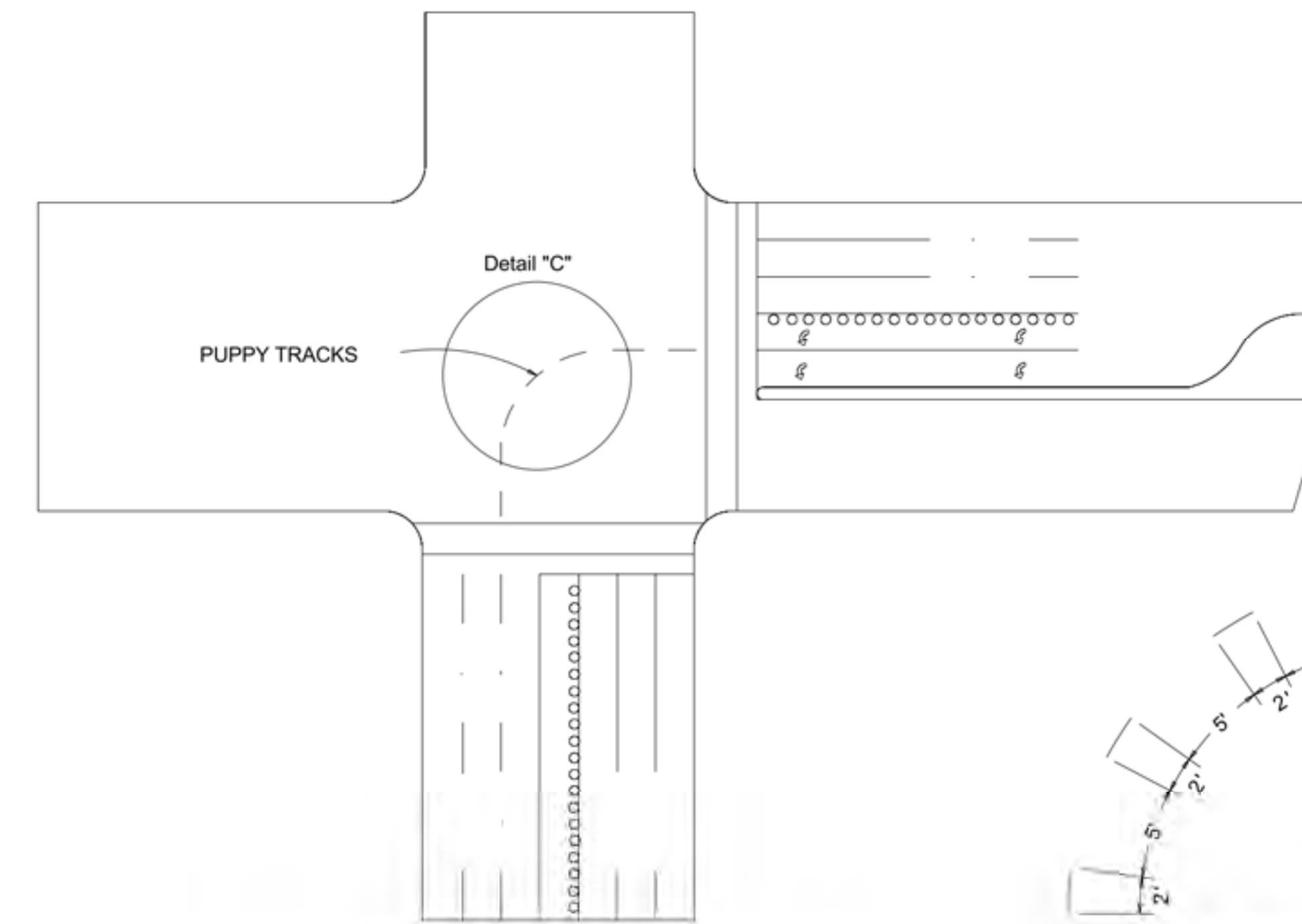
DETAIL "B"



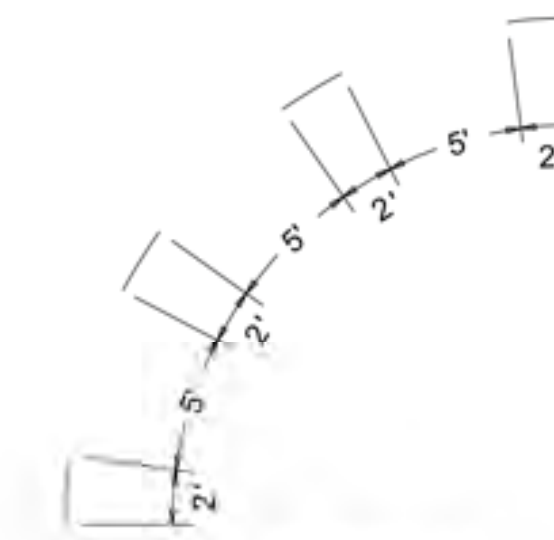
TYPICAL CROSSWALK LAYOUT

WIDTH OF LINES

WHITE LANE LINE (L. L.)	4"
YELLOW CENTER LINE (C. L.)	4"
DOUBLE YELLOW	
CENTER LINE (DBL. C. L.)	4"-4" GAP - 4"
EDGE LINES (E. L.)	4" WHITE-YELLOW
CROSSWALK (X. W.)	6" WHITE
STOP LINES (S. L.)	18" WHITE
FOR TURNING LANES	6" WHITE
PUPPY TRACKS	4"
R.R. STOP BARS	24"



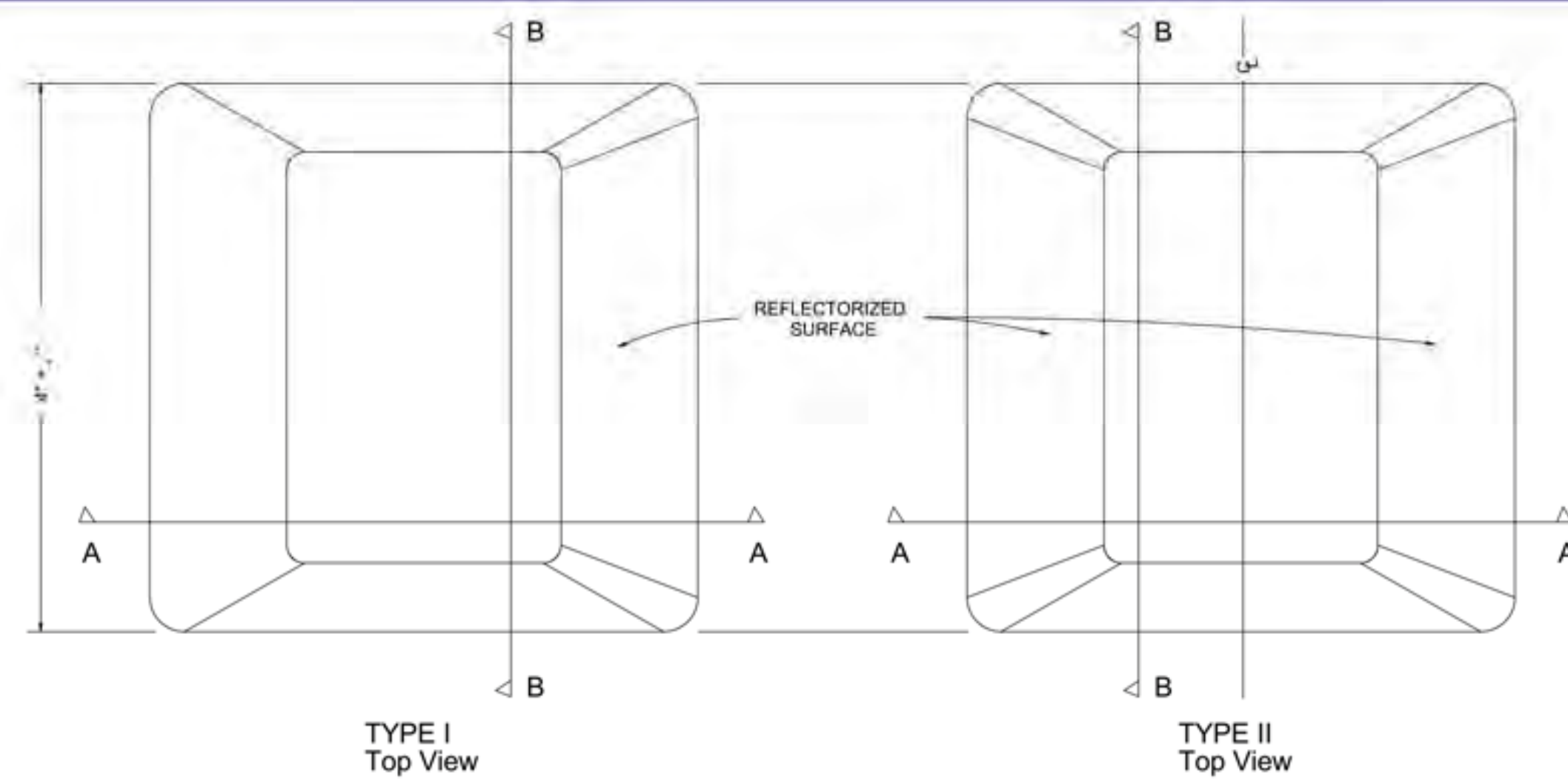
TYPICAL "PUPPY TRACK" PAVT. MARKING LAYOUT



