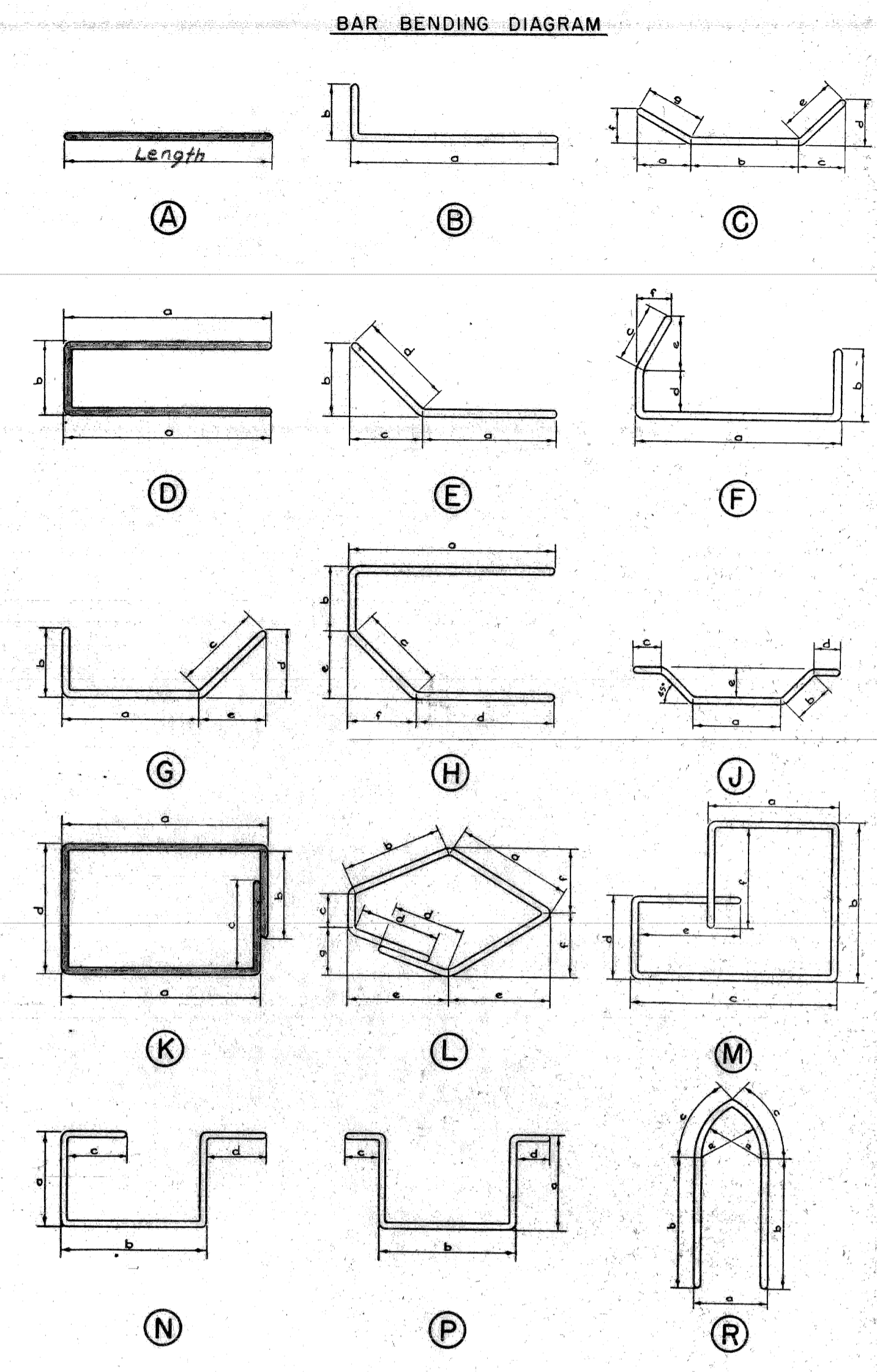


BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
A1								#6	25'-6"	117	4481
A2								#6	8'-3"	28	347
A3								#6	9'-0"	32	433
A4								#6	18'-9"	4	113
A5								#6	25'-10"	16	621
A6								#4	23'-6"	48	754
A7								#4	25'-0"	154	2572
A8								#6	8'-0"	128	1538
A9								#6	7'-3"	26	283
A10								#7	6'-0"	128	1570
A11								#6	12'-9"	260	4979
A12								#6	11'-9"	32	565
A13								#7	11'-9"	32	769
A14								#4	21'-0"	14	196
A15								#6	6'-0"	126	1136
A16								#7	9'-10"	33	663
A17								#6	9'-10"	33	487
A18								#6	25'-0"	28	1051
A19								#4	19'-6"	14	182
A20								#6	14'-9"	4	89
A21								#6	7'-0"	107	1125
A22								#6	5'-3"	107	844
A23								#6	20'-6"	26	801
A24								#6	7'-9"	4	47
D1	2'-6"	0'-11"						#4	5'-10"	238	927
D2	2'-10"	0'-7"						#6	6'-3"	264	2478
K1	0'-10"	0'-6"	0'-6"	0'-8"				#4	3'-5"	176	402
K2	1'-1"	0'-6"	0'-6"	0'-8"				#4	3'-11"	348	910
									Total	30,363	Lbs.

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				



Note :-
 All right angle bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.

Grand Total Steel Reinforcement 30,363 Lbs.

All bar numbers shown on this sheet shall be prefixed W13.
 Steel for reinforcement shall intermediate or hard grade only.

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

APPROVED: STRUCTURAL ENGINEER

JOB No. **PW990(2)**

MICHIGAN STATE HIGHWAY DEPARTMENT

STEEL REINFORCEMENT DETAILS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS

