

### EXISTING FEATURES

STRUCTURE NUMBER	STRUCTURE TYPE	TOP OF CURB ELEVATION	INVERT ELEVATION	DIAMETER	LENGTH	AREA	CONCRETE	PIPE TYPE
A1	DOUBLE TYPE A INLET	72.00	71.50	24\"/>				

- ### EXISTING FEATURES
- LIGHT POLE
  - POWER POLE
  - WATER VALVE
  - WATER METER
  - STORM DRAIN MANHOLE
  - CATCH BASIN
  - SANITARY SEWER MANHOLE
  - GAS VALVE
  - TELEPHONE PREDISTAL
  - BORING
  - INVERT
  - HRF HYDRANT
  - IRON PIN SET (5/8" REBAR)
  - IRON PIN FOUND
  - OVERHEAD ELECTRIC LINE
  - UNDERGROUND ELECTRIC LINE
  - SANITARY SEWER LINE
  - WATER LINE
  - GAS LINE
  - OVERHEAD TELEPHONE LINE
  - UNDERGROUND TELEPHONE LINE
  - GUARD POST
  - UNDERGROUND GAS MARKER
  - CLEAN OUT
  - REINFORCED CONCRETE PIPE
  - CORRUGATED METAL PIPE

- ### PROPOSED FEATURES
- PROPOSED LINE
  - CONCRETE ELEVATIONS
  - EXISTING ELEVATIONS
  - STORM DRAIN
  - SANITARY SEWER
  - GAS
  - WATER
  - TELEPHONE
  - HRF HYDRANT WITH BRASS PORTS
  - SLOPE AND CONNECTION INDICATOR
  - WATER METER IN PIT
  - DRAINAGE STRUCTURE LABEL

- ### DETAILS
- JUNCTION BOX
  - STANDARD CURB INLET (CITY STANDARD)
  - STORM DRAIN CLEANOUT (C.O.)
  - TYPE B INLET
  - TYPE A INLET

### GRADING AND DRAINAGE NOTES

- ALL EXISTING STRUCTURES, UNLESS OTHERWISE NOTED TO REMAIN, INCLUDING TREES & ETC. WITHIN CONSTRUCTION AREA SHALL BE REMOVED & DISPOSED OF OFF SITE. ANY BURNING ON SITE SHALL BE SUBJECT TO LOCAL ORDINANCES & LOWE'S SPECIFICATIONS.
- ALL DRAINAGE STRUCTURES SHALL BE PRE-CAST.
- ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL BE SET BEYOND DUTY TRAFFIC (RIG) LOADINGS AND BE INSTALLED ACCORDINGLY.
- CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.
- SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
- SICP - SMOOTH INTERIOR CORRUGATED PLASTIC PIPES & FITTINGS MAY BE A.S.-N.I. MFR. BY ADVANCED DRAINAGE SYSTEMS, INC. 2800 RIVERSIDE DRIVE, COLUMBUS, OHIO 43221 (614) 491-2001
- OR SURE LOCK BY HANCOX INC. TYPE 101 BY LANE INTERPROMS AND FINLAY, OH 45624-1041 1-800-937-4520 TYPE 200 BY SHIPPERSBURG, PA 17521 1-717-352-2494
- SICP SHALL BE INSTALLED PER MANUFACTURER'S GUIDELINE FOR HEAVY DUTY DRAINAGE APPLICATIONS.
- FRENCH DRAIN SHALL BE INSTALLED IF DIRECTED BY THE GEOTECHNICAL ENGINEER OR AS SHOWN ON PLANS.
- CONTRACTOR SHALL PROVIDE 2" X 2" X 8" THICK CONCRETE AFFOR AT ALL CLEANOUTS OUTSIDE OF BUILDING.
- CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL PRACTICES IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND CONSTRUCTION SCHEDULE.
- REMOVE GOOD TOPSOIL FROM AREAS TO BE GRADED AND FILLED, AND PRESERVE IT FOR USE IN FINISHING THE GRADING OF ALL CRITICAL AREAS.
- SCARPING AREAS TO BE TOPSOIL TO A MINIMUM DEPTH OF 2 INCHES BEFORE PLACING.
- CLEAR AND GRUB AREAS TO BE FILLED TO REMOVE TREES, VEGETATION, ROOTS, OR OTHER DEBRIS, AND OTHER MATERIALS THAT WOULD AFFECT THE STABILITY OF THE FILL.
- ENSURE THAT FILL MATERIAL IS FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER MATERIALS INAPPROPRIATE FOR CONSTRUCTING STABLE FILLS.
- PLACE ALL FILL IN LAYERS NOT TO EXCEED 6 INCHES IN THICKNESS, AND COMPACT THE LAYERS AS REQUIRED TO REDUCE EROSION, SPILLAGE, SETTLEMENTS, OR OTHER RELATED EROSION FACTORS.
- DO NOT INCORPORATE FROZEN MATERIAL OR SOFT MUCK, OR HEAVY COMPRESSED MATERIALS INTO FILL SLOPES.
- KEEP DIVERSIONS AND OTHER WATER CONVEYANCE MEASURES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.
- PERMANENTLY STABILIZE ALL GRADED AREAS AFTER FINAL GRADING IS COMPLETED ON EACH AREA OF THE GRADING PLAN. APPLY TEMPORARY STABILIZATION MEASURES ON ALL GRADED AREAS WHEN WORK IS TO BE INTERRUPTED OR DELAYED FOR 30 WORKING DAYS OR LONGER.

### CONSTRUCTION NOTES

- AFTER PERMITS HAVE BEEN OBTAINED & EROSION CONTROL MEASURES INSTALLED, THE CONTRACTOR SHALL GRADE BUILDING PAD SURFACE CENTERLINE APPROXIMATELY 1/4" ON FT. OF SUBGRADE PER DIVISION 2 CONSTRUCTION SPECIFICATIONS.
- IMMEDIATELY APPLY 4" COMPACT STONE BASE FOR BUILDING PAD TO 1/4" 1/2" OF CONCRETE SUBGRADE AS PER DIVISION 2 SPECIFICATIONS. STONE SHALL BE APPLIED PRIOR TO EXCAVATING INTERIOR & PERIMETER FOOTINGS.
- COMPACT & MAINTAIN 300,000 SQ. FT. OF 5" THICK STONE MATERIAL LAYDOWN AREA TO BE LOCATED BY LOWE'S PROJECT MANAGER.

### SEEDING SPECIFICATIONS

ALL DISTURBED AREAS SHALL BE SEEDING TO FINAL SECTION 5 AND 6 TO A DEPTH OF 1" TO THE TOP OF SOIL. SEEDING SHALL BE PERFORMED TO A UNIFORM SEEDING RATE. SEEDING SHALL BE PERFORMED TO A UNIFORM SEEDING RATE. SEEDING SHALL BE PERFORMED TO A UNIFORM SEEDING RATE.

### NOTES

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3) ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL BE SET BEYOND DUTY TRAFFIC (RIG) LOADINGS AND BE INSTALLED ACCORDINGLY.

4) CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND UTILITIES ON SITE OR IN RIGHT-OF-WAY PRIOR TO EXCAVATION. CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING START.

5) SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

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16) PLACE ALL FILL IN LAYERS NOT TO EXCEED 6 INCHES IN THICKNESS, AND COMPACT THE LAYERS AS REQUIRED TO REDUCE EROSION, SPILLAGE, SETTLEMENTS, OR OTHER RELATED EROSION FACTORS.

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### NOTES

○ Have located by the following symbols are shown on this sheet.

○ CONNECT DOWNSPOUTS TO DRAIN PIPE (SEE ARCH PLANS FOR EXACT NO. AND LOCATION OF DOWN SPOUTS)

