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	DC-1	II - 52 D
		IV - 80 A

Chain Link Fence - Special Detail

*SHEET NOS. R 8, R 9, R 10, & E 16
 DELETED FROM THE CONTRACT.

** Sheet No. R34A Added to Contract

**CITY OF DETROIT
 CITY ENGINEERING DIVISION - E.P.M.D.**

IN CO-OPERATION WITH

MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

AND

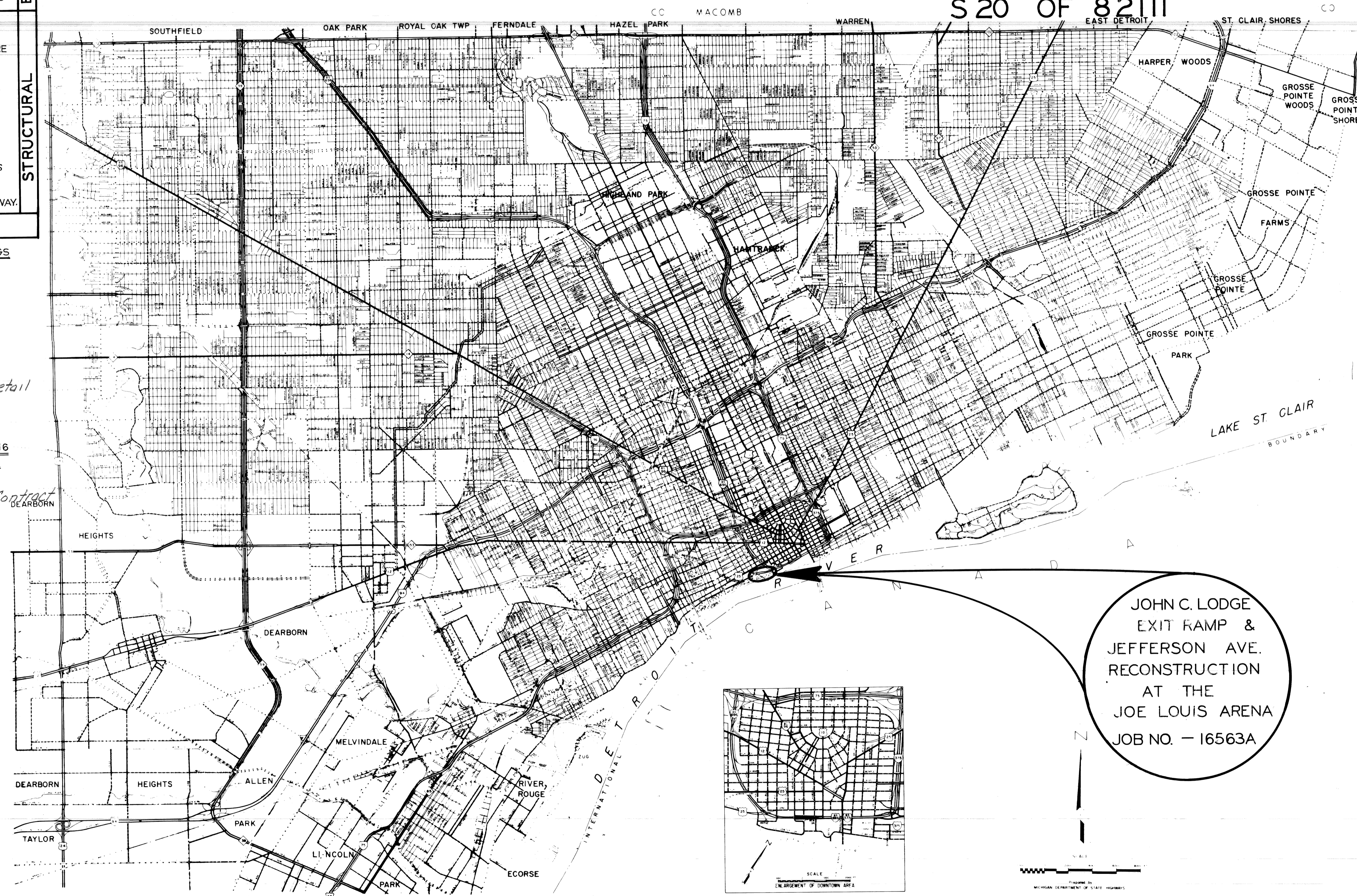
FEDERAL HIGHWAY ADMINISTRATION

PLAN AND PROFILE OF PROPOSED

**FEDERAL AID URBAN PROJECT NO. MICHIGAN M 2000 (113)
 CONTROL SECTION 82400, 82111 (RAMP) JOB NO.-16563A
 S 20 OF 82111**

B.P.R. DIV. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH				
STREET	CITY	COUNTY	TWP	SHEET NO.	TOTAL SHEETS
	DETROIT	WAYNE		1	

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS CURRENT STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.



ITEM NO. 534

CONTRACT FOR G, DS, P & UTILITIES

LOCAL AUTHORITY APPROVAL
 CITY OF DETROIT
 CITY ENGINEERING DIVISION
 ENVIRONMENTAL PROTECTION & MAINTENANCE DEPARTMENT

APPROVED BY J. Carit ASSISTANT CITY ENGINEER 8/10/79 DATE
 APPROVED BY [Signature] CITY ENGINEER 8/10/79 DATE

*AS CONSTRUCTED
 6-30-82 RJK*

PREPARED UNDER SUPERVISION OF

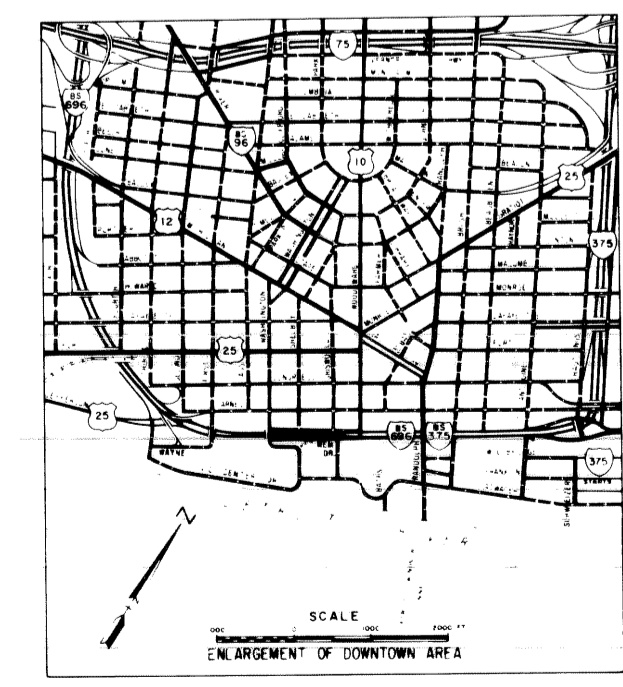
J. Carit 10906 REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO.

CITY OF DETROIT ORGANIZATION

DETROIT MICHIGAN ADDRESS

(SEAL)

JOHN C. LODGE
 EXIT RAMP &
 JEFFERSON AVE.
 RECONSTRUCTION
 AT THE
 JOE LOUIS ARENA
 JOB NO. - 16563A



FILE NO.	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
100-113-82400-82111			1

M 2000 (113) 82400; S 20 of 82111 82111 Job # 16563A

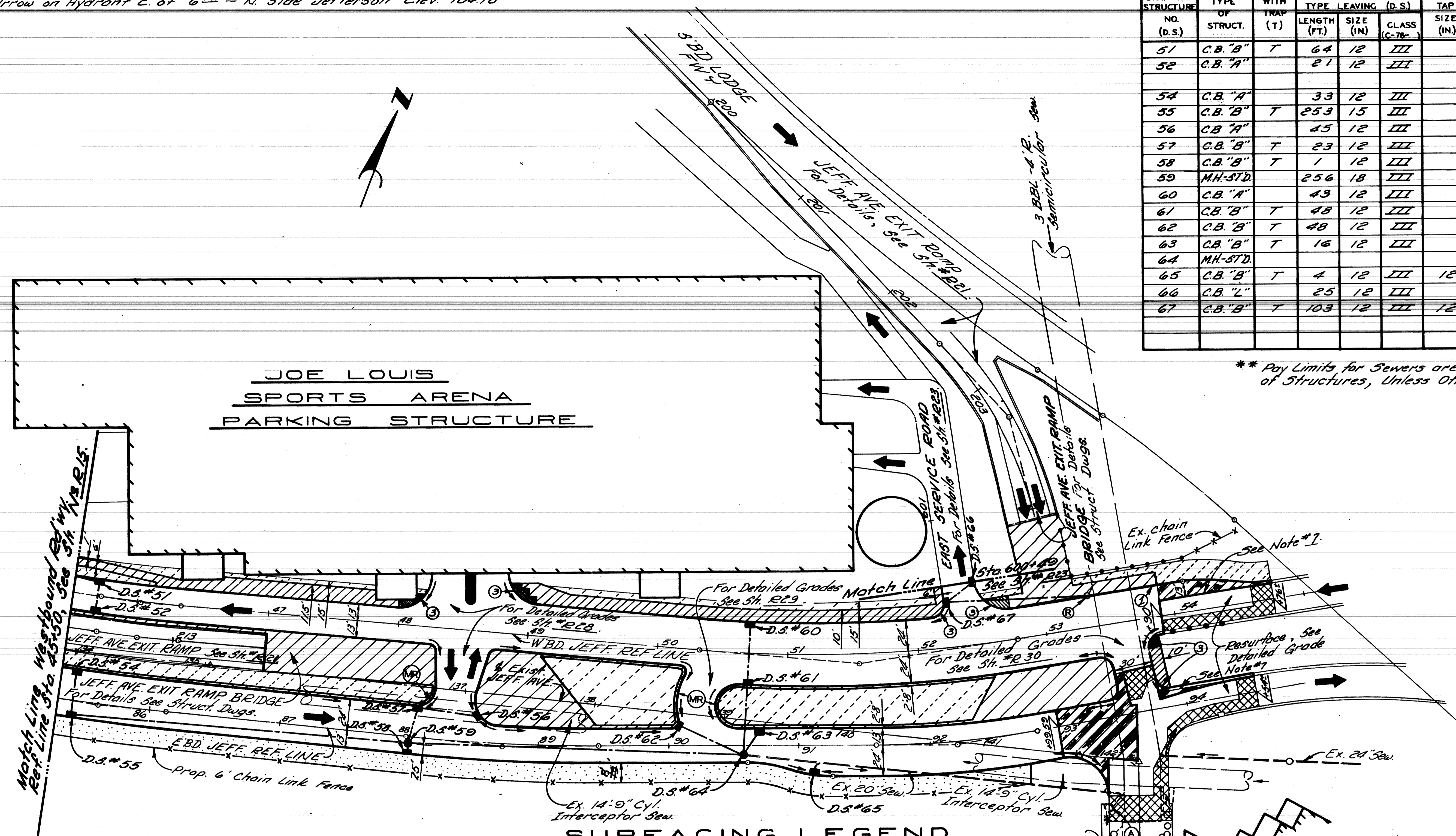
ORIGINAL

P.B.M. 28-356 E.S. Third- & Jefferson W. Elev. 100.217
 C.B.M. Arrow on First Hydrant W of Third-N. Side Jefferson Elev. 103.20
 C.B.M. Arrow on Hydrant E. of 6th - N. Side Jefferson Elev. 104.18

DRAINAGE STRUCTURE TABLE

DRAINAGE STRUCTURE NO. (D.S.)	TYPE OF STRUCT.	WITH TRAP (T)	**SEWER LENGTH & TYPE LEAVING (D.S.)			SEWER TAP SIZE (IN.)	TRENCH DETAIL (L.F.)		TYPE OF COVER	COMMENTS
			LENGTH (FT.)	SIZE (IN.)	CLASS (C-75-)		8	9		
51	C.B. "B"	T	64	12	III		52	12	H	Portion Passing Over Bridge Deck to be Enclosed in Concrete
52	C.B. "A"		21	12	III			21	H	Provide 8" Inlet for Bridge Drains
54	C.B. "A"		33	12	III			33	H	
55	C.B. "B"	T	253	15	III			253	H	
56	C.B. "A"		45	12	III			45	H	
57	C.B. "B"	T	23	12	III			23	H	
58	C.B. "B"	T	1	12	III			1	H	
59	M.H.-STD.		256	18	III			256	A	
60	C.B. "A"		43	12	III			43	H	Portion Passing Over Bridge Deck to be Enclosed in Concrete
61	C.B. "B"	T	48	12	III		30	18	H	
62	C.B. "B"	T	48	12	III			48	H	
63	C.B. "B"	T	16	12	III			16	H	
64	M.H.-STD.								A	Connect to existing 20" Sewer
65	C.B. "B"	T	4	12	III	12		4	H	
66	C.B. "L"		25	12	III			25	H	To Pass Under 3' Age and Over 12' Span. To be Enclosed in Concrete
67	C.B. "B"	T	103	12	III	12		103	H	Portion Passing Over Bridge Deck to be Enclosed in Concrete

** Pay Limits for Sewers are Inside Faces of Structures, Unless Otherwise Noted.



SURFACING LEGEND

- Conc. Pav 4'-Reinf.-9" with Conc. Curb & Gutter Detail A-1 Mod.
- 4" Conc. Sidewalk (Ramp areas are paid for Separately)
- Class "A" Seeding with Topsoil Surface, 3 in.
- Exist. Building to Remain
- 6" Conc. Sidewalk (Ramp areas are paid for Separately)
- Drainage Arrows
- Prop. Fence
- Class "A" Seeding with Topsoil Surface, 3 in.
- Moving 48" Fence (See Note 6)
- Exist. Sdk or Dray to Remain
- Removing Bitum. Surf. & Resurface
- Adjust. Drainage Structure Cover
- Sidewalk Ramp, Type 1
- Sidewalk Ramp, Type 3
- Reconstructing Drainage Structure
- Conc. Base Course Reinf., 9 in. with 2 in. Bit. Surface
- Mower Ramp (Incidental to Contract Cost) For Construction Details, See Sh. #R32
- Conc. Curb & Gutter Detail A-1 Mod.

- NOTES:**
1. For Alignment, See Sheets #R6 & #R7.
 2. For Utility Legend & Symbols, See Sh. #R30.
 3. Prop. Roadway edges shown are Face of Curb.
 4. For Construction Sequence, See Sh. #R11 thru #R12.
 5. For Street Return Radii, See Alignment Sh. #R6.
 6. Locate Fence Gate adjacent to Bridge Abut.
 7. Expansion Anchored Lane Ties to be used at the discretion of the Engineer depending on the condition of the existing pavement.

LODGE FWY.ramp to Jefferson
 (see Jefferson for full set) # 16563A

PLAN
 Scale: 1" = 40'

DESIGNED BY <i>Comly</i>	APPROVED:	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS	JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA PLAN E'BD. & W'BD JEFFERSON STA. 45+50 (W.BD. JEFF.) TO THIRD	SHEET ___ OF ___ SHEETS
DRAWN BY <i>Sucech</i>	ENGINEER OF STREETS			CONTRACT NO. 16563A
TRACED BY	HIGHWAY ENGINEER			R-18
CHECKED BY <i>Bonus</i>				DATE 8-79

REVISIONS LOCATED BY COORDINATES ON SHEET

The following information is provided only as an aid to the Contractor.

Drainage Structure Cover Type	Contract Total
Cover A	7 Each
Cover D	10 Each
Cover H	26 Each
Cover J	2 Each

The following are estimated quantities for the job which may be used at the discretion of the Engineer.

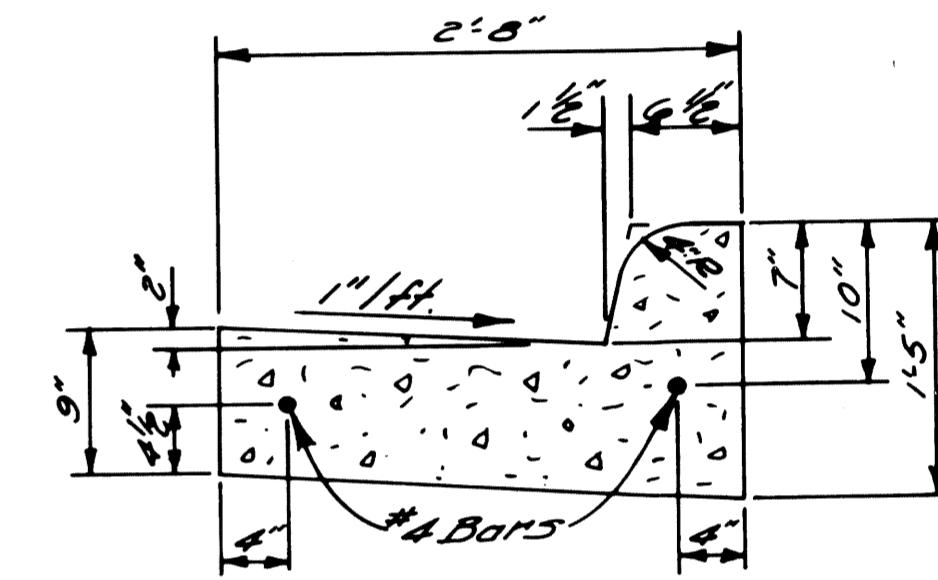
Basement Cleanout	100	Cu Yds
Removing Bituminous Curb	80	Lin.Ft
Subgrade Undercutting, Type II	500	Cu Yds
4" Concrete Sidewalk	360	Sq. Ft.
Removing Sidewalk	40	Sq. Yds.
Cleaning Existing Storm Drainage Structures	5	Each
Class "A" Sodding	30	Sq. Yds.
Class "B" Sodding	30	Sq. Yds.
Class "A" Seeding	2	Lbs.
Topsoil Surface - 3"	120	Sq. Yds.
Water	2	Units
Excelsior Mulch Blankets	60	Sq. Yds.
Chemical Fertilizer Nutrient	3	Lbs.
Removing Old Pavt. (Patching)	100	Sq. Yds.
Conc. Pavt. Patching Type NS-9" Non-Reinf.	100	Sq. Yds.

Miscellaneous quantities for J.C. Lodge Exit Ramp & Jefferson Ave. Reconstruction at the Joe Louis Arena.

Mobilization	1	Lump Sum
On the Job Training	4	Each

These quantities are listed on the Quantity Sheet under the Typical Cross-Section & participating agency to which they apply.

* Prop. Sidewalk Slopes are to be $\frac{3}{8}\%$ unless the engineer determines that a min. slope of $\frac{1}{4}\%$ or a max. slope of $\frac{3}{4}\%$ must be used to meet existing conditions.

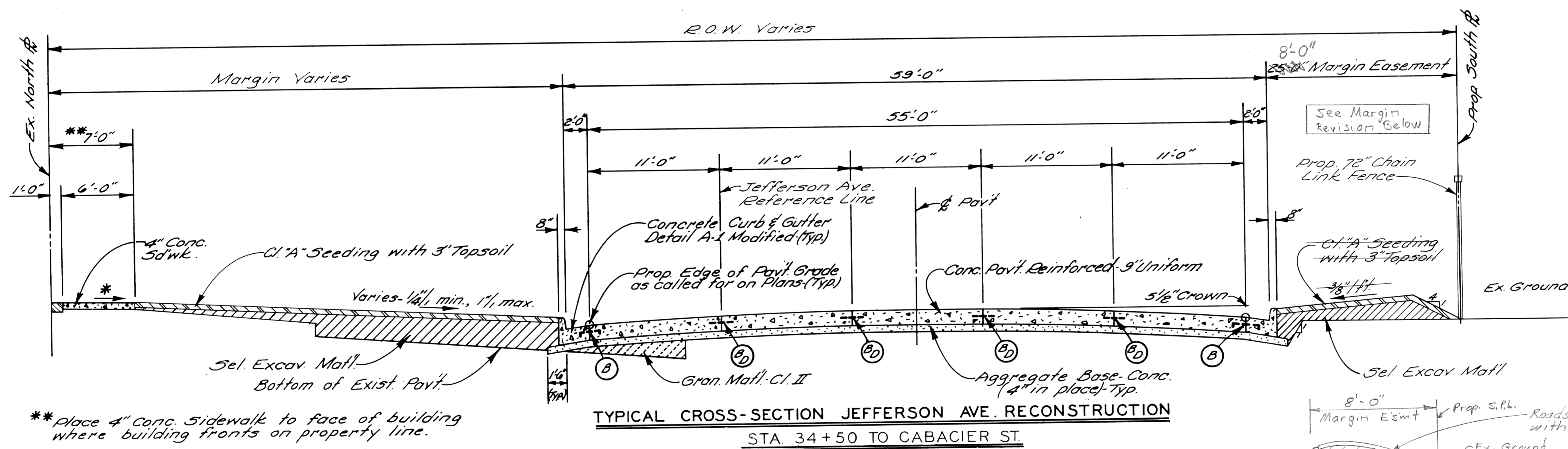


CONCRETE CURB & GUTTER
DETAIL A-1 MODIFIED

NO SCALE

JOINT LEGEND

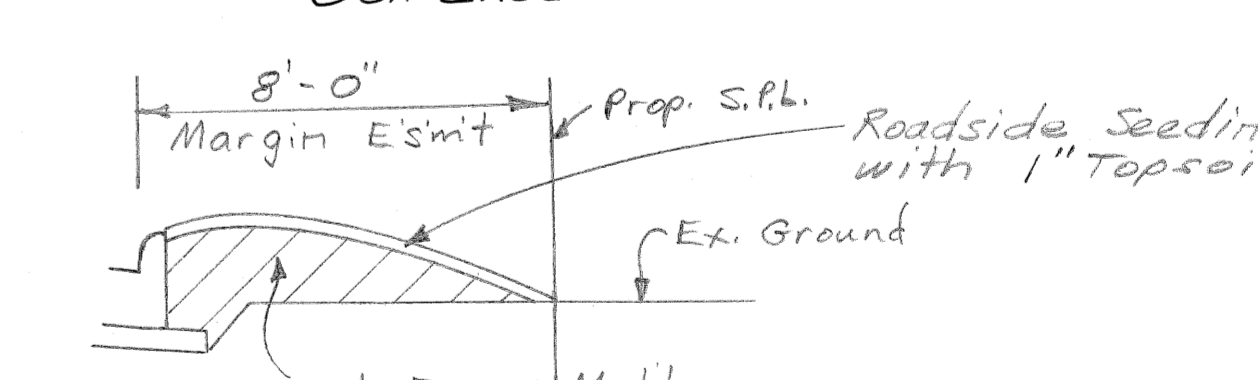
- (B) or (D) Longitudinal Pavement Joint according to M.D.S.H. Std. Dwg. II-41-C.
- (B) Optional, B or D.



TYPICAL CROSS-SECTION JEFFERSON AVE. RECONSTRUCTION

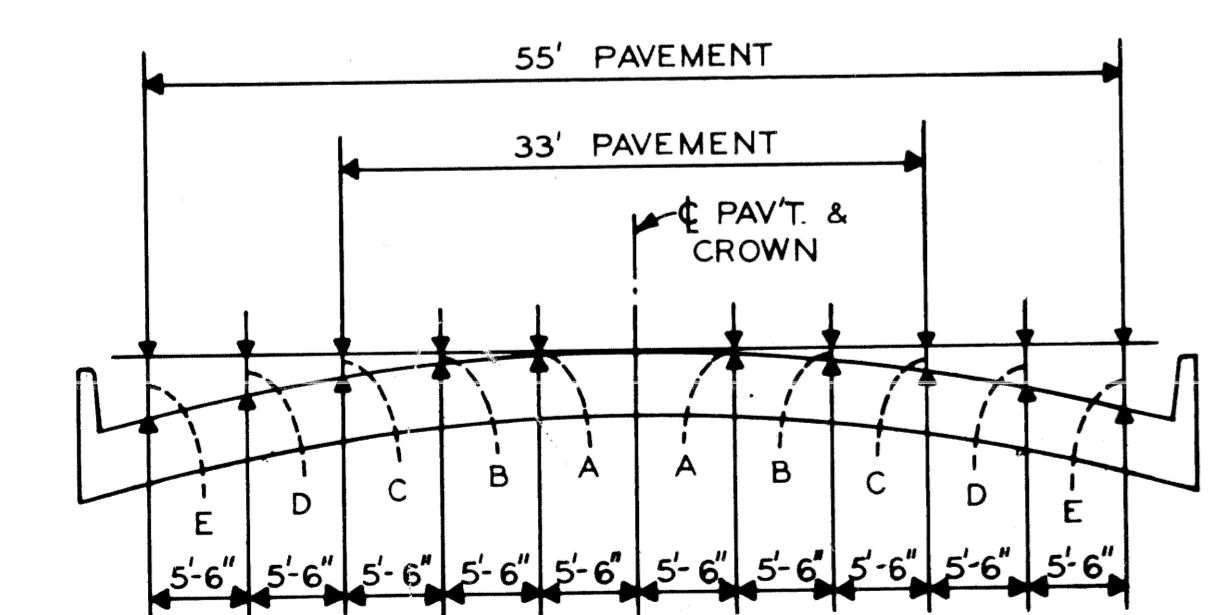
STA. 34+50 TO CABACIER ST.

NO SCALE



MARGIN REVISION

** Place 4" Conc. Sidewalk to face of building where building fronts on property line.



ELEMENTS OF 33' & 55' PAVEMENT

NO SCALE

PAVEMENT WIDTH	A	B	C	D	E
33'	1 1/2"	17 1/8"	4 1/8"	-	-
55'	1 1/4"	7 1/8"	2"	3 1/2"	5 1/2"

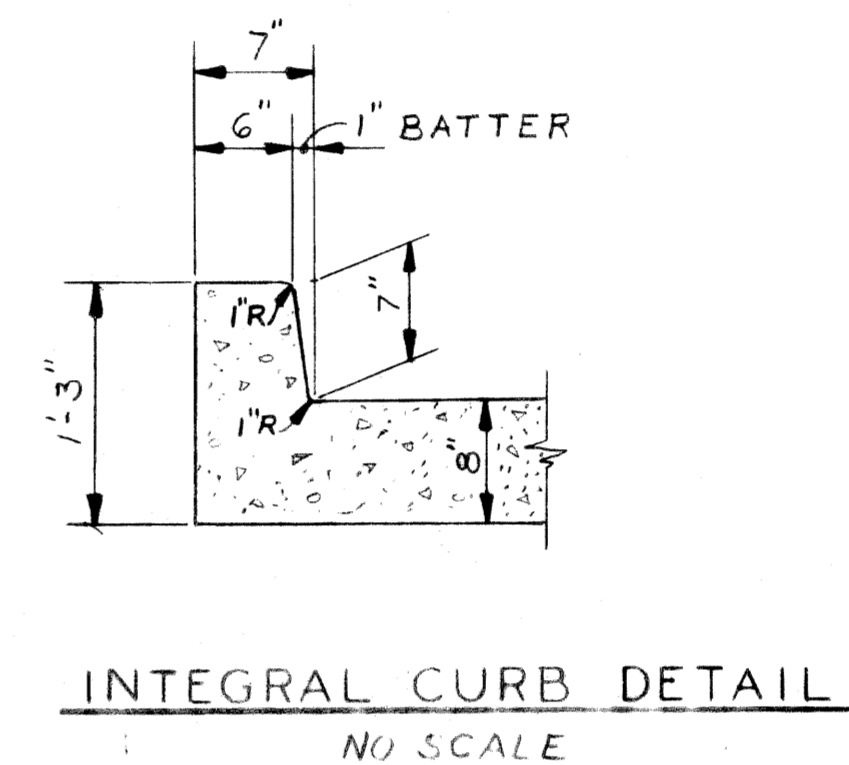
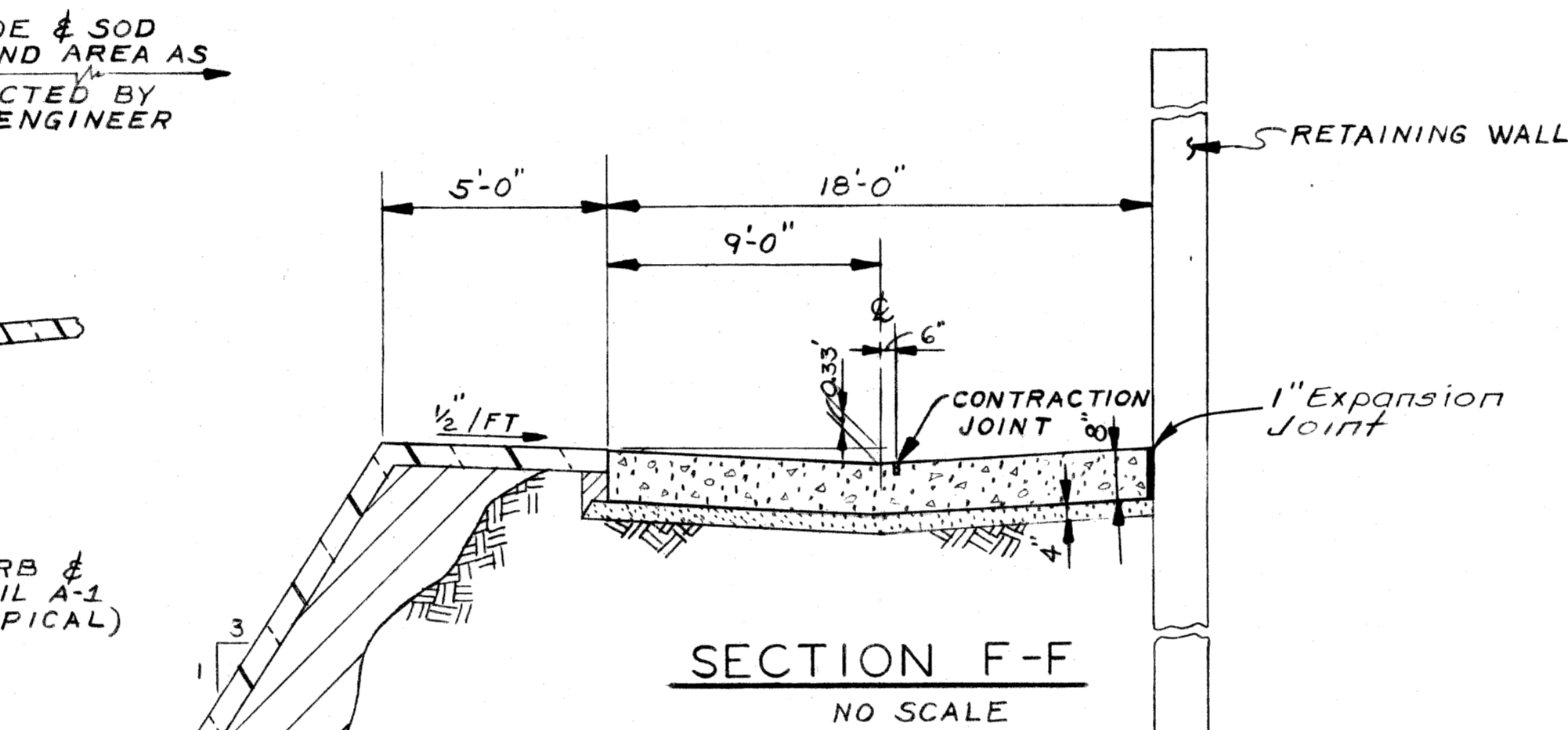
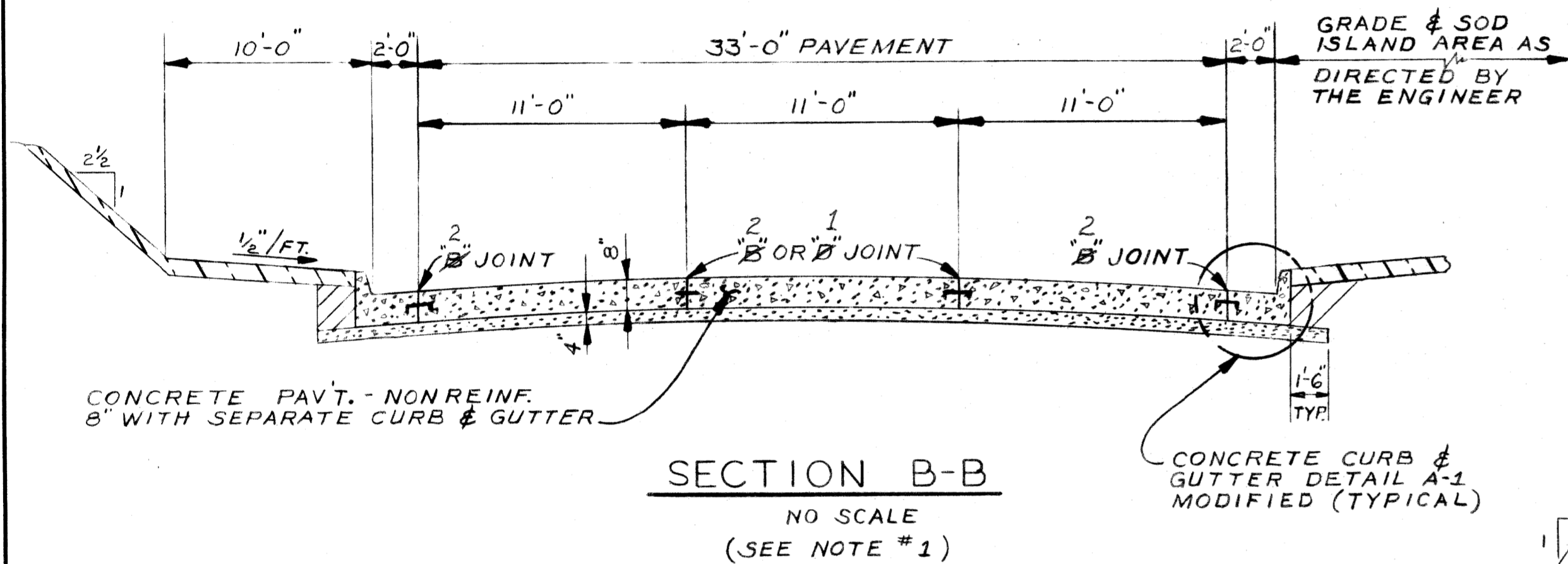
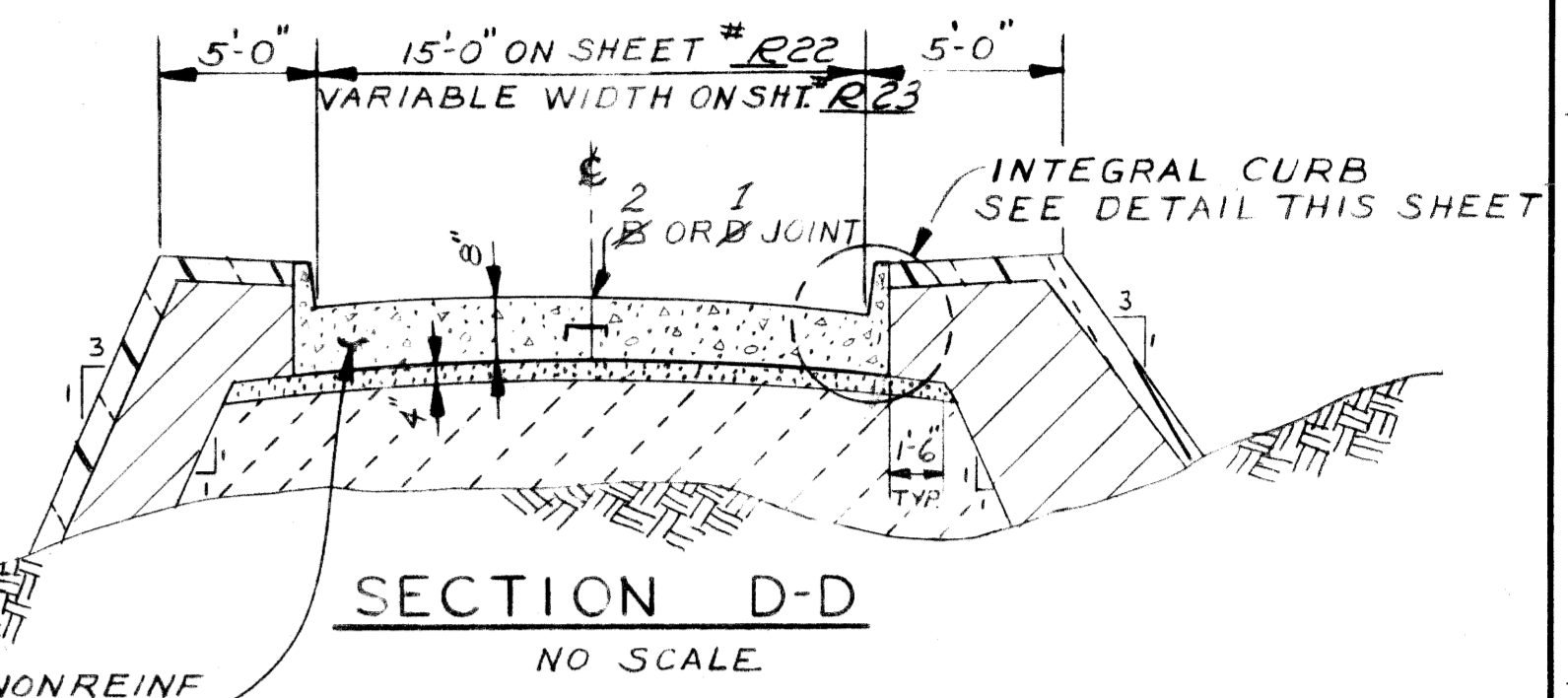
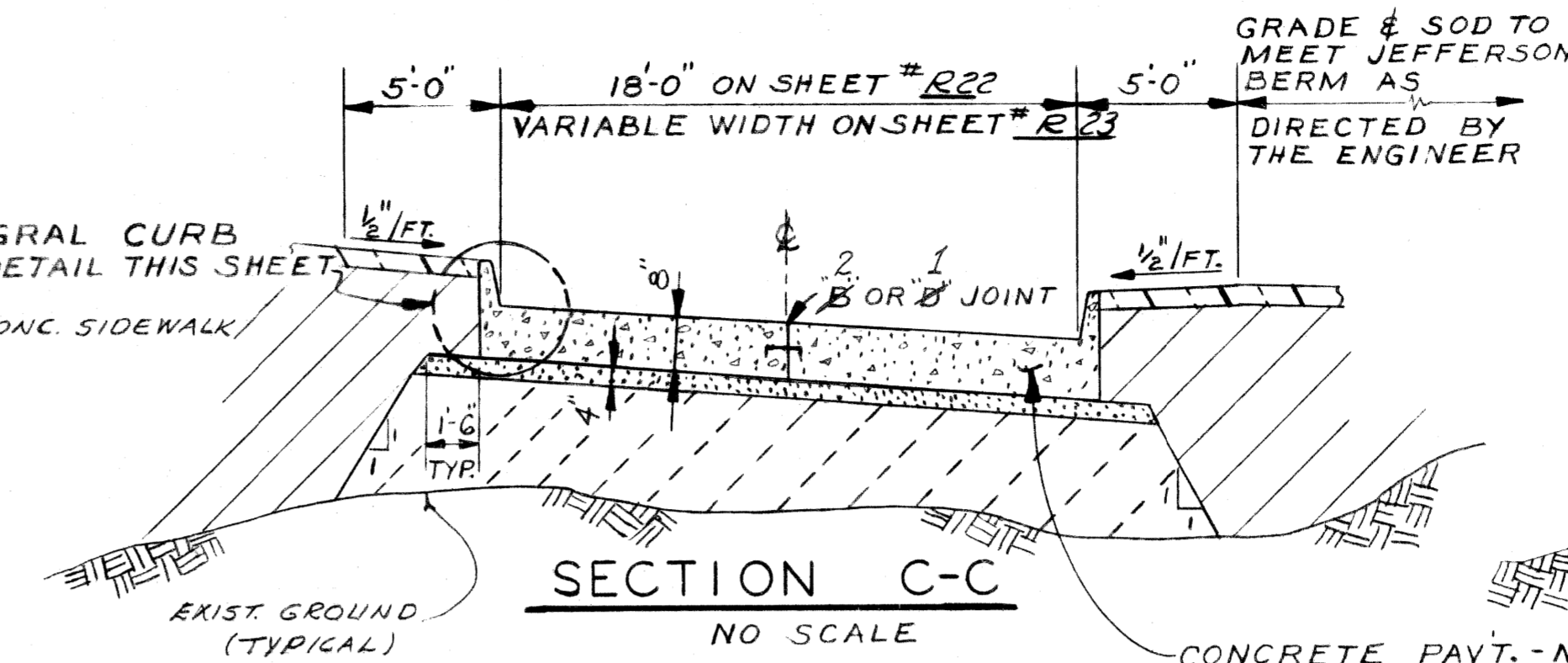
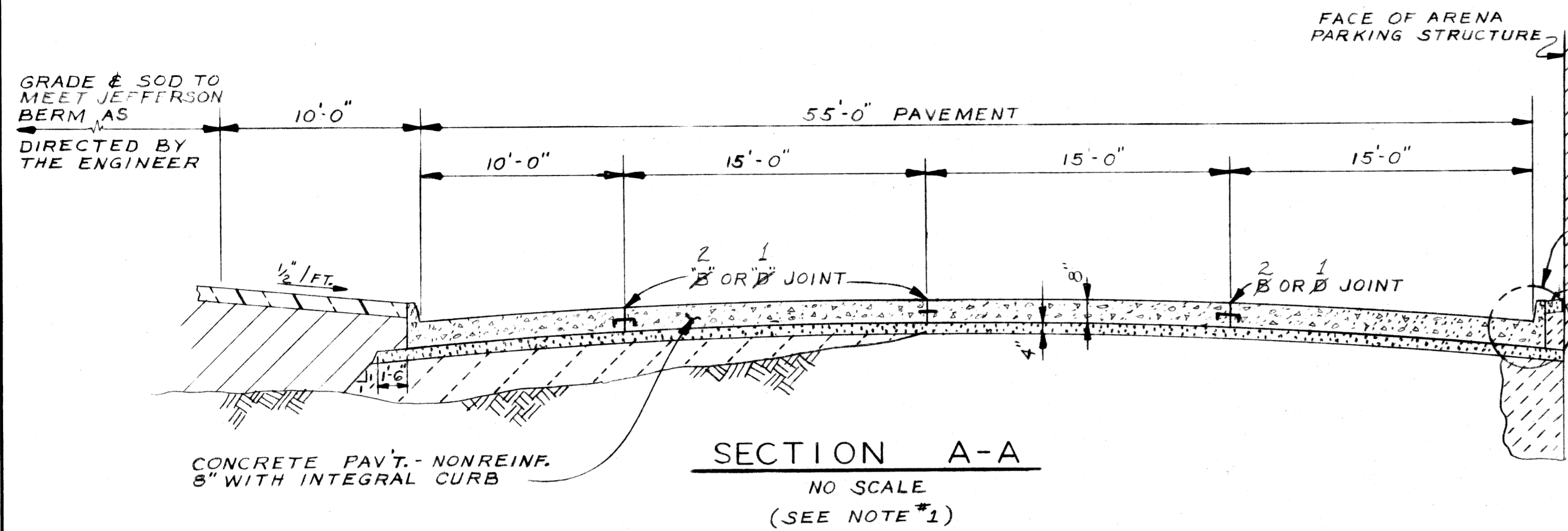
EARTHWORK LEGEND

- Fill (Grade A)
- Granular Material - Class II
- Selected Excavated Matl. - See Note #2.
- Conc. Pavement or Conc. Sidewalk
- Fill (22A)
- Aggregate Base Concrete (4" in Place)
- Class "B" Sodding with 3" Topsoil
- Class "A" Seeding with 3" Topsoil

GENERAL NOTES

- Backfill if req'd under prop. sidewalk and/or pavt. shall be Gran Matl. Class II.
- Sel. Excav. Matl. is incidental to "Earth Excavation."

CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAU OF STREETS AND HIGHWAYS				JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA				SHEET ___ OF ___ SHEETS	
DESIGNED BY	DRAWN BY	TRACED BY	CHECKED BY	APPROVED:	ENGINEER OF STREETS	HIGHWAY ENGINEER	CONTRACT NO. 16563A		
DESIGNED BY	DRAWN BY	TRACED BY	CHECKED BY	APPROVED:	ENGINEER OF STREETS	HIGHWAY ENGINEER	R-1		
TYPICAL CROSS-SECTIONS							DATE 8-79		

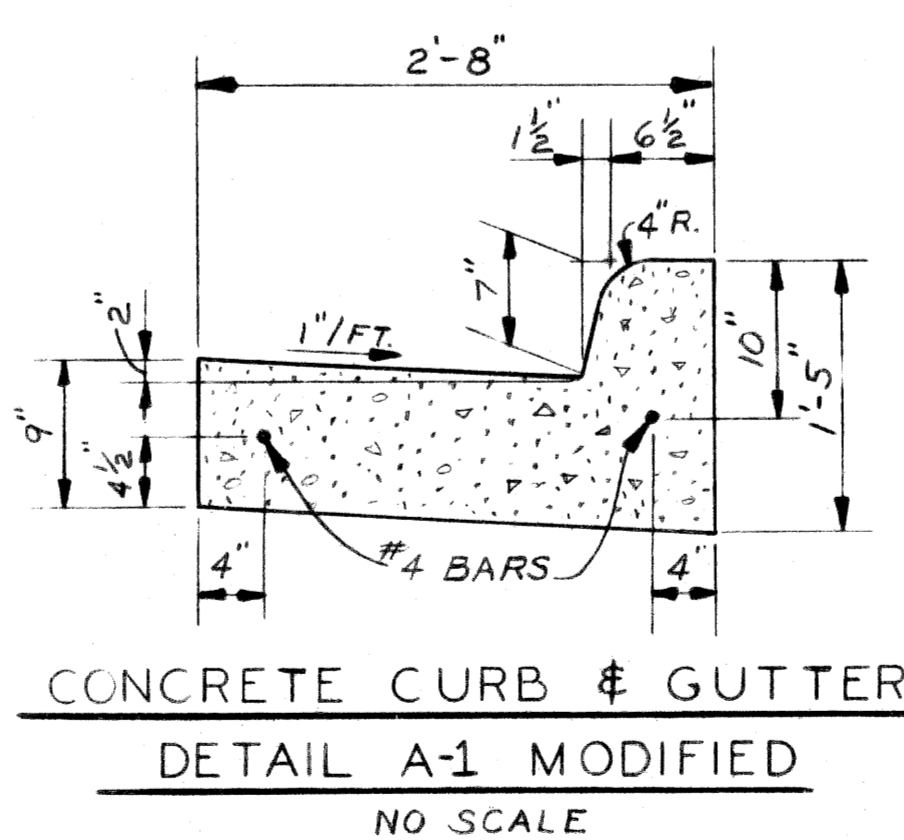
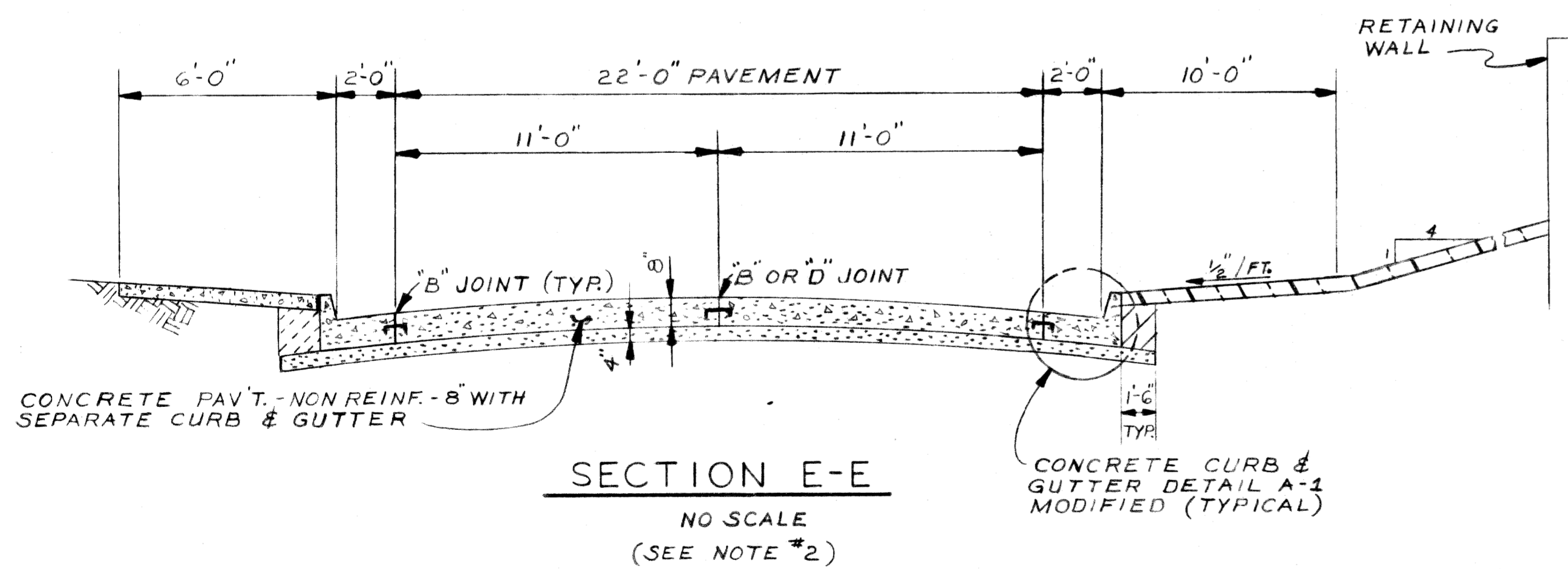


JOINT LEGEND

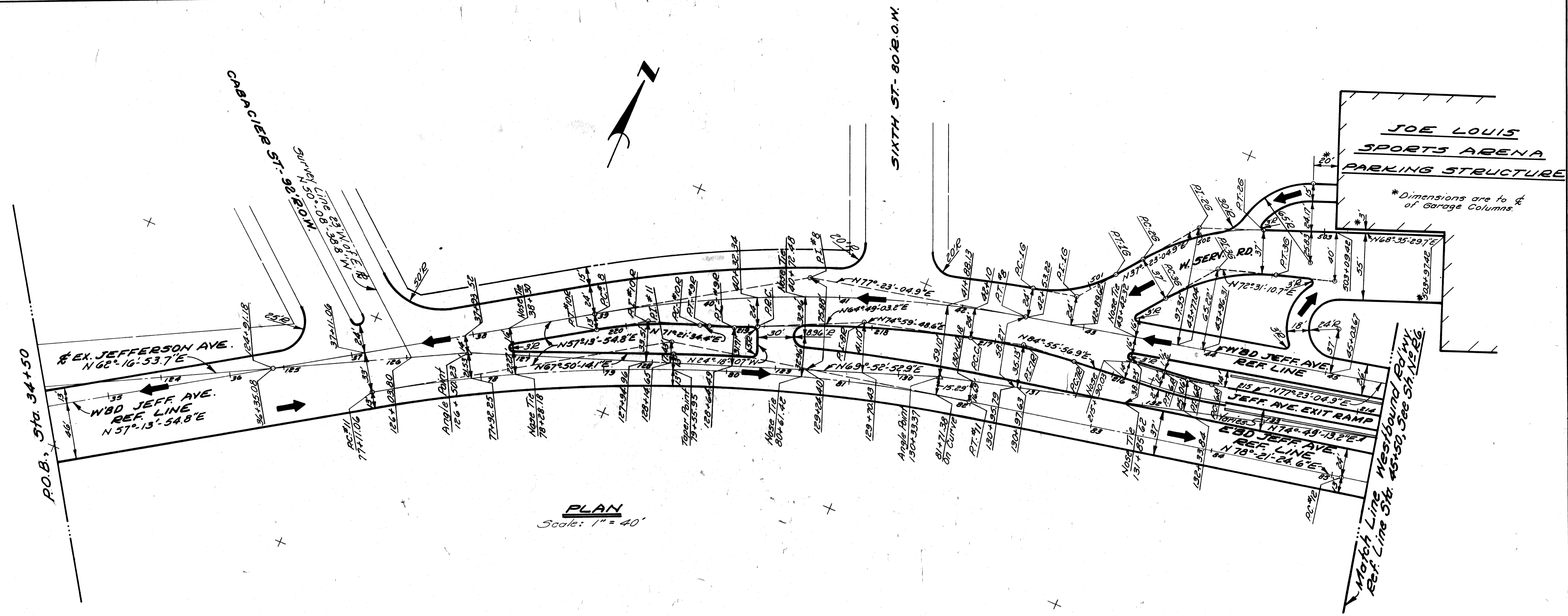
- "2" OR "1" - LONGITUDINAL PAVEMENT JOINT ACCORDING TO M.D.S.H. STD. DRWG. II-41-G.
 - "B" OR "D" - OPTIONAL, "B" OR "D"
 - "C" - TRANSVERSE PAVEMENT CONTRACTION JOINT ACCORDING TO M.D.S.H. STD. DRWG. II-39-F.
 - "E" - TRANSVERSE PAVEMENT EXPANSION JOINT ACCORDING TO M.D.S.H. STD. DRWG. II-39-F.
- CITY OF DETROIT, D.P.W. STREETS-DETAIL PAVING & DRAINAGE STANDARDS, DWG. NO. C-4943.

GENERAL NOTES:

1. FOR ELEMENTS OF 55' AND 33' PAVEMENTS, SEE SHT. NO. R1.
2. FOR ELEMENTS OF 22' PAVEMENT, SEE SHT. NO. R2.
3. FOR EARTHWORK LEGEND, SEE SHT. NO. R1.



<table border="1"> <tr> <td>DESIGNED BY</td> <td></td> </tr> <tr> <td>DRAWN BY</td> <td></td> </tr> <tr> <td>CHECKED BY</td> <td></td> </tr> </table>		DESIGNED BY		DRAWN BY		CHECKED BY		<table border="1"> <tr> <td>APPROVED:</td> <td></td> </tr> <tr> <td>ENGINEER OF STREETS</td> <td></td> </tr> </table>		APPROVED:		ENGINEER OF STREETS		<p>CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS</p>		<p>JOHN C LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA</p>		<p>SHEET _____ OF _____ SHEETS CONTRACT NO. 16563A R 4 DATE 8-79</p>					
DESIGNED BY																							
DRAWN BY																							
CHECKED BY																							
APPROVED:																							
ENGINEER OF STREETS																							
<table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DRN</th> <th>CHKD</th> <th>APVD</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>				NO.	DESCRIPTION	DRN	CHKD	APVD	DATE							<p>REVISIONS LOCATED BY COORDINATES ON SHEET</p>				<p>SERVICE ROAD TYPICAL</p>			
NO.	DESCRIPTION	DRN	CHKD	APVD	DATE																		



PLAN
Scale: 1" = 40'

JEFFERSON AVE. CURVE DATA

Curve #8	Curve #11	Curve #12
$\Delta = 20^{\circ}09'10.1''$	$\Delta = 21^{\circ}07'29.9''$	$\Delta = 3^{\circ}32'11.5''$
$D = 5^{\circ}43'46.5''$	$D = 4^{\circ}19'50.7''$	$D = 3^{\circ}22'13.2''$
$R = 1000'$	$R = 1323'$	$R = 1700'$
$T = 177.70'$	$T = 246.70'$	$T = 52.48'$
$L = 351.73'$	$L = 487.79'$	$L = 104.93'$
$E = 15.67'$	$E = 22.80'$	$E = 0.81'$
$PC = 38+99.94$	$PC = 77+11.06$	$PC = 85+08.12$
$PI = 40+77.64$	$PI = 79+57.76$	$PI = 85+60.60$
$PT = 42+51.67$	$PT = 81+98.85$	$PT = 86+13.05$

JEFFERSON AVE. EXIT RAMP CURVE DATA

Curve #6R	Curve #7R	Curve #8R
$\Delta = 7^{\circ}32'52.0''$	$\Delta = 9^{\circ}56'08.3''$	$\Delta = 10^{\circ}10'45.4''$
$D = 19^{\circ}05'54.9''$	$D = 11^{\circ}25'48.6''$	$D = 5^{\circ}52'13.7''$
$R = 300'$	$R = 501.27'$	$R = 976'$
$T = 19.79'$	$T = 43.57'$	$T = 86.93'$
$L = 39.52'$	$L = 86.93'$	$L = 173.40'$
$E = 0.65'$	$E = 1.89'$	$E = 3.86'$
$PC = 215+20.52$	$PC = 216+32.54$	$PC = 217+19.47$
$PI = 215+40.31$	$PI = 216+76.11$	$PI = 218+06.40$
$PT = 215+60.04$	$PT = 217+19.47$	$PT = 218+92.87$

WEST GARAGE ACCESS RD'WYS-CURVE DATA

Curve #16	Curve #26	Curve #36
$\Delta = 40^{\circ}00'00''$	$\Delta = 31^{\circ}12'24.8''$	$\Delta = 34^{\circ}19'55.2''$
$D = 57^{\circ}17'44.8''$	$D = 30^{\circ}38'22''$	$D = 38^{\circ}11'49.9''$
$R = 100'$	$R = 187'$	$R = 150'$
$T = 36.40'$	$T = 52.22'$	$T = 46.34'$
$L = 69.81'$	$L = 101.85'$	$L = 89.88'$
$E = 6.42'$	$E = 7.16'$	$E = 6.99'$
$PC = 500+53.22$	$PC = 501+48.53$	$PC =$
$PI = 500+89.62$	$PI = 502+00.75$	$PI =$
$PT = 501+23.03$	$PT = 502+50.38$	$PT =$

Curve #9R **Curve #10R**

$\Delta = 6^{\circ}32'31.2''$	$\Delta = 14^{\circ}07'39.6''$
$D = 16^{\circ}51'06.1''$	$D = 16^{\circ}51'06.1''$
$R = 340'$	$R = 340'$
$T = 19.43'$	$T = 42.13'$
$L = 38.82'$	$L = 83.84'$
$E = 0.55'$	$E = 2.60'$
$PC = 218+92.87$	$PC = 219+39.67$
$PI = 219+12.30$	$PI = 219+81.80$
$PT = 219+31.69$	$PT = 220+23.51$

NOTES:
1. Roadway Lines shown are Face of Curb.

CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS				JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA				SHEET ___ OF ___ SHEETS	
DESIGNED BY DRAWN BY <i>Palito</i>				APPROVED: ENGINEER OF STREETS				CONTRACT NO. 16563A	
TRACED BY				HIGHWAY ENGINEER				R-5	
CHECKED BY <i>Plater</i>				FOR				DATE 8-79	
REVISIONS LOCATED BY COORDINATES ON SHEET									

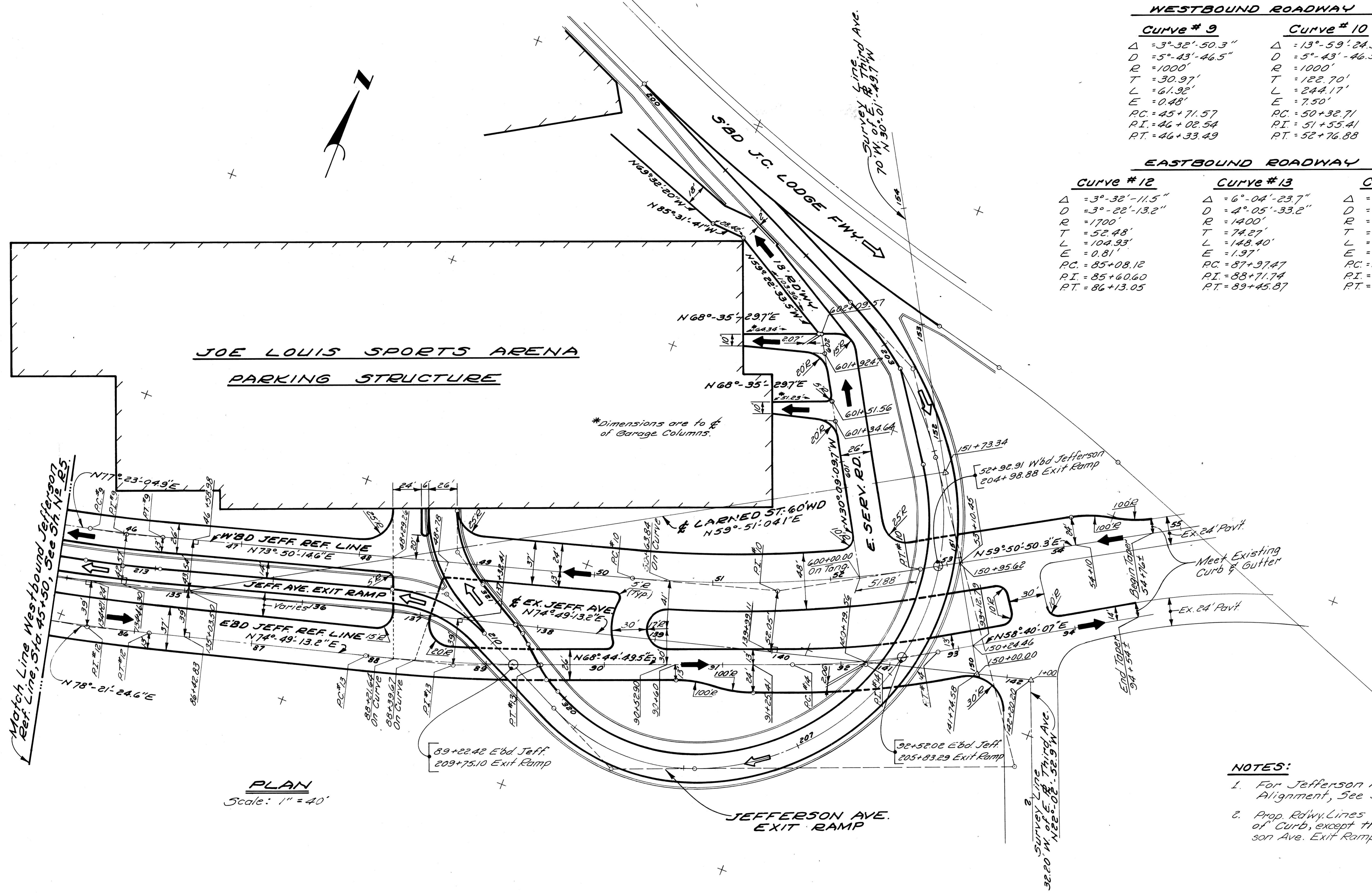
JEFFERSON AVE. CURVE DATA

WESTBOUND ROADWAY

Curve # 9	Curve # 10
$\Delta = 3^{\circ}-32'-50.3''$	$\Delta = 13^{\circ}-59'-24.3''$
$D = 5^{\circ}-43'-46.5''$	$D = 5^{\circ}-43'-46.5''$
$R = 1000'$	$R = 1000'$
$T = 30.97'$	$T = 122.70'$
$L = 61.92'$	$L = 244.17'$
$E = 0.48'$	$E = 7.50'$
$PC = 45+71.57$	$PC = 50+32.71$
$PI = 46+02.54$	$PI = 51+55.41$
$PT = 46+33.49$	$PT = 52+76.88$

EASTBOUND ROADWAY

Curve # 12	Curve # 13	Curve # 14
$\Delta = 3^{\circ}-32'-11.5''$	$\Delta = 6^{\circ}-04'-23.7''$	$\Delta = 10^{\circ}-04'-42.5''$
$D = 3^{\circ}-22'-13.2''$	$D = 4^{\circ}-05'-33.2''$	$D = 8^{\circ}-11'-06.4''$
$R = 1700'$	$R = 1400'$	$R = 700'$
$T = 52.48'$	$T = 74.27'$	$T = 61.73'$
$L = 104.93'$	$L = 148.40'$	$L = 123.13'$
$E = 0.81'$	$E = 1.97'$	$E = 2.72'$
$PC = 85+08.12$	$PC = 87+97.47$	$PC = 91+58.98$
$PI = 85+60.60$	$PI = 88+71.74$	$PI = 92+20.71$
$PT = 86+13.05$	$PT = 89+45.87$	$PT = 92+82.11$



PLAN
Scale: 1" = 40'

- NOTES:**
1. For Jefferson Ave. Exit Ramp Alignment, See Sheet N^o R7.
 2. Prop. Rdwy. Lines shown are Face of Curb, except those referring to Jefferson Ave. Exit Ramp. These are joint lines.

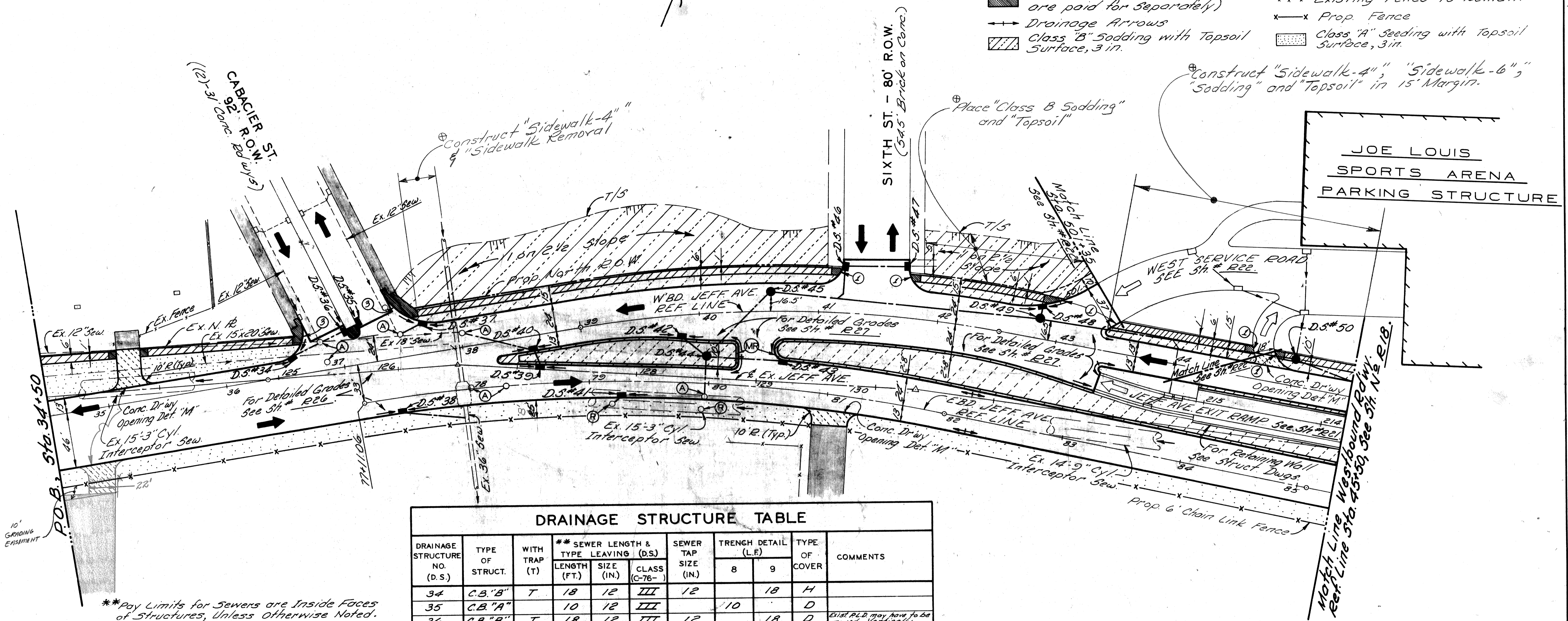
REFERENCE DRAWINGS DESIGNED BY DRAWN BY <i>Polito</i> TRACED BY CHECKED BY <i>Plater</i>		APPROVED ENGINEER OF STREETS HIGHWAY ENGINEER		CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAU OF STREETS AND HIGHWAYS			JOHN C. LODGE EXIT RAMP & JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA ALIGNMENT JEFFERSON AVENUE		SHEET ___ OF ___ SHEETS CONTRACT NO. 16563A R-6 DATE 8-79	
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C.B.M. Arrow on Hydrant E. of 6th - N. Side Jefferson Elev. 104.18
 C.B.M. Arrow on Hydrant N.W. corner Cabacier & Jefferson Elev. 104.73
 C.B.M. Arrow on Hydrant N.E. corner 10th & Jefferson Elev. 103.39

⊕ Proposed Contract Change No. _____
 Contract Title: Joe Louis Arena Parking Structure

SURFACING LEGEND

- Conc. Pav't-Reinf'-9" with Conc. Curb & Gutter Detail A-1 Mod
- ▨ 4" Conc. Sidewalk
- ▧ Conc. Pav't-Nonreinf'-8"
- ▩ Class "A" Sodding with Topsoil Surface, 3 in.
- Exist. Building to Remain
- 6" Conc. Sidewalk (Ramp areas are paid for Separately)
- Drainage Arrows
- ▨ Class "B" Sodding with Topsoil Surface, 3 in.
- ▨ Exist. 5d'wk or Driveway to Remain
- ⊗ Removing Bitum Surf. & Resurface
- Ⓐ Adjust Drainage Structure Covers
- Ⓛ Ⓜ Sidewalk Ramps, Types 1 or 3
- Ⓜ Mower Ramp (Incid. to Contract Cost) For Const. Details, See Sh. #R32
- Ⓡ Reconstructing Drainage Structure
- ⊗ Existing Fence to Remain
- ⊗ Prop. Fence
- ▨ Class "A" Seeding with Topsoil Surface, 3 in.



DRAINAGE STRUCTURE TABLE

DRAINAGE STRUCTURE NO. (D.S.)	TYPE OF STRUCT.	WITH TRAP (T)	** SEWER LENGTH & LEAVING (D.S.)			SEWER TAP SIZE (IN.)	TRENCH DETAIL (L.F.)		TYPE OF COVER	COMMENTS
			LENGTH (FT.)	SIZE (IN.)	CLASS (C-76-)		8	9		
34	C.B."B"	T	18	12	III	12		18	H	
35	C.B."A"		10	12	III		10		D	
36	C.B."B"	T	18	12	III	12		18	D	Exist. P.L.D. may have to be moved vertically
37	C.B."B"	T	17	12	III	12		17	H	Exist. P.L.D. may have to be moved vertically
38	C.B."B"	T	47	12	III	12		60	H	
39	C.B."A"		12	12	III		12		H	
40	C.B."B"	T	57	12	III	12		57	H	
41	C.B."B"	T	663	12	III	12	6	63	H	
42	C.B."B"	T	22	12	III		22		H	
43	C.B."B"	T	60	12	III		27	33	H	
44	M.H. Drop		31	18	III	18	8	23	A	
45	M.H. STD.		73	18	III		18	55	A	
46	C.B."B"	T	25	12	III			25	D	
47	C.B."A"		48	12	III			48	D	
48	C.B."B"	T	7	12	III			7	H	
49	M.H. STD.		224	18	III			224	A	
50	M.H. STD.		213	15	III		140	73	A	

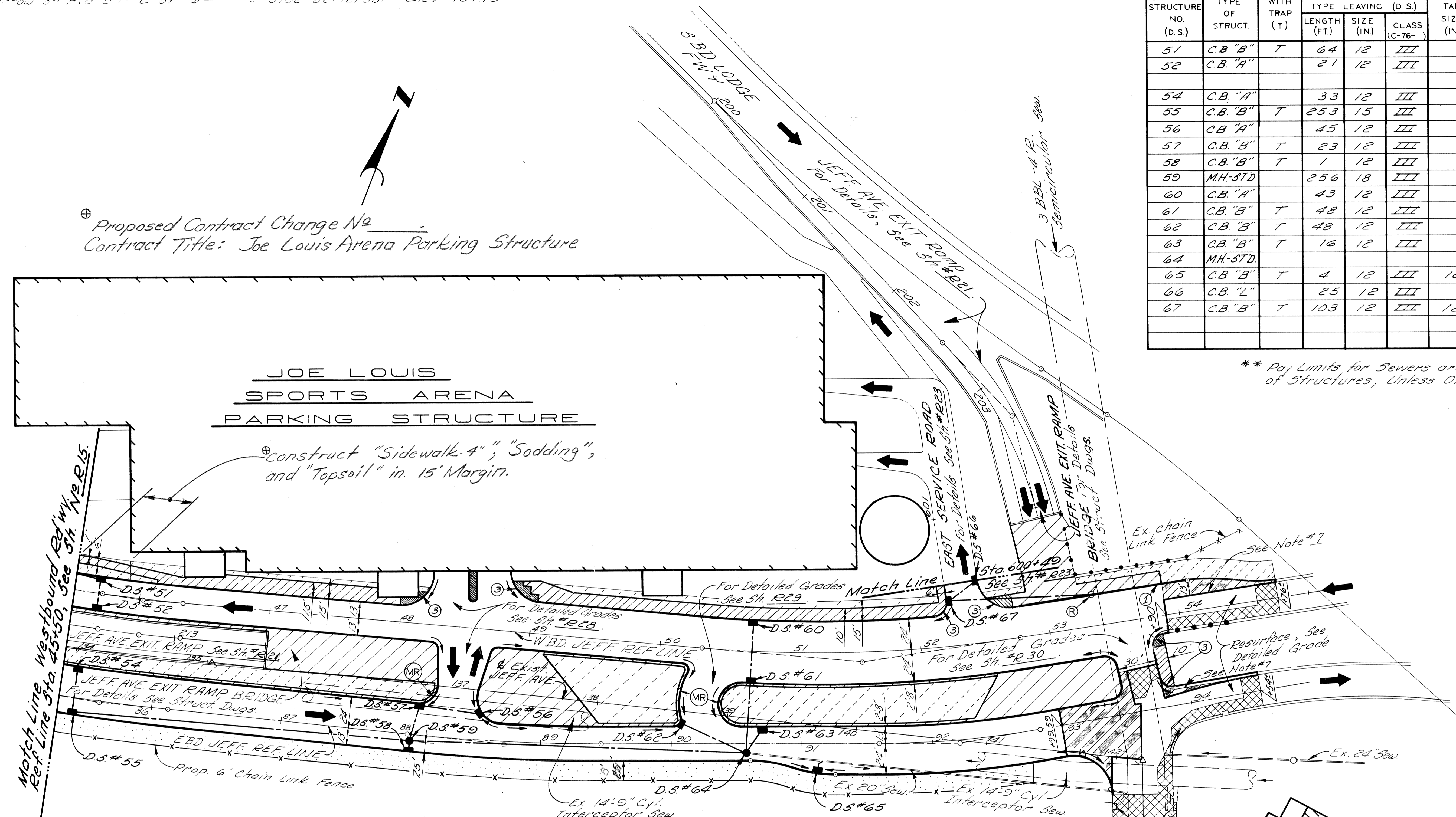
- NOTES:**
1. For Alignment, See Sheet #R5.
 2. For Utility Legend & Symbols, See Sheet #R32.
 3. Roadway edges shown are face of curb.
 4. For Construction Sequence, See Sh. #R11 thru #R12.
 5. Transition from curb & gutter to Conc. Curb Detail "X" around street returns.

SCALE: 1"=40'

	DESIGNED BY <i>Svecch</i>	APPROVED:	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS	JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA PLAN STA. 34+50 TO STA. 45+50	SHEET ___ OF ___ SHEETS CONTRACT NO. 16563A R 15 DATE 8-79
DRAWN BY	TRACED BY	ENGINEER OF STREETS			
CHECKED BY		HIGHWAY ENGINEER			

PS 11 28-356 E.B. Third - & Jefferson W. Elev 100.217
 C.B. 1' Arrow on Flange of 6" Sewer N. of Third - N. Side Jefferson Elev. 103.20
 C.B.M. Arrow on Flange of 6" Sewer E. of 6" Sewer - S. Side Jefferson Elev. 104.18

⊕ Proposed Contract Change No. _____
 Contract Title: Joe Louis Arena Parking Structure



DRAINAGE STRUCTURE NO. (D.S.)	TYPE OF STRUCT.	WITH TRAP (T)	** SEWER LENGTH & TYPE LEAVING (D.S.)			SEWER TAP SIZE (IN.)	TRENCH DETAIL (L.F.)		TYPE OF COVER	COMMENTS
			LENGTH (FT.)	SIZE (IN.)	CLASS (C-76-)		8	9		
51	C.B. "B"	T	64	12	III		52	12	H	Portion passing bridge water main to be enclosed in concrete
52	C.B. "A"		21	12	III			21	H	Provide 3" Inlet for Bridge Drains
54	C.B. "A"		33	12	III			33	H	
55	C.B. "B"	T	253	15	III			253	H	
56	C.B. "A"		45	12	III			45	H	
57	C.B. "B"	T	23	12	III			23	H	
58	C.B. "B"	T	1	12	III			1	H	
59	M.H.-STD.		256	18	III			256	A	
60	C.B. "A"		43	12	III			43	H	Portion passing over 16" water to be enclosed in concrete
61	C.B. "B"	T	48	12	III		30	18	H	
62	C.B. "B"	T	48	12	III			48	H	
63	C.B. "B"	T	16	12	III			16	H	
64	M.H.-STD.								A	Connect to Existing 20" Sewer
65	C.B. "B"	T	4	12	III	12		4	H	
66	C.B. "L"		25	12	III			25	H	To Pass Under 3' deep and over 12" water to be enclosed in concrete
67	C.B. "B"	T	103	12	III	12		103	H	Portion passing over 16" water to be enclosed in concrete

** Pay Limits for Sewers are Inside Faces of Structures, Unless Otherwise Noted.

⊕ Construct "Sidewalk-4", "Sodding", and "Topsoil" in 15' Margin.

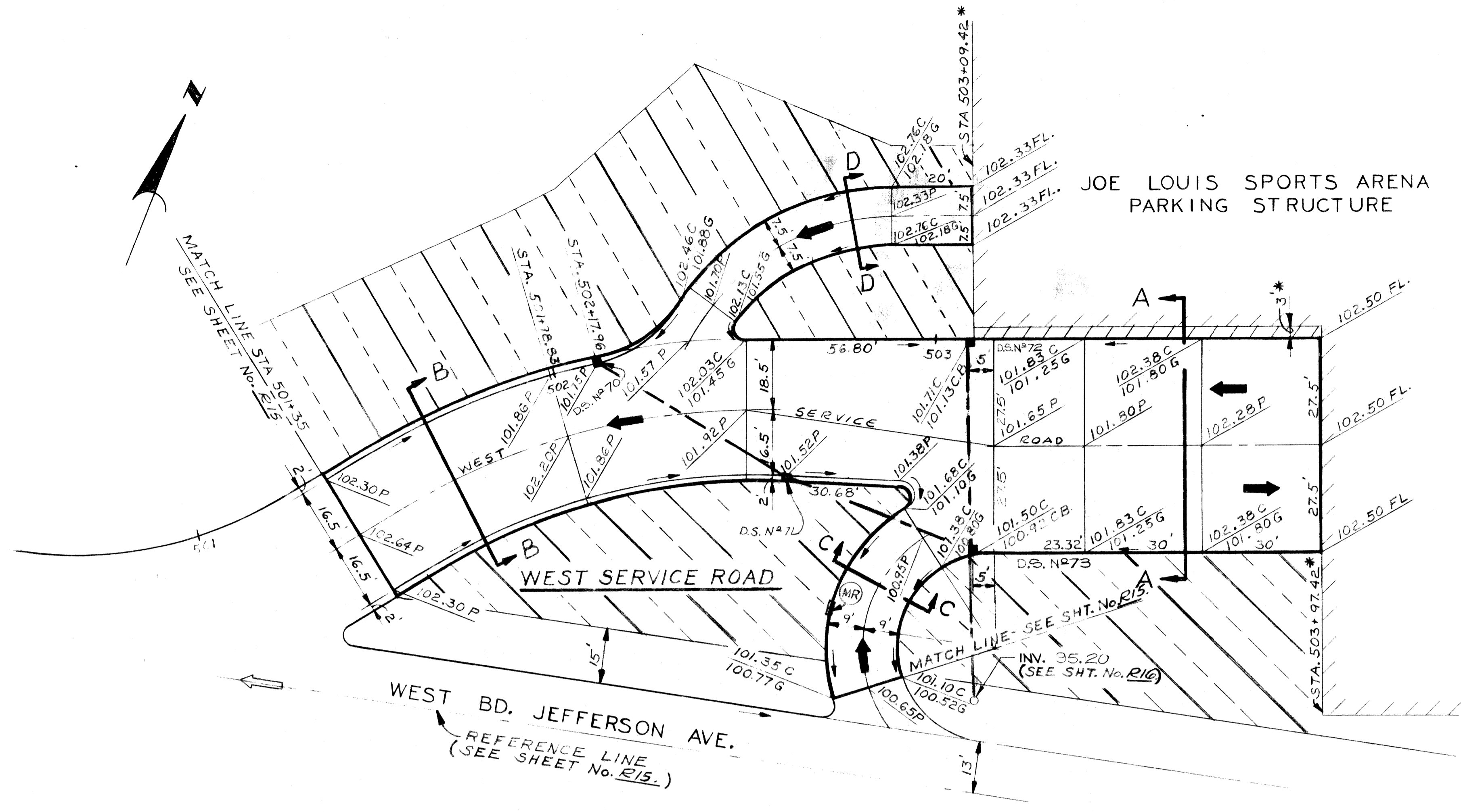
SURFACING LEGEND

PLAN
 Scale: 1" = 40'

- Conc. Pav + Reinf. 9" with Conc. Curb & Gutter Detail A-1 Mod.
- 4" Conc. Sidewalk (Ramp areas are paid for Separately)
- Class "A" Sodding with Topsoil Surface, 3 in.
- Exist. Building to Remain
- 6" Conc. Sidewalk (Ramp areas are paid for Separately)
- Drainage Arrows
- Prop. Fence
- Class "A" Sodding with Topsoil Surface, 3 in.
- Moving 48" Fence (See Note 6)
- Exist. Sidewalk or Driv. to Remain
- Removing Bitum. Surf. & Resurface
- Adjust. Drainage Structure Cover
- Sidewalk Ramp, Type 1
- Sidewalk Ramp, Type 3
- Reconstructing Drainage Structure
- Conc. Base Course Reinf., 9 in. with 2 in. Bit. Surface
- Mower Ramp (Incidental to Contract Cost) For Construction Details, See 5th #R32
- Conc. Curb & Gutter Detail A-1 Mod.

- NOTES:**
1. For Alignment, See Sheets #R6 & #R7.
 2. For Utility Legend & Symbols, See 5th #R32
 3. Prop. Roadway edges shown are Face of Curb.
 4. For Construction Sequence, See 5th #R11 thru #R12.
 5. For Street Return Radii, See Alignment 5th #R6
 6. Locate Fence Gate adjacent to Bridge Abut.
 7. Expansion Anchored Lane Ties to be used at the discretion of the Engineer depending on the condition of the existing pavement.

DESIGNED BY: Comly		APPROVED:		CITY OF DETROIT		JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION		SHEET _____ OF _____ SHEETS	
DRAWN BY: Sucech		ENGINEER OF STREETS		CITY ENGINEERING DIVISION - EPMD		AT THE JOE LOUIS ARENA		CONTRACT NO. 16563A	
TRACED BY:		HIGHWAY ENGINEER		BUREAUS OF STREETS AND HIGHWAYS		PLAN E'BD. & W'BD. JEFFERSON		R-18	
CHECKED BY: Bonus						STA. 45+50 (W'BD. JEFF) TO THIRD		DATE 8-79	



NOTE: * ASTERISK INDICATES DIMENSIONS ARE TO $\frac{1}{2}$ OF GARAGE COLUMN LINES

PLAN
SCALE 1"=20'

- LEGEND**
- EXISTING BUILDING TO REMAIN
 - 4" CONCRETE SIDEWALK
 - MOWER RAMP (INCIDENTAL TO CONTRACT COST) FOR CONSTRUCTION DETAILS, SEE SHEET No. R32.
 - CONCRETE PAVEMENT NONREINFORCED - 8"
 - DRAINAGE DIRECTION ARROW
 - CLASS "B" SCDDING WITH 3" TOPSOIL

⊕ Construct All Items shown this sheet, except Drainage Items.

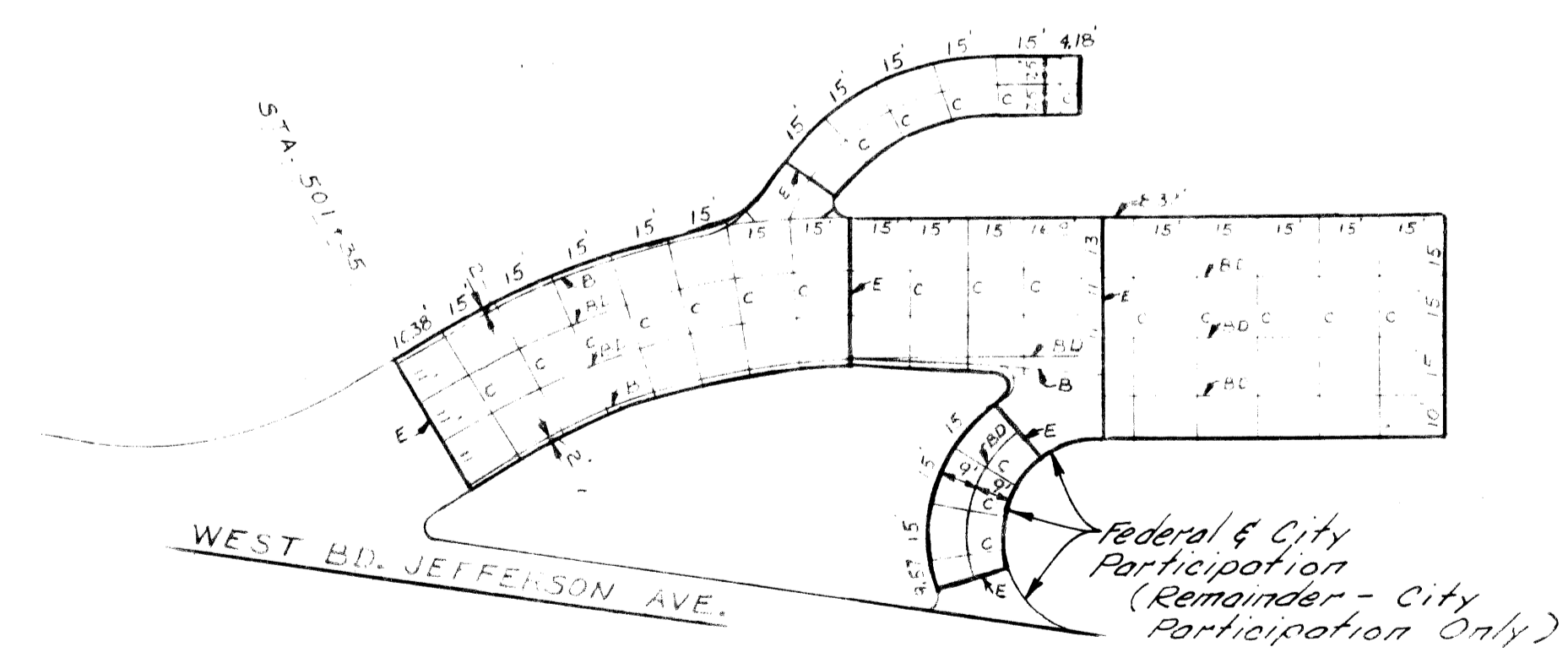
U.C. NO.	TYPE OF STRUCT.	WIDTH (FT)	SEWER LENGTH AND LEAVING D.S.			SEWER TRENCH DEPTH		COMMENTS	TYPE OF COVER
			LENGTH (FT)	SIZE (IN)	CLASS	(N)	9		
70	C.B. "A"		54	12	C-4		54	OUTLET 26.42'	H
71	C.B. "B"		52	12	C-4		75	OUTLET 26.35'	H
72	C.B. "A"		52	12	C-4		52	OUTLET 26.35'	D
73	C.B. "B"	T	38	12	C-4		38	OUTLET 26.35'	D

⊕ Proposed Contract Change No. _____
Contract Title: Joe Louis Arena Parking Structure

NOTES

1. FOR ALIGNMENT, SEE SHT. No. R5.
2. ROADWAY LINES SHOWN ARE FACE OF CURB.
3. FOR BENCH MARKS, SEE SHT. No. R15.
4. FOR SECTIONS AND DETAILS SEE SHT. No. R4.
5. FOR CONSTRUCTION SEQUENCE SEE SHT. No. R11 THRU R12.

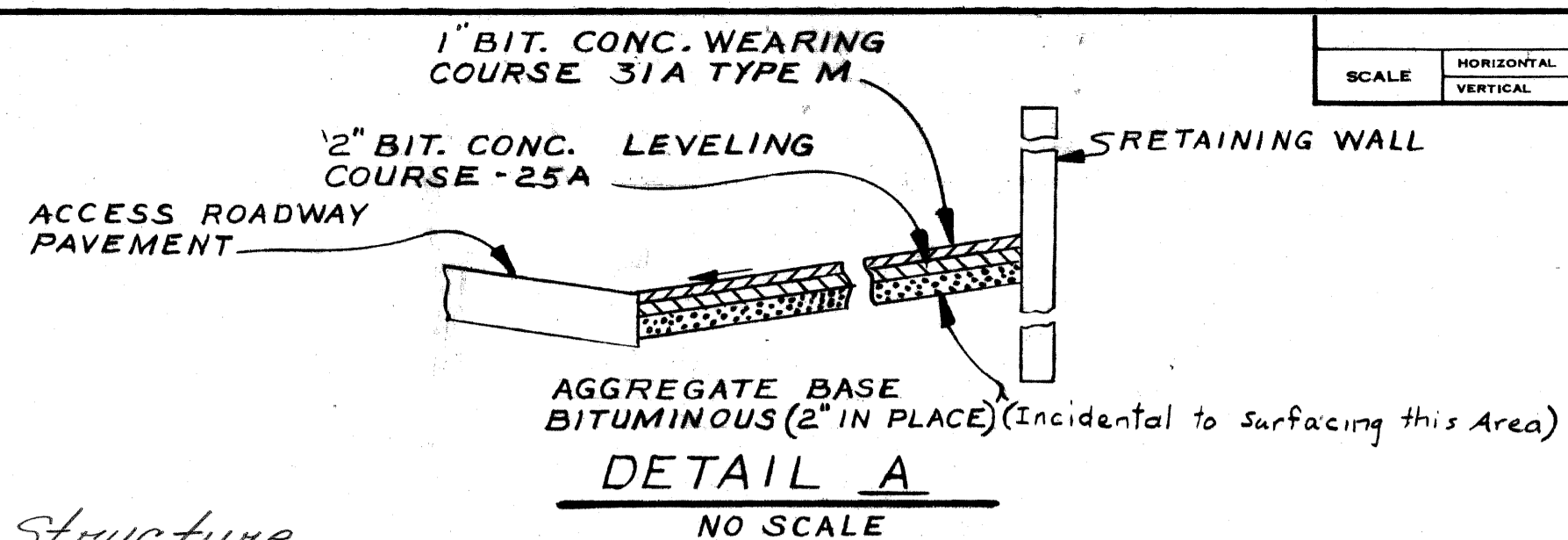
$\frac{102.38C}{101.80G}$ (DEGR. CURB ELEV.)
 $\frac{102.38C}{101.80G}$ (CORNER ELEV. OF PART CURB) } TYPICAL



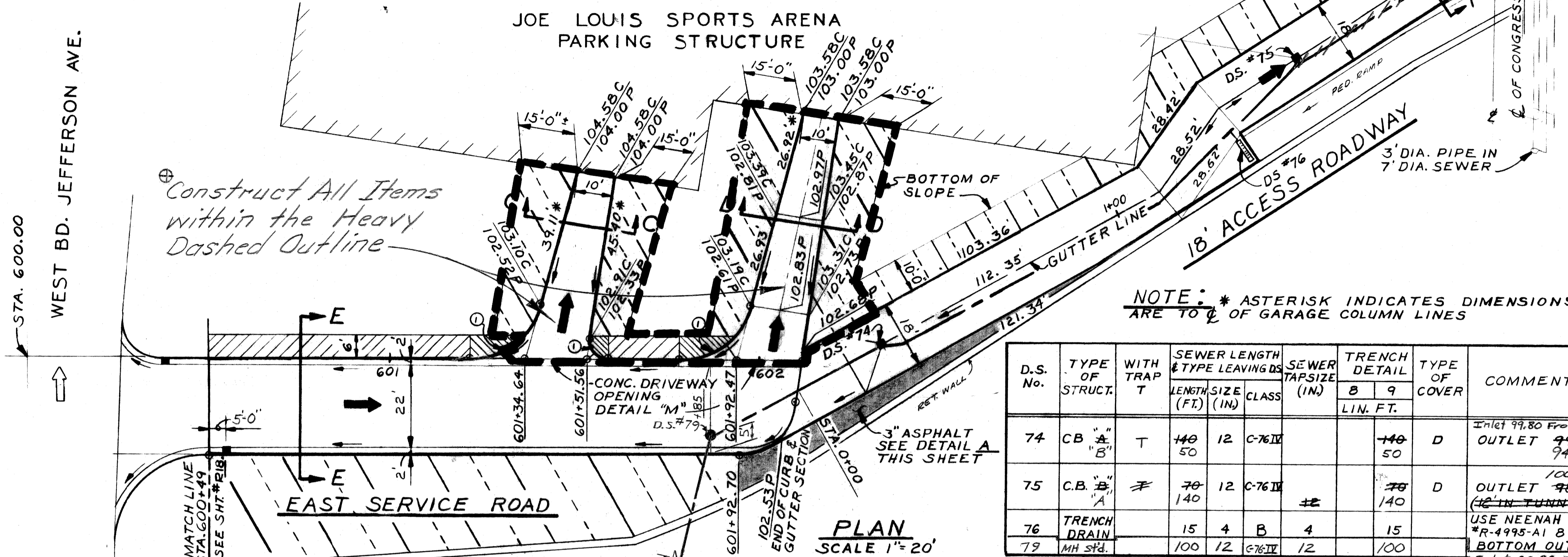
JOINTING DETAIL
NO SCALE
(FOR JOINT LEGEND, SEE SHEET No. R4)

<table border="1"> <tr> <td>DESIGNED BY</td> <td>APPROVED</td> </tr> <tr> <td>DRAWN BY</td> <td>ENGINEER OF STREETS</td> </tr> <tr> <td>TRACED BY</td> <td>HIGHWAY ENGINEER</td> </tr> <tr> <td>CHECKED BY</td> <td></td> </tr> </table>		DESIGNED BY	APPROVED	DRAWN BY	ENGINEER OF STREETS	TRACED BY	HIGHWAY ENGINEER	CHECKED BY		CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAU OF STREETS AND HIGHWAYS			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA		SHEET ___ OF ___ SHEETS CONTRACT NO. 16563A R-22 DATE 8-79				
DESIGNED BY	APPROVED																		
DRAWN BY	ENGINEER OF STREETS																		
TRACED BY	HIGHWAY ENGINEER																		
CHECKED BY																			
<table border="1"> <tr> <th>COORD.</th> <th>DESCRIPTION</th> <th>DRN.</th> <th>CHK'D.</th> <th>APPROV'D.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		COORD.	DESCRIPTION	DRN.	CHK'D.	APPROV'D.	DATE							WEST SERVICE ROAD					
COORD.	DESCRIPTION	DRN.	CHK'D.	APPROV'D.	DATE														
REVISIONS LOCATED BY COORDINATES ON SHEET																			

Proposed Contract Change No.
Contract Title: Joe Louis Arena Parking Structure

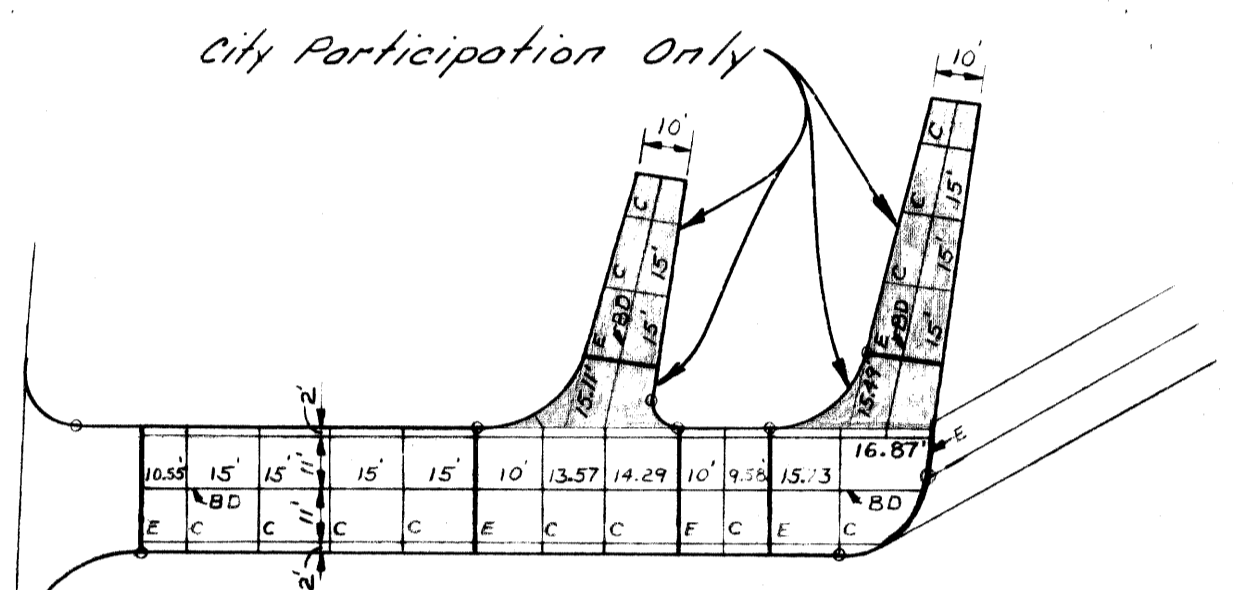


- NOTES**
- FOR ALIGNMENT, SEE SHT. No. R6.
 - ROADWAY LINES SHOWN ARE FACE OF CURB.
 - FOR BENCH MARKS SEE SHT. No. R18.
 - FOR SECTIONS AND DETAILS SEE SHT. No. R4.
 - FOR CONSTRUCTION SEQUENCE SEE SHT. R11 THROUGH R12.
 - FOR PLAN LEGEND SEE SHT. No. R22.

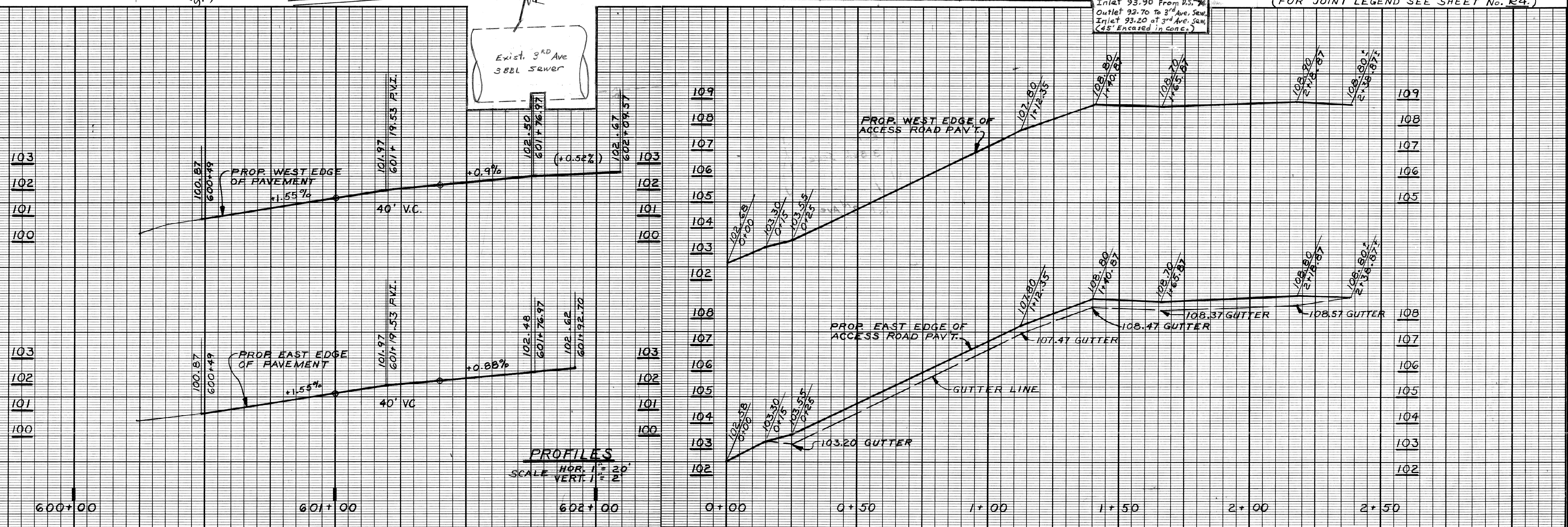


D.S. No.	TYPE OF STRUCT.	WITH TRAP T	SEWER LENGTH & TYPE LEAVING DS LENGTH SIZE (FT) (IN)	CLASS	SEWER TAP SIZE (IN)	TRENCH DETAIL B 9 LIN. FT.	TYPE OF COVER	COMMENTS
74	CB "A" "B"	T	140 50	12 C-76 IV		140 50	D	Inlet 99.80 From D.S. #75 OUTLET 97.00 ± 94.20
75	C.B. "A" "A"	F	70 140	12 C-76 IV	±2	70 140	D	OUTLET 98.20 ± (12 IN TUNNEL) USE NEENAH COVER *R-4995-A1 B FOOT LG. BOTTOM OUTLET
76	TRENCH DRAIN		15 4	B 4		15		Inlet 93.90 From D.S. #74 Outlet 92.70 to 3rd Ave. Sewer Inlet 93.20 at 3rd Ave. Sewer (45' Encased in conc.)
79	MH STD.		100 12	C-76 IV	12	100		

103.45C PROP. CURB ELEV.
102.07P PROP. EDGE OF PAVT. ELEV } TYPICAL



JOINTING DETAIL
NO SCALE
(FOR JOINT LEGEND SEE SHEET No. R4.)