DRAWN BY 3-68

TRACED BY 3-68

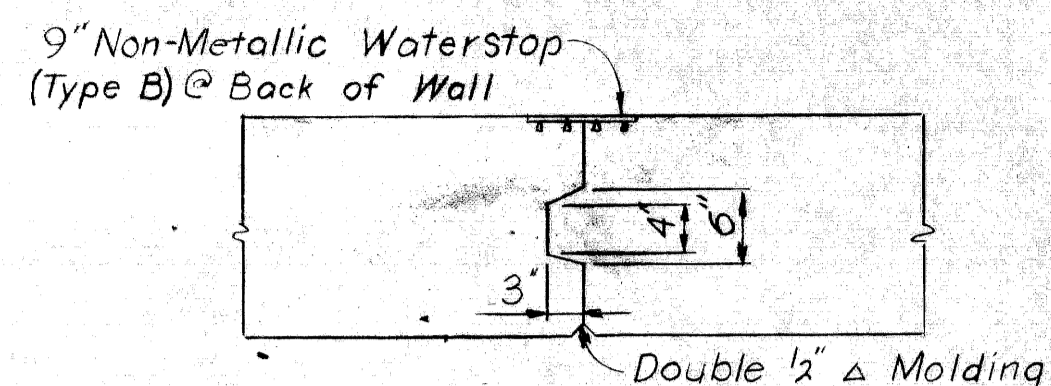
CHECKED BY 9-68

SHEET 11 OF 11

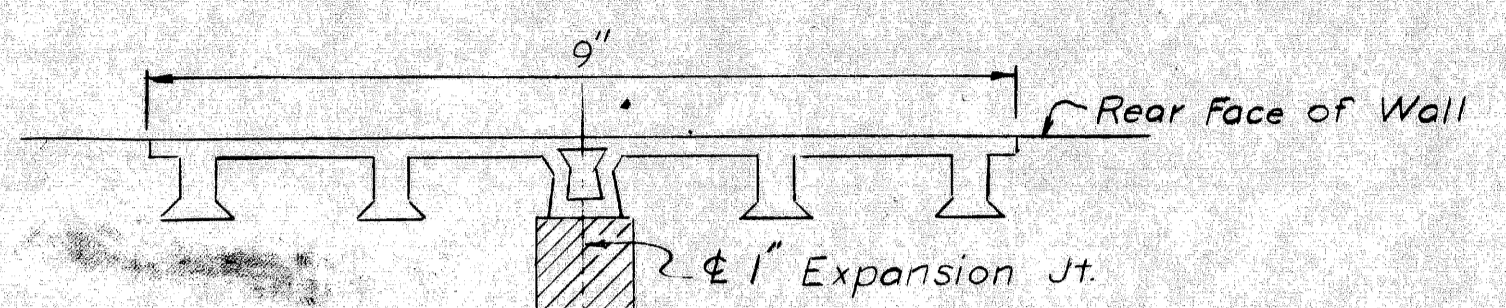
W13 of 82123K

Notes:
 Stop all Keyways 1'-0" below Top of Walls
 Stop all N.M.W.S. 1'-0" below Top of Walls
 Adjust rear face of wall to match adjacent section.

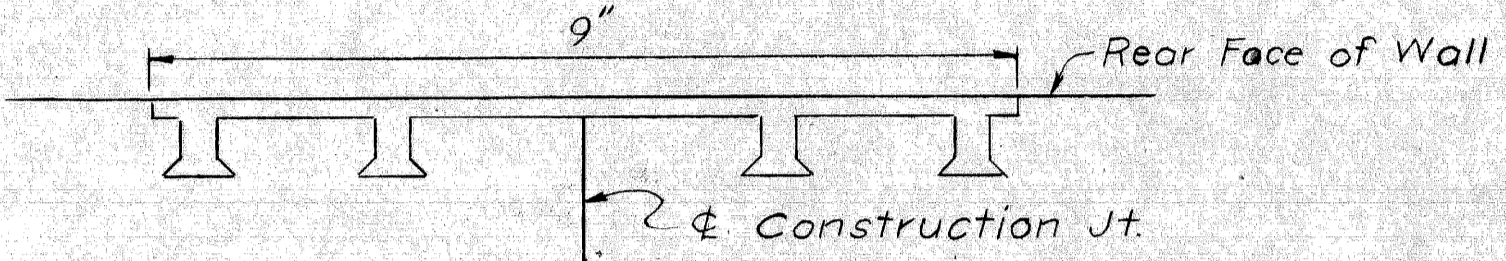
GENERAL NOTES:
 N.S. denotes Near Side ; F.S. denotes Far Side and B.S. denotes Both Sides.
 N.M.W.S. denotes Non-Metallic Waterstop.



