

C.B.M. Elev. 146.42 Arrow on Hydrant  
N.W. Corner of E. Outer Drive & Stotter

C.B.M. Elev. 146.37 Arrow on Hydrant  
S.E. Corner of E. Outer Drive & Stotter

C.B.M. Elev. 145.86 Arrow on Hydrant  
N.W. Corner of E. Outer Drive & Van Dyke

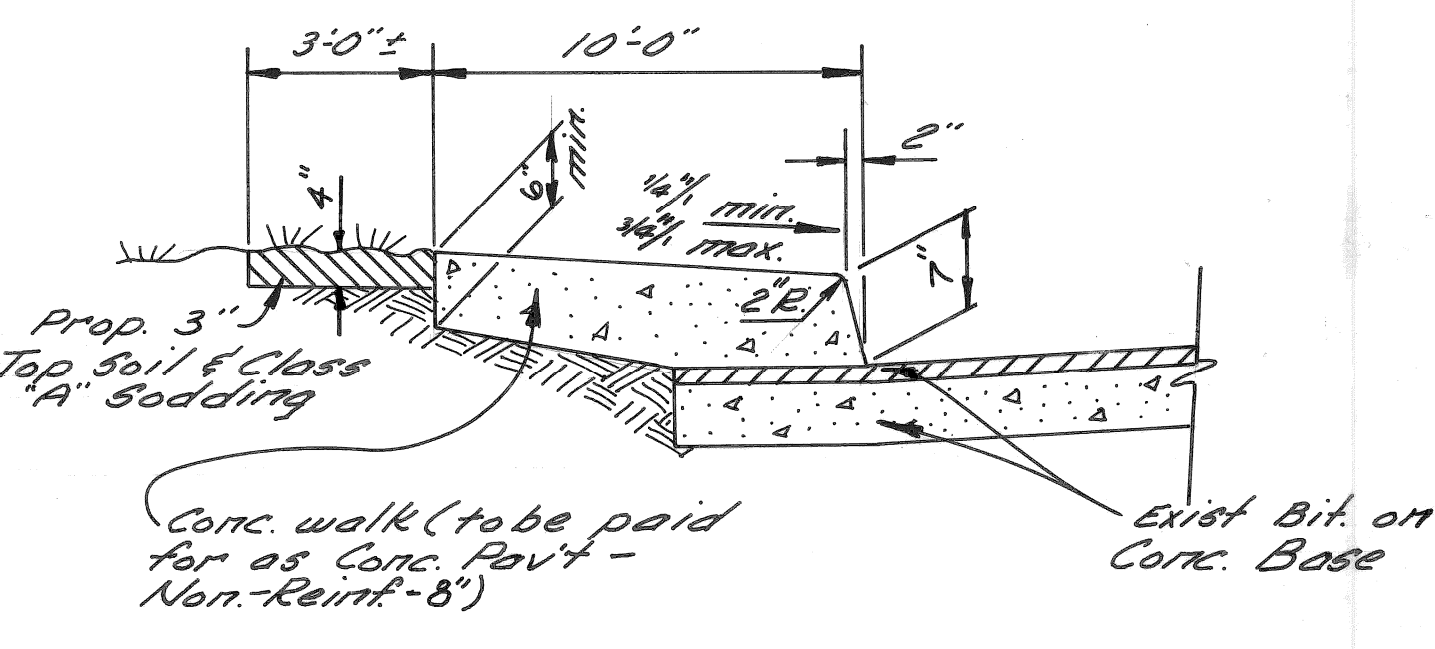
P.B.M. #93-251 Elev. 142.561 N.E.  
Corner of E. Outer Drive & Van Dyke

C.B.M. Elev. 145.41 Arrow on Hydrant  
S.W. Corner of E. Outer Drive & Van Dyke

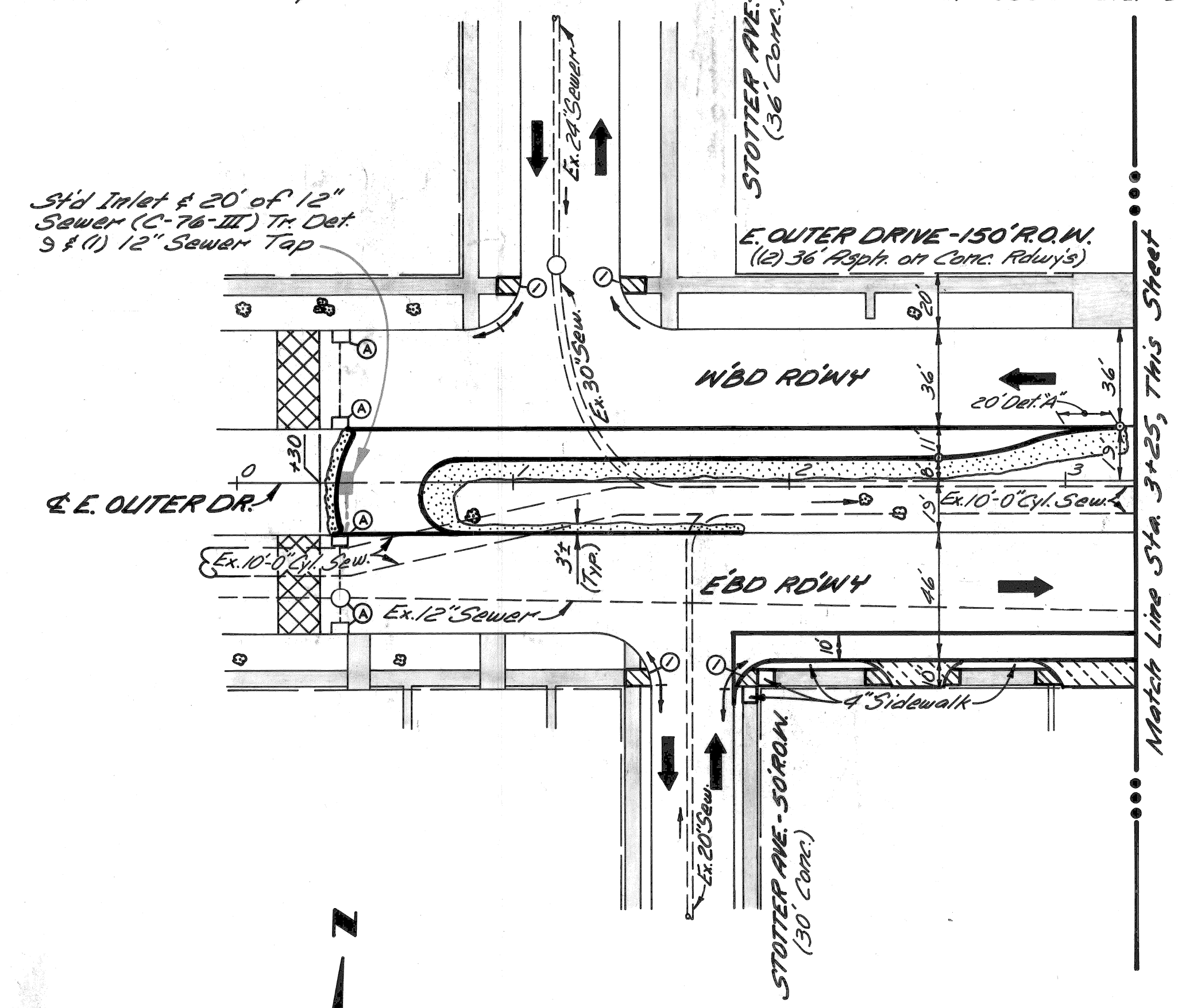
C.B.M. Elev. 141.40 Arrow on Hydrant  
at 4636 E. Outer Drive (South Side)

P.B.M. #93-251 A Elev. 140.803 S.E.  
Corner of E. Outer Drive & Terrell

C.B.M. Elev. 144.39 Arrow on Hydrant  
S.E. Corner of E. Outer Drive & Terrell

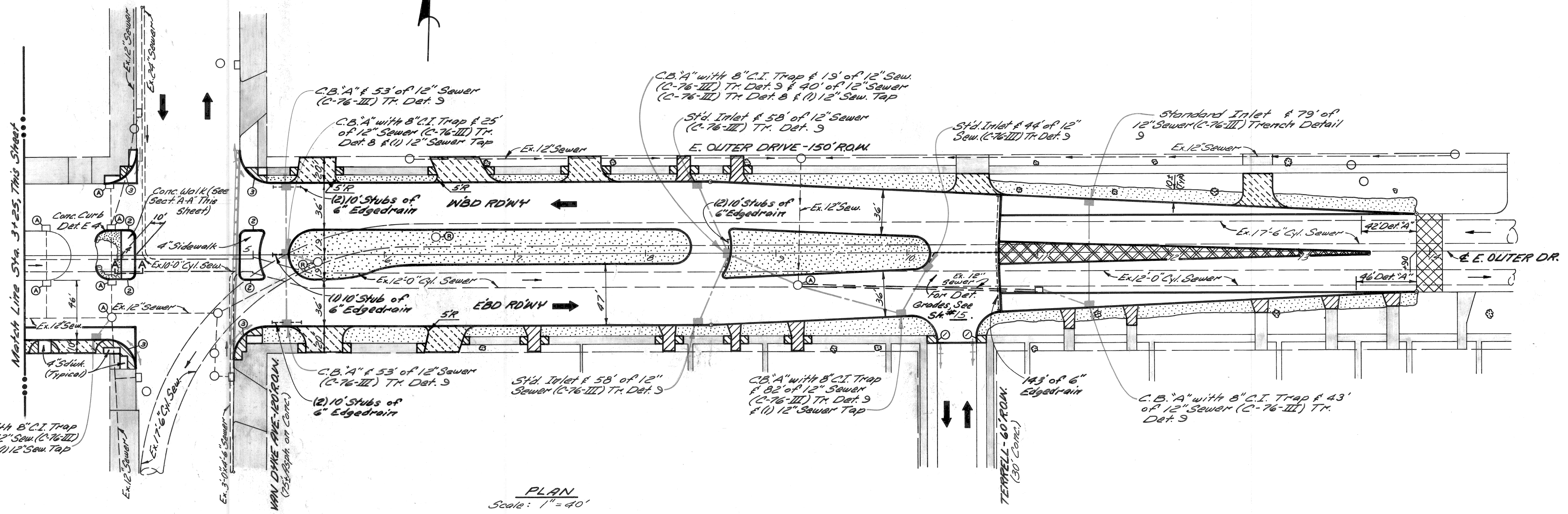


SECTION A-A  
(No Scale)



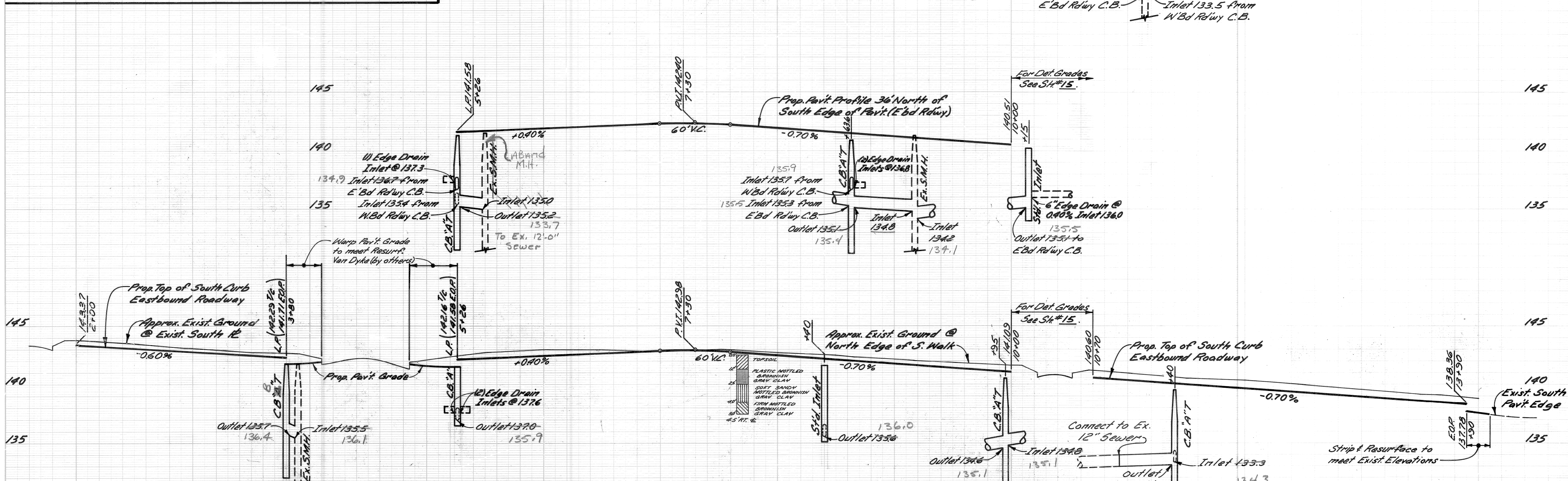
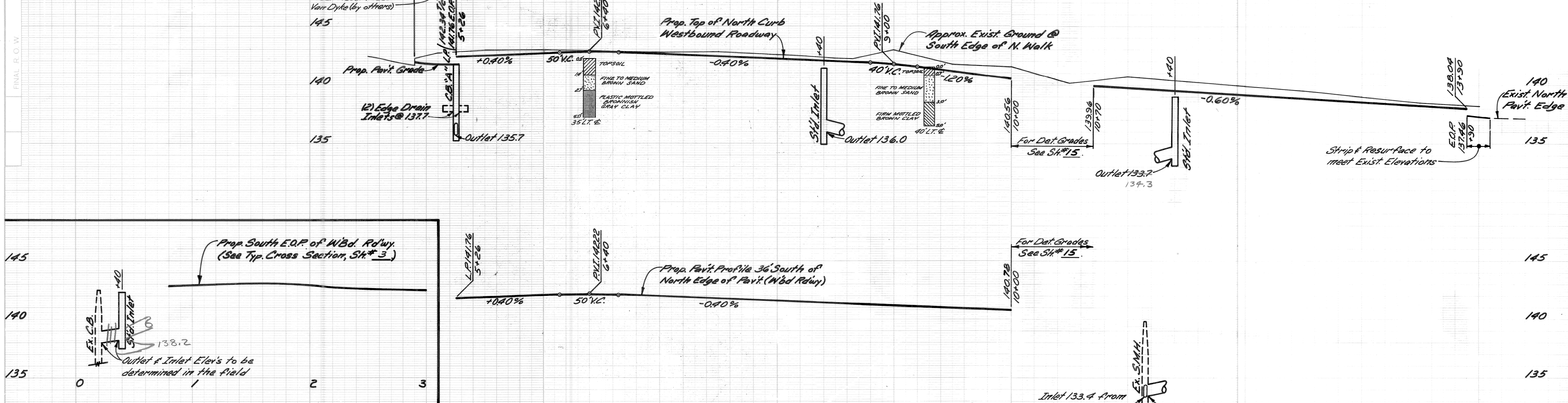
- LEGEND**
- New Pav't. Construction - See Surfacing Plan
  - Exist. Sluik or Driveway to Remain
  - 6" Conc. Sidewalk
  - 6" Conc. Driveway
  - 8" Conc. Driveway (See Note #6)
  - Class "A" Sodding
  - Strip & Resurface to provide for a smooth connection
  - Conc. Divider, Type II
  - Sidewalk Ramps, Type 1, 2 or 3
  - Adjusting Drainage Structure Covers
  - Reconstructing Drainage Structures
  - Existing Trees to Remain

- NOTES:**
1. For Utility Legend and Symbols, See Sheet # 18.
  2. For Alignment, See Sheet # 5.
  3. For Standard 6" & 8" Driveway Details, See Sheet # 18.
  4. For Surfacing Plan, See Sheet # 2.
  5. For Construction Sequence See St. # 7.
  6. High Early Strength Concrete shall be used where directed by the Engineer.
  7. Subgrade Undercutting (with special subbase backfill) may be required on this sheet. An estimated quantity of 500 cu yds. has been provided.



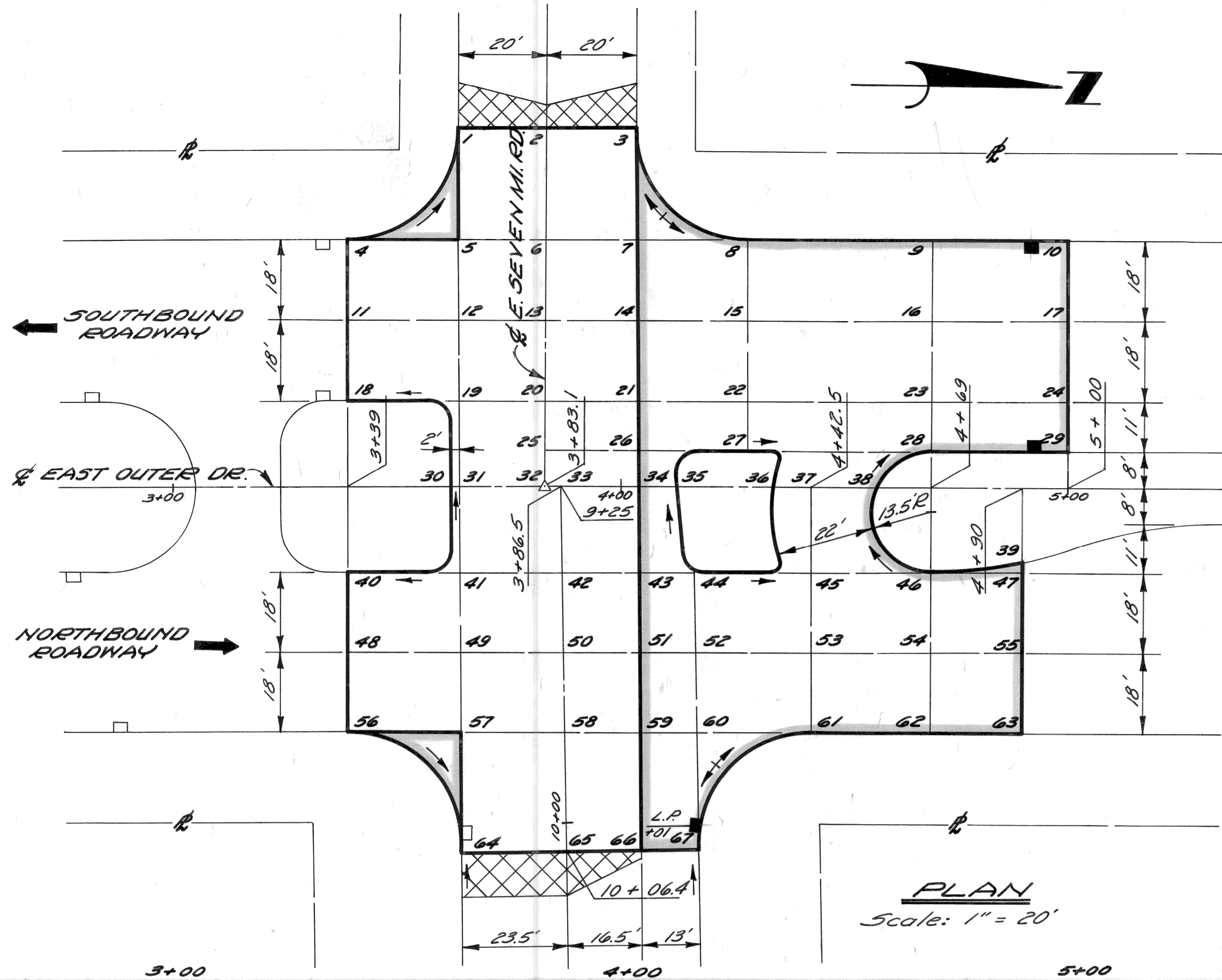
PLAN  
Scale: 1" = 40'

REVISIONS LOCATED BY COORDINATES ON SHEET COORD    DESCRIPTION    DWN    CKD    APVD    DATE		REFERENCE DRAWINGS DESIGNED BY DRAWN BY TRACED BY CHECKED BY	APPROVED:  ENGINEER OF EXPRESSWAYS	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERS OFFICE	EAST OUTER DRIVE - VAN DYKE AVENUE INTERSECTION IMPROVEMENT PLAN SHEET	SHEET 12 OF 63 SHEETS CONTRACT No. C-5520 ASSIGNMENT No. 2196 DATE 5-1-74
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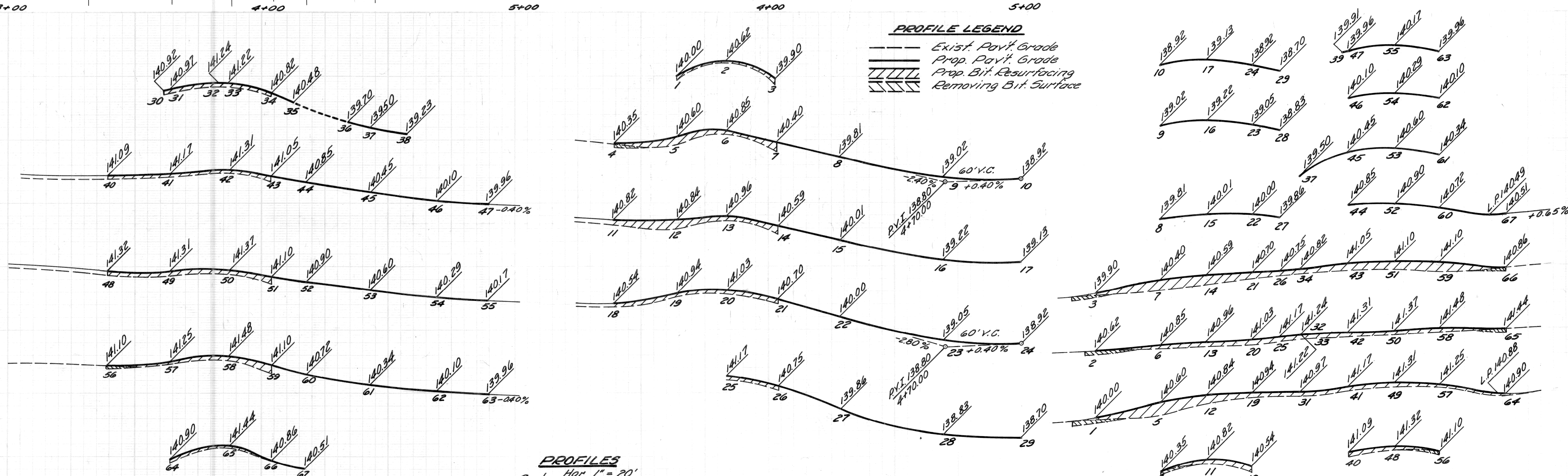
PROFILES  
 Hor. 1"=40'  
 Scale: Vert. 1"=4'

DESIGNED BY <b>COMLY</b>	APPROVED: <i>[Signature]</i> ENGINEER OF EXPRESSWAYS	<b>CITY OF DETROIT</b> DEPARTMENT OF PUBLIC WORKS CITY ENGINEERS OFFICE	EAST OUTER DRIVE - VAN DYKE AVENUE INTERSECTION IMPROVEMENT PROFILES, STA. 0+30 TO STA. 13+90	SHEET <b>13</b> OF <b>63</b> SHEETS
DRAWN BY <b>J.R.D.</b>				CONTRACT NO. 6-5720
TRACED BY				ASSIGNMENT NO. 2196
CHECKED BY <b>I.H.K.</b>				DATE 5-1-74



**PLAN LEGEND**  
 [Hatched Box] Strip and Resurface  
 [Solid Line Box] Limits of New Pavt. Const.

**PLAN**  
 Scale: 1" = 20'



**PROFILE LEGEND**  
 --- Exist. Pavt. Grade  
 — Prop. Pavt. Grade  
 [Hatched Area] Prop. Bit. Resurfacing  
 [Cross-hatched Area] Removing Bit. Surface

