

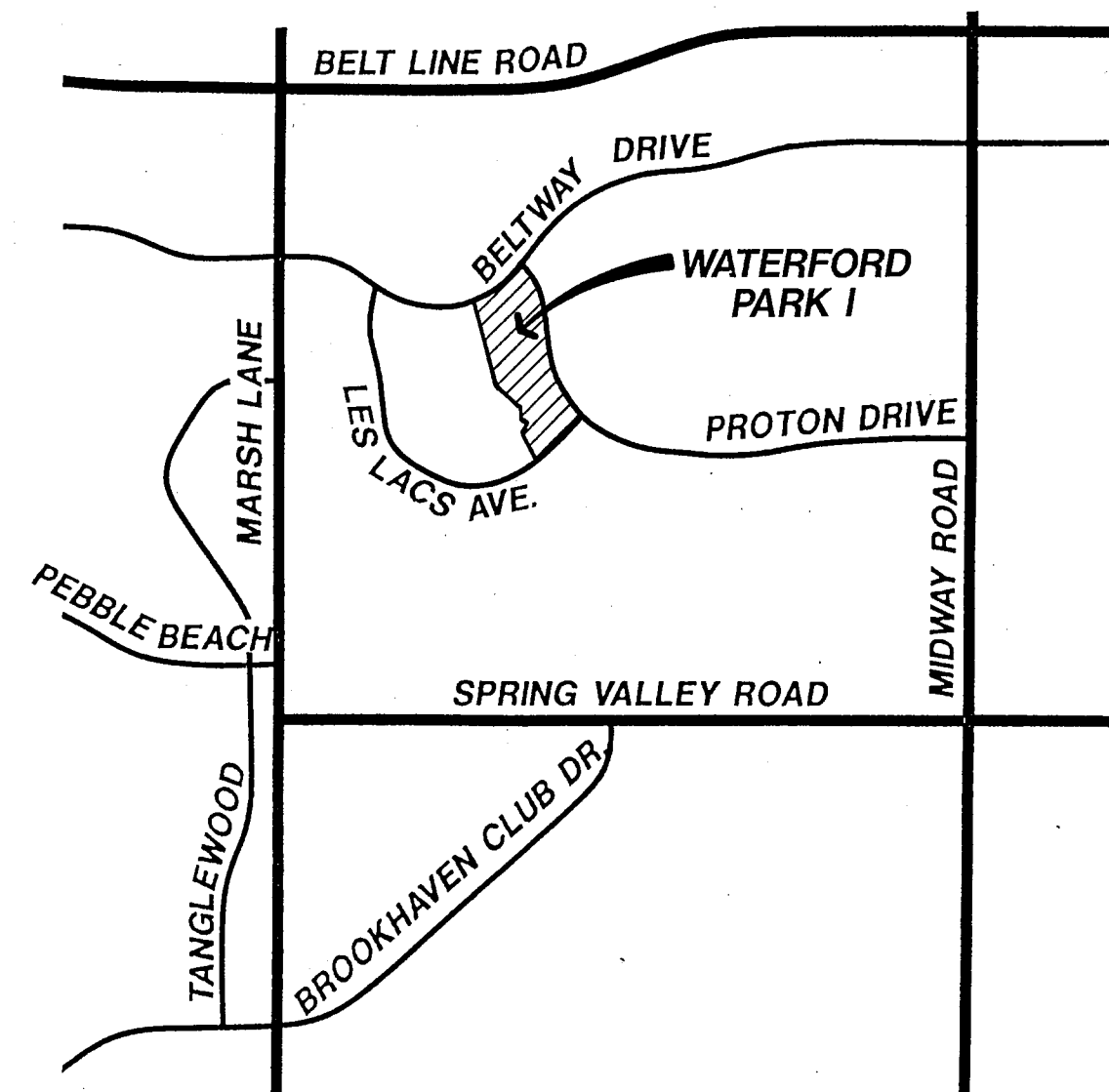
# CONSTRUCTION PLANS

## WATERFORD PARK I

### TOWN OF ADDISON, TEXAS

**GENERAL NOTES**

- A. Prior to final acceptance by the Town of Addison.
- 1) A Texas Registered Professional engineer shall certify that the project was constructed in accordance with the plans and specifications approved by the Town of Addison.
- The owner shall provide 1 reproducible set of as-builts (sealed and certified by a Texas Registered Engineer) and 2 blue line sets.
- 2) A five foot sidewalk shall be installed along Proton Drive and Les Lacs Avenue. See attached detail.
  - 4) A one year maintenance bond is required for the internal subdivision infrastructure.
  - 5) Contractor shall demonstrate that the water and sanitary sewer systems meet the proper pressure, bacteria, and mandrel tests. In addition, the owner shall provide a VHS format video tape of the sanitary sewer.
- B. Prior to starting construction, the contractor shall contract the utility companies to locate existing facilities. These include but may not be limited to the following:
- 1) Town of Addison
  - 2) Lone Star Gas
  - 4) Southwestern Bell
  - 5) Storer Cable
  - 6) Planned Cable Systems
  - 7) TU Electric
- C. Prior to beginning construction, the owner or his authorized representative shall convene a Pre-Construction Conference between the Town of Addison, Consulting Engineer, Contractor(s), utility companies and any other affected parties. Notify Bruce Ellis 450-2847 at least 48-hours prior to the time of the conference and 48-hours prior to beginning of construction.
- D. Any existing pavement, curbs, and/or sidewalks damaged or removed will be repaired by the contractor at their expense.
- E. Lot pins shall be in place during construction and prior to final acceptance. Concrete monuments shall be placed as shown on the final plat and iron pins shall be placed at block corners, curve points and angle points in public right-of-way. Concrete monuments shall be six (6) inches in diameter and twenty-four (24) inches long. An iron rod one-half inch in diameter embedded at least three (3) inches in the monument at the exact intersection point of the monument. The monuments shall be set at such an elevation that after construction, the top of the monument will be not less than twelve (12) inches below the ground surface.
- F. The contractor shall stamp a 2-inch "S" in the curb at the location of the sewer service line.
- G. At intersections that have valley drainage, the crown of the intersecting streets will culminate in a distance of 40 feet from the intersecting curb line unless otherwise noted.
- H. Temporary or permanent street barricades shall remain at all points of ingress and egress to prevent public use until such street received final acceptance.
- I. Contractor shall obtain a right-of-way permit by the Town of Addison for working within the public right-of-way.
- J. During construction, the owner shall provide a qualified geotechnical lab to perform materials testing during the construction, at the request of the Town of Addison.
- K. The contractor shall submit material sheets to the Town of Addison for approval prior to incorporating materials into the job.
- L. The utility contractor shall submit to the Town of Addison for approval a trench safety plan sealed by a registered professional engineer for the installation of utilities greater than five (5) feet in depth.



**LOCATION MAP**  
NOT TO SCALE

### WATERFORD PARK I

SHEET NO.	DESCRIPTION
FP-1	FINAL PLAT
<b>PAVING PLAN AND PROFILE</b>	
P-1	PAVING PLAN AND PROFILE
P-2	PAVING PLAN AND PROFILE
P-3	PAVING PLAN AND PROFILE
P-4	STREET RESTORATION PLAN
<b>WATER &amp; SANITARY SEWER</b>	
WS-1	WATER & SANITARY SEWER PLAN
WS-2	SANITARY SEWER PROFILES
<b>DRAINAGE PLAN AND PROFILES</b>	
DA-1	DRAINAGE AREA MAP
DR-1	DRAINAGE PLAN AND PROFILE
GR-1	GRADING & EROSION CONTROL PLAN
<b>CONSTRUCTION PLANS</b>	
D-1 THRU D-10	CONSTRUCTION DETAILS

**AS BUILTS**

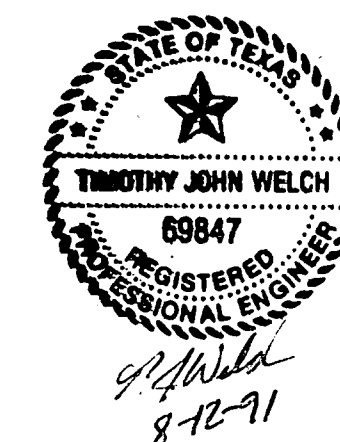
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.

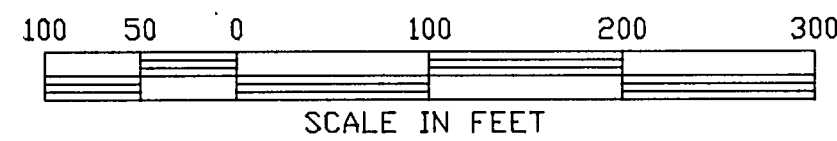
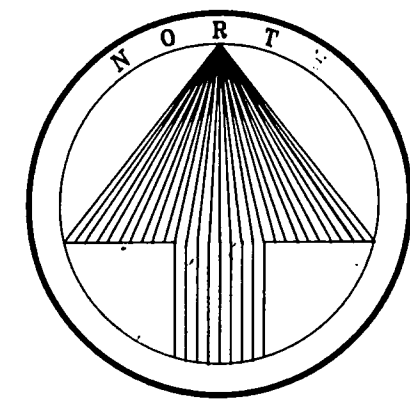
**ENGINEER**

THE NELSON CORPORATION  
5999 SUMMERSIDE DR., SUITE 202  
DALLAS, TEXAS 75252  
  
(214) 380-2605

**OWNER**

CENTEX REAL ESTATE CORPORATION, NEVADA CORP.  
1660 S. STEMMONS, SUITE 150  
LEWISVILLE, TEXAS 75067  
  
(214) 221-5556





CURVE	DELTA	RADIUS	ARC	CHORD	TANGENT	CHORD BRG
1	25°23'55"	205.00	90.87	90.13	46.20	N41°18'06"W
2	18°07'45"	205.00	64.87	64.60	32.71	S19°32'19"E
3	32°26'01"	320.00	181.14	178.73	93.07	S79°04'26"W
4	30°47'28"	333.67	179.32	177.12	91.88	S70°09'09"W
5	28°17'08"	305.00	150.57	149.05	76.85	S50°34'28"W

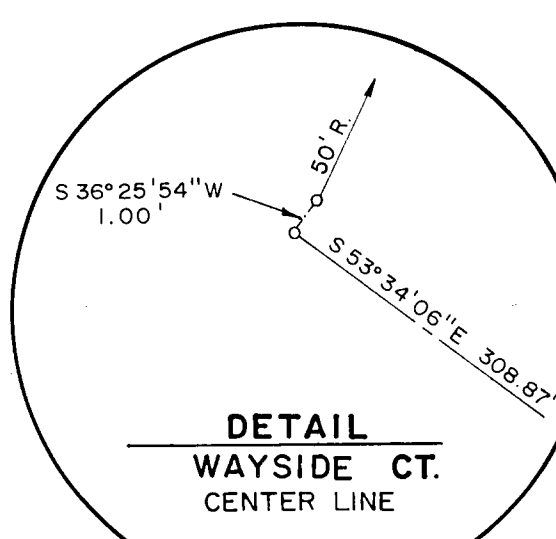
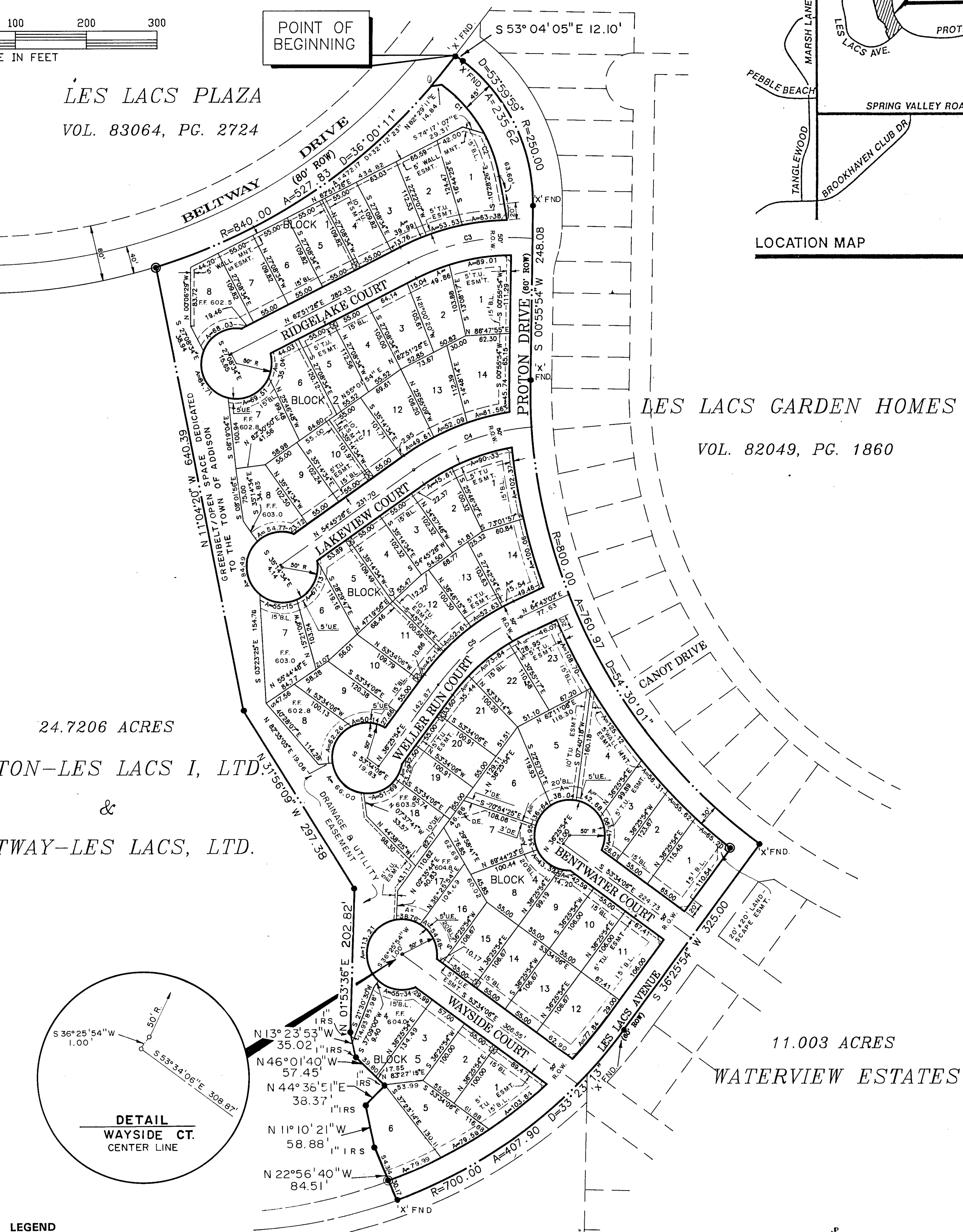
LES LACS PLAZA  
VOL. 83064, PG. 2724

24.7206 ACRES

PROTON-LES LACS I, LTD.  
&  
BELTWAY-LES LACS, LTD.

11.003 ACRES

WATERVIEW ESTATES

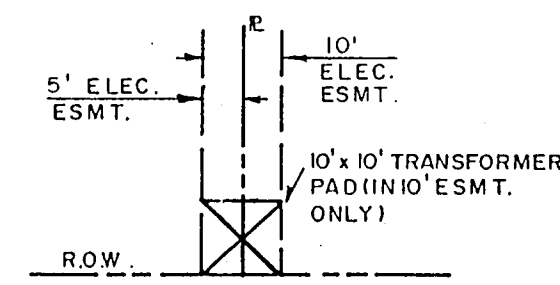
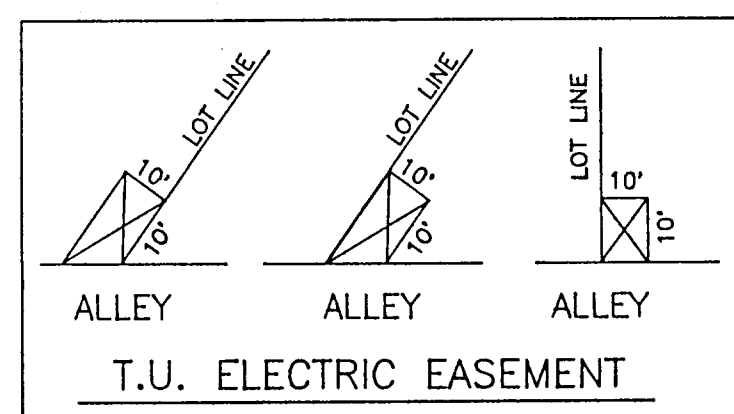


LEGEND

- WALL MAINT. ESMT Wall Maintenance Easement
- TU ESMT Texas Utility Easement
- U.E. Utility Easement
- B.L. Building Line
- F.F. Finished Floor Elevation
- Concrete Monument Set

NOTE: F.F. 604.5 means minimum finished floor elevation of 604.5 feet on lots so designated, in order to provide required freeboard for 100 year flood elevation.

Bench Mark: Square cut on top of inlet at northwest corner of Proton Drive and Les Lacs Avenue. ELEV. 607.35



TYP. T.U. TRANSFORMER PAD & ELEC. ESMT.

OWNERS CERTIFICATION

WHEREAS, CENTEX REAL ESTATE CORPORATION, A NEVADA CORPORATION, acting by and through the undersigned, its duly authorized officer, are the owners of that certain tract of land in the THOMAS L. CHENOWITH SURVEY, Abstract No. 273, in the Town of Addison, Dallas County, Texas, and also being a part of three tracts of land conveyed to the Republic National Bank of Dallas, trustee, by deeds recorded in Volume 80142, Page 2206 (117.052 acre) and 107.183 acre tracts, and Volume 80142, Page 2193 (37.393 acre tract) of the Deed Records of Dallas County, Texas, and also being part of the 41.5 acre tract of land conveyed to Les Lacs Village, Inc. by deed recorded in Volume 80138, Page 328 of Deed Records of Dallas County, Texas, and being more particularly described as follows:

BEGINNING at a cross-mark found for the intersection of the south right-of-way line of Beltway Drive with the centerline of Proton Drive, an addition to the Town of Addison, Texas according to the plat thereof recorded in Volume 82053, Page 1916, Deed Records of Dallas County, Texas;

THENCE with the said centerline, South 53° 04' 05" East, a distance of 12.10 feet to a 1/2" iron rod found for the beginning of a tangency curve to the right, having a radius of 250.00 feet, a central angle of 53° 59' 59" and a chord bearing and distance of South 26° 04' 06" East, 226.99 feet;

THENCE with the said curve, an arc distance of 235.62 feet to a cross-mark found for the point of tangent of said curve;

THENCE continuing with the centerline of Proton Drive, South 00° 55' 54" West, a distance of 248.08 feet to a cross-mark found for the beginning of a tangency curve to the left, having a radius of 800.00 feet, a central angle of 54° 30' 01" and a chord bearing and distance of South 26° 19' 07" East, 732.60 feet;

THENCE continuing with the said centerline and the said curve, an arc distance of 760.97 feet to a cross-mark found for the intersection centerline of Proton Drive with the centerline of Les Lacs Avenue (Private Street) an addition to the Town of Addison, Texas according to the plat thereof recorded in Volume 82016, Page 1073, Deed Records of Dallas County, Texas;

THENCE with the centerline of Les Lacs Avenue, South 36° 25' 54" West, a distance of 325.00 feet to a cross-mark found for the beginning of a tangency curve to the right, having a radius of 700.00 feet, a central angle of 33° 23' 13" and a chord bearing and distance of South 53° 07' 31" West, 402.15 feet;

THENCE continuing with the said centerline and the said curve, an arc distance of 407.90 feet to a cross-mark set for the end of said curve;

THENCE leaving the centerline of Les Lacs Avenue, the following courses and distances to wit:  
 North 22° 56' 40" West, a distance of 84.51 feet to a 1" iron rod set for corner;  
 North 11° 10' 21" West, a distance of 58.88 feet to a 1" iron rod set for corner;  
 North 44° 38' 51" East, a distance of 38.37 feet to a 1" iron rod set for corner;  
 North 46° 01' 40" West, a distance of 57.45 feet to a 1" iron rod set for corner;  
 North 13° 23' 53" West, a distance of 35.02 feet to a 1" iron rod set for corner;  
 North 01° 53' 36" East, a distance of 202.82 feet to a point for corner;  
 North 31° 56' 09" West, a distance of 297.38 feet to a point for corner;  
 North 11° 04' 20" West, a distance of 640.39 feet to a 5/8" iron rod set in concrete in the south right-of-way line of Beltway Drive for the beginning of a non-tangency curve to the left, having a radius of 840.00 feet, a central angle of 36° 00' 11" and a chord bearing and distance of North 54° 56' 00" East, 519.19 feet;

THENCE continuing along the said south right-of-way line and the said curve, an arc distance of 527.83 feet, to the POINT OF BEGINNING and containing 15.6217 feet.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That CENTEX REAL ESTATE CORPORATION, A NEVADA CORPORATION, do hereby adopt this plat designating the hereinabove property as WATERFORD PARK I, an addition to the Town of Addison, Texas, and, subject to the conditions, restrictions and reservations stated hereinafter, owner dedicates to the public use forever the streets and alleys shown thereon.

The easements shown on this plat are hereby reserved for the purposes as indicated, but not limited to, the installation and maintenance of water, sanitary sewer, storm sewer, drainage, electric, telephone, gas and cable television. Owner shall have the right to use these easements, provided however, that it does not unreasonably interfere or impede with the provision of the services to others. Said utility easements are hereby being reserved by mutual use and accommodation of all public utilities using or desiring to use the same. An express easement of ingress and egress is hereby expressly granted on, over and across all such easements for the benefit of the provider of services for which easements are granted.

Any drainage and floodway easement shown hereon is hereby dedicated to the public's use forever, but including the following covenants with regards to maintenance responsibilities. The existing channels or creeks traversing the drainage and floodway easement will remain as an open channel, unless required to be enclosed by ordinance, at all times and shall be maintained by the individual owners of the lot or lots that are traversed by or adjacent to the drainage and floodway easement. The city will not be responsible for the maintenance and operation of said creek or creeks or for any damage or injury of private property or person that results from the flow of water along said creek, or for the control of erosion. No obstruction to the natural flow of water run-off shall be permitted by construction of any type building, fence or any other structure within the drainage and floodway easement. Provided, however, it is understood that in the event it becomes necessary for the city to channelize or construct erecting any type of drainage structure in order to improve the storm drainage, then in such event, the city shall have the right, but not the obligation, to enter upon the drainage and floodway easement at any point, or points, with all rights of ingress and egress to investigate, survey, erect, construct or maintain any drainage facility deemed necessary by the city for maintenance or efficiency of its respective system or service.

Water main and sanitary sewer easements shall also include additional area of working space for construction and maintenance of the systems. Additional easement area is also conveyed for installation and maintenance of manholes, cleanouts, fire hydrants, water service and sewer services from the main to curb or pavement line, and the descriptions of such additional easements herein granted shall be determined by their locations as installed.

This plat is approved subject to all platting ordinances, rules, regulations and resolutions of the Town of Addison, Texas.

WITNESS MY HAND at \_\_\_\_\_, Texas, this \_\_\_\_\_ day of \_\_\_\_\_, 1992.

CENTEX REAL ESTATE CORPORATION

BILL ALLEN  
North Dallas Division President  
Centex Real Estate Corporation

STATE OF TEXAS  
COUNTY OF COLLIN

BEFORE ME, the undersigned, a Notary Public in and for the State of Texas, on this day personally appeared BILL ALLEN, North Dallas Division President, of CENTEX REAL ESTATE CORPORATION, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that the same was the act of the said corporation, and that he executed the same as the act of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY SEAL OF OFFICE this \_\_\_\_\_ day of \_\_\_\_\_, 1992.

Notary Public, State of Texas

The 100 year floodplain is contained in the drainage easements and street right-of-way within this final plat.

Certified to this the \_\_\_\_\_ day of \_\_\_\_\_, 1992

Registered Professional Engineer No: \_\_\_\_\_

SURVEYOR CERTIFICATION

STATE OF TEXAS  
COUNTY OF DALLAS

THAT I, Brian Marcus, do hereby certify that I have prepared this plat from an actual survey of the land and that the corner monuments shown thereon actually exist, and their location, size and material described are correctly shown.

BRIAN MARCUS,  
Registered Professional Land Surveyor #4695  
THE NELSON CORPORATION  
5999 Summerside Drive, Dallas, Texas 75252,  
(214) 380-2605

STATE OF TEXAS  
COUNTY OF DALLAS

BEFORE ME, the undersigned, a Notary Public in and for the State of Texas, on this day personally appeared Brian Marcus, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this \_\_\_\_\_ day of \_\_\_\_\_, 1992.

Notary Public, State of Texas

APPROVED this \_\_\_\_\_ day of \_\_\_\_\_, 1992, by the Planning and Zoning Commission of the Town of Addison, Texas.

City Secretary  
Town of Addison, Texas

Mayor,  
Town of Addison, Texas

NOTES:

- Property owners shall provide access to the utility/drainage easements as may be necessary for inspection and maintenance of facilities by the Town of Addison Public Utility Companies.
- All iron rods set are 5/8" iron rod except PC, PT, PI & block corners are 1" iron rod set, unless noted. Concrete monument set.
- Driveway access/curb cuts to Proton Drive and Les Lacs Avenue are prohibited for all lots except lots 5 and 6, Block 5. Lots 5 and 6, Block 5 shall have a paved pad sufficient to turn a vehicle around. This pad shall be located adjacent to the driveway.
- No masonry walls or columns are permitted in the drainage and utility easements.

FINAL PLAT

OF

WATERFORD PARK I

AN ADDITION TO THE TOWN OF ADDISON

15.6217 ACRE TRACT

OUT OF THE

THOMAS L. CHENOWITH SURVEY, ABSTRACT NO. 273  
TOWN OF ADDISON, DALLAS COUNTY, TEXAS

OWNER-APPLICANT

CENTEX REAL ESTATE CORPORATION,  
A NEVADA CORPORATION

1660 S. STEMMONS, SUITE 230  
LEWISVILLE, TEXAS 75067

(214) 221-5556

JANUARY, 1992

PLANNER-ENGINEER-SURVEYOR

THE NELSON CORPORATION

5999 SUMMERSIDE DRIVE, SUITE 202  
DALLAS, TEXAS 75252

(214) 380-2605

SCALE: 1"=100'



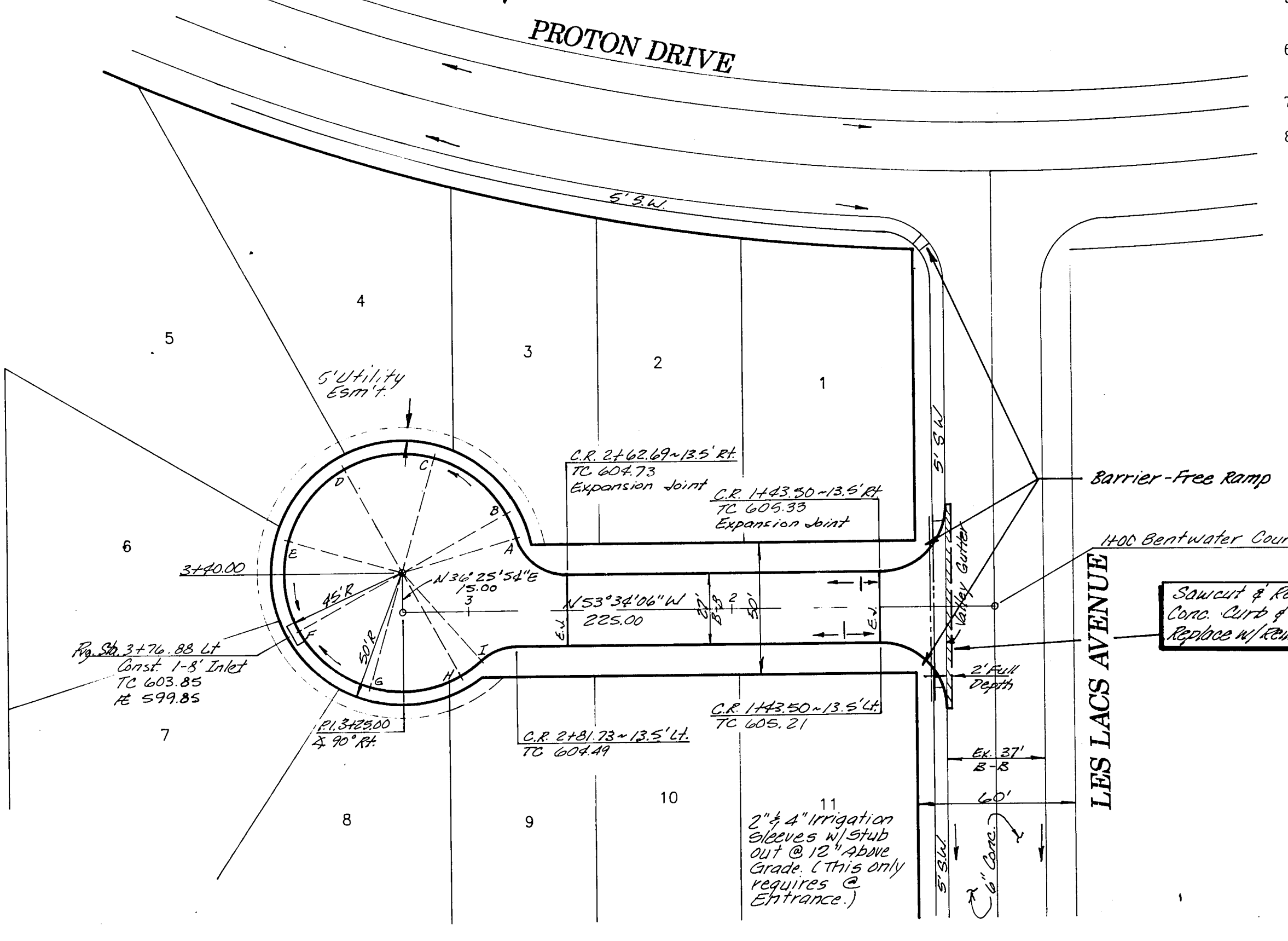
Revisions	Date	Description	Drawn By	Checked By

**PAVING GENERAL NOTES:**

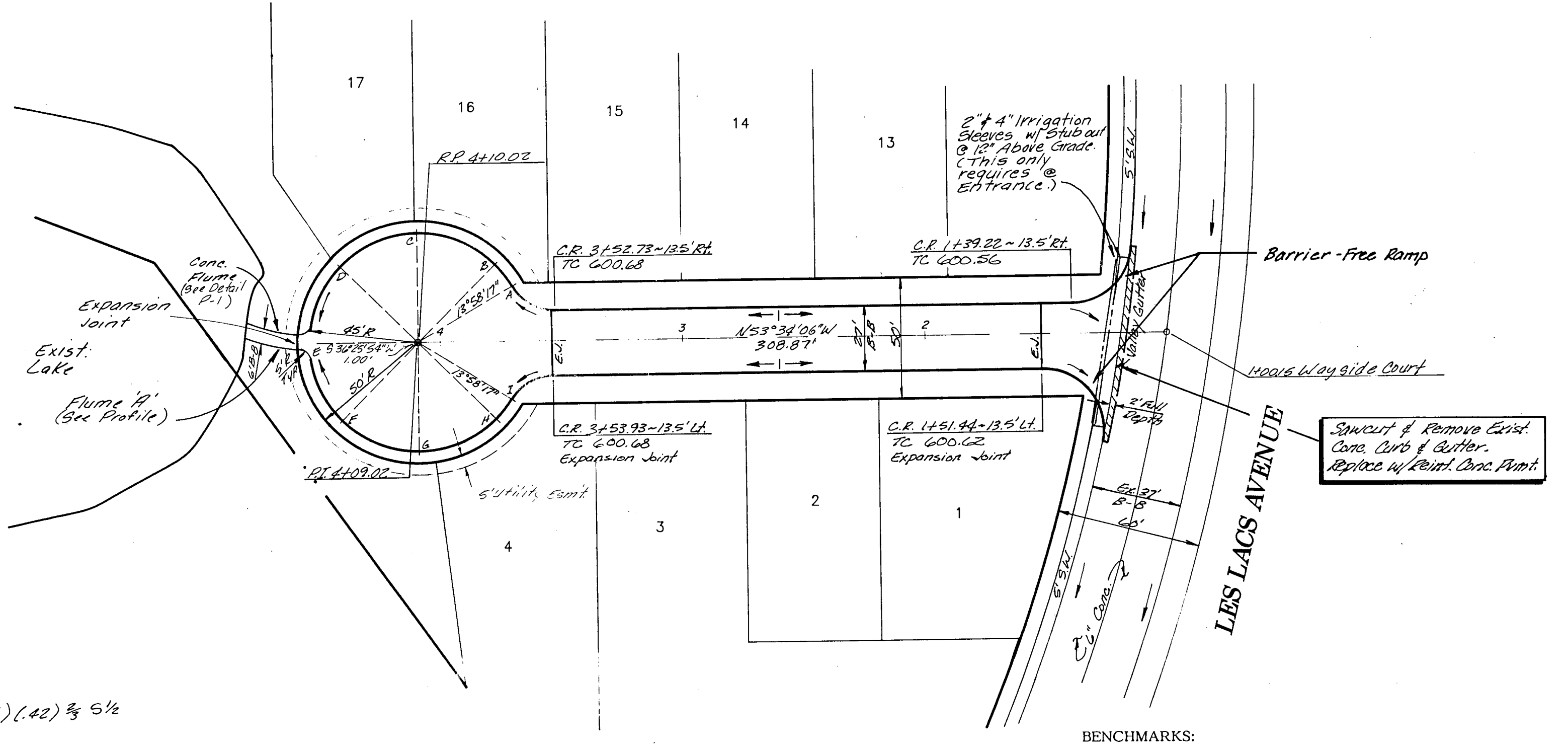
- Unless otherwise noted all material and construction shall conform to applicable specifications of the Town of Addison with amendments - The North Central Texas Council of Governments "Standard Specifications for Public Works Construction", Parts I and II, latest edition.
- All curb dimensions are to back of curb.
- Pavement reinforcing will be grade 60.
- All on-site concrete pavement will be 6" thick and have a minimum strength of 3000 PSI at 28 days.
- Construct a barrier-free curb and ramp at all intersections. See Sheet P-3 for details.
- The Contractor will be responsible for field verifying the location of all existing utilities prior to his operations.
- Hydrated lime will be applied as a slurry.
- No flyash is allowed.

**PAVING GENERAL NOTES:**

- Contraction Joints:** Transverse contraction joints shall be sawed joints perpendicular to the centerline and surface of the pavement. Where sawed joints are used, contraction joints at 20-foot intervals shall be sawed as soon as sawing can be accomplished without damage to the pavement.
- Expansion Joints:** Transverse expansion joints shall be formed perpendicular to the centerline and surface of the pavement and shall be constructed as shown on the plans.

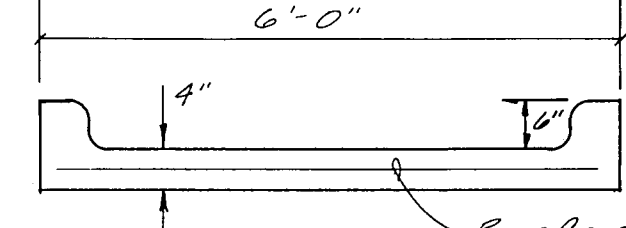


**BENTWATER COURT**



**WAYSIDE COURT**

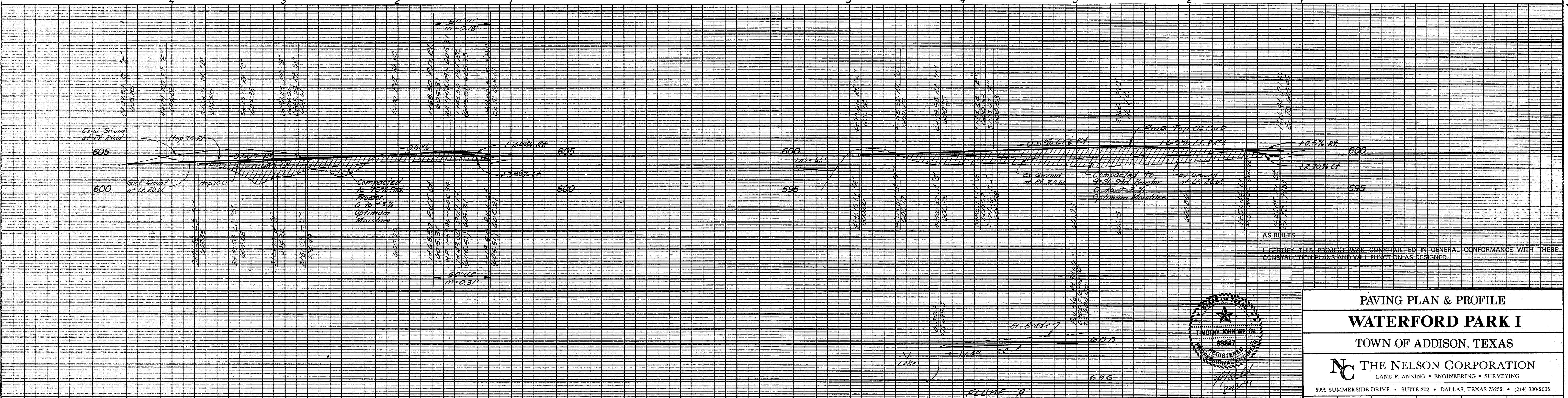
$Q_{cap} = \frac{1.486}{.016} (2.5)(.42) \frac{2}{3} 5\frac{1}{2}$   
 $Q_{cap} = 130.5\frac{1}{2}$



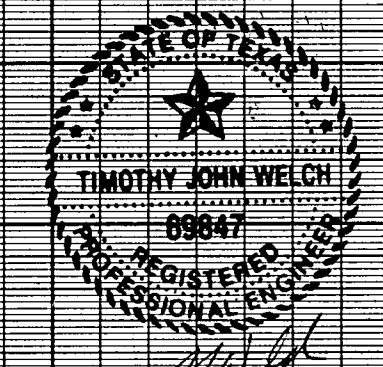
**CONC. FLUME / SIDE WALK**  
N.T.S.

**BENCHMARKS:**

- Square cut on 14' recessed inlet on north curb line at the intersection of Beltway Drive and Proton Drive. Elev. 596.53
- Square cut on top of inlet at northwest corner of Proton Drive and Les Lacs Avenue. Elev. 607.35
- "X" cut in centerline of Les Lacs Avenue, 250' ± west of Proton Drive. Elev. 601.88



AS BUILT  
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



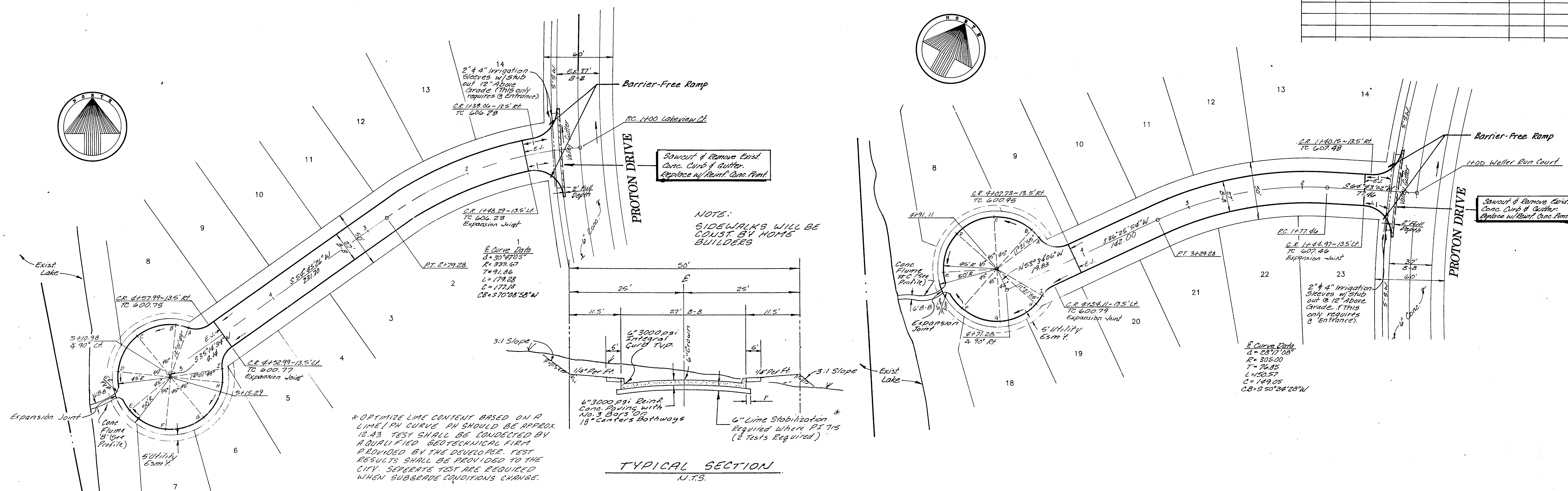
**PAVING PLAN & PROFILE**  
**WATERFORD PARK I**  
TOWN OF ADDISON, TEXAS

**THE NELSON CORPORATION**  
LAND PLANNING • ENGINEERING • SURVEYING  
5999 SUMMERSIDE DRIVE • SUITE 202 • DALLAS, TEXAS 75252 • (214) 380-2605

DESIGN	DRAWN	DATE	SCALE	FILE	SHEET NO.
TNC	TNC	AUG. 1991	1"=40' 1"=6'V	90025-5	<b>P-1</b>



Revisions	Date	Description	Drawn By	Checked By



**LAKEVIEW COURT**

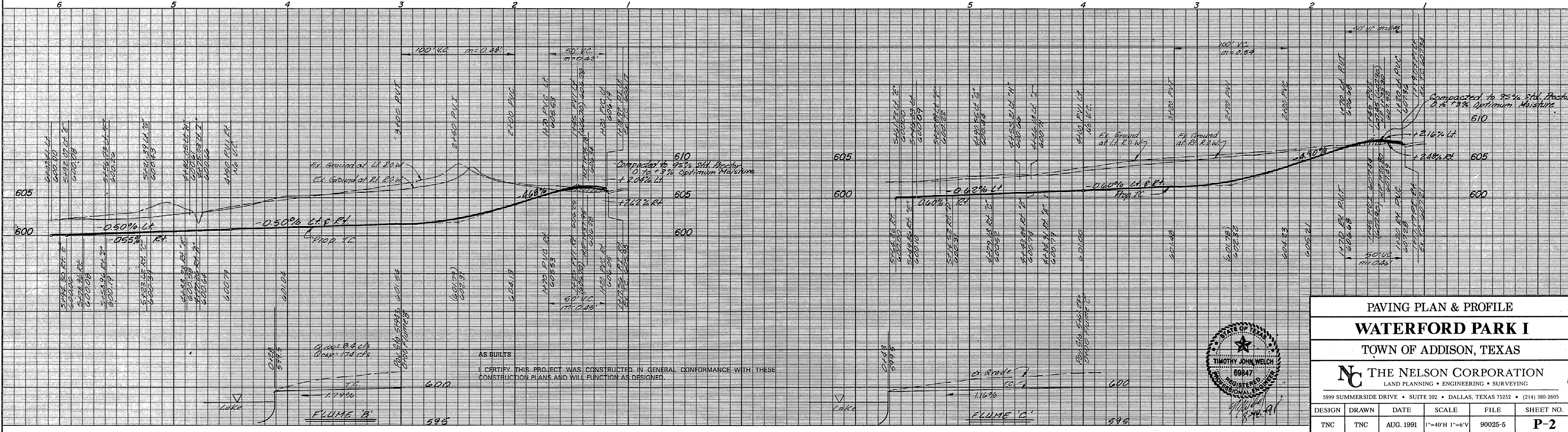
**WELLER RUN COURT**

**TYPICAL SECTION**  
N.T.S.

**BENCHMARKS:**  
 Square cut on 14' recessed inlet on north curb line at the intersection of Beltway Drive and Proton Drive. Elev. 596.53  
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 "X" cut in centerline of Les Lacs Avenue, 250' ± west of Proton Drive. Elev. 601.88

\* OPTIMUM LIME CONTENT BASED ON A LIME/PA CURVE PH SHOULD BE APPROX. 12.43 TEST SHALL BE CONDUCTED BY A QUALIFIED GEOTECHNICAL FIRM PROVIDED BY THE DEVELOPER. TEST RESULTS SHALL BE PROVIDED TO THE CITY. SEPARATE TEST ARE REQUIRED WHEN SUBGRADE CONDITIONS CHANGE.