**CIVIL ENGINEERS, INC.**  
1000 W. 17th Street, Suite 200, Des Moines, IA 50319  
(515) 481-8800 Fax: (515) 481-8800

**LOWE'S**

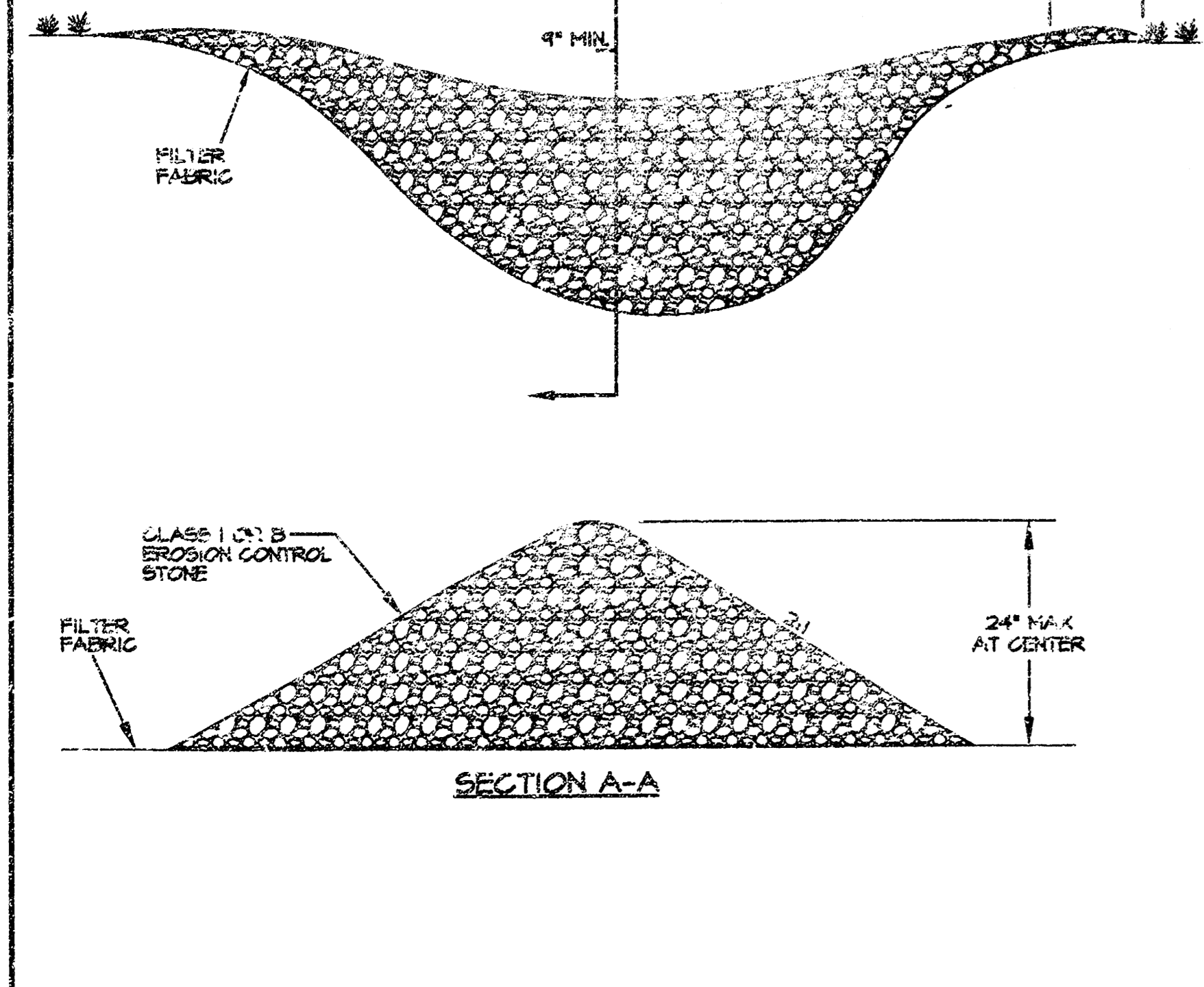
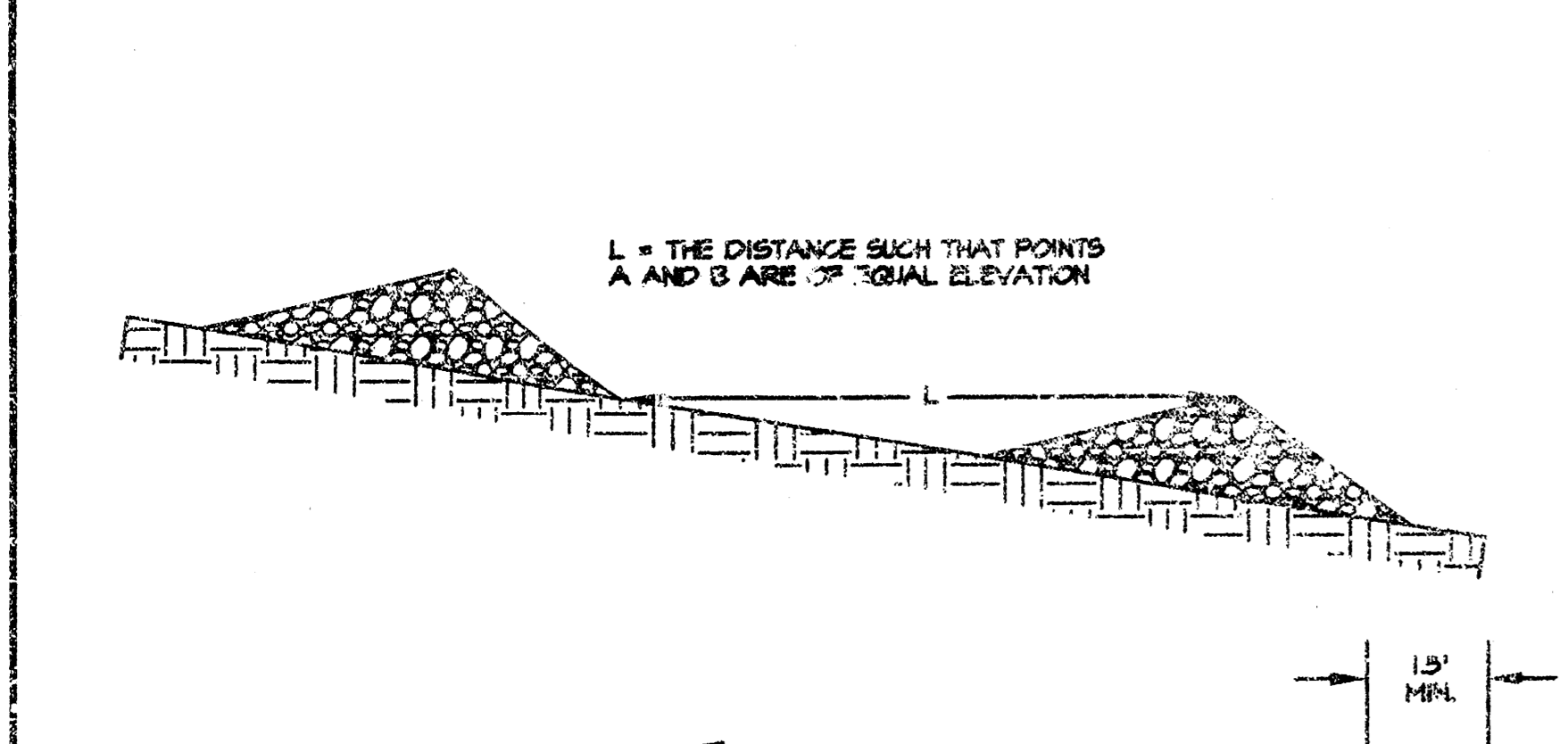
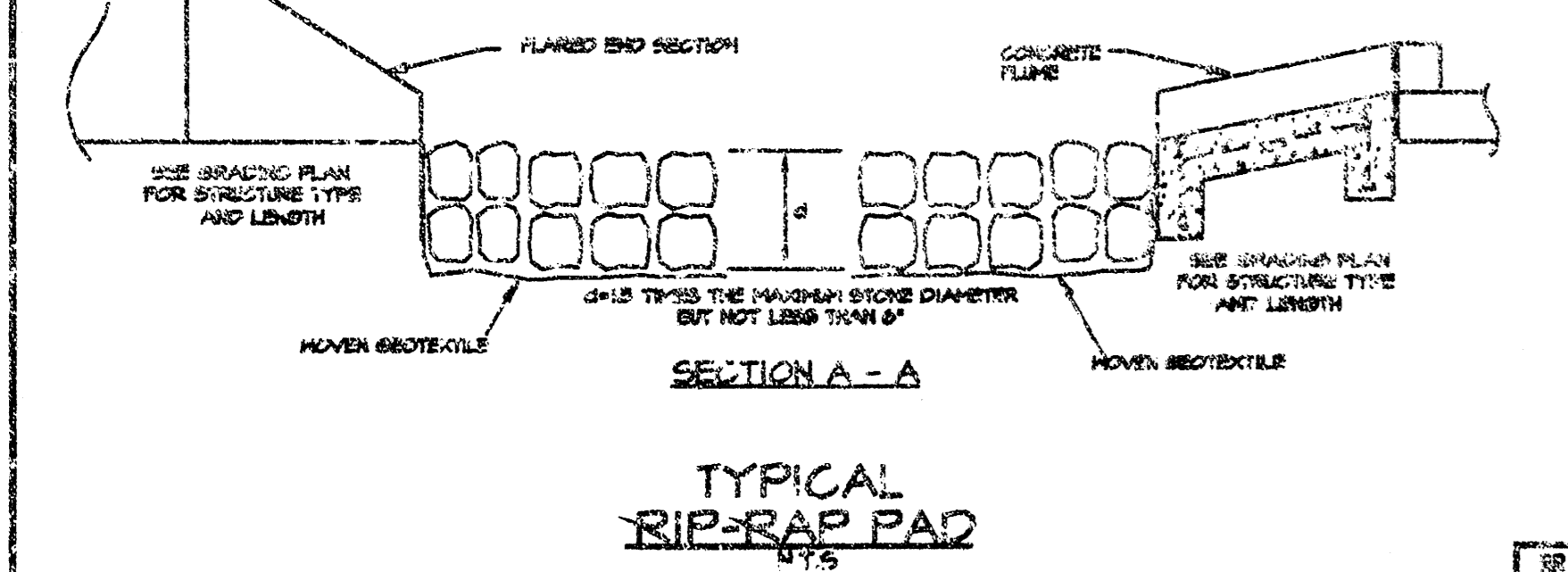
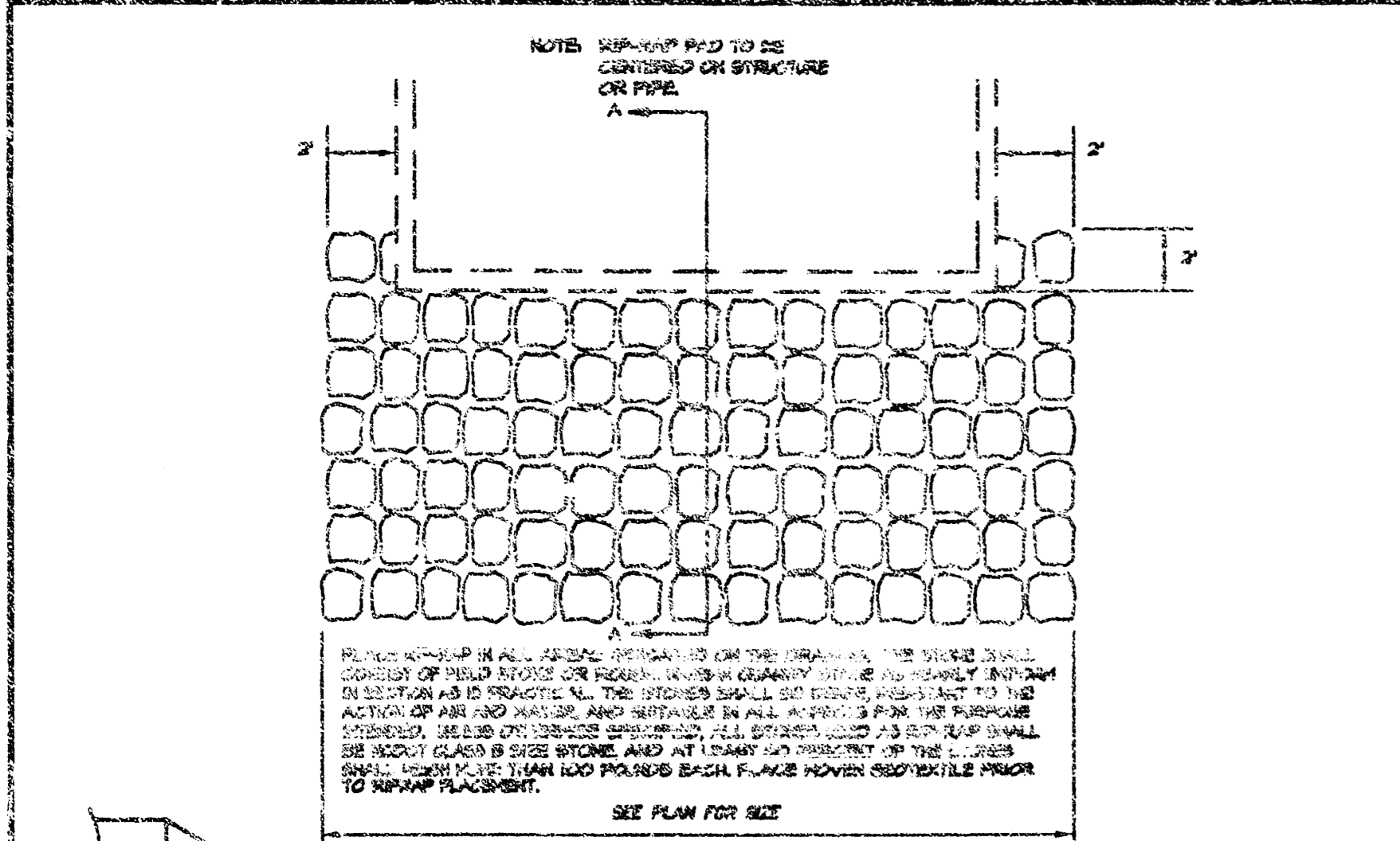
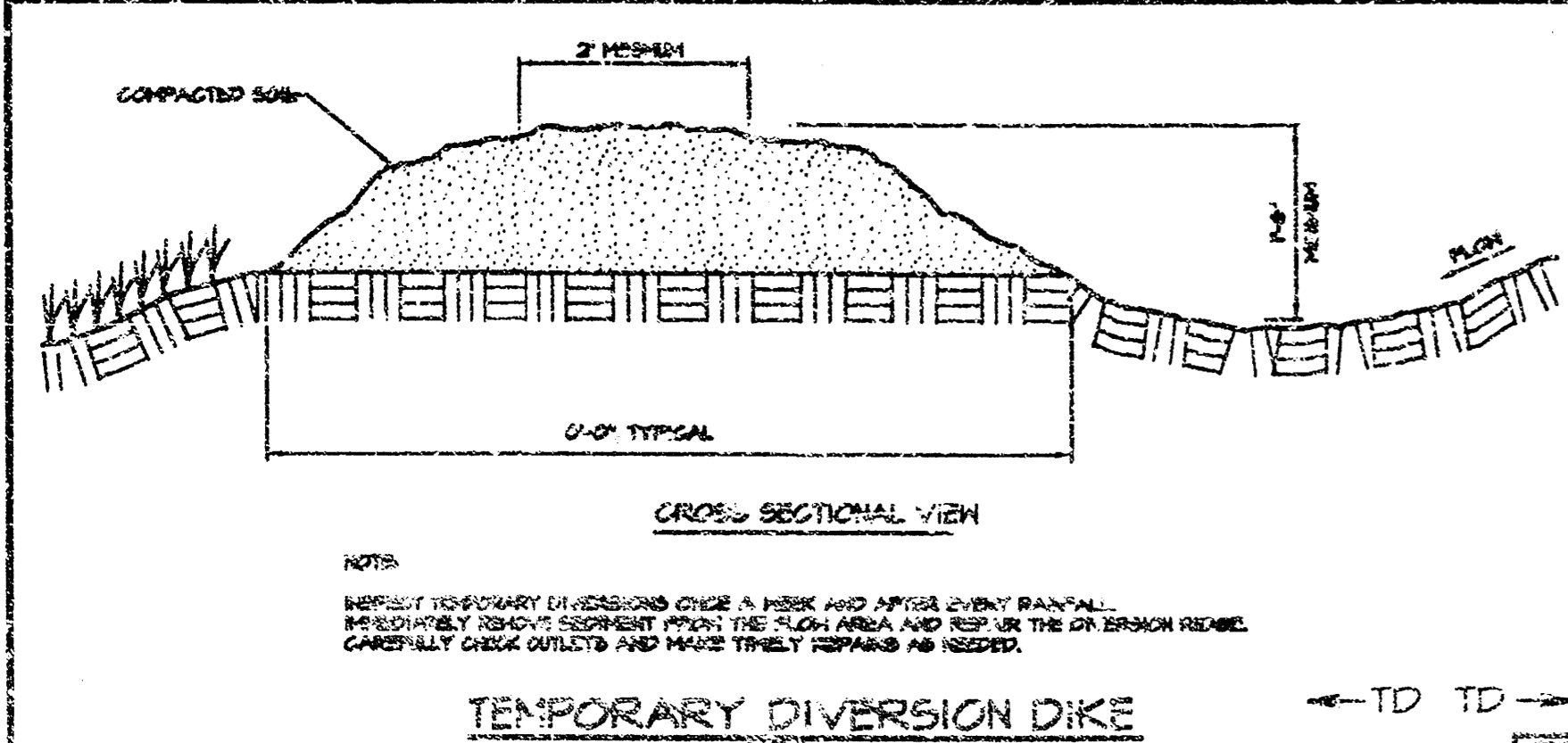
**GRADING AND DRAINAGE PLAN**