INDEX

STD.PLAN NO.	SIGN NO.	TITLE	STD.PLAN NO.	SIGN NO.	TITLE
S 1.10		STD. SIGN INSTALLATIONS	S 7.10		A-588 STEEL TRUSS TYPE C - 50' TO 70'
S 1.20		STD. ROUTE MARKER INSTALLATIONS	S 7.20		A-588 STEEL TRUSS DETAILS TYPE C
			S 7.30		A-588 STEEL TRUSS DETAILS TYPE C
			S 7.40		A-588 STEEL TRUSS TYPE C - 75' TO 100'
			S 7.50		A-588 STEEL TRUSS DETAILS TYPE C
S 2.10		TYPICAL LOCATIONS SIGNS & SUPPORTS.	S 7.60		A-588 STEEL TRUSS TYPE D - 105' TO 125'
S 2.20		TYPICAL LOCATIONS & SUPPORT FOR CONSTRUCTION SIGNS.	S 7.70		A-588 STEEL TRUSS DETAILS TYPE D
			S 7.80		A-588 STEEL TRUSS DETAILS TYPE D
S 3.10		STEEL POST - 2", 3", 4"	S 7.81		A-36 GALVANIZED STEEL TRUSS TYPE D - 105' TO 125'
S 3.20		STEEL POST - 6", 8"	S 7.82		A-36 GALVANIZED STEEL TRUSS DETAILS - TYPE D.
S 3.30		WOOD POST - 4" x 6", 6" x 8"	S 7.83		A-36 GALVANIZED STEEL TRUSS DETAILS - TYPE D
			S 7.84		A-36 GALVANIZED STEEL TRUSS TYPE C - 75' TO 100'
			S 7.85		A-36 GALVANIZED STEEL TRUSS DETAILS - TYPE C
			S 7.86		A-36 GALVANIZED STEEL TRUSS DETAILS - TYPE C
S 4.30		STEEL COLUMN (I)	S 7.87		A-36 GALVANIZED STEEL TRUSS TYPE C - 50' TO 70'
S 4.40		STEEL COLUMN (B, W)	S 7.88		A-36 GALVANIZED STEEL TRUSS DETAILS - TYPE C
S 4.50		COLUMN FOUNDATION	S 7.89		A-36 GALVANIZED STEEL TRUSS DETAILS - TYPE C
			S 8.10		TRUSS FOUNDATION - TYPE B, C
			S 8.20		TRUSS FOUNDATION - TYPE D
S 5.10		STEEL CANTILEVER TYPE A, B, C, D & E.			
S 5.20		STEEL CANTILEVER DETAILS TYPE A, B, C, D & E.	S 9.10		SIGN CONNECTION DETAILS TRUSS-CANTILEVER-EXIT NO.
S 5.30		CANTILEVER FOUNDATION TYPE A, B, C, D & E.	S 9.10A		SIGN CONNECTION DETAILS COLUMN
S 5.40		STEEL CANTILEVER TYPE G, H.	S 9.20		MISCELLANEOUS SIGN CONNECTION DETAILS
S 5.50		STEEL CANTILEVER DETAILS TYPE G, H.	S 9.30		MISCELLANEOUS SIGN CONNECTION DETAILS
S 5.60		CANTILEVER FOUNDATION TYPE G, H.	S 9.12A		CONCRETE GLARE SCREEN SIGN CONNECTION - TYPE II
			S 10.50		BOLTED BRIDGE CONNECTION TYPE A, B
			S 10.60		BOLTED BRIDGE CONNECTION TYPE C, D
			S 10.70		BOLTED BRIDGE CONNECTION TYPE E, F
S 6.10		ALUMINUM TRUSS - TYPE B			
S 6.20		ALUMINUM TRUSS - TYPE C.			
S 6.30		ALUMINUM TRUSS DETAILS TYPE B, C.	S 11.10		GUARD RAIL
S 6.40		ALUMINUM END SUPPORT DETAILS - TYPE B, C.	S 11.20		GUIDELINES FOR LATERAL PLACEMENT OF RIGID SIGN SUPPORTS (F&W)
S 6.50		ALUMINUM TRUSS - TYPE D			
S 6.60		ALUMINUM TRUSS DETAILS TYPE D.			
S 6.70		ALUMINUM TRUSS DETAILS TYPE D.			

GENERAL NOTES

- 1.) MINIMUM VERTICAL CLEARANCE FOR OVERHEAD SIGNS SHALL BE
- 2.) ROADSIDE SIGN SUPPORT LENGTH QUANTITIES ARE APPROXIMATE ONLY AND BASED ON TYPICAL SIGN LOCATIONS.
- 3.) ALL SIGNS SHALL BE INSTALLED ACCORDING TO THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" 1973 EDITION INCLUDING REVISIONS.
- 4.) OVERHEAD SIGNS ATTACHED TO BRIDGE STRUCTURES SHALL BE SHIFTED SLIGHTLY TO THE LEFT OR RIGHT TO AVOID STIFFENERS OR EXPANSION JOINTS WHEN NECESSARY.
- 5.) SIGNS SHALL NOT BE INSTALLED BEHIND ANY OBSTRUCTIONS. (BRIDGE PIERS, LIGHT POLES, ETC.)
- 6.) RETAIN ALL OTHER SIGNS NOT SHOWN ON THESE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 7.) ALL NUMERAL AND INITIAL LETTERS FOR WORDS UTILIZING UPPER AND LOWER CASE LETTERS SHALL BE SERIES "E" (MODIFIED) F. H. W. A. STANDARD ALPHABET. STROKE WIDTH SHALL BE 1/5 OF THE UPPER CASE LETTER HEIGHT.
- 8.) LOCATE BRIDGE MOUNTED ROAD NAME SIGNS WITH LEFT EDGE OF SIGN OVER RIGHT EDGE OF RIGHT SHOULDER UNLESS OTHERWISE SHOWN IN THE PLANS. THE LOCATION SHALL BE VARIED SLIGHTLY TO AVOID STIFFENERS AND EXPANSION JOINTS WHEN NECESSARY.
- 9.) LOCATE LOW CLEARANCE SIGNS (W12-3) WITH LEFT EDGE OF SIGN OVER LEFT EDGE OF RIGHT LANE UNLESS OTHERWISE SHOWN IN THE PLANS. THE LOCATION SHALL BE VARIED SLIGHTLY TO AVOID THE STIFFENERS AND EXPANSION JOINTS WHEN NECESSARY.
- 10.) LATERAL "OFFSET" IS DEFINED AS THE DISTANCE FROM THE EDGE OF THE PAVEMENT TO THE EDGE OF THE SIGN.
- 11.) DENOTES NON-FEDERAL PARTICIPATION.

NOTES TO CONTRACTOR

- 1.) ALL FREEWAY SIGNS SHALL BE HIGH-INTENSITY REFLECTIVE SHEETING, LEGENDS AND BORDERS (TYPE 3) ON HIGH-INTENSITY REFLECTIVE SHEETING BACKGROUND (TYPE 3).
- 2.) GUARDRAIL, CALLED FOR REMOVAL IN THE PLANS, SHALL BE REMOVED WITHIN 48 HOURS AFTER ALL SIGNS, SUPPORTS AND FOUNDATIONS BEHIND THE GUARDRAIL HAVE BEEN REMOVED.
- 3.) SIGNS OFFSET 30' OR MORE FROM EDGE OF PAVEMENT SHALL HAVE A MINIMUM BOTTOM HEIGHT OF 5'-0". SIGNS ERRECTED ON THE BACKSLOPES SHALL HAVE MINIMUM DISTANCE OF 4'-0" FROM GROUND TO BOTTOM EDGE OF SIGN.
- 4.) WHEN EXISTING SIGNS ARE BEING REPLACED BY A NEW SIGN OR SIGNS, THE CONTRACTOR SHALL REMOVE ALL THE SIGNS BEING REPLACED AT THE SAME TIME THAT THE NEW SIGNS BECOME VISIBLE TO THE MOTORIST.
- 5.) WHEN TRUSSES ARE CALLED FOR REMOVAL IN THE PLANS, THE TRUSS BOX SHALL BE CAREFULLY DISMANTLED BEFORE THE END SUPPORTS ARE REMOVED.
- 6.) ALL RI-1 AND RI-2 SIGNS SHALL BE RED TRANSPARENT SCREENED ON HIGH-INTENSITY (TYPE 3) SILVER SHEETING.
- 7.) ALL OVERHEAD GUIDE SIGNS MUST REMAIN IN PLACE UNTIL THE NEW SIGNS ARE ERRECTED.
- 8.) THE SECOND SENTENCE OF ARTICLE 6.26.14 "REMOVAL OF SIGNS" IN THE DEPARTMENT'S 1976 STANDARD SPECIFICATIONS IS HEREBY REVISED AS FOLLOWS:
THE TRUSS(ES) AND/OR CANTILEVER(S) DESIGNATED AS "PROPERTY OF MDOT" (MICHIGAN DEPARTMENT OF TRANSPORTATION), ALL STEEL COLUMNS & WOOD POSTS, ALONG WITH SIGNS AND SUPPORTS CALLED FOR RELOCATION IN THE PLANS ARE THE PROPERTY OF THE DEPARTMENT. ALL OTHER ITEMS CALLED FOR REMOVAL IN THE PLANS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE AS DIRECTED BY THE PROJECT ENGINEER. THE "PROPERTY OF MDOT" ITEMS NOT CALLED FOR RELOCATION SHALL BE CAREFULLY REMOVED, HAULED AND NEATLY STOCKPILED AT THE FOLLOWING LOCATION(S):
(THE CONTRACTOR SHALL NOTIFY MR. JERRY RADEMACHER, TELEPHONE (517) 373-2155 AT THE TIME THE MATERIAL IS STOCKPILED.)

MICHIGAN DEPARTMENT OF TRANSPORTATION

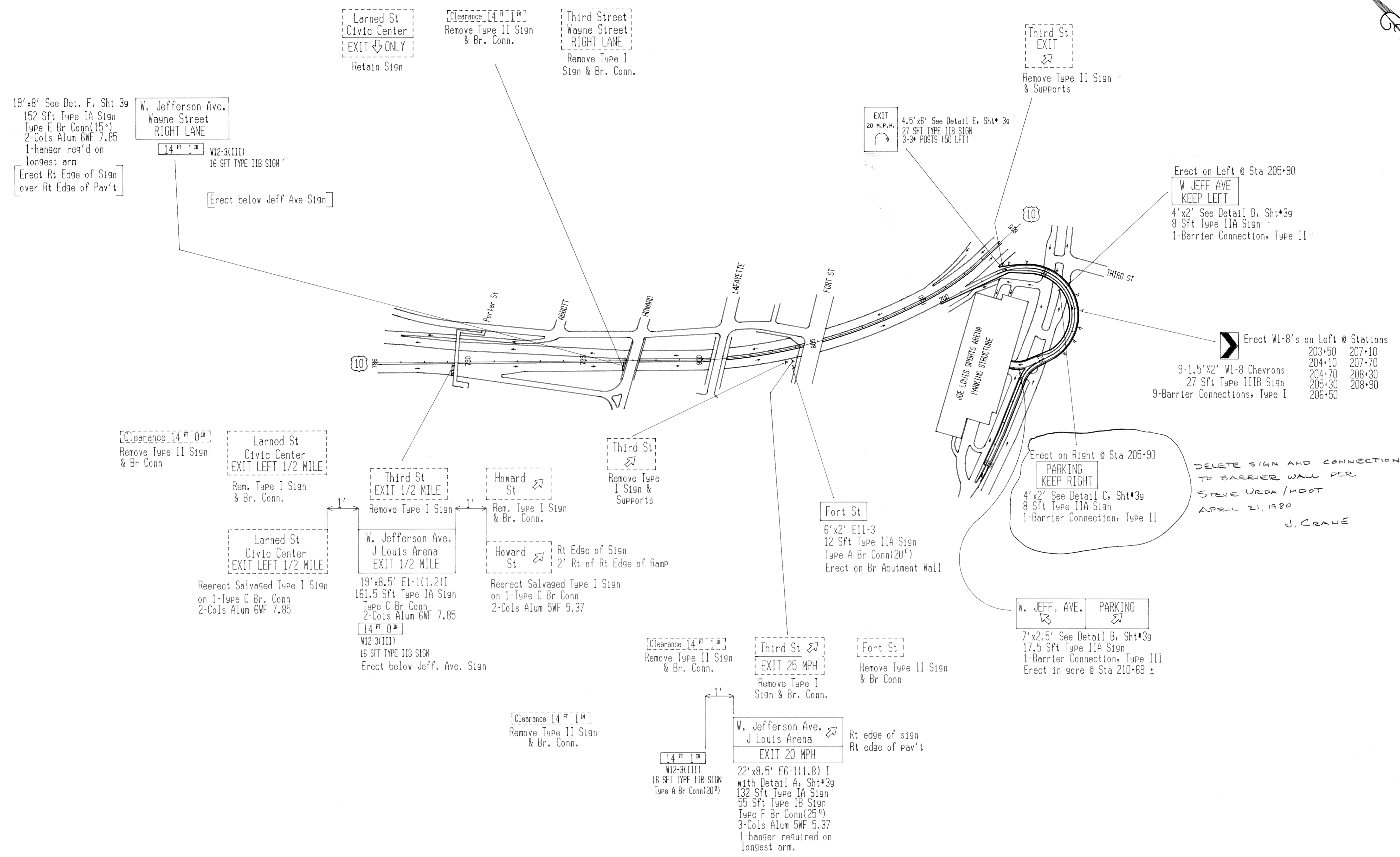
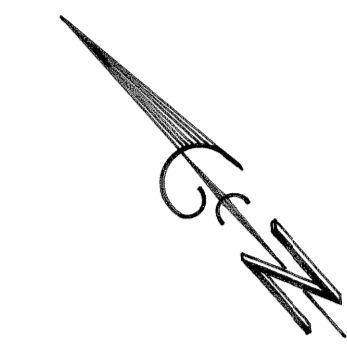
STANDARD PLAN INDEX

REVISIONS				SHEET 1g OF	
NO.	DESCRIPTION	DATE	BY		

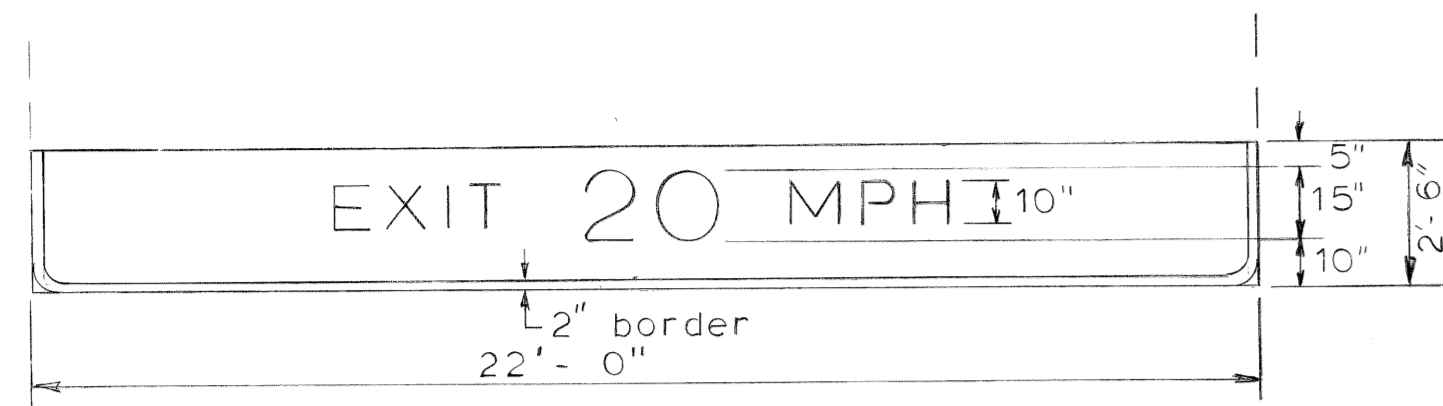
NO.	DESCRIPTION	DATE	BY

16563A

F.H.W.A. REG. NO.	STATE	FEDERAL PROJECT	R.O.W. NO.	SHEET NO.	TOTAL SHEETS
				1	1
ROUTE	COUNTY	CONTROL SECTION	JOB NO.		
US-10	WAYNE	82111			

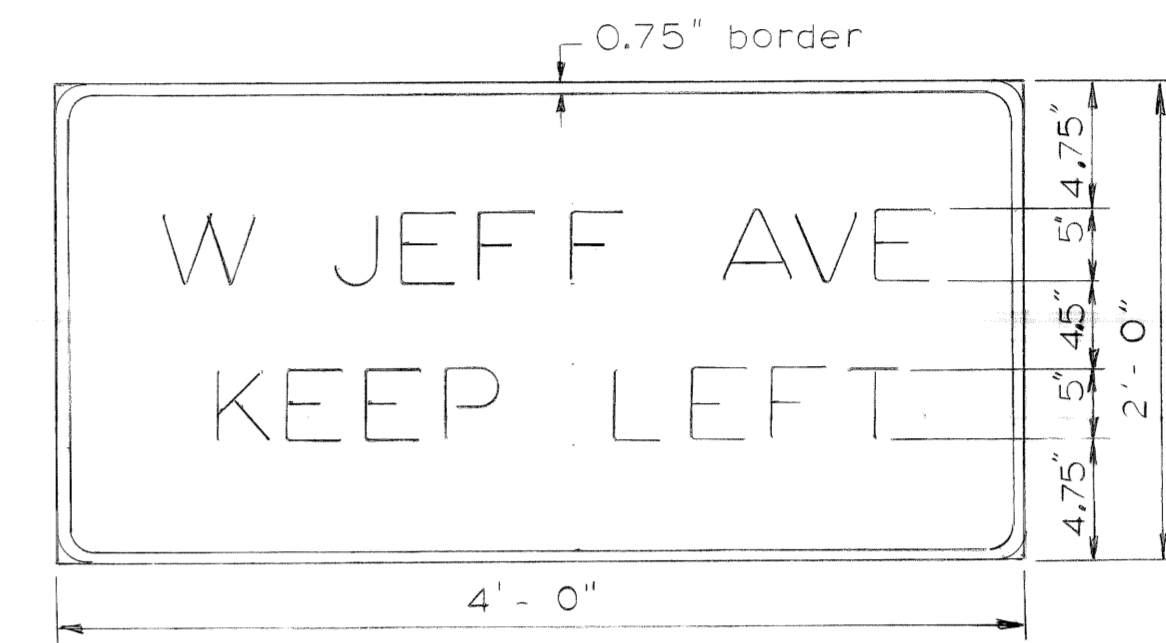


F.H.W.A. REG. NO.	STATE	FEDERAL PROJECT	R.O.W. NO.	SHEET NO.	TOTAL SHEETS
5	MICH.				
ROUTE	COUNTY	CONTROL SECTION	JOB NO.		



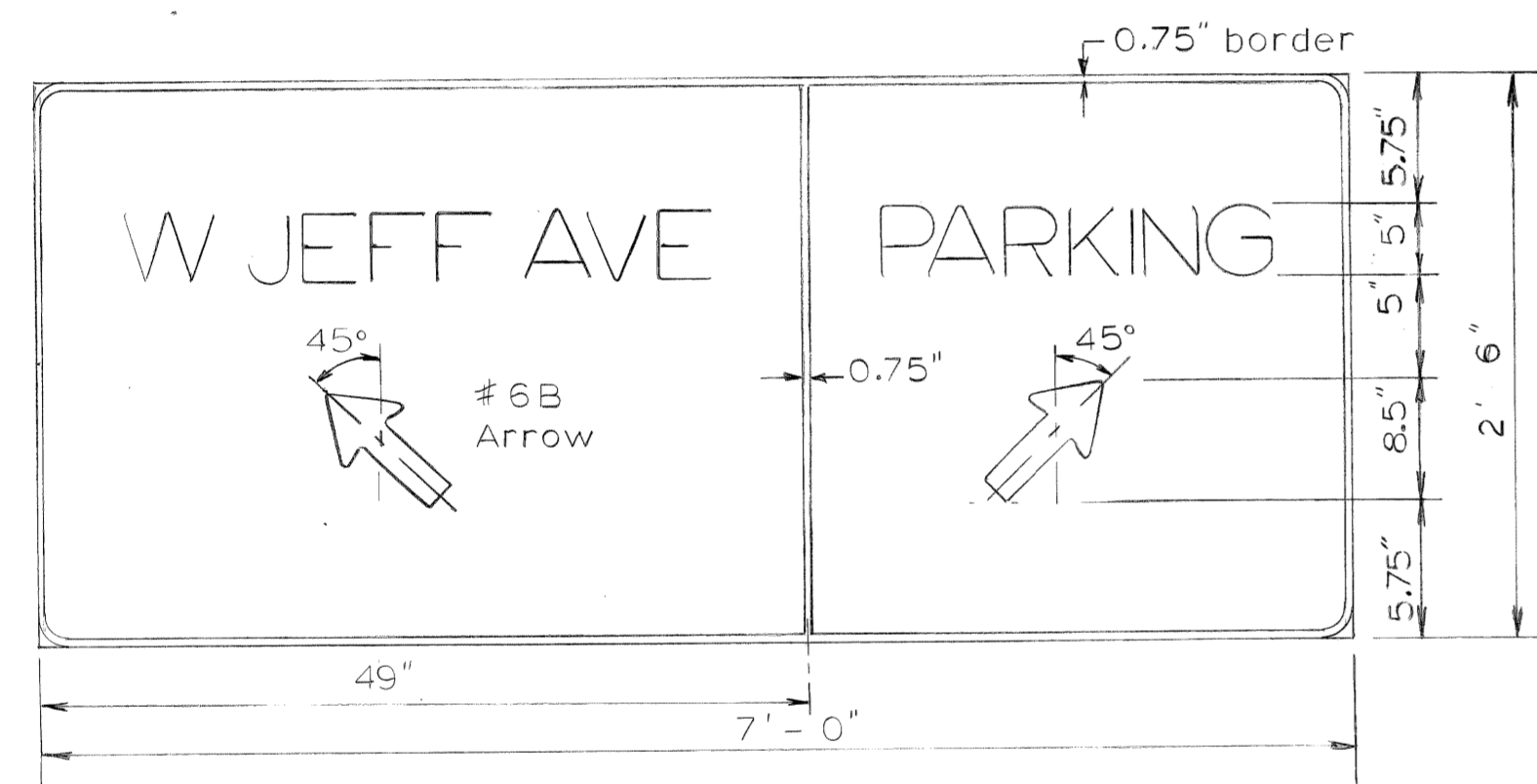
FOR SPECIFICATIONS SEE E11-1b

DETAIL A



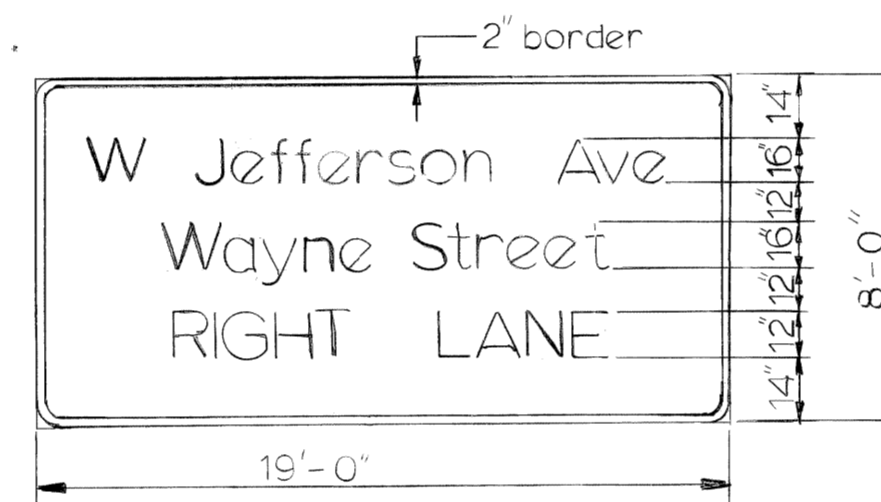
(White on green Type IA Sign
5" Series C UC letters)

DETAIL D



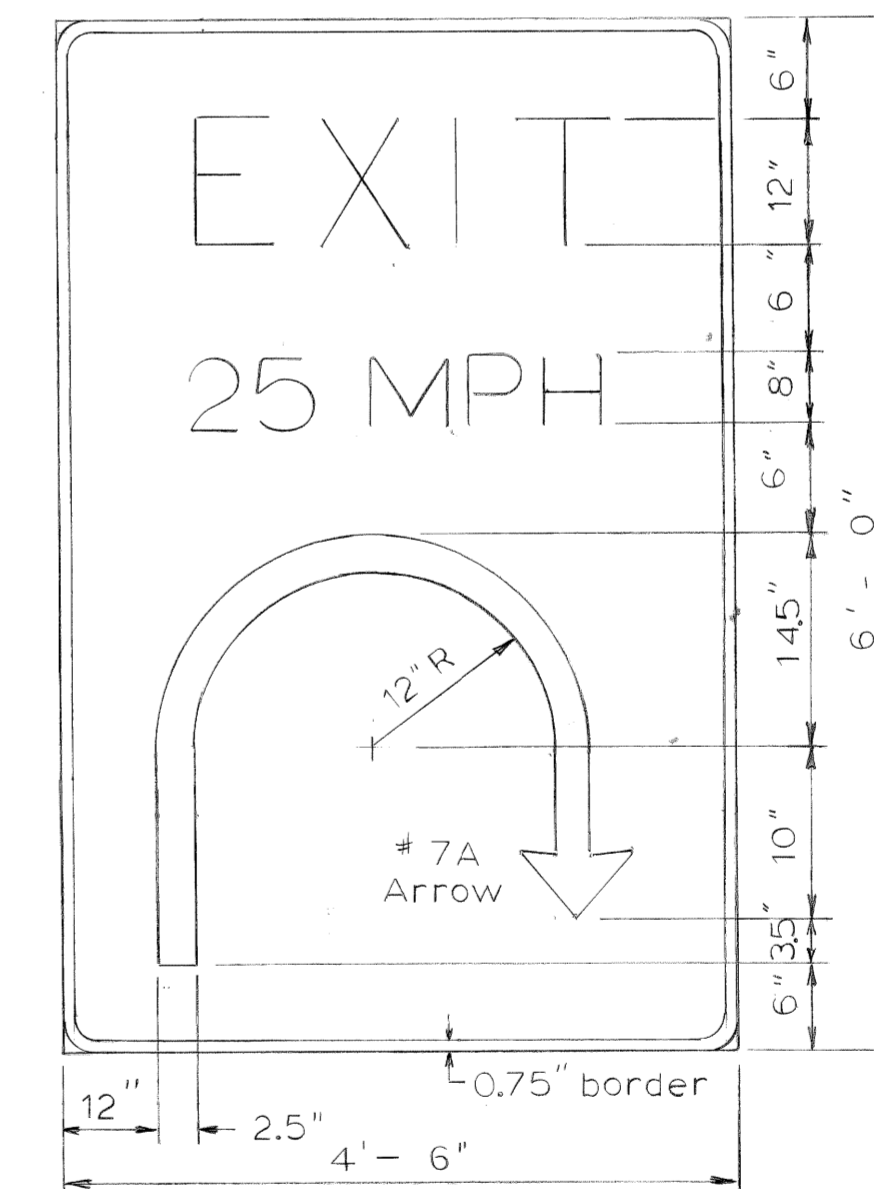
(White on green Type IA Sign
5" Series C UC letters)

DETAIL B



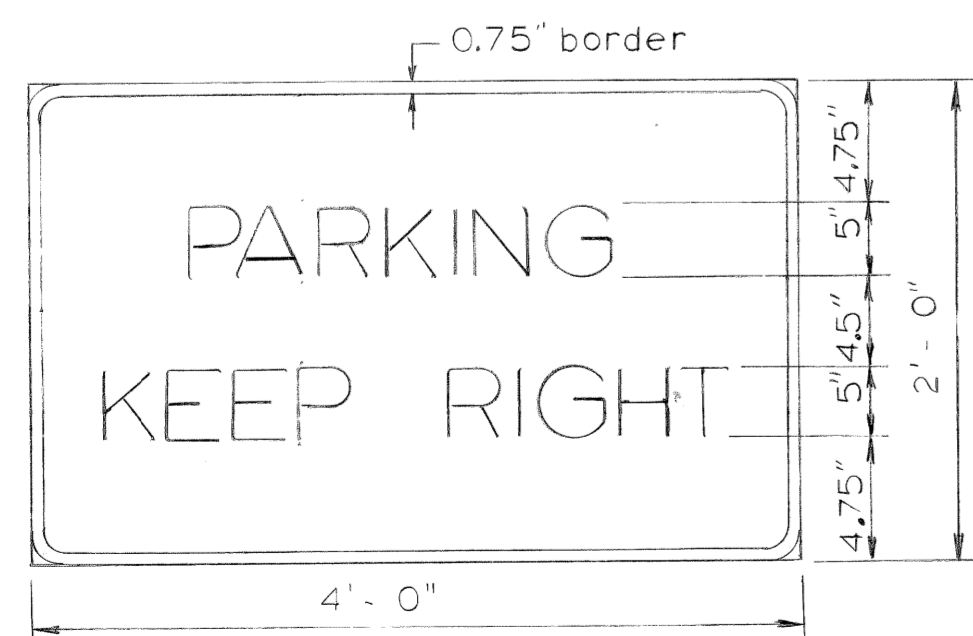
(See E1-1 for Specifications)

DETAIL F



(Black on yellow Type IB Sign
Legend Series D UC of height indicated)

DETAIL E



(White on green Type IA Sign
5" Series C UC letters)

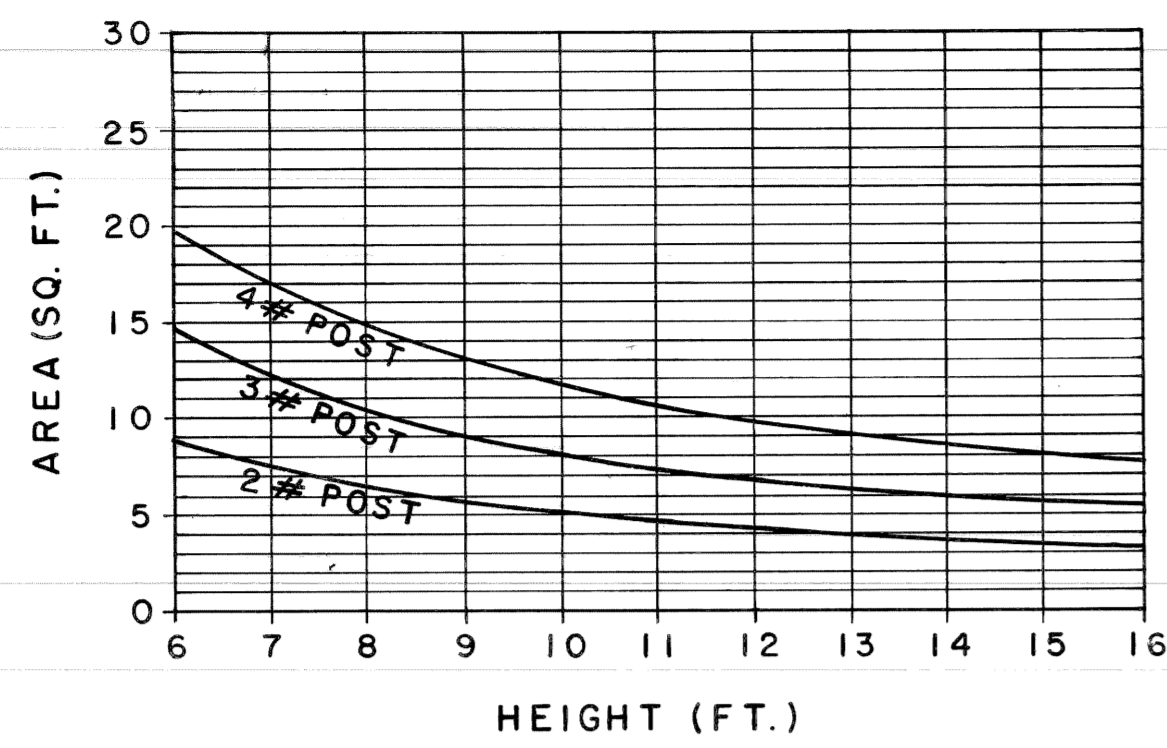
DETAIL C

SUMMARY OF QUANTITIES

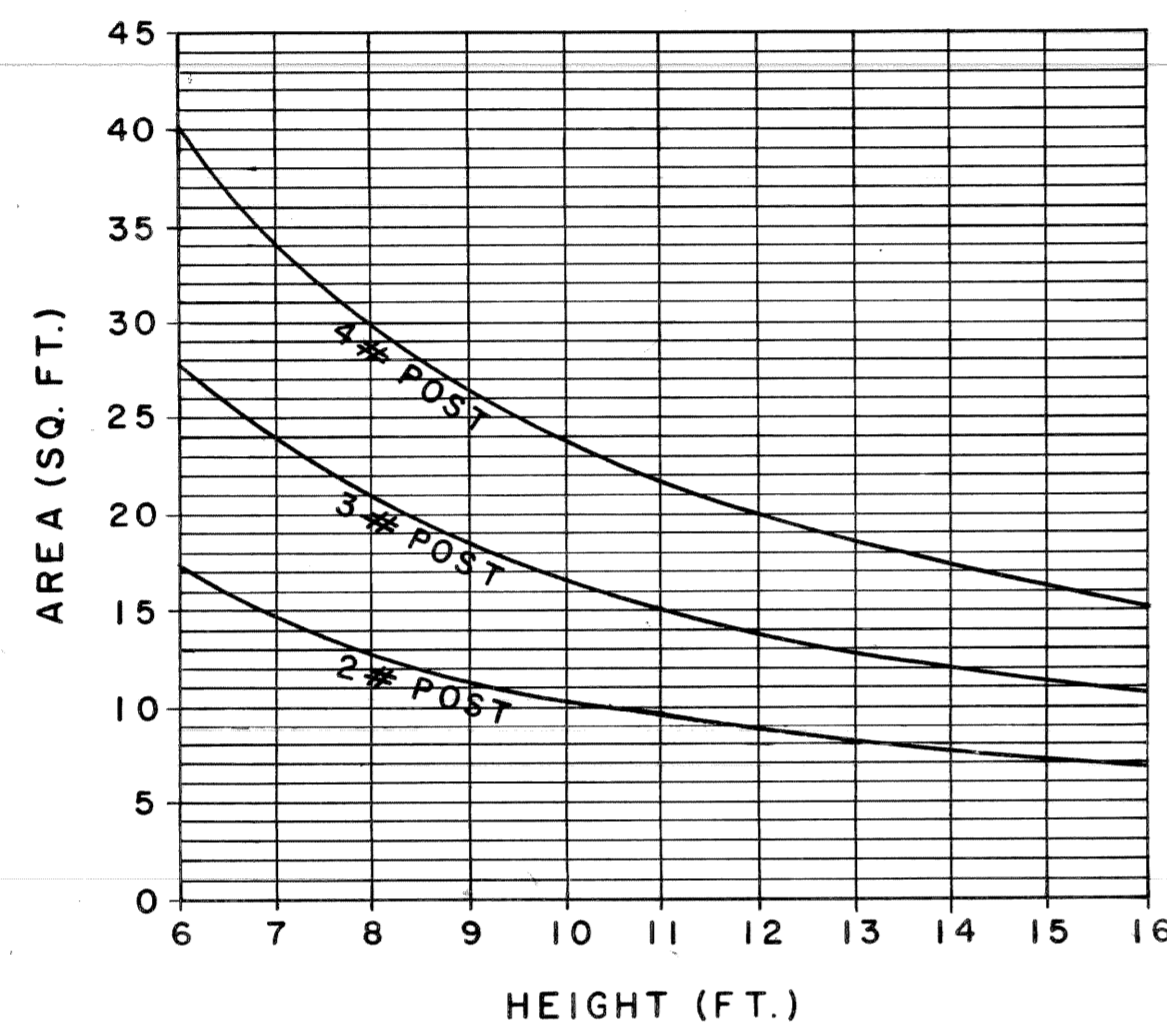
ITEM DESCRIPTION	ITEM CODE	UNIT	PROJECT TOTAL	JOB SUBTOTAL	SHEET 002G	As Constructed Quantities	As Proposed Number
				CONTROL SECTION 82111 JOB NUMBER 16563A			
3" STEEL POST	6260101	LFT	50	50	50	47	A 1022
SIGN, TYPE IA	6260116	SFT	446	446	445.5	446	
SIGN, TYPE IIA	6260117	SFT	46	46	45.5	46	
SIGN, TYPE IB	6260119	SFT	55	55	55	55	
SIGN, TYPE IIB	6260120	SFT	75	75	75	75	
SIGN, TYPE IIIB	6260121	SFT	27	27	27	27	
BRIDGE CONNECTION, TYPE A	6260130	EACH	2	2	2	2	
BRIDGE CONNECTION, TYPE C	6260132	EACH	3	3	3	3	
BRIDGE CONNECTION, TYPE E	6260134	EACH	1	1	1	1	
BRIDGE CONNECTION, TYPE F	6260135	EACH	1	1	1	1	
REMOVAL OF SIGN, TYPE I	6260150	EACH	6	6	6	6	
REMOVAL OF SIGN, TYPE II	6260151	EACH	6	6	6	6	
SALVAGED SIGN, TYPE I	6260171	EACH	2	2	2	2	
BARRIER CONNECTION, TYPE I	6267000	EACH	9	9	9	9	
BARRIER CONNECTION, TYPE II	6267001	EACH	2	2	2	2	
BARRIER CONNECTION, TYPE III	6267002	EACH	1	1	1	1	

NOTE: ALL TOTALS ARE ROUNDED TO THE WHOLE UNIT.

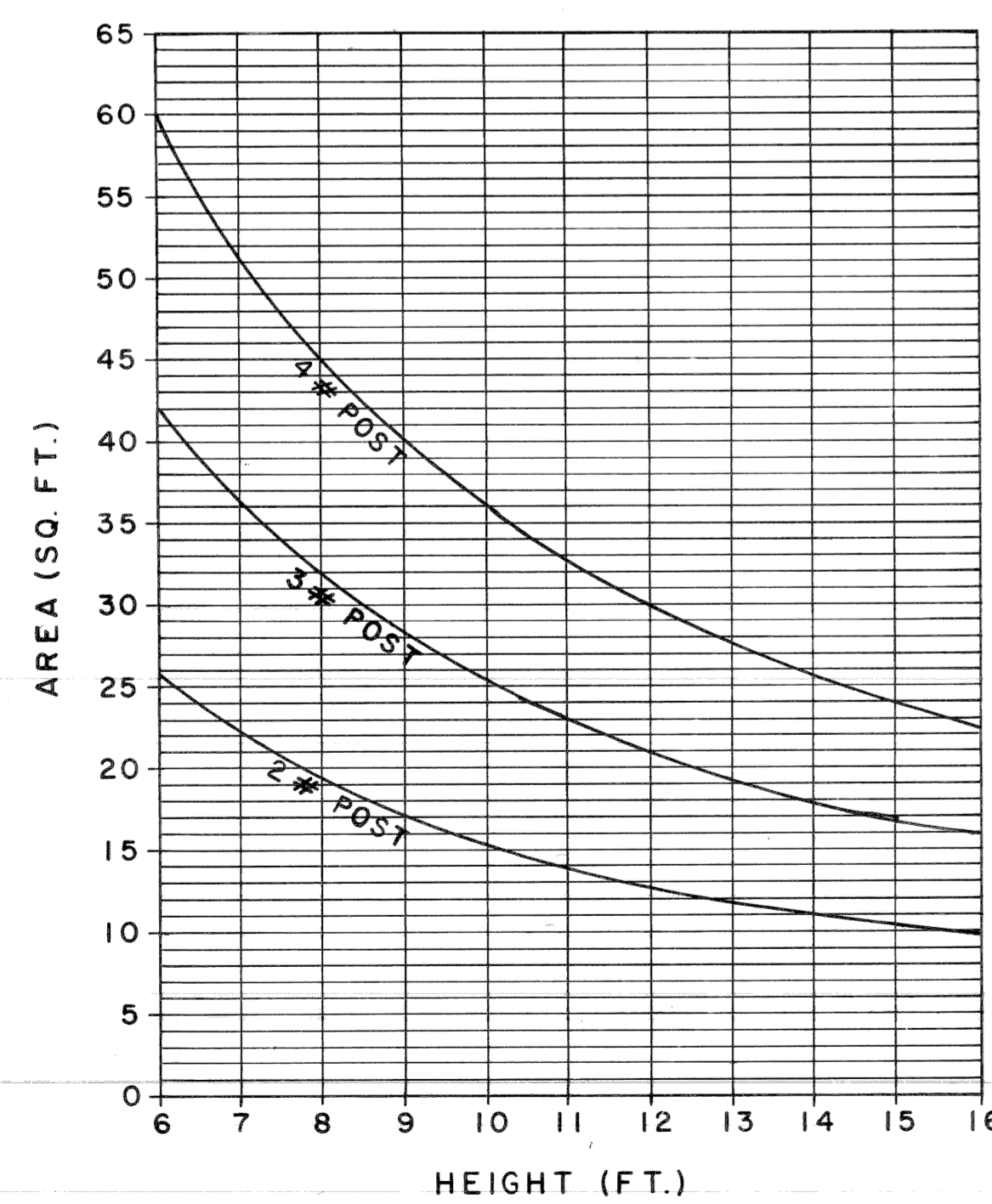
CHECKED
CONTROL SECTION
DATE 5/13/82



1 - POST ASSEMBLY

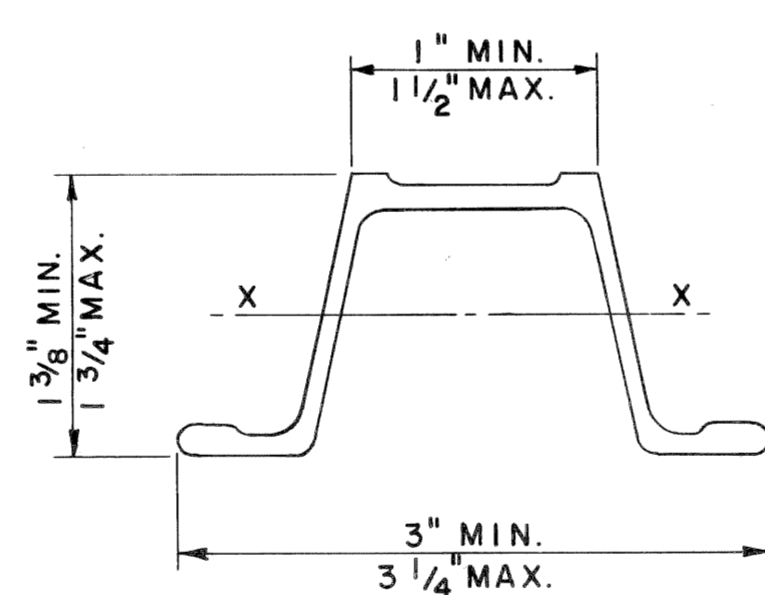
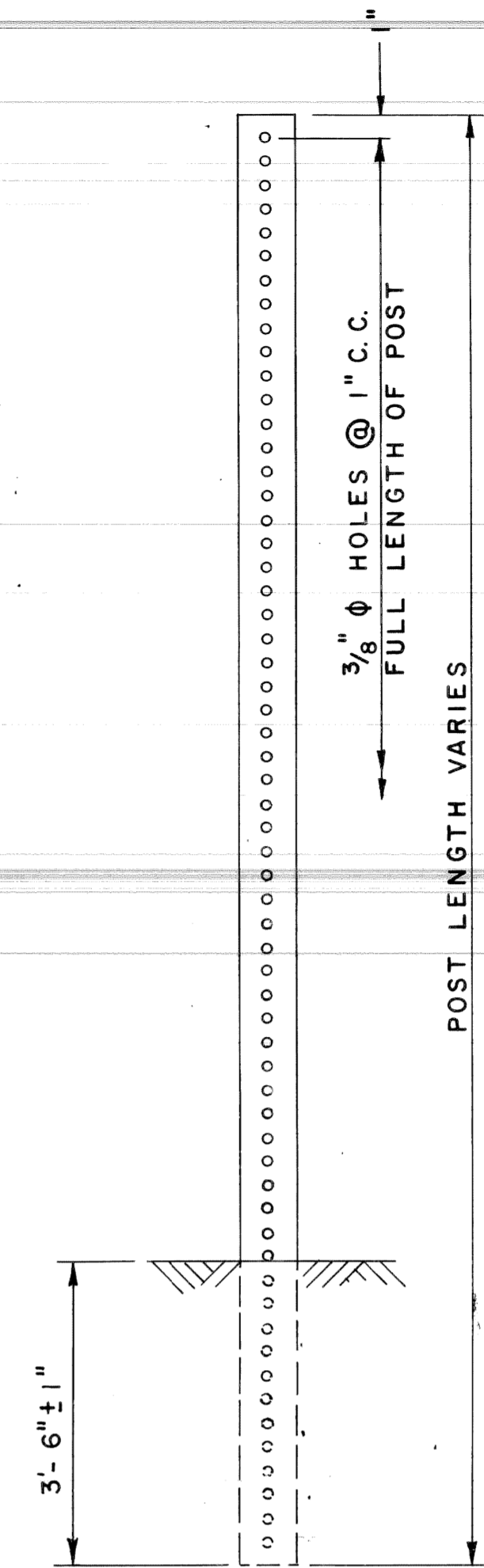
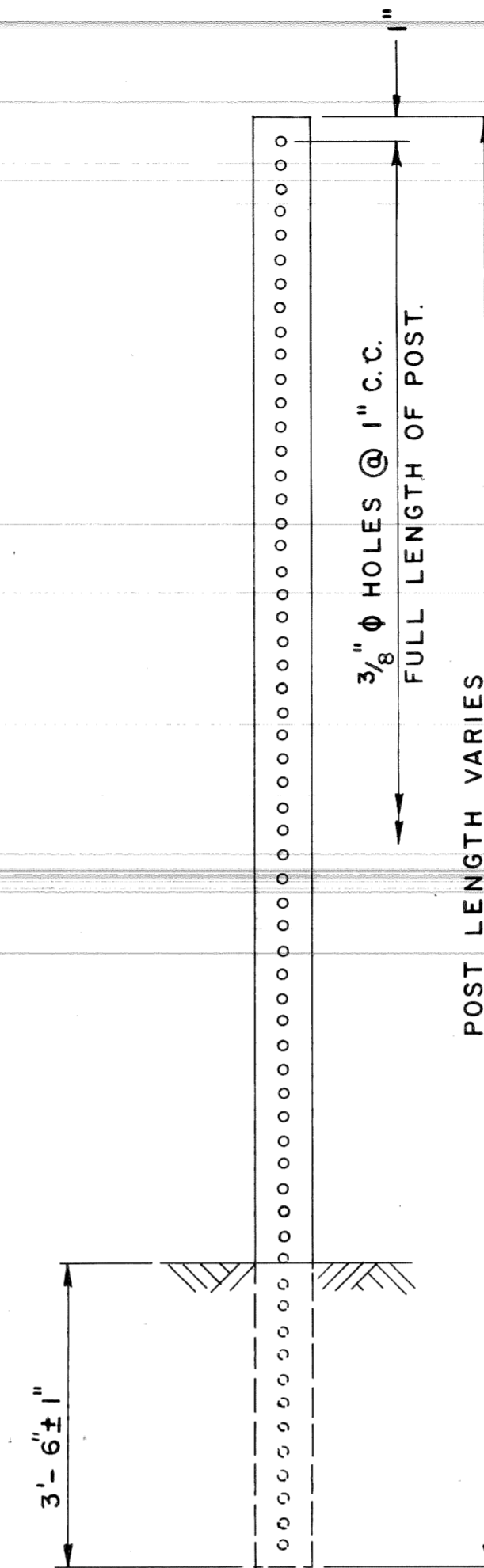
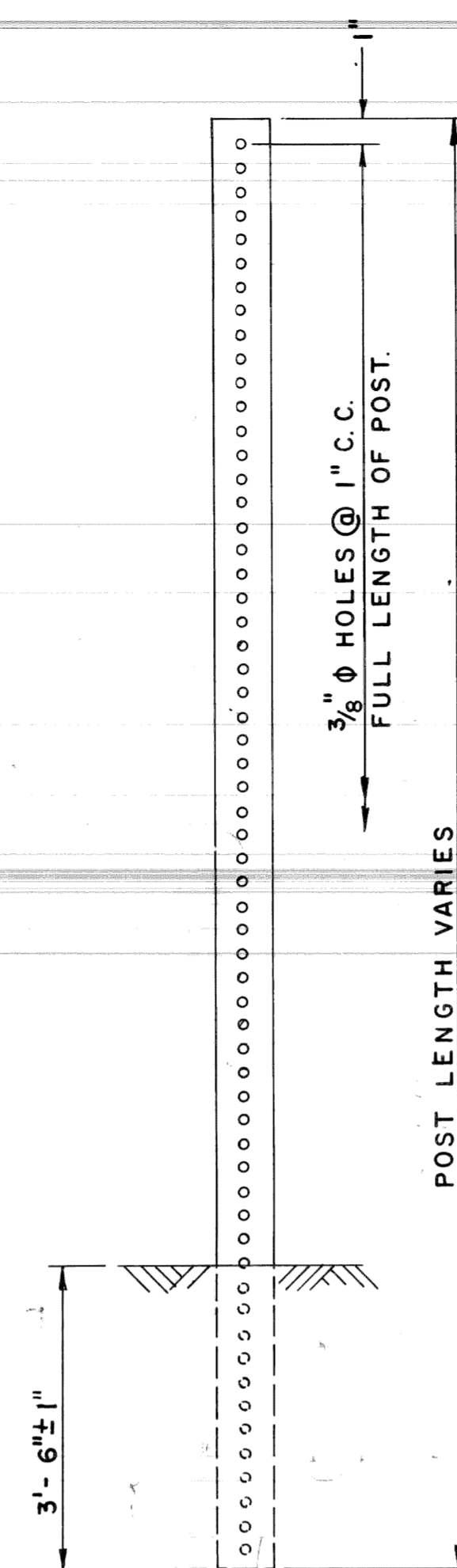


2 - POST ASSEMBLY



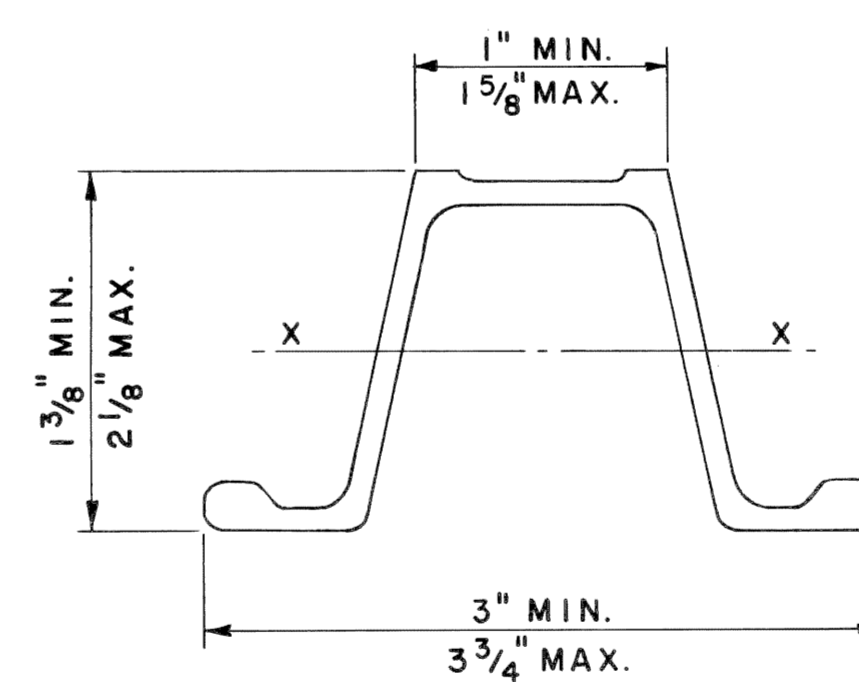
3 - POST ASSEMBLY

HEIGHT = DISTANCE FROM GROUND TO CENTER OF SIGN OR SIGN CLUSTER.



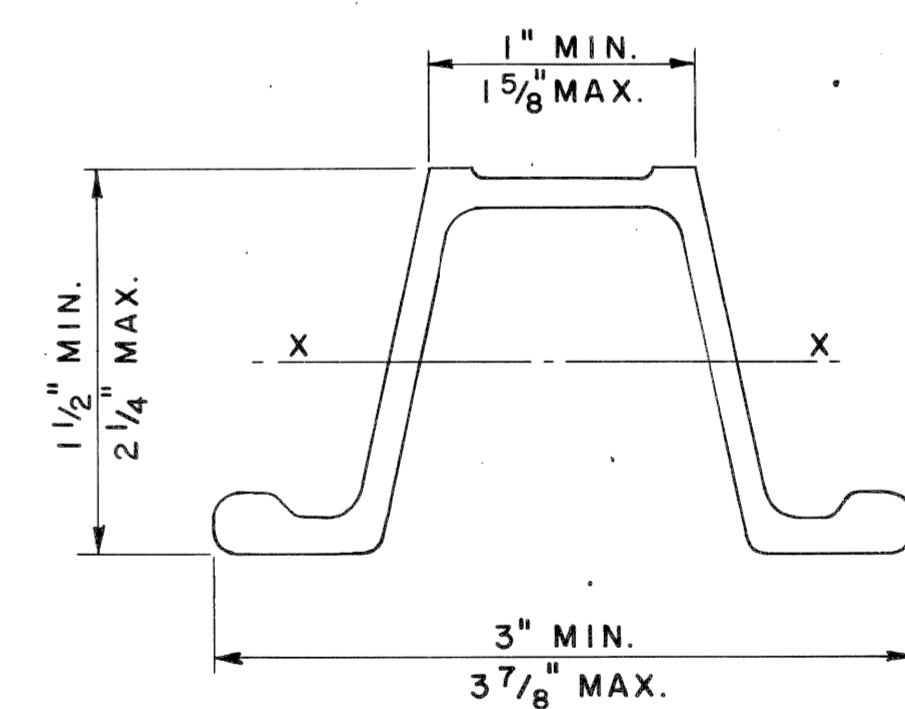
WEIGHT = 2 LB_{FT} MIN.
SECTION MODULUS X - X = 0.19 IN.³ MIN.

2# STEEL POST



WEIGHT = 3 LB_{FT} MIN.
SECTION MODULUS X - X = 0.31 IN.³ MIN.

3# STEEL POST



WEIGHT = 4 LB_{FT} MIN.
SECTION MODULUS X - X = 0.44 IN.³ MIN.

4# STEEL POST

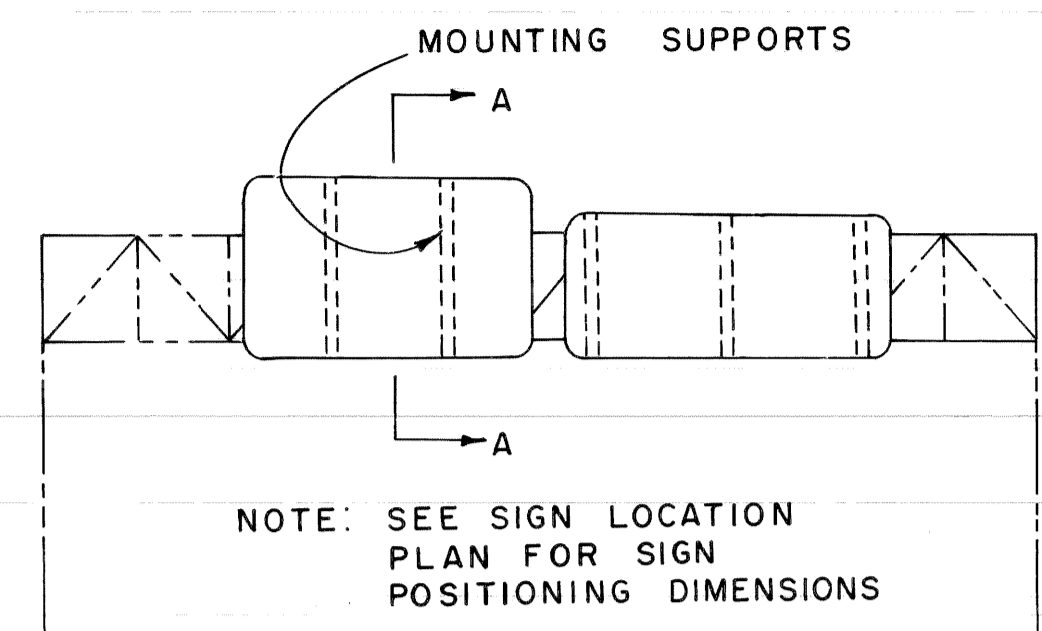
NOTES:
(1) POST SHALL BE GALVANIZED.
(2) SEE STANDARD PLAN S 9.20 FOR SIGN CONNECTION.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

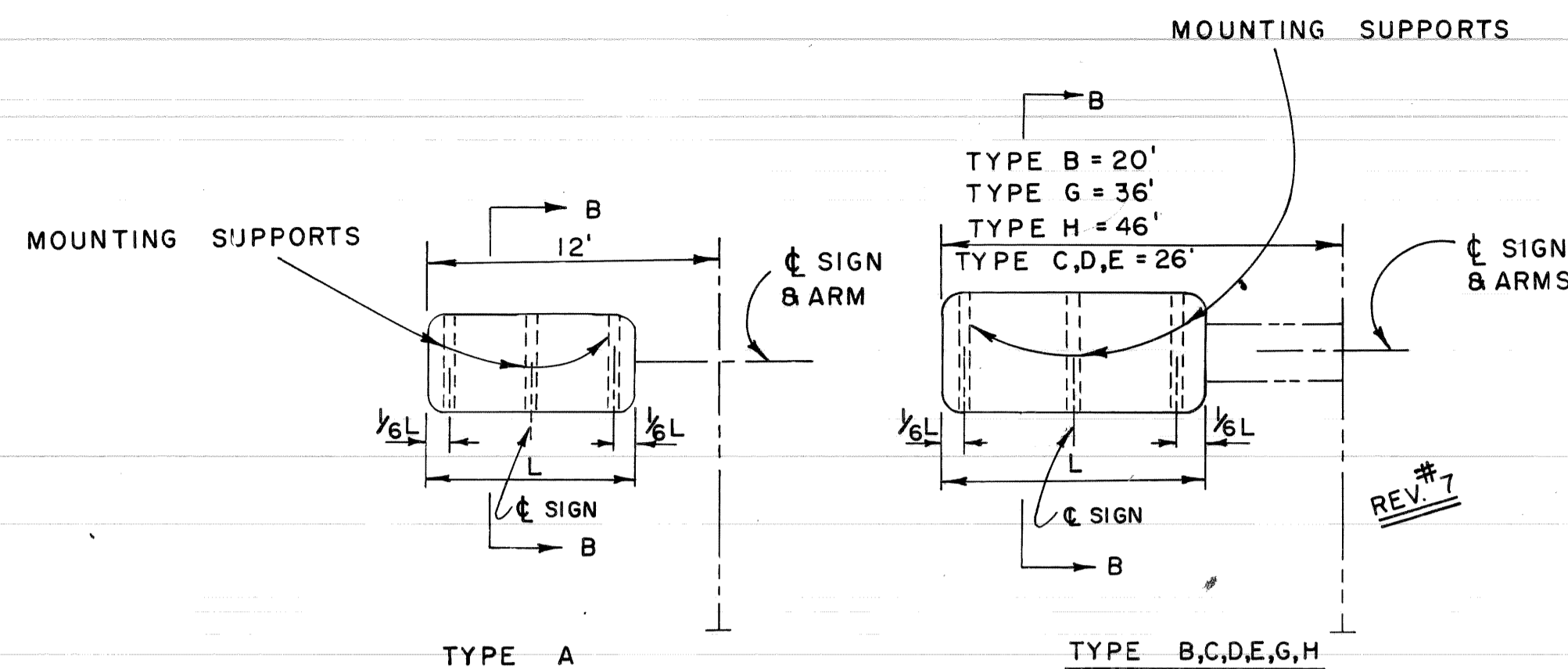
STEEL POST

REVISIONS			
NO.	DESCRIPTION	DATE	BY

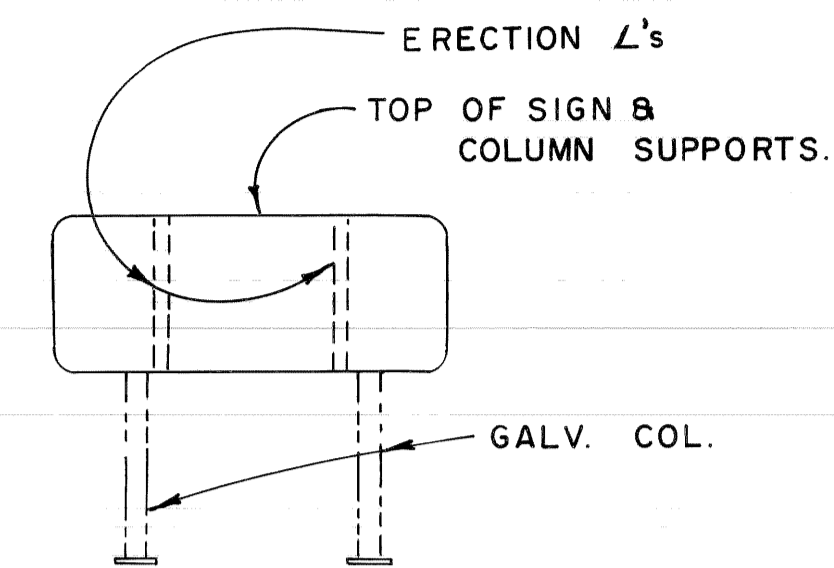
DESIGNED BY	W.C.G.	8-7-75
CHECKED BY	L.W.P.	8-13-75
SHEET OF		
S 3.10		



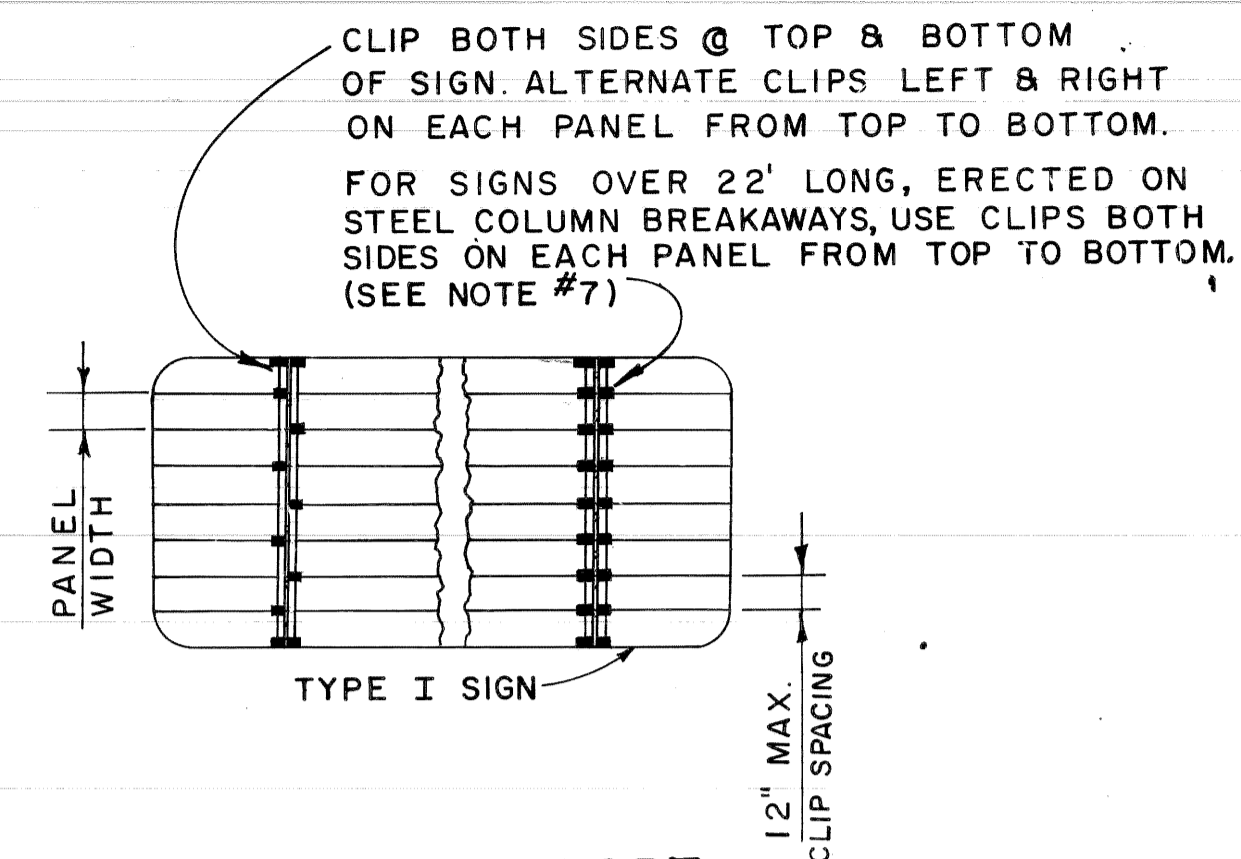
ELEVATION TRUSS



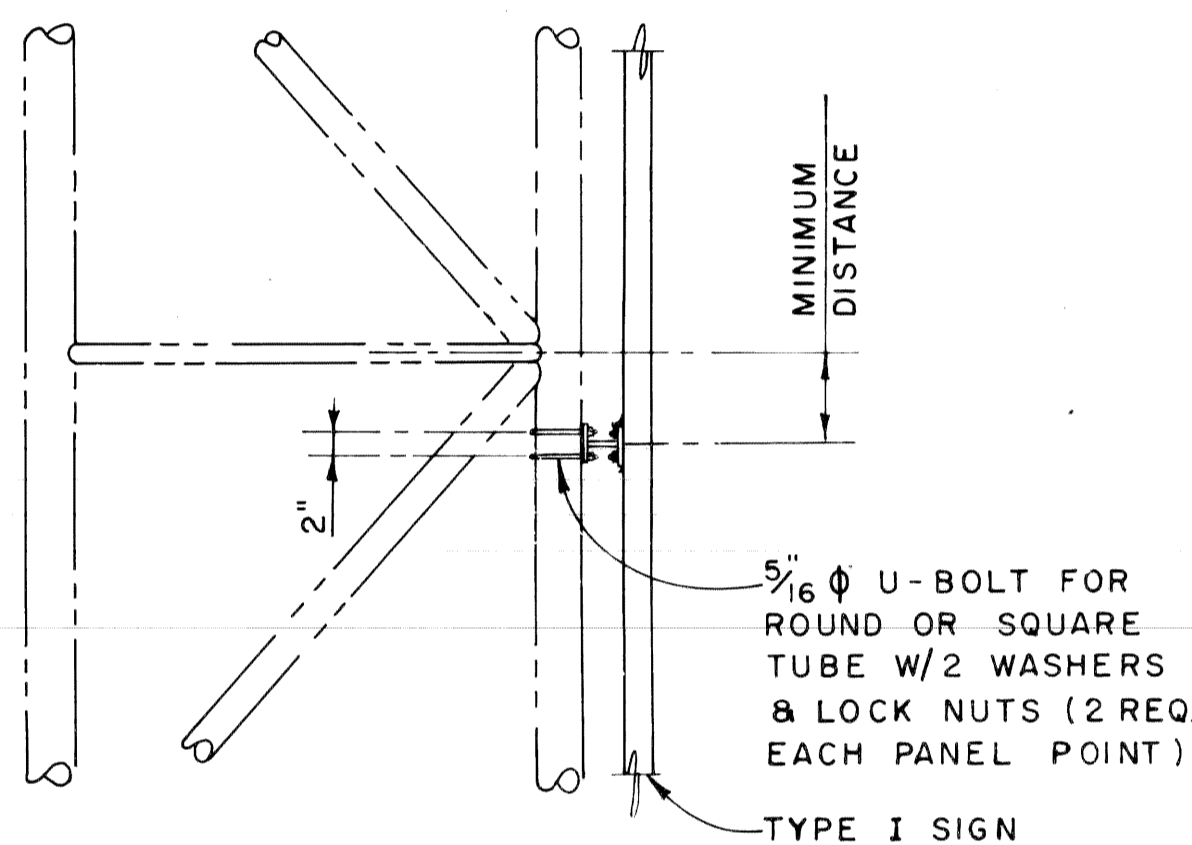
ELEVATION CANTILEVER



ELEVATION STEEL COLUMN BREAKAWAY

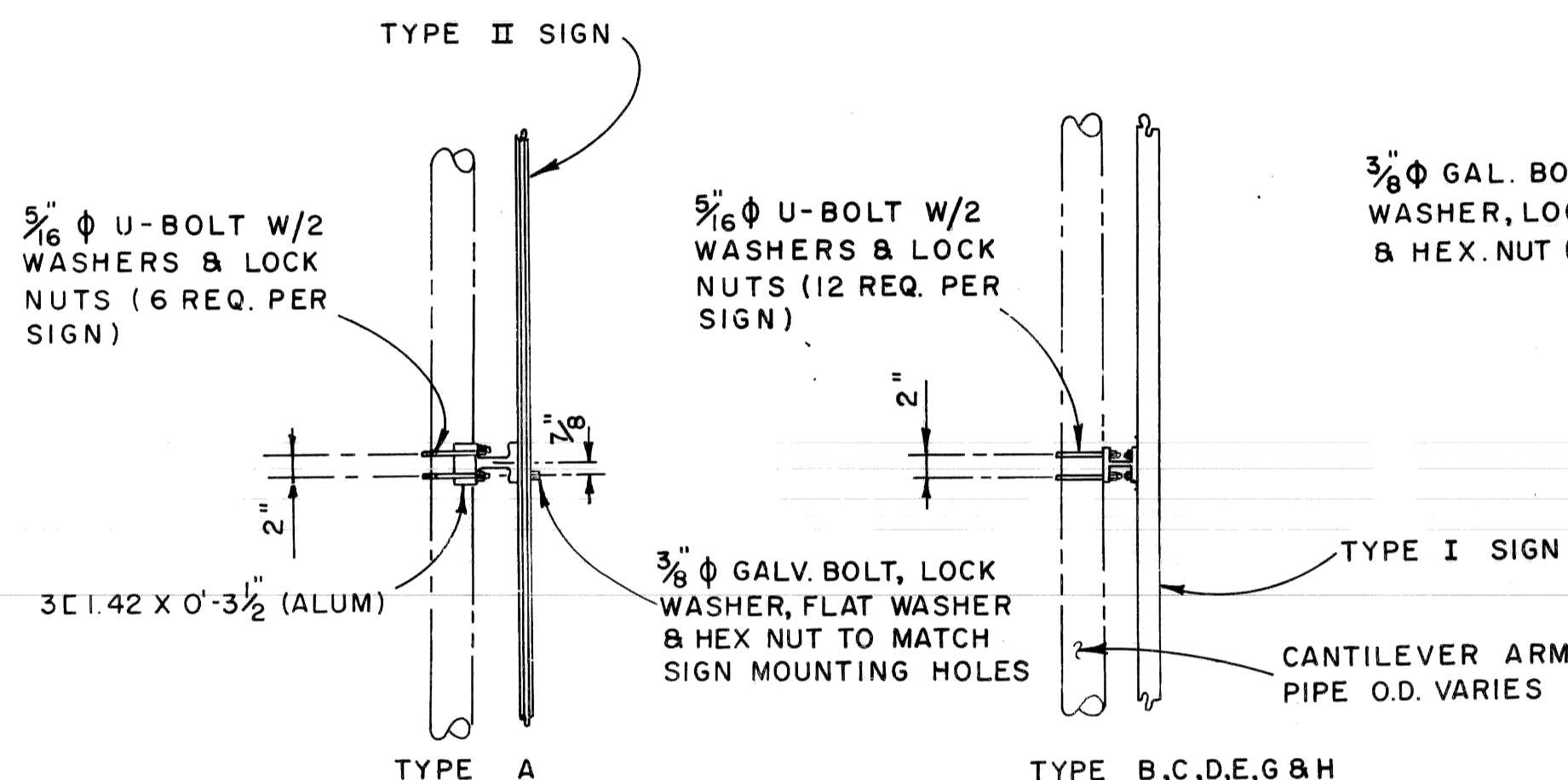


SIGN SUPPORT CLIP OR BOLT ARRANGEMENT



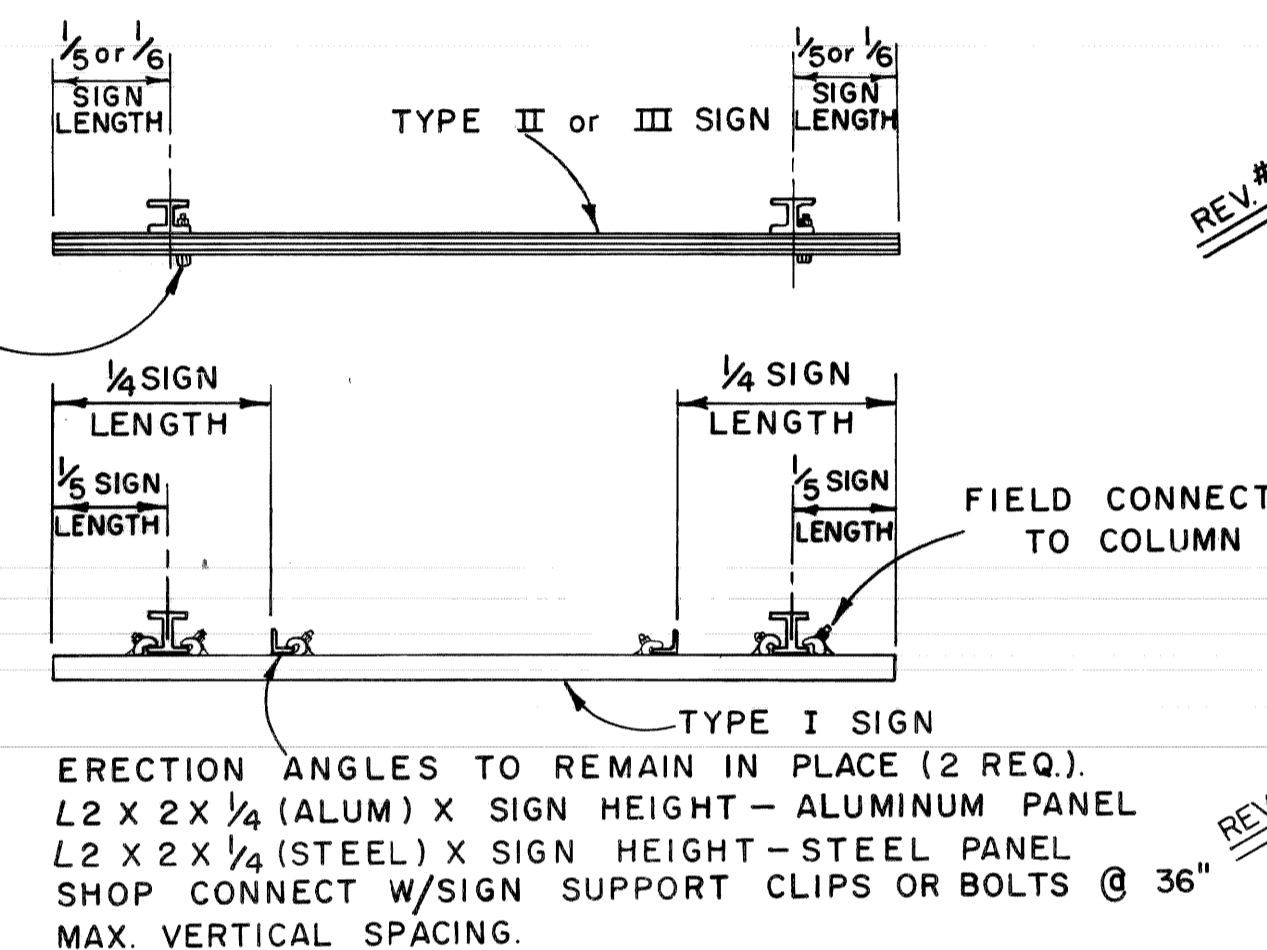
PLAN- TRUSS CONNECTION

TYP - EACH PANEL PT.



PLAN-CANTILEVER CONNECTION

TYP - 3 PLACES

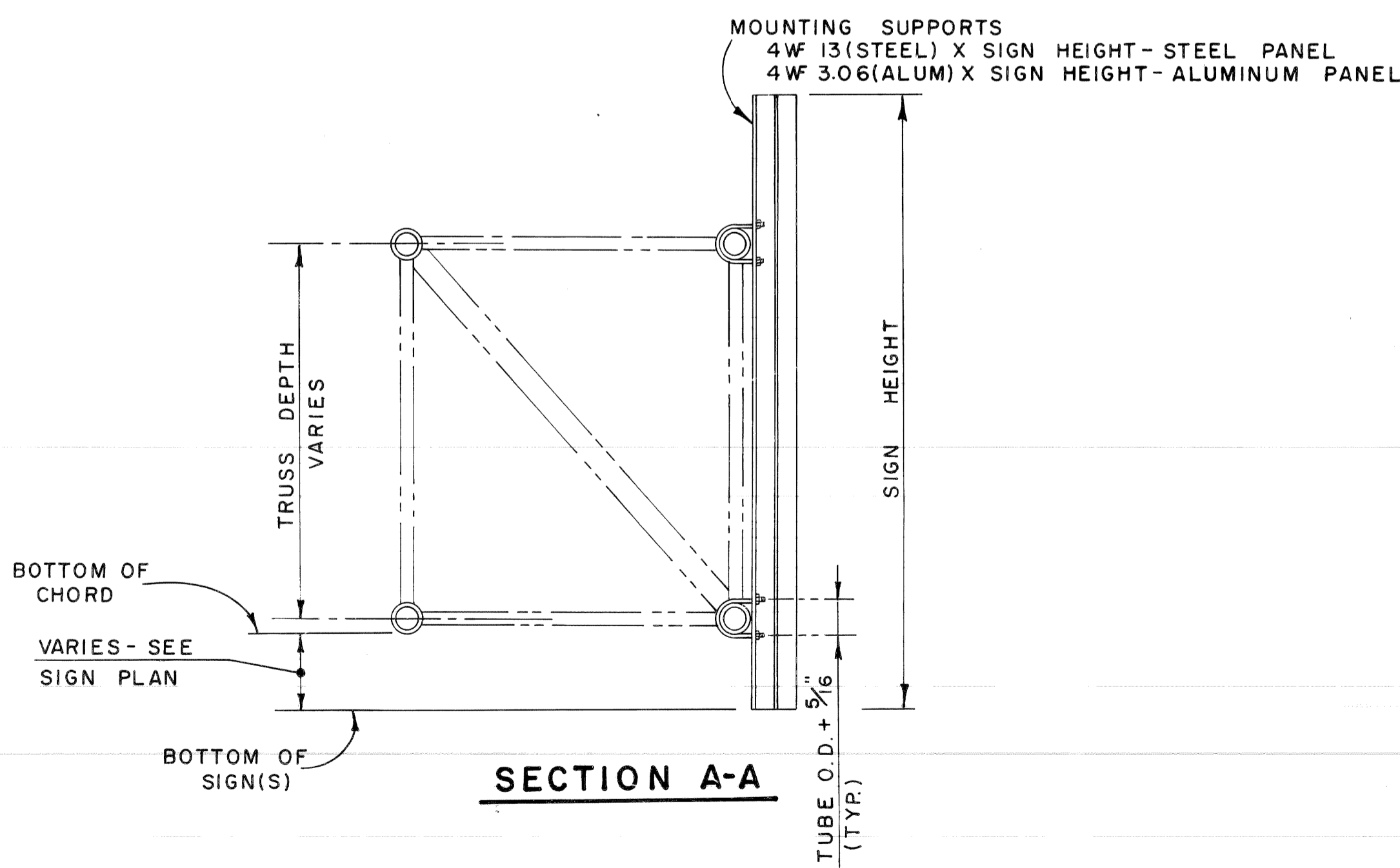


PLAN

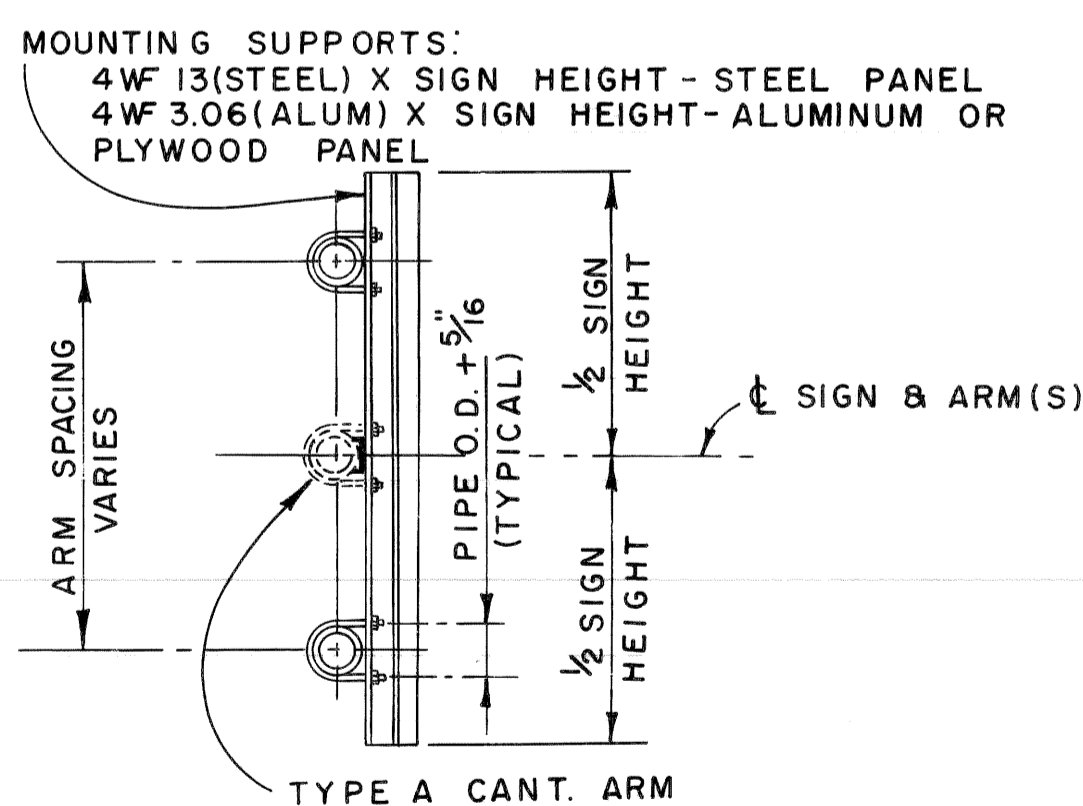
STEEL COLUMN BREAKAWAY

ATTACHMENT OF EXIT NUMBER PANELS TO OTHER HIGHWAY GUIDE SIGNS

WHERE AN EXIT NUMBER PANEL IS TO BE ERECTED ABOVE A COLUMN-SUPPORTED SIGN, THE SIGN'S ERECTION ANGLES SHALL BE EXTENDED TO THE TOP OF THE EXIT NUMBER PANEL. WHERE AN EXIT NUMBER PANEL IS TO BE ERECTED ABOVE AN OVERHEAD SIGN, ERECTION ANGLES SHALL BE ADDED TO THE SIGN AND EXTENDED TO THE TOP OF THE EXIT NUMBER PANEL. WHERE NECESSARY, SIGN ERECTION ANGLES MAY BE SHIFTED TOWARD THE CENTER OF A SIGN TO PROVIDE SUPPORT FOR THE EXIT NUMBER PANEL. ALL ERECTION ANGLES ADDED TO OVERHEAD SIGNS SHALL BE THE SAME AS THOSE SPECIFIED FOR COLUMN-SUPPORTED SIGNS.



TRUSS



SECTION B-B

CANTILEVER

U-BOLT DIMENSIONS			
ALUM TRUSS TYPE	CANTILEVER TYPE	INSIDE BEND-DIA.	U-BOLT LENGTH
B		6" or 7"	1'-5 1/2" or 1'-8"
C		6" or 7"	1'-5 1/2" or 1'-8"
D		7"	1'-8"
	A	4 1/2"	1'-3 1/2"
	B	6 5/8"	1'-7 1/2"
	C	8 5/8"	2'-1"
	D & E	10 3/4"	2'-5 1/2"
	G	10 3/4"	2'-5 1/2"
	H	12 3/4"	2'-11 1/2"

NOTE: ALL U-BOLTS SHALL HAVE 1 1/4" THREAD LENGTH (MIN.)

ALL U-BOLTS AND ACCOMPANYING LOCKNUTS AND WASHERS SHALL BE STAINLESS STEEL - ASTM A 320, GRADE B.8 (AISI TYPE 304) FOR U-BOLTS AND WASHERS, AND GRADE B 8F (AISI TYPE 303) FOR LOCKNUTS.

NOTE: 1. ERECTION ANGLES OF MOUNTING SUPPORTS SHALL BE SHOP CONNECTED BEFORE HANDLING FINISHED SIGN. (INCIDENTAL TO SIGN)
2. ALL CONNECTIONS ARE INCIDENTAL TO "SIGN".
3. SIGN PANEL CONNECTIONS - BOLTS - 3/8" BOLT & HEX. NUT @ 24" O.C. FOR ALUMINUM & STEEL PANELS. RIVETS - 1/4" @ 24" O.C. FOR ALUMINUM PANELS ONLY.

4. TORQUE ALUMINUM CLIP BOLTS TO 225 INCH POUNDS
5. WHEN AN EXIT NUMBER PANEL IS CALLED FOR ON THE PLANS FOR INCLUSION WITH AN OVERHEAD SIGN, THE MOUNTING SUPPORTS SHALL BE EXTENDED TO THE TOP OF THE EXIT NUMBER PANEL.
6. ON GROUND MOUNTED SIGNS, THE ERECTION ANGLES SHALL BE EXTENDED TO THE TOP OF AN EXIT NUMBER PANEL. IF NECESSARY, THE LOCATION OF ERECTION ANGLES MAY BE ADJUSTED TOWARD THE CENTER OF THE SIGN TO SUPPORT AN EXIT NUMBER PANEL.
7. SIGN SUPPORT CLIPS TO BE USED ONLY FOR TYPE I SIGN ATTACHMENTS TO ROADSIDE STEEL COLUMN BREAKAWAYS. FOR ATTACHMENT OF TYPE I SIGN TO OVERHEAD SIGN MOUNTING SUPPORTS, USE 3/8" & RECTANGULAR FLAT HEAD BOLTS W/LOCK NUT AND FLAT WASHER AT TOP & BOTTOM (4 REQ. PER MOUNTING SUPPORTS). SUPPORT CLIPS MAY BE USED INTERMEDIATELY.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

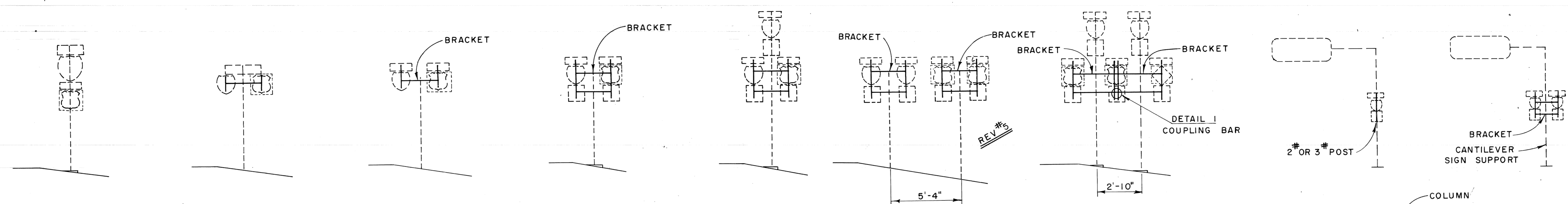
SIGN CONNECTION DETAILS TRUSS - CANTILEVER - COLUMN

REVISIONS				REVISIONS			
NO	DESCRIPTION	DATE	NO	DESCRIPTION	DATE	BY	
9	DELETE NOTES #5 AND #6	4-71	1	DIMENSION CHANGE	7-15-65	G.R.H.	
10	ADD. OF ATTACHMENT OF EXIT NUMBER PANELS	4-71	2	CONNECTION PLAN ADDED	4-66	R.L.D.	
11	DELETE REV #10	10-71	3	ADD. OF STEEL SIGN PANEL	10-66	T.M.W.	
12	DELETE OVERHEAD SUPPORT CLIPS, NOTE #7 ADDED	3-72	4	U-BOLT DESIGNATION ADDED	12-67	D.A.P.	
13 ADDITIONS MADE TO NOTES #1 & #7				5	NOTES 5 & 6 ADDED	10-68	
				6	U BOLT CHART CHANGED	10-68	
				7	6 BH DIMENSIONS ADDED	10-68	
				8	DELETE NOTE #4	3-71	

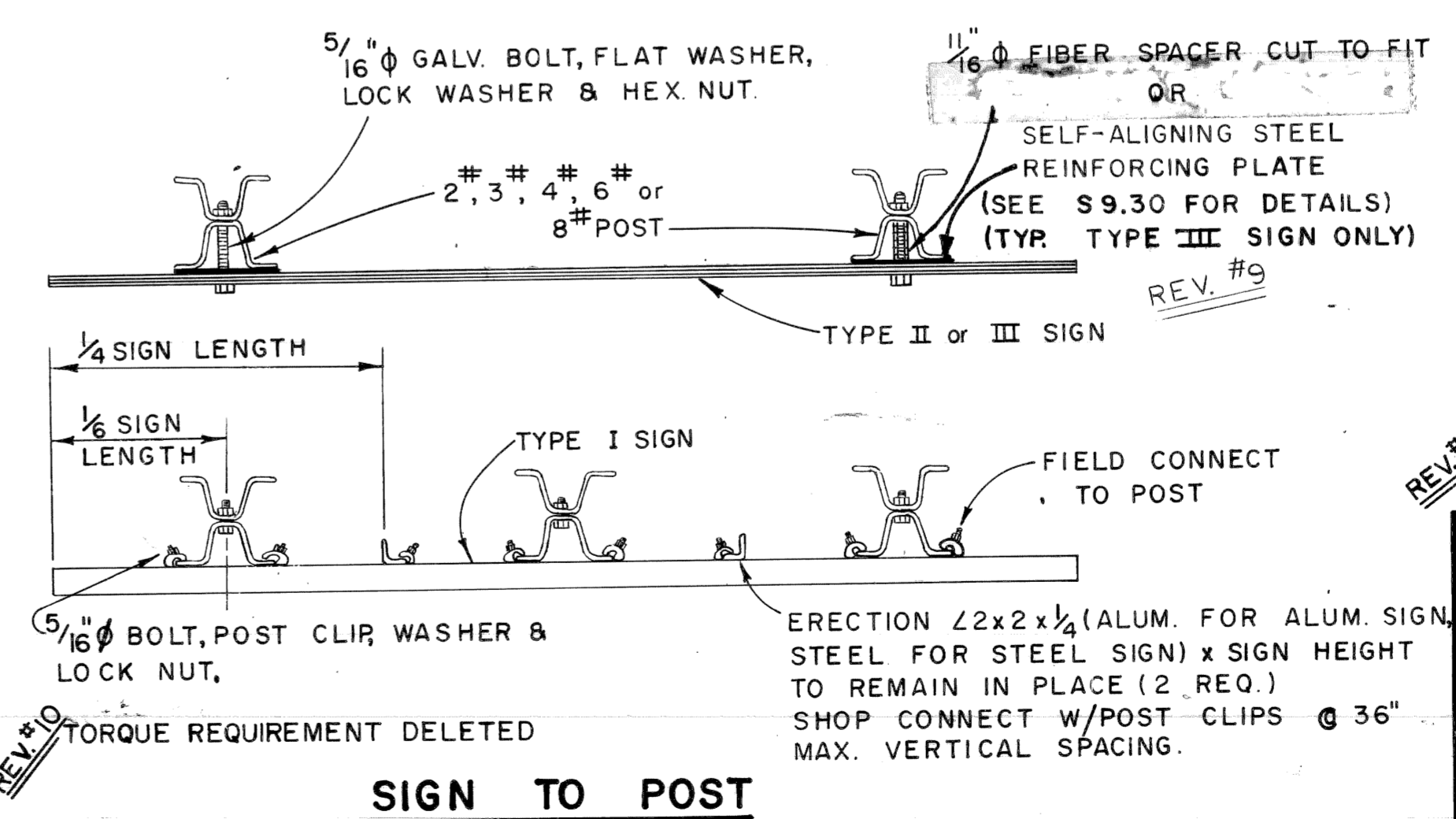
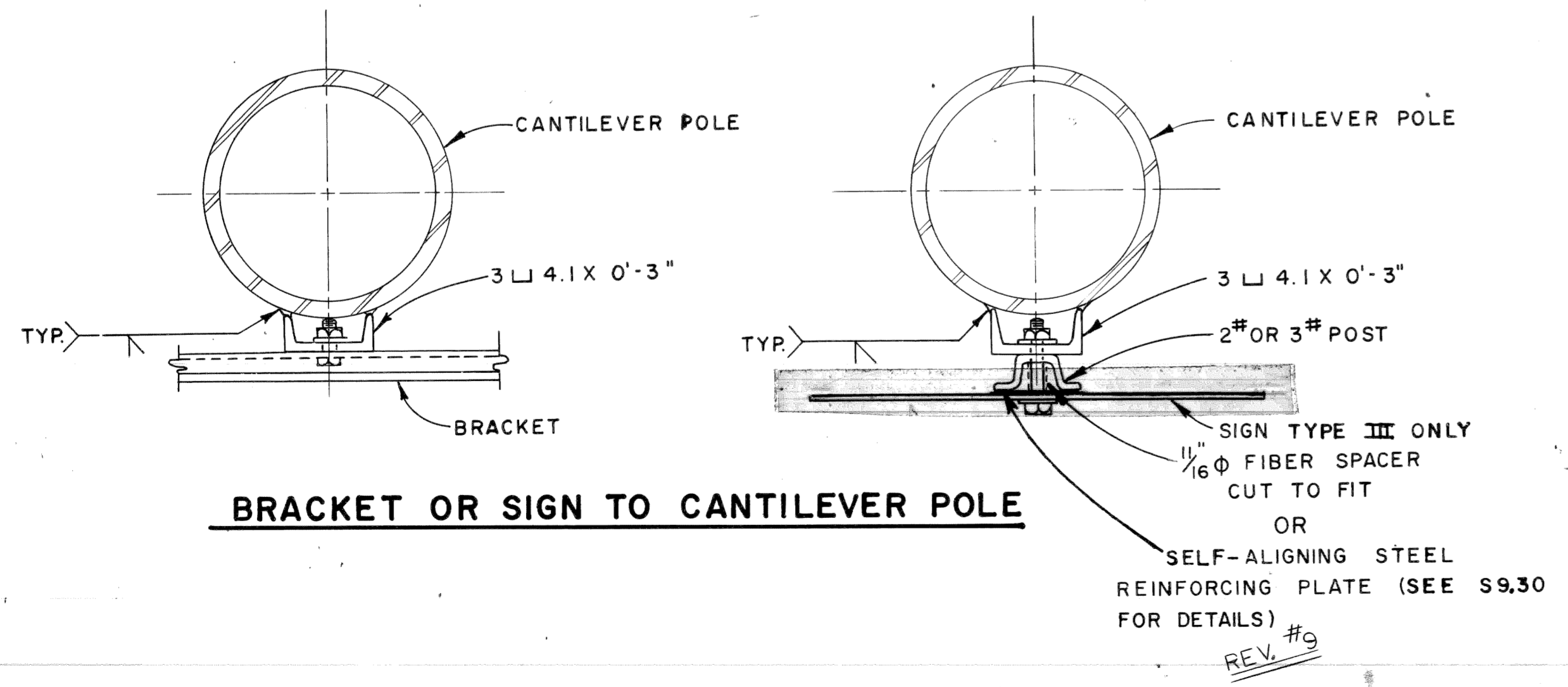
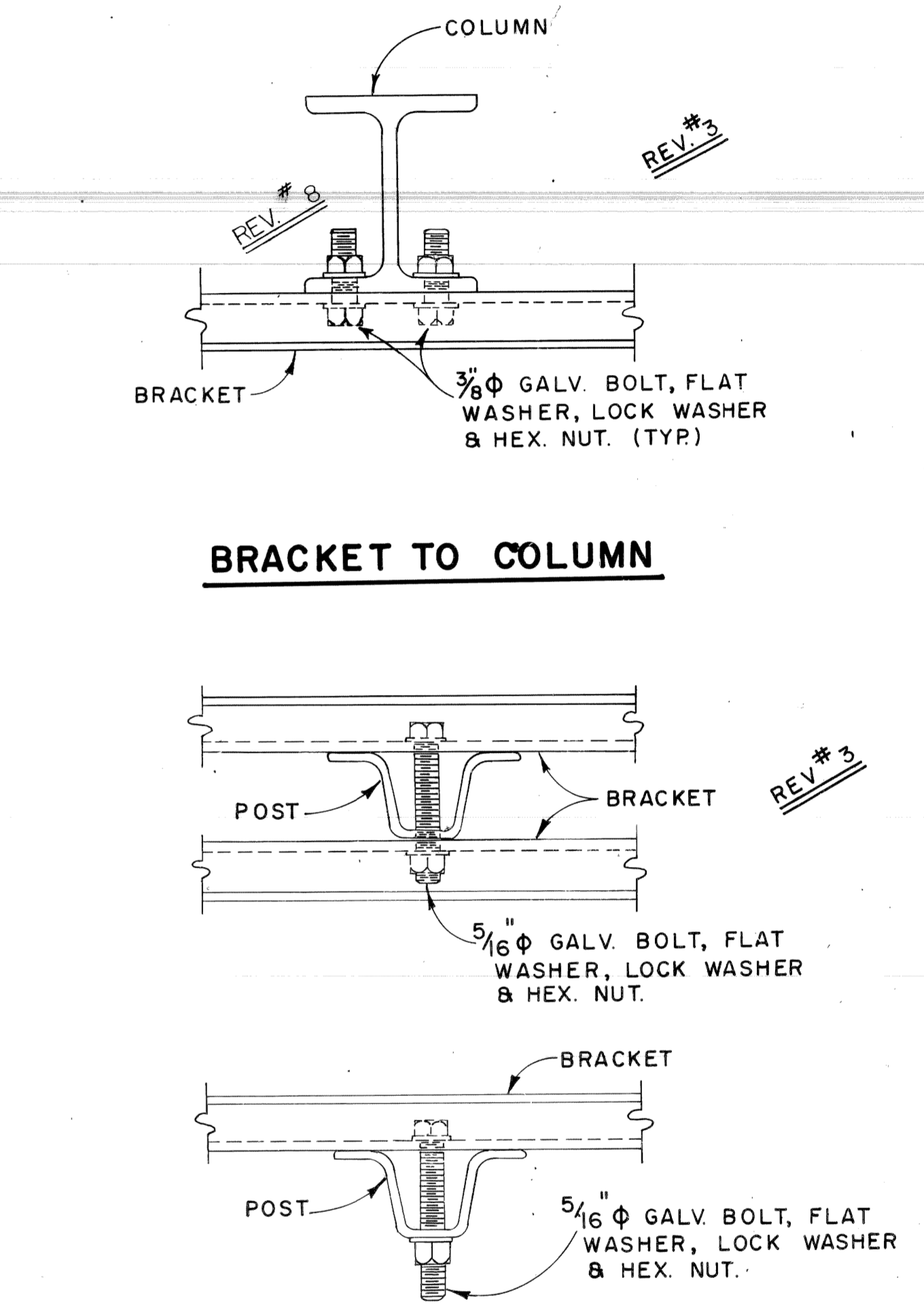
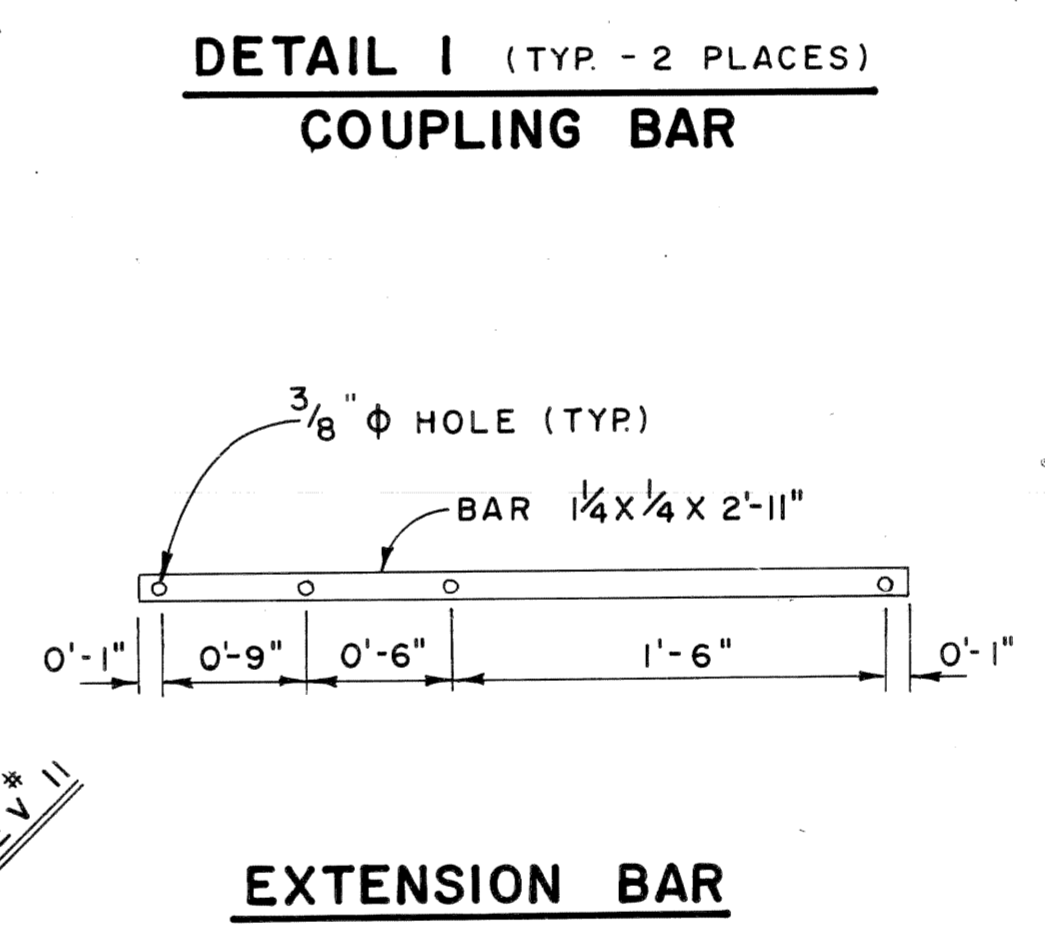
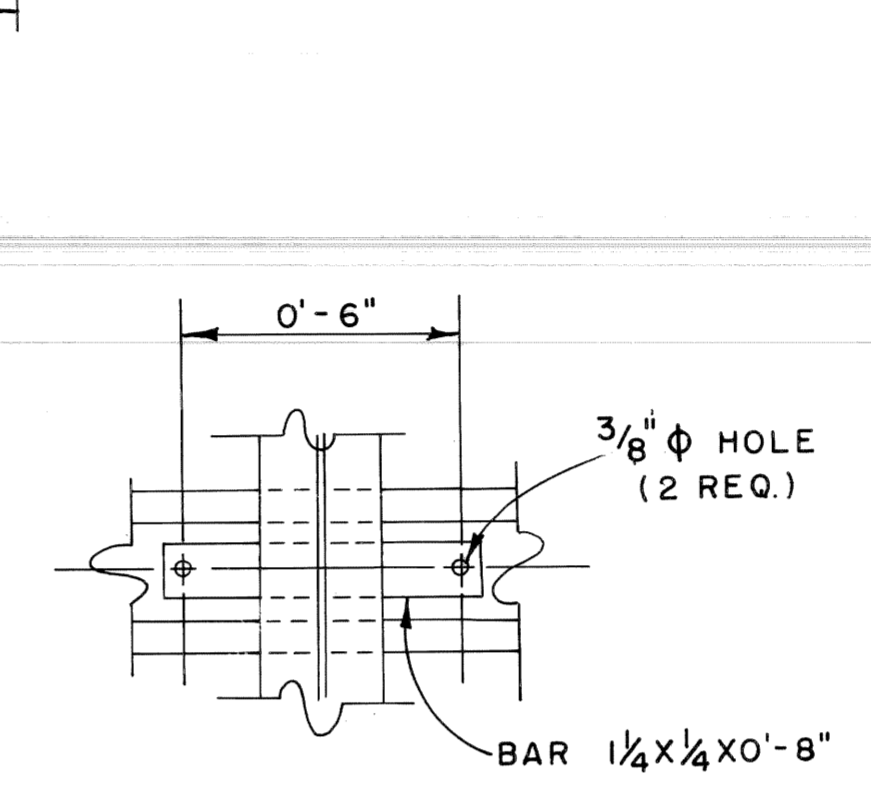
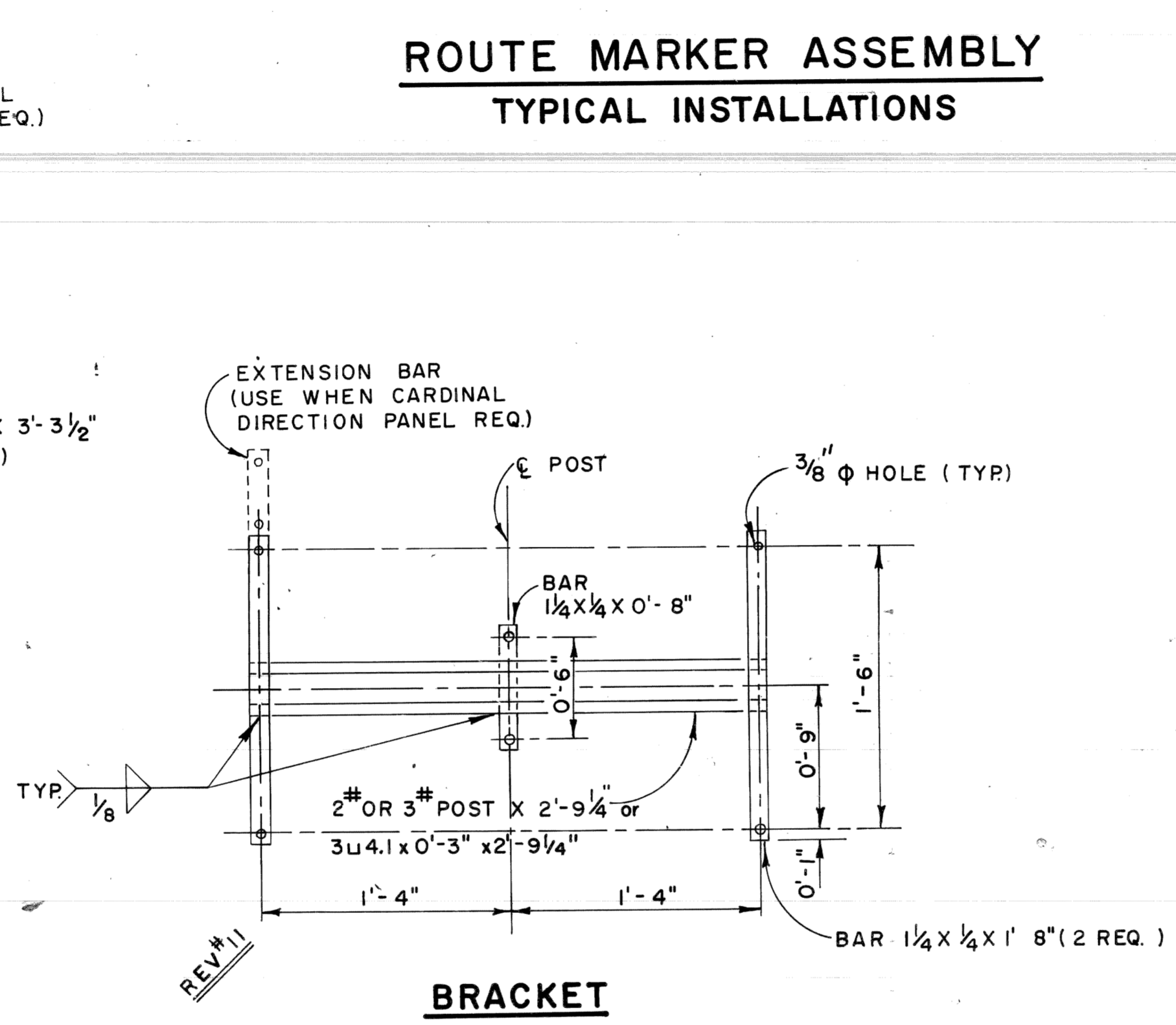
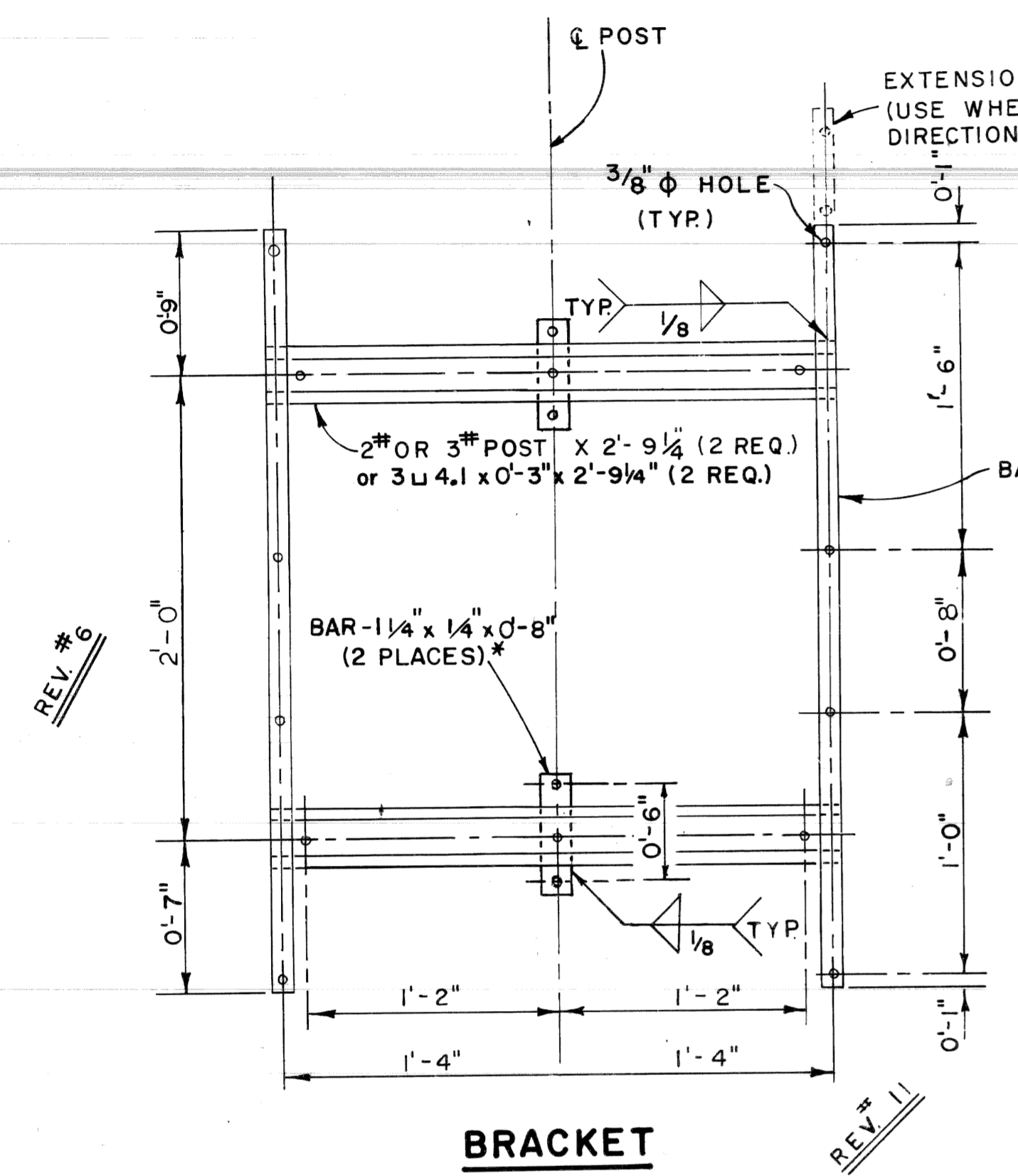
SQUAD BOSS	R.D.S.	MAY 64
DRAWN BY		
TRACED BY		
CHECKED BY		

SHEET 1 OF 3

S9.10A



ROUTE MARKER ASSEMBLY TYPICAL INSTALLATIONS



NOTE:

1. ALL CONNECTIONS ARE INCIDENTAL TO "SIGN"
2. ALL STEEL PARTS SHALL BE GALVANIZED.
3. FOR SIGN CONNECTIONS TO WOOD SUPPORTS SEE PLAN S3.30
4. USE BAR FOR BRACKET WHEN "STRAPPING CONNECTION TO POLE" (S9.30) IS USED.