**PROFILES**  
 Hor. 1" = 20'  
 Vert. 1" = 2'

**CROSS-SECTIONS**  
 Hor. 1" = 20'  
 Vert. 1" = 2'

DESIGNED BY	BY	CHECKED BY	APPROVED:
DRAWN BY			<i>Allen E. Progan</i> ENGINEER OF EXPRESSWAYS
ESTIMATE			
DRN	CK'D	AP'D	DATE
FINAL			

CITY OF DETROIT  
 DEPARTMENT OF PUBLIC WORKS  
 CITY ENGINEERS OFFICE

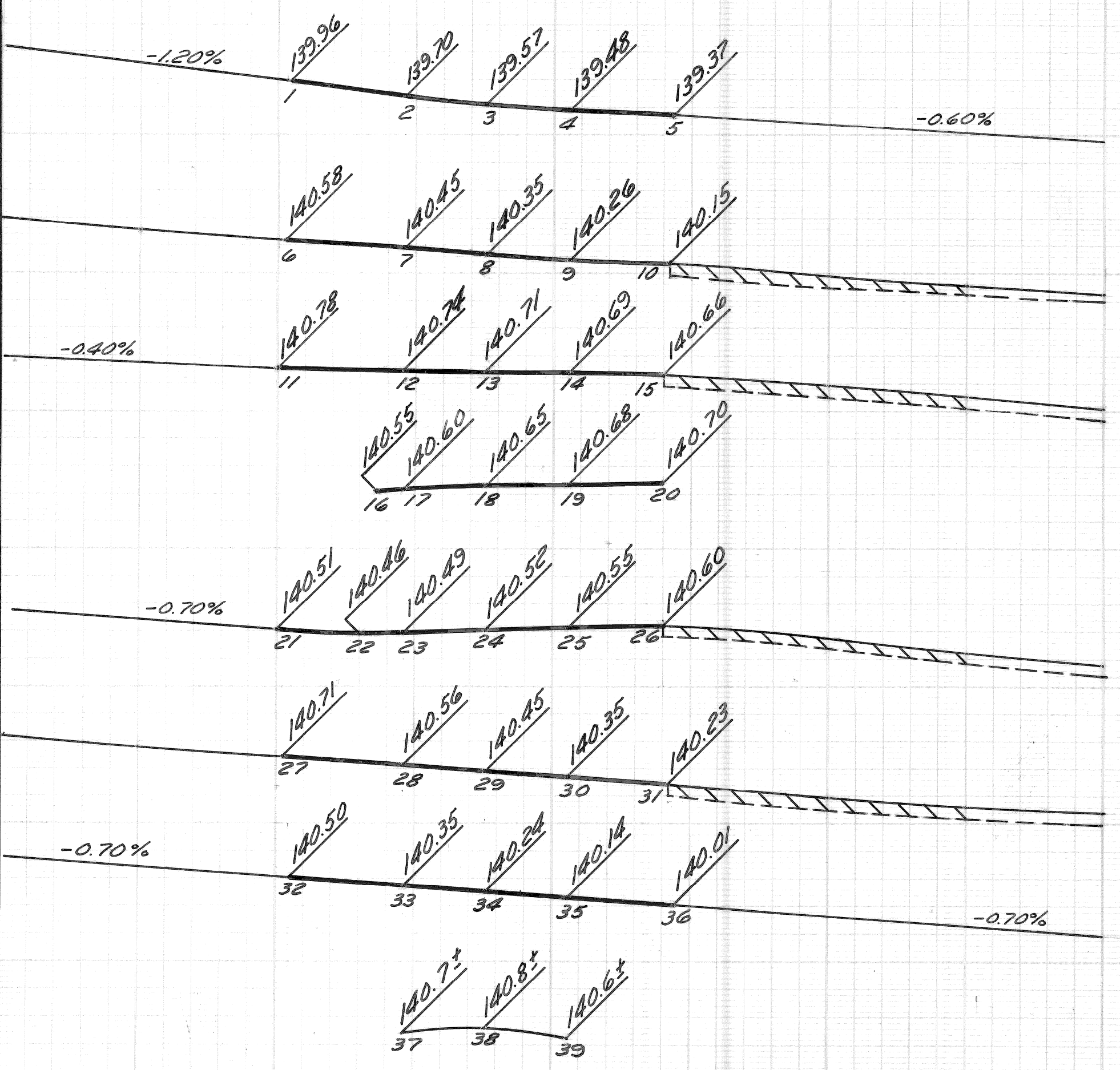
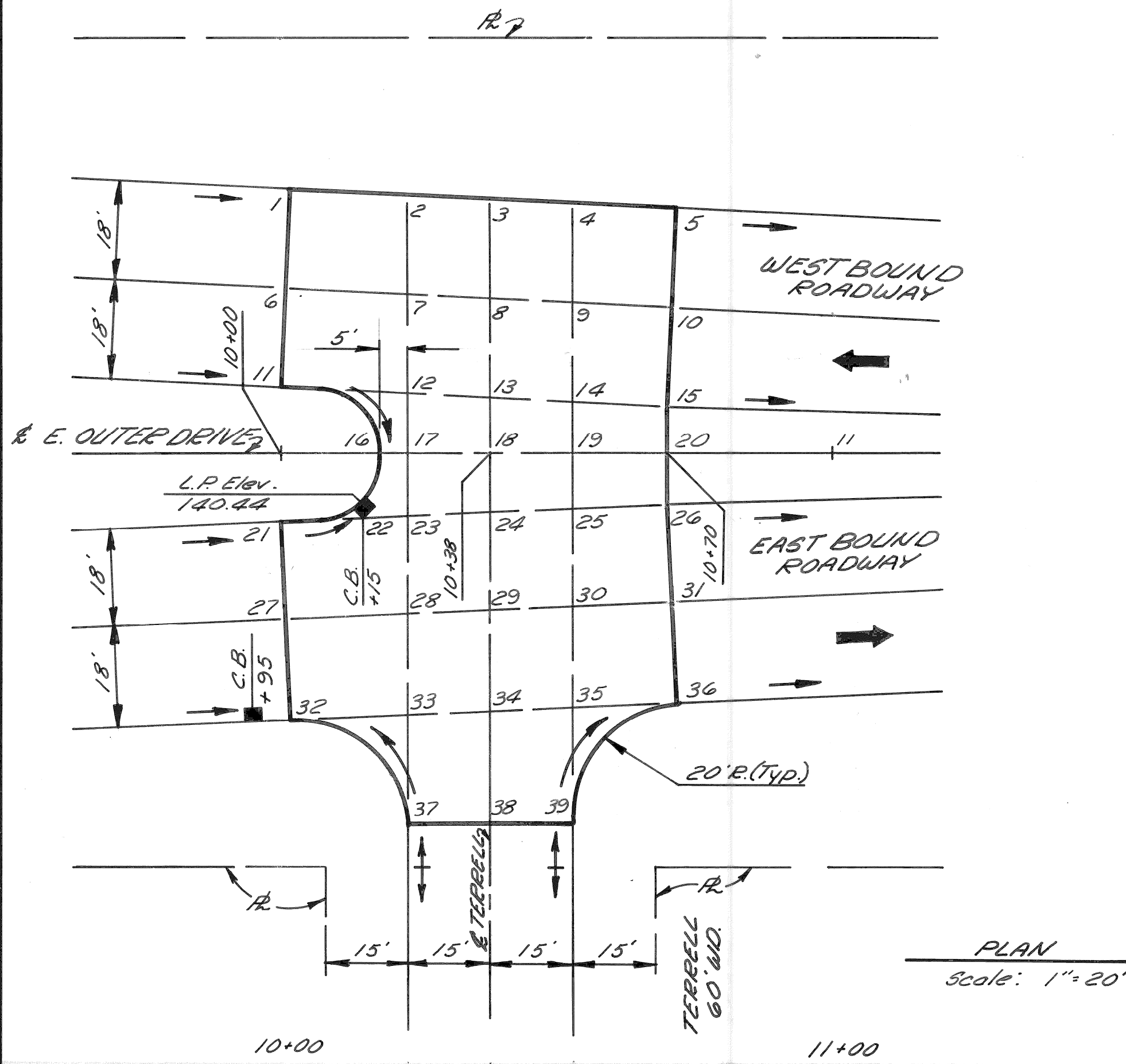
EAST OUTER DRIVE - EAST SEVEN MILE RD.  
 INTERSECTION IMPROVEMENT  
 DETAIL GRADES FOR E. OUTER DRIVE AT E. SEVEN MILE

INDEX NO.	SHEET 14 OF 63 SHEETS
CONTRACT NO.	C-5520
ASSIGNMENT NO.	2194
DATE	5-1-74

SCALE	HORIZONTAL	BOOK NO.	LEVEL	BEFORE STARTING CONSTRUCTION, CONTRACTOR MUST CHECK WITH UTILITIES FOR LOCATIONS OF EXISTING STRUCTURES WHETHER OR NOT INDICATED ON PLANS.
	VERTICAL	PG.	DATE	

NOTE - FOR SYMBOLS (A) ETC., SEE STANDARD DETAIL DRAWING NO. C-4173

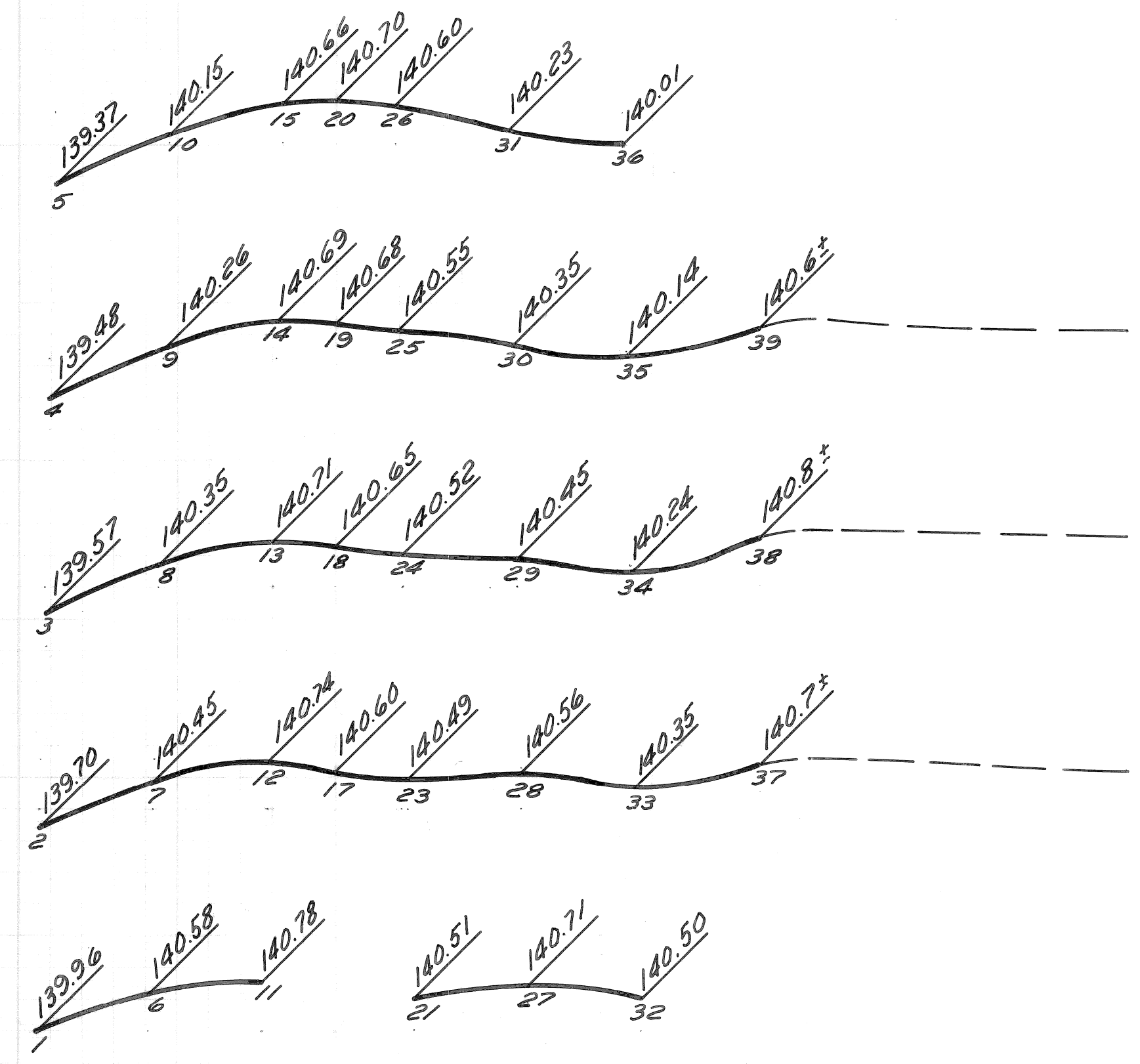
BENCH MARKS ELEV.



**LEGEND**

- Prop. Pav't Grade (In Detailed Grade Area)
- Prop. Pav't Grade (Outside Detailed Grade Area)
- - - - - Exist Pav't Grade
- ||||| Prop. 2" Bit. Resurfacing

**PROFILES & CROSS-SECTIONS**  
Scale: Hor 1" = 20'  
Vert 1" = 2'



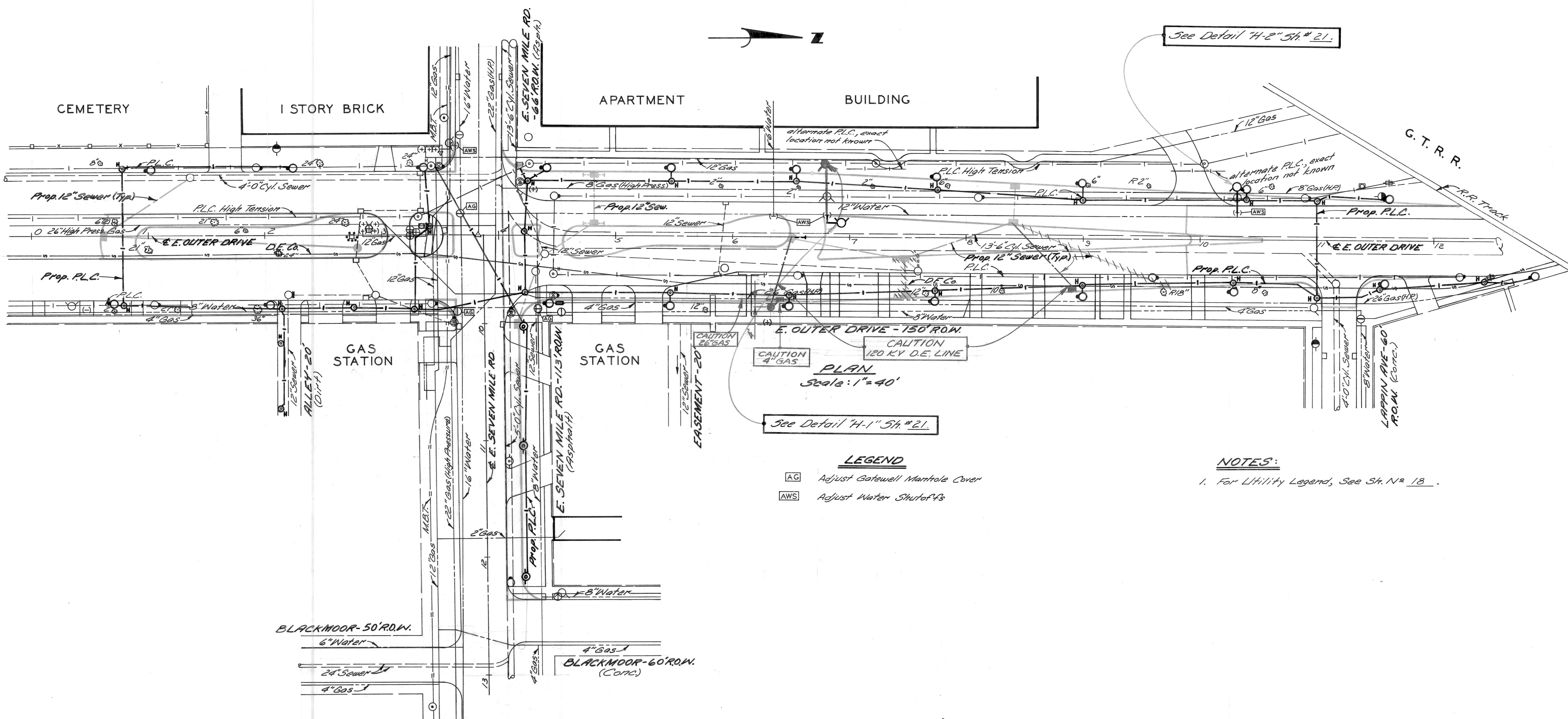
DESIGNED	BY	CHECKED BY	APPROVED:
	I.K.	R.B.P.	<i>Allen E. Payne</i> ENGINEER OF EXPRESSWAYS
DRAWN	M.S.	M.A.P.	
ESTIMATE			
FINAL	CHECK	REVIEW	

CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEERS OFFICE

EAST OUTER DRIVE - VAN DYKE AVENUE  
INTERSECTION IMPROVEMENT  
DETAILED GRADES FOR E. OUTER DRIVE AT TERRELL

INDEX NO.	SHEET 15 OF 63 SHEETS
CONTRACT NO.	C-5520
ASSIGNMENT NO.	2196
DATE	5-1-74

CALL MISS DIG  
48 HOURS PRIOR TO  
CONSTRUCTION C-77344



**PLAN**  
Scale: 1" = 40'

See Detail "H-1" Sh. # 21.

**LEGEND**

AG Adjust Gatewell Manhole Cover  
AWS Adjust Water Shut-off

**NOTES:**

1. For Utility Legend, See Sh. No. 18.

COORD	DESCRIPTION	DWN	CHKD	APVD	DATE

REVISIONS LOCATED BY COORDINATES ON SHEET

DESIGNED BY	J. R. D.
DRAWN BY	J. R. D.
TRACED BY	
CHECKED BY	M. Polito

APPROVED:  
*Allen E. Ryan*  
ENGINEER OF EXPRESSWAYS

**CITY OF DETROIT**  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEERS OFFICE

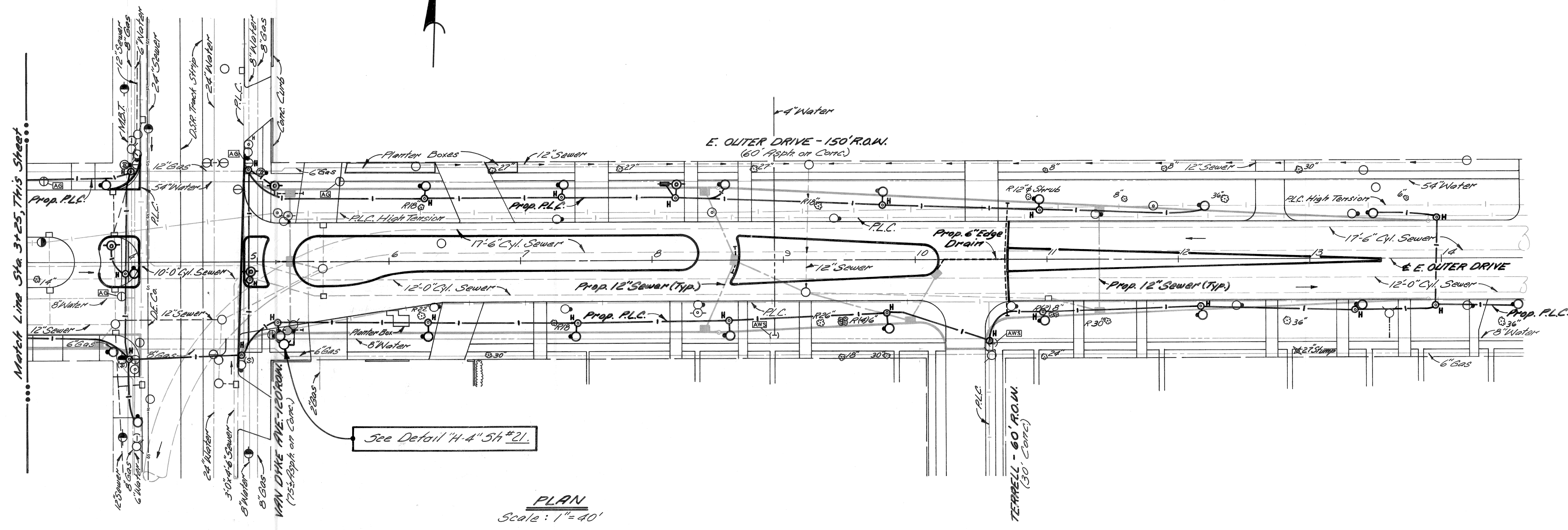
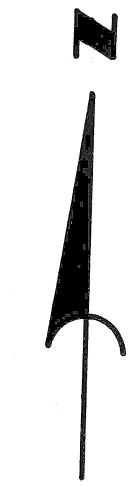
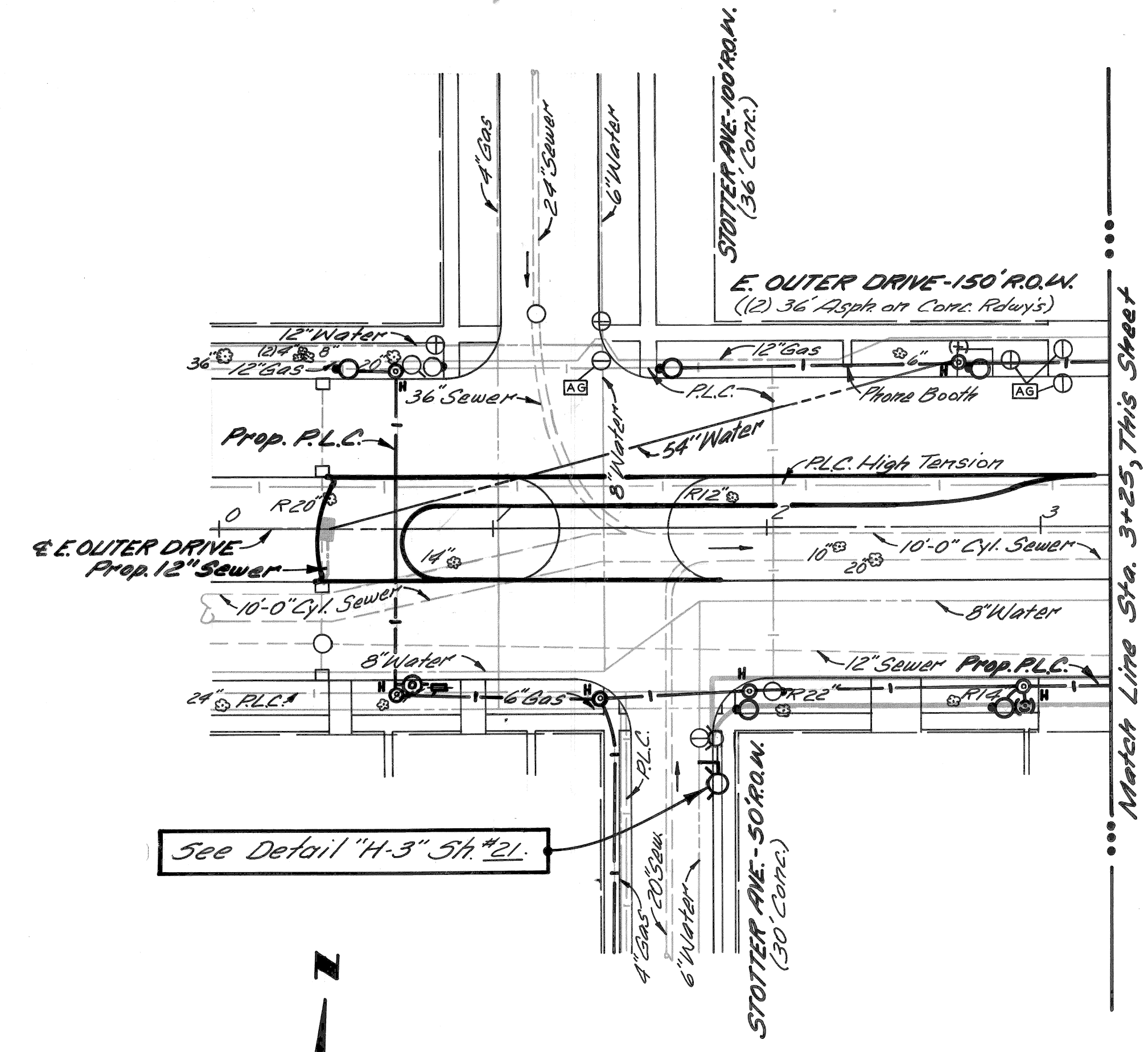
**EAST OUTER DRIVE - EAST SEVEN MILE RD.**  
**INTERSECTION IMPROVEMENT**