**A NEW FACILITY FOR**

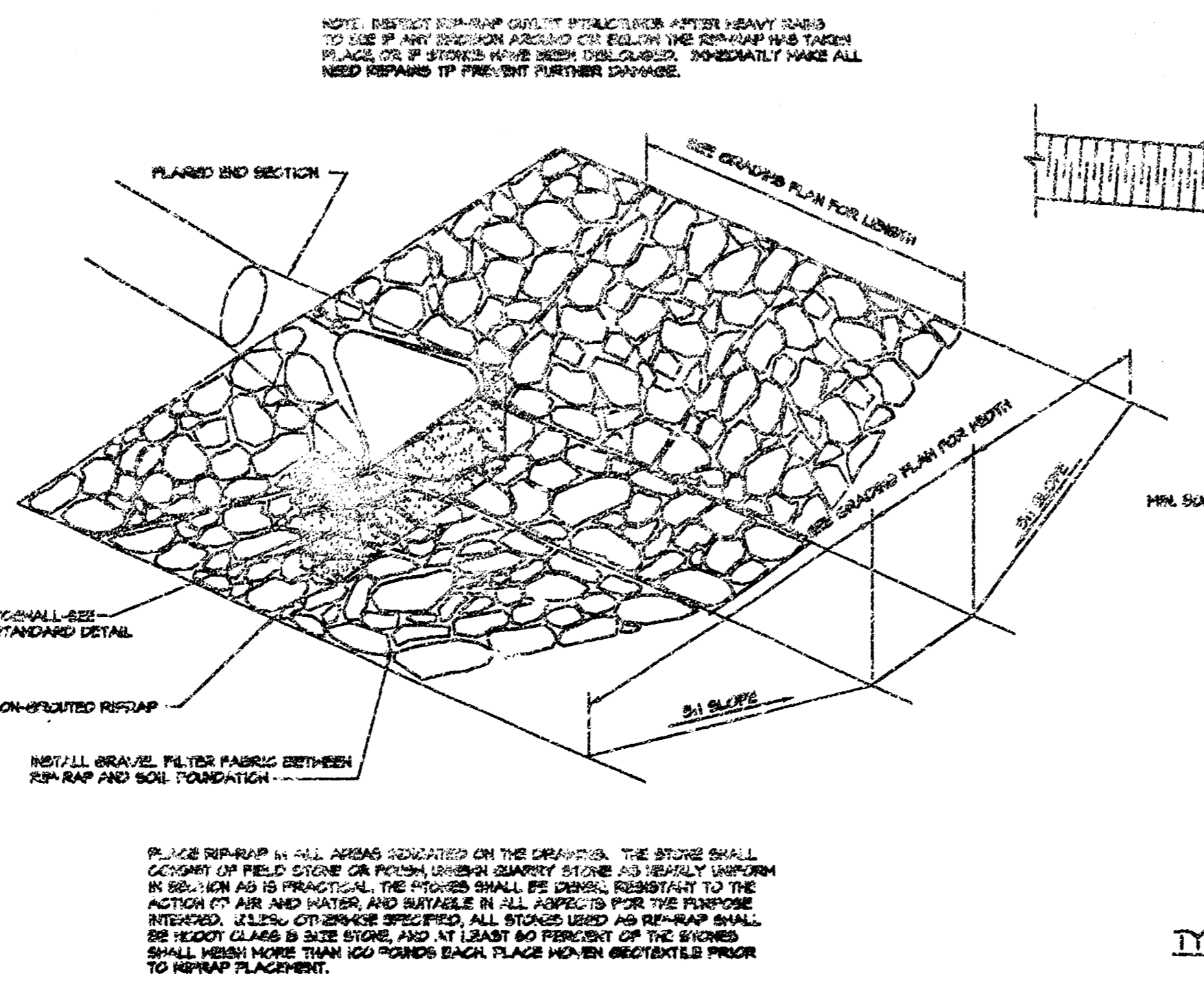
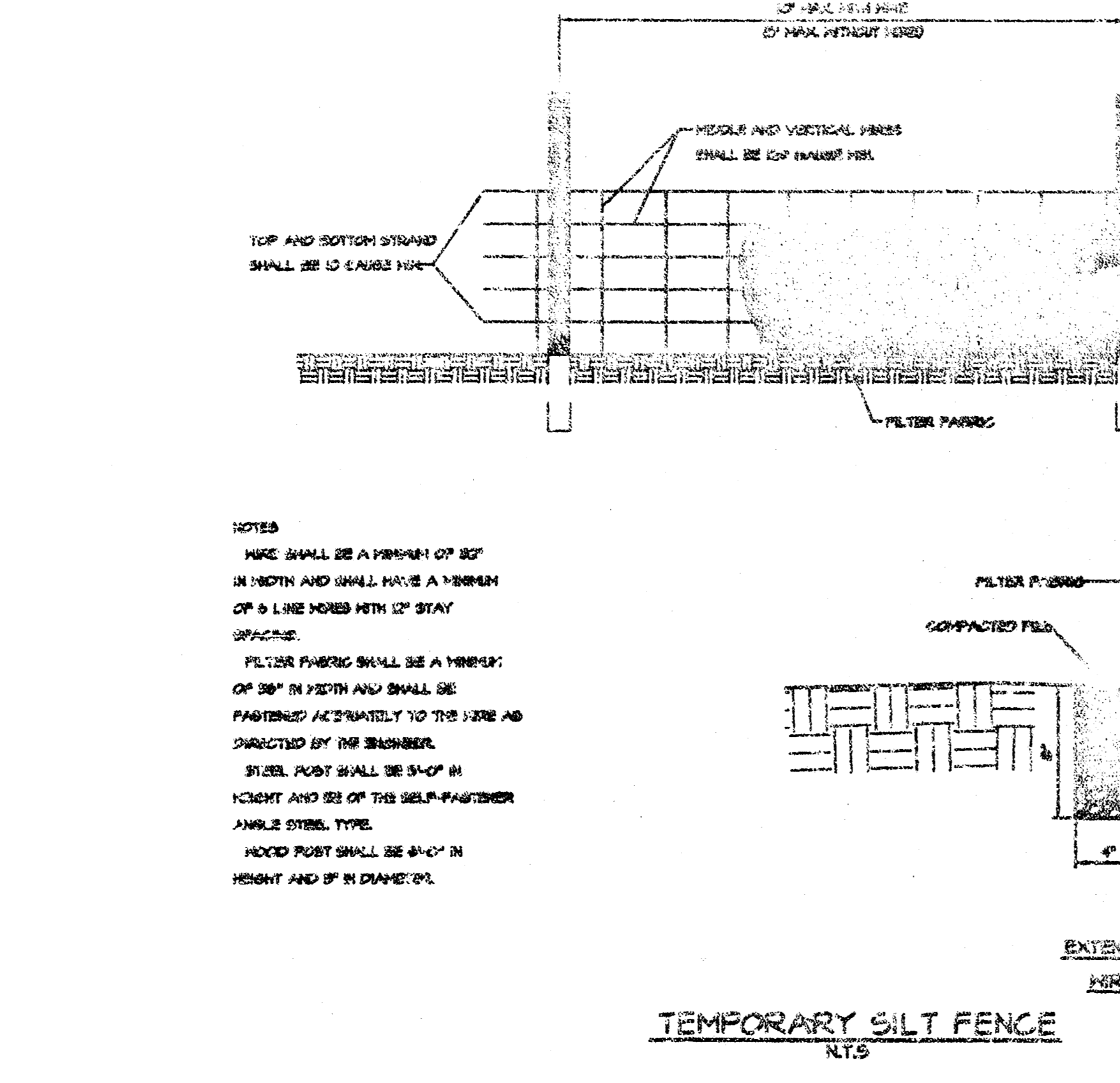
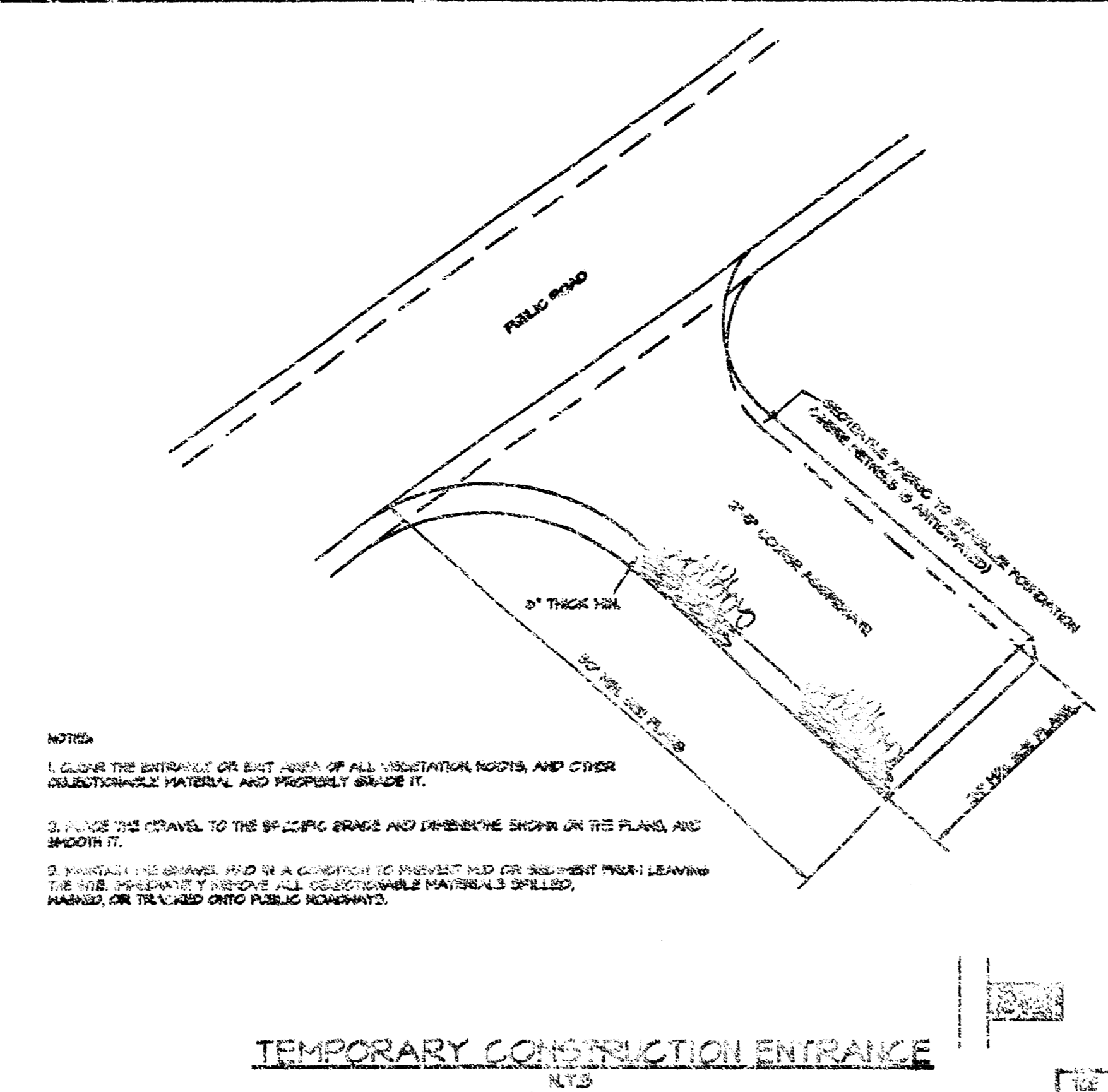
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**HIGHWAY 54 AND GREENBUSH ROAD WICHITA, KANSAS**