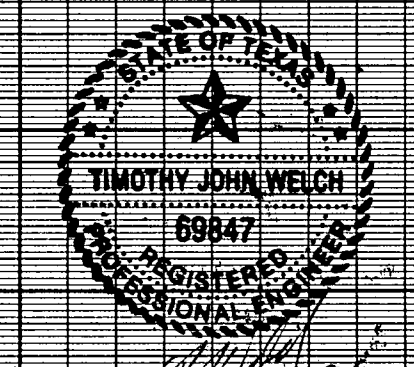
**NOTE:**  
SIDEWALKS WILL BE CONST. BY HOME BUILDERS



**PAVING PLAN & PROFILE**  
**WATERFORD PARK I**  
 TOWN OF ADDISON, TEXAS

**THE NELSON CORPORATION**  
 LAND PLANNING • ENGINEERING • SURVEYING  
 5999 SUMMERSIDE DRIVE • SUITE 202 • DALLAS, TEXAS 75252 • (214) 380-2605

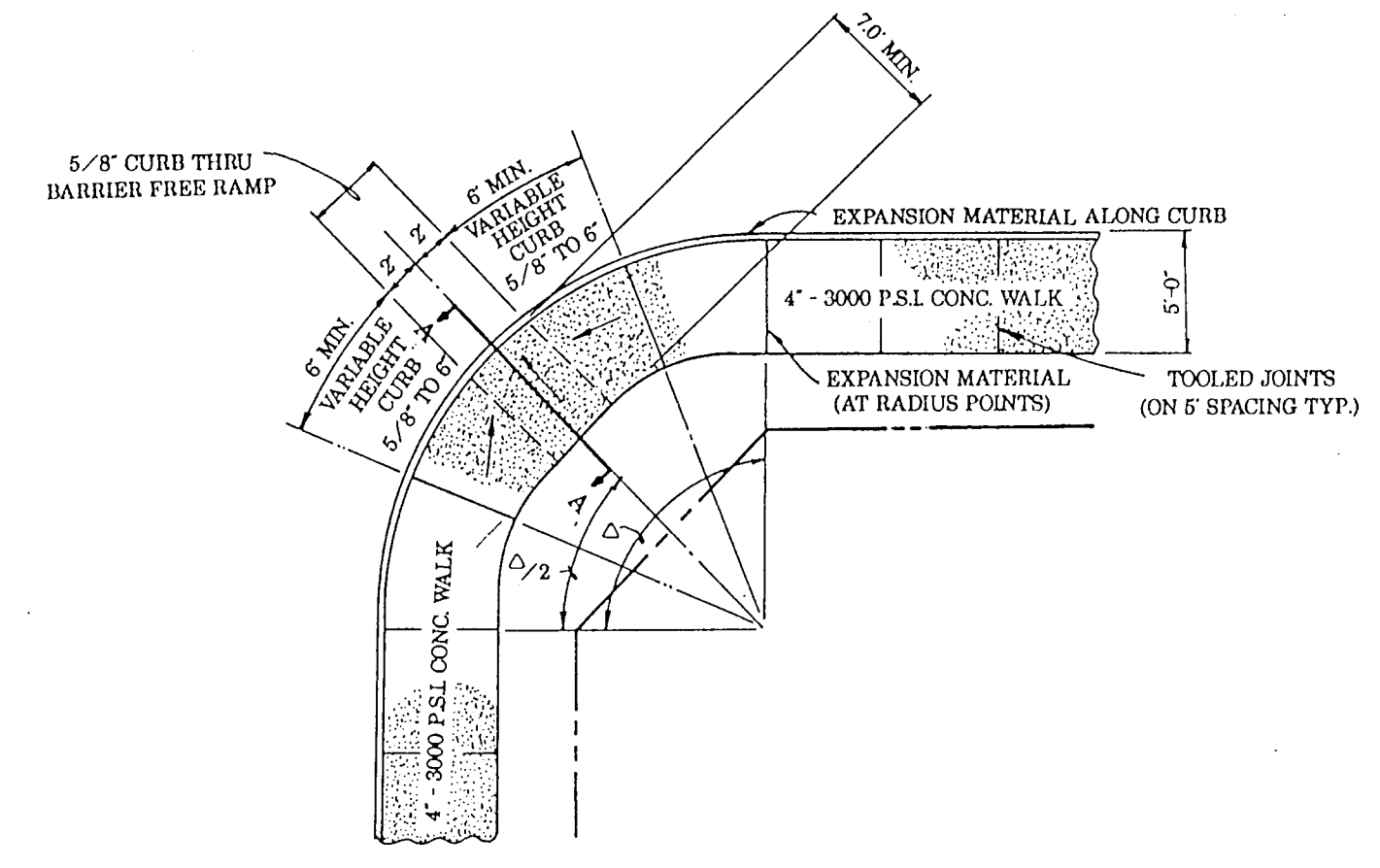
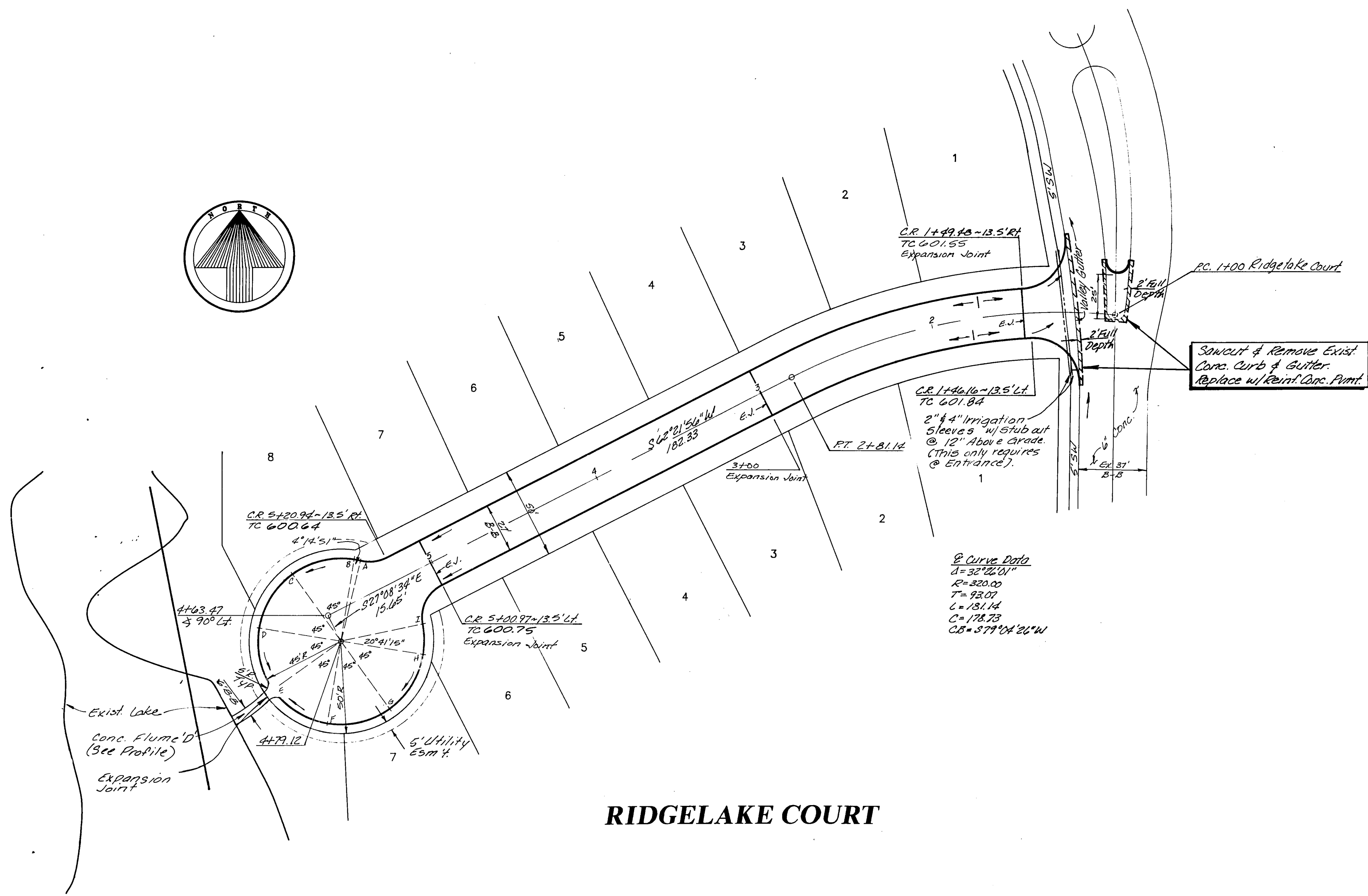
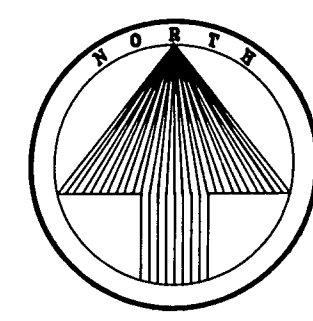
DESIGN: TNC    DRAWN: TNC    DATE: AUG. 1991    SCALE: 1"=40'H 1"=6'V    FILE: 90025-5    SHEET NO.: **P-2**



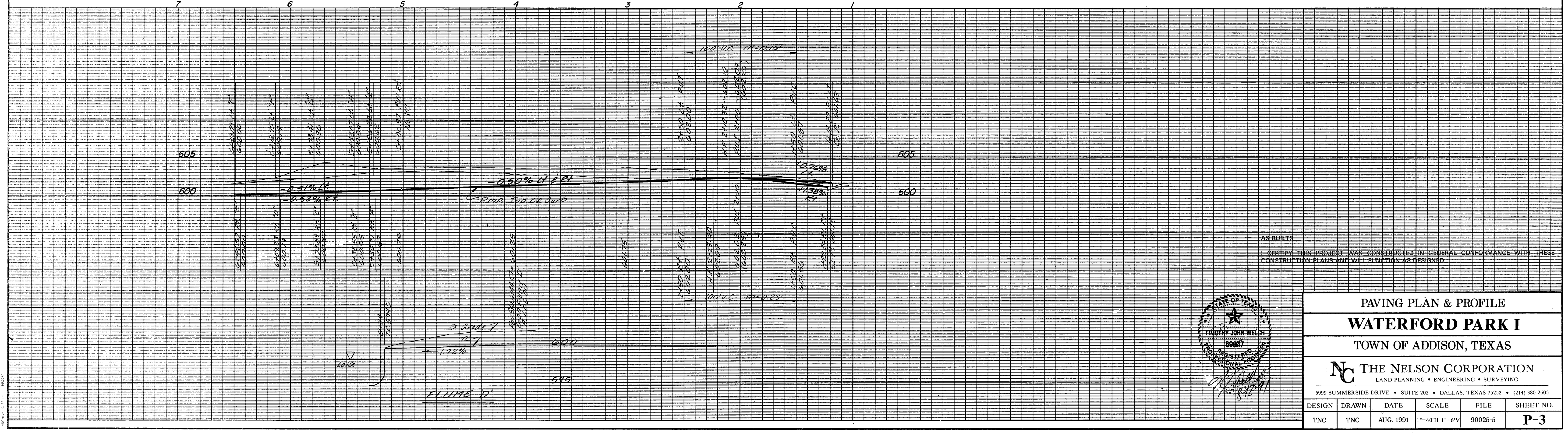
REVISIONS SUPPLIES N2220



Revisions	Date	Description	Drawn By	Checked By

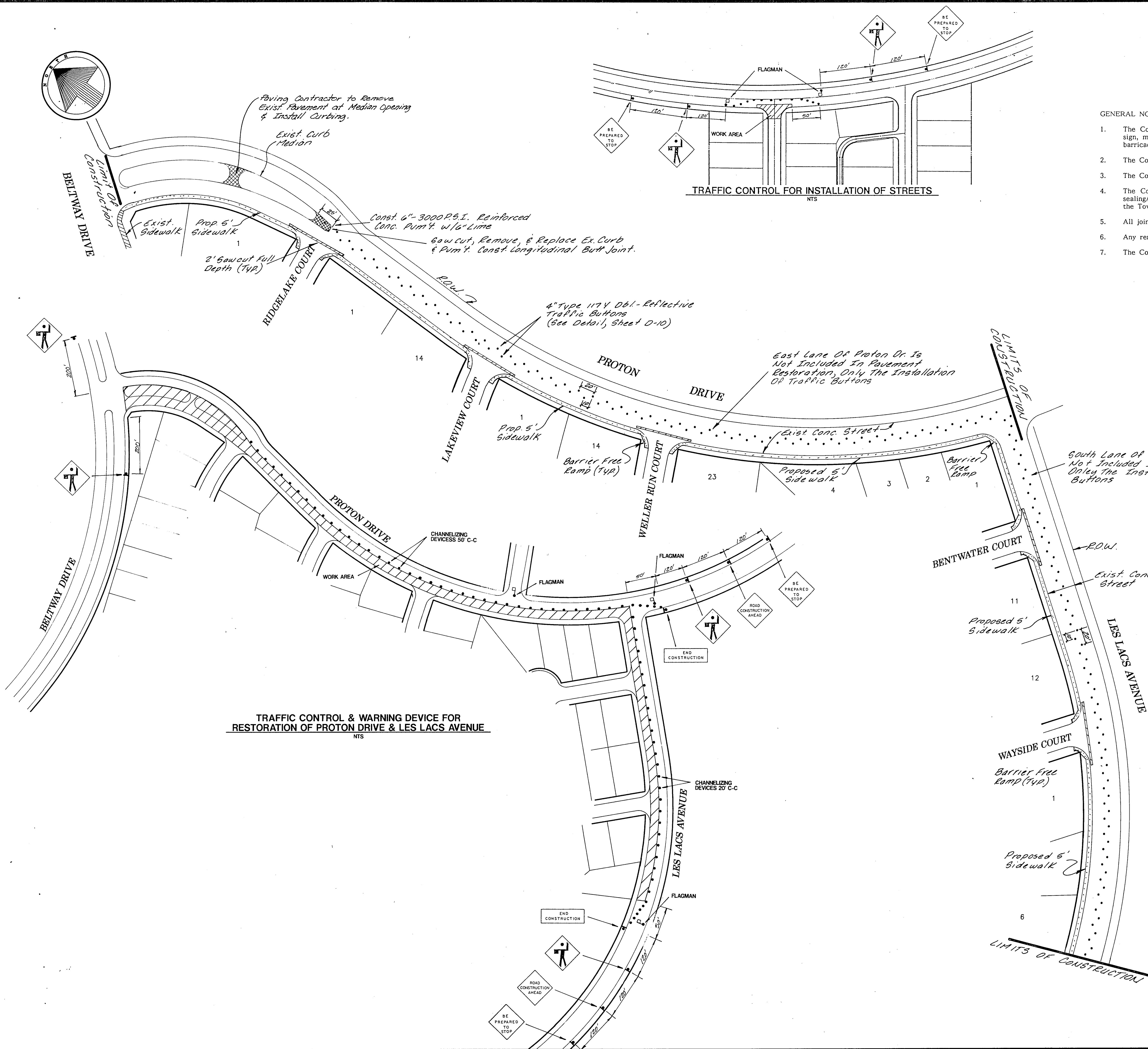


- PAVING GENERAL NOTES:**
- Unless otherwise noted all material and construction shall conform to applicable specifications of the Town of Addison with amendments - The North Central Texas Council of Governments "Standard Specifications for Public Works Construction", Parts I and II, latest edition.
  - All curb dimensions are to back of curb.
  - Pavement reinforcing will be grade 60.
  - All on-site concrete pavement will be 6" thick and have a minimum strength of 3000 PSI at 28 days.
  - Construct a barrier-free curb and ramp at all intersections. See Sheet P-3 for details.
  - The Contractor will be responsible for field verifying the location of all existing utilities prior to his operations.
  - Hydrated lime will be applied as a slurry.
  - No flyash is allowed.
- BENCHMARKS:**
- Square cut on 14' recessed inlet on north curb line at the intersection of Beltway Drive and Proton Drive. Elev. 596.53
  - Square cut on top of inlet at northwest corner of Proton Drive and Les Lacs Avenue. Elev. 607.35
  - "X" cut in centerline of Les Lacs Avenue, 250' ± west of Proton Drive. Elev. 601.88





Revisions	Date	Description	Drawn By	Checked By



GENERAL NOTES

1. The Contractor is required to place the necessary construction sign, detour sign, street closing sign, land closing sign, men working sign, two way traffic sign, warning signs, road construction and end of construction signs on the barricades at all times during the project construction.
2. The Contractor is responsible to keep barricading in place and in working order at all times.
3. The Contractor is responsible for one (1) Port-a-can for each increment of 20 employees.
4. The Contractor shall be responsible for the restoration of the south lane only of Proton Drive to include joint sealing/repair, installation of five foot sidewalk, and traffic buttons which shall be constructed in accordance with the Town of Addison's standard specifications.
5. All joints through the gutters shall be sealed with hot-poured rubber sealer unless otherwise specified.
6. Any removal of concrete pavement shall be made by a power driven saw prior to the replacement of the paving.
7. The Contractor shall be responsible to visit site to field verify the condition of Proton Drive.

AS BUILTS  
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.

BENCHMARKS:  
Square cut on 14" recessed inlet on north curb line at the intersection of Beltway Drive and Proton Drive. Elev. 596.53  
Square cut on top of inlet at northwest corner of Proton Drive and Les Lacs Avenue. Elev. 607.35  
"X" cut in centerline of Les Lacs Avenue, 250' ± west of Proton Drive. Elev. 601.88

**STREET RESTORATION PLAN**

**WATERFORD PARK I**

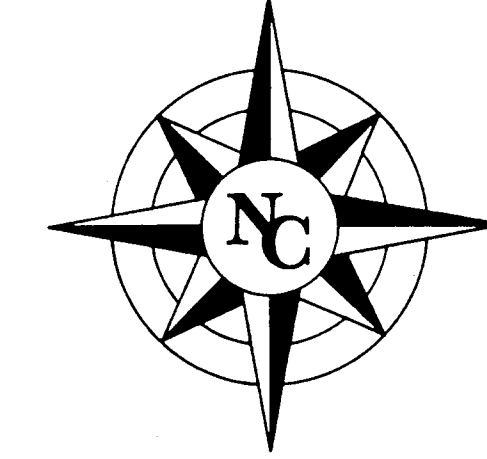
TOWN OF ADDISON, TEXAS

Date: AUGUST, 1991	Scale: 1"=60'	SHEET P-4 OF
Drawn By: T.N.C.	Approved By: T.N.C.	SHEETS

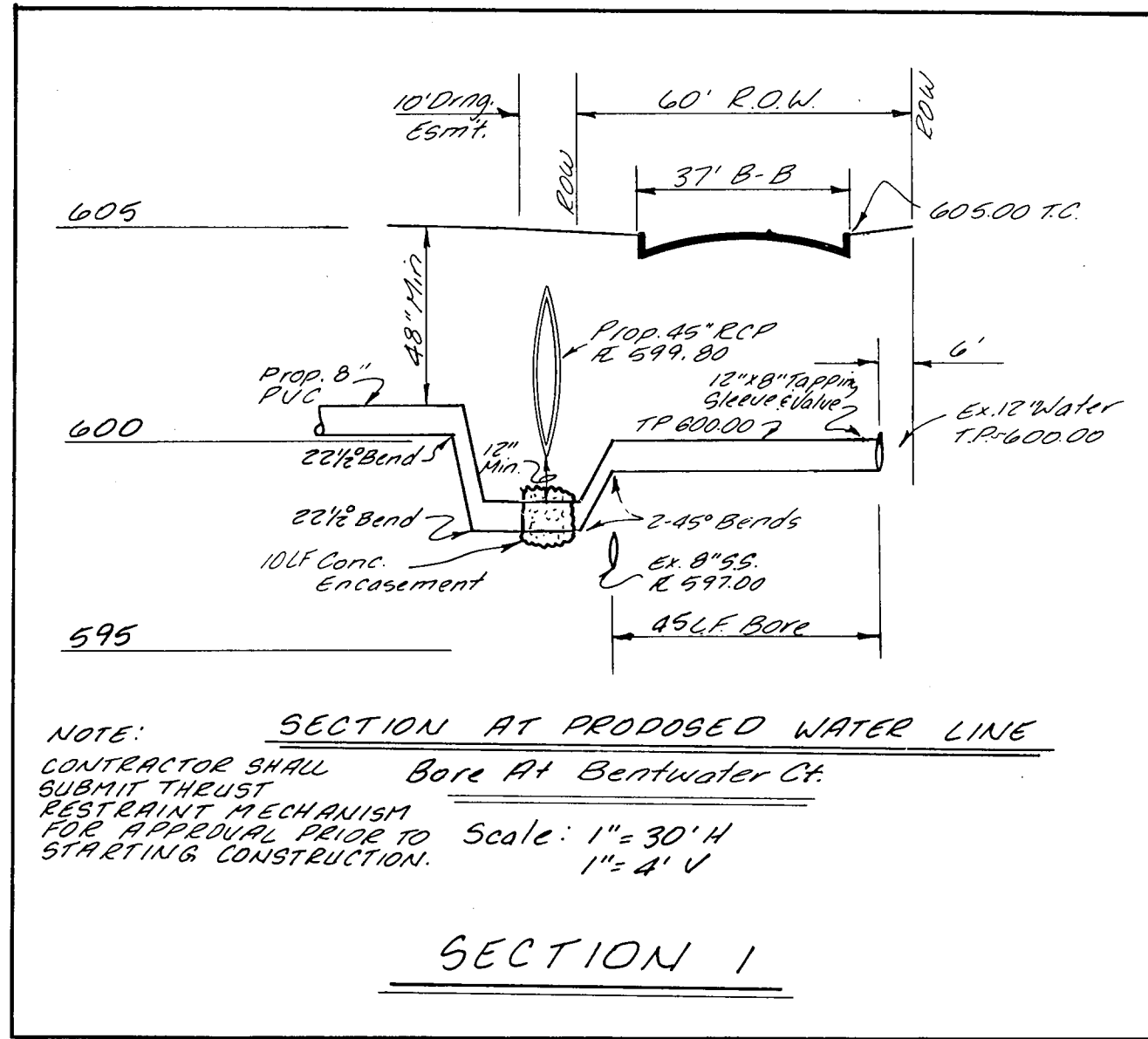
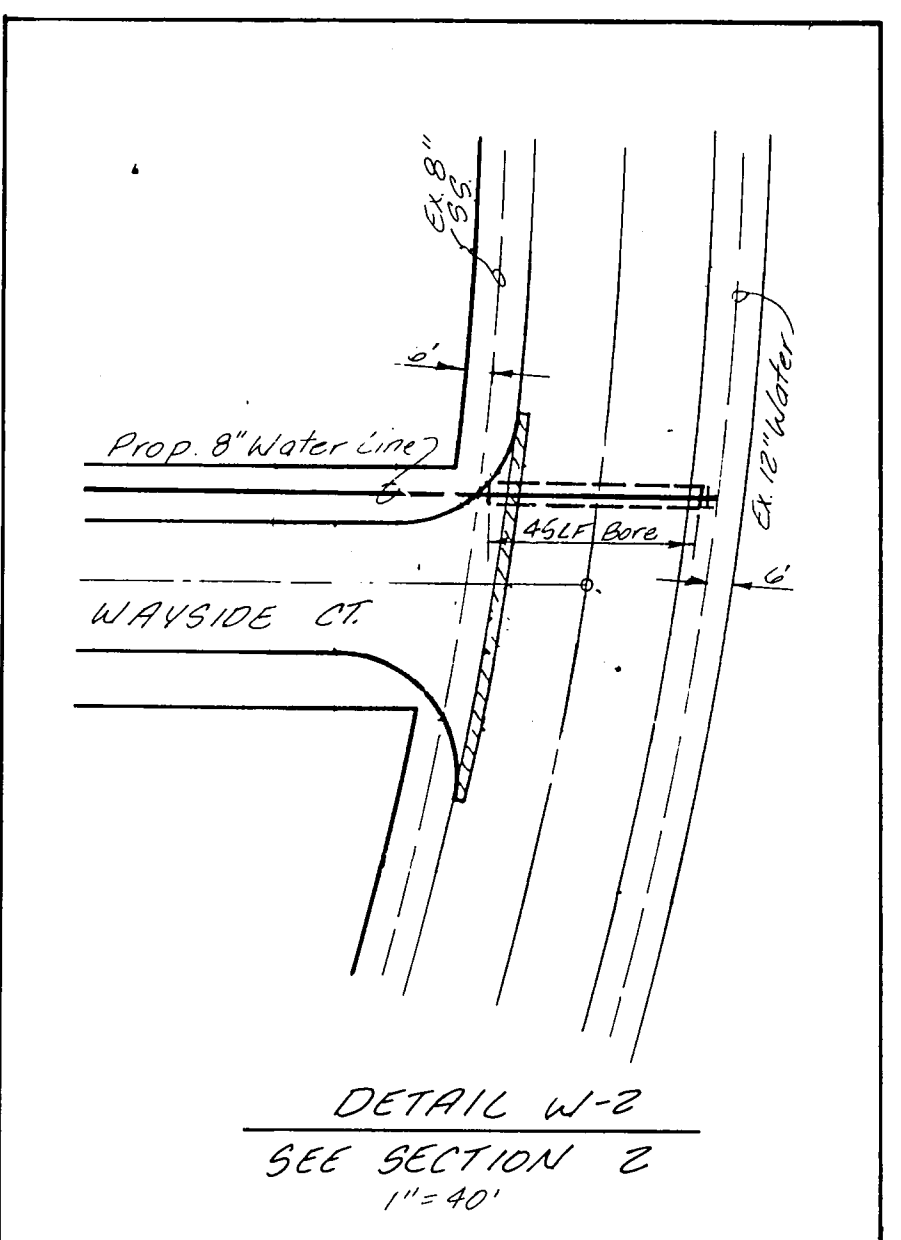
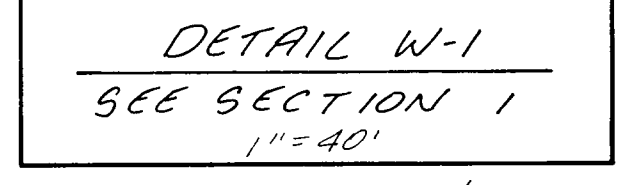
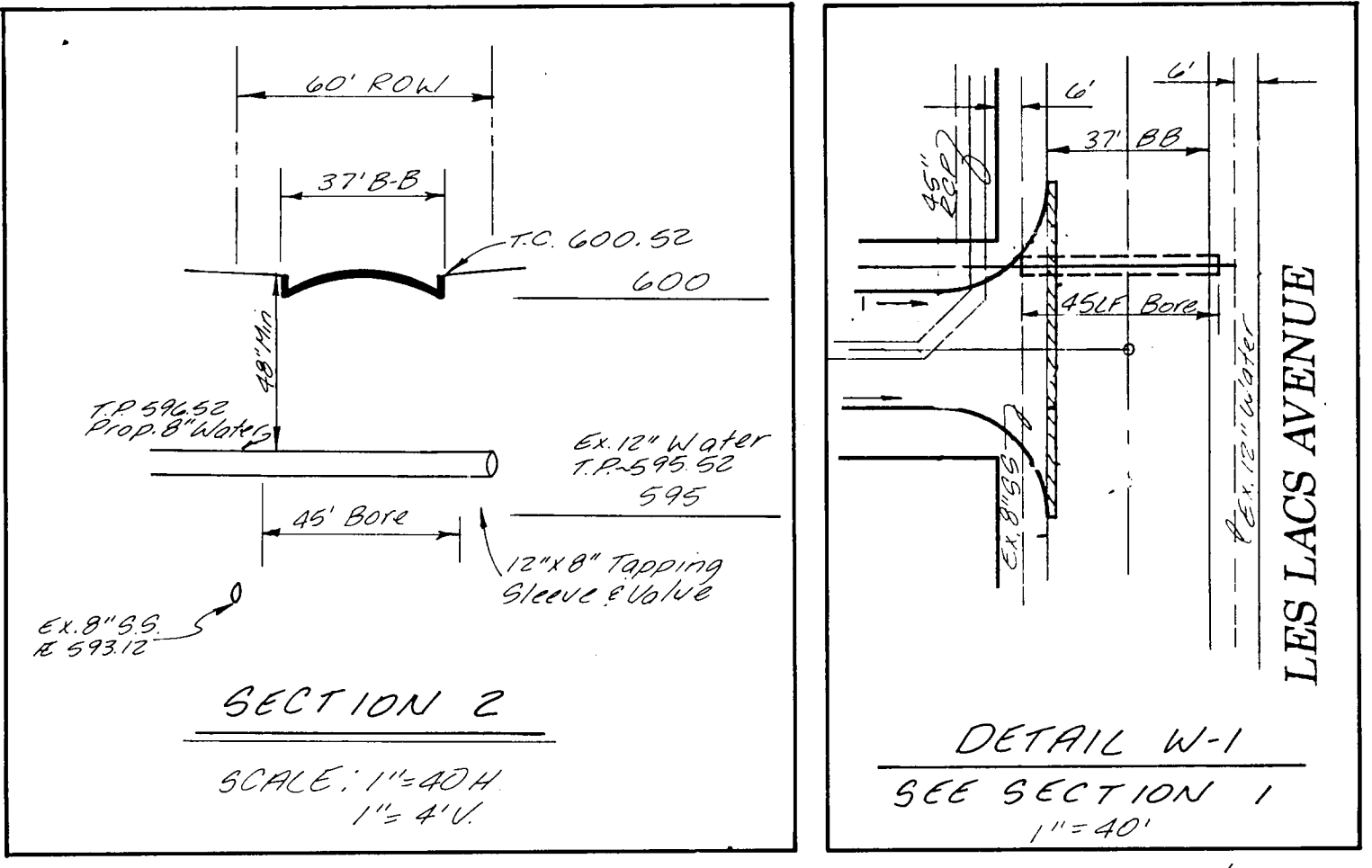
5999 SUMMERSIDE DRIVE • SUITE 202 • DALLAS, TEXAS 75252 • (214) 380-2605



NORTH



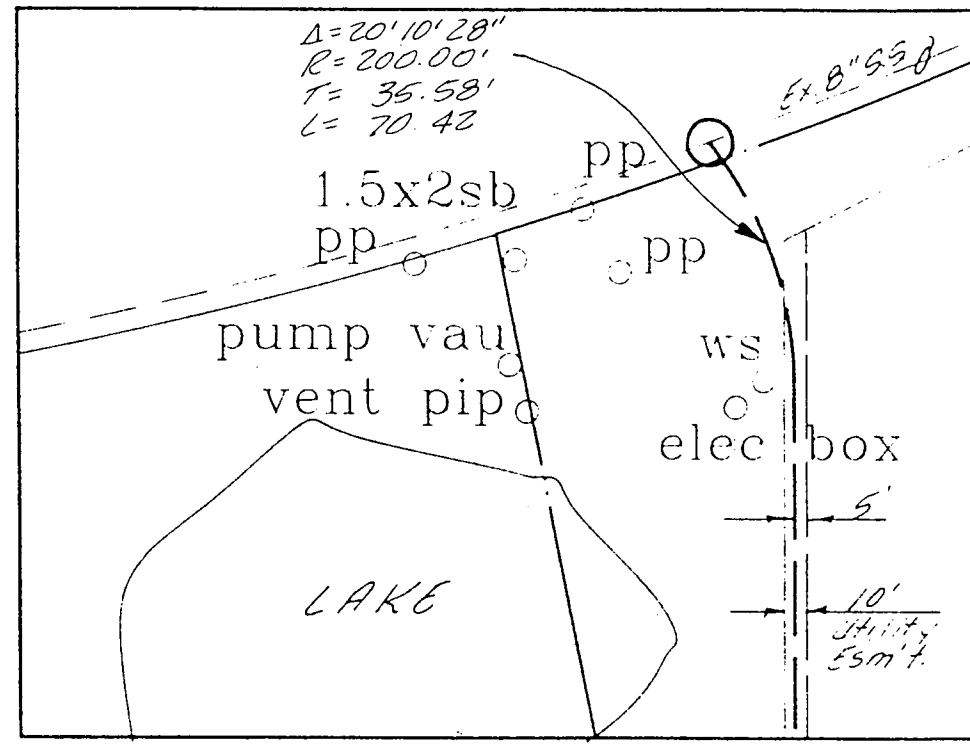
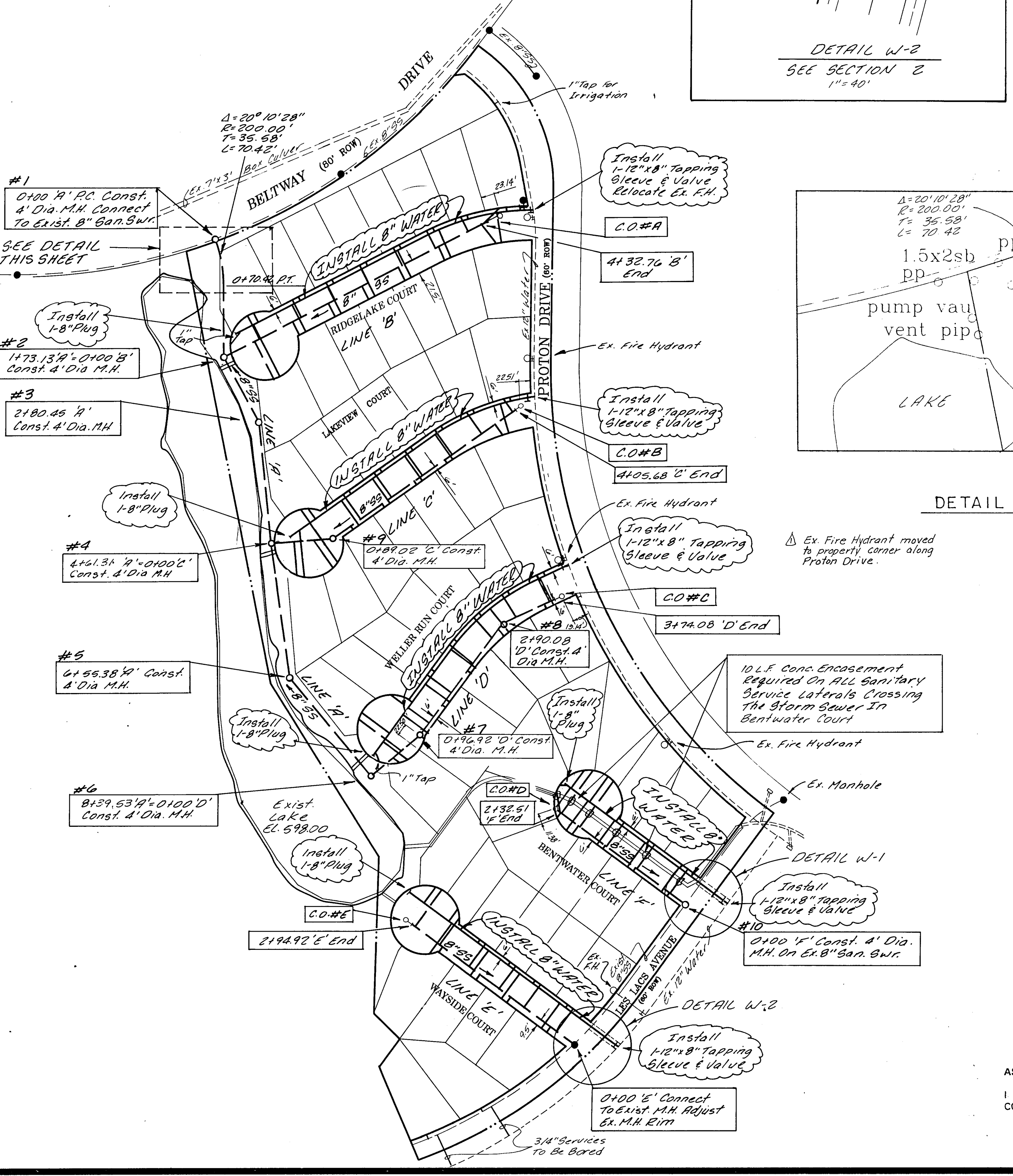
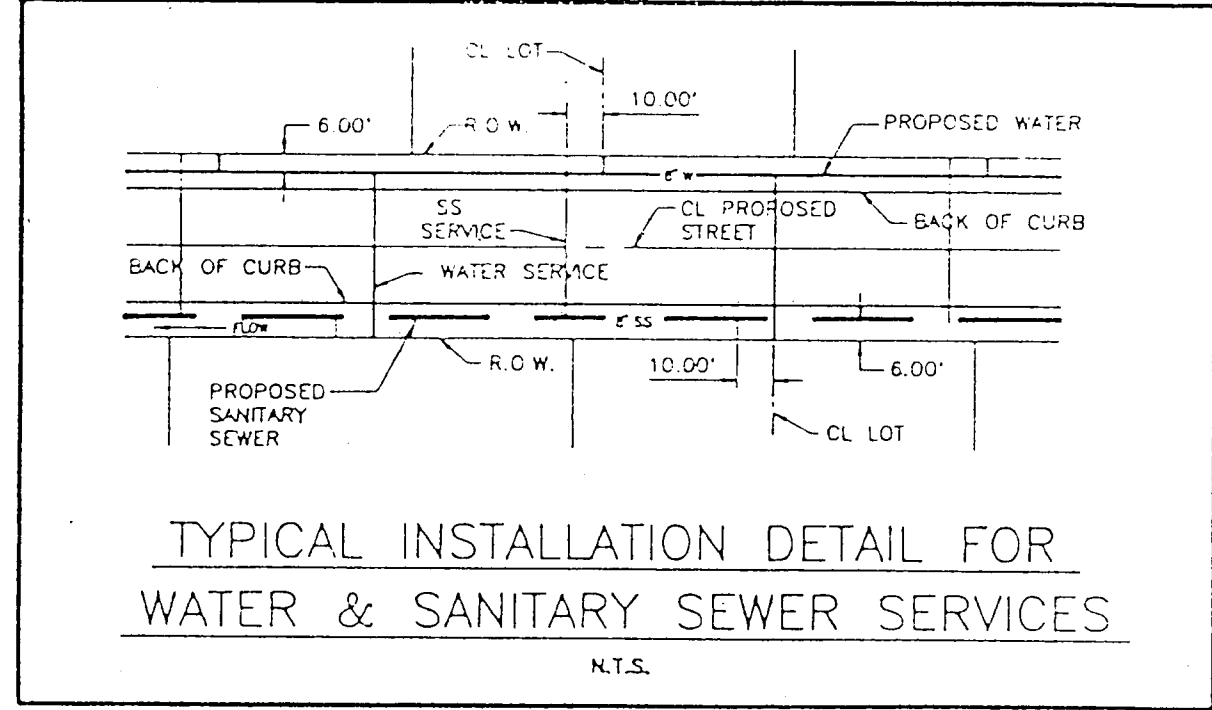
Revisions	Date	Description	Drawn By	Checked By



NOTE: SECTION AT PROPOSED WATER LINE Bore At Bentwater Ct.  
CONTRACTOR SHALL SUBMIT THE BEST RESTRAINT MECHANISM FOR APPROVAL PRIOR TO STARTING CONSTRUCTION.  
Scale: 1"=30'H  
1"=4' V

WATER & SANITARY GENERAL NOTES

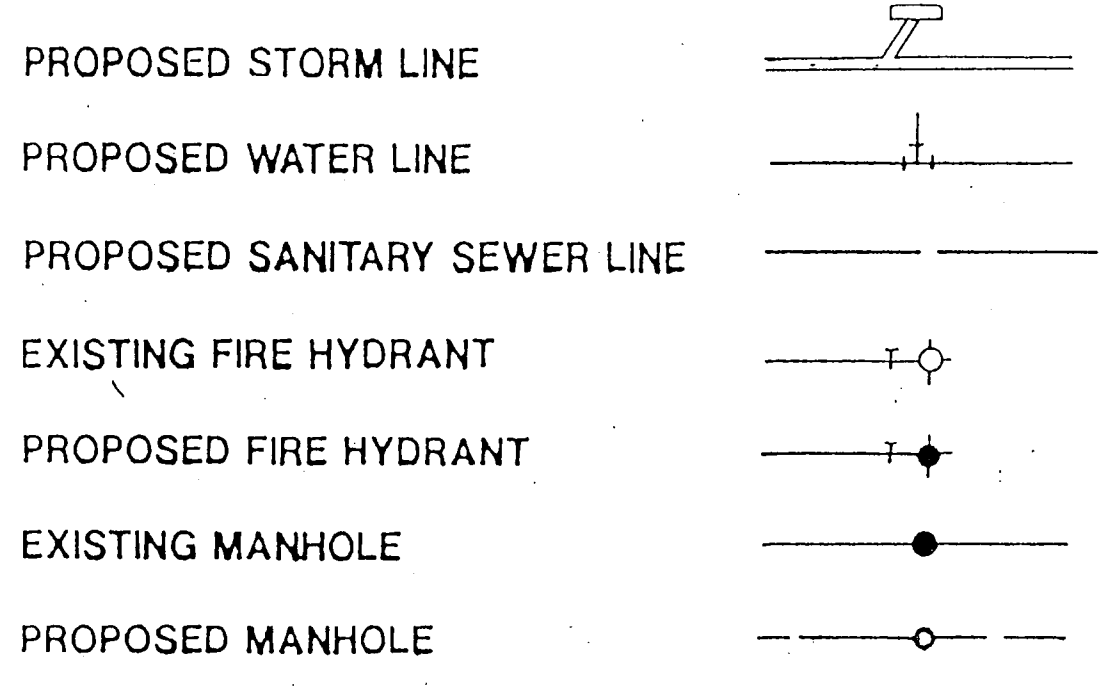
- All water mains shall be PVC SDR-18 water pipe.
- All sanitary sewer mains shall be PVC SDR-35 and shall have integral wall bell and spigot joints.
- All water mains shall have a minimum cover below finished grades as follows: 6" & 8" - 48", 12" - 60", or as required to clear other utilities.
- The location of all utilities are taken from existing public records. The exact location must be determined by the Contractor. It is the duty of the contractor to ascertain whether any other facilities (additional), other than those on the plans may be present.
- All utility and service laterals trenches shall be backfilled and compacted to 95% Standard Proctor Density.
- All manholes, cleanouts, valve boxes, fire hydrants, etc., must be adjusted to proper line and grade by the Contractor after placing of permanent paving.
- All work and materials shall be in accordance with the Town of Addison Standard Specifications.
- Contractor shall be responsible for providing "as-built" plans to the Engineer showing the location of sewer service to the lot lines.
- All fire hydrants shall be Mueller Centurion model.
- The No. 12 plastic coated wire shall be placed in the trench over all water lines. The wire will be tied to all valves and fire hydrants and attached directly to the top of pipe and extend to six (6") inches above finished grade along the outside of all valve stacks and fire hydrants.
- All dimensions shown are to centerline of pipe and the R.O.W., unless otherwise noted.
- Contractor shall be responsible for trench safety and details as required.



DETAIL

COORDINATE POINTS FOR SAN. SWR. MHS.			COORDINATE POINTS FOR SAN. SWR. CLEAN OUTS		
M.H.	NORTH	EAST	C.O.	NORTH	EAST
#1	5364.728	6347.992	#A	5004.293	6764.793
#2	5193.068	6360.586	#B	5110.120	6776.553
#3	5098.576	6411.507	#C	4837.782	6839.561
#4	4918.613	6429.344	#D	4533.598	6846.542
#5	4726.494	6456.799	#E	4367.085	6634.524
#6	4584.044	6574.020			
#7	4646.496	6648.899			
#8	4801.909	6763.612			
#9	4927.393	6517.931			
#10	4395.518	7032.613			

UTILITY KEY



AS BUILTS  
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.

NOTE: CLEAN OUTS AND MANHOLES ARE MEASURED ALONG PROPERTY LINES.

BENCHMARKS:  
Square cut on 14' recessed inlet on north curb line at the intersection of Beltway Drive and Proton Drive. Elev. 596.53  
Square cut on top of inlet at northwest corner of Proton Drive and Les Lacs Avenue. Elev. 607.35  
"X" cut in centerline of Les Lacs Avenue, 250' ± west of Proton Drive. Elev. 601.88

WATER METER SCHEDULE

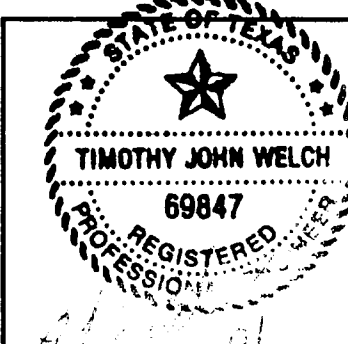
TYPE	SIZE	NO.
DOMESTIC	3/4"	65
IRRIGATION	1"	4

△ AS-BUILT REVISION

WATER & SEWER PLAN

WATERFORD PARK I  
TOWN OF ADDISON, TEXAS

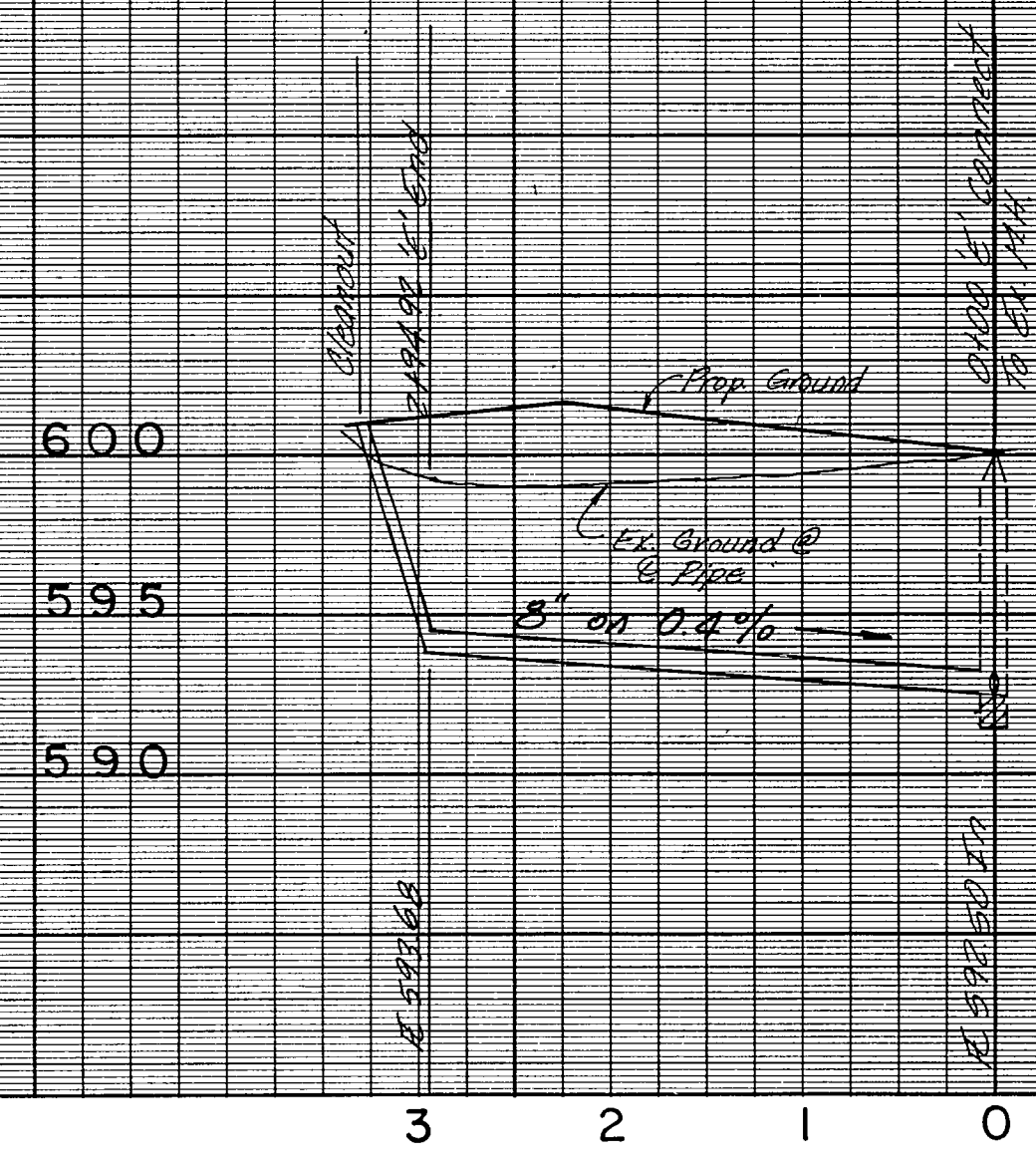
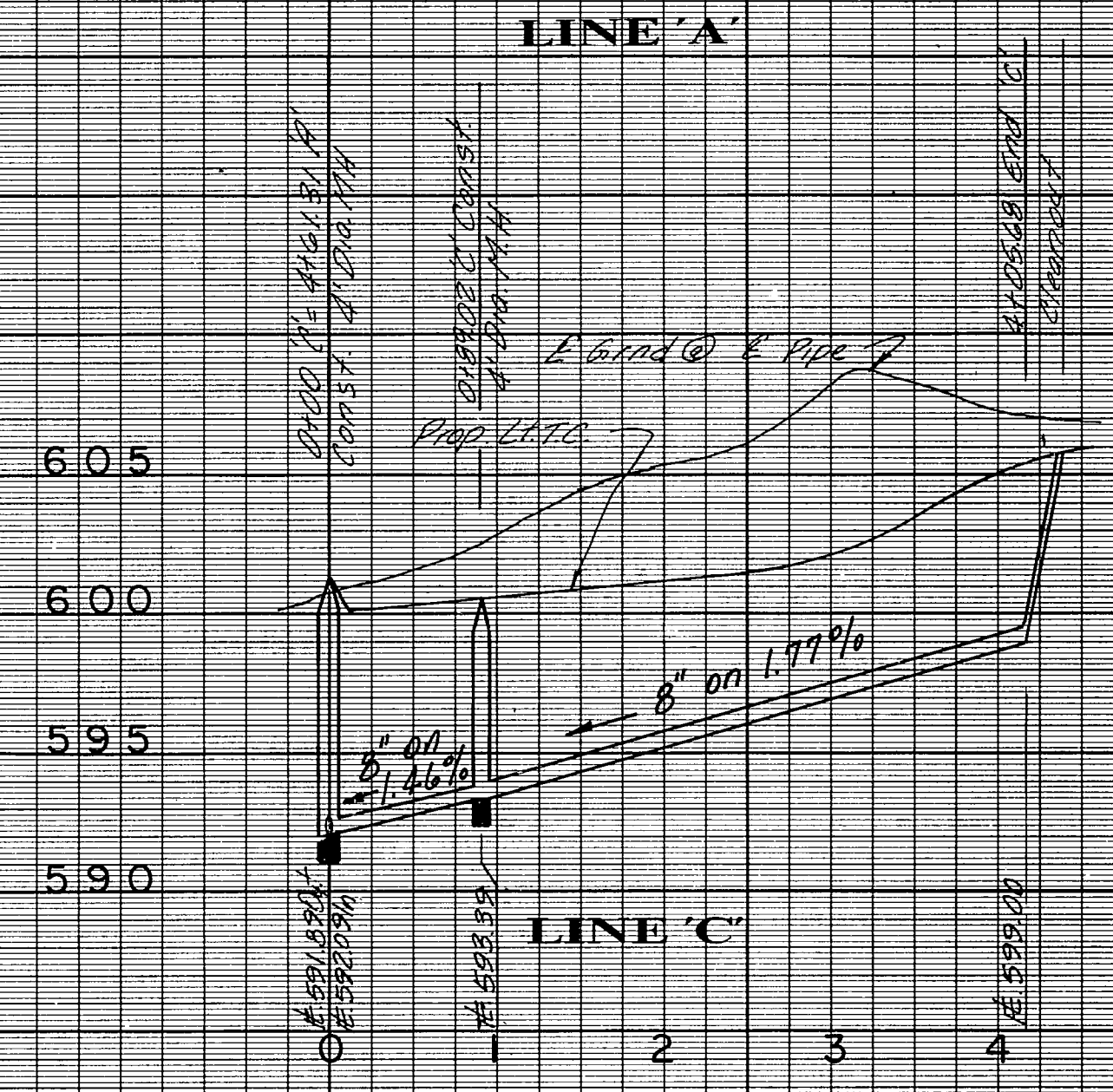
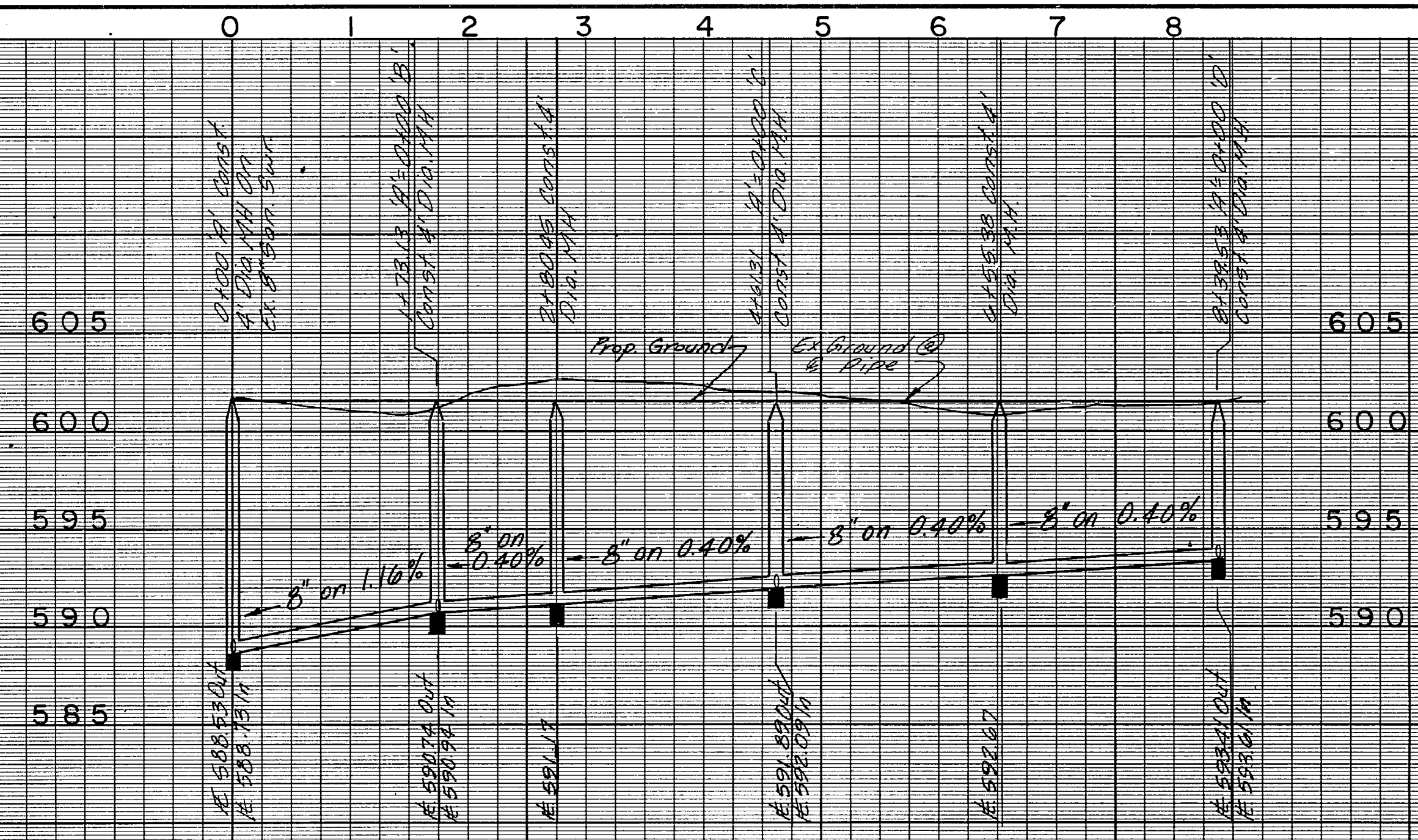
Date: AUGUST, 1991	Scale: 1"=100'	SHEET OF
Drawn By: T.N.C.	Approved By: T.N.C.	WS-1 SHEETS