DETAIL "C"

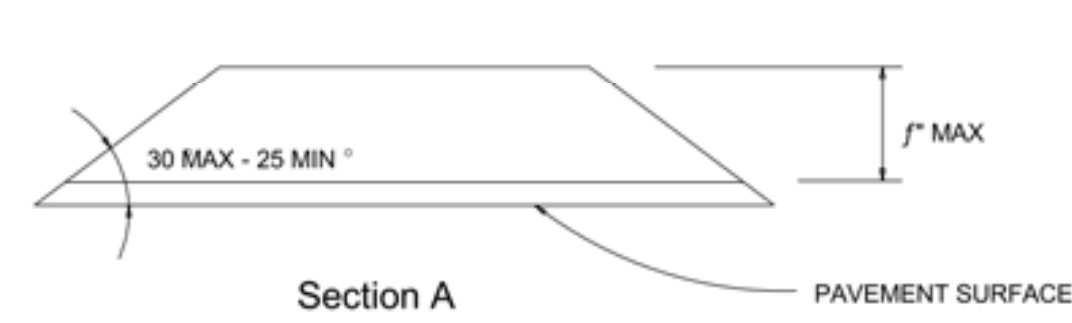
NO SCALE

TYPICAL PAVEMENT MARKING DETAILS						
DESCRIPTION						
DESCRIPTION						
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION						
CITY OF DALLAS, TEXAS						
DESIGN	DRAWN	DATE	FILE	NO.	PAGE NO.	
C.O.D.	A.B.&A.	APRIL 1997	251D	1	5004	