CONSTRUCTION JOINT

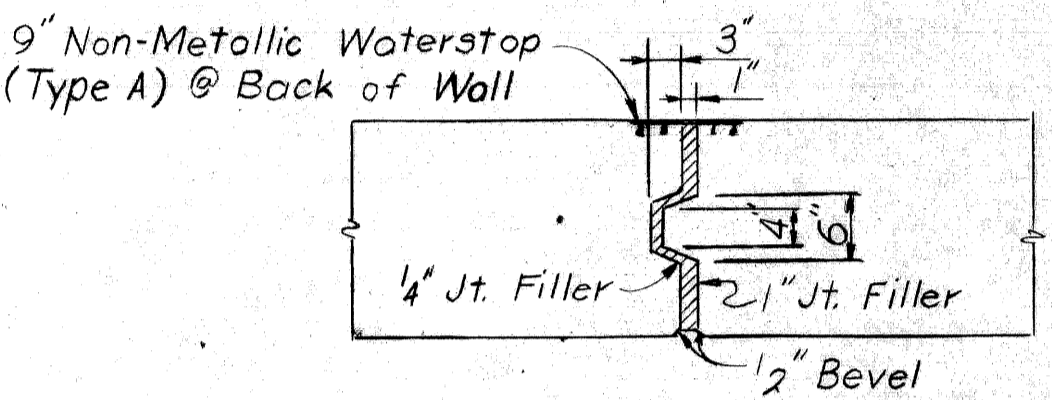


TYPE A

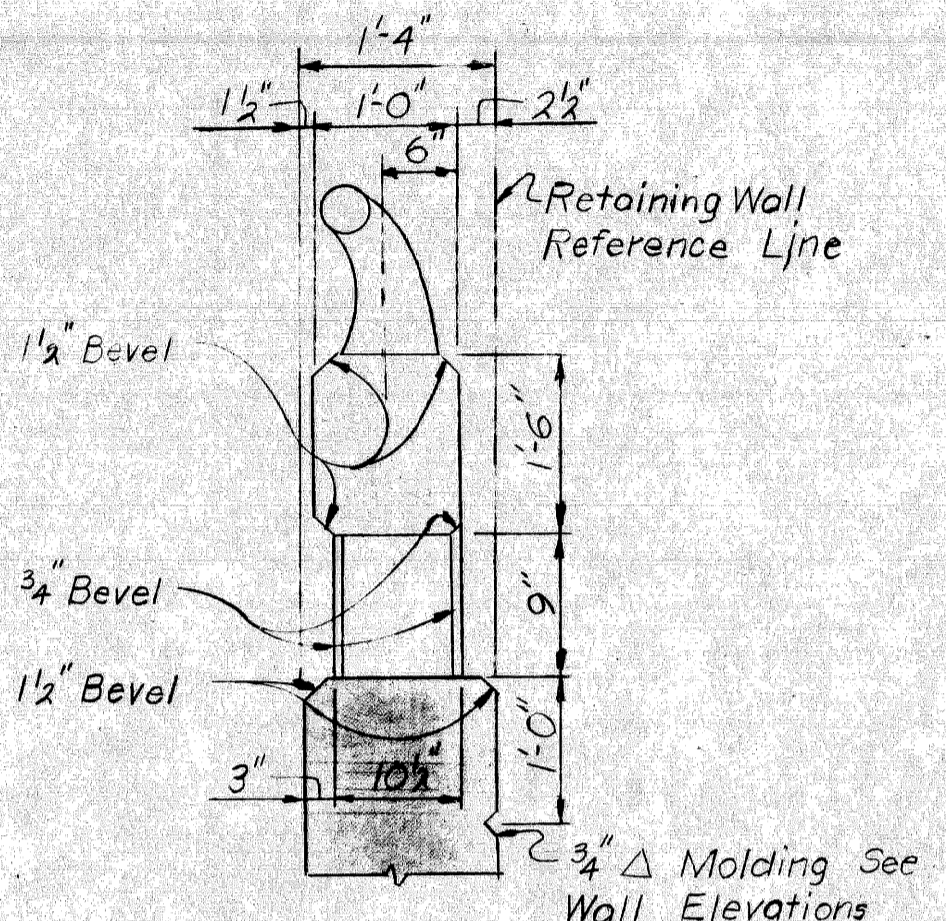


TYPE B

NON-METALLIC WATERSTOP DETAILS



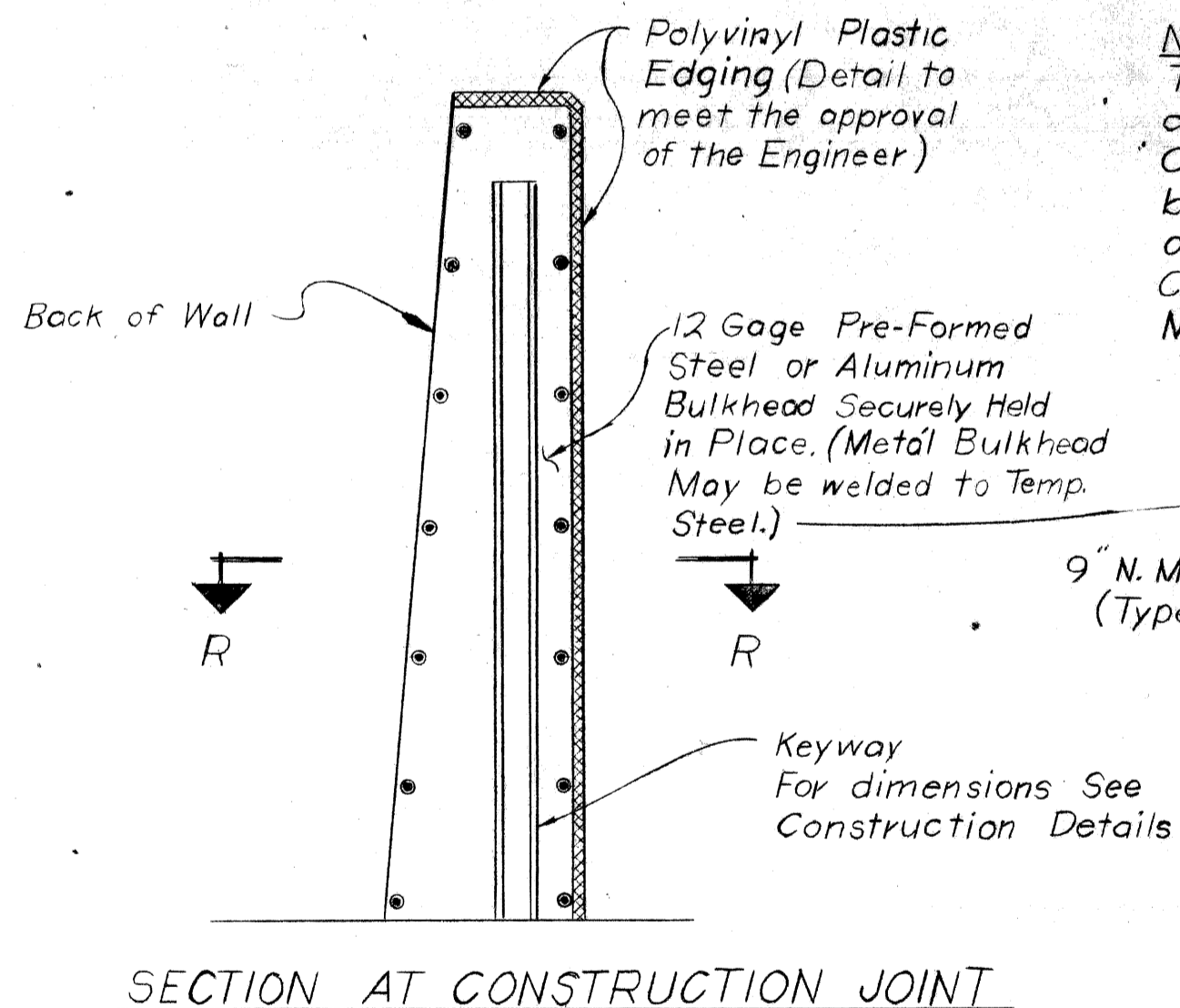
EXPANSION JOINT DETAIL



DETAIL A

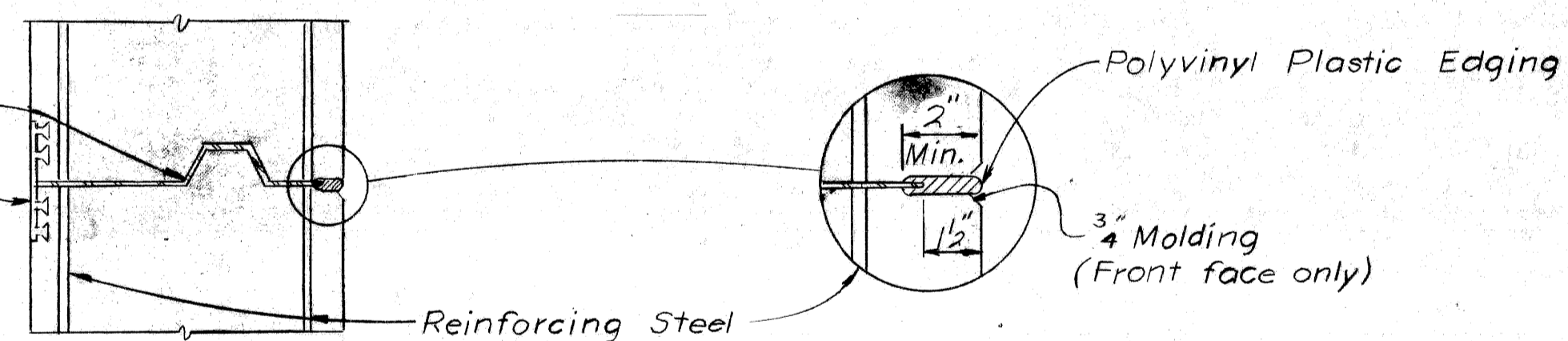
Wall railing is to be either aluminum or steel tubular railing on concrete parapet. See Railing Standard DR11 or DR12. This design is based on a maximum foundation pressure of 3200 p.s.f. based on DL + LL and maximum average foundation pressure of 1500 p.s.f. based on DL only. Parapet Concrete = 22.1 cu. yds. Grade A (6AA) included in Bridge Railing Parapet Type and not a pay item.

MISCELLANEOUS QUANTITIES		
Item	Unit	Amount
Unclassified Excavation	cu. yd.	970
Low Temperature Protection Substructure	Cu. Yds.	484
1/4" Joint Filler	Sq. Ft.	21
1" Joint Filler	Sq. Ft.	70
Non-Metallic Waterstop	Sq. Ft.	100
Bridge Railing Parapet Type	Lin. Ft.	349.4
3" Fiber Conduit	Lin. Ft.	10
Foundation Drains	Lin. Ft.	352