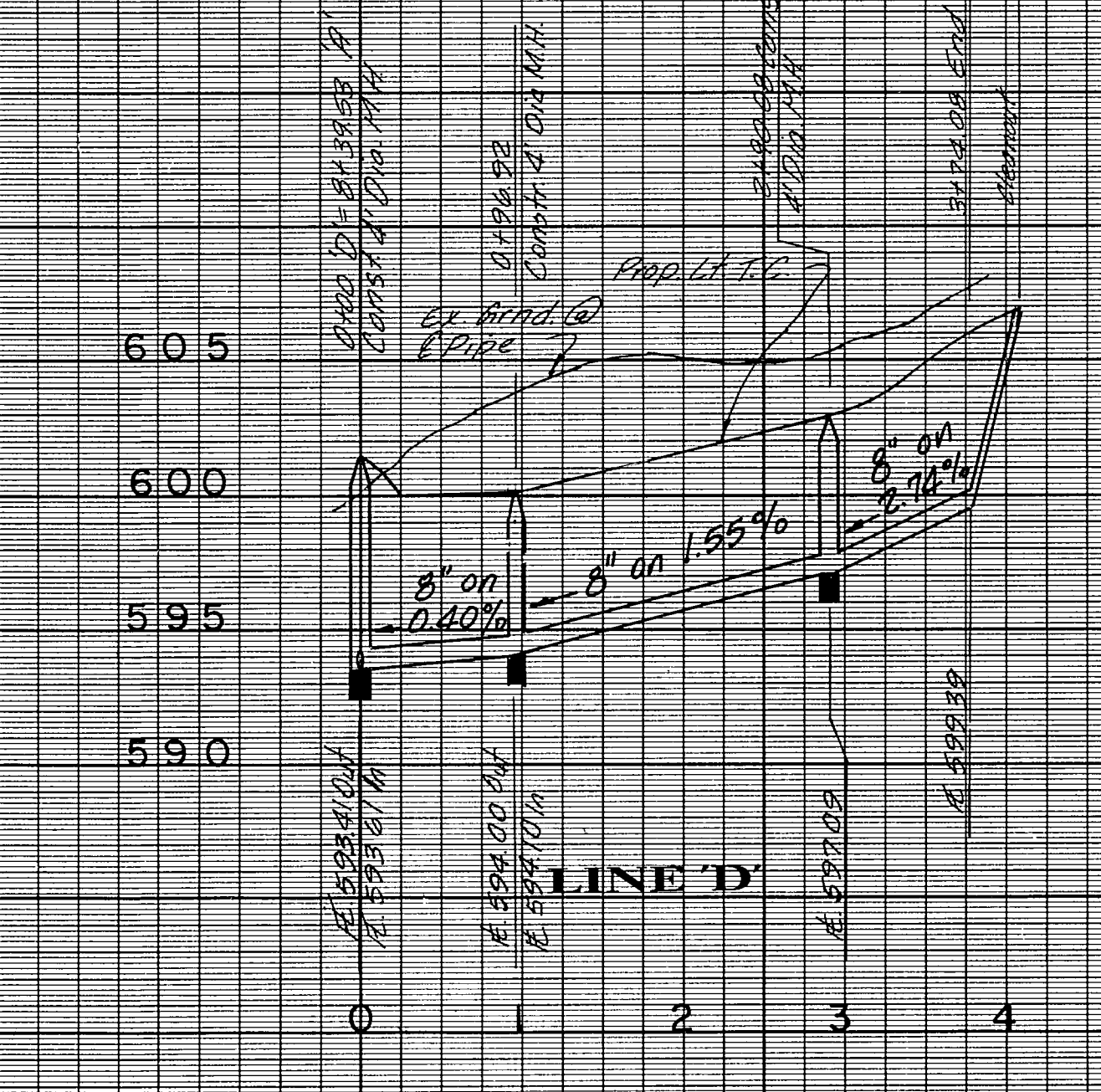
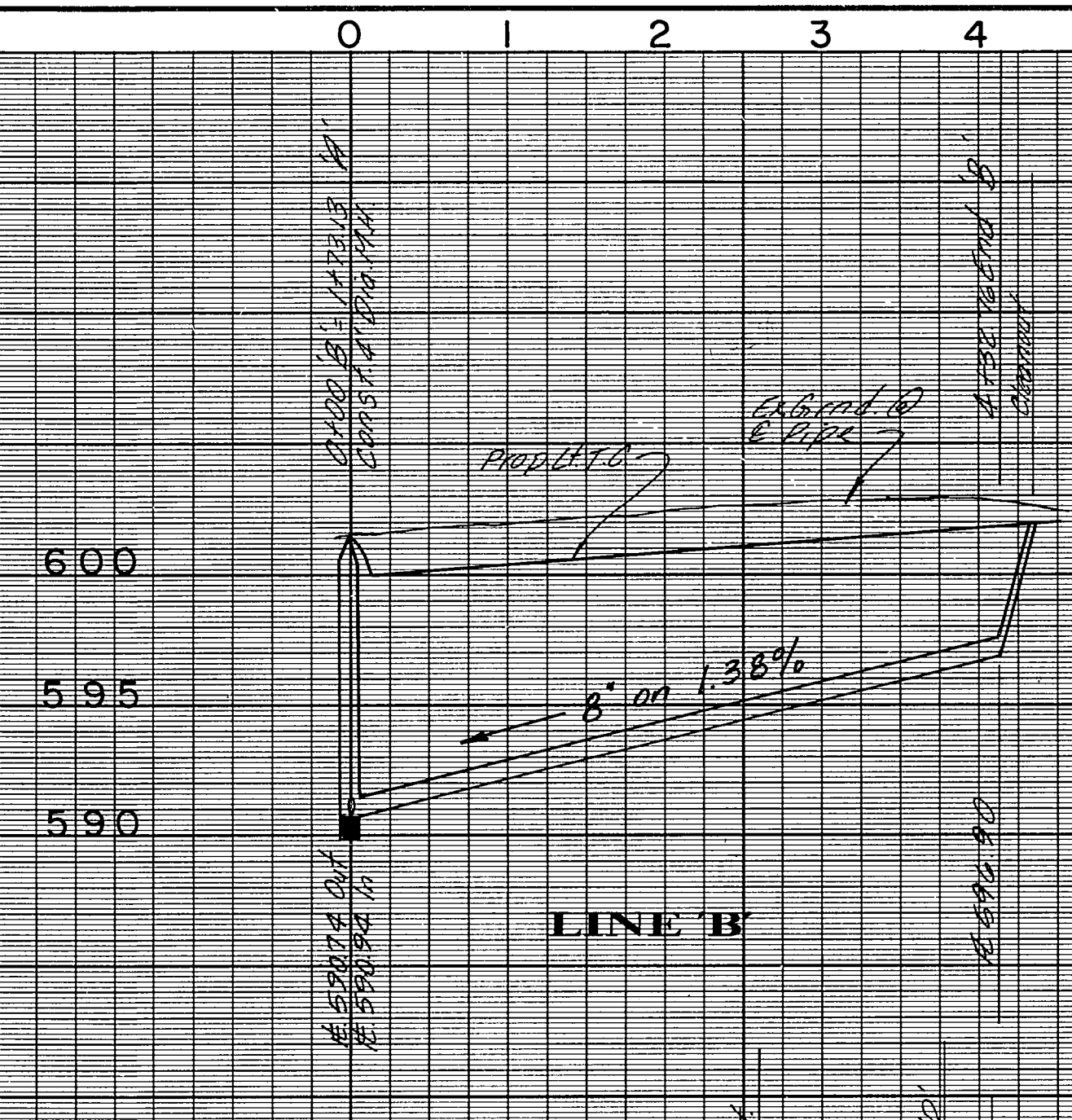
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5999 SUMMERSIDE DRIVE • SUITE 202 • DALLAS, TEXAS 75252 • (214) 380-2605



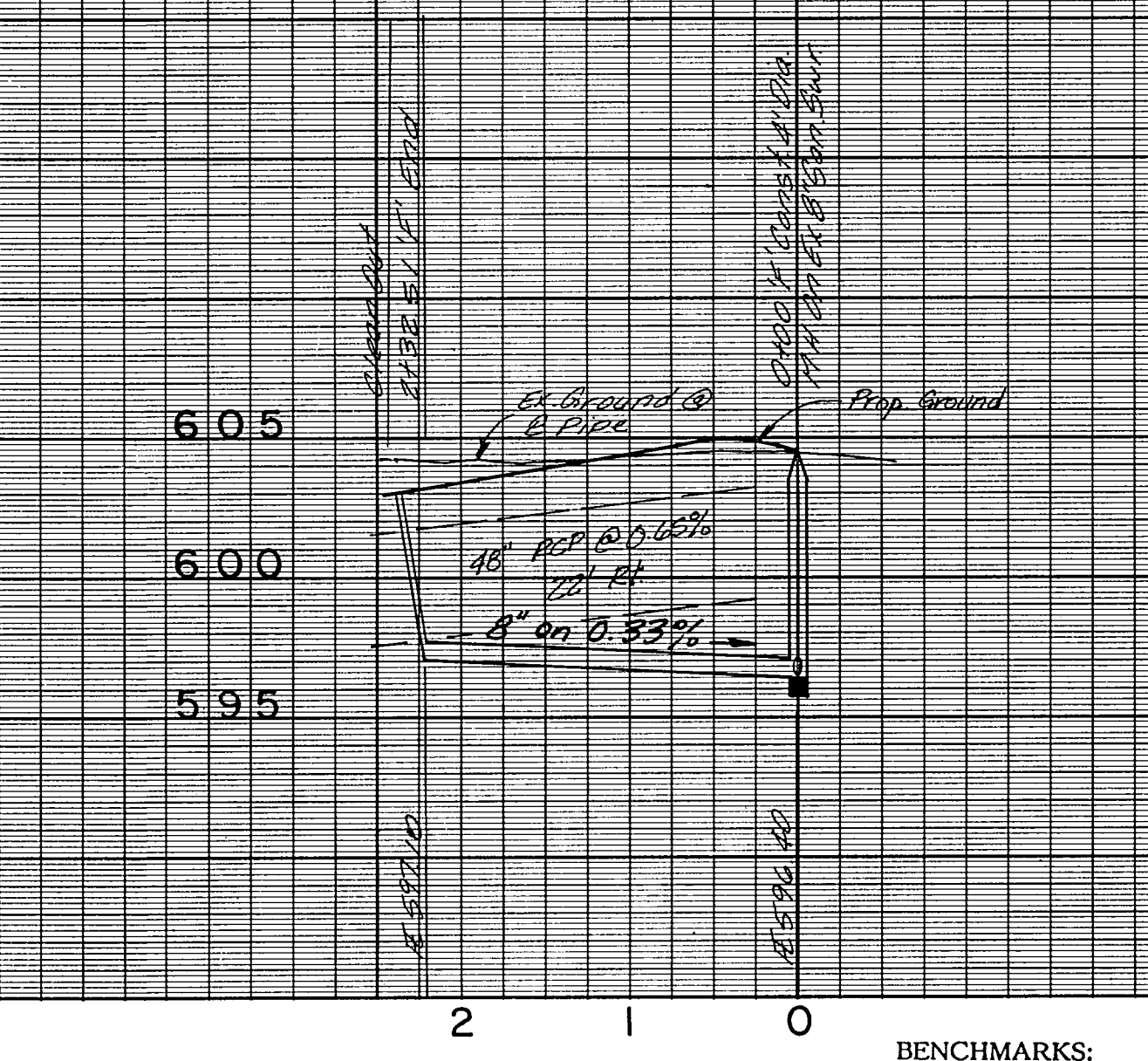
No.	DATE	REVISION	DRAWN	CHECKED
1	11-20-91	Revised Lines A, B, C & D	B.H.	T.N.C.
2	11-21-91	Revised Lines A, B, C & D	B.H.	T.N.C.



LINE 'E'

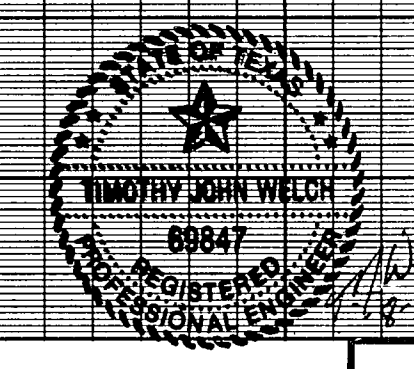


LINE 'F'



- BENCHMARKS:**
- Square cut on 14" recessed inlet on north curb line at the intersection of Beltway Drive and Proton Drive. Elev. 596.53
  - Square cut on top of inlet at northwest corner of Proton Drive and Les Lacs Avenue. Elev. 607.35
  - "X" cut in centerline of Les Lacs Avenue, 250' ± west of Proton Drive. Elev. 601.88

AS-BUILTS  
 I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



**SANITARY SEWER PROFILE**

**WATERFORD PARK I**

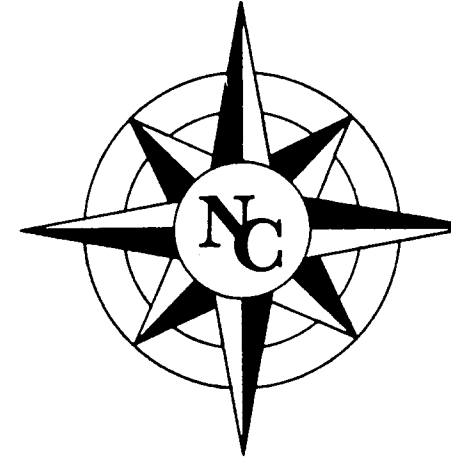
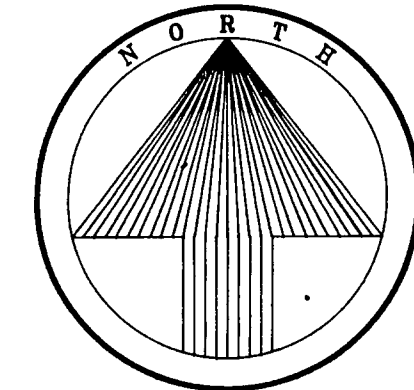
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DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
NRC	NRC	AUGUST 1991	1"=100' H 1"=60' V	TNC	90025-5	WS-2



Revisions	Date	Description	Drawn By	Checked By

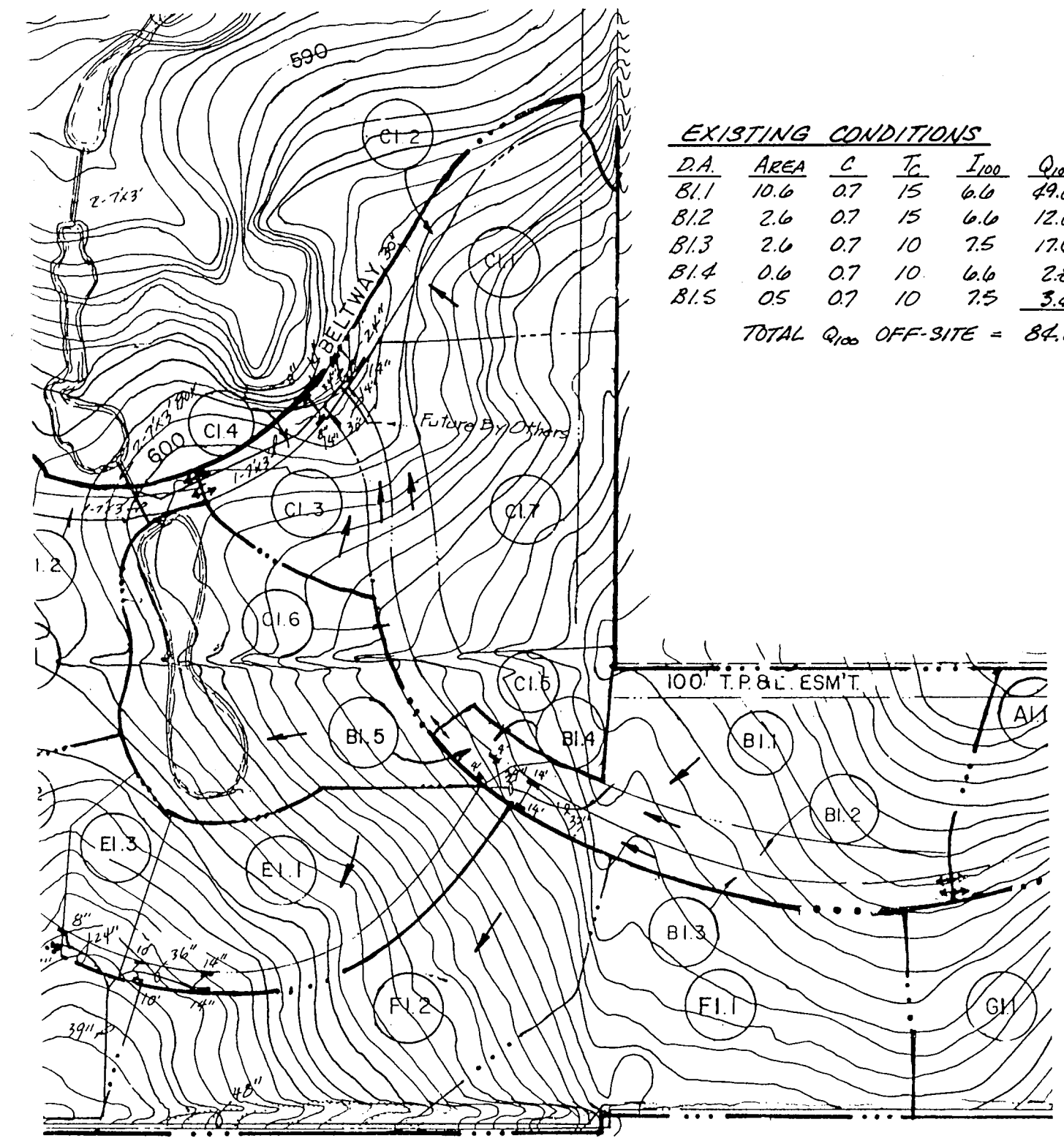
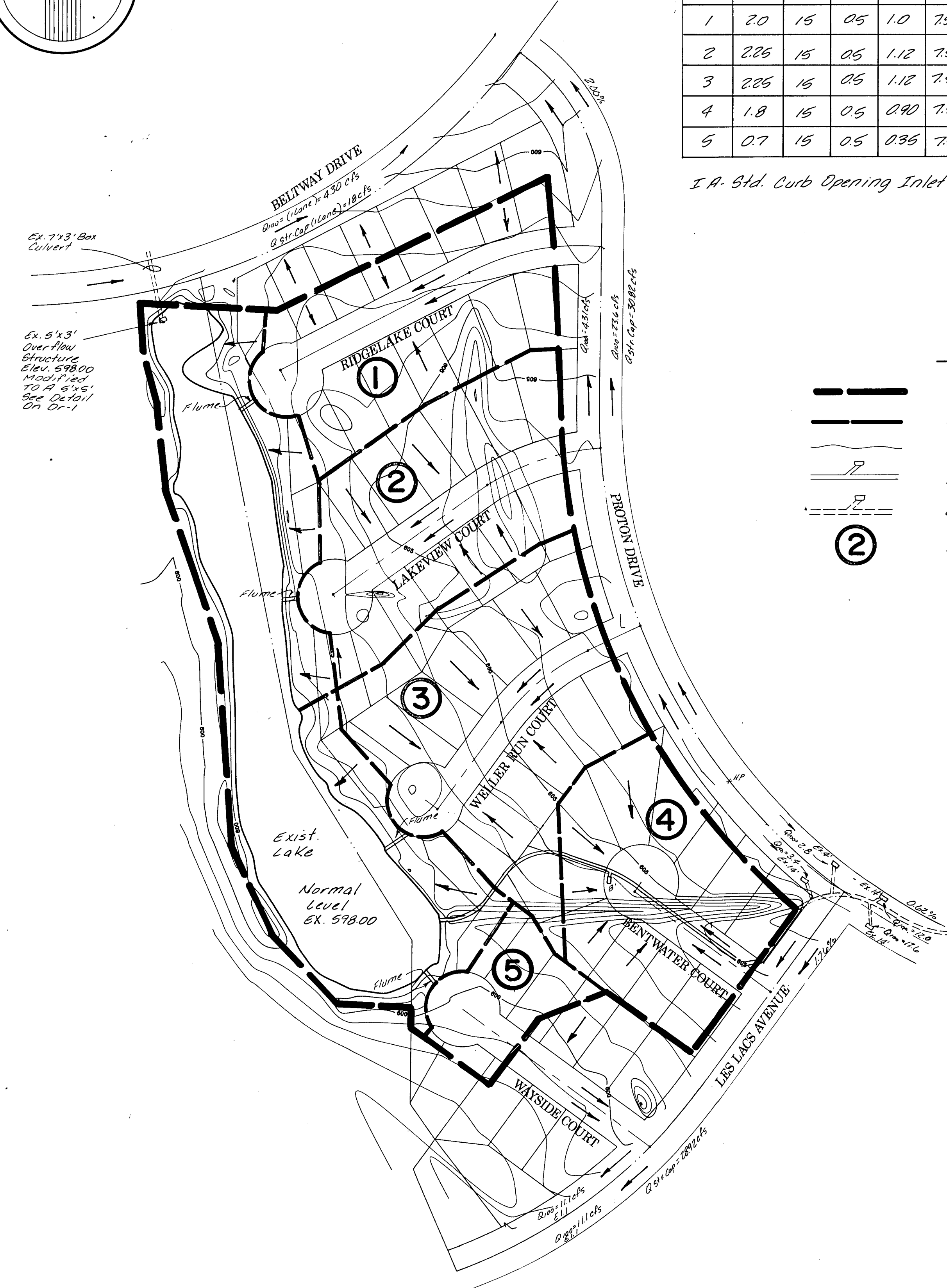


AREA NO.	AREA (AC.)	Tc	Cf	Cf x A	I <sub>100</sub>	Q <sub>100</sub> (cfs)	Q <sub>100</sub> + Bypass	INLET	INLET TYPE
1	2.0	15	0.5	1.0	7.52	7.5	0	-	Flume
2	2.26	15	0.5	1.12	7.52	8.4	0	-	Flume
3	2.26	15	0.5	1.12	7.52	8.4	0	-	Flume
4	1.8	15	0.5	0.90	7.52	6.8	0	1-B'	IA
5	0.7	15	0.5	0.35	7.52	2.6	0	-	Flume

1 A Std. Curb Opening Inlet At Low Point.

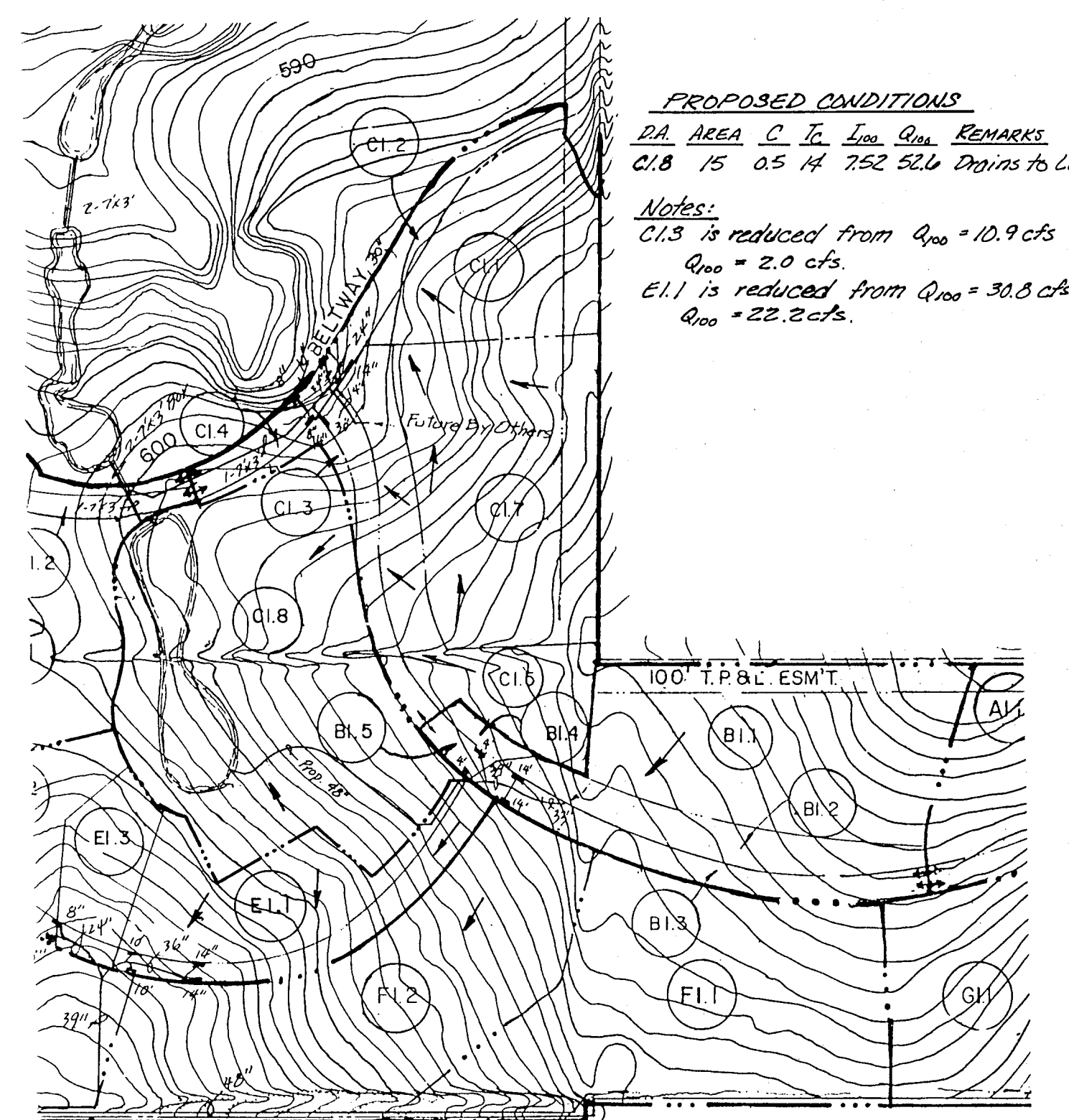
**LEGEND**

- LAKE AREA DRAINAGE
- DRAINAGE AREA LINE
- EXIST. CONTOUR LINE
- PROP. STORM SWR. LINE
- EXIST. STORM SWR. LINE
- DRAINAGE AREA



**EXISTING CONDITIONS**

DA	AREA	C	Tc	I <sub>100</sub>	Q <sub>100</sub>	REMARKS
B1.1	10.6	0.7	15	6.6	49.0	Conveys to Ex. 33" RCP
B1.2	2.6	0.7	15	6.6	12.0	Collected in 1-14" Inlet
B1.3	2.6	0.7	10	7.5	17.6	Collected in 1-14" Inlet
B1.4	0.6	0.7	10	6.6	2.8	Collected in 1-4" Inlet
B1.5	0.5	0.7	10	7.5	3.4	Collected in 1-4" Inlet
TOTAL Q <sub>100</sub> OFF-SITE = 84.8 cfs						



**PROPOSED CONDITIONS**

DA	AREA	C	Tc	I <sub>100</sub>	Q <sub>100</sub>	REMARKS
C1.8	15	0.5	14	7.52	52.6	Drains to Lake

Notes:  
 C1.3 is reduced from Q<sub>100</sub> = 10.9 cfs to Q<sub>100</sub> = 2.0 cfs.  
 E1.1 is reduced from Q<sub>100</sub> = 30.8 cfs to Q<sub>100</sub> = 22.2 cfs.

**TOTAL ON SITE DRAINAGE INTO EXIST. LAKE: 14.0 ACRES**

$$Q = C I A$$

$$C = 0.50$$

$$I = 7.52 \text{ in (10 = 15 min)}$$

$$A = 14.0 \text{ ACRES}$$

$$Q_{100} = (.5)(7.52)(14)$$

On Site Q<sub>100</sub> = 52.64 cfs  
 Off Site Q<sub>100</sub> = 84.8 cfs

TOTAL Q<sub>100</sub> = 137.44 cfs

**EXISTING OVERFLOW STRUCTURE (INLET CONTROL)**

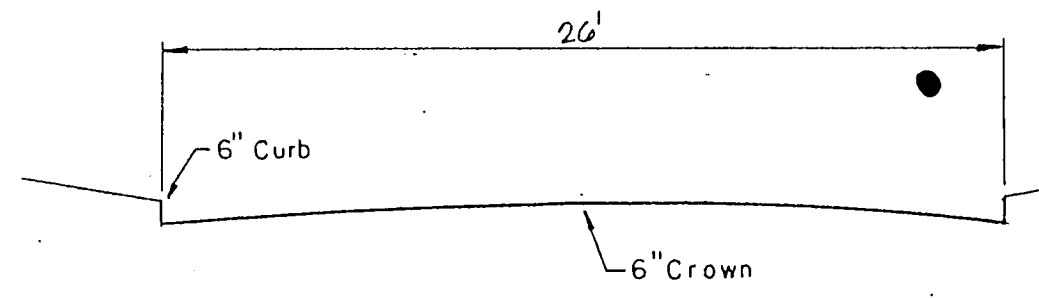
5' x 6' Box Intake  
 Overflow Structure Elev. 598.00

$$Q = CA \sqrt{2gh}$$

$$H = \frac{(Q/CA)^2}{2g}$$

$$H = \frac{(137.44 / (4.33)(2.5))^2}{2(32.2)} = 1.00'$$

100 YEAR ELEV. = 598.00  
 + 1.00  
 599.00



$$Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$$

$$n = 0.016$$

$$A = 4.33 \text{ Ft.}^2$$

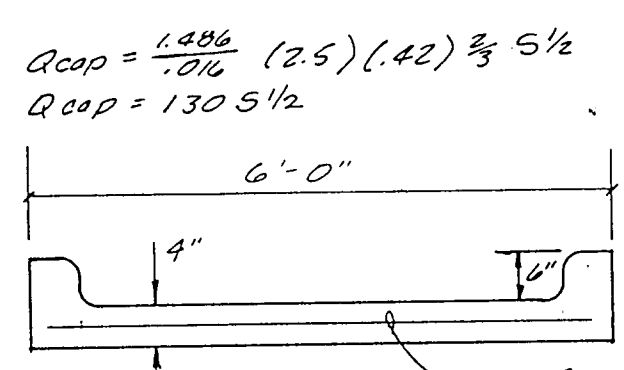
$$Q = \frac{1.486}{0.016} (4.33) (0.33)^{2/3} S^{1/2}$$

$$Q_{\text{St. Cap}} = 118.70 S^{1/2}$$

$$= 118.70 (.005)^{1/2}$$

$$= 8.4 \text{ cfs (4.2 cfs/Gutter)}$$

**STREET CAPACITY**



REINFORCEMENT PER TOWN OF ADDISON'S SPECIFICATION  
**CONC. FLUME / SIDEWALK**  
 N.T.S.

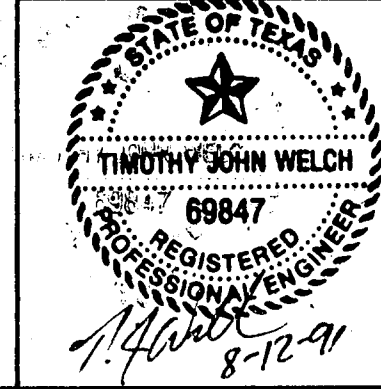
AS BUILTS  
 I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.

**DRAINAGE AREA MAP**

**WATERFORD PARK I**

TOWN OF ADDISON, TEXAS

Date: AUGUST, 1991	Scale: 1" = 100'	SHEET DA-1 OF
Drawn By: T.N.C.	Approved By: T.N.C.	SHEETS



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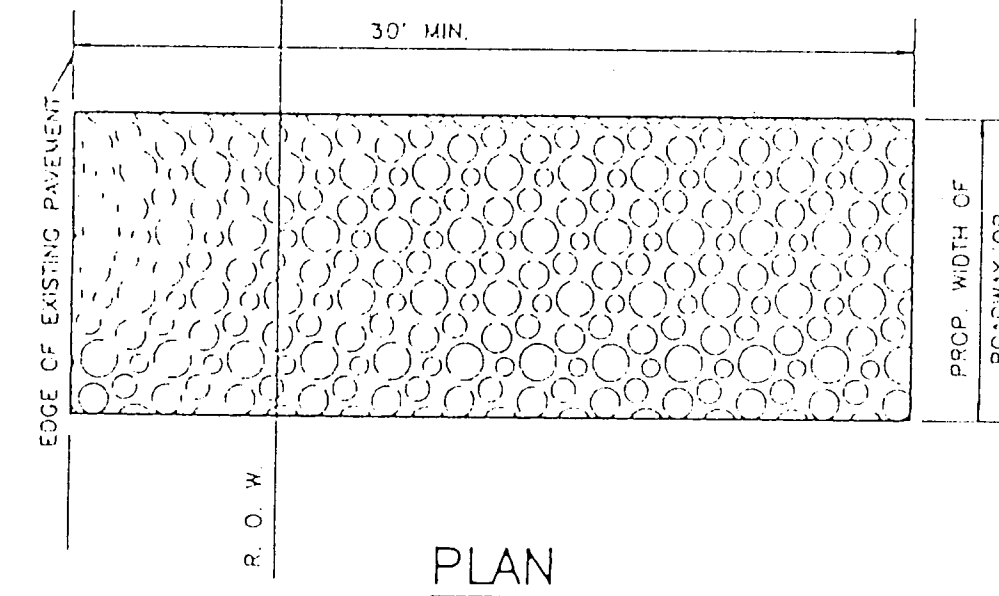
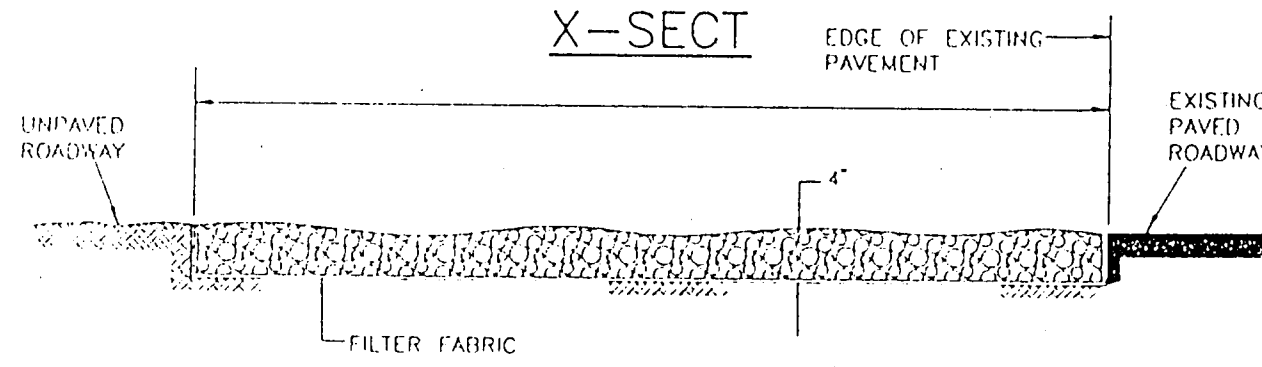


Revisions	Date	Description	Drawn By	Checked By

### STABILIZED CONSTRUCTION ACCESS

A STABILIZED CONSTRUCTION ENTRANCE APPLIES TO POINTS OF CONSTRUCTION INGRESS AND EGRESS WHERE SEDIMENT MAY BE TRACKED OR FLOW OFF THE CONSTRUCTION SITE.

**MAINTENANCE**  
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.



**MAINTENANCE**  
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

#### EROSION CONTROL SPECIFICATIONS

- The grading contractor shall provide and maintain erosion control devices in the areas indicated on the grading plan or any other areas as directed by the Owner's representative or the Town of Addison.
- The utility contractor shall provide and maintain an erosion control device around all openings into the storm sewer system to project completion or as directed by Owner's representative or the Town of Addison.
- The paving contractor shall, upon completion of fine grading provide and maintain erosion control devices in the areas indicated on the grading plan or as directed by the Owner's representative or the Town of Addison.
- Upon completion of fine grading, all street parkways shall be seeded, fertilized and maintained by the paving contractor.
- Erosion control devices may be added or reduced in the field as directed by the Town of Addison's inspector or Owner's representative.

#### GRADING SPECIFICATIONS

- All Grading shall conform to the following sections of the U.S. Department of Housing and Urban Development and Federal Housing Authority, latest edition as applicable.
- Lot Grading shall be completed to provide sufficient dirt on each pad to achieve the critical pad grades and spot grades on each lot. After achieving critical pad grades indicated on this plan, the contractor is to uniformly fill all pads until the preferred pad grade is met or fill pad grades in priority locations as indicated by the engineer.
- Compaction performed in pad areas, streets and alleys shall be to a minimum of 95% density at a moisture content of 1% to 3% wet of optimum.
- Remove topsoil in street/alley right-of-ways and pad areas to a depth of 4". Place topsoil in front and backyard areas at the direction of the Owner's representative.
- Finished Floor elevations are assumed to be 10" above Finished Pad elevations.
- The Grading contractor is to provide pad compaction testing for each 8" lift at the rate of one random test at the direction of the engineer for every four pads.
- All lots are to be left in a smooth, bladed condition without any severe change in slope or low spots. Minimum grade across any lot is to be 1%. Maximum slope is to be 3:1, unless otherwise approved in the field.
- All excess material shall be distributed throughout the site.
- TOLERANCES FOR GRADING ARE:

	ROUGH GRADING	FINAL GRADING
Streets	± 0.1'	± 0.1'
Pads	± 0.5'	± 0.25'
Lot Corners	± 0.5'	± 0.25'

#### AS BUILTS

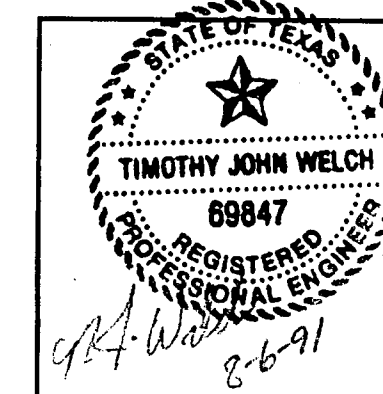
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.

### GRADING & EROSION PLAN

## WATERFORD PARK I

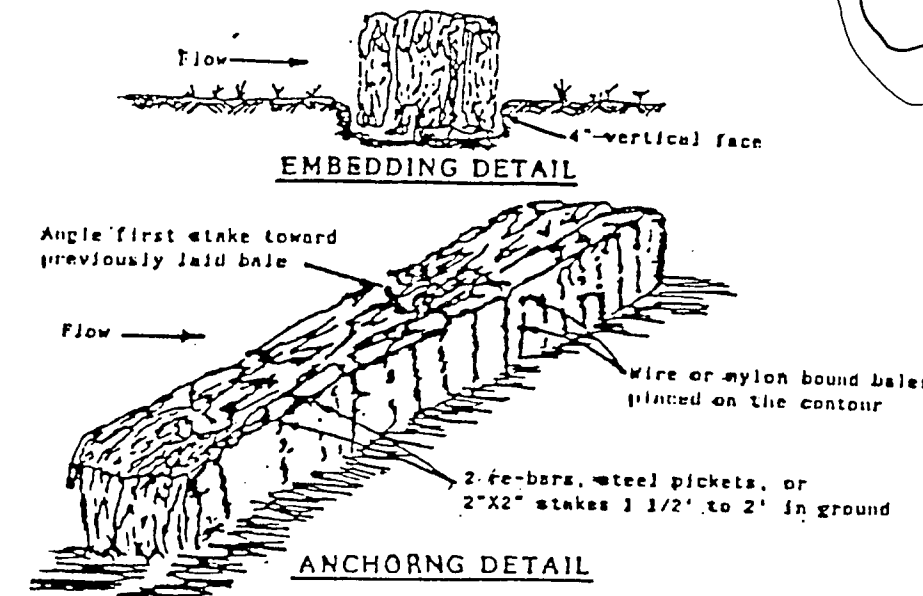
### TOWN OF ADDISON, TEXAS

Date: AUGUST, 1991	Scale: 1" = 60'	SHEET GR-1 OF
Drawn By: T.N.C.	Approved By: T.N.C.	SHEETS



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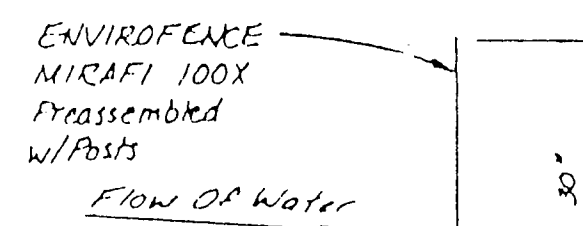


#### HAY BALE EROSION CONTROL DEVICE

**LEGEND**

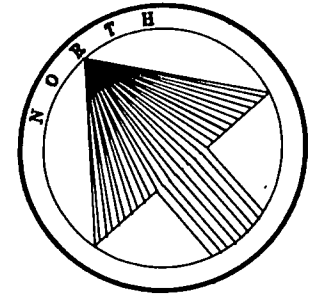
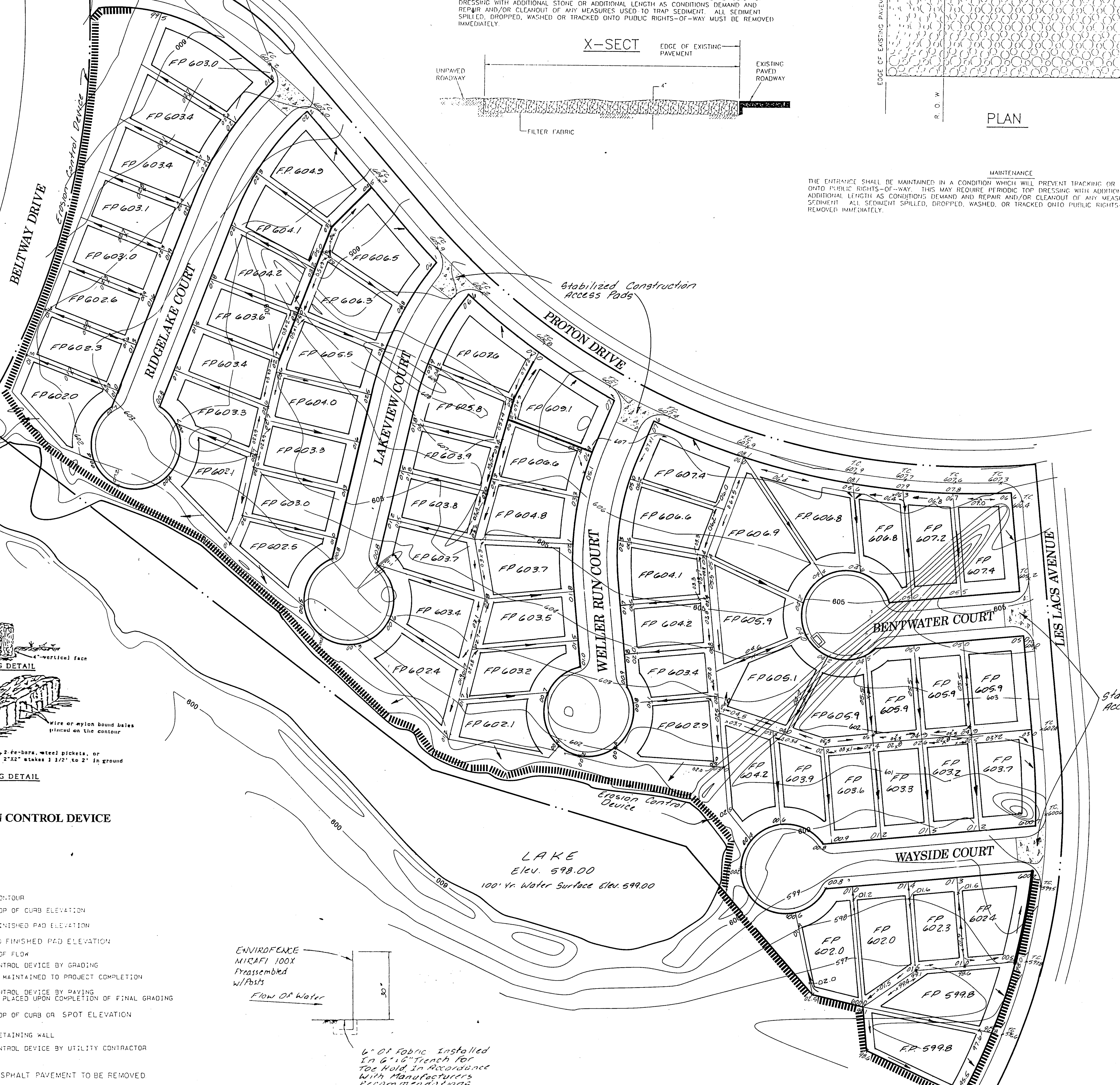
	EXISTING CONTOUR
	EXISTING TOP OF CURB ELEVATION
	CRITICAL FINISHED PAD ELEVATION
	PREFERRED FINISHED PAD ELEVATION
	DIRECTION OF FLOW
	EROSION CONTROL DEVICE BY GRADING CONTRACTOR MAINTAINED TO PROJECT COMPLETION
	EROSION CONTROL DEVICE BY PAVING CONTRACTOR PLACED UPON COMPLETION OF FINAL GRADING
	PROPOSED TOP OF CURB OR SPOT ELEVATION
	PROBABLE RETAINING WALL
	EROSION CONTROL DEVICE BY UTILITY CONTRACTOR
	EXISTING ASPHALT PAVEMENT TO BE REMOVED
	BLOCK NUMBER

#### SILTATION FENCE EROSION CONTROL DEVICE



6" of Fabric Installed in 6" x 6" Trench for Flow in Accordance with Manufacturer's Recommendations

LAKE  
Elev. 598.00  
100' yr. Water Surface Elev. 599.00

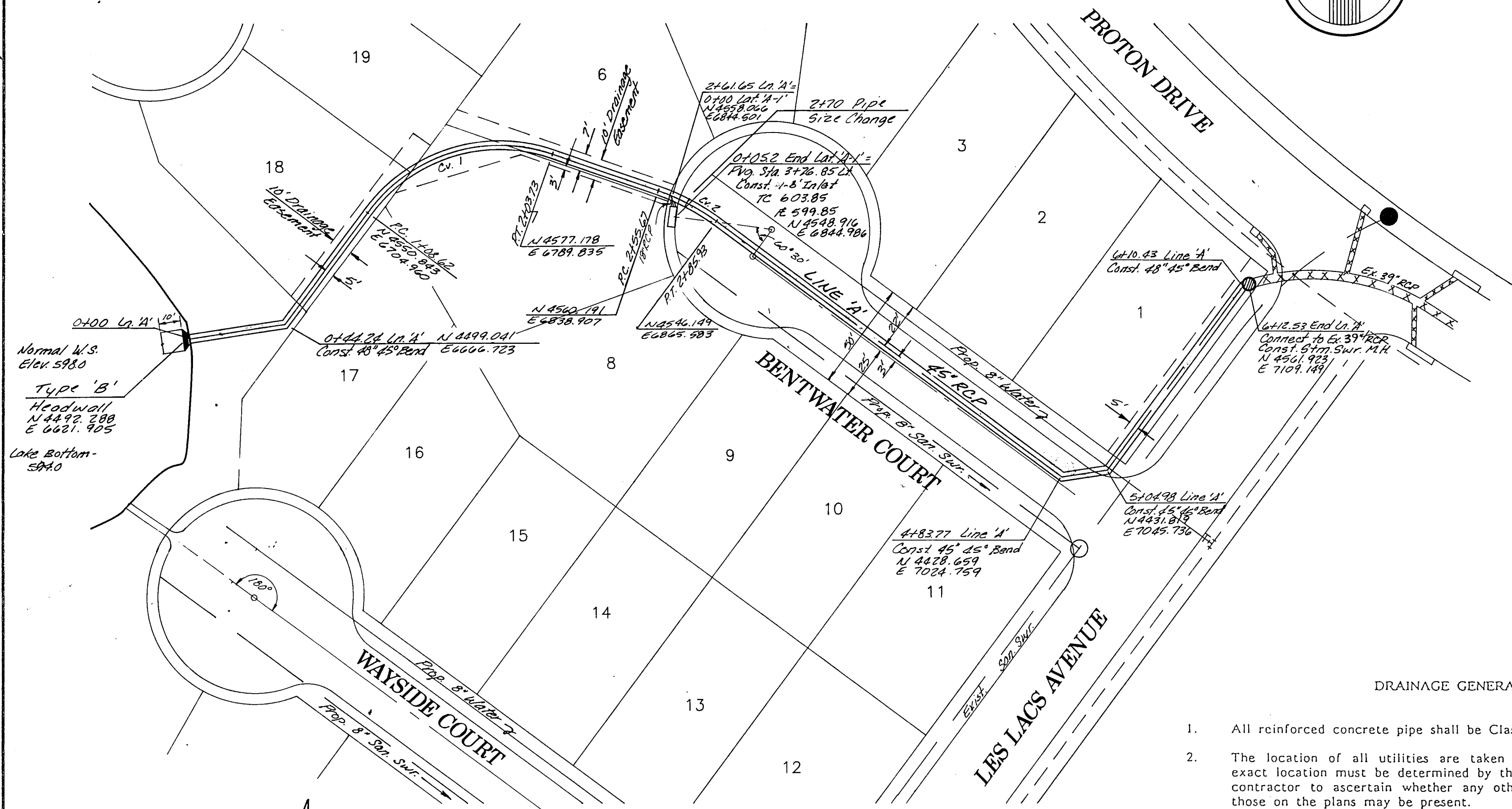
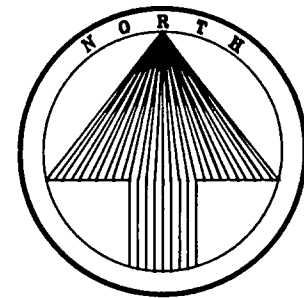




**Storm Sewer Curve Data**

Curve No. 1  
 Δ = 72°38'41"  
 R = 75.00  
 T = 55.15  
 L = 95.11

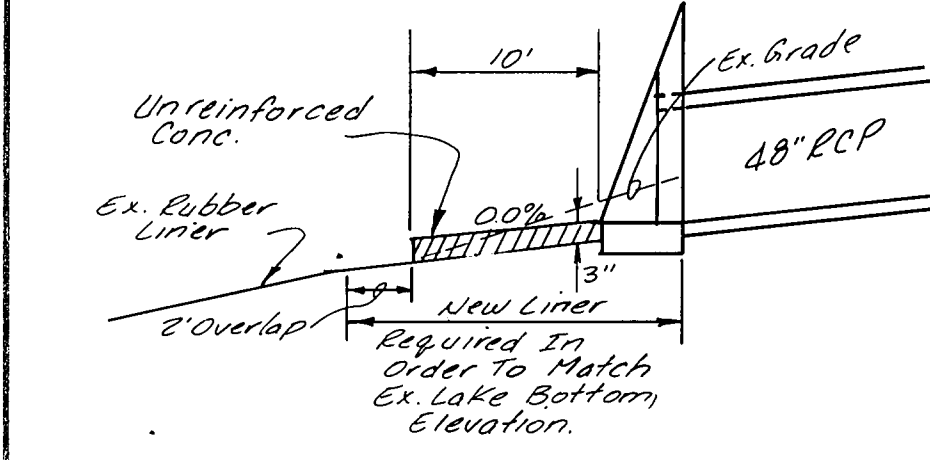
Curve No. 2  
 Δ = 17°20'19"  
 R = 100.00  
 T = 15.25  
 L = 30.26



Normal W.S.  
 Elev 595.0

Type 'B'  
 Headwall  
 N 44°22' 289  
 E 6621.905

Lake Bottom  
 594.0



**NOTES:**

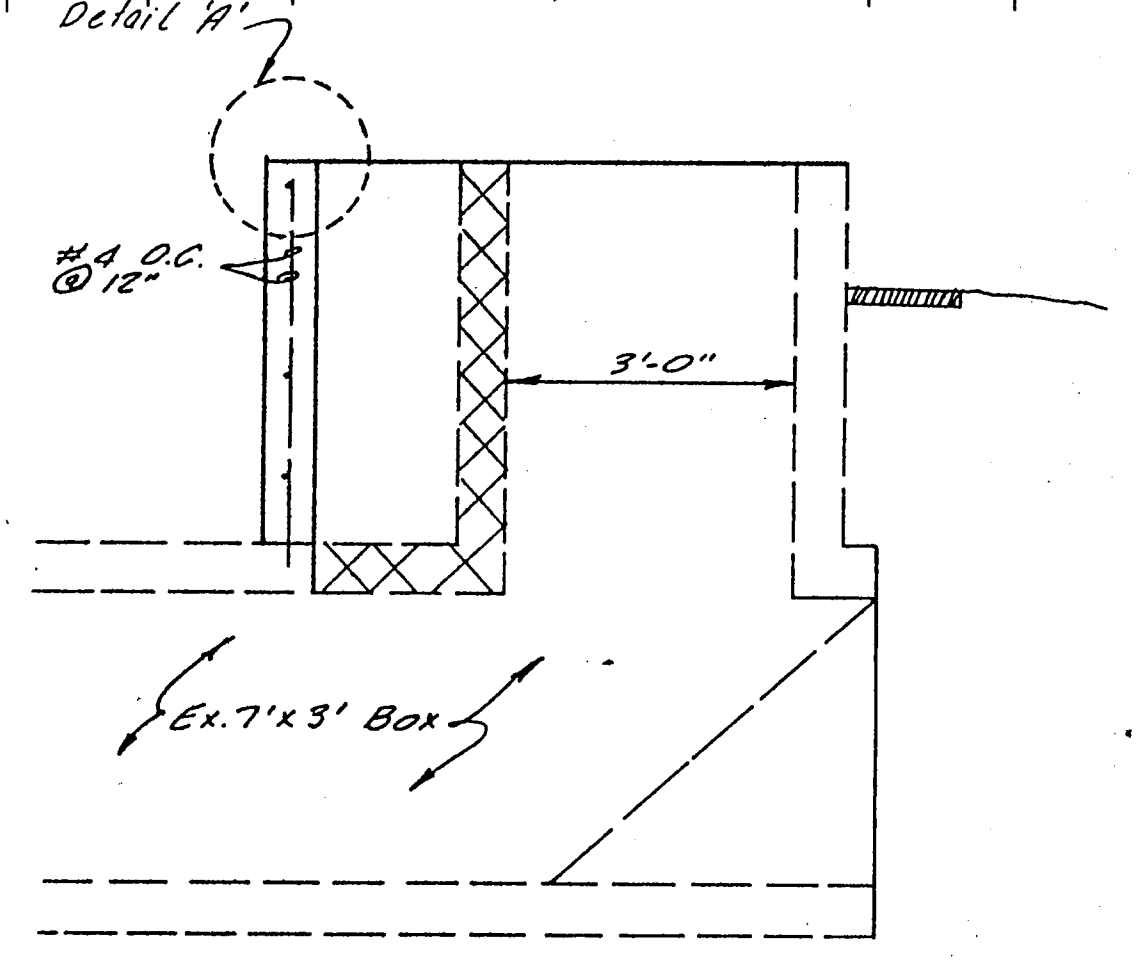
- Contractor shall minimize disturbance and removal of the concrete bank and rubber liner as much as possible.
- After installation of headwall, the concrete bank shall be restored with concrete to eliminate any leakage from the lake.
- Any unnecessary tears shall be repaired by a round or oval patch made of the same mil thickness and extend a minimum of 6 inches beyond the edge of defects.
- Installation of the rubber liner where required to match grade shall be oriented parallel to the line of maximum slope, i.e., oriented down the slope, not across the slope.