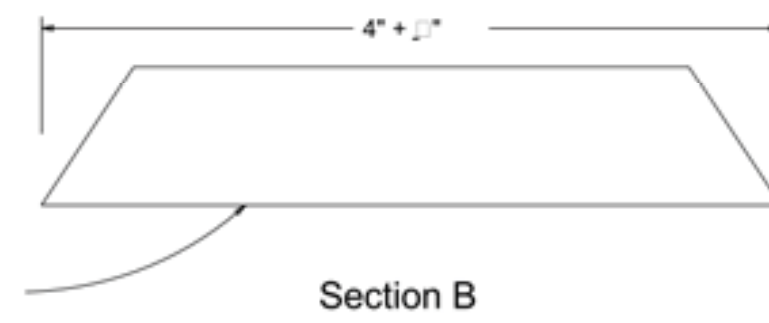


TYPE I
Top View

TYPE II
Top View



Section A

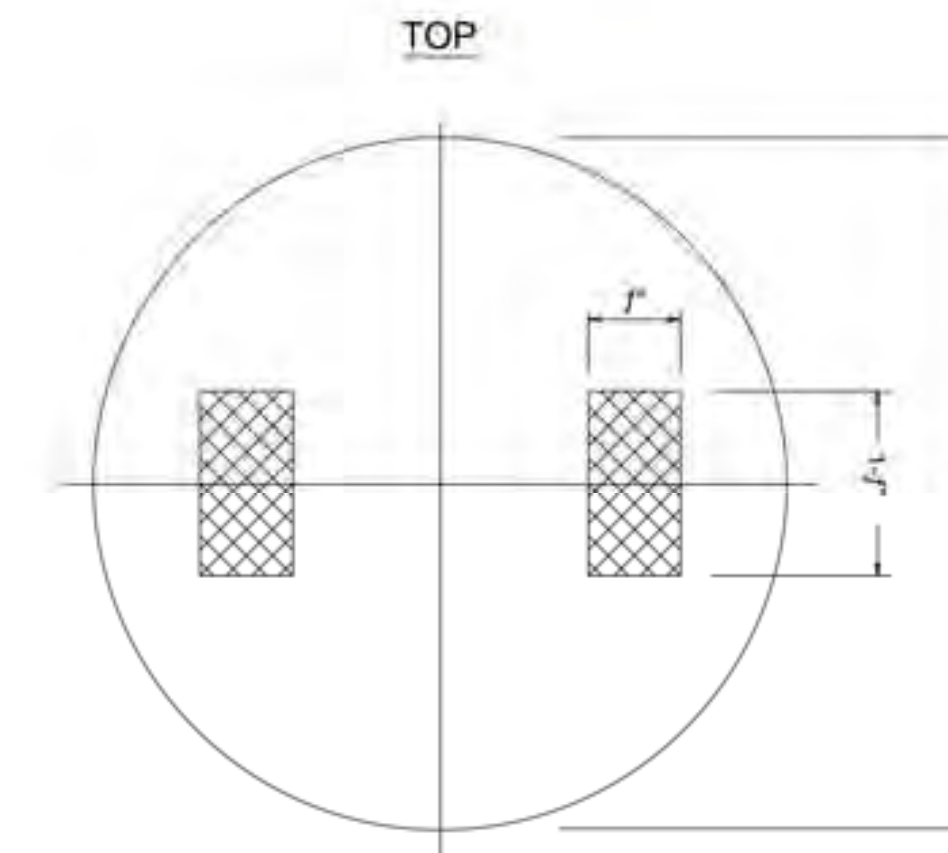


Section B

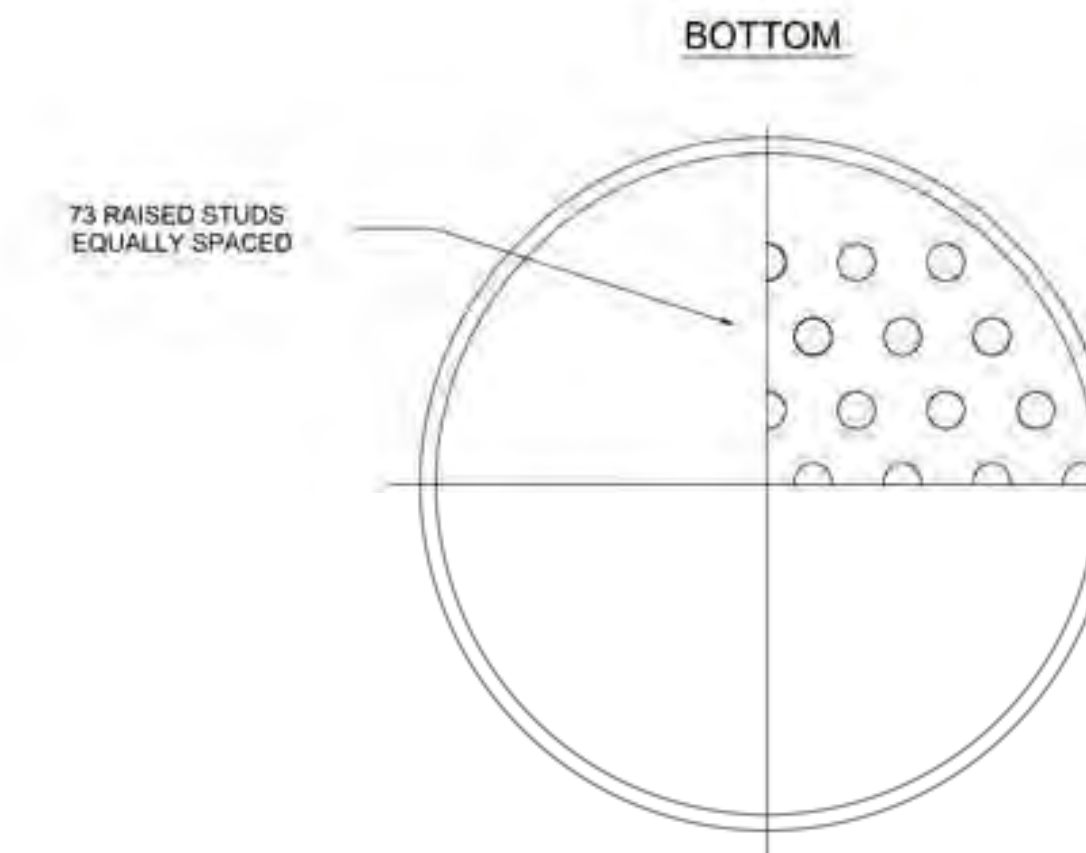
- 708 TYPE I W C
- 709 TYPE I Y Y

- 710 TYPE II W C/R
- 711 TYPE II Y Y

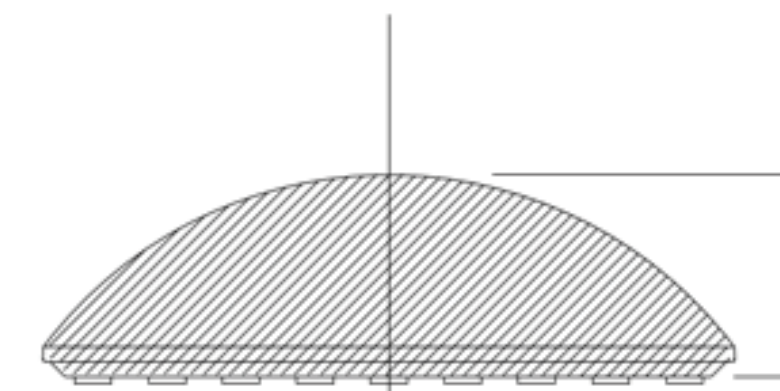
PAVEMENT LANE MARKERS
(REFLECTORIZED)



TOP



BOTTOM



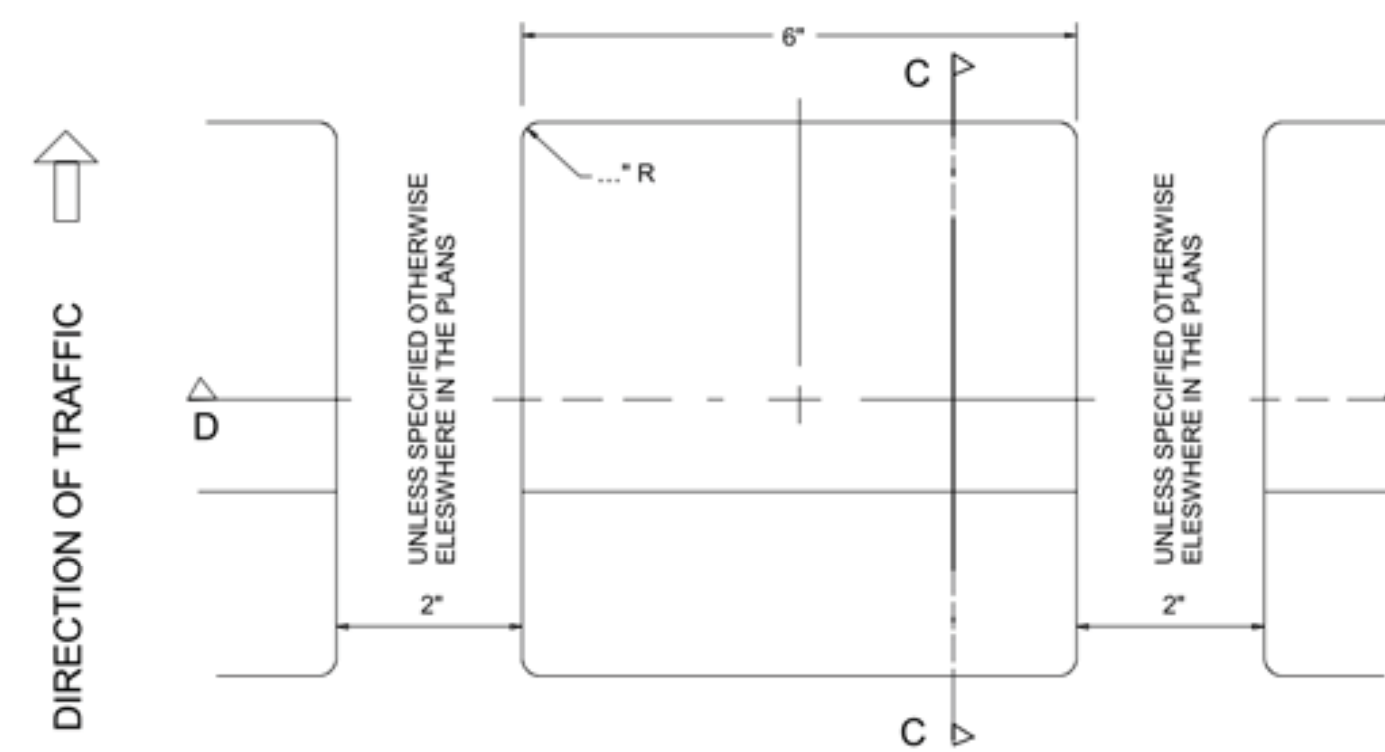
FRONT

NOTE: TOLERANCES + .1" UNLESS OTHERWISE SPECIFIED

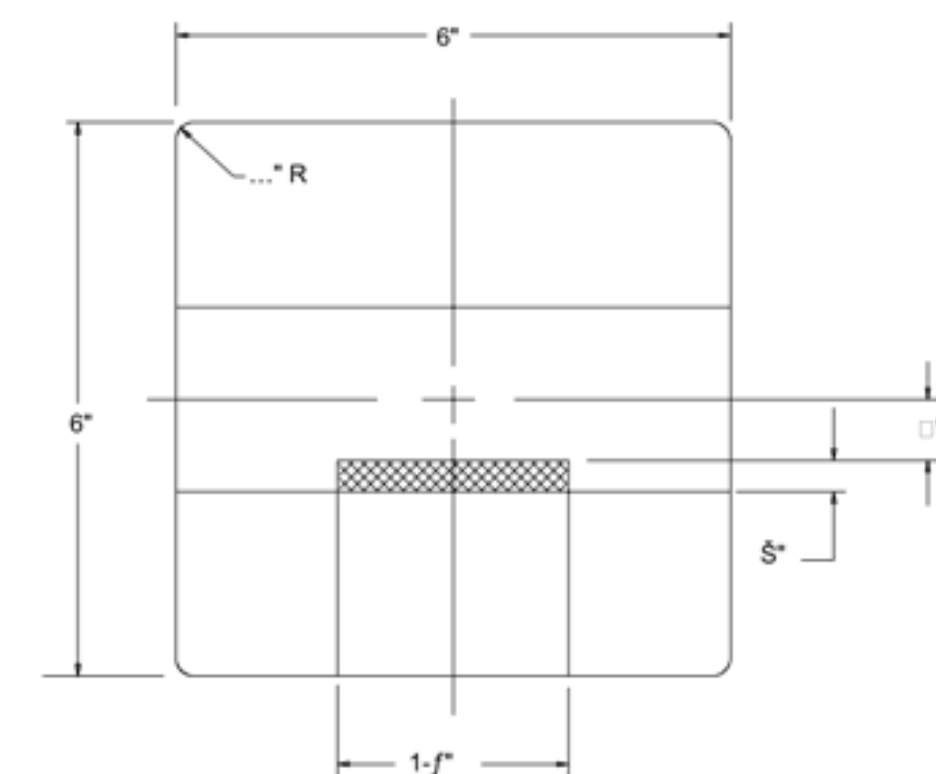
TWO-WAY REFLECTIVE CERAMIC CHANNEL
MARKER, YELLOW COLOR W/ YELLOW REFLECTORS
NO SCALE