**UTILITIES**

SHEET	16	OF	63	SHEETS
CONTRACT No.	C-5520			
ASSIGNMENT No.	2194			
DATE	5-1-74			

**NOTES:**  
 1. For Utility Legend, See Sh. No. 18.

**LEGEND**  
 [AG] Adjust Gatewell Manhole Cover  
 [AWS] Adjust Water Shut-offs



**PLAN**  
 Scale: 1" = 40'

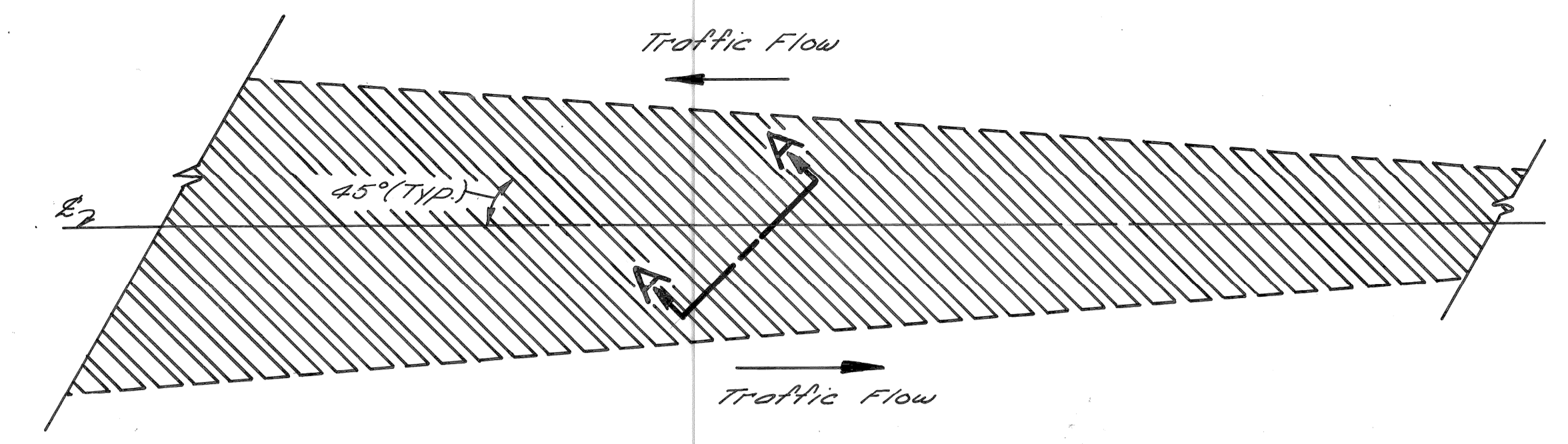
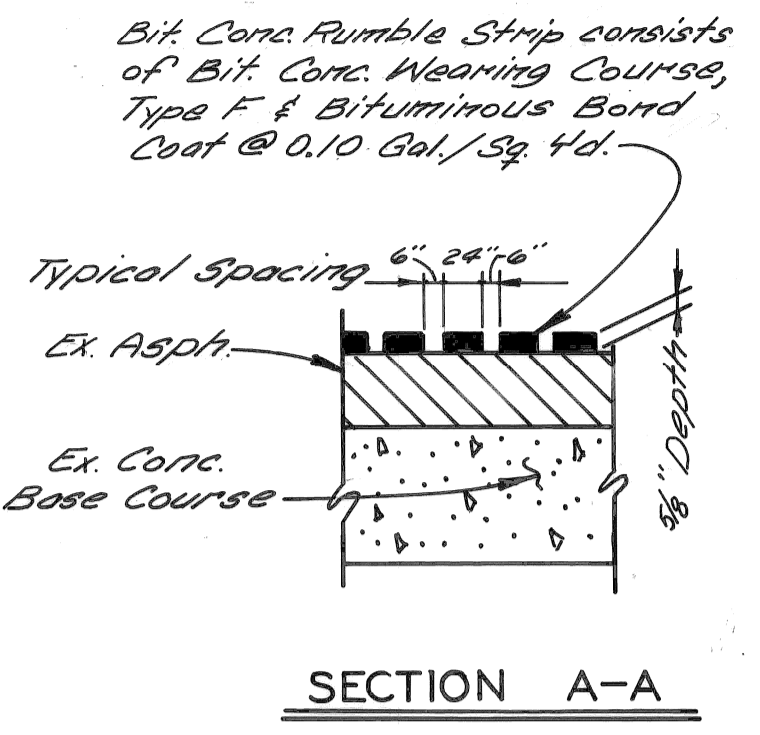
COORD. DESCRIPTION REVISIONS LOCATED BY COORDINATES ON SHEET		REFERENCE DRAWINGS DESIGNED BY DRAWN BY TRACED BY CHECKED BY	J. R. D. M. Polito	APPROVED: Allen E. Progn ENGINEER OF EXPRESSWAYS	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERS OFFICE	EAST OUTER DRIVE - VAN DYKE AVENUE INTERSECTION IMPROVEMENT UTILITIES	SHEET 17 OF 63 SHEETS CONTRACT No. C-5520 ASSIGNMENT No. 2196 DATE 5-1-74
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COLOR	SYMBOL	DESCRIPTION
BLACK	---	PROPERTY AND LOT LINES
---	---	PROPOSED CURB LINES AND HEADERS AT RETURNS
---	---	EXISTING CURB LINES OR EDGE OF PAVEMENT
---	---	PROPOSED CURB OR PAVING ON INTERSECTING STREET
---	---	PROPOSED SEWER TO CATCH BASINS
---	---	EXISTING LATERAL SEWERS
---	---	EXISTING PUBLIC SEWERS
---	---	EXISTING GAS LINES
---	---	EXISTING WATER LINES
---	---	ELEV OF SEWER INVERT
---	---	PROPOSED C.B. M.H. & INLET SEWER
---	---	ELEV
---	---	EXISTING C.B. M.H. & INLET SEWERS
---	---	PROPOSED C.B. M.H. & INLET SEWERS ON INTERSECTING STREETS

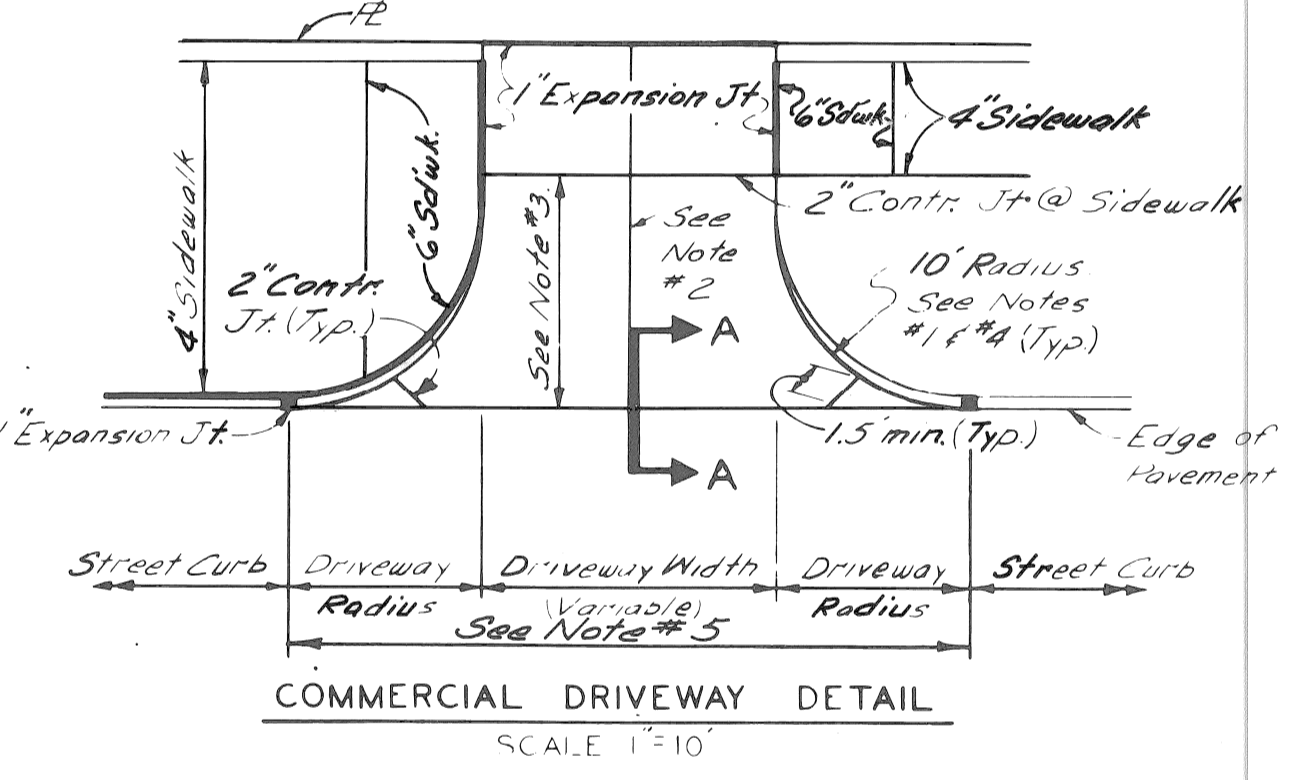
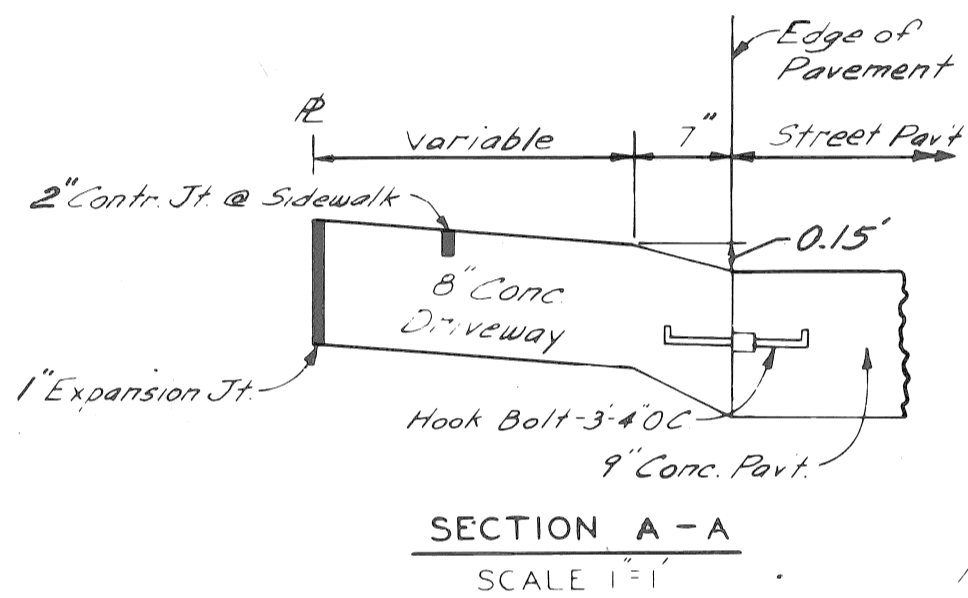
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
○	SEWER MANHOLE	#	STREET SIGN POST
○	P.L.C. HANDHOLE	□	CATCH BASIN
○	P.L.C. MANHOLE	(W)	WATER METER
⊕	WATER MANHOLE OR GRATE	(-)	WATER SHUT OFF
⊕	GAS MANHOLE OR GRATE	(+)	GAS SHUT-OFF
⊕	WESTERN UNION MANHOLE	⊕	GAS DRIP
⊕	MICHIGAN BELL MANHOLE	⊕	DRAIN OR VENT
⊕	EDISON STEAM MANHOLE	⊕	GUY POLE
⊕	EDISON ELECTRIC MANHOLE	⊕	MAIL BOX
⊕	FIRE DEPT MANHOLE	⊕	AREAWAY OR COAL CHUTE
⊕	POLICE DEPT MANHOLE	⊕	FLAG POLE
III	D.S.R. MANHOLE	⊕	SPRINKLER BOX
○	FIRE DEPT STANDARD HYDRANT	⊕	DEAD MANHOLE
○	FIRE DEPT HIGH PRESSURE HYDRANT	⊕	TREE
△	FIRE DEPT CALL BOX	⊕	PLC 4 FD MANHOLE FILLED WITH SAND
⊕	FIRE DEPT HIGH PRESSURE MANHOLE		TRACK DRAIN
⊕	POLICE DEPT CALL BOX	†	TRAFFIC SIGN POST
○	P.L.C. LIGHT POLE	(⊕)	TRAFFIC SIGNAL LIGHT
○	P.L.C. POLE	⊕	TRAFFIC SIGNAL ON LIGHT POST
○	TELEPHONE POLE	II	D.S.R. DANGER PLATE
⊕	EDISON POLE	⊕	R.R. SIGNAL CONTROL BOX
⊕	TRAFFIC CONTROL BOX		

DESIGNED BY	APPROVED
DRAWN BY T. RANDY	ENGINEER OF EXPRESSWAYS
TRACED BY T.K.	
CHECKED BY J. KAWAS	

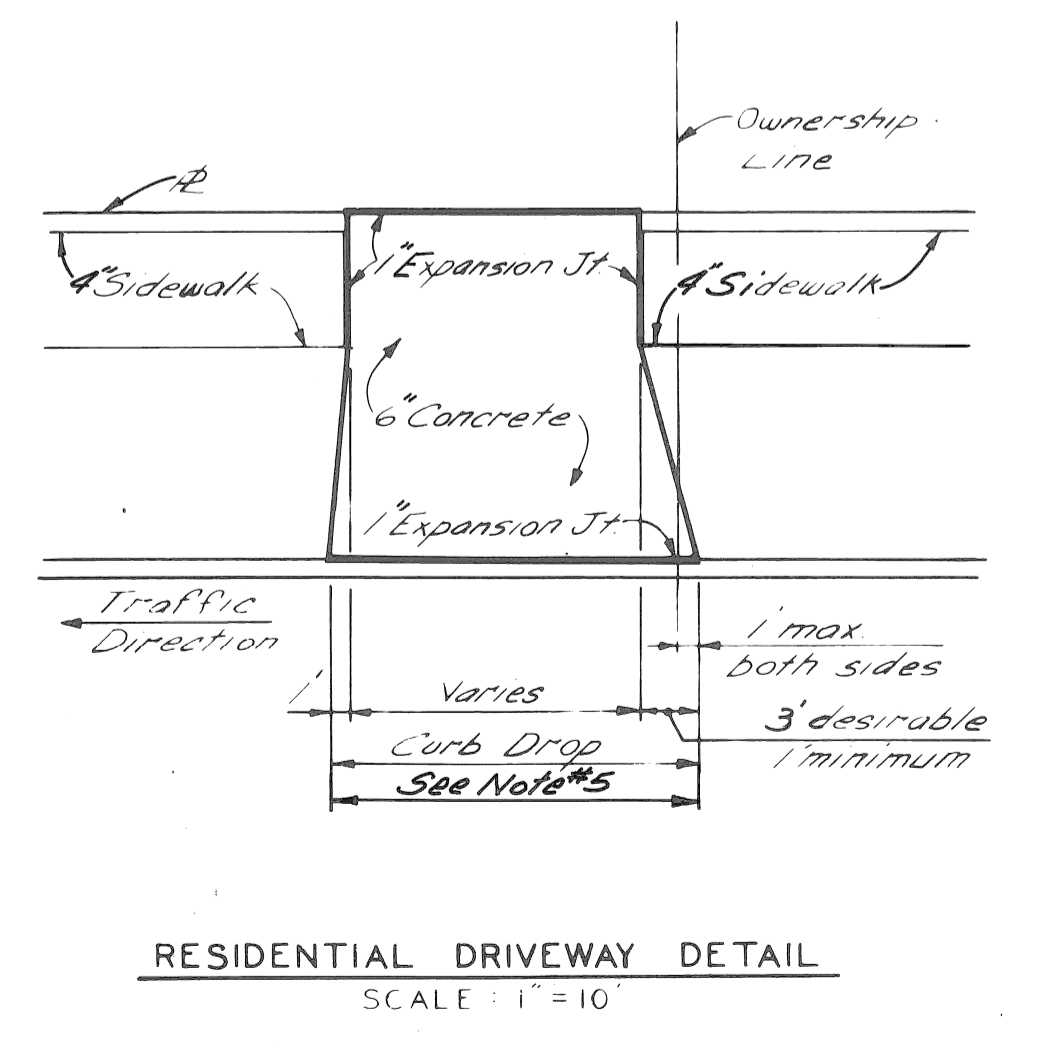
CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN		STANDARD SYMBOLS FOR UTILITIES	
BOB'S NO.	SCALE NO. SCALE	DWG. NO.	C-902-A
EDGE NO.	DATE		



BITUMINOUS CONCRETE RUMBLE STRIP  
NO SCALE



- NOTES - COMMERCIAL DRIVEWAY
1. Transition edge of driveway from curb at the street to no curb at the end of the driveway radius.
  2. Where driveway exceeds 15' in width, a contraction joint shall be placed longitudinally along C.
  3. When distance exceeds 15', a transverse contraction joint will be required.
  4. Radius 10' unless otherwise directed by the Engineer, or as shown on plans.
  5. All work and materials required to construct the driveway between the end of returns will be paid for as Conc. Park - Non Reinf. 6" or 8".



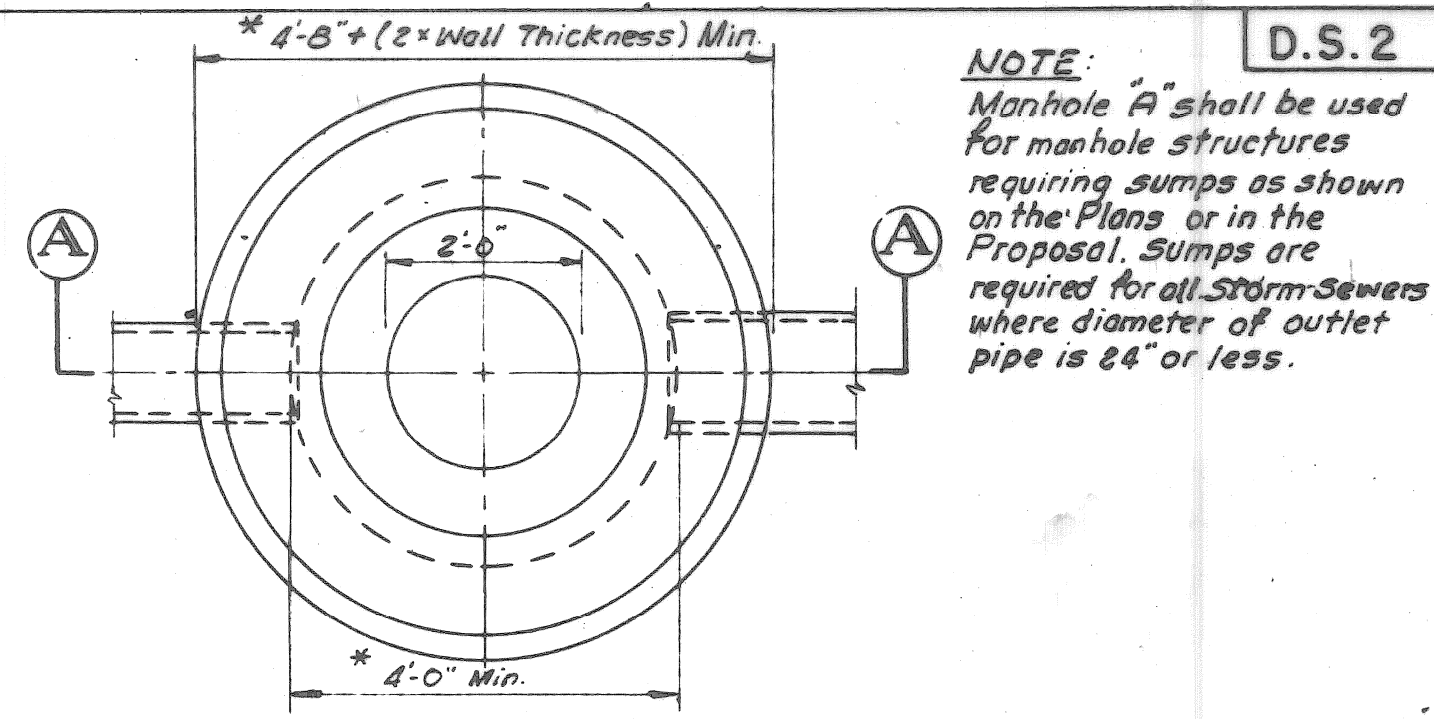
DESIGNED BY	J.R.D.
DRAWN BY	J.R.D.
TRACED BY	T.K.
CHECKED BY	NBA

APPROVED	ENGINEER OF EXPRESSWAYS
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CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEERS OFFICE

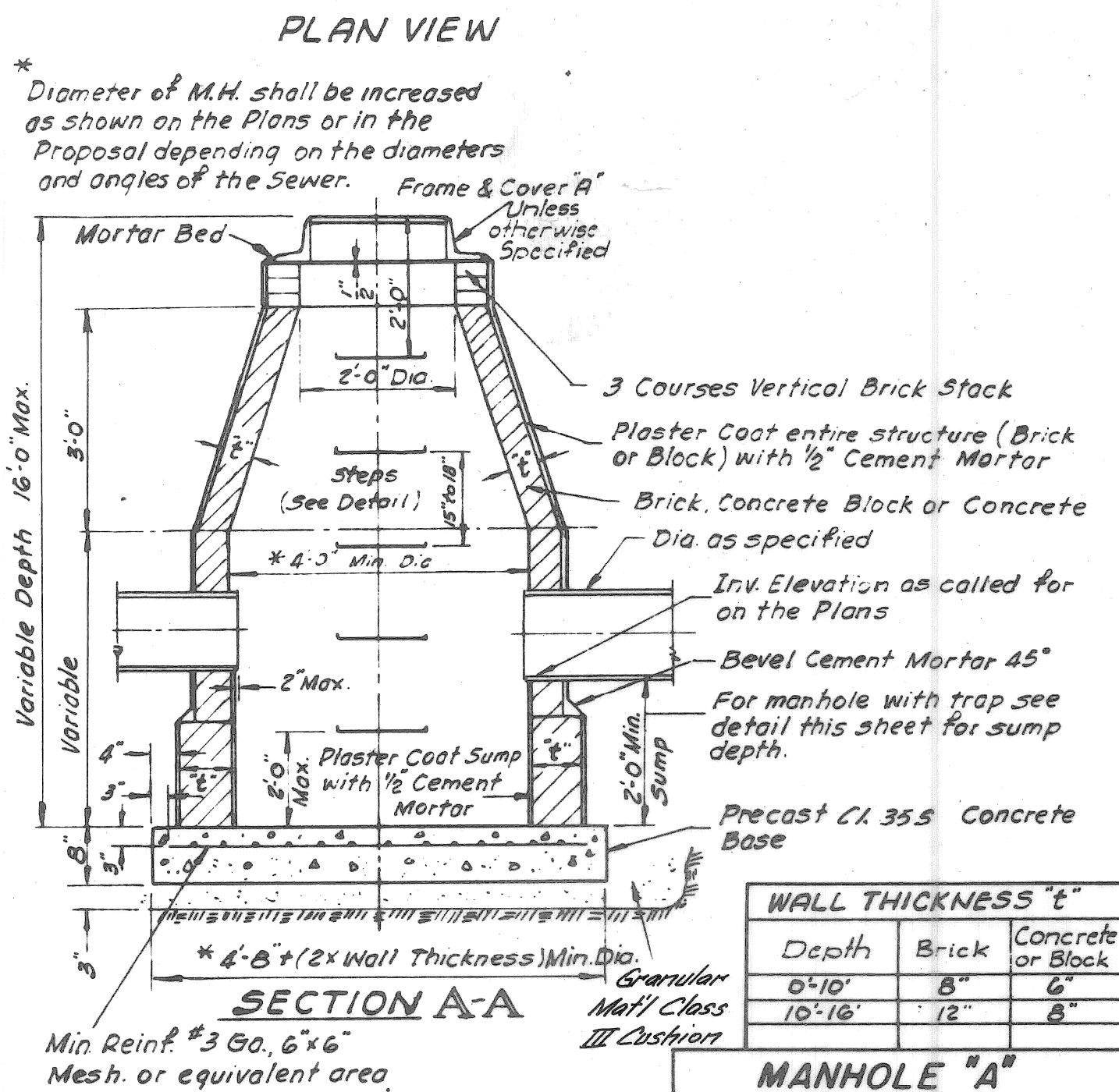
E. OUTER DR. - VAN DYKE & E. OUTER DR. - E. SEVEN MI. RD.  
INTERSECTION IMPROVEMENTS  
SPECIAL STANDARDS & SPECIAL DETAILS

SHEET 18 OF 63 SHEETS
CONTRACT No. P.W. C-5520
ASSIGNMENT No. 2196 & 2194
DATE 5-1-74



**NOTE:**  
Manhole "A" shall be used for manhole structures requiring sumps as shown on the Plans or in the Proposal. Sumps are required for all Storm Sewers where diameter of outlet pipe is 24" or less.