**DRAINAGE GENERAL NOTES**

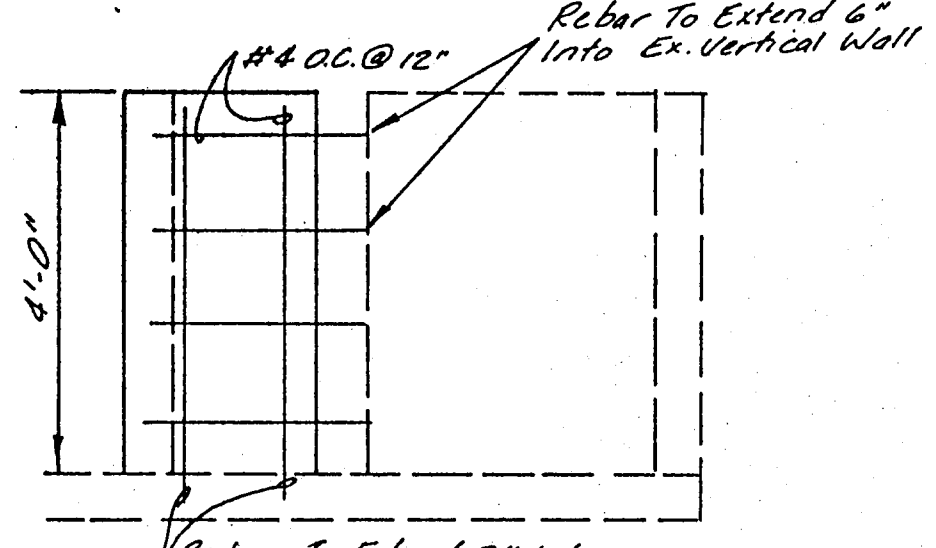
- All reinforced concrete pipe shall be Class III unless otherwise noted.
- The location of all utilities are taken from existing public records. The exact location must be determined by the Contractor. It is the duty of the contractor to ascertain whether any other facilities (additional), other than those on the plans may be present.
- Embedment is subsidiary to RCP.
- All backfill shall be compacted to 95% Standard Proctor Density in a maximum of six 8" loose lifts. Moisture shall be from 0 to +3% of optimum.
- No precast inlets are allowed.
- All work and materials shall be in accordance with the Town of Addison Standards and Specifications and to contract specifications and documents.
- All curved storm sewers having a radius of less than 200 feet shall be constructed with factory beveled joints. No joints will be allowed to have a tongue exposed by more than one-half.

TABLE OF DIMENSIONS AND QUANTITIES FOR TWO TYPE A HEADWALLS		TABLE OF DIMENSIONS AND QUANTITIES FOR TWO TYPE B HEADWALLS	
ITEM	QUANTITY	ITEM	QUANTITY
CONCRETE HEADWALL	2	CONCRETE HEADWALL	2
PIPE CULVERT	12 TO 72 INCHES IN DIAMETER	PIPE CULVERT	12 TO 72 INCHES IN DIAMETER
...	...	...	...

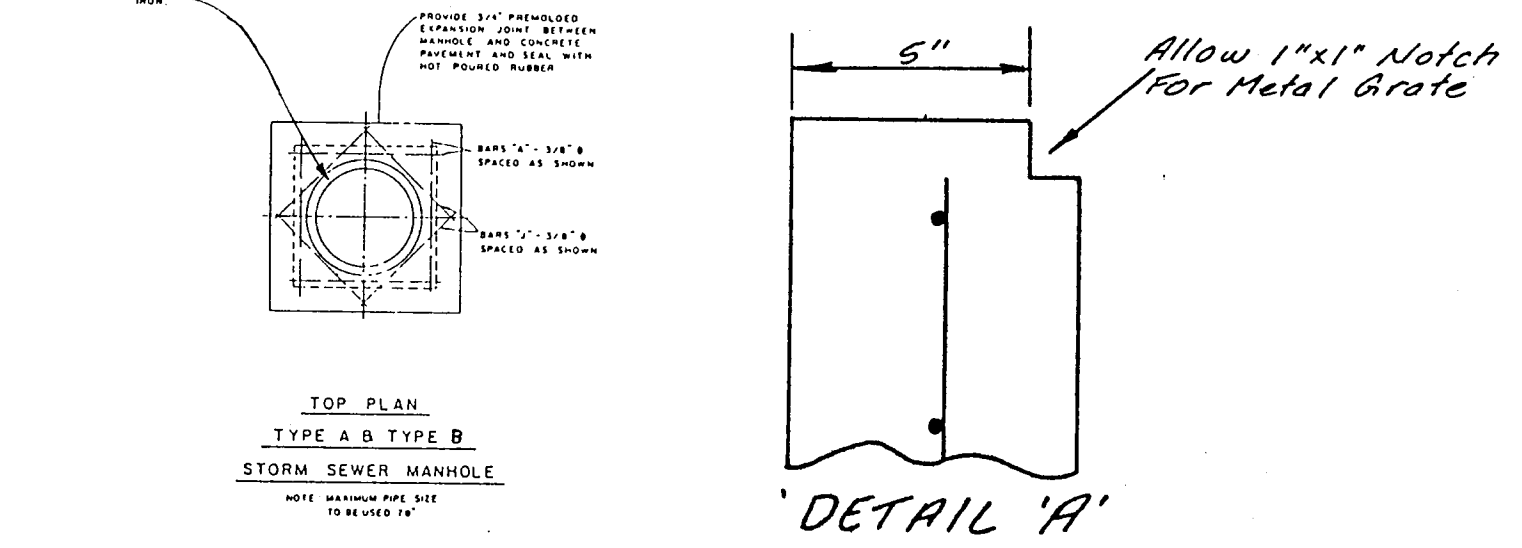
Revisions	Date	Description	Drawn By	Checked By



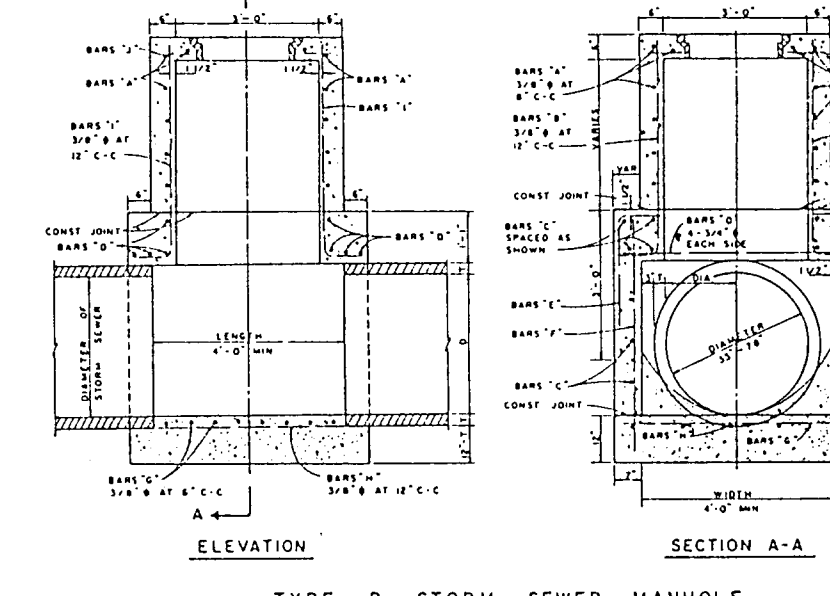
**SECTION A-A**  
1" = 20'



**SECTION B-B**  
1" = 20'



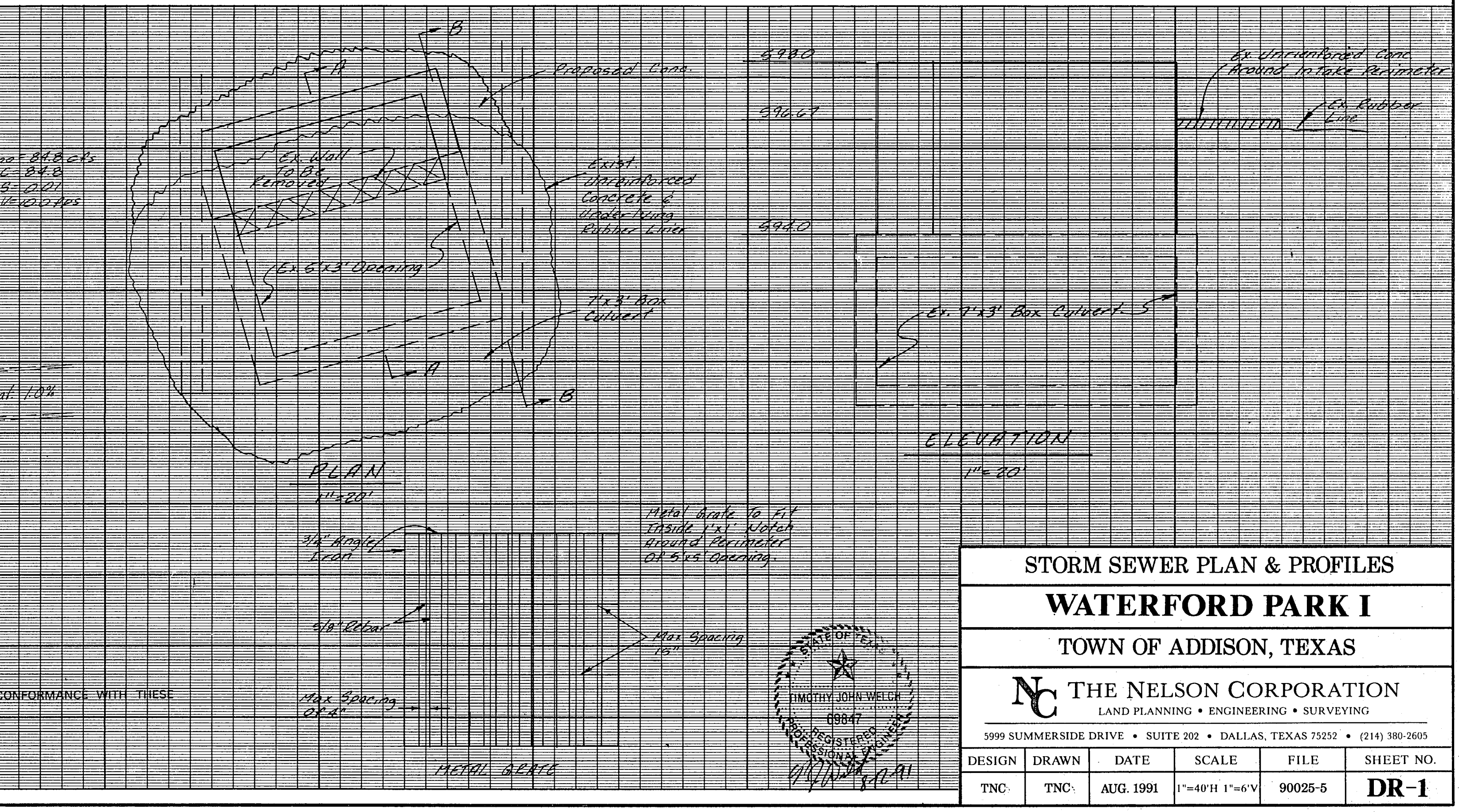
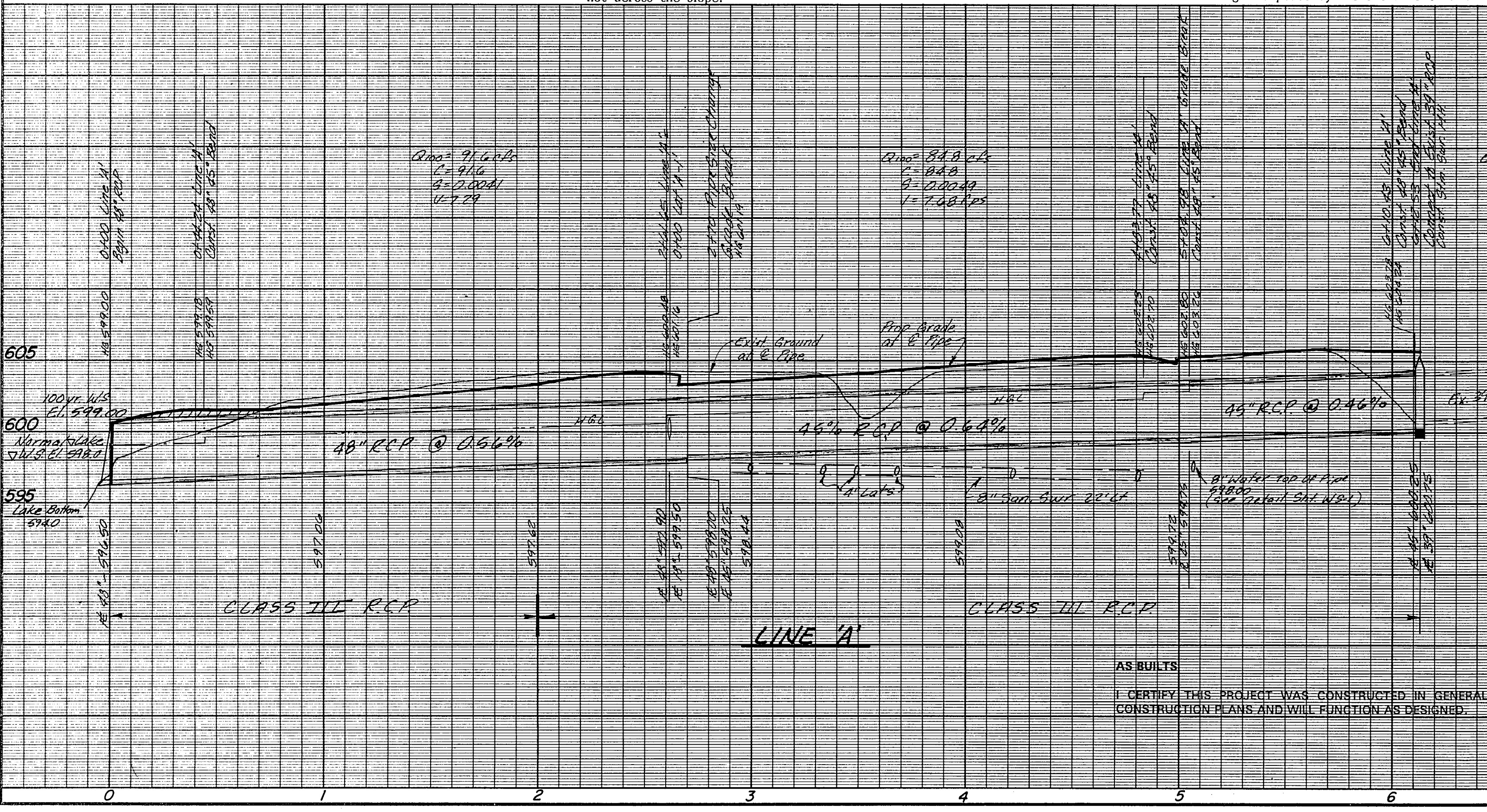
**DETAIL 'A'**



**TYPE B STORM SEWER MANHOLE**

**BENCHMARKS:**

- Square cut on 14' recessed inlet on north curb line at the intersection of Beltway Drive and Proton Drive. Elev. 596.53
- Square cut on top of inlet at northwest corner of Proton Drive and Les Lacs Avenue. Elev. 607.35
- "X" cut in centerline of Les Lacs Avenue, 250' ± west of Proton Drive. Elev. 601.88



AS BUILT  
 I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.

**STORM SEWER PLAN & PROFILES**  
**WATERFORD PARK I**  
 TOWN OF ADDISON, TEXAS

**THE NELSON CORPORATION**  
 LAND PLANNING • ENGINEERING • SURVEYING

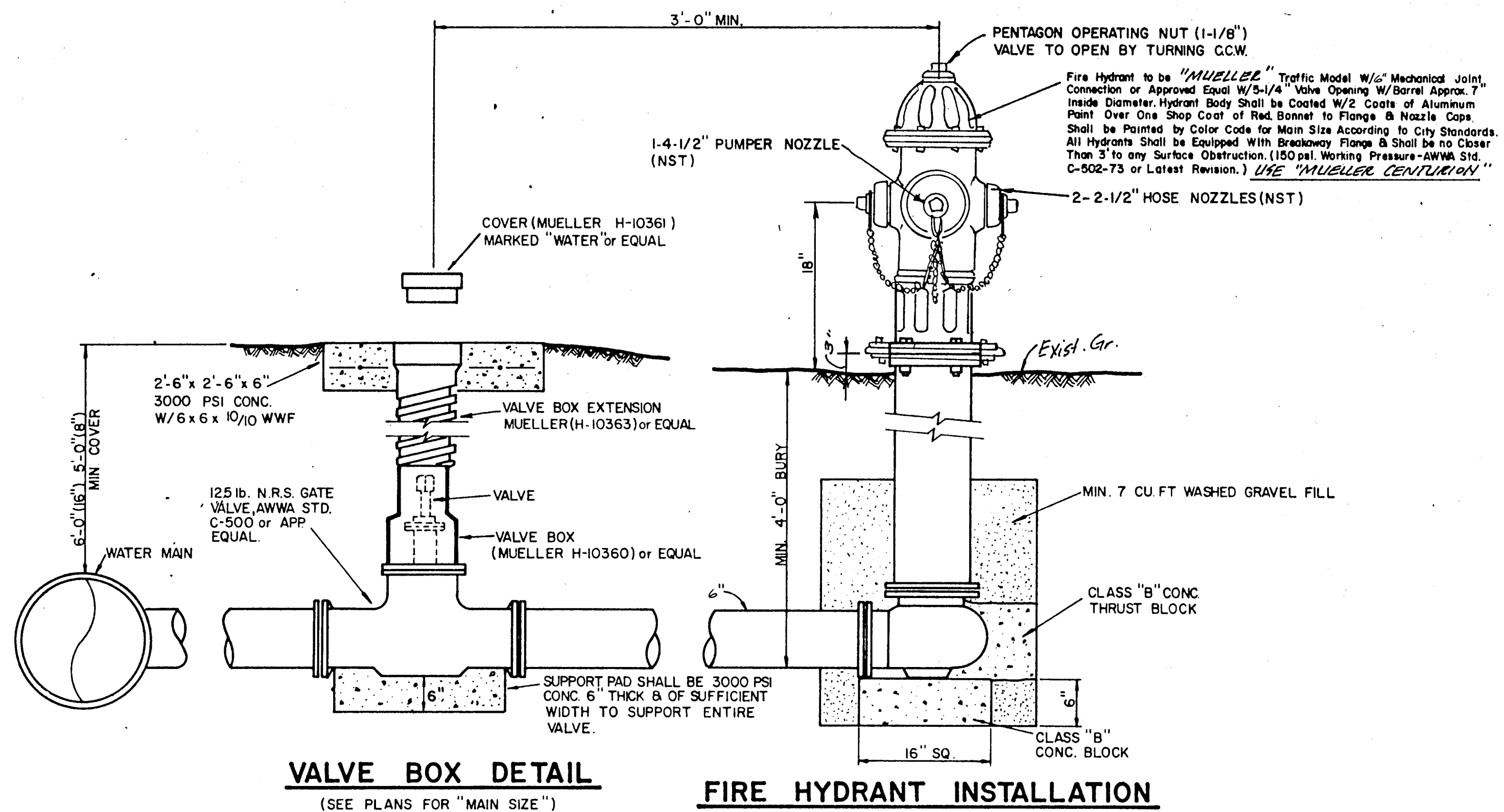
5999 SUMMERSIDE DRIVE • SUITE 202 • DALLAS, TEXAS 75252 • (214) 380-2605

DESIGN	DRAWN	DATE	SCALE	FILE	SHEET NO.
TNC	TNC	AUG. 1991	1"=40'H 1"=6'V	90025-5	<b>DR-1</b>



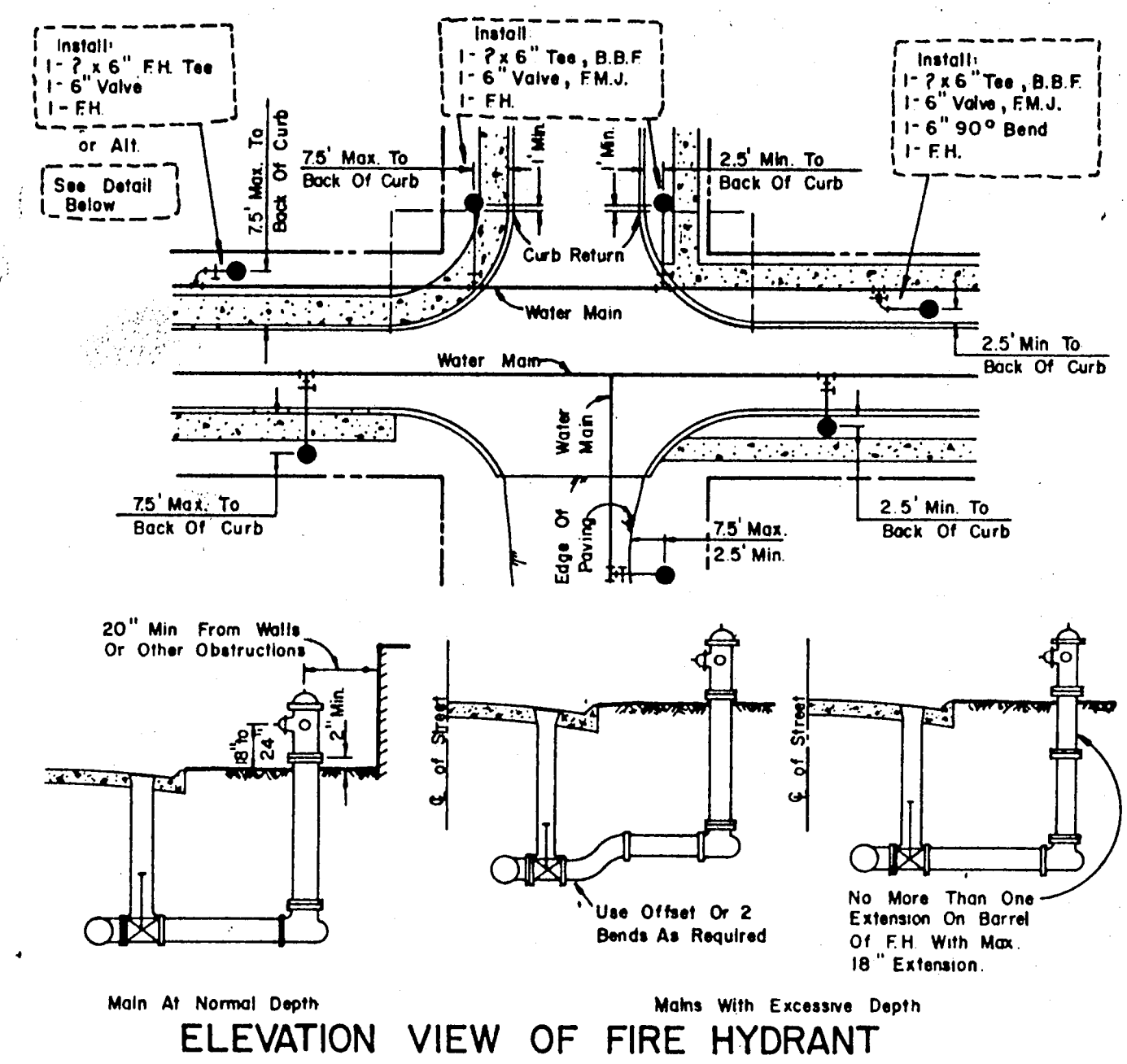






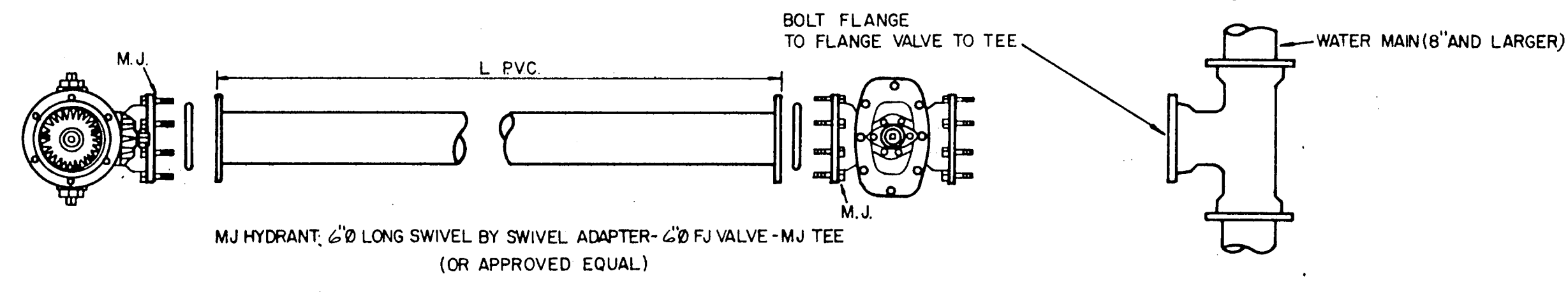
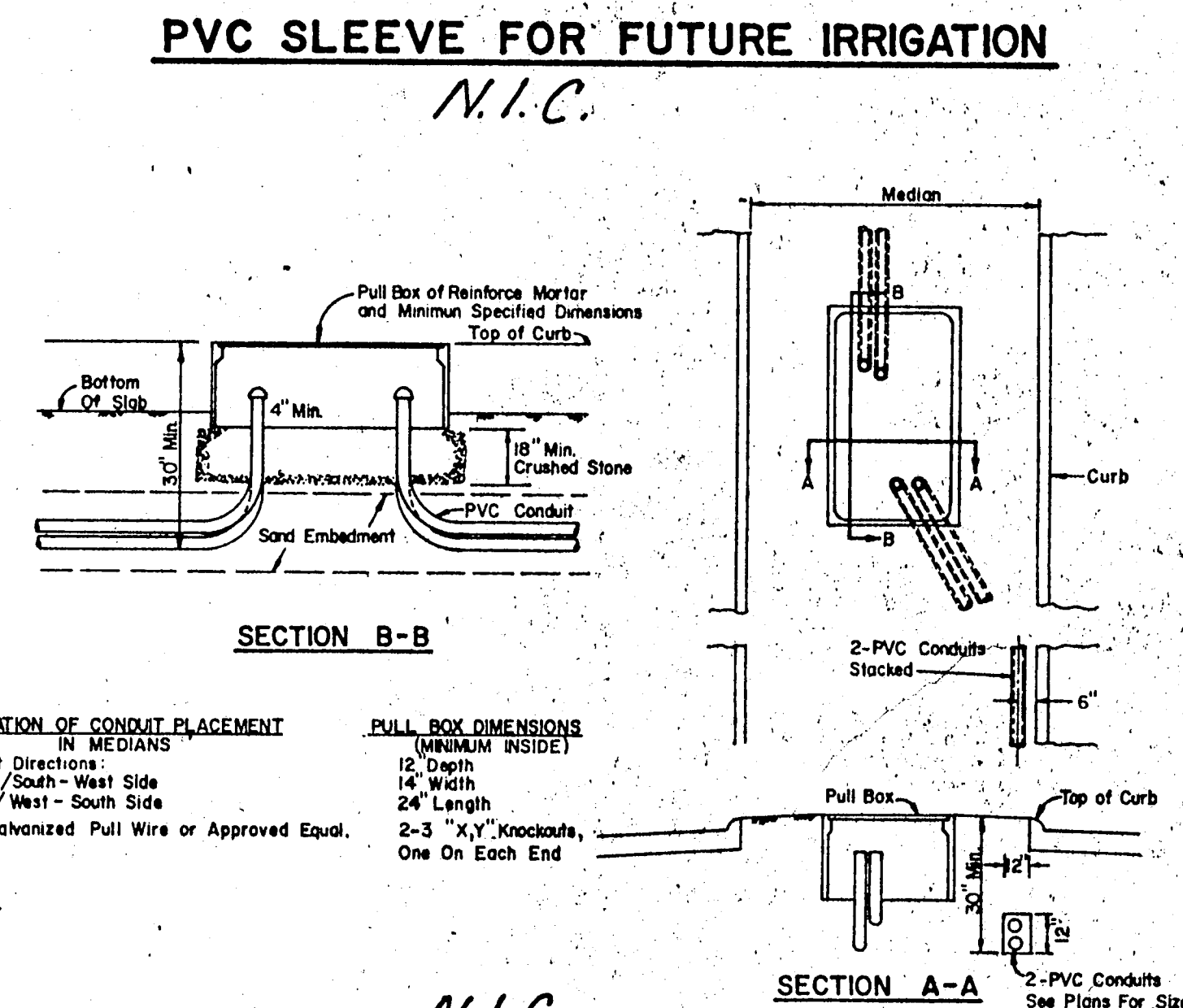
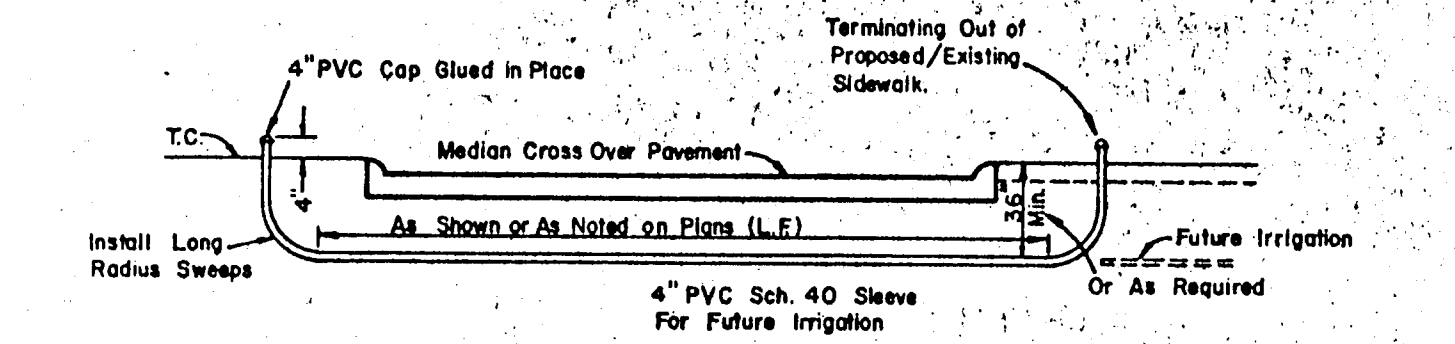
**GATE VALVES AND VALVE BOXES.**

- GATE VALVES SHALL BE IRON BODY, BRONZE OR BRASS MOUNTED, NON-RISING STEM, PARALLEL SEAT TYPE VALVES SHALL BE OF EQUAL OR GREATER PRESSURE CLASS THAN THE PIPING IN WHICH THEY ARE TO BE INSTALLED.
- VALVE BOXES SHALL BE CAST IRON AND SHALL BE OF SUFFICIENT LENGTH AND DIAMETER TO OPERATE ALL VALVES BURIED IN THE GROUND. COVERS SHALL BE MARKED "WATER". THE BOXES SHALL REST ON THE VALVE AND BE ADJUSTED SO THAT THE COVER MAY BE SET FLUSH WITH THE FINISHED GRADE.

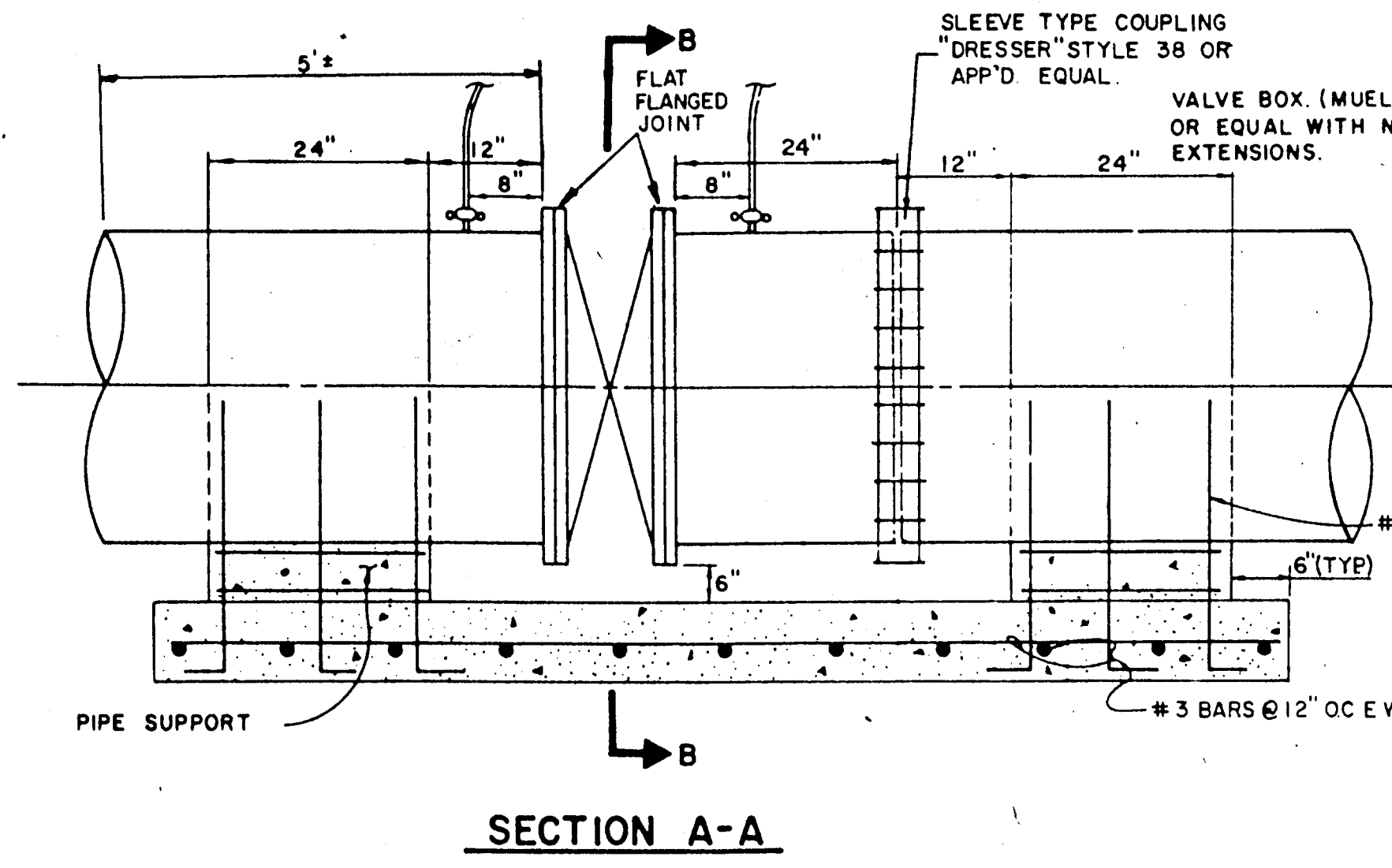


**GENERAL NOTES**

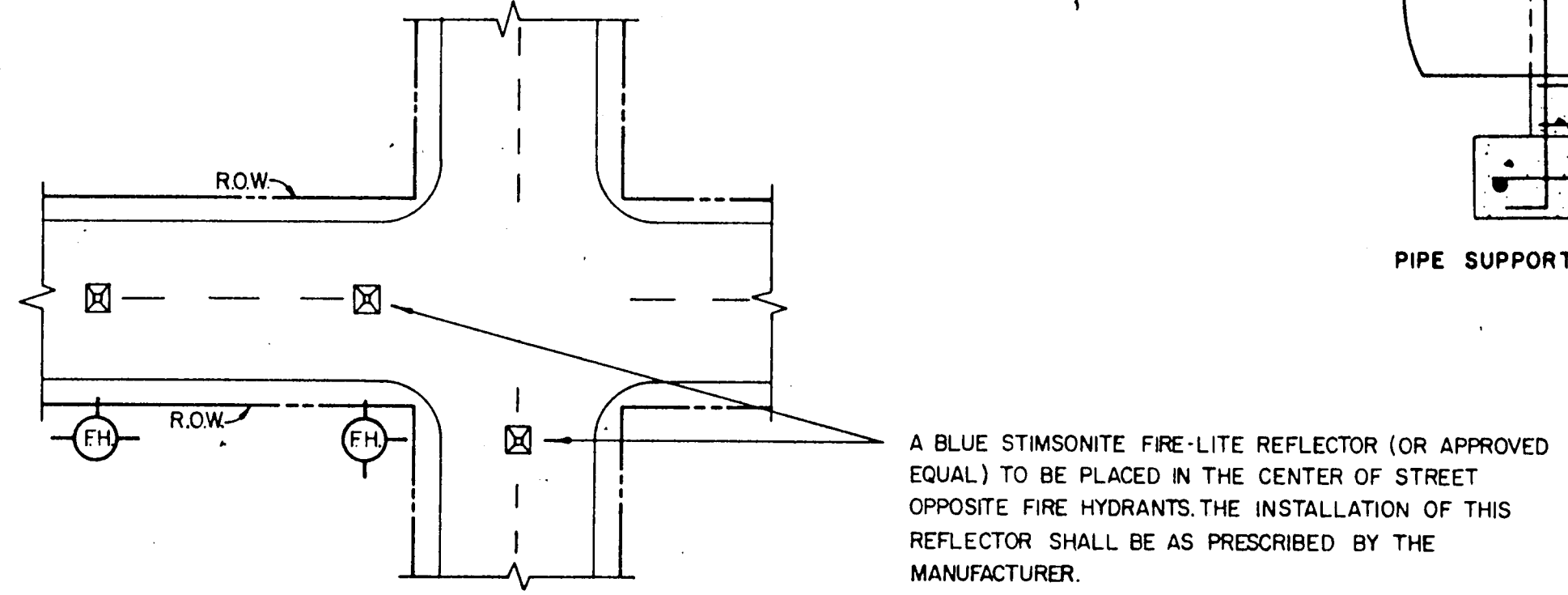
- Q. of F.H. Barrel Shall Be Not Less Than 6.0' Or More Than 5.0' From Back Of Curb Or Edge Of Pavement.
- Do Not Set F.H. In An Existing Or Proposed Sidewalk, Unless Otherwise Noted.
- All F.H. Tees Shall Be M.J. With Anchoring On The Branch With M.J., M.J. 6" Valve.
- Set F.H. On The Lot Line Extended When Possible.
- On Private Contracts, The Developer's Engineer Will Stake Location B Grade.
- Never Place F.H. Where Fire Truck Could Not Park Beside It.



**TYPICAL FIRE HYDRANT INSTALLATION**

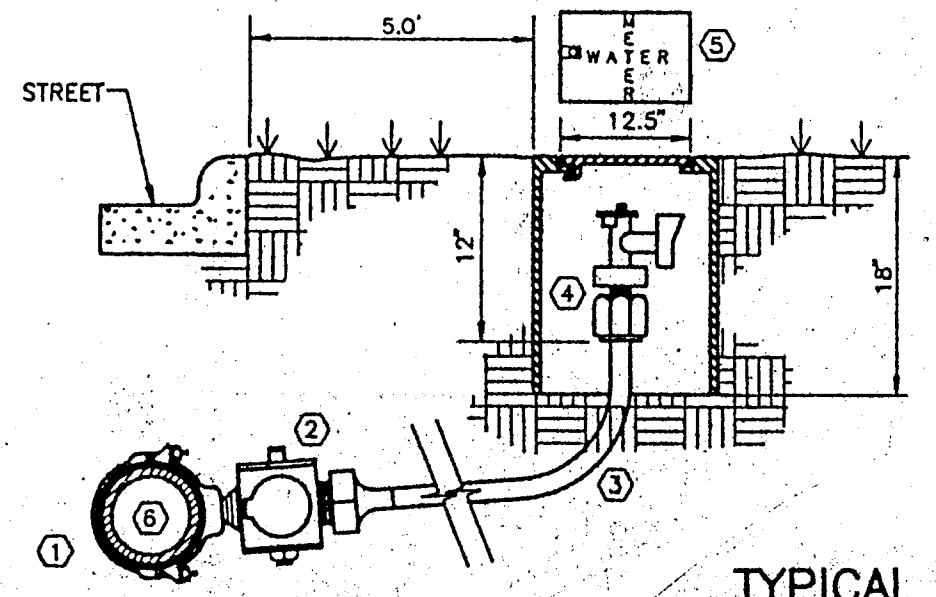


**BUTTERFLY VALVE DETAIL**  
N.I.C.

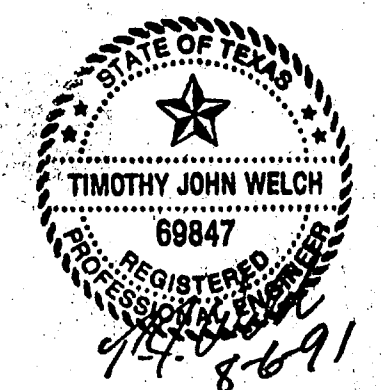


**TYPICAL FIRE HYDRANT REFLECTOR INSTALLATION**

AS BUILTS  
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.

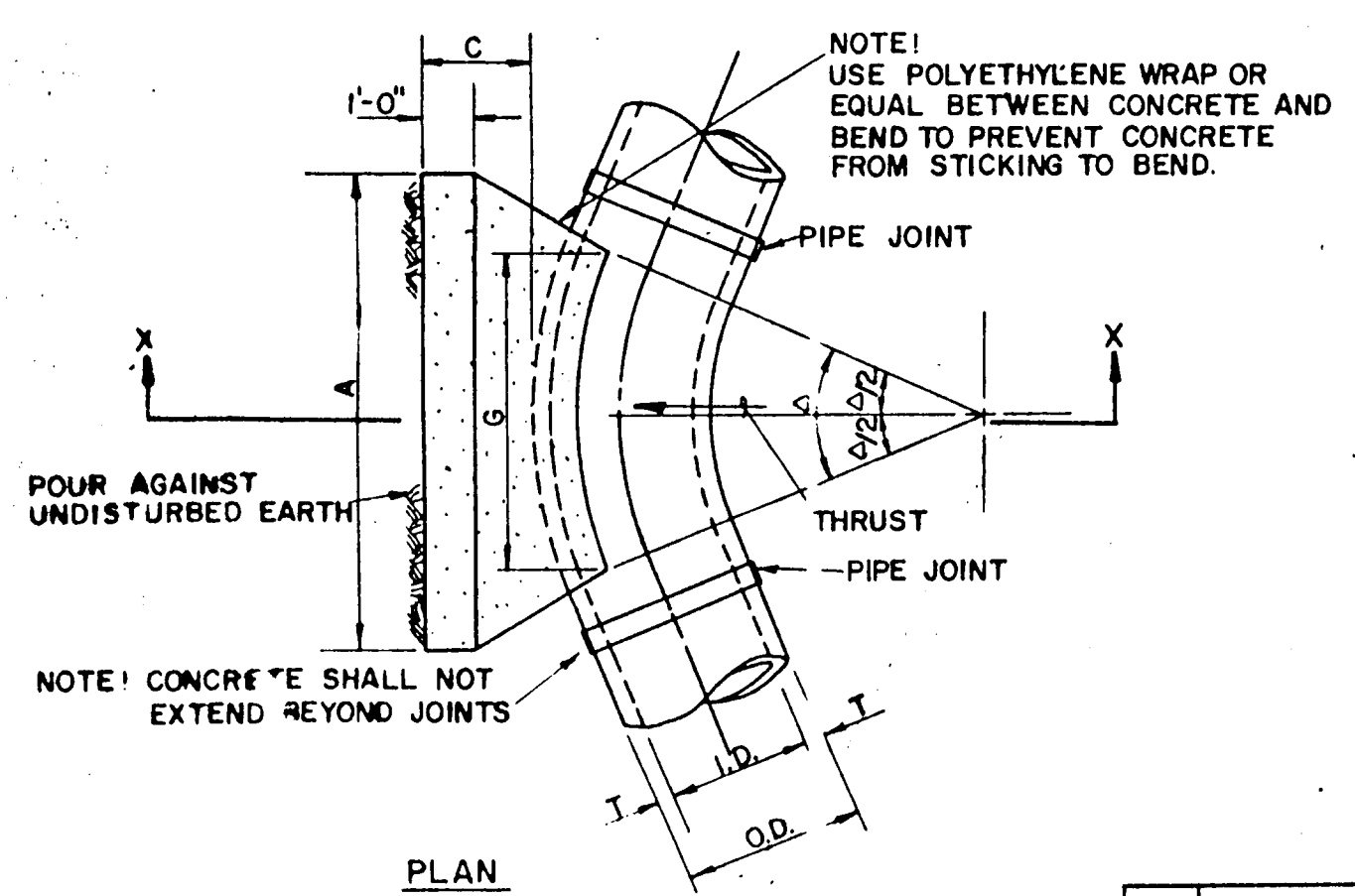


- DOUBLE STRAP BRONZE SADDLE W/CCW THREADS. MUELLER.
- CORPORATION STOP W/CCW THREADS. MUELLER. H-15000 COMPRESSION OR H-15000 FLARED.
- 3/4" TYPE "K" SOFT COPPER W/NO SPLICES.
- ANGLE STOP W/LOCK WING. MUELLER. H-14255 COMPRESSION OR H-14255 FLARED.
- WATER METER BOX (RECTANGULAR SHAPE ONLY) CONCRETE OR METAL SHELL CONSTRUCTION.
- WATER MAIN PVC AWWA C900 SDR 14/18 INTEGRAL WALL BELL.