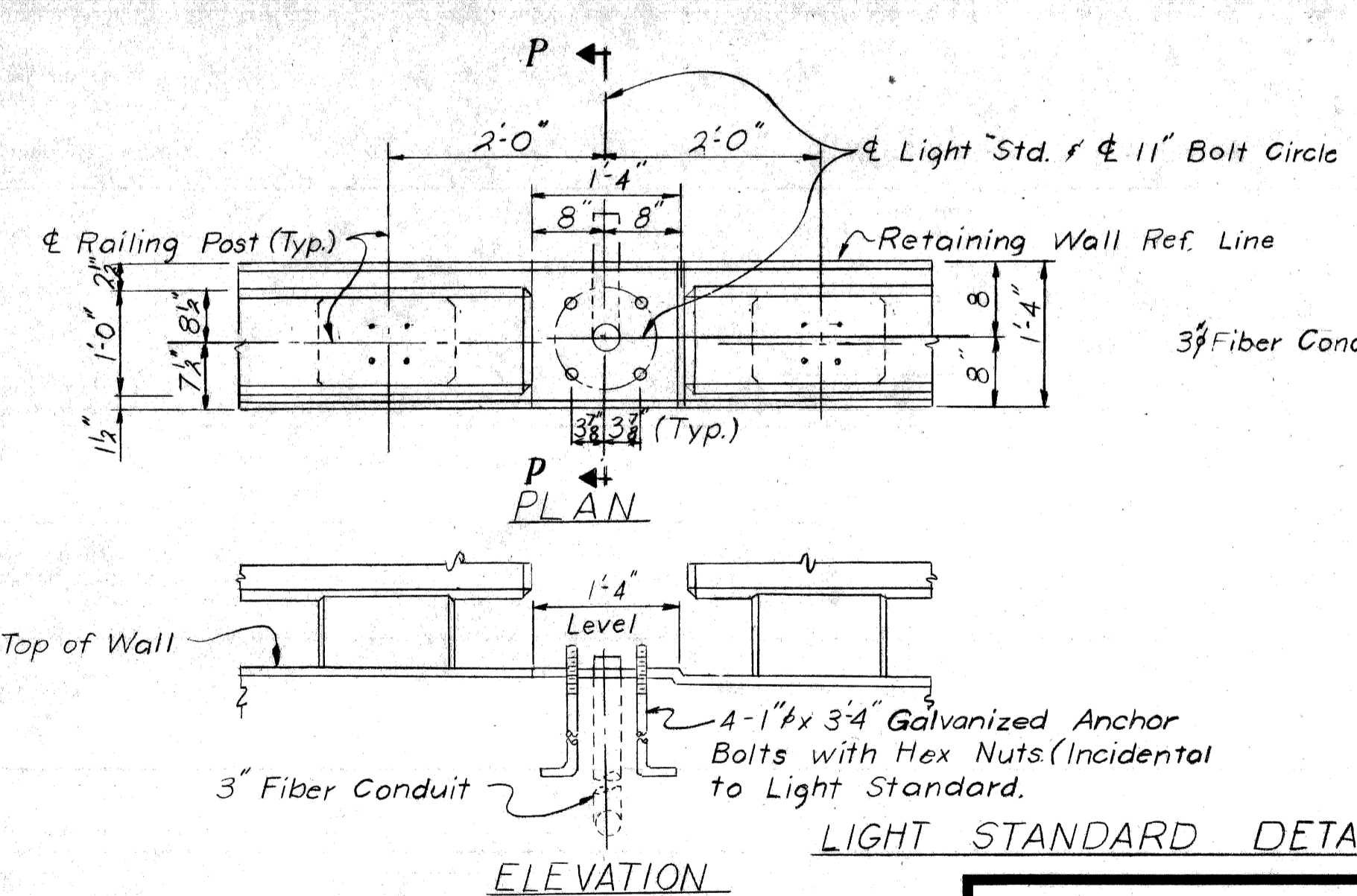
SECTION AT CONSTRUCTION JOINT

NOTES:
 The metal bulkhead may be used as alternate construction joint at contractors expense. Care is to be used in casting concrete around bulkhead to prevent dislocation or misalignment of the bulkhead. Cut holes in metal bulkhead for reinforcing steel. Metal Bulkhead may be welded to temp. steel.

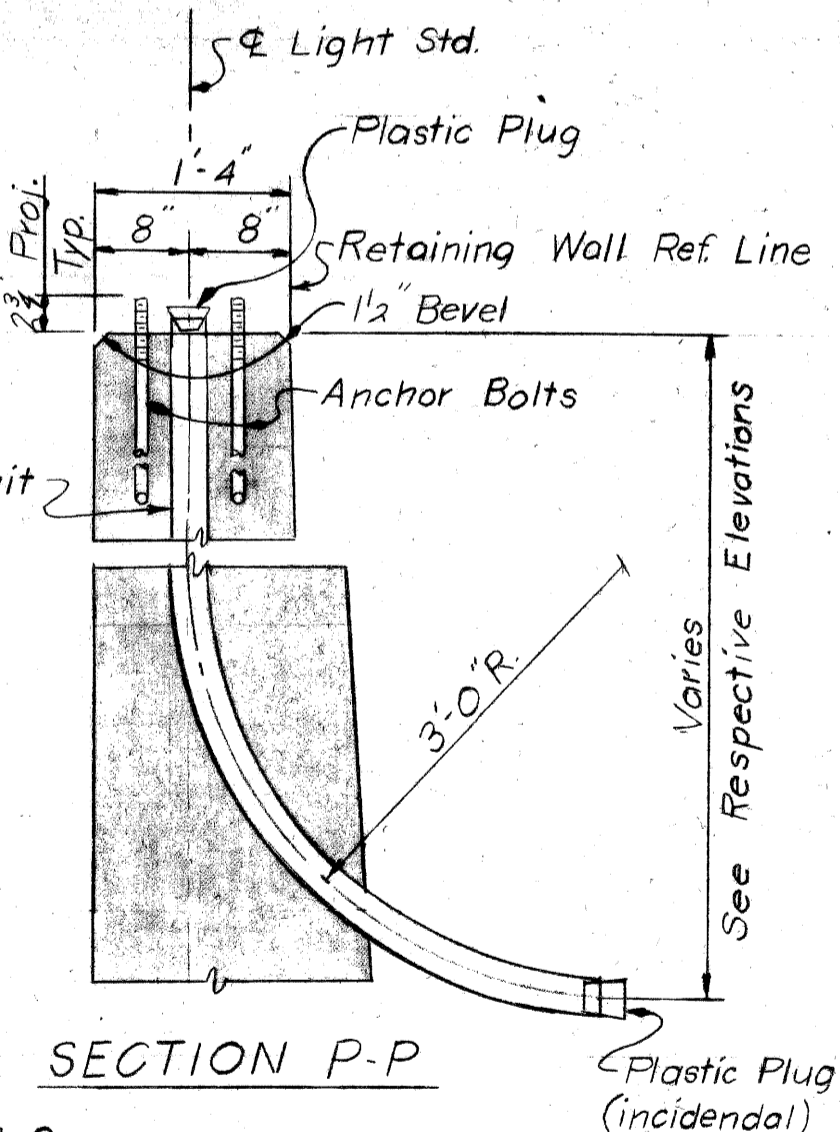


SECTION R-R

METAL BULKHEAD FOR RETAINING WALL CONSTRUCTION JOINT
 Alternate



ELEVATION



SECTION P-P

Work this sheet with sheet no. 2 thru 11.

PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS
 APPROVED: *H. Cant*
 STRUCTURAL ENGINEER

JOB No.
 PW 990(2)

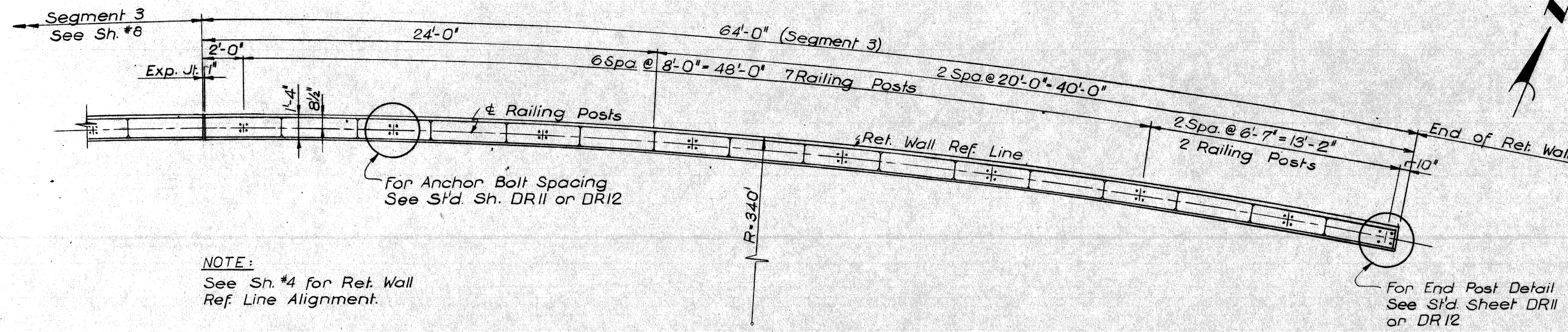
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

RETAINING WALL DETAILS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT		
SQUAD BOSS	A. Freiberg	12-67
DRAWN BY	L.G.	10-67
CHECKED BY	A. Freiberg	12-67
SHEET 10 of 11		

W13 of 82123 K

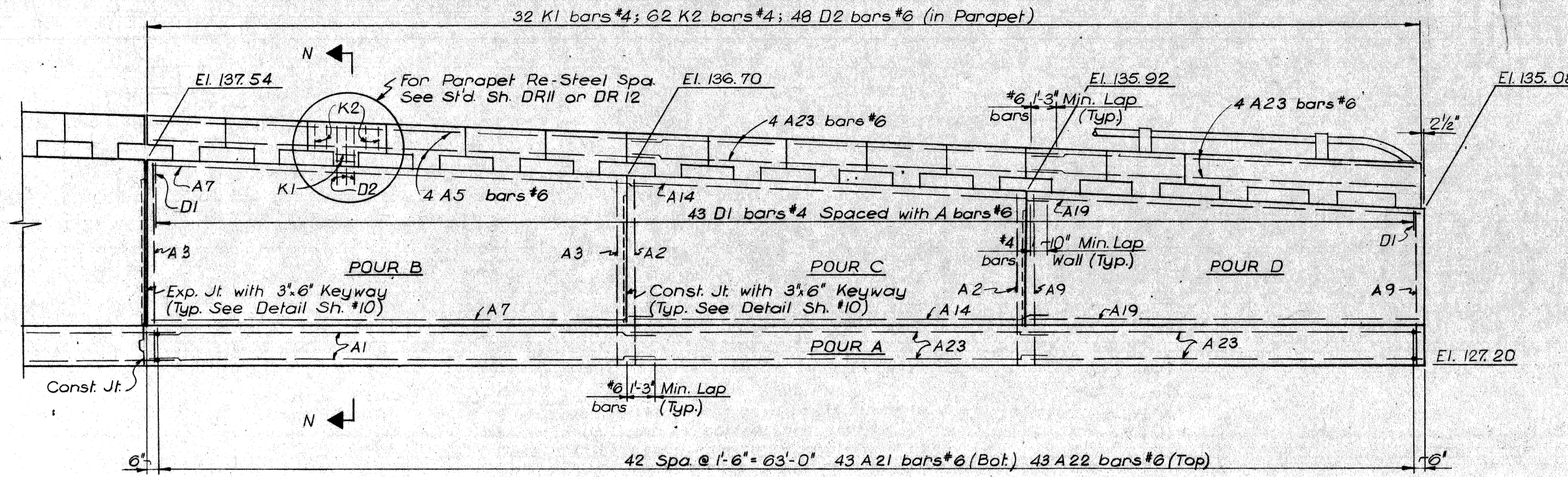


NOTE:
See Sh #4 for Ret. Wall Ref. Line Alignment.

For End Post Detail See St'd Sheet DR11 or DR12

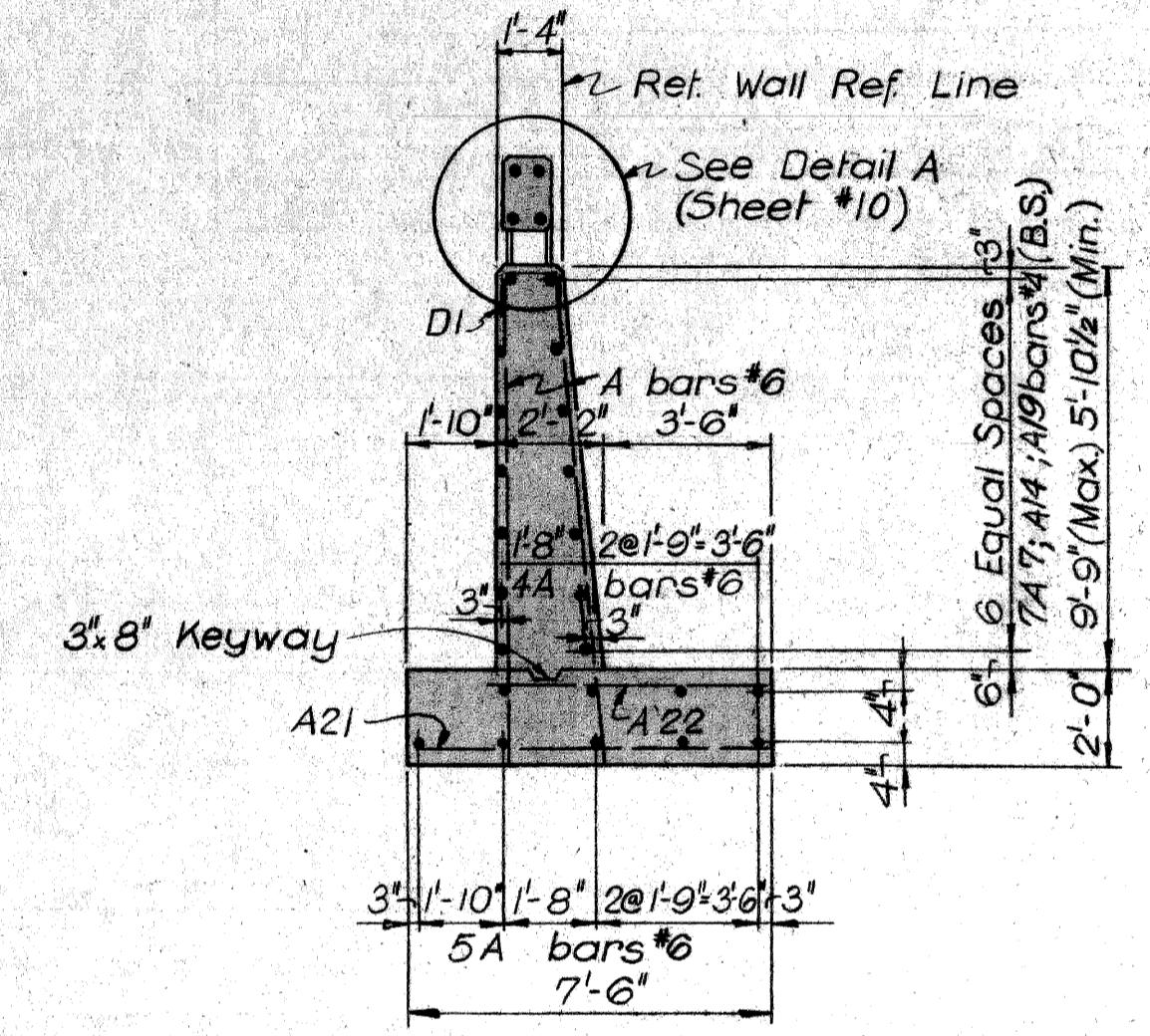
PLAN OF TOP

CONCRETE QUANTITIES		
Pour	A(6A)	A6(AA)
A	35.6	-
B	-	12.3
C	-	9.2
D	-	8.1
Total Cyds.	35.6	29.6