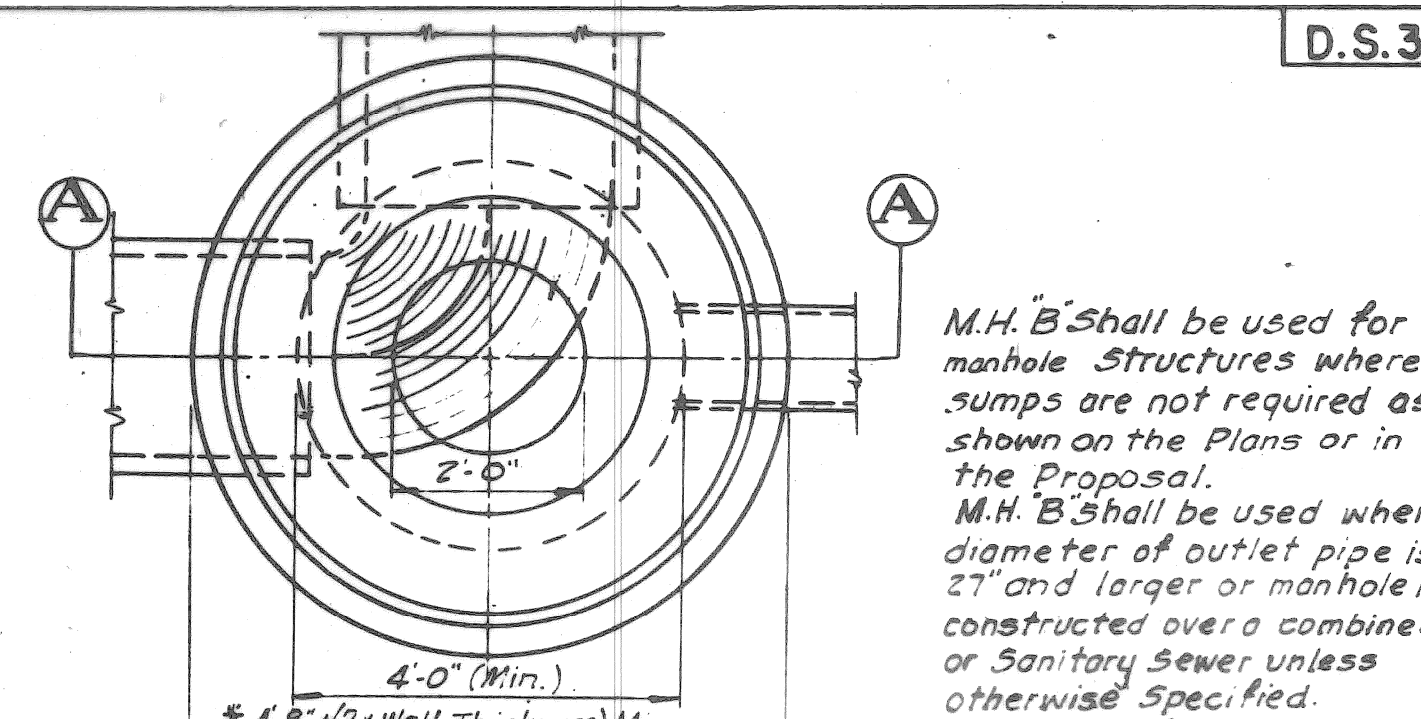
**D.S.2**



**WALL THICKNESS "t"**

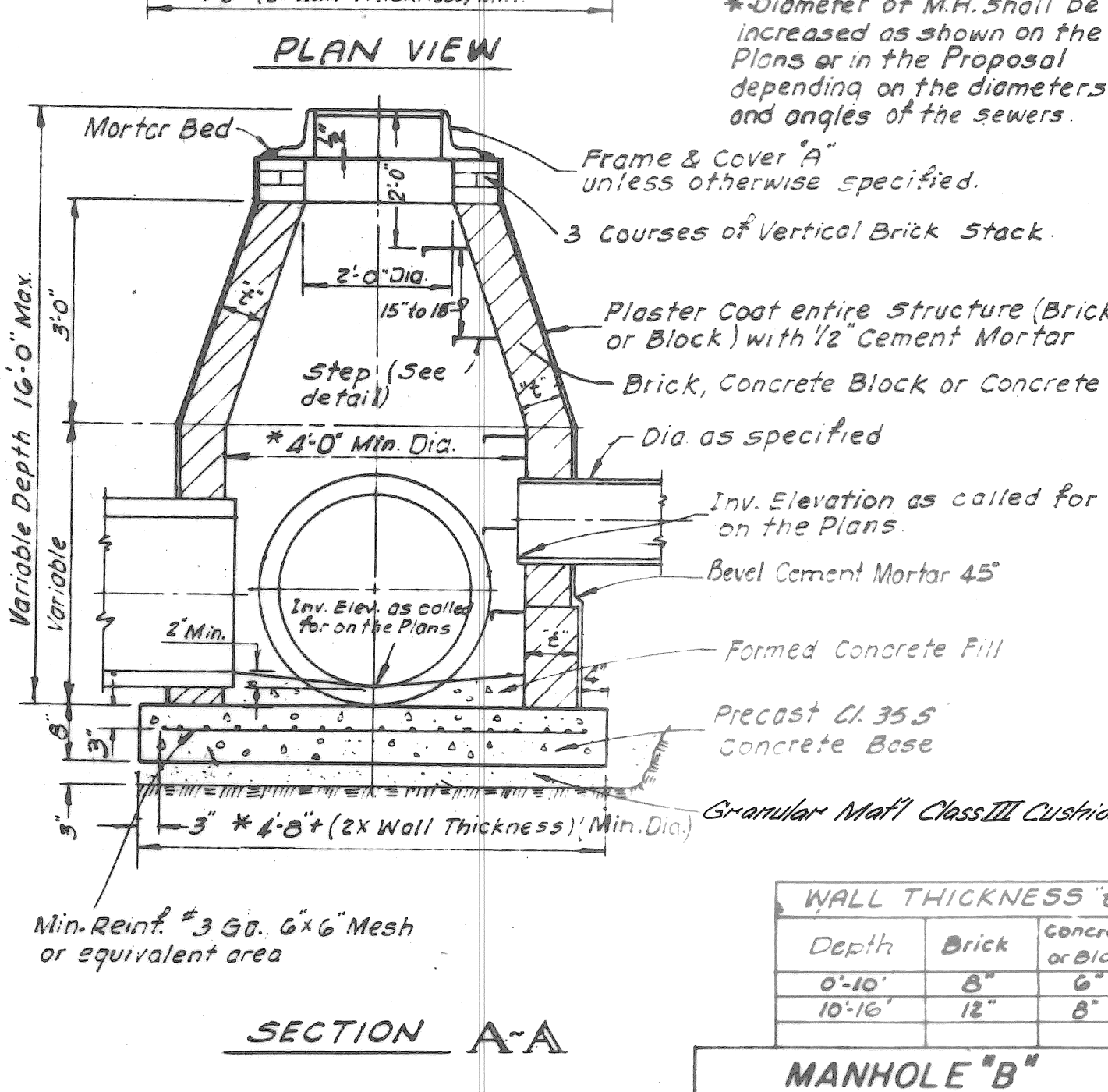
Depth	Brick	Concrete or Block
0'-10"	8"	6"
10'-16"	12"	8"

**MANHOLE "A"**



M.H. "B" shall be used for manhole structures where sumps are not required as shown on the Plans or in the Proposal. M.H. "B" shall be used when diameter of outlet pipe is 27" and larger or manhole is constructed over a combined or Sanitary Sewer unless otherwise specified. \*Diameter of M.H. shall be increased as shown on the Plans or in the Proposal depending on the diameters and angles of the sewers.

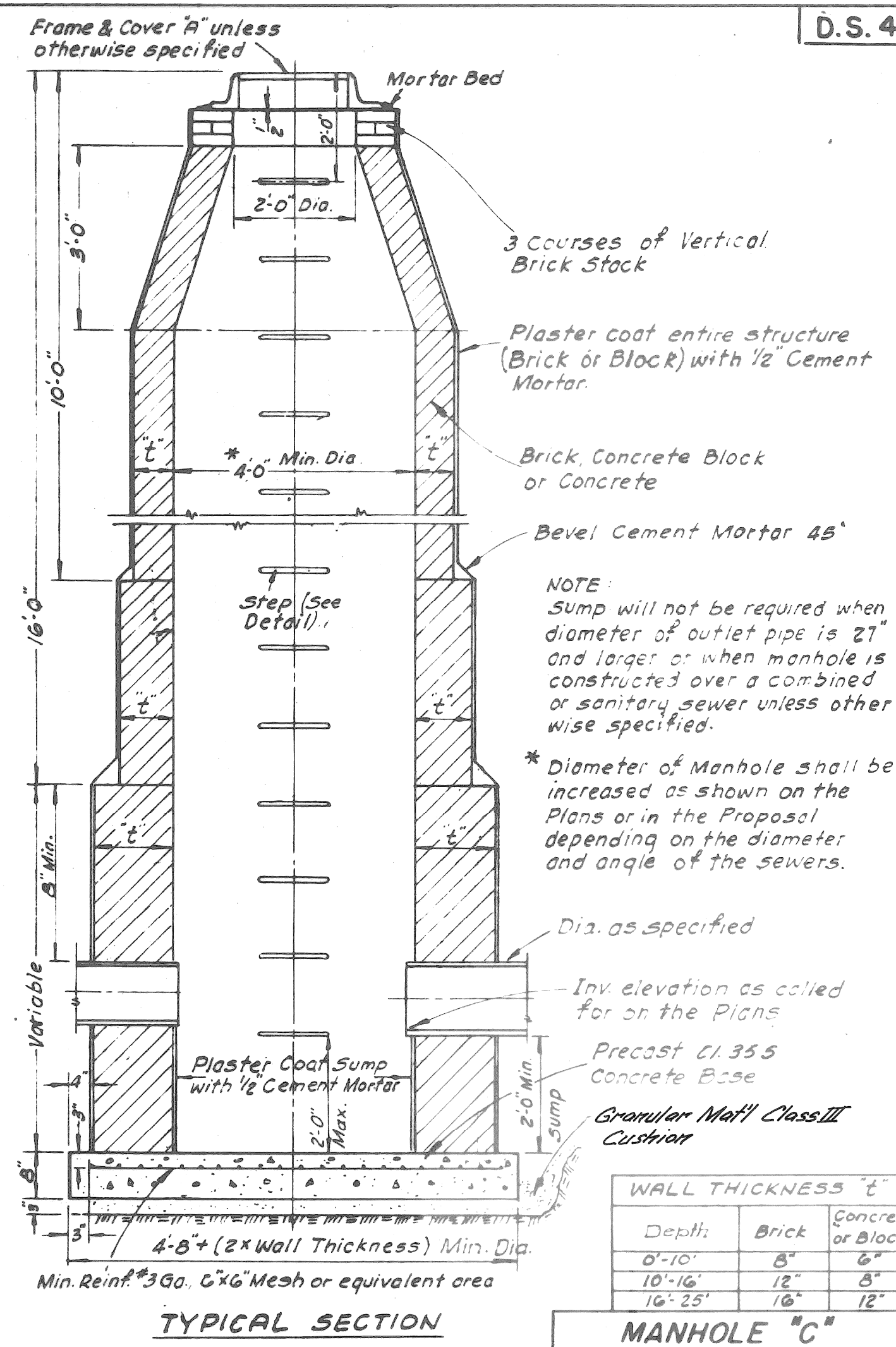
**D.S.3**



**WALL THICKNESS "t"**

Depth	Brick	Concrete or Block
0'-10"	8"	6"
10'-16"	12"	8"

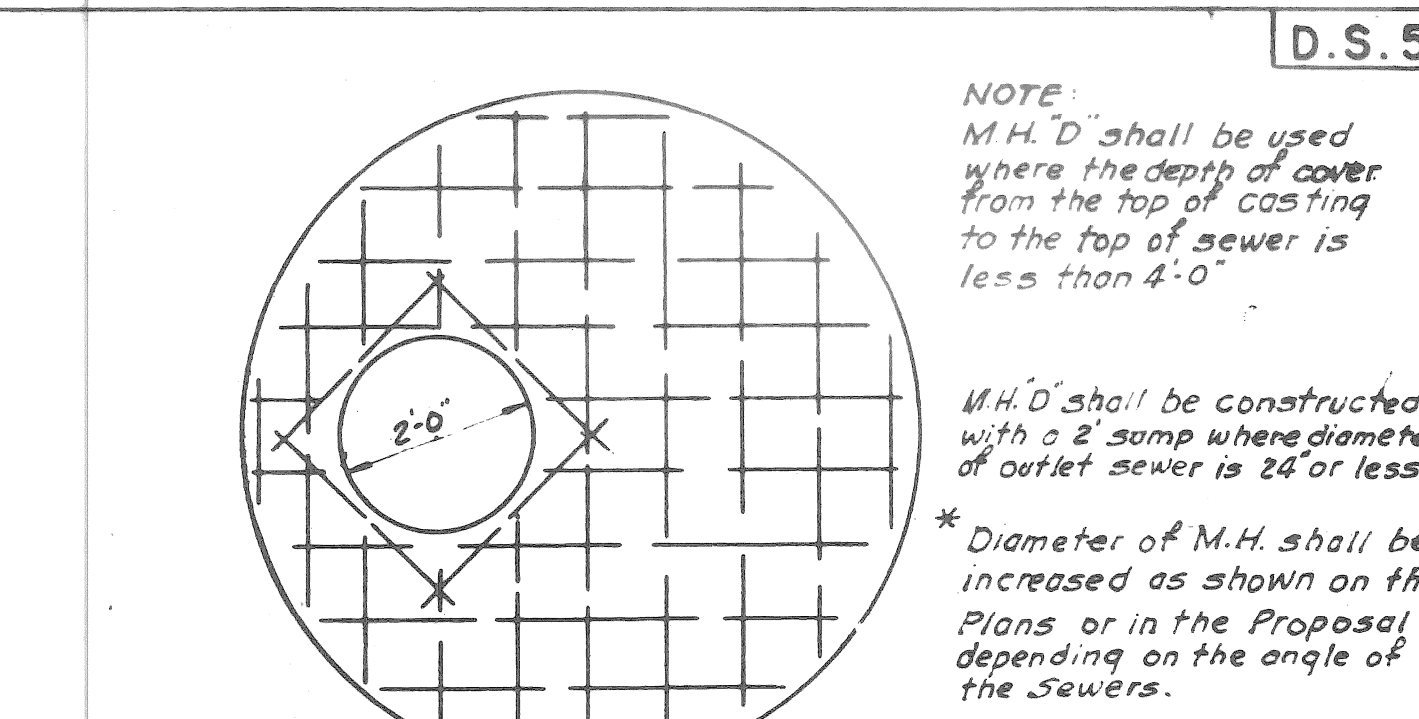
**MANHOLE "B"**



**WALL THICKNESS "t"**

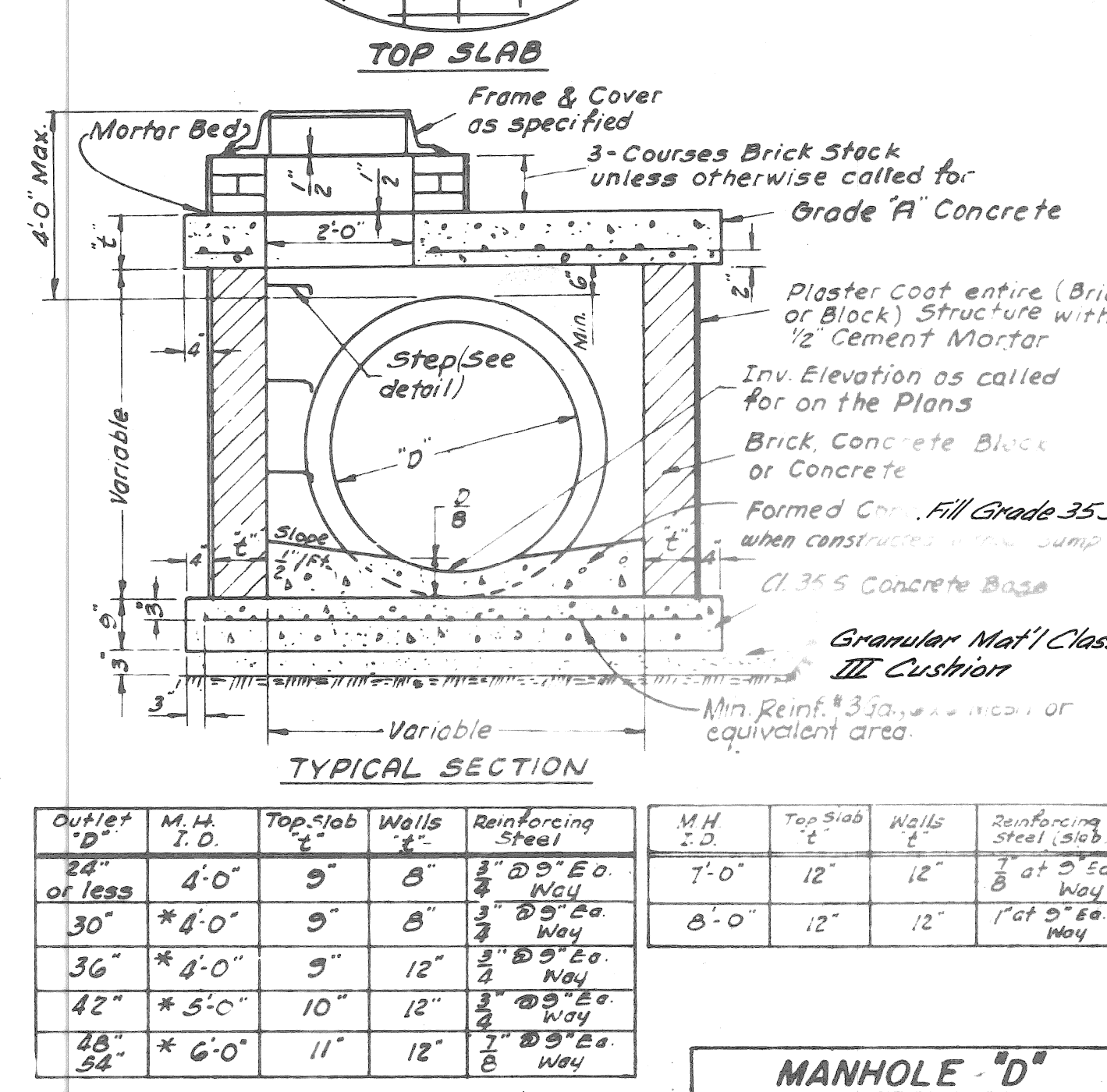
Depth	Brick	Concrete or Block
0'-10"	8"	6"
10'-16"	12"	8"
16'-25"	16"	12"

**MANHOLE "C"**



**NOTE:**  
M.H. "D" shall be used where the depth of cover from the top of casting to the top of sewer is less than 4'-0".  
M.H. "D" shall be constructed with a 2" sump where diameter of outlet sewer is 24" or less.  
\*Diameter of M.H. shall be increased as shown on the Plans or in the Proposal depending on the angle of the Sewers.