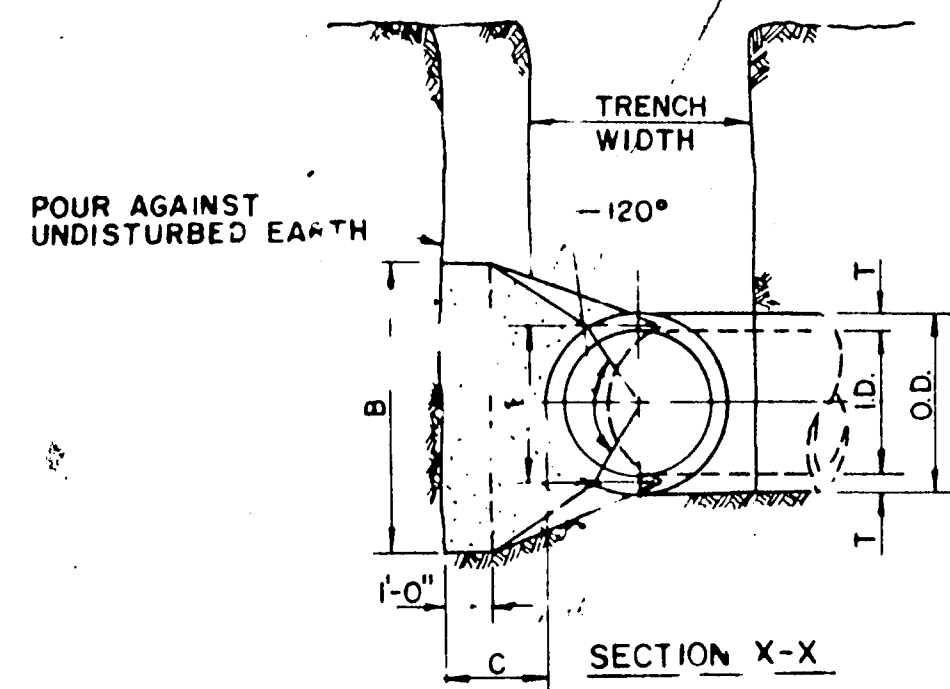


TOWN OF ADDISON, TEXAS DEPARTMENT OF ENGINEERING			
STANDARD CONSTRUCTION DETAILS WATER			
FIRE HYDRANTS, PULL BOXES AND VALVES			
Designed -	Drawn -	Date - AUGUST, 1991	Job No. - 90025-5
Approved -	Checked -	Scale -	Sheet D-8 Of



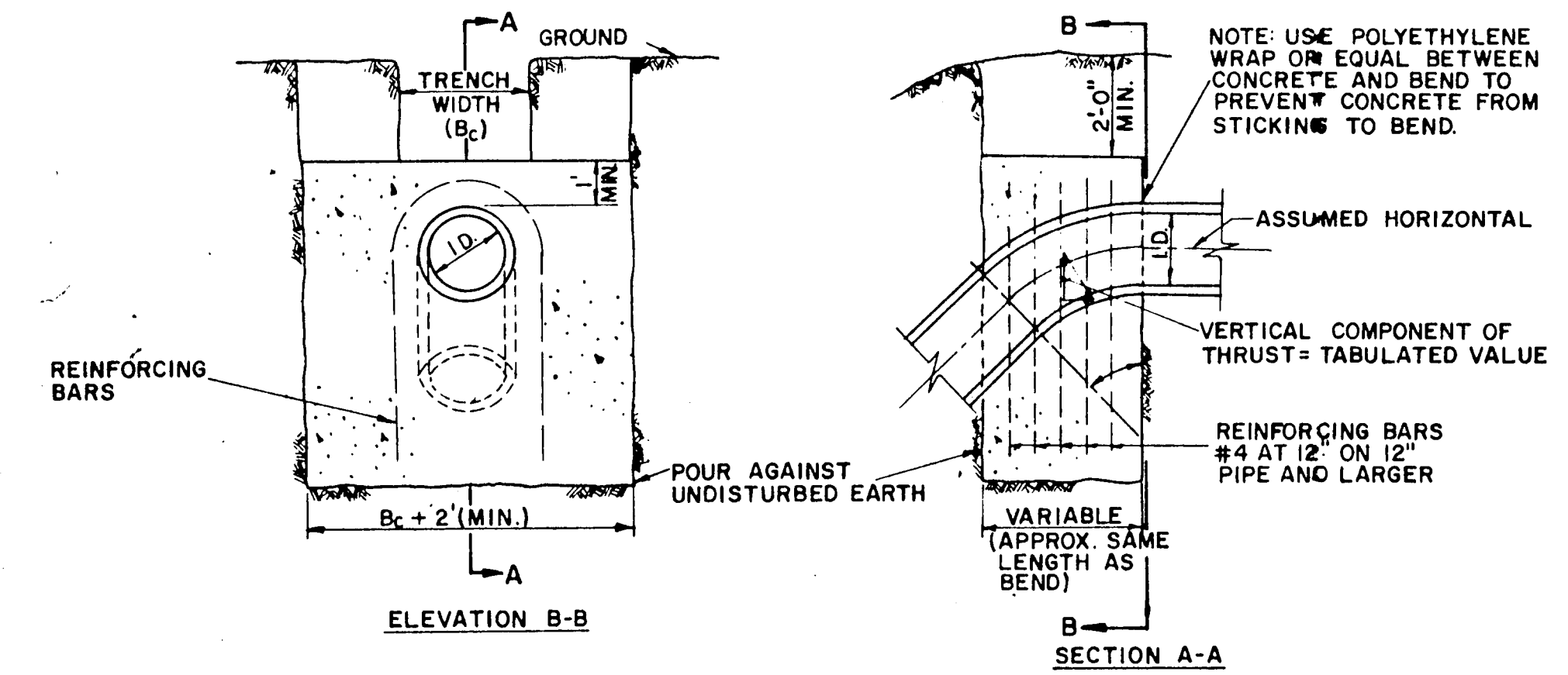


I.D. (IN.)	T (IN.)	C 11.25°		C 22.50°		E (FT.)
		A	B	A	B	
4.6,8	0.4	1.5	1.5	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.5	1.5	1.6
20	0.7	1.5	1.5	1.5	1.5	1.8
24	0.9	1.5	1.5	1.5	1.5	2.1
30	2.9	1.5	1.5	1.9	1.9	2.6
36	4.5	1.5	2.3	3.3	3.3	3.3
42	5.0	1.8	2.6	3.8	3.8	3.8
48	5.5	2.0	3.0	4.3	4.3	4.3
54	6.0	2.3	3.4	4.8	4.8	4.8
60	6.5	2.5	3.8	5.3	5.3	5.3
66	6.8	2.8	4.1	5.7	5.7	5.7
72	7.5	3.0	4.5	6.3	6.3	6.3
78	7.5	3.3	4.9	6.7	6.7	6.7
84	8.0	3.5	5.3	7.2	7.2	7.2
90	8.5	3.8	5.6	7.7	7.7	7.7
96	9.0	4.0	6.0	8.2	8.2	8.2



I.D. (IN.)	G (FT.)	THRUST TONS	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST TONS	EARTH			ROCK		
			A	B	VOL. C.Y.	A	B	VOL. C.Y.				A	B	VOL. C.Y.	A	B	VOL. C.Y.
4.6,8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1	4.6,8	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1	10,12	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2	16,18	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3	20	1.8	12.3	3.5	3.5	0.7	2.0	3.5	0.4
24	1.1	8.9	3.0	3.0	0.5	1.5	3.0	0.3	24	2.2	17.7	4.0	4.5	1.0	3.0	3.0	0.5
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4	30	2.7	20.7	5.0	4.5	1.5	3.0	4.0	0.8
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5	36	3.3	29.8	5.5	5.5	2.3	4.0	4.0	1.3
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8	42	3.8	40.5	7.0	6.0	3.9	4.5	5.0	2.1
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1	48	4.4	52.9	8.0	7.0	5.7	4.8	6.0	2.8
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4	54	4.9	67.0	9.0	8.0	8.0	6.0	6.0	4.1
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	1.8	60	5.5	82.7	9.5	9.0	10.6	6.0	7.0	5.3
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7	66	6.0	100.1	10.5	10.0	14.1	6.5	8.0	7.2
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3	72	6.6	119.1	11.0	11.0	17.6	7.5	9.0	9.1
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9	78	7.1	139.8	12.0	12.0	22.5	8.0	10	11.7
84	3.8	81.5	8.5	10.0	10.3	4.3	10.0	5.3	84	7.6	162.1	13.0	12.5	27.2	8.5	10.0	14.8
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.2	90	8.2	186.1	14.0	13.5	33.7	9.5	10.0	17.7
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	7.4	96	8.7	211.7	15.0	14.5	41.2	10.0	11.0	21.8

**HORIZONTAL BEND THRUST BLOCK**

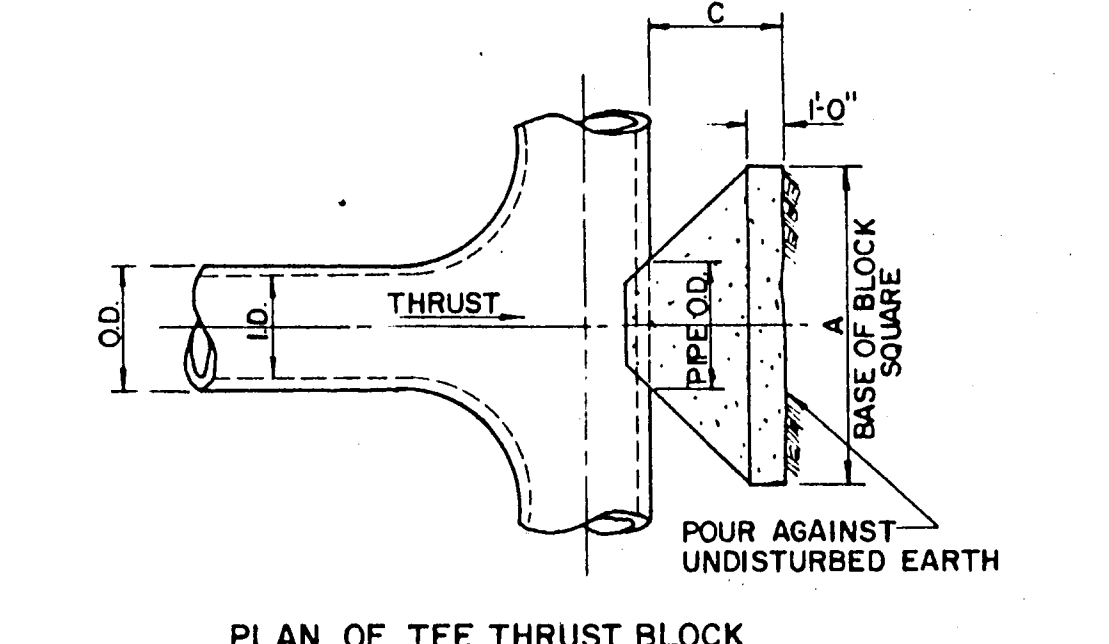
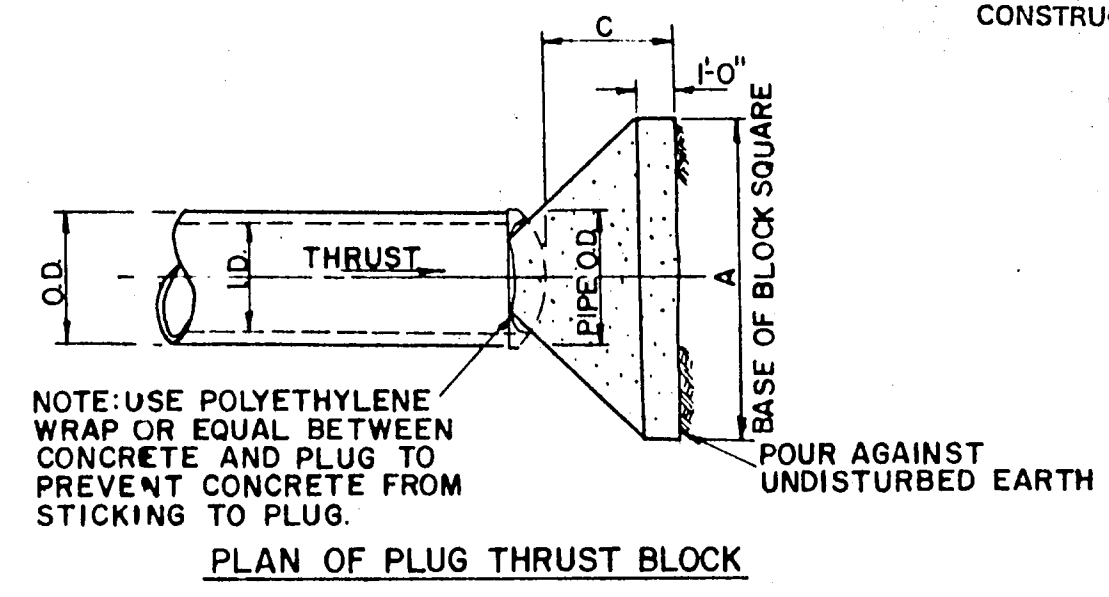


I.D. (IN.)	THRUST TONS	VOL. C.Y.	11.25°		22.50°		30°		45°		67.50°		90°		I.D. (IN.)
			A	B	A	B	A	B	A	B	A	B	A	B	
4.6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4.6,8	4.6,8	
10,12	2.2	1.1	4.3	2.2	5.7	2.8	6.0	4.0	10.5	5.2	11.3	5.7	10,12	10,12	
16,18	5.0	2.5	9.7	4.9	12.7	6.4	16.0	9.0	23.5	11.8	25.5	12.7	16,18	16,18	
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20	20	
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24	24	
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5	30	30	
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36	36	
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	94.0	48.0	104.0	52.0	42	42	
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48	48	
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54	54	
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60	60	
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66	66	
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72	72	
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78	78	
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84	84	
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90	90	
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96	96	

GENERAL NOTES - FOR ALL THRUST BLOCKS

- All Calculations Are Based On Internal Pressure Of 200 P.S.I. For 24" I.D. Pipe And Smaller And 150 P.S.I. On 30" I.D. And Larger.
- Volumes Of Vertical Bend Thrust Blocks Are Net Volumes Of Concrete To Be Furnished. The Corresponding Weight Of The Concrete (Class F) Is Equal To Or Greater Than The Vertical Component Of Thrust On The Vertical Bend.
- Wall Thickness (T) Assumed Here For Estimating Purposes Only.
- Concrete For Blocking Shall Be Class B Concrete.
- Dimensions May Be Varied As Required By Field Conditions Where And As Directed By The Engineer. The Volume Of Concrete Blocking Shall Not Be Less Than Shown Here.

**VERTICAL BEND THRUST BLOCK**



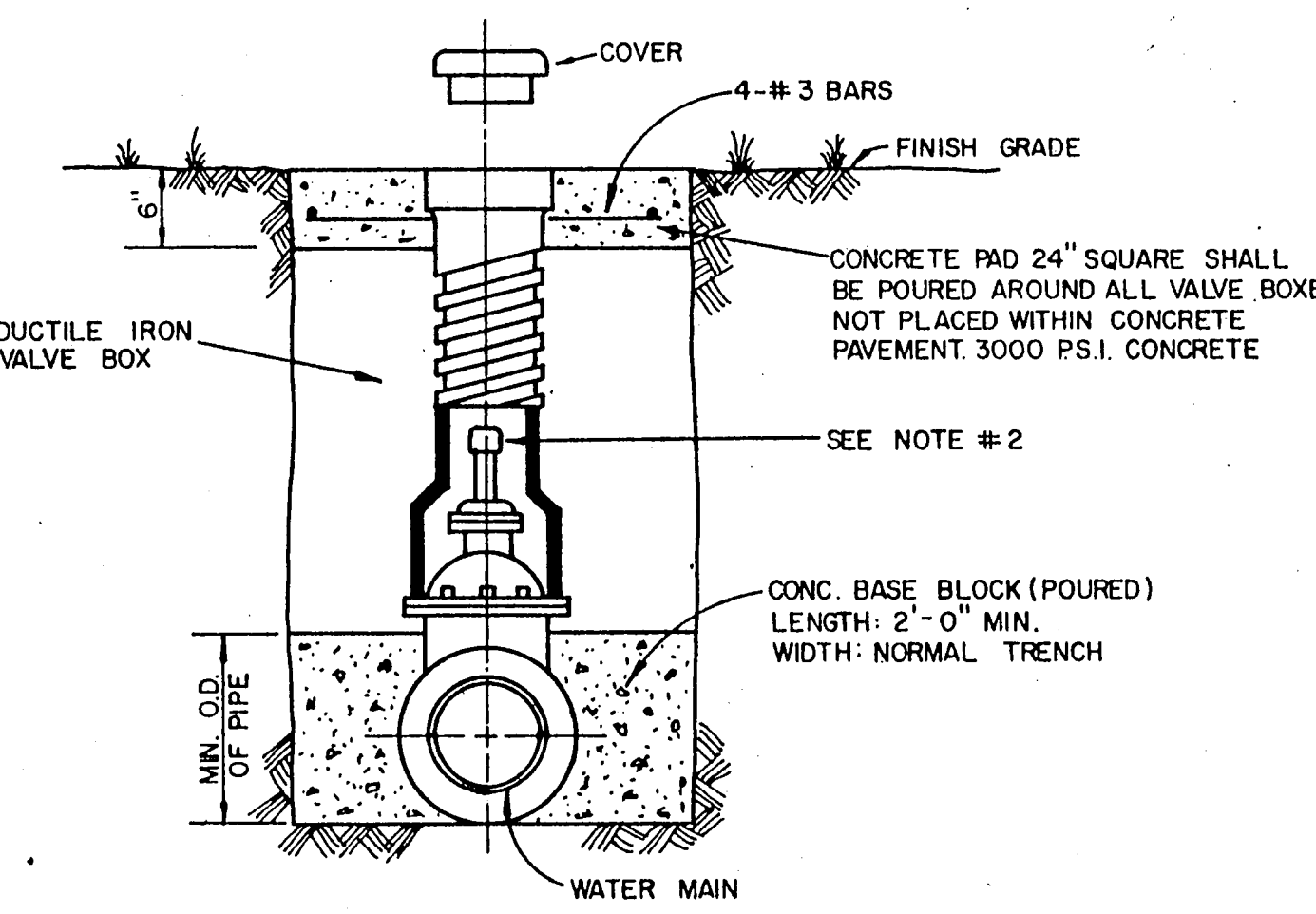
I.D. (IN.)	THRUST TONS	C (FT.)	EARTH		ROCK	
			A	VOL. C.Y.	A	VOL. C.Y.
4.6,8	1.1	1.5	2.5	0.3	2.0	0.2
10,12	1.3	1.5	3.5	0.6	2.5	0.3
16,18	2.5	2.0	5.5	1.6	4.0	0.9
20	3.1	2.0	6.0	1.9	4.0	0.9
24	4.5	2.5	7.0	3.1	5.0	1.7
30	5.3	3.0	7.5	4.1	5.5	2.4
36	7.3	4.0	9.0	7.3	6.5	4.2
42	10.4	4.5	10.5	11.0	7.5	6.2
48	13.6	5.0	12.0	15.6	8.5	8.7
54	17.2	5.5	13.5	21.4	9.5	11.9
60	21.2	6.0	15.0	28.4	10.5	15.7
66	25.7	6.5	16.5	36.8	11.5	20.5
72	30.5	7.5	17.5	47.2	12.5	27.2
78	35.8	8.0	19.0	58.9	13.5	33.7
84	41.6	8.5	20.5	72.3	14.5	41.2
90	47.7	9.0	22.0	87.7	15.5	49.7
96	54.3	9.5	23.5	104.8	16.5	61.0

**PLUG & TEE THRUST BLOCK**

I.D. (IN.)	G (FT.)	THRUST TONS	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST TONS	EARTH			ROCK		
			A	B	VOL. C.Y.	A	B	VOL. C.Y.				A	B	VOL. C.Y.	A	B	VOL. C.Y.
4.6,8	1.0	2.6	2.0	1.5	0.2	1.0	1.6	0.1	4.6,8	1.5	3.9	2.0	2.0	0.2	1.5	1.5	0.1
10,12	1.3	5.9	2.5	2.5	0.3	2.0	1.5	0.2	10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.8	16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5	20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7	24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	3.6	27.5	5.5	5.0	1.9	3.5	4.0	0.9	30	5.4	40.6	8.5	5.0	3.2	5.5	4.0	1.6
36	4.4	38.5	7.0	6.0	3.4	4.5	4.5	1.6	36	6.5	58.5	10.0	6.0	5.3	6.5	4.5	2.6
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5	42	7.5	79.6	11.5	7.0	8.1	8.0	5.0	4.2
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7	48	8.6	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3	54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3	60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6	66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3	72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.8	78	13.9	274.3	21.5	13.0	49.8	14.5	9.5	25.9
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5	84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.8
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9	90	16.1	365.5	24.5	15.0	74.3	17.5	10.5	39.6
96	11.6	281.2	17.0	16.0	55.5	12.5	11.5	28.9	96	17.1	415.6	26.0	16.0	89.3	18.5	11.5	48.3

AS BUILTS

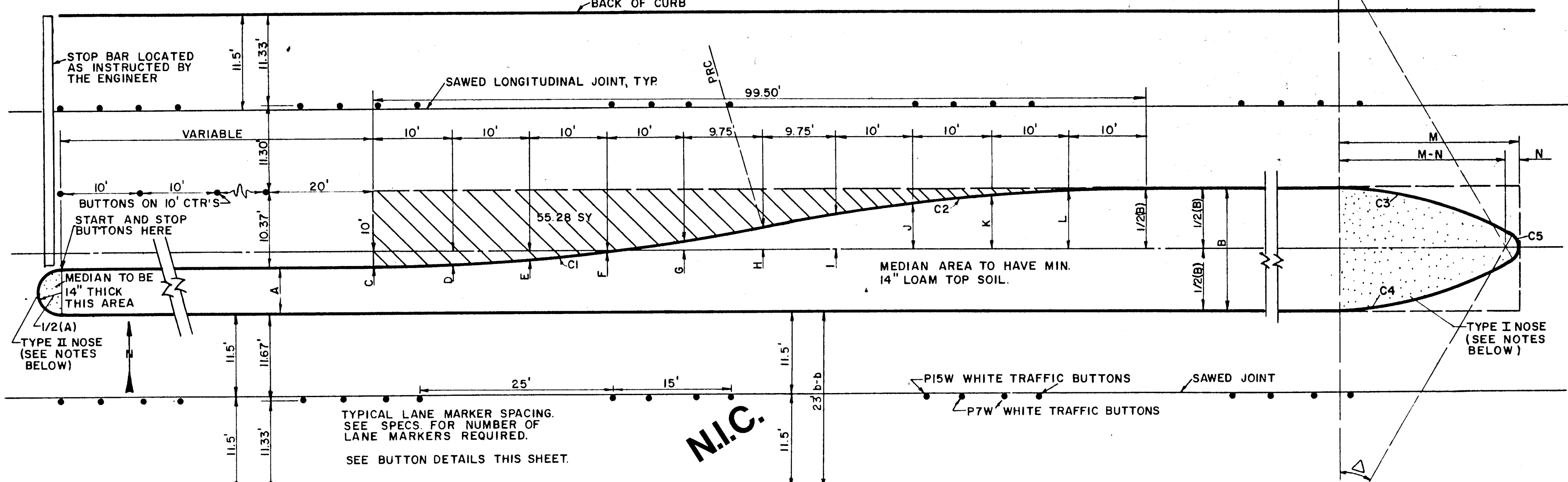
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



NOTE:

- GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-509-80 OR LATEST THEREOF ALL VALVES SHALL BE "MUELLER" OR APPROVED EQUAL.
- A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE THATS OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4' OF VALVE BOX LID. MANUFACTURED VALVE STACK DUCTILE IRON PIPE TO BE USED FOR EXTENSION GREATER THAN 4'-0". BELL END OF STACK TO





### MEDIAN DIMENSION CHART

B	C	D	E	F	G	H	I	J	K	L	M	N
12'	4.00'S	3.80'S	3.20'S	2.19'S	0.78'S	1.00'N	2.78'N	4.19'N	5.20'N	5.80'N	22.56'	1.00'
13'	3.50'S	3.30'S	2.70'S	1.69'S	0.28'S	1.50'N	3.28'N	4.69'N	5.70'N	6.30'N	23.56'	1.00'
14'	3.00'S	2.80'S	2.20'S	1.19'S	0.22'N	2.00'N	3.78'N	5.19'N	6.20'N	6.80'N	22.68'	2.50'
15'	2.50'S	2.30'S	1.70'S	0.69'S	0.72'N	2.50'N	4.28'N	5.69'N	6.70'N	7.30'N	23.71'	2.50'
16'	2.00'S	1.80'S	1.20'S	0.19'S	1.22'N	3.00'N	4.78'N	6.19'N	7.20'N	7.80'N	23.46'	3.50'
17'	1.50'S	1.30'S	0.70'S	0.31'N	1.72'N	3.50'N	5.28'N	6.69'N	7.70'N	8.30'N	24.48'	3.50'
18'	1.00'S	0.80'S	0.20'S	0.81'N	2.22'N	4.00'N	5.78'N	7.19'N	8.20'N	8.80'N	25.44'	3.50'
19'	0.50'S	0.30'S	0.30'N	1.31'N	2.72'N	4.50'N	6.28'N	7.69'N	8.70'N	9.30'N	26.34'	3.50'
20'	0.00'S	0.20'N	0.80'N	1.81'N	3.22'N	5.00'N	6.78'N	8.19'N	9.20'N	9.80'N	26.72'	4.00'
21'	0.50'N	0.70'N	1.30'N	2.31'N	3.72'N	5.50'N	7.28'N	8.69'N	9.70'N	10.30'N	27.57'	4.00'
22'	1.00'N	1.20'N	1.80'N	2.81'N	4.22'N	6.00'N	7.78'N	9.19'N	10.20'N	10.80'N	28.39'	4.00'
23'	1.50'N	1.70'N	2.30'N	3.31'N	4.72'N	6.50'N	8.28'N	9.69'N	10.70'N	11.30'N	29.17'	4.00'
24'	2.00'N	2.30'N	2.80'N	3.81'N	5.22'N	7.00'N	8.78'N	10.19'N	11.20'N	11.80'N	29.92'	4.00'

N = NORTH OF CENTERLINE  
S = SOUTH OF CENTERLINE

### CURVE DATA C3 & C4 FOR 7'A=14'

A	Δ	R	T	L	M	N
7'	18°22'52"	50'	8.09'	16.04'	16.45'	1.00'
8'	20°09'11"		8.89'	17.59'	17.88'	1.00'
9'	21°47'12"		9.62'	19.01'	19.19'	1.00'
10'	23°18'41"		10.31'	20.34'	20.39'	1.00'
11'	24°44'50"		10.97'	21.60'	21.51'	1.00'
12'	26°06'32"		11.59'	22.78'	22.56'	1.00'
13'	27°24'27"		12.19'	23.92'	23.56'	1.00'
14'	28°38'08"		12.77'	25.03'	24.08'	1.00'

### CURVE DATA C2

Δ = 11°28'40"  
R = 250'  
T = 25.13'  
L = 50.08'

### CURVE DATA C3 & C4 FOR 12'B=24'

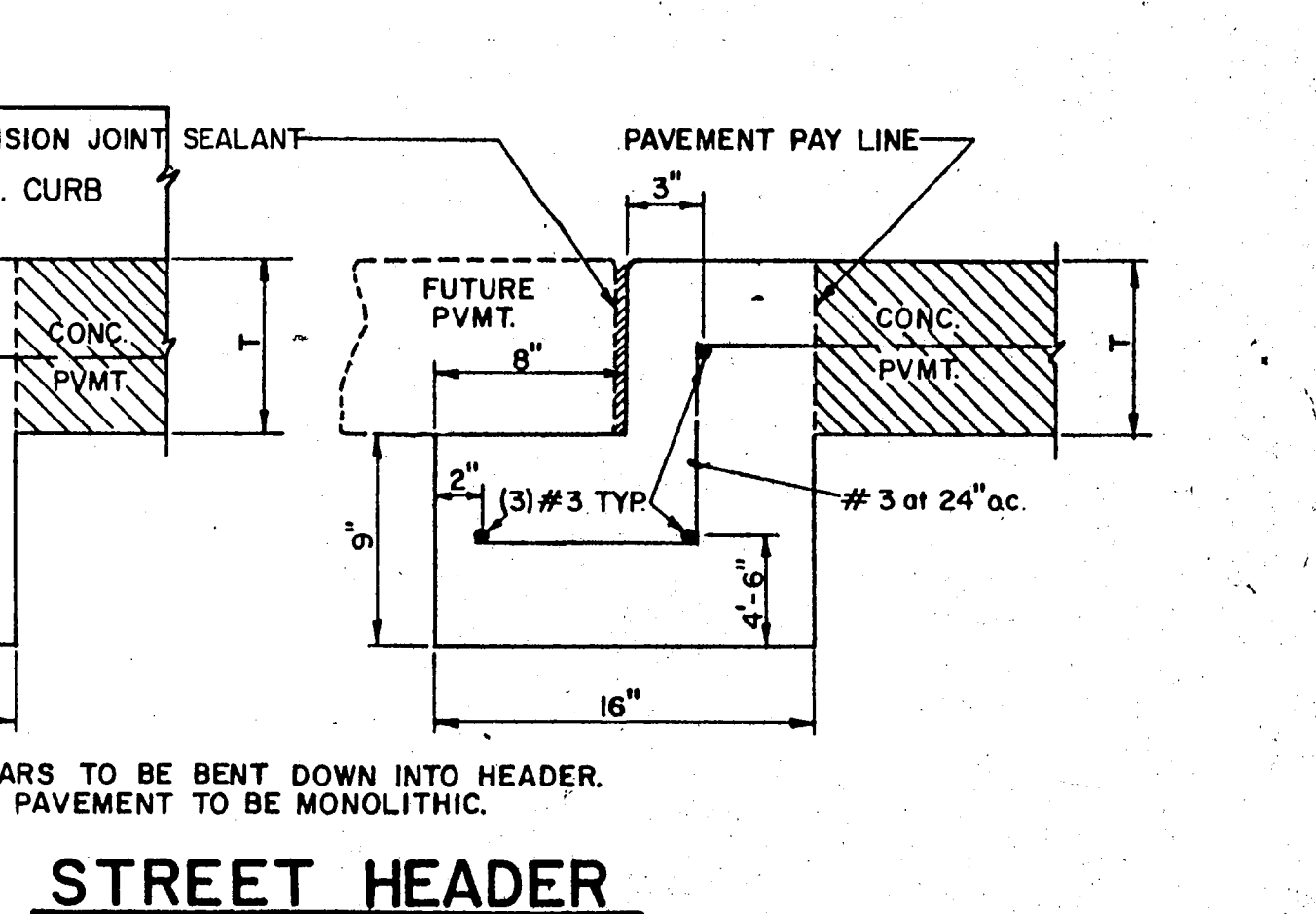
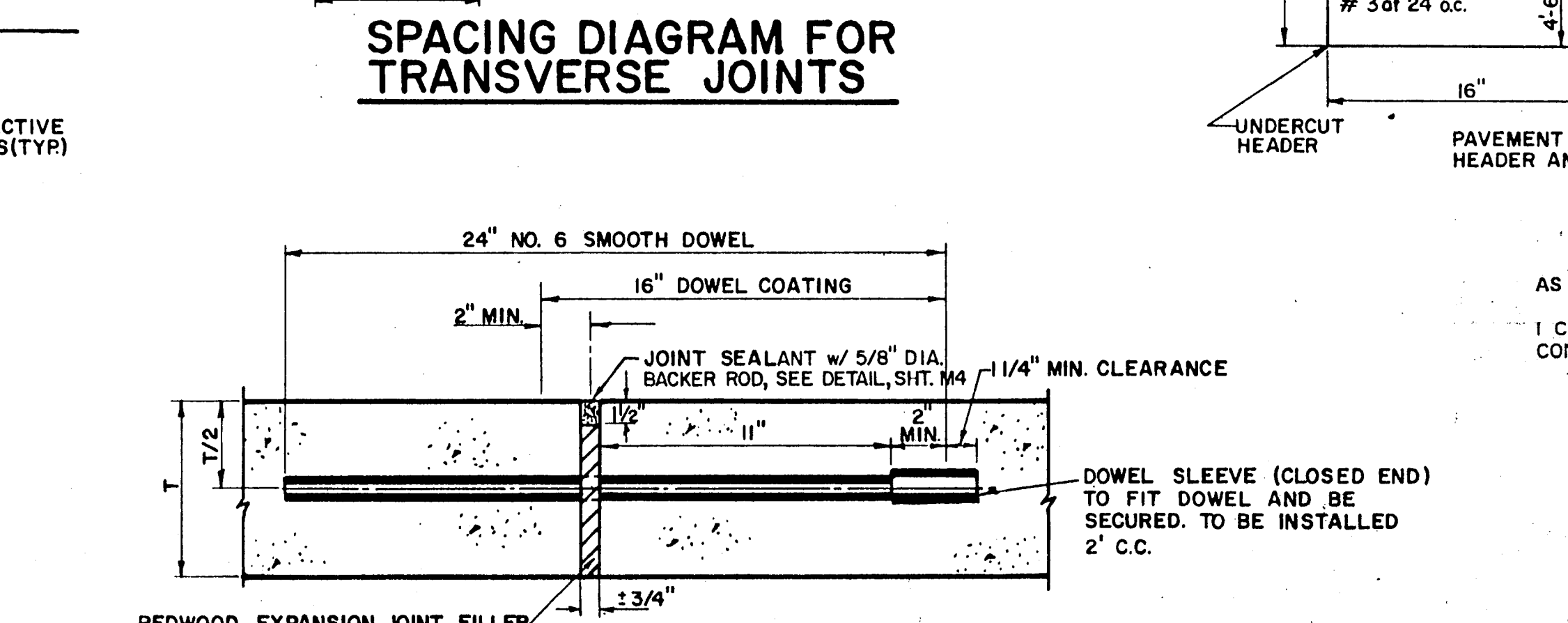
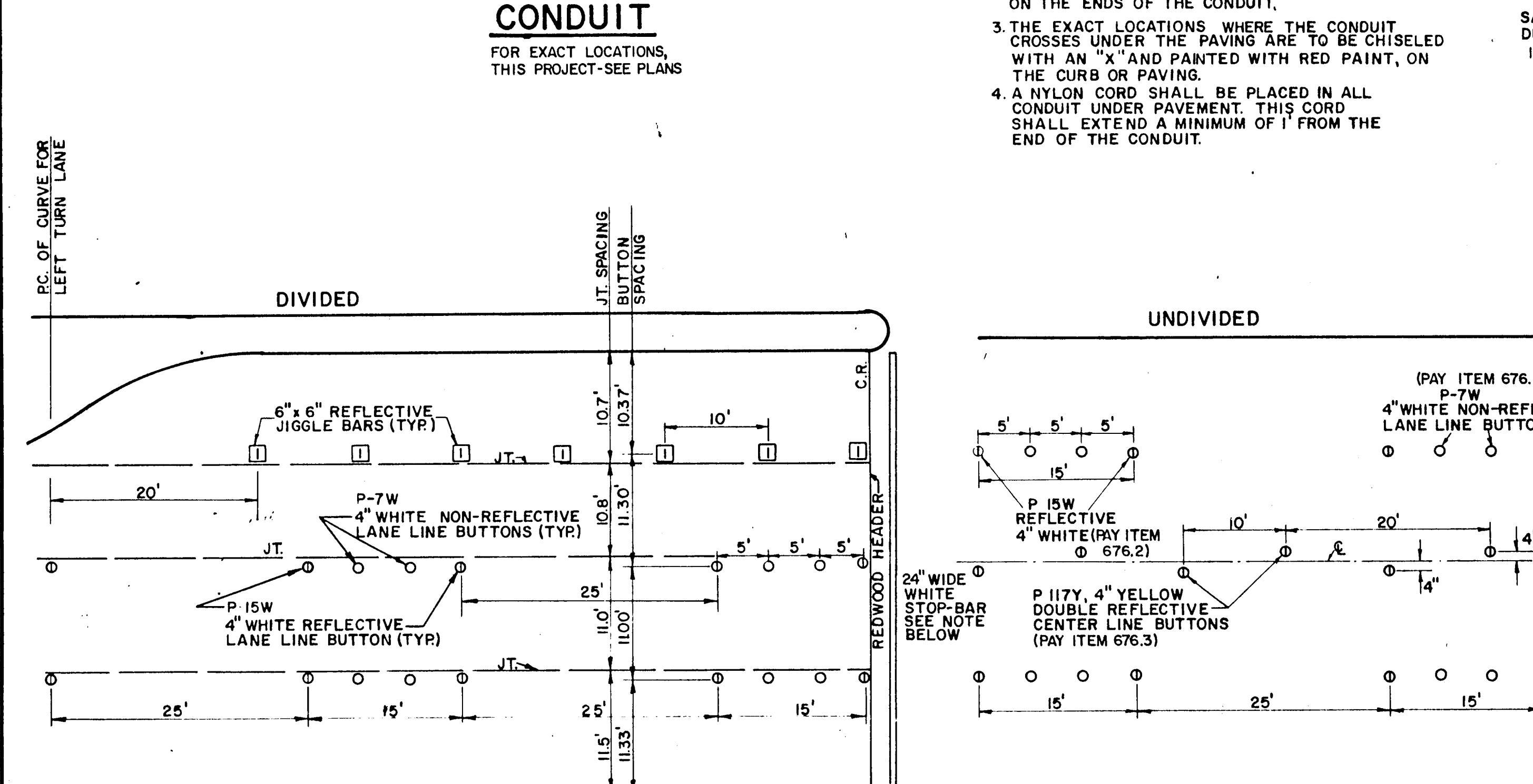
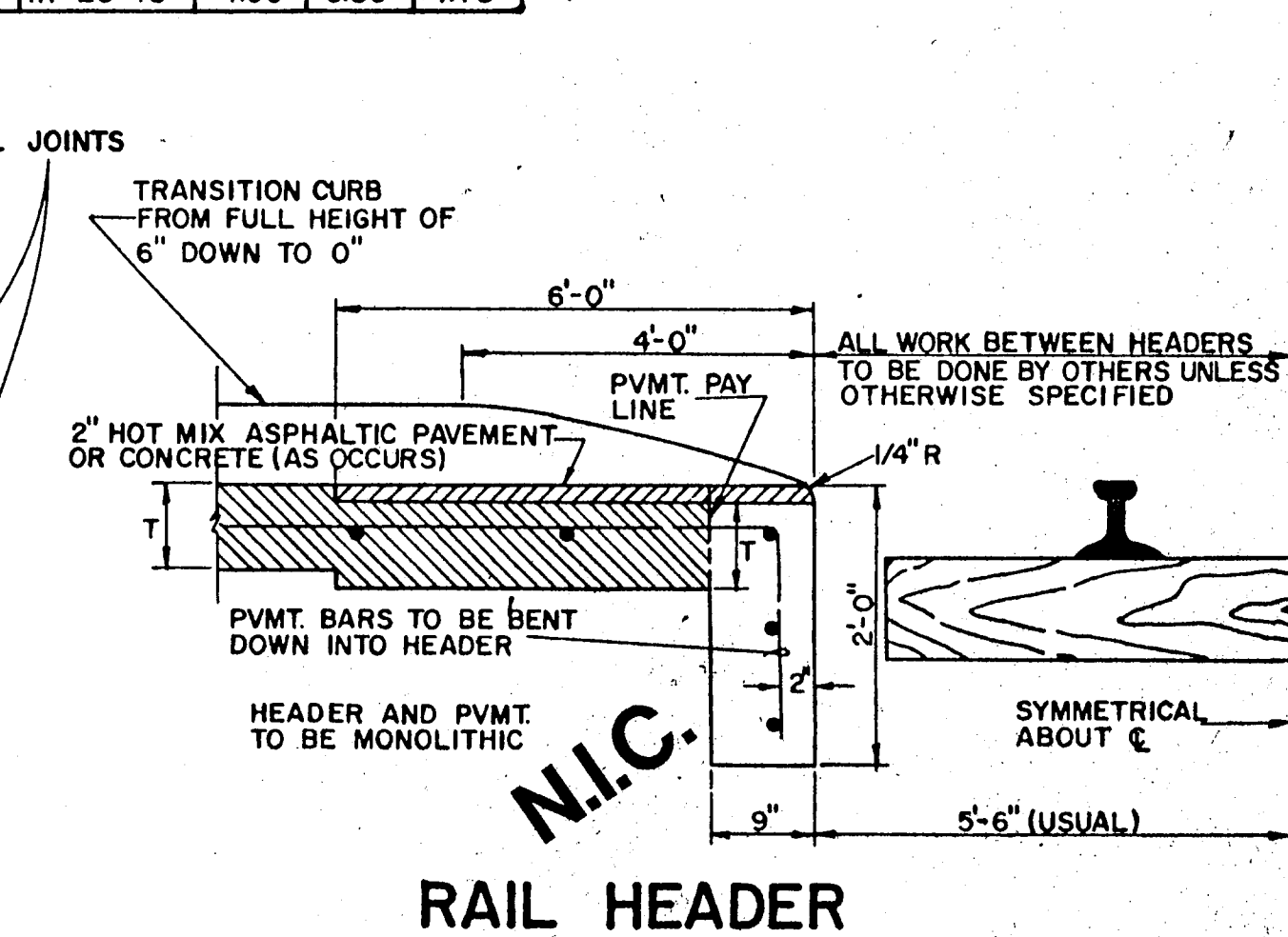
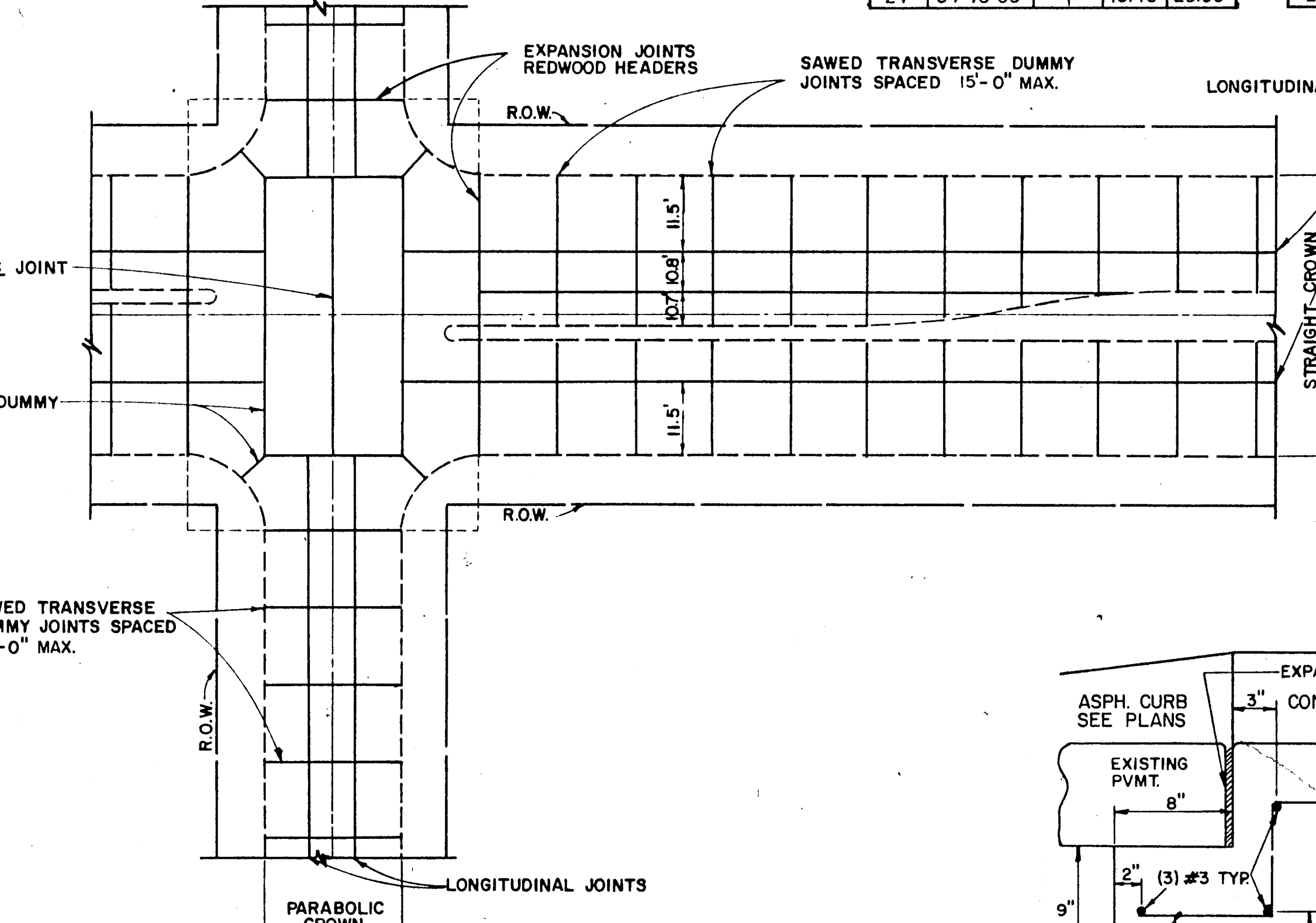
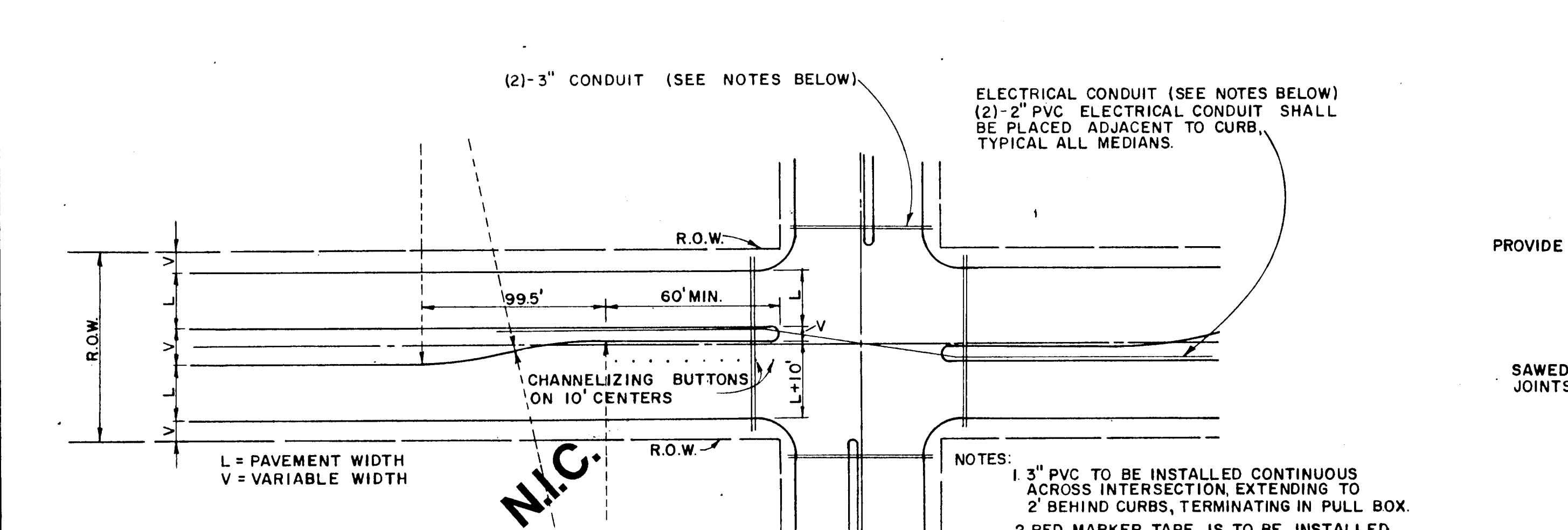
B	Δ	R	T	L
12'	26°06'32"	50.00'	11.59'	22.78'
13'	27°24'27"		12.19'	23.92'
14'	28°38'08"		12.77'	25.03'
15'	29°47'31"		13.33'	26.11'
16'	30°52'45"		13.87'	27.16'
17'	31°54'11"		14.39'	28.18'
18'	32°52'43"		14.89'	29.17'
19'	33°48'05"		15.37'	30.13'
20'	34°41'05"		15.83'	31.07'

### CURVE DATA C5 FOR 12'B=24'

B	Δ	R	T	L
12'	127°47'32"	1.00'	2.04'	2.23'
13'	125°12'46"	1.00'	1.93'	2.19'
14'	123°43'08"	2.50'	5.33'	5.66'
15'	122°57'31"	2.50'	5.01'	5.54'
16'	122°09'33"	3.50'	7.36'	7.89'
17'	121°21'44"	3.50'	6.92'	7.72'
18'	120°34'38"	3.50'	6.54'	7.56'
19'	120°52'03"	3.50'	6.17'	7.38'
20'	120°48'56"	4.00'	7.04'	8.43'
21'	118°21'08"	4.00'	6.70'	8.26'
22'	115°57'07"	4.00'	6.40'	8.10'
23'	113°38'22"	4.00'	6.12'	7.93'
24'	111°23'48"	4.00'	5.86'	7.78'

### CURVE DATA C5 FOR 7'A=14'

A	Δ	R	T	L
7'	143°14'15"	1.00'	3.01'	2.50'
8'	139°41'38"	1.00'	2.72'	2.44'
9'	136°25'35"	1.00'	2.50'	2.38'
10'	133°22'38"	1.00'	2.32'	2.33'
11'	130°30'20"	1.00'	2.17'	2.28'
12'	127°47'32"	1.00'	2.04'	2.23'
13'	125°12'46"	1.00'	1.93'	2.19'
14'	123°43'08"	2.50'	5.33'	5.66'