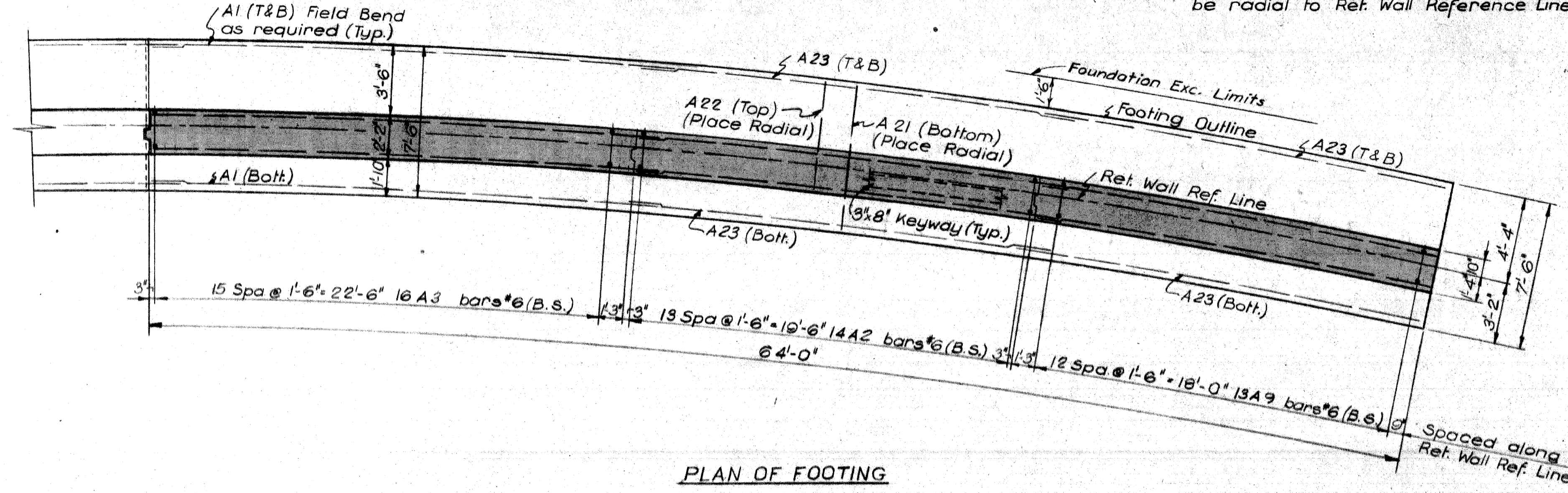


ELEVATION (Developed)

NOTE:
Dimensions are along/or radial to Retaining Wall Ref. Line in the curved portion of the Wall. All Joints are to be radial to Ret. Wall Reference Line.



SECTION N-N



PLAN OF FOOTING

Work this Sheet with Sheets No. 2 thru 11.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

RETAINING WALL DETAILS

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

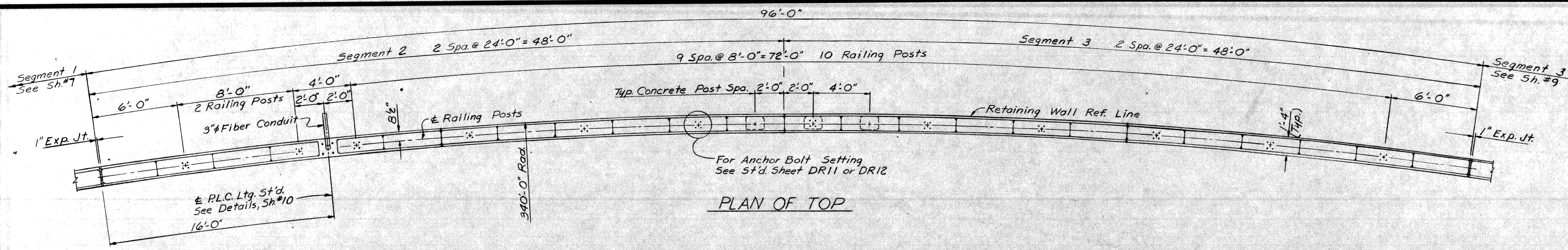
APPROVED: *J. Carr*
STRUCTURAL ENGINEER

JOB No. PW 990(2)