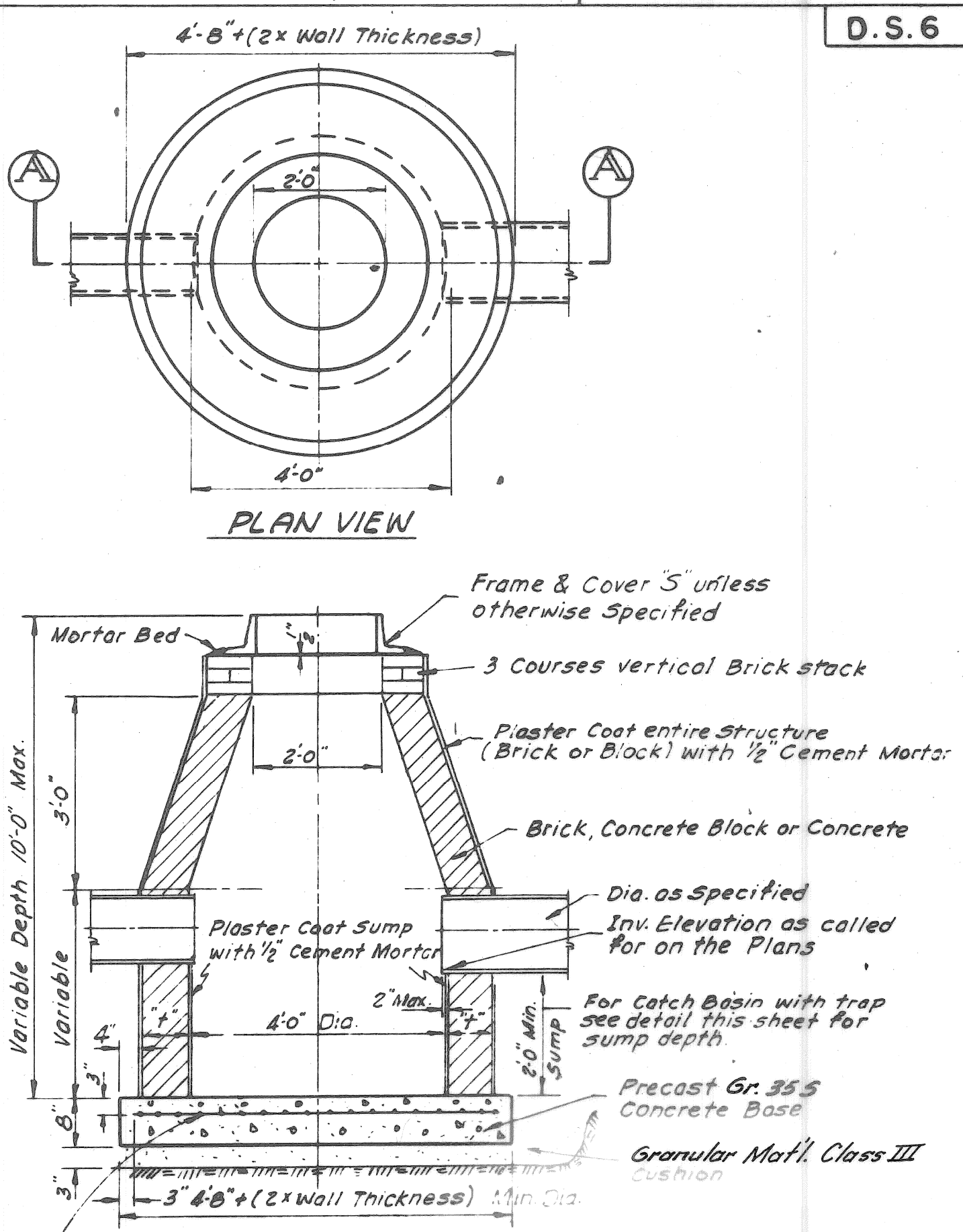
**D.S.5**



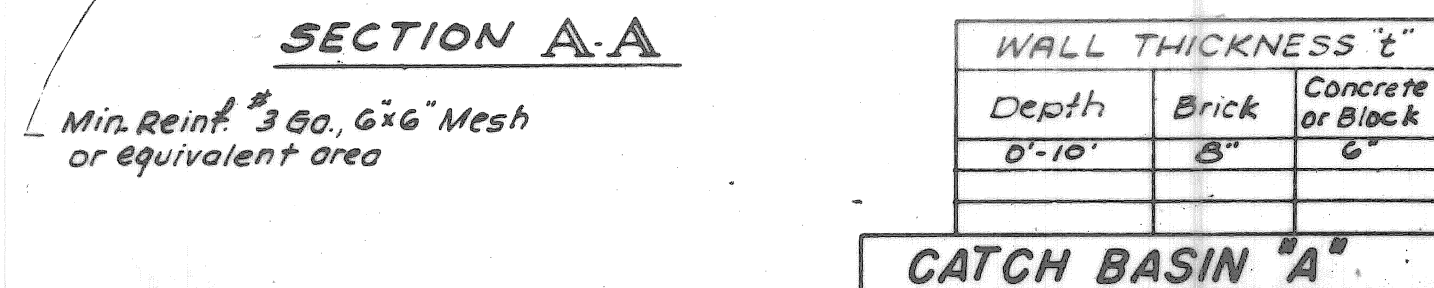
**WALL THICKNESS "t"**

Outlet D.	M.H. I.D.	Top Slab	Walls	Reinforcing Steel
24" or less	4'-0"	9"	8"	3" @ 5" Ea Way
30"	4'-0"	9"	8"	3" @ 5" Ea Way
36"	4'-0"	9"	12"	3" @ 5" Ea Way
42"	5'-0"	10"	12"	3" @ 5" Ea Way
48"	6'-0"	11"	12"	3" @ 5" Ea Way

**MANHOLE "D"**



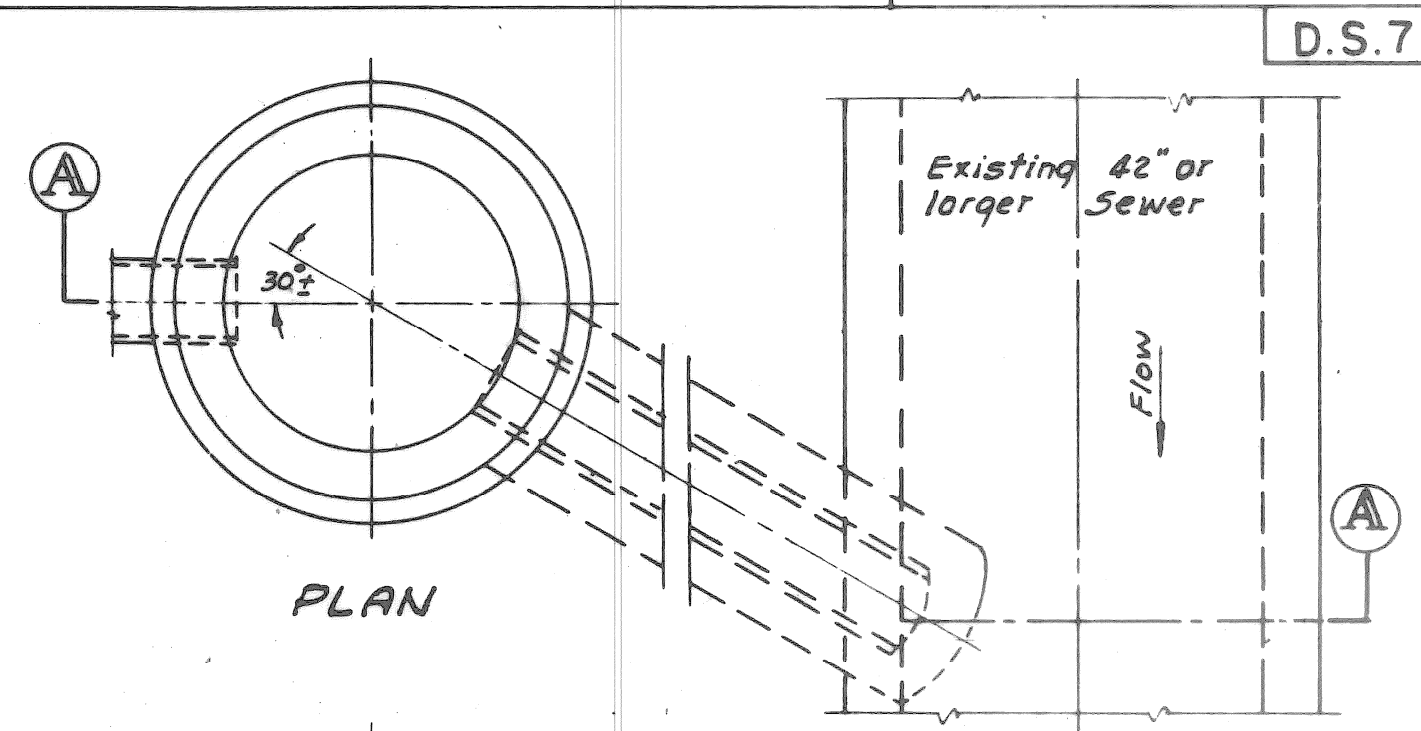
**D.S.6**



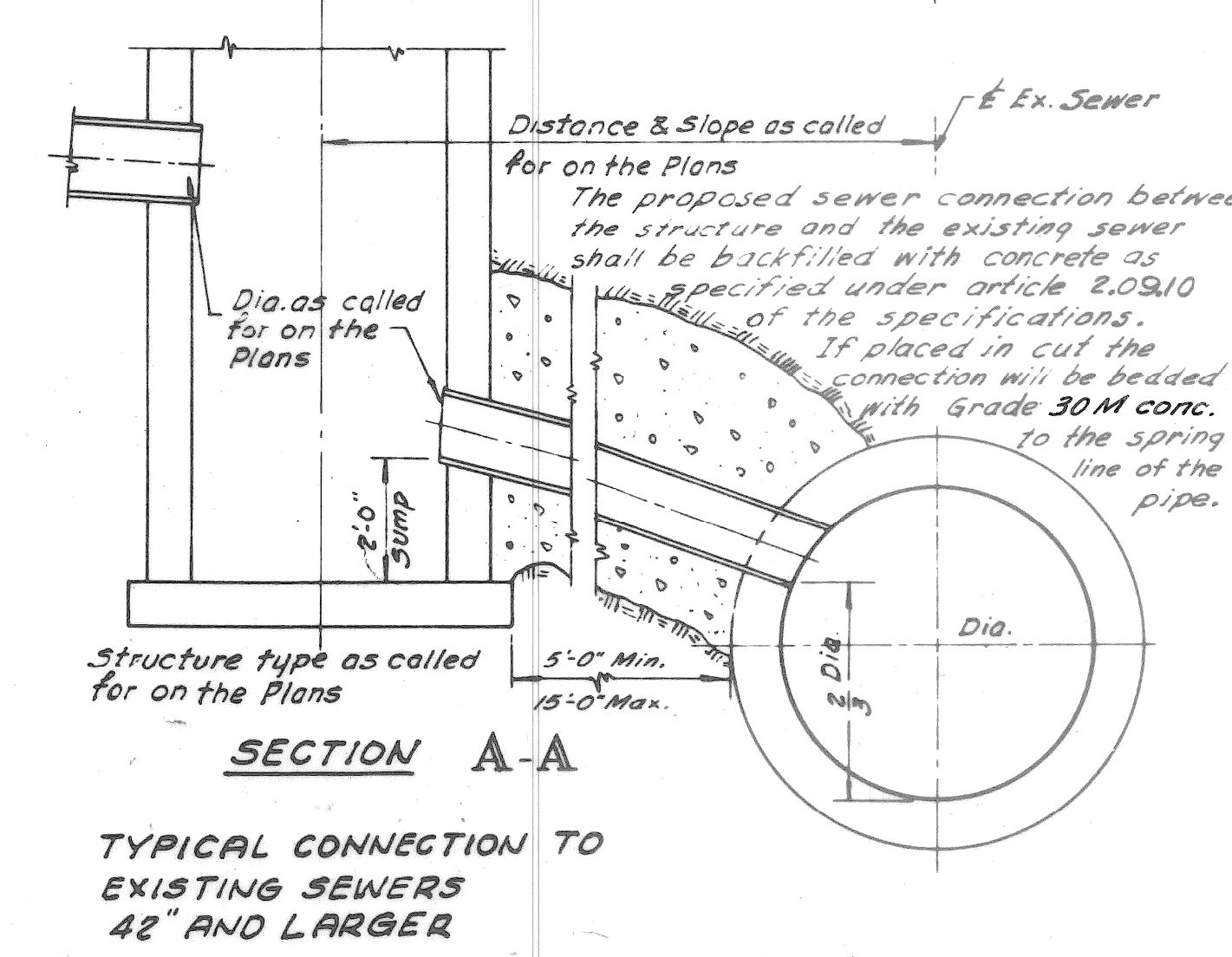
**WALL THICKNESS "t"**

Depth	Brick	Concrete or Block
0'-10"	8"	6"

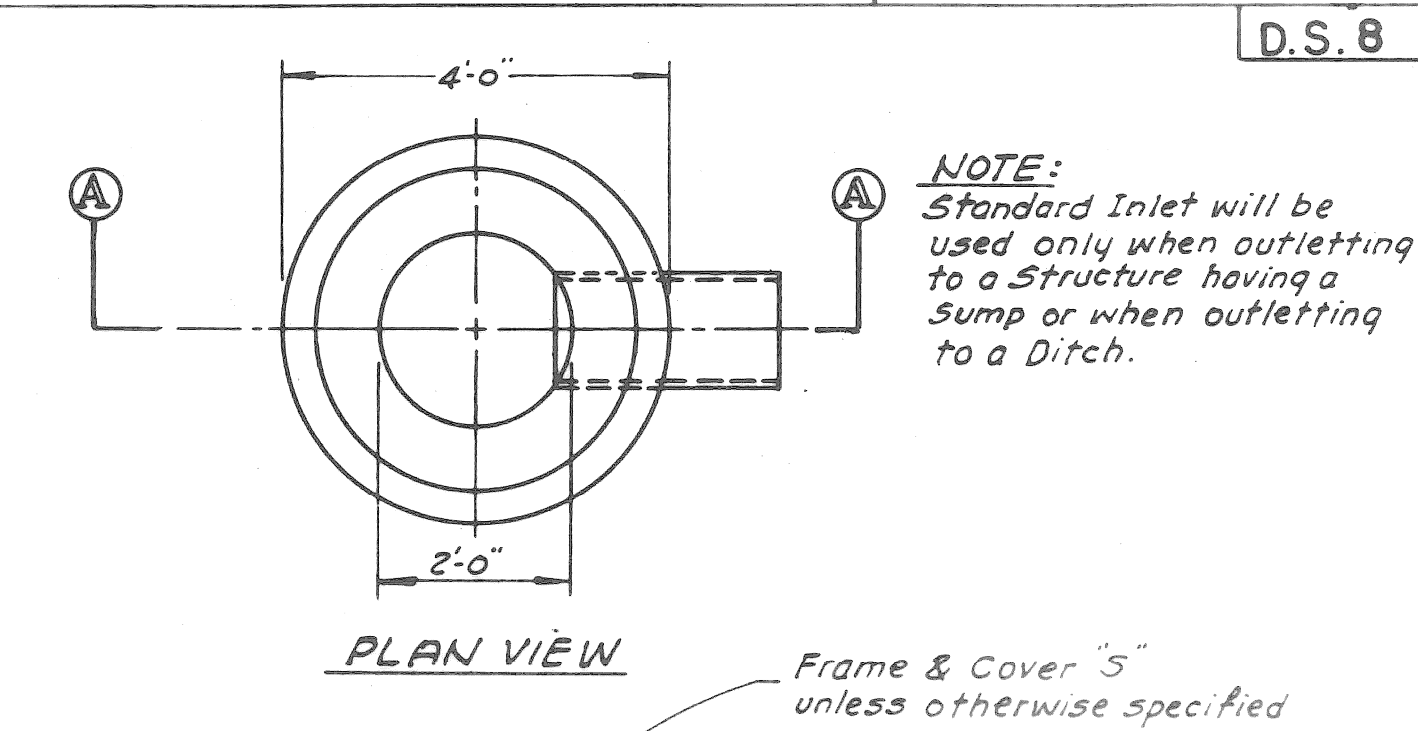
**CATCH BASIN "A"**



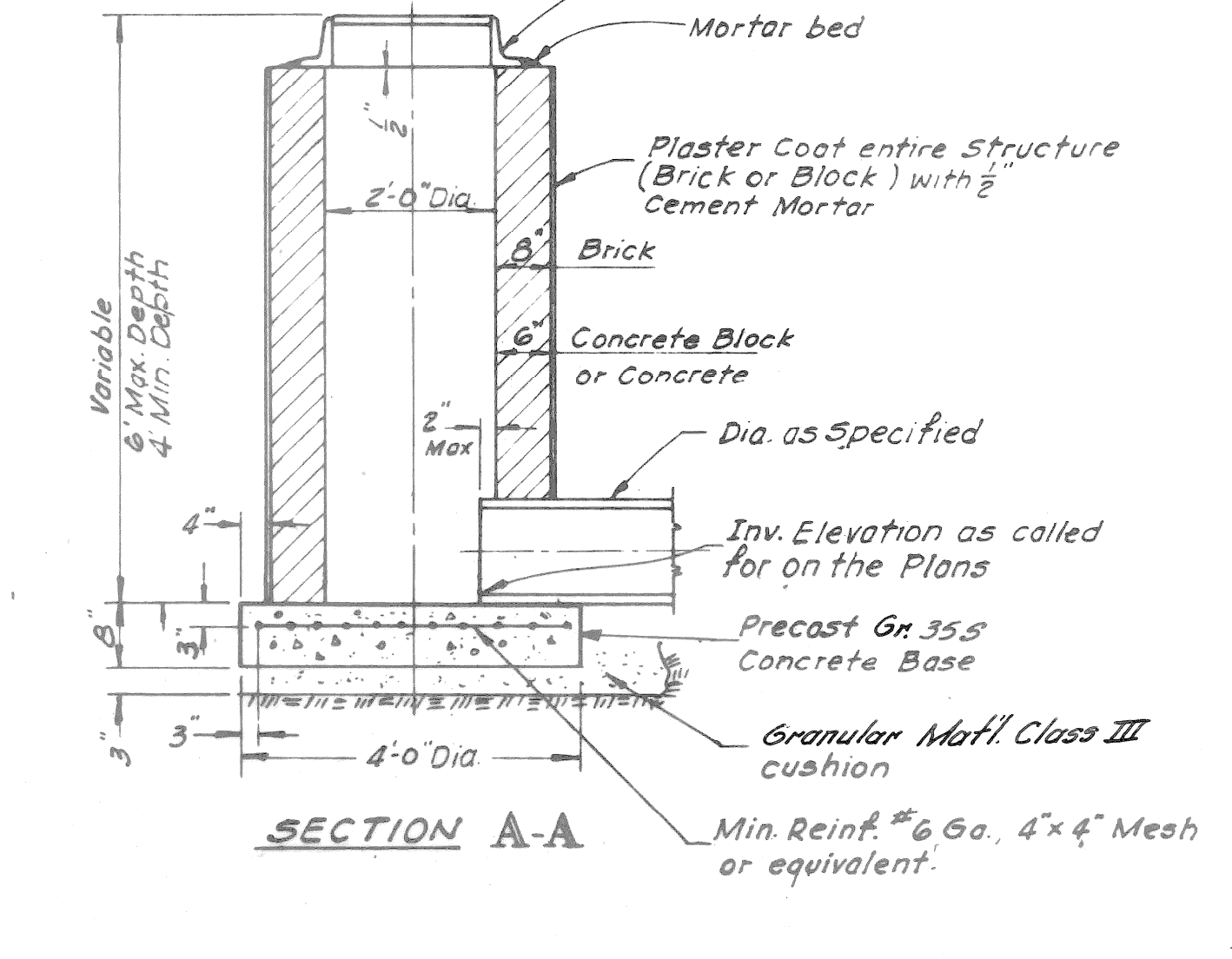
**D.S.7**



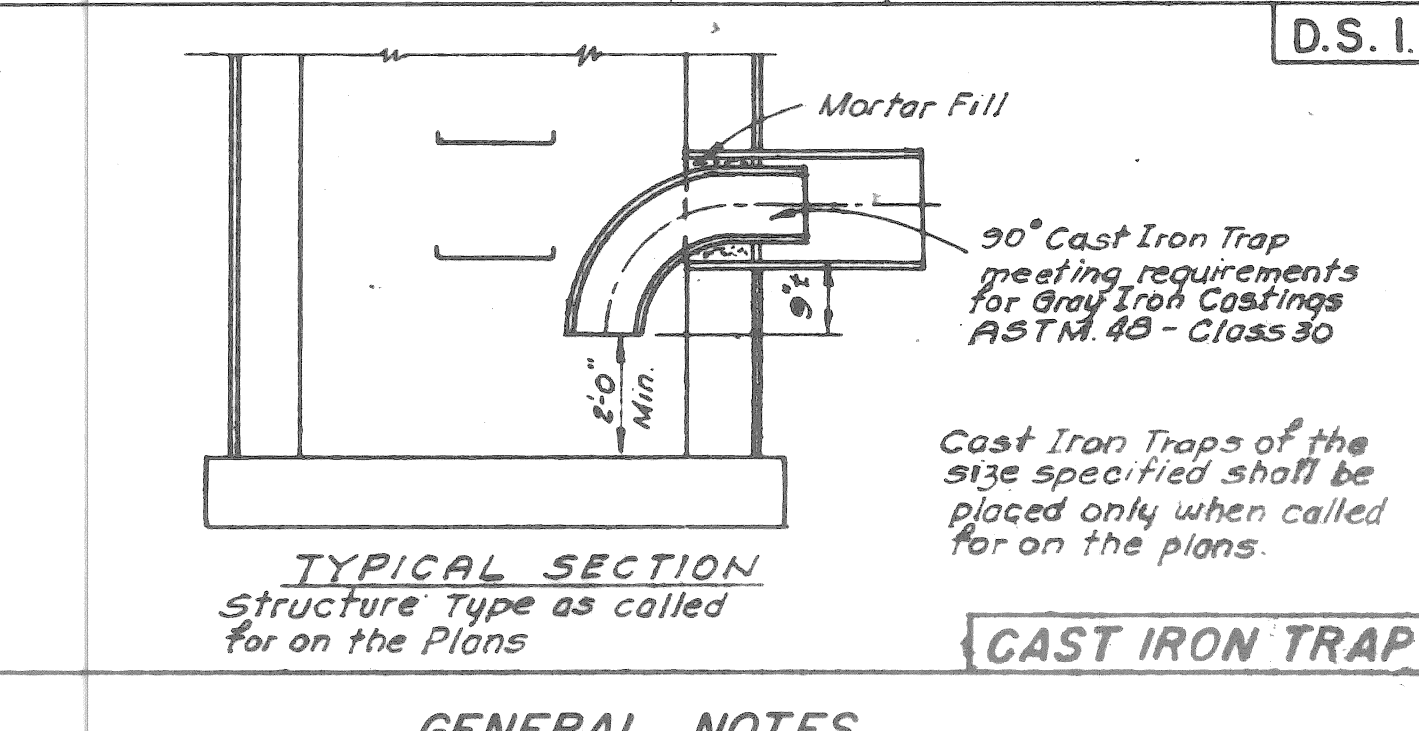
**NOTE:**  
Backfilling of the tunnel or open cut sewer and connecting into the existing sewer will not be paid for separately but shall be considered as incidental to the unit price per lineal foot for the item of sewer specified.



**D.S.8**



**STANDARD INLET**



**D.S.1**

**CAST IRON TRAP**

**GENERAL NOTES**

ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT MICHIGAN DEPARTMENT OF STATE HIGHWAYS STANDARD SPECIFICATIONS AND AS FOLLOWS:

THE CONTRACT UNIT PRICE BID FOR CONSTRUCTING EACH MANHOLE, CATCH BASIN, OR INLET SHALL INCLUDE EXCAVATION AND BACKFILLING WITH GRANULAR MATERIAL, AS REQUIRED.

ALL VERTICAL HOLES IN CONCRETE BLOCK STRUCTURES SHALL BE COMPLETELY FILLED WITH MORTAR. VERTICAL JOINTS SHALL BE "BUTTERED".