TYPICAL CONNECTIONS

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
MISCELLANEOUS
SIGN CONNECTION DETAILS

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1		1-64	
2		6-64	
3	PIGGYBACK CONN. DELETED, VIEWS ADD	4-14-66	G.R.H.
4	6" & 8" POSTS ADD. TO SIGN TO POST VIEW	4-11-67	T.M.W.

SQUAD BOSS
DRAWN BY G.R.H. 4-14-66
TRACED BY
CHECKED BY T.R.K. 4-16-66
SHEET 2 OF 3

S9.20

12. Holes changed to 3/8"

11. BRACKET REDESIGNED, NOTE #4 ADDED, EXTENSION BAR CHANGED, ALTERNATE BRACKET MATERIAL PROVIDED 6-72

12. Sign to post, Bracket to column & post - Bolts changed from 3/8" to 5/16"

5. CHANGE 4-SIGN CLUSTER MOUNTING ARRANGEMENT. 11-29-67 K.G.P.

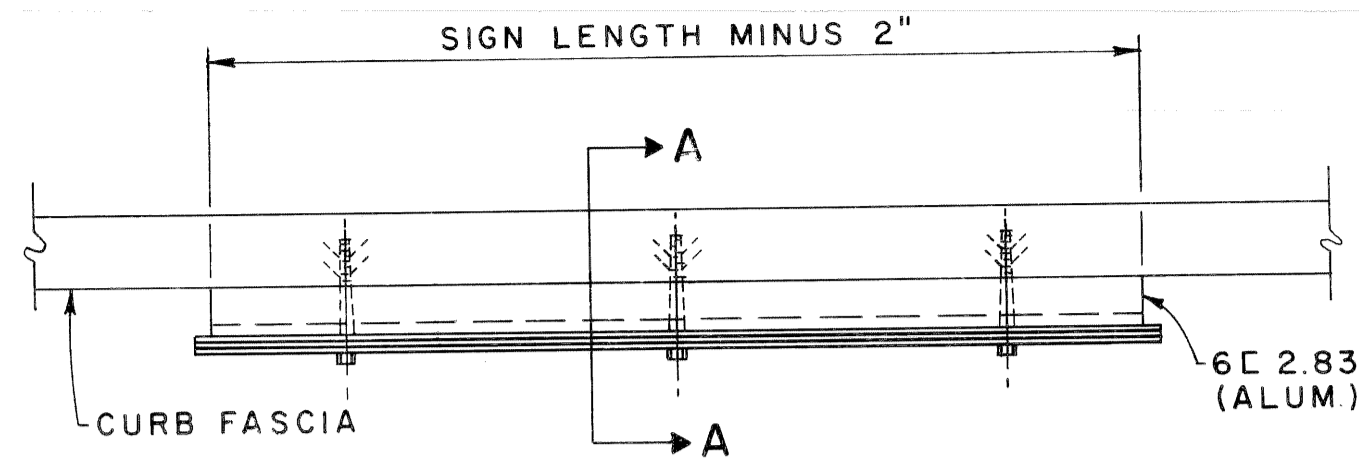
6. BRACKET DIMENSIONS CHANGED 2-13-68 T.M.W.

7. NOTE #3 ADDED 11-68 CD

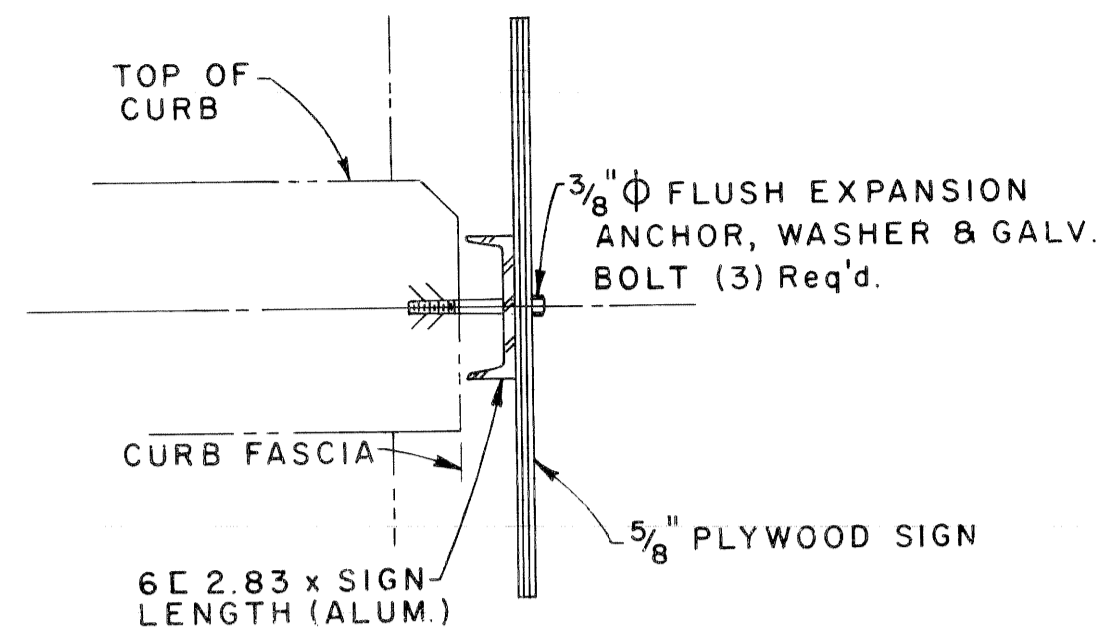
8. SECOND BOLT ADDED 2-71 K.G.P.

9. STEEL REINFORCING PLATE ADDED 3-71 W.J.H.

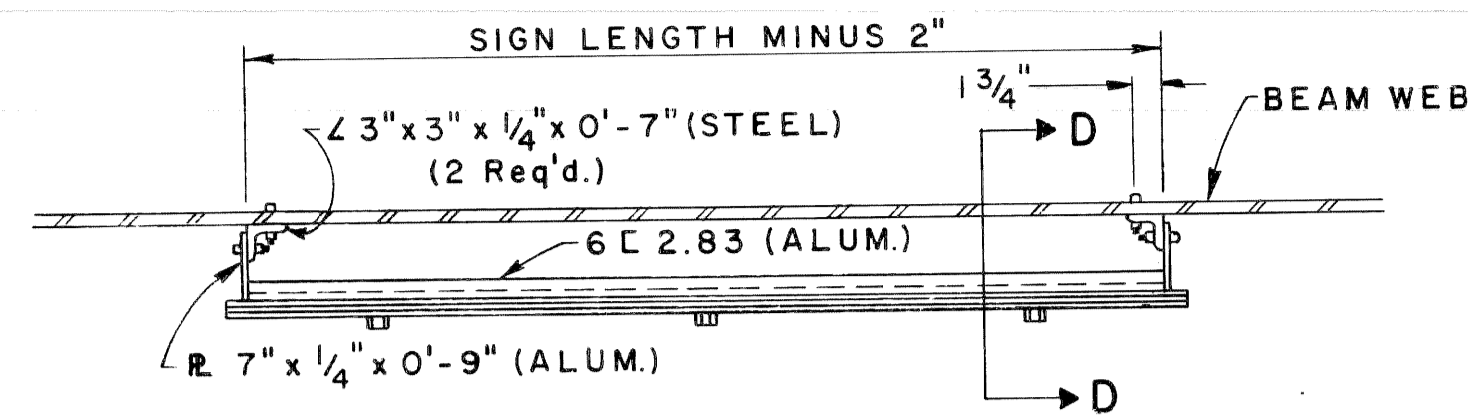
10. TORQUE REQUIREMENT DELETED



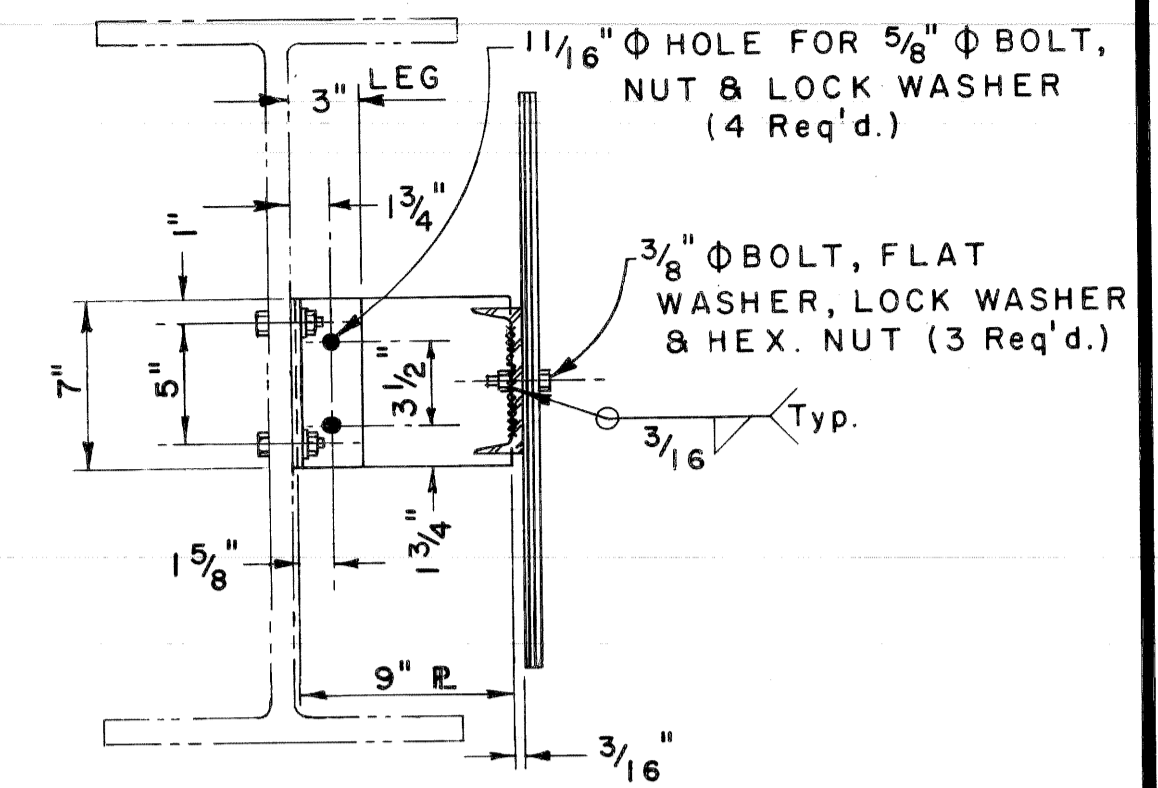
PLAN (TYPE A)
0° CONNECTION



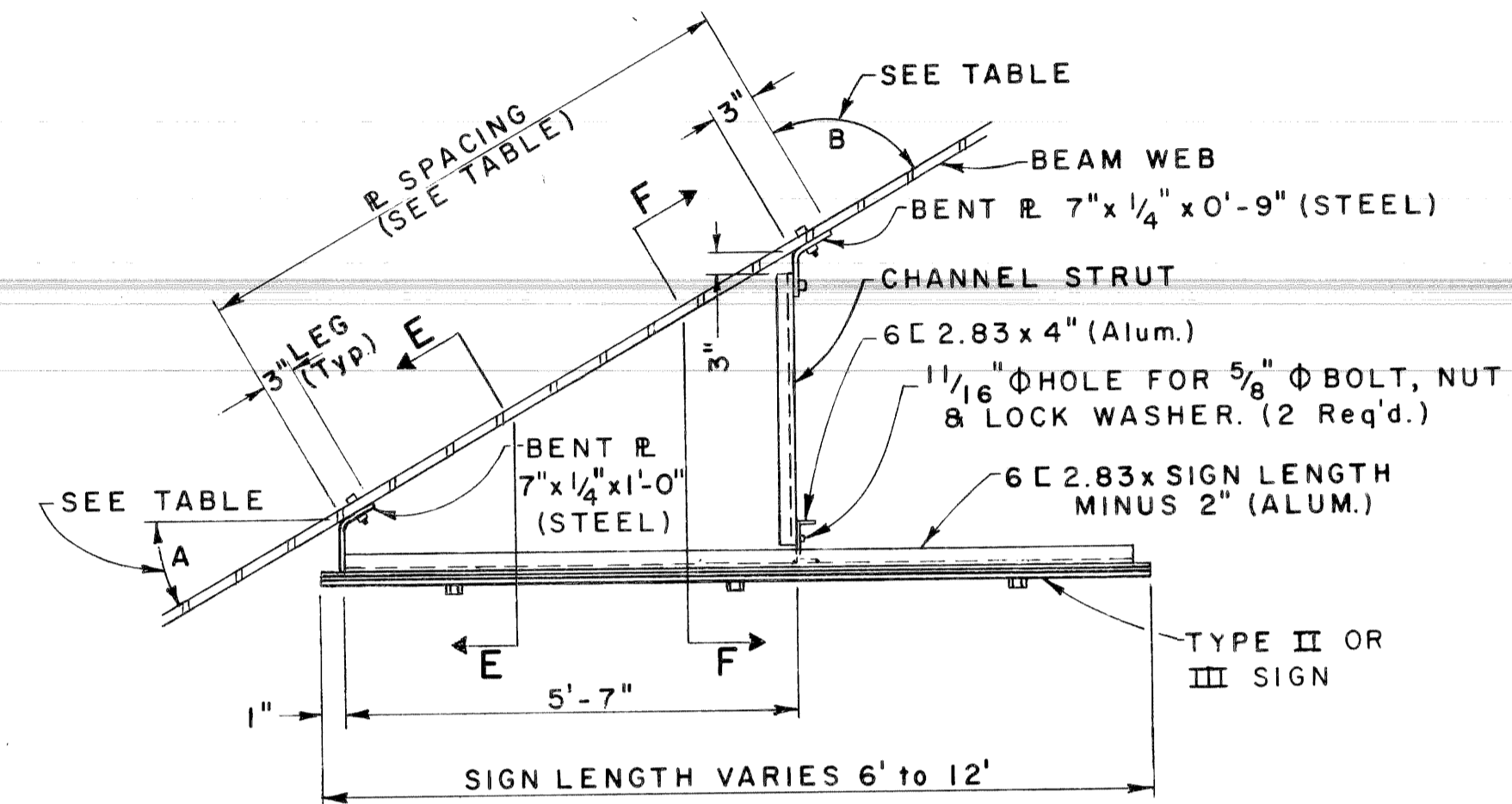
SECTION A - A



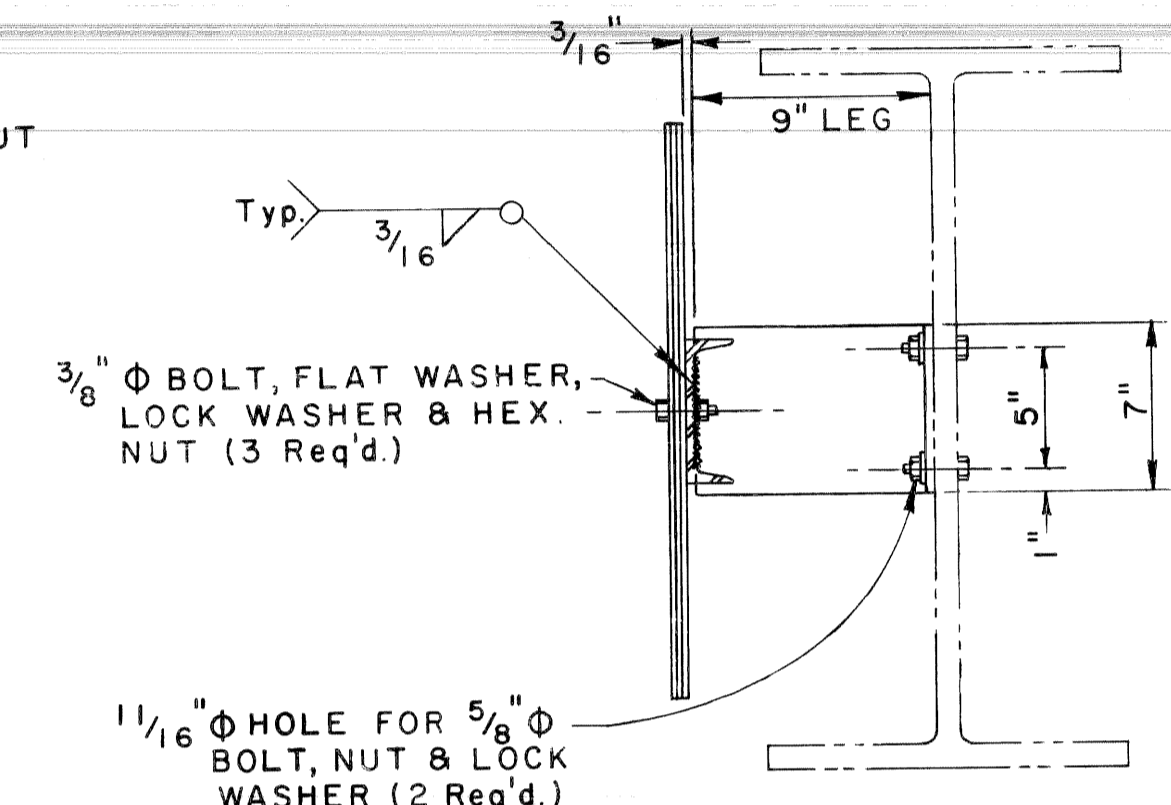
PLAN (TYPE B)
0° CONNECTION



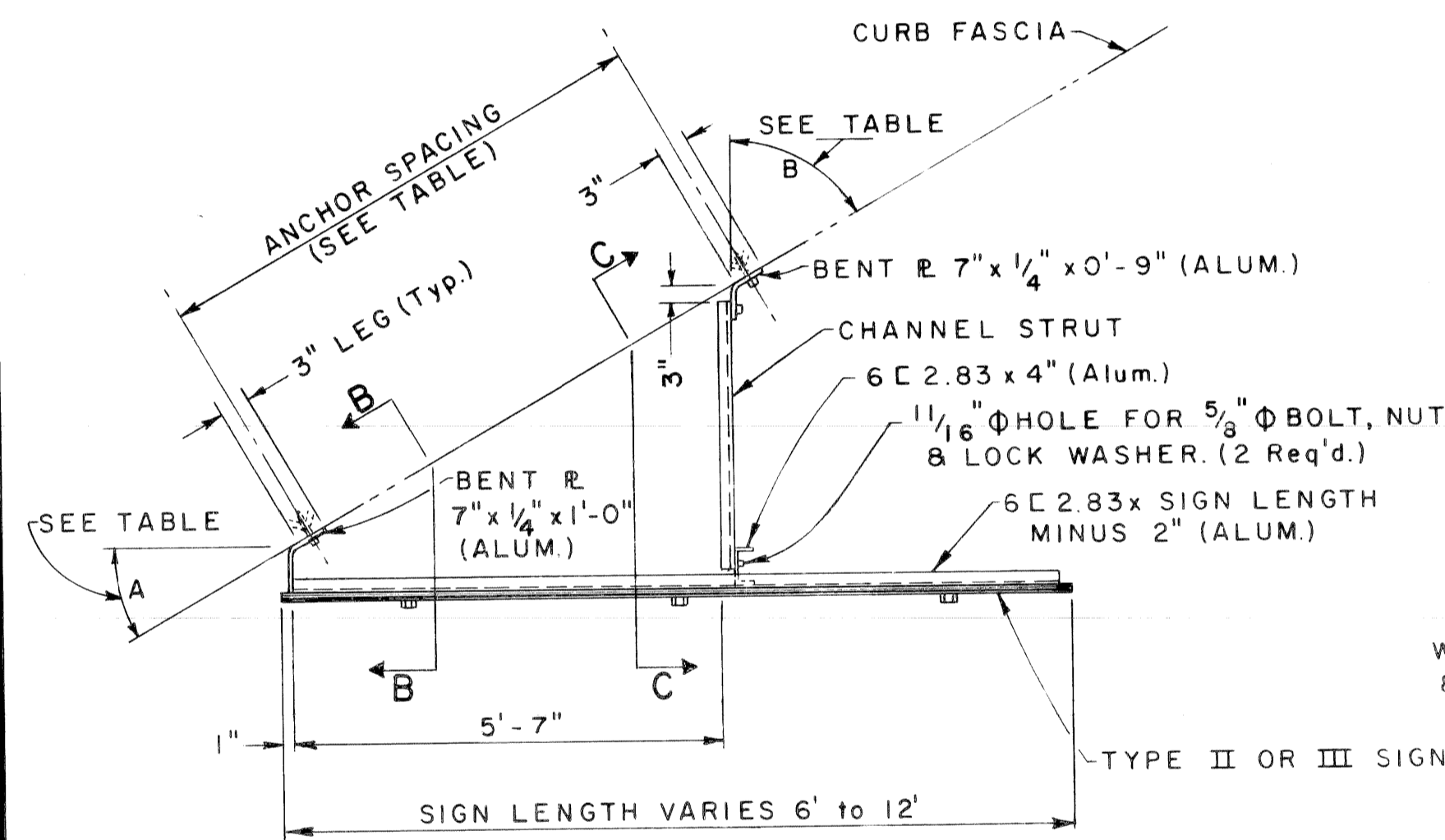
SECTION D - D



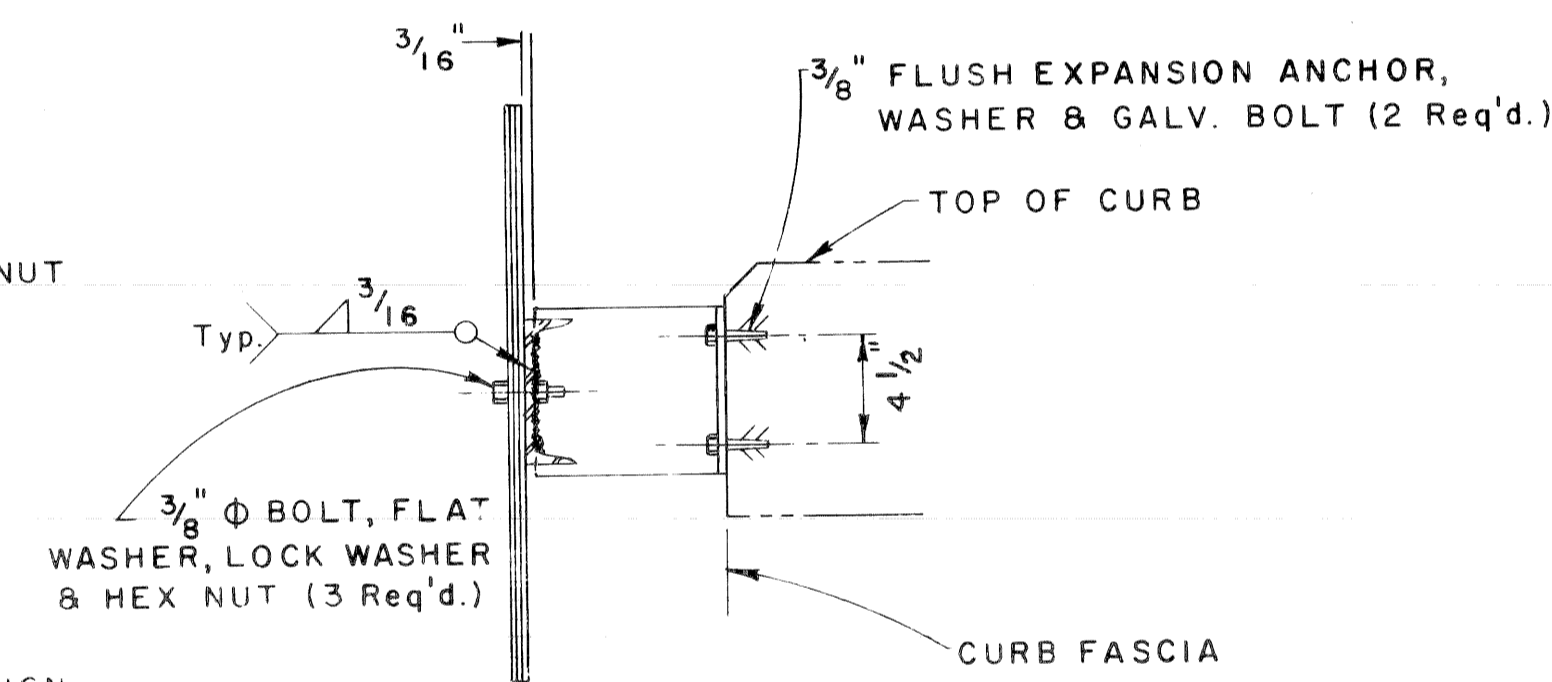
PLAN (TYPE B)
10°, 20°, 30° & 40° CONNECTIONS



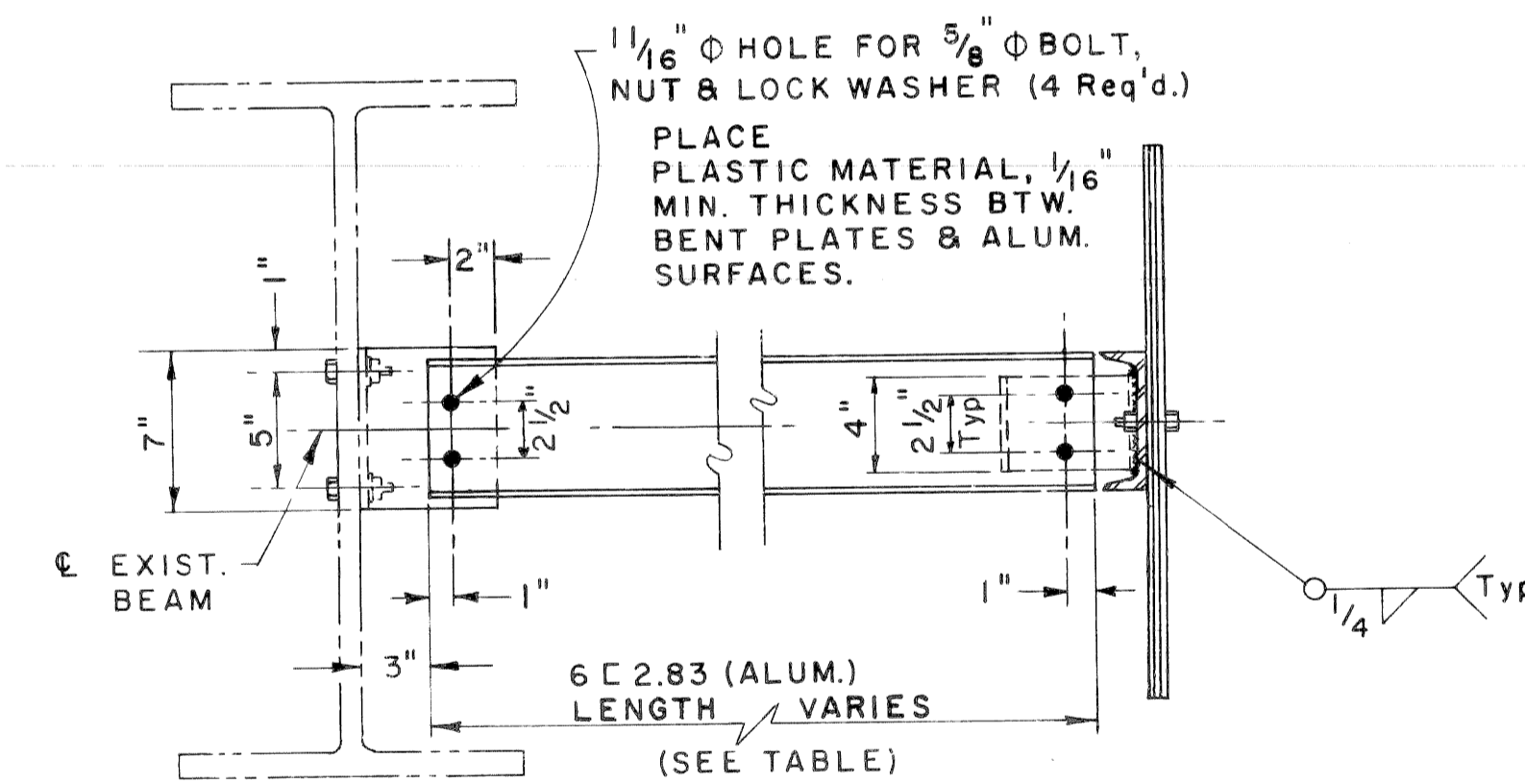
SECTION E - E



PLAN (TYPE A)
10°, 20°, 30° & 40° CONNECTIONS



SECTION B - B



SECTION F - F

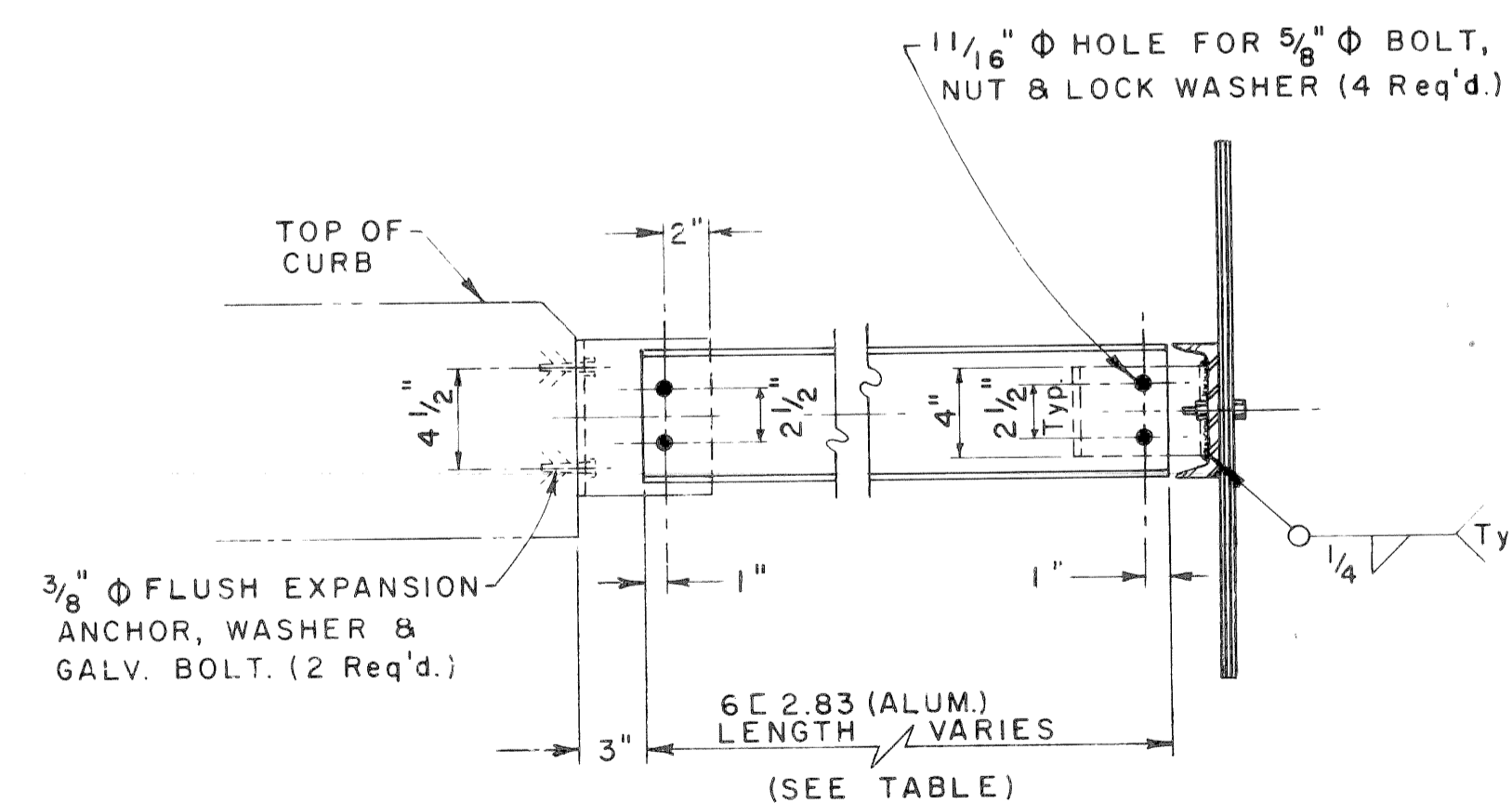
NOTES:

- 1.) All bolts, nuts and washers shall be galvanized steel. Nuts shall be tapped 0.015 oversize.
- 2.) All aluminum components shall be 6061-T6 aluminum alloy. All steel components shall be A-36 and shall be hot-dip galvanized according to ASTM A-123. A-588 steel components may be used as an alternate on existing A-588 Fascia beams.
- 3.) Sign location may be shifted to avoid joints or stiffeners.
- 4.) Threads on all bolts shall be burred after final torquing.
- 5.) Bottom edge of sign shall be horizontal when erected and shall be a minimum of 1'-6" above the bridge beam flange at all points.

TYPE A BRIDGE CONNECTION TABLE

SKIEW	CONNECTION (ANGLE A)	ANGLE B	CHANNEL STRUT LENGTH	ANCHOR SPACING
0°-10°	0°	—	—	MATCH SIGN HOLES
10°-20°	10°	80°	6 C 2.83 x 1'-4 3/4"	5'-6"
20°-30°	20°	70°	do x 2'-5 1/4"	5'-11 1/2"
30°-40°	30°	60°	do x 3'-7 1/2"	6'-5 1/2"
40°-50°	40°	50°	6 C 2.83 x 5'-1 1/4"	7'-3 1/4"

BRIDGE CONNECTION
TYPE A



SECTION C - C

TYPE B BRIDGE CONNECTION TABLE

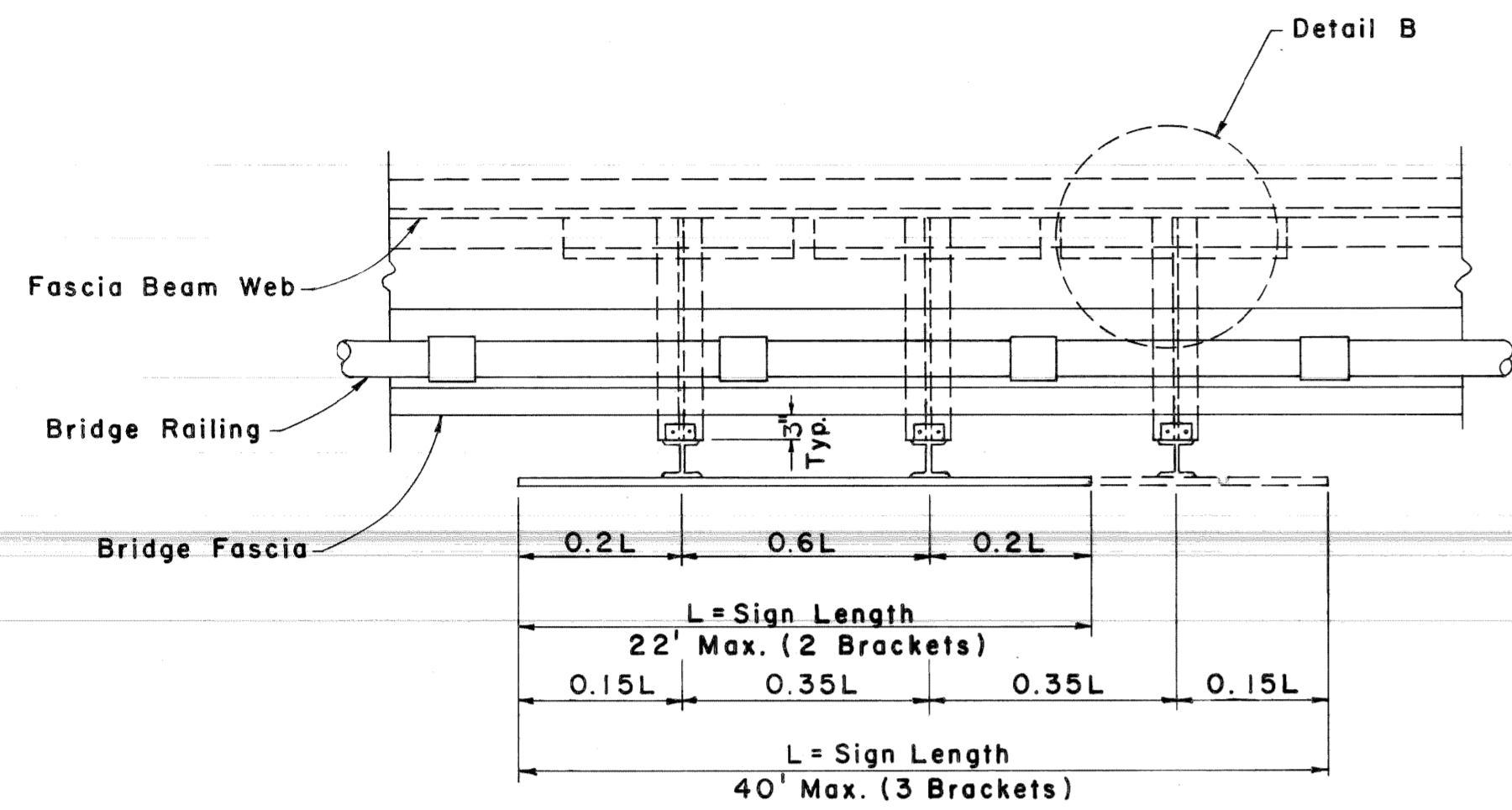
SKIEW	CONNECTION (ANGLE A)	ANGLE B	CHANNEL STRUT LENGTH	R SPACING
0°-10°	0°	—	—	—
10°-20°	10°	80°	6 C 2.83 x 1'-4 3/4"	5'-11"
20°-30°	20°	70°	do x 2'-5 1/4"	6'-2 1/2"
30°-40°	30°	60°	do x 3'-7 1/2"	6'-8 1/2"
40°-50°	40°	50°	6 C 2.83 x 5'-1 1/4"	7'-6 1/2"

BRIDGE CONNECTION
TYPE B

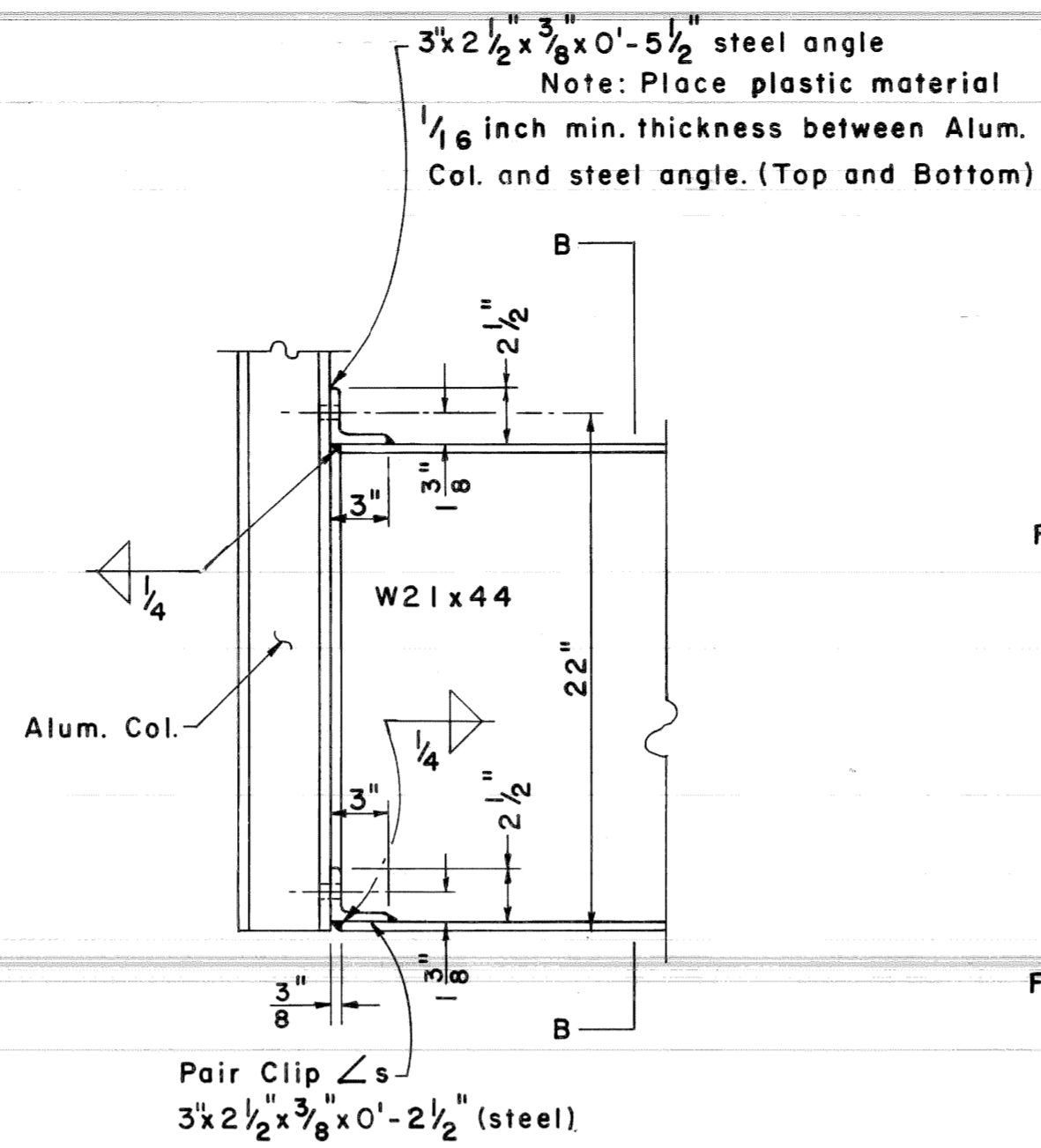
MICHIGAN DEPARTMENT OF STATE HIGHWAYS
AND TRANSPORTATION
BOLTED BRIDGE CONNECTION
TYPE A & B

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	Notes Revised	4/76	JDB

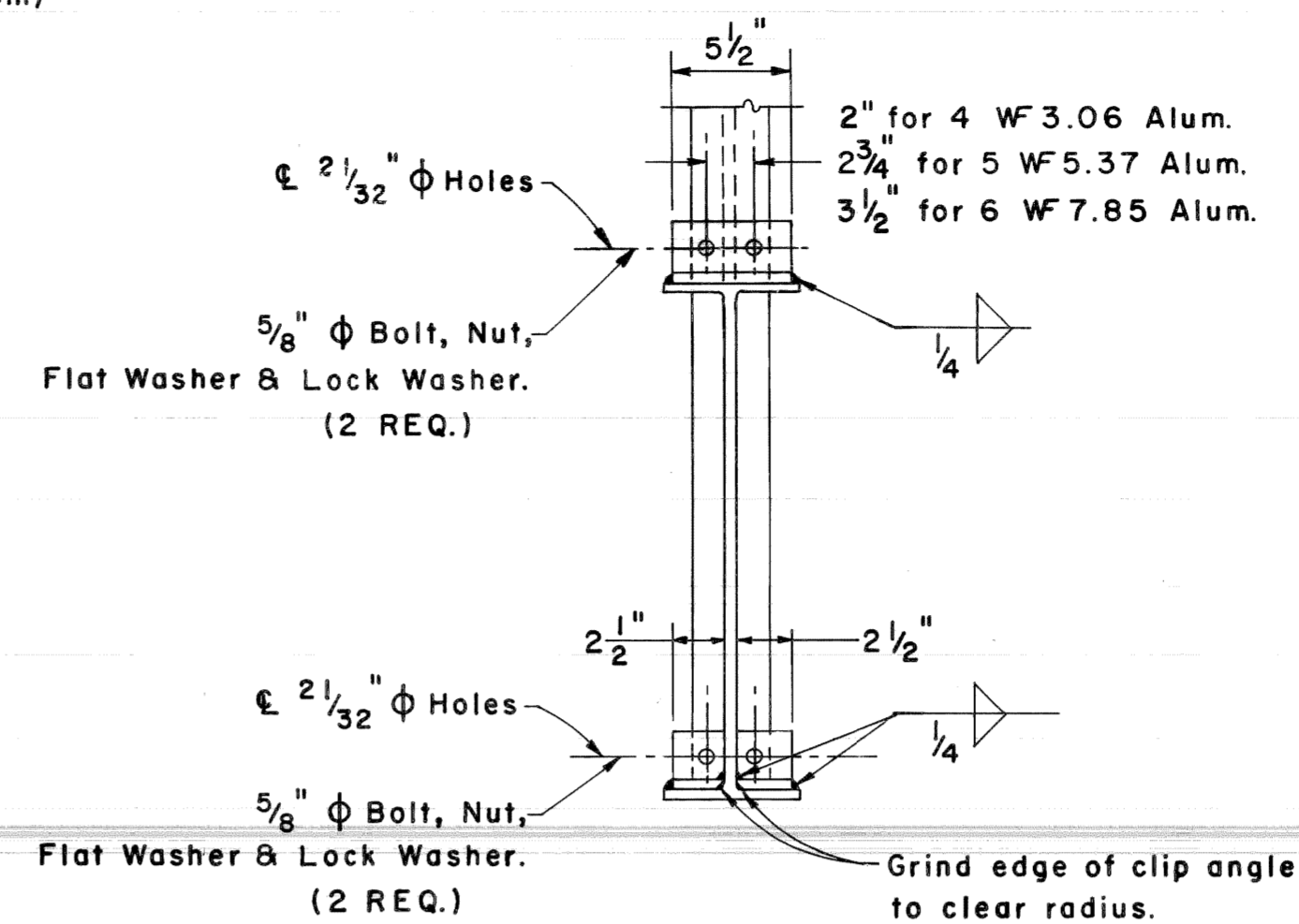
SQUAD BOSS	
DRAWN BY	W.C.G.
TRACED BY	
CHECKED BY	
SHEET	OF
S 10.50	



PLAN



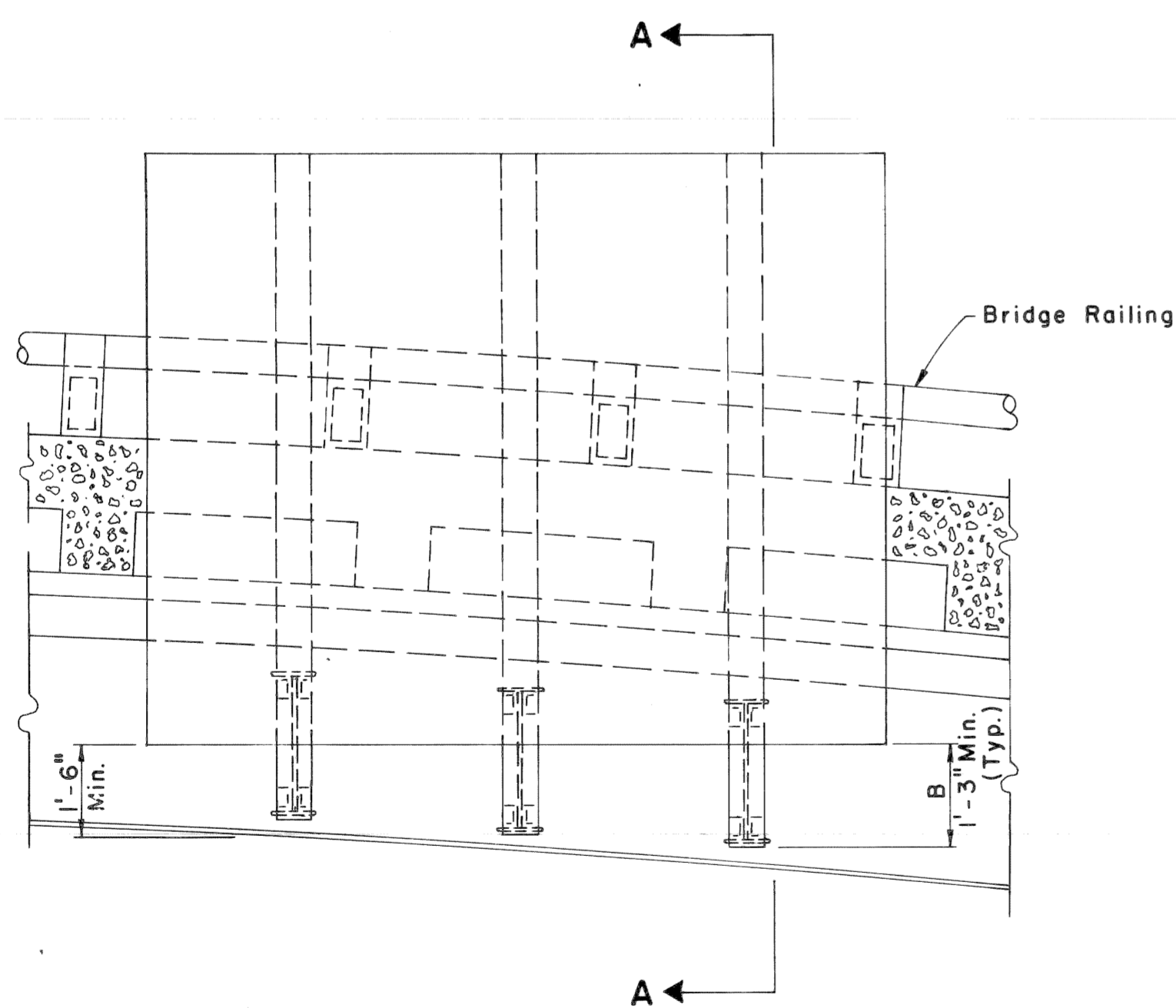
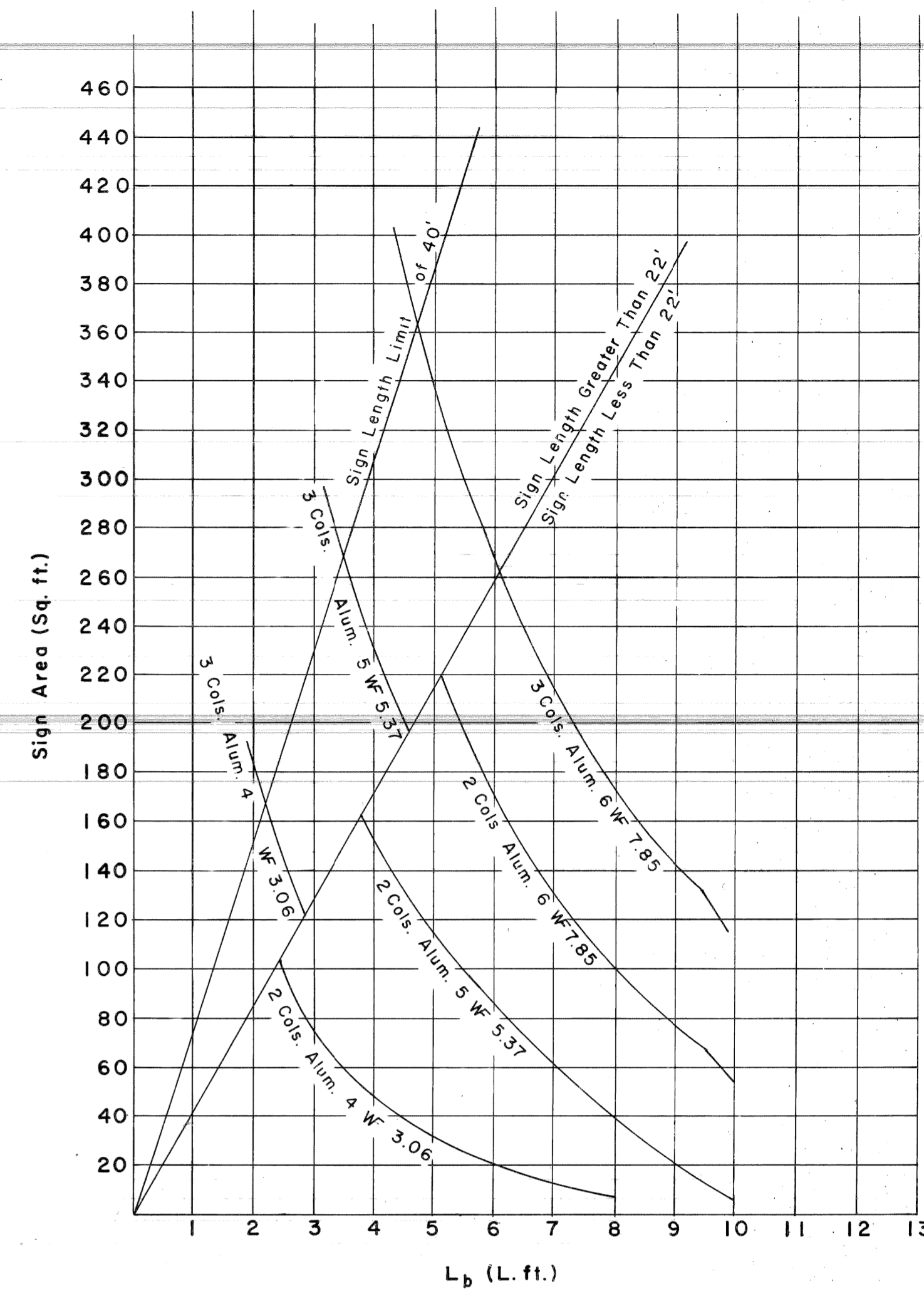
DETAIL A



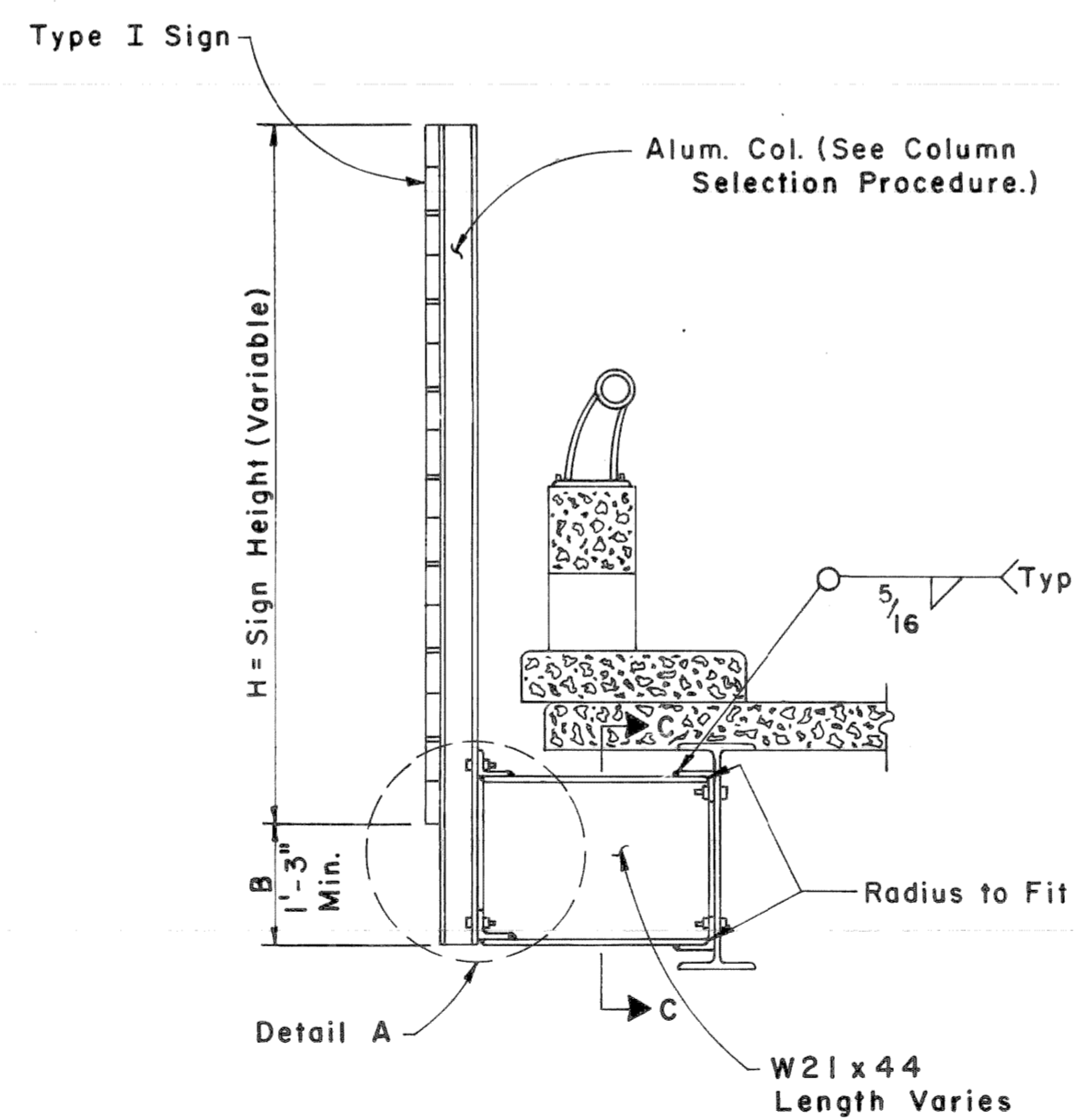
SECTION B-B

COLUMN SELECTION PROCEDURE

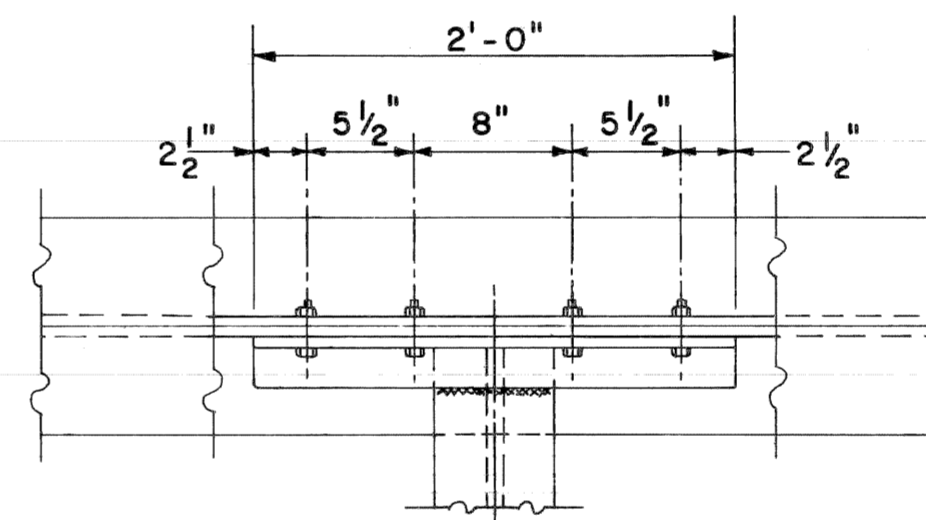
- 1.) Determine B using the longest required column.
- 2.) $L_b = \frac{1}{2}$ of the distance between the top of the sign and the top clip angle bolt. $L_b = \frac{1}{2} [(H+B) - 2.0]$
- 3.) Determine the sign area. (Sq. ft.)
- 4.) Using the chart determine the size and number of columns required.



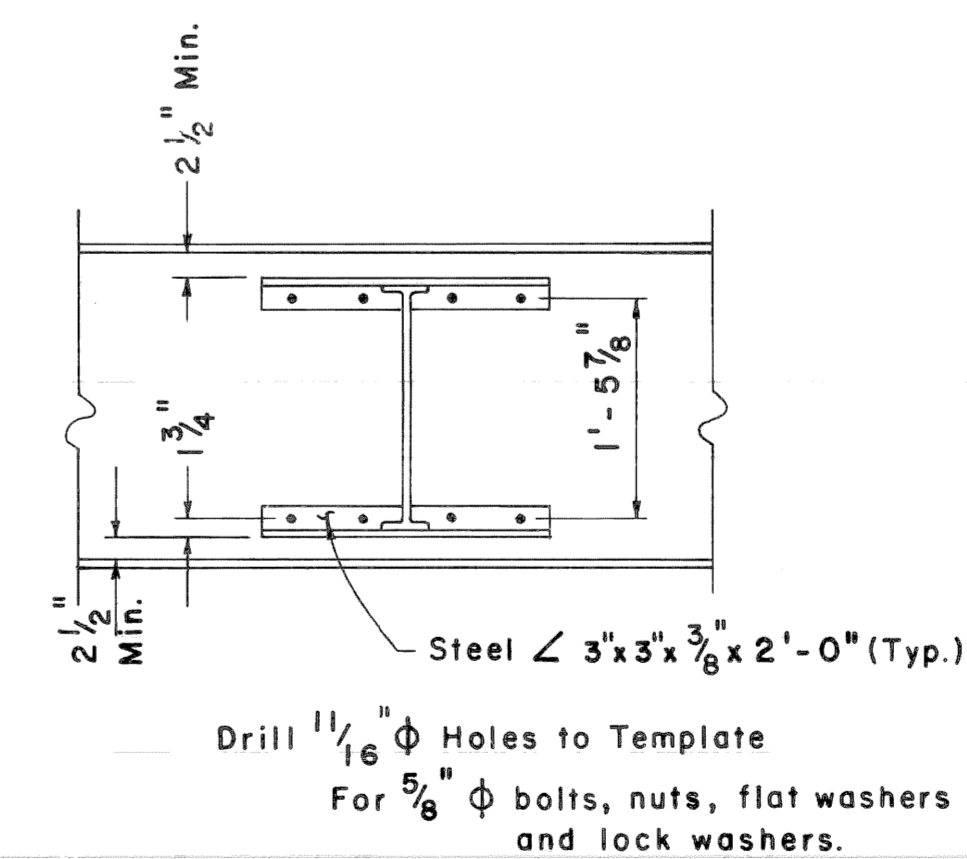
ELEVATION



SECTION A-A



DETAIL B



SECTION C-C

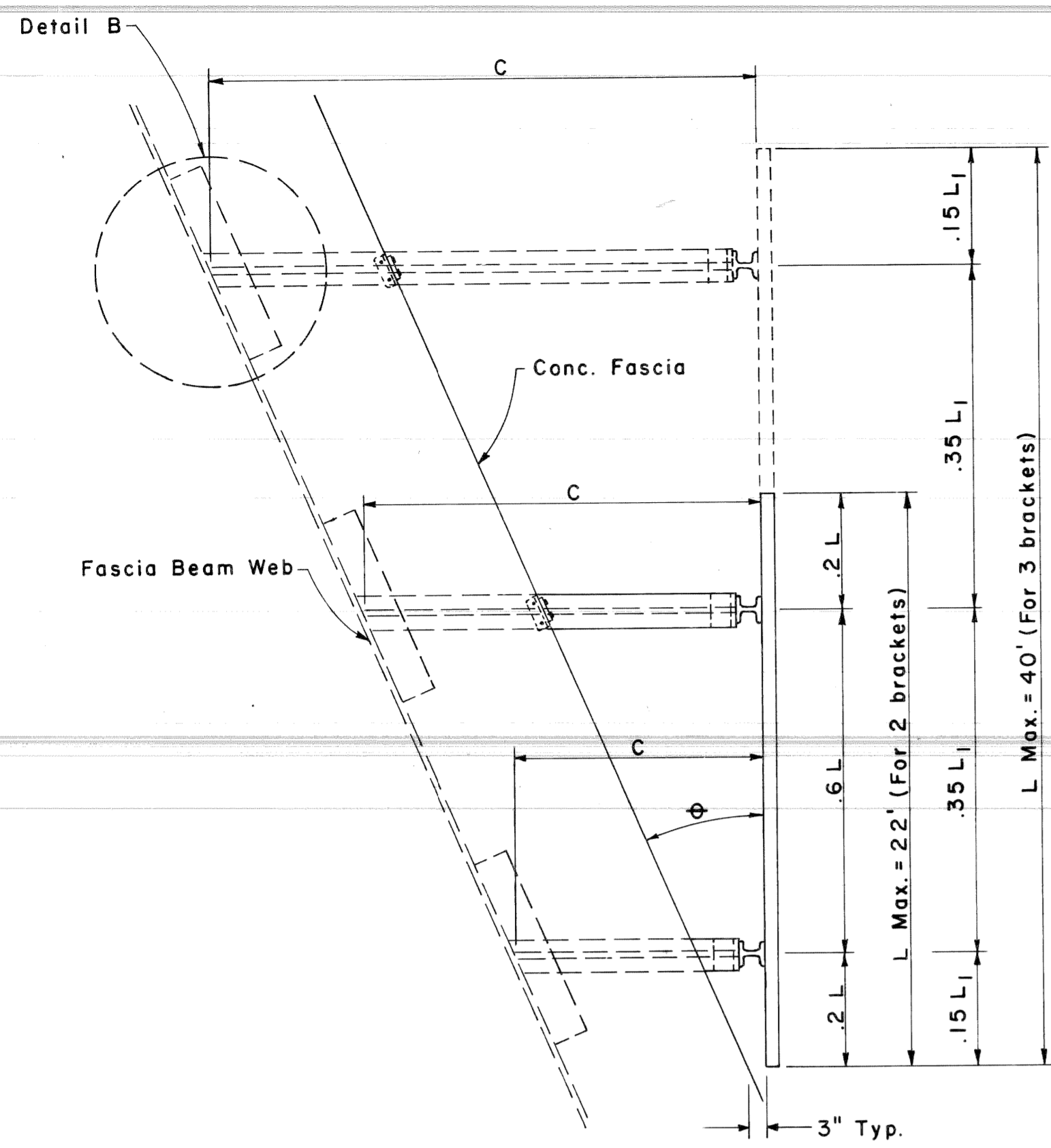
NOTES:

- 1.) All bolts shall be galvanized high strength bolts (ASTM A325). All bolts, nuts and washers shall be hot dip galvanized according to ASTM A-153. Nuts shall be tapped 0.015 oversize.
- 2.) All alum. components shall be 6061-T6 alum. alloy. All steel components shall be A-36 and shall be hot-dip galvanized according to ASTM A-123. A-588 steel components may be used as an alternate on existing A-588 Fascia beams.
- 3.) Sign location may be shifted to avoid joints or stiffeners.
- 4.) Threads on all bolts shall be burred after final torquing.
- 5.) Bottom edge of sign shall be horizontal when erected and shall be a minimum of 1'-6" above the lower bridge beam flange at all points.
- 6.) Type C connection denotes a two-bracket sign connection.
- 7.) Type D connection denotes a three-bracket sign connection.
- 8.) Sign connections to mounting support columns shall have the same bolt arrangement as shown for connections for sign to mounting supports for cantilevers and trusses. (Standard Plan S 9.10.)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION
BOLTED BRIDGE CONNECTION
TYPES C & D ($\theta = 0^\circ$)

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	Notes Revised	4/76	JDB
2	Added Flat Washers to Drwg.	4/77	WCG

SQUAD BOSS	W. C. G.
DRAWN BY	
CHECKED BY	
SHEET	OF
S10.60	



PLAN VIEW

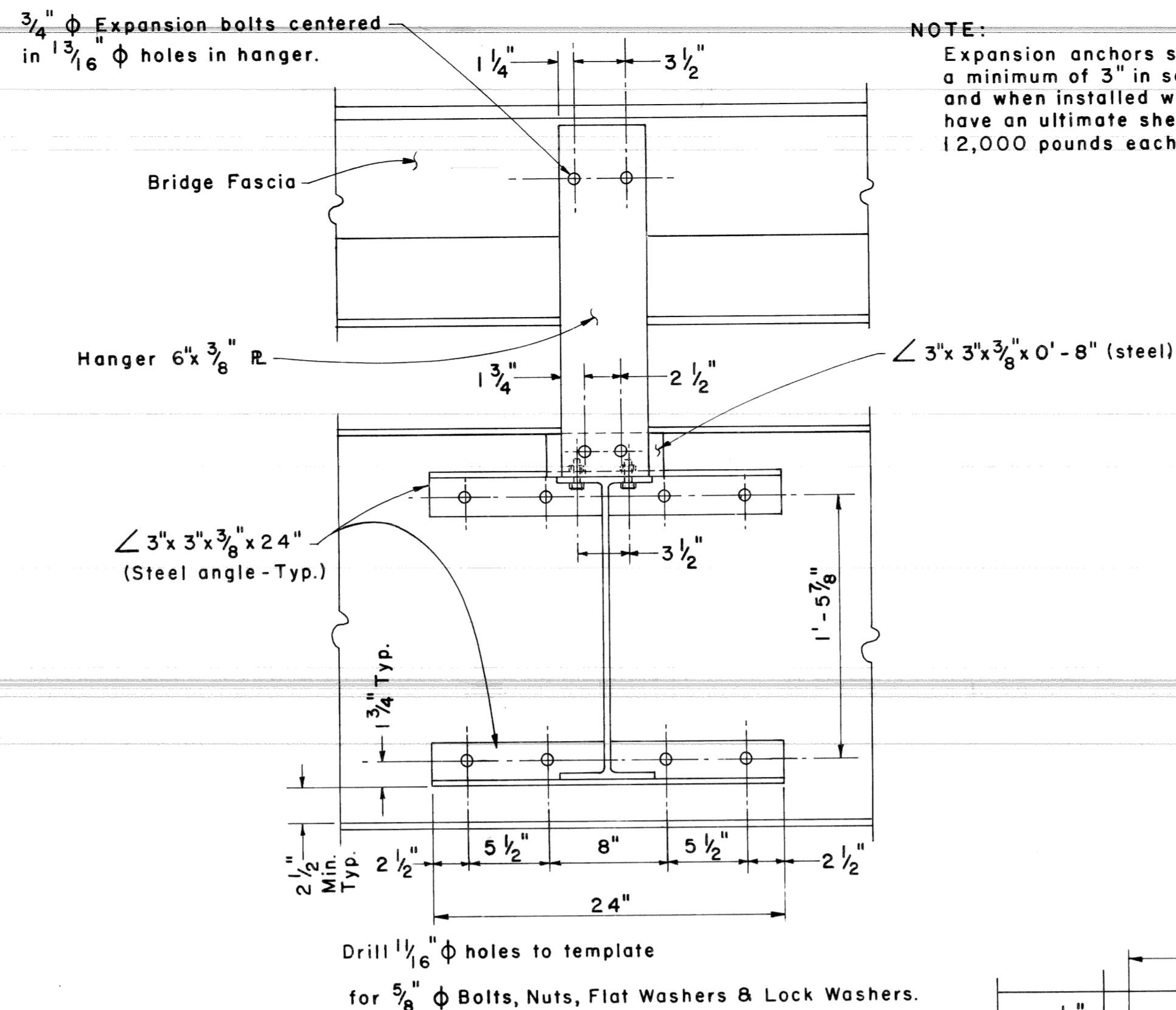
COLUMN & HANGER SELECTION PROCEDURE

A. COLUMN

1. Determine B using the longest required column.
2. $L_b = \frac{1}{2}$ of the distance between the top of the sign and the top clip angle bolt. $L_b = \frac{1}{2}[(H+B) - 2.0]$
3. Determine the sign area. (Sq. ft.)
4. Using the chart, determine the size and number of columns required.

B. HANGER

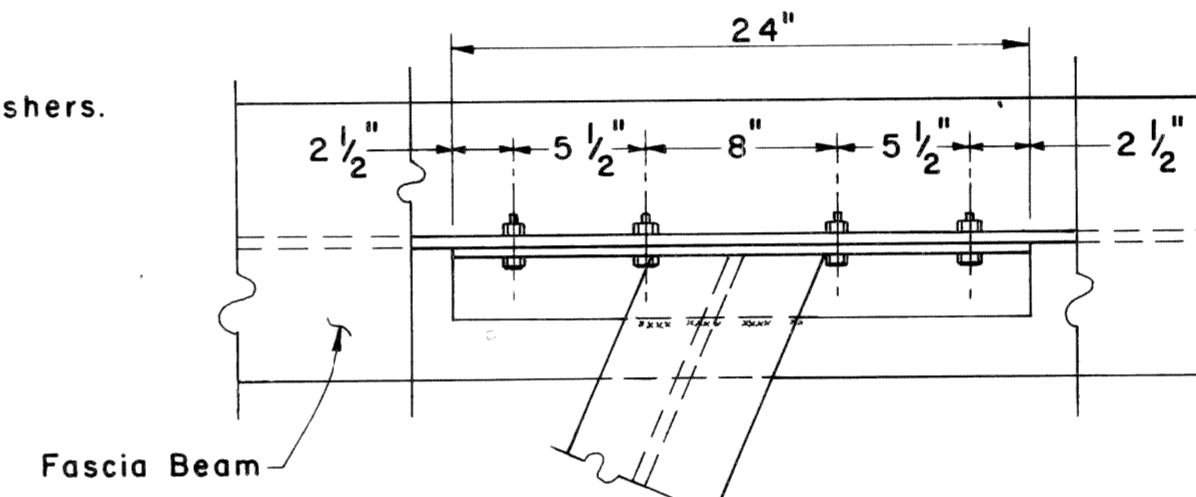
1. Calculate "c"
2. From table determine if hangers are required.



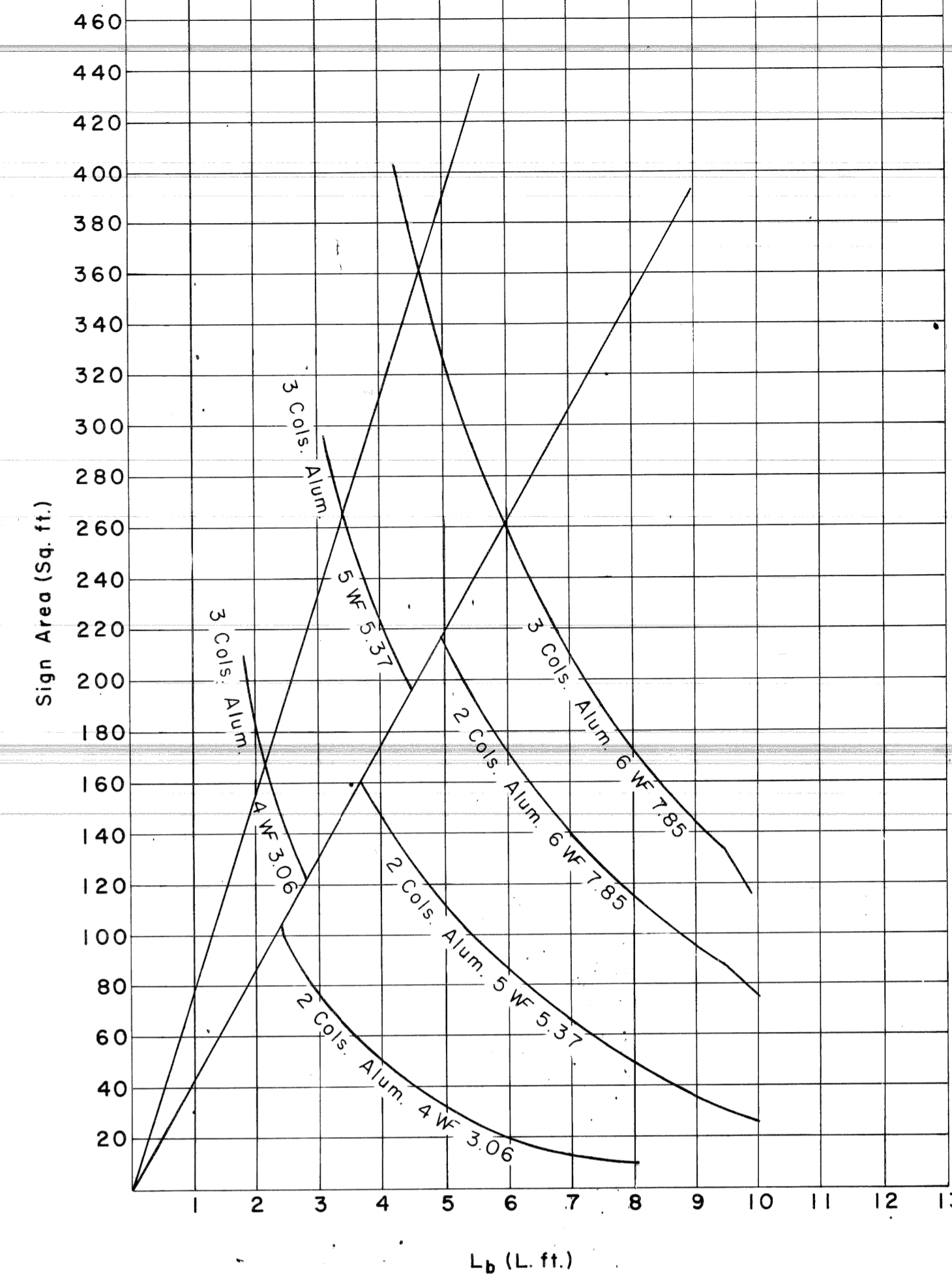
SECTION C - C

Cantilever Length in Feet "C"		
Column	No Hanger	Hanger
6 WF 7.85	C < 5	C ≤ 5
5 WF 5.37	C < 7	C ≤ 7
4 WF 3.06	C < 8	C ≤ 8

NOTE:
Expansion anchors shall be drilled a minimum of 3" in sound concrete and when installed with bolt shall have an ultimate shear capacity of 12,000 pounds each.

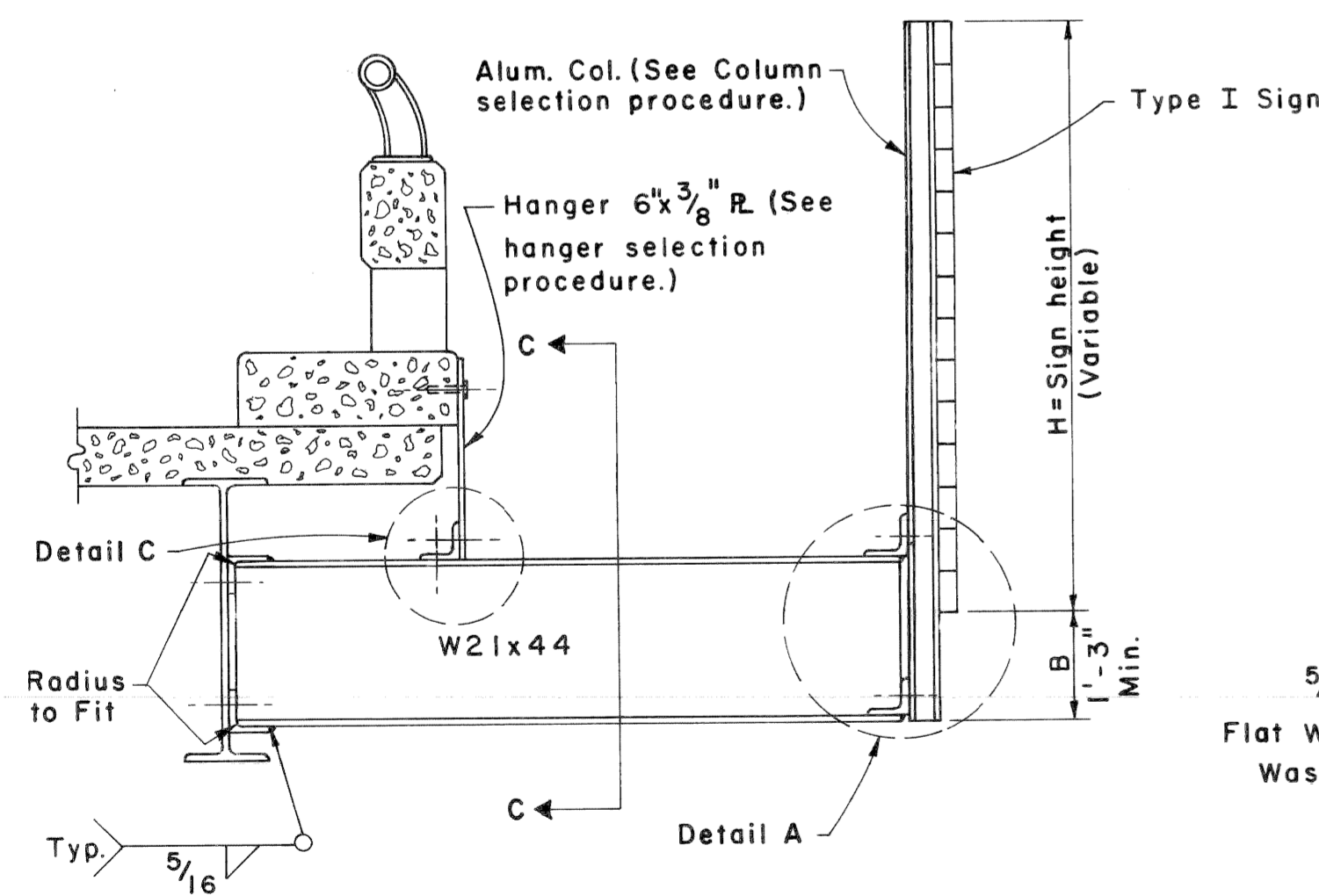


DETAIL B

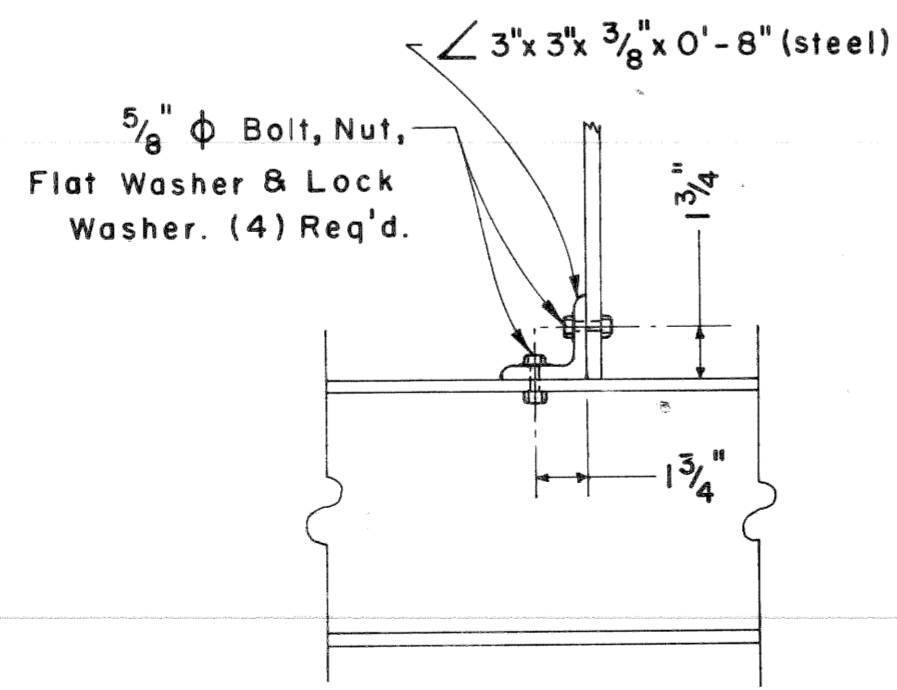


NOTES:

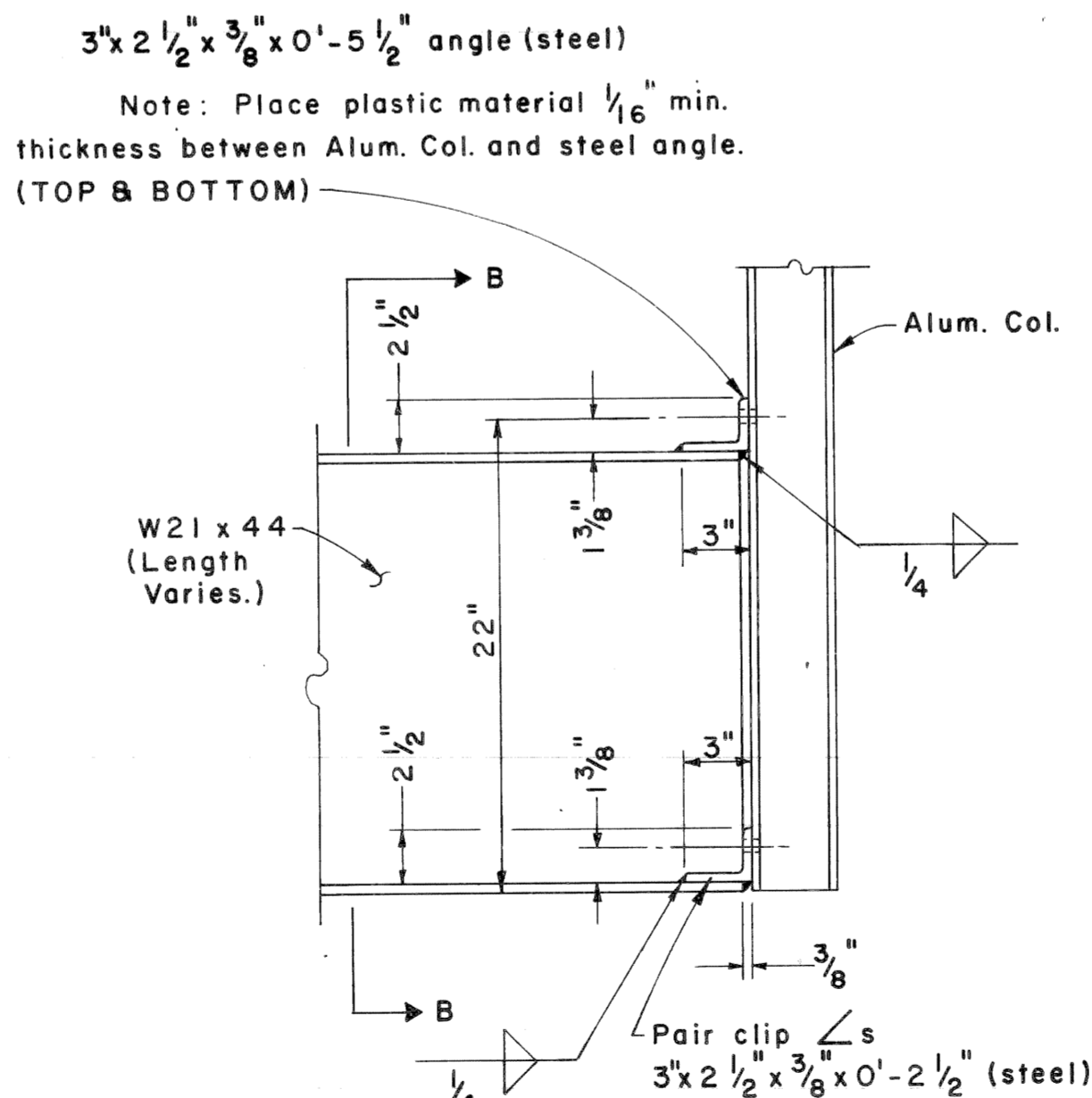
- 1.) All bolts shall be galvanized high strength bolts (ASTM A325). All bolts, nuts and washers shall be hot dip galvanized according to ASTM A-153. Nuts shall be tapped 0.015" oversize. All bolt threads shall be burred after final torquing.
- 2.) All alum. components shall be 6061-T6 alum. alloy. All steel components shall be A-36 and shall be hot-dip galvanized according to ASTM A-123. A-588 steel components may be used as an alternate on existing A-588 Fascia beams.
- 3.) Sign location may be shifted to avoid joints or stiffeners.
- 4.) θ = angle between sign and bridge fascia.
- 5.) Type E connection denotes a two-bracket sign connection.
- 6.) Type F connection denotes a three-bracket sign connection.
- 7.) Sign connections to mounting support columns shall have the same bolt arrangement as shown for connections for sign to mounting supports for cantilevers and trusses. (Standard Plan S 9.10)
- 8.) Bottom edge of sign shall be horizontal when erected and shall be a minimum of 1'-6" above the lower bridge beam flange at all points.