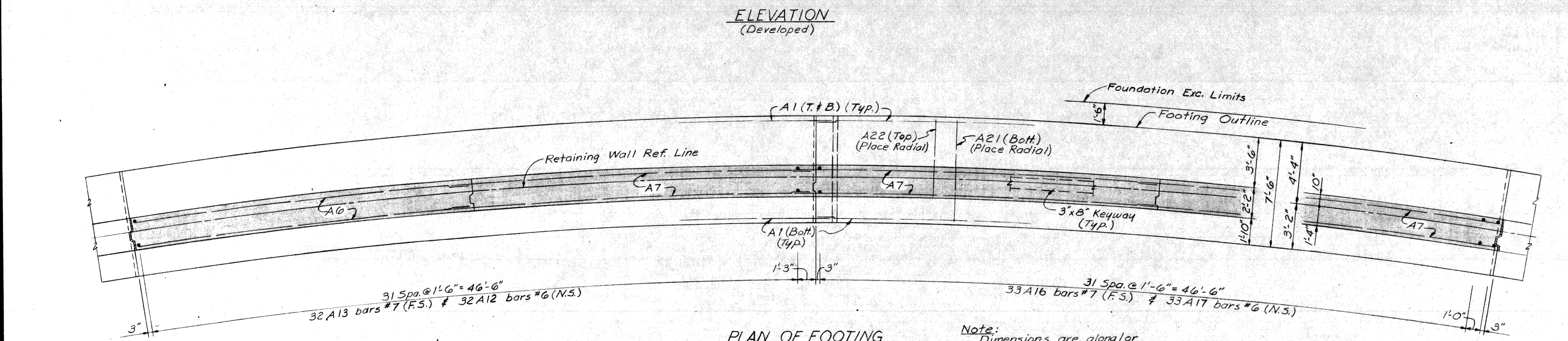
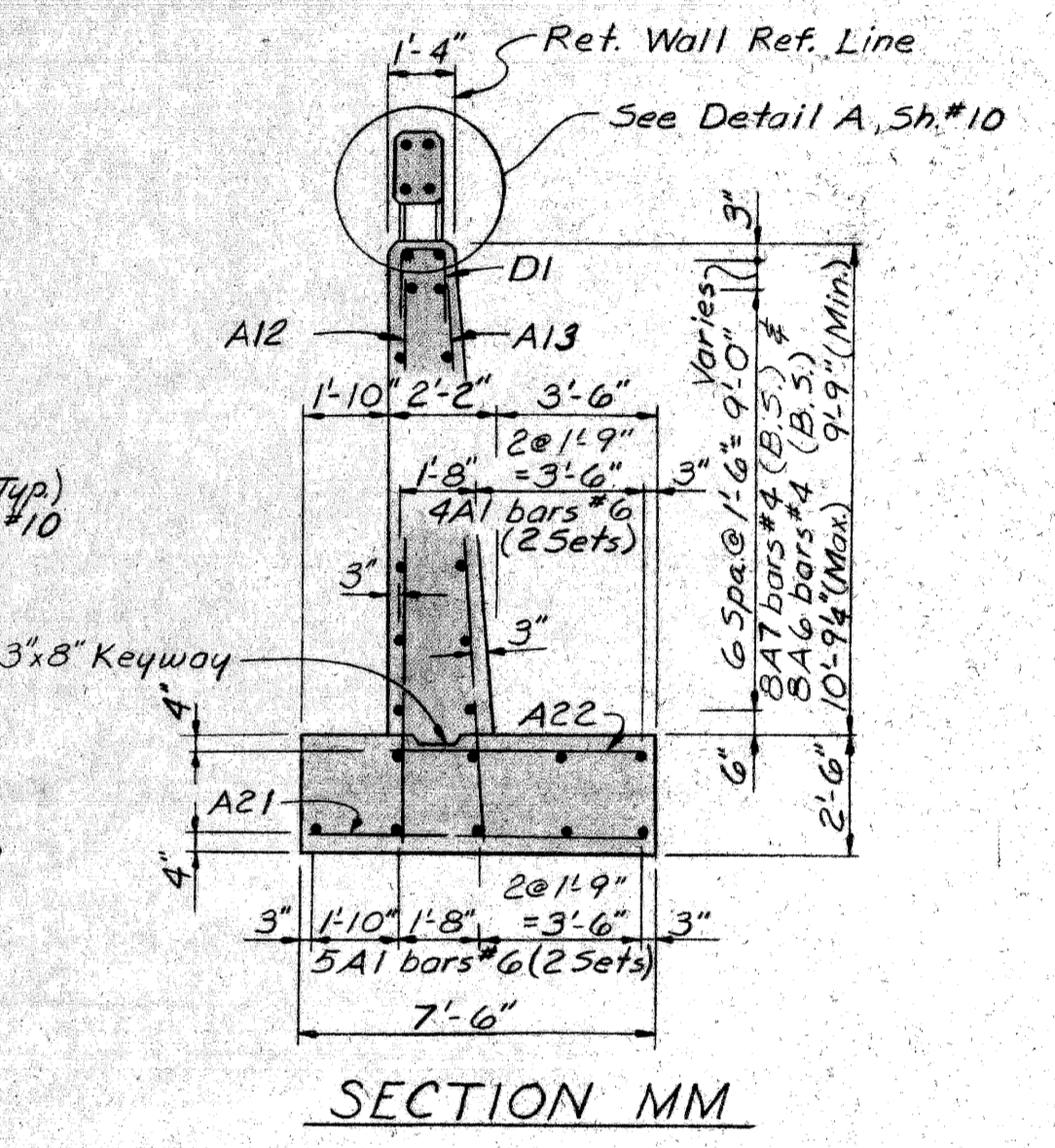
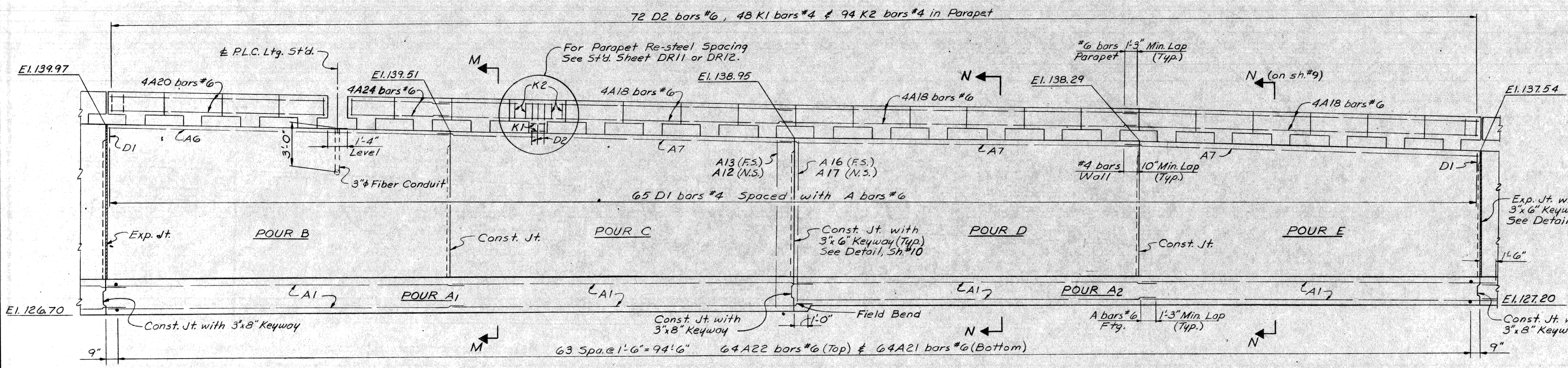
NO.	DESCRIPTION	DATE	BY

QUAD NO.	DATE
A1	1-68
A2	1-68
A3	1-68
A4	1-68
A5	1-68
A6	1-68
A7	1-68
A8	1-68
A9	1-68
A10	1-68
A11	1-68
A12	1-68
A13	1-68
A14	1-68
A15	1-68
A16	1-68
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A88	1-68
A89	1-68
A90	1-68
A91	1-68
A92	1-68
A93	1-68
A94	1-68
A95	1-68
A96	1-68
A97	1-68
A98	1-68
A99	1-68
A100	1-68

W13 of 82123K



CONCRETE QUANTITIES		
Pour	A(6A)	A(6AA)
A1	33.4	-
A2	26.9	-
B	-	16.3
C	-	15.5
D	-	14.6
E	-	12.7
Total Cu.Yd.	60.3	59.1



Note:
Dimensions are along/or
radial to Ret. Wall Ref. Line.
All joints are to be radial
to Ref. Wall Ref. Line.

Work this sheet with sheets #2 thru #11.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

RETAINING WALL DETAILS

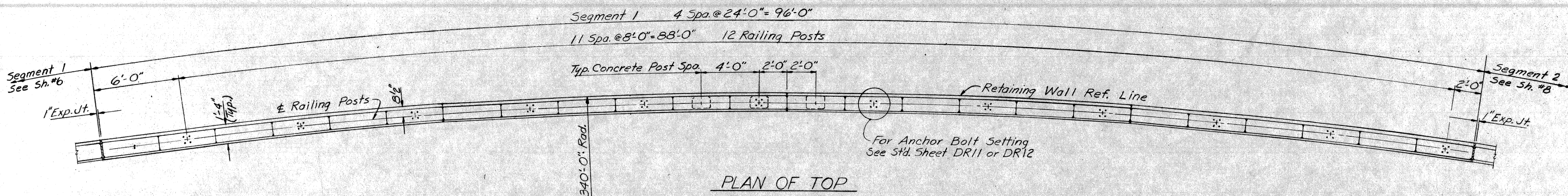
PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