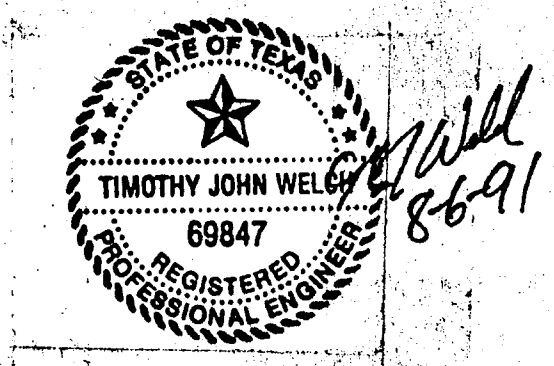


TOWN OF ADDISON, TEXAS  
DEPARTMENT OF ENGINEERING

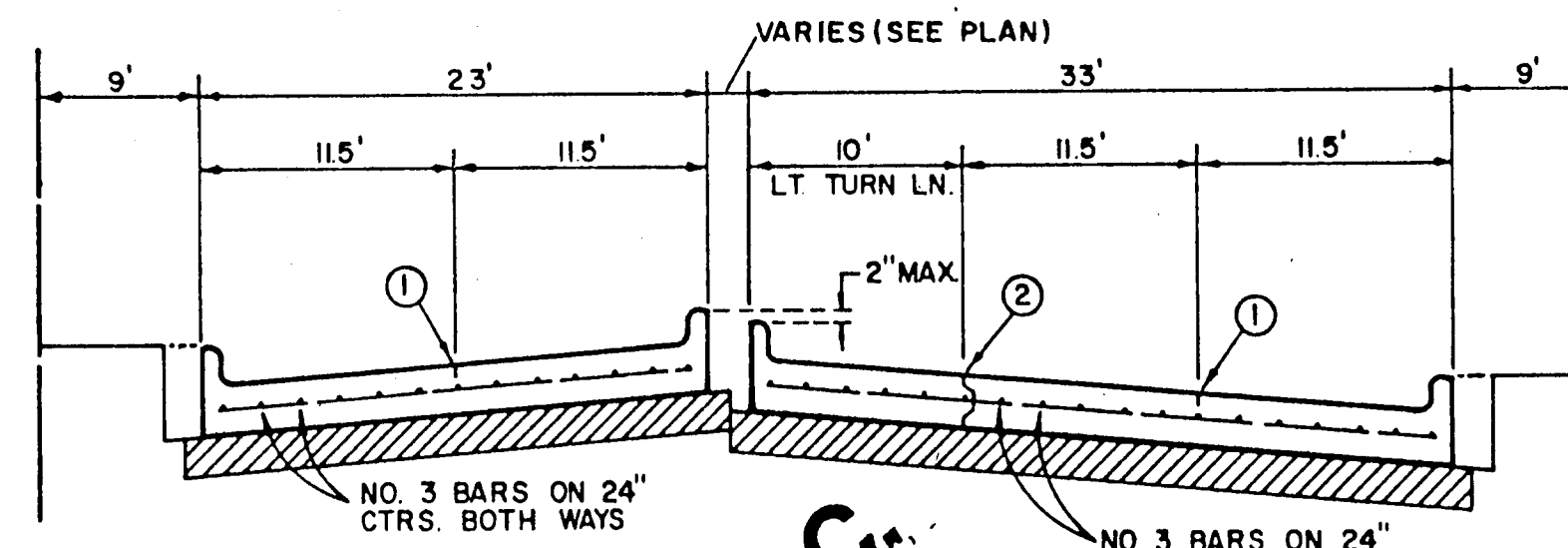
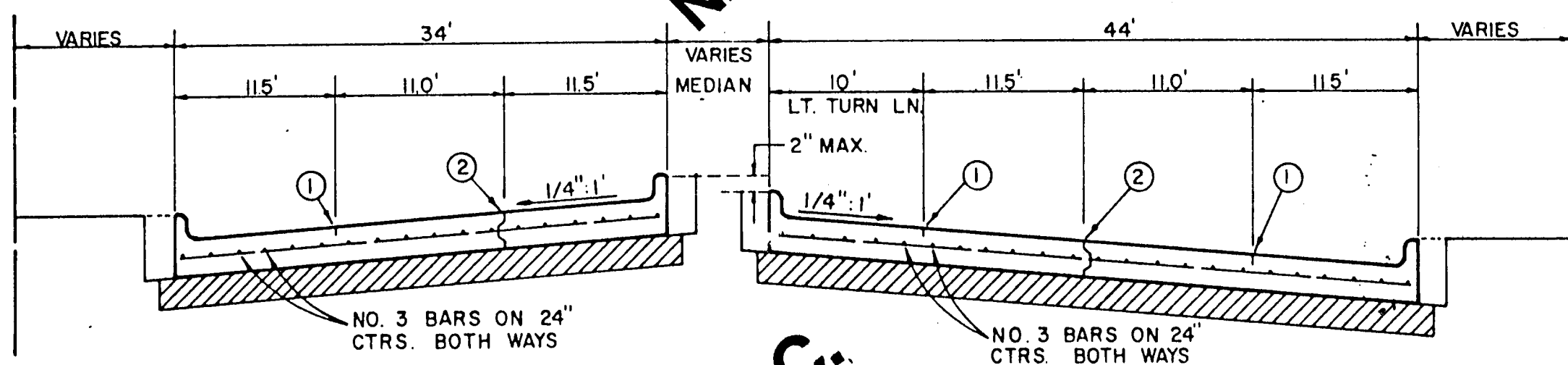
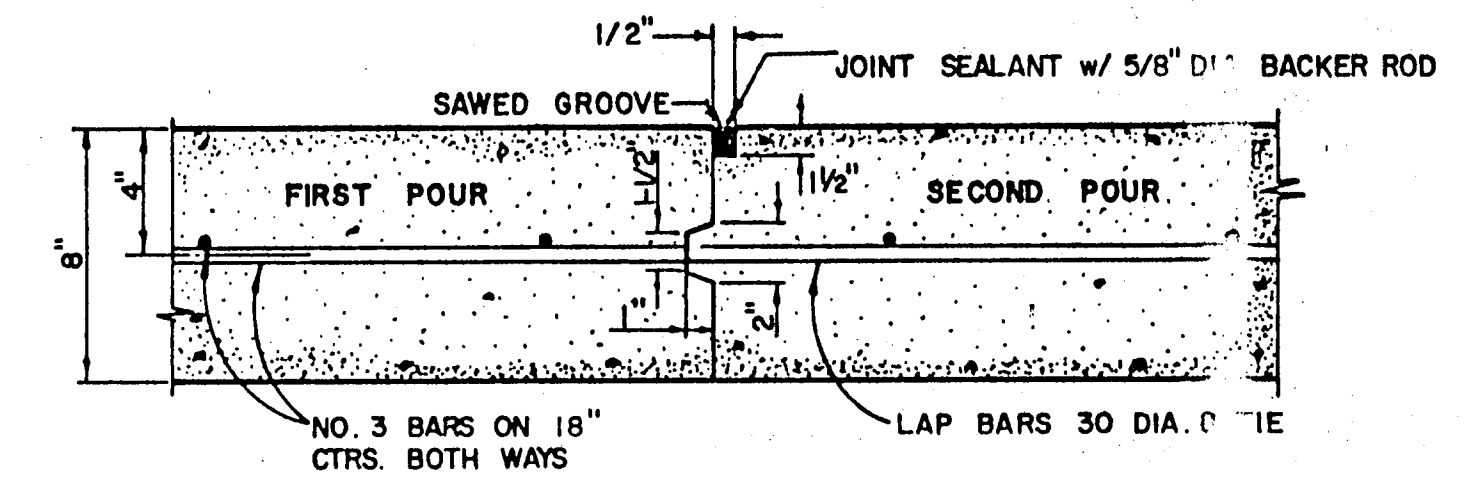
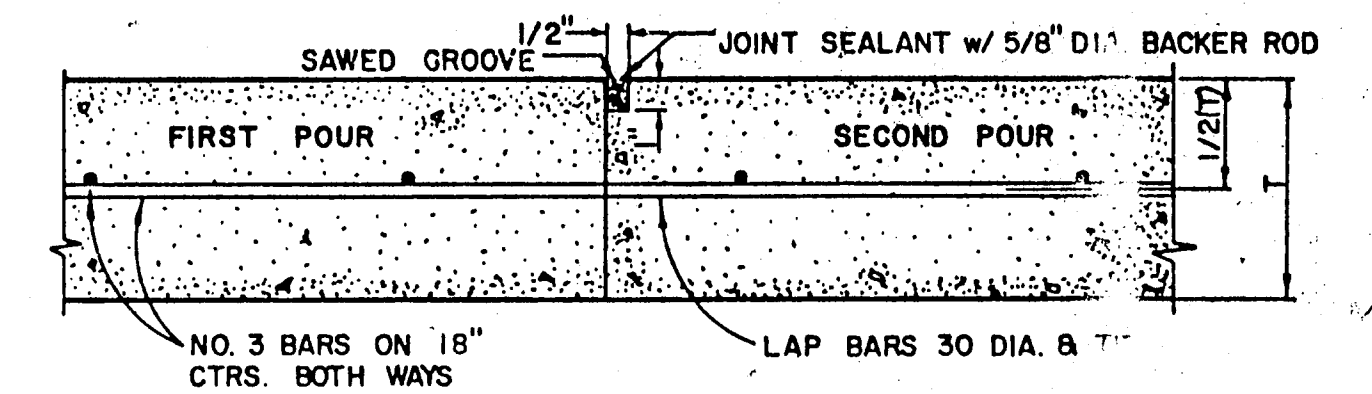
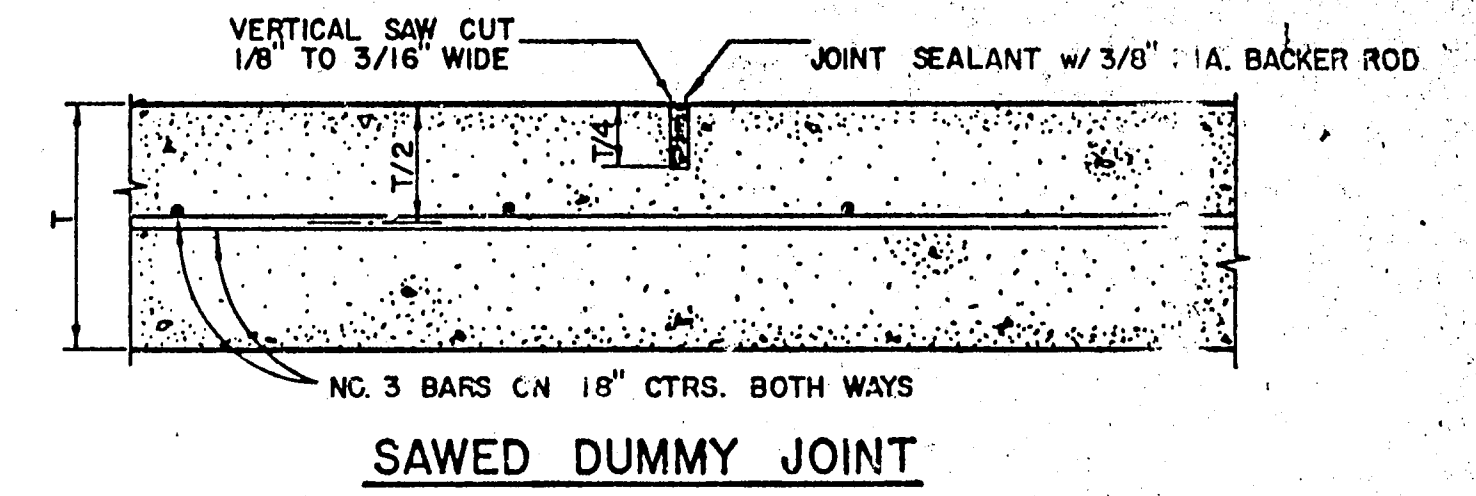
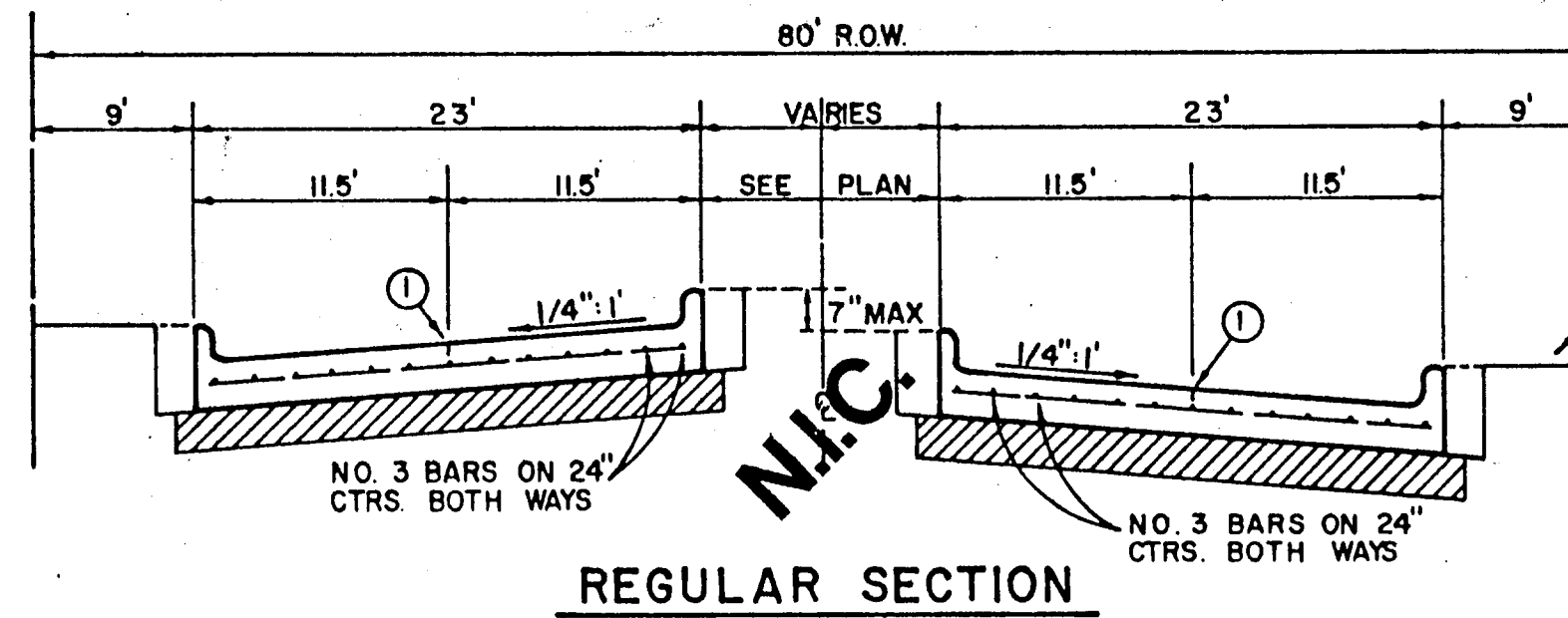
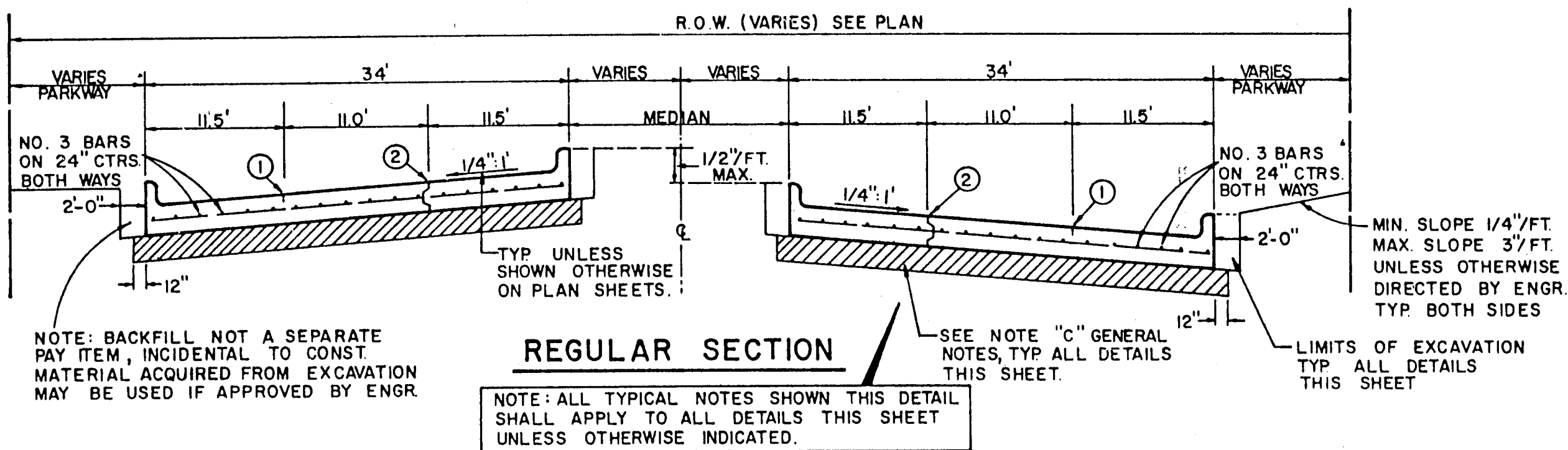
**STANDARD CONSTRUCTION DETAILS PAVING**

**TURN LANES & JOINTS**

Designed - \_\_\_\_\_ Drawn - \_\_\_\_\_ Date - AUGUST, 1991 Job No. - 90025-5  
Approved - \_\_\_\_\_ Checked - \_\_\_\_\_ Scale - \_\_\_\_\_ Sheet D-10 of \_\_\_\_\_

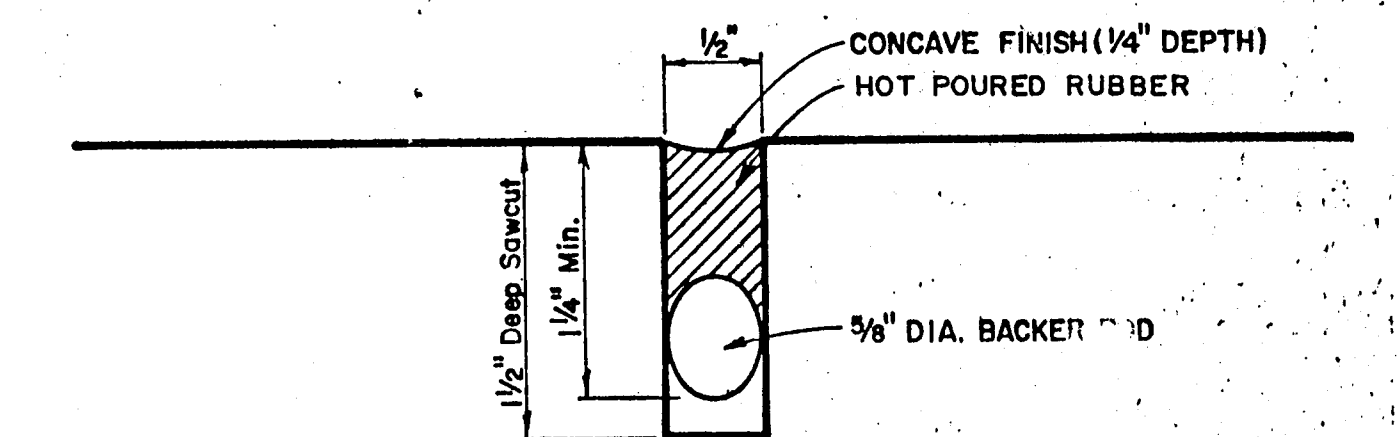




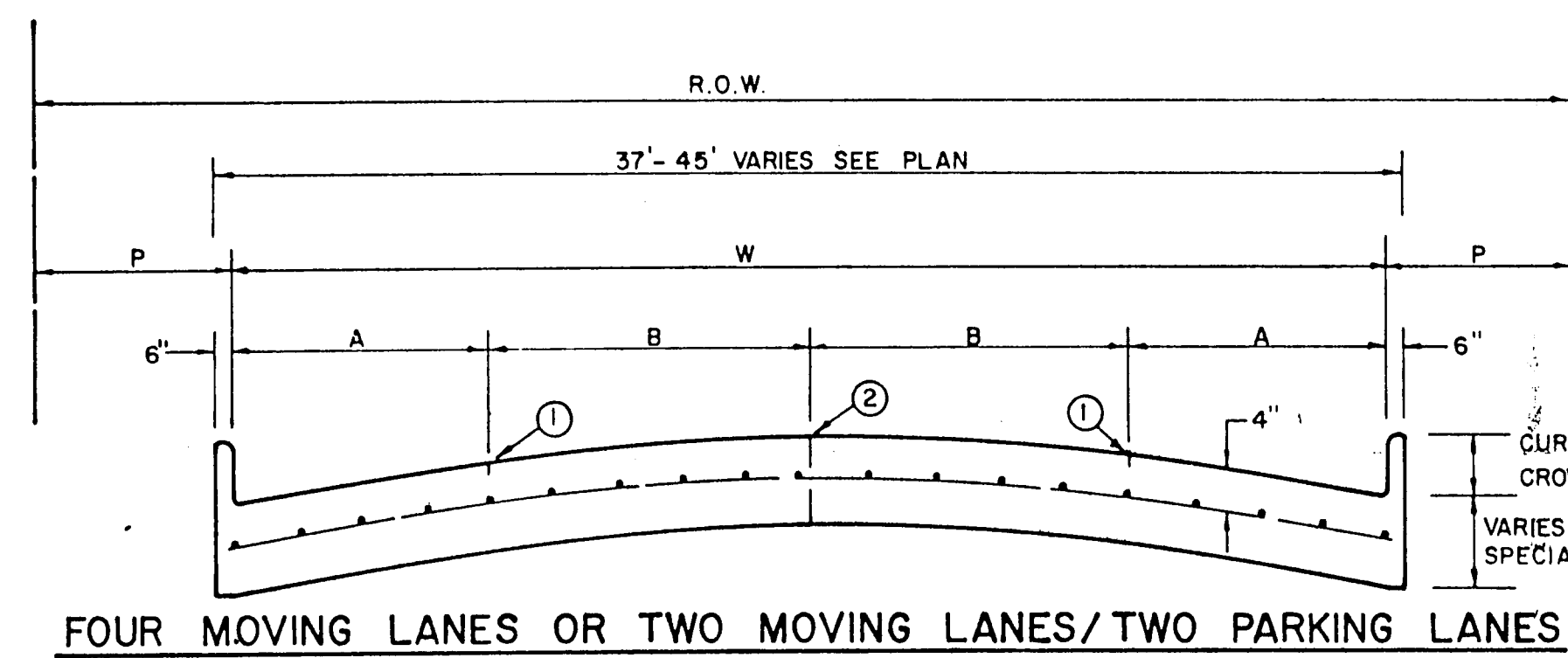


**GENERAL NOTES**

- A. GENERAL PAVEMENT THICKNESS FOR STREETS SHALL BE AS SPECIFIED BELOW IN SPECIAL NOTES.
- B. STANDARD SPECIFICATIONS REINFORCED CONCRETE PAVEMENTS
  1. ALL CURBS SHALL BE PLACED INTEGRAL WITH PAVEMENT
  2. CURBS SHALL MEET THE SAME COMPRESSIVE STRENGTH AS SPECIFIED FOR THE CONCRETE PAVEMENT.
  3. DETAIL AND ARRANGEMENT OF JOINTS, ALL TYPES, SHALL BE AS SHOWN ON THE STANDARD CONSTRUCTION DETAILS, OR AS APPROVED BY ENGINEER.
  4. BAR LAPS SHALL BE 30 DIAMETERS.
- C. BAR CHAIRS OR AN APPROVED SUPPORTING DEVICE SHALL BE FURNISHED.

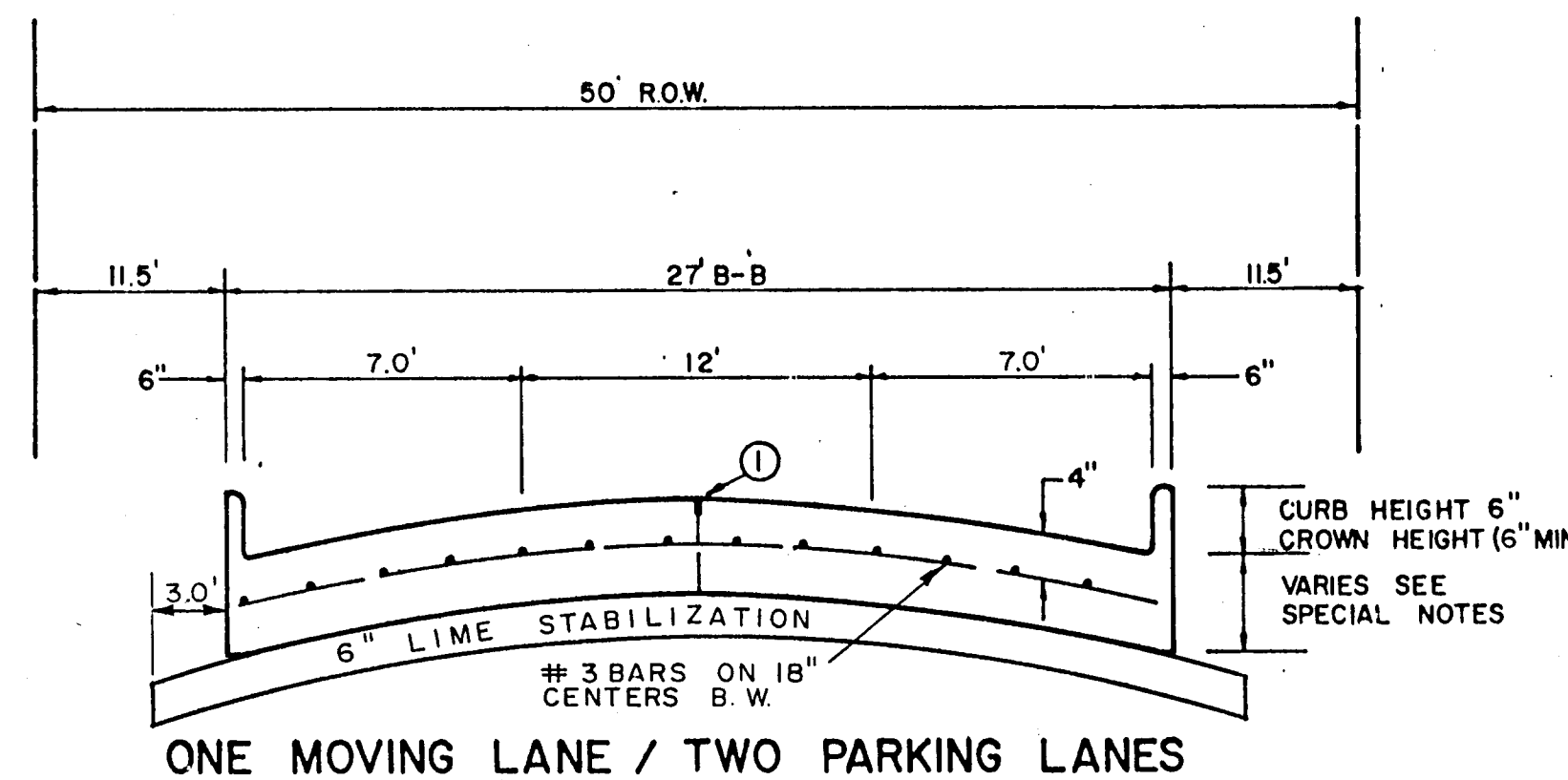


**TYPICAL JOINT DETAIL**



STREET TYPE	STREET WIDTH (W)	A	B	ROW WIDTH	P
COLLECTOR	36'	8'	10'	60'	11.5'
COLLECTOR	40'	8' OR 9'	10' OR 12'	60'	9.5'
COLLECTOR	44'	11'	11'	65'	10.0'

**COLLECTOR STREET**



**LOCAL STREET**

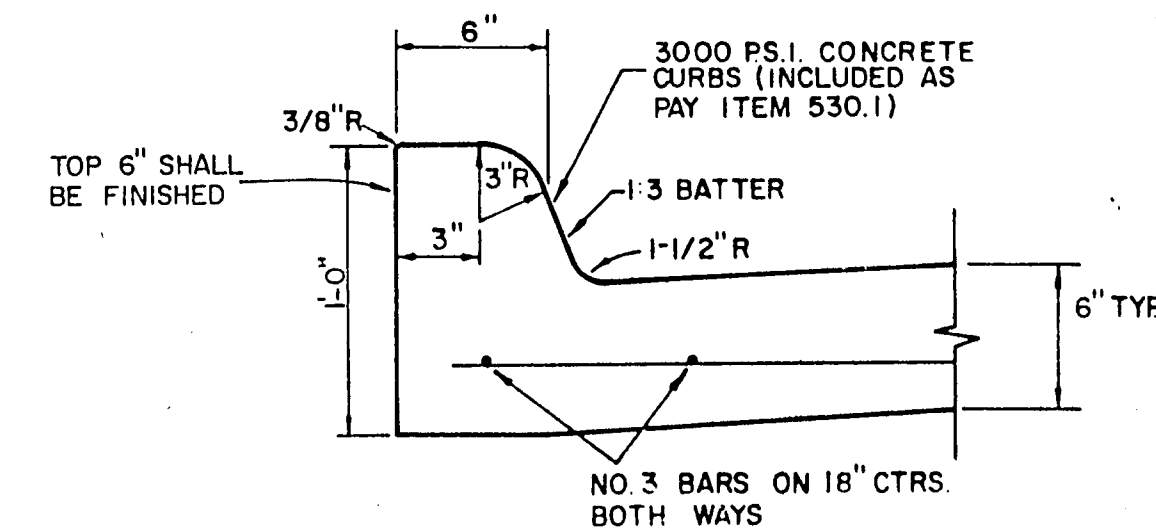
\* FULL WIDTH PAVEMENT OF 36' WIDTH STREETS IS ALLOWED WHERE APPROVED BY THE ENGINEER.

**REINFORCED CONCRETE PAVEMENT**

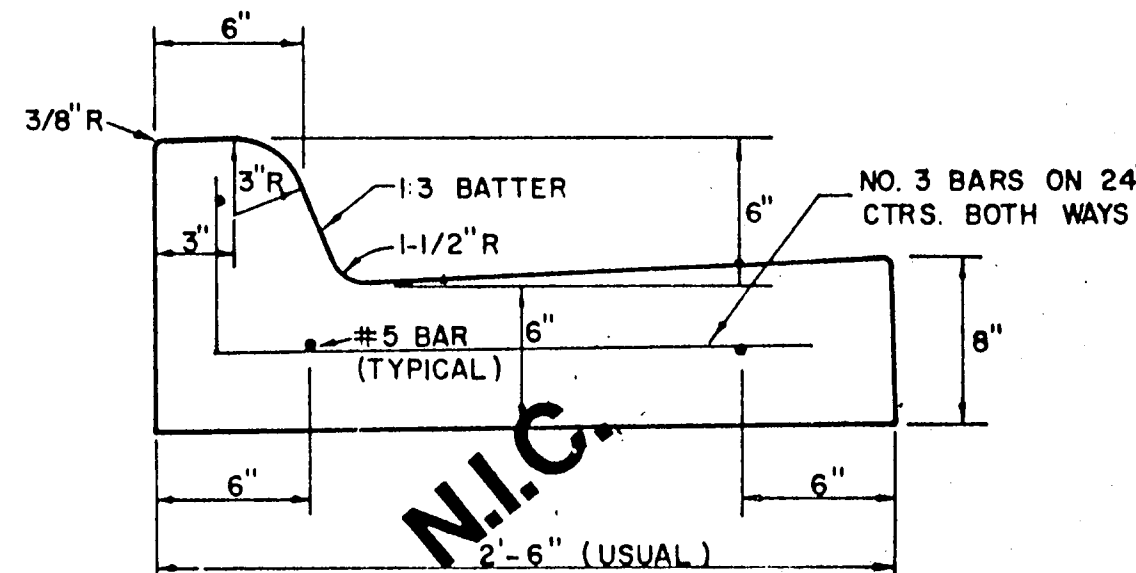
- ALL REINFORCING BARS SHALL BE NO. 3 TRANSVERSE BARS TO BE SPACED ON 1'-6" CENTERS; LONGITUDINAL BARS TO BE SPACED ON 1'-6" EXCEPT WHERE NOTED.
- UNDIVIDED STREETS-PROVIDE 4" DBL.-REF YELLOW & BUTTON P-117-Y PATTERNS TO BE ESTABLISHED BY ENGINEER SEE DETAIL SHEET
- ① SAWED LONGITUDINAL DUMMY JOINT.
- ② CONSTRUCTION JOINT (FULL WIDTH PVM'T IS ALLOWED WHERE APPROVED BY ENGINEER.
- ③ FINISH SHALL BE TRANSVERSE WITH TRAFFIC LANES AND SHALL BE STEEL TINED BROOM FINISH.

\* OPTIMIZE LIME CONTENT BASED ON A LIME/PH CURVE PH SHOULD BE APPROX. 12.43. TEST SHALL BE CONDUCTED BY A QUALIFIED GEOTECHNICAL FIRM PROVIDED BY THE DEVELOPER. TEST RESULTS SHALL BE PROVIDED TO THE CITY. SEPERATE TEST ARE REQUIRED WHEN SUBGRADE CONDITIONS CHANGE.

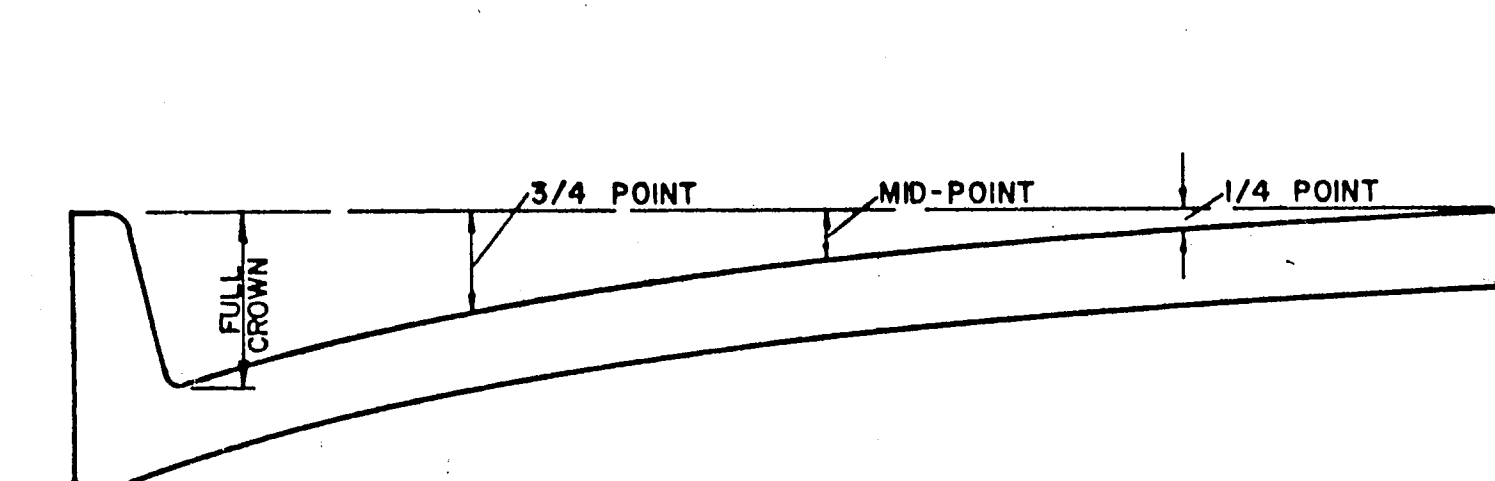
AS BUILT  
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



STANDARD CURB

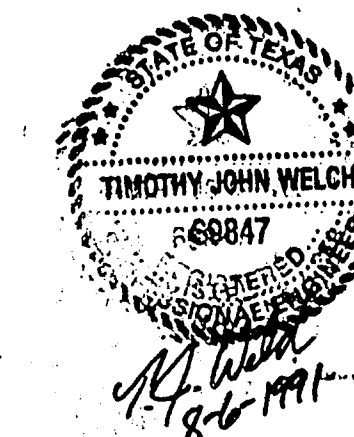


SEPARATE CURB AND GUTTER



ROADWAY WIDTH (W)	TOTAL CROWN HEIGHT	3/4 POINT	MID-POINT	1/4 POINT
26'	6"	3 - 3/8"	1 - 1/2"	3/8"
36'	6"	3 - 3/8"	1 - 1/2"	3/8"
44'	6"	3 - 3/8"	1 - 1/2"	3/8"
48'	6"	3 - 3/8"	1 - 1/2"	3/8"

TABLE OF CROWN HEIGHTS AND ORDINATES FOR VARIOUS PARABOLIC SECTIONS



TOWN OF ADDISON, TEXAS  
DEPARTMENT OF ENGINEERING

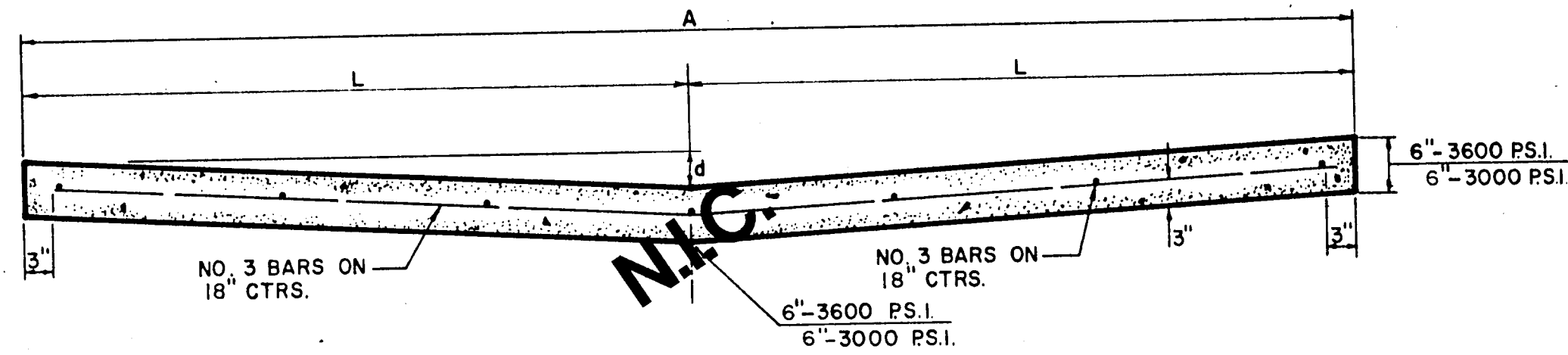
**STANDARD CONSTRUCTION DETAILS PAVING**

**STREET CROWNS & JOINTS**

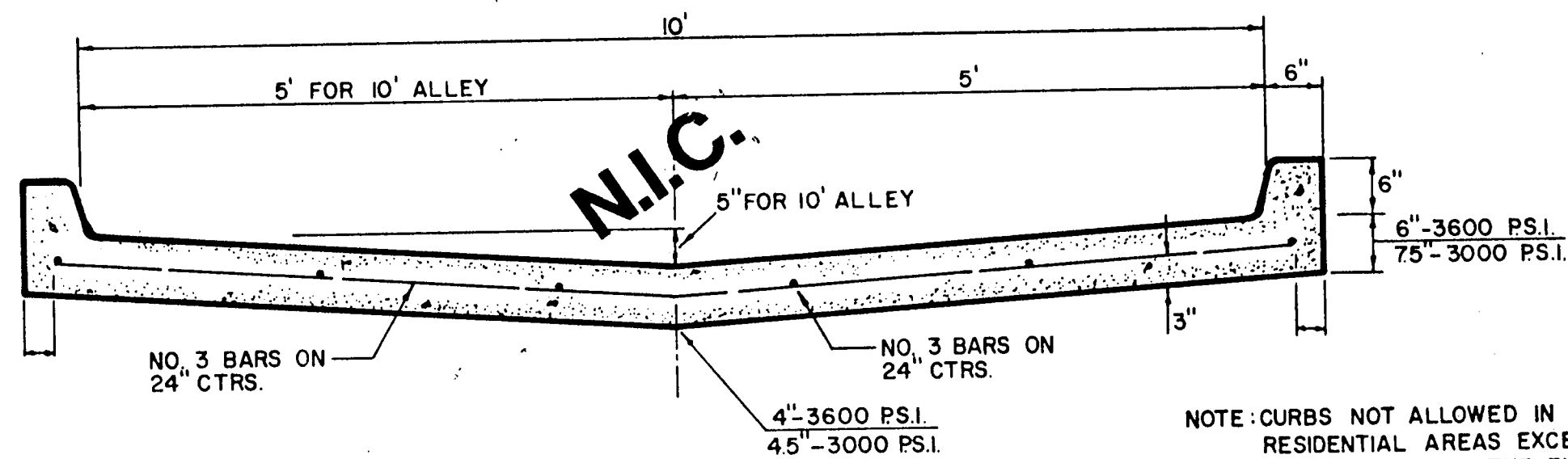
Designed - \_\_\_\_\_ Drawn - \_\_\_\_\_ Date - AUGUST, 1991 Job No. - 90025-S  
Approved - \_\_\_\_\_ Checked - \_\_\_\_\_ Scale - \_\_\_\_\_ Sheet D-1 OF



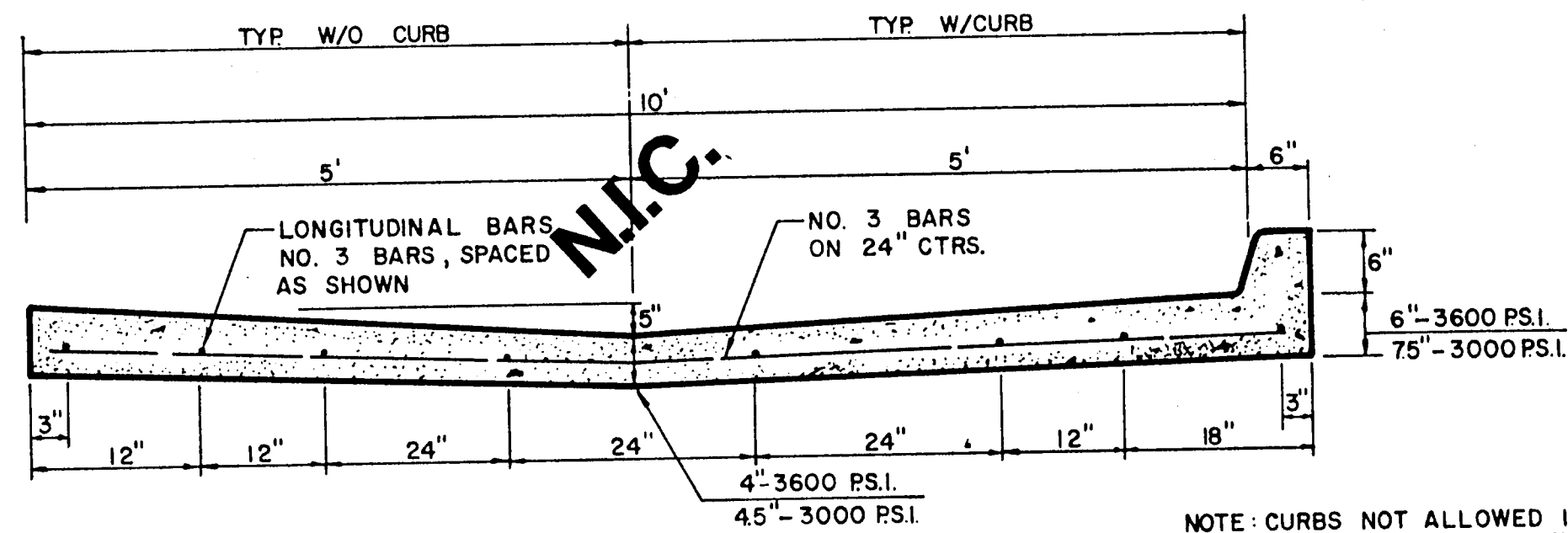
ALLEY WIDTH (A)	HALF SECTION WIDTH (L)	INVERT DEPTH (d)
10'	5'	4"
12'	6'	6"
16'	8'	6"
20'	10'	6"



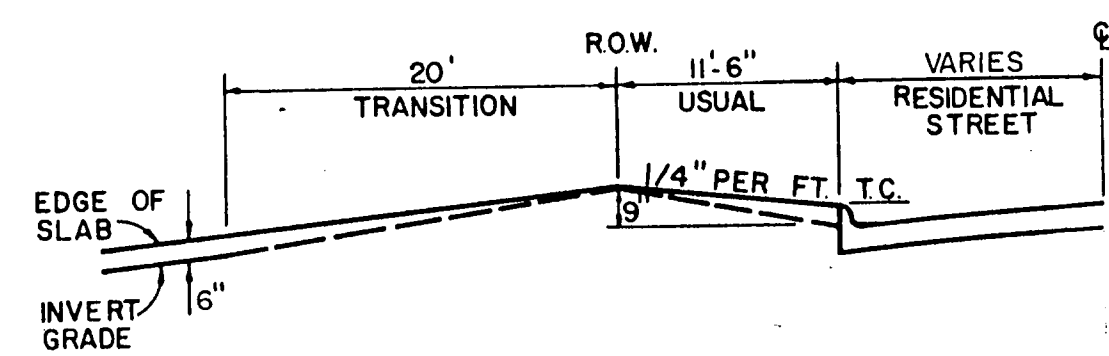
**STANDARD 10', 12', 16', & 20' ALLEY SECTION**



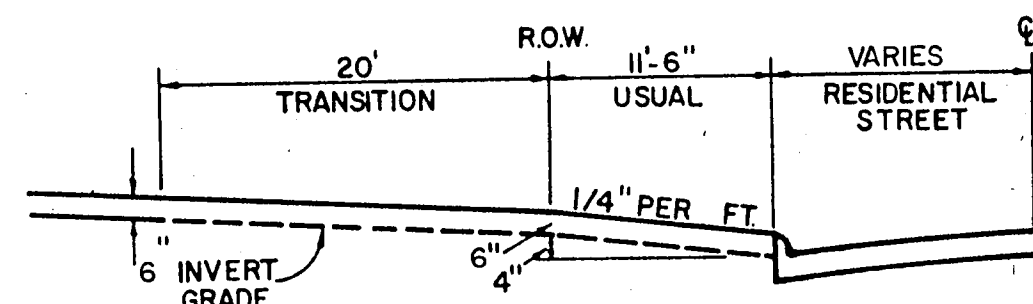
**STANDARD ALLEY SECTION WITH CURBS**



**ALTERNATE 10' ALLEY SECTION / CURB**

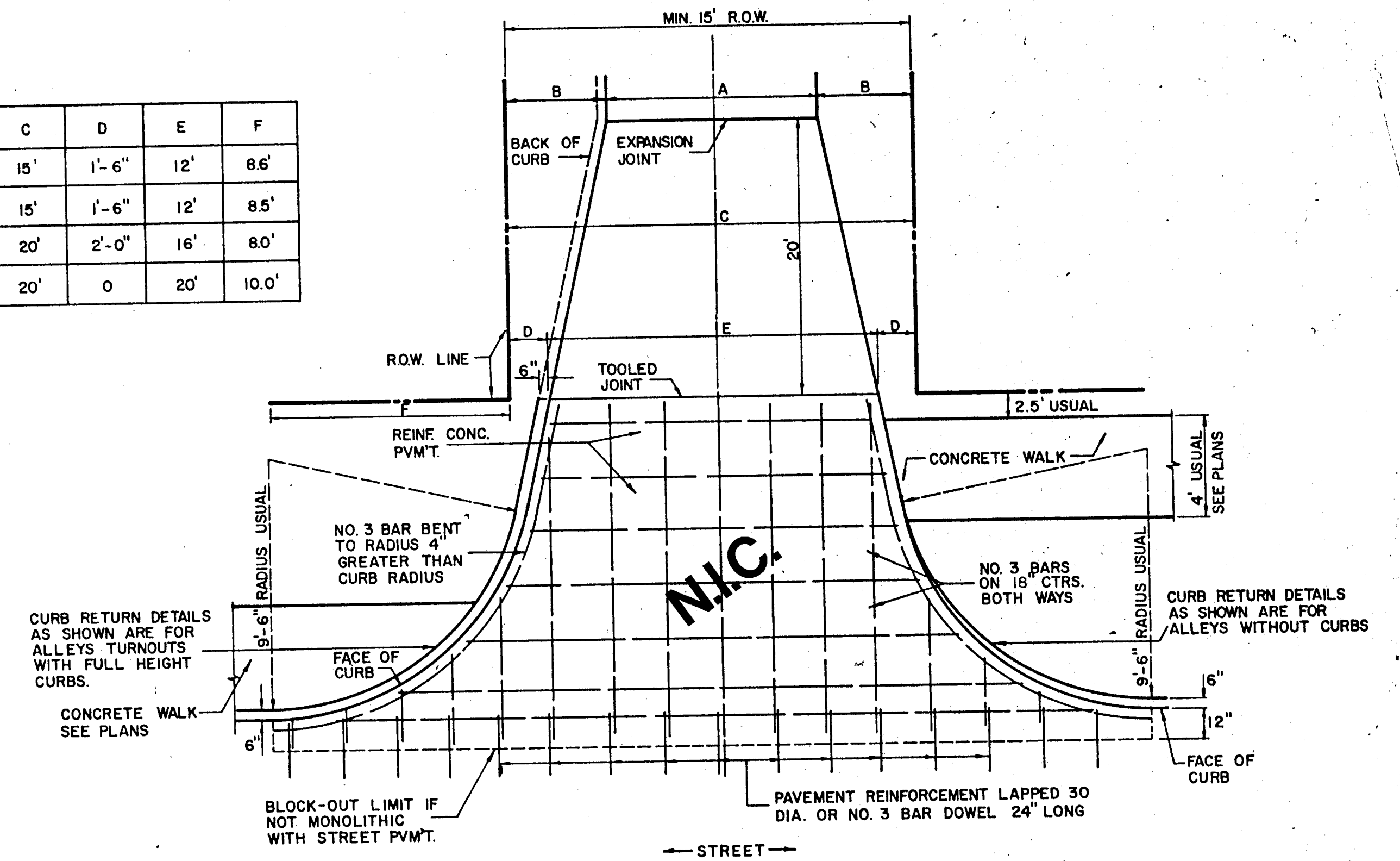


**TYPE I ALLEY ENTRANCE**



**TYPE II ALLEY ENTRANCE**

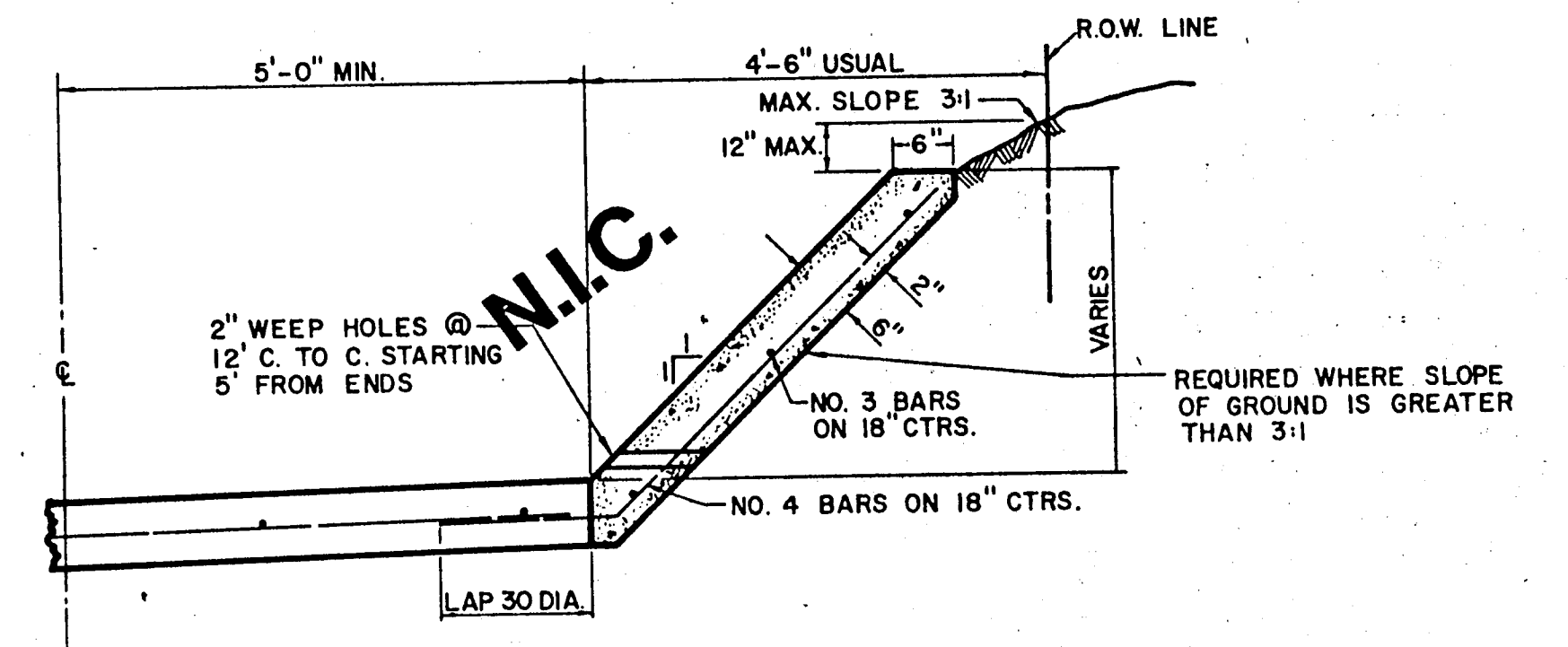
ALLEY WIDTH	A	B	C	D	E	F
10'	10'	2'-6"	15'	1'-6"	12'	8.6'
12'	12'	1'-6"	15'	1'-6"	12'	8.5'
16'	16'	2'-0"	20'	2'-0"	16'	8.0'
20'	20'	0	20'	0	20'	10.0'



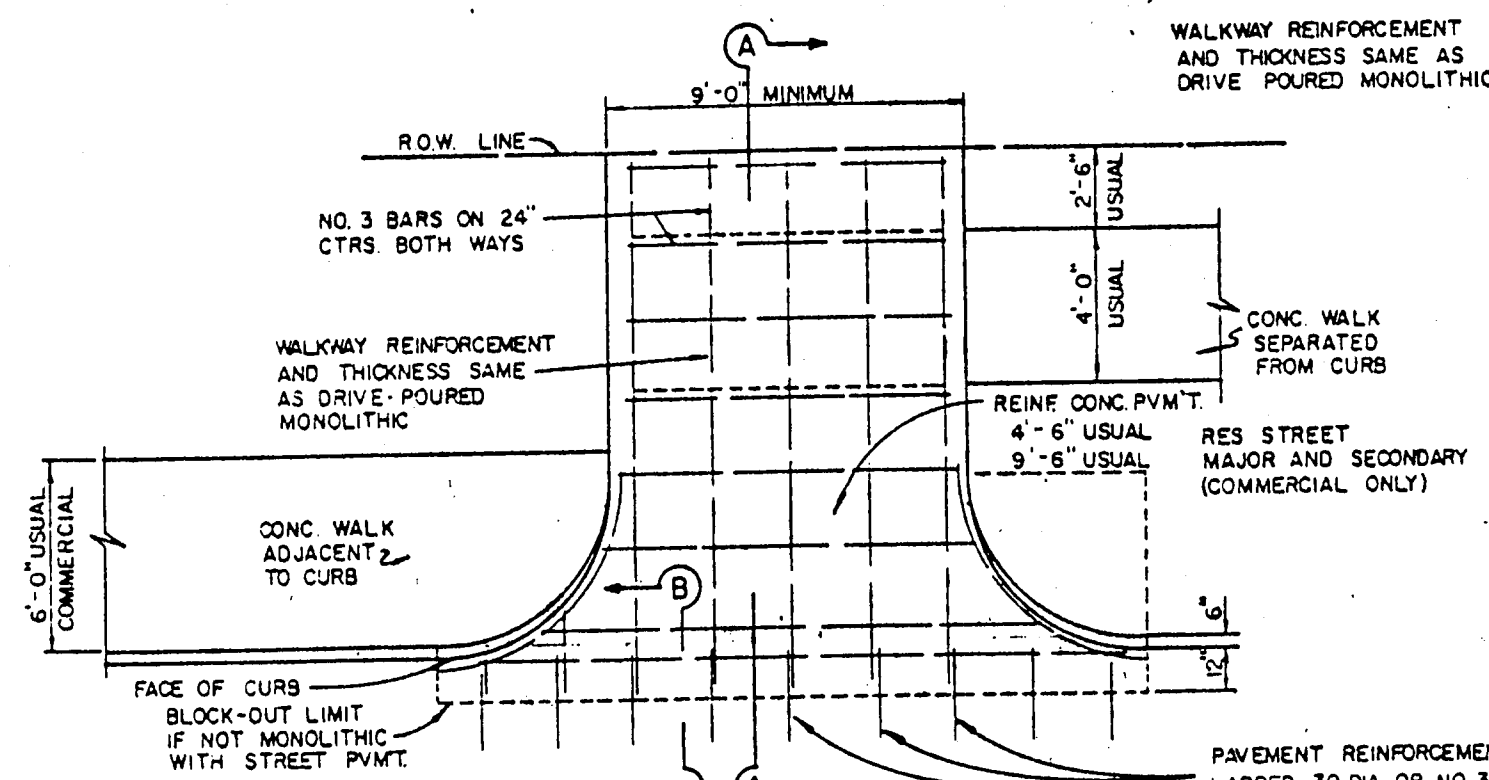
**ALLEY RETURN DETAILS**

FOR DETAILS ONLY-SEE PLAN FOR DIMENSIONS

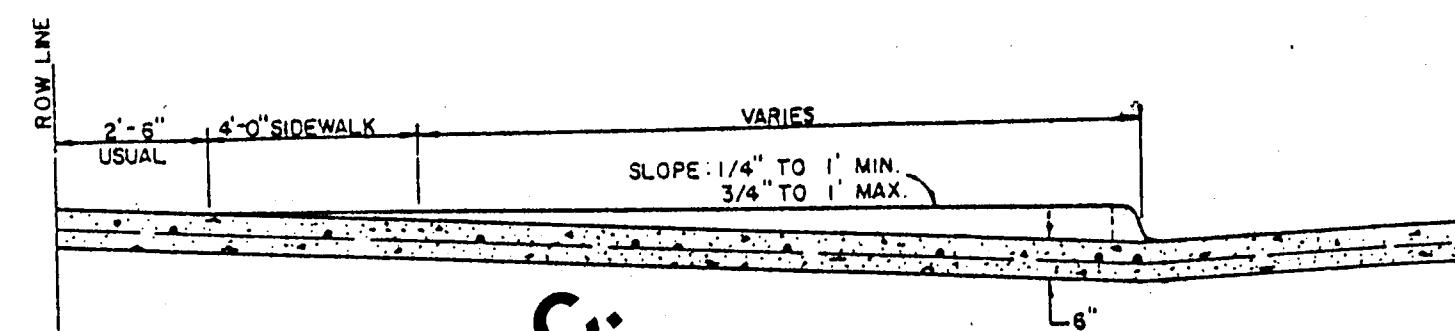
AS BUILTS  
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



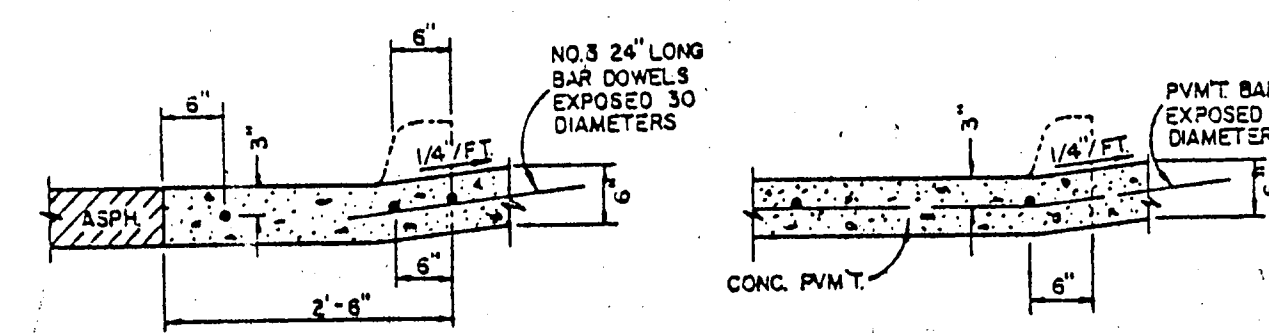
**ALLEY SLOPE PROTECTION**



**DRIVEWAY RETURN TO STREET**



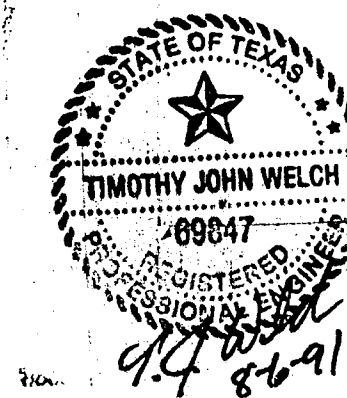
**SECTION A-A**



**SECTION B-B**  
**DRIVEWAY RETURN DETAILS**

**GENERAL NOTES FOR ALLEYS AND DRIVEWAYS**

1. CONCRETE FOR ALLEY RETURNS AND DRIVEWAYS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS IDENTICAL TO THAT SPECIFIED FOR THE STREET PAVEMENT OR BASE WHEN BUILT AS COMPONENTS OF A CONCRETE PAVING PROJECT. WHEN BUILT SEPARATELY, THE STRENGTH SHALL BE AS SPECIFIED ON THE CONSTRUCTION PLANS.
2. CONCRETE FOR ALLEY PAVEMENT SHALL BE OF THE STRENGTH SPECIFIED ON THE CONSTRUCTION PLANS. (3000 P.S.I. OR 3600 P.S.I. MINIMUM COMPRESSIVE)
3. SPACING AND CONSTRUCTION OF JOINTS SHALL CONFORM TO STREET PAVEMENT DETAILS.