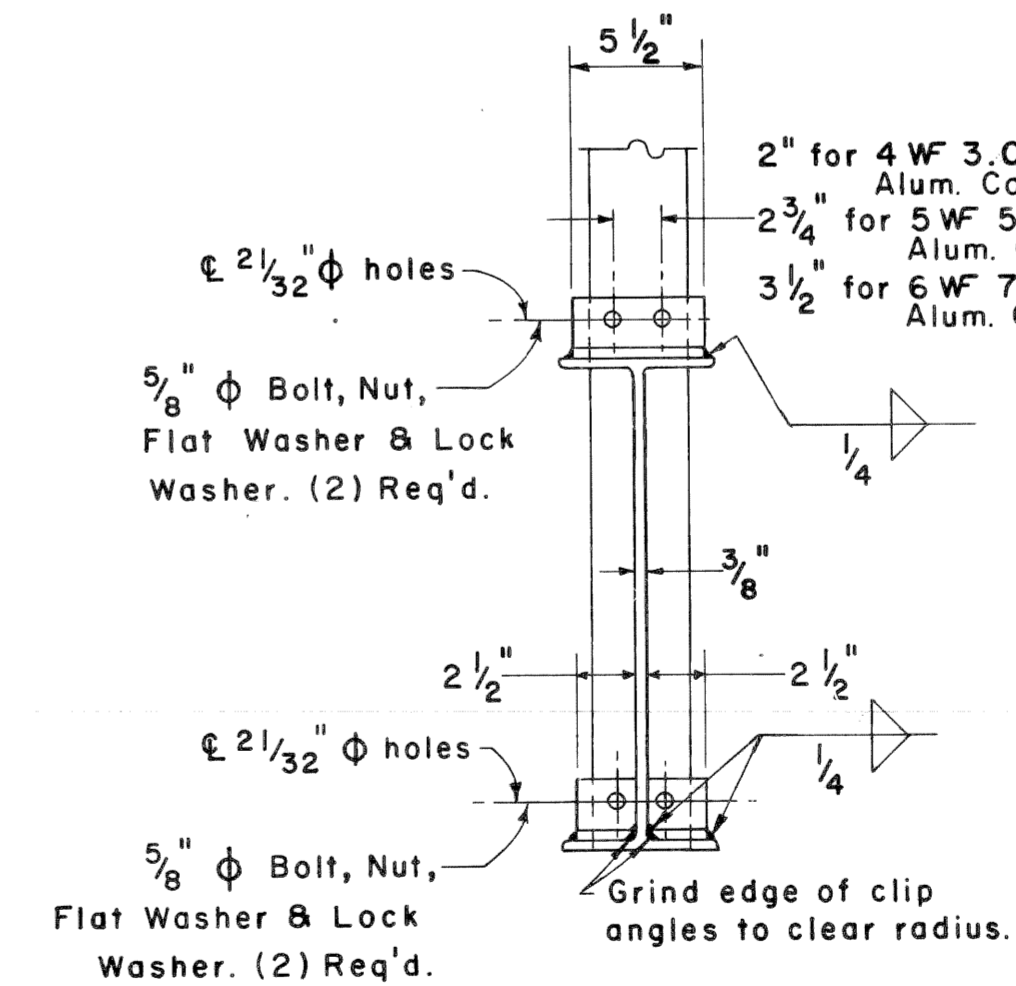
ELEVATION



DETAIL C



DETAIL A



SECTION B - B

**MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION
BOLTED BRIDGE CONNECTION
TYPES E & F ($\theta \geq 10^\circ$)**

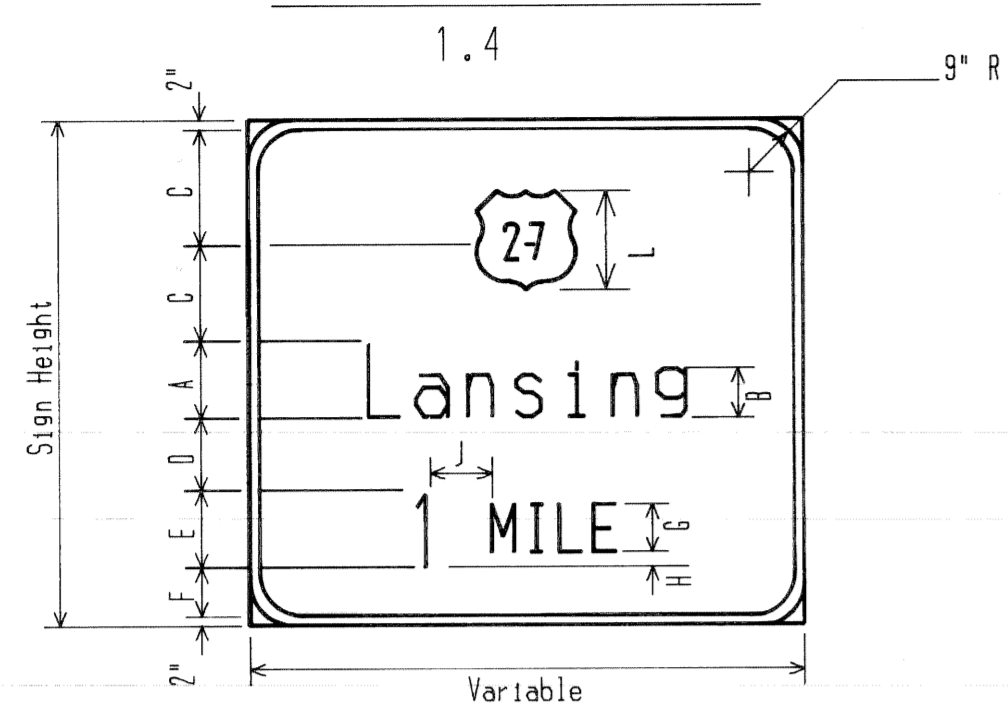
REVISIONS				SHEET NO. OF	
NO.	DESCRIPTION	DATE	BY	TRACED BY	CHECKED BY
1	Notes Revised	4/76	JDB		
2	Added Flat Washers to Drwg.	4/77	WCG		

SHEET NO. OF
SI0.70

SIGN DETAIL SHEET

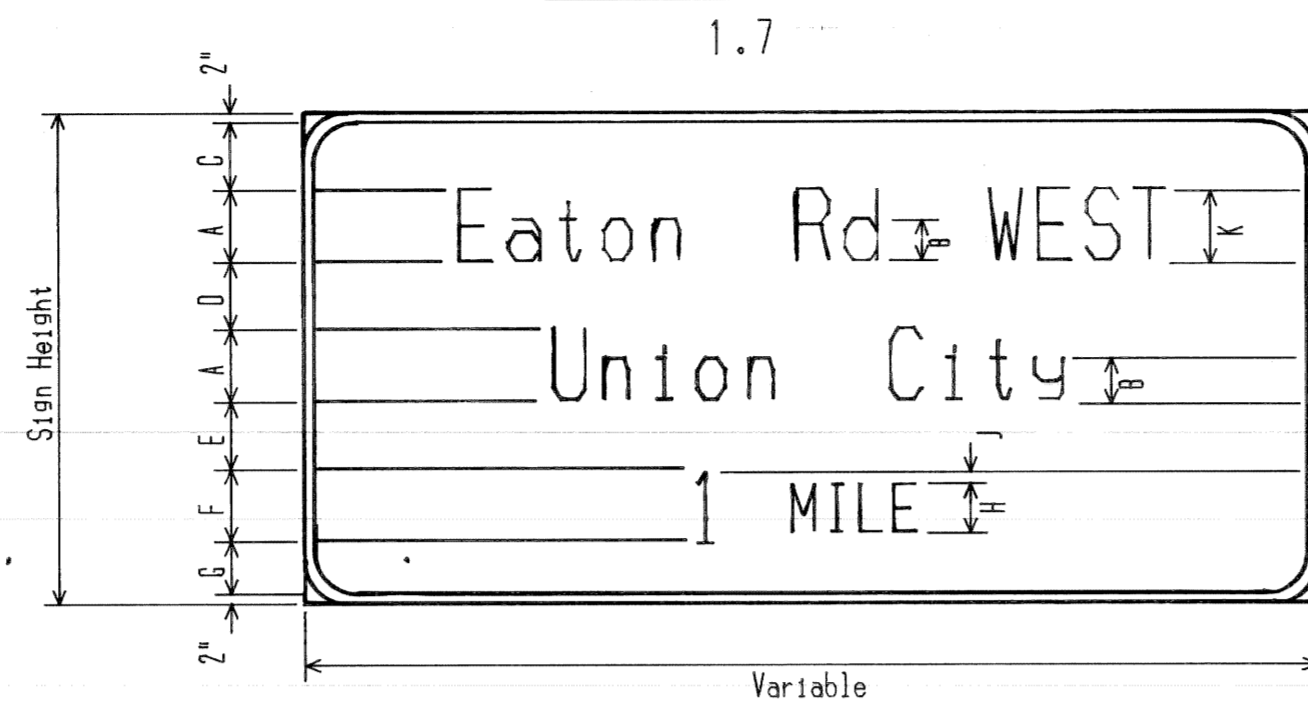
F.H.W.A. REG. NO.	STATE	FEDERAL PROJECT	R.O.W. NO.	SHEET NO.	TOTAL SHEETS
ROUTE		COUNTY	CONTROL SECTION	JOB NO.	

E1-1 SIGNS



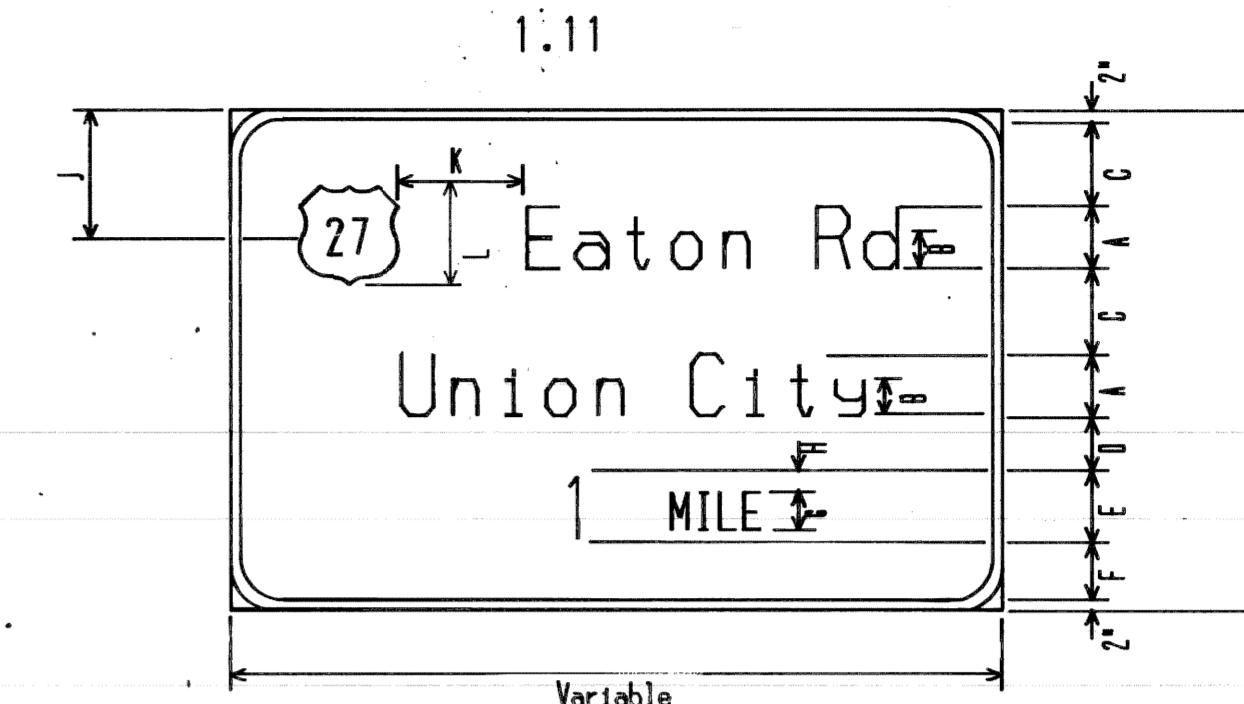
PANEL	LEGEND SIZE	DIMENSION (INCHES)											SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	
I	16"UC 12"LC	16	12	28	17	15	11	10	2.5	10	36	9'-6"	
II	20"UC 15"LC	20	15	31	15	18	13	12	3.0	12	36	11'-0"	
III	24"UC 18"LC	24	18	33	18	18	14	12	3.0	12	36	12'-0"	
IV	13.3"UC 10"LC	13.3	10	24	9.4	12	9.3	10	1.0	10	30	8'-0"	

E1-1 SIGNS



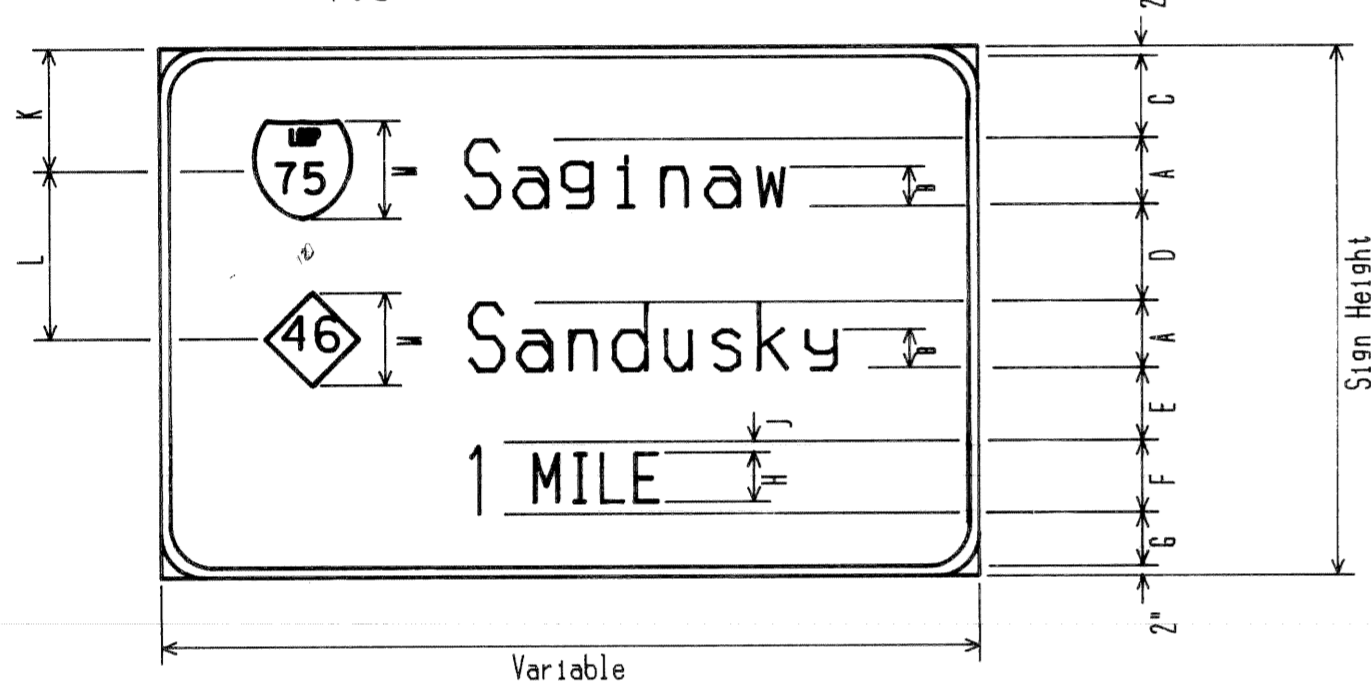
PANEL	LEGEND SIZE	DIMENSION (INCHES)											SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	
I	16"UC 12"LC	16	12	13	12	13	15	13	10	2.5	15	8'-6"	
II	20"UC 15"LC	20	15	14	15	15	18	14	12	3.0	18	10'-0"	
III	24"UC 18"LC	24	18	17	17	17	18	17	12	3.0	18	11'-6"	
IV	13.3"UC 10"LC	13.3	10	10.7	10	10	12	10.7	10	1.0	12	7'-0"	

E1-1 SIGNS



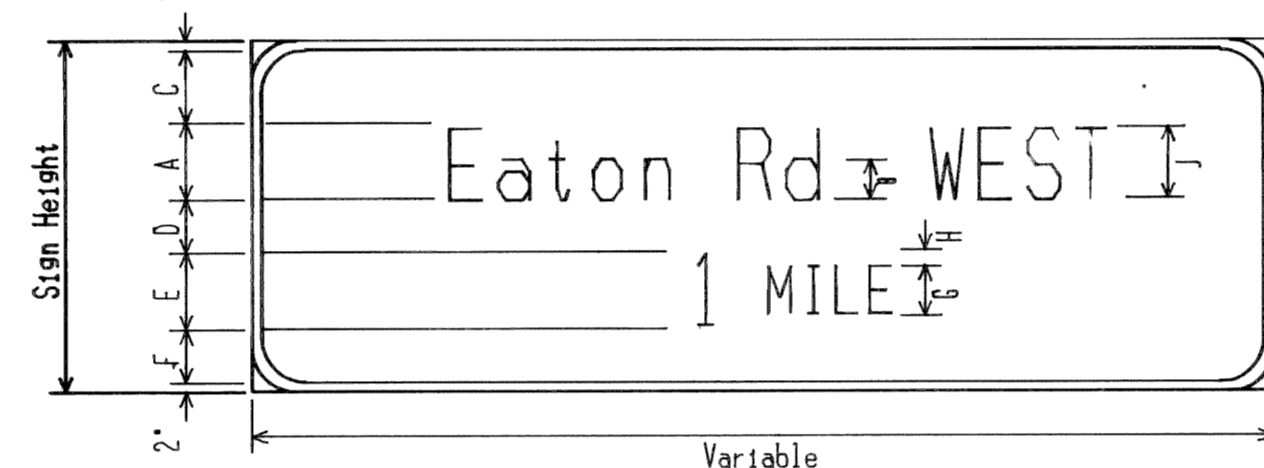
PANEL	LEGEND SIZE	DIMENSION (INCHES)											SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	
I	16"UC 12"LC	16	12	20	12	15	11	10	2.5	30	12	36	9'-6"
II	20"UC 15"LC	20	15	21	15	18	13	12	3.0	31	15	36	11'-0"
III	24"UC 18"LC	24	18	21	18	18	14	12	3.0	33	18	36	12'-0"
IV	13.3"UC 10"LC	13.3	10	17.35	9.4	12	9.3	10	1.0	26	10	30	8'-0"

1.5



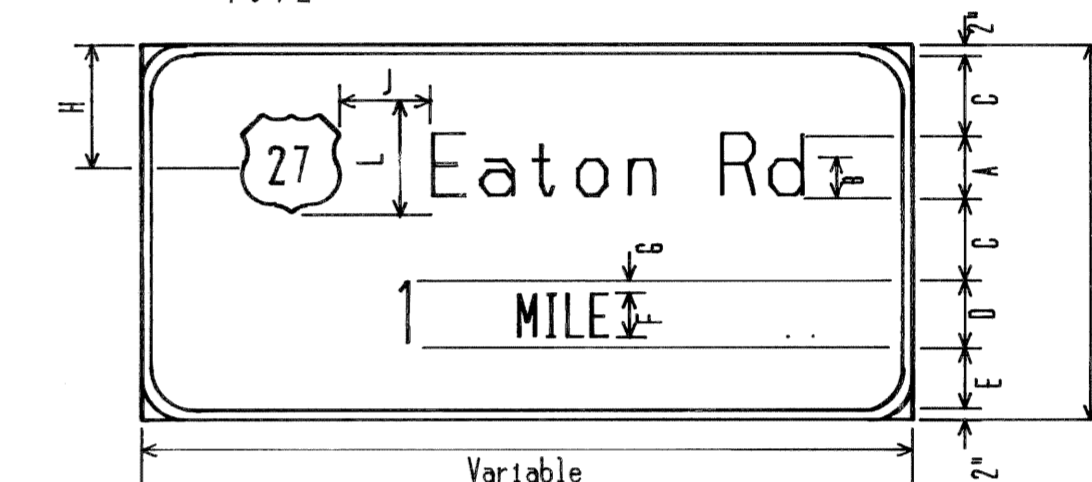
PANEL	LEGEND SIZE	DIMENSION (INCHES)													SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	M		
I	16"UC 12"LC	16	12	19	27	19	15	10	10	2.5	29	43	36	10'-6"	
II	20"UC 15"LC	20	15	18	24	18	18	15	12	3.0	30	46	36	11'-6"	
III	24"UC 18"LC	24	18	16	20	16	18	15	12	3.0	30	46	36	11'-6"	
IV	13.3"UC 10"LC	13.3	10	18.35	26.7	18.35	12	10	10	1.0	27	40	30	9'-6"	

1.8



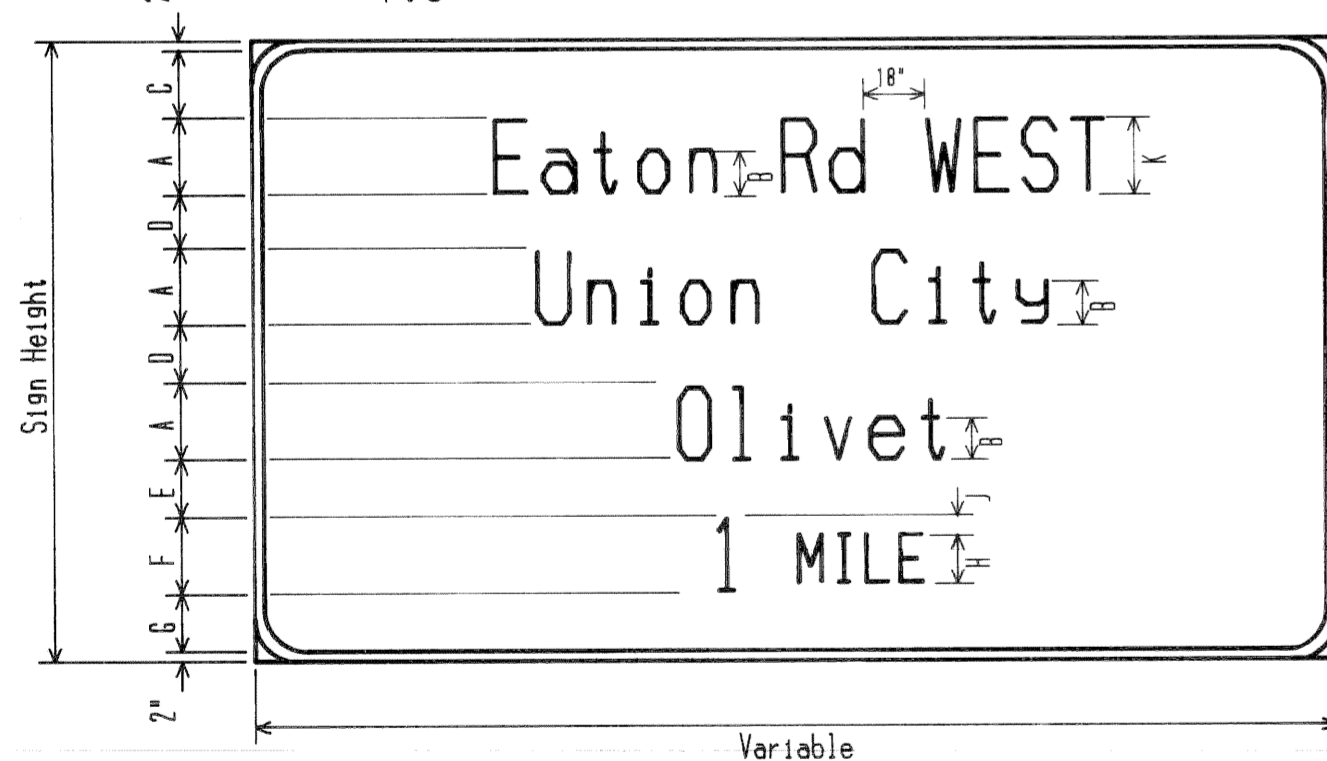
PANEL	LEGEND SIZE	DIMENSION (INCHES)											SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	
I	16"UC 12"LC	16	12	12.5	12	15	12.5	10	2.5	15	8'-0"		
II	20"UC 15"LC	20	15	16.5	15	18	16.5	12	3.0	18	7'-6"		
III	24"UC 18"LC	24	18	19.5	18	18	18.5	12	3.0	18	8'-6"		
IV	13.3"UC 10"LC	13.3	10	10	10.7	12	10	10	1.0	12	5'-0"		

1.12



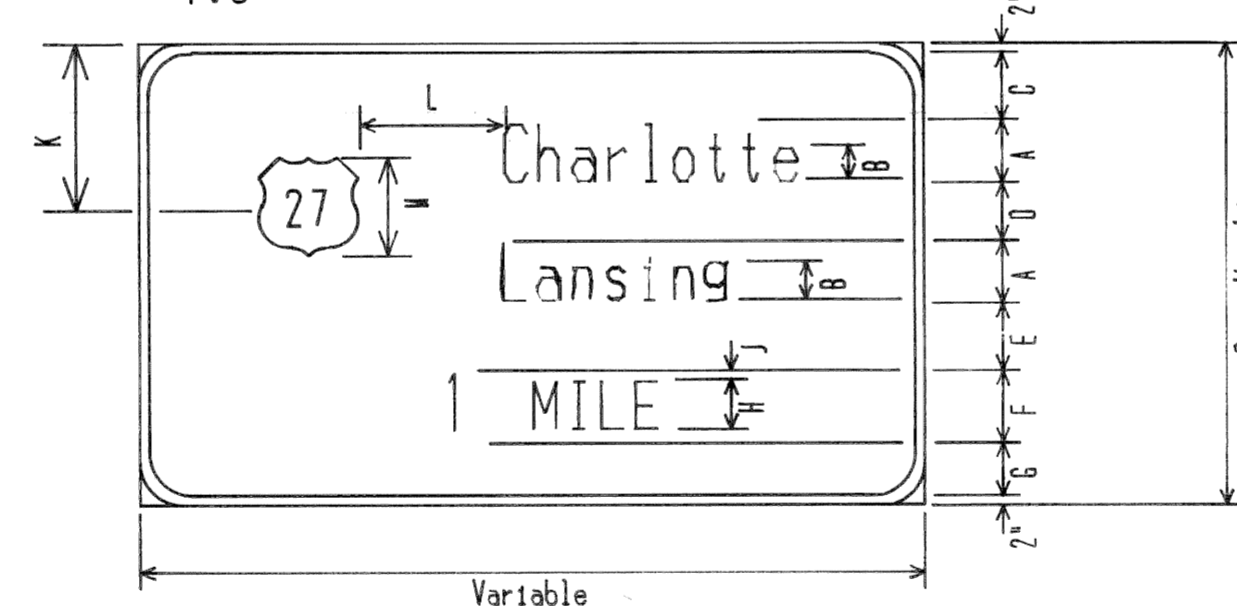
PANEL	LEGEND SIZE	DIMENSION (INCHES)											SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	
I	16"UC 12"LC	16	12	20	15	9	10	2.5	30	12	36	7'-0"	
II	20"UC 15"LC	20	15	22.5	18	15	12	3.0	32	15	36	8'-6"	
III	24"UC 18"LC	24	18	22	18	18	12	3.0	35	18	36	9'-0"	
IV	13.3"UC 10"LC	13.3	10	19.35	12	10	10	1.0	28	10	30	6'-6"	

1.6



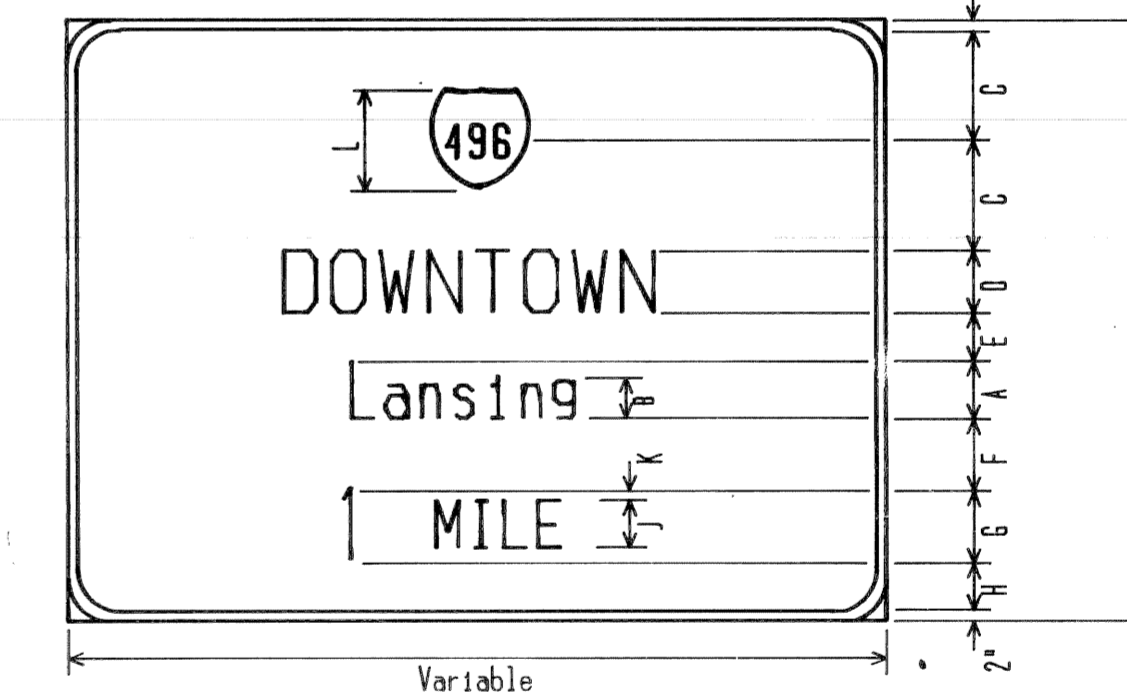
PANEL	LEGEND SIZE	DIMENSION (INCHES)													SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	M		
I	16"UC 12"LC	16	12	11.5	12	12	15	11.5	10	2.5	15	10'-6"			
II	20"UC 15"LC	20	15	14.5	15	15	18	14.5	12	3.0	18	13'-0"			
III	24"UC 18"LC	24	18	17	17	18	18	17	12	3.0	18	15'-0"			
IV	13.3"UC 10"LC	13.3	10	11	10	10.1	12	11	10	1.0	12	9'-0"			

1.9



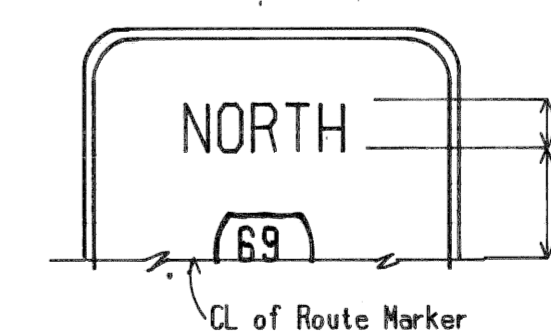
PANEL	LEGEND SIZE	DIMENSION (INCHES)													SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	M		
I	16"UC 12"LC	16	12	13	12	13	15	13	10	2.5	37	12	36	8'-6"	
II	20"UC 15"LC	20	15	14	15	15	18	14	12	3.0	43.5	15	36	10'-0"	
III	24"UC 18"LC	24	18	17	17	17	18	17	12	3.0	51.5	18	36	11'-6"	
IV	13.3"UC 10"LC	13.3	10	10.7	10	10	12	10.7	10	1.0	31	10	30	7'-0"	

1.13



PANEL	LEGEND SIZE	DIMENSION (INCHES)											SIGN HEIGHT
		A	B	C	D	E	F	G	H	J	K	L	
I	16"UC 12"LC	16	12	27	15	12	12	15	10	10	2.5	36	11'-6"
II	20"UC 15"LC	20	15	32	18	15	15	18	14	12	3.0	36	14'-0"
III	24"UC 18"LC	24	18	37	18	18	18	18	18	12	3.0	36	16'-0"
IV	13.3"UC 10"LC	13.3	10	24	12	12	10	10	10.7	10	1.0	30	10'-0"

DETAIL 1



DETAIL 2



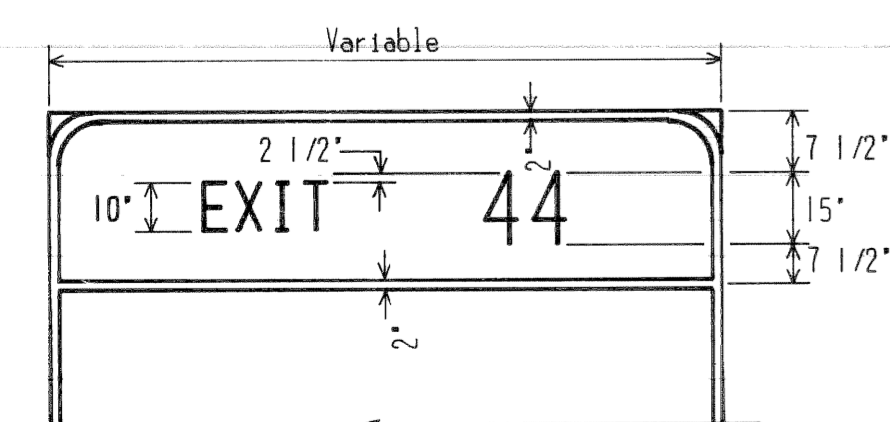
Where cardinal direction is placed above route marker, it shall be positioned as shown with sign height increased. 18' for PANEL I & IV & 24' for PANEL II & III.

PANEL	LEGEND SIZE	DIMENSION (INCHES)	
		A	B
I	16"UC 12"LC	12	24
II	20"UC 15"LC	15	24
III	24"UC 18"LC	15	24
IV	13.3"UC 10"LC	10	21

PANEL	LEGEND SIZE	DIMENSION (INCHES)	
		A	B
I	16"UC 12"LC	15	7
II	20"UC 15"LC	18	7
III	24"UC 15"LC	18	7
IV	13.3"UC 10"LC	12	6

NOTE: All lines of Legends are to be optically centered.

EXIT NUMBER DETAIL WHEN USED AS PART OF PARENT SIGN



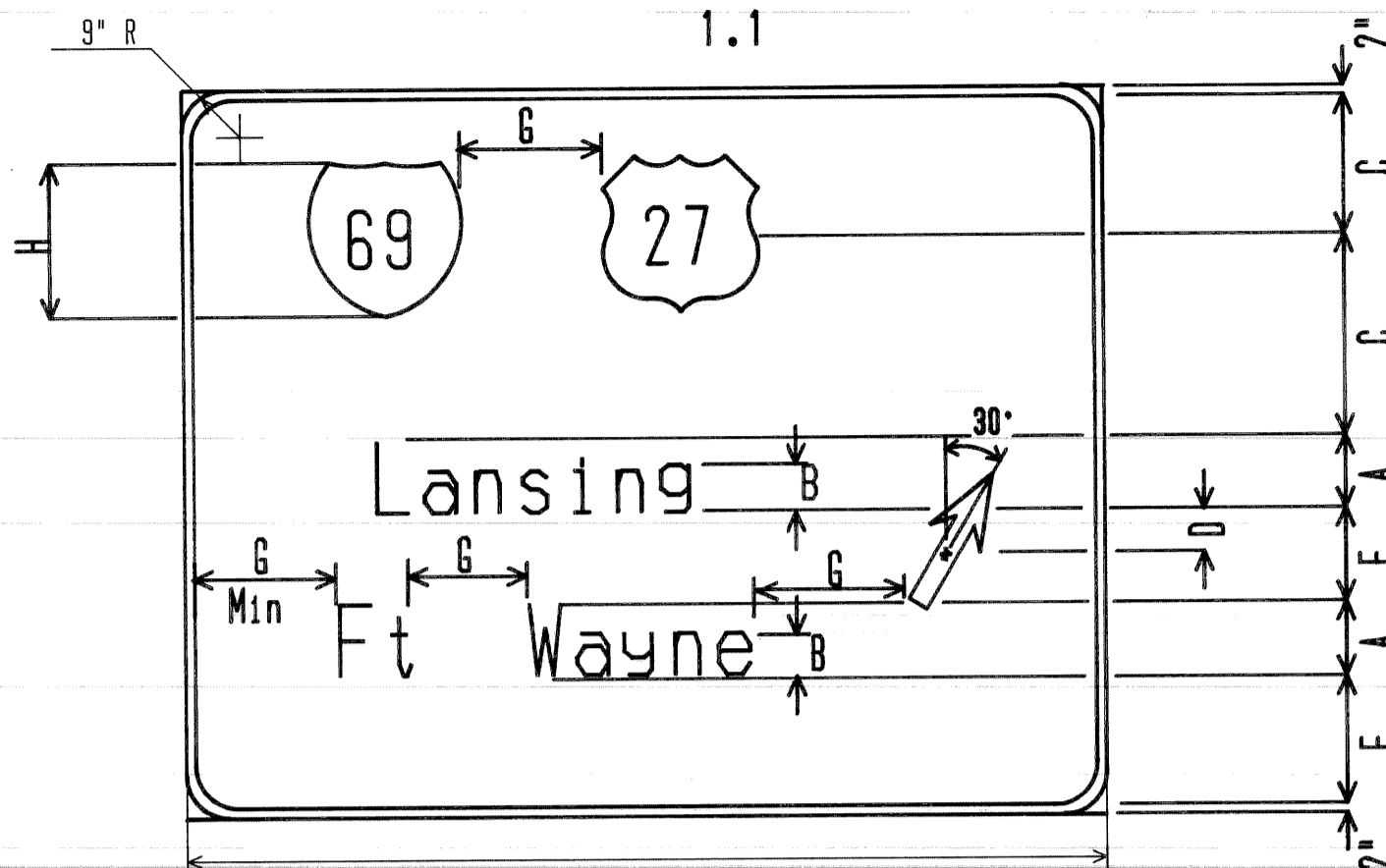
PANEL	LEGEND SIZE	DIMENSION (INCHES)											SIGN HEIGHT	
		A	B	C	D	E	F	G	H	J	K	L		M
I	16"UC 12"LC	16	12	19	12	11	15	10	2.5	29	12	36	11'-6"	
II	20"UC 15"LC	20	15	22	15	15	18	12	12	3.0	34	15	36	14'-0"
III	24"UC 18"LC	24	18	23	18	17	18	17	12	3.0	38	18	36	16'-0"
IV	13.3"UC 10"LC	13.3	10	17.9	10	10	12	9.5	10	1.0	26	10	30	10'-0"

SIGN DETAIL SHEET

F.H.W.A. REG. NO.	STATE	FEDERAL PROJECT	R.O.W. NO.	SHEET NO.	TOTAL SHEETS
ROUTE		COUNTY	CONTROL SECTION		JOB NO.

E6-1 SIGNS

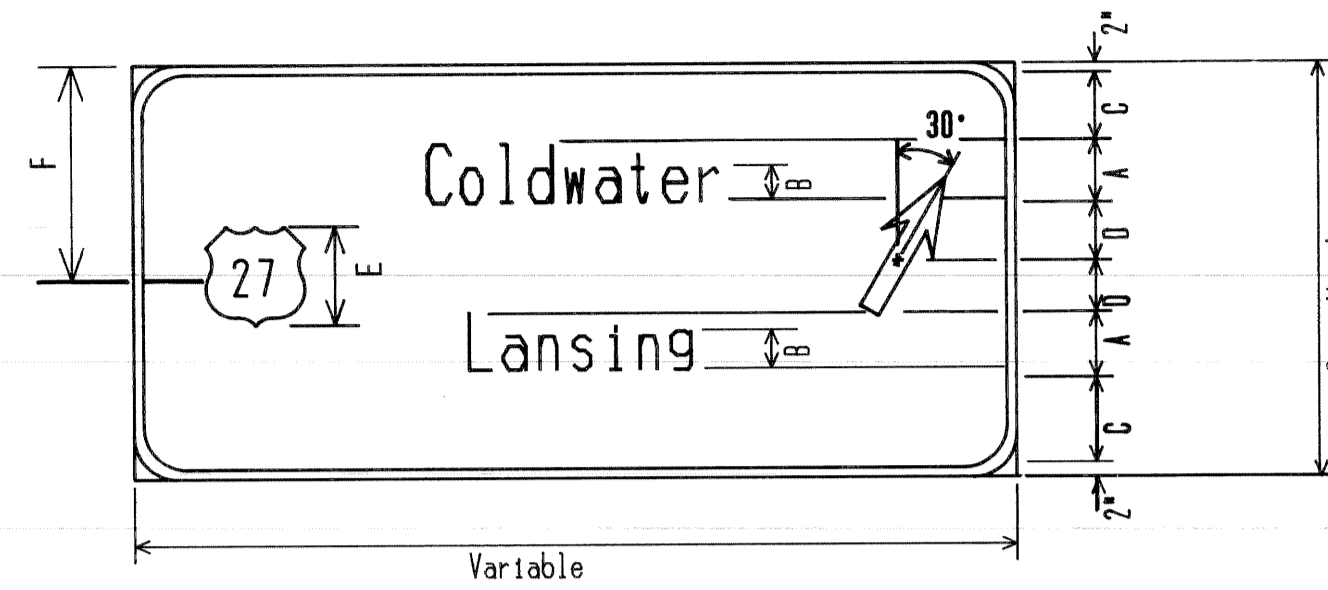
1.1



PANEL	LEGEND SIZE	DIMENSION (INCHES)						SIGN HEIGHT	ARROW SIZE
		A	B	C	D	E	F		
I	16"UC 12"LC	16	12	27	6	12	12	36	9'-6"
II	20"UC 15"LC	20	15	32	9	15	15	36	11'-6"
III	13.3"UC 10"LC	13.3	10	25.5	5	10	10.4	30	8'-6"

E6-1 SIGNS

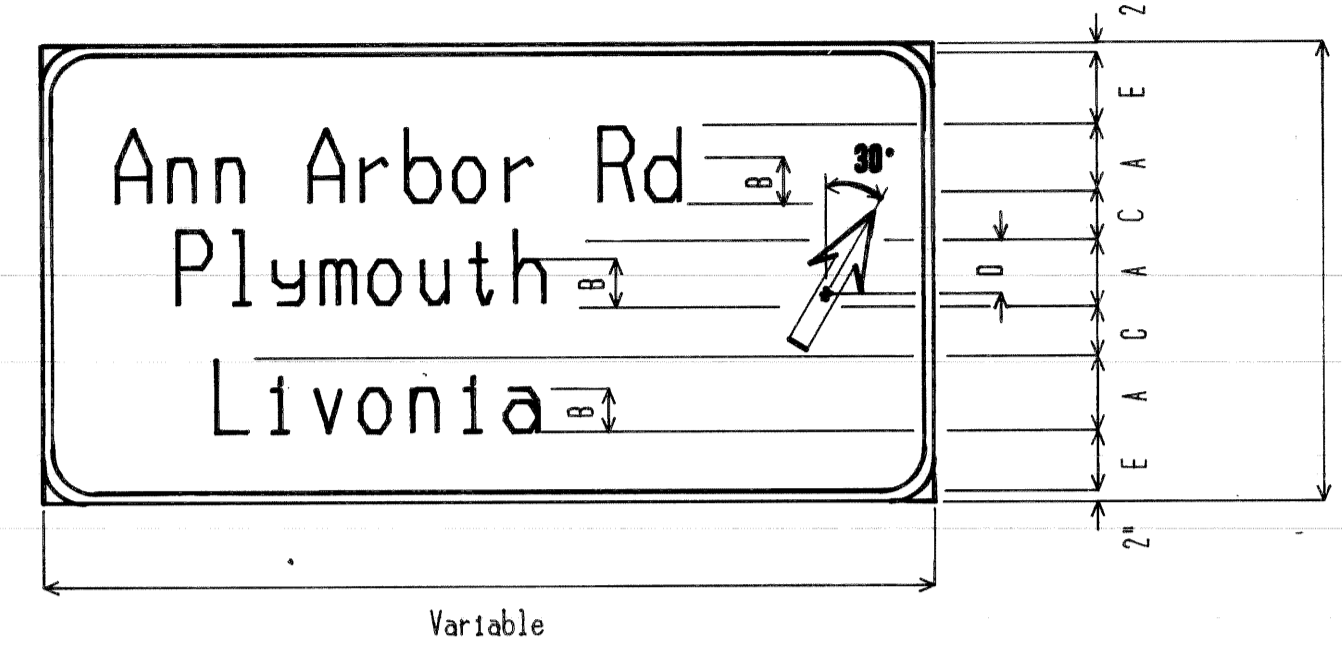
1.5



PANEL	LEGEND SIZE	DIMENSION (INCHES)						SIGN HEIGHT	ARROW SIZE
		A	B	C	D	E	F		
I	16"UC 12"LC	16	12	12	8	36	36	6'-0"	20B
II	20"UC 15"LC	20	15	15	8	36	45	7'-6"	24B
III	13.3"UC 10"LC	13.3	10	9.8	4.9	30	30	5'-0"	16B

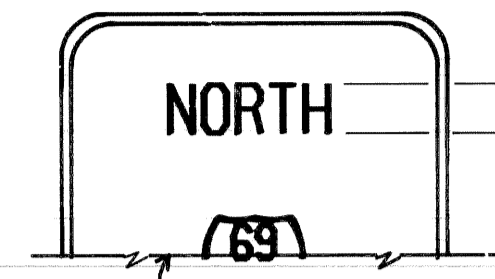
E6-1 SIGNS

1.9



PANEL	LEGEND SIZE	DIMENSION (INCHES)						SIGN HEIGHT	ARROW SIZE
		A	B	C	D	E	F		
I	16"UC 12"LC	16	12	12	8	13	36	8'-6"	20B
II	20"UC 15"LC	20	15	15	10	16	45	10'-6"	24B
III	13.3"UC 10"LC	13.3	10	10	6.65	10.05	30	7'-0"	16B

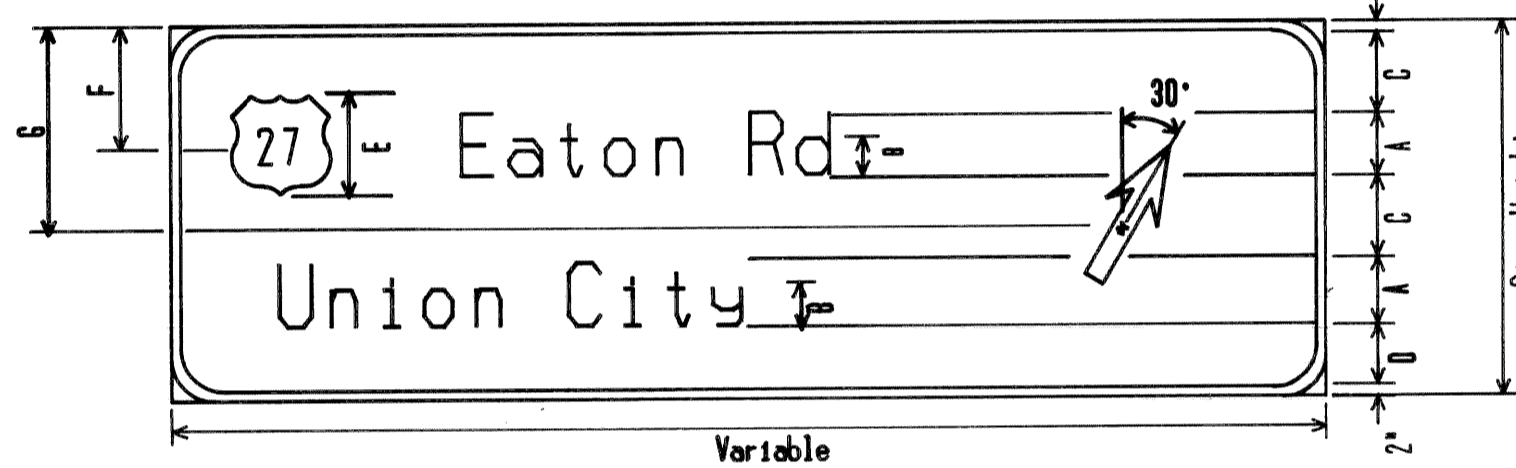
DETAIL 1



CL. of Route Marker
Where cardinal direction is placed above route marker, it shall be positioned as shown with sign height increased. 18' for PANEL I & III, 24' for PANEL II

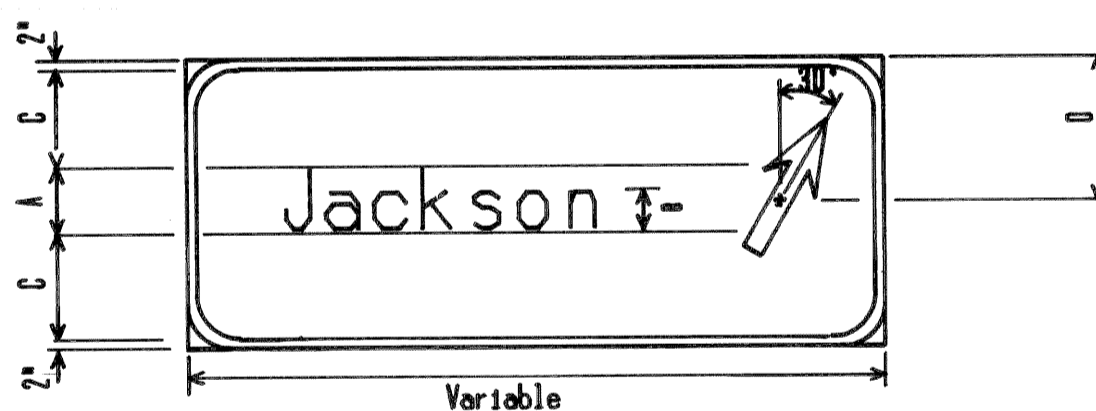
PANEL	LEGEND SIZE	DIMENSION (INCHES)	
		A	B
I	16"UC 12"LC	12	24
II	20"UC 15"LC	15	24
III	13.3"UC 10"LC	10	21

1.2



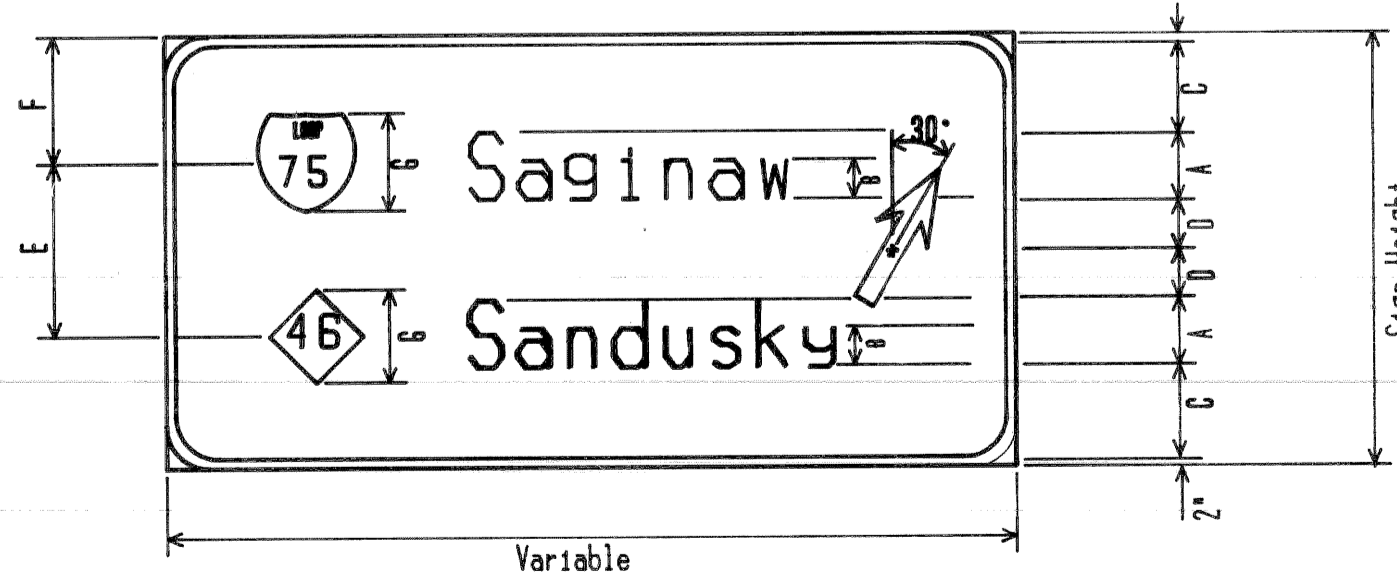
PANEL	LEGEND SIZE	DIMENSION (INCHES)						SIGN HEIGHT	ARROW SIZE
		A	B	C	D	E	F		
I	16"UC 12"LC	16	12	21	12	36	31	49.5	7'-6"
II	20"UC 15"LC	20	15	22	14	36	32	55	8'-6"
III	13.3"UC 10"LC	13.3	10	18.4	10.6	30	27	42	6'-6"

1.3



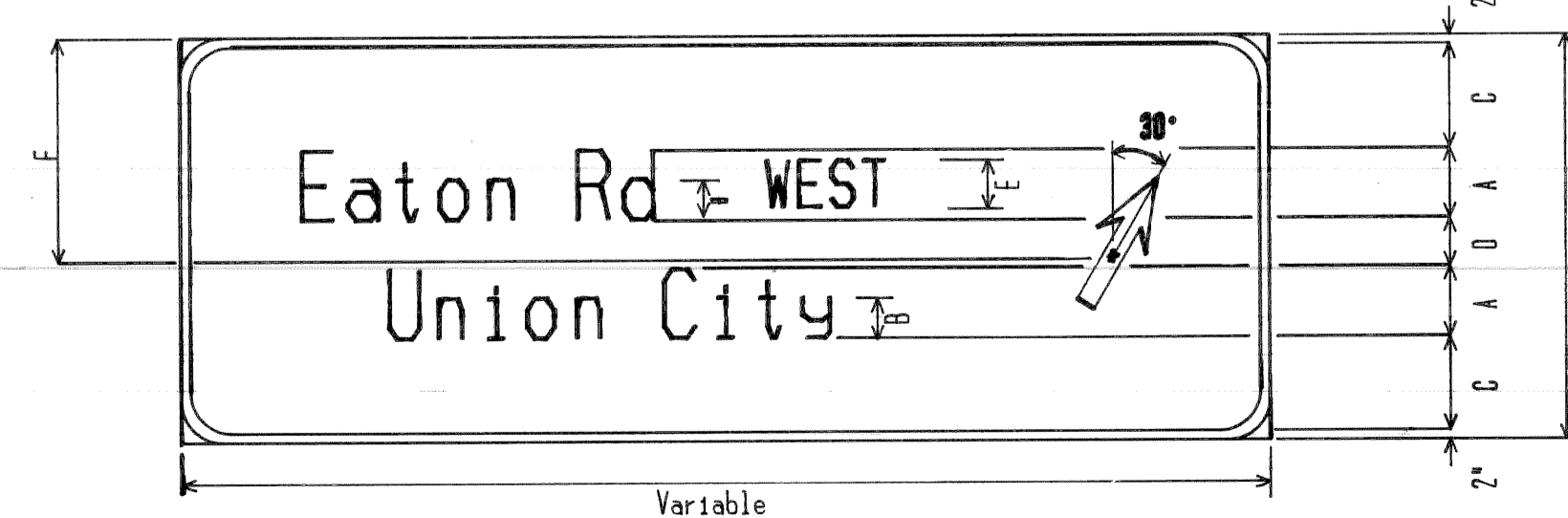
PANEL	LEGEND SIZE	DIMENSION (INCHES)				SIGN HEIGHT	ARROW SIZE
		A	B	C	D		
I	16"UC 12"LC	16	12	14	24	4'-0"	20A
II	20"UC 16"LC	20	15	15	27	4'-6"	24A
III	13.3"UC 10"LC	13.3	10	12.35	21	3'-6"	16A

1.4



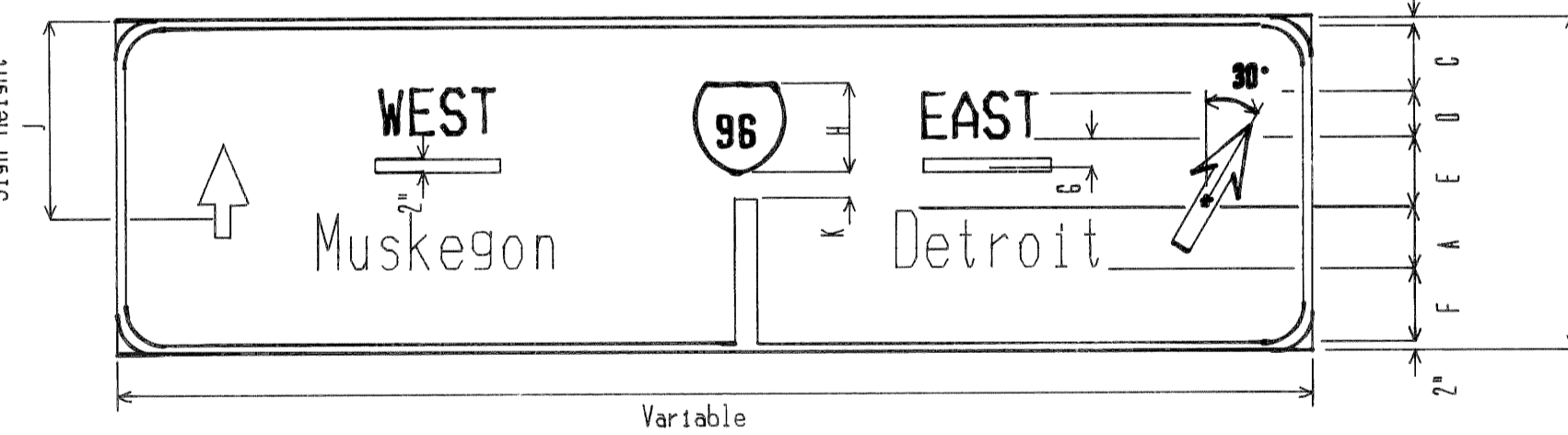
PANEL	LEGEND SIZE	DIMENSION (INCHES)						SIGN HEIGHT	ARROW SIZE
		A	B	C	D	E	F		
I	16"UC 12"LC	16	12	18	15	46	28	36	8'-6"
II	20"UC 16"LC	20	15	19.5	15.5	51	31.5	36	9'-6"
III	13.3"UC 10"LC	13.3	10	19.4	13.3	39.3	28.05	30	8'-0"

1.8



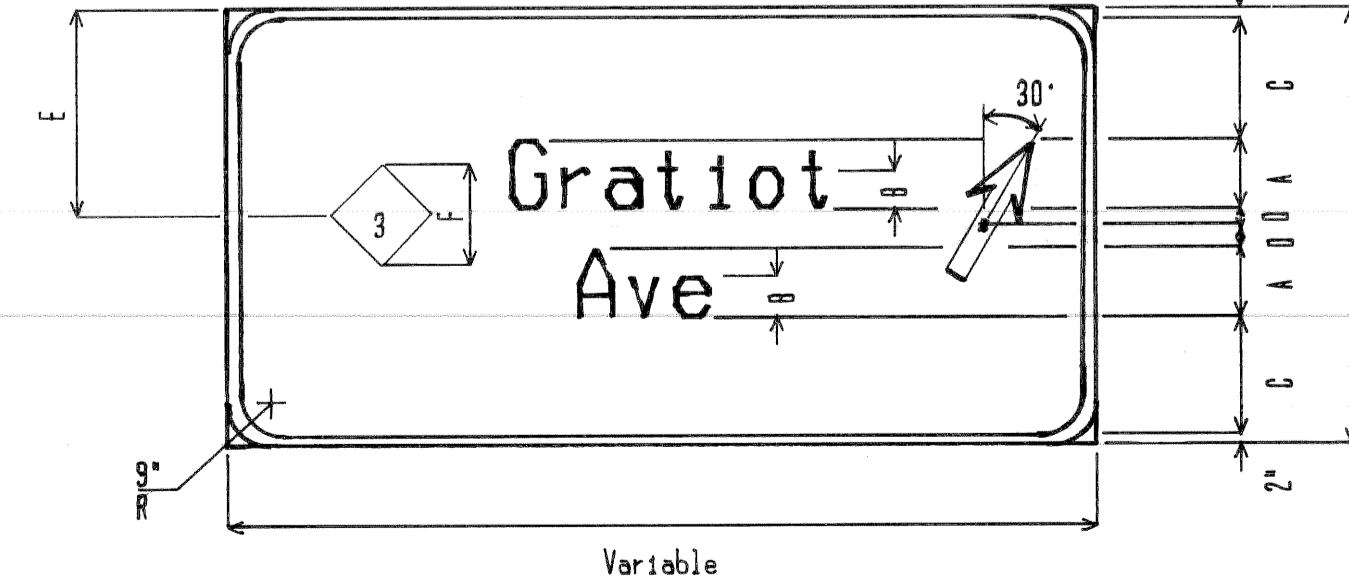
PANEL	LEGEND SIZE	DIMENSION (INCHES)						SIGN HEIGHT	ARROW SIZE
		A	B	C	D	E	F		
I	16"UC 12"LC	16	12	12	12	15	36	6'-0"	20B
II	20"UC 15"LC	20	15	15	16	18	45	7'-6"	24B
III	13.3"UC 10"LC	13.3	10	9.8	9.9	12	30	5'-0"	16B

1.11



PANEL	LEGEND SIZE	DIMENSION (INCHES)										SIGN HEIGHT	ARROW SIZE
		A	B	C	D	E	F	G	H	J	K		
I	16"UC 12"LC	16	12	12	15	19	12	7	36	39	6	8'-6"	20B
II	13.3"UC 10"LC	13.3	10	13	12	16.7	13	6	30	36	5	6'-0"	16B

1.12



PANEL	LEGEND SIZE	DIMENSION (INCHES)						SIGN HEIGHT	ARROW SIZE
		A	B	C	D	E	F		
I	16"UC 12"LC	16	12	12	6	36	36	6'-0"	20B
II	20"UC 15"LC	20	15	15	8	45	36	7'-6"	24B
III	13.3"UC 10"LC	13.3	10	9.8	4.9	30	30	5'-0"	16B

SPECIFICATIONS

1. Sign Panel: Integral portion of Parent sign.

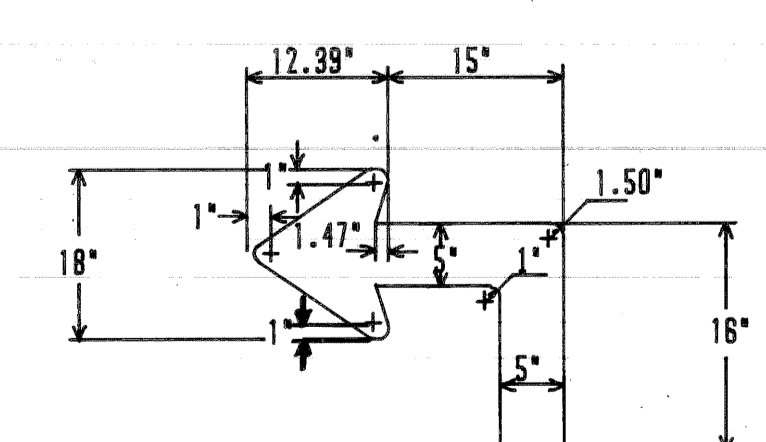
2. Sign Face: Type B

- (a.) Legend: Letter Series E of the height indicated.
- (b.) Color: Black letters and border on yellow background.
- (c.) Reflectorization: Yellow sheeting

Height of Sign usually increases by 18' for Panel I & III, 24' for Panel II

PANEL	LEGEND SIZE	DIMENSION (INCHES)				
		A	B	C	D	E
I	16"UC 12"LC	12	12	3	5	12
II	20"UC 15"LC	15	12	4	7	15
III	13.3"UC 10"LC	10	12	4	6	10

DETAIL 4

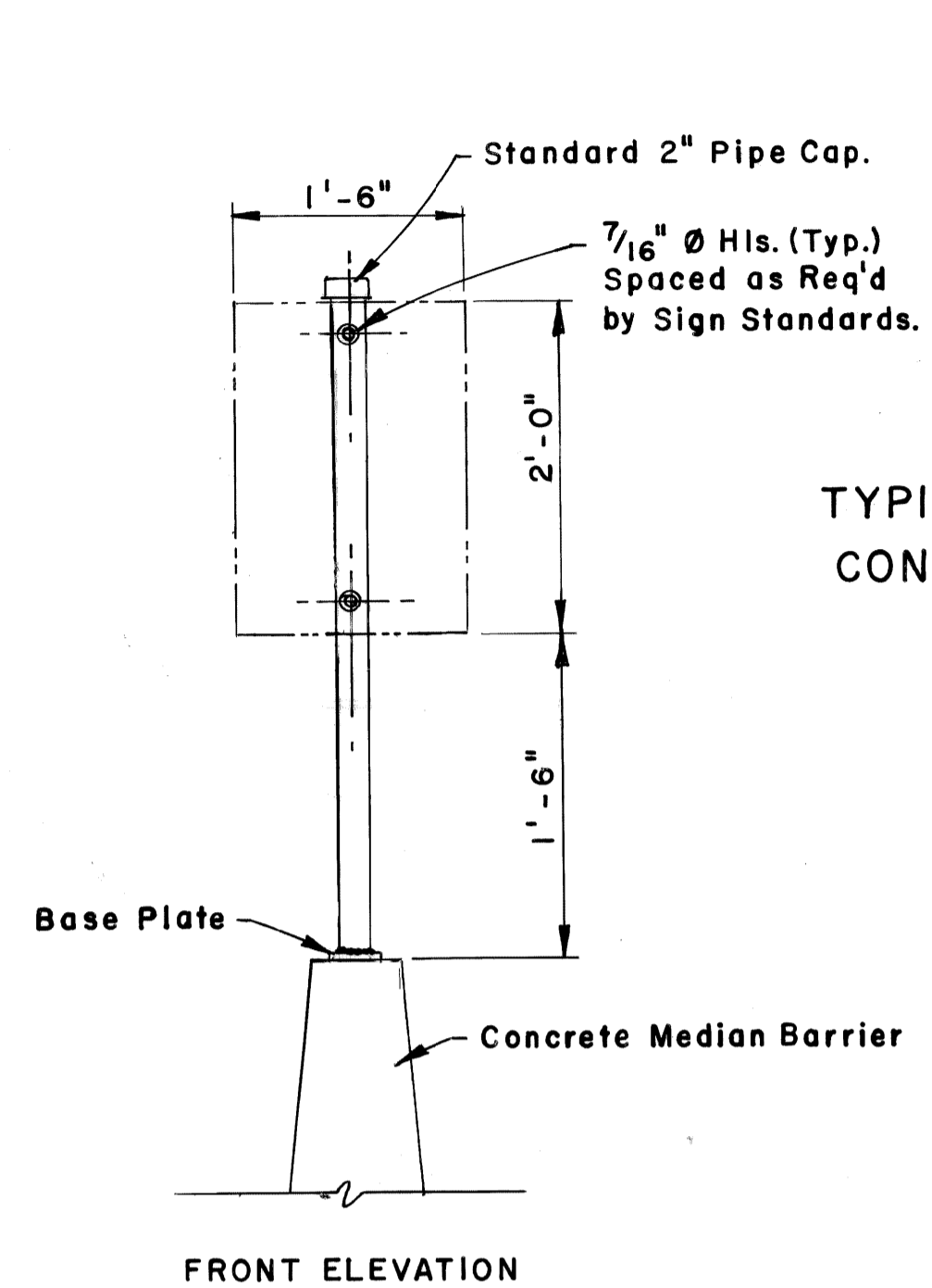


NOTES:
1. See Std. S13.10 for Exit Number Detail Drawing.
2. All lines of Legends are to be optically centered.

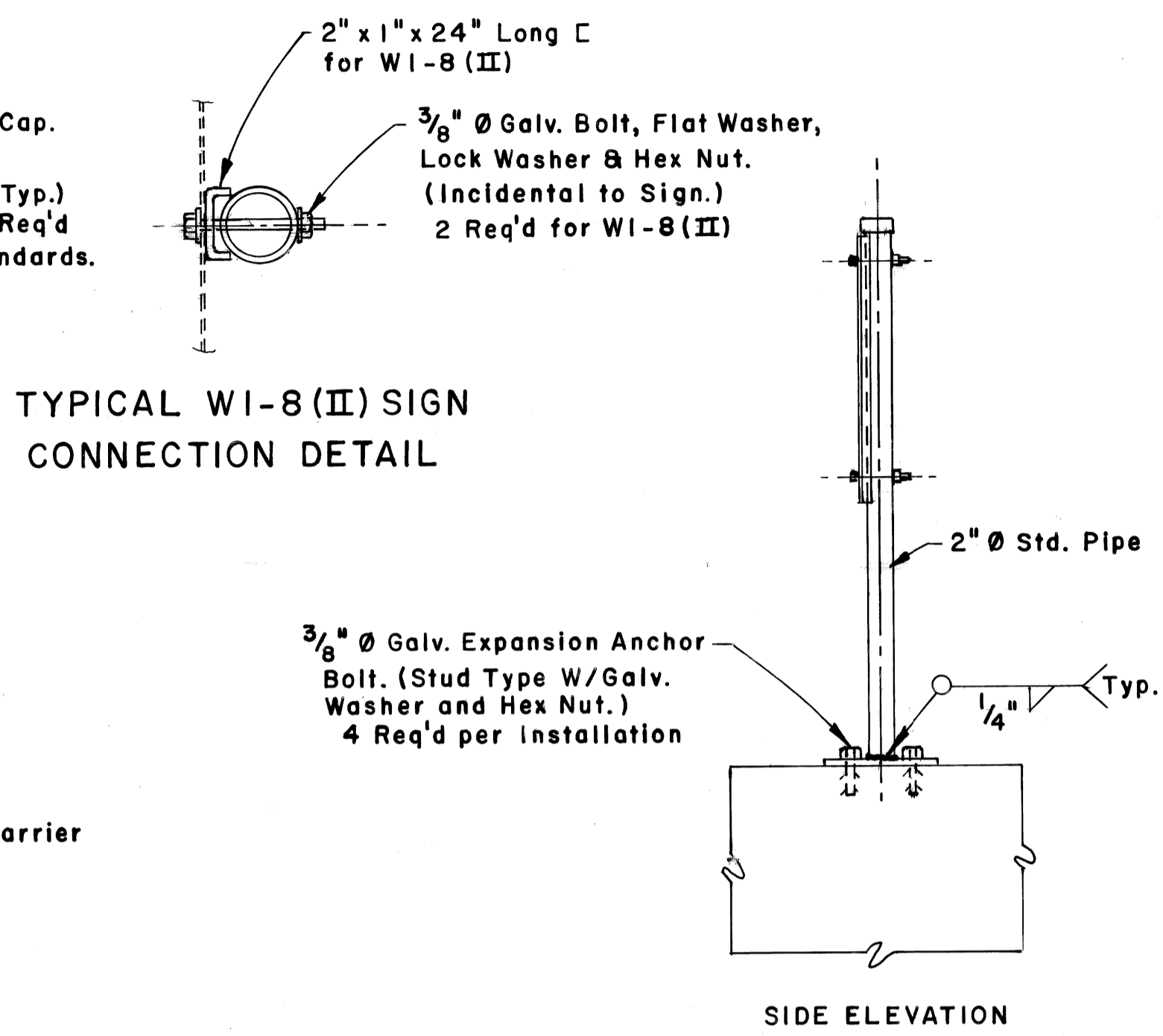
S13.20

CONTROL SECTION	82111	JOB NO.	16563A	FEDERAL PROJECT		R.O.W. SHEET NO.	12
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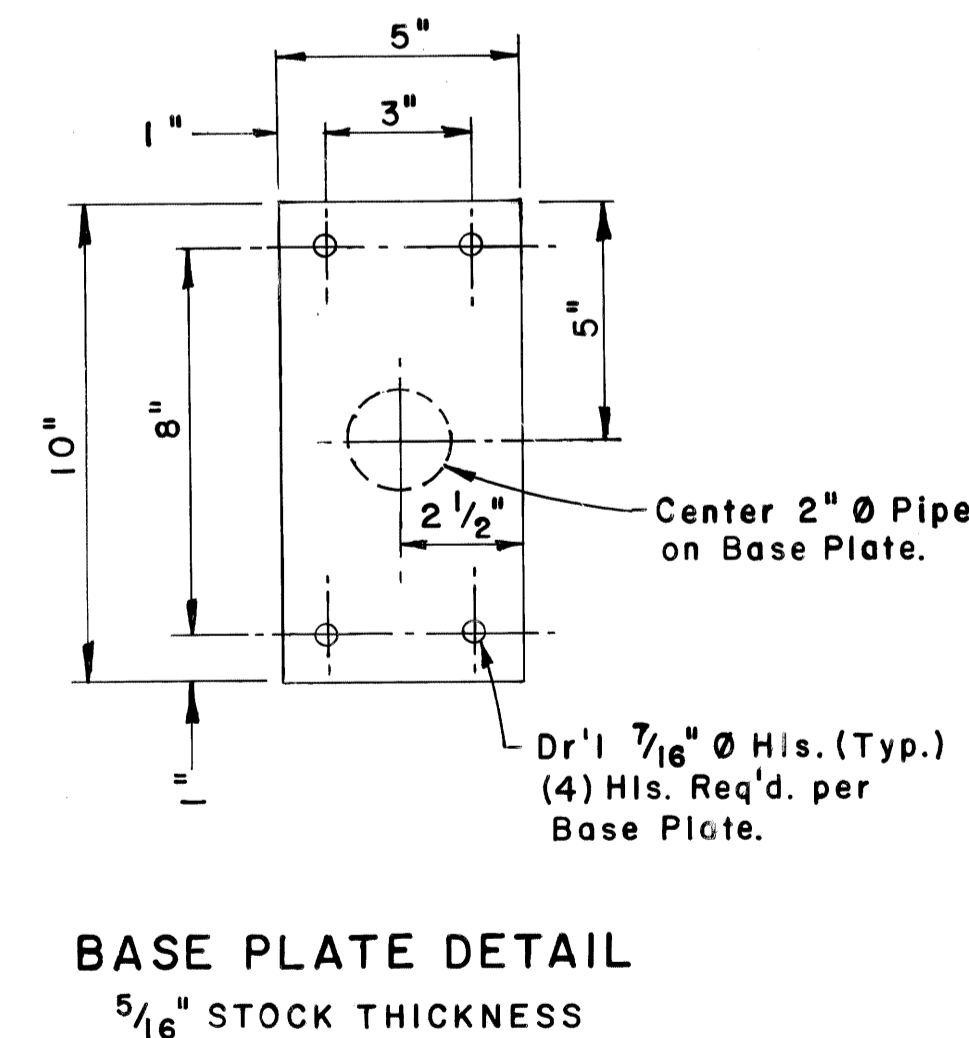
F.H.W.A. REG. NO.	STATE	FEDERAL PROJECT	R.O.W. NO.	SHEET NO.	TOTAL SHEETS
5	MICH.				
ROUTE	COUNTY	CONTROL SECTION	JOB NO.		



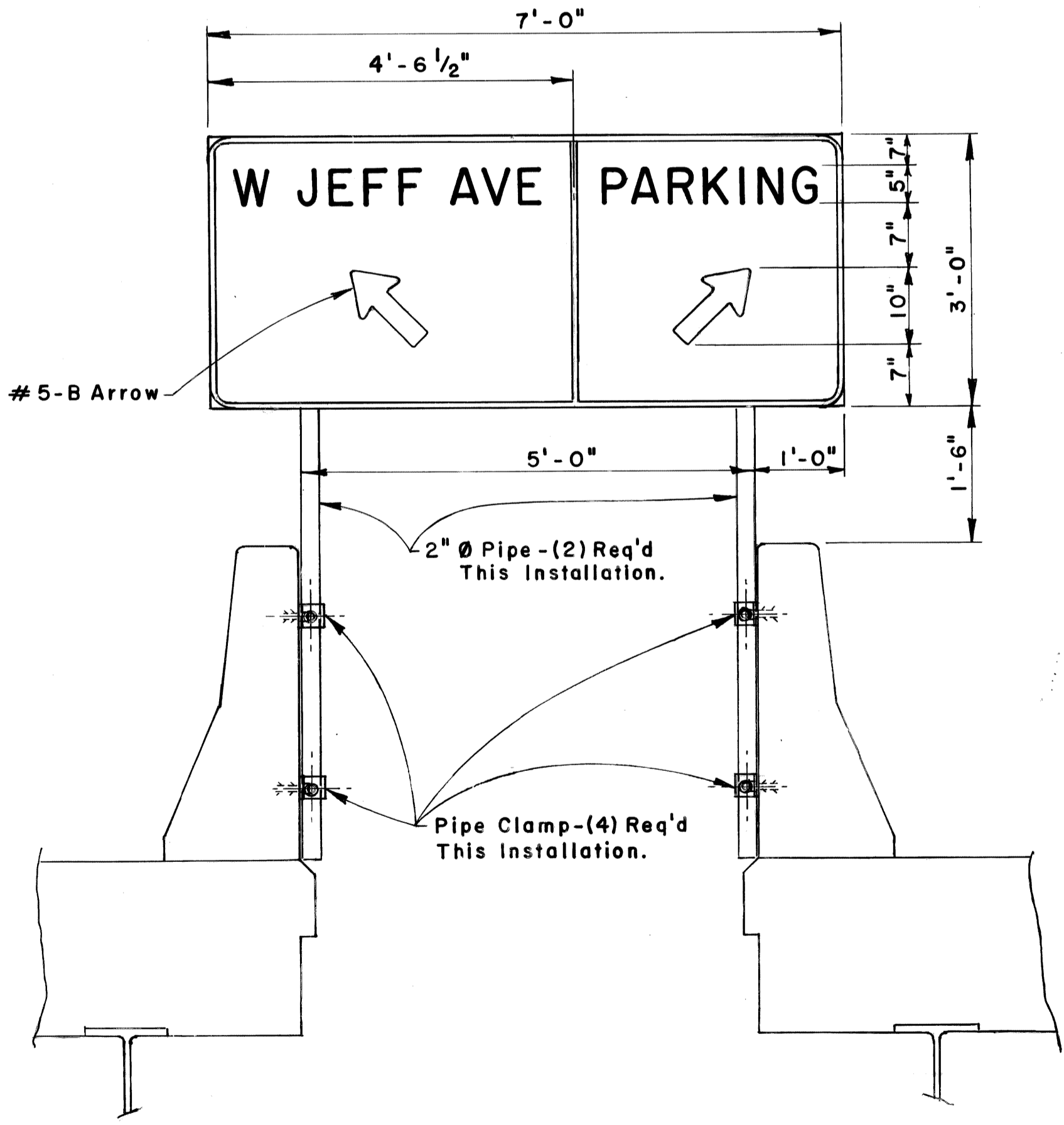
MEDIAN BARRIER CONNECTION - TYPE I
CHEVRON ALIGNMENT SIGN



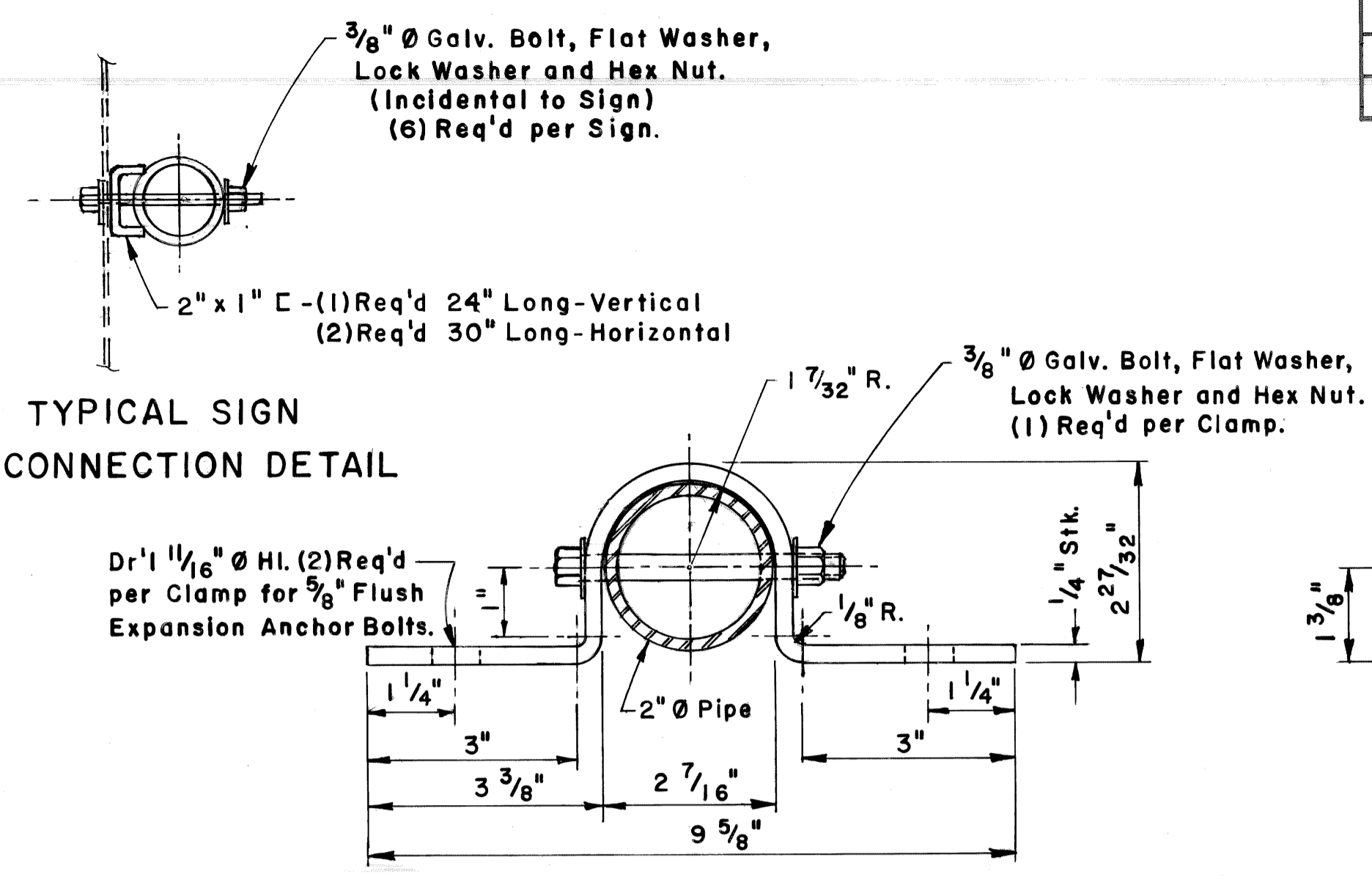
BARRIER CONNECTION - TYPE II



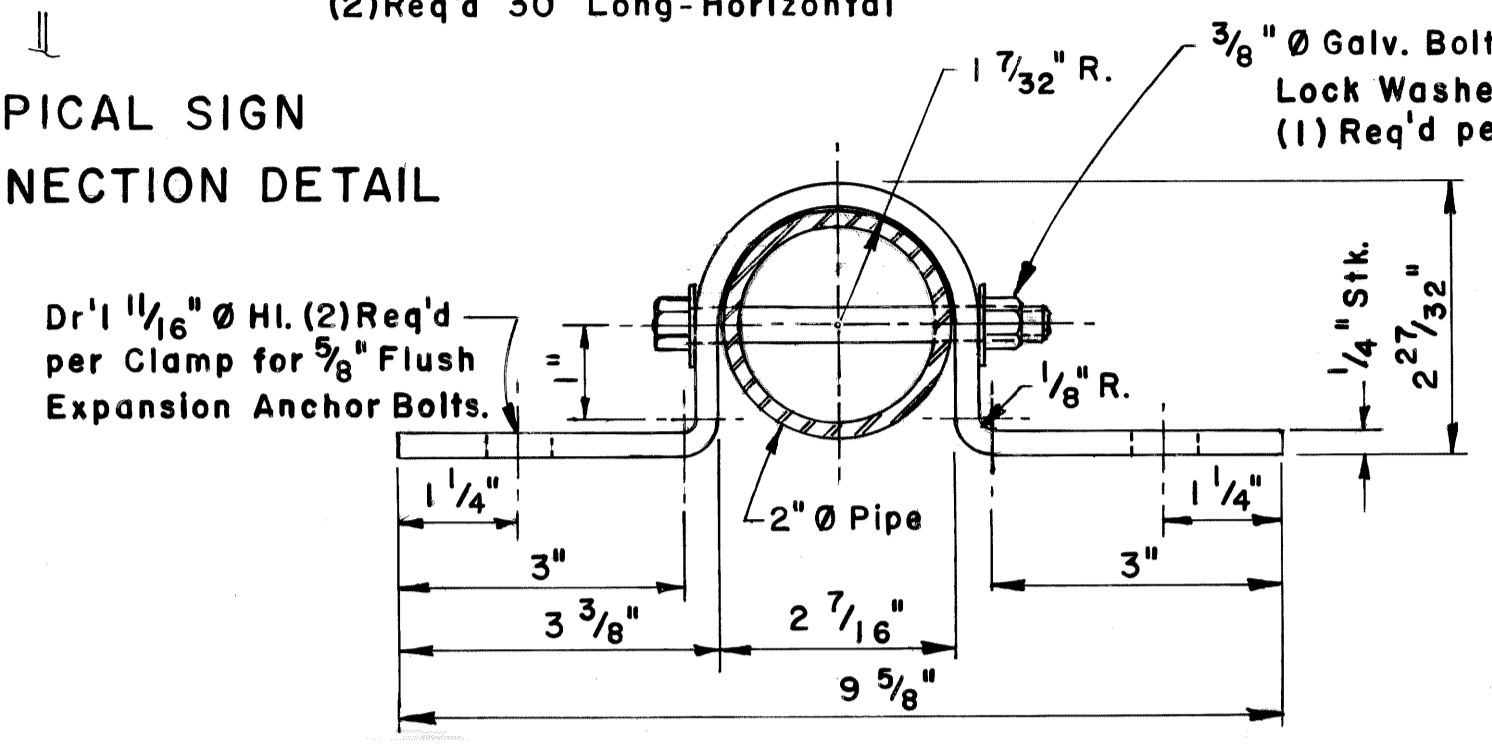
BASE PLATE DETAIL
5/16" STOCK THICKNESS



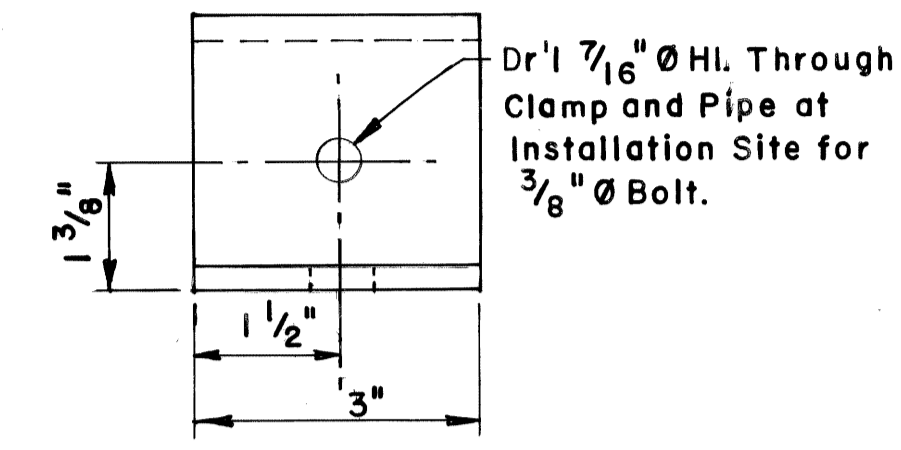
BARRIER CONNECTION - TYPE III



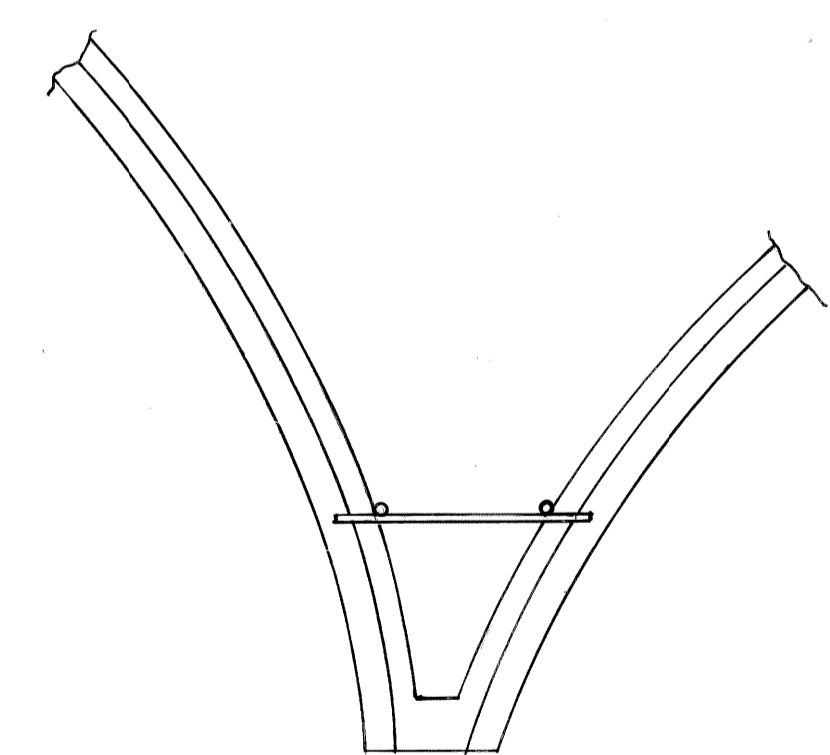
TYPICAL SIGN CONNECTION DETAIL



PIPE CLAMP DETAIL
FLAT STOCK LENGTH = 12 7/8"



- NOTES:**
- 1.- PLACEMENT OF SIGN SHOULD BE SUCH THAT THE SIGN WILL BE PERPENDICULAR TO THE MOTORIST'S LINE OF SIGHT AT A POINT 150' IN ADVANCE OF THE SIGN.
 - 2.- ALL BOLTS SHALL BE GALVANIZED HIGH STRENGTH BOLTS (ASTM A-325). ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED ACCORDING TO ASTM A-153. NUTS SHALL BE TAPPED 0.015" OVERSIZE. ALL BOLT THREADS SHALL BE BURRED AFTER FINAL TAPPING.
 - 3.- ALL STEEL COMPONENTS SHALL BE A-36 AND SHALL BE HOT-DIPPED GALVANIZED ACCORDING TO ASTM A-123.



TYPICAL GORE INSTALLATION

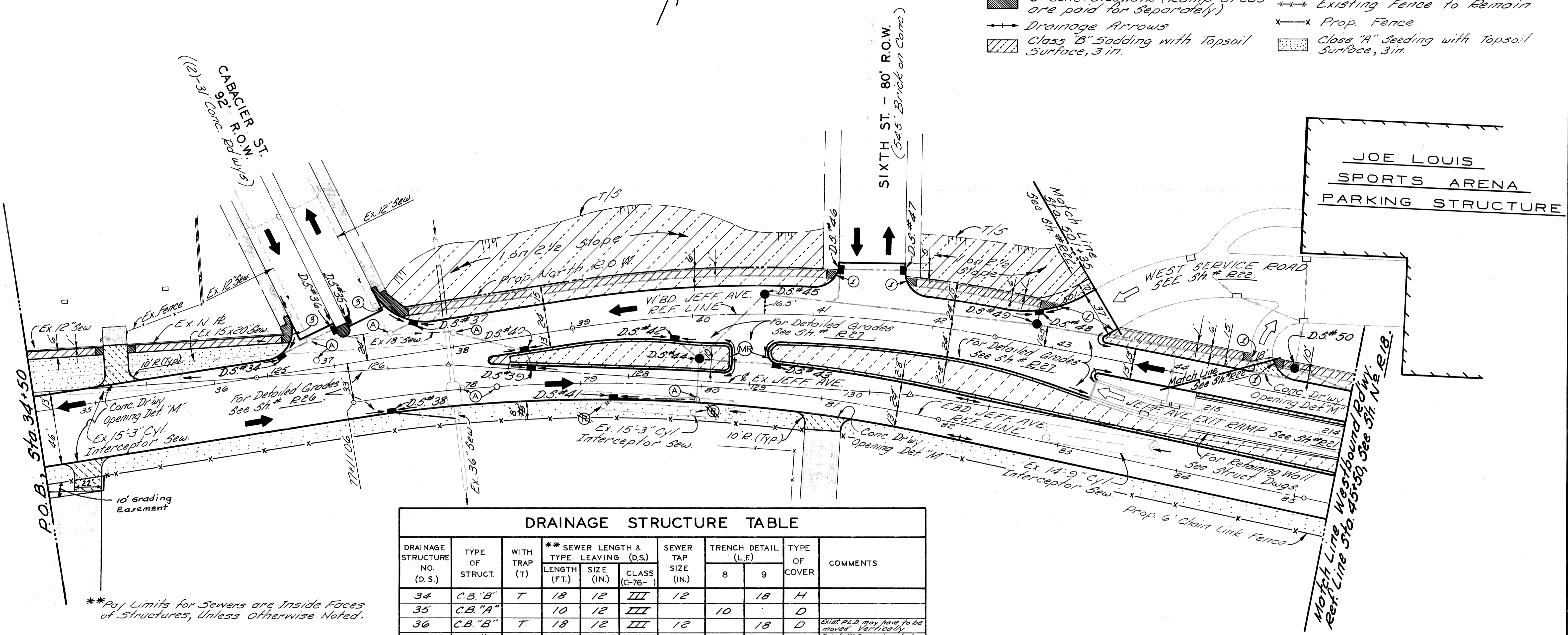
MICHIGAN DEPARTMENT OF TRANSPORTATION
TRAFFIC AND SAFETY DIVISION
STANDARD PLAN FOR
SIGN CONNECTIONS TO CONCRETE BARRIERS - TYPE I, II & III

DRAWN BY: W. C. G.
CHECKED BY:

C.B.M. Arrow on Hydrant E. of 6th - N. Side Jefferson Elev. 104.18
 C.B.M. Arrow on Hydrant N.W. corner Cabacier & Jefferson Elev. 104.73
 C.B.M. Arrow on Hydrant N.E. corner 10th & Jefferson Elev. 103.39

SURFACING LEGEND

- Conc. Pav't - Reinf. - 9" with Conc. Curb & Gutter Detail A-1 Mod.
- 4" Conc. Sidewalk
- Conc. Pav't - Nonreinf. - 8"
- Class "A" Sodding with Topsoil Surface, 3 in.
- Exist. Building to Remain
- 6" Conc. Sidewalk (Ramp areas are paid for separately)
- Drainage Arrows
- Class "B" Sodding with Topsoil Surface, 3 in.
- Exist. Sidewalk or Driveway to Remain
- Removing Bitum. Surf. & Resurface
- Adjust Drainage Structure Covers
- Sidewalk Ramps, Types 1 or 3
- Mower Ramp (Incid. to Contract Cost.) For Const. Details, See Sht. # R32.
- Reconstructing Drainage Structure
- Existing Fence to Remain
- Prop. Fence
- Class "A" Seeding with Topsoil Surface, 3 in.



DRAINAGE STRUCTURE TABLE

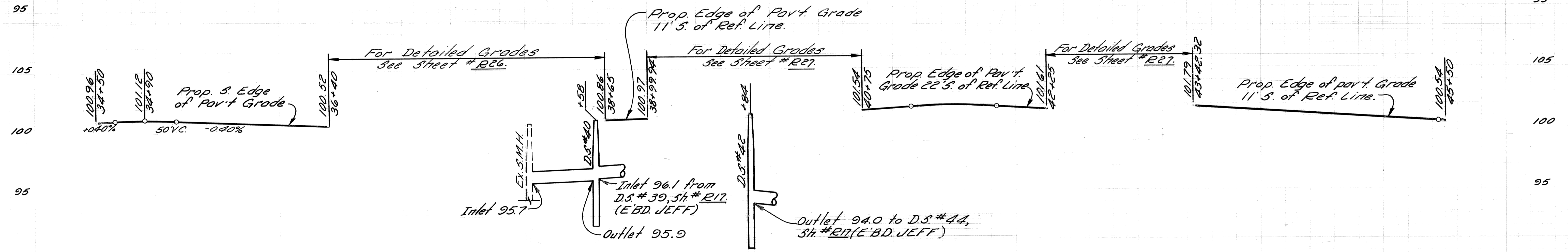
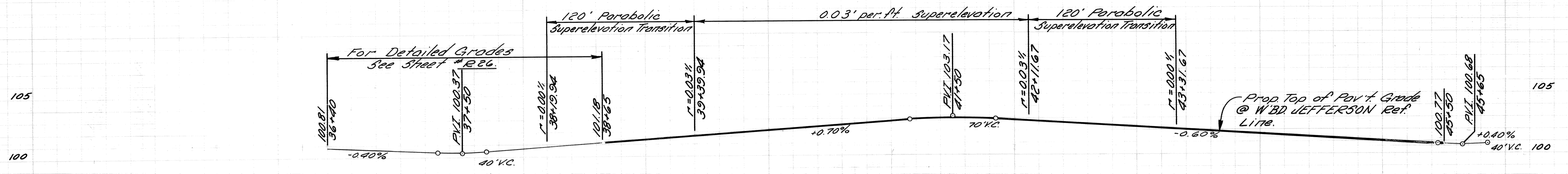
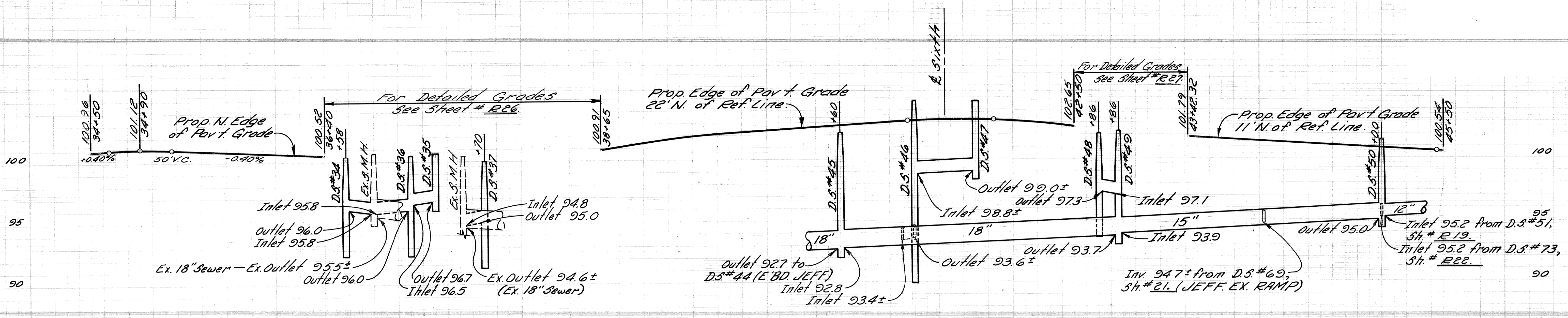
DRAINAGE STRUCTURE NO. (D.S.)	TYPE OF STRUCT.	WITH TRAP (T)	** SEWER LENGTH & TYPE LEAVING (D.S.)			SEWER TAP SIZE (IN.)	TRENCH DETAIL (L.F.)		TYPE OF COVER	COMMENTS
			LENGTH (FT.)	SIZE (IN.)	CLASS (C-76-)		8	9		
34	C.B. "B"	T	18	12	III	12		18	H	
35	C.B. "A"		10	12	III		10		D	
36	C.B. "B"	T	18	12	III	12		18	D	Exist. P.L.D. may have to be moved vertically.
37	C.B. "B"	T	17	12	III	12		17	H	Exist. P.L.D. may have to be moved vertically.
38	C.B. "B"	T	47	12	III	12		60	H	
39	C.B. "A"		12	12	III		12		H	
40	C.B. "B"	T	57	12	III	12		57	H	
41	C.B. "B"	T	63	12	III	12		63	H	
42	C.B. "B"	T	22	12	III		22		H	
43	C.B. "B"	T	60	12	III		27	33	H	
44	M.H. Drop		31	18	III	18	8	23	A	
45	M.H. 34"		73	18	III		18	55	A	
46	C.B. "B"	T	25	12	III			25	D	
47	C.B. "A"		48	12	III			48	D	
48	C.B. "B"	T	7	12	III			7	H	
49	M.H. 34"		224	18	III			224	A	
50	M.H. 34"		213	15	III		140	73	A	

**Pay Limits for Sewers are Inside Faces of Structures, Unless Otherwise Noted.

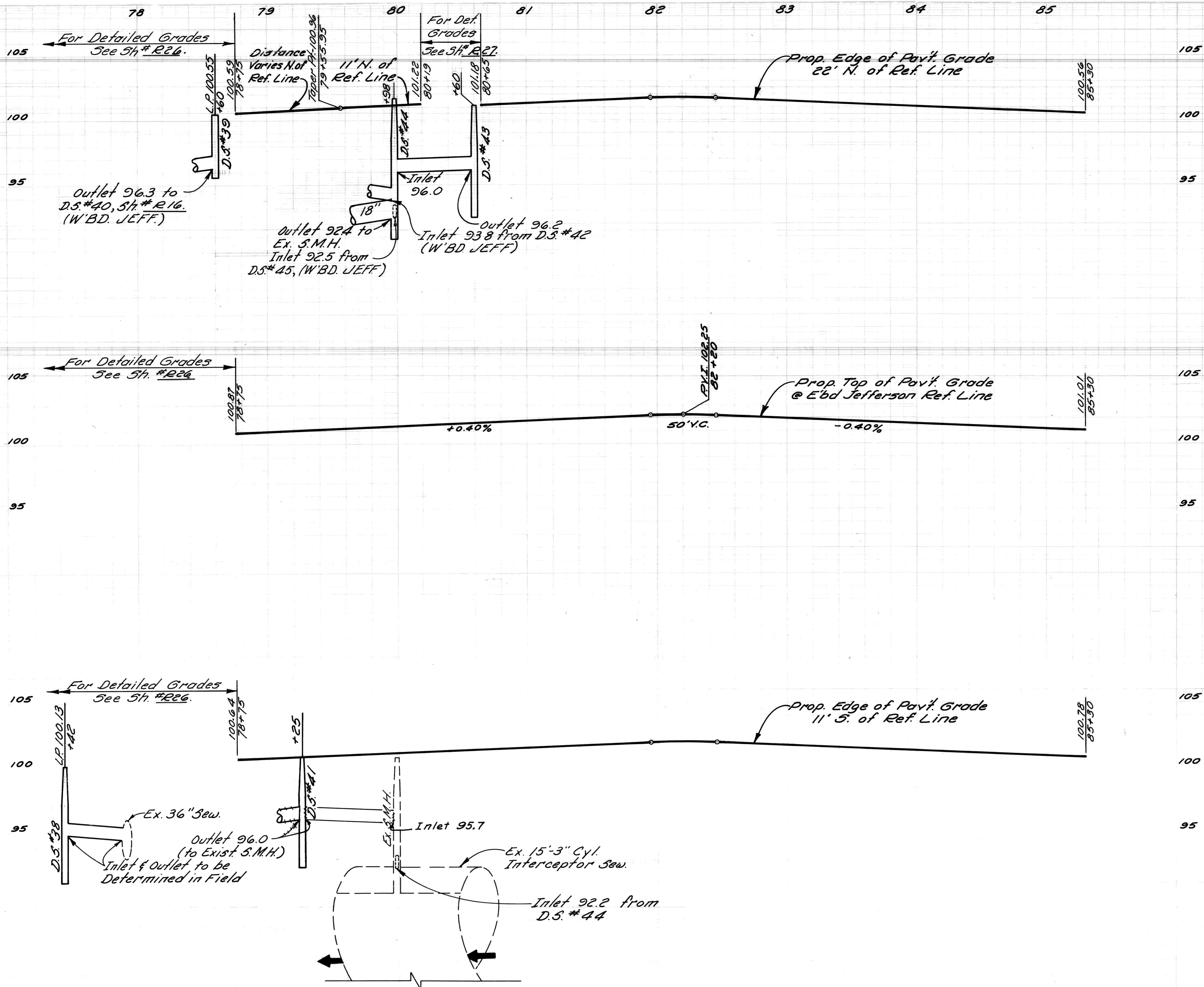
- NOTES:**
1. For Alignment, See Sheet #R5.
 2. For Utility Legend & Symbols, See Sheet #R32.
 3. Roadway edges shown are face of Curb.
 4. For Construction Sequence, See Sht. #R11 thru #R12.
 5. Transition from curb & gutter to Conc. Curb Detail "X" around street returns.