ONE-WAY REFLECTIVE CERAMIC CHANNEL
MARKER, YELLOW OR WHITE COLOR
NO SCALE

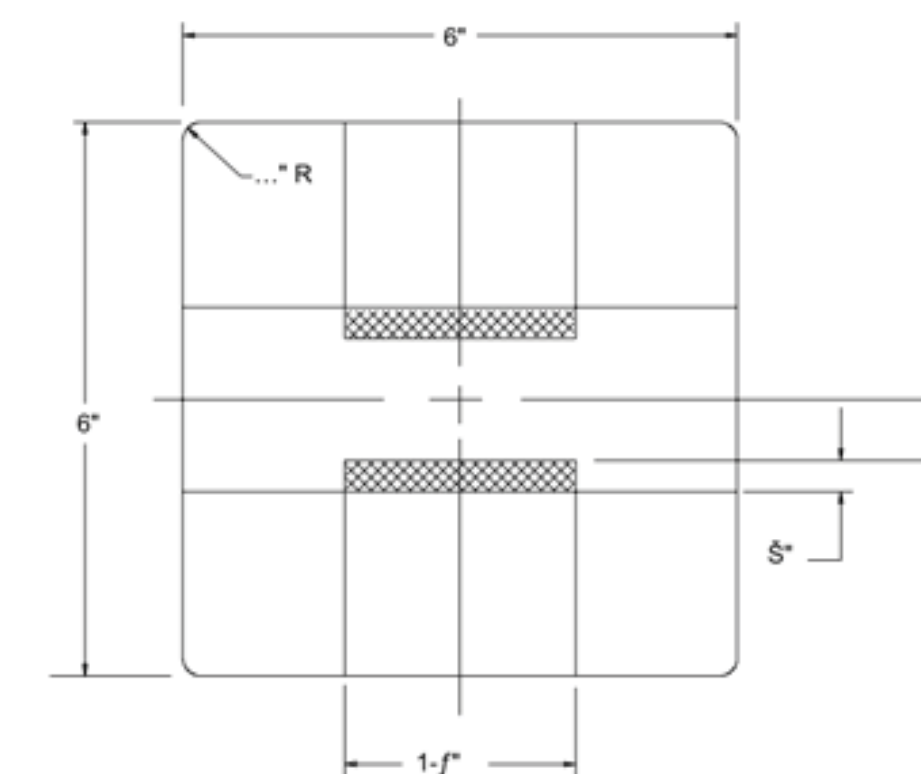
6" CERAMIC CHANNEL MARKERS



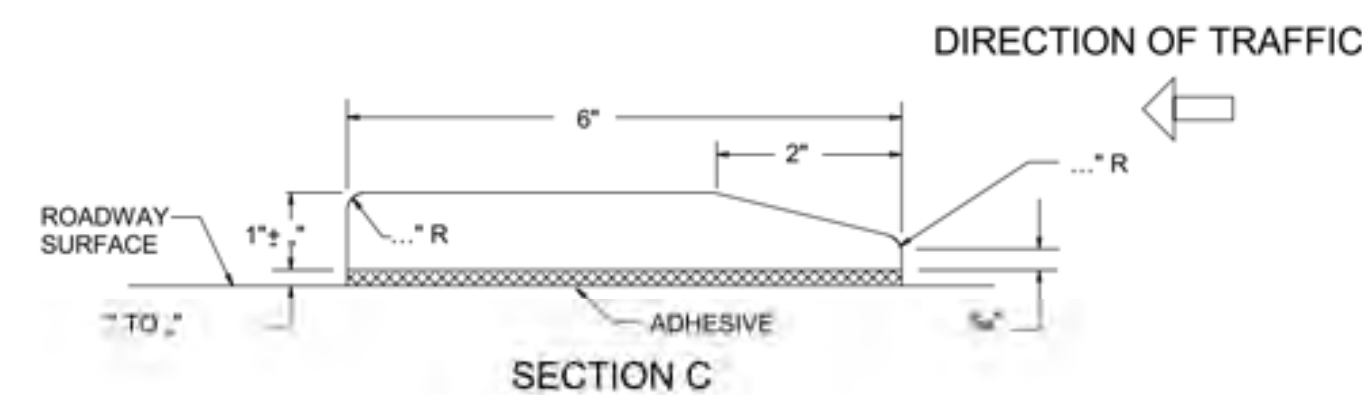
JIGGLE BAR IN PLACE
TOP VIEW



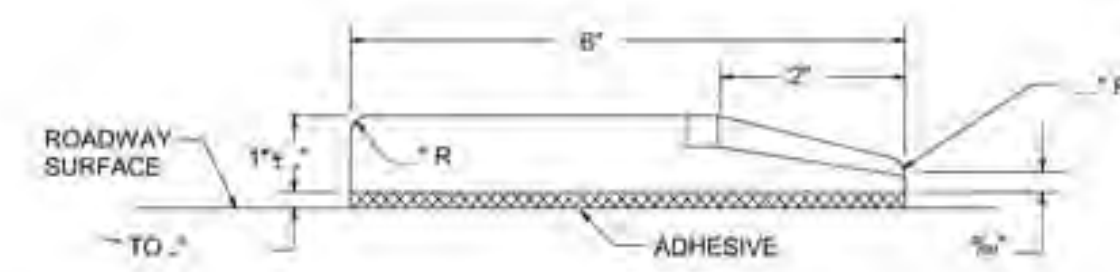
TYPE I
TOP VIEW



TYPE II
TOP VIEW

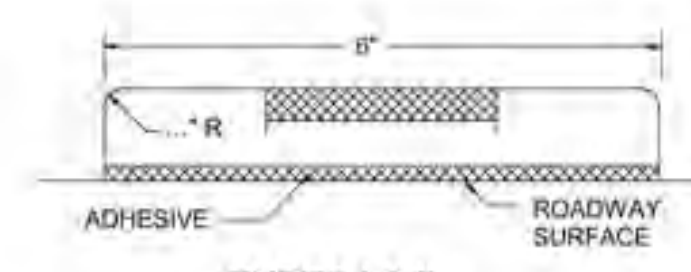


SECTION C

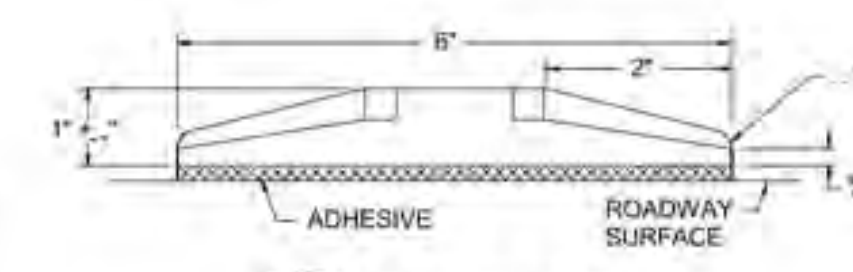


- 715 TYPE I W C
- 716 TYPE I Y Y

SIDE VIEW

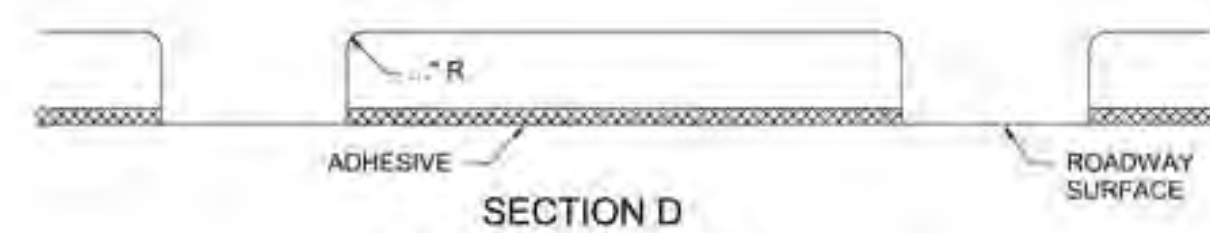


TYPES I & II
FRONT VIEW
JIGGLE BAR TILES
(REFLECTORIZED)



- 717 TYPE II W C/R
- 718 TYPE II Y Y

SIDE VIEW



SECTION D

JIGGLE BAR TILES
(NONREFLECTIVE) ITEM

714

JIGGLE BARS CONSIST OF A NUMBER OF JIGGLE
BAR TILES PLACED IN A LINEAR CONFIGURATION

NOTE

ALL DIMENSIONS ARE + .1" UNLESS OTHERWISE SHOWN.