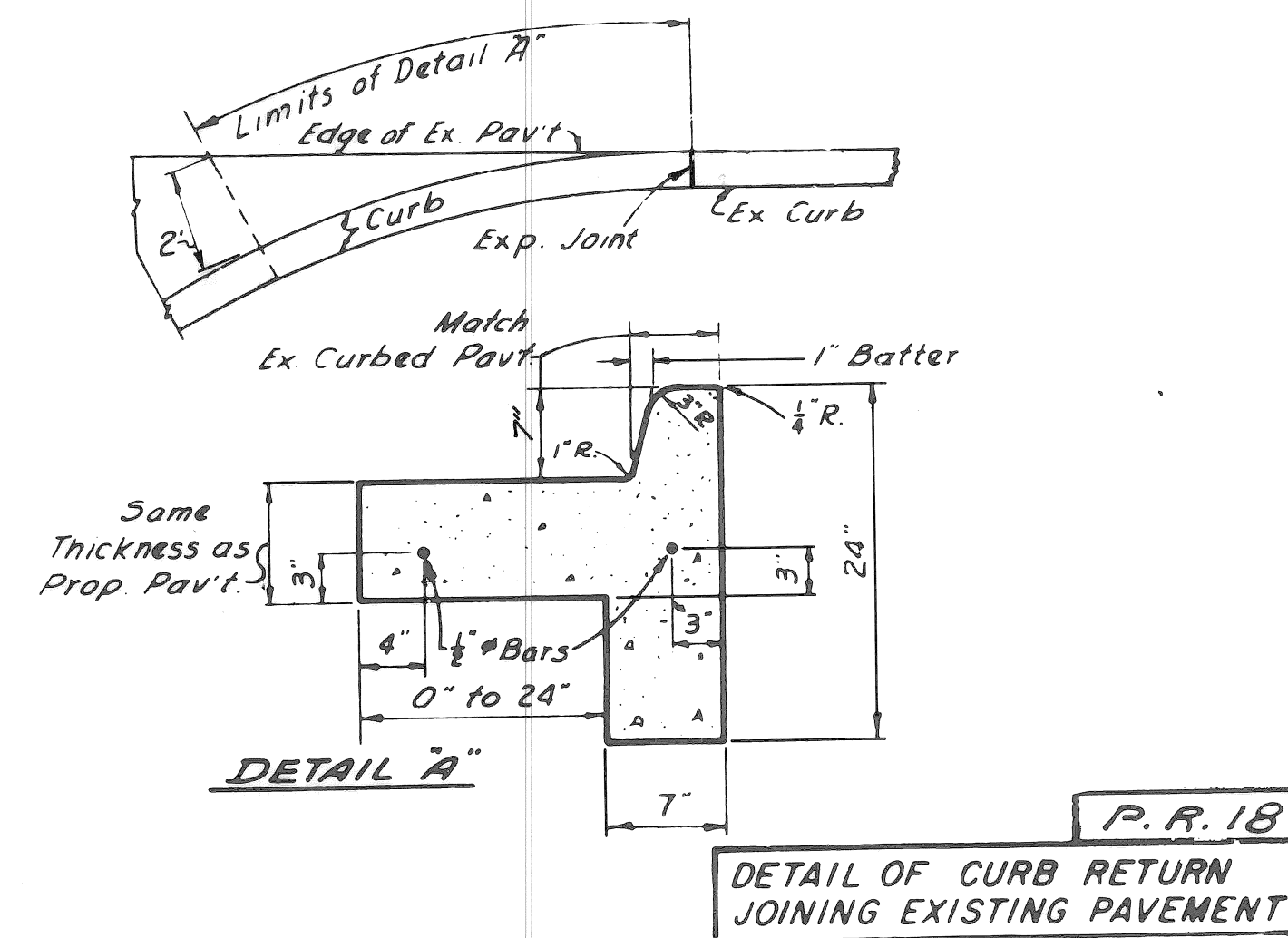
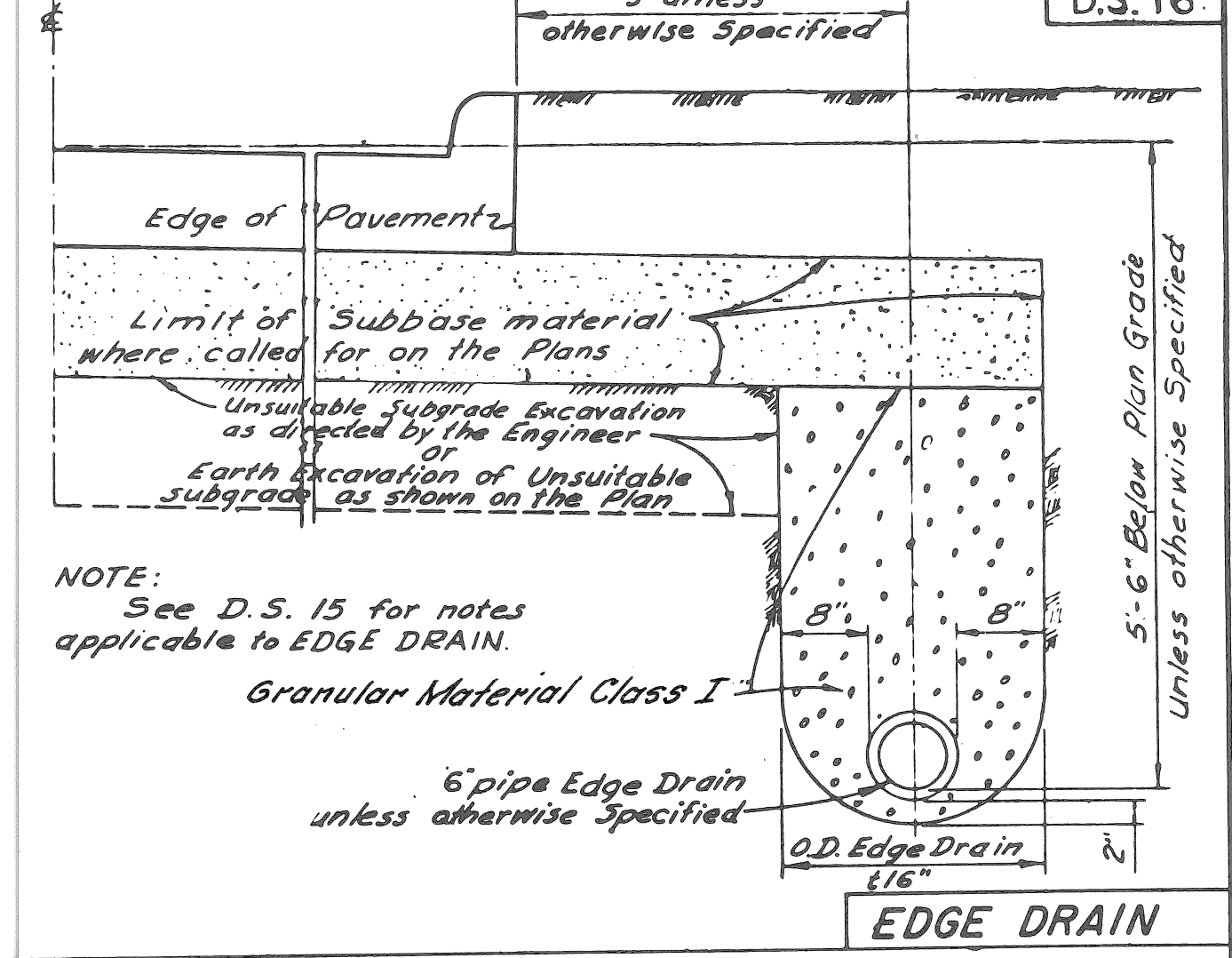
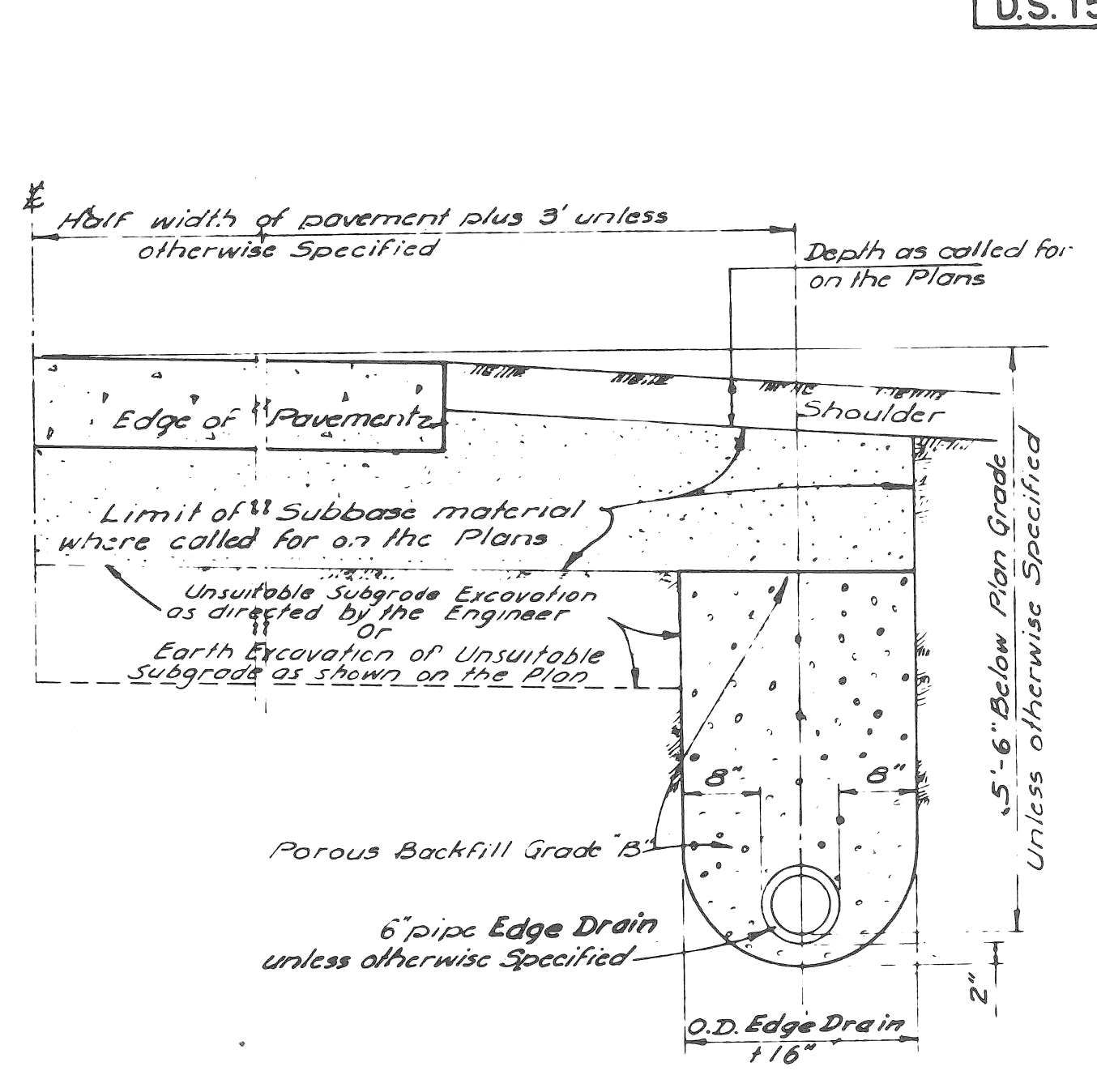
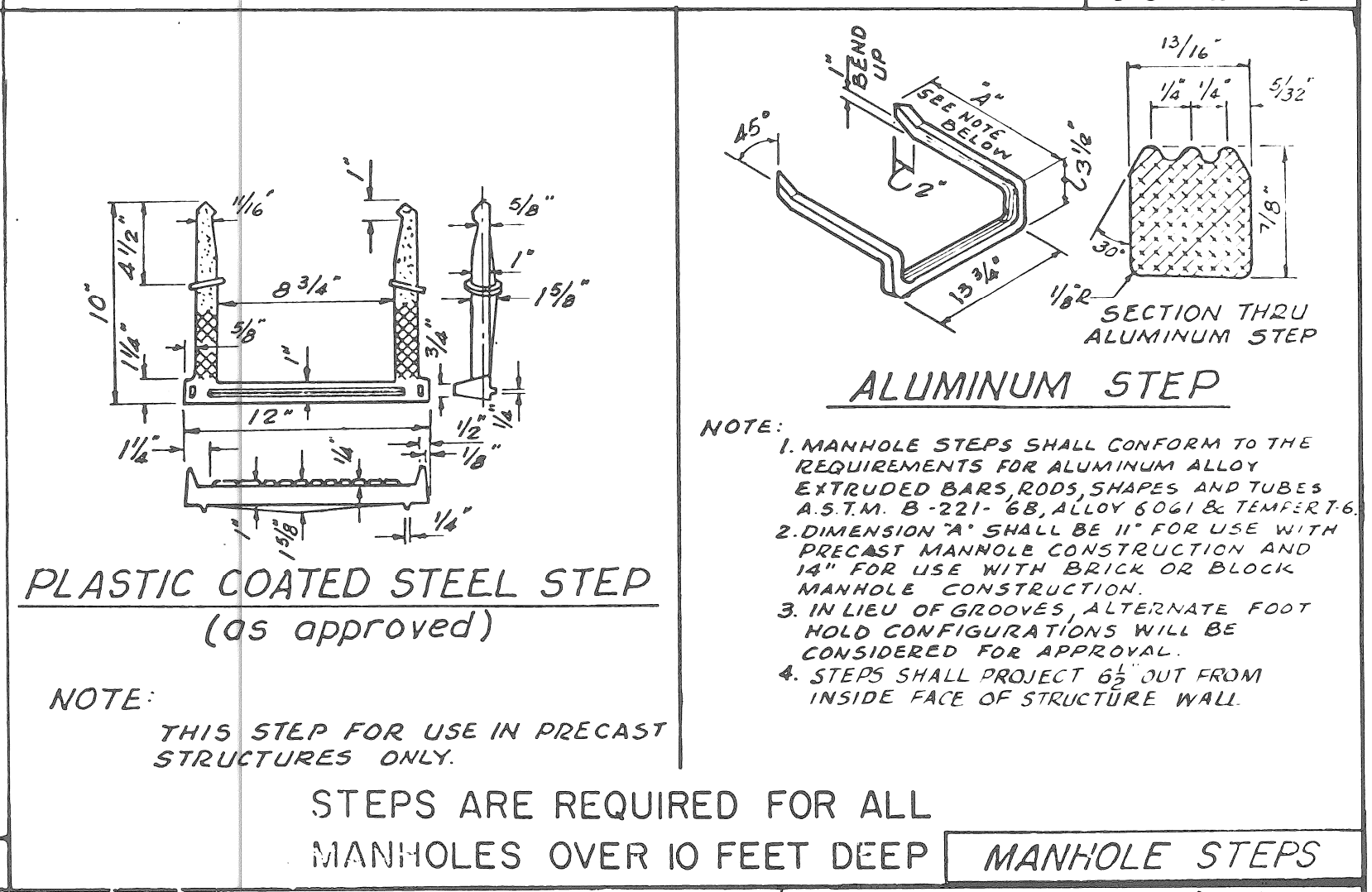
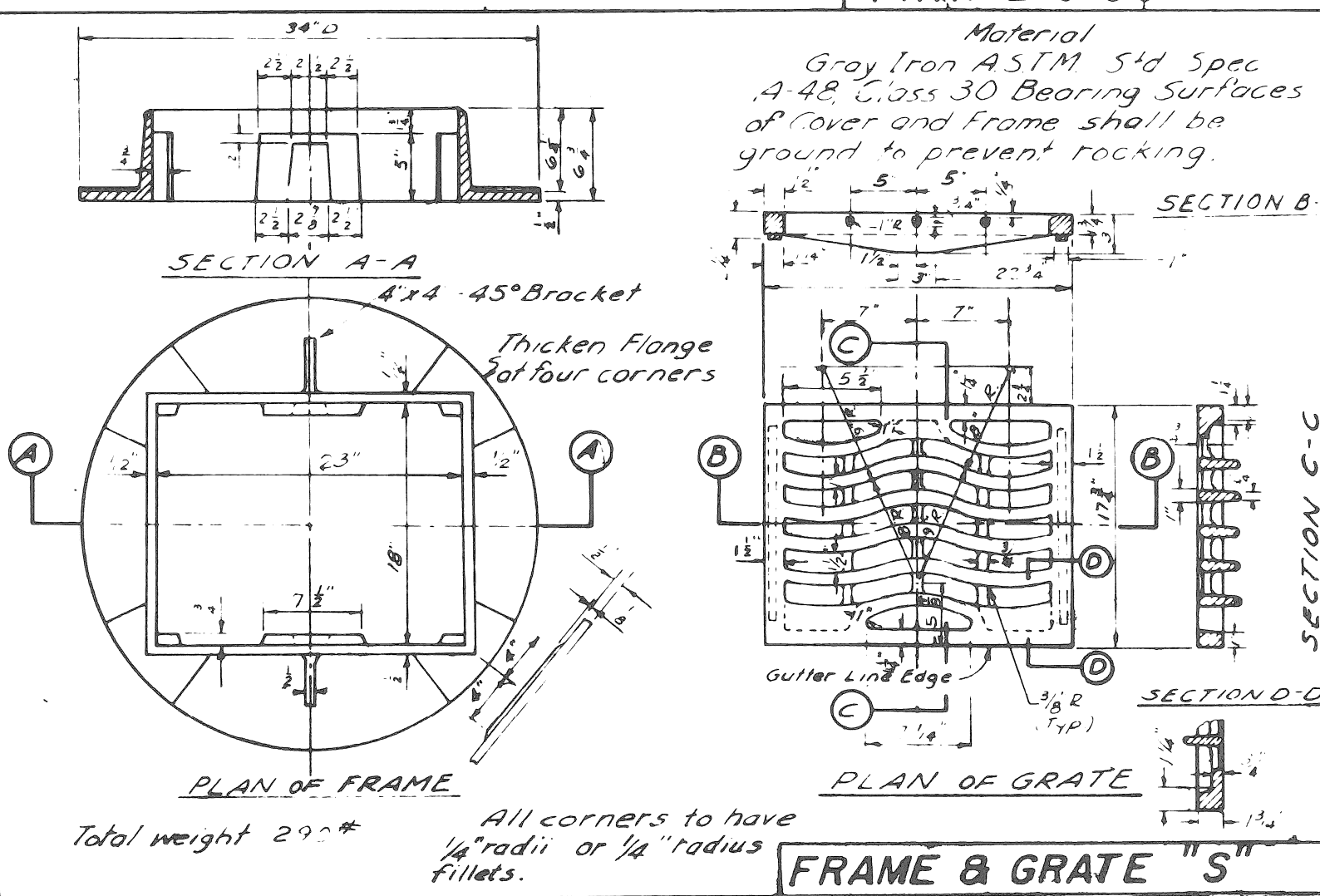
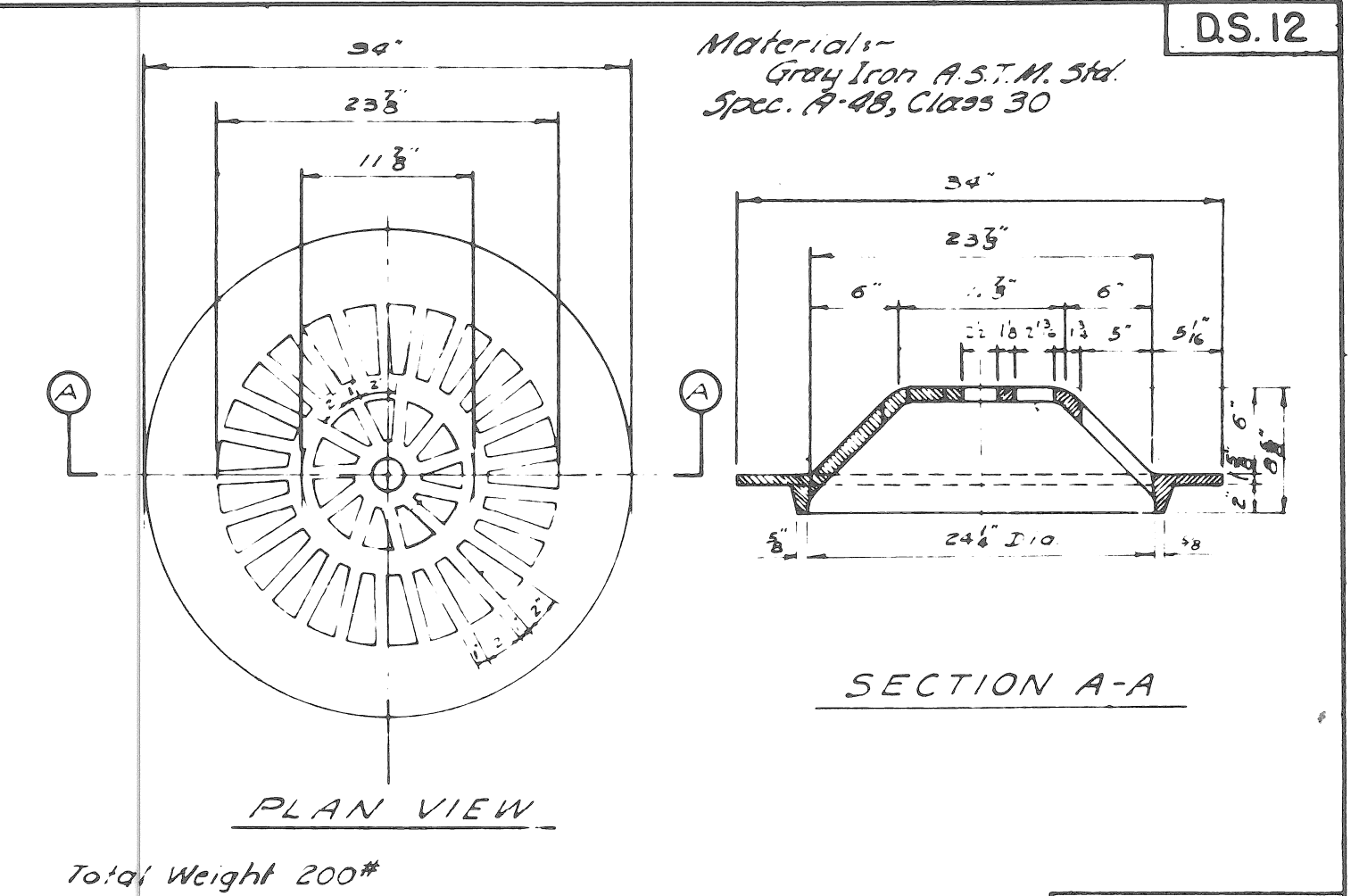
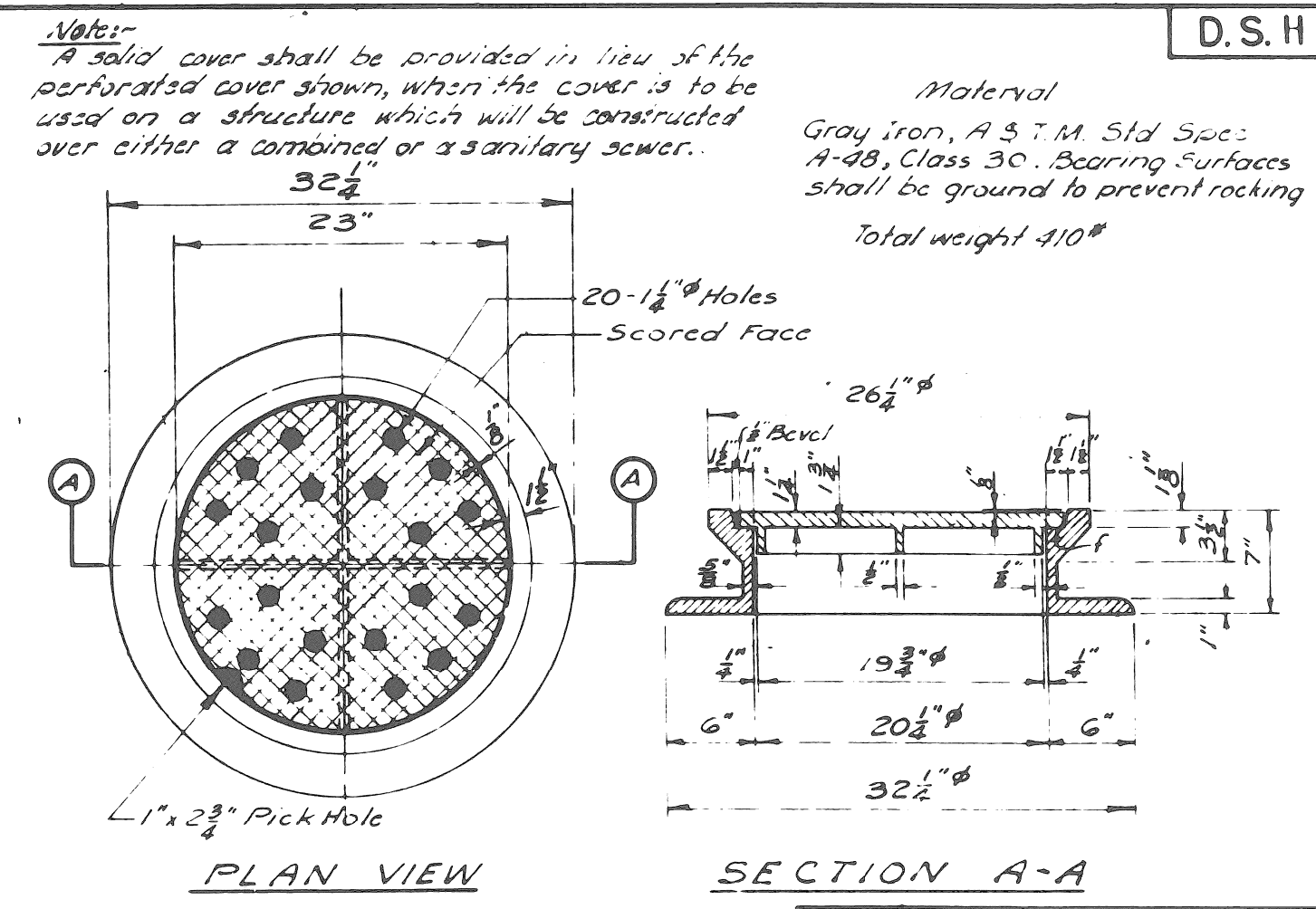
THE FIRST PIPE LENGTH ENTERING OR LEAVING ANY STRUCTURE SHALL BE TEMPORARILY SUPPORTED BY SUITABLE MEANS UNTIL THE STRUCTURE IS COMPLETED AND BACKFILLED.