SCALE: 1"=40'

<p>REVISIONS LOCATED BY COORDINATES ON SHEET</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1E-10E</td> <td>Revised S. Margin Width from 15' to 8'.</td> <td></td> </tr> <tr> <td>1S E</td> <td>Add Drive, S. Side.</td> <td></td> </tr> <tr> <td>3D</td> <td>D.S. #41 Sewer Revised. Two (2) Deleted V.P.P.</td> <td>11/72</td> </tr> </tbody> </table>	NO.	DESCRIPTION	DATE	1E-10E	Revised S. Margin Width from 15' to 8'.		1S E	Add Drive, S. Side.		3D	D.S. #41 Sewer Revised. Two (2) Deleted V.P.P.	11/72	<p>DESIGNED BY <i>Sucech</i></p> <p>DRAWN BY</p> <p>TRACED BY</p> <p>CHECKED BY</p>	<p>APPROVED:</p> <p>ENGINEER OF STREETS</p> <p>HIGHWAY ENGINEER</p>	<p>CITY OF DETROIT</p> <p>CITY ENGINEERING DIVISION - EPMD</p> <p>BUREAU OF STREETS AND HIGHWAYS</p>	<p>JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION</p> <p>AT THE JOE LOUIS ARENA</p> <p>PLAN</p> <p>STA. 34+50 TO STA. 45+50</p>	<p>SHEET ___ OF ___ SHEETS</p> <p>CONTRACT NO. 16563A</p> <p>R-15</p> <p>DATE 8-79</p>
NO.	DESCRIPTION	DATE															
1E-10E	Revised S. Margin Width from 15' to 8'.																
1S E	Add Drive, S. Side.																
3D	D.S. #41 Sewer Revised. Two (2) Deleted V.P.P.	11/72															



34	35	36	37	38	39	40	41	42	43	44	45	
DWN BY <i>Sweech</i>				APPROVED		CITY OF DETROIT CITY ENGINEERING DIVISION-EPMD BUREAUS OF STREETS AND HIGHWAYS			JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA WESTBOUND JEFFERSON AVE. PROFILES STA. 34+50 TO STA 45+50			SHEET ___ OF ___ SHEETS CONTRACT NO. 16563A R-16 DATE 8-79
CKD BY												



PROFILES
 Hor. 1"=40'
 Scale: Vert. 1"=4'

		APPROVED		CITY OF DETROIT CITY ENGINEERING DIVISION-EPMD BUREAUS OF STREETS AND HIGHWAYS	JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA		SHEET ___ OF ___ SHEETS
		DWN BY			EASTBOUND JEFFERSON AVE. PROFILES		CONTRACT NO. 16563A
		CKD BY			STA. 78+75 TO STA. 85+30		R-17
Sewer Revise From D.S.#41.		RP	11/79			DATE 8-79	
Revisions		DRN	CK'D	AP'D	DATE		

The following information is provided only as an aid to the Contractor.

Drainage Structure Cover Type	Contract Total
Cover A	7 Each
Cover D	10 Each
Cover H	26 Each
Cover J	2 Each

The following are estimated quantities for the job which may be used at the discretion of the Engineer.

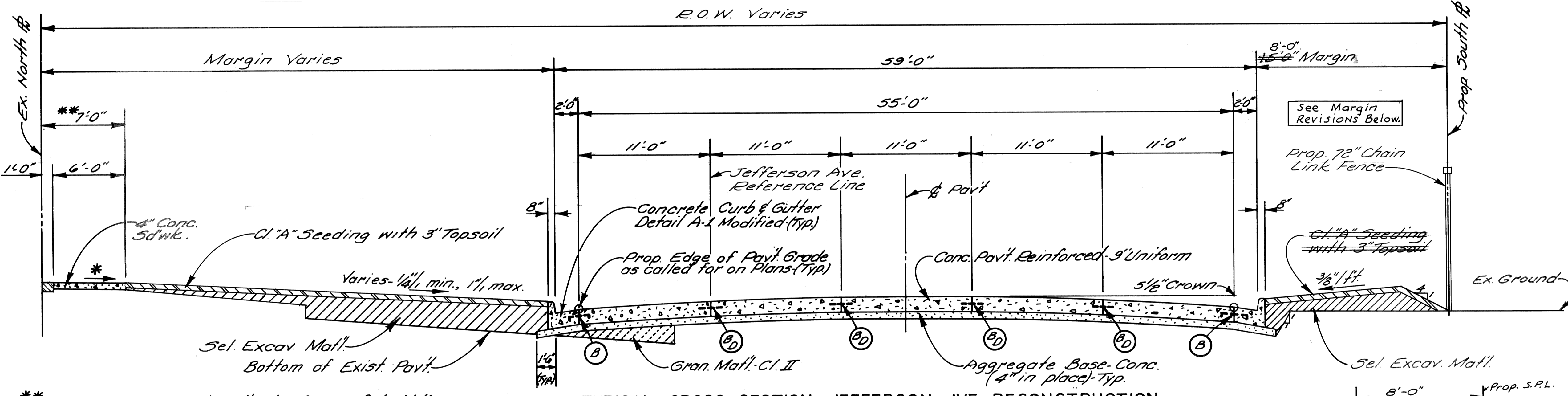
Basement Cleanout	100 Cu. Yds.
Removing Bituminous Curbs	80 Lin. Ft.
Subgrade Undercutting, Type II	500 Cu. Yds.
4" Concrete Sidewalk	360 Sq. Ft.
Removing Sidewalk	40 Sq. Yds.
Cleaning Existing Storm Drainage Structures	5 Each
Class "A" Sodding	30 Sq. Yds.
Class "B" Sodding	30 Sq. Yds.
Class "A" Seeding	2 Lbs.
Topsoil Surface - 3"	120 Sq. Yds.
Water	2 Units
Excelsior Mulch Blankets	60 Sq. Yds.
Chemical Fertilizer Nutrient	3 Lbs.
Removing Old Pavt. (Patching)	100 Sq. Yds.
Conc. Pavt. Patching - Type N5-9 Non-Reinf.	100 Sq. Yds.

Miscellaneous quantities for J.C. Lodge Exit Ramp & Jefferson Ave. Reconstruction at the Joe Louis Arena.

Mobilization: 1 Lump Sum
On the Job Training: 4 Each

*These quantities are listed on the Quantity Sheet under the Typical Cross-Section & participating agency to which they apply.

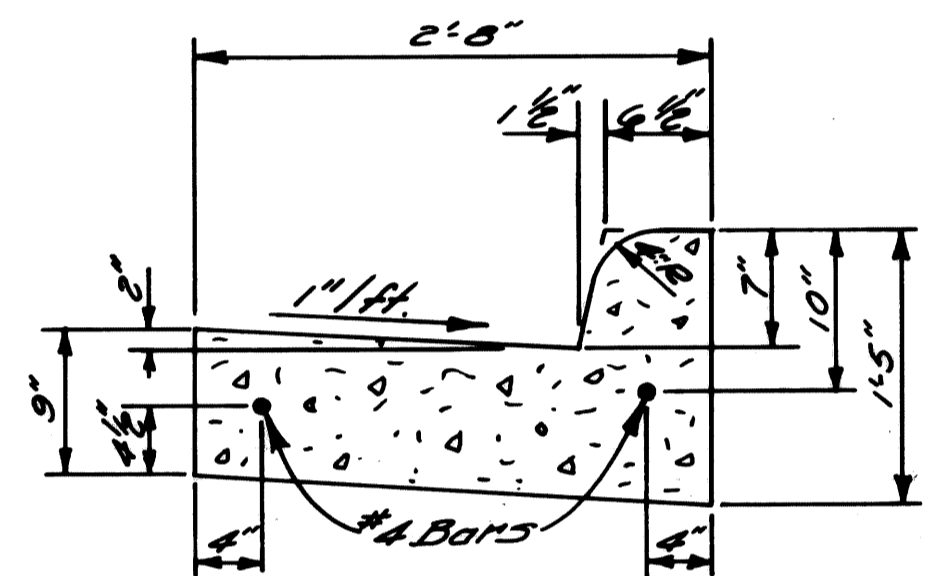
*Prop. Sidewalk Slopes are to be 3/8" unless the engineer determines that a min. slope of 1/4" or a max. slope of 1/2" must be used to meet existing conditions.



TYPICAL CROSS-SECTION JEFFERSON AVE. RECONSTRUCTION

STA. 34+50 TO CABACIER ST.

NO SCALE



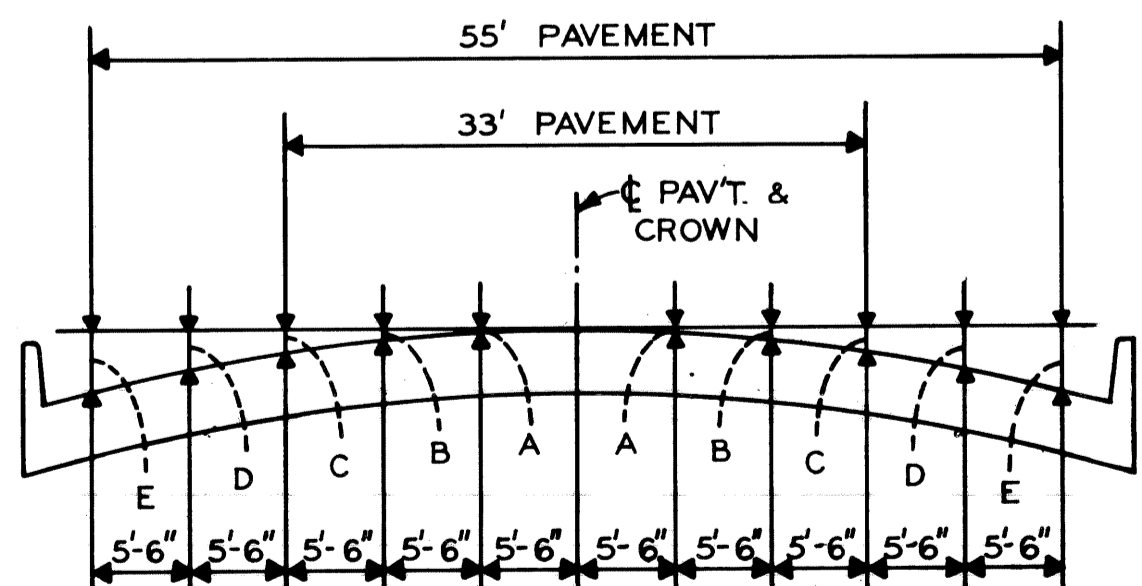
CONCRETE CURB & GUTTER
DETAIL A-1 MODIFIED

NO SCALE

JOINT LEGEND

- (B) or (D) Longitudinal Pavement Joint according to M.D.S.H. Std. Dwg. II-41-C.
- (B) Optional, B or D.

**Place 4" Conc. Sidewalk to face of building where building fronts on property line.



ELEMENTS OF 33' & 55' PAVEMENT

NO SCALE

PAVEMENT WIDTH	A	B	C	D	E
33'	1/2"	1 7/8"	4 1/8"	-	-
55'	1/4"	7/8"	2"	3 1/2"	5 1/2"

EARTHWORK LEGEND

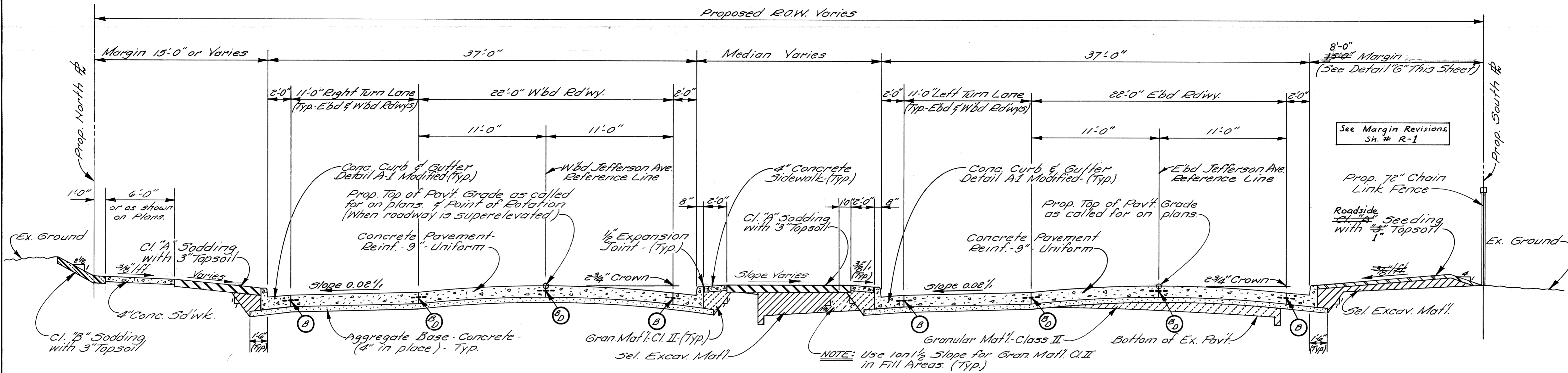
- Granular Material - Class II
- Selected Excavated Matl. - See Note #2.
- Conc. Pavement or Conc. Sidewalk
- Aggregate Base - Concrete (4" in Place)
- Class "A" Sodding with 3" Topsoil
- Class "A" Seeding with 3" Topsoil

MARGIN REVISIONS

GENERAL NOTES

- Backfill if req'd under prop. sidewalk and/or pavt. shall be Gran. Matl. Class II.
- Sel. Excav. Matl. is incidental to "Earth Excavation."

<p>REFERENCE DRAWINGS</p> <p>DESIGNED BY</p> <p>DRAWN BY <i>MMB</i></p> <p>TRACED BY</p> <p>CHECKED BY <i>R. Comly</i></p>	<p>APPROVED:</p> <p>ENGINEER OF STREETS</p> <p>HIGHWAY ENGINEER</p>	<p>CITY OF DETROIT</p> <p>CITY ENGINEERING DIVISION - EPMD</p> <p>BUREAUS OF STREETS AND HIGHWAYS</p>	<p>JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION</p> <p>AT THE JOE LOUIS ARENA</p>	<p>SHEET ___ OF ___ SHEETS</p> <p>CONTRACT NO. 16563A</p> <p>R-1</p> <p>DATE 8-79</p>
<p>REVISIONS LOCATED BY COORDINATES ON SHEET</p>		<p>TYPICAL CROSS-SECTIONS</p>		



TYPICAL CROSS-SECTION JEFFERSON AVE. RECONSTRUCTION
BETWEEN CABACIER & 3RD AVE.
 NO SCALE

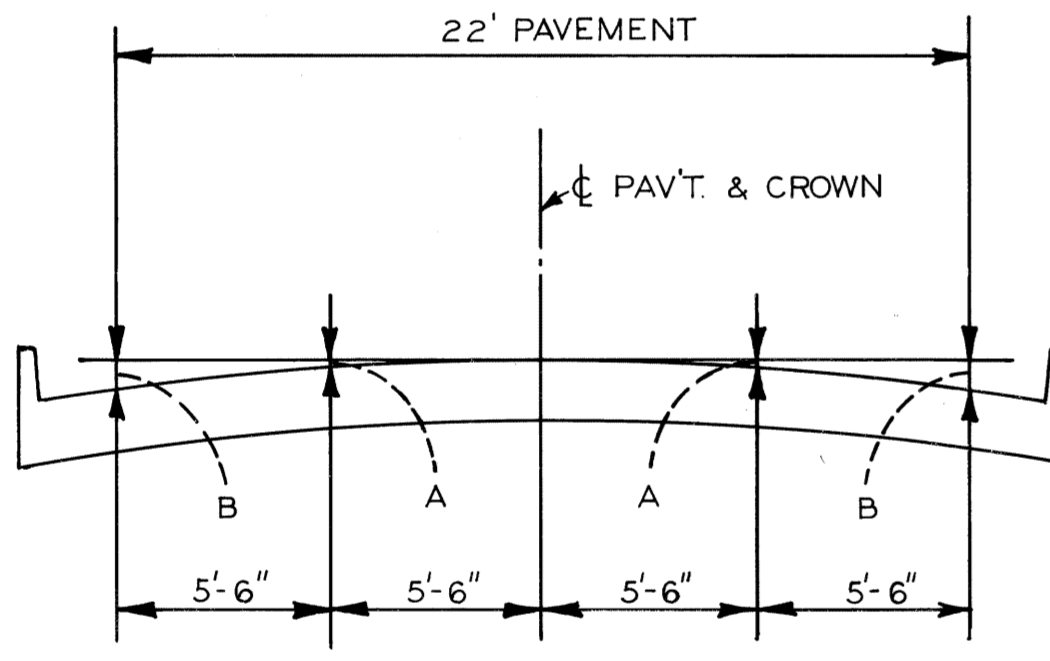
EARTHWORK LEGEND

	Granular Material - Class II
	Selected Excav. Mat'l. (See Note #2)
	Conc. Pavement or Conc. Sidewalk
	Aggregate Base Concrete (4" in Place)
	Class "A" Sodding with 3" Topsoil
	Class "A" Seeding with 3" Topsoil
	Class "B" Sodding with 3" Topsoil

JOINT LEGEND

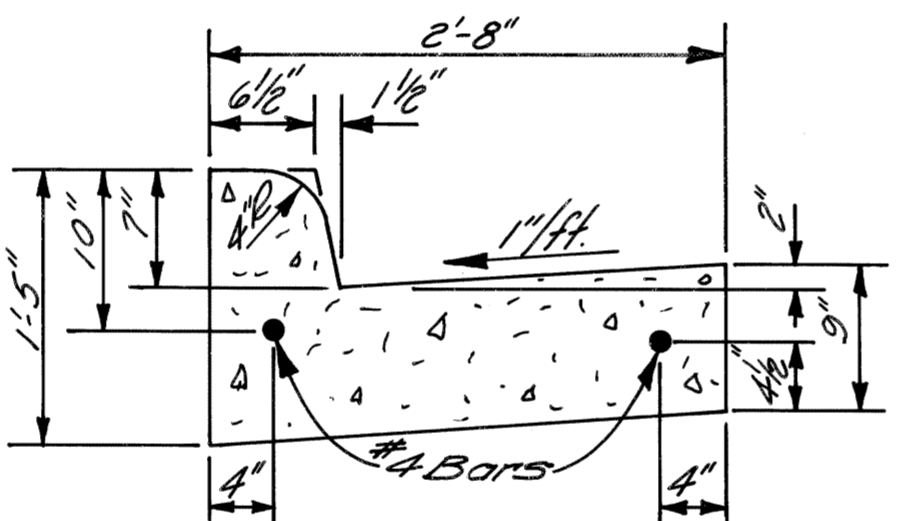
	Longitudinal Pavement Joint according to M.D.S.H. Std. Dwg. II-41-C.
	Optional, B or D.

- GENERAL NOTES**
- Backfill if req'd. under prop. sidewalk and/or pavt. shall be Gran. Mat'l. Class II.
 - Sel. Excav. Mat'l. is incidental to "Earth Excavation."

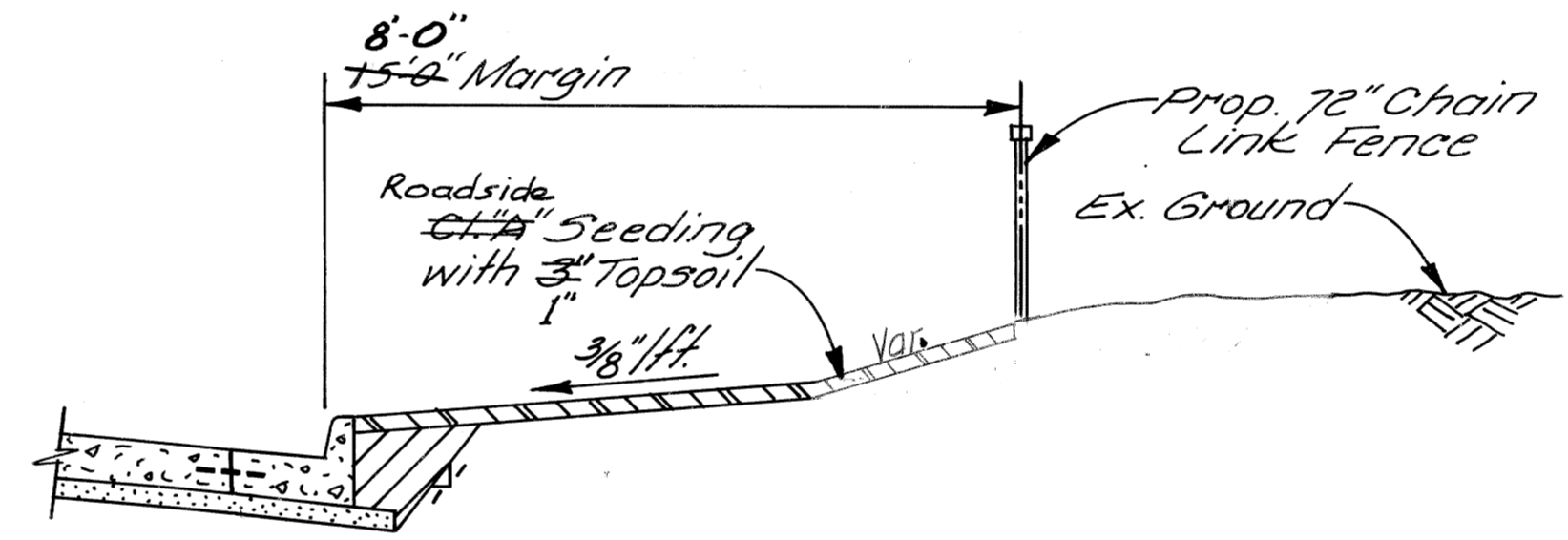


ELEMENTS OF 22' PAVEMENT
NO SCALE

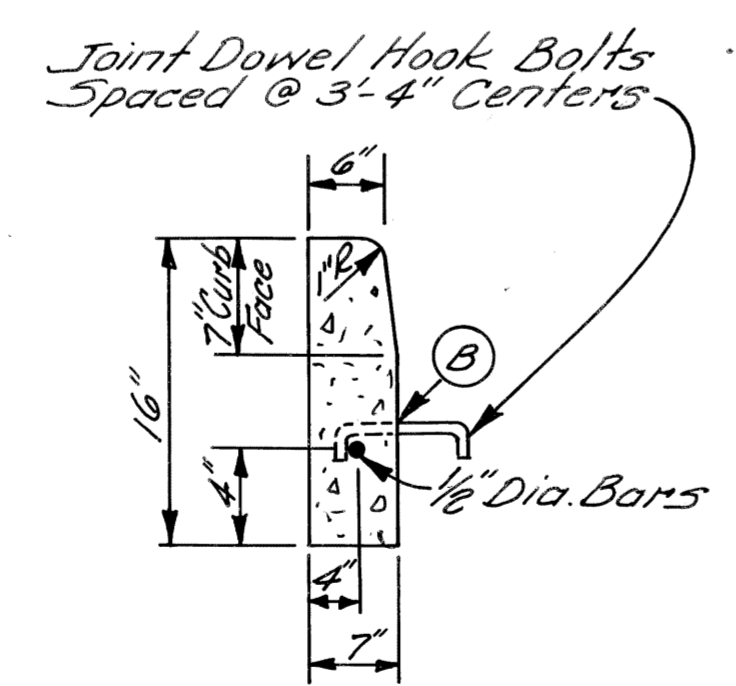
PAVEMENT WIDTH	A	B
22'	1 1/16"	2 3/4"



CONCRETE CURB & GUTTER
DETAIL "A-1" MODIFIED
 NO SCALE

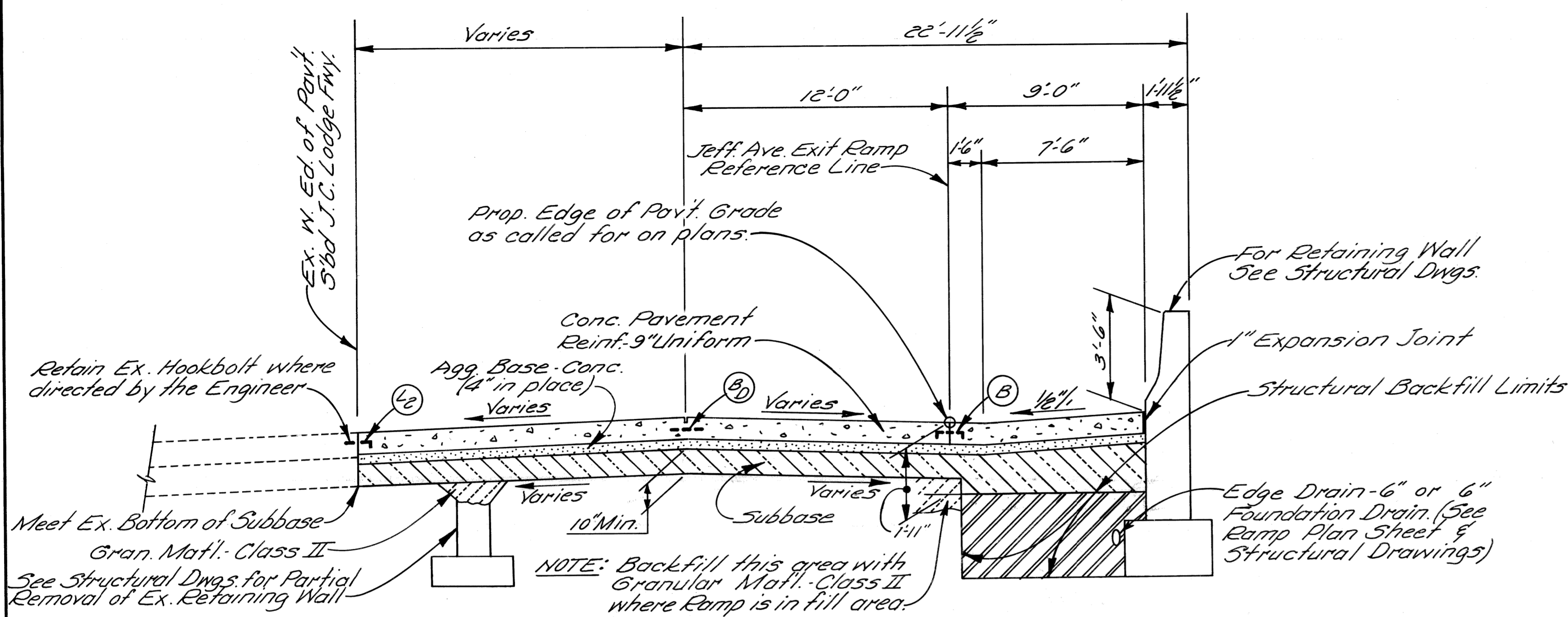


DETAIL "G"
SHOULDER TREATMENT IN CUT AREAS
 NO SCALE

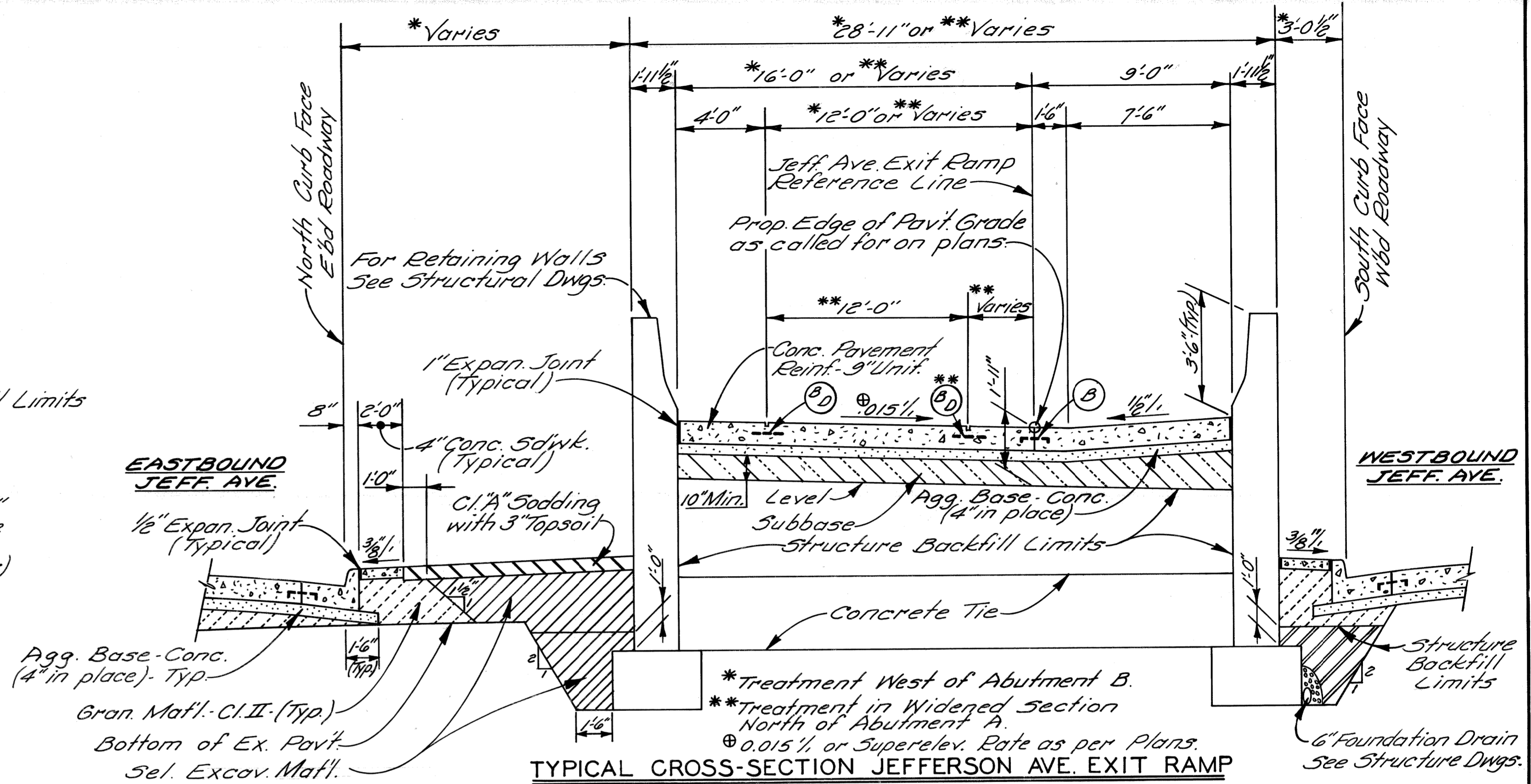


CONC. CURB - DETAIL "X"
 NO SCALE

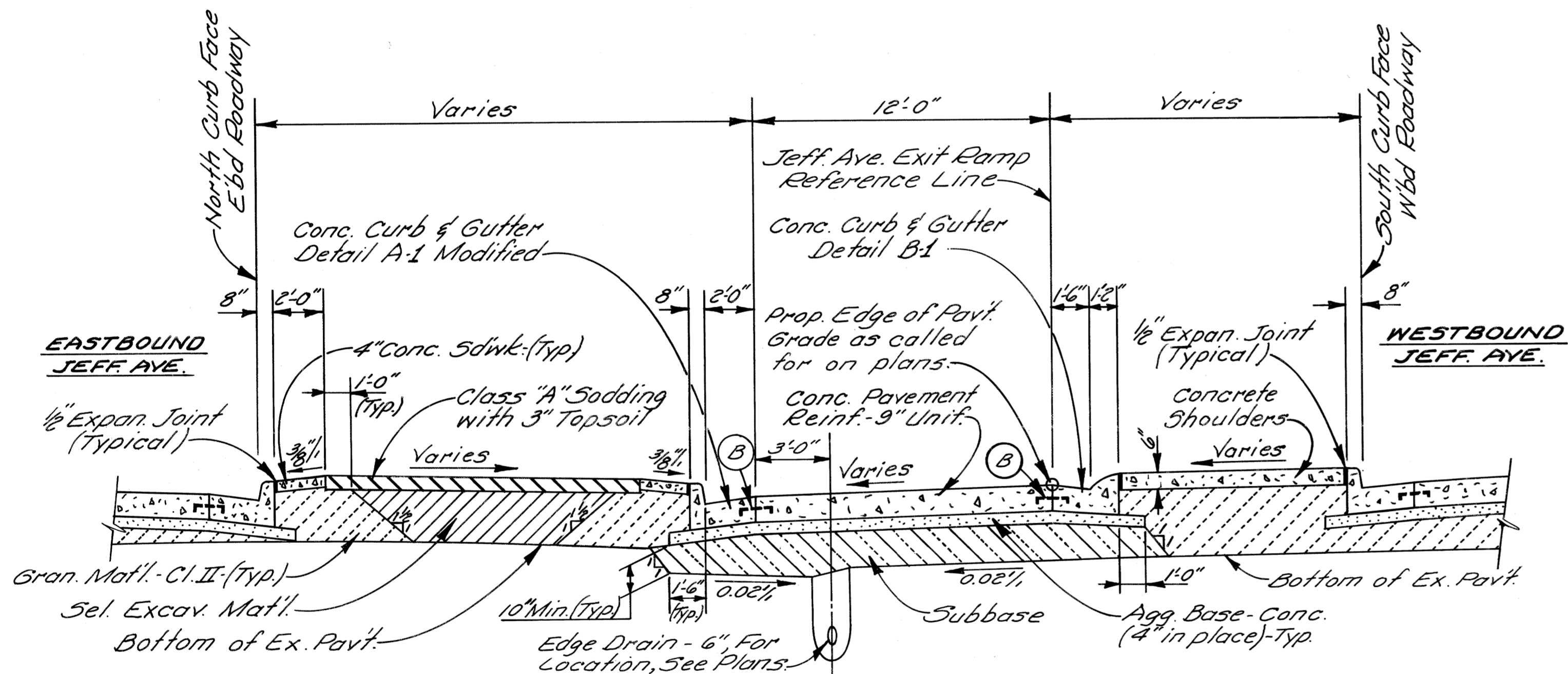
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<p>REVISIONS LOCATED BY COORDINATES ON SHEET</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Revised South Margin</td> <td>11/79</td> </tr> </tbody> </table>		NO.	REVISION	DATE	1	Revised South Margin	11/79			
NO.	REVISION	DATE								
1	Revised South Margin	11/79								



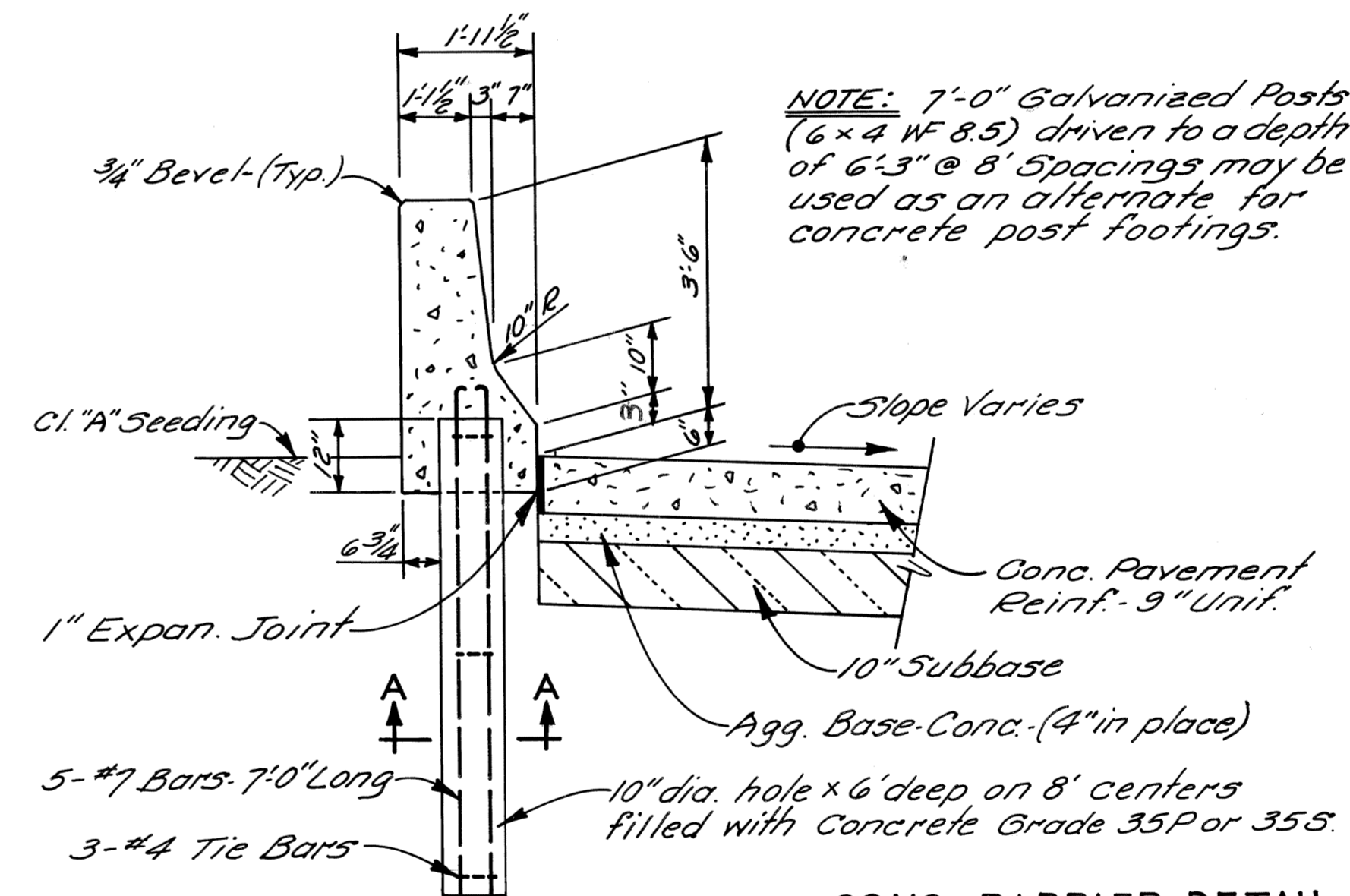
**TYPICAL CROSS-SECTION JEFFERSON AVE. EXIT RAMP
AT SBD J.C. LODGE FREEWAY**
NO SCALE



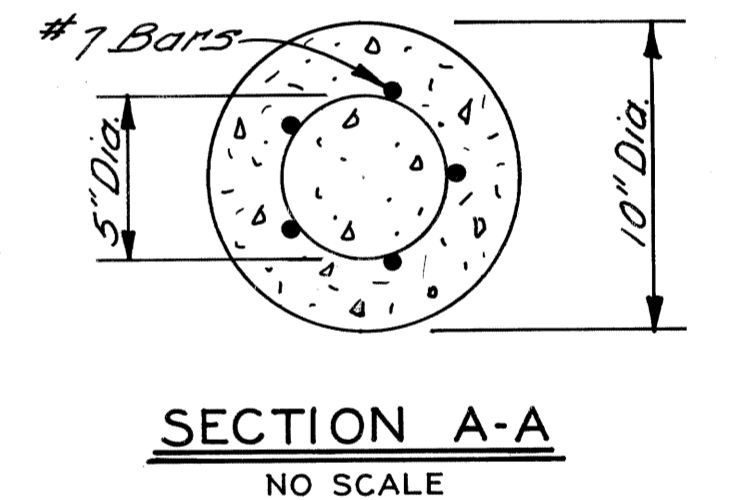
**TYPICAL CROSS-SECTION JEFFERSON AVE. EXIT RAMP
BETWEEN RETAINING WALLS**
NO SCALE



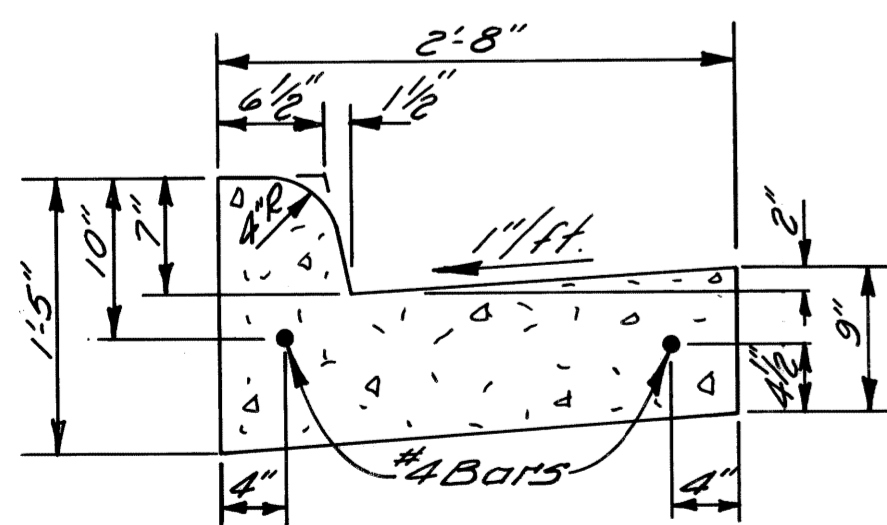
**TYPICAL CROSS-SECTION JEFFERSON AVE. EXIT RAMP
STA. 215+06.56 TO STA. 215+90.03**
NO SCALE



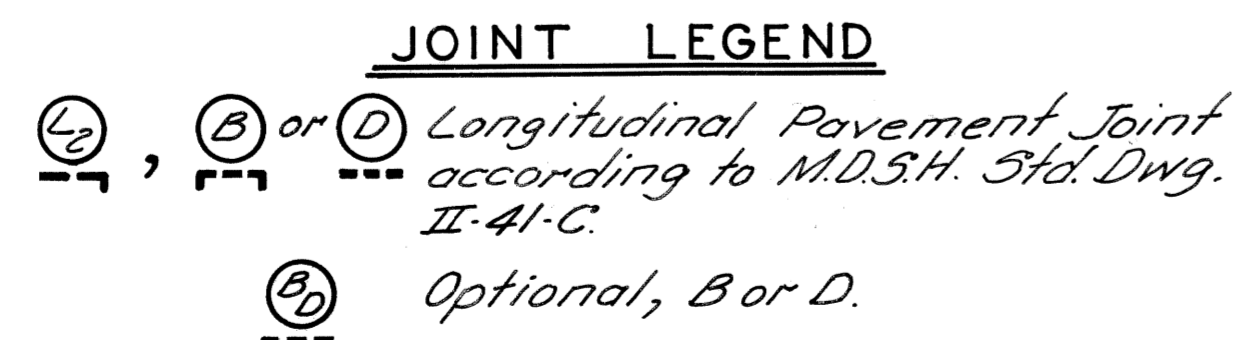
**CONC. BARRIER DETAIL "Z"
SECTION OF BARRIER WITH POST FOOTING**
NO SCALE



SECTION A-A
NO SCALE



**CONCRETE CURB & GUTTER
DETAIL A-1 MODIFIED**
NO SCALE



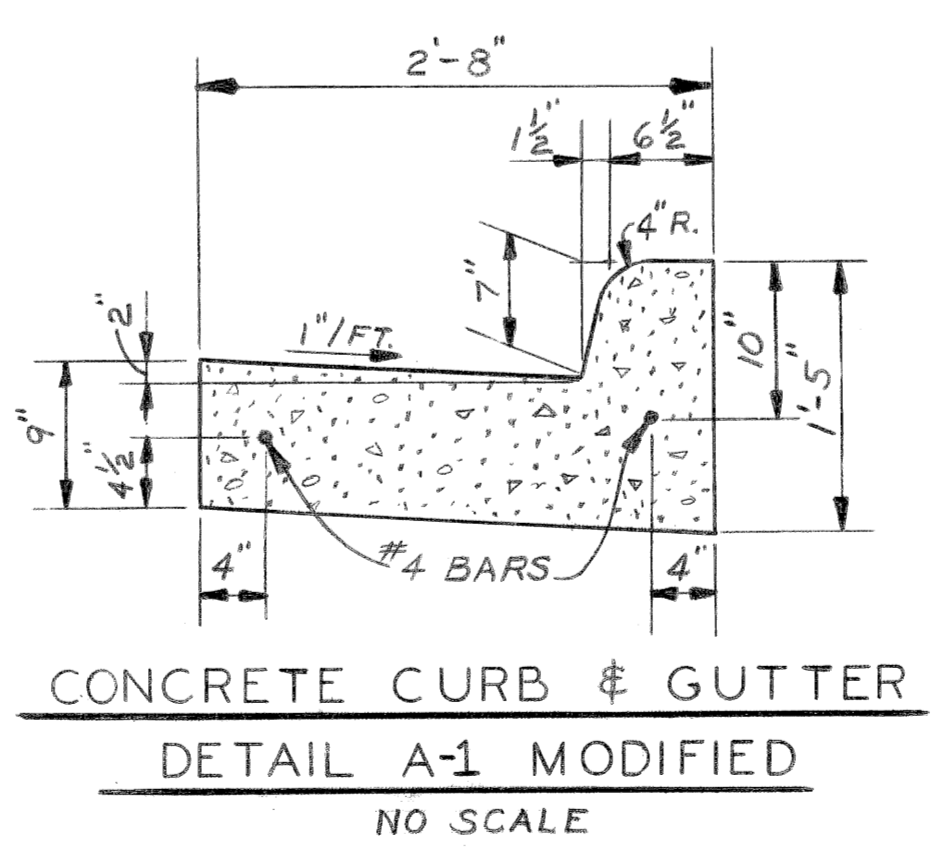
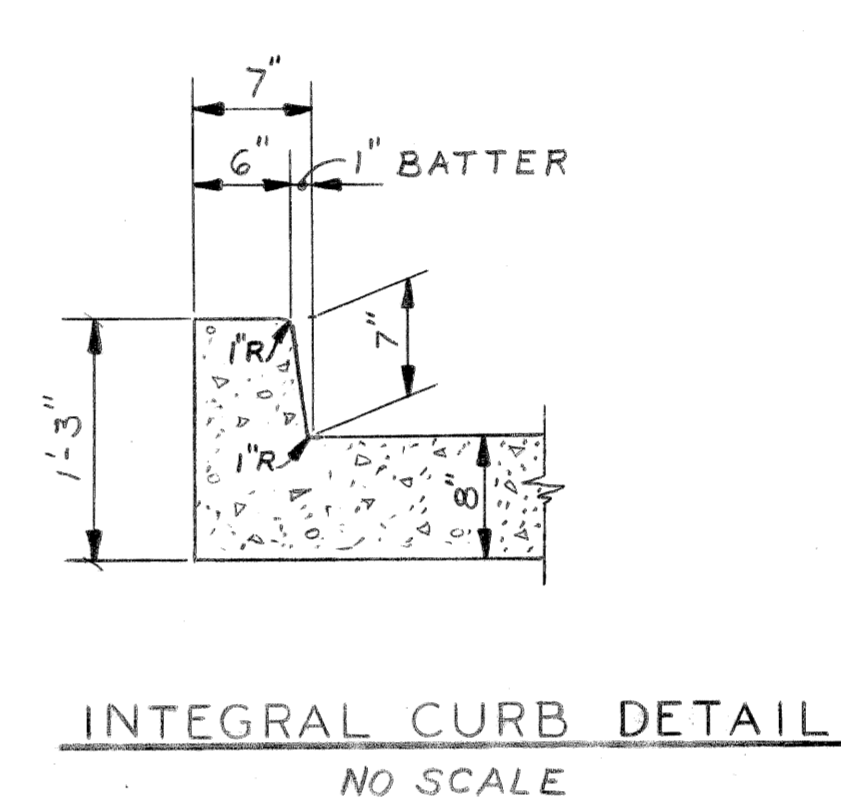
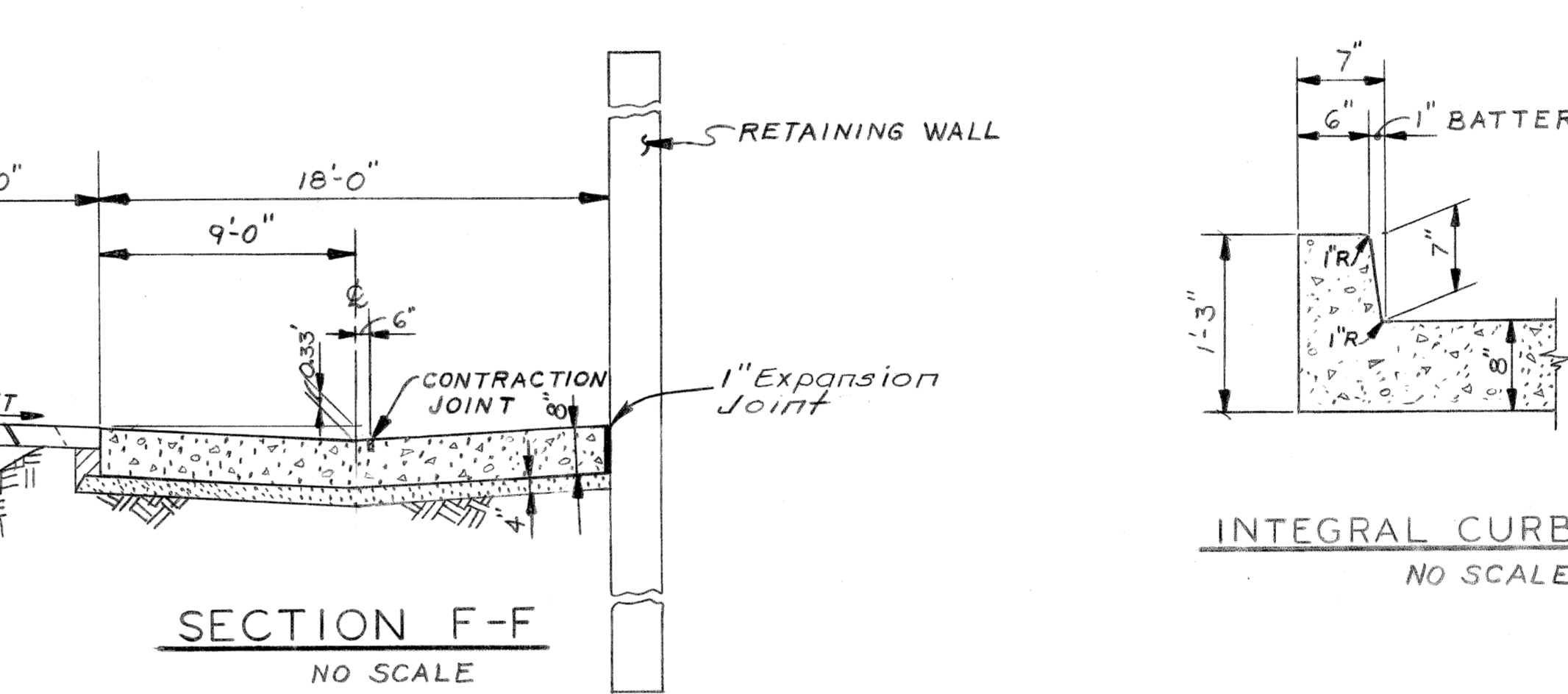
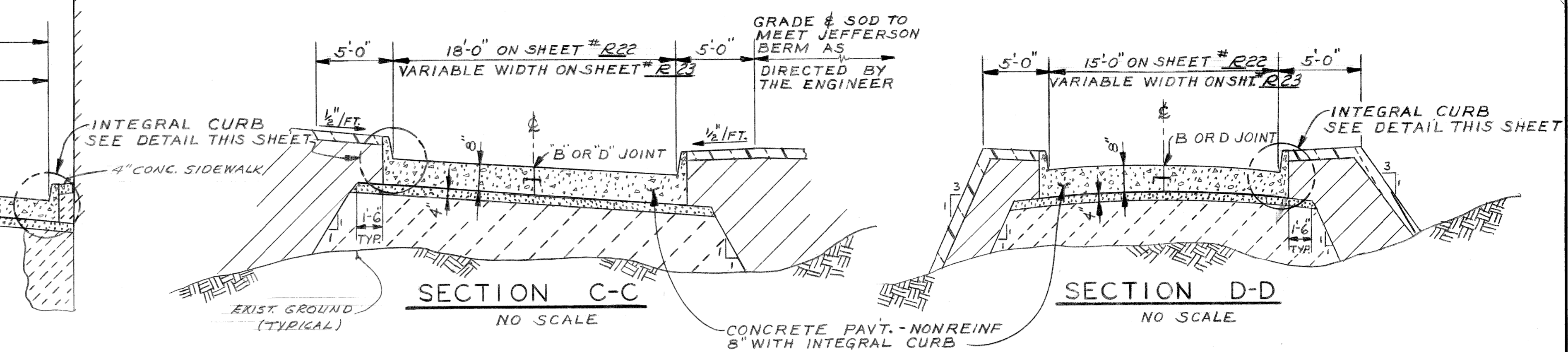
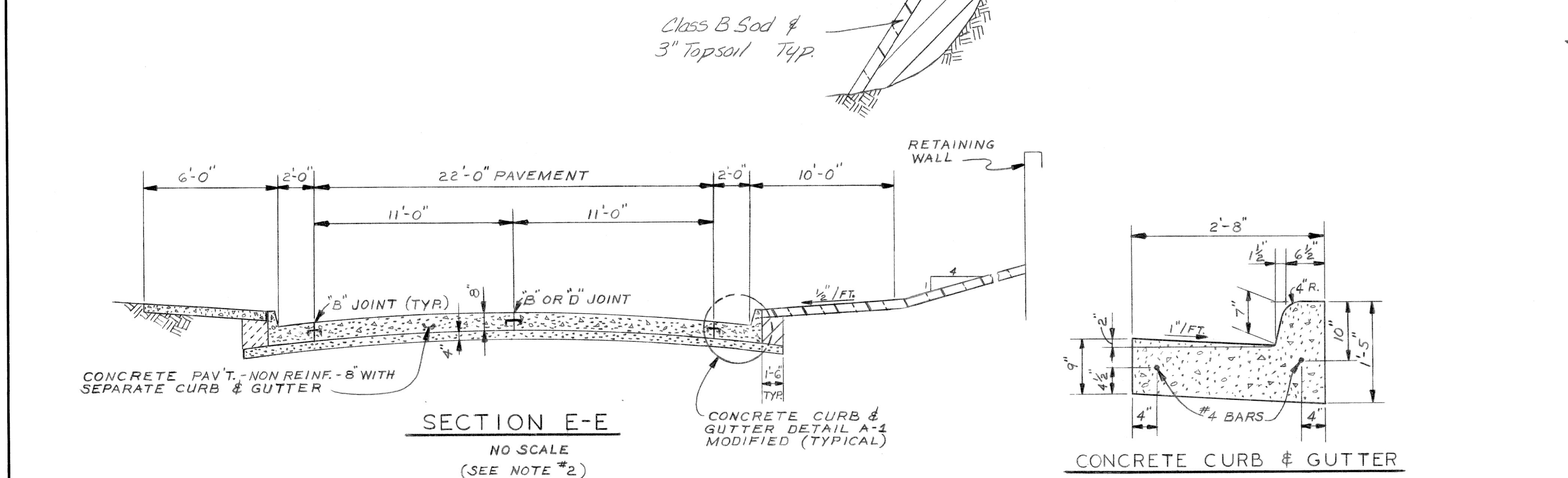
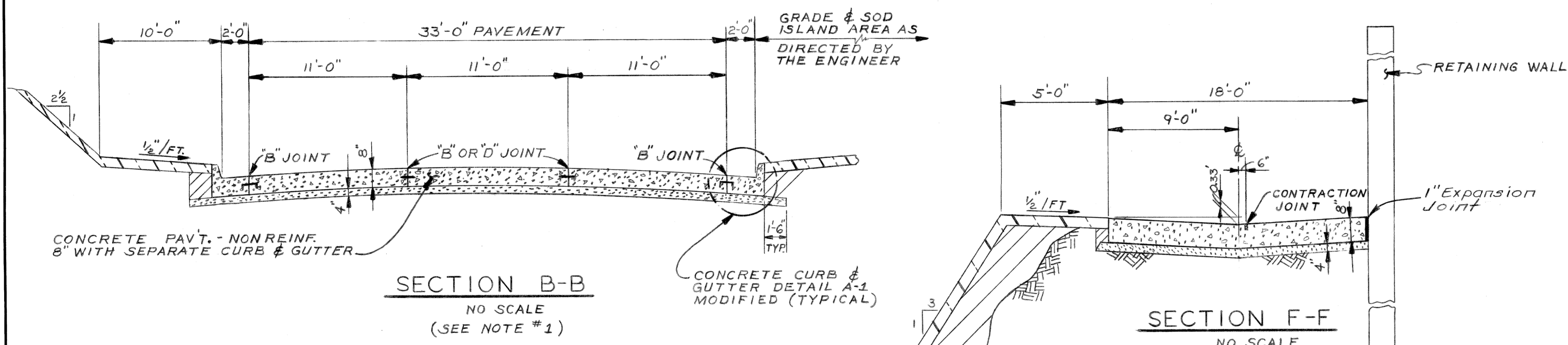
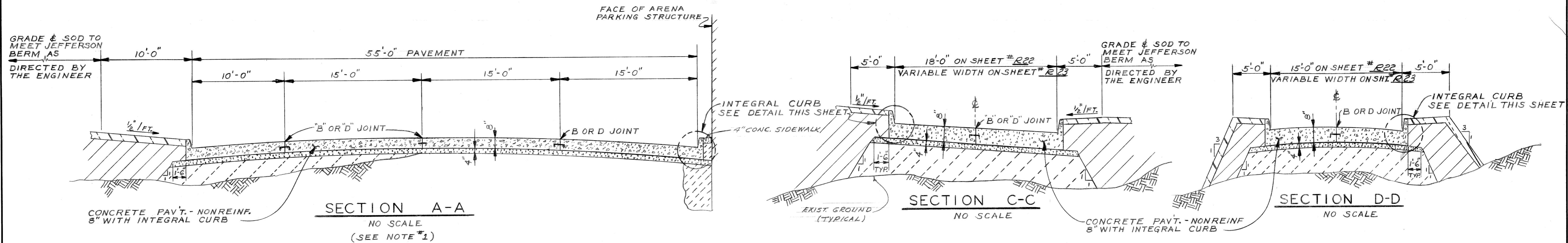
EARTHWORK LEGEND

- Granular Material - Class II
- Selected Excavated Mat'l., See Note #2.
- Conc. Pavement or Conc. Sidewalk
- Aggregate Base Concrete (4" in Place)
- Class "A" Sodding with 3" Topsoil
- Subbase

GENERAL NOTES

1. Backfill if required under proposed sidewalk and/or pavement shall be Granular Material Class II.
2. Selected Excavated Material is incidental to "Earth Excavation."

CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS				JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA				SHEET _____ OF _____ SHEETS CONTRACT NO. 16563A	
DESIGNED BY: _____ DRAWN BY: <i>MM</i> TRACED BY: _____ CHECKED BY: _____				APPROVED: _____ ENGINEER OF STREETS HIGHWAY ENGINEER				R-3 DATE 8-79	
COORD. DESCRIPTION DRN CKD APVD DATE REVISIONS LOCATED BY COORDINATES ON SHEET				TYPICAL CROSS-SECTIONS					



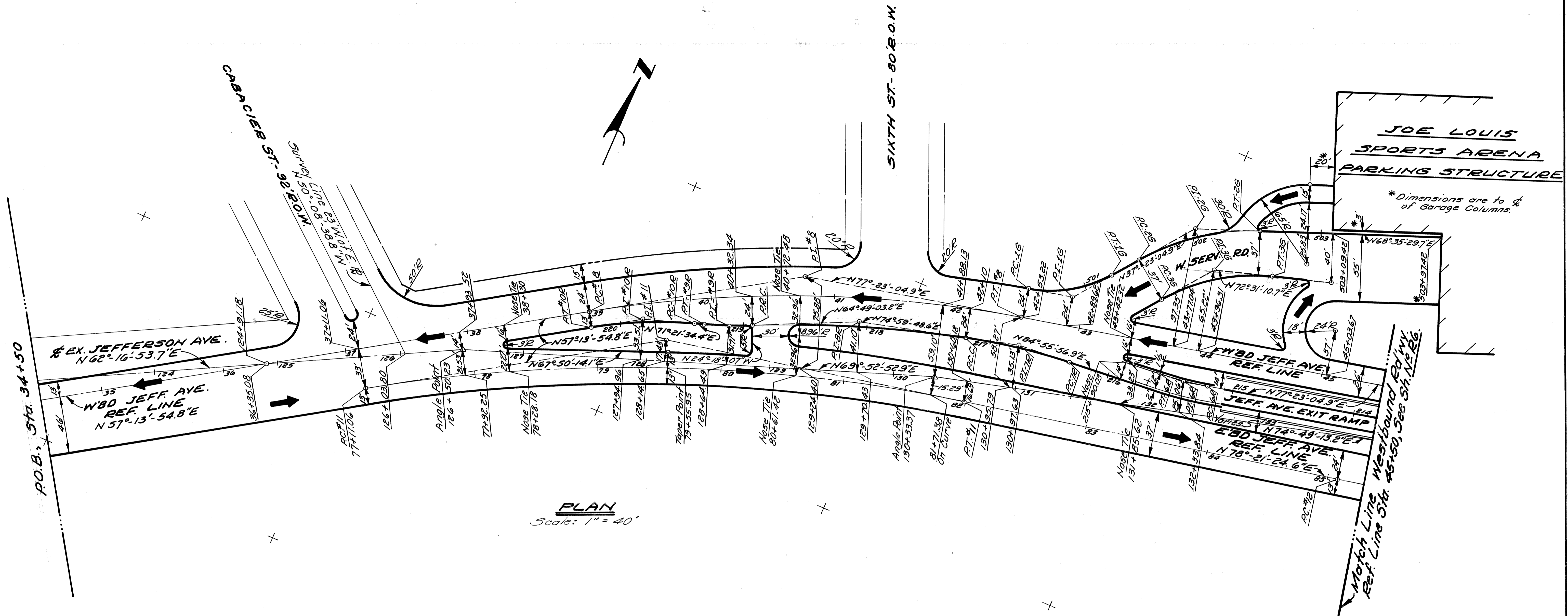
JOINT LEGEND

"B" OR "D" - LONGITUDINAL PAVEMENT JOINT ACCORDING TO M.D.S.H. STD. DRWG. II-41-C.
 "BD" - OPTIONAL, "B" OR "D"
 "C" - TRANSVERSE PAVEMENT CONTRACTION JOINT ACCORDING TO M.D.S.H. STD. DRWG. II-39-F
 "E" - TRANSVERSE PAVEMENT EXPANSION JOINT ACCORDING TO M.D.S.H. STD. DRWG. II-39-F

GENERAL NOTES:

- FOR ELEMENTS OF 55' AND 33' PAVEMENTS, SEE SHT. NO. R1.
- FOR ELEMENTS OF 22' PAVEMENT, SEE SHT. NO. R2.
- FOR EARTHWORK LEGEND, SEE SHT. NO. R2.

DESIGNED BY <i>Talley</i>		APPROVED: <i>Maim O'Lawley</i> ENGINEER OF STREETS		CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS	JOHN C LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA	SHEET _____ OF _____ SHEETS
DRAWN BY <i>R Rosik</i>		HIGHWAY ENGINEER				CONTRACT NO. 16563A
TRACED BY				SERVICE ROAD TYPICAL		R-4
CHECKED BY <i>WT</i>						DATE 8-79



PLAN
Scale: 1" = 40'

JEFFERSON AVE. CURVE DATA

Curve #8	Curve #11	Curve #12
$\Delta = 20^{\circ}09'10.1''$	$\Delta = 21^{\circ}07'29.9''$	$\Delta = 3^{\circ}32'11.5''$
$D = 5^{\circ}43'46.5''$	$D = 4^{\circ}19'50.7''$	$D = 3^{\circ}22'13.2''$
$R = 1000'$	$R = 1323'$	$R = 1700'$
$T = 177.70'$	$T = 246.70'$	$T = 52.48'$
$L = 351.73'$	$L = 487.79'$	$L = 104.93'$
$E = 15.67'$	$E = 22.80'$	$E = 0.81'$
$PC = 38+99.94$	$PC = 77+11.06$	$PC = 85+08.12$
$PI = 40+77.64$	$PI = 79+57.76$	$PI = 85+60.60$
$PT = 42+51.67$	$PT = 81+98.85$	$PT = 86+13.05$

JEFFERSON AVE. EXIT RAMP CURVE DATA

Curve #6R	Curve #7R	Curve #8R
$\Delta = 7^{\circ}32'52.0''$	$\Delta = 9^{\circ}56'08.3''$	$\Delta = 10^{\circ}10'45.4''$
$D = 19^{\circ}05'54.9''$	$D = 11^{\circ}25'48.6''$	$D = 5^{\circ}52'13.7''$
$R = 300'$	$R = 501.27'$	$R = 976'$
$T = 19.79'$	$T = 43.57'$	$T = 86.93'$
$L = 39.52'$	$L = 86.93'$	$L = 173.40'$
$E = 0.65'$	$E = 1.89'$	$E = 3.86'$
$PC = 215+20.52$	$PC = 216+32.54$	$PC = 217+19.47$
$PI = 215+40.31$	$PI = 216+76.11$	$PI = 218+06.40$
$PT = 215+60.04$	$PT = 217+19.47$	$PT = 218+92.87$

WEST GARAGE ACCESS RDWYS-CURVE DATA

Curve #16	Curve #26	Curve #36
$\Delta = 40^{\circ}00'00''$	$\Delta = 31^{\circ}12'24.8''$	$\Delta = 34^{\circ}19'55.2''$
$D = 57^{\circ}17'44.8''$	$D = 30^{\circ}38'22''$	$D = 38^{\circ}11'49.9''$
$R = 100'$	$R = 187'$	$R = 150'$
$T = 36.40'$	$T = 52.22'$	$T = 46.34'$
$L = 69.81'$	$L = 101.85'$	$L = 89.88'$
$E = 6.42'$	$E = 7.16'$	$E = 6.99'$
$PC = 500+53.22$	$PC = 501+48.53$	$PC =$
$PI = 500+89.62$	$PI = 502+00.75$	$PI =$
$PT = 501+23.03$	$PT = 502+50.38$	$PT =$

Curve #9R **Curve #10R**

$\Delta = 6^{\circ}32'31.2''$	$\Delta = 14^{\circ}07'39.6''$
$D = 16^{\circ}51'06.1''$	$D = 16^{\circ}51'06.1''$
$R = 340'$	$R = 340'$
$T = 19.43'$	$T = 42.13'$
$L = 38.82'$	$L = 83.84'$
$E = 0.55'$	$E = 2.60'$
$PC = 218+92.87$	$PC = 219+39.67'$
$PI = 219+12.30$	$PI = 219+81.80$
$PT = 219+31.69$	$PT = 220+23.51$

NOTES:
1. Roadway Lines shown are Face of Curb.

REFERENCE DRAWINGS DESIGNED BY DRAWN BY <i>Polito</i> TRACED BY CHECKED BY <i>Plater</i>				APPROVED: ENGINEER OF STREETS HIGHWAY ENGINEER		CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS FOR			JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA ALIGNMENT			SHEET ____ OF ____ SHEETS CONTRACT NO. 16563A R-5 DATE 8-79	
COORD	DESCRIPTION	DRN	CKD	APVD	DATE								
REVISIONS LOCATED BY COORDINATES ON SHEET													

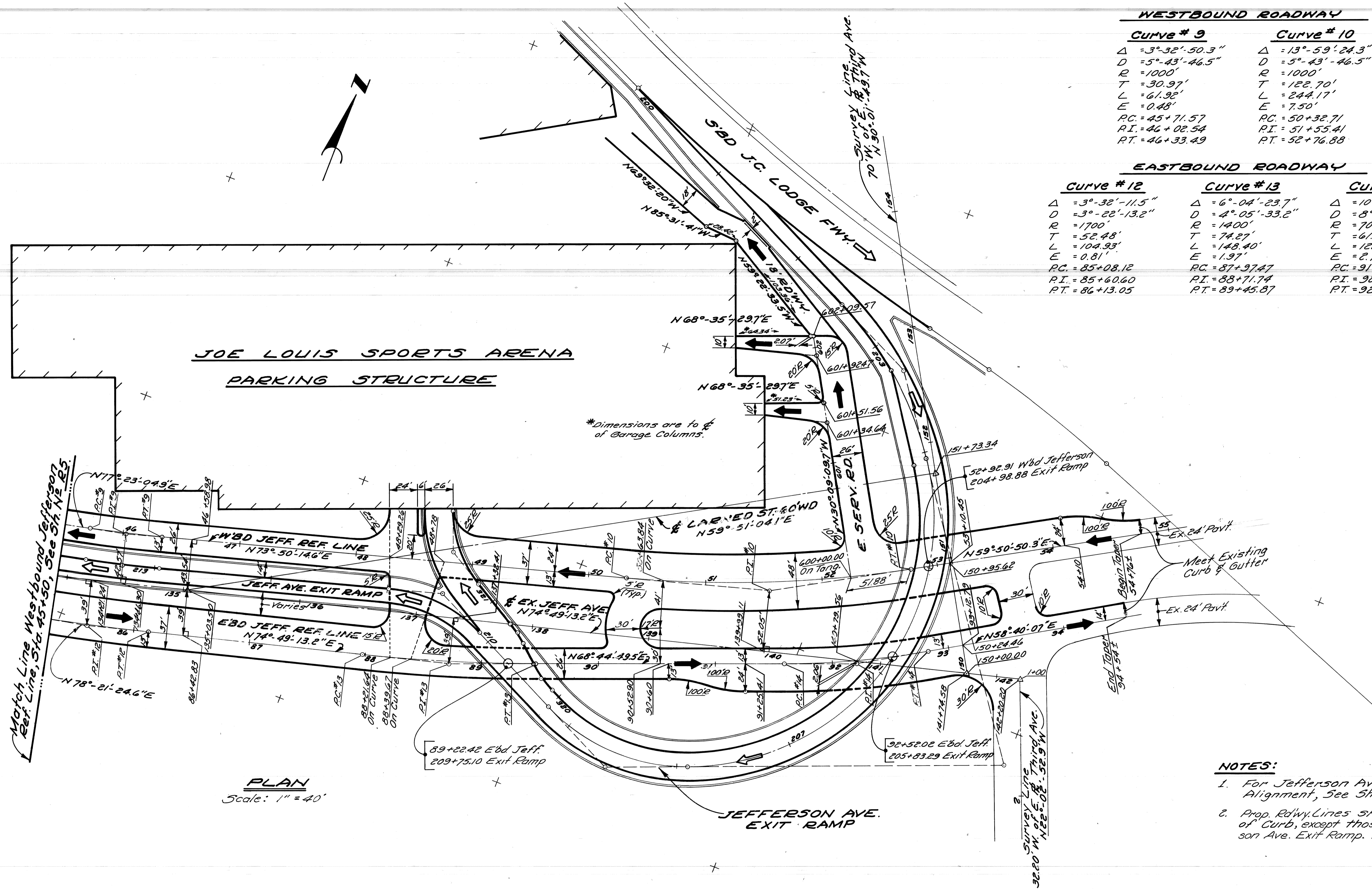
JEFFERSON AVE. CURVE DATA

WESTBOUND ROADWAY

Curve # 9	Curve # 10
$\Delta = 3^{\circ}32'50.3''$	$\Delta = 13^{\circ}59'24.3''$
$D = 5^{\circ}43'46.5''$	$D = 5^{\circ}43'46.5''$
$R = 1000'$	$R = 1000'$
$T = 30.97'$	$T = 122.70'$
$L = 61.92'$	$L = 244.17'$
$E = 0.48'$	$E = 7.50'$
$PC = 45+71.57$	$PC = 50+32.71$
$PI = 46+02.54$	$PI = 51+55.41$
$PT = 46+33.49$	$PT = 52+76.88$

EASTBOUND ROADWAY

Curve # 12	Curve # 13	Curve # 14
$\Delta = 3^{\circ}32'11.5''$	$\Delta = 6^{\circ}04'23.7''$	$\Delta = 10^{\circ}04'42.5''$
$D = 3^{\circ}22'13.2''$	$D = 4^{\circ}05'33.2''$	$D = 8^{\circ}11'06.4''$
$R = 1700'$	$R = 1400'$	$R = 700'$
$T = 52.48'$	$T = 74.27'$	$T = 61.73'$
$L = 104.93'$	$L = 148.40'$	$L = 123.13'$
$E = 0.81'$	$E = 1.97'$	$E = 2.72'$
$PC = 85+08.12$	$PC = 87+97.47$	$PC = 91+58.98$
$PI = 85+60.60$	$PI = 88+71.74$	$PI = 92+20.71$
$PT = 86+13.05$	$PT = 89+45.87$	$PT = 92+82.11$



PLAN
Scale: 1" = 40'

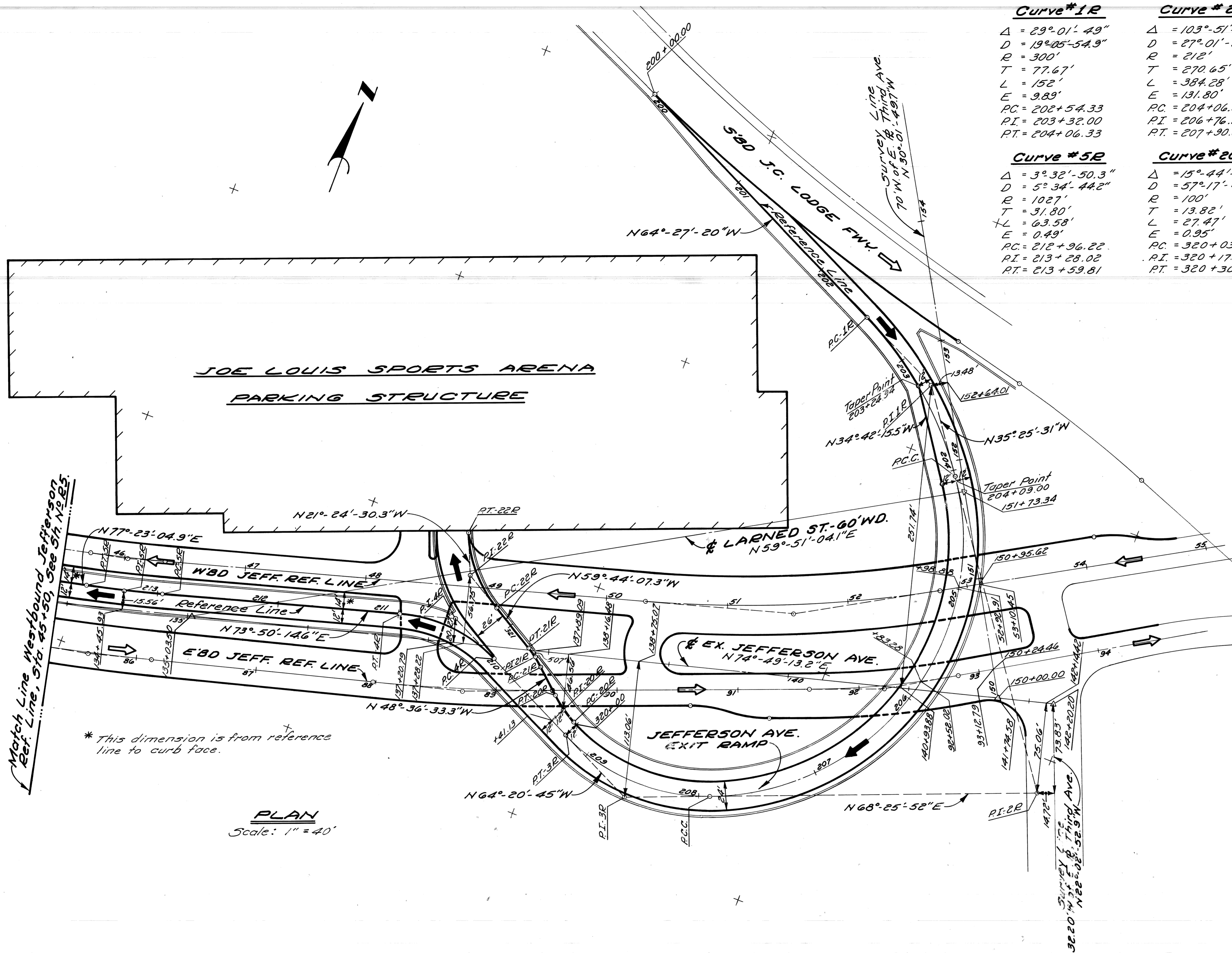
- NOTES:**
- For Jefferson Ave. Exit Ramp Alignment, See Sheet N° R7.
 - Prop. Rdwy. Lines shown are Face of Curb, except those referring to Jefferson Ave. Exit Ramp. These are joint lines.

REVISIONS LOCATED BY COORDINATES ON SHEET		REFERENCE DRAWINGS	DESIGNED BY	APPROVED:	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS			JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA			SHEET ____ OF ____ SHEETS
			DRAWN BY <i>Polito</i>	ENGINEER OF STREETS				ALIGNMENT JEFFERSON AVENUE			CONTRACT NO. 16563A
			TRACED BY	HIGHWAY ENGINEER							R-6
			CHECKED BY <i>Plater</i>								DATE 8-79

JEFFERSON AVE. EXIT RAMP CURVE DATA

Curve #1R	Curve #2R	Curve #3R	Curve #4R
$\Delta = 29^{\circ}01'49''$	$\Delta = 103^{\circ}51'23''$	$\Delta = 47^{\circ}13'23''$	$\Delta = 41^{\circ}49'00.4''$
$D = 19^{\circ}05'54.9''$	$D = 27^{\circ}01'34.7''$	$D = 35^{\circ}22'04.0''$	$D = 47^{\circ}44'47.3''$
$R = 300'$	$R = 212'$	$R = 162'$	$R = 120'$
$T = 77.67'$	$T = 270.65'$	$T = 70.81'$	$T = 45.84'$
$L = 152'$	$L = 384.28'$	$L = 133.52'$	$L = 87.58'$
$E = 9.89'$	$E = 131.80'$	$E = 14.80'$	$E = 8.46'$
$PC = 202+54.33$	$PC = 204+06.33$	$PC = 207+90.61$	$PC = 210+11.38$
$PI = 203+32.00$	$PI = 206+76.98$	$PI = 208+61.42$	$PI = 210+57.22$
$PT = 204+06.33$	$PT = 207+90.61$	$PT = 209+24.13$	$PT = 210+98.96$

Curve #5R	Curve #20R	Curve #21R	Curve #22R
$\Delta = 3^{\circ}32'50.3''$	$\Delta = 15^{\circ}44'11.7''$	$\Delta = 11^{\circ}07'34''$	$\Delta = 38^{\circ}19'37''$
$D = 5^{\circ}34'44.2''$	$D = 57^{\circ}17'44.8''$	$D = 57^{\circ}17'44.8''$	$D = 57^{\circ}17'44.8''$
$R = 1027'$	$R = 100'$	$R = 100'$	$R = 100'$
$T = 31.80'$	$T = 13.82'$	$T = 9.74'$	$T = 34.75'$
$L = 63.58'$	$L = 27.47'$	$L = 19.42'$	$L = 66.89'$
$E = 0.49'$	$E = 0.95'$	$E = 0.47'$	$E = 5.87'$
$PC = 212+96.22$	$PC = 320+03.18$	$PC = 320+56.80$	$PC = 321+18.48$
$PI = 213+28.02$	$PI = 320+17.00$	$PI = 320+66.54$	$PI = 321+53.23$
$PT = 213+59.81$	$PT = 320+30.65$	$PT = 320+76.22$	$PT = 321+85.37$

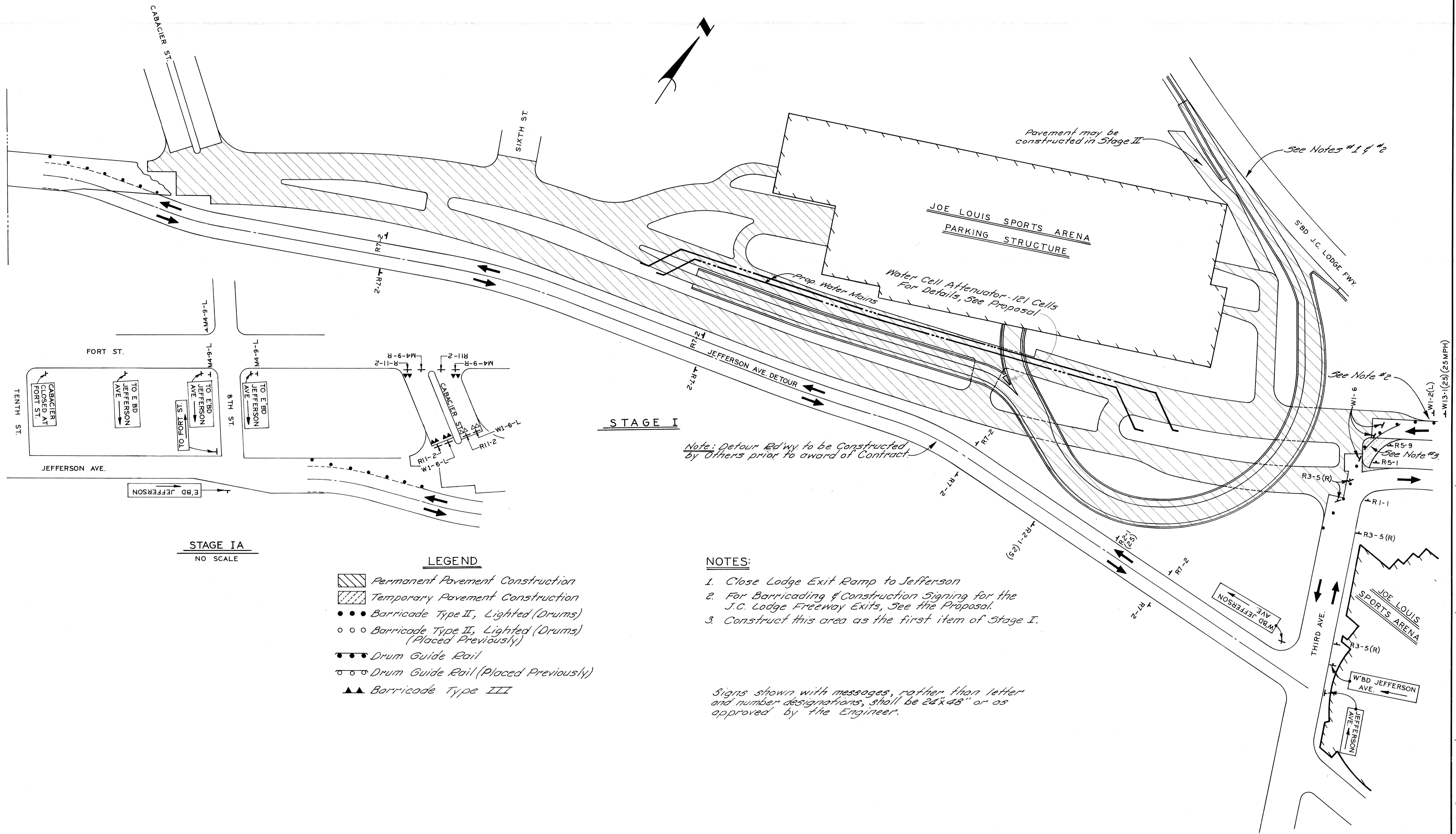


* This dimension is from reference line to curb face.

PLAN
Scale: 1" = 40'

- NOTES:**
1. For Jefferson Ave. Alignment & East Service Rd, See Sh. N° R6.
 2. Prop. Rd'wy. Lines shown are Face of Curb, except those referring to Jefferson Ave. Exit Ramp. These are Joint Lines.

REVISIONS LOCATED BY COORDINATES ON SHEET COOR'D DESCRIPTION DRN CK'D AP'VD DATE		APPROVED: ENGINEER OF STREETS HIGHWAY ENGINEER	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS	JOHN C. LODGE EXIT RAMP & JEFFERSON AVE RECONSTRUCTION AT THE JOE LOUIS ARENA ALIGNMENT JEFFERSON AVE. EXIT RAMP	SHEET ___ OF ___ SHEETS CONTRACT NO. 16563A R-7 DATE 8-79
DESIGNED BY	POLITO				
DRAWN BY					
TRACED BY					
CHECKED BY	Plater				



STAGE I

Note: Detour Rdwy to be Constructed by Others prior to award of Contract.

NOTES:

1. Close Lodge Exit Ramp to Jefferson
2. For Barricading & Construction Signing for the J.C. Lodge Freeway Exits, See the Proposal.
3. Construct this area as the first item of Stage I.

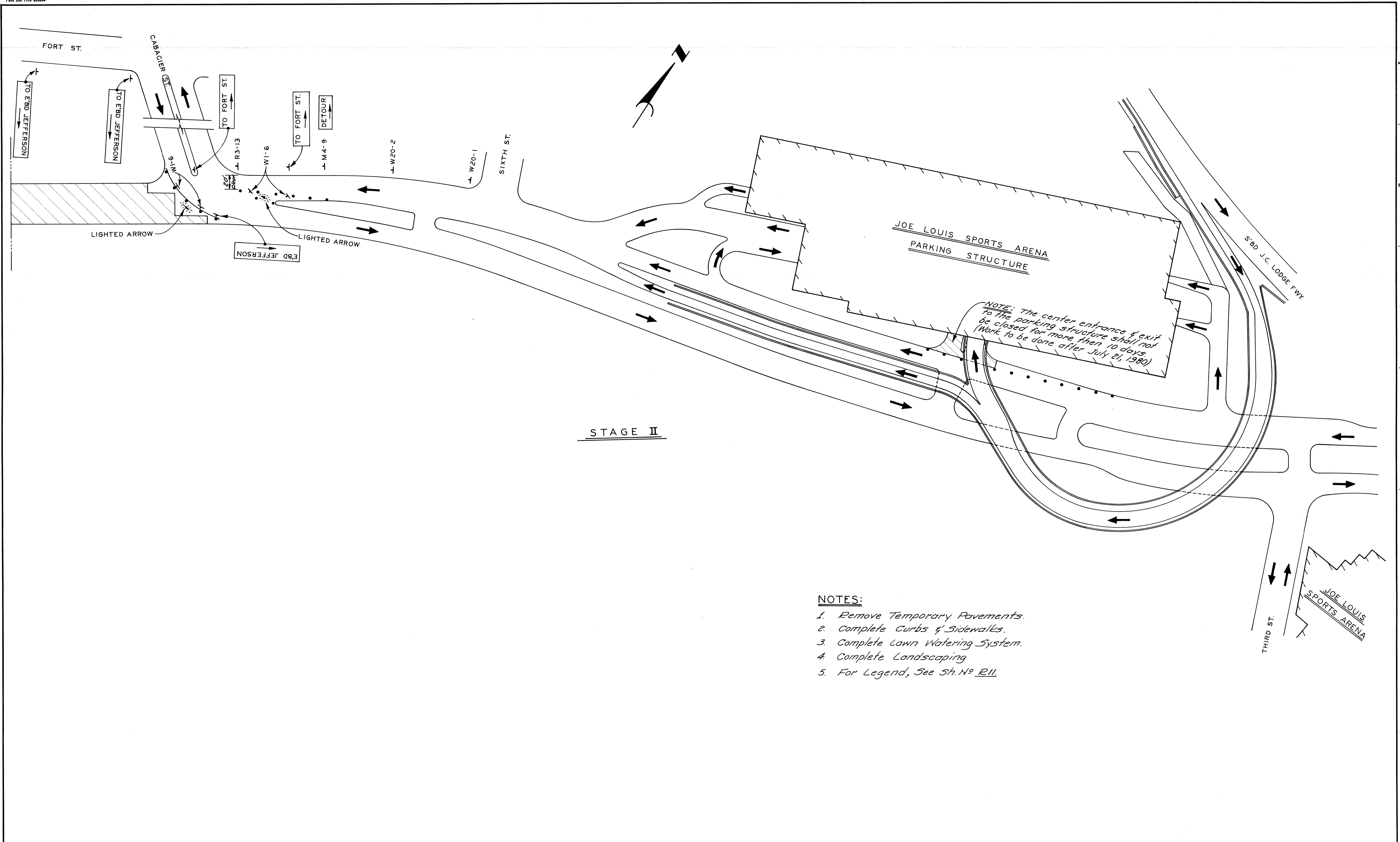
Signs shown with messages, rather than letter and number designations, shall be 24"x48" or as approved by the Engineer.

STAGE IA
NO SCALE

LEGEND

- Permanent Pavement Construction
- Temporary Pavement Construction
- Barricade Type II, Lighted (Drums)
- Barricade Type II, Lighted (Drums) (Placed Previously)
- Drum Guide Rail
- Drum Guide Rail (Placed Previously)
- Barricade Type III

<p>SCALE: 1" = 60'</p>				<p>SHEET _____ OF _____ SHEETS</p>	
<p>CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS</p>				<p>JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA</p>	
<p>CONSTRUCTION SEQUENCE - STAGE I</p>				<p>CONTRACT NO. 16563A R-11 DATE 8 - 79</p>	
<p>DESIGNED BY</p>	<p>DRAWN BY <i>MAP</i></p>	<p>TRACED BY</p>	<p>CHECKED BY</p>	<p>APPROVED:</p> <p>ENGINEER OF STREETS</p> <p>HIGHWAY ENGINEER</p>	
<p>REVISIONS LOCATED BY COORDINATES ON SHEET</p>					



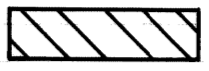

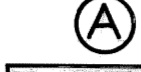


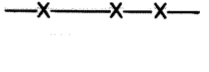
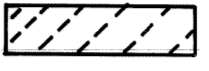
STAGE II

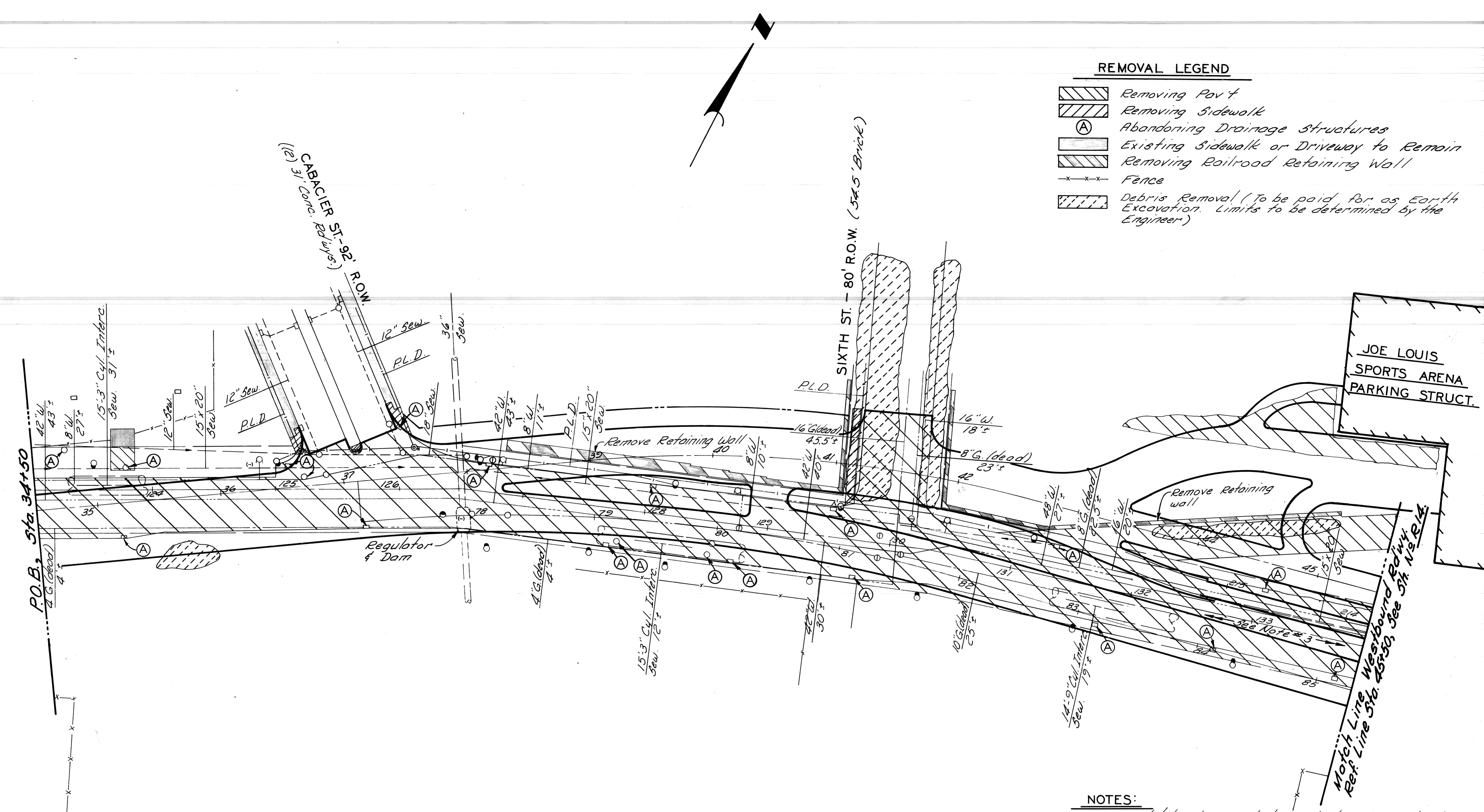
NOTES:

1. Remove Temporary Pavements.
2. Complete Curbs & Sidewalks.
3. Complete Lawn Watering System.
4. Complete Landscaping
5. For Legend, See Sh. No. R11.

CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS				JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA CONSTRUCTION SEQUENCE - STAGE II				SCALE: 1" = 60' SHEET ___ OF ___ SHEETS CONTRACT NO. 16563A R-12 DATE 8-79	
REFERENCE DRAWINGS		DESIGNED BY	APPROVED:						
		DRAWN BY <i>MAB</i>	ENGINEER OF STREETS						
		TRACED BY	HIGHWAY ENGINEER						
		CHECKED BY							
COORD'D	DESCRIPTION	DRN	CK'D	AP'VD	DATE				
REVISIONS LOCATED BY COORDINATES ON SHEET									

REMOVAL LEGEND

-  Removing Pavt
-  Removing Sidewalk
-  Abandoning Drainage Structures
-  Existing Sidewalk or Driveway to Remain
-  Removing Railroad Retaining Wall
-  Fence
-  Debris Removal (To be paid for as Earth Excavation. Limits to be determined by the Engineer)

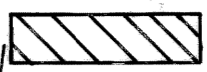
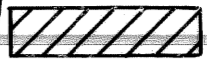



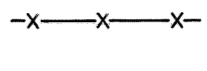
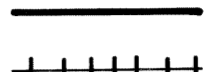
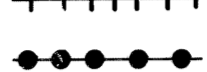
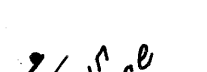
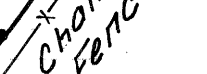


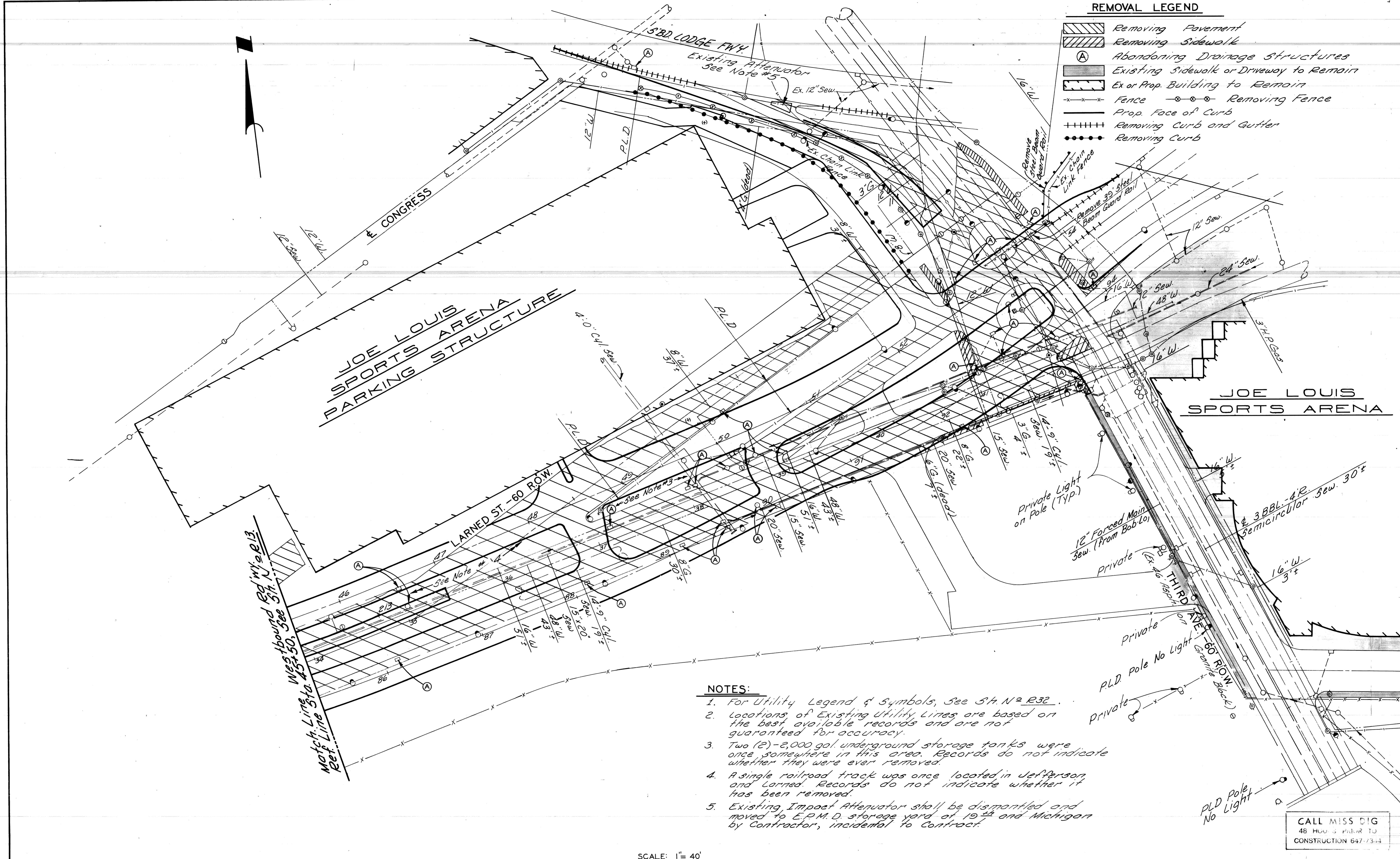
- NOTES:**
1. For Utility Legend & Symbols, See Sh. No. R-32.
 2. Locations of Existing Utility Lines are based on the best available records and are not guaranteed for accuracy.
 3. A single railroad track was once located in Jefferson and Larned. Records do not indicate whether it has been removed.

SCALE: 1"=40'

					<p>CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS</p>	<p>JOHN C LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA</p>	SHEET ____ OF ____ SHEETS CONTRACT NO. 16563A R-13 DATE 8-79							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	DESCRIPTION				REFERENCE DRAWINGS DESIGNED BY DRAWN BY TRACED BY CHECKED BY	APPROVED: ENGINEER OF STREETS HIGHWAY ENGINEER	REVISIONS LOCATED BY COORDINATES ON SHEET				REMOVALS STA. 34+50 TO STA. 45+00	
NO.	DATE	DESCRIPTION												

REMOVAL LEGEND

-  Removing Pavement
-  Removing Sidewalk
-  Abandoning Drainage Structures
-  Existing Sidewalk or Driveway to Remain
-  Ex or Prop. Building to Remain
-  Fence
-  Removing Fence
-  Prop. Face of Curb
-  Removing Curb and Gutter
-  Removing Curb



NOTES:

1. For Utility Legend & Symbols, See 574 N^o R32.
2. Locations of Existing Utility Lines are based on the best available records and are not guaranteed for accuracy.
3. Two (2) - 2,000 gal. underground storage tanks were once somewhere in this area. Records do not indicate whether they were ever removed.
4. A single railroad track was once located in Jefferson and Larned. Records do not indicate whether it has been removed.
5. Existing Impact Attenuator shall be dismantled and moved to E.P.M.D. storage yard at 19th and Michigan by Contractor, incidental to Contract.