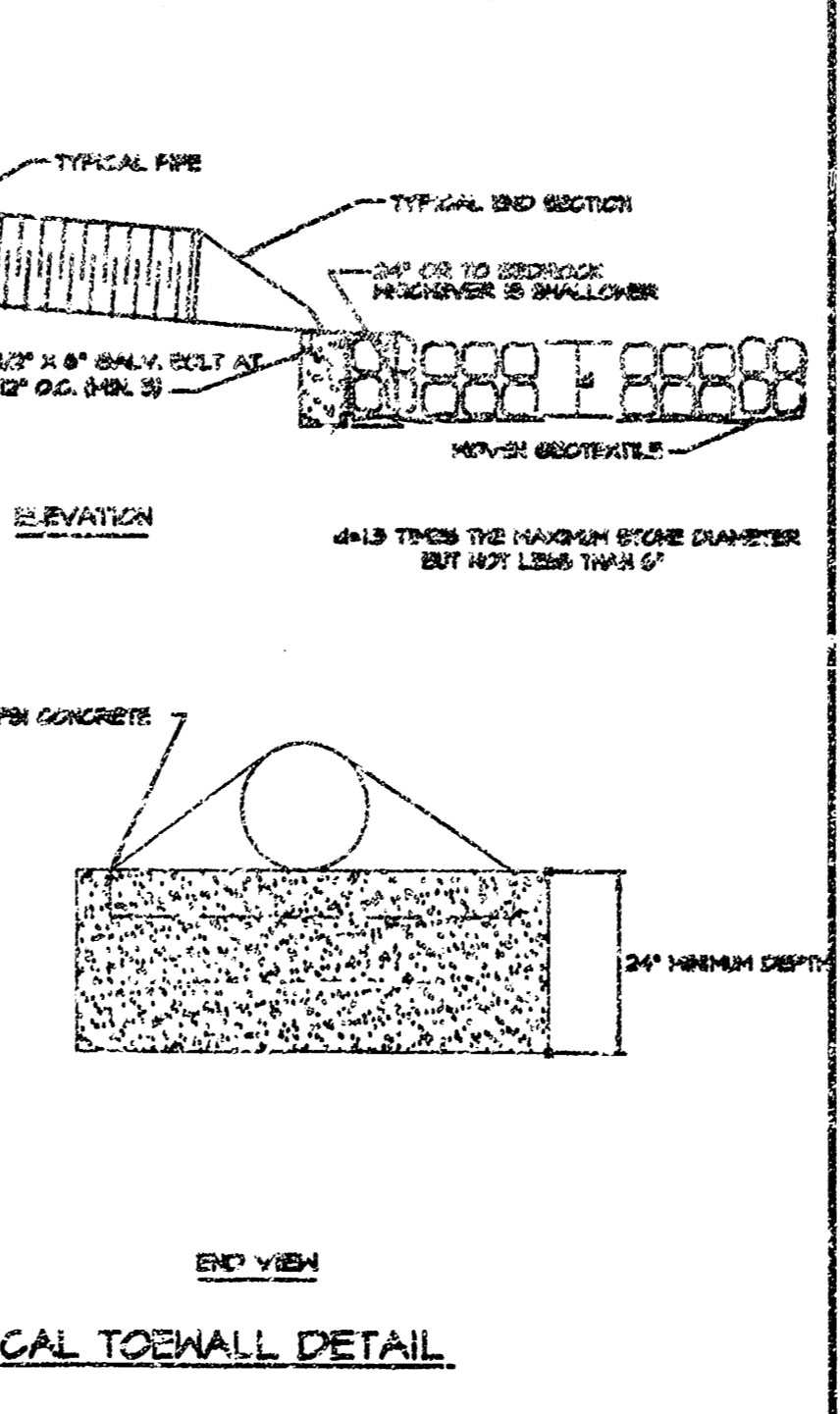
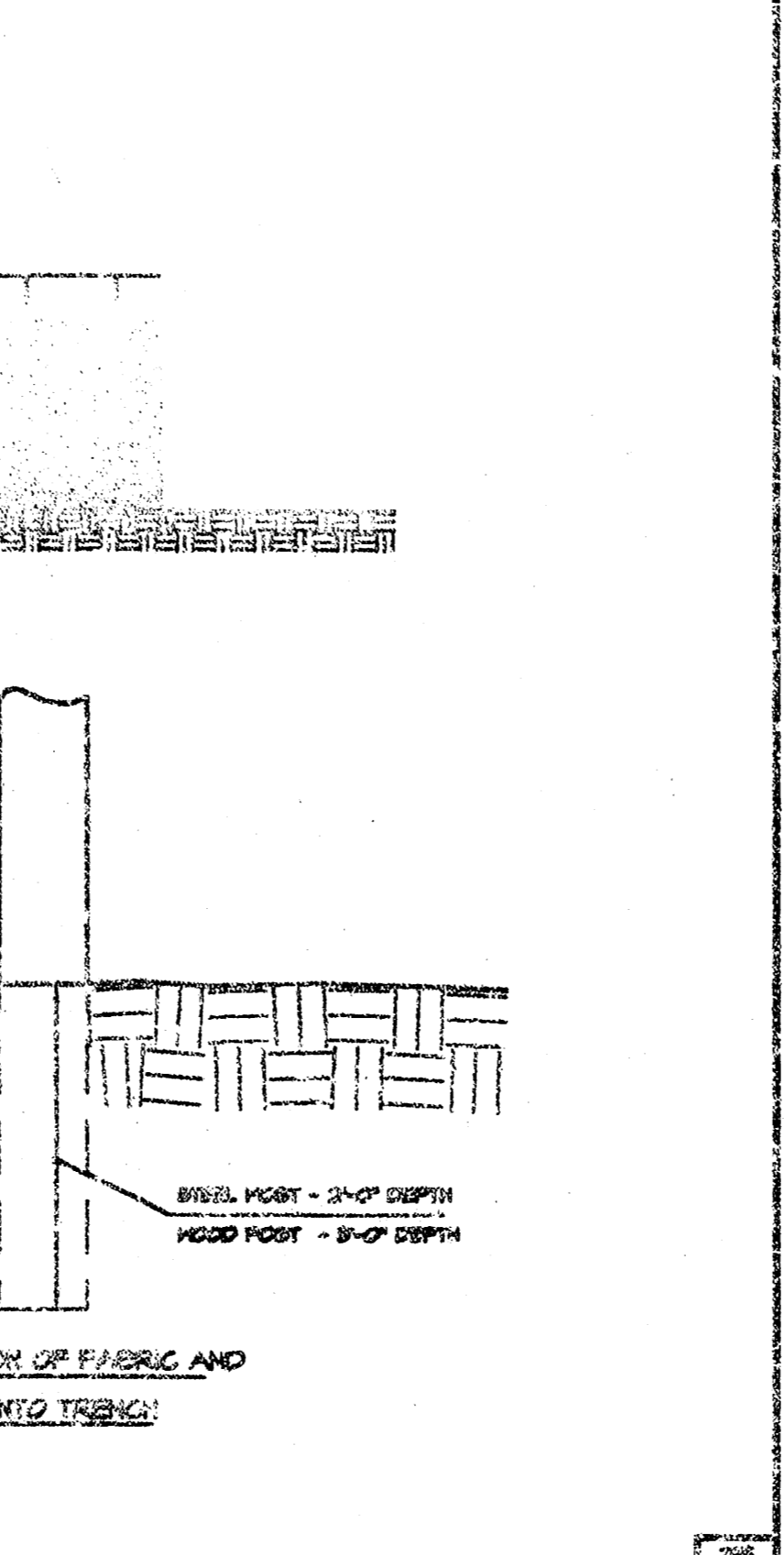
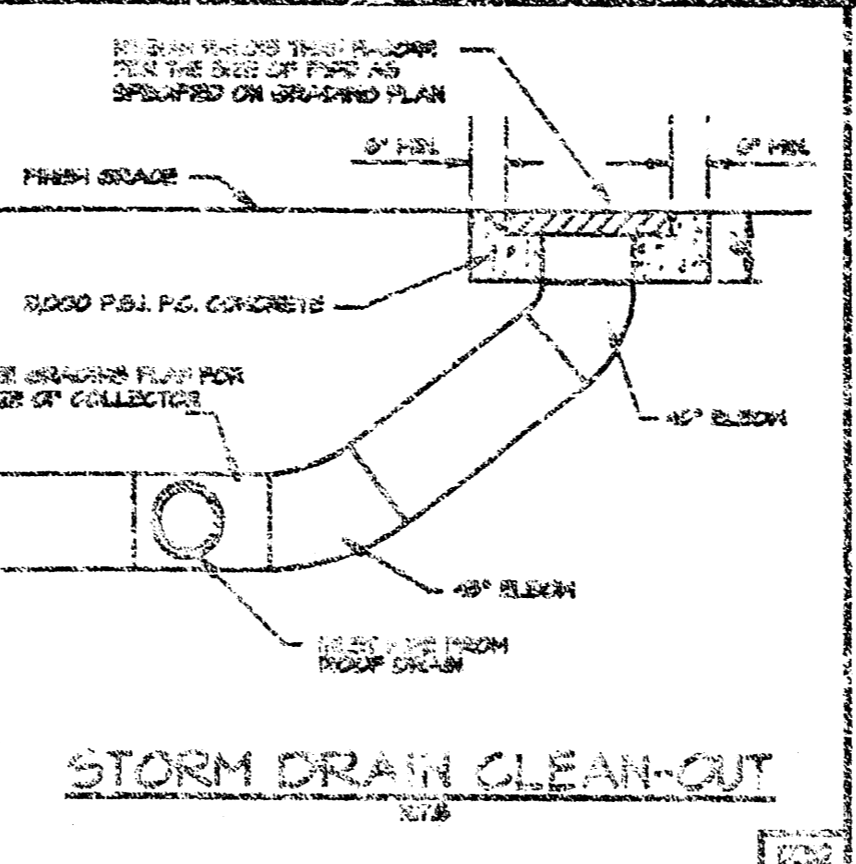
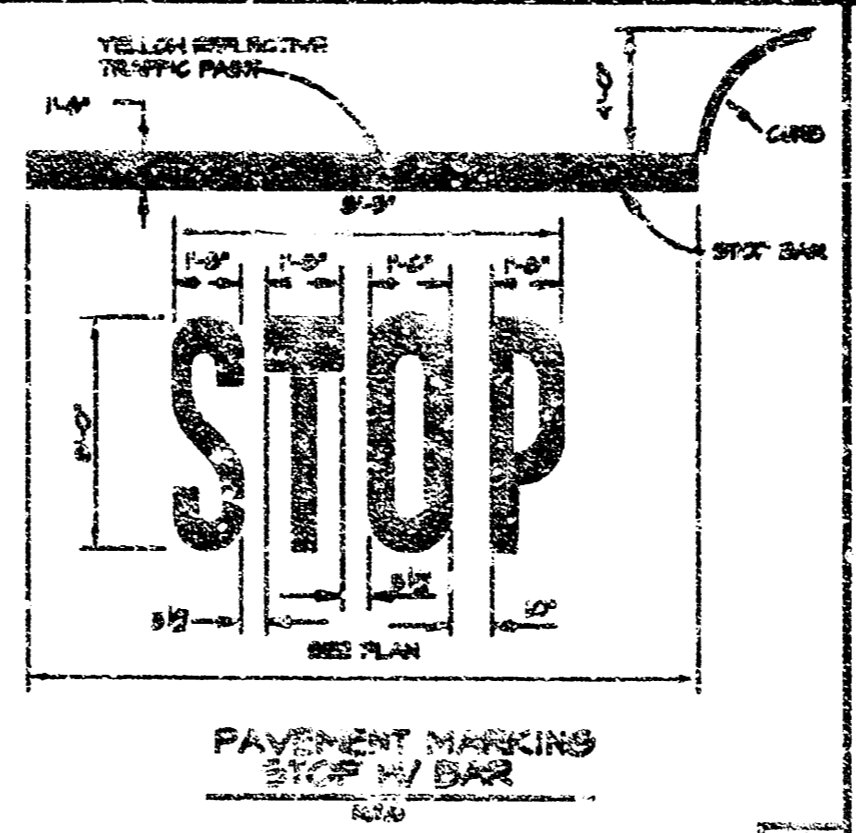
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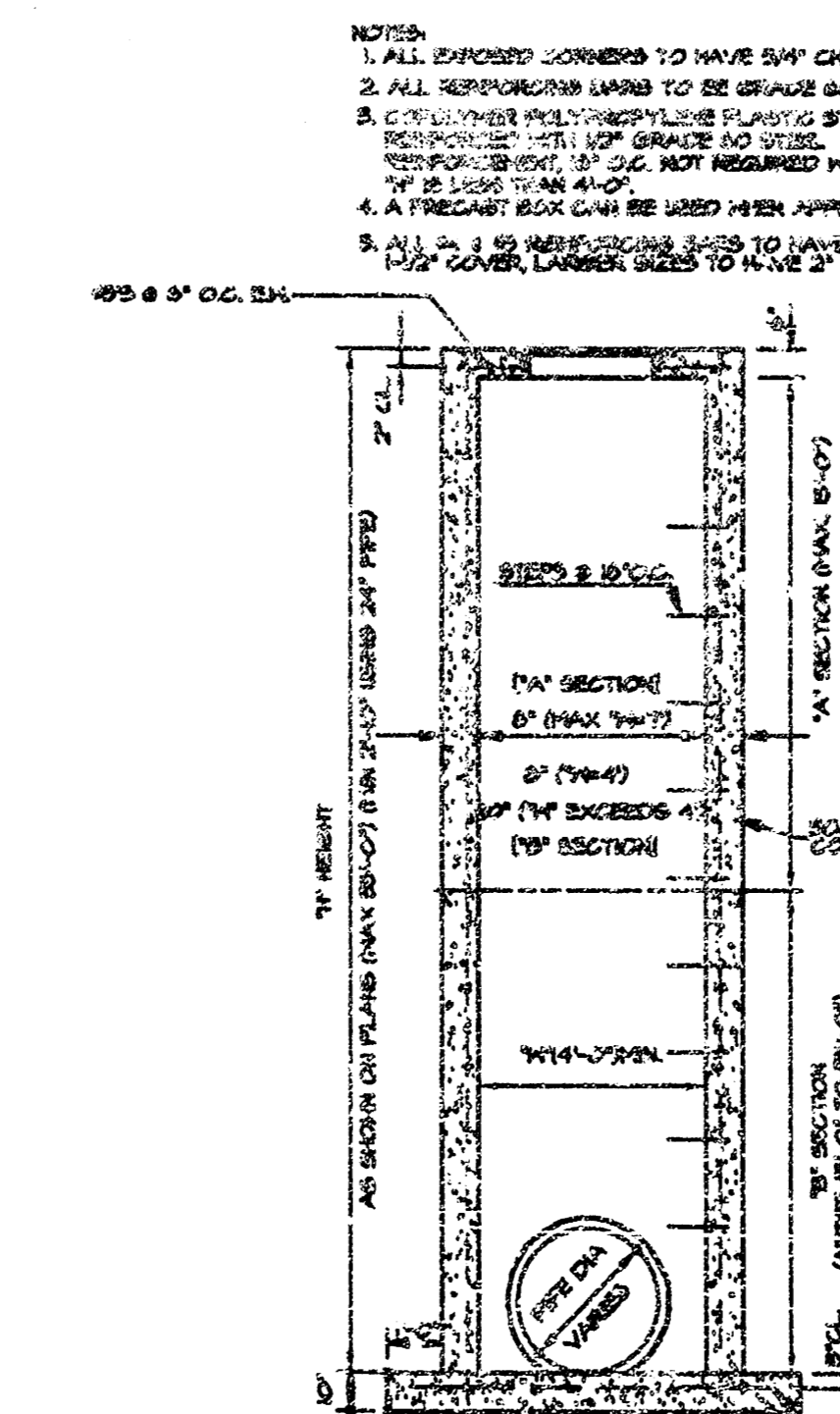
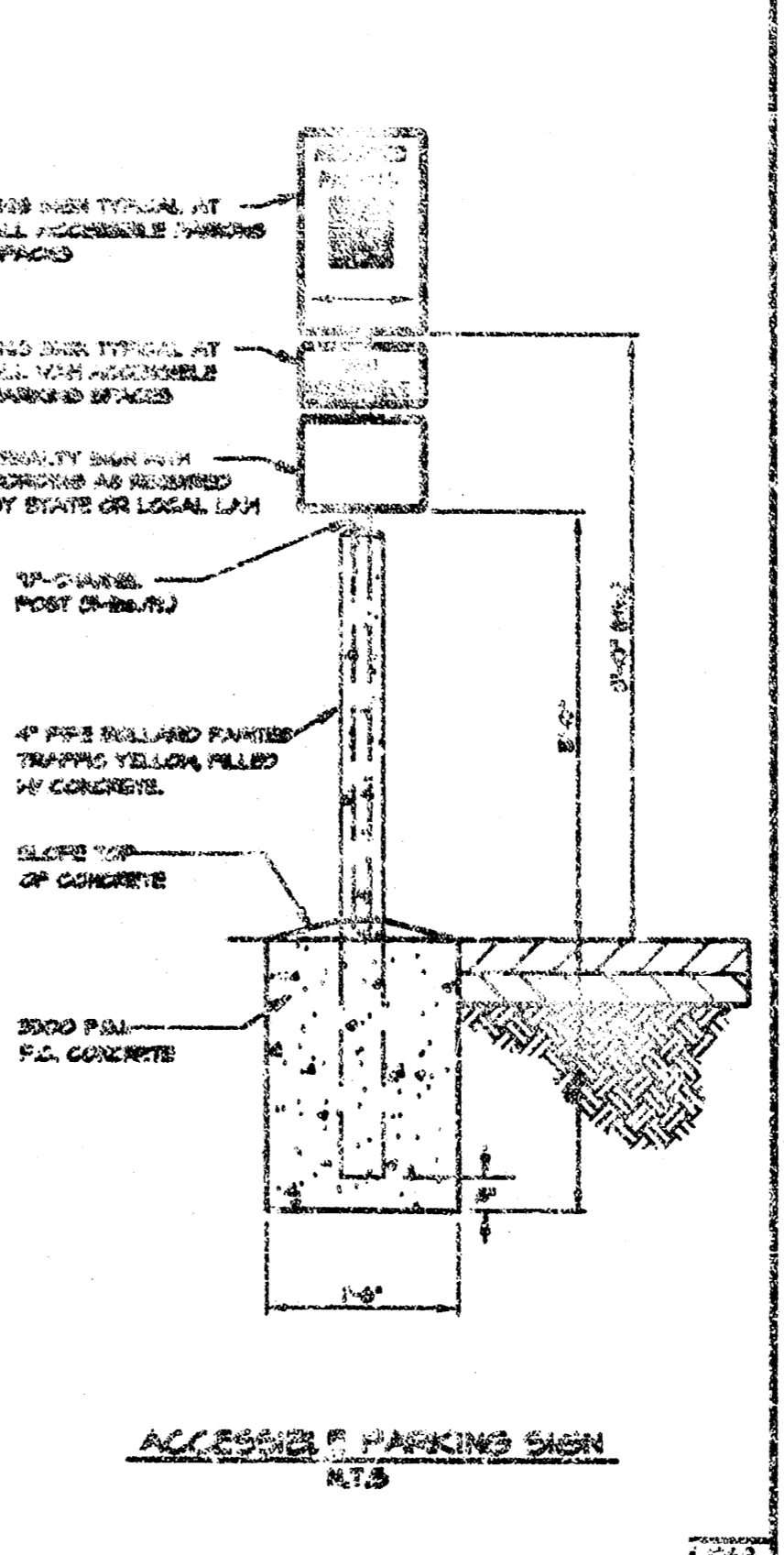
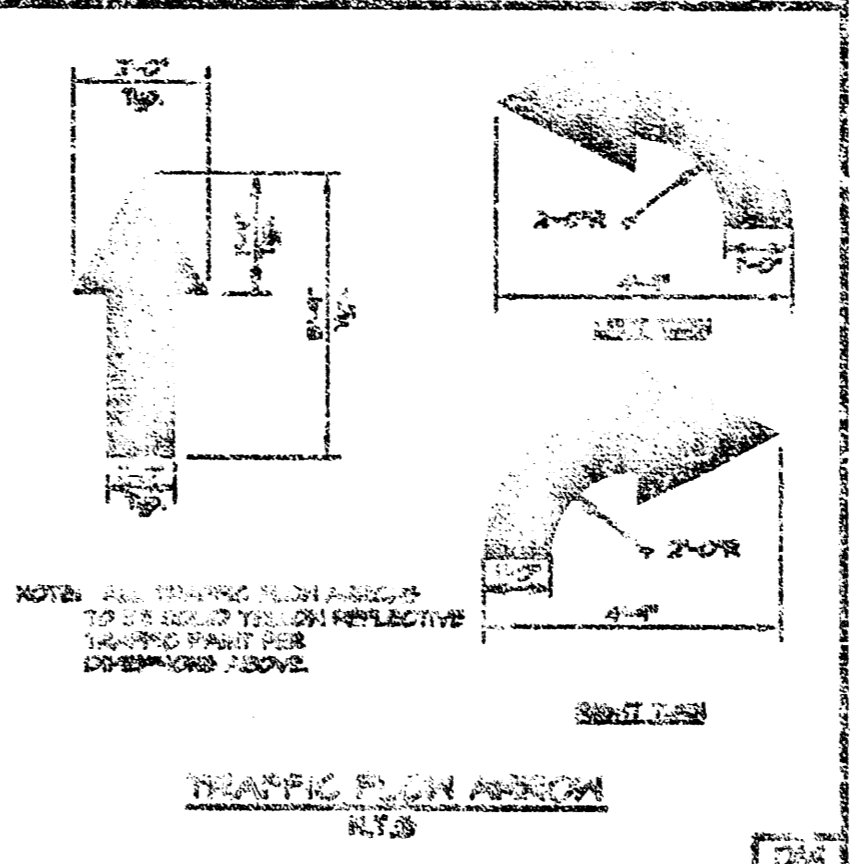