GENERAL NOTES:

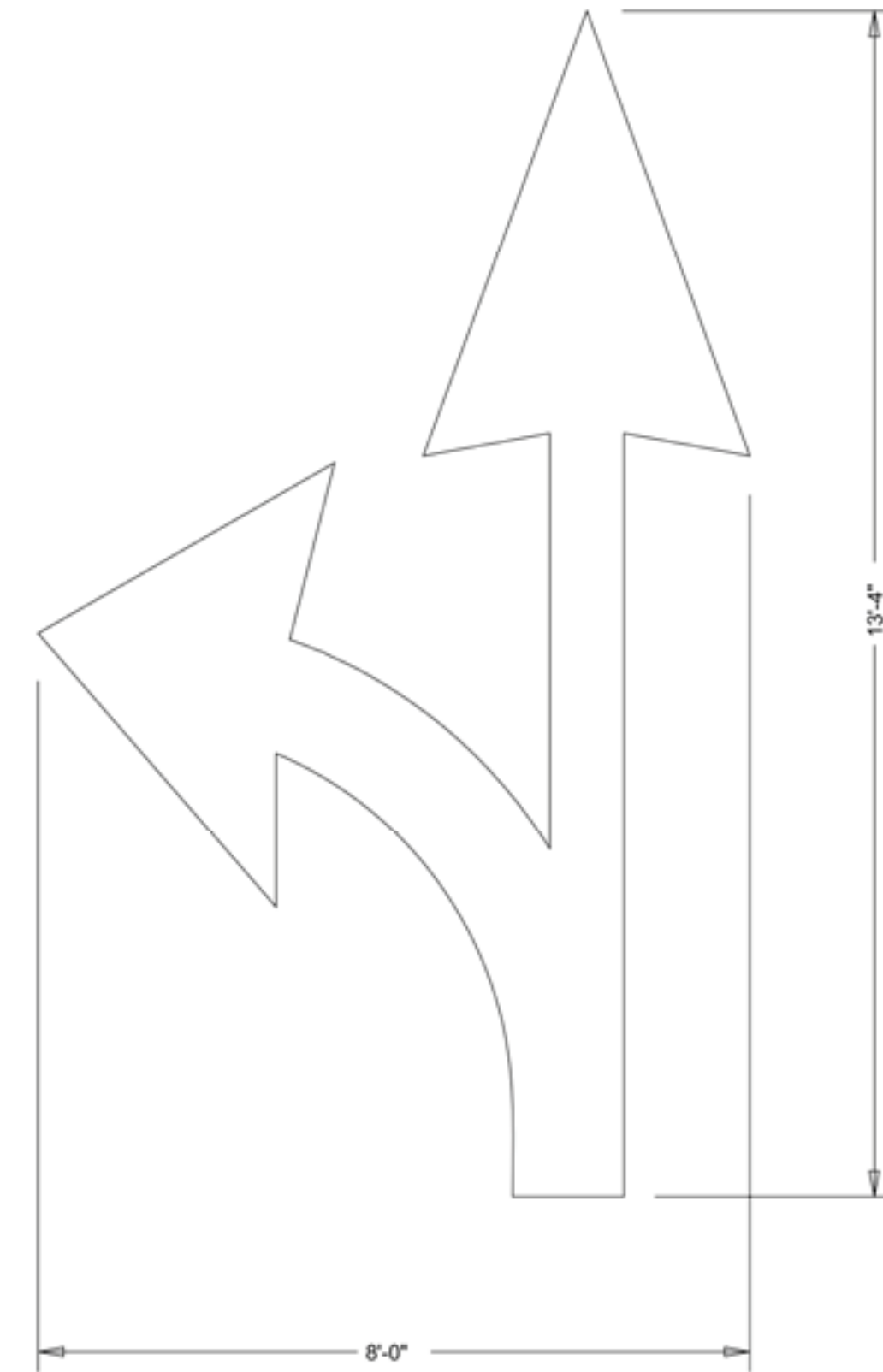
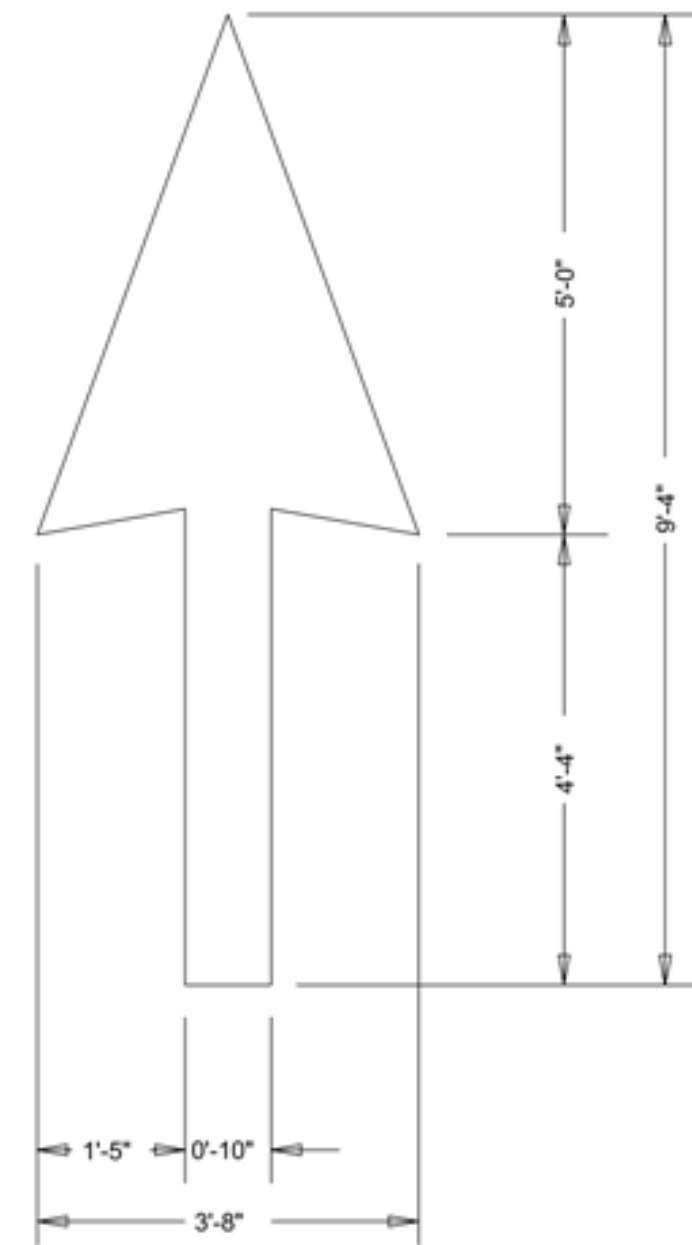
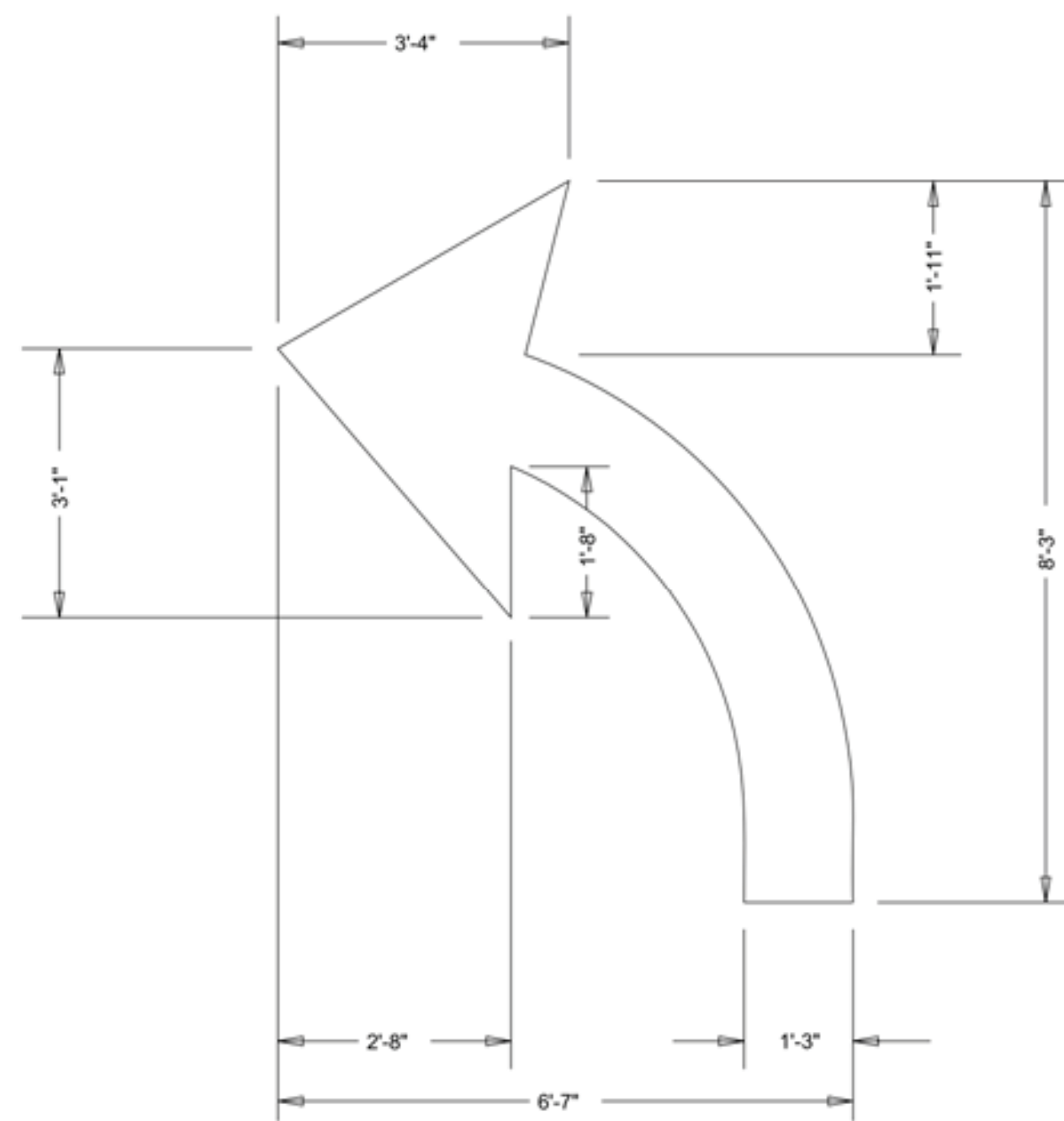
THE PAVEMENT UPON WHICH THE LANE AND CHANNEL MARKERS, AND JIGGLE BAR TILE ARE TO BE PLACED SHALL BE PREPARED SUBJECT TO THE APPROVAL OF THE ENGINEER TO INSURE PROPER CLEANING OF THE PAVEMENT SURFACE.