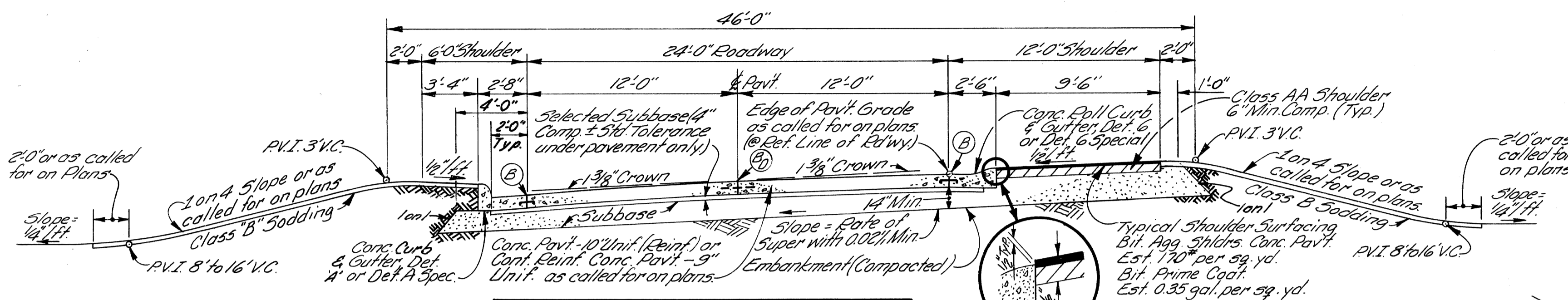
SCALE: 1" = 40'

CALL MISS DIG
48 HOURS PRIOR TO
CONSTRUCTION 647-7344

<table border="1"> <tr> <td>COORD.</td> <td>DESCRIPTION</td> <td>DRN</td> <td>CK'D</td> <td>APVD</td> <td>DATE</td> </tr> <tr> <td colspan="6">REVISIONS LOCATED BY COORDINATES ON SHEET</td> </tr> </table>		COORD.	DESCRIPTION	DRN	CK'D	APVD	DATE	REVISIONS LOCATED BY COORDINATES ON SHEET						<table border="1"> <tr> <td>REFERENCE DRAWINGS</td> <td>DESIGNED BY</td> <td>APPROVED:</td> </tr> <tr> <td></td> <td></td> <td>ENGINEER OF STREETS</td> </tr> <tr> <td></td> <td>DRAWN BY</td> <td>HIGHWAY ENGINEER</td> </tr> <tr> <td></td> <td>TRACED BY</td> <td></td> </tr> <tr> <td></td> <td>CHECKED BY</td> <td></td> </tr> </table>	REFERENCE DRAWINGS	DESIGNED BY	APPROVED:			ENGINEER OF STREETS		DRAWN BY	HIGHWAY ENGINEER		TRACED BY			CHECKED BY		<p align="center">CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS</p>	<p align="center">JOHN C LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA REMOVALS E'BD. & W'BD. JEFFERSON STA. 45+50 W'BD. JEFF. TO THIRD</p>	<table border="1"> <tr> <td>SHEET</td> <td>OF</td> <td>SHEETS</td> </tr> <tr> <td>CONTRACT NO.</td> <td colspan="2">16563A</td> </tr> <tr> <td></td> <td colspan="2">R-14</td> </tr> <tr> <td>DATE</td> <td colspan="2">8-79</td> </tr> </table>	SHEET	OF	SHEETS	CONTRACT NO.	16563A			R-14		DATE	8-79	
COORD.	DESCRIPTION	DRN	CK'D	APVD	DATE																																							
REVISIONS LOCATED BY COORDINATES ON SHEET																																												
REFERENCE DRAWINGS	DESIGNED BY	APPROVED:																																										
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SHEET	OF	SHEETS																																										
CONTRACT NO.	16563A																																											
	R-14																																											
DATE	8-79																																											

TYPICAL CROSS-SECTIONS

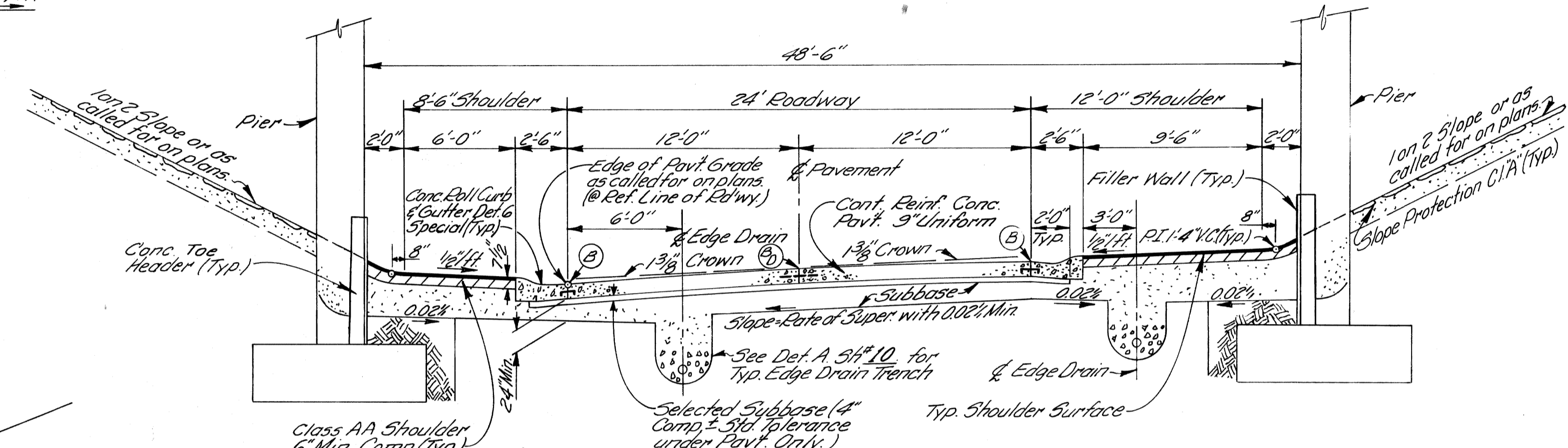
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
5-96	8214-002	Wayne	2011	9	



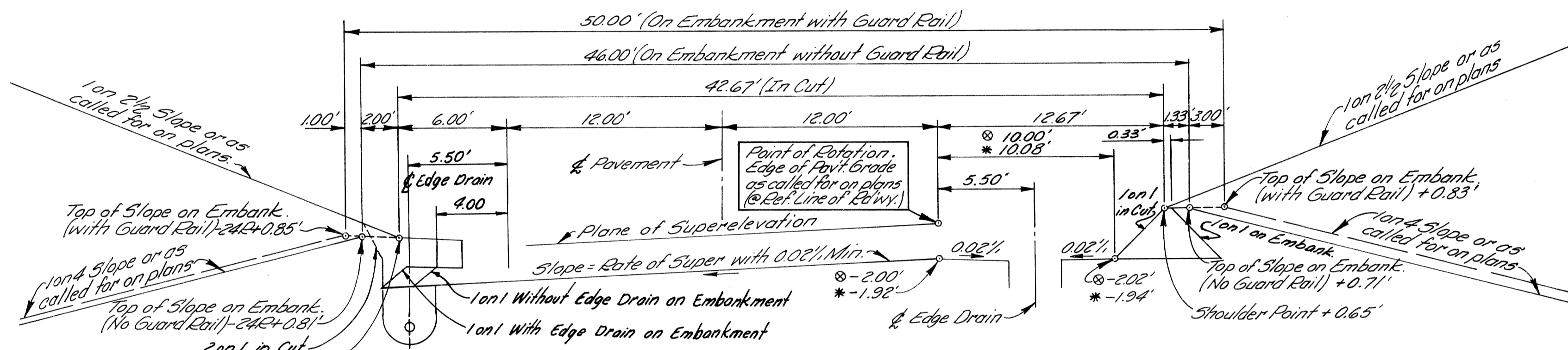
Note: When Guard Rail is called for on plans the location shall be as shown in section below.

24' ROADWAY ON EMBANKMENT

DETAIL OF SHOULDER WITH EDGE DRAIN ON EMBANKMENT

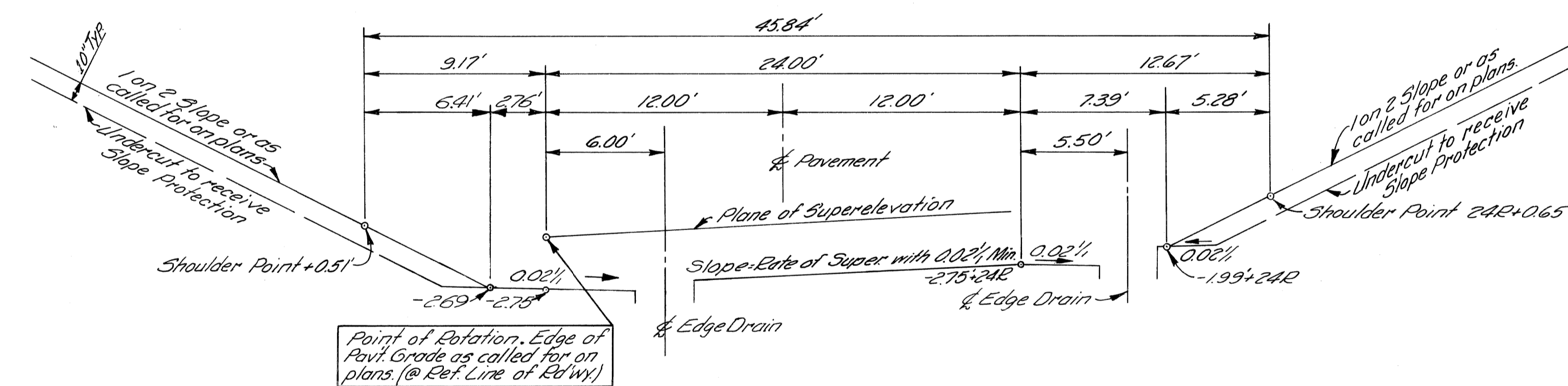


24' SUPERELEVATED ROADWAY UNDER STRUCTURES

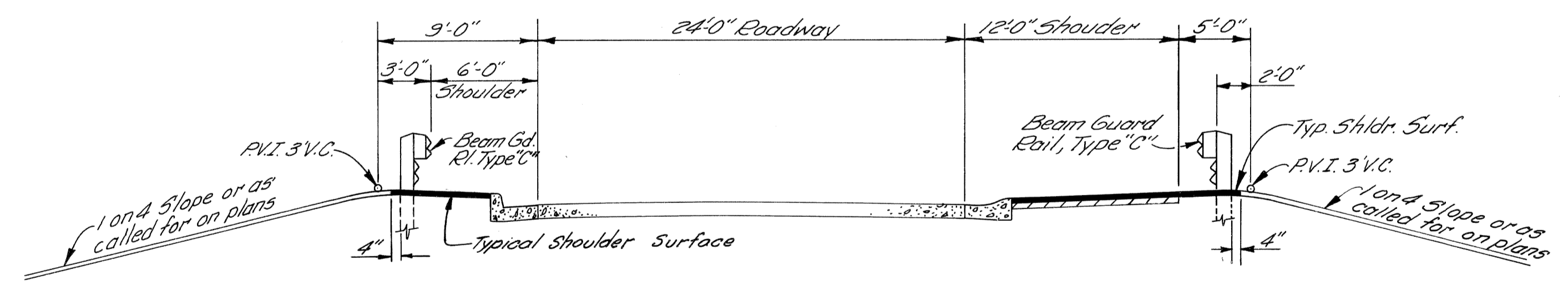


GRADING FOR SUPERELEVATED 24' ROADWAY (S. COLL. DISTRIBUTOR ROADWAY)

LEGEND
 ⊙ Use with 10" Pavement
 * Use with 9" Pavement



GRADING FOR SUPERELEVATED 24' ROADWAY UNDER STRUCTURES

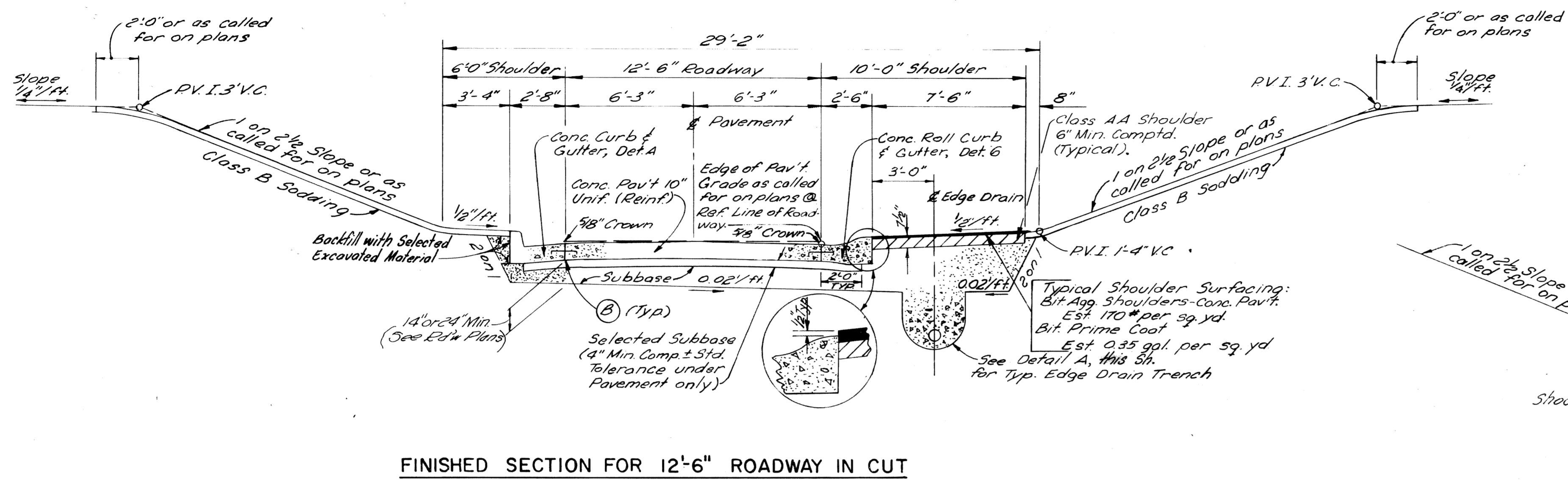


BEAM GUARD RAIL INSTALLATION FOR 24' ROADWAY ON EMBANKMENT

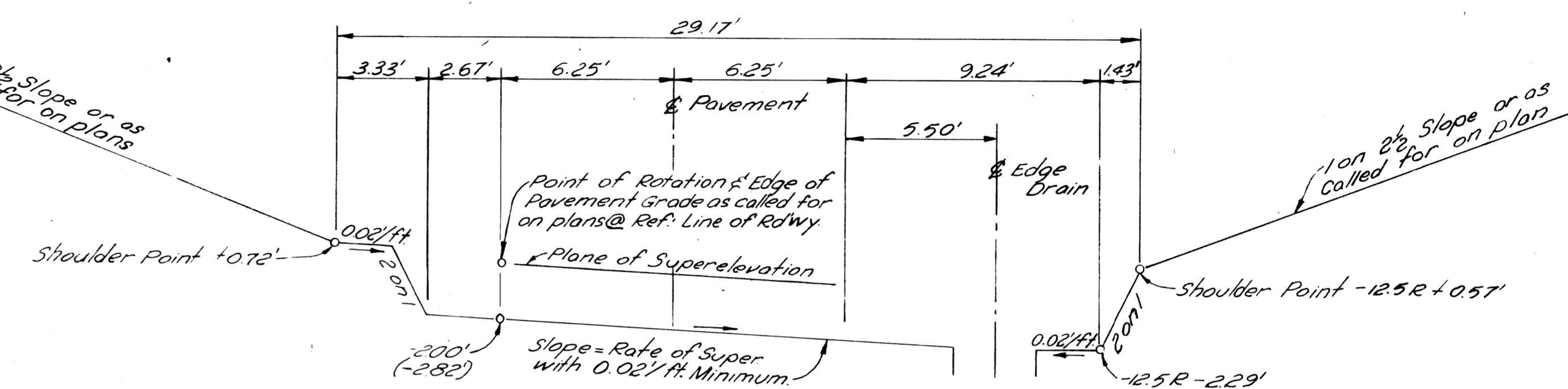
- GENERAL NOTES:**
1. For Joint Legend, See Sht. # 11.
 2. Class A Slopes are required on this project.
 3. Symbol (E) denotes rate of Super-elevation.
 4. (+) and/or (-) numbers of grading points denote distances above or below Edge of Pavement Grade.

TYPICAL CROSS-SECTIONS

D.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
1-96	82124-002	Wayne	Detroit	10	

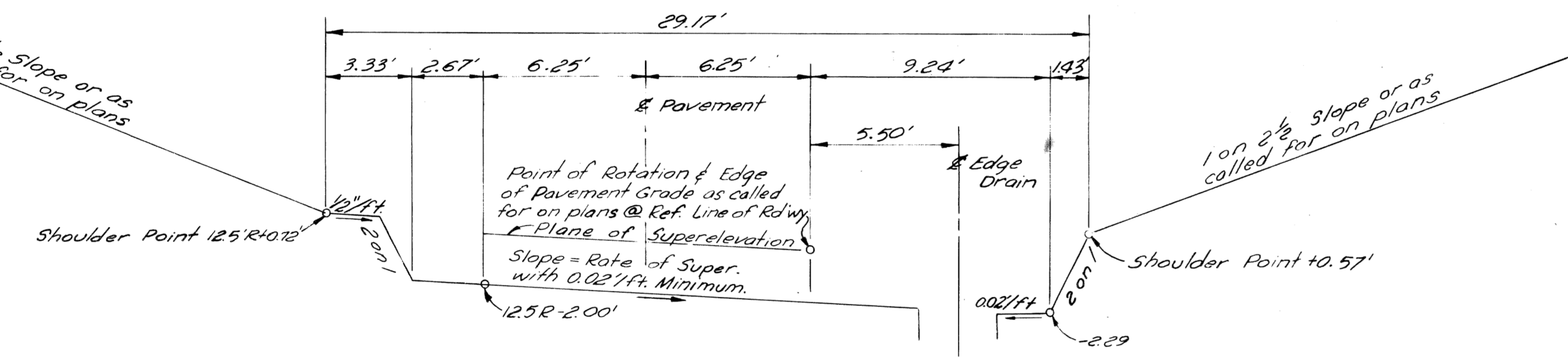


FINISHED SECTION FOR 12'-6" ROADWAY IN CUT



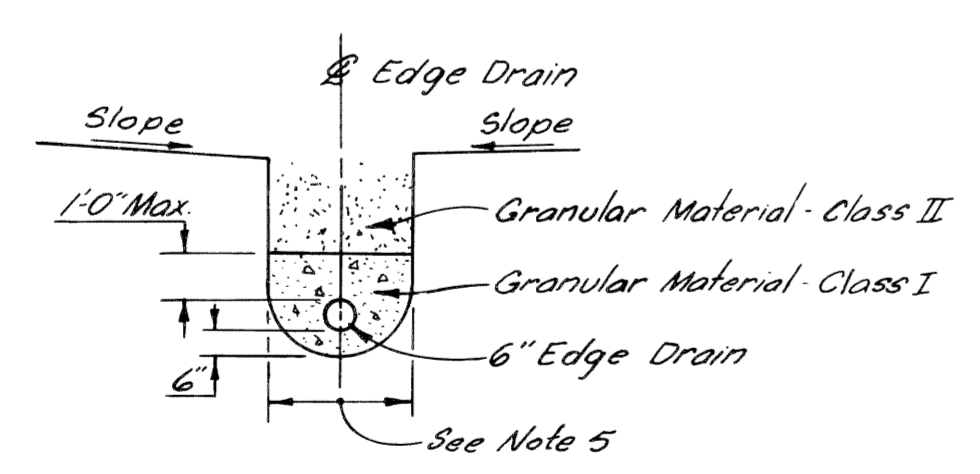
GRADING FOR SUPERELEVATED 12'-6" ROADWAY IN CUT
(WITH REF. LINE ON LEFT & TURNING TO RIGHT)

Note: This Section is also Normal Grading Section when Rate of Super. equals zero. Numbers shown within () refer to areas requiring 10" additional subbase as shown on Plans.

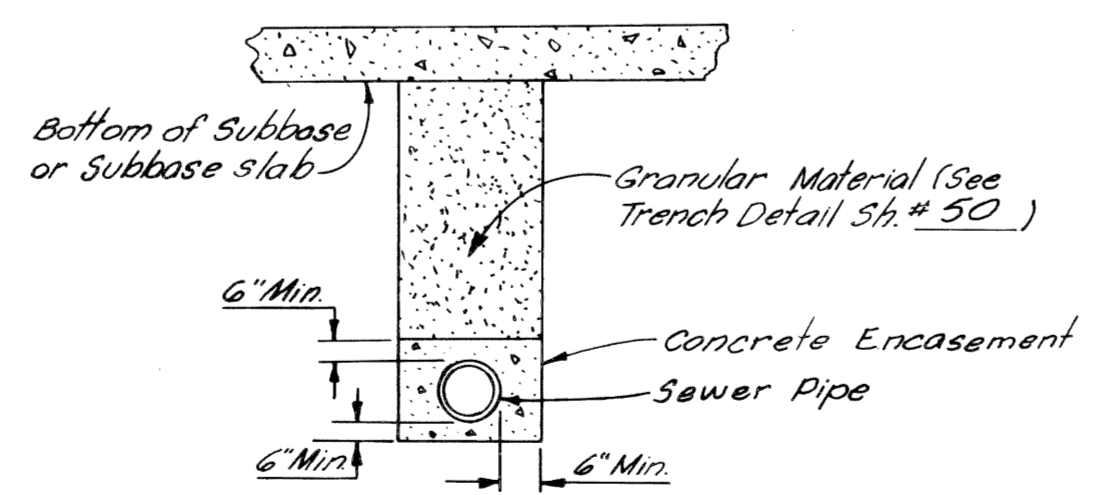


GRADING FOR SUPERELEVATED 12'-6" ROADWAY IN CUT
(WITH REF. LINE ON RIGHT & TURNING TO RIGHT)

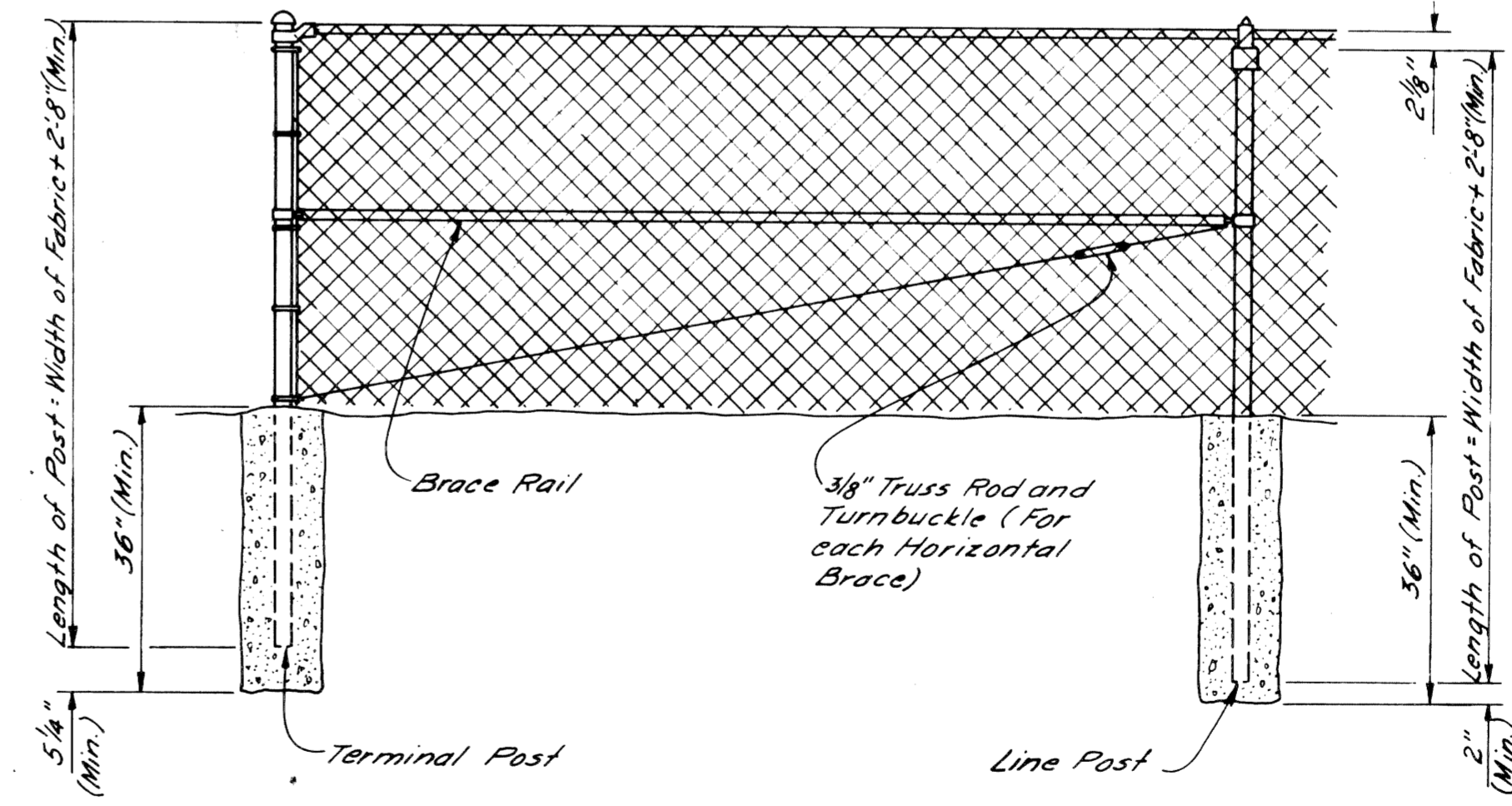
Note: This Section is also Normal Grading Section when Rate of Super. equals zero.



DETAIL A
EDGE DRAIN TRENCH



DETAIL B
ENCASED SEWER TRENCH



POST INSTALLATION AND BRACING FOR CHAIN LINK FENCE

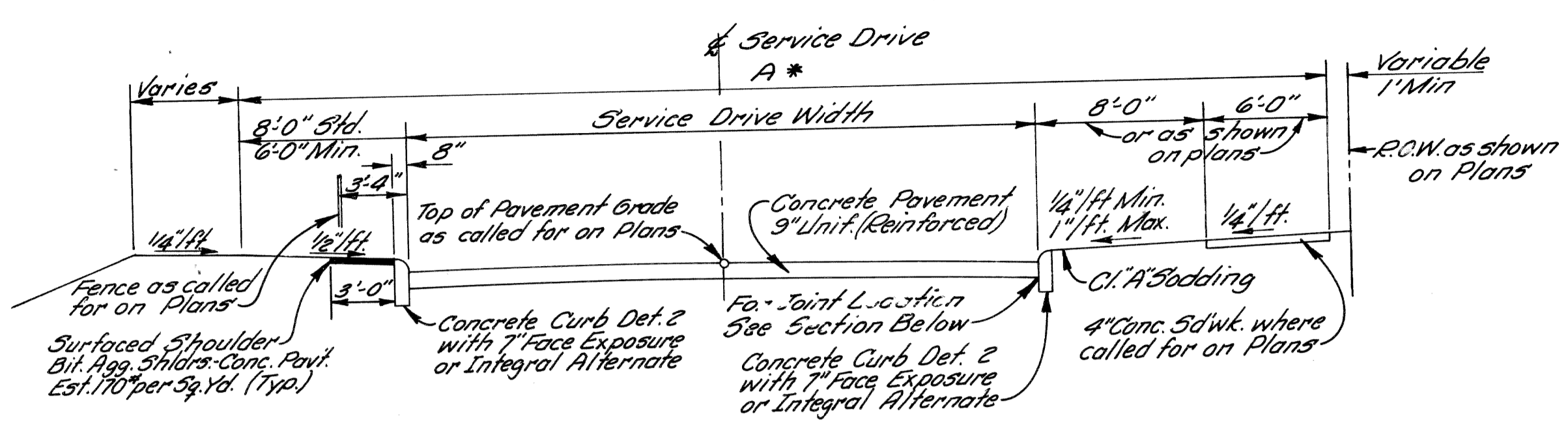
- GENERAL NOTES:**
- For Joint Legend, See Sh.# 11
 - Class A Slopes are required on this project.
 - Symbol (R) denotes rate of Super-elevation.
 - (+) and (-) numbers at grading points denote distances above or below Edge of Pavement Grade.
 - The minimum trench width on Edge Drains or Bank Drains on this project, shall be not less than 18" wide.

SECTIONS OF 12'-6" ROADWAY

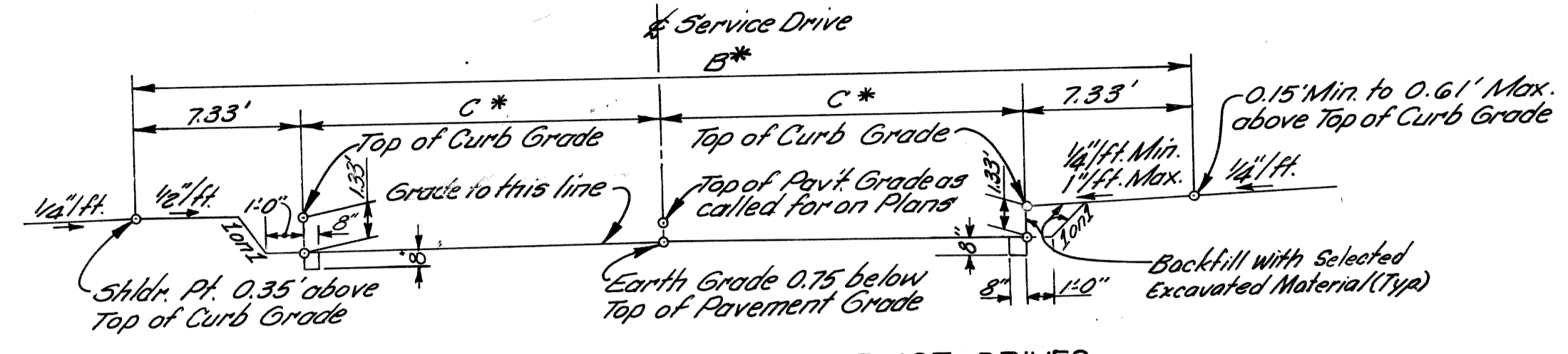
FILE NO. USE NO. 350 STENCIL	PROJECT	STATE PROJECT	FEDERAL PROJECT	SHEET NO.	TOTAL SHEETS
82124-002		82124-002	1-96	10	

TYPICAL CROSS-SECTIONS

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
4	WAYNE	WAYNE	DETROIT	11	11



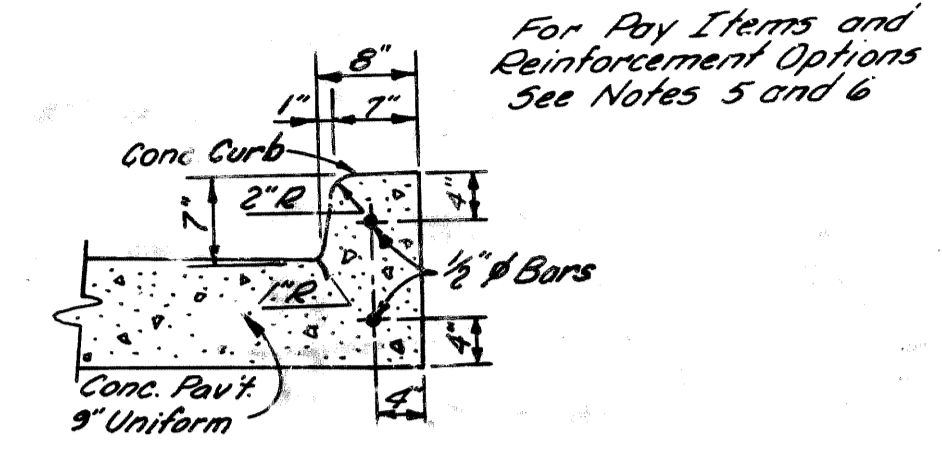
TYPICAL SECTION SHOWING FINISHED SERVICE DRIVE



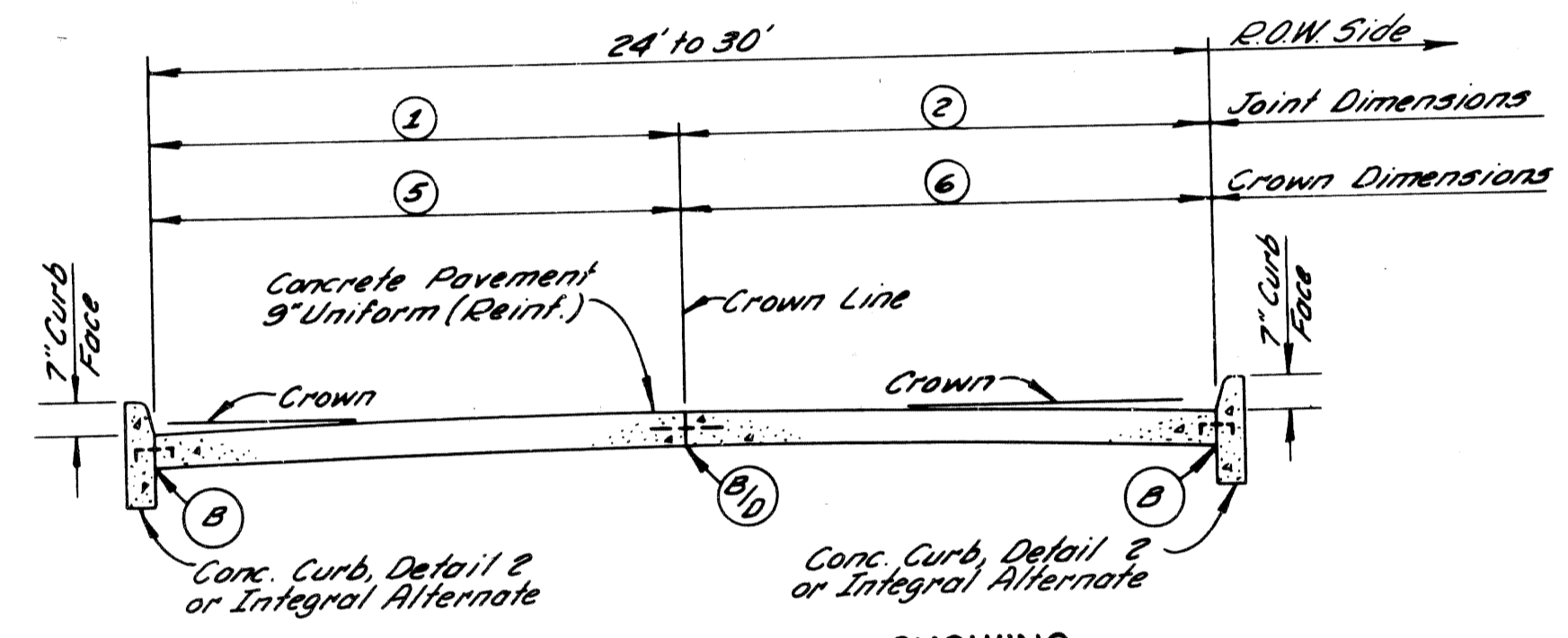
TYPICAL SECTION FOR GRADING SERVICE DRIVES

*** STANDARD DIMENSIONS & GRADING CONSTANTS FOR SERVICE DRIVES**

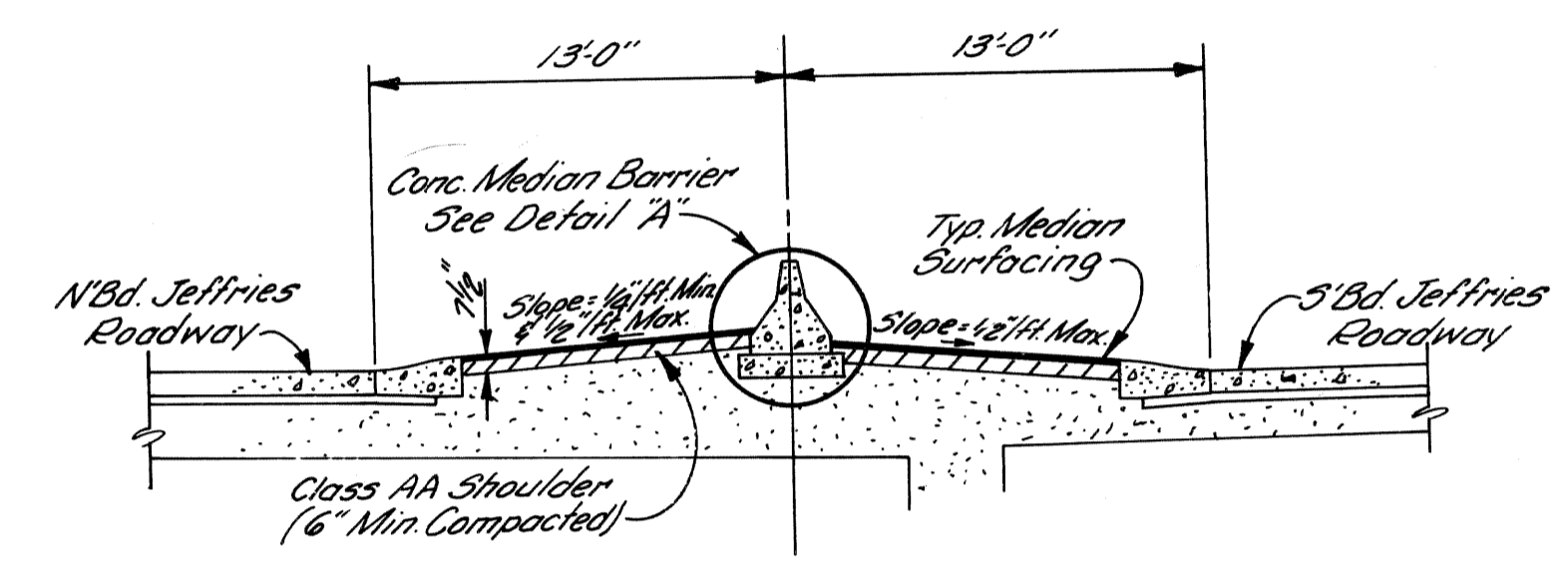
Service Dr. Width (Feet)	Crown (Inches)	A (Feet)	B (Feet)	C (Feet)
24	2	46	40	12.67
30	2 3/4	52	46	15.67



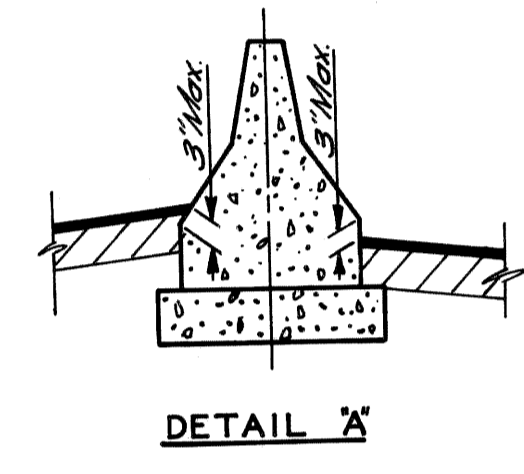
INTEGRAL CURB ALTERNATE (FOR USE ON SERVICE DRIVES)



TYPICAL CROSS-SECTION SHOWING CONCRETE PAVEMENT 9" UNIFORM (REINFORCED) TO APPLY ON 24' TO 30' SERVICE DRIVES



TYPICAL CROSS-SECTION OF JEFFRIES FREEWAY SHOWING VARIABLE MEDIAN SHOULDER SLOPES (APPLIES SOUTH OF & JEFFRIES STA. 274 + 79.04)

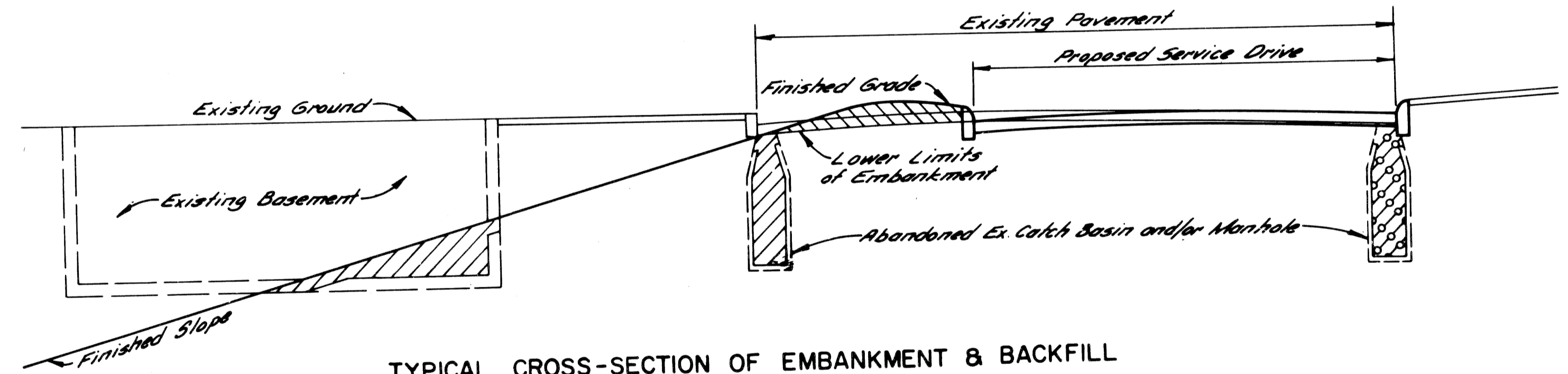


DETAIL A

SERVICE DRIVE CROWN TABLE

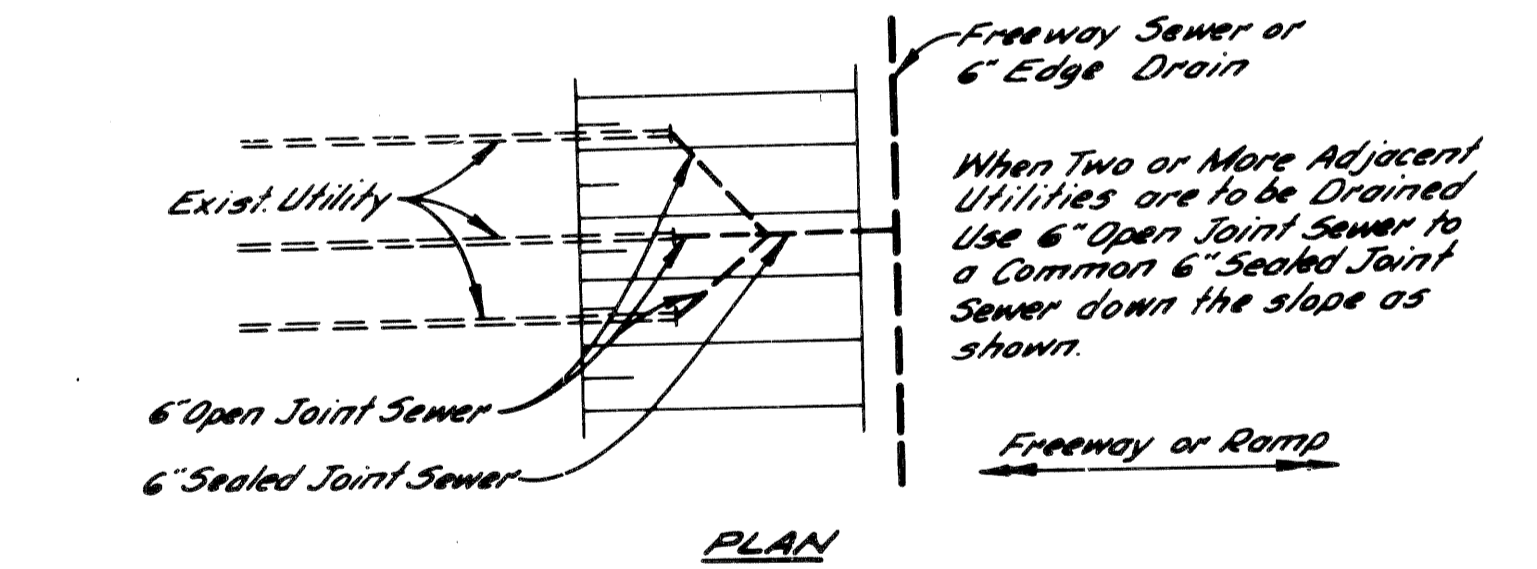
Distance from & in FEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Crown in INCHES	1/8	1/8	1/4	3/8	1/2	3/4	7/8	1 1/8	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	4	4 1/4	4 1/2	5	5 1/4	5 1/2

SERVICE DR. WIDTH	STANDARD SERVICE DRIVE DIMENSIONS						REMARKS	
	Inches Crown	①	②	③	④	⑤		
24'	2	12	12	—	—	12	12	
30'	2 3/4	15	15	—	—	15	15	
33'	3 1/4	11	11	11	—	16 1/2	16 1/2	For Exceptions, See Detailed Grade Drawings
36'	2 1/2 to 5 ft	14	14	8	—	14	22	
40'	4 1/4	10	10	10	10	20	20	
48'	5 3/4	12	12	12	12	24	24	

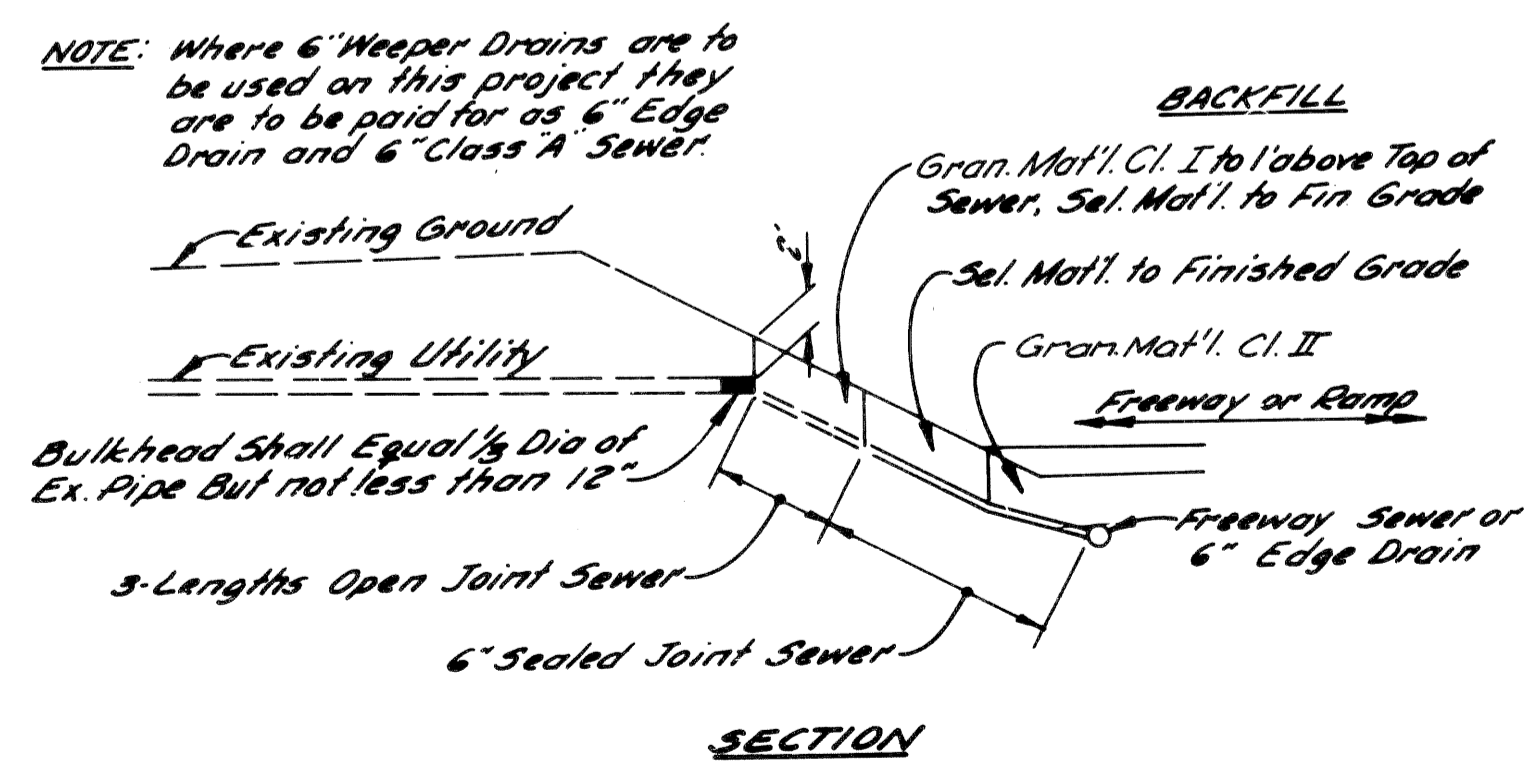


TYPICAL CROSS-SECTION OF EMBANKMENT & BACKFILL

- JOINT LEGEND**
- B Longitudinal Bulkhead Construction Joint, according to M.S.H.D. Special Detail 5h #38.
 - D Longitudinal Lane Tie Joint with Tie Bars, according to M.S.H.D. Special Detail 5h #5B.
 - B/D Optional, B or D.

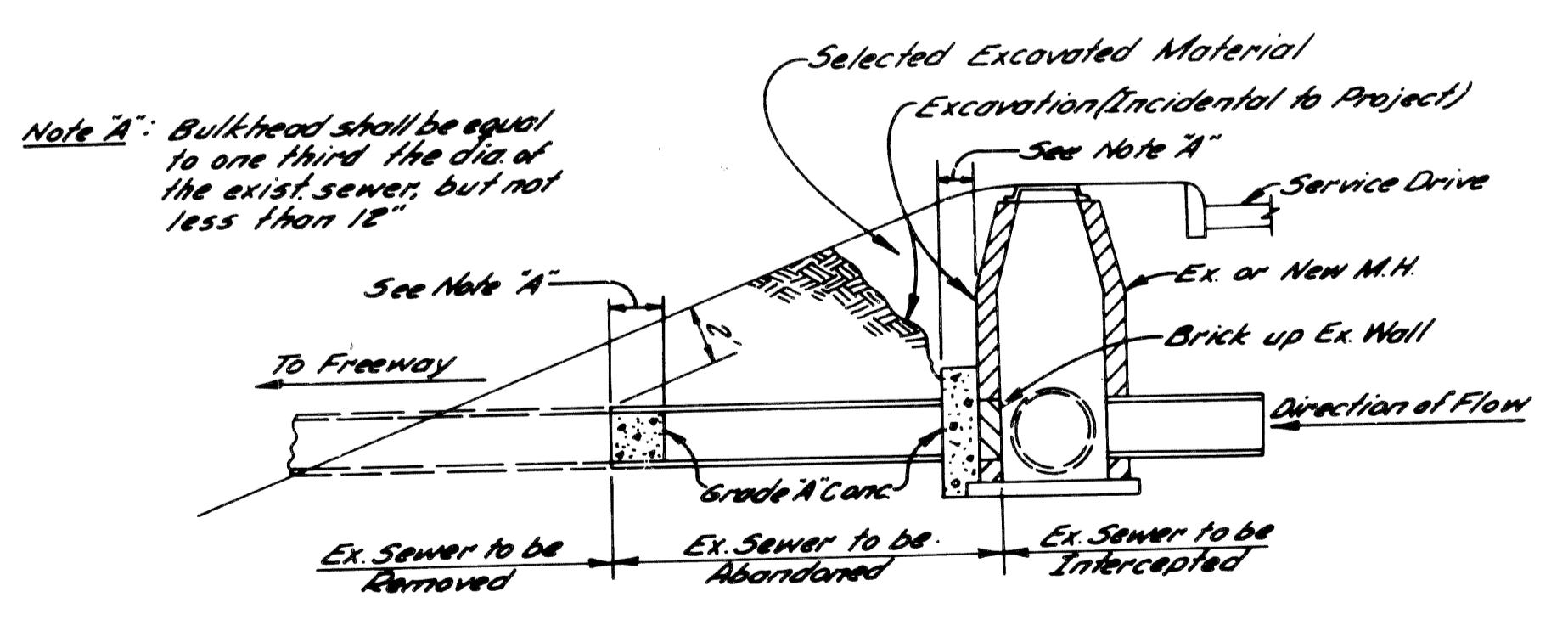
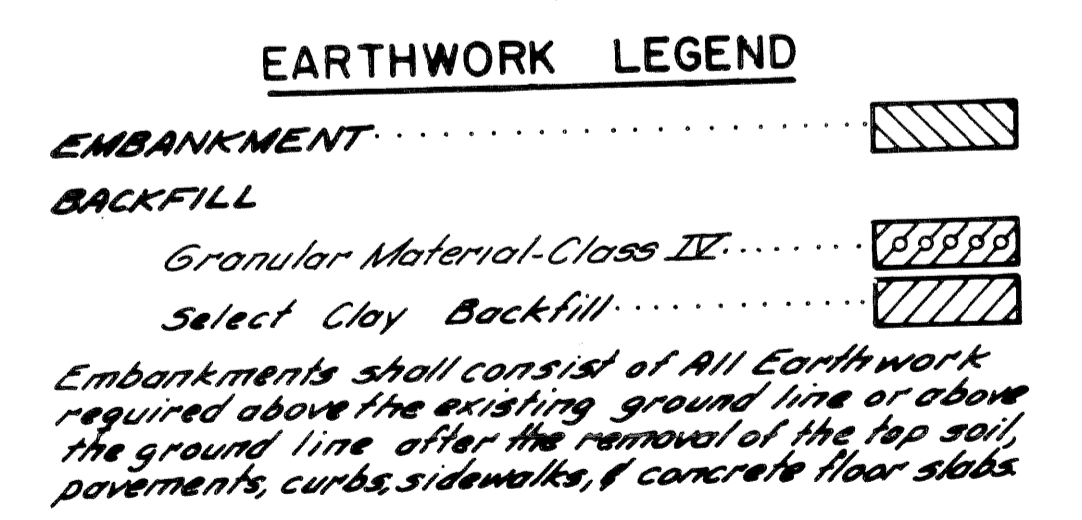


PLAN



SECTION

6" WEEPER DRAINS



SKETCH SHOWING METHOD FOR BULKHEADING SEVERED SEWERS

- NOTES:**
- The Concrete Base Course and Concrete Pavement shall be reinforced throughout in accordance with M.D.S.H. Standard Plan E-4-A-216.
 - The Pavement Crown for express roadways, turning roadways, and ramps, shall be in accordance with M.D.S.H. Standard Plan E-4-A-49C.
 - Concrete Curb, Detail 2 and Concrete Curb and Gutter Details A and B shall be in accordance with M.D.S.H. Standard Plan E-4-A-29F.
 - For Temporary Pavement cross-sections and jointing see Detail Pavement drawings.
 - Regardless of the option selected by the Contractor, the pay item shall remain the same as if a separate Concrete Curb Detail 2, were constructed.
 - Standard Pavement Reinforcement may be substituted for the lower 1/2" bar. Pavement Reinforcement for such shall be incidental to the Concrete Curb Detail 2.

PAVEMENT SECTIONS AND SPECIAL DETAILS

QUANTITY SHEET - E

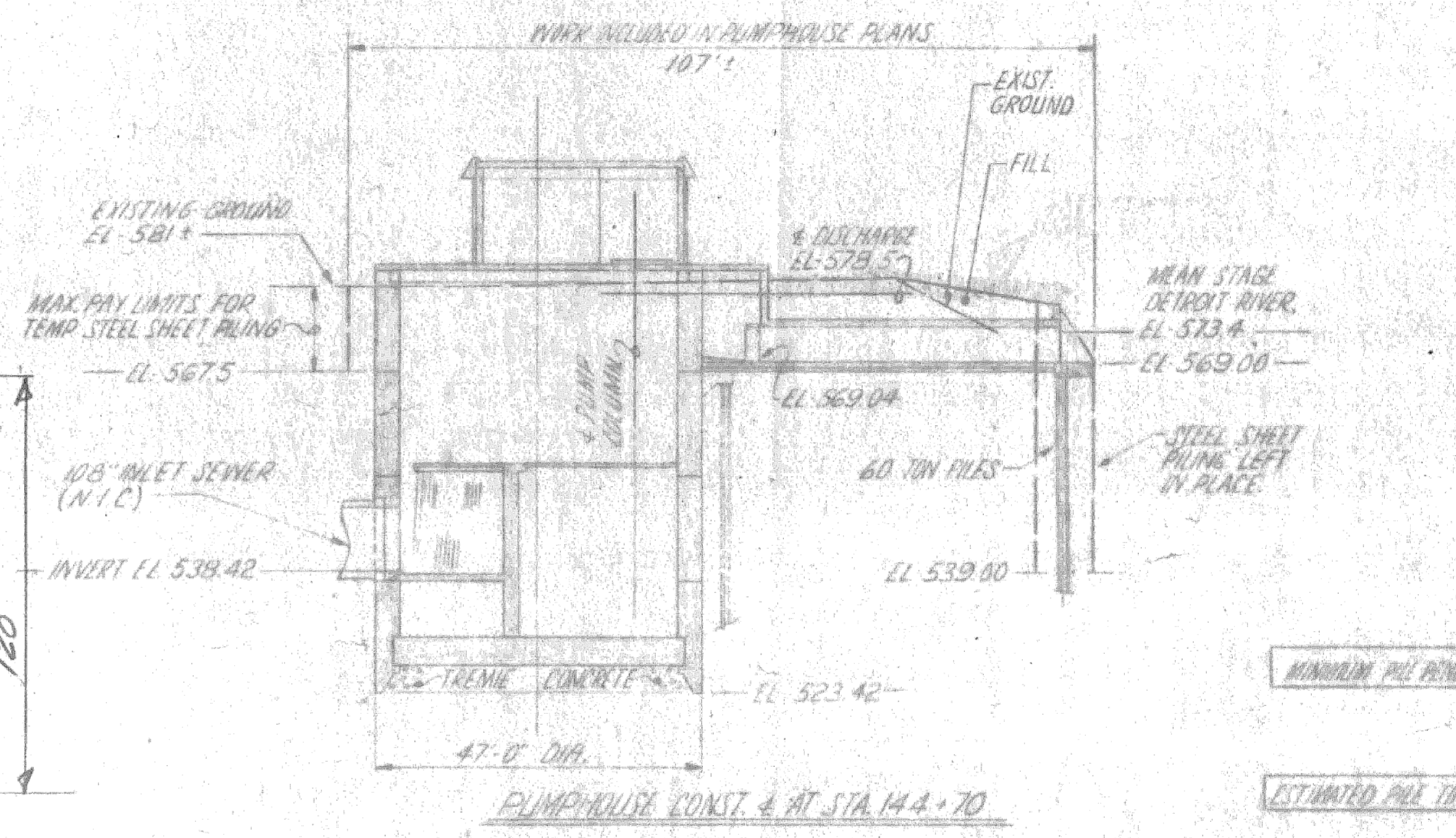
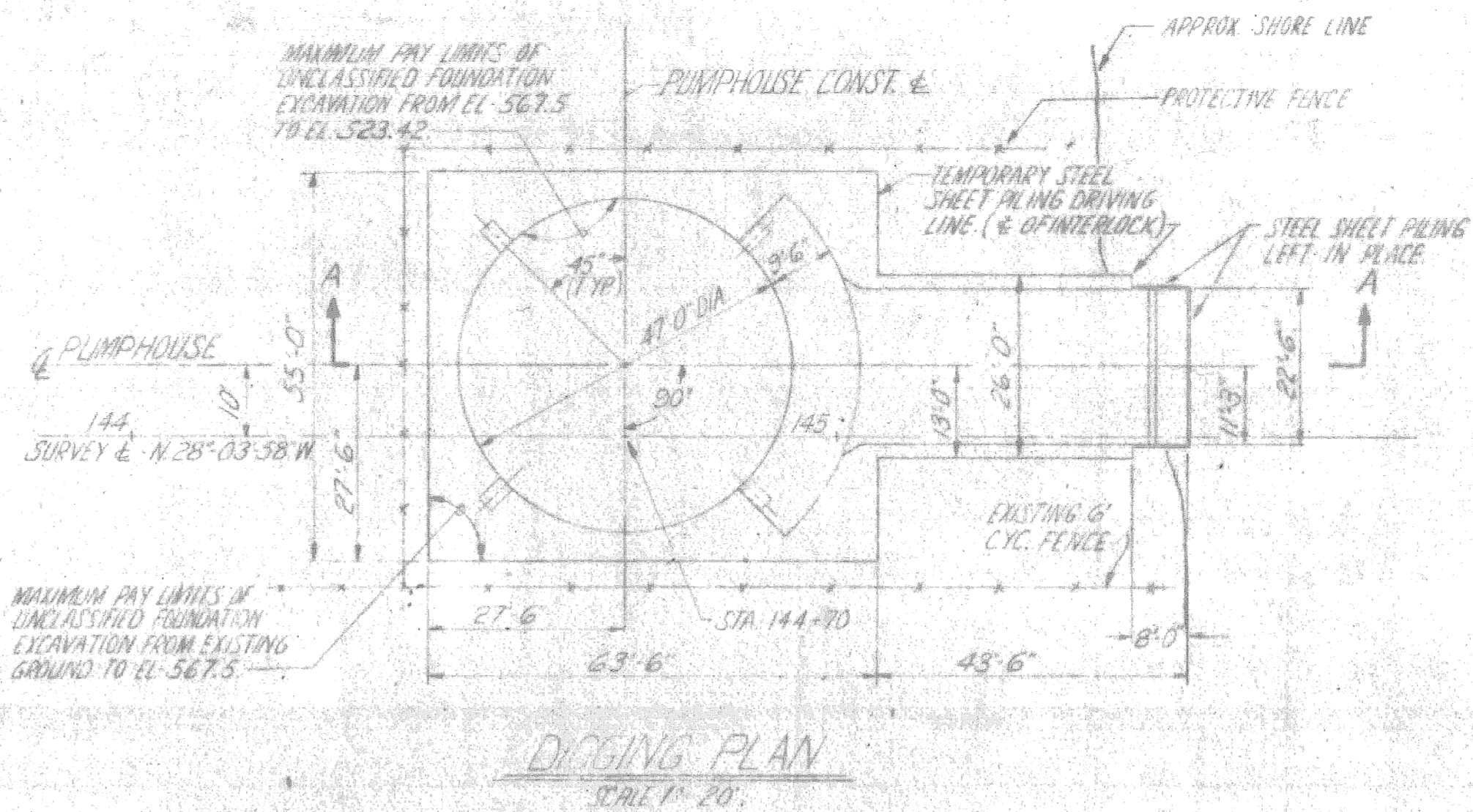
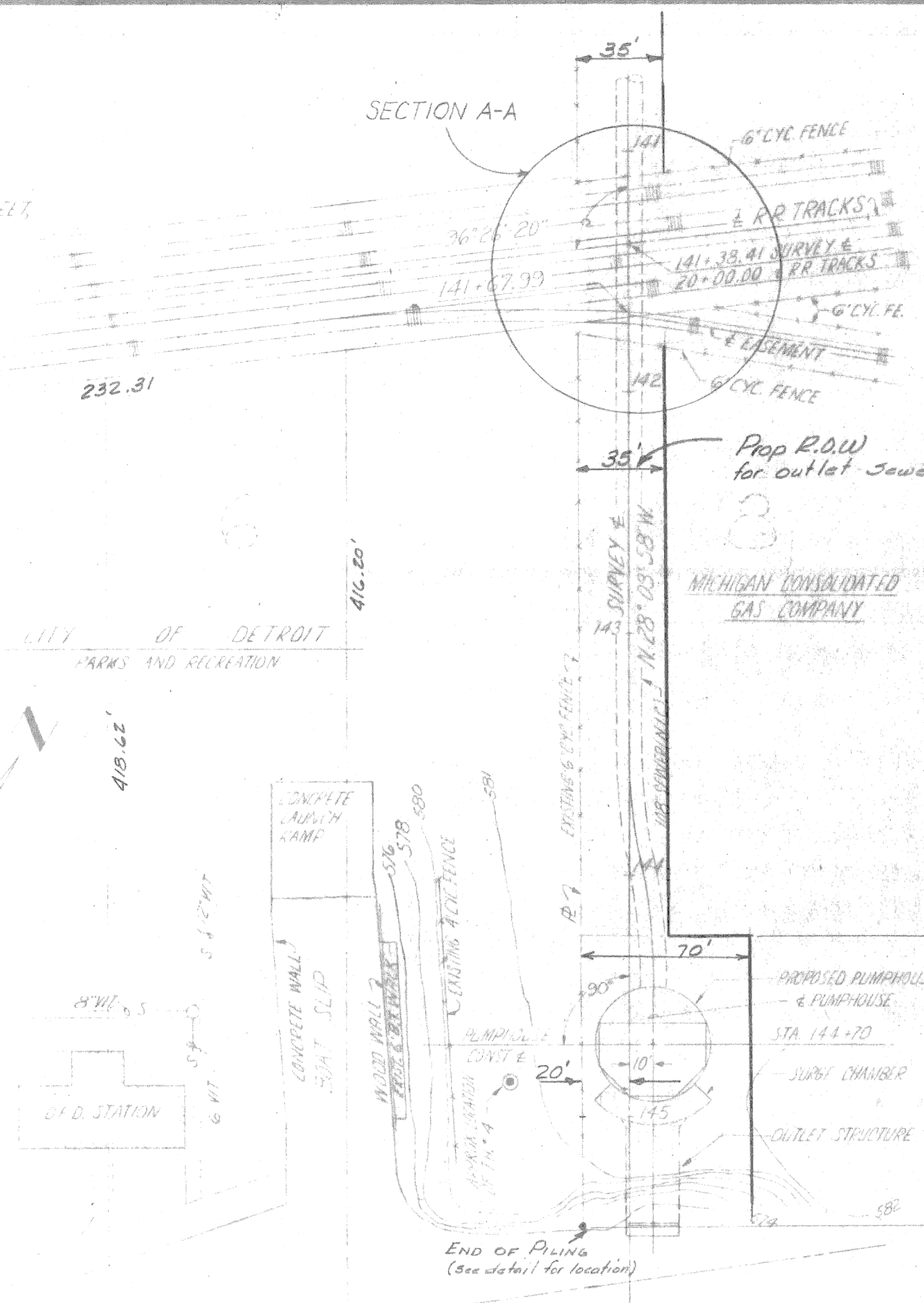
AS CONSTRUCTED

Main quantity sheet table with columns for items, participating agency, sheet title, and various construction categories (R-1 to R-31, W-1, TOTAL, GRAND TOTAL, UNITS).

CHECKED CONTRACT SECTION DATE 5/13/82

EXTRA TO PLAN & ADJUSTMENTS table with columns for item description, increase/decrease, and balance/adjustment details.

15753 EL-588.05
 CITY OF DETROIT 5 M 3 FT SOUTH
 OF NORTH LINE OF JEFFERSON 3 FT
 WEST OF EAST LINE OF 24TH STREET.
 109 EL-592.88
 ROW OF FIRE HYDRANT ON NORTH
 SIDE OF JEFFERSON WEST OF 23RD STREET,
 5.2 FT RIGHT OF STA. 136+38.6
 110 EL-581.56
 ROW ON N 6' CONCRETE MON. 20 FT
 RIGHT OF STA. 41+13.4



LOG OF BORING TH-4

DEPTH (S)	ELEVATION	DESCRIPTION
0	EL 580.6	GROUND SURFACE
1	EL 580.1	SOFT BROWN CLAY, SANDY AND GRAVELLY
2	EL 579.1	CRUSHED LIMESTONE FILL
3	EL 576.1	STIFF BROWN AND GRAY CLAY, SANDY AND GRAVELLY WITH CLINDERS
4	EL 571.6	LOOSE SAND AND GRAVEL WITH CLINDERS AND BRICK
5	EL 570.1	FIRM GRAY CLAYS SANDY AND GRAVELLY
6	EL 565.1	LOOSE BLACK GRAVEL, TRACE OF SAND, OCCASIONAL CLAY LENS
7	EL 564.1	FIRM BROWN AND GRAY CLAY, SILTY, TRACE OF SAND AND GRAVEL
8	EL 560.1	MODERATELY COMPACT BLACK GRAVEL, PEBBLY, TRACE OF SAND, OCCASIONAL PEBBLE
9	EL 558.6	FIRM BROWN AND GRAY CLAY, SILTY, MODERATE TRACE OF SAND, OCCASIONAL PEBBLE
10	EL 550.1	PLASTIC GRAY CLAY, TRACE OF SAND AND SILT, OCCASIONAL PEBBLE
11	EL 545.1	SOFT GRAY CLAY, TRACE OF SAND AND SILT, OCCASIONAL PEBBLE WITH MARKINGS OF SILT AND VERY FINE SAND
12	EL 540.1	SOFT GRAY CLAY, SILTY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE
13	EL 539.6	PLASTIC GRAY CLAY, HEAVY TRACE OF SAND, TRACE OF SILT AND PEBBLE
14	EL 520.1	PLASTIC GRAY CLAYS TRACE OF SAND AND SILT, OCCASIONAL PEBBLE
15	EL 513.6	SOFT GRAY CLAY, SILTY, TRACE OF SAND, OCCASIONAL PEBBLE
16	EL 510.1	SOFT GRAY CLAY WITH LENS OF FINE SAND
17	EL 500.1	MODERATELY COMPACT GRAY SAND, SILTY FINE AND SILTY TRACE OF CLAY
18	EL 496.6	MODERATELY COMPACT GRAY SAND, SILTY FINE AND SILTY TRACE OF CLAY
19	EL 489.1	COMPACT GRAY SAND, FINE
20	EL 488.1	STIFF GRAY CLAY, SANDY, TRACE OF GRAVEL
21	EL 487.6	HARD GRAY CLAY, SANDY
22	EL 486.6	VERY COMPACT GRAY SAND, VERY FINE TRACE OF SILT
23	EL 485.6	VERY HARD GRAY CLAY, SANDY, TRACE OF GRAVEL
24	EL 485.1	HARD GRAY CLAY, SANDY
25	EL 482.6	STIFF GRAY CLAY, SANDY
26	EL 480.6	MODERATELY COMPACT GRAY SAND, VERY FINE
27	EL 479.1	
28	EL 478.6	

NOTES:
 1. THE CONTRACTOR MAY DRIVE TEMP STEEL SHEET PILING FOR UNCLASSIFIED FOUNDATION EXCAVATION IN A DIFFERENT SHAPE THAN SHOWN ON THE PLANS UPON APPROVAL OF THE ENGINEER. THE CONTRACTOR WILL BE PAID FOR THE AMOUNT EXCAVATED, BUT THIS SHALL NOT EXCEED THE PLAN QUANTITY.
 2. THE CONTRACTOR WILL BE PAID FOR THE AMOUNT OF TEMP STEEL SHEET PILING USED, BUT THIS SHALL NOT EXCEED THE PLAN QUANTITY.
 3. THE CONTRACTOR SHALL FURNISH AND PLACE A PROTECTIVE FENCE AROUND CONSTRUCTION AREA TO PROTECT THE PUBLIC (INCIDENTAL TO THE PROJECT).
BORING NOTES:
 1. WATER LEVEL BELOW GROUND AFTER COMPLETION (LOADING PULLED) 19' 6" FT. (4.49 M) (S-17)
 2. FIELD CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND SUBSTANTIATED BY PLAS (S-17) AND PLAS (S-18) USING LASING AND JET ROD. BLOWN DEPTH OF SAMPLING, CONSISTENCY DETERMINED BY PLAS (S-17) AND PLAS (S-18).
 3. NUMBER IN CIRCLE DENOTES NUMBER OF BLOWS REQUIRED TO DRIVE A 1.25" I.D. x 1.25" O.D. x 18" LONG SAMPLER 12" USING A 140" HAMMER FALLING 30".
 4. NUMBER "N" NUMERATOR, DENOTES NUMBER OF BLOWS TO PERMEATE THE 1.25" DIAMETER IN 10" (S-17).
 5. SAMPLER PUSHED BY MECHANICAL OR MANUAL MEANS.
 6. NUMBERS INDICATE TRANSVERSE SHEARING RESISTANCE IN LBS. PER SQ. FT. SHEAR VALUES SHOWN HAVE BEEN DETERMINED FROM SAMPLES AT THE D.S.M. STATE OF MICH. LABORATORY ANN ARBOR, BY THE PROCEDURE "M-50".

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT
UNCLASSIFIED FOUNDATION EXCAVATION	CU YDS	57.30
PUMP HOUSE INSULATION	SQ FT	2300
HATCHWAY INSULATION	SQ FT	250
TEMPORARY STEEL SHEET PILING	SQ FT	3850
STRUCTURAL STEEL	LBS	27,700
COPPER	LBS	50
BRICK (FACE)	M	9
STEEL SHEET PILING (LEFT IN PLACE)	SQ FT	1500
ENCASING PILING IN PLACE (STEEL)	LN FT	720
GRADE A (6-4) CONCRETE	CU YDS	146.0
GRADE A (6-4) CONCRETE	CU YDS	75
TRAPEZOIDAL CONCRETE	CU YDS	145
2-4" ENCASED CONDUIT	LN FT	—

NOTES:
 1. THE CONTRACTOR MAY DRIVE TEMP STEEL SHEET PILING FOR UNCLASSIFIED FOUNDATION EXCAVATION IN A DIFFERENT SHAPE THAN SHOWN ON THE PLANS UPON APPROVAL OF THE ENGINEER. THE CONTRACTOR WILL BE PAID FOR THE AMOUNT EXCAVATED, BUT THIS SHALL NOT EXCEED THE PLAN QUANTITY.
 2. THE CONTRACTOR WILL BE PAID FOR THE AMOUNT OF TEMP STEEL SHEET PILING USED, BUT THIS SHALL NOT EXCEED THE PLAN QUANTITY.
 3. THE CONTRACTOR SHALL FURNISH AND PLACE A PROTECTIVE FENCE AROUND CONSTRUCTION AREA TO PROTECT THE PUBLIC (INCIDENTAL TO THE PROJECT).

JEFFRIES OUTLET SEWER
 R.O.W. Revised 12-14-65

PRELIMINARY PLAN "N" DATE: DEC 9, 1965
 LETTING DATE: MARCH 9, 1966

REVISIONS

NO.	DESCRIPTION	DATE	BY
14	RELOCATE OUTLET SEWER	12-16-65	C.S.R.

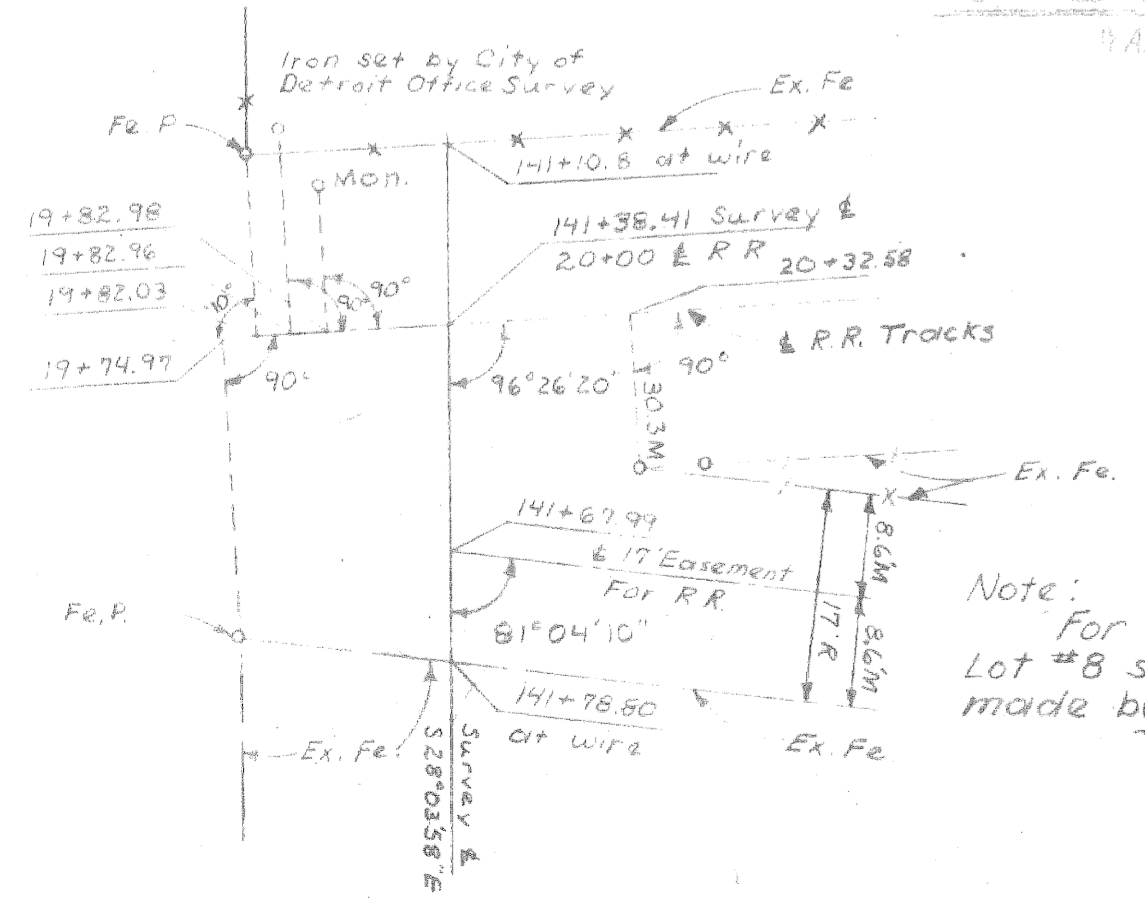
CONSULTING ENGINEERING ASSOCIATES INC.
 16580 WYOMING DETROIT, MICH. 48221

MICHIGAN STATE HIGHWAY DEPARTMENT
 PUMP HOUSE FOR THE JEFFRIES OUTLET SEWER AT DETROIT RIVER
 IN CITY OF DETROIT
 GENERAL PLAN OF SITE

APPROVED: _____ DESIGN SUPERVISING ENGINEER
 APPROVED: _____ ENGINEER OF DESIGN CONSULTANTS

SHEET 7 OF 3
 DI4 of 82194 K

SECTION A-A
 SITE AND PLAN
 1/4" = 1'-0"



Note:
 For encroachments along W. line of Lot #8 see enclosed Encroachment Survey (P. 112) made by the City of Detroit Survey Office

PROJECT BI82124-002

PART 1: ROADS

PART 2 - S03 OF 82124-A

-S27 OF 82124-L

STATE OF MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PLANS OF PROPOSED

MICHIGAN PROJECT I 96-4(65)232 STATE PROJECT BI82124-002

JEFFRIES FREEWAY

WAYNE COUNTY
CITY OF DETROIT

ROUTE	STATE PROJECT NO.	FEDERAL NO.	SHEET NO.	TOTAL SHEETS
I-96	BI82124-002	I-96-4(65)232	1	

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS CURRENT STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.

LEGEND

A. D. T. 68,300 EACH DIRECTION
D. H. V. 8,150
COMM. 3
DESIGN SPEED 60 MPH

INDEX OF SHEETS

ROADWAYS AND MISCELLANEOUS

- 1. TITLE SHEET
- 2. GENERAL PLAN
- 3-5. CONSTRUCTION SEQUENCE
- 6-11. TYPICAL CROSS SECTIONS
- 12. NOTES AND SPECIAL PROVISIONS
- 13-15. ALIGNMENT
- 16-18. REMOVAL ITEMS
- 19-21. GRADING PLANS
- 22-37. PLAN AND PROFILE
- 38-43. DETAILED GRADES
- 44-46. GENERAL UTILITIES
- 47-75. SPECIAL DETAILS

ALTERATIONS TO CITY SEWERS

- 76. LOCATION PLAN
- 77-78. SEWER PLAN AND PROFILE
- 79-80. MISCELLANEOUS DETAILS

ALTERATIONS TO WATER MAINS

- 81. GENERAL PLAN
- 82. VALVING AND SERVICES
- 83. GENERAL NOTES
- 84-89. PLAN AND PROFILE
- 90. CONNECTION DETAILS
- 91. CONNECTIONS AND ENCASEMENTS
- 92-94. MISCELLANEOUS DETAILS

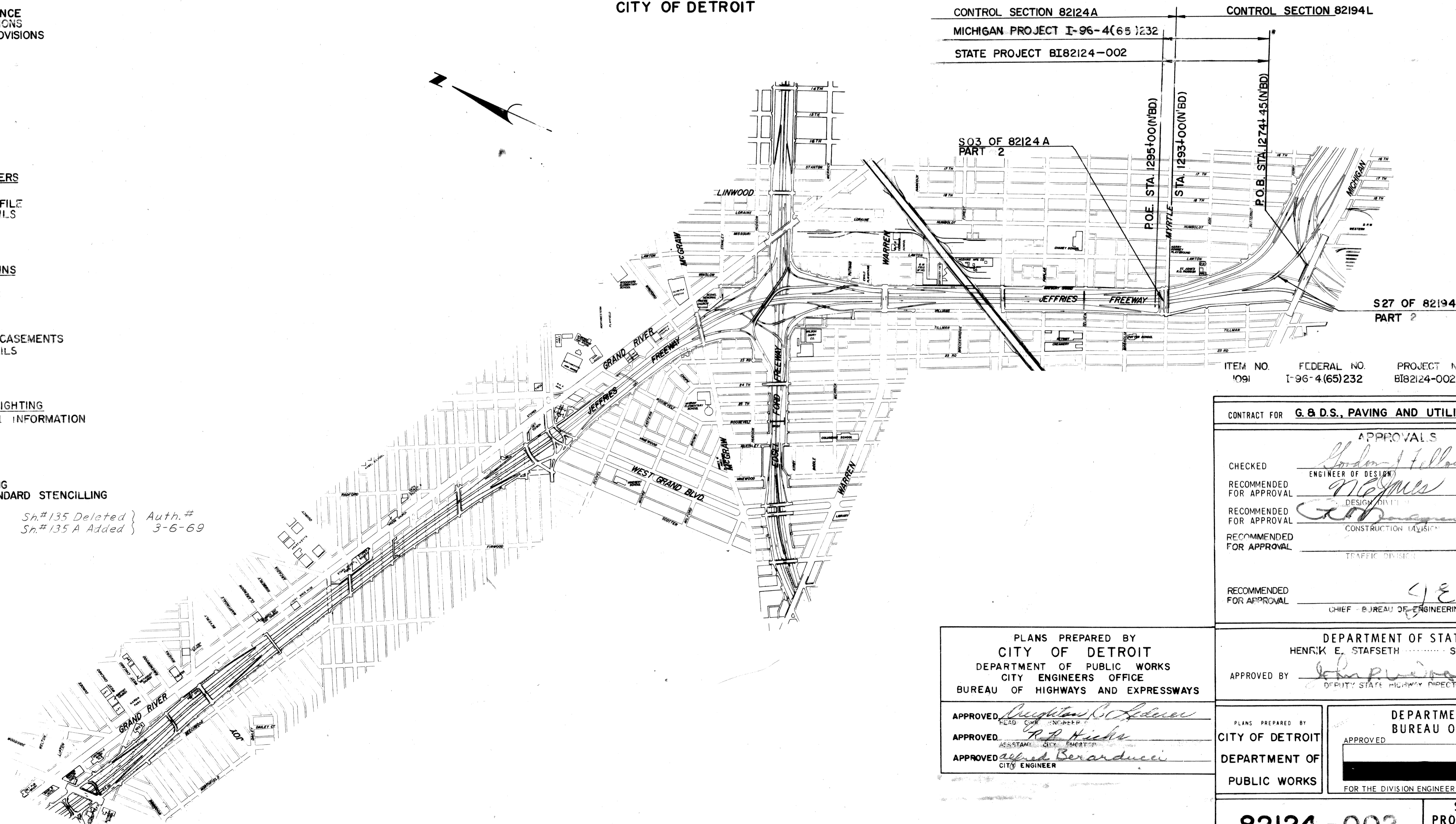
ALTERATIONS TO PUBLIC LIGHTING

- 95. LEGEND AND GENERAL INFORMATION
 - 96-99. GENERAL PLANS
 - 100. DUCT ALLOCATION
 - 101-103. WIRING DIAGRAM
 - 104-105. OVERHEAD
 - 106. FLASHER SIGNALS
 - 107-108. UNDERBRIDGE LIGHTING
 - 109. STREET LIGHTING STANDARD STENCILLING
 - 110-111. TRAFFIC SIGNALS
 - 112-137. TYPICAL DETAILS
 - 138ABC&D. TYPICAL DETAILS
 - 139-140. TYPICAL DETAILS
- Sh.# 135 Deleted } Auth.#
Sh.# 135 A Added } 3-6-69

QUANTITY SHEETS

- 141-149. QUANTITY SHEETS

FOR INDEX FOR BRIDGES
SEE SHEET NO. 1A.



ITEM NO.	FEDERAL NO.	PROJECT NO.	MILES
1091	I-96-4(65)232	BI82124-002	0.39

CONTRACT FOR G. & D.S., PAVING AND UTILITY ALTERATIONS		
APPROVALS		
CHECKED	<i>London J. Feltus</i>	3-25-68
	ENGINEER OF DESIGN	DATE
RECOMMENDED FOR APPROVAL	<i>W. M. M...</i>	3-17-68
	DESIGN DIVISION	DATE
RECOMMENDED FOR APPROVAL	<i>G. M. M...</i>	3-19-68
	CONSTRUCTION DIVISION	DATE
RECOMMENDED FOR APPROVAL		
	TRAFFIC DIVISION	DATE
RECOMMENDED FOR APPROVAL	<i>J. E. Meyer</i>	3-18-68
	CHIEF, BUREAU OF ENGINEERING	DATE

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED *Richard B. Adams*
HEAD OF BUREAU

APPROVED *Robert H. Fisher*
ASSISTANT CITY ENGINEER

APPROVED *Albert Berarducci*
CITY ENGINEER

DEPARTMENT OF STATE HIGHWAYS
HENRIK E. STAFSETH STATE HIGHWAY DIRECTOR

APPROVED BY *John P. ...* 3/18/68
DEPUTY STATE HIGHWAY DIRECTOR DATE

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED
FOR THE DIVISION ENGINEER

82124 - 002	STATE PROJECT NO. BI 82124-002	FEDERAL PROJECT NO. I-96-4(65)232	SHEET NO. 1
-------------	-----------------------------------	--------------------------------------	----------------

STATE PROJECT NO. BI82124-002

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	MI96-002	Wayne	Detroit	2	

UTILITY LEGEND

Sewer.....(S)

Water.....(W)

P.L.C.....(P)

LEGEND

Cont. Reinf. Concrete Pavement - 9" Uniform

Concrete Pavement - 10" Uniform

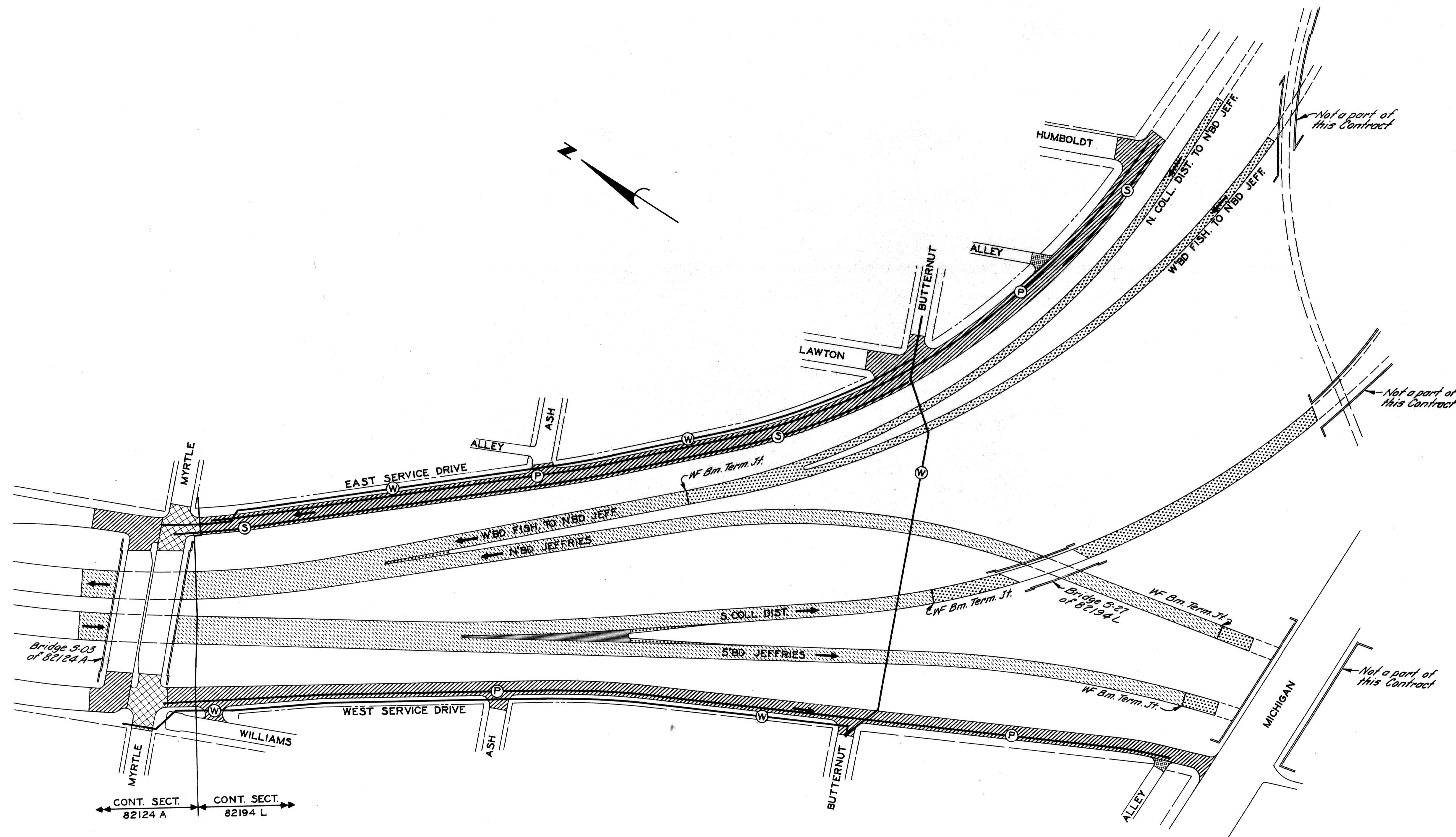
Concrete Pavement - 9" Uniform

Conc. Pavt. - 9" Uniform (Special High Early Strength)

Concrete Pavement - 8" Uniform

Corrugated Concrete Divider - Type I

- ITEMS IN CONTRACT**
- SEWERS:**
East Service Drive Interceptor Sewer Myrtle to Butternut & Alley West of Humboldt to Humboldt.
- WATER MAINS:**
24" Concrete Encased Freeway Crossing of Butternut.
12" Header Mains East & West Service Drives, Myrtle to Butternut.
Miscellaneous Water Alterations.
- LIGHTING:**
Service Drive - Freeway Lighting in Jeffries-Fisher Interchange.
Alterations to City Power, Communications and Lighting Facilities.
- DEPRESSED FREEWAY:**
Grading, Drainage, Subbase, Paving, Saddling & Fencing of Main Roadways & Turning Roadways.
- SERVICE DRIVES:**
Grading, Drainage & Paving of East & West Service Drives - Myrtle to Humboldt & Myrtle to Michigan.
- BRIDGES & STRUCTURES:**
Myrtle St. Bridge 5-03 of 82124A
South Collector Distributor Bridge 5-27 of 82194L



PREPARED BY
 RAY'S
 CITY OF DETROIT
 DEPT. OF PUBLIC WORKS
 ENGINEER, STREET
 LAYOUTS AND IMPROVEMENTS


3/68
 3/68
 3/68
 4/68
 N. McLean
 M. Poole
 N. McLean
 Allan E. Payne


GENERAL PLAN


FILE NO. NO. 350 STENCIL	82124-002	STATE PROJECT MI96-002	FEDERAL PROJECT I-96	SHEET NO. 2
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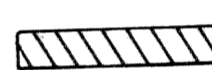
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY	City	SHEET NO.	TOTAL SHEETS
T-96	82124-002	Wayne	Detroit	3	

UTILITY LEGEND

Sewer =  ---

Water =  ---

P.L.C. =  ---

- STAGE I**
- Maintain:**
Local Traffic on Existing Streets & Alleys.
- Switch:**
Ebd Myrtle Traffic to Tillman-Ash-Lawton for intersection work.
Duration of this stage to be kept to a minimum.
1. Construct utilities in Myrtle Detour
 2. Pav Myrtle Detour & Portion of Myrtle-W. Service Dr. intersection
 3. Switch E'bd & W'bd Myrtle traffic to Myrtle Detour
 4. Drive sheeting & start construction of Myrtle Bridge 5-03
 5. Construct utilities along East & West Service Drives & Water Crossing at Butternut.
 6. Start construction of Turning Roadway Bridge 5-27
 7. Other contracts at the North & South ends of this of this contract may be under construction in this stage (Not a part of this contract)
-  Pavement Construction

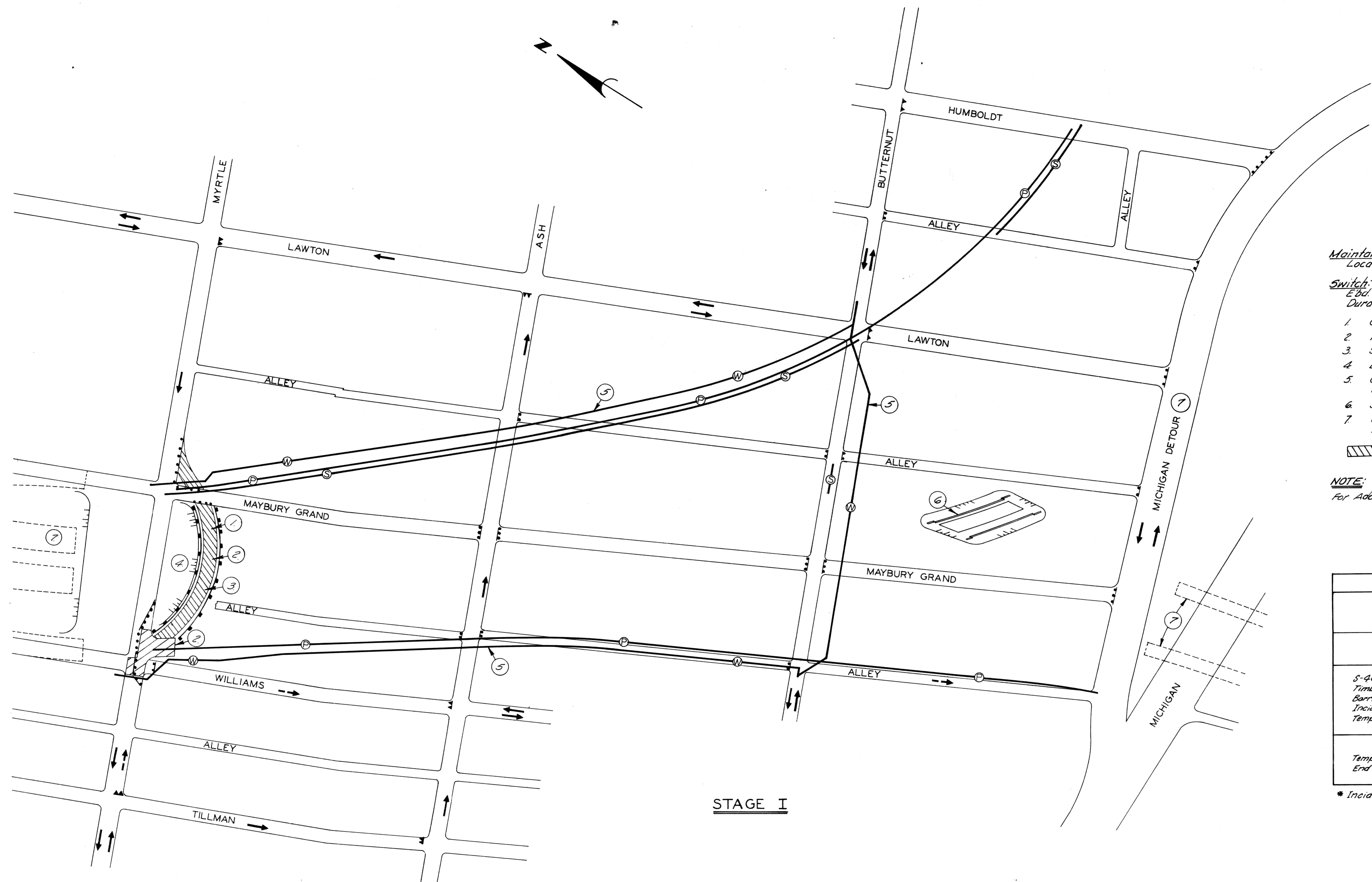
NOTE:
For Additional Legend & Myrtle St Staging See Sh# 5.