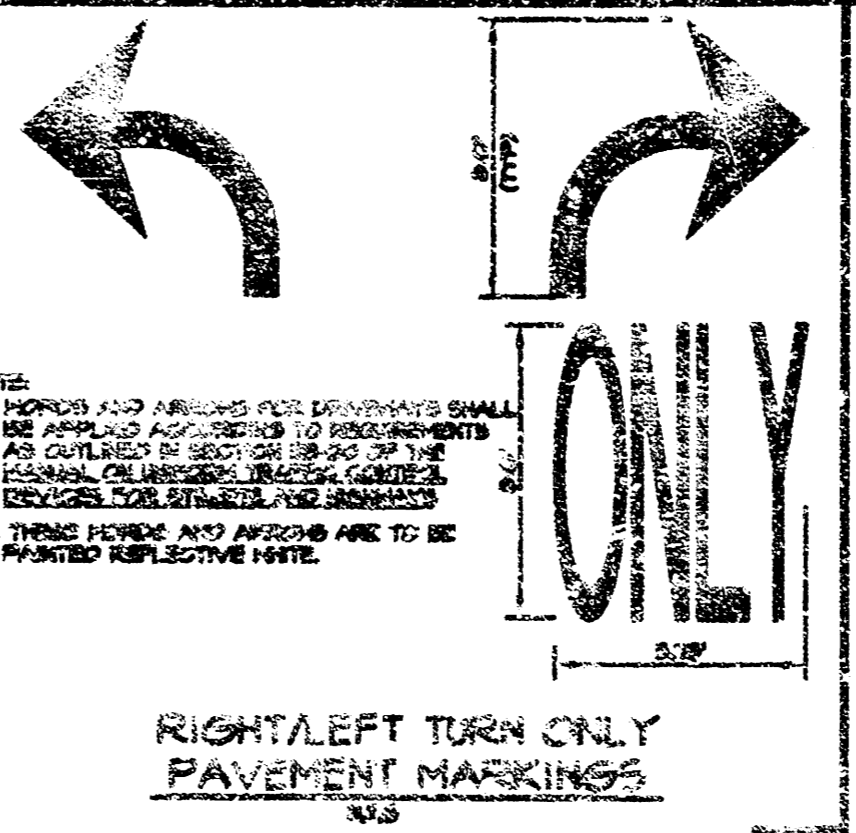
**TEMPORARY ROCK CHECK DAMS**  
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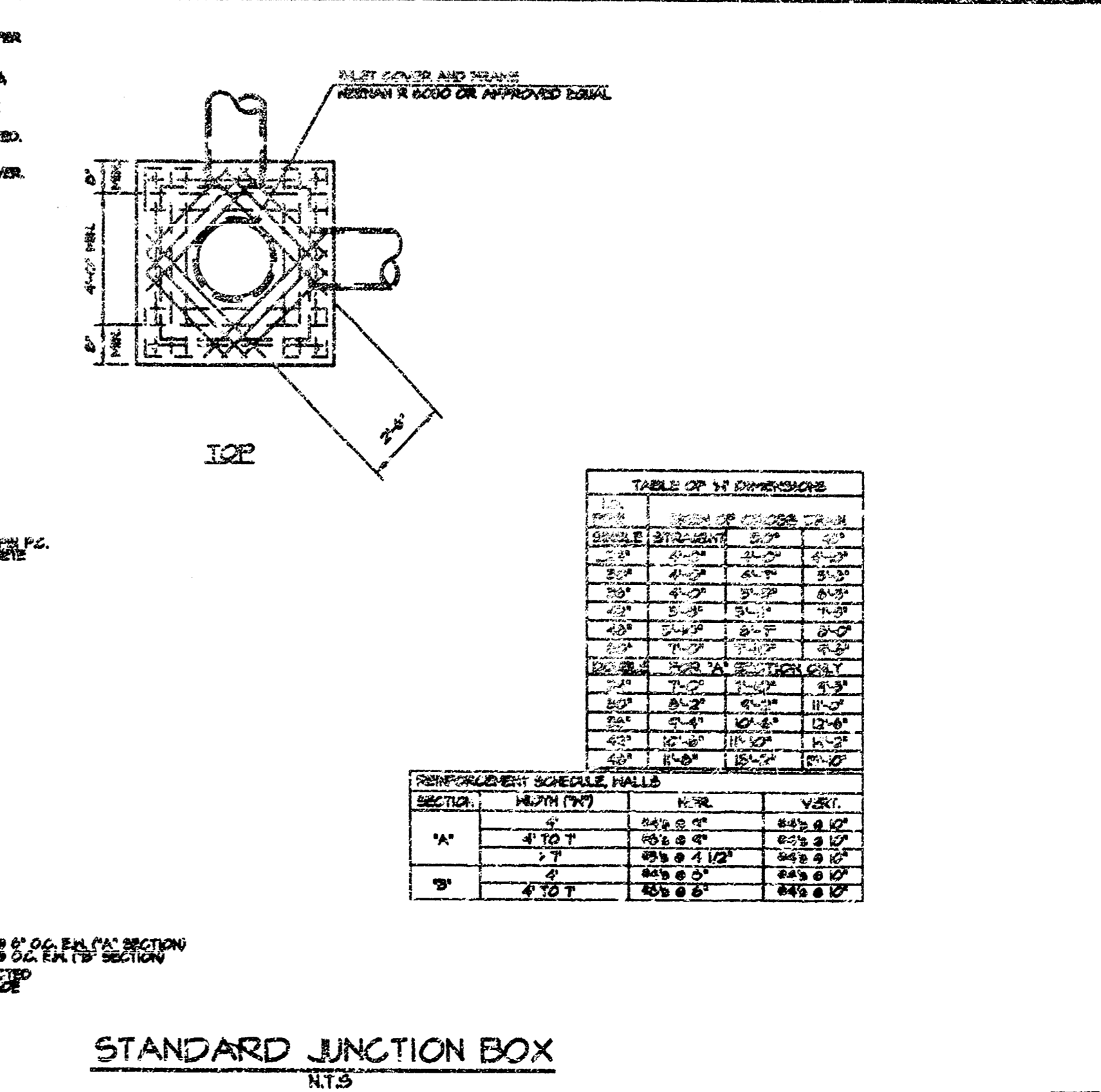
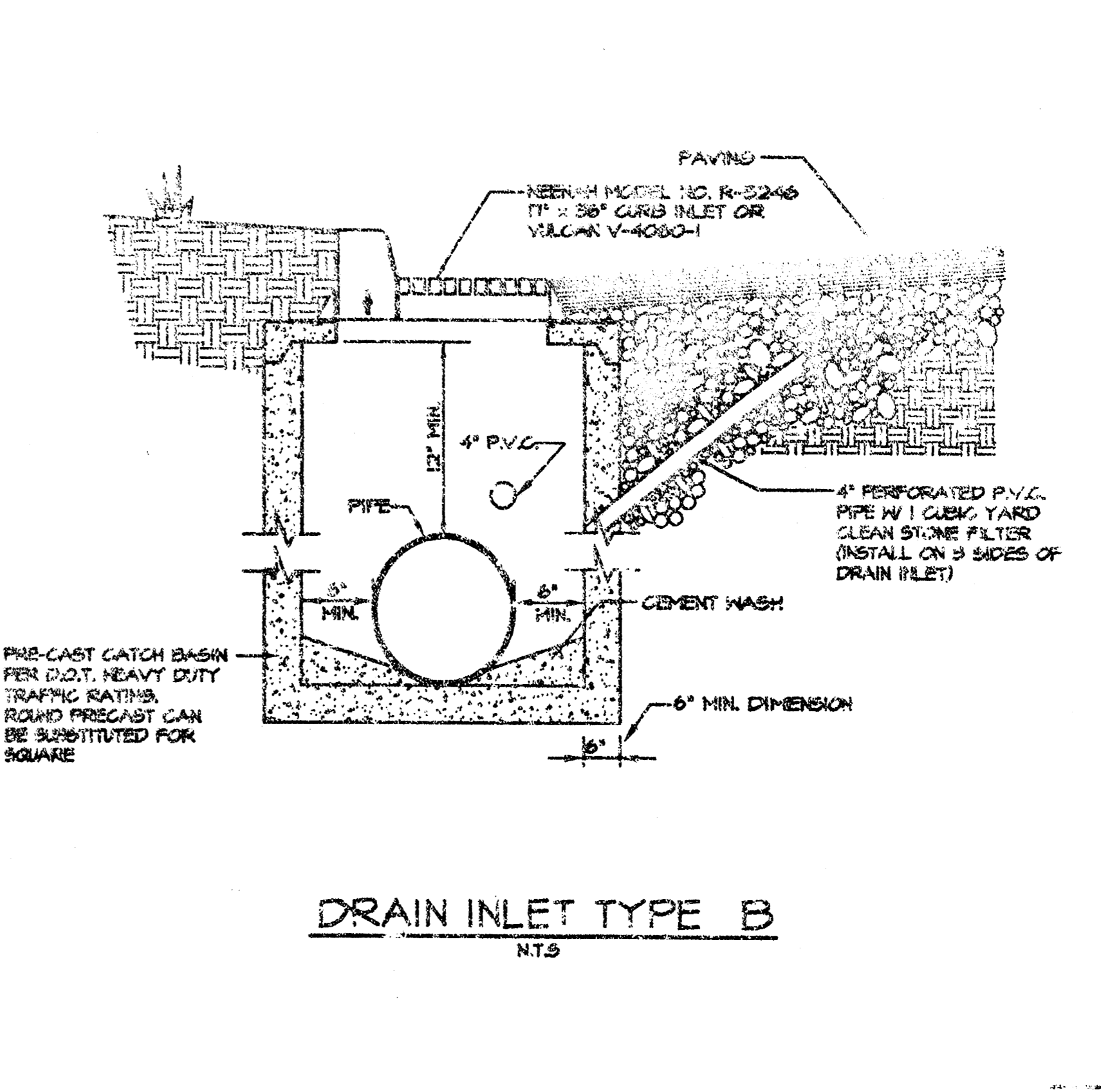
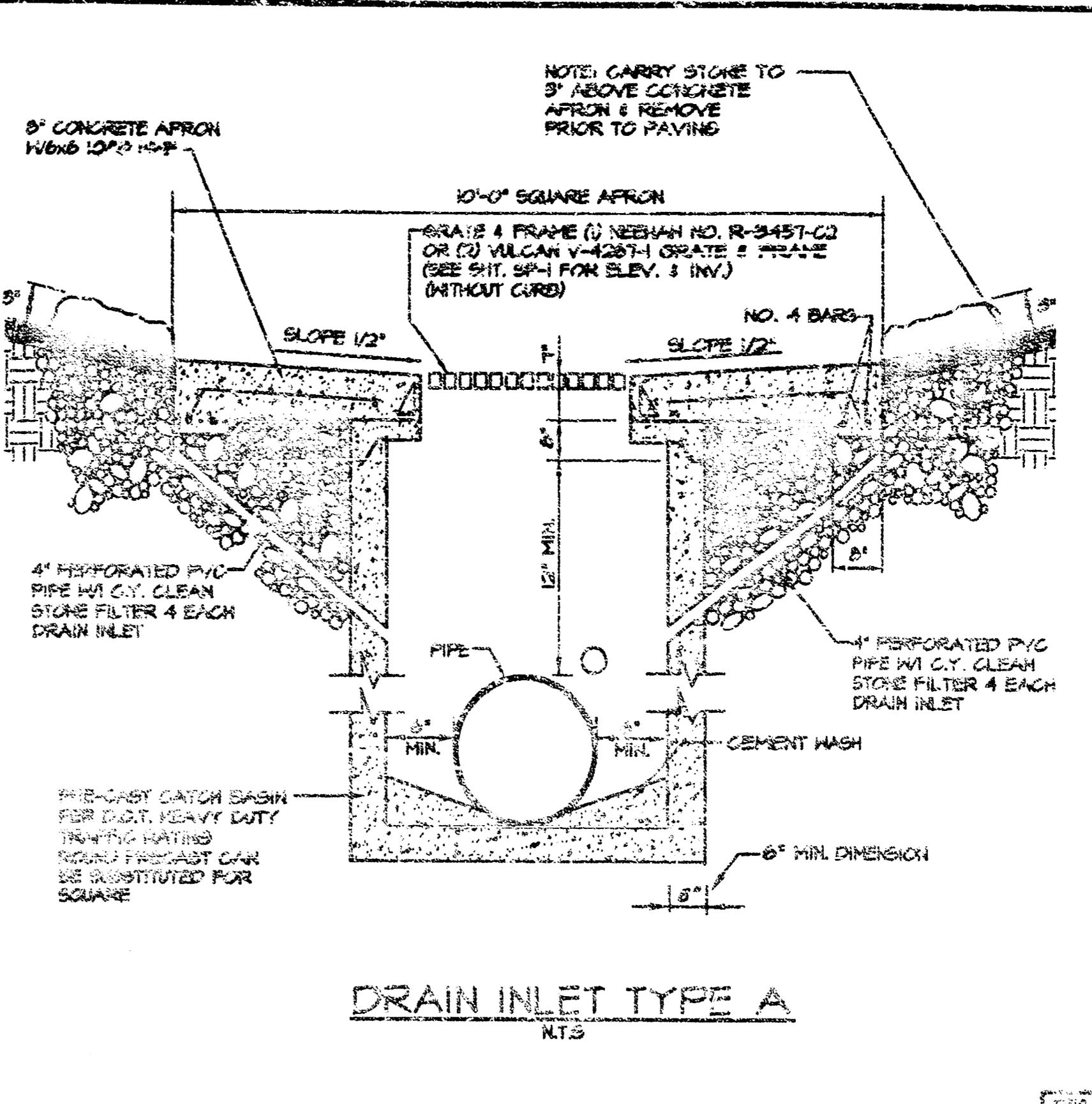
**OUTLET EROSION PROTECTION**  
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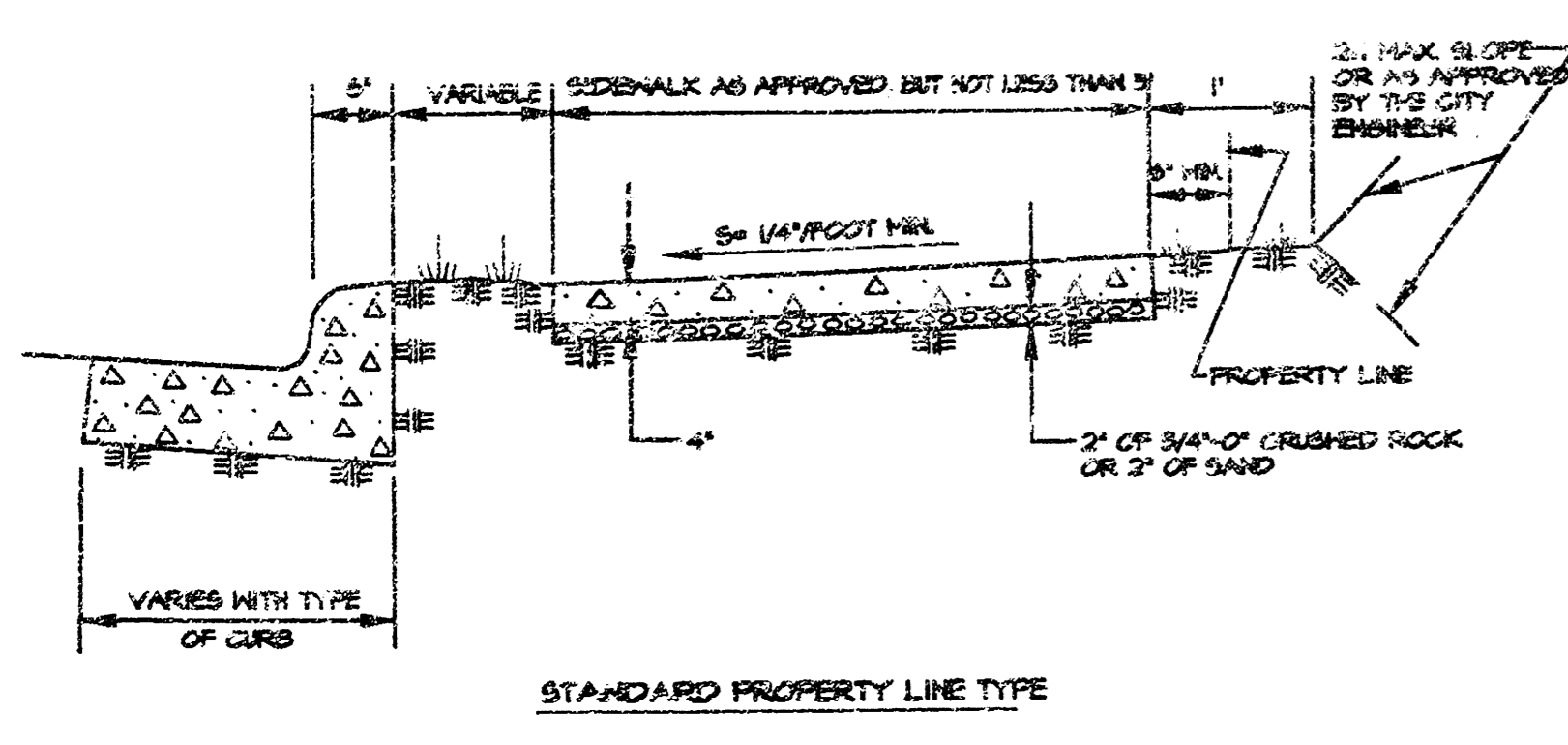