RPM'S SHALL BE BONDED TO THE ROADWAY SURFACE WITH ADHESIVE CONFORMING WITH THE SPECIFICATION.

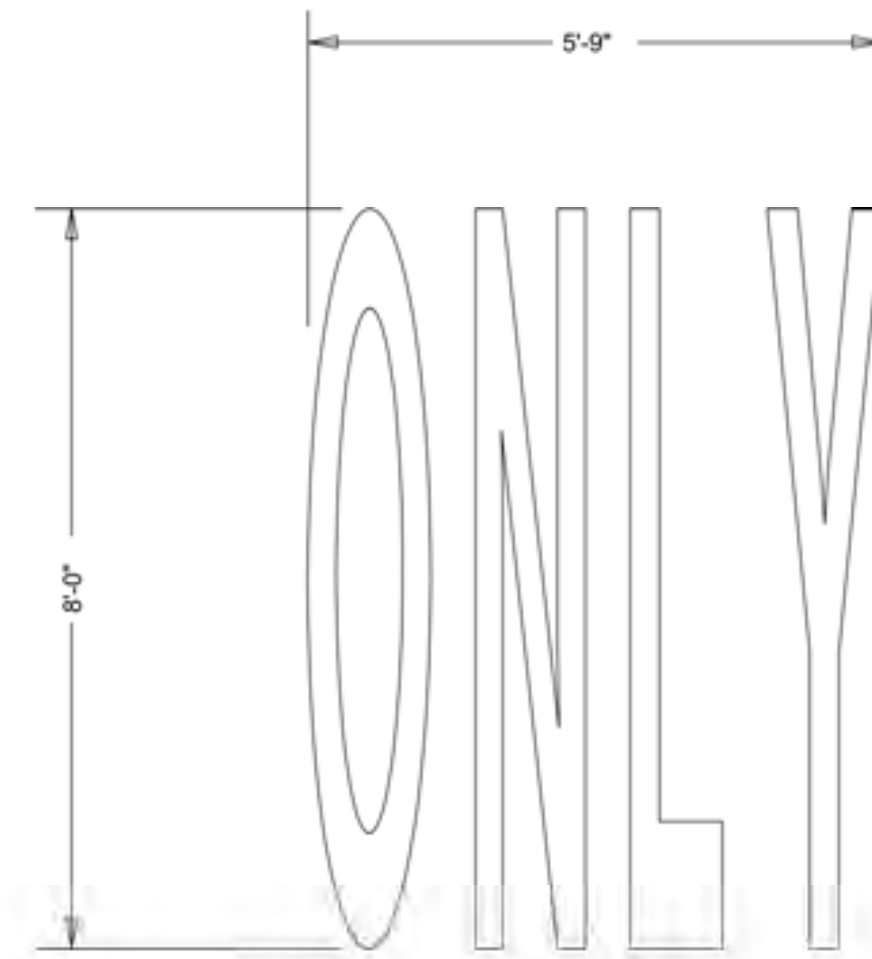
JIGGLE BARS SHALL BE PLACED AT SUCH OTHER LOCATIONS AS SHOWN ON THE PLAN AND PROFILE SHEETS OR WHERE DIRECTED BY THE ENGINEER.

MARKERS SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY. THEY ARE NOT INTENDED TO SPECIFY ANY PARTICULAR PRODUCT.

INDIVIDUAL UNIT PAVEMENT MARKINGS						
REFLECTIVE PAVEMENT MARKERS, TRAFFIC BUTTONS & JIGGLE BAR TILE						
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION						
CITY OF DALLAS, TEXAS						
DESIGN	DRAWN	DATE	FILE	NO.	PAGE NO.	
C.O.D.	A.B.&A.	APRIL 1997	2281D	11	5005	