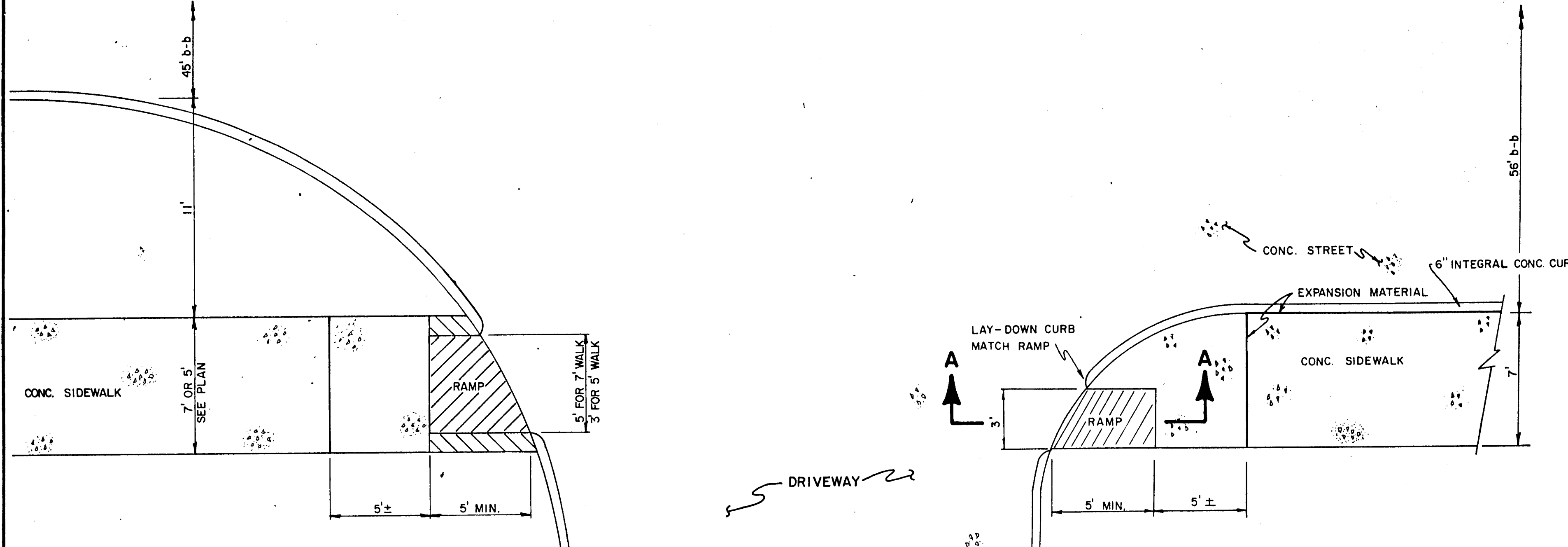
TOWN OF ADDISON, TEXAS  
DEPARTMENT OF ENGINEERING

**STANDARD CONSTRUCTION DETAILS PAVING**

**ALLEY & DRIVEWAY RETURNS**

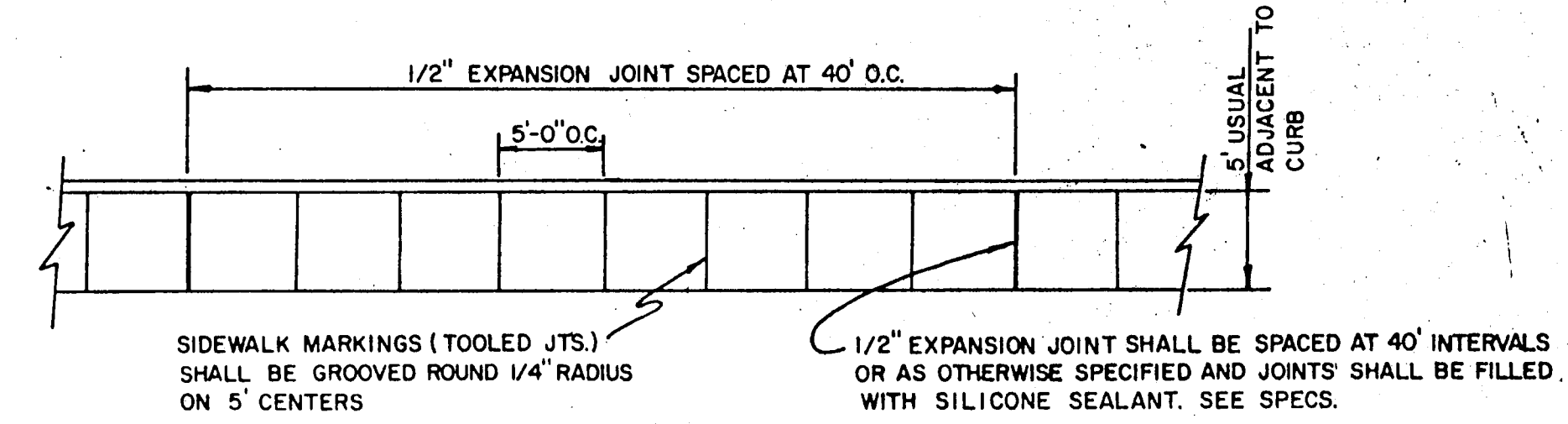
Designed -	Drawn -	Date - AUGUST, 1991	Job No. -
Approved -	Checked -	Scale -	Sheet D-2 Of



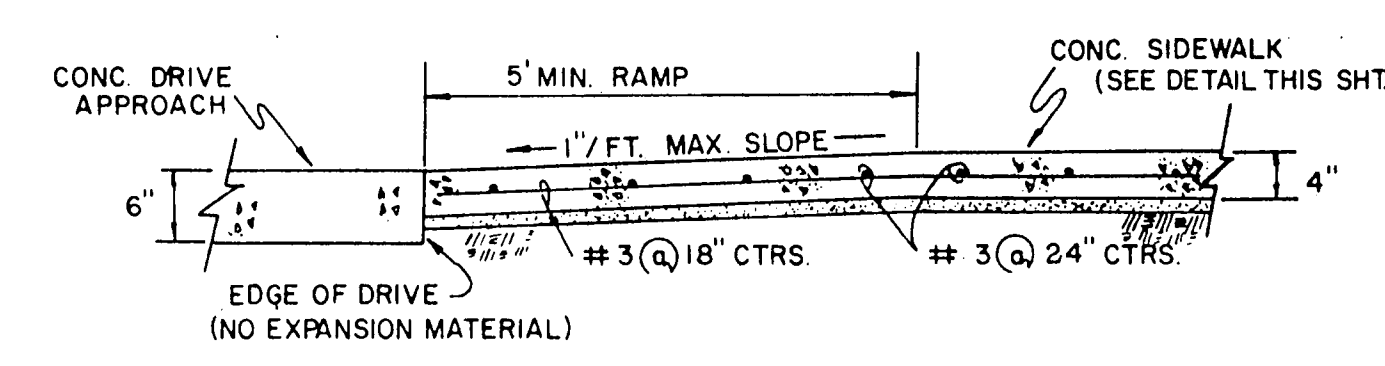


**PLAN**

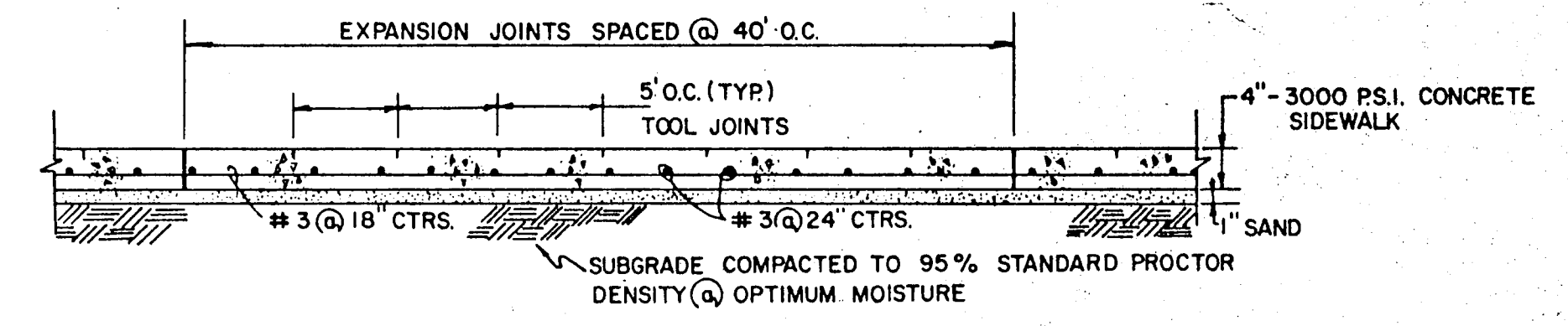
NOTE:  
MODIFY RAMP TO  
FIT DIFFERENT RADIUS



**PLAN**

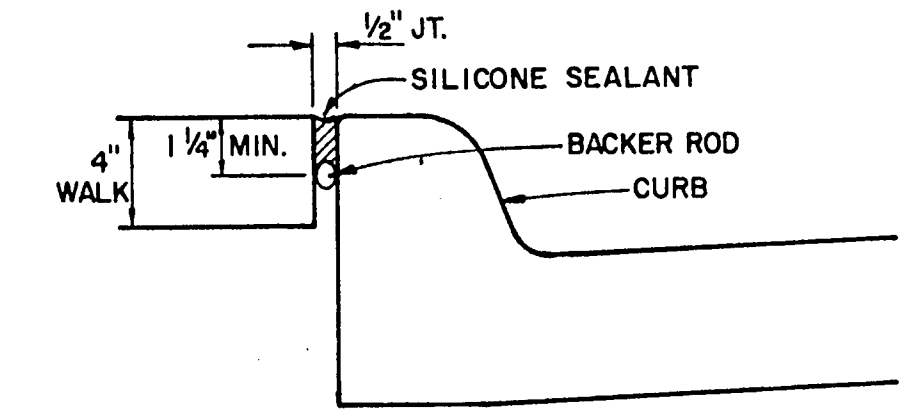


**SECTION A-A**

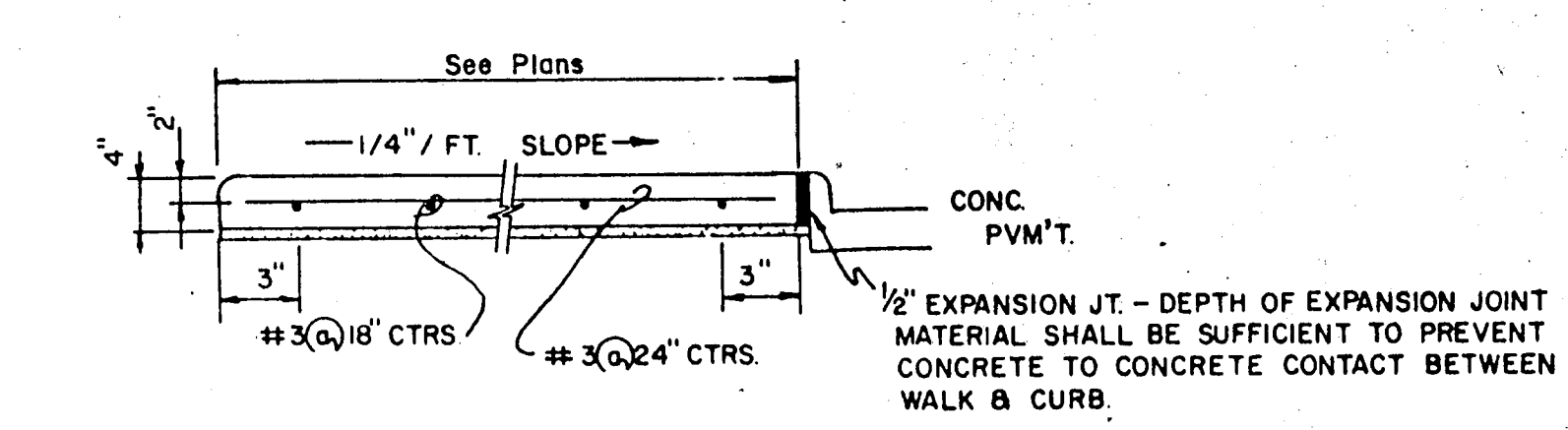


**SIDE ELEVATION**

**BARRIER FREE RAMP DETAIL  
WITH WALK ADJACENT TO CURB**

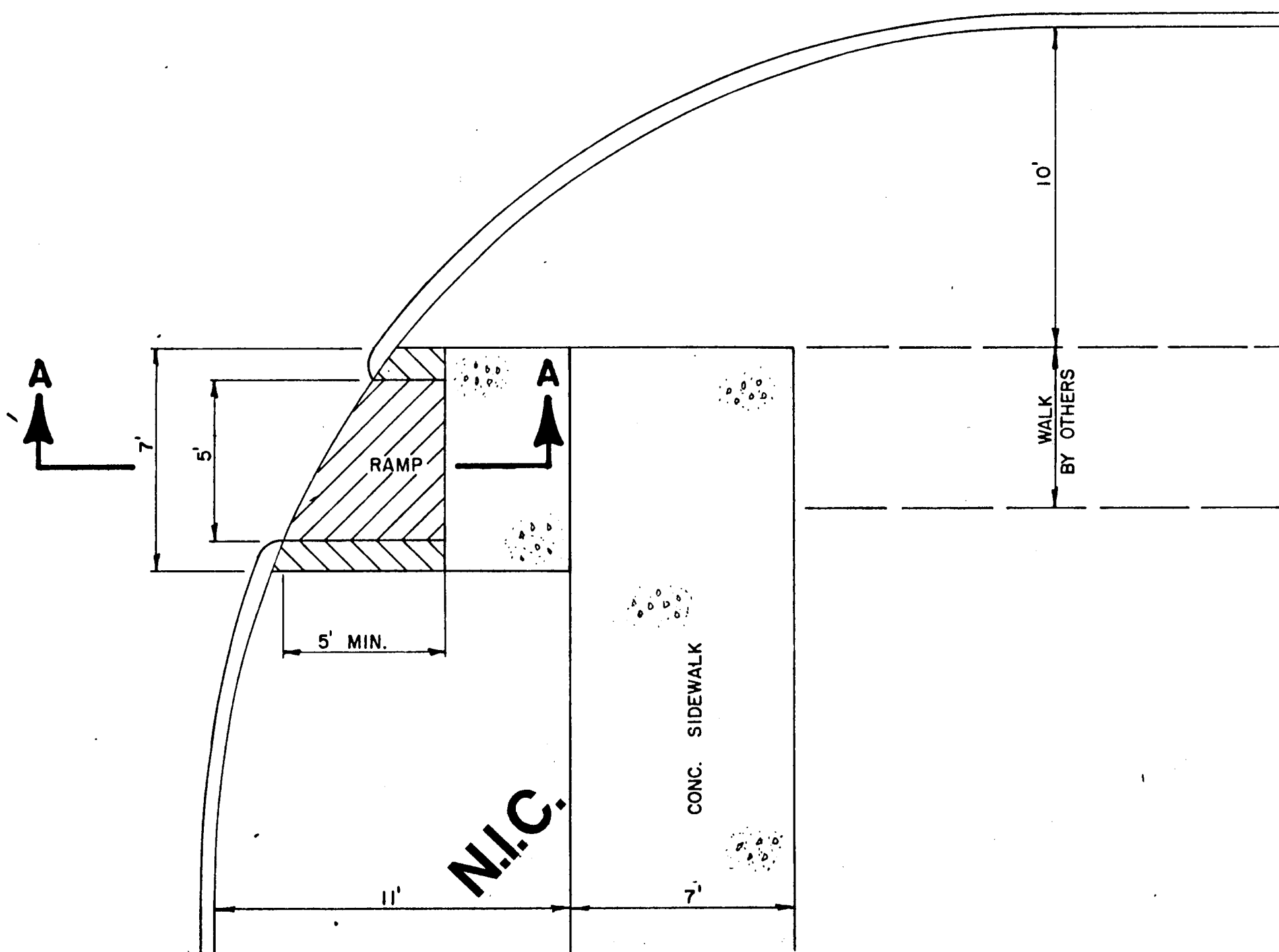


**EXPANSION JOINT DETAIL**

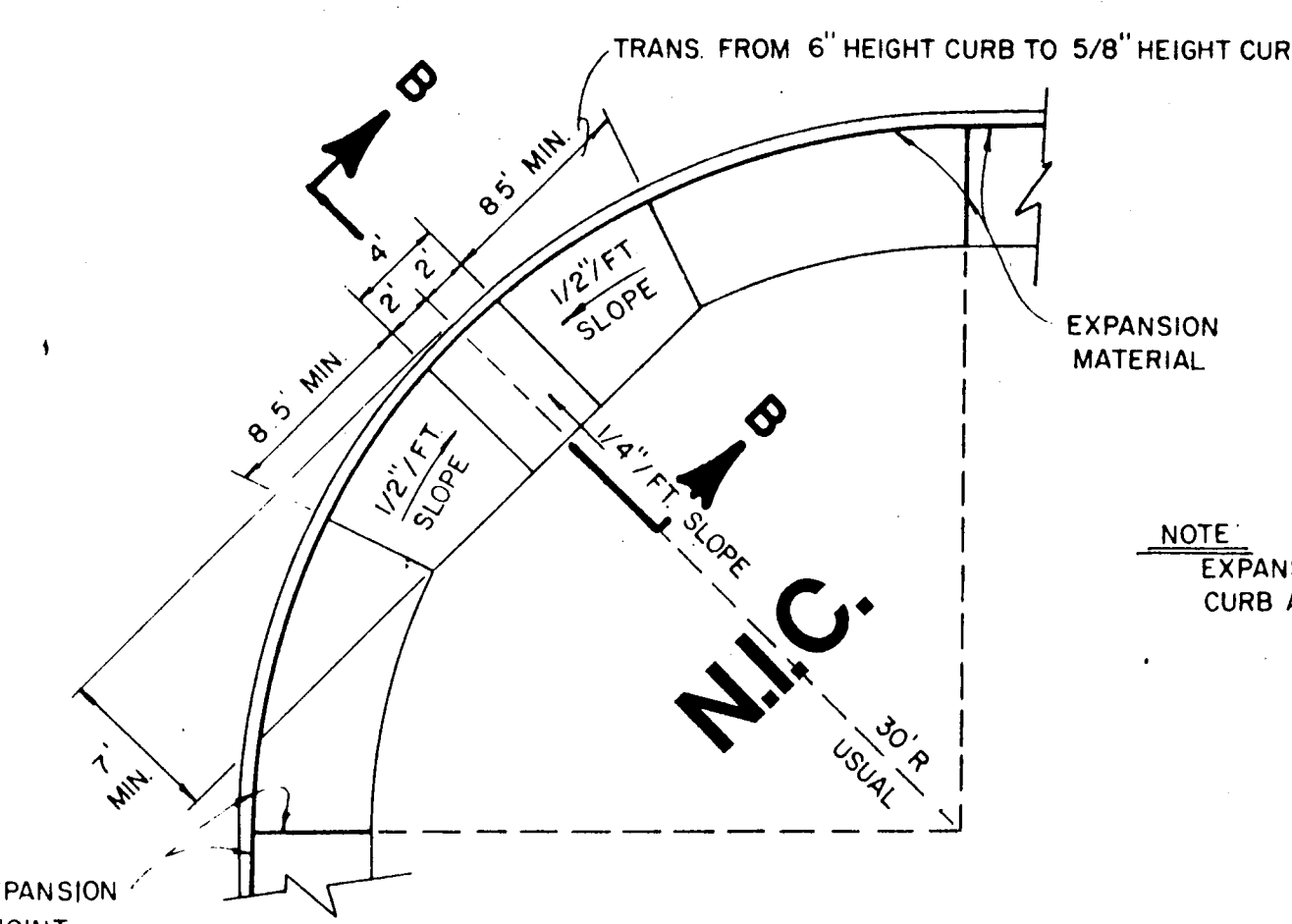


**SECTION**

**CONCRETE SIDEWALK DETAIL**

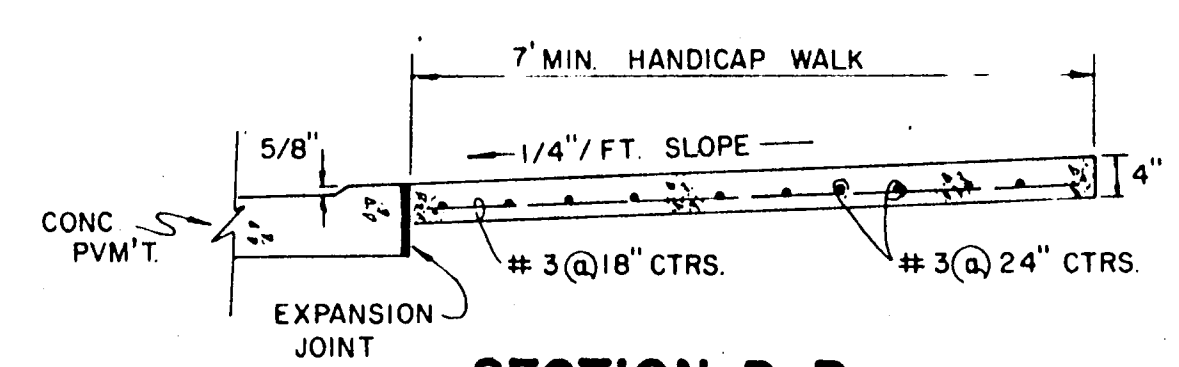


**BARRIER FREE RAMP DETAIL  
WITH WALK SEPARATE FROM CURB**



**PLAN**

NOTE:  
EXPANSION MATERIAL ALONG  
CURB AND AT CURB RETURNS



**SECTION B-B**

**HANDICAP ROLL-DOWN CURB DETAIL**

**GENERAL NOTES**

1. Reinforced concrete sidewalk shall be 5 or 7 feet wide, a minimum of four (4) inches thick and shall be 3000 psi at 28 days (5 sack mix). Unless noted otherwise.
2. Chamfer all exposed edges of concrete (1/4) inch.
3. All bar dimensions are given as center to center of bars and are located as shown.
4. All reinforcing steel shall be No. 3 on 18 inch centers longitudinally, 24 inch centers transversely and shall conform to the requirements of ASTM A-615, Grade 60.
5. 1" thick min. fine, washed sand cushion shall be free from organic materials or clays and shall be used for grade adjustment.
6. Subgrade shall be compacted to a density not less than 95% at optimum moisture.
7. Tooled joints (contraction joints) shall be on five (5) foot centers and shall be round one-fourth (1/4) inch radius.
8. A one-half (1/2) inch expansion joint shall be placed every eight (8) tooled joints, and where works abut old work, or where new work is constructed adjacent to other concrete, a one-half inch expansion joint shall be used where sidewalk is adjacent to curb; the expansion joint shall be made of pre-molded bituminous expansion joint filler or redwood with silicone sealant. See Specs.
9. Sidewalks shall be finished by lightly brooming surface transversely to direction of main traffic or where adjacent sidewalks differ from this standard, new sidewalks shall conform to adjacent sidewalk (e.g. exposed aggregate).
10. Cross slope walk one-fourth (1/4) inch per foot towards curb or as shown on the drawings to provide drainage.

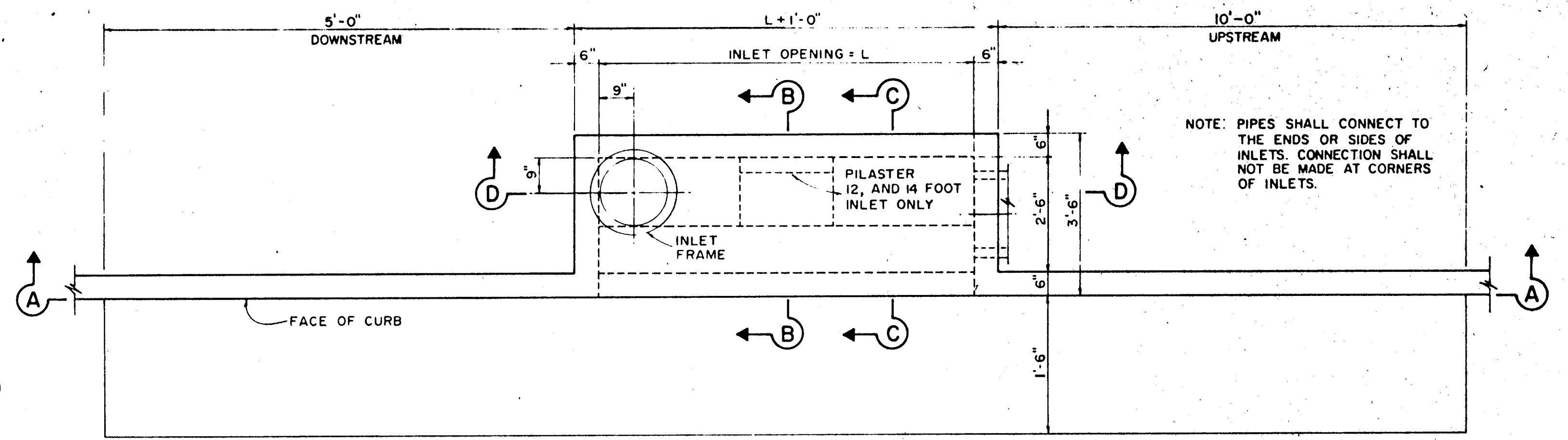
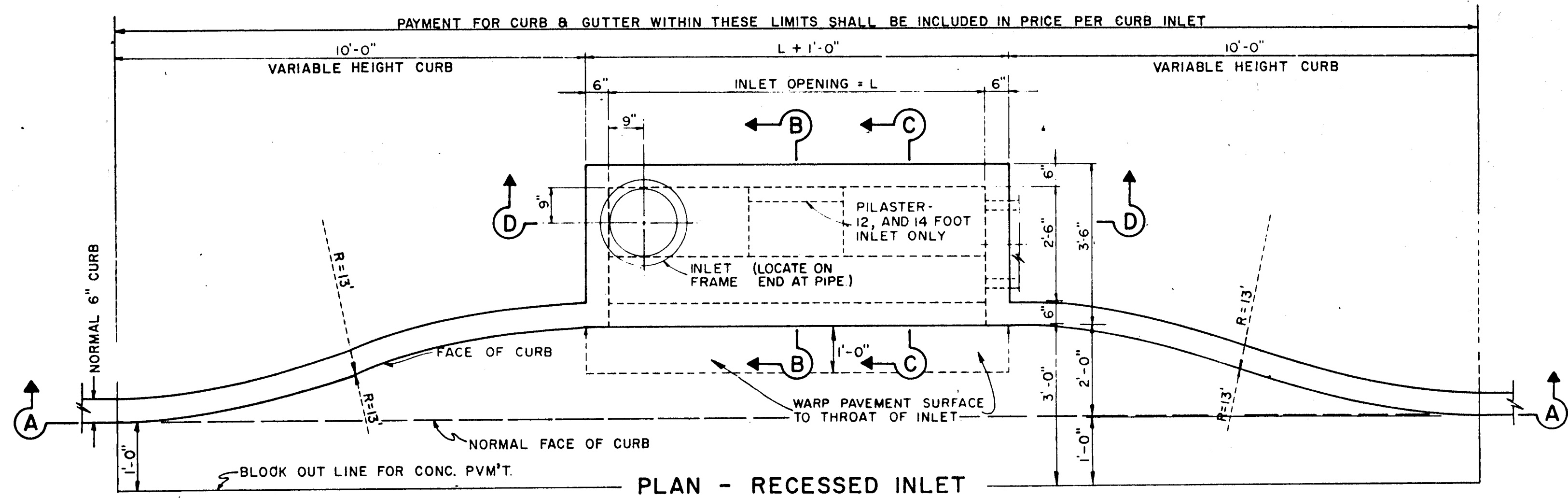
AS BUILT

I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



NO.	REVISION	BY	DATE
<b>TOWN OF ADDISON, TEXAS DEPARTMENT OF ENGINEERING</b>			
<b>STANDARD CONSTRUCTION DETAILS PAVING</b>			
<b>SIDEWALKS &amp; RAMPS</b>			
APPROVED _____			
DATE AUGUST, 1991		SHEET	D-3



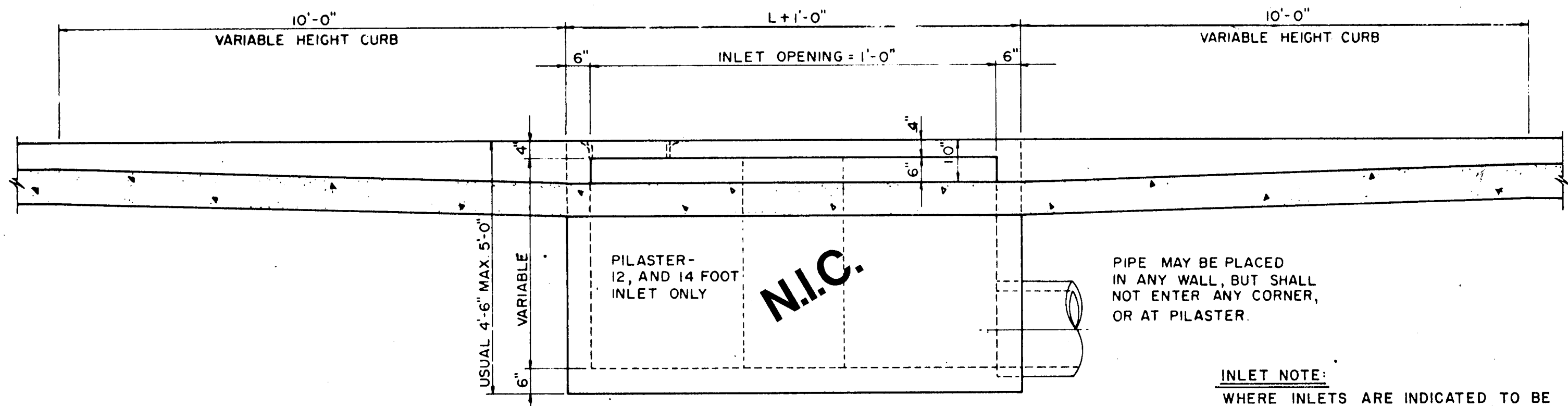


**REINFORCING STEEL SCHEDULE**

DIMENSIONS SHOWN ARE FOR MAXIMUM SIZE INLETS

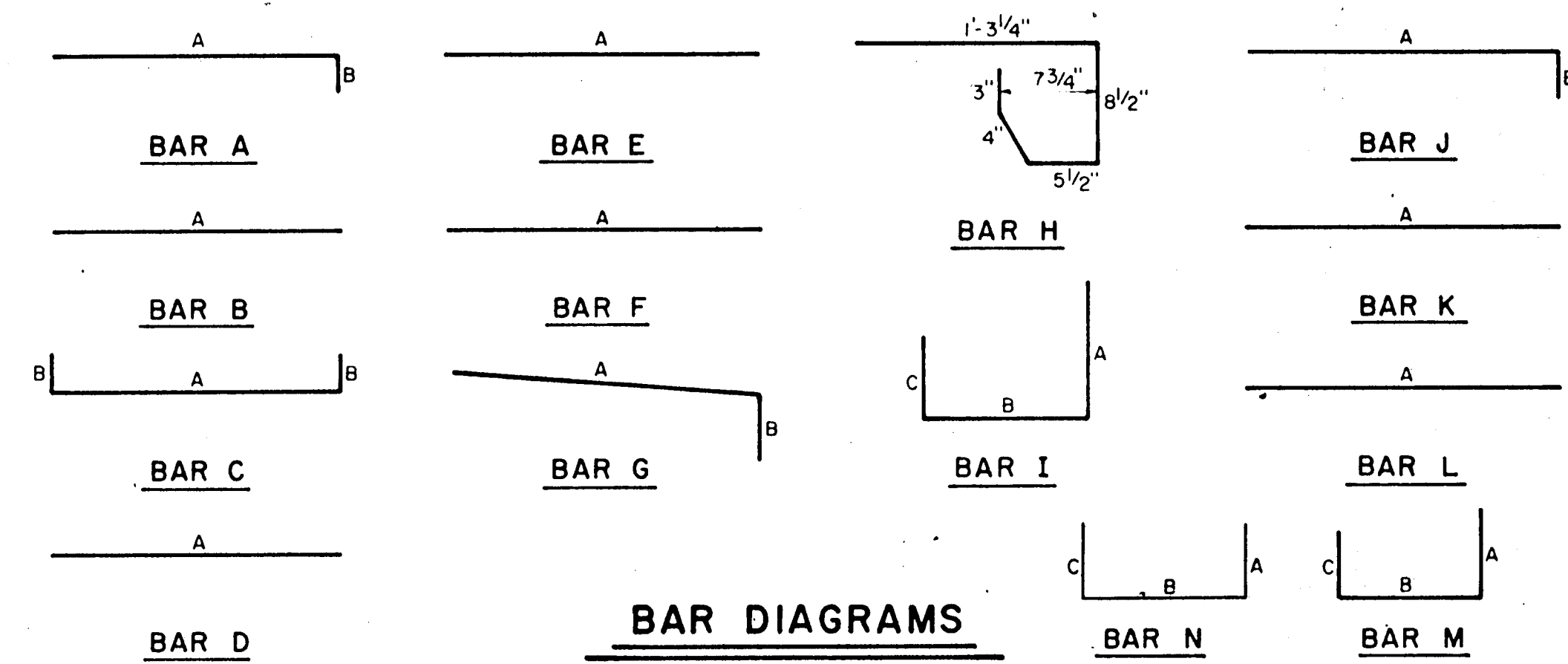
INLET LENGTH	BAR TYPE	BAR DIA. (1/8 IN.)	NO. REQ'D	BAR DIMENSIONS		
				A	B	C
4	A	3	6	3'-2"	0'-3"	-
	B	3	1	2'-10"	-	-
	C	4	15	4'-8"	0'-6"	-
	D	4	5	4'-8"	-	-
	F	4	1	3'-2"	-	-
	G	3	5	2'-0"	1'-3"	-
6	H	3	4	*	*	*
	N	3	3	3'-2"	3'-2"	3'-2"
	A	3	9	3'-2"	0'-3"	-
	B	3	1	4'-10"	-	-
	C	4	15	6'-8"	0'-6"	-
	D	4	5	4'-8"	-	-
8	F	4	1	3'-2"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	6	*	*	*
	N	3	3	3'-2"	3'-2"	3'-2"
	A	3	12	3'-2"	0'-3"	-
	B	3	1	6'-10"	-	-
10	C	4	15	8'-8"	0'-6"	-
	D	4	5	4'-8"	-	-
	F	4	1	3'-2"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	8	*	*	*
	N	3	3	3'-2"	3'-2"	3'-2"
12	A	3	10	3'-2"	0'-3"	-
	B	3	2	8'-10"	-	-
	C	4	16	10'-8"	0'-6"	-
	D	4	4	4'-8"	-	-
	E	5	6	10'-8"	-	-
	G	3	5	2'-0"	1'-3"	-
14	H	3	15	*	*	*
	I	4	8	4'-8"	3'-2"	3'-2"
	L	4	5	4'-3"	-	-
	A	3	12	3'-2"	0'-3"	-
	B	3	2	10'-10"	-	-
	C	4	16	14'-8"	0'-6"	-
16	D	4	4	4'-8"	-	-
	E	5	6	14'-8"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	21	*	*	*
	I	4	12	4'-8"	3'-2"	3'-2"
	J	5	9	3'-2"	1'-3"	-
18	K	4	5	2'-3"	-	-
	L	4	5	4'-3"	-	-
	M	5	9	4'-3"	3'-2"	3'-9"
	A	3	14	3'-2"	0'-3"	-
	B	3	2	10'-10"	-	-
	C	4	16	14'-8"	0'-6"	-
20	D	4	4	4'-8"	-	-
	E	5	6	14'-8"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	21	*	*	*
	I	4	12	4'-8"	3'-2"	3'-2"
	J	5	9	3'-2"	1'-3"	-
22	K	4	5	2'-3"	-	-
	L	4	5	4'-3"	-	-
	M	5	9	4'-3"	3'-2"	3'-9"
	A	3	14	3'-2"	0'-3"	-
	B	3	2	10'-10"	-	-
	C	4	16	14'-8"	0'-6"	-
24	D	4	4	4'-8"	-	-
	E	5	6	14'-8"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	21	*	*	*
	I	4	12	4'-8"	3'-2"	3'-2"
	J	5	9	3'-2"	1'-3"	-
26	K	4	5	2'-3"	-	-
	L	4	5	4'-3"	-	-
	M	5	9	4'-3"	3'-2"	3'-9"
	A	3	14	3'-2"	0'-3"	-
	B	3	2	10'-10"	-	-
	C	4	16	14'-8"	0'-6"	-
28	D	4	4	4'-8"	-	-
	E	5	6	14'-8"	-	-
	G	3	5	2'-0"	1'-3"	-
	H	3	21	*	*	*
	I	4	12	4'-8"	3'-2"	3'-2"
	J	5	9	3'-2"	1'-3"	-
30	K	4	5	2'-3"	-	-
	L	4	5	4'-3"	-	-
	M	5	9	4'-3"	3'-2"	3'-9"
	A	3	14	3'-2"	0'-3"	-
	B	3	2	10'-10"	-	-
	C	4	16	14'-8"	0'-6"	-

\* SEE DIAGRAM FOR DIMENSIONS

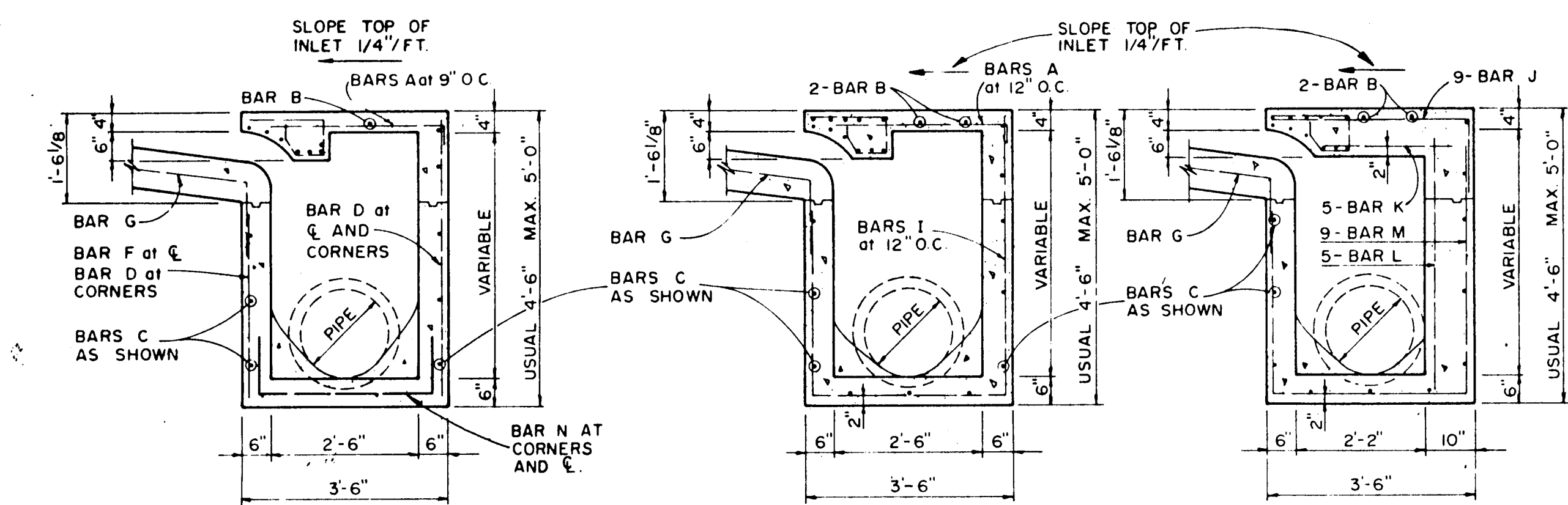


**SECTION A-A-RECESSED AND STANDARD INLETS**  
**4, 6, 8, 10, 12, AND 14 FOOT INLETS**

**INLET NOTE:**  
WHERE INLETS ARE INDICATED TO BE MODIFIED, REFER TO PLAN/PROFILE SHEETS FOR ELEV. DIFFERENT SIZES OR MODIFICATIONS. ALL OTHER ITEMS SHALL REMAIN AS SHOWN ON THIS STANDARD DETAIL SHEET.