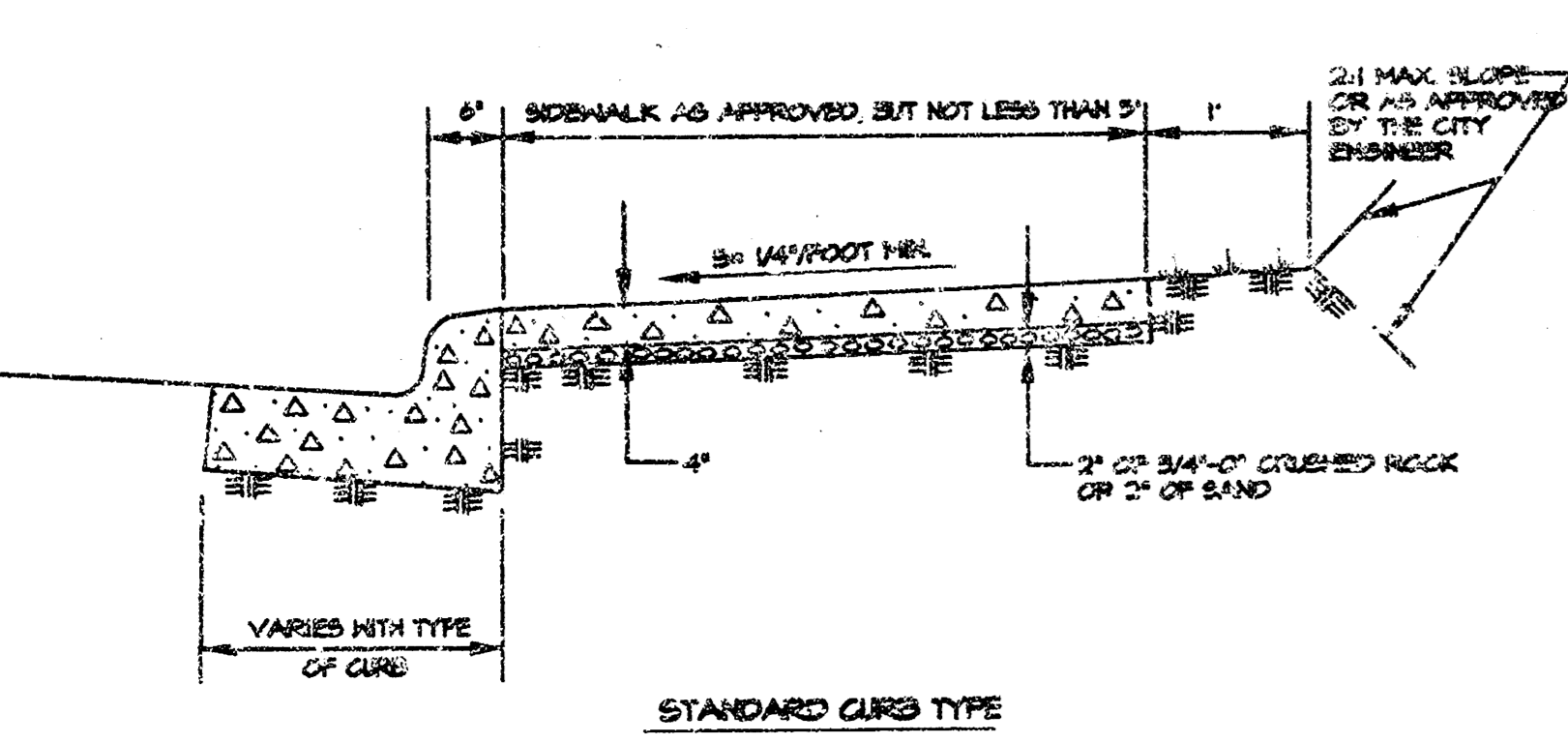
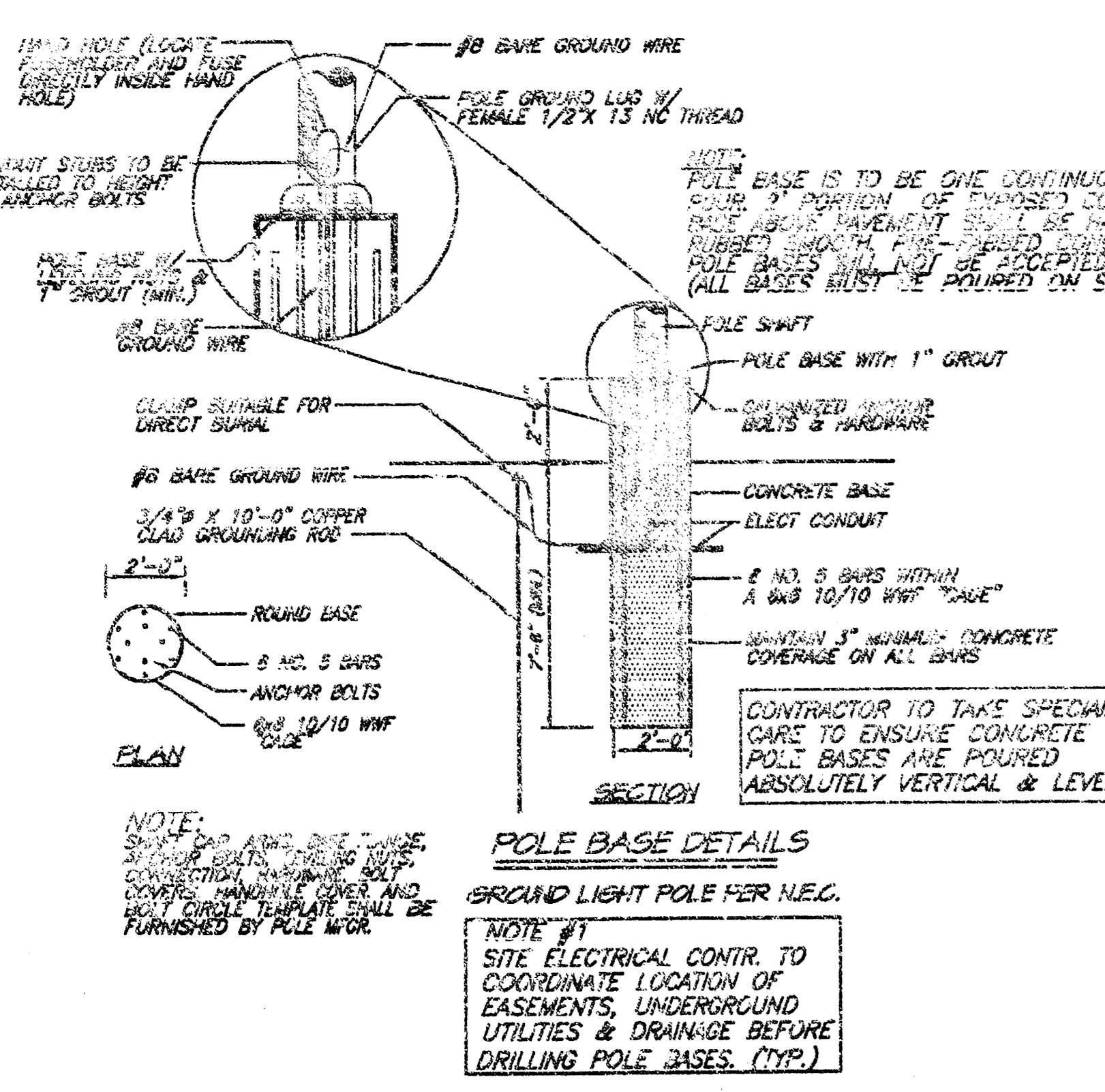
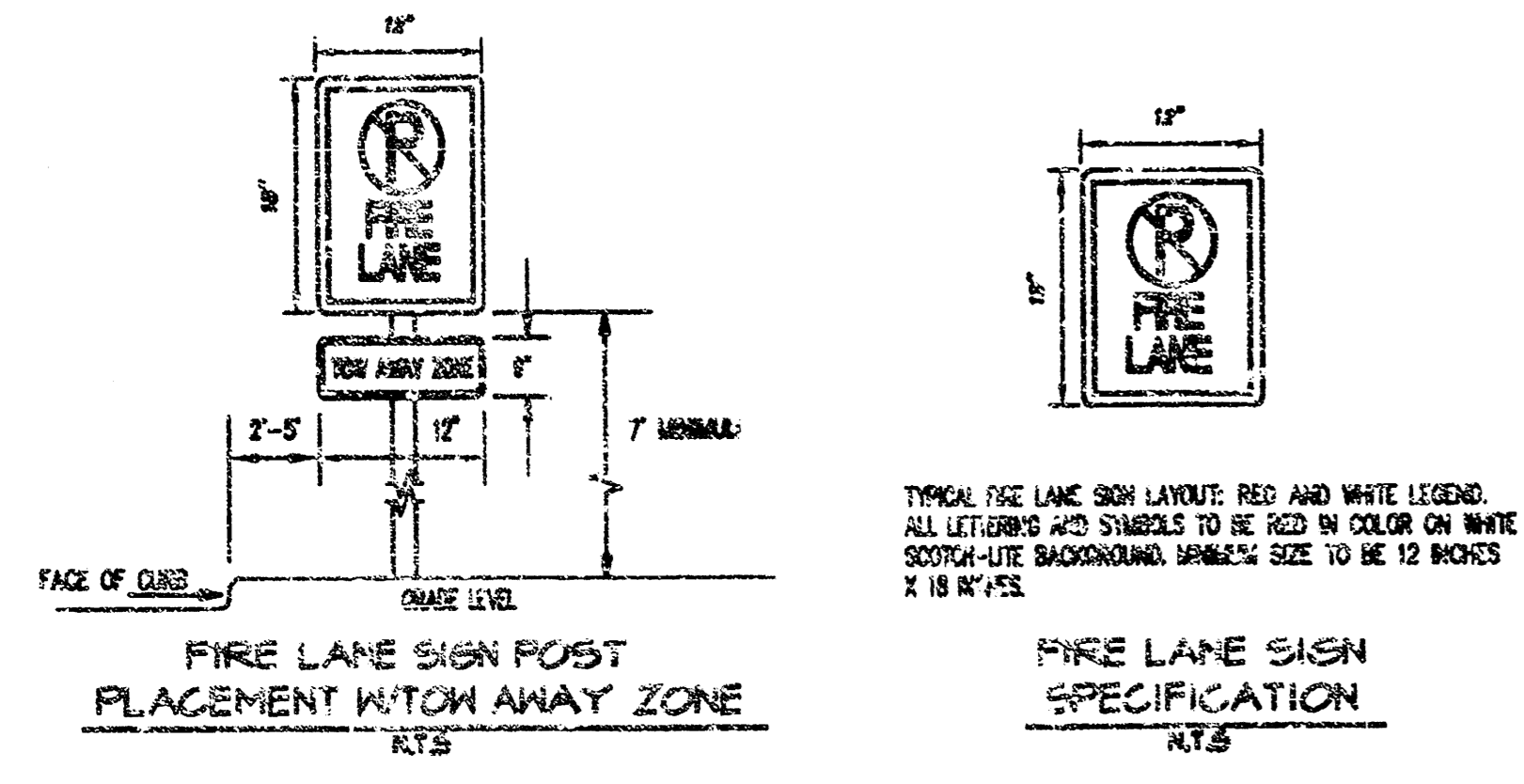
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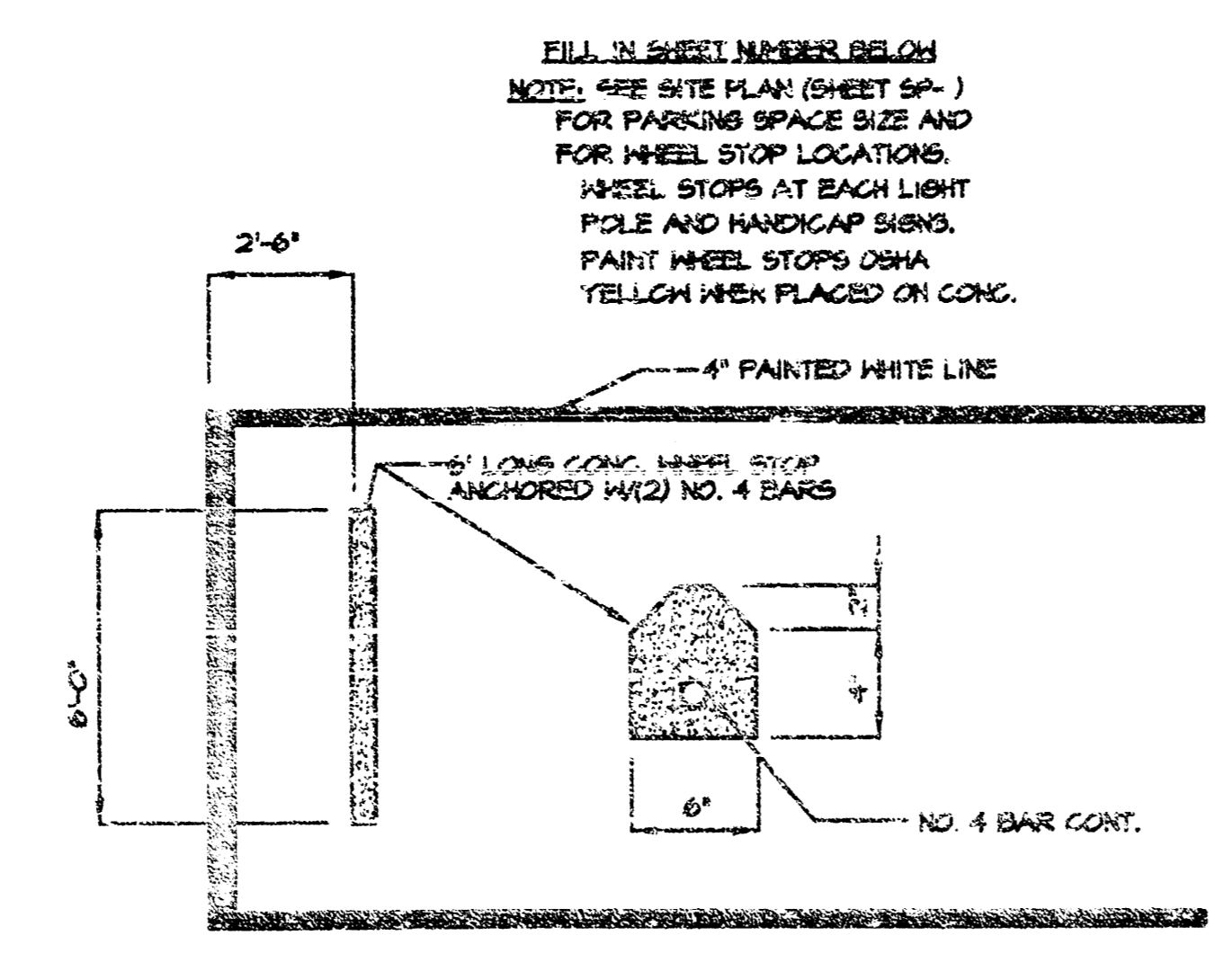
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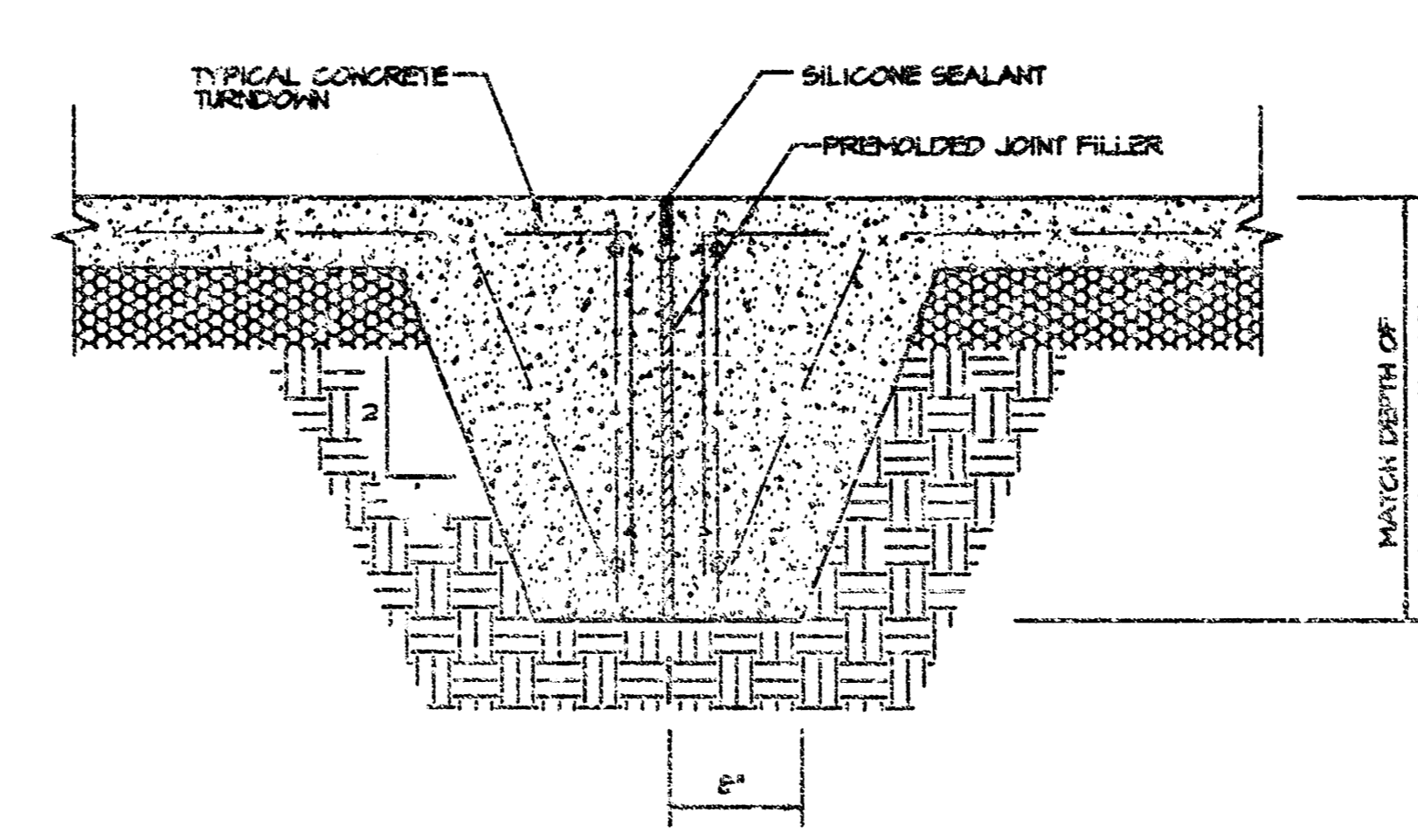