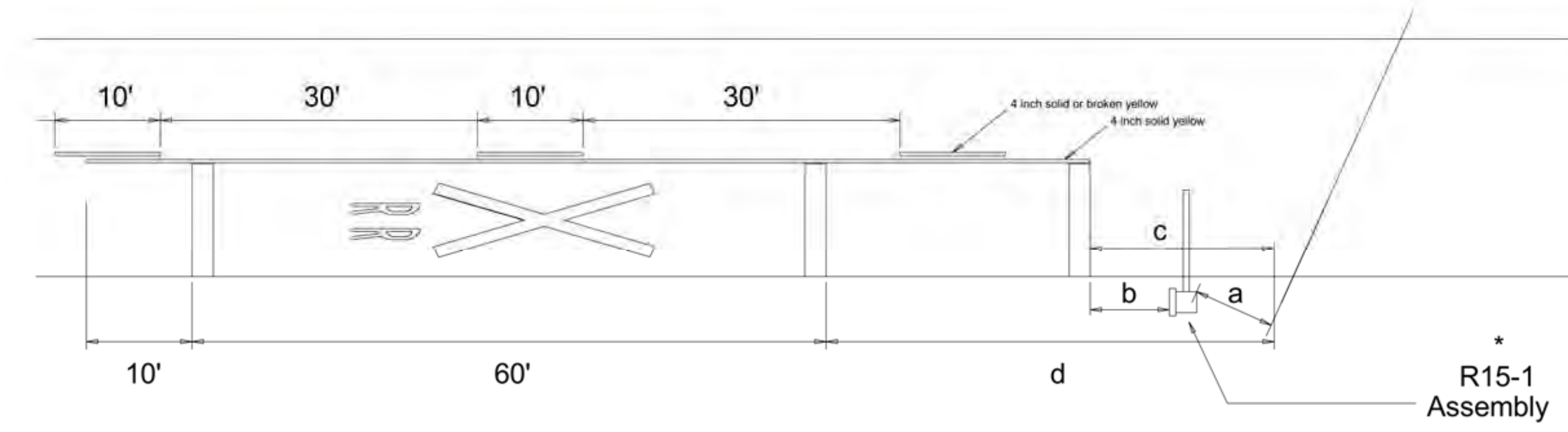


ELONGATED ARROWS FOR PAVEMENT MARKINGS

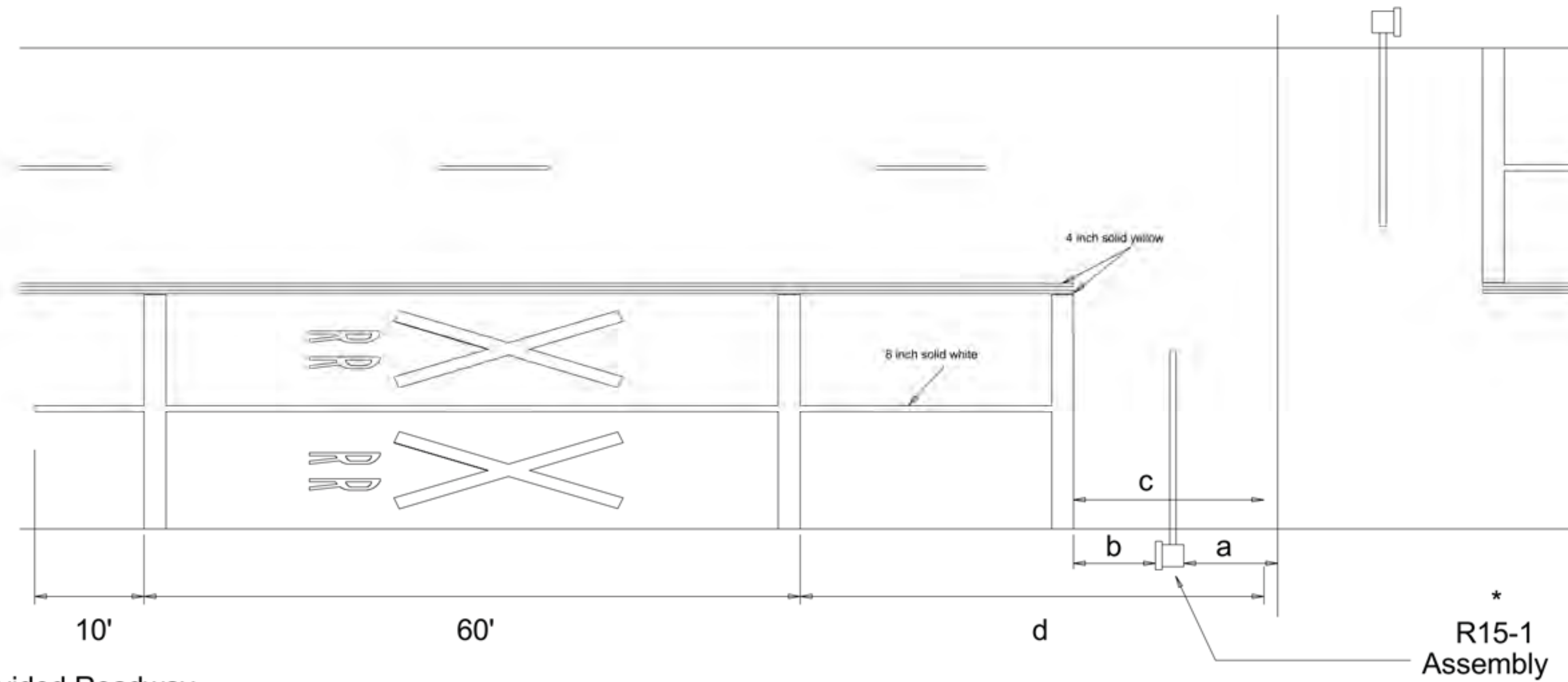


ELONGATED LETTERS FOR PAVEMENT MARKINGS

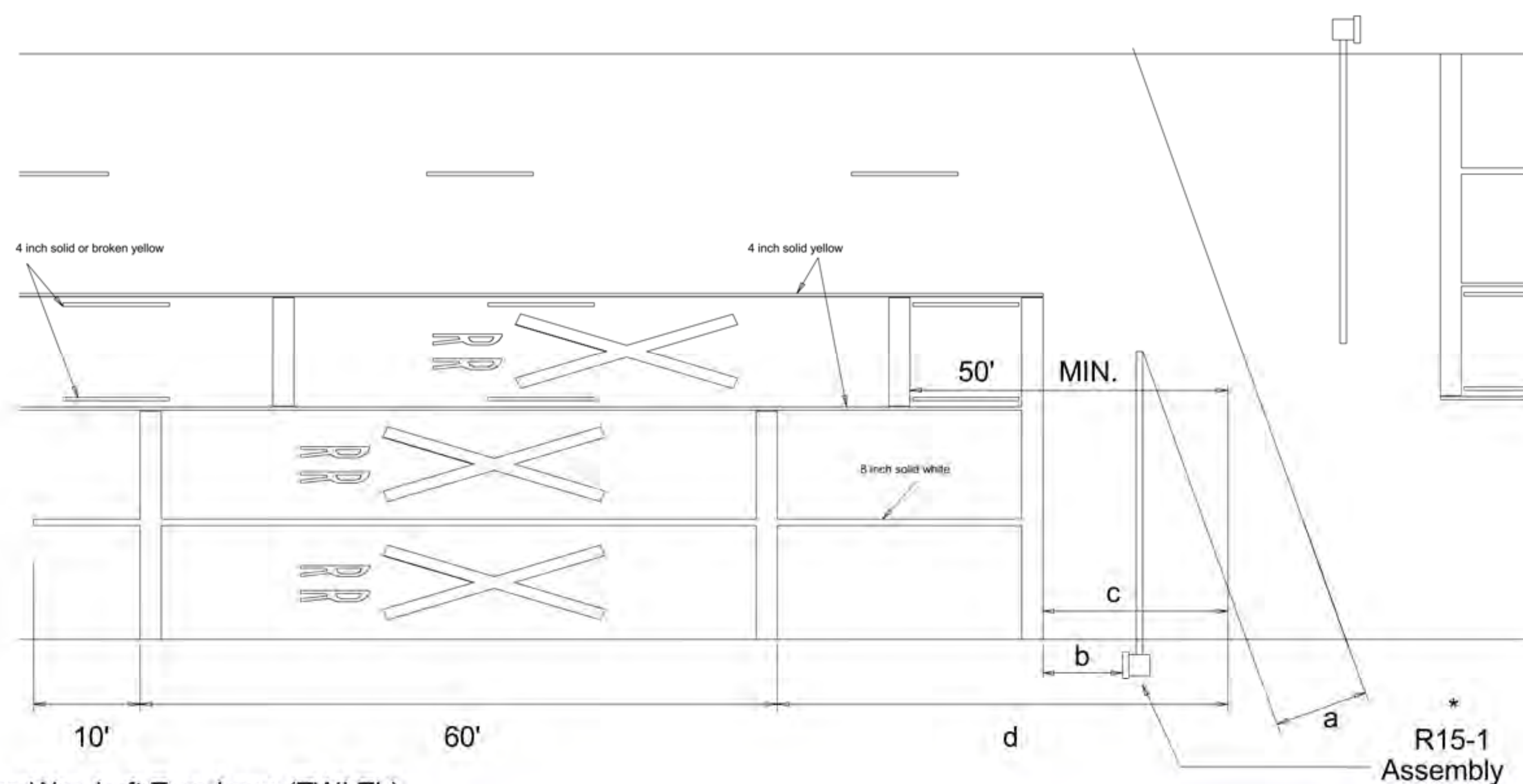
TYP. PAVEMENT MARKINGS					
FOR					
CITY STREETS					
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION					
CITY OF DALLAS, TEXAS					
DESIGN	DRAWN	DATE	FILE	NO.	PAGE NO.
C. O. D.	A. B. & A.	APRIL 1997	251D	1	5006



Two Lane, Two-Way



Divided Roadway



Two-Way Left Turn Lane (TWLTL)

a =
12 feet minimum, 15 feet usual if automatic gates are present, distance "a" should be measured from nearest edge of automatic gates to rails.

b =
Stop lines should be placed on 8 foot (minimum) distance, in advance of R15-1.