A "POURED GRADE A CONCRETE BASE", WITHOUT STEEL REINFORCEMENT, MAY BE SUBSTITUTED FOR A PRECAST BASE WHEN APPROVED BY THE ENGINEER. THE POROUS BACKFILL CUSHION WILL NOT BE REQUIRED UNDER THE POURED BASE, UNLESS THE CONTRACTOR HAS EXCAVATED BELOW THE REQUIRED ELEVATION, AT WHICH TIME THE ENGINEER WILL DECIDE AS TO THE MERITS OF INCREASING THE THICKNESS OF THE CONCRETE BASE OR THE USE OF A POROUS BACKFILL CUSHION.

**MISCELLANEOUS STANDARDS**

BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DETROIT MICHIGAN DESIGN DIVISION	NO. SCALE DATE (2-1-72) DRAWN BY E.M.B. CHECKED BY A.E.S.	PRIMARY ROAD STANDARDS C-5520 CORRECT ENGINEER OF HIGHWAY DESIGN REG. PRO. ENG. CHIEF ENGINEER - DESIGN DIVISION REG. PRO. ENG.
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Note: Granular Material Class I shall be placed and compacted by the "Controlled Density Method" to 95% of maximum unit weight.

Unsuitable Subgrade Excavation will not include the area of the Pipe Edge Drain trench.

Replacement of Edge Drain backfill in areas of Unsuitable Subgrade Excavation is incidental to the undercut backfill. When Porous Material for backfill of Unsuitable Subgrade Excavation is used it will be allowed over the Edge Drain trench.

**EDGE DRAIN**

**MISCELLANEOUS STANDARDS**

**GENERAL NOTES**

ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT MICHIGAN DEPARTMENT OF STATE HIGHWAYS STANDARD SPECIFICATIONS AND AS FOLLOWS:-

THE CONTRACT UNIT PRICE BID PER LINEAL FOOT FOR INSTALLING CULVERT, SEWER, EDGE DRAIN OR BANK DRAIN SHALL INCLUDE EXCAVATION AND BACKFILLING WITH SAND-GRAVEL MATERIAL OR GRANULAR MATERIAL CLASS I, II, OR III, AS REQUIRED.

<p>BOARD OF WAYNE COUNTY ROAD COMMISSIONERS</p> <p>DETROIT MICHIGAN</p> <p>DESIGN DIVISION</p>	<p>SCALE NO SCALE</p> <p>DATE 12-1-78</p> <p>DRAWN BY J.H.W.</p> <p>CHECKED BY A.E.S.</p>	<p><b>PRIMARY ROAD STANDARDS</b> C-552C</p> <p>CORRECTED BY [Signature]</p> <p>APPROVED BY [Signature]</p> <p>CHIEF ENGINEER - DESIGN DIVISION</p>
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**GENERAL NOTES**

Existing Water Mains, as shown, indicate approximate location only as shown by D.M.W.D. records and no guarantee is made as to completeness or accuracy.

The locations and elevations of existing utilities are shown in accordance with available data. The Contractor shall expose these utilities, where required, to determine actual locations.

Other utilities may be making alterations to their existing systems in the vicinity of the Water Main construction shown on the plans. These utilities should be consulted for the latest information regarding the location of their facilities.

A minimum clearance of one foot vertically and three and one half feet horizontally shall be maintained between the Water Main and other utilities, unless otherwise shown on the plans or approved by the Engineer. If a conflict is indicated between the Water Main and any other utility, that utility should be consulted.

The location of Fire Hydrants, as shown, are approximate. D.F.D. will give exact location of Proposed Fire Hydrants prior to installation.

"Ductile Iron Pipe in sizes 3" through 16" is permitted as a part of the Cast Iron Pipe Specifications."

**CONSTRUCTION NOTES**

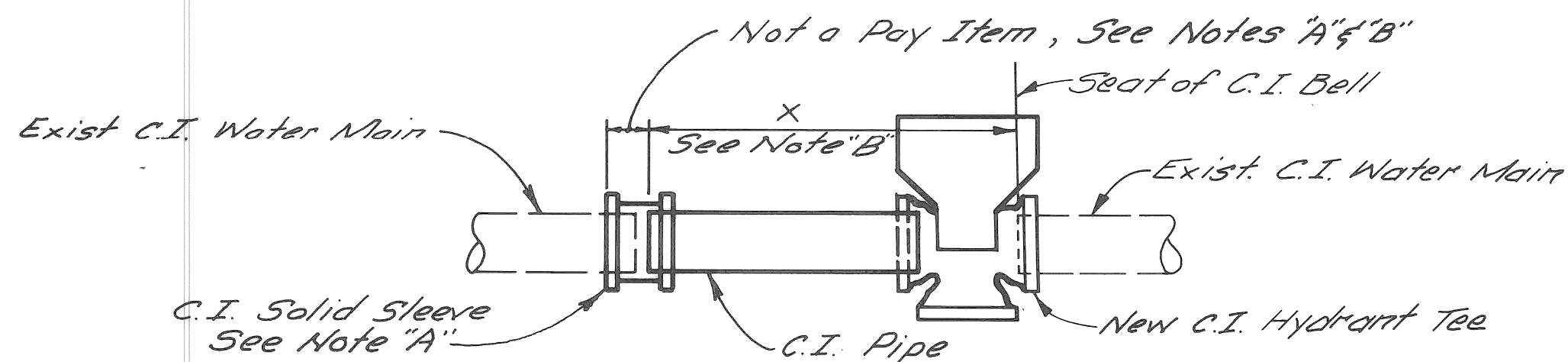
Encasements and Thrust Blocks shall be poured against undisturbed earth. Bottom 3" of Encasement may be poured separate from Encasement and used as a sub-footing.

All Encasements and Thrust Blocks shall terminate at the face of pipe bells.

Removal of abandoned Water Mains as required for clearance to construct the Proposed Water Mains is incidental to Water Main Construction.

Sheeting and bracing, where required, shall be installed by the Contractor as incidental to Water Main const.

Scheduling of the connections shall be governed by the "Sequence of Operations" and "Flushing and Chlorination" specifications which are included in the Water Main portion of the Proposal.



PLAN  
DETAILS A-1 THRU A-2  
NO SCALE

SCHEDULE FOR DETAIL "A"						
DETAIL N <sup>o</sup>	FROM SHEET N <sup>o</sup>	NEW WATER MAIN SIZE	NEW TEE SIZE	C.I. PIPE SIZE	X	TRENCH DETAIL

SCHEDULE OF HYDRANT INSTALLATION ON EXISTING MAINS DETAILS H-1 THROUGH H-4						
DETAIL N <sup>o</sup>	FROM SHEET N <sup>o</sup>	SIZE OF NEW OR EXIST. HYD TEE	SIZE OF GATE VALVE	LENGTH OF 6" C.I. WATERMAIN	FIRE HYDRANT	TRENCH DETAIL
H-1	16	Exist 12"x6" (B)	6"	18'	6"	11
H-2	16	Exist 12"x6"	6"	20'	6"	12
H-3	17	Exist 6"x6"	6"	12'	6"	12
H-4	17	Exist 8"x6" (B)	6"	4.78'	6"	11

- (A) Gate Box shall be furnished and installed for each valve
- (B) Existing tee shall be rotated to suit

**NOTES FOR CONTRACTOR'S CONNECTIONS**

Contractor shall cut and cap or plug existing Water Mains to remain in service where required in accordance with supplemental specifications.

4" C.I. Blow-off Assemblies, C.I. Plugs and Caps to be installed and/or removed by Contractor have not been shown.

Contractor shall install and later remove all temporary C.I. Plugs, Tees and Blow-off Assemblies.

Contractor shall furnish and install C.I. Pipe and Fittings necessary to complete the connections shown.

Contractor shall construct all Concrete Thrust Blocks and Gate Wells.

Contractor shall install all Temporary bracing for Water Main work.

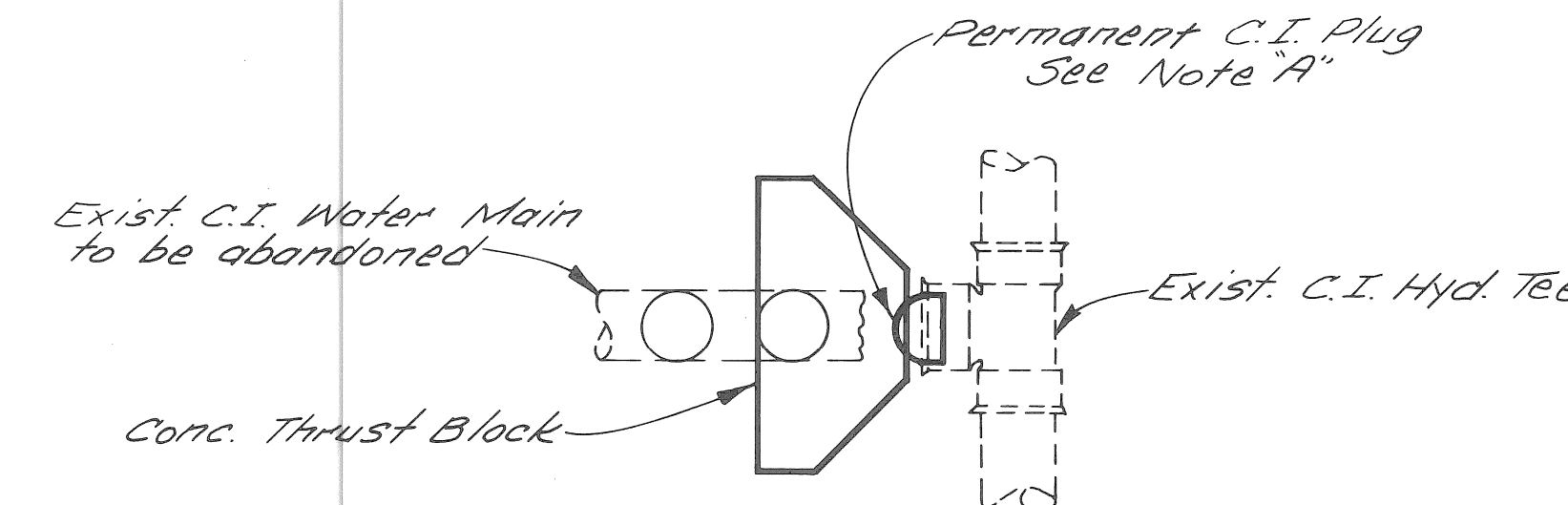
It is not normally anticipated that bends requiring Thrust Blocks will be required for Connections unless otherwise shown.

**NOTE "A"**

Plugs and caps, temporary blow-offs, air valves, corporation stops, pipe jacks, solid sleeves, jointing material, bracing and blocking are incidental to water main construction and will not be paid for separately.

**NOTE "B"**

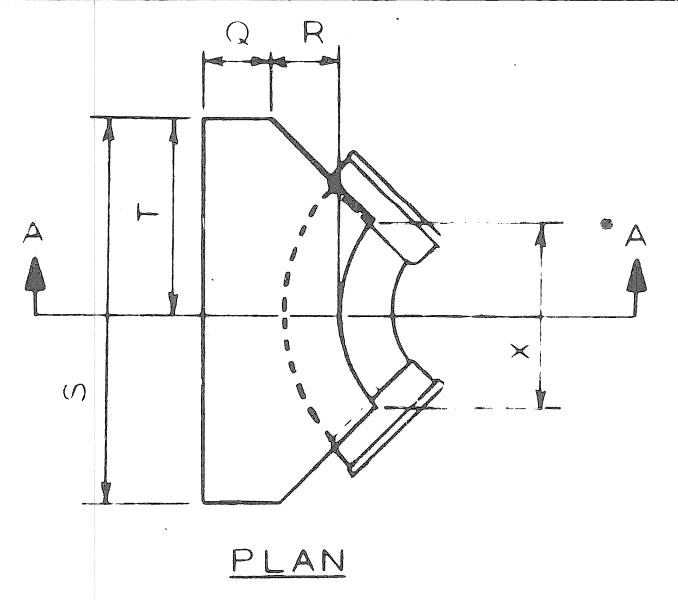
Limits shown for dimension "X" shall be used to measure laid length of pipe.



PLAN  
DETAILS C-1 THRU C-2  
NO SCALE

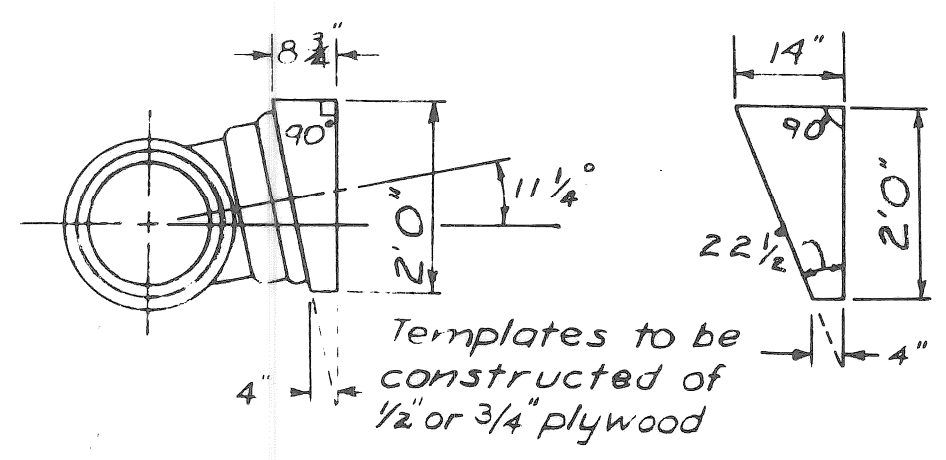
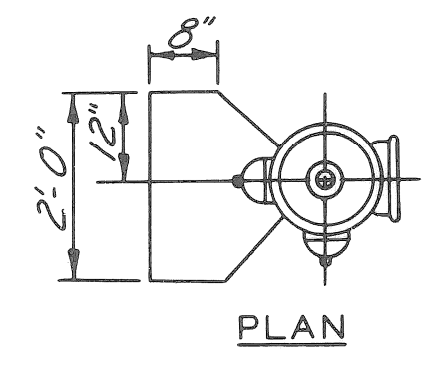
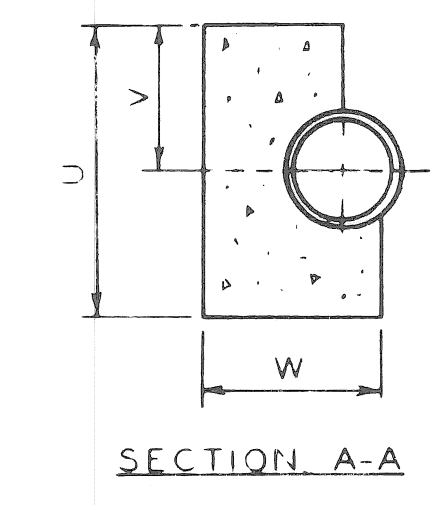
SCHEDULE FOR DETAIL "C"					
DETAIL N <sup>o</sup>	FROM SHEET N <sup>o</sup>	PORTION OF HYDRANT TEE TO BE PLUGGED	SIZE OF EXIST. HYDRANT TEE	PLUG SIZE	TRENCH DETAIL

<p>DESIGNED BY <b>I. H. K.</b></p> <p>DRAWN BY <i>Palto</i></p> <p>TRACED BY</p> <p>CHECKED BY <b>R. B. P.</b></p>	<p>APPROVED: <i>Allen E. Hooper</i> ENGINEER OF EXPRESSWAYS</p>	<p><b>CITY OF DETROIT</b> DEPARTMENT OF PUBLIC WORKS CITY ENGINEERS OFFICE</p>	<p><b>E. OUTER DR. - E. SEVEN MILE &amp; E. OUTER DR. - VAN DYKE</b> ALTERATIONS TO WATER MAINS CONTRACTOR'S CONNECTIONS</p>	<p>SHEET <b>21</b> OF <b>63</b> SHEETS</p> <p>PROJECT No. <b>C-5520</b></p> <p>ASSIGN No. <b>2194 &amp; 2196</b></p> <p>DATE <b>5-1-74</b></p>
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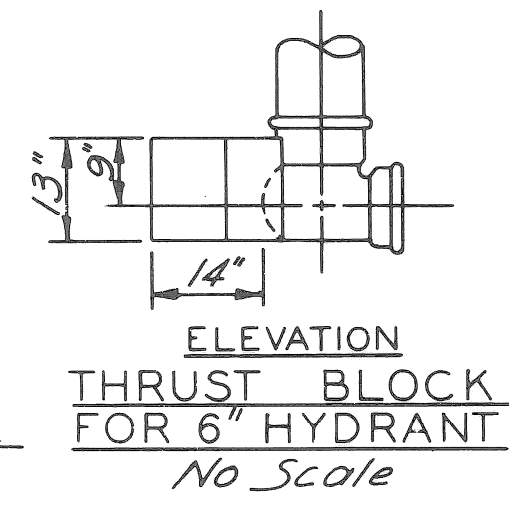


BEND SIZE	CODE								
	Q	R	S	T	U	V	W	X	
6" x 8" 90°	0' 9"	1' 0"	3' 4"	1' 8"	2' 6"	1' 3"	1' 11"	1' 2"	
12" 90°	0' 9"	1' 4"	5' 6"	2' 9"	3' 0"	1' 6"	2' 4"	1' 8"	
16" 90°	1' 0"	1' 8"	6' 0"	3' 0"	5' 0"	2' 6"	3' 0"	2' 8"	
6" x 8" 45°	0' 9"	1' 0"	2' 4"	1' 2"	2' 0"	1' 0"	1' 11"	1' 4"	
12" 45°	0' 9"	1' 4"	3' 6"	1' 9"	2' 6"	1' 3"	2' 4"	1' 4"	
16" 45°	1' 0"	1' 8"	5' 4"	2' 8"	3' 0"	1' 6"	3' 0"	2' 6"	
6" x 12" 22 1/2°	0' 9"	1' 0"	2' 6"	1' 3"	2' 0"	1' 0"	2' 0"	1' 4"	
16" 22 1/2°	1' 0"	1' 8"	3' 4"	1' 8"	2' 6"	1' 3"	3' 0"	1' 2"	

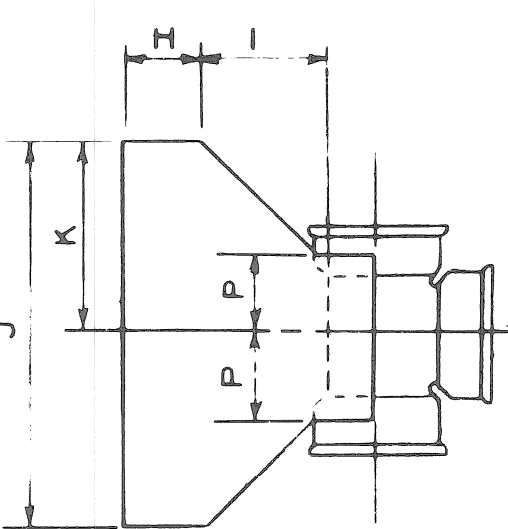
DETAIL OF STANDARD THRUST BLOCKS FOR BENDS  
No Scale



TEMPLATE FOR SETTING TEES  
AT 11 1/4° & 22 1/2° ANGLES  
No Scale



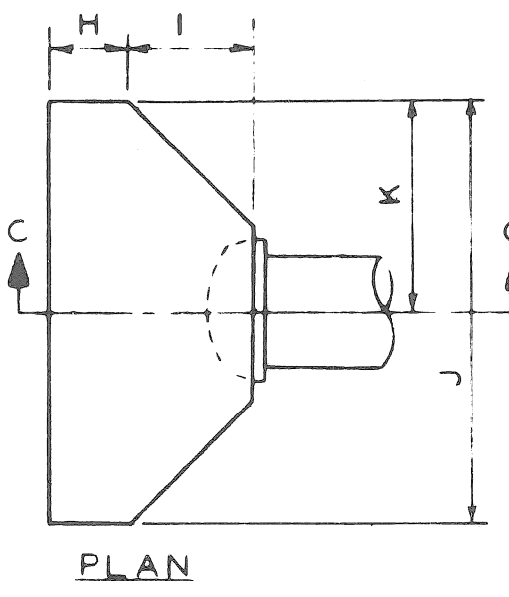
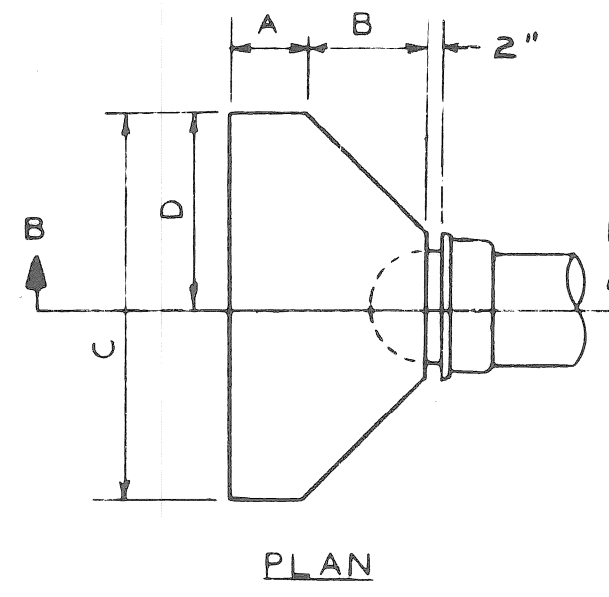
ELEVATION THRUST BLOCK FOR 6" HYDRANT  
No Scale



TEE SIZE	CODE								
	H	I	J	K	L	M	N	P	
8" x 8"	0' 9"	1' 0"	3' 0"	1' 6"	2' 0"	1' 0"	8' 2' 3"	8' 0' 6"	
12" x 8"	0' 9"	1' 4"	4' 0"	2' 0"	3' 0"	1' 6"	12' 2' 3"	12' 0' 6"	
16" x 8"	1' 0"	1' 8"	5' 0"	2' 6"	4' 0"	2' 0"	16' 2' 9"	16' 0' 6"	
12" x 12"	0' 9"	1' 4"	4' 0"	2' 0"	3' 0"	1' 6"	12' 2' 9"	8' 0' 8"	
16" x 12"	1' 0"	1' 8"	5' 0"	2' 6"	4' 0"	2' 0"	16' 3' 1"	16' 0' 8"	
16" x 16"	1' 0"	1' 8"	5' 0"	2' 6"	4' 0"	2' 0"	16' 3' 8"	16' 0' 11"	