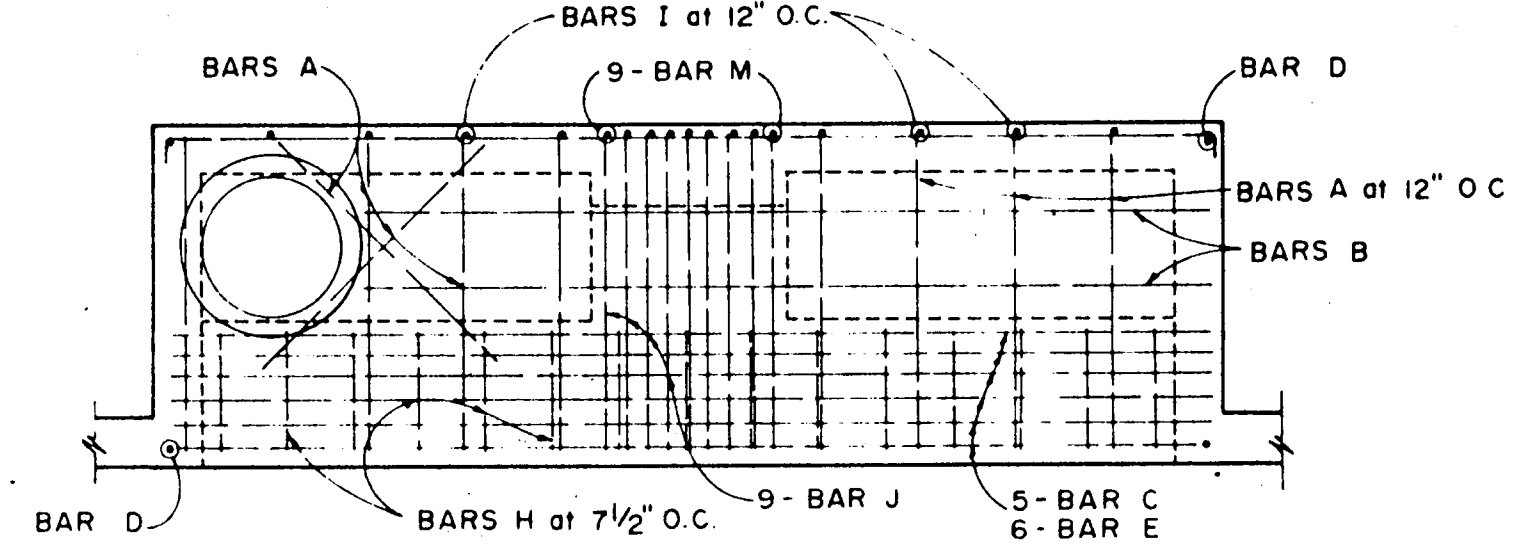
**BAR DIAGRAMS**



**SECTION B-B**

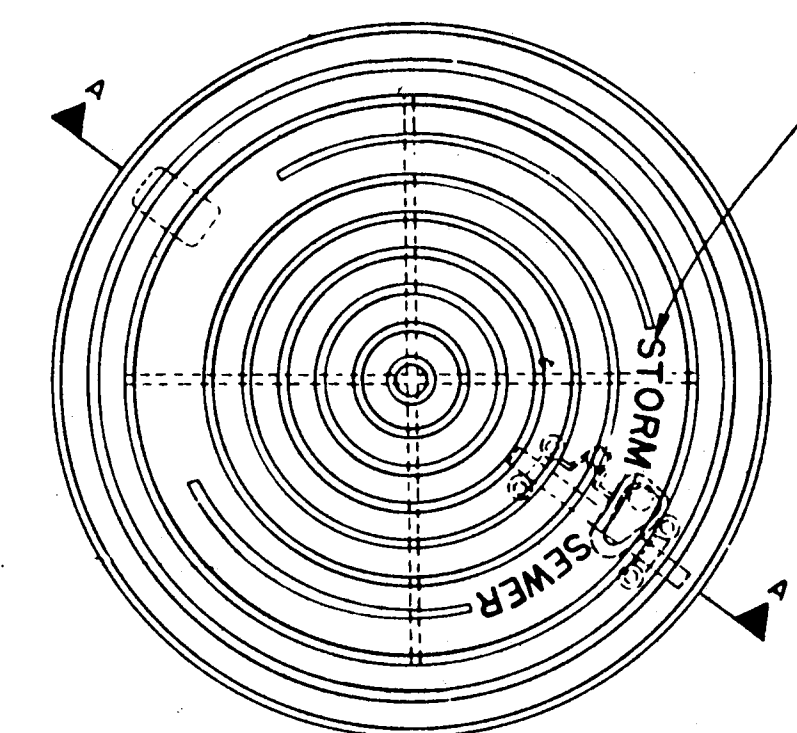
**SECTION C-C**

**SECTION B-B**

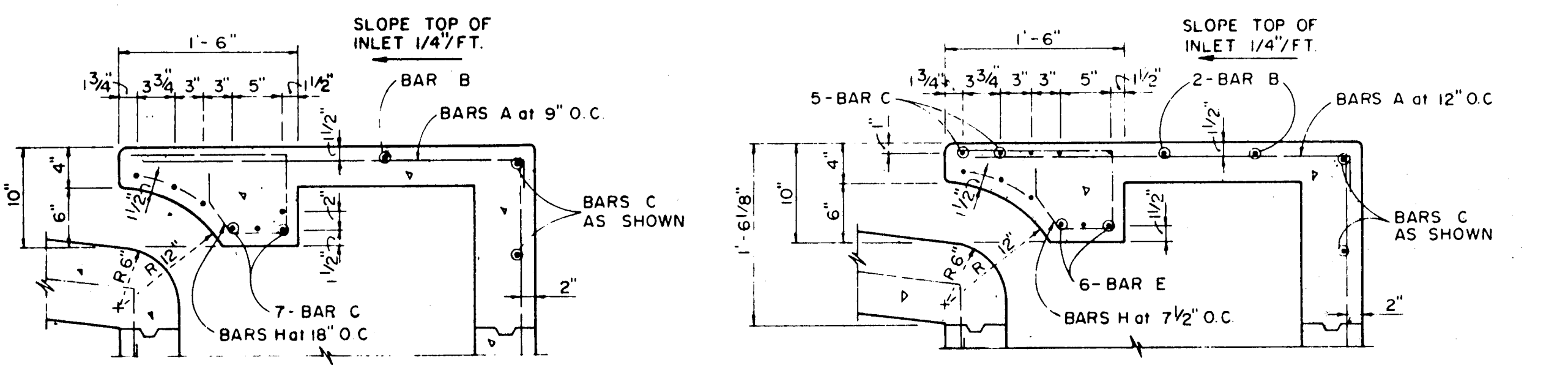


**PLAN**

AS BUILT  
I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



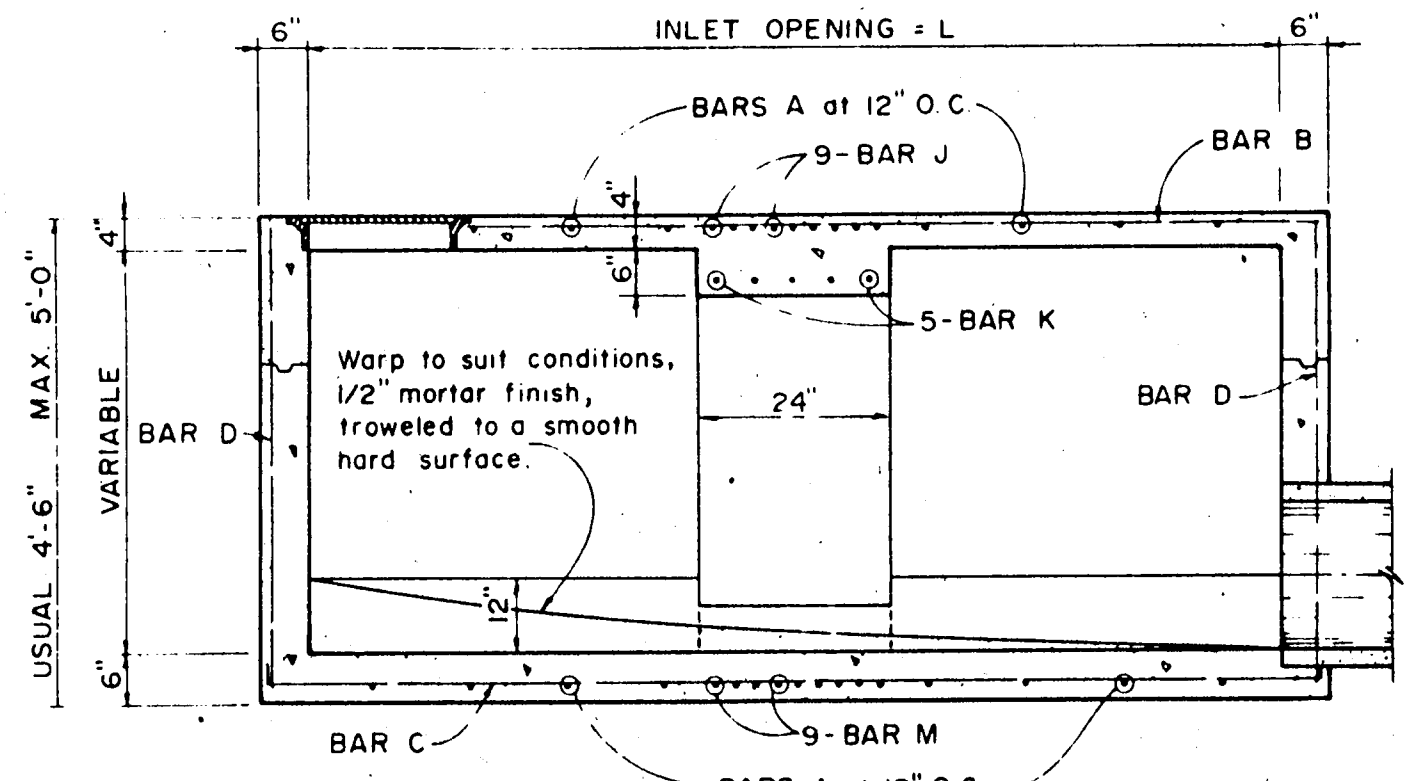
**PLAN OF FRAME**



**SECTION C-C**

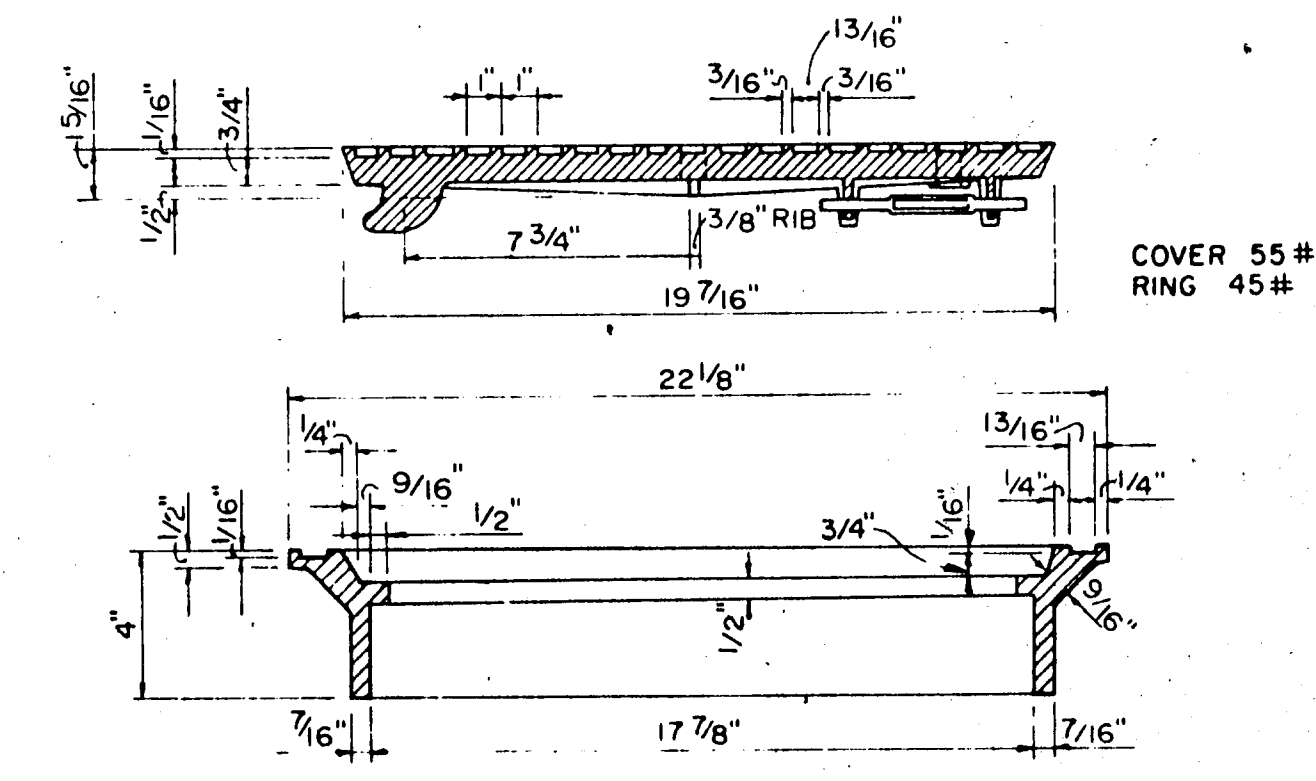
**SECTION C-C**

**4, 6, AND 8 FOOT INLETS**



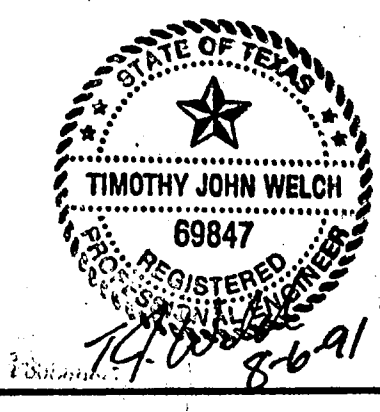
**SECTION D-D FOR 12' & 14' ONLY**

**10, 12, AND 14 FOOT INLETS**



**SECTION OF FRAME AND COVER**

**INLET FRAME AND COVER**



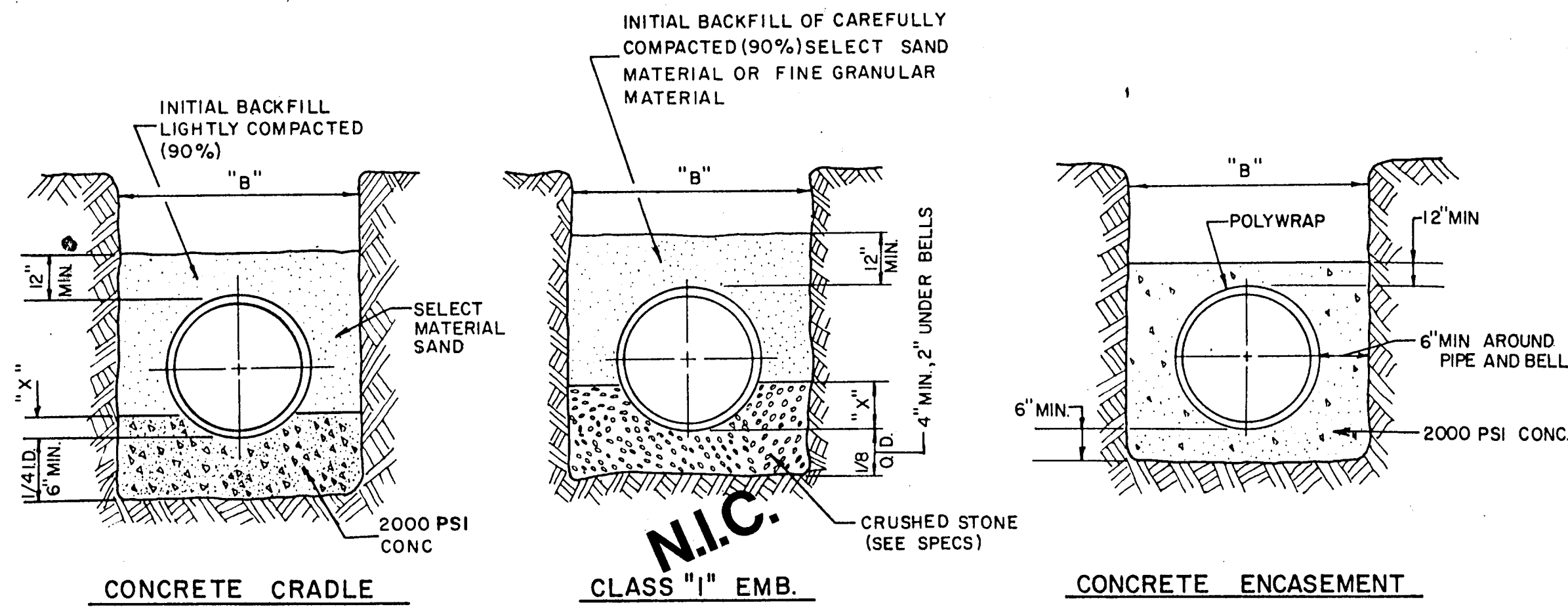
TOWN OF ADDISON, TEXAS  
DEPARTMENT OF ENGINEERING

**STANDARD CONSTRUCTION DETAILS**  
**STORM DRAINAGE**

**CURB INLETS**

Designed -	Drawn -	Date - AUGUST, 1991	Job No. - 90025-5
Approved -	Checked -	Scale -	Sheet D-4 OF

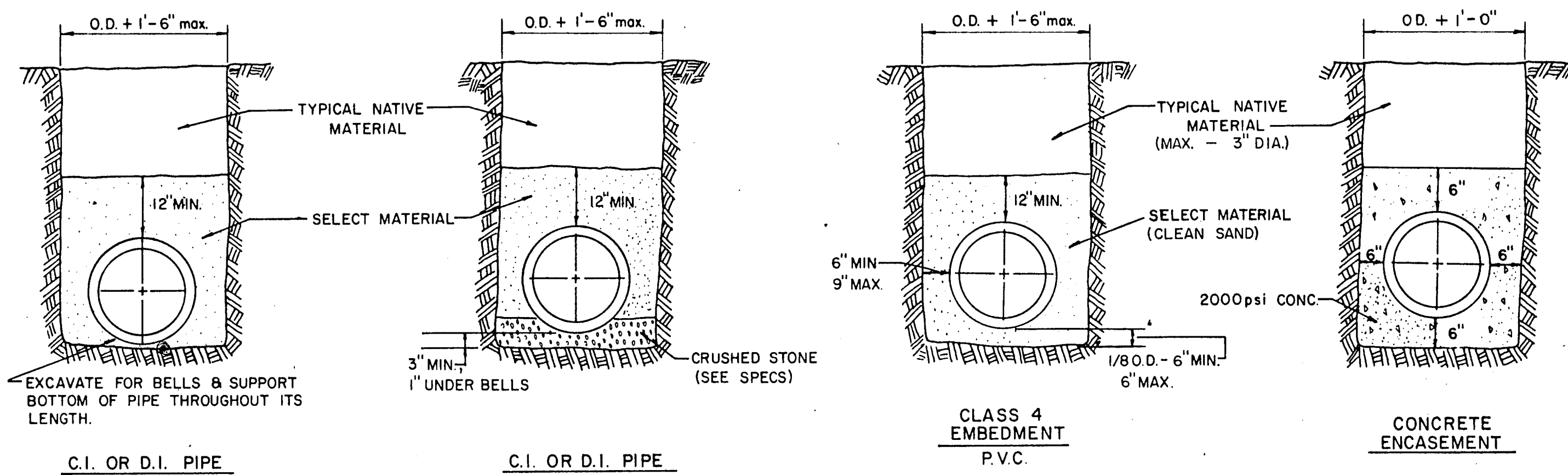




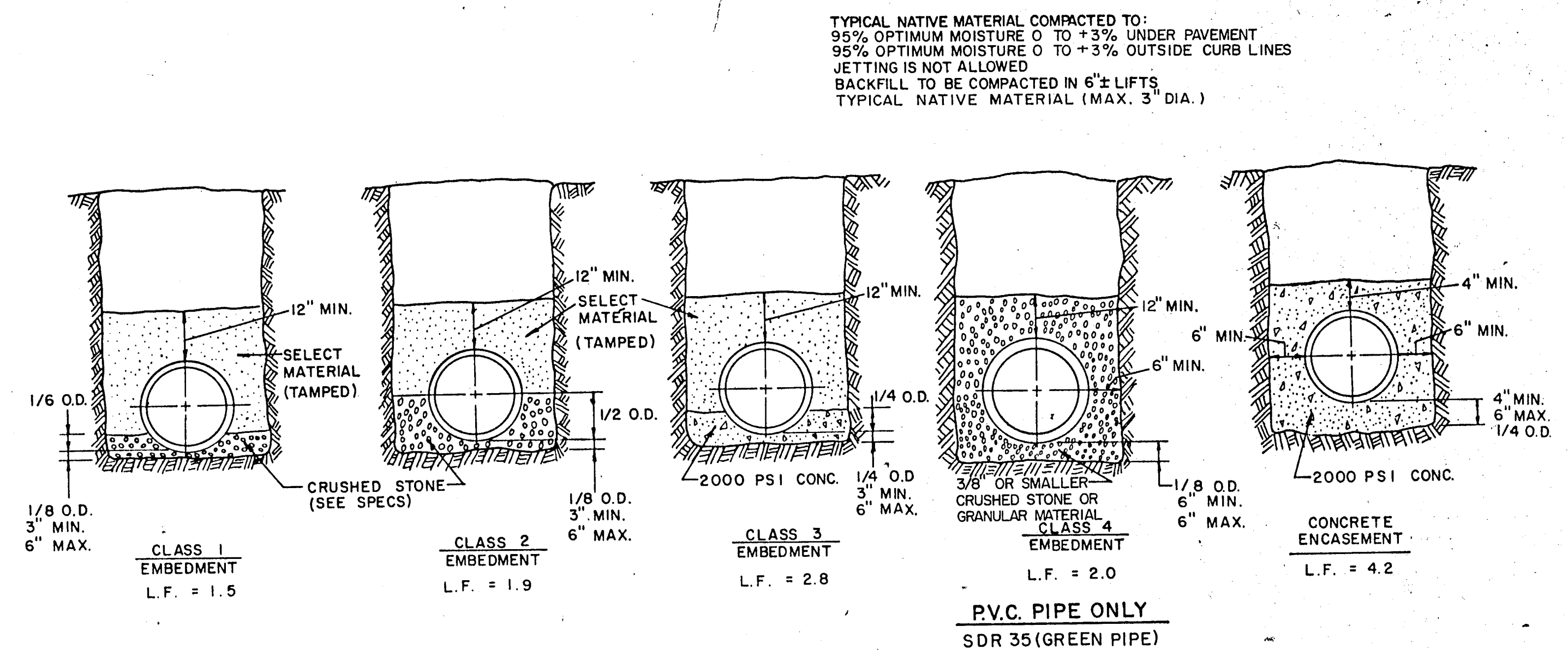
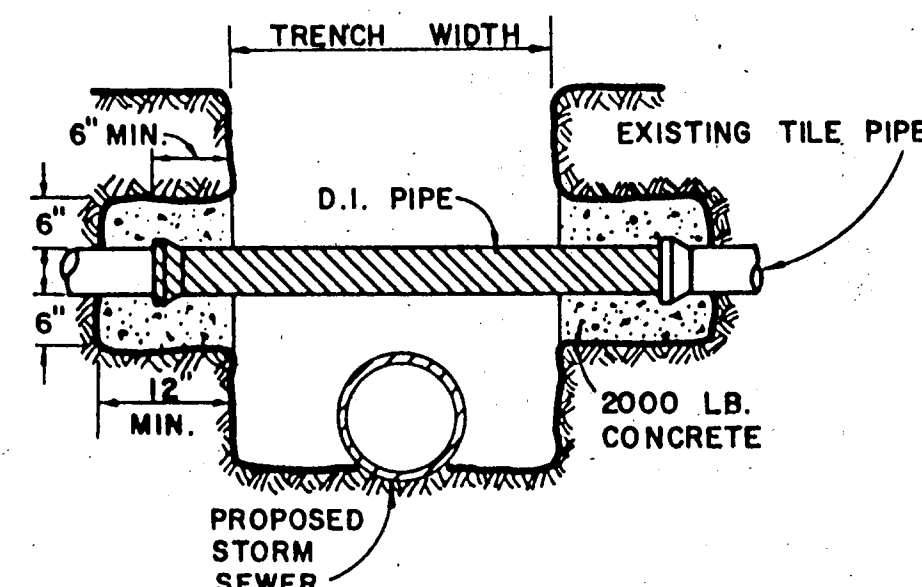
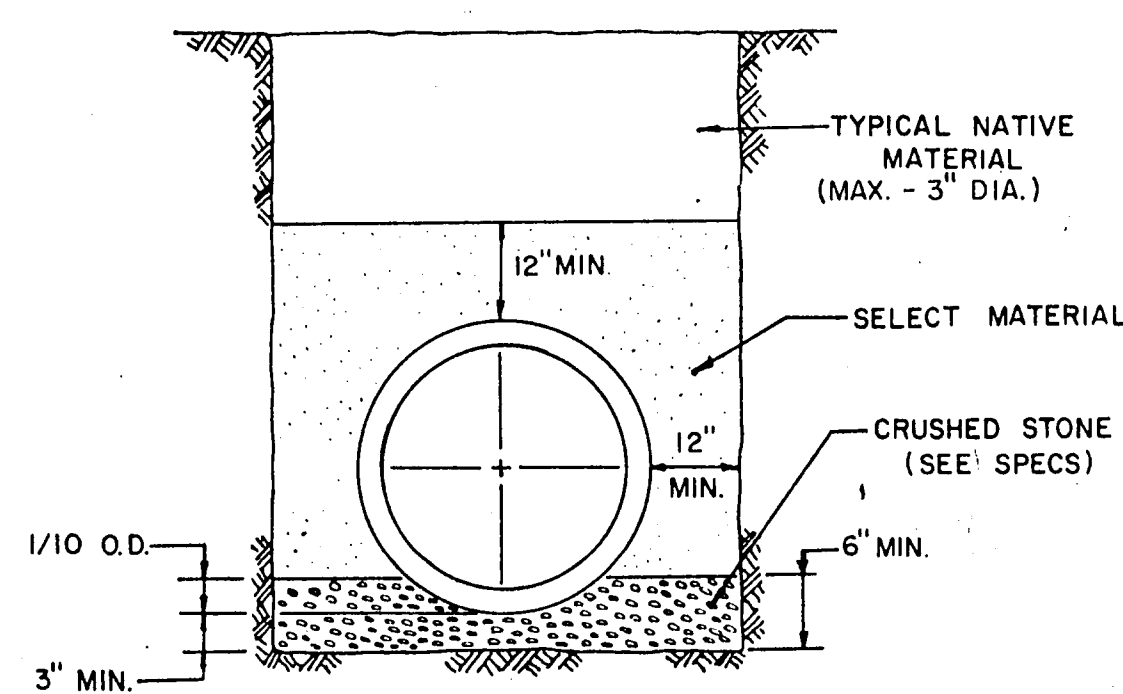
**EMBEDMENT DETAILS FOR RCCP WATERLINE**

TABLE OF QUANTITIES OF MATERIALS IN CUBIC YARDS PER 100 LINEAR FEET

INSIDE DIAMETER OF PIPE	APPROX. OUTSIDE DIAMETER OF PIPE	IS A MINIMUM DEPTH	TRENCH WIDTH FOR COMPUTATION OF QUANTITIES	CONCRETE		CRUSHED STONE FOR CL "1" EMBEDMENT
				FOR EMBEDMENT	FOR ENCASUREMENT	
REINFORCED CONCRETE CYLINDER PIPE						
14"	17.25"	2.53"	34"	6.91	16.07	5.16
16"	19.38"	2.84"	36"	7.50	17.76	5.64
18"	21.78"	3.19"	38"	8.11	19.52	6.16
24"	27.75"	4.06"	44"	9.97	24.90	9.28



**EMBEDMENT DETAILS FOR WATER MAIN**



**EMBEDMENT DETAILS FOR SANITARY SEWER**

TABLE OF QUANTITIES OF 2000 PSI CONCRETE, GRAVEL OR CRUSHED STONE IN CUBIC YARDS PER 100 LINEAR FEET FOR EACH CLASS EMBEDMENT

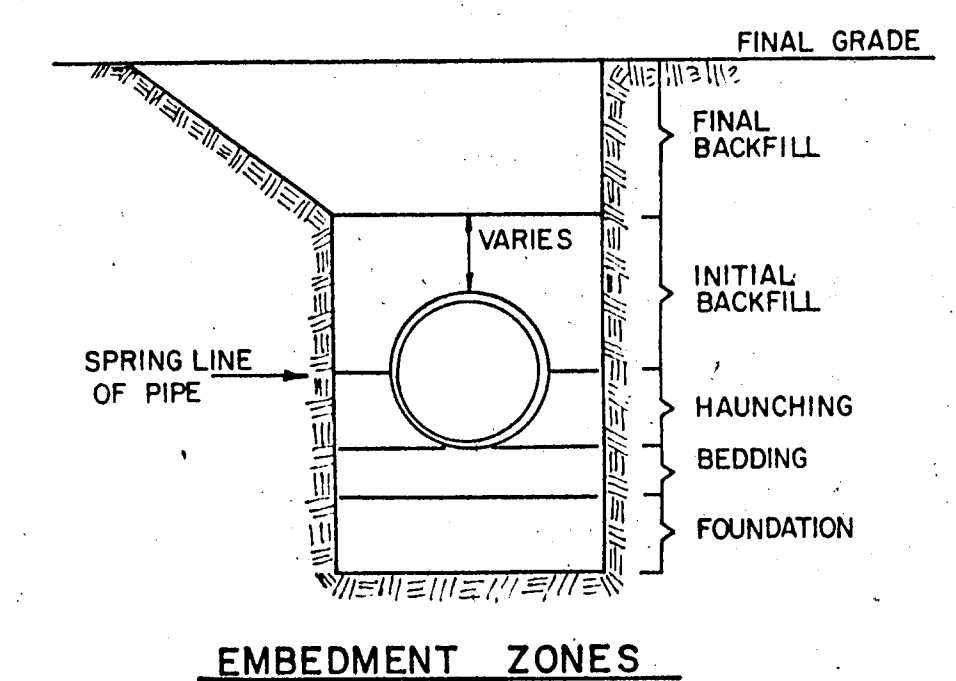
TABLE OF QUANTITIES PER 100 LINEAR FEET REINFORCED CONCRETE PIPE

SIZE OF PIPE IN INCHES I.D.	O.D. OF PIPE IN INCHES	TRENCH WIDTH IN INCHES	TRENCH WIDTH IN FEET	CLASS 1 EMBEDMENT CRUSHED STONE	CLASS 2 EMBEDMENT CRUSHED STONE	CLASS 3 EMBEDMENT CONCRETE	CONCRETE ENCASUREMENT
12	16.00	32	2.67	4.1	6.5	4.8	15.8
15	19.50	36	3.00	4.8	7.8	6.4	19.2
18	23.00	39	3.25	5.7	9.2	8.2	21.2
21	26.50	43	3.58	6.9	11.0	10.2	24.9
24	30.00	46	3.83	8.3	13.1	12.4	28.7
27	33.50	51	4.25	10.3	16.1	14.4	32.8
30	37.00	57	4.75	12.7	20.1	17.0	34.8
33	40.50	62	5.17	15.1	23.8	19.3	39.2
36	44.00	67	5.58	18.0	28.6	22.1	43.8

TABLE OF QUANTITIES PER 100 LINEAR FEET-PVC PIPE (IN CUBIC YARDS)

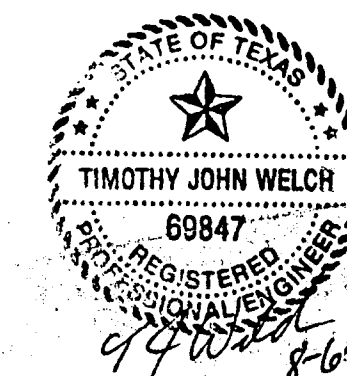
SIZE OF PIPE IN INCHES	O.D. OF PIPE IN INCHES	TRENCH WIDTH IN INCHES	TRENCH WIDTH IN FEET	CLASS 4 EMBEDMENT CRUSHED STONE	CONCRETE ENCASUREMENT
6	6.28	24	2.00	8.0	11.7
8	8.16	24	2.00	8.7	12.4
10	10.20	26	2.18	10.2	14.2
12	12.24	28	2.35	11.7	15.9
16	15.30	31	2.61	14.0	18.8
24	36	3.0			
30	42	3.5			

NOTE: ALL SANITARY SEWER LINES THIS PROJECT SHALL HAVE CLASS 4 EMBEDMENT UNLESS OTHERWISE NOTED.



AS BUILTS

I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



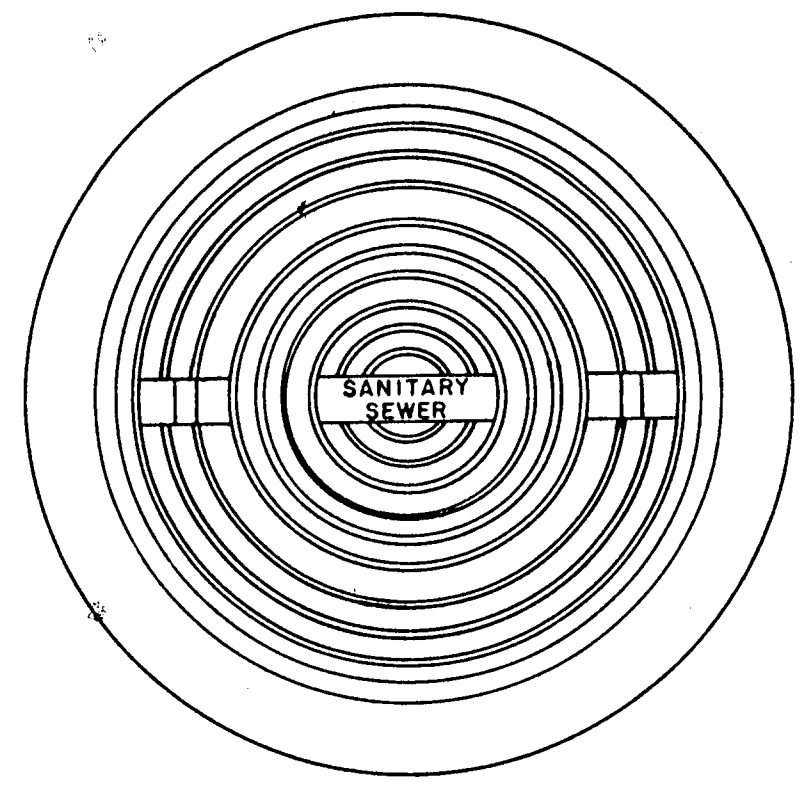
TOWN OF ADDISON, TEXAS  
DEPARTMENT OF ENGINEERING

STANDARD CONSTRUCTION DETAILS

EMBEDMENT DETAILS

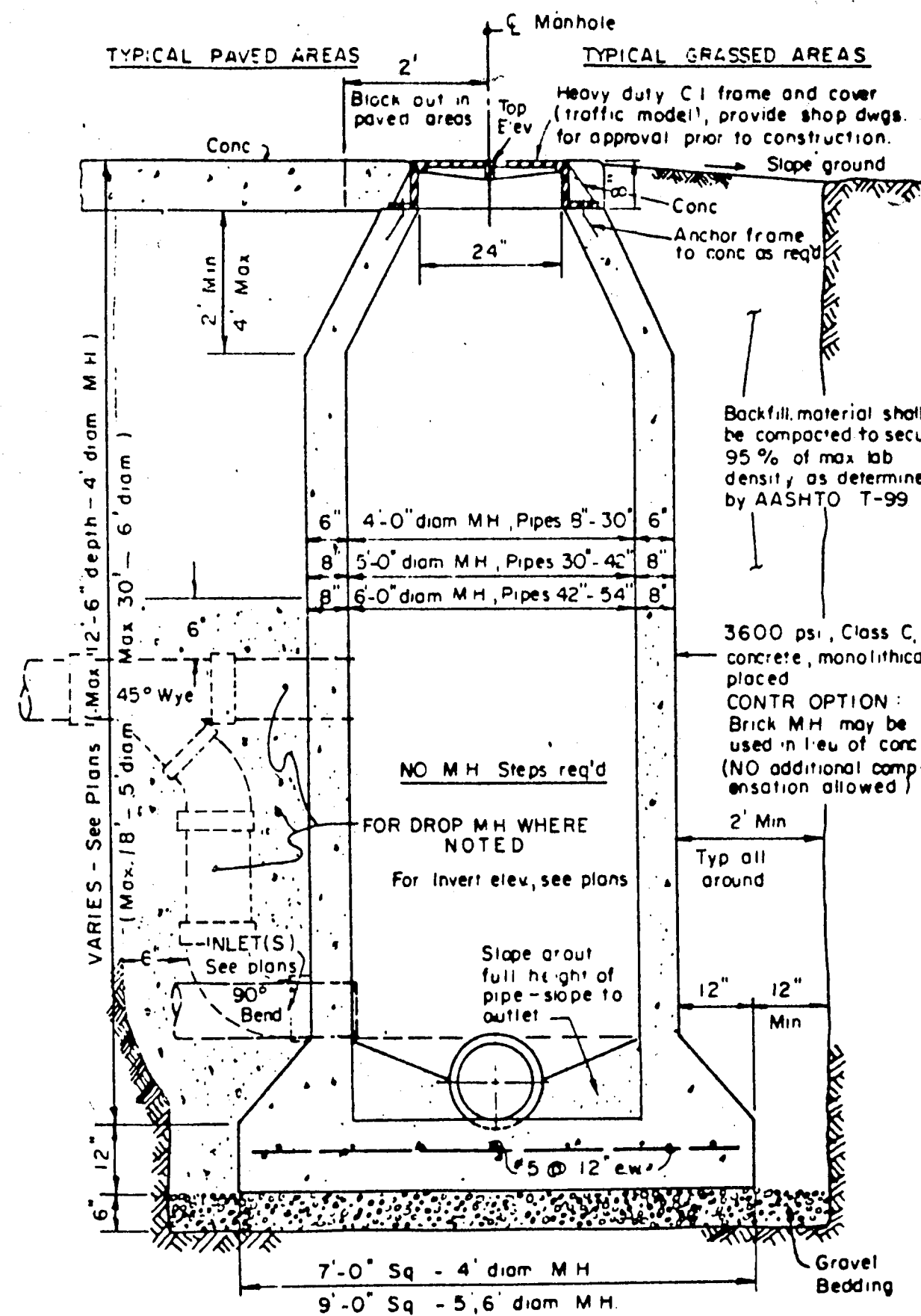
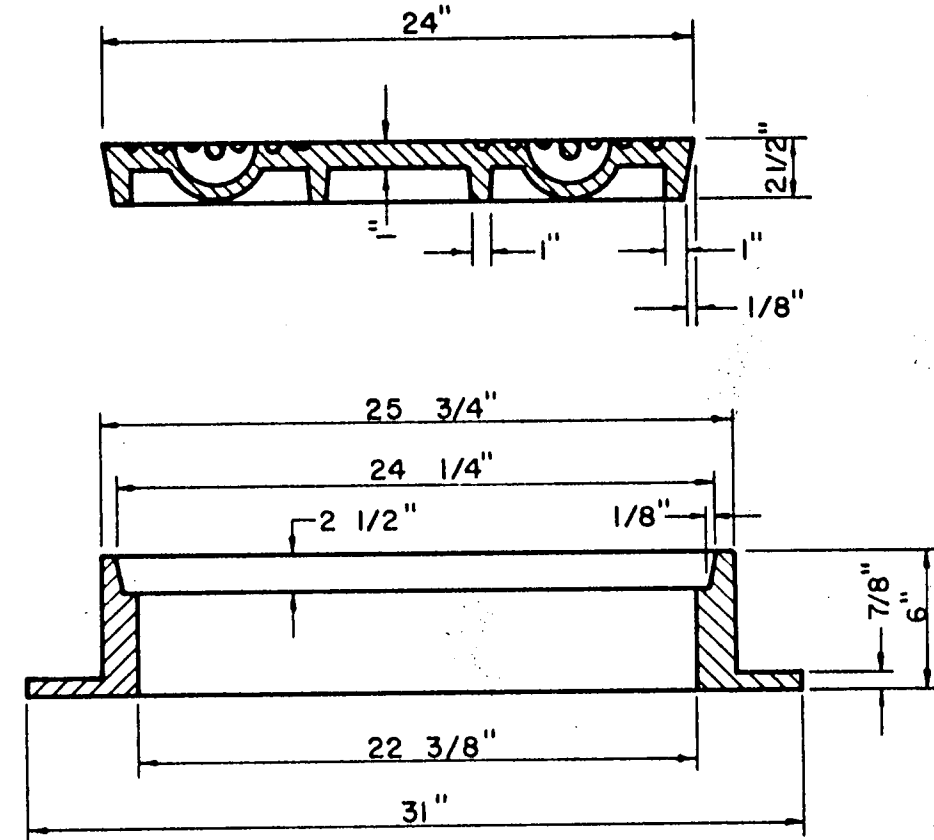
Designed -	Drawn -	Date - AUGUST, 1991	Job No. - 90025-5
Approved -	Checked -	Scale -	Sheet D-5 of





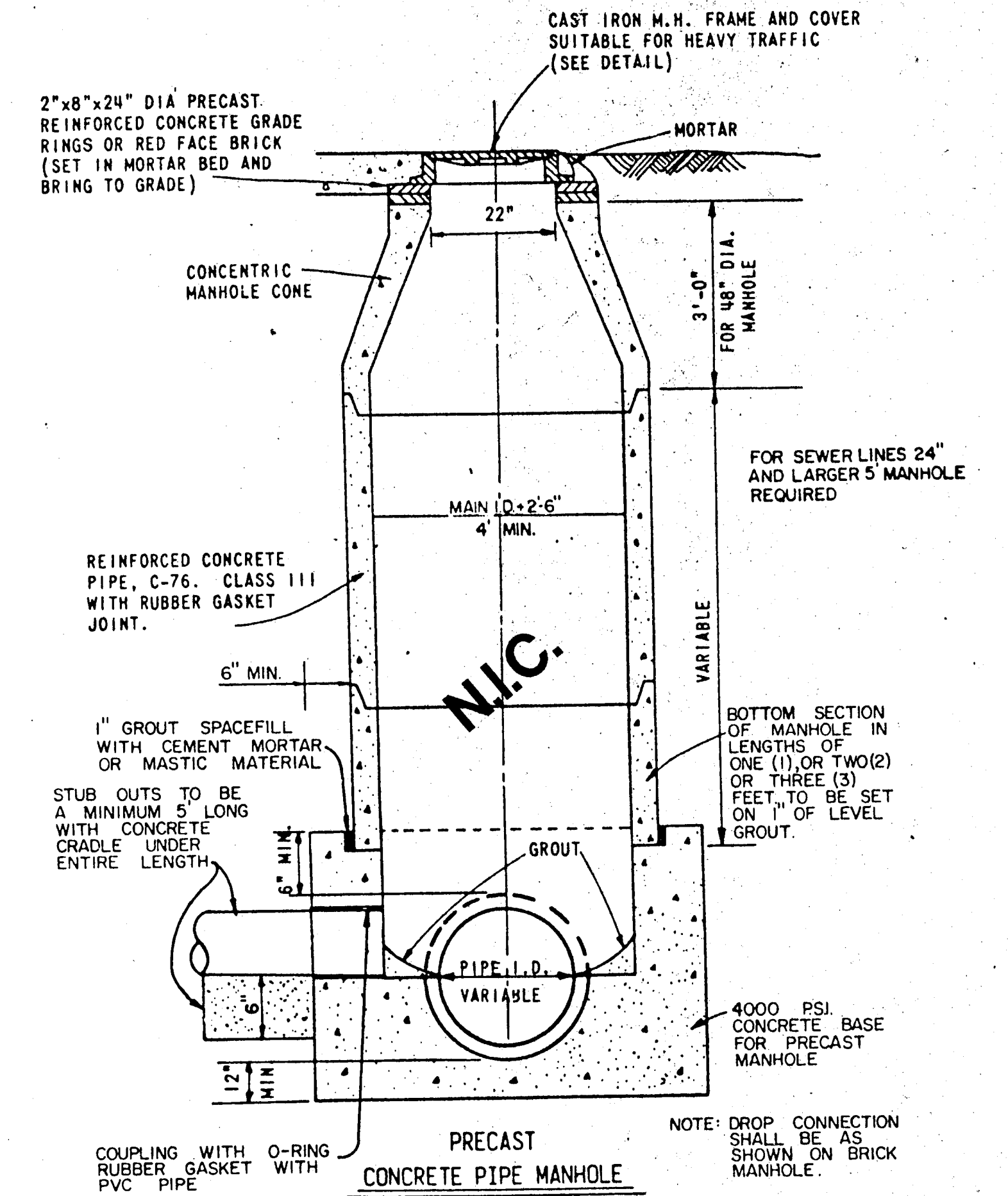
APPROX. WEIGHT RING AND COVER 385 LBS.

**CAST IRON GRATE AND FRAME DETAIL**

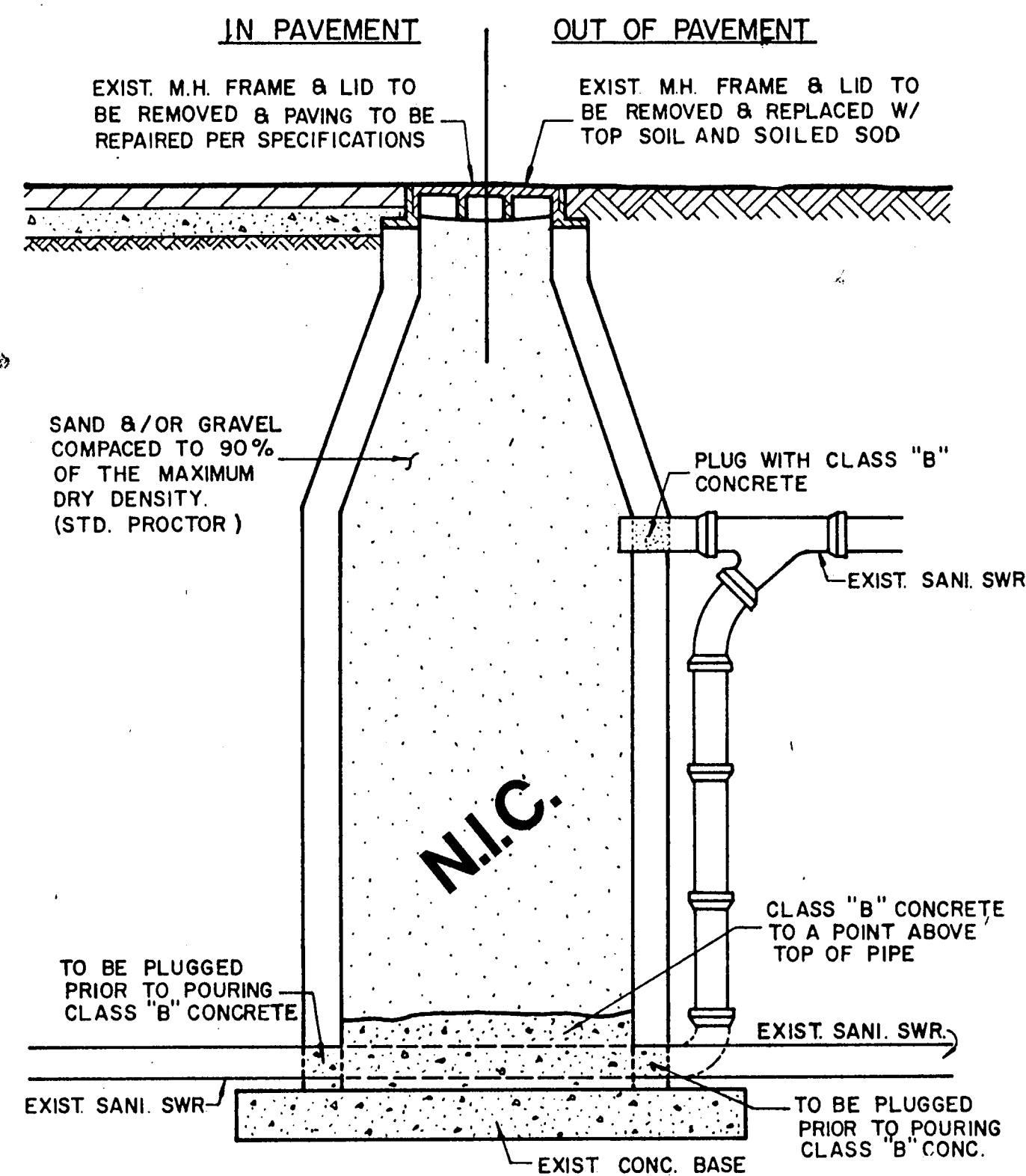


**CAST IN PLACE MANHOLE**

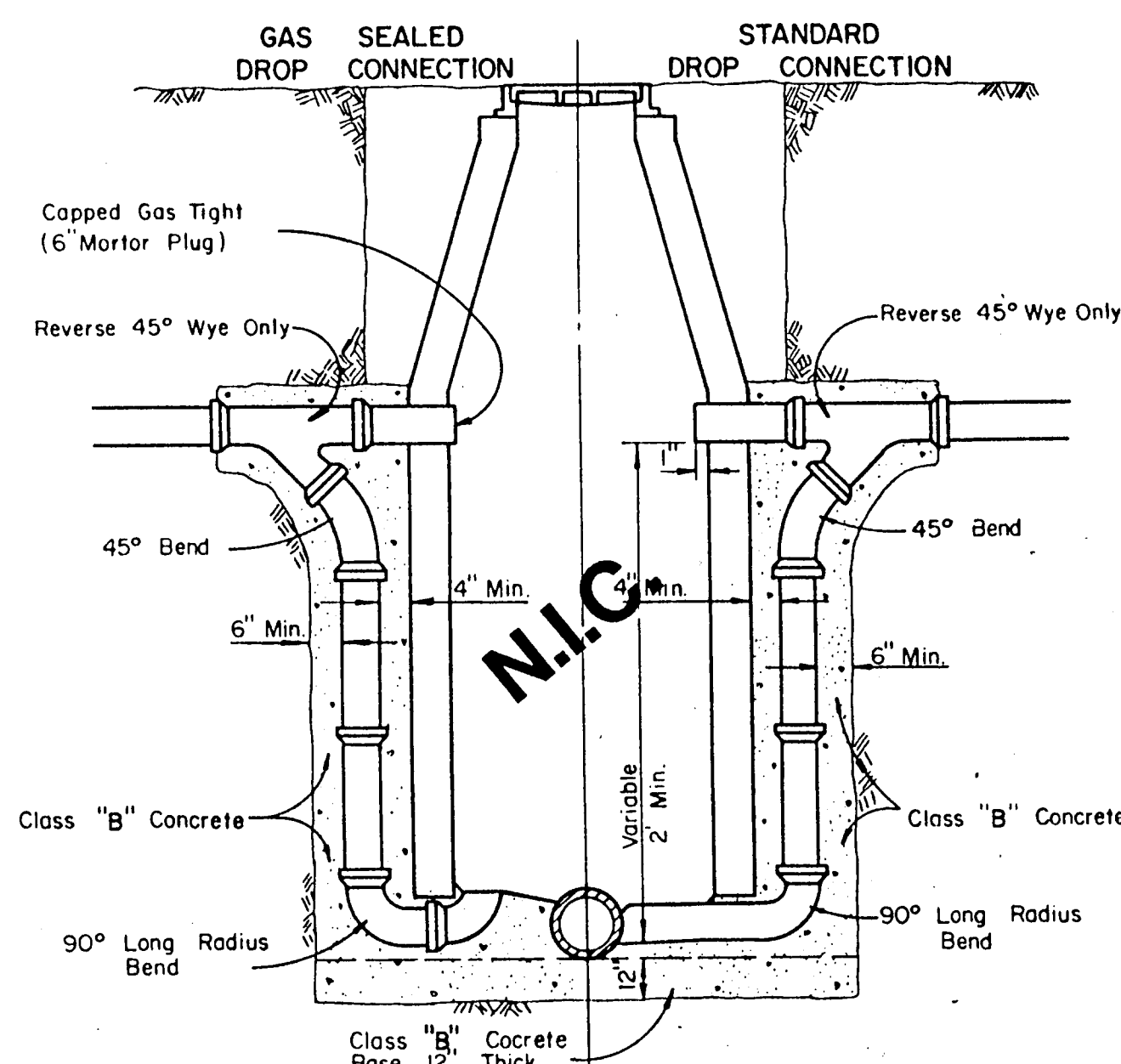
WHERE DROP M.H. IS REQUIRED, USE INSIDE DROP CONNECTION AS PER TOWN OF ADDISON STANDARDS.



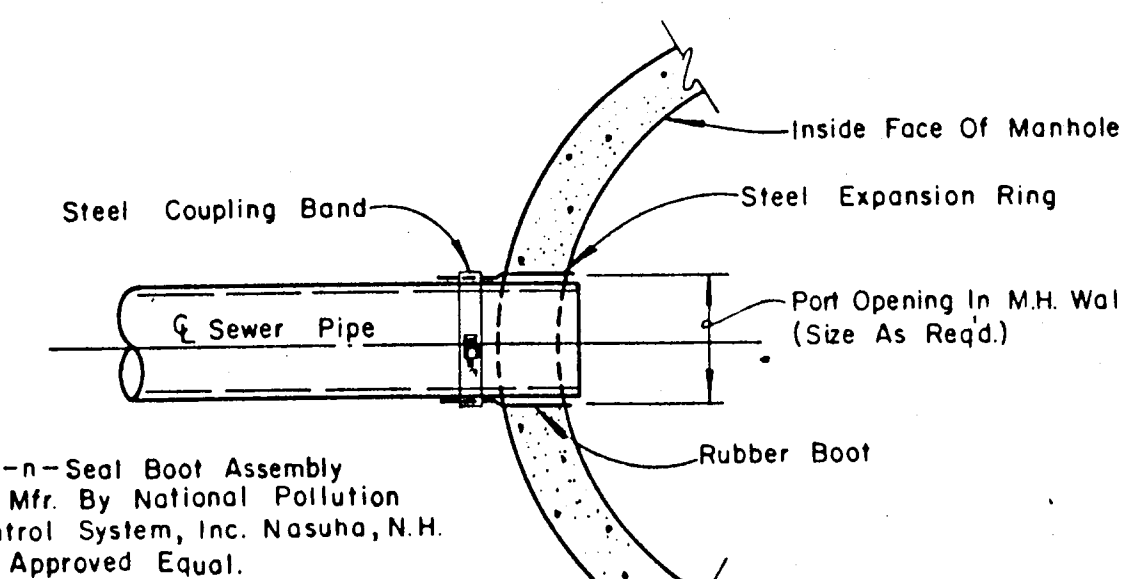
**PRECAST MANHOLE**



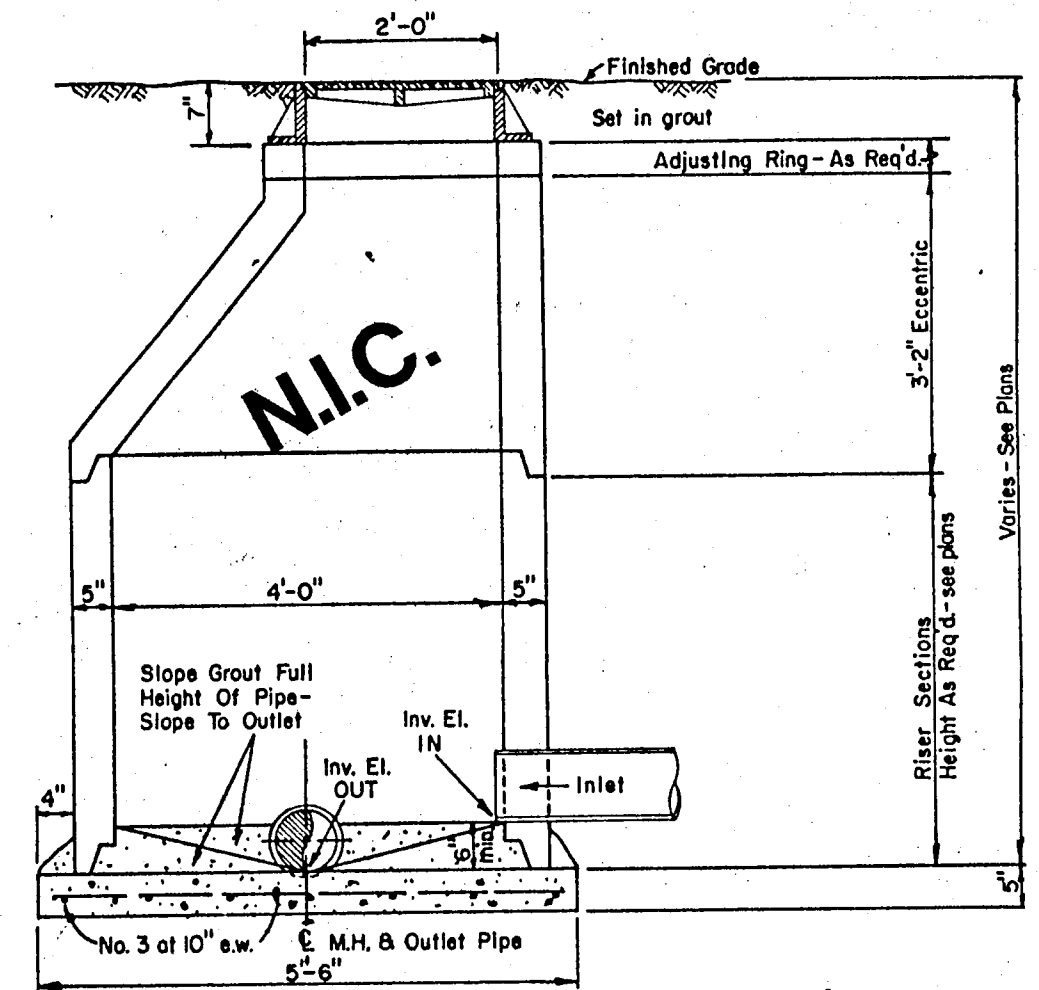
**ABANDONMENT OF EXISTING MANHOLE IN AND OUT OF PAVEMENT**



**DROP CONNECTIONS FOR SANITARY SEWER MANHOLES**



**TYPICAL SEWER CONNECTION AT MANHOLE**



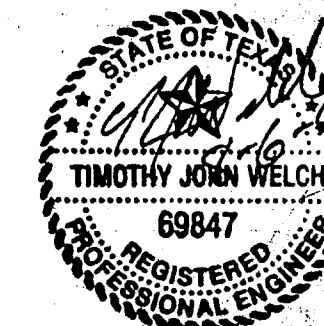
**ECCENTRIC MANHOLE DETAIL**

NOTE: Contractor To Install Kor-n-Seal Boot Assembly Per Mfr. Recommendations In A Neat And Workman-Like Manner.

CLASS B Conc. - 2000psi at 28 days (Compressive)

AS BUILTS

I CERTIFY THIS PROJECT WAS CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE CONSTRUCTION PLANS AND WILL FUNCTION AS DESIGNED.



TOWN OF ADDISON, TEXAS  
DEPARTMENT OF ENGINEERING

STANDARD CONSTRUCTION DETAILS  
SANITARY SEWER

MANHOLES AND CONNECTIONS

Designed -	Drawn -	Date - AUGUST, 1991	Job No. - 90025-5
Approved -	Checked -	Scale -	Sheet D-6 Of