- NOTES:**
1. BEGIN SLOPE AT BACK OF CURB.
  2. ALL APPLICATIONS CONCRETE DEPTH DRIVEWAY SECTION = 6" AND STANDARD SIDEWALK = 4".
  3. 1/2" TOLERANCE JOINTS SHALL BE PLACED AT ALL CHANGES OF DIRECTION AND POINTS OF CURVATURE AND AT A MAX. SPACING OF 10 FT.
  4. CONCRETE USED FOR SIDEWALKS SHALL MEET A 5000 P.S.I. COMPRESSION STRENGTH IN 28 DAYS, WITH A 2" TO 4" SLUMP.
  5. ALL SIDEWALKS SHALL BE LOCATED TO AVOID EXISTING AND PROPOSED INTERFERING STRUCTURES SUCH AS MAIL BOXES, STREET LIGHTS, FIRE HYDRANTS, UTILITY RISERS, TREES, ETC.

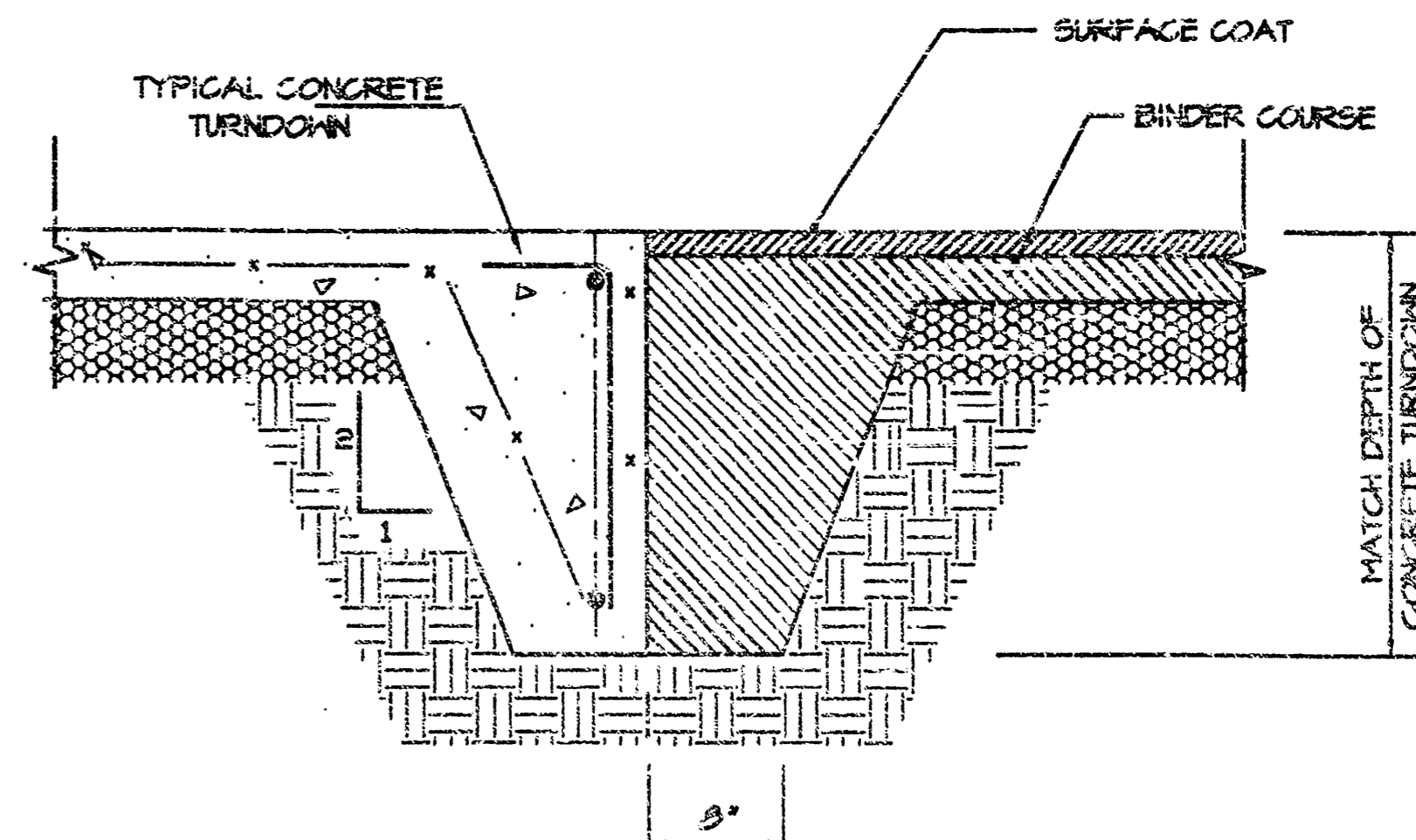
**TYPICAL SIDEWALK DETAIL**  
NTS



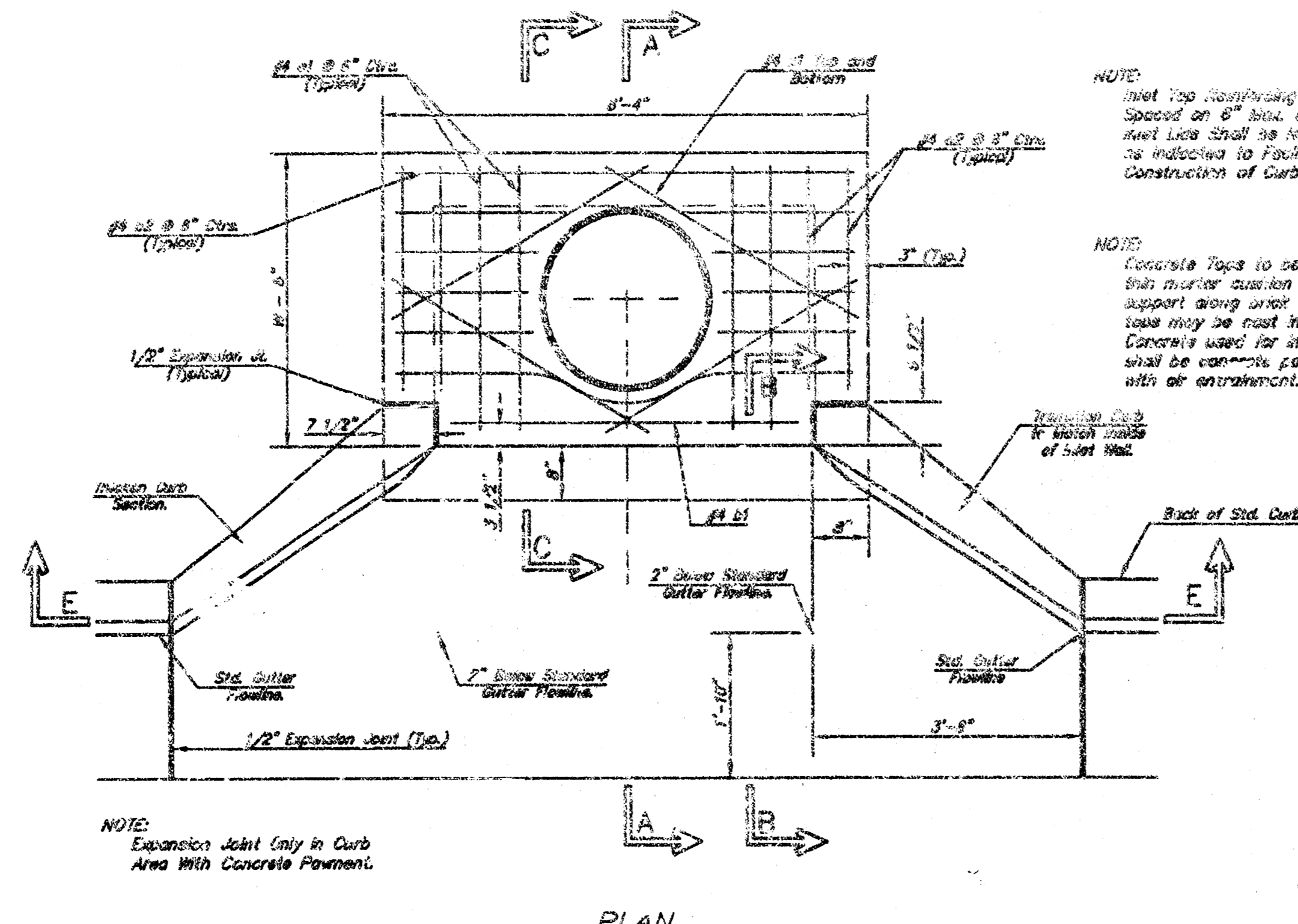
**CONCRETE WHEEL STOP DETAIL**  
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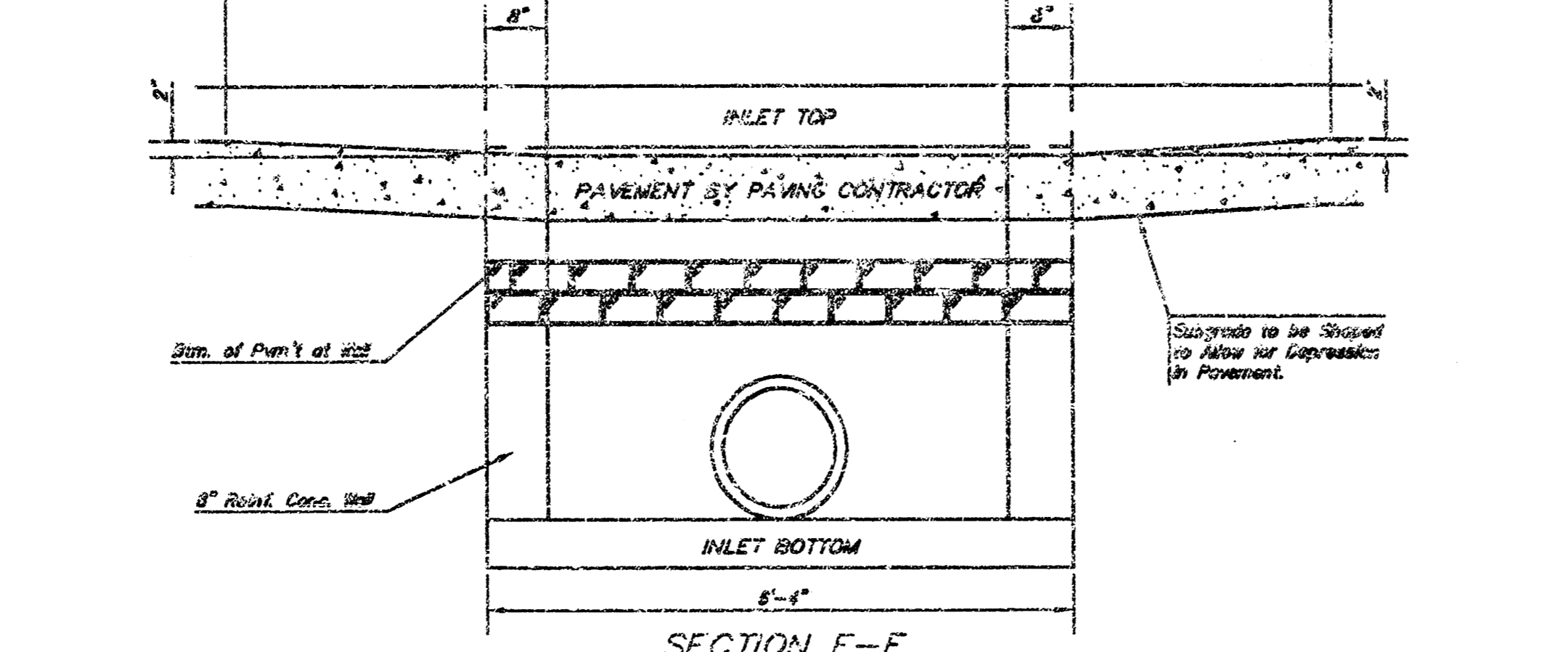
**CONCRETE TURNDOWN**  
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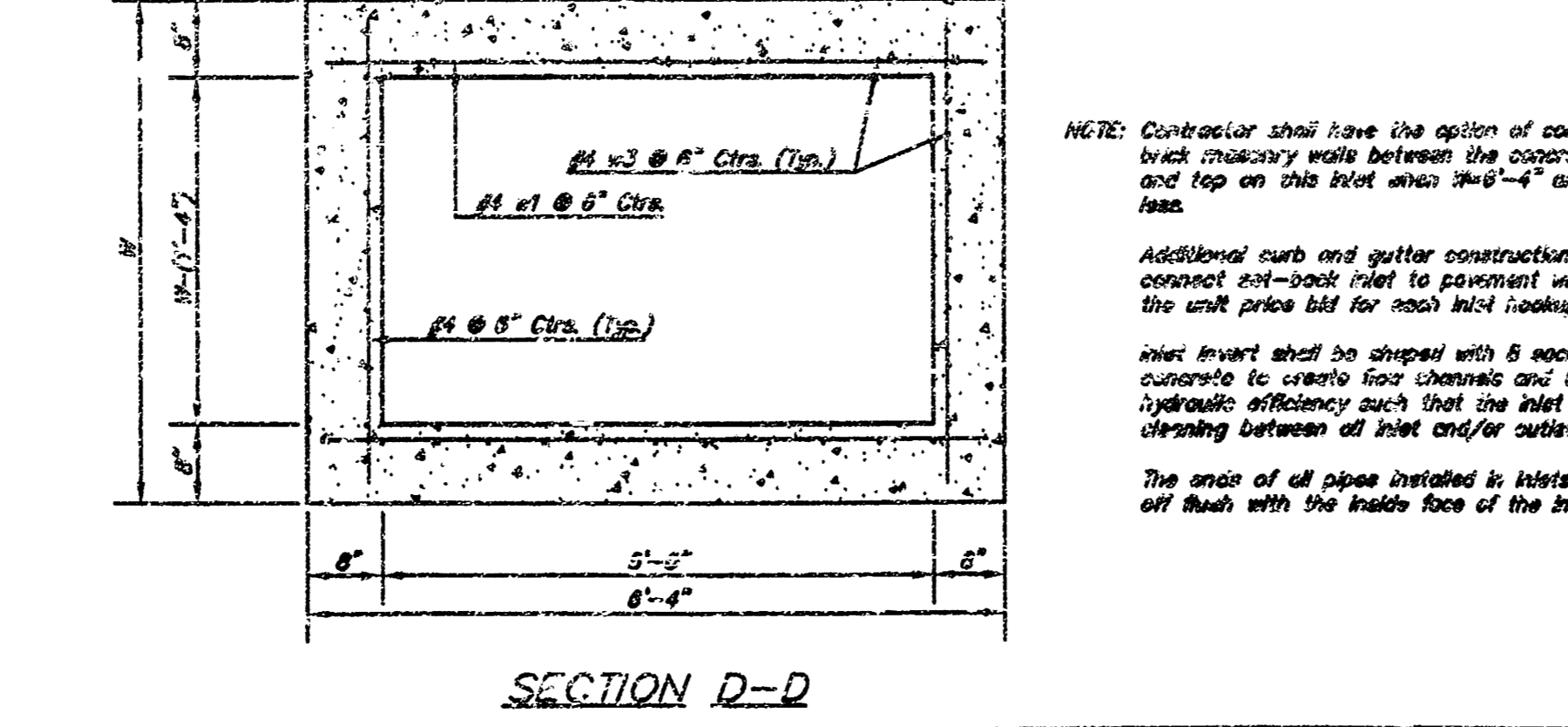
**ASPHALT TURNDOWN**  
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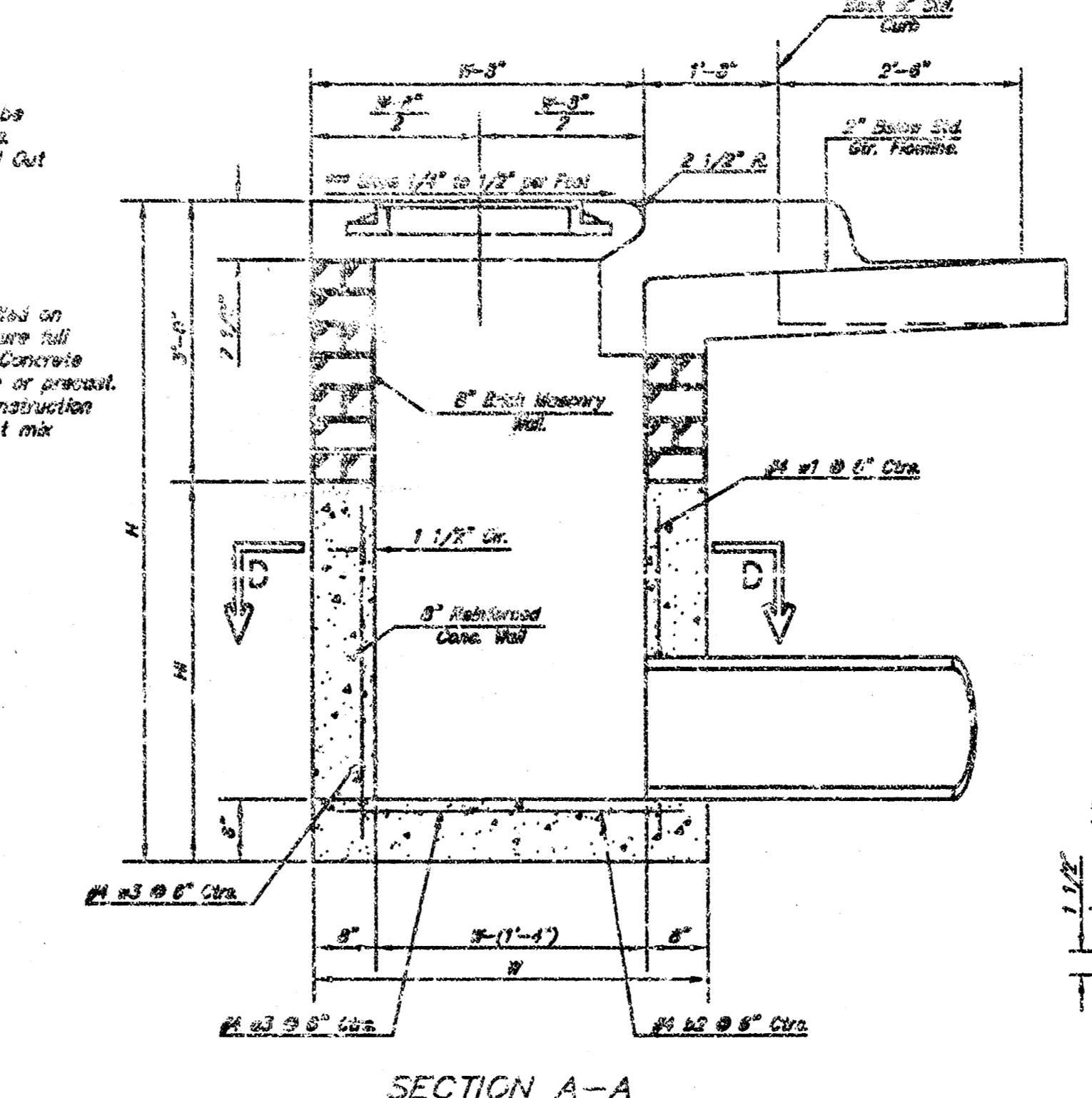
**PLAN**