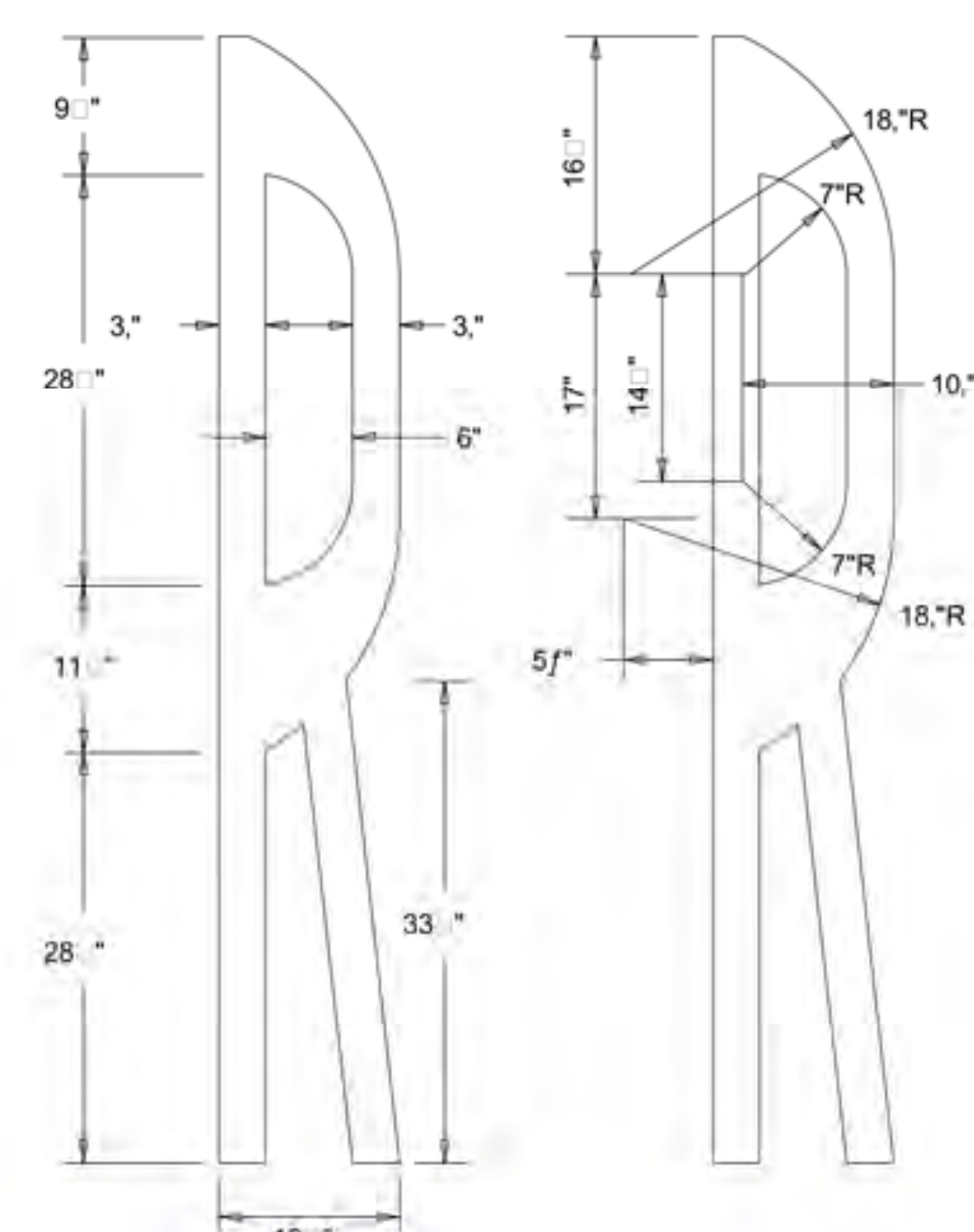
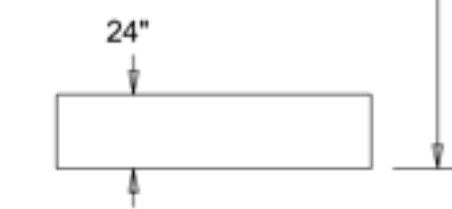
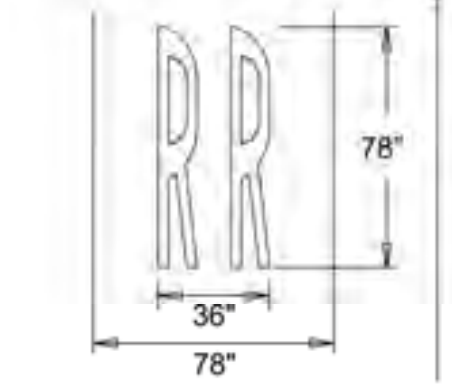
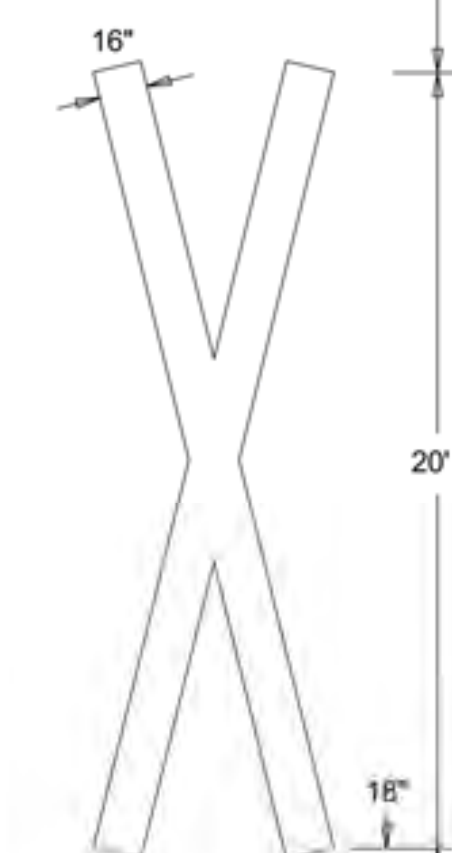
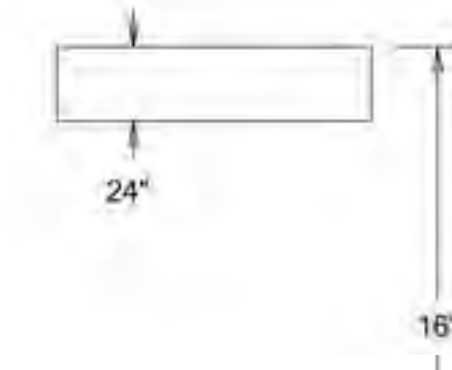
c =
15 feet desirable minimum. R15-1 should be placed between stop line and rails with adequate distance provided for "a".

d =

Approach Speed (mph)	Desirable Placement
30	50 (min) - 90 (usual)
35	70 - 170
40	150 - 250
45	235 - 335
50	315 - 415
55	400 - Up (500 usual)

*** R15-1 Assembly**

May consist of R15-1 and/or R15-2, Type A, Type E or Type F assembly.



ESTIMATED QUANTITIES

(for contractor use only)

24 INCH WHITE TRANSVERSE MARKINGS AND STOP LINES

No. of approach lanes (include TWLTL)	LANE WIDTH (FT)			
	11	12	13	14
1	33	36	39	42
2	66	72	78	84
3	99	108	117	126
4	132	144	156	168

Approach Direction A = LE _____
Approach Direction B = LE _____
Total of Both Approaches = LF _____

4 INCH SOLID YELLOW NO PASSING LINE
For: Two Lane, Two-Way, Single Lane Approach per Direction
($d - c$) + 70 = LF

Approach Direction A = LE _____
Approach Direction B = LE _____
Total of Both Approaches = LF _____

8 INCH SOLID WHITE LANE LINE
For: Two-Way or One-Way Traffic, 2 or More Approach Lanes in same Direction (Do NOT include TWLTL)

(No. of Approach Lanes minus 1) multiply by
($d - c$) + 70 = LF

Approach Direction A = LE _____
Approach Direction B = LE _____
Total of Both Approaches = LF _____

RR XING SYMBOL

For: All Approach Lanes
Approach Direction A = LE _____
Approach Direction B = LE _____
Total of Both Approaches = LF _____

GENERAL NOTES

- The pavement markings on an approach to a railroad grade crossing shall consist of:
 - The RR Xing symbol.
 - Three transverse 24" lines, and
 - Lane lines: a solid no passing line for two-way traffic approaches, or solid lane lines for multilane approaches.
- For bidding purposes, the RR Xing symbol will be measured and paid for as for each lane in place. The transverse markings and lane lines will be measured and paid for by the linear foot.
- Markings other than no passing center lines, shall be white. No passing center lines shall be white.
- Approach lanes less than 8 foot wide shall NOT have markings.
- Markings shall NOT be placed where less than 110 feet of approach pavement is available for placement.
- RR Xing symbols should be placed approximately in the center of the approach lane.
- All transverse markings, including stop lines, shall be placed at right angles to the center line and across all approach lanes.
- Existing non-standard markings shall be removed to the fullest extent possible so as not to leave a discernable marking, by any method approved by the engineer. OVERPAINTING WILL NOT BE ALLOWED. Removal shall be paid for directly as a separate item.
- Additional markings and placement details may be found in the TMUTCD, Appendix H.
- The Engineer may require additional longitudinal markings if the distance between the stop lines is greater than 80 feet. Markings are not required across or between the rails.

PAVEMENT MARKINGS

RAILROAD CROSSING

TYPICAL DETAILS

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION

CITY OF DALLAS, TEXAS

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C. D. D.	A. B. & A.	APRIL 1997	251D	1	5007