CONTROL SECTION 82194L

ITEMS REQUIRED TO MAINTAIN TRAFFIC DURING CONSTRUCTION WHICH HAVE NOT BEEN BILLED ON OTHER SHEETS ARE LISTED BELOW

ITEM	UNIT	Furnish & Install	Relocate	Remove
5-40 Barricade Auth. 1028	Lin Ft.	468	262	488
Timber Curb & Snow Fence Auth. 1028	Lin Ft.	675	685	675
Barricade Auth. 1028	Each	0-100	0-100	0-100
Incidental Barricade*	Each	7-9	2-6	7-9
Temporary Beam Guard Rail Auth. 1030	Lin Ft.	180	110	180
	Lin Ft.	571		571
Temporary Concrete Sidewalk End Shoes Auth. 1007-1027	Sq. Ft. Each		298	
			3-4	

* Incidental to the project



STAGE I

CONSTRUCTION SEQUENCE

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

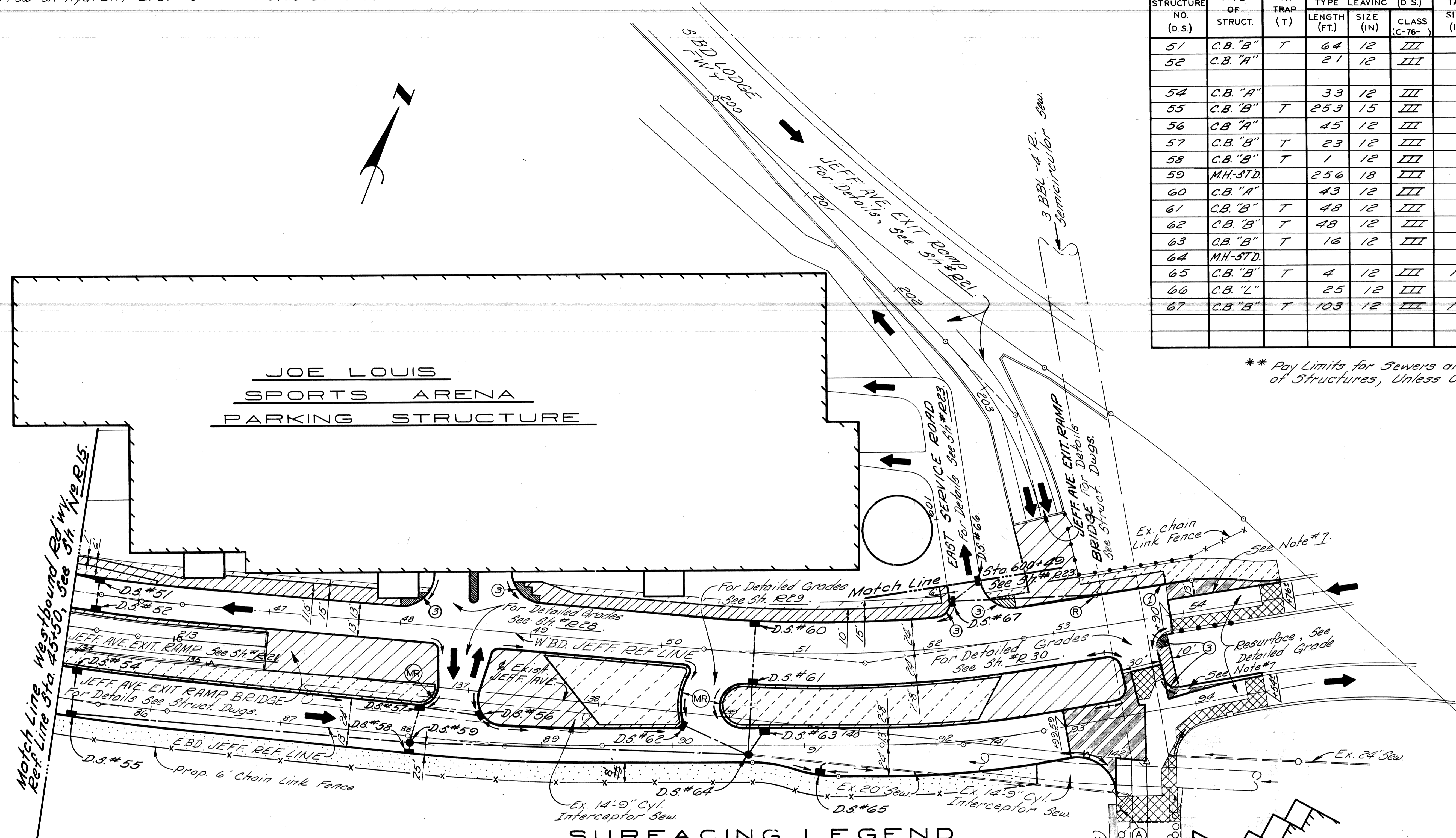
DATE	BY
3/68	A. McLean
3/68	M. Polite
3/68	A. McLean
3/68	M. Polite
3/68	A. McLean

P.B.M. 28-356 E.S. Third - E. Jefferson W. Elev. 100.217
 C.B.M. Arrow on First Hydrant W. of Third - N. Side Jefferson Elev. 103.20
 C.B.M. Arrow on Hydrant E. of 6th - N. Side Jefferson Elev. 104.18

DRAINAGE STRUCTURE TABLE

DRAINAGE STRUCTURE NO. (D.S.)	TYPE OF STRUCT.	WITH TRAP (T)	** SEWER LENGTH & TYPE LEAVING (D.S.)			SEWER TAP SIZE (IN.)	TRENCH DETAIL (L.F.)		TYPE OF COVER	COMMENTS
			LENGTH (FT.)	SIZE (IN.)	CLASS (C-76-)		8	9		
51	C.B. "B"	T	64	12	III		52	12	H	Portion Passing Over Jeff Ave. to be Encased in Concrete. Provide 8" Inlet for Bridge Drains.
52	C.B. "A"		21	12	III			21	H	
54	C.B. "A"		33	12	III			33	H	
55	C.B. "B"	T	253	15	III			253	H	
56	C.B. "A"		45	12	III			45	H	
57	C.B. "B"	T	23	12	III			23	H	
58	C.B. "B"	T	1	12	III			1	H	
59	M.H.-STD.		256	18	III			256	A	
60	C.B. "A"		43	12	III			43	H	Portion Passing Over Jeff Ave. to be Encased in Concrete.
61	C.B. "B"	T	48	12	III		30	18	H	
62	C.B. "B"	T	48	12	III			48	H	
63	C.B. "B"	T	16	12	III			16	H	
64	M.H.-STD.								A	Connect to Existing 20" Sewer.
65	C.B. "B"	T	4	12	III	12		4	H	
66	C.B. "L"		25	12	III			25	H	To Pass Under 3' Gap and over 18" Water to be Encased in Concrete. Portion Passing Over Jeff Ave. to be Encased in Concrete.
67	C.B. "B"	T	103	12	III	12		103	H	

** Pay Limits for Sewers are Inside Faces of Structures, Unless Otherwise Noted.



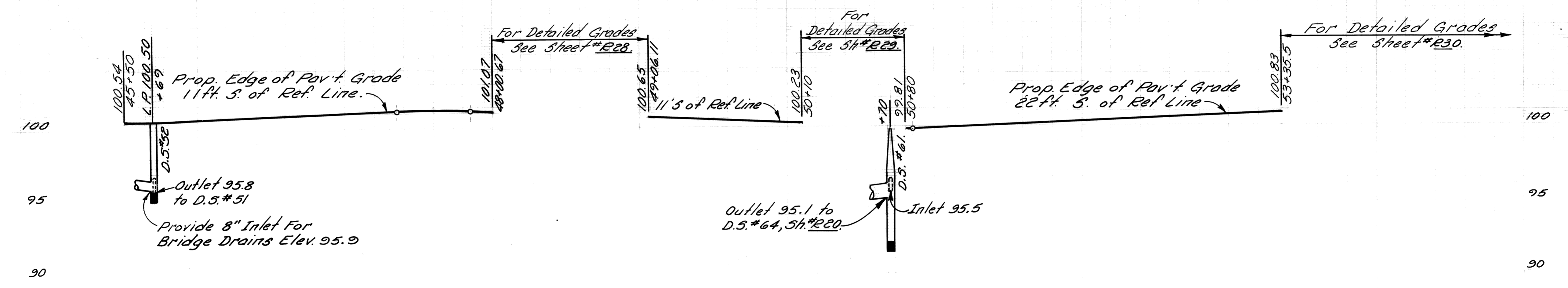
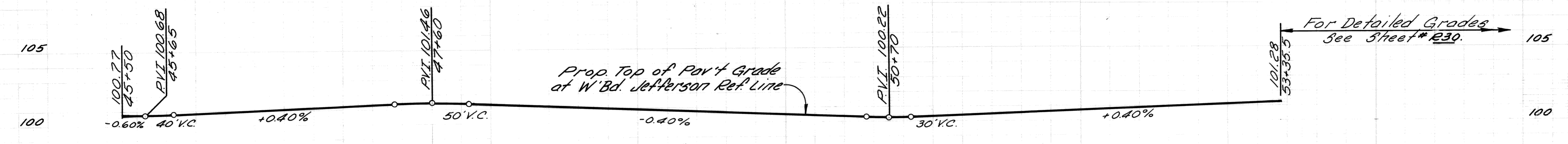
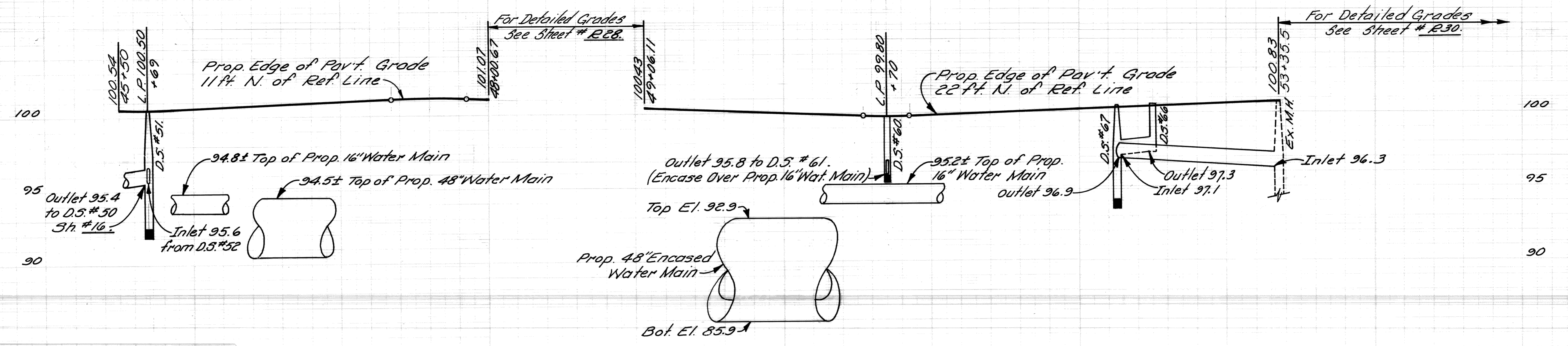
SURFACING LEGEND

PLAN
Scale: 1" = 40'

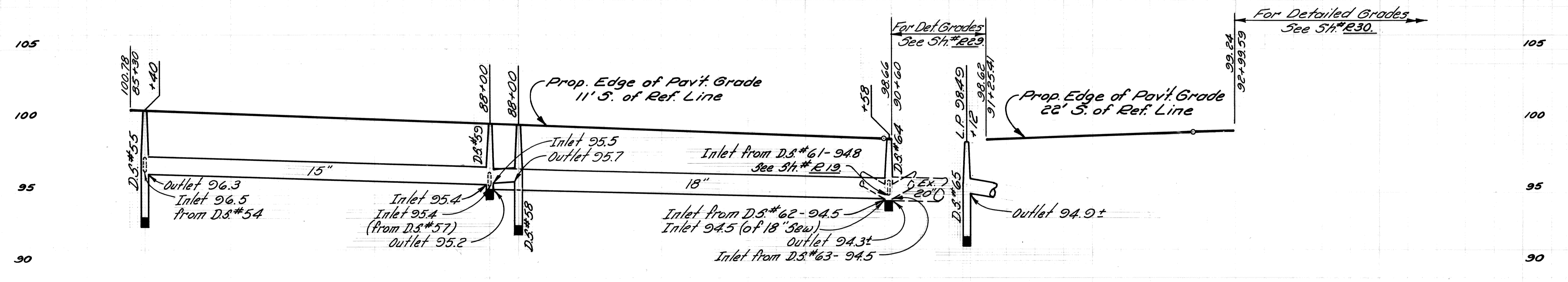
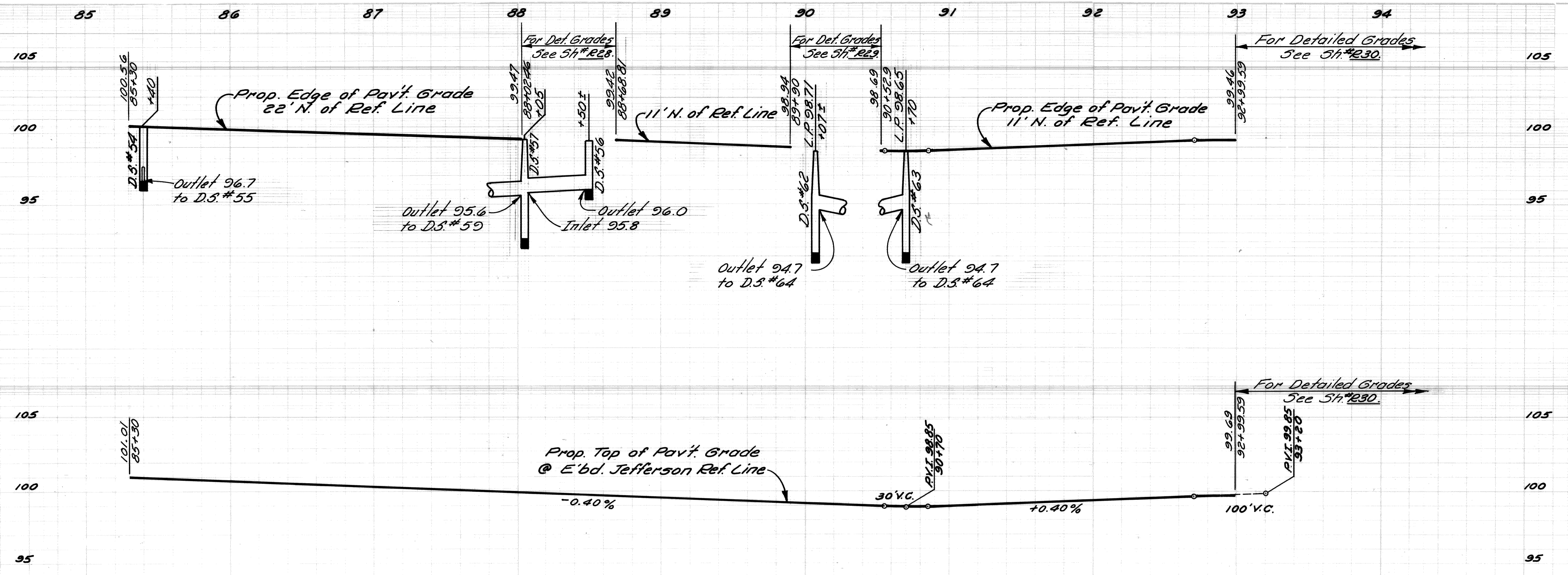
- Conc. Pav't - Reinf. - 9" with Conc. Curb & Gutter Detail A-1 Mod.
- 4" Conc. Sidewalk (Ramp areas are paid for Separately)
- Class "A" Sodding with Topsoil Surface, 3 in.
- Exist. Building to Remain
- 6" Conc. Sidewalk (Ramp areas are paid for Separately)
- Drainage Arrows
- Prop. Fence
- Class "A" Sodding with Topsoil Surface, 3 in.
- Moving 48" Fence (See Note 6)
- Exist. Sidewalk or Driveway to Remain
- Removing Bitum. Surf. & Resurface
- Adjust. Drainage Structure Cover
- Sidewalk Ramp, Type 1
- Sidewalk Ramp, Type 3
- Reconstructing Drainage Structure
- Conc. Base Course Reinf., 9 in. with 2 in. Bit. Surface
- Mower Ramp (Incidental to Contract Cost) For Construction Details, See Sht. #R32.
- Conc. Curb & Gutter Detail A-1 Mod.

- NOTES:**
1. For Alignment, See Sheets #R6 & #R7.
 2. For Utility Legend & Symbols, See Sht. #R32.
 3. Prop. Roadway edges shown are Face of Curb.
 4. For Construction Sequence, See Sht. #R11 thru #R12.
 5. For Street Return Radii, See Alignment Sht. #R6.
 6. Locate Fence Gate adjacent to Bridge Abut.
 7. Expansion Anchored Lane Ties to be used at the discretion of the Engineer depending on the condition of the existing pavement.

REVISIONS LOCATED BY COORDINATES ON SHEET IF-BF Revised S. Margin Width to B' 11/79 COORD. DESCRIPTION DRN CKD APVD DATE		DESIGNED BY Comly DRAWN BY Sucech TRACED BY CHECKED BY Botus	APPROVED: ENGINEER OF STREETS HIGHWAY ENGINEER	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS	JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA PLAN E'BD. & W'BD JEFFERSON STA. 45+50 (W'BD. JEFF) TO THIRD	SHEET ___ OF ___ SHEETS CONTRACT NO. 16563A R-18 DATE 8-79
--	--	---	--	--	--	---



46		47		48		49		50		51		52		53		54			
DWN BY: <i>Suresh</i>		APPROVED		<p style="text-align: center;">CITY OF DETROIT CITY ENGINEERING DIVISION-EPMD BUREAUS OF STREETS AND HIGHWAYS</p> <p style="text-align: center;">JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA</p> <p style="text-align: center;">WESTBOUND JEFFERSON AVE. PROFILES STA. 45+50 TO STA. 53+35.5</p>														Scale: Hor. 1"=40' Vert. 1"=4'	
CKD BY:																		SHEET ___ OF ___ SHEETS	
																		CONTRACT NO. 16563A	
				R-19		DATE 8-79													



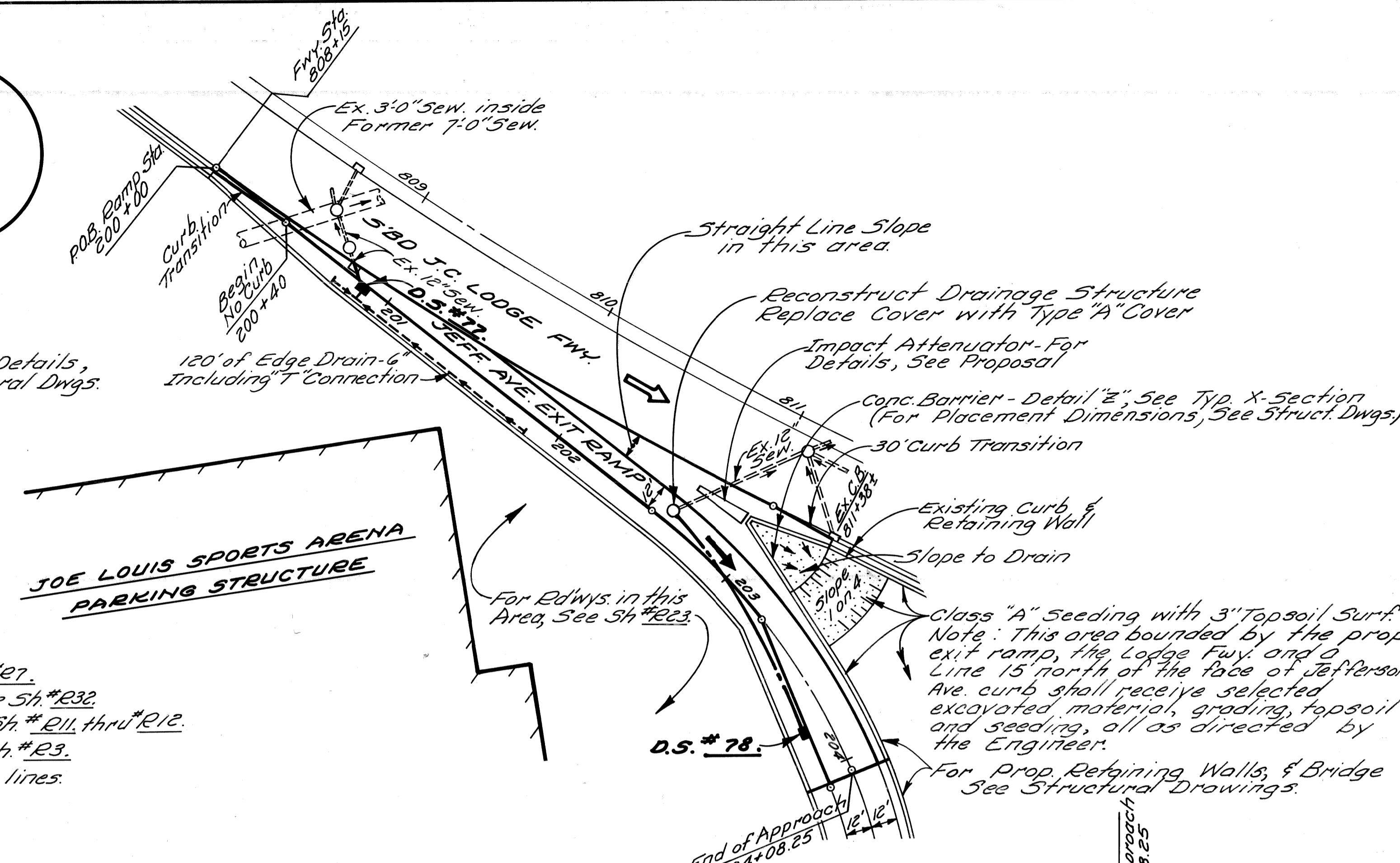
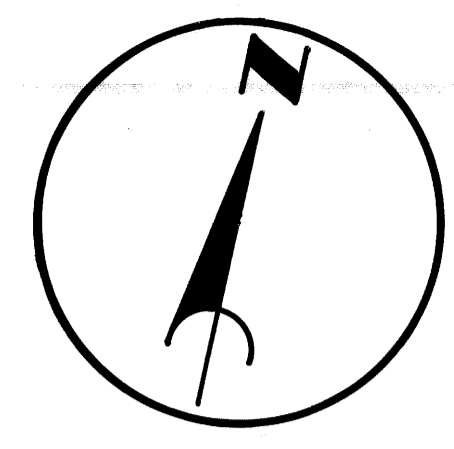
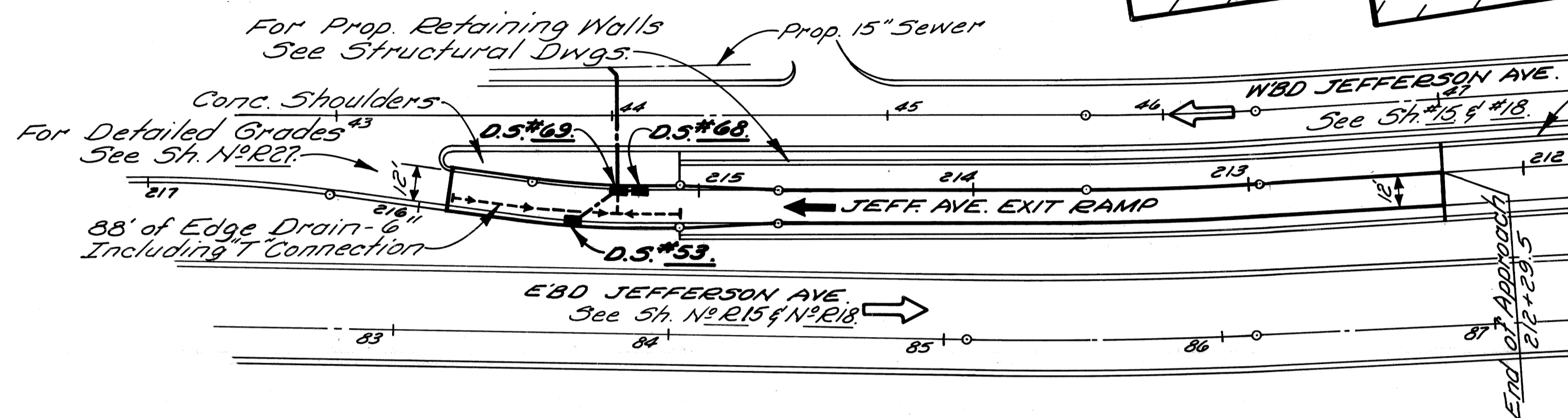
PROFILES
 Hor. 1"=40'
 Scale: Vert. 1"=4'

85 86 87 88 89 90 91 92 93 94

		APPROVED		CITY OF DETROIT CITY ENGINEERING DIVISION-EPMD BUREAUS OF STREETS AND HIGHWAYS	JOHN C LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA EASTBOUND JEFFERSON AVE. PROFILES STA. 85+30 TO STA. 92+99.59	SHEET ___ OF ___ SHEETS
DWN BY	WAB					CONTRACT NO. 16563A
CKD BY						R-20
						DATE 8-79

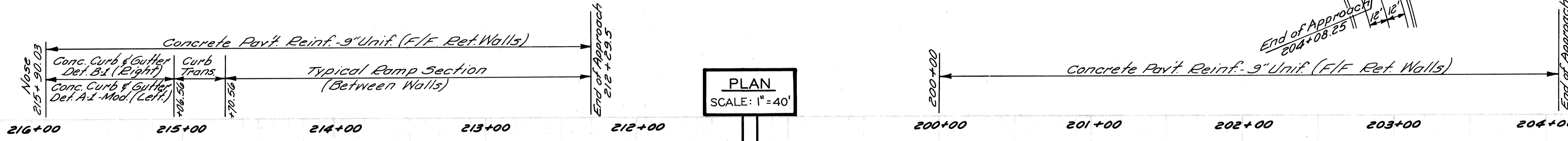
DRAINAGE STRUCTURE TABLE

DRAINAGE STRUCT. NO. (D.S.)	TYPE OF STRUCT.	WITH TRAP (T)	SEWER LENGTH & TYPE LEAVING (D.S.)			TRENCH DETAIL (L.F.)			TYPE OF COVER	COMMENTS
			LENGTH (FT.)	SIZE (IN.)	CLASS (C-76)	8	9			
53	C.B."A"		17	12	III			17	H	
68	C.B."A"		4	12	III			4	J	
69	C.B."B"	T	42	12	III			42	J	Connect to Prop. 15" Sewer at 212+00
77	C.B."A"		11	12	III			11	D	Meet Outlet of Ex. Catch Basin
78	C.B."B"		118	12	III			118	D	

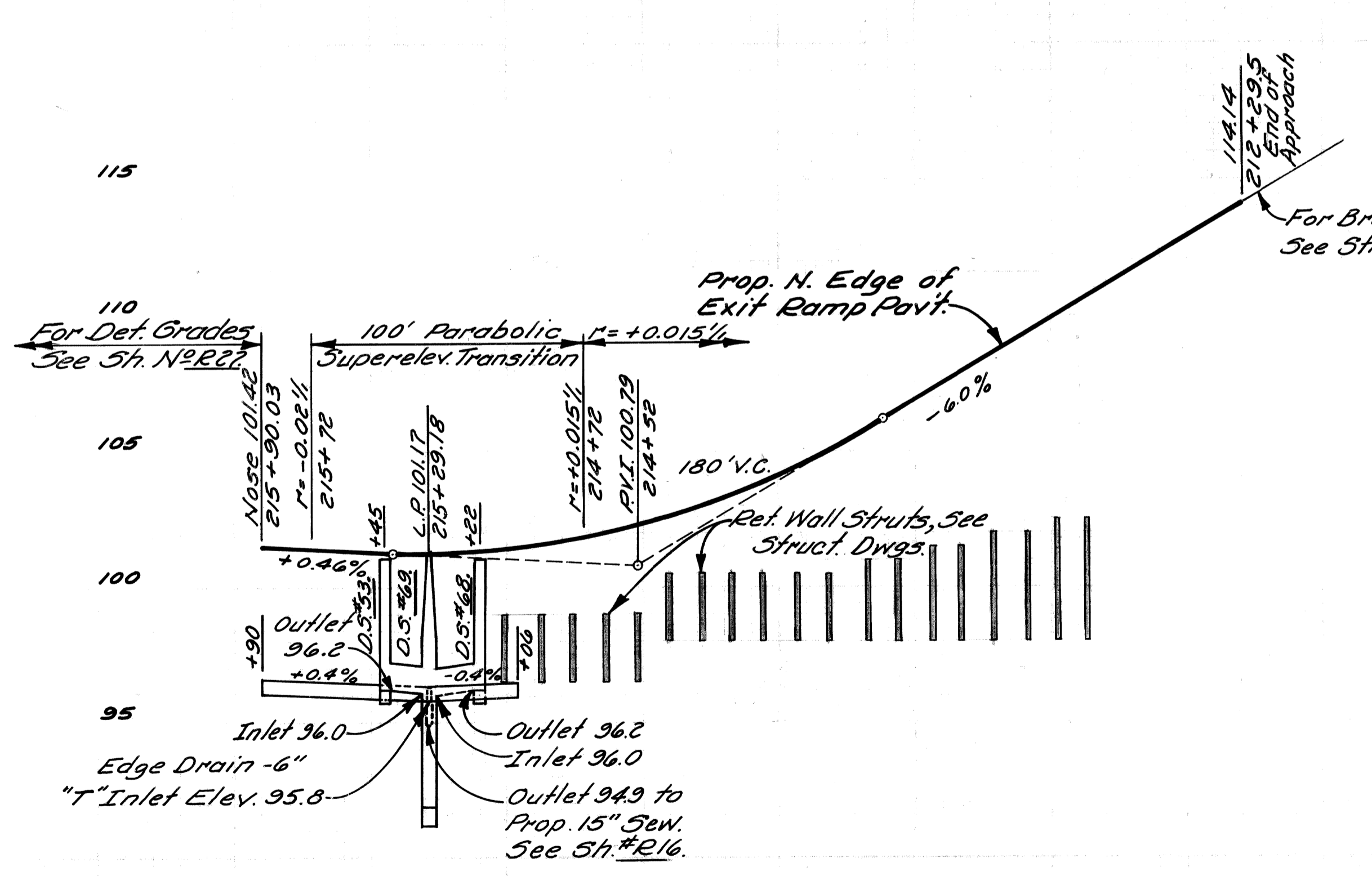


NOTES:

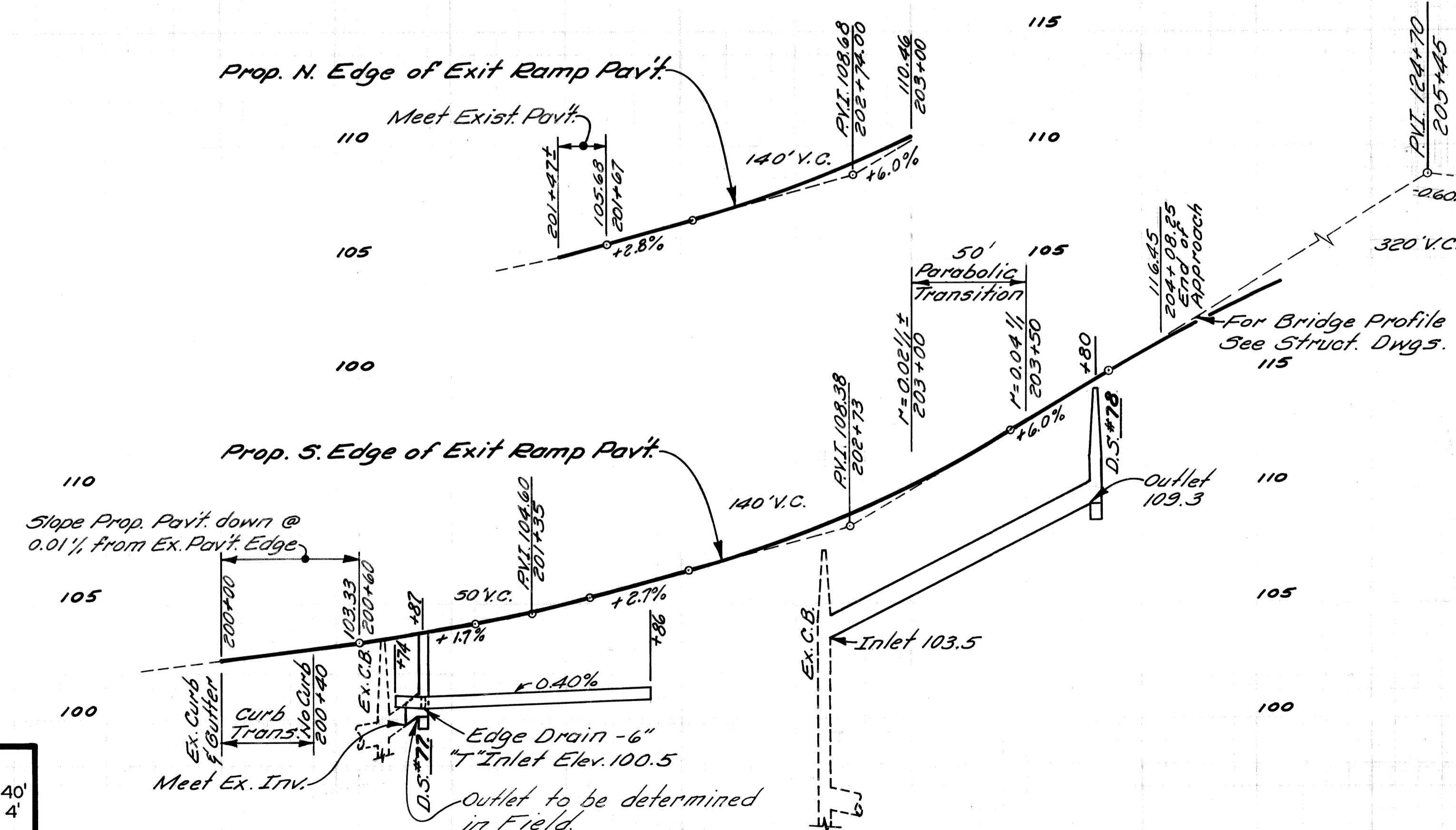
1. For Alignment, See Sh. #R5, & #R7.
2. For Utility Legend & Symbols, See Sh. #R32.
3. For Construction Sequence, See Sh. #R11, thru #R12.
4. For Typical Cross Sections, See Sh. #R3.
5. Roadway edges shown are joint lines.



PLAN
SCALE: 1" = 40'



PROFILES
SCALE: HOR. 1" = 40'
VERT. 1" = 4'



DESCRIPTION	DR. N.	CK. D.	AP. VD.	DATE	BY			CHECKED BY	APPROVED:
					PLAN	GRADE	ESTIMATE		
REVISIONS									

CITY OF DETROIT
CITY ENGINEERING DIVISION-EPMD
BUREAUS OF STREETS AND HIGHWAYS

JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION
AT THE JOE LOUIS ARENA

EXIT RAMP PLANS & PROFILES

INDEX NO.	SHEET	OF	SHEETS
CONTRACT NO.	16563A		
INDEXED	R-21		
DATE	8-79		

D.S. NO.	TYPE OF STRUCT.	WITH TRAP (T)	SEWER LENGTH AND TYPE		D.S. CLASS	SEWER TAP SIZE (IN)	TRENCH DETAIL		COMMENTS	TYPE OF COVER
			LENGTH (FT)	SIZE (IN)			8	9		
70	C.B. "A"		54	12	C76-III		54		OUTLET 96.42 ±	H
71	C.B. "B"		52	12	C76-III		27	25	OUTLET 95.95 ±	H
72	C.B. "A"		52	12	C76-III		52		OUTLET 95.85 ±	D
73	C.B. "B"	T	38	12	C76-III		38		OUTLET 95.39 ±	D

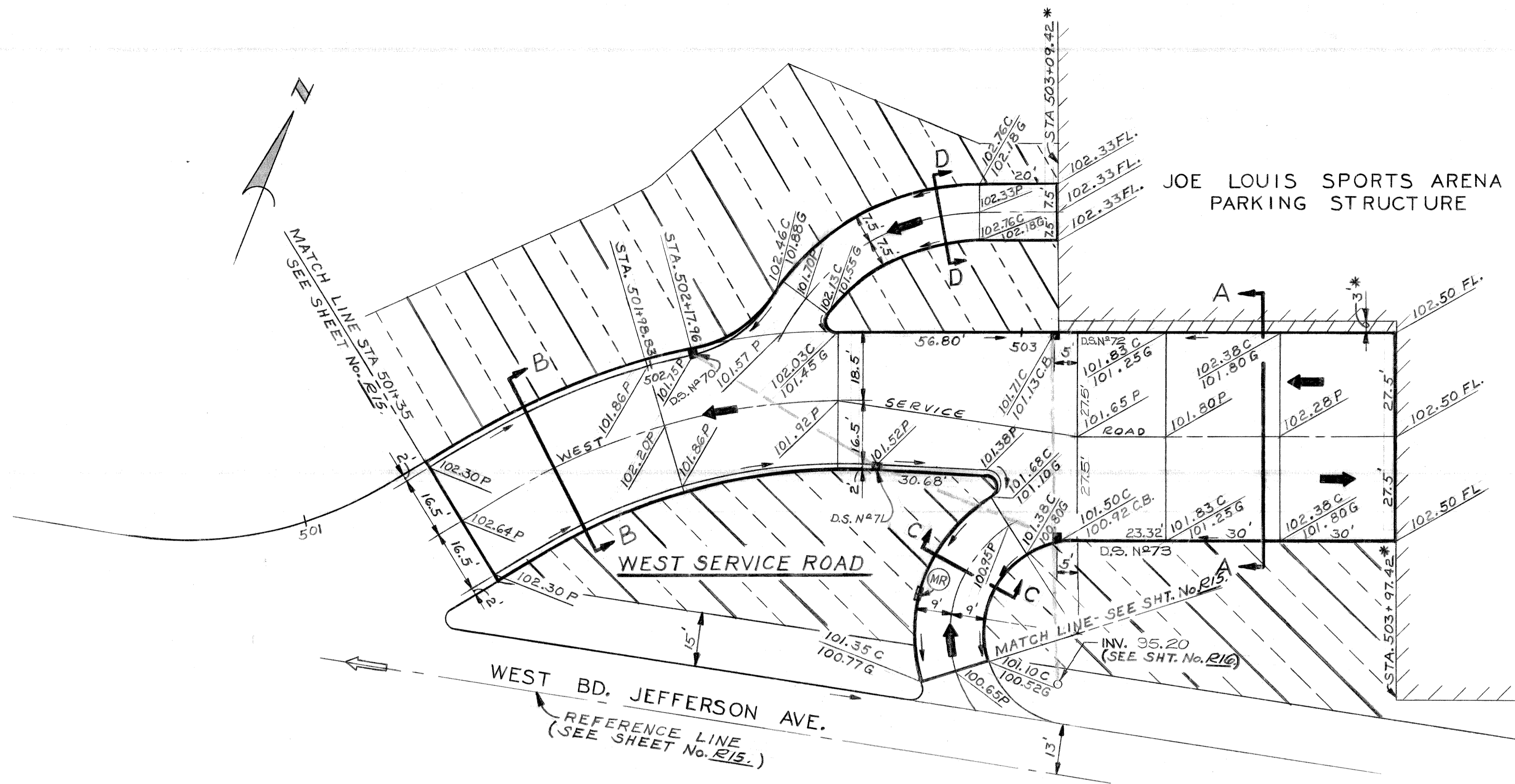
NOTE: Paving was deleted from job as the Parking Structure was not complete on time. The paving was completed later by Barton-Malow as an extra to their garage contract.

RAK

NOTES

1. FOR ALIGNMENT, SEE SHT. No. R5.
2. ROADWAY LINES SHOWN ARE FACE OF CURB.
3. FOR BENCH MARKS, SEE SHT. No. R15.
4. FOR SECTIONS AND DETAILS SEE SHT. No. R4.
5. FOR CONSTRUCTION SEQUENCE SEE SHT. No. R11 THRU No. R12.

102.38C (PROP. CURB ELEV.)
101.80G (PROP. EDGE OF PAVT. ELEV.) } TYPICAL

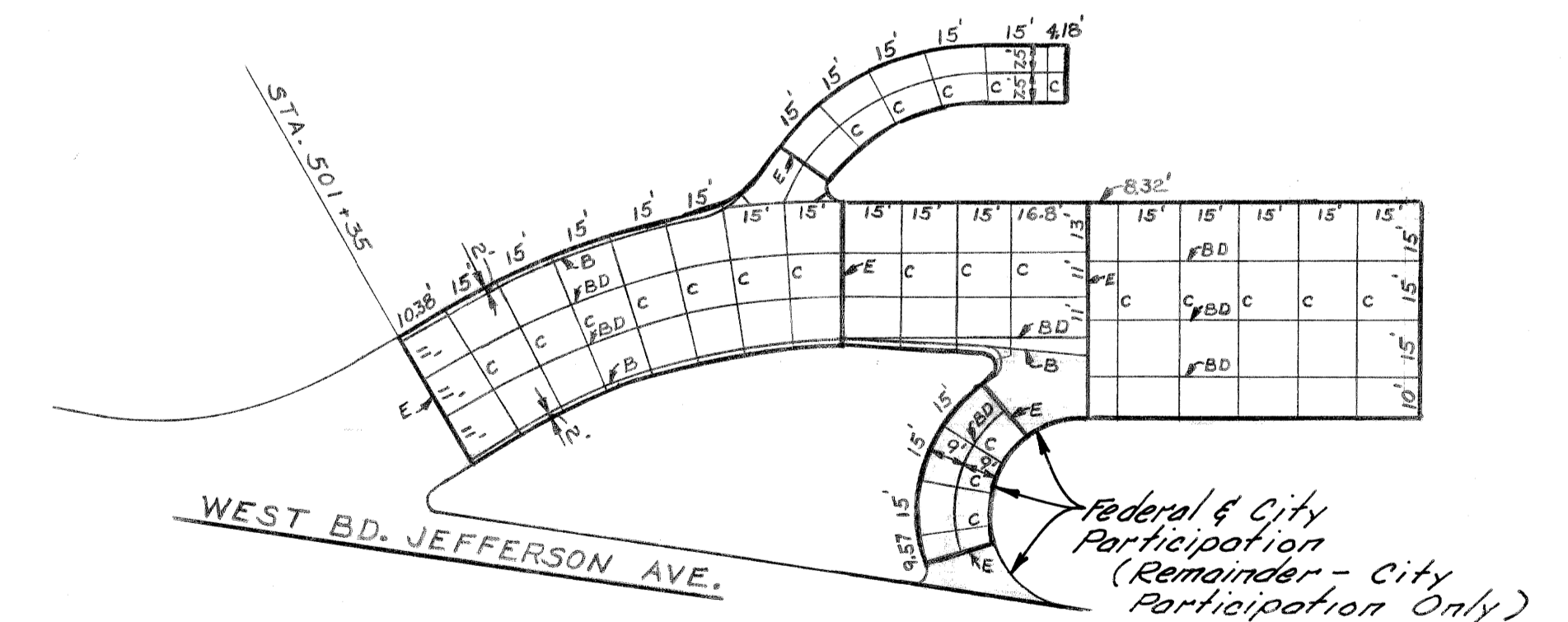


NOTE: * ASTERISK INDICATES DIMENSIONS ARE TO $\frac{1}{2}$ OF GARAGE COLUMN LINES

PLAN
SCALE 1"=20'

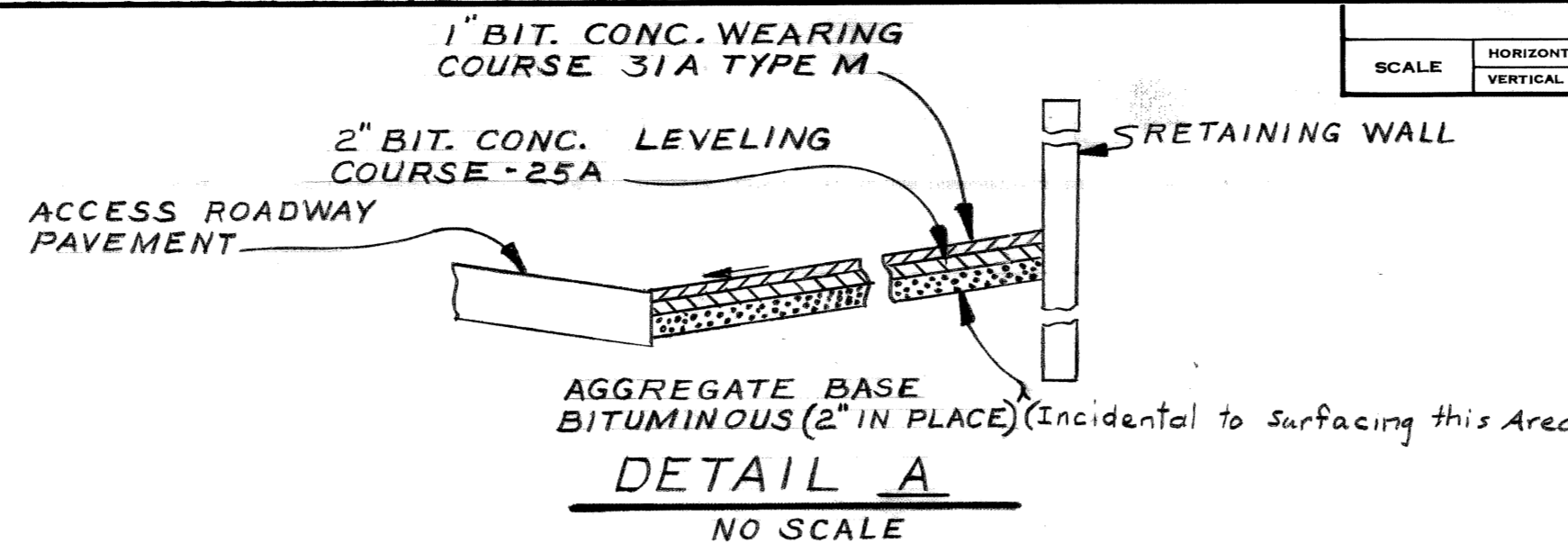
LEGEND

- EXISTING BUILDING TO REMAIN
- 4" CONCRETE SIDEWALK
- MOWER RAMP (INCIDENTAL TO CONTRACT COST) FOR CONSTRUCTION DETAILS, SEE SHEET No. R32.
- CONCRETE PAVEMENT NONREINFORCED - 8"
- DRAINAGE DIRECTION ARROW
- CLASS "B" SODDING WITH 3" TOPSOIL



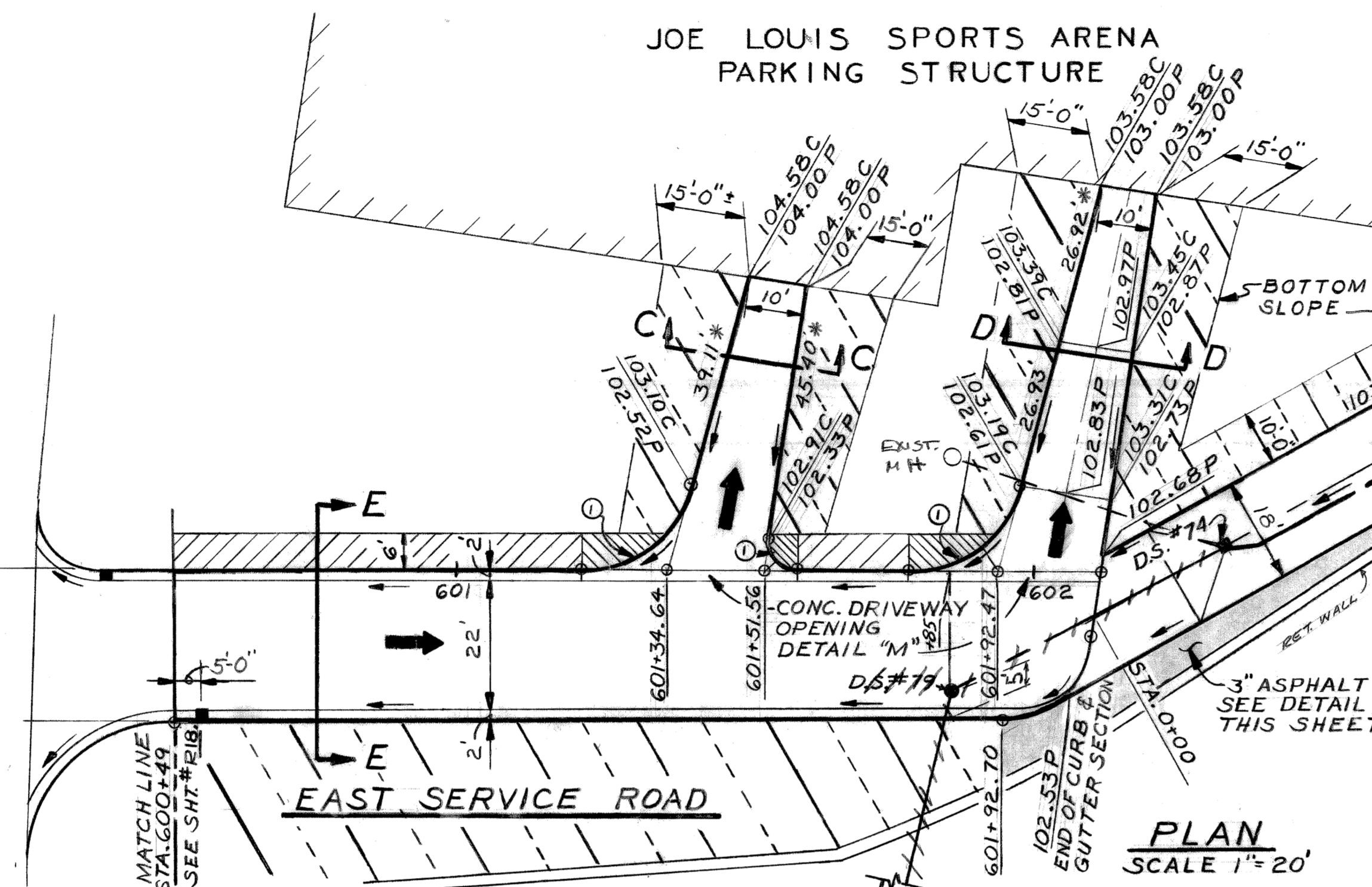
JOINTING DETAIL
NO SCALE
(FOR JOINT LEGEND, SEE SHEET No. R4)

REFERENCE DRAWINGS DESIGNED BY <i>Talley</i> DRAWN BY <i>R Rosik</i> TRACED BY CHECKED BY <i>WT</i>		APPROVED: <i>James Lawrie</i> ENGINEER OF STREETS HIGHWAY ENGINEER		CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAU OF STREETS AND HIGHWAYS			JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA WEST SERVICE ROAD			SHEET <u> </u> OF <u> </u> SHEETS CONTRACT NO. <u>16563A</u> R-22 DATE <u>8-79</u>	
REVISIONS LOCATED BY COORDINATES ON SHEET											



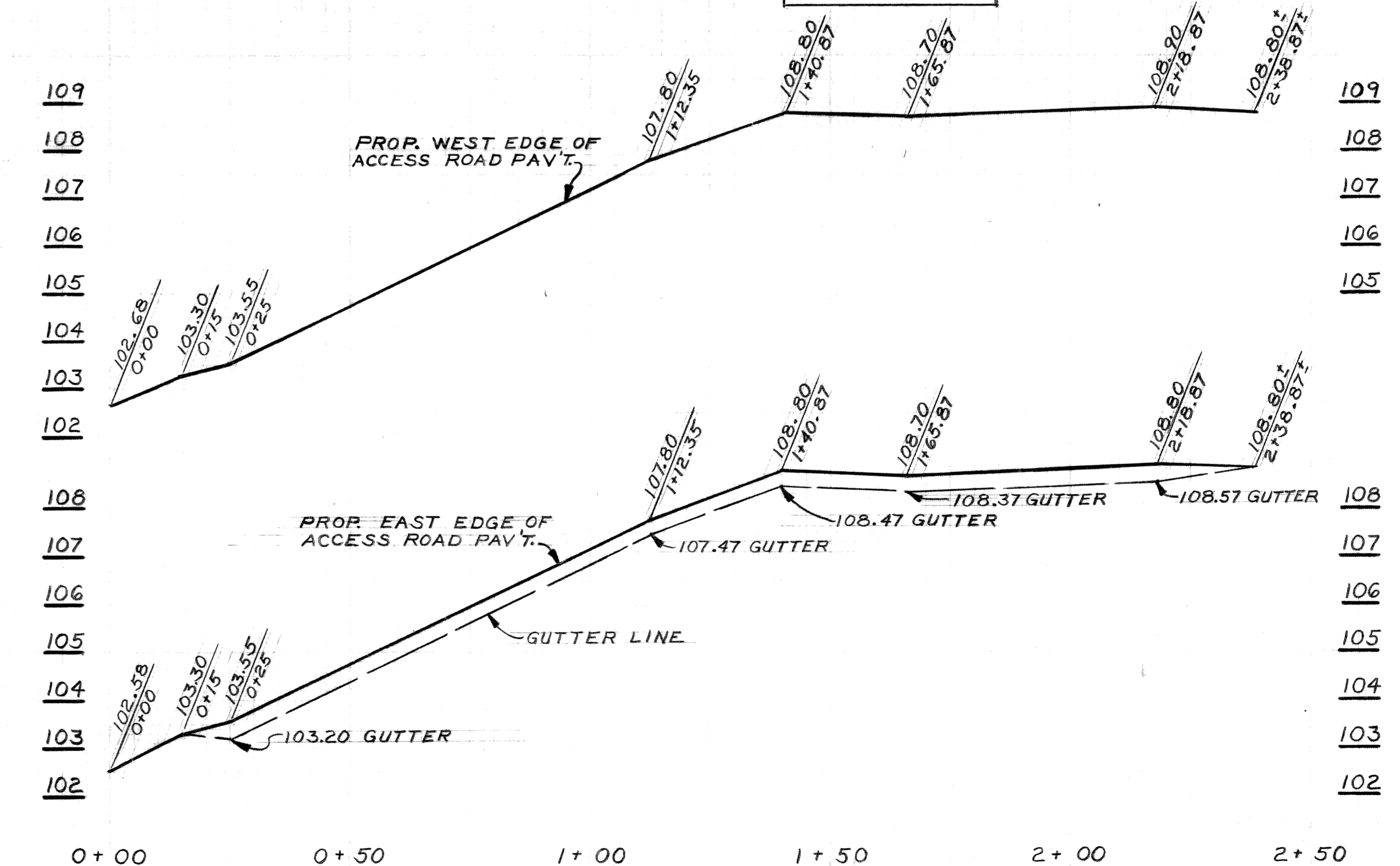
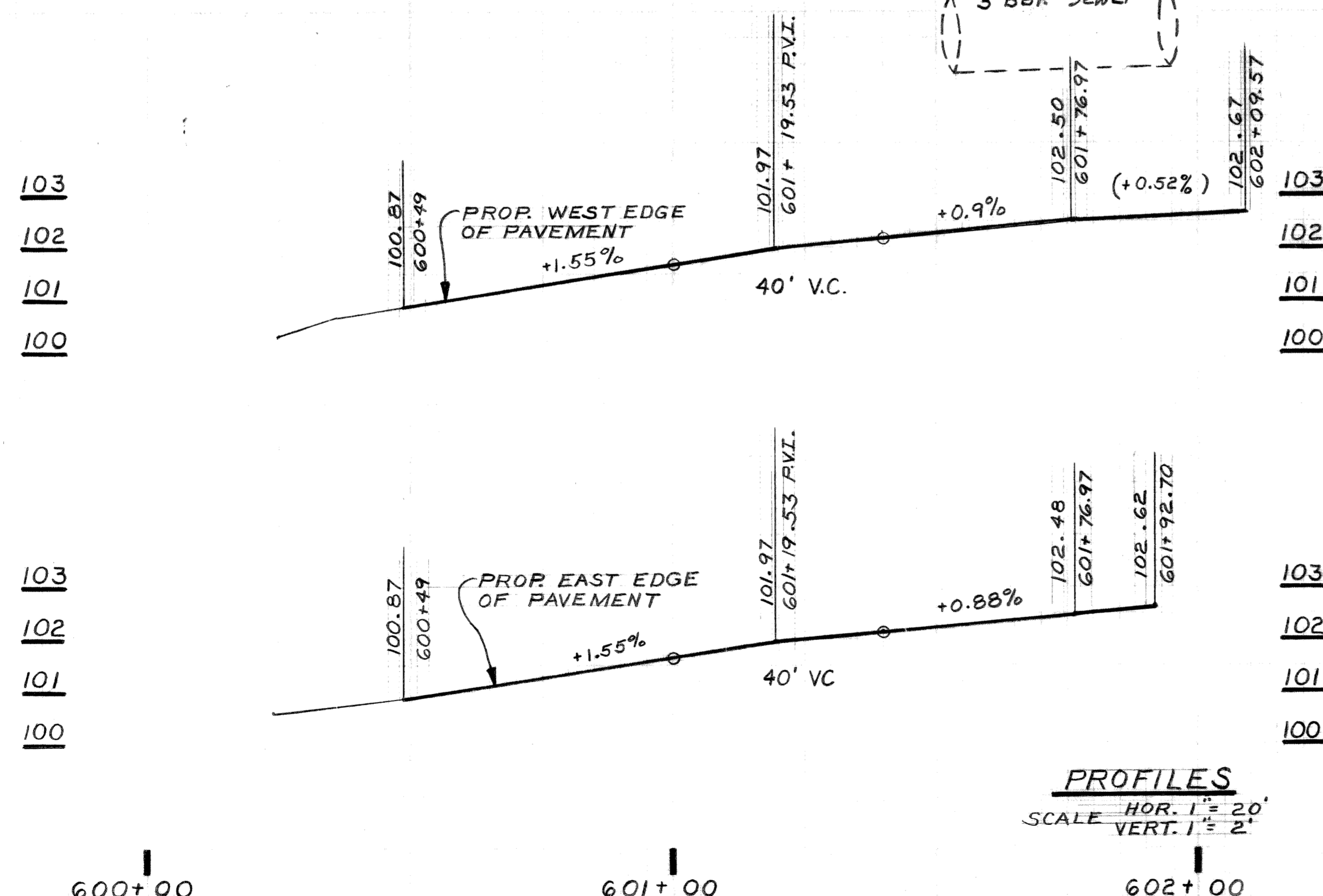
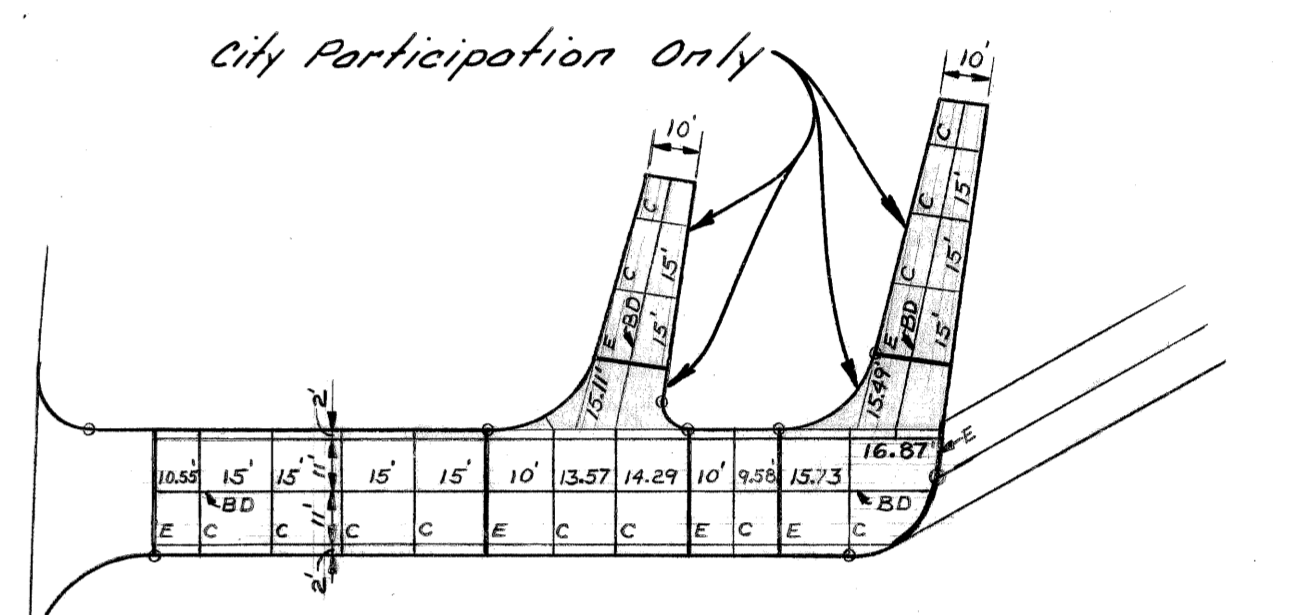
- NOTES**
1. FOR ALIGNMENT, SEE SH. No. R6.
 2. ROADWAY LINES SHOWN ARE FACE OF CURB.
 3. FOR BENCH MARKS SEE SH. No. R18.
 4. FOR SECTIONS AND DETAILS SEE SH. No. R4.
 5. FOR CONSTRUCTION SEQUENCE SEE SH. # R11 THROUGH R12.
 6. FOR PLAN LEGEND SEE SH. No. R22.

WEST BD. JEFFERSON AVE.
↑

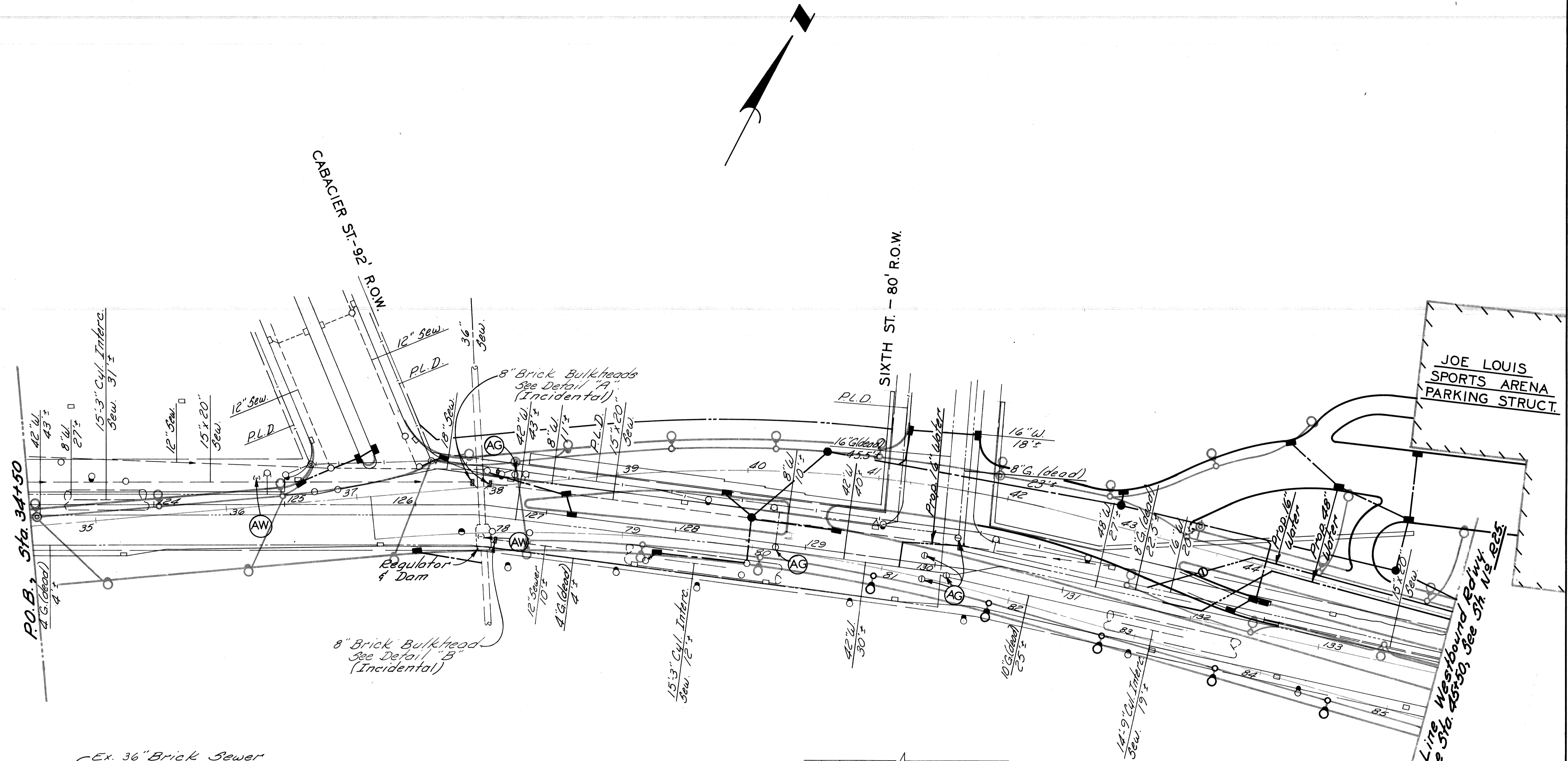


NOTE: * ASTERISK INDICATES DIMENSIONS ARE TO 1/2 OF GARAGE COLUMN LINES

D.S. No.	TYPE OF STRUCT.	WITH TRAP	SEWER LENGTH (FT.)	TYPE LEAVING	SEWER TAP SIZE (IN)	TRENCH DETAIL	TYPE OF COVER	COMMENTS
74	CB "A", "B"	T	140	12	C-76 II	70	D	Inlet 99.80 From D.S.#75 OUTLET 99.00 94.20
75	C.B. "A", "B"	T	70	12	C-76 II	70	D	OUTLET 100.57 90.20 (12\" IN TUNNEL)
76	TRENCH DRAIN		15	4	B	4		USE NEENAH COVER #R-4995-A1 8 FOOT LG.
79	MH S-2		100	12	C-76 II	12	A	BOTTOM OUTLET

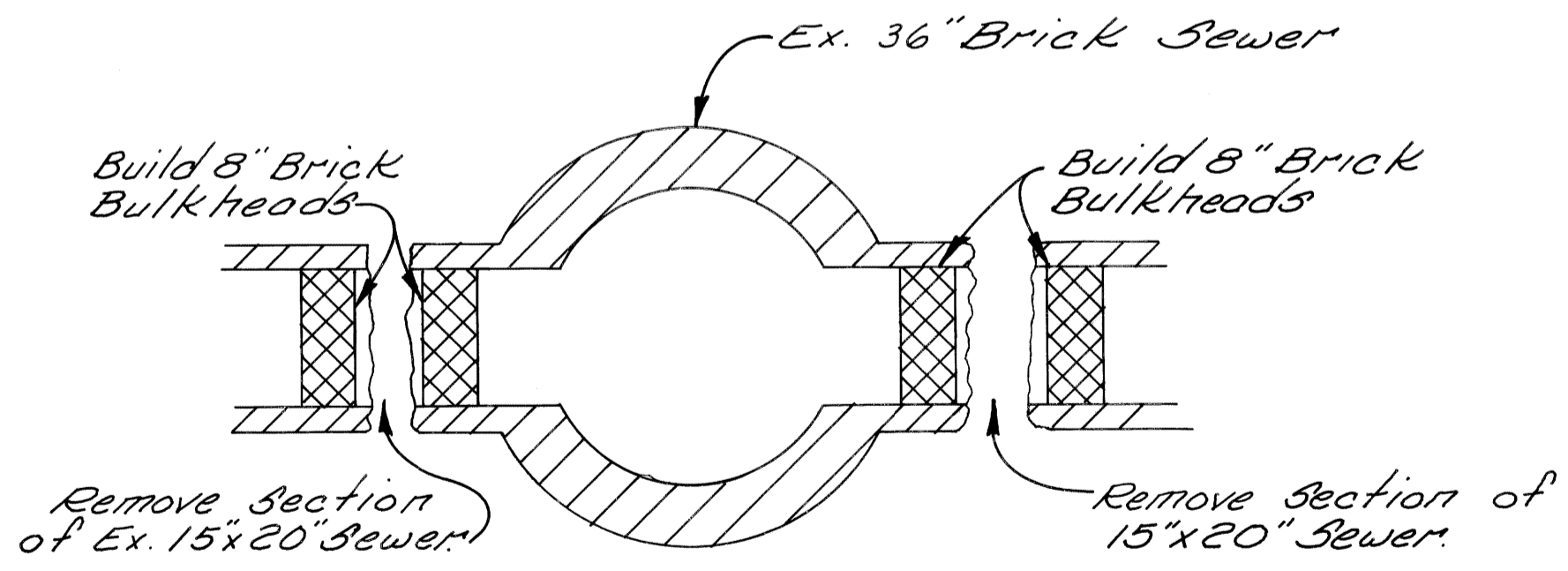


PLAN R Rosik GRADE Talley ESTIMATE RP 11/79 DESCRIPTION DR N CK D AP VD DATE REVISIONS		CHECKED BY APPROVED: ENGINEER OF STREETS HIGHWAY ENGINEER		CITY OF DETROIT CITY ENGINEERING DIVISION-EPMD BUREAUS OF STREETS AND HIGHWAYS		JOHN C. LODGE EXIT RAMP AND JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA EAST SERVICE ROAD		INDEX NO. SHEET OF SHEETS CONTRACT NO. 16563A INDEXED R-23 DATE 8-79	
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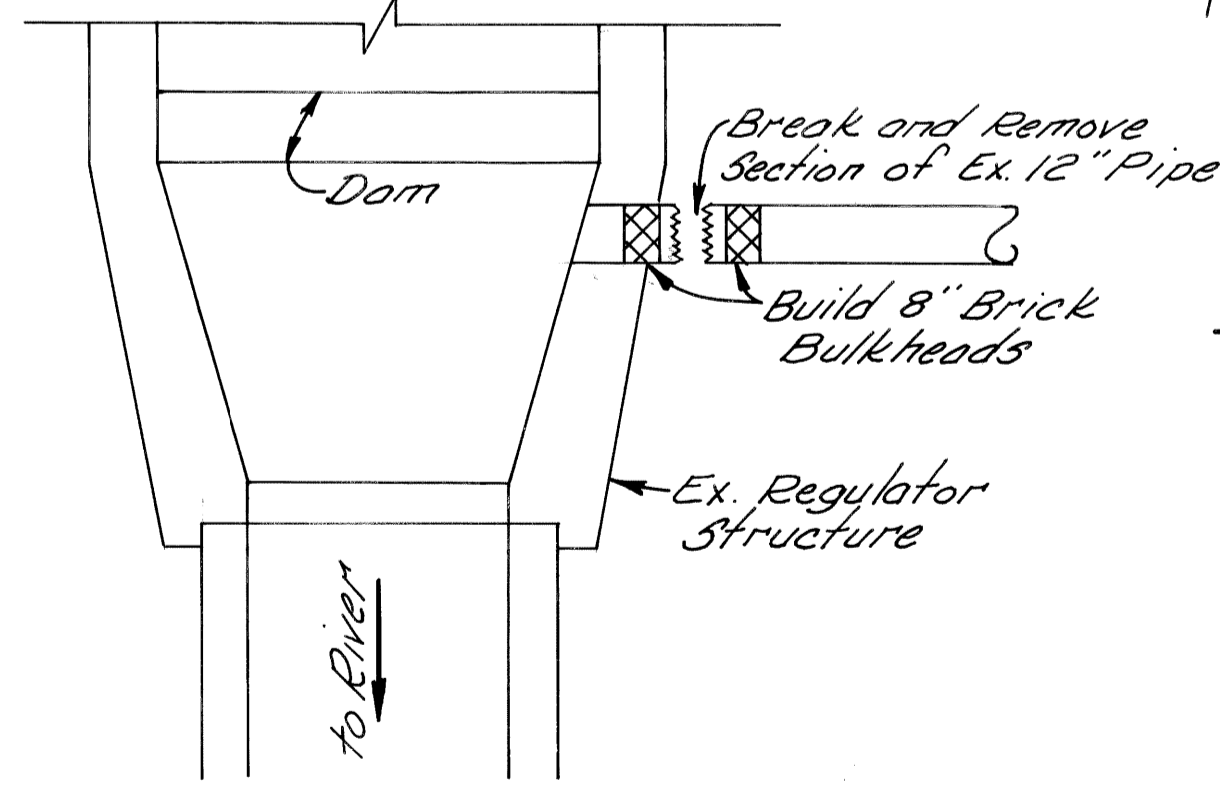
JOE LOUIS
SPORTS ARENA
PARKING STRUCT.

Match Line Westbound Rdwy
Ref Line Sta. 45+50, See Sh. No. 825



DETAIL "A"
NO SCALE

LEGEND
 (AW) Adjusting Water Shutoffs
 (AG) Adjusting Gatewell Manhole Cover



DETAIL "B"
NO SCALE

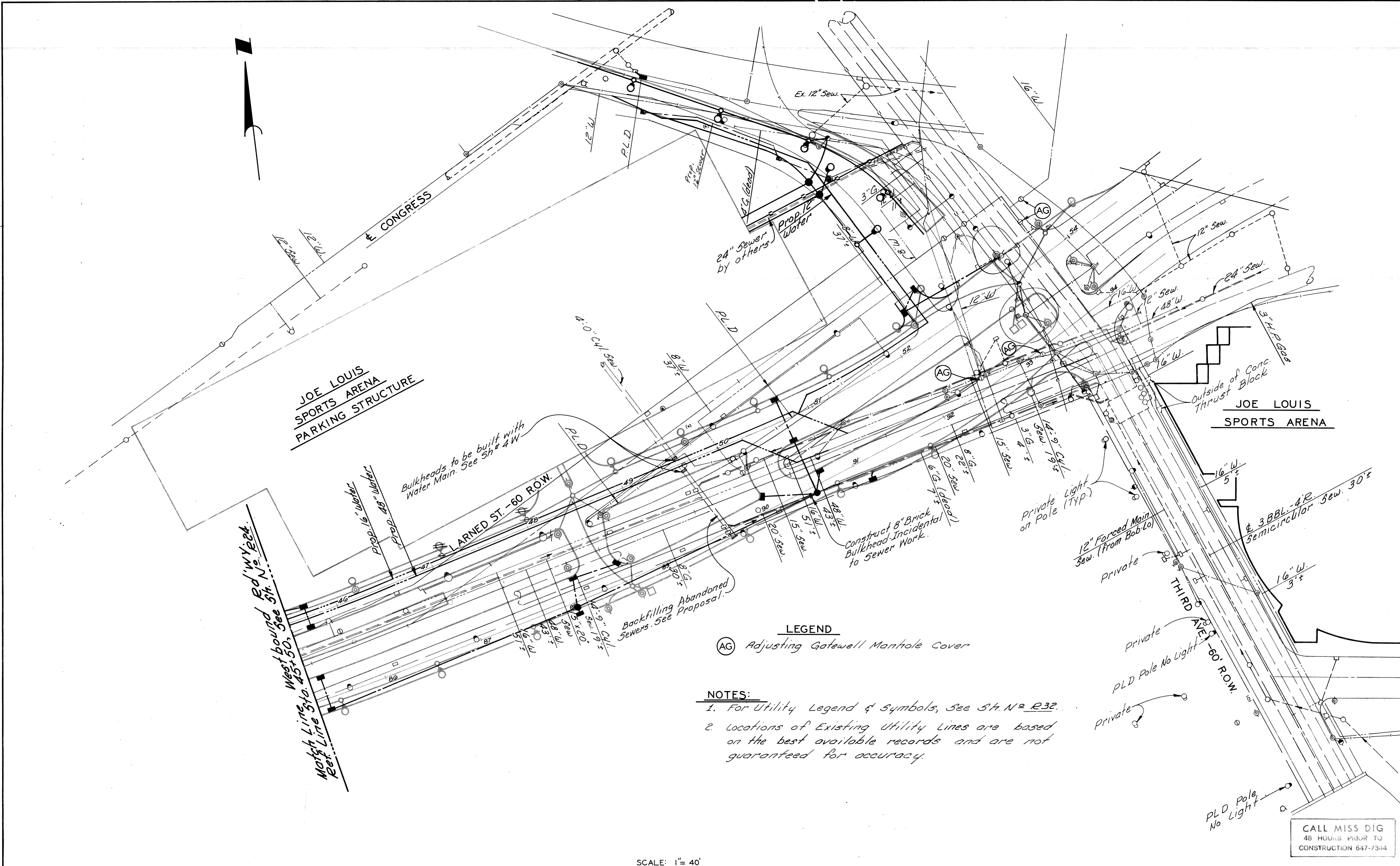
NOTES:
 1. For Utility Legend & Symbols, See Sh. No. R32.
 2. Locations of Existing Utility Lines are based on the best available records and are not guaranteed for accuracy.

CALL MISS DIG
48 HOURS PRIOR TO
CONSTRUCTION 647-7344

SCALE: 1"=40'

REVISIONS LOCATED BY COORDINATES ON SHEET 1 2 3 4 5 6 7 8 9 10 11		REFERENCE DRAWINGS DESIGNED BY DRAWN BY TRACED BY CHECKED BY	APPROVED: ENGINEER OF STREETS HIGHWAY ENGINEER	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS	JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA UTILITIES STA. 34+50 TO STA. 45+50	SHEET ____ OF ____ SHEETS CONTRACT NO. 16563A R-24 DATE 8-79
--	--	--	--	--	--	---

COORD	DESCRIPTION	DRN	CK'D	AP'D	DATE
6E	Prop. Sewer Run Revised	RP			11/79



West bound Rd'w'y.ect.
 Match Line Sta 45+50, See Sh. No. R32.
 Ref. Line Sta 45+50.

LEGEND
 (AG) Adjusting Gatewell Manhole Cover

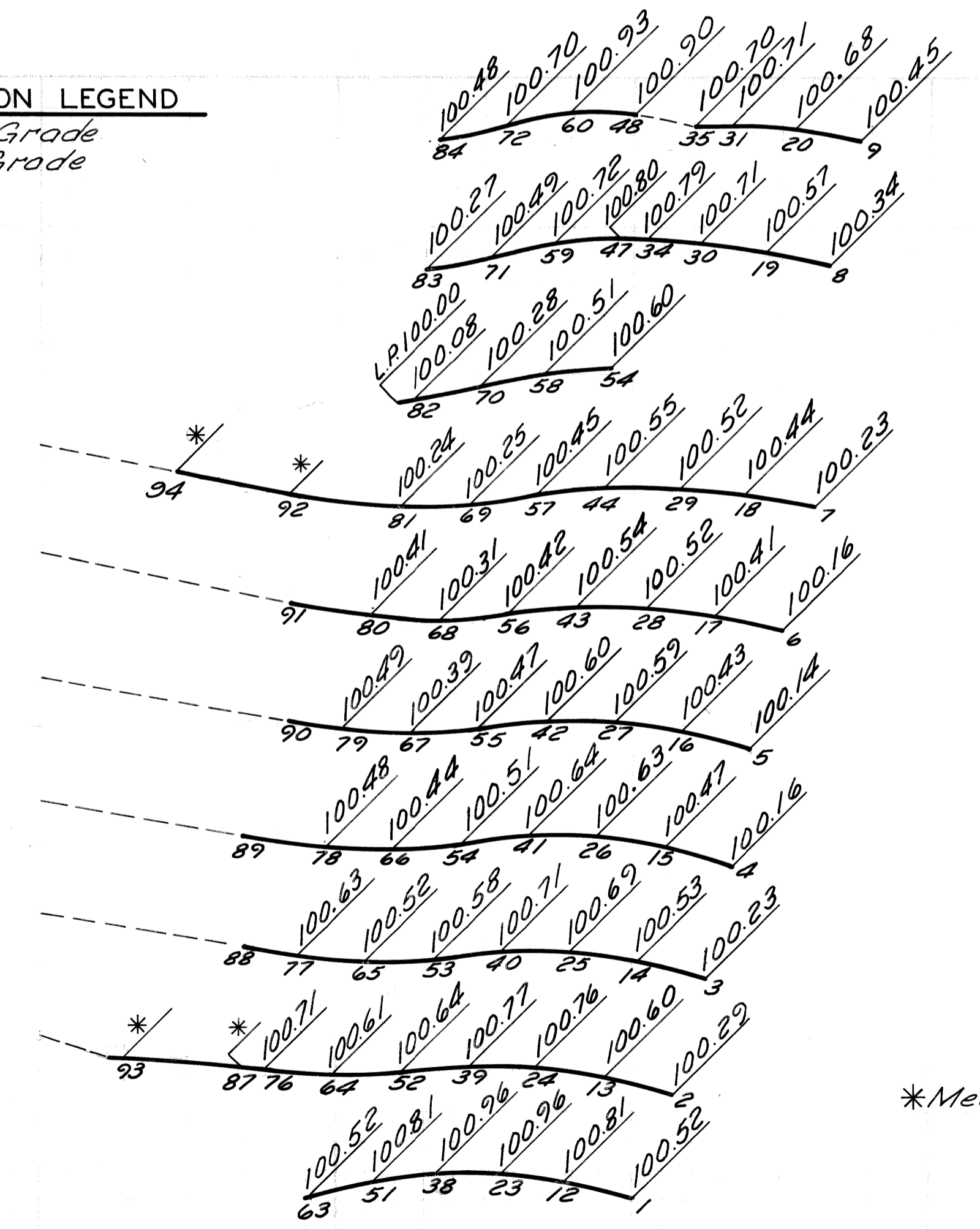
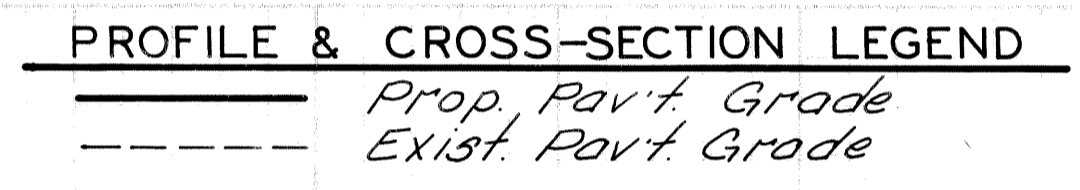
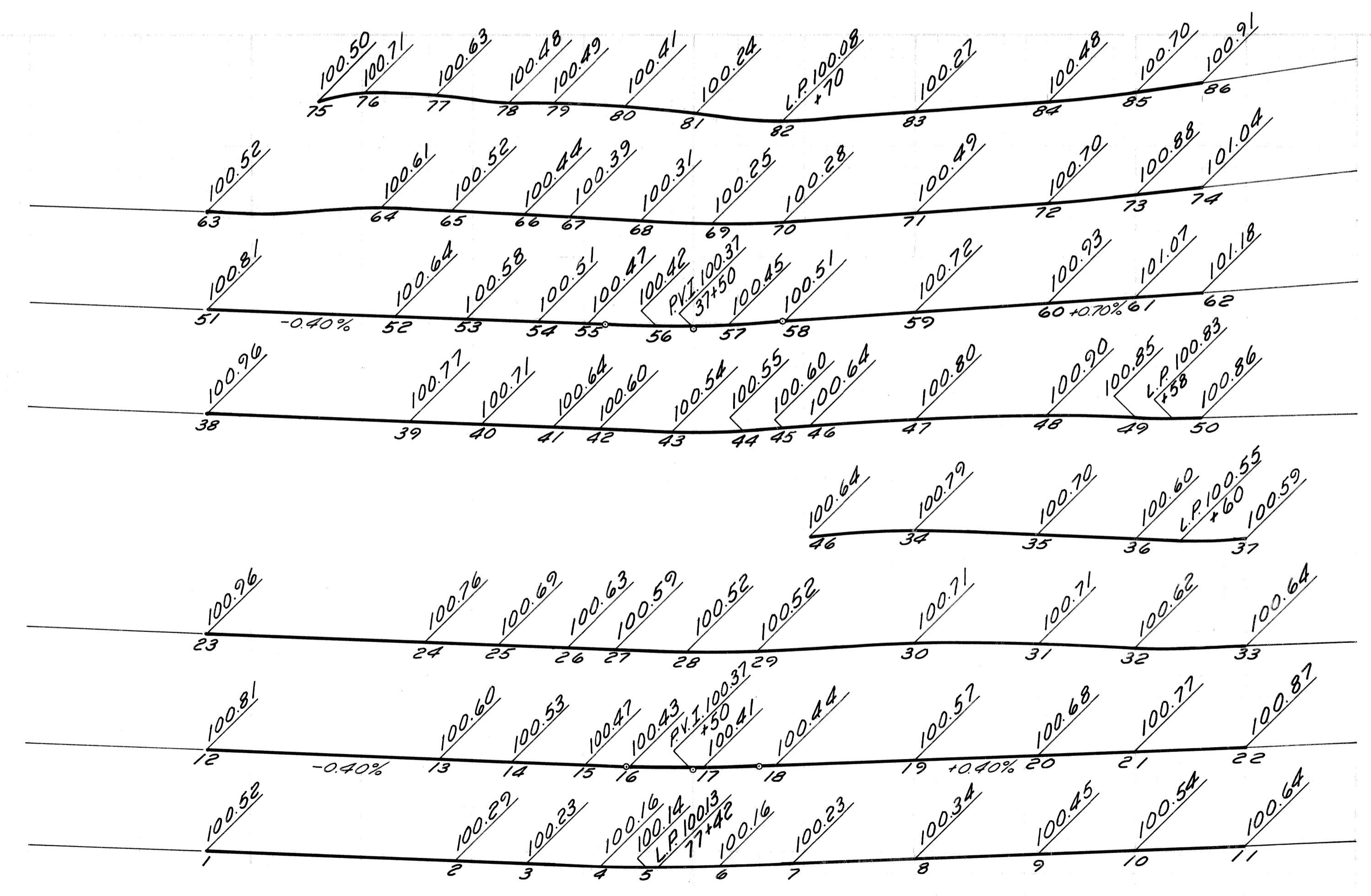
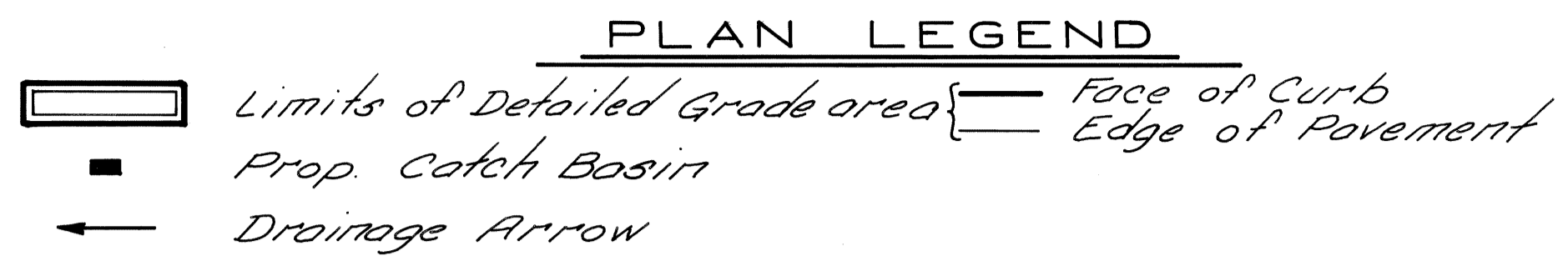
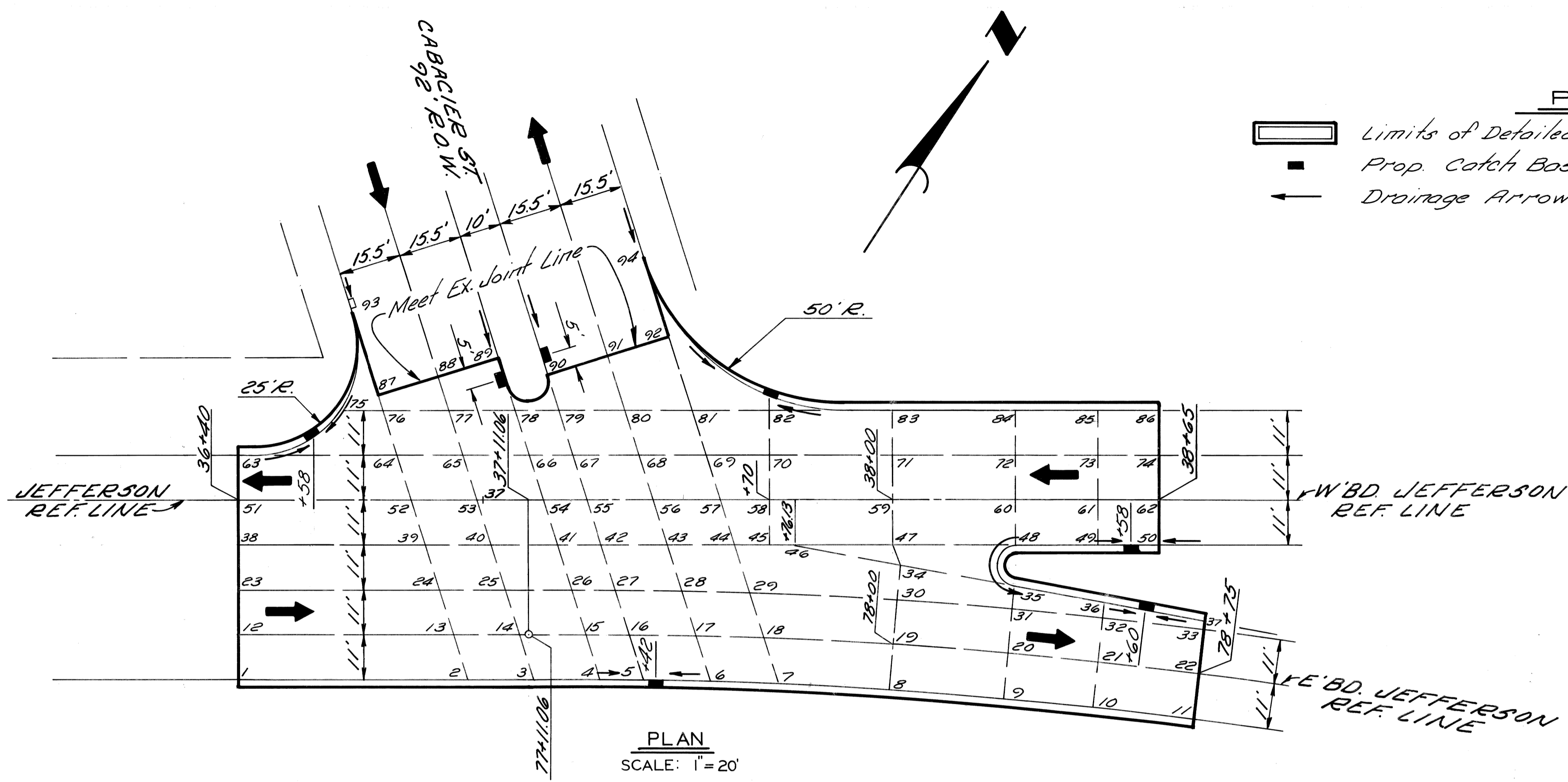
NOTES:
 1. For Utility Legend & Symbols, See Sh. No. R32.
 2. Locations of Existing Utility Lines are based on the best available records and are not guaranteed for accuracy.

CALL MISS DIG
 48 HOURS PRIOR TO
 CONSTRUCTION 647-7344

SCALE: 1" = 40'

REVISIONS LOCATED BY COORDINATES ON SHEET 1 2 3 4 5 6 7 8 9 10 11		REFERENCE DRAWINGS DESIGNED BY DRAWN BY TRACED BY CHECKED BY	APPROVED: ENGINEER OF STREETS HIGHWAY ENGINEER	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAU OF STREETS AND HIGHWAYS	JOHN C LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA UTILITIES E'BD & W'BD. JEFFERSON STA. 45+50 (W'BD. JEFF.) TO THIRD	SHEET ____ OF ____ SHEETS CONTRACT NO. 16563A R-25 DATE 8-79
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COORD.	DESCRIPTION	DRN	CK'D	AP'D	DATE
E4	Revised Two St. Light Locations				
B5-B8	Added E. Service Drive Drainage System				11/79



*Meet Existing Pav't.

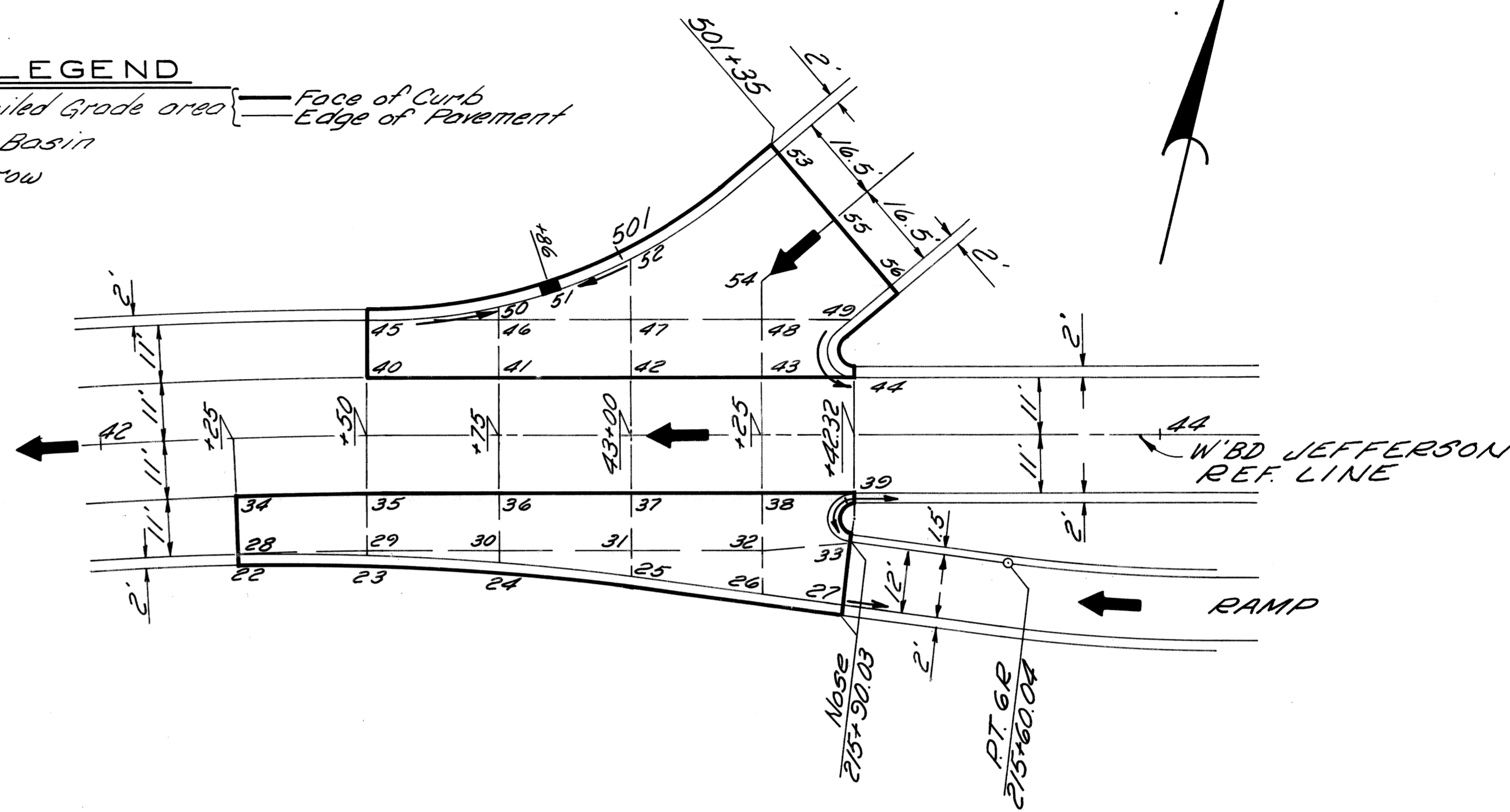
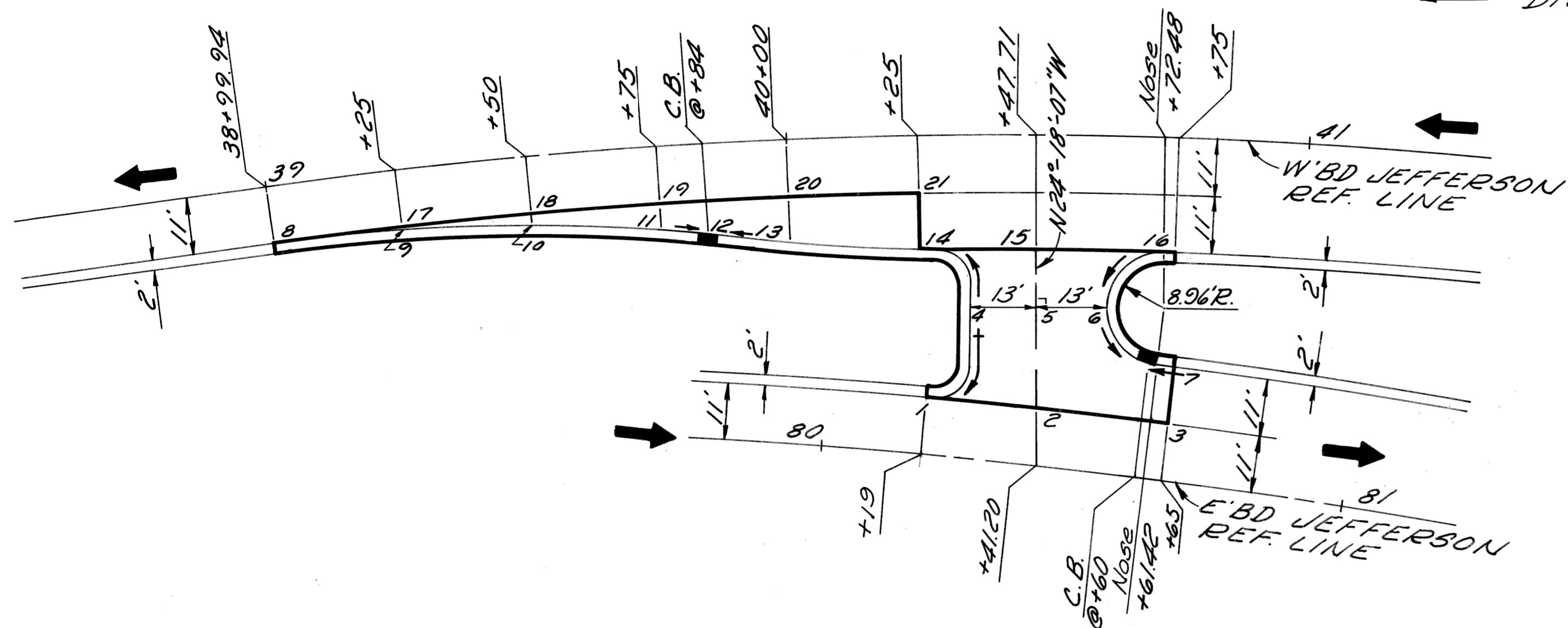
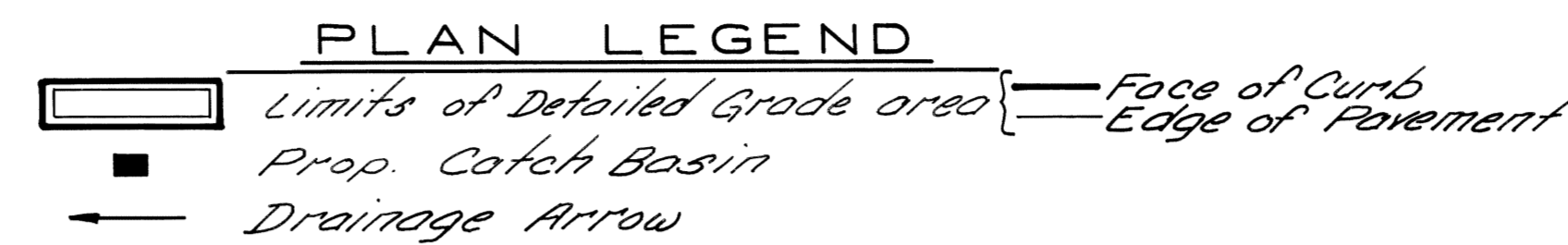
Scale: Hor. 1"=20'
Vert. 1"=2'

PLAN	BY	CHECKED BY	APPROVED:
GRADE			ENGINEER OF STREETS
ESTIMATE			HIGHWAY ENGINEER
DESCRIPTION	DR. N	CK. D	AP. V
REVISIONS	DATE	CHECK	REVIEW

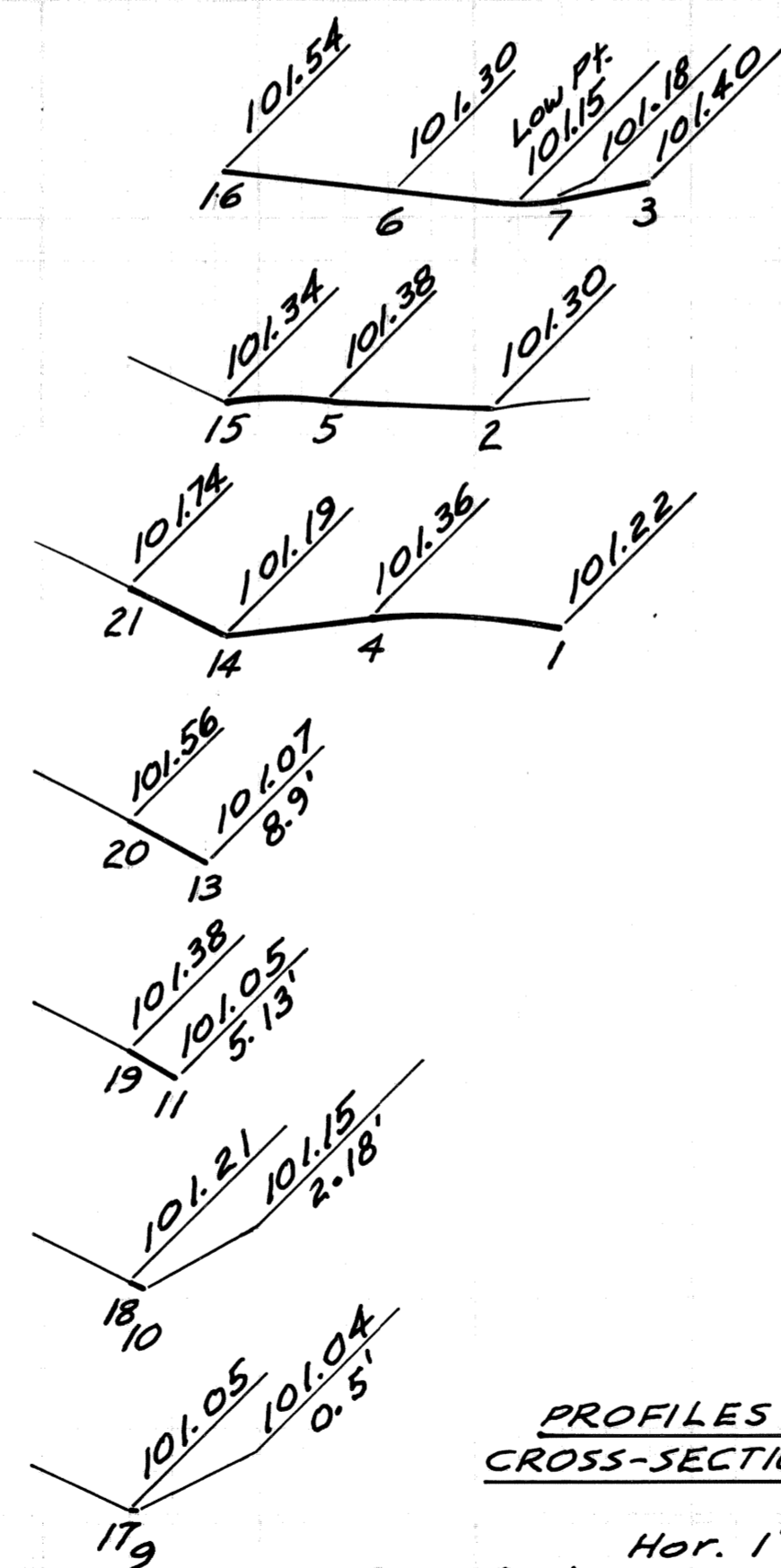
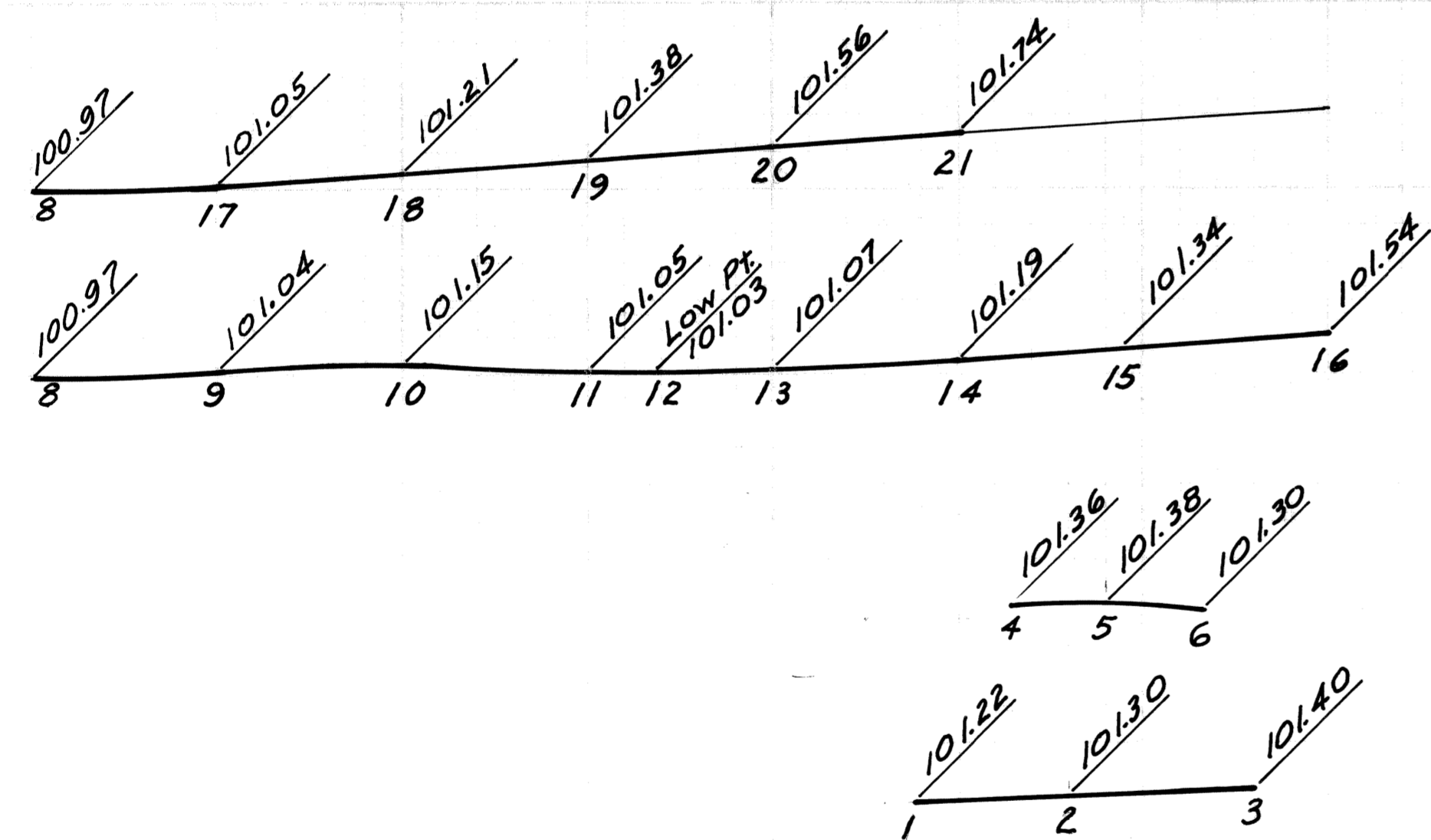
CITY OF DETROIT
CITY ENGINEERING DIVISION-EPMD
BUREAUS OF STREETS AND HIGHWAYS

JOHN C LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION
AT THE JOE LOUIS ARENA
DETAILED GRADES
JEFFERSON AVE. AT CABACIER ST.