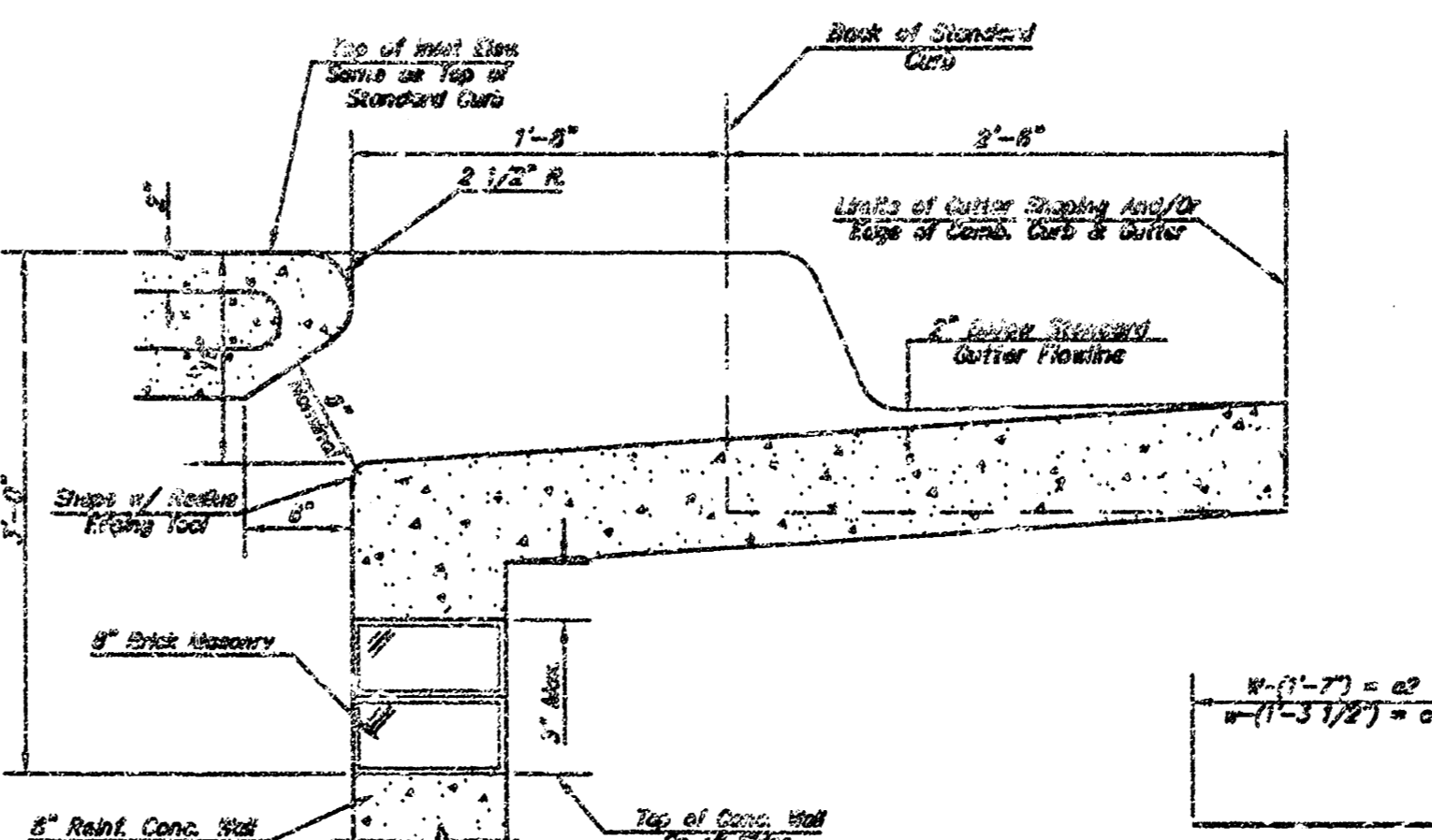
**SECTION A-A**



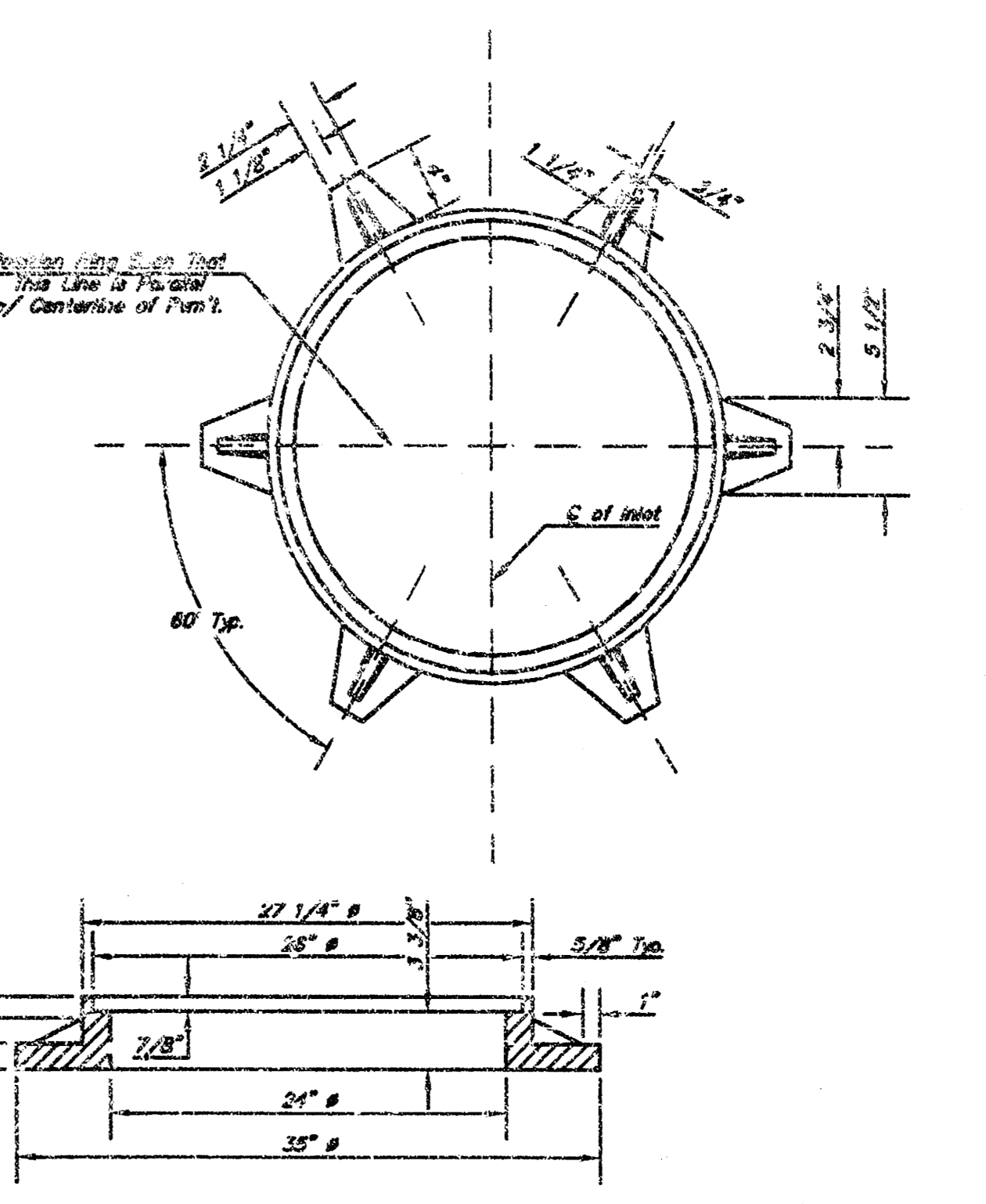
**SECTION D-D**



**SECTION B-B**



**SECTION A-A**



**MANHOLE RING AND COVER**

**PRECAST SLAB AND FLOOR REINFORCING**

MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
#1	#4	8	8'-0"	8	8'-0"	8	8'-0"	8	8'-0"
#2	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#3	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#4	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#5	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#6	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#7	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#8	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#9	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#10	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"

**WALL REINFORCING**

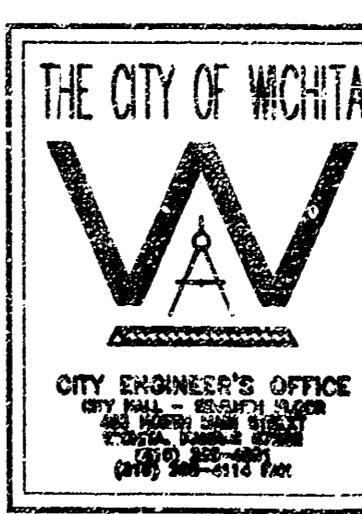
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
#1	#4	8	8'-0"	8	8'-0"	8	8'-0"	8	8'-0"
#2	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#3	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#4	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#5	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#6	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#7	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#8	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#9	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"
#10	#4	4	8'-0"	4	8'-0"	4	8'-0"	4	8'-0"



**BENDING DIAGRAM**

**STANDARD CURB INLET PRECAST TOPS**

W	PRE-CAST TOP SIZE	PRE SIZE	OLI 10.02W
12"	3'-0" x 6'-4" x 7'-0"	31" x 31"	0.32
15"	4'-0" x 6'-4" x 7'-0"	31" x 31"	0.59
18"	4'-0" x 6'-4" x 7'-0"	31" x 31"	0.66
21"	4'-0" x 6'-4" x 7'-0"	31" x 31"	0.79
24"	4'-0" x 6'-4" x 7'-0"	31" x 31"	0.82



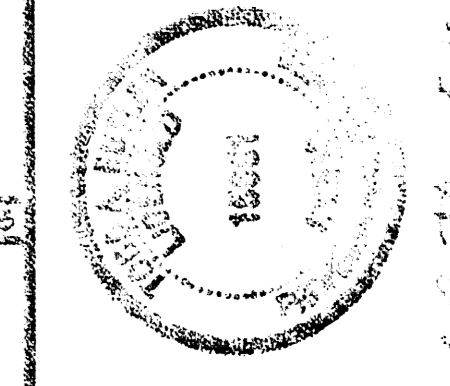
**STANDARD TYPE 1-A CURB INLET**  
OPENING = 6" x 5'-0"

W. E. LUDWIG, P.E. - CITY ENGINEER

CITY ENGINEER'S OFFICE  
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SHEET 12 OF 16



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