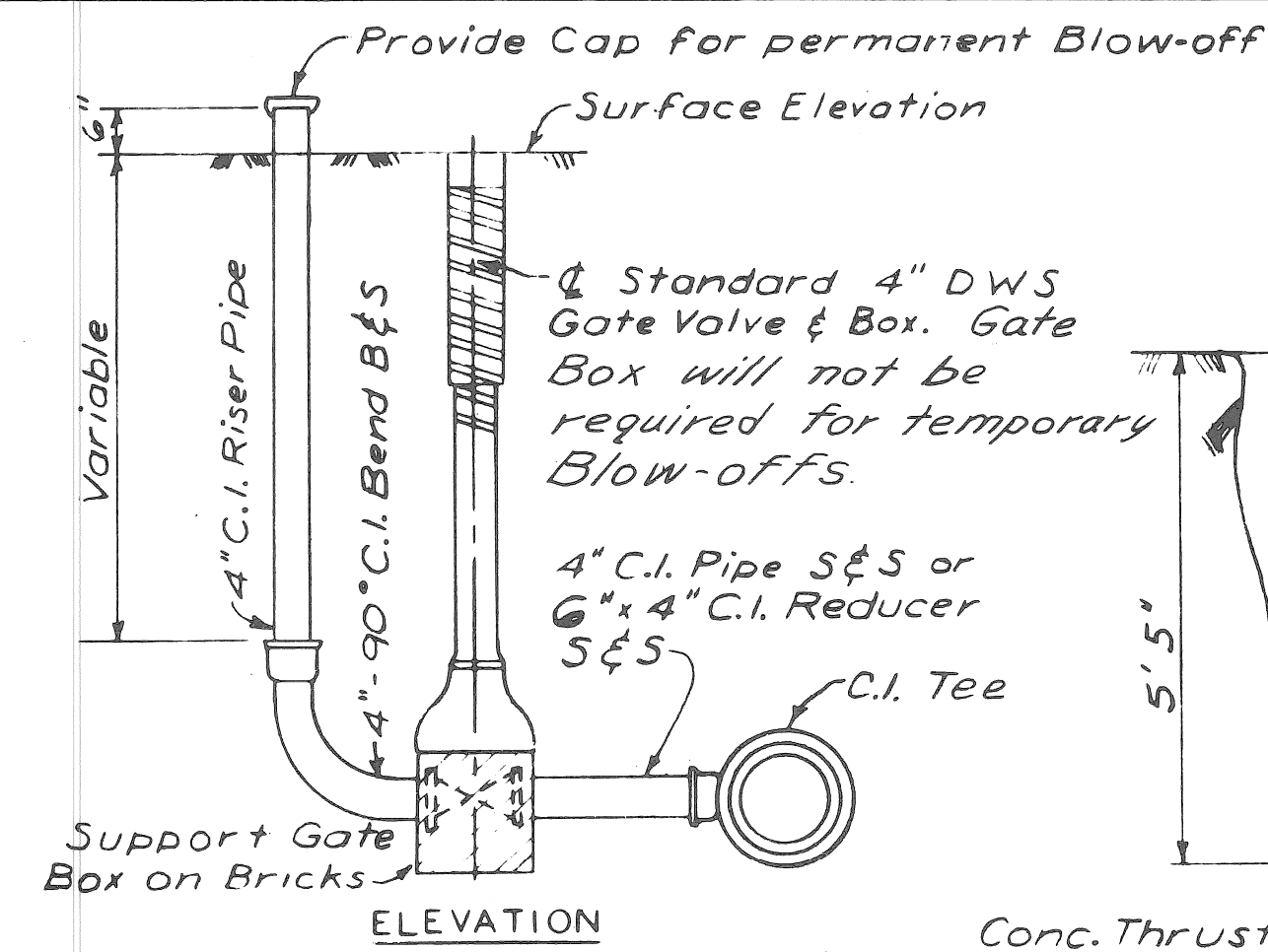
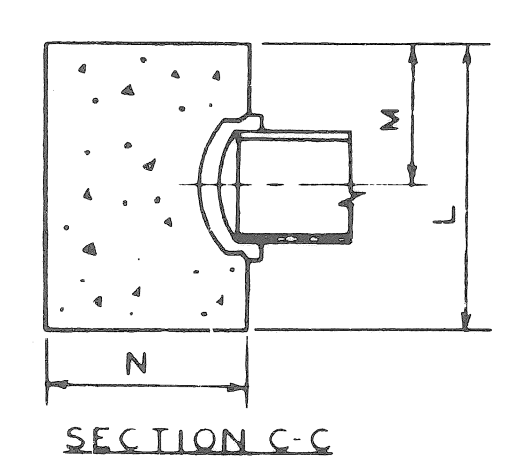
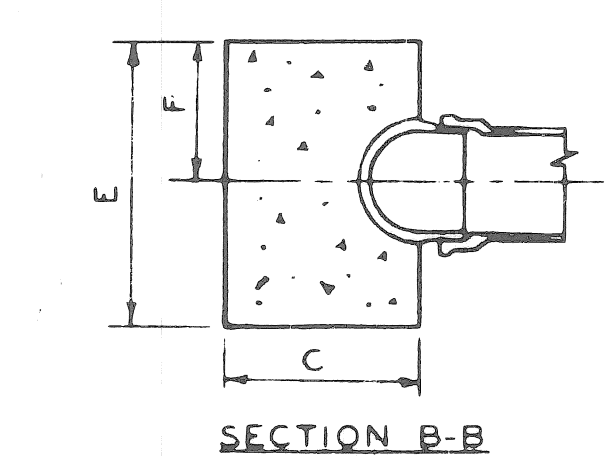
DETAIL OF STANDARD THRUST BLOCKS FOR TEES  
No Scale

NOTES  
The bearing face of all thrust blocks shall be poured against undisturbed earth. Thrust blocks will be required on all C.I. Bends 6 inches in Diameter or larger and greater than 11 1/4°.

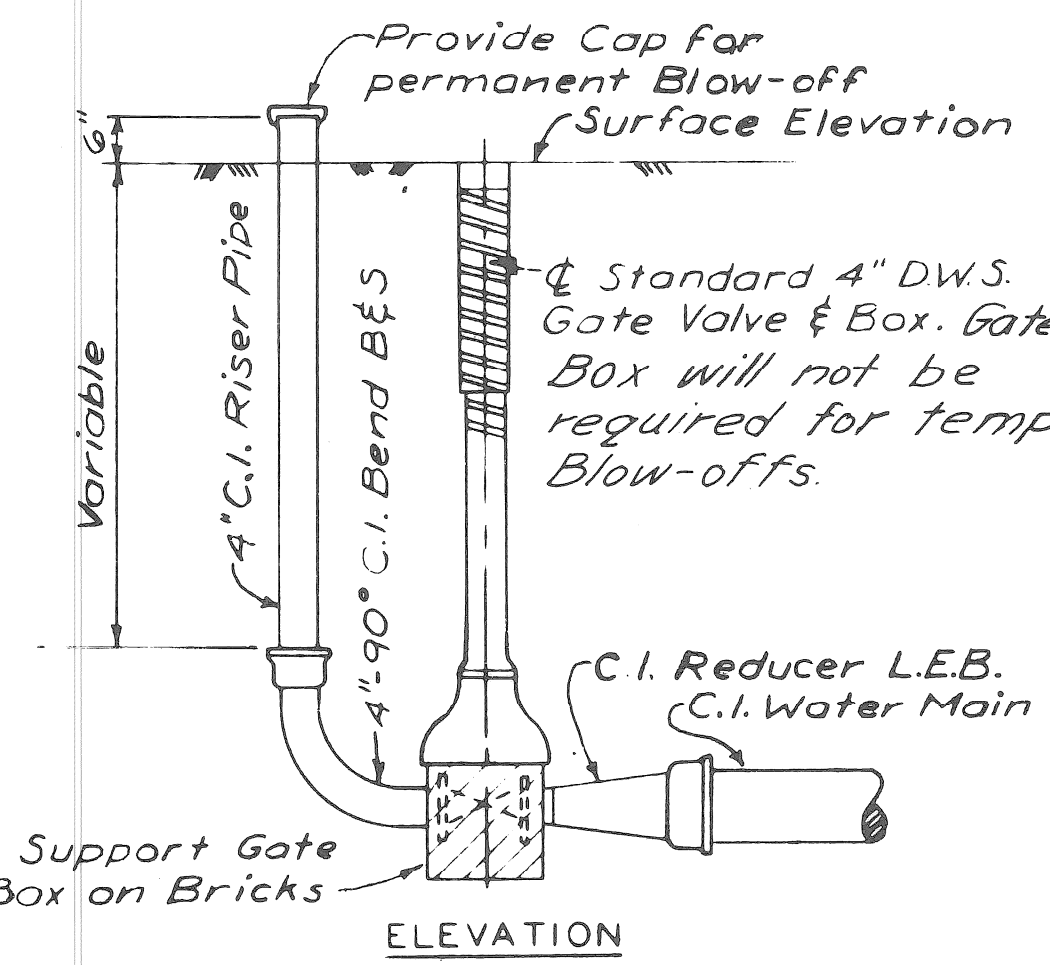


PLUG SIZE	CODE						
	A	B	C	D	E	F	G
6" x 8"	0' 9"	1' 2"	3' 0"	1' 6"	2' 0"	1' 0"	1' 11"
12"	0' 9"	1' 4"	4' 0"	2' 0"	3' 0"	1' 6"	2' 1"
16"	1' 0"	1' 8"	5' 0"	2' 6"	4' 0"	2' 0"	2' 8"

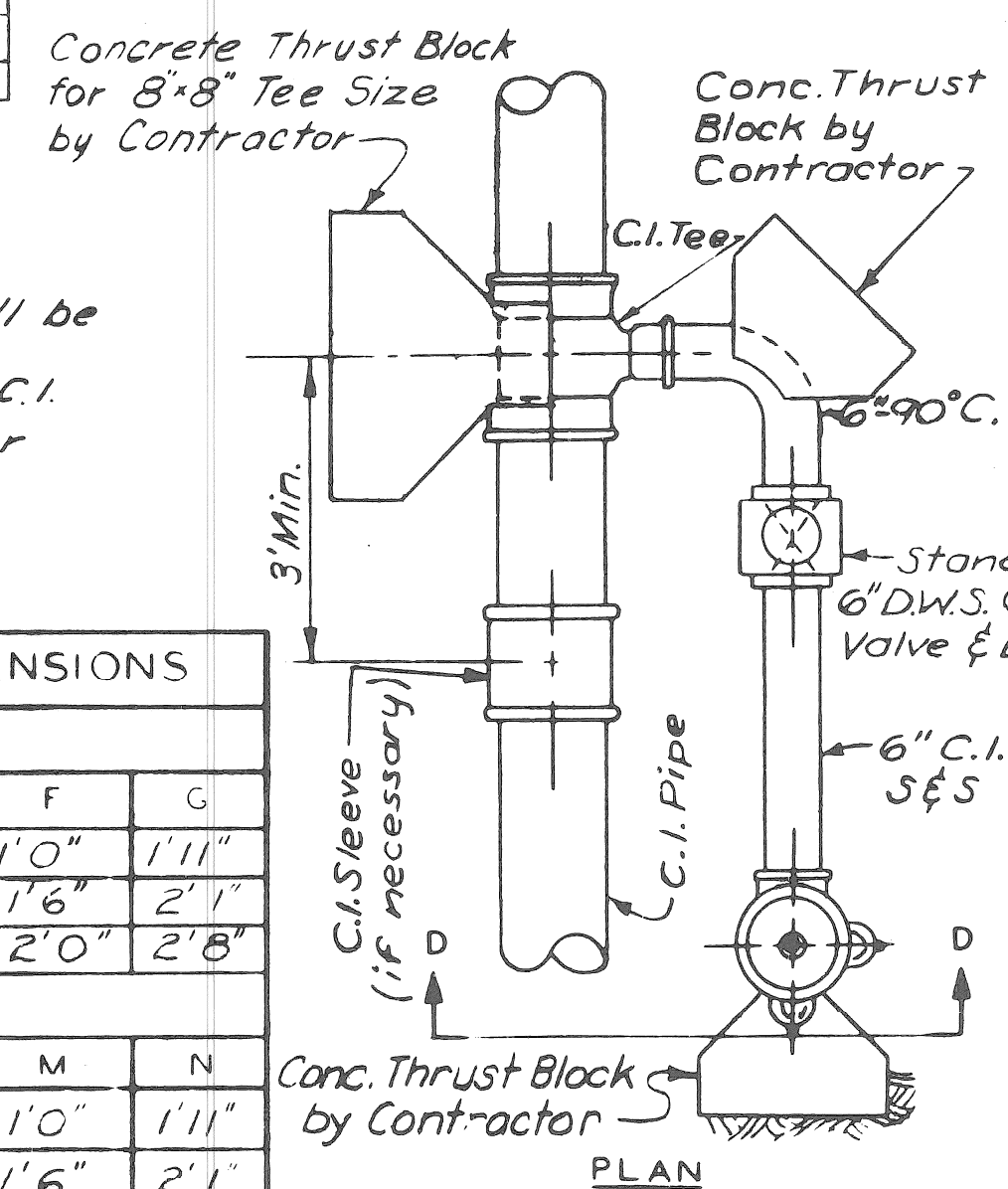
DETAIL OF STANDARD THRUST BLOCKS FOR PLUGS & CAPS  
No Scale



DETAIL OF 4" C.I. ELBOW-OFF  
No Scale

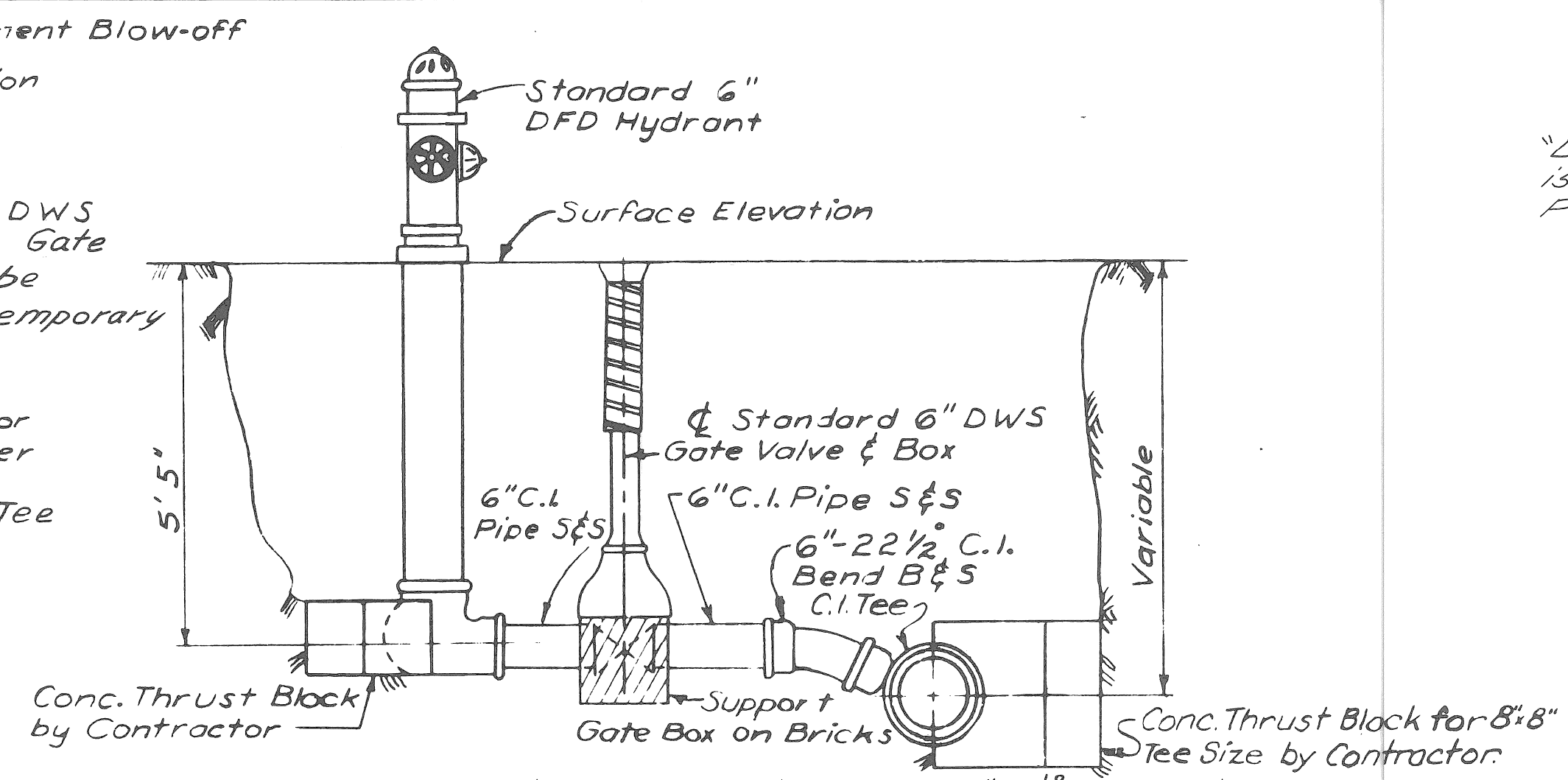


DETAIL OF 4" C.I. BLOW-OFF  
No Scale



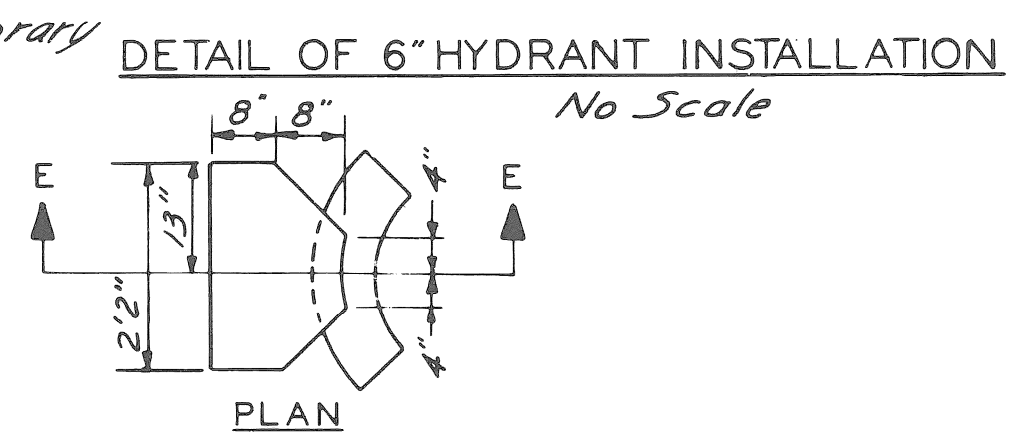
DETAIL OF 6" HYDRANT INSTALLATION  
No Scale

Hydrants to be a minimum of 6' behind the Curb, unless otherwise shown on the drawings. Dimensions given from Curb are from Pavement Joint line which is at face of Curb.

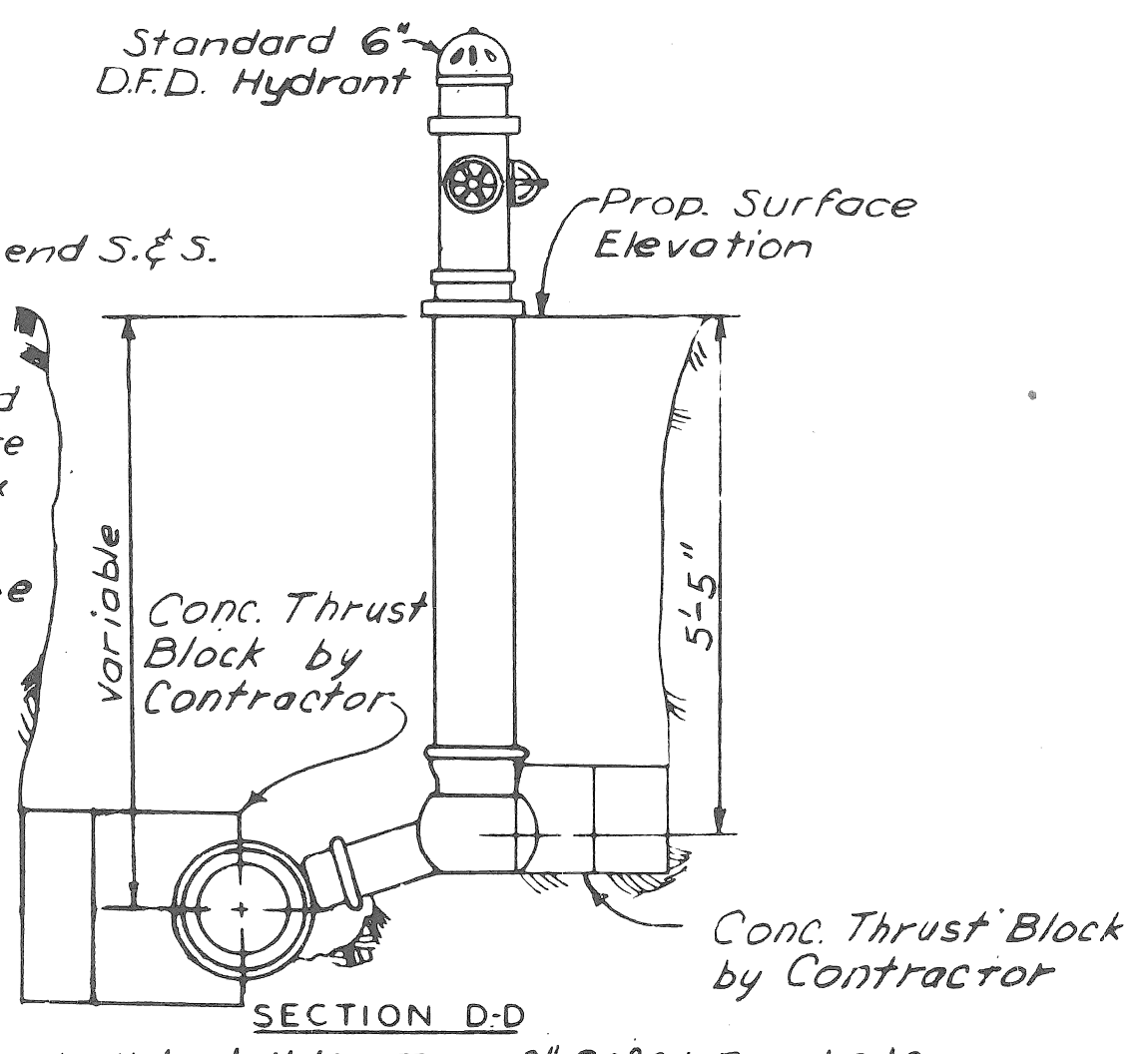


From the new main the Contractor shall install the Tee, 6" 22 1/2° C.I. Bend B&S, 6" C.I. Pipe, 6" D.W.S. Gate Valve & Box, 6" C.I. Pipe, Concrete Thrust Blocks, and Hydrant. From any existing main the complete Hydrant installation shall be done by the Contractor.

Hydrants to be a minimum of 6' behind Curb, unless otherwise noted on the drawings. Dimensions given from the Curb are from Pavement Joint line which is at face of Curb.



THRUST BLOCK FOR 6" HYDRANT BEND  
No Scale



SECTION D-D

GENERAL NOTES  
"Ductile Iron Pipe in sizes 3" through 16" is permitted as a part of the Cast Iron Pipe Specifications."

PROJECT NO. M      JOB NO. 2196&2194

FIRE HYDRANT MISCELLANEOUS DETAILS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DRAWN BY	RBP
TRACED BY	MP
CHECKED BY	J.D.
DATE	

QUANTITY SHEET - E

Table with columns for ITEMS, AS PER PLANS (SHEET NO'S 6, 8, 10, 16, 21), AS CONSTRUCTED (SHEET NO'S 6, 8, 10, 16, 21), and sub-columns for PARTICIPATING and NON-PARTICIPATING work items like CONSTRUCTION SEQUENCE, REMOVALS, PLAN, UTILITIES, etc.