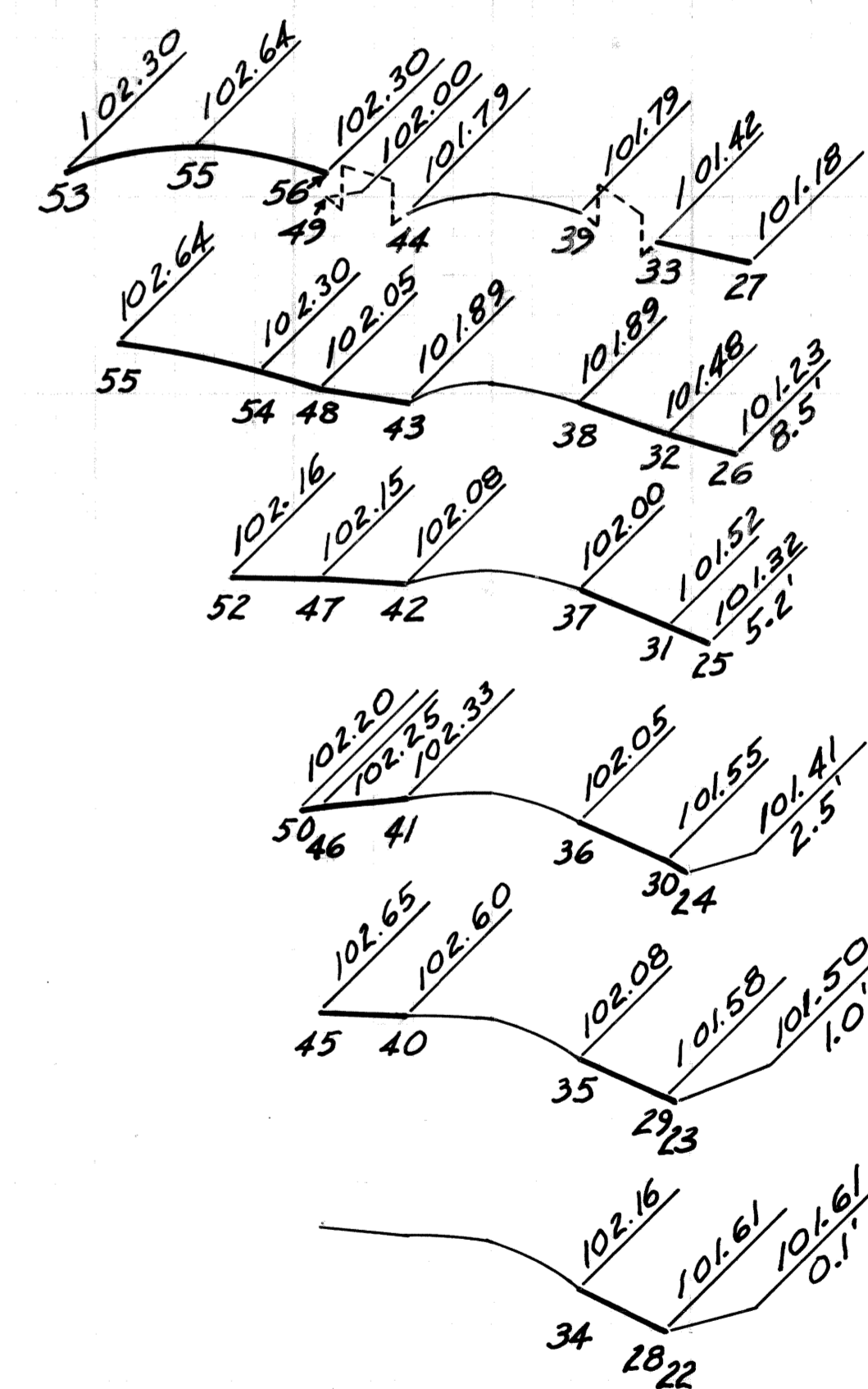
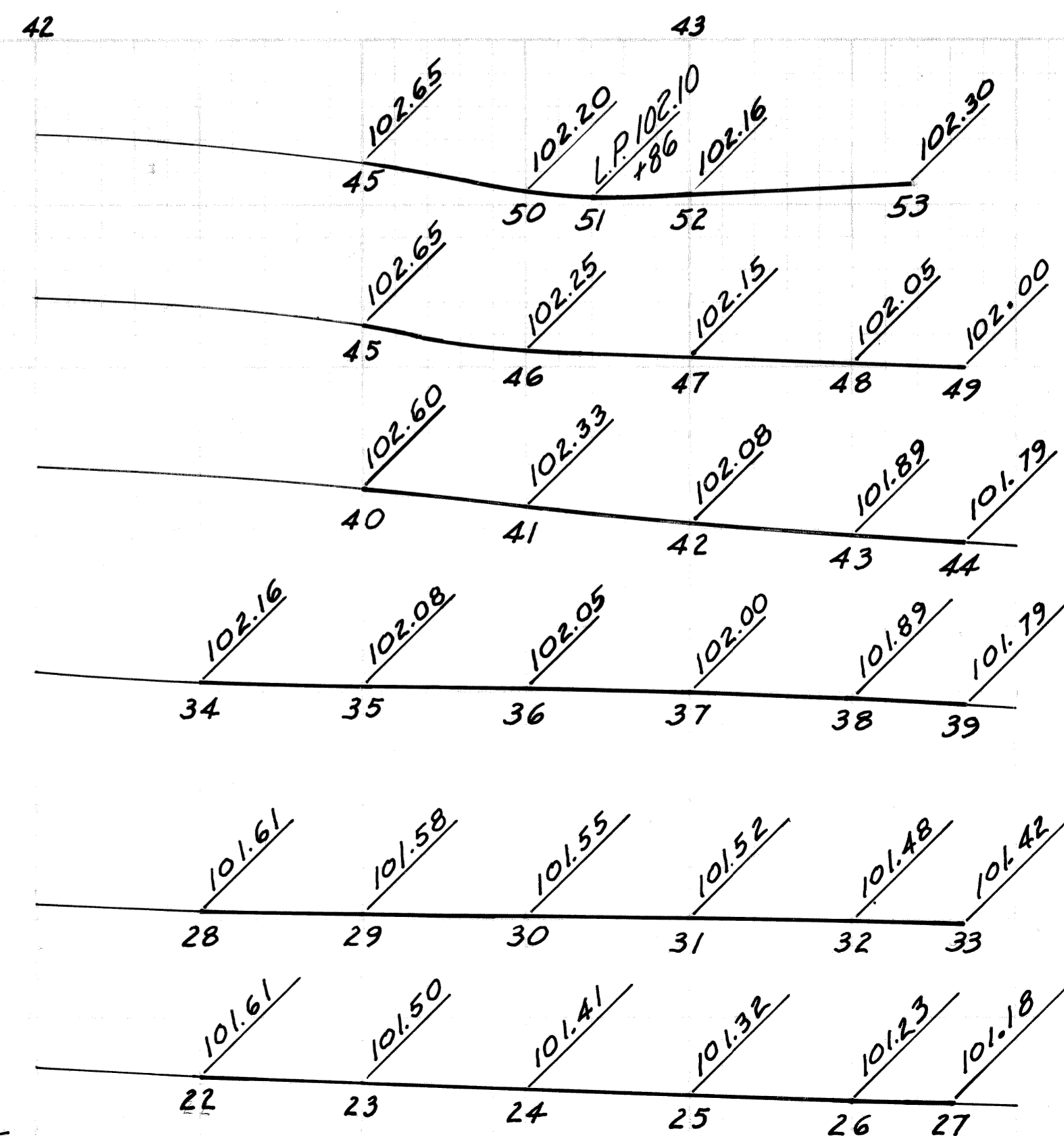
INDEX NO.	SHEET	OF	SHEETS
CONTRACT NO.	16563A		
INDEXED	R-26		
DATE	8-79		



PLAN
SCALE: 1" = 20'



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

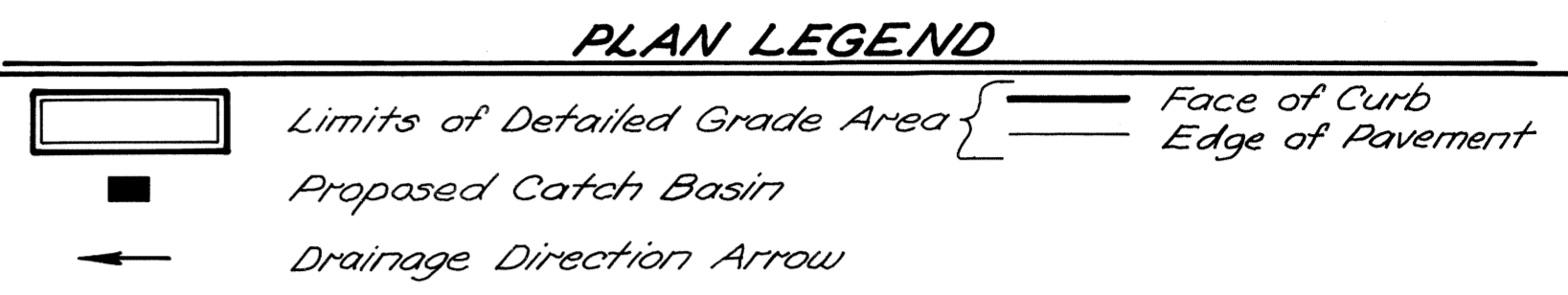
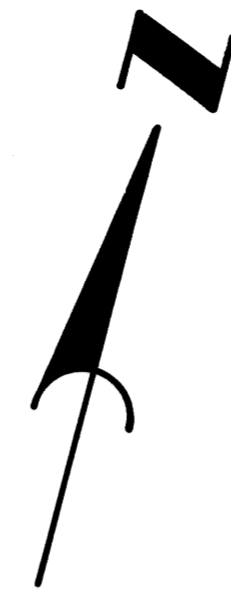
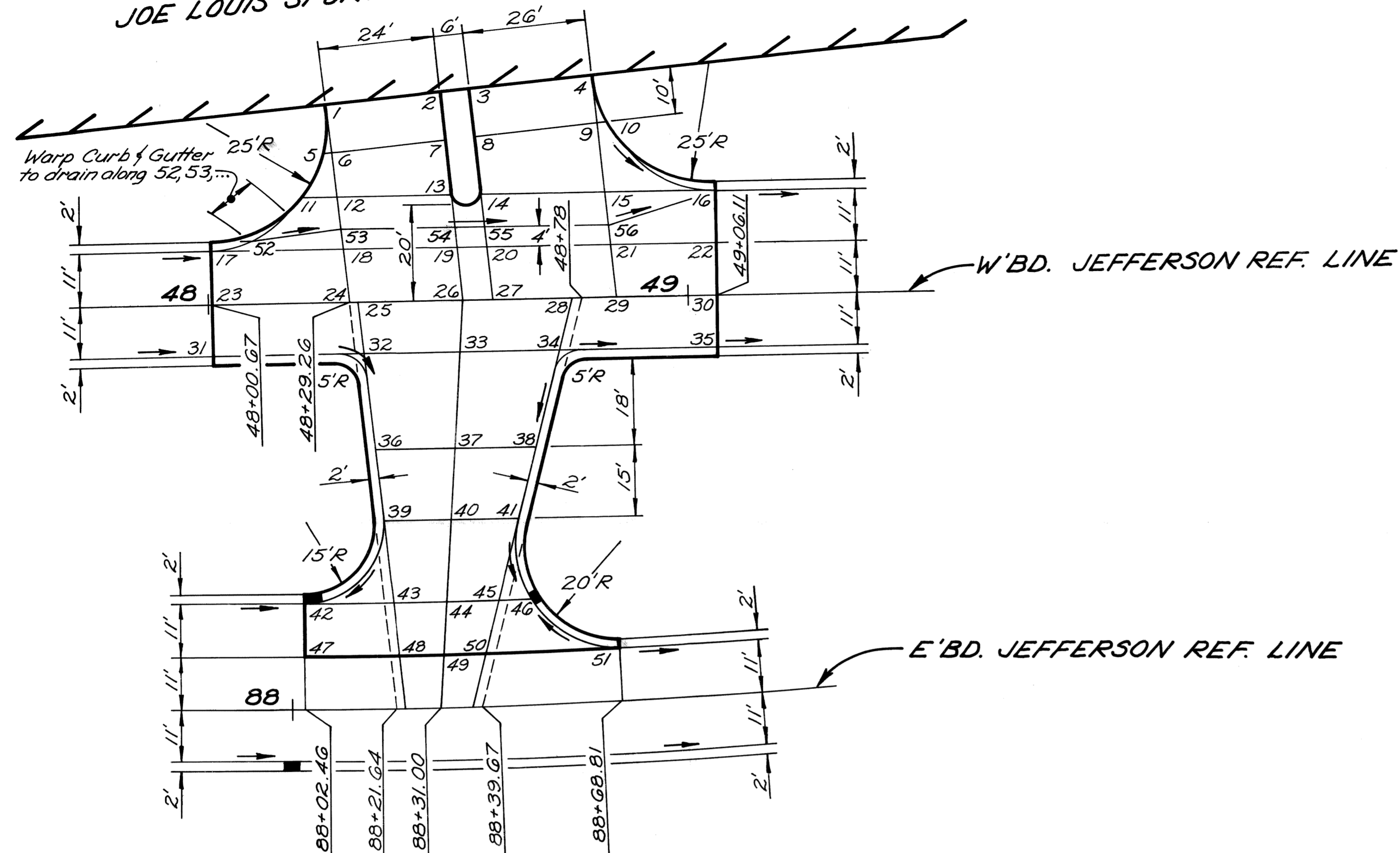


PLAN	BY MS	CHECKED BY RP	APPROVED:
GRADE	RP		ENGINEER OF STREETS
ESTIMATE			HIGHWAY ENGINEER
DESCRIPTION	DR	CK	AP
REVISIONS			

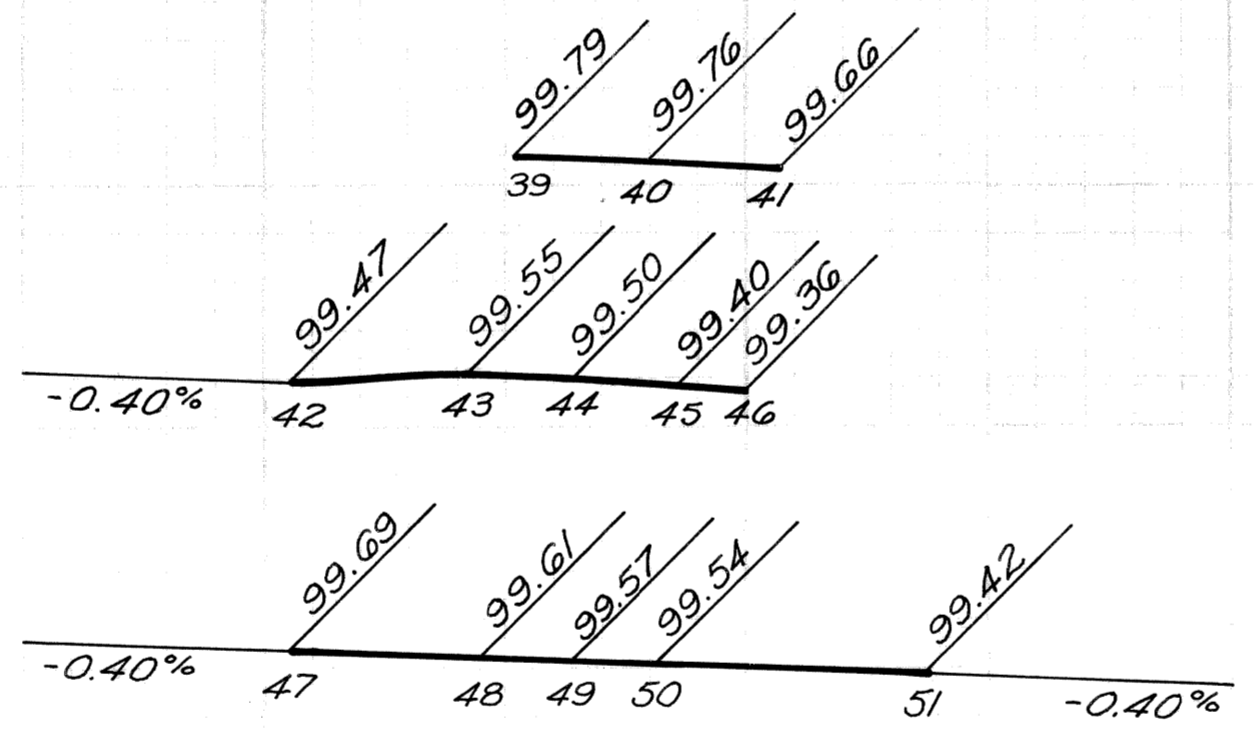
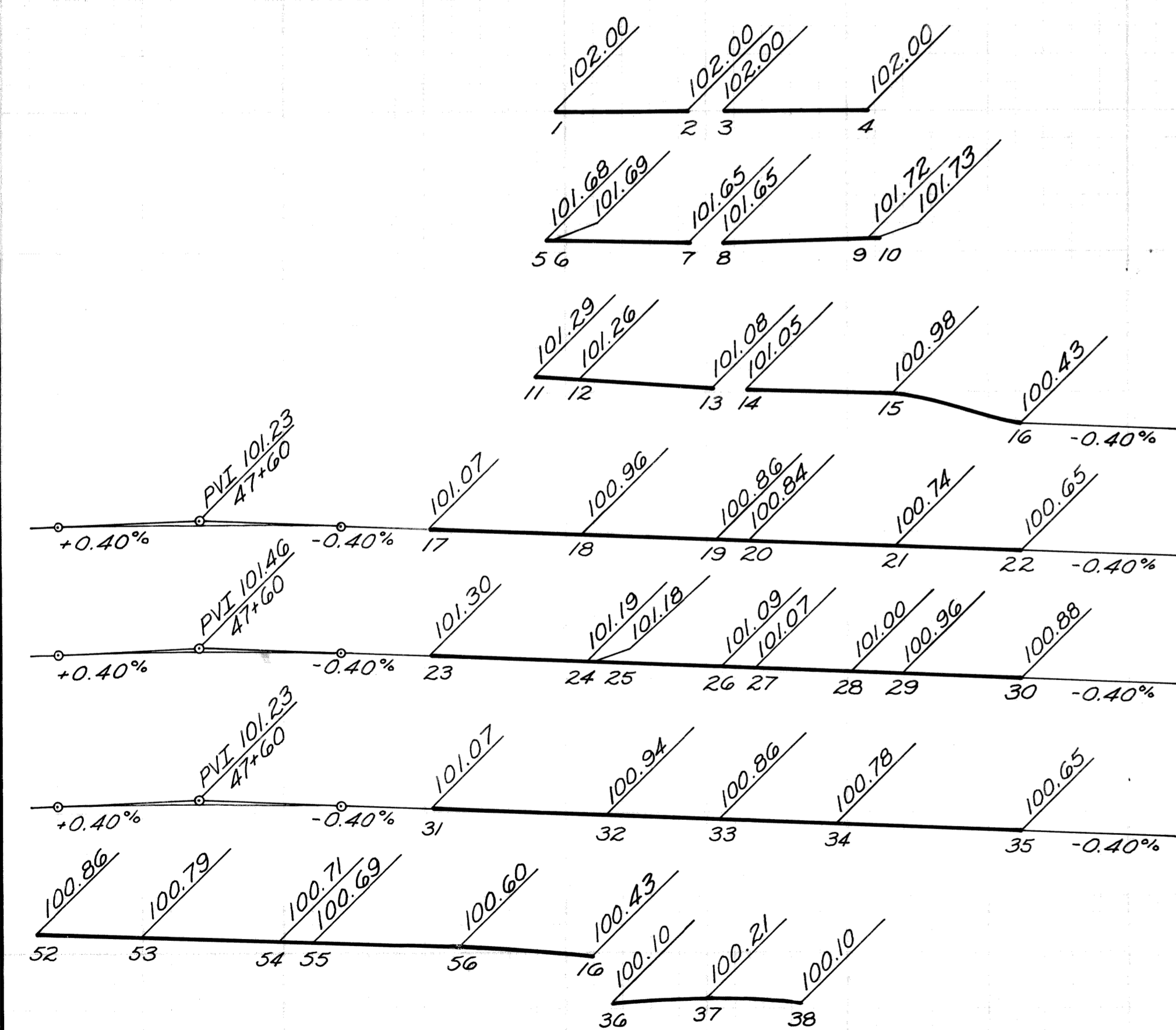
CITY OF DETROIT
CITY ENGINEERING DIVISION-EPMD
BUREAUS OF STREETS AND HIGHWAYS

JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA		INDEX NO.	SHEET OF SHEETS
DETAILED GRADES FOR TURN-A-ROUND W. OF SIXTH AND FOR DRIVE AND RAMP TAPER E. OF SIXTH		CONTRACT NO.	16563A
		INDEXED	R-27
		DATE	8-79

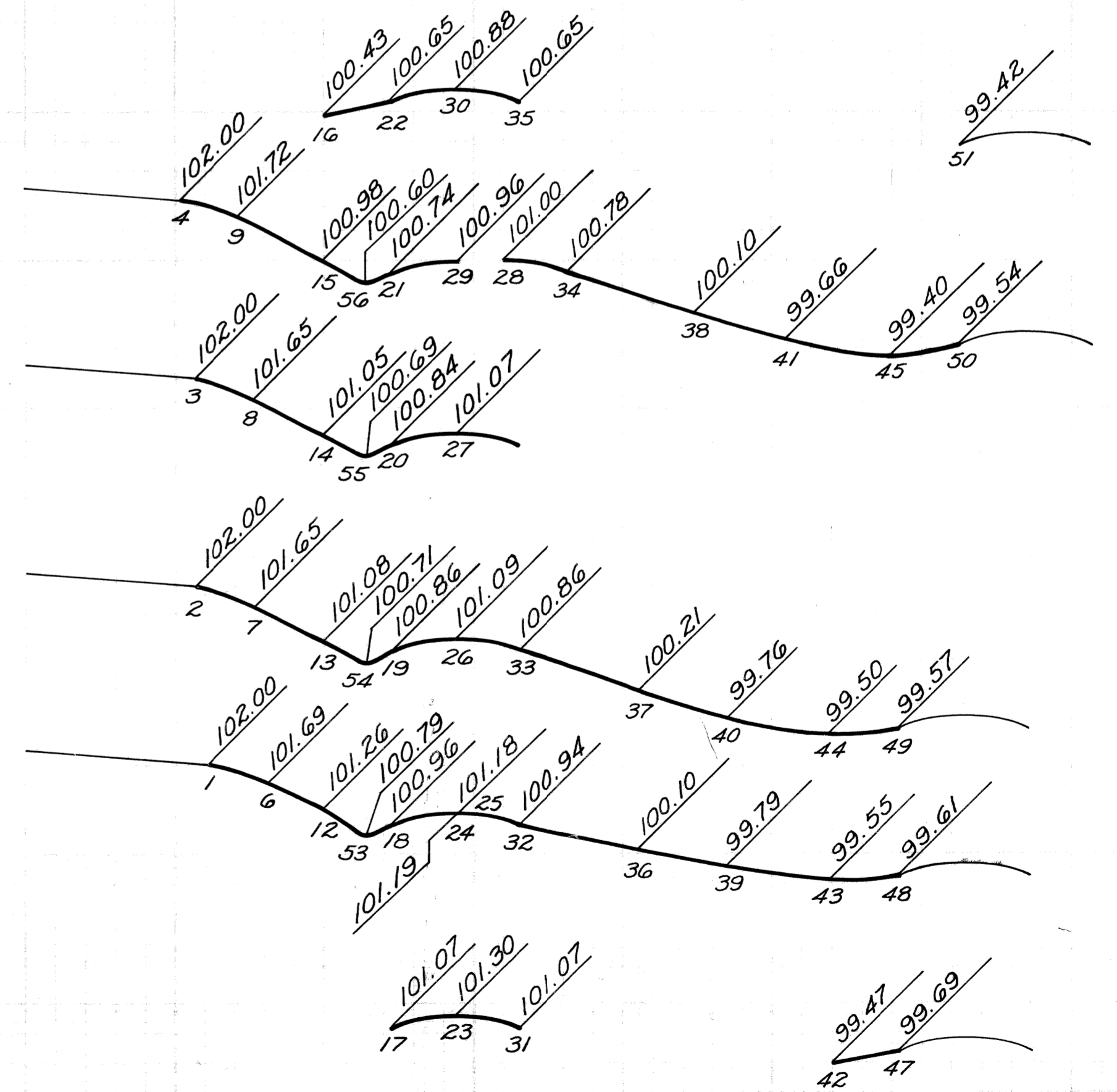
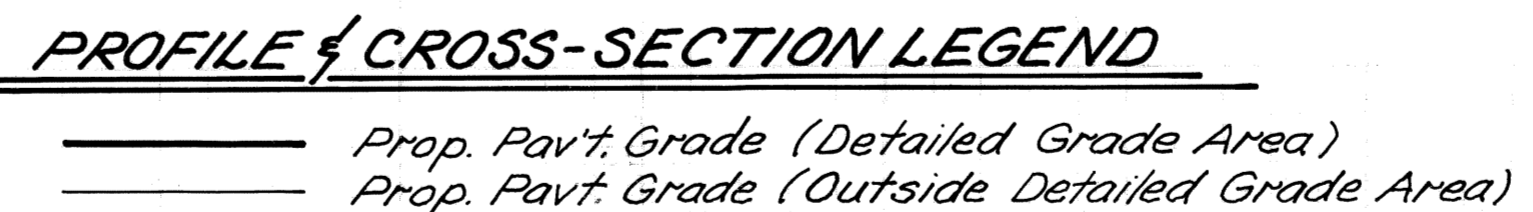
JOE LOUIS SPORTS ARENA PARKING STRUCTURE



PLAN
Scale: 1" = 20'



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



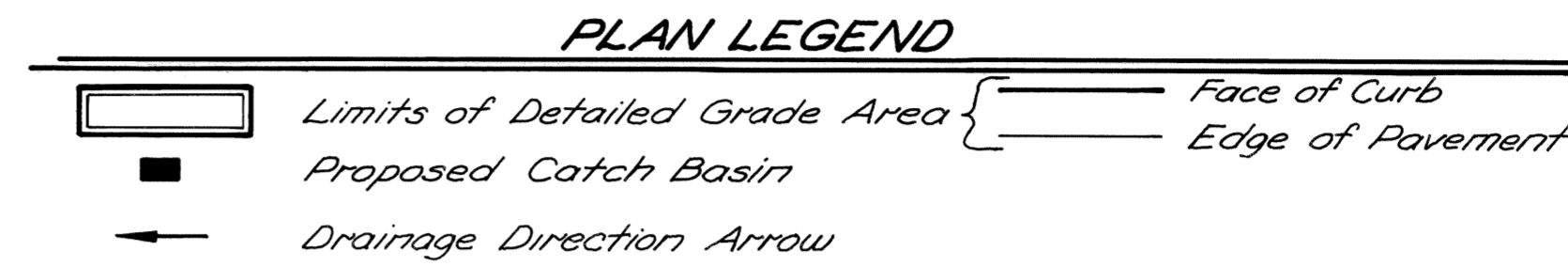
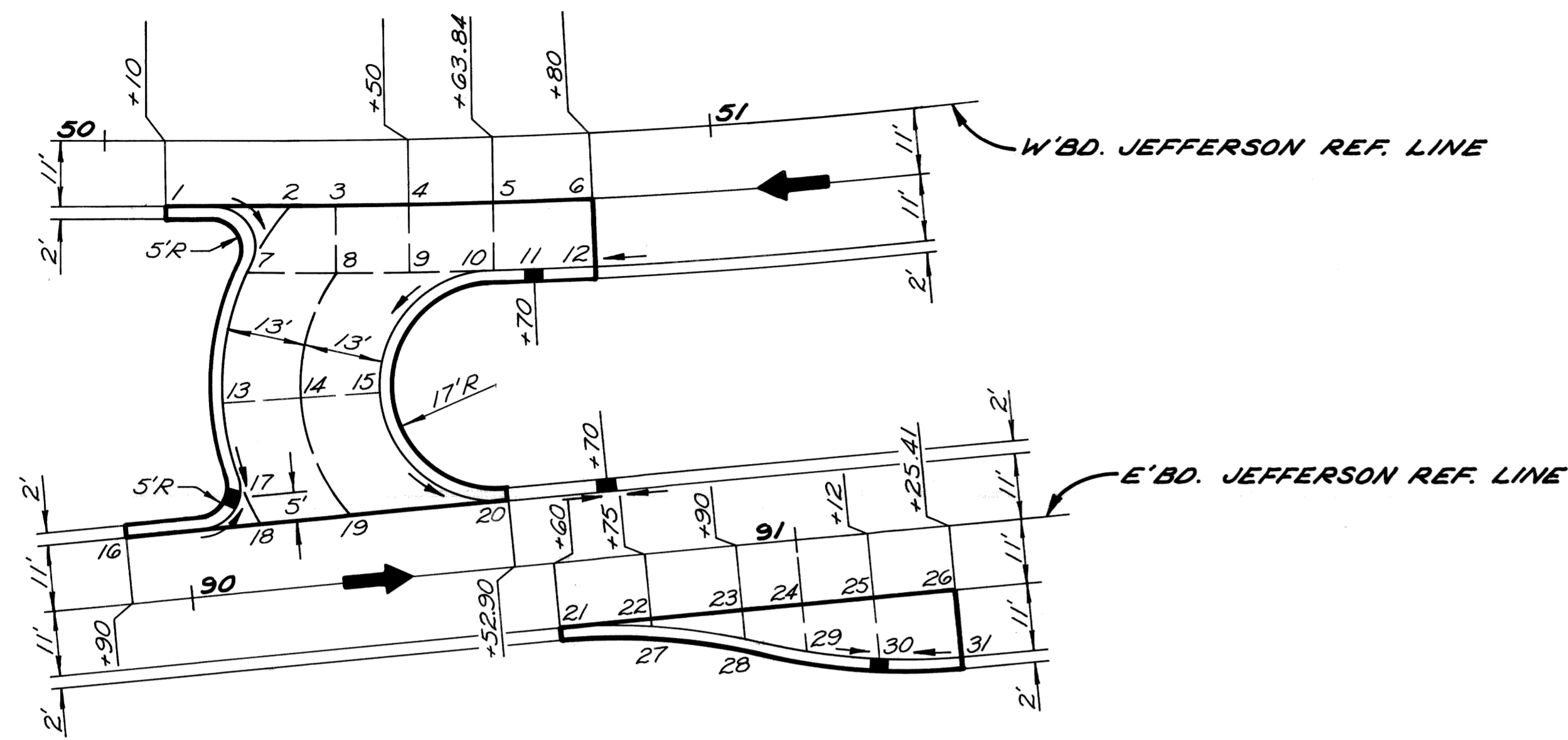
NOTES:
1. All Profiles and Cross-Sections are drawn true length.

PLAN	BY	W.B.	CHECKED BY	APPROVED:
GRADE	BY	W.B.		ENGINEER OF STREETS
ESTIMATE				HIGHWAY ENGINEER
DESCRIPTION	DRN	CK	D	AP
REVISIONS				

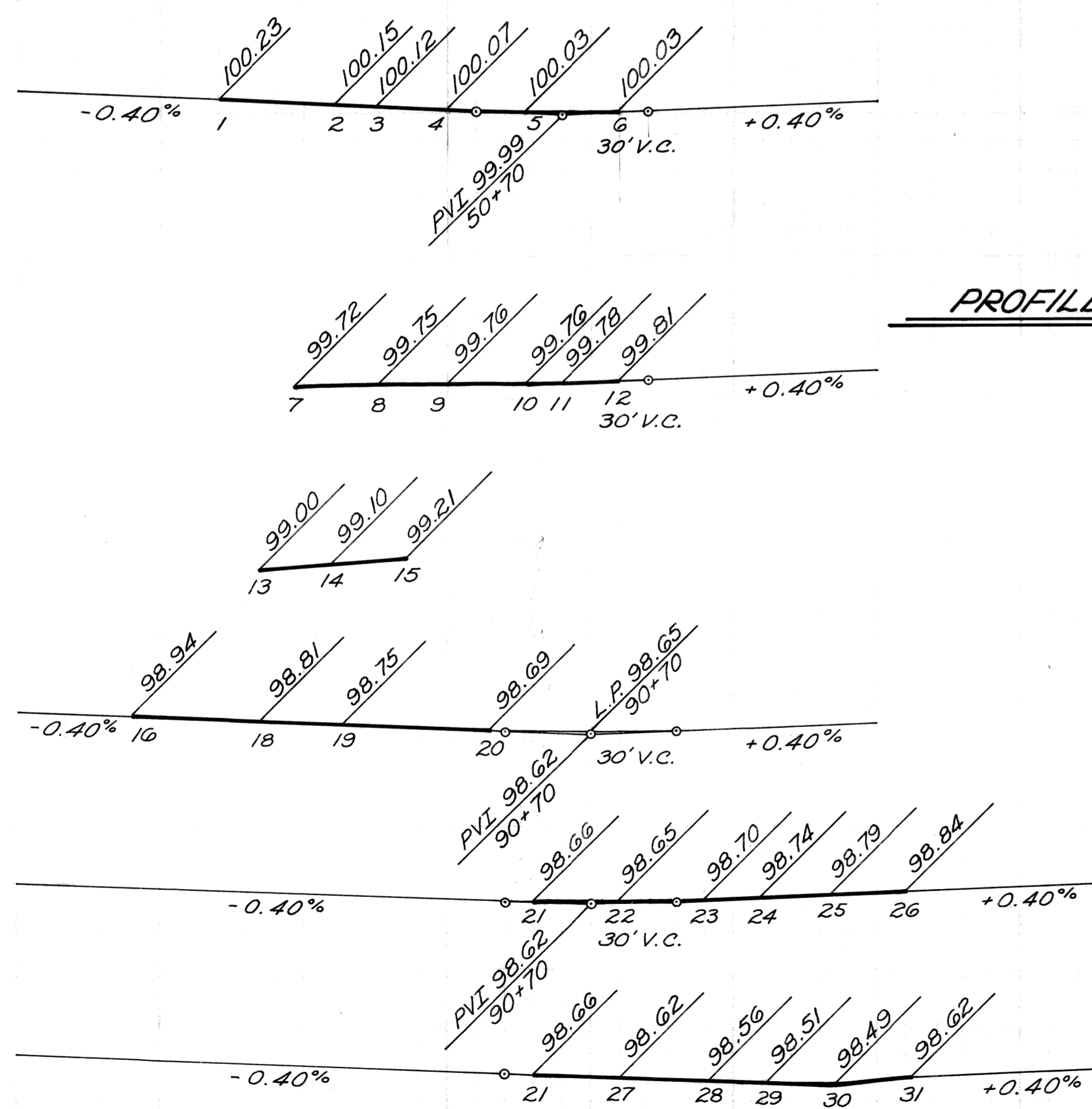
CITY OF DETROIT
CITY ENGINEERING DIVISION-EPMD
BUREAUS OF STREETS AND HIGHWAYS

JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION
AT THE JOE LOUIS ARENA
DETAILED GRADES FOR JEFFERSON AVENUE CROSSOVER AT
ARENA PARKING STRUCTURE ENTRANCE

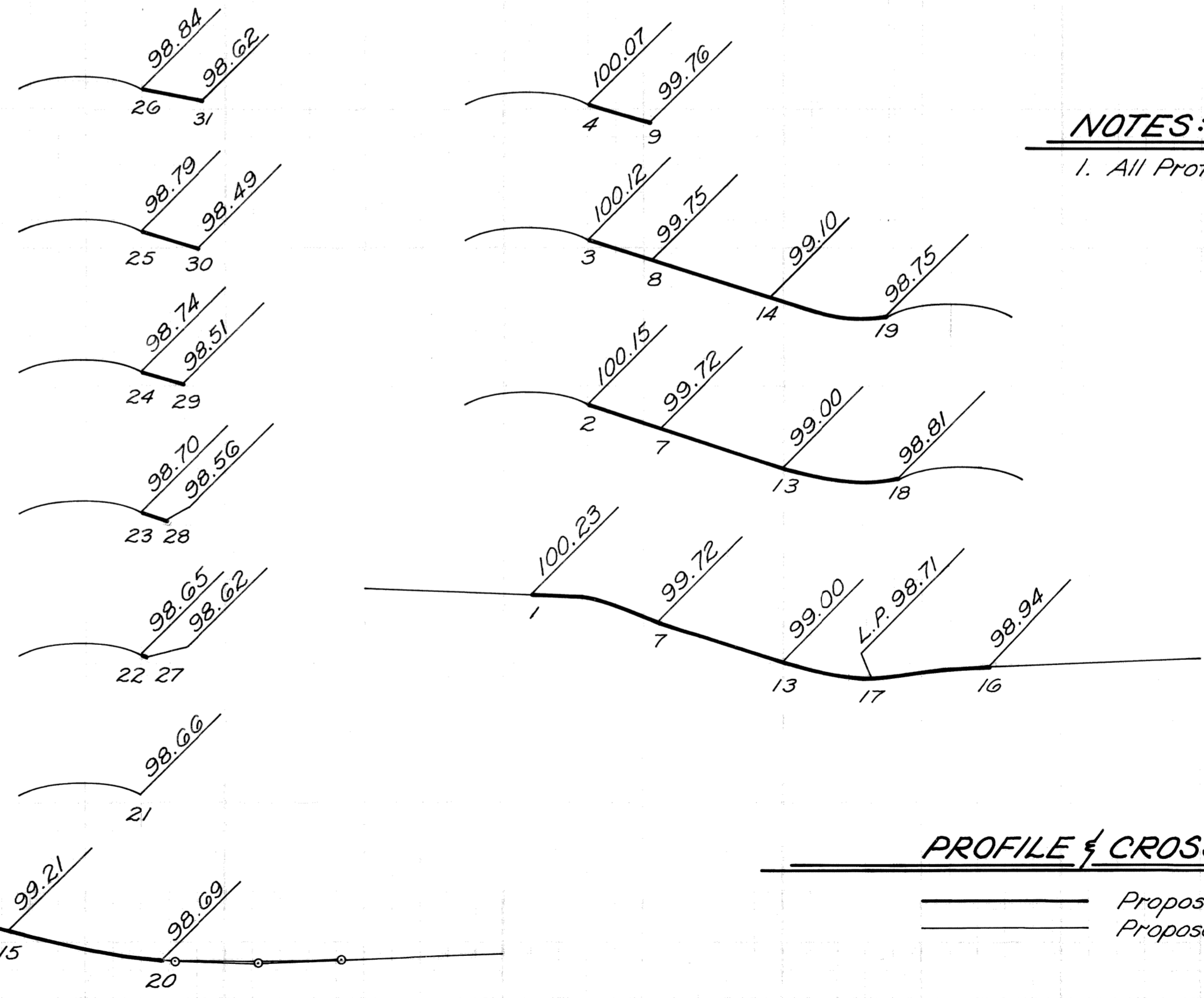
INDEX NO.	SHEET	OF	SHEETS
CONTRACT NO.	16563A		
INDEXED	R-28		
DATE	8-79		



PLAN
Scale: 1" = 20'



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



NOTES:
1. All Profiles and Cross-Sections are drawn true length.

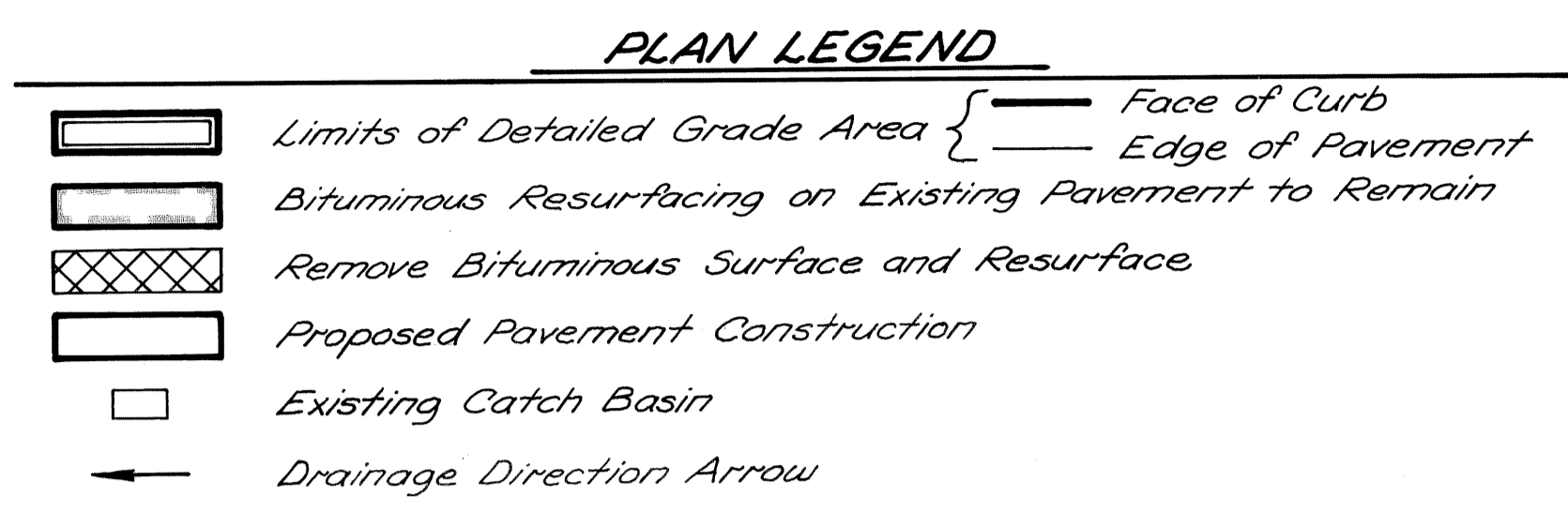
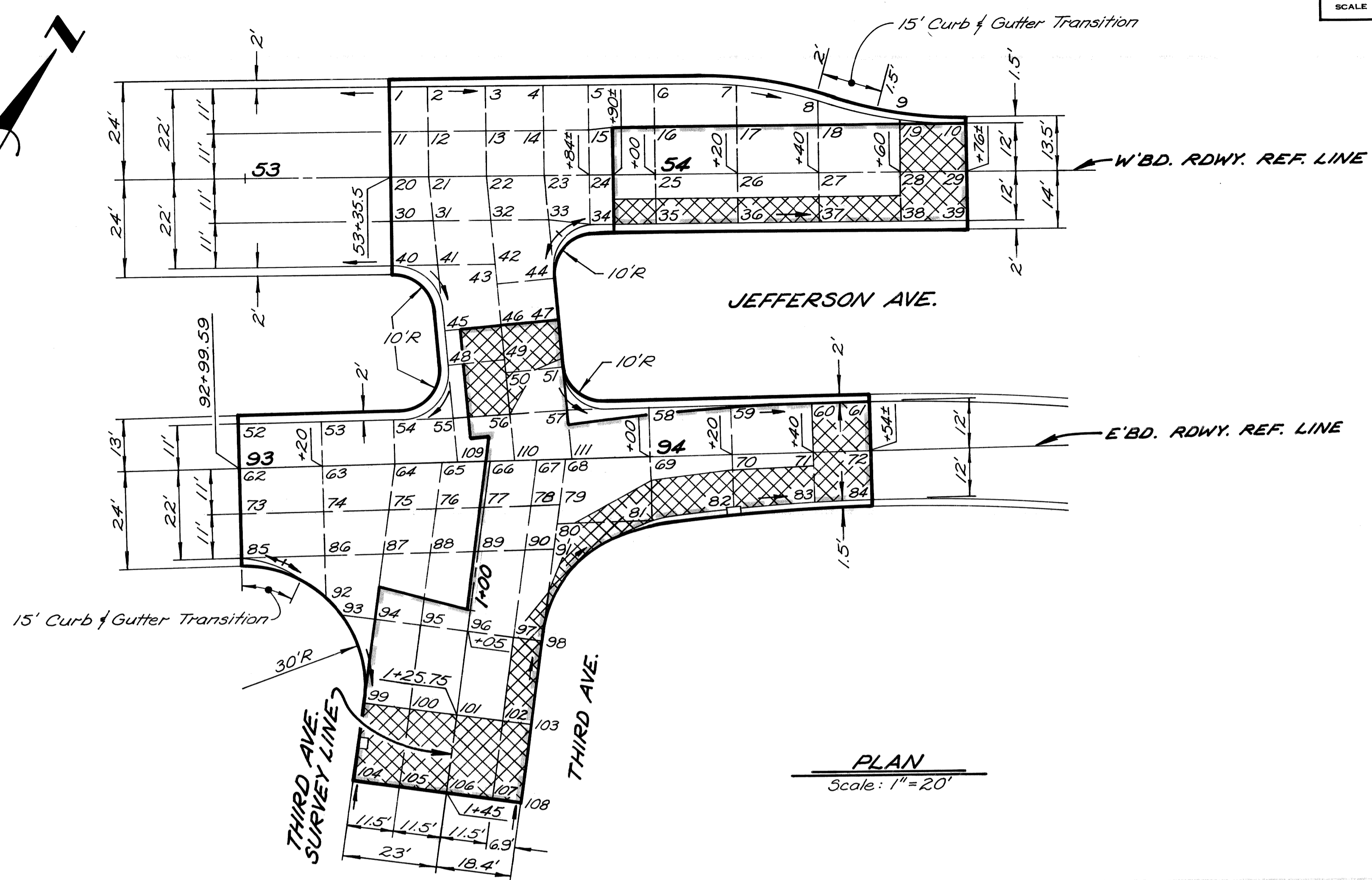
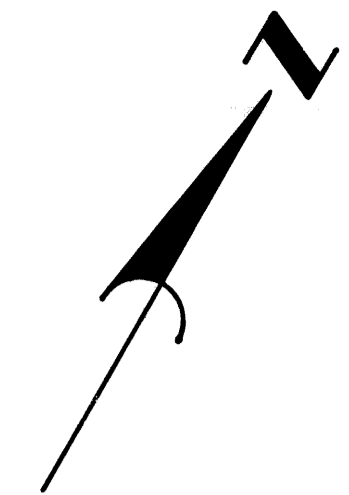
PROFILE & CROSS-SECTION LEGEND
Proposed Pav't. Grade (Detailed Grade Area)
Proposed Pav't. Grade (Outside Detailed Grade Area)

DESCRIPTION	DR	N	CK	D	AP	VD	DATE
REVISIONS							
BY	PLAN	W.B.	CHECKED BY	GRADE	W.B.	APPROVED:	
	ESTIMATE					ENGINEER OF STREETS	
	FINAL					HIGHWAY ENGINEER	

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD
BUREAUS OF STREETS AND HIGHWAYS

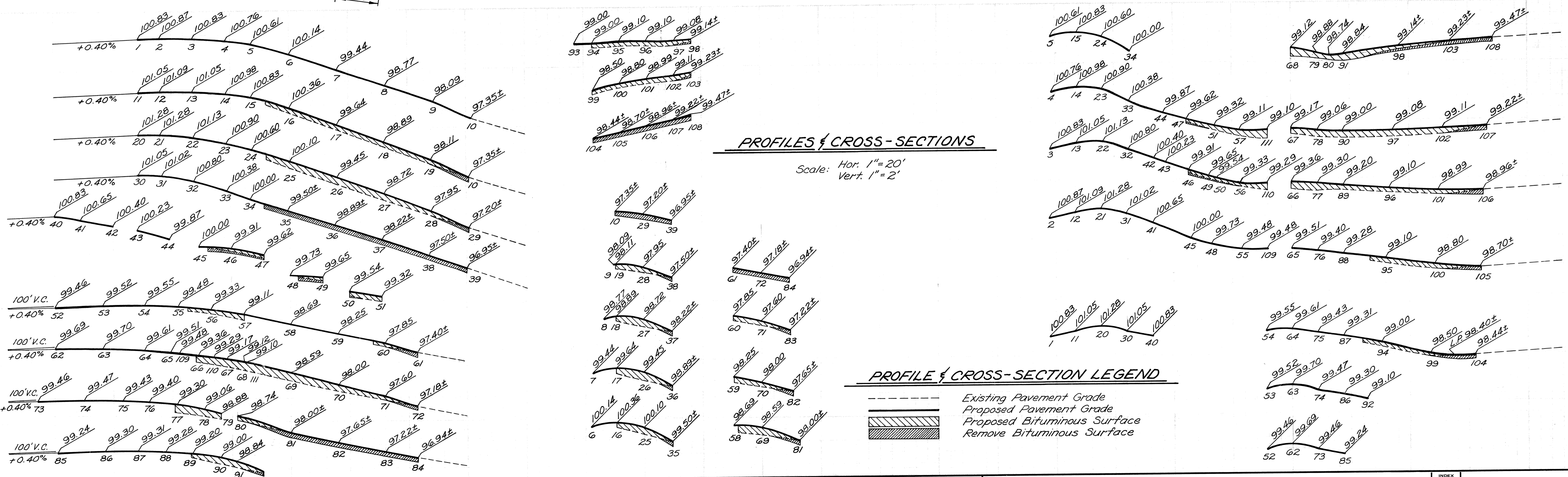
JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION
AT THE JOE LOUIS ARENA
MISCELLANEOUS DETAILED GRADES - JEFFERSON AVENUE
STATION 50+10 TO 50+80 AND STATION 89+90 TO 91+25.41

INDEX NO.	SHEET	OF	SHEETS
CONTRACT NO.	16563A		
INDEXED	R-29		
	DATE	8-79	



NOTES:
1. All Profiles and Cross Sections shown below are drawn true lengths.

PLAN
Scale: 1" = 20'



BY: W.B.	CHECKED BY:	APPROVED:
GRADE: W.B.	ENGINEER OF STREETS	
ESTIMATE:	HIGHWAY ENGINEER	
DESCRIPTION: REVISIONS	DATE:	

CITY OF DETROIT
CITY ENGINEERING DIVISION-EPMD
BUREAU OF STREETS AND HIGHWAYS

JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION
AT THE JOE LOUIS ARENA

DETAILED GRADES FOR JEFFERSON AVE. AT THIRD AVE.

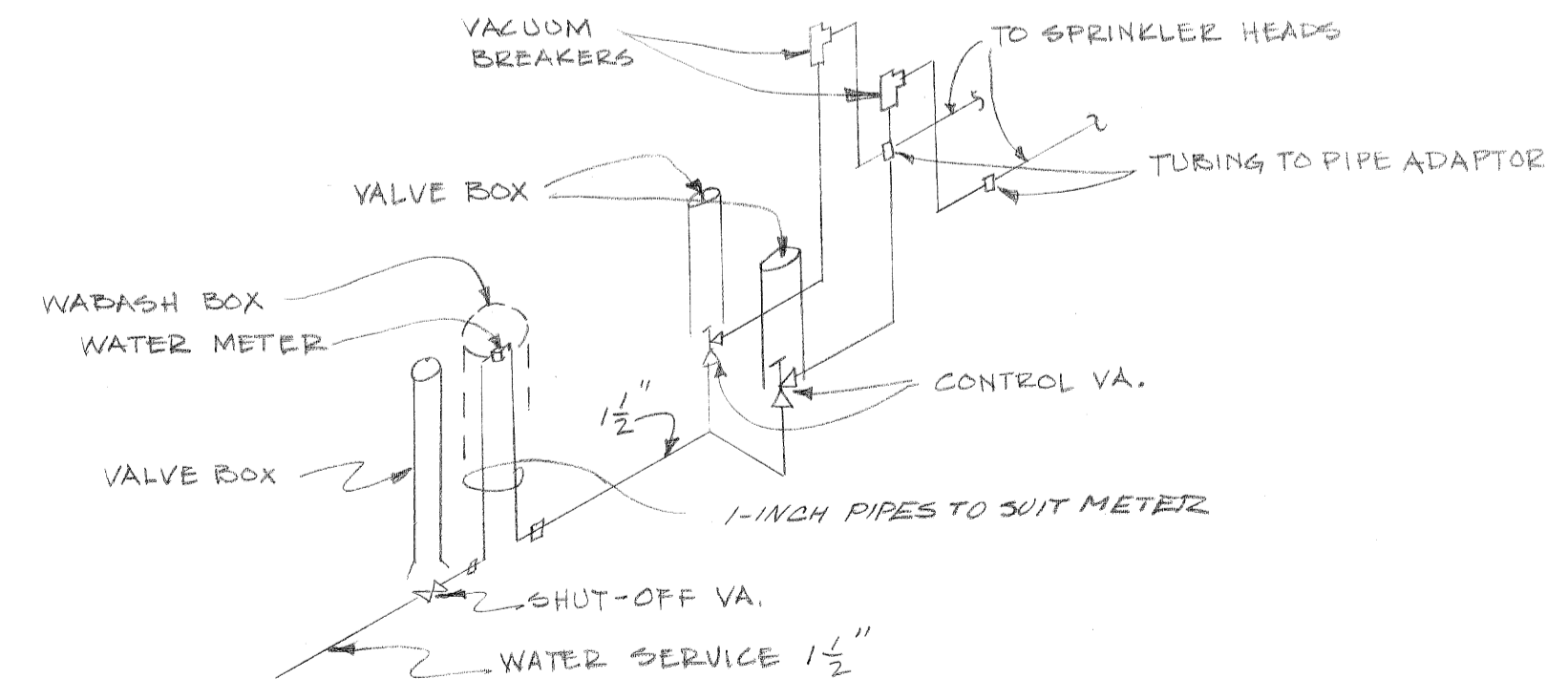
INDEX NO.	SHEET ____ OF ____ SHEETS
CONTRACT NO.	16563A
INDEXED	R-30
DATE	8-79

JOE LOUIS SPORTS ARENA PARKING STRUCTURE

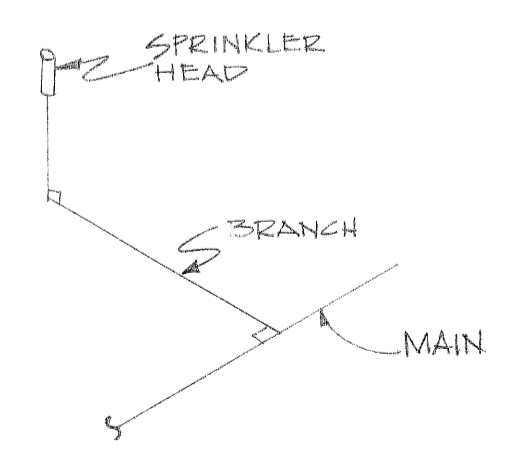
JOE LOUIS SPORTS ARENA PARKING STRUCTURE



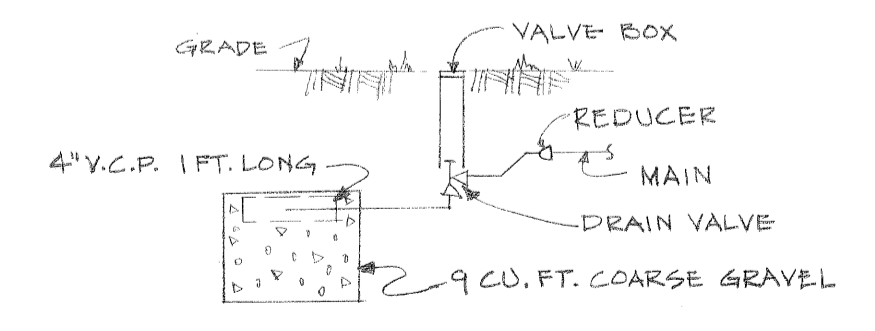
NOTE:
SLANT ALL BRANCH AND MAIN
SPRINKLER LINES TOWARD DRAINS



WATER SUPPLY PIPING
NO SCALE



TYP. SPRINKLER HEAD BRANCH CONN.
NO SCALE



TYP. DRAIN CONN.
NO SCALE

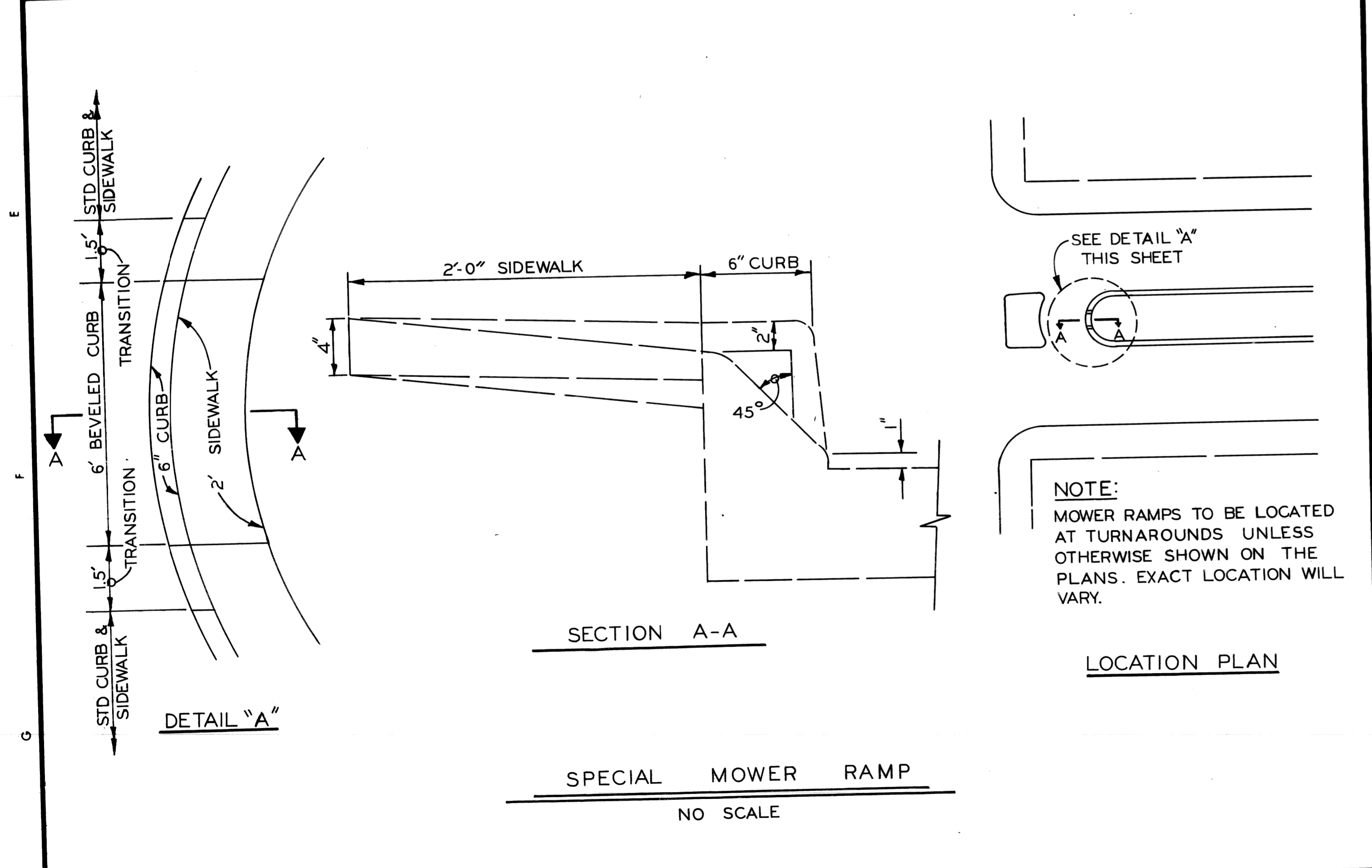
LEGEND

- FULL CIRCLE SPRINKLER HEAD 1.5 G.P.M. 20 FT. DIAMETER AT 15 P.S.I.
- ◐ HALF CIRCLE SPRINKLER HEAD 1.4 G.P.M. 10 FT. RADIUS AT 15 P.S.I.
- ⊙ MANUAL DRAIN
- ⊗ 1-INCH WATER METER
- ⊠ GATE VALVE

REFERENCE DRAWINGS DESIGNED BY <i>Carlo Soria</i> DRAWN BY <i>C.S.</i> TRACED BY <i>D. TRENT</i> CHECKED BY <i>C.S.</i>				APPROVED: MECH. ENGINEER HIGHWAY ENGINEER		CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD BUREAUS OF STREETS AND HIGHWAYS FOR			JOHN C. LODGE EXIST RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA LAWN WATERING SYSTEM			SHEET <u> </u> OF <u> </u> SHEETS CONTRACT NO. 16563A R-31 DATE 8-79	
COORD	DESCRIPTION	DRN	CK'D	AP'D	DATE								
REVISIONS LOCATED BY COORDINATES ON SHEET													

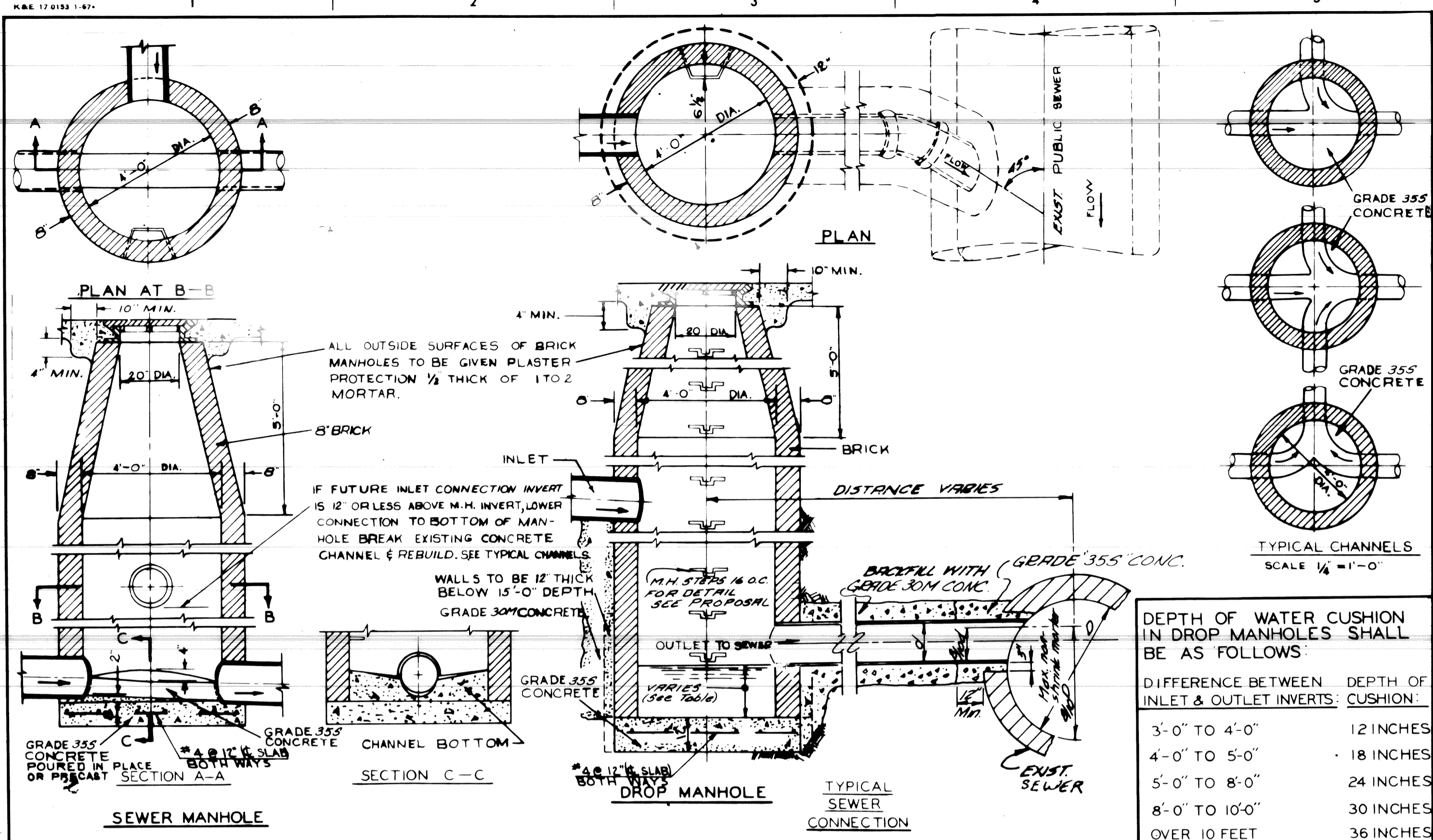
COLOR	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
BLACK	---	PROPERTY AND LOT LINES	○	SEWER MANHOLE	#	STREET SIGN POST
"	---	PROPOSED CURB LINES AND HEADERS AT RETURNS	⊙	P.L.C. HANDHOLE ⊙ P.L.C. MANHOLE	□	LATCH BASIN
"	---	EXISTING CURB LINES OR EDGE OF PAVEMENT	⊕	WATER MANHOLE OR GRATE	(W)	WATER METER
"	---	PROPOSED CURB OR PAVING ON INTERSECTING STREET	⊕	GAS MANHOLE OR GRATE	(-)	WATER SHUT OFF
"	---	EXISTING LATERAL SEWERS	⊕	WESTERN UNION MANHOLE	(+)	GAS SHUT-OFF
"	---	EXISTING PUBLIC SEWERS	⊕	MICHIGAN BELL MANHOLE	⊠	GAS DRIP
"	---	EXISTING GAS LINES	⊕	EDISON STEAM MANHOLE	□	DRAIN OR VENT
"	---	EXISTING WATER LINES	⊕	EDISON ELECTRIC MANHOLE	(M)	GUY POLE
"	---	EXISTING WATER LINES	⊕	FIRE DEPT. MANHOLE	+	MAIL BOX
"	---	EXISTING WATER LINES	⊕	POLICE DEPT. MANHOLE	⊠	APREAWAY OR COAL CHUTE
"	---	EXISTING WATER LINES	⊕	D.S.R. MANHOLE	○	FLAG POLE
"	---	EXISTING WATER LINES	⊕	FIRE DEPT. STANDARD HYDRANT	□	SPRINKLER BOX
"	---	EXISTING WATER LINES	⊕	FIRE DEPT. HIGH PRESSURE HYDRANT	⊠	DEAD MANHOLE
"	---	EXISTING WATER LINES	⊕	FIRE DEPT. CALL BOX	⊕	TREE
"	---	EXISTING WATER LINES	⊕	FIRE DEPT. HIGH PRESSURE MANHOLE	⊠	PLC & FD MANHOLE FILLED WITH SAND
"	---	EXISTING WATER LINES	⊕	POLICE DEPT. CALL BOX	(=)	TRACK DRAIN
"	---	EXISTING WATER LINES	⊕	P.L.C. LIGHT POLE	+	TRAFFIC SIGNAL POST.
"	---	EXISTING WATER LINES	⊕	P.L.C. POLE	(2)	TRAFFIC SIGNAL LIGHT
"	---	EXISTING WATER LINES	⊕	TELEPHONE POLE	⊕	TRAFFIC SIGNAL ON LIGHT POST
"	---	EXISTING WATER LINES	⊕	EDISON POLE	II	D.S.P. DANGER PLATE.
"	---	EXISTING WATER LINES	⊕	TRAFFIC CONTROL BOX	⊠	R.R. SIGNAL CONTROL BOX
"	---	EXISTING WATER LINES	⊕	TRAFFIC CONTROL BOX	---	DETROIT EDISON ELECTRIC CONDUIT.
"	---	EXISTING WATER LINES	⊕	TRAFFIC CONTROL BOX	---	DETROIT EDISON STEAM CONDUIT.
"	---	EXISTING WATER LINES	⊕	TRAFFIC CONTROL BOX	---	WESTERN UNION DUCTS
"	---	EXISTING WATER LINES	⊕	TRAFFIC CONTROL BOX	---	MICHIGAN BELL TELEPHONE DUCTS
"	---	EXISTING WATER LINES	⊕	TRAFFIC CONTROL BOX	---	P.L.C. CONDUITS
"	---	EXISTING WATER LINES	⊕	TRAFFIC CONTROL BOX	---	DETROIT FIRE OR POLICE DEPT. CONDUITS (P.L.C. COMMUNICATIONS)

CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN		STANDARD SYMBOLS FOR UTILITIES	
DESIGNER: _____ DRAWN BY: T. KANDON CHECKED BY: _____ DATE: _____	PROJECT NO.: _____ SCALE: NO SCALE DATE: _____	SHEET NO.: _____ DATE: _____	D.W.G. NO.: C-902-A
PAVING DETAIL NO 25			



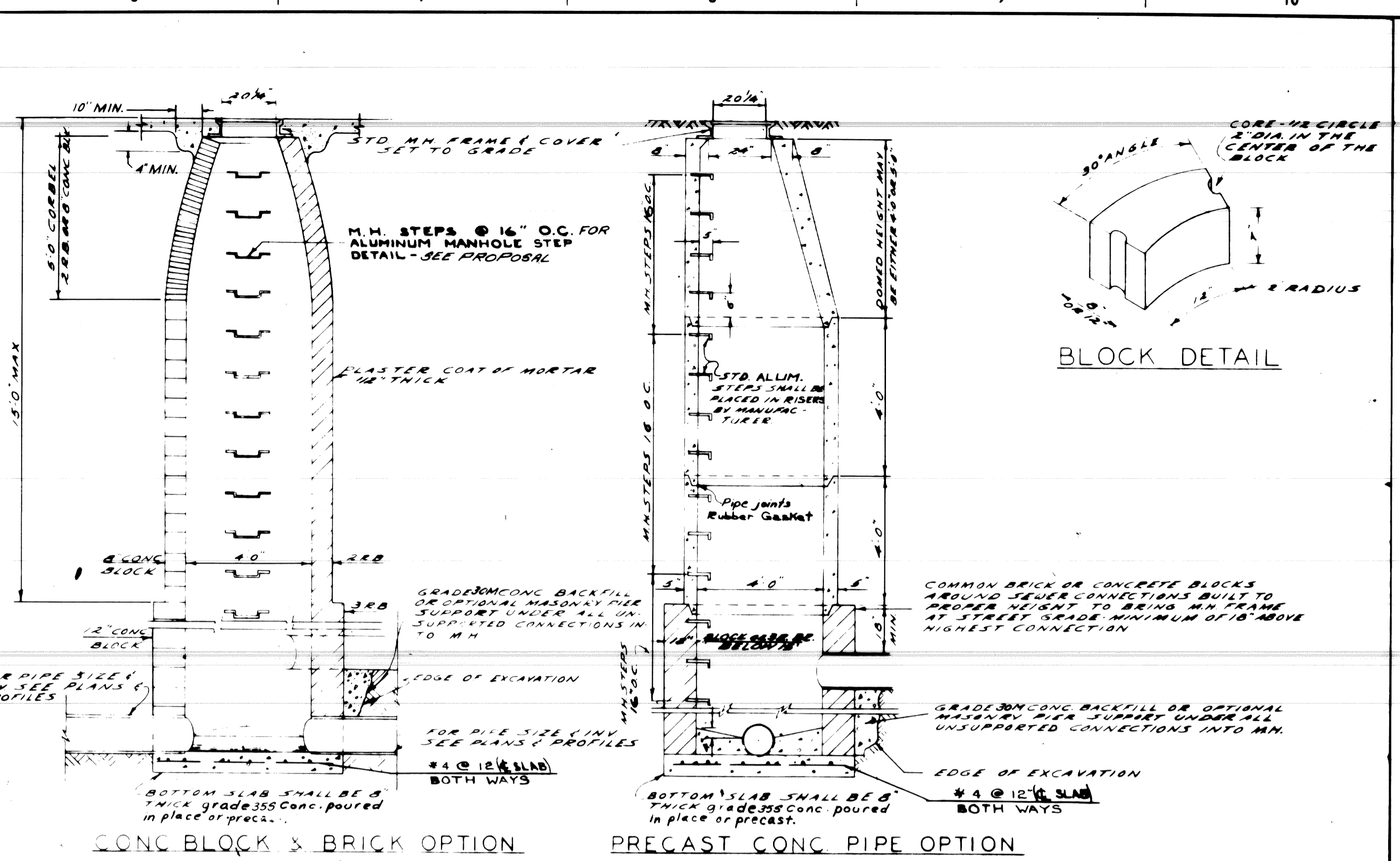
REVISIONS NO. 1 NO. 2 NO. 3 NO. 4	DESIGNED BY DRAWN BY: J.R.D. CHECKED BY: N.B.H.	APPROVED: <i>Walter J. Pizer</i> ENGINEER OF EXPRESSWAYS
---	---	--

CITY OF DETROIT CITY ENGINEERING DIVISION E. P. M. D.	JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION AT THE JOE LOUIS ARENA	SHEET ___ OF ___ SHEETS CONTRACT NO. 16563A R-32 DATE 8-79
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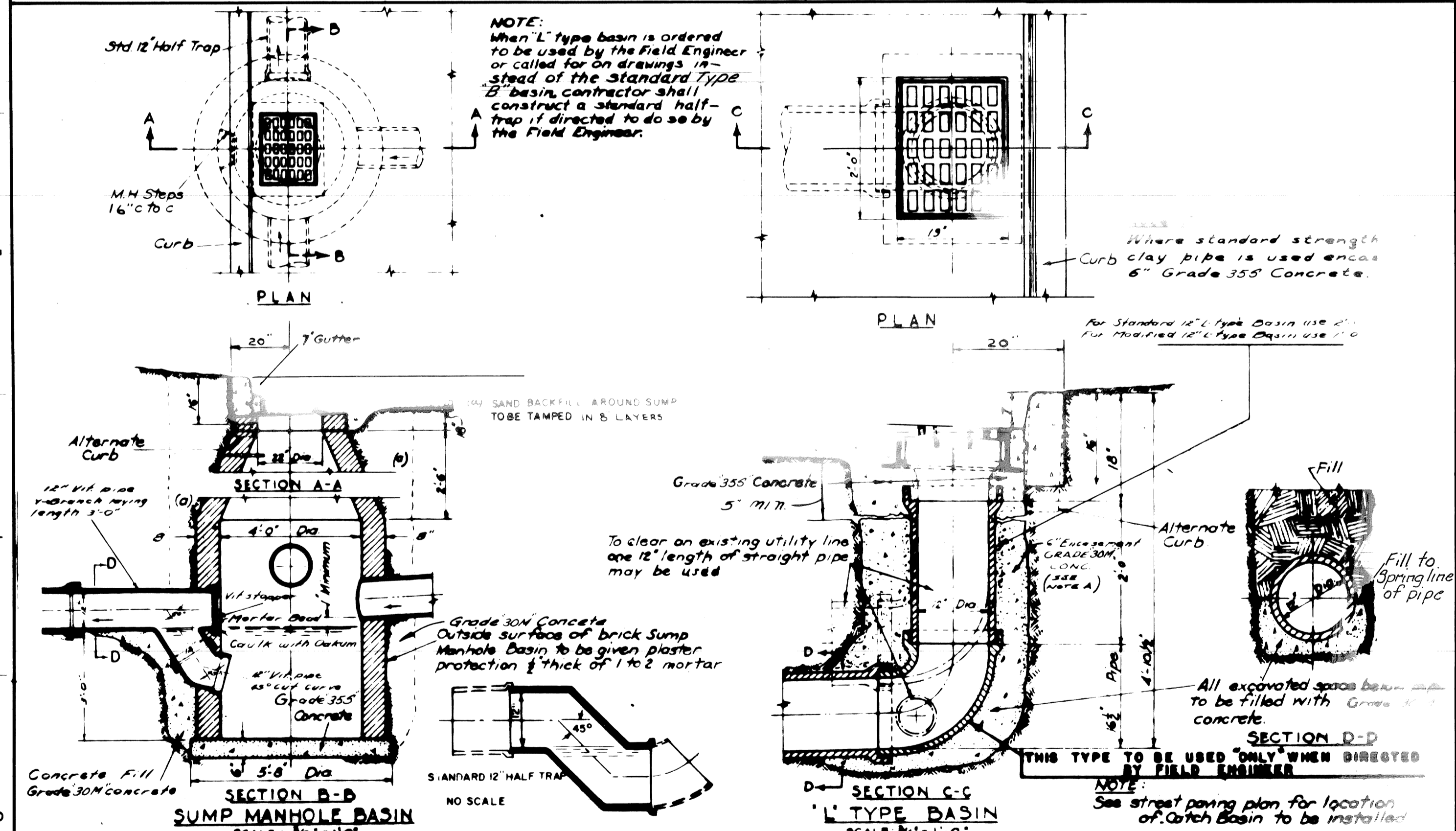
DEPTH OF WATER CUSHION IN DROP MANHOLES SHALL BE AS FOLLOWS:

DIFFERENCE BETWEEN INLET & OUTLET INVERTS:	DEPTH OF CUSHION:
3'-0" TO 4'-0"	12 INCHES
4'-0" TO 5'-0"	18 INCHES
5'-0" TO 8'-0"	24 INCHES
8'-0" TO 10'-0"	30 INCHES
OVER 10 FEET	36 INCHES



DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN
DRAWN BY	TRACED BY	
DESCRIPTION	REVISIONS	DETAIL STANDARD NO. 10

DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN
DRAWN BY	TRACED BY	
DESCRIPTION	REVISIONS	DETAIL STANDARD NO. 10



DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN
DRAWN BY	TRACED BY	
DESCRIPTION	REVISIONS	DETAIL STANDARD NO. 12

DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN
DRAWN BY	TRACED BY	
DESCRIPTION	REVISIONS	DETAIL STANDARD NO. 12

DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN
DRAWN BY	TRACED BY	
DESCRIPTION	REVISIONS	DETAIL STANDARD NO. 10

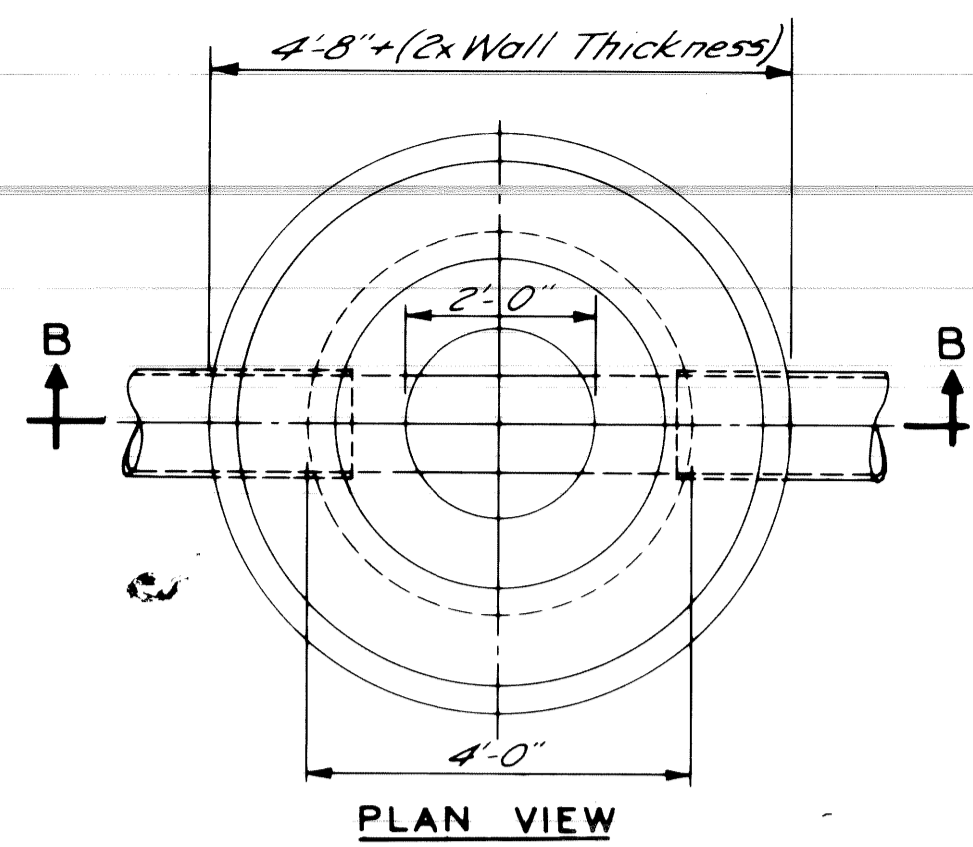
DESIGNED BY	APPROVED BY	CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEER'S OFFICE BUREAU OF DESIGN
DRAWN BY	TRACED BY	
DESCRIPTION	REVISIONS	DETAIL STANDARD NO. 10

CITY OF DETROIT
CITY ENGINEERING DIVISION E.P.M.D.

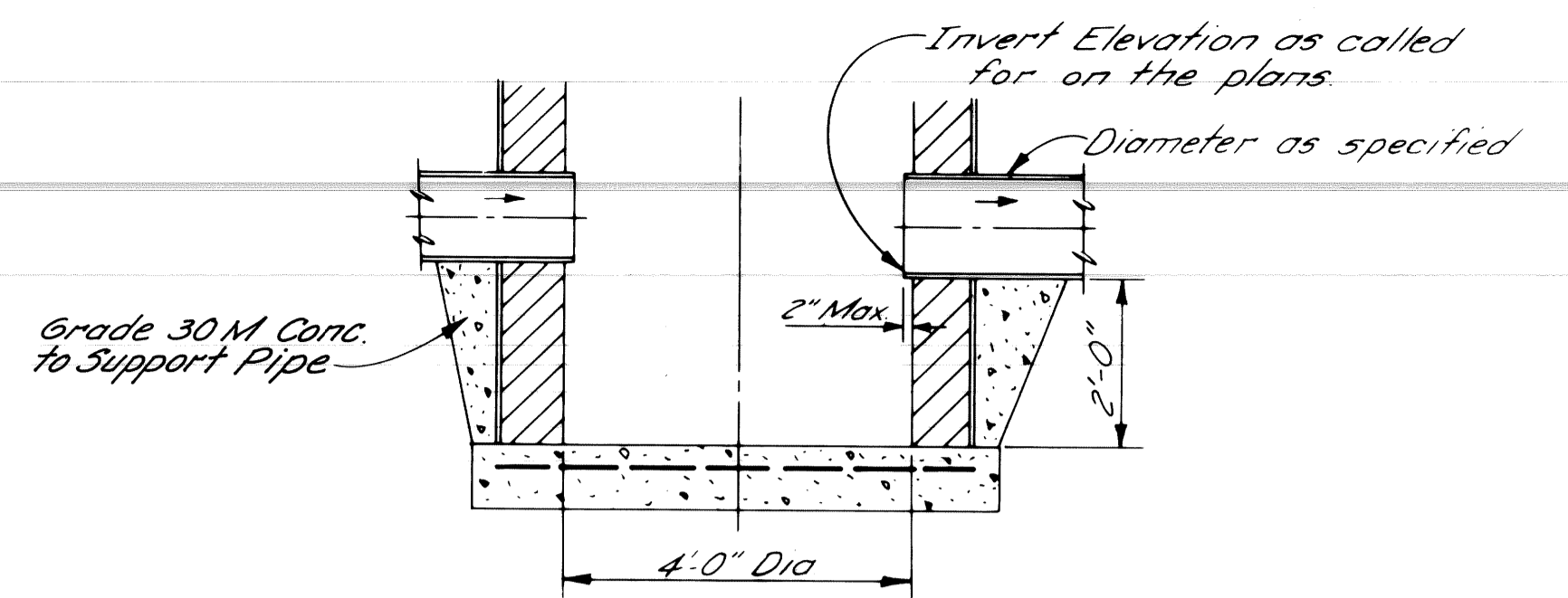
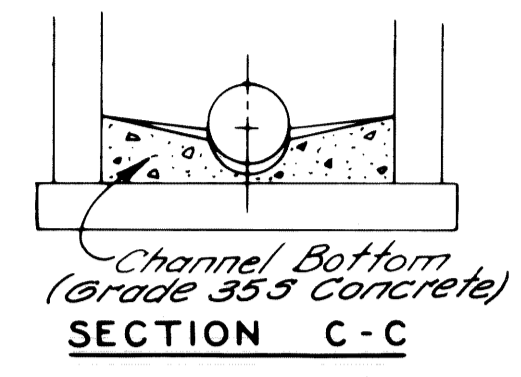
JOHN C. LODGE EXIT RAMP & JEFFERSON AVE. RECONSTRUCTION
AT THE JOE LOUIS ARENA

SPECIAL DETAILS

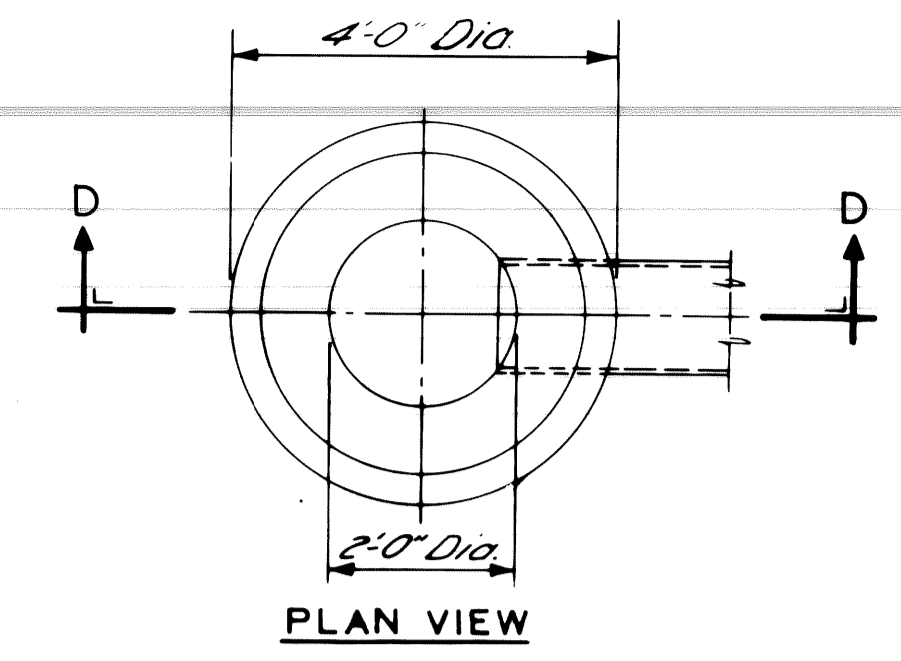
SHEET	OF	SHEETS
CONTRACT NO.	16563A	
	R-33	
DATE	8-79	



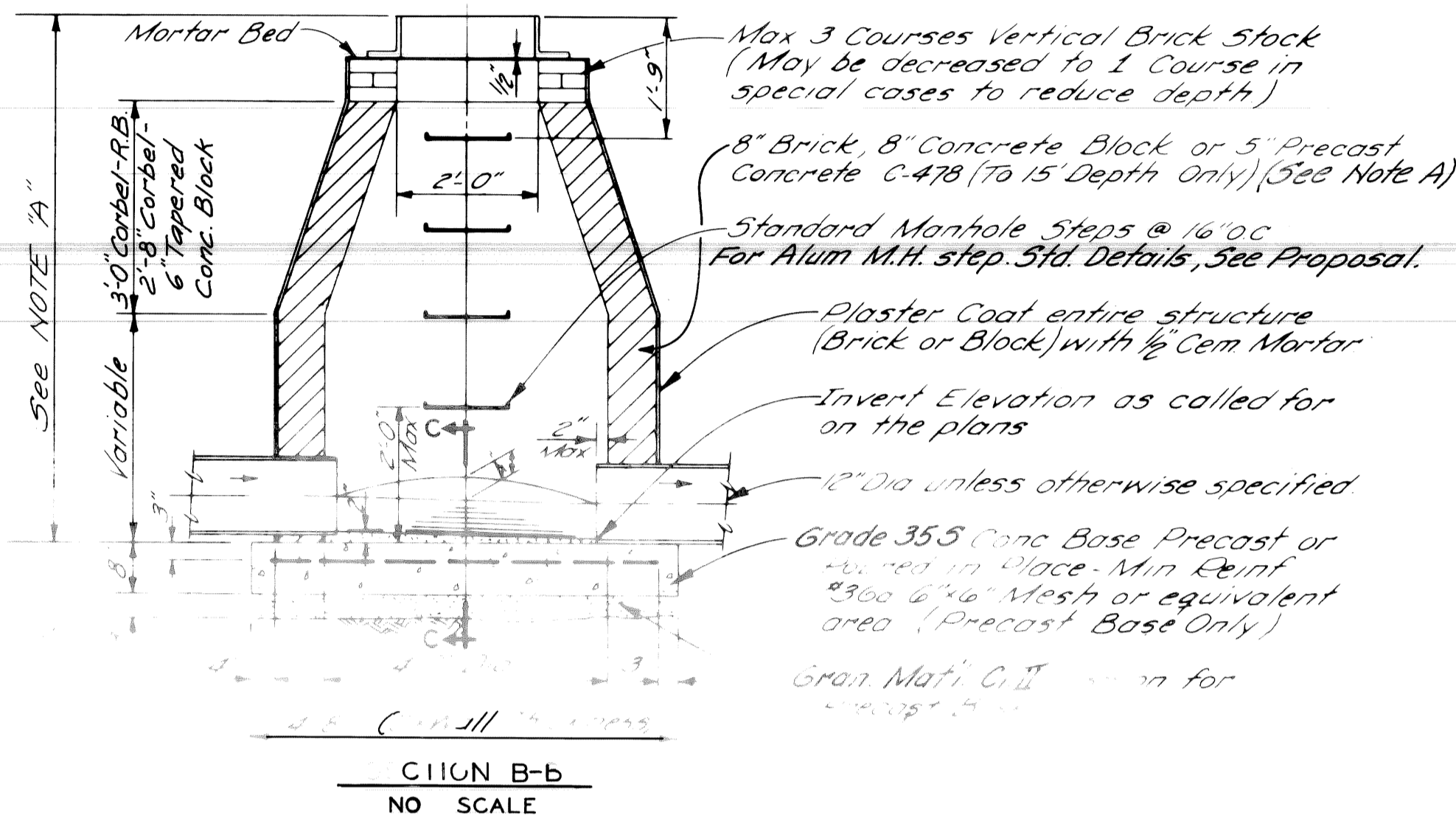
NOTE "A"
Wall thickness below a depth of 15 feet shall be 12 inches.



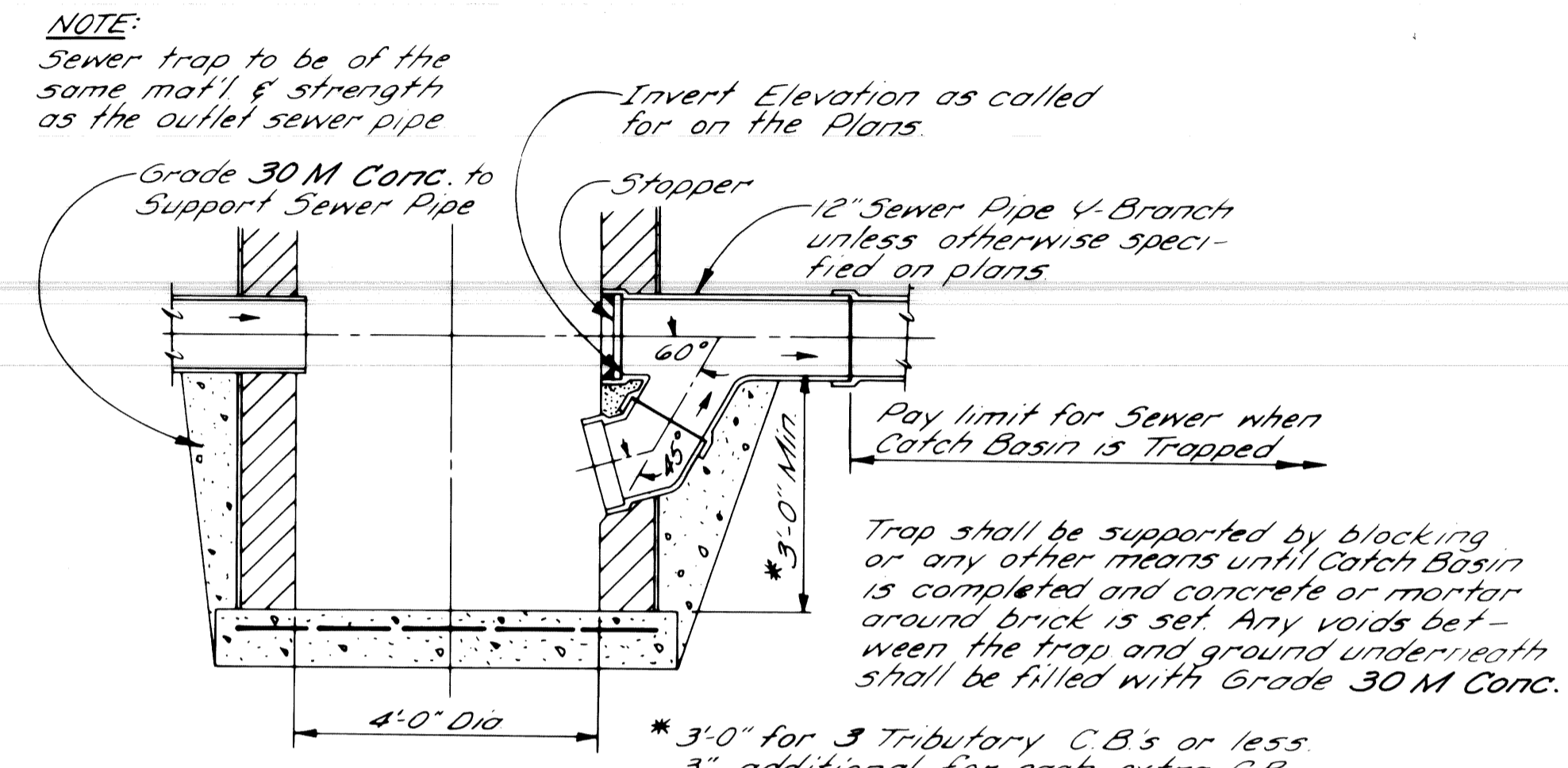
DETAIL OF SUMP FOR CATCH BASIN "B"
NO SCALE



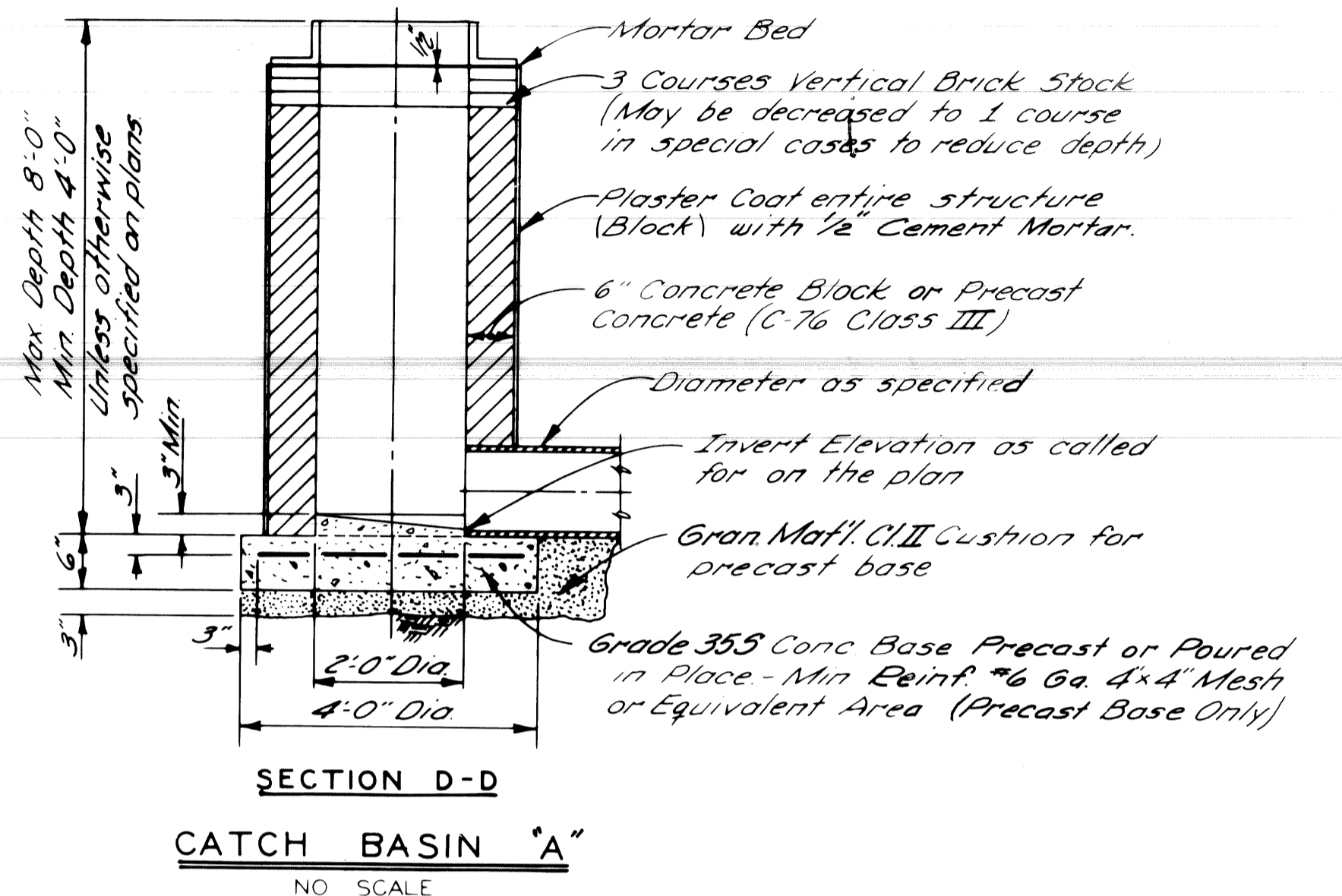
NOTE:
Catch Basin "A" will be used only when outletting to a Catch Basin "B"



SECTION B-b
NO SCALE



DETAIL OF TRAP FOR CATCH BASIN "B"
NO SCALE



SECTION D-D
NO SCALE

GENERAL NOTES

- The materials & workmanship shall be in accordance with the current standard specifications.
- All sizes & flow lines of pipe, and elevations for top & bottom of structures shall be determined from the plans or construction requirements. The bell shall be removed from the first length of outlet pipe projecting through the wall of the structures. When any structure is constructed of precast concrete or concrete block, the top of the masonry shall be left sufficiently low to permit proper adjustment of cover to grade by the use of mortar or bricks as directed by the Engineer.
- A Trap, as detailed on this sheet, shall be placed where called for in the outlet sewer line of Catch Basins "B". This trap shall be set into the masonry wall as shown on the detail. The space between the faces of the wall & the trap shall be completely filled with cement, mortar or concrete, so as to hold Trap securely in place. The Traps will be paid for separately at the Contract Unit Price each, which price shall include the extra catch basin construction required and for furnishing and installing the trap.
- A plaster coat of mortar 1/2 inch in thickness shall be applied to the outer surface of the structure as shown. A 1/2 inch cement plaster coat shall be placed on the inside of all sumps.
- Contractor shall verify elevations of existing utilities to enable construction to indicated elevations shown on drawings. If necessary, invert elevations shown on the drawings may be altered in the field to clear existing utilities. Such alterations, upward or downward, shall be at no change in contract price.
- When precast concrete pipe sections are used for catch basins, either a section of the inlet and outlet pipes or an opening or eye for the inlet & outlet pipes shall be cast into the wall of the catch basin pipe when it is being manufactured. Eyes in precast pipe sections shall be furnished to accommodate a flexible joint connection such as Press-Wedge by Press Seal Gasket Corp or Res-Seal by Seales Mfg. Corp.
- Pay limit for sewers shall be inside faces of structures unless otherwise noted.

APPROVED	<i>John Erickson</i> ENGINEER OF STREETS
DWN BY	ULITO
CHECKED BY	D. MILZ
APPROVED	<i>Alvin E. Rogers</i> ENGINEER OF EXPRESSWAYS
APPROVED	<i>W. K. Bannard</i> HEAD CIVIL ENGINEER

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD

DETAILS OF STANDARD
CATCH BASINS "A" & "B"
AND FLAT GRATE & FRAME

SHEET	OF	SHEETS
CONTRACT No	16563A	
	R-34	
DATE	8-79	