NO.	DESCRIPTION	DATE	BY

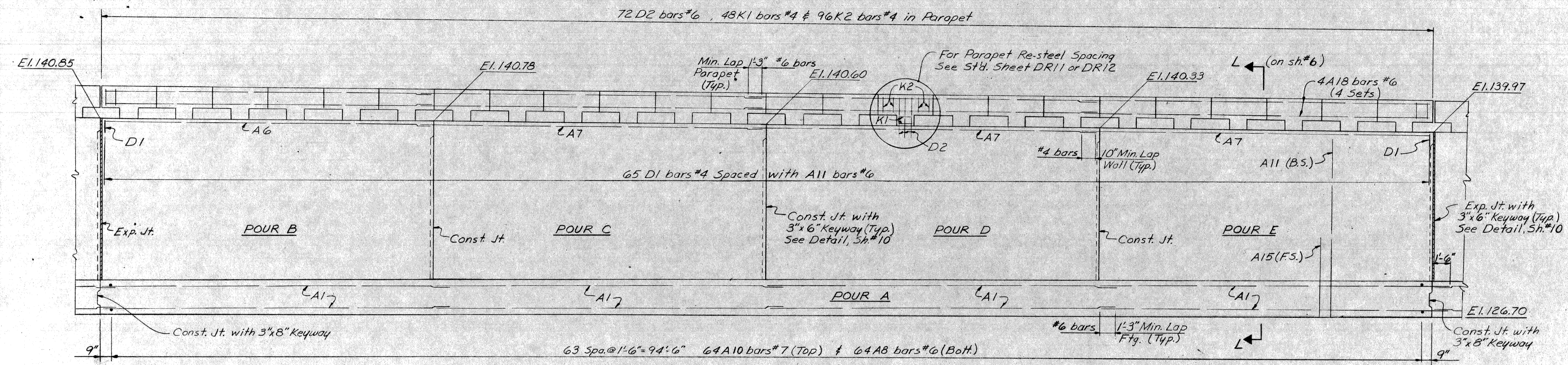
QUAD NO.	A. Freiberg	1-68
DRAWN BY	D. R. K.	12-67
CHECKED BY	A. Freiberg	1-68
SHEET	8	11

W13 of 82123 K

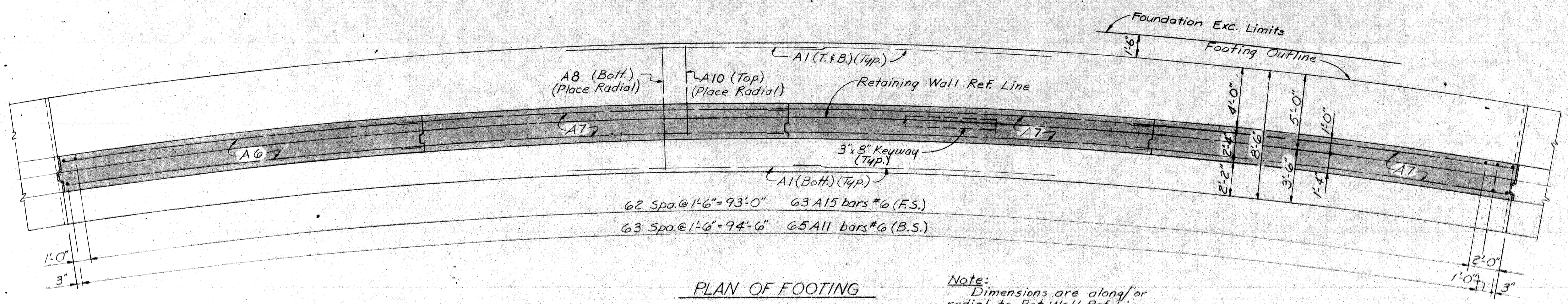
CONCRETE QUANTITIES		
Pour	A(6A)	A(6AA)
A	75.7	-
B	-	18.8
C	-	18.7
D	-	18.3
E	-	17.8
Total Cu.Yds	75.7	73.6



PLAN OF TOP



ELEVATION
(Developed)



PLAN OF FOOTING

Note:
Dimensions are along or radial to Ret. Wall Ref. Line.
All Joints are to be radial to Ret. Wall Ref. Line.

Work this sheet with sheets #2 thru #11.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

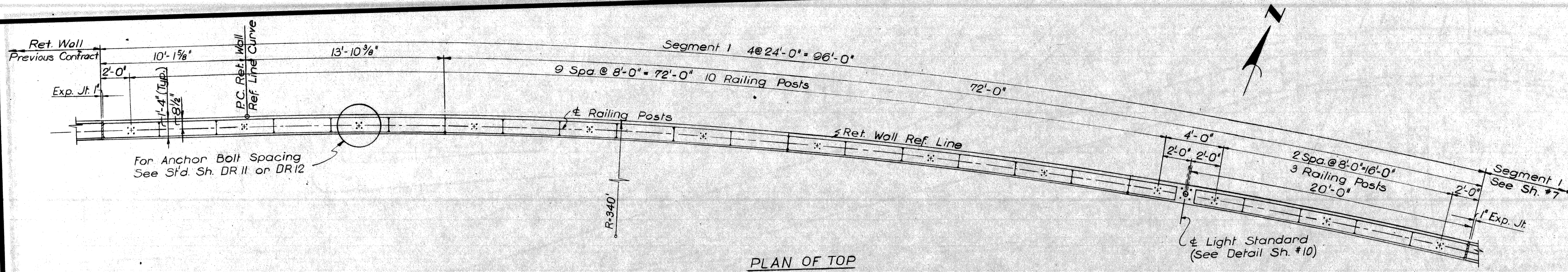
RETAINING WALL DETAILS

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS
APPROVED: *H. Conant*
STRUCTURAL ENGINEER

JOB No.
PW 990(2)

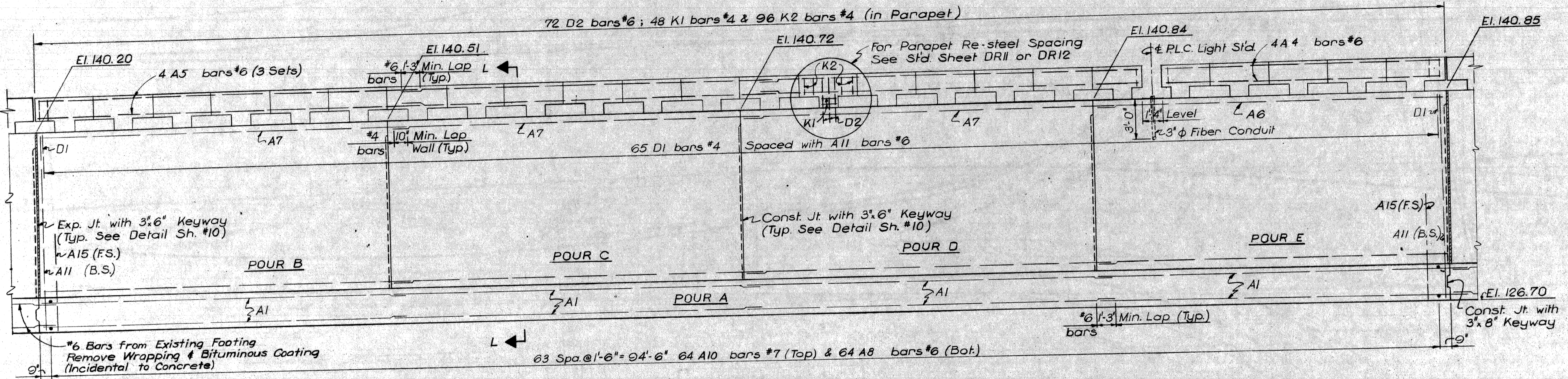
REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT
DRAWN BY: *A. Treiberg*
CHECKED BY: *A. Treiberg*
DATE: 12-67
SHEET 7 OF 11
W13 of 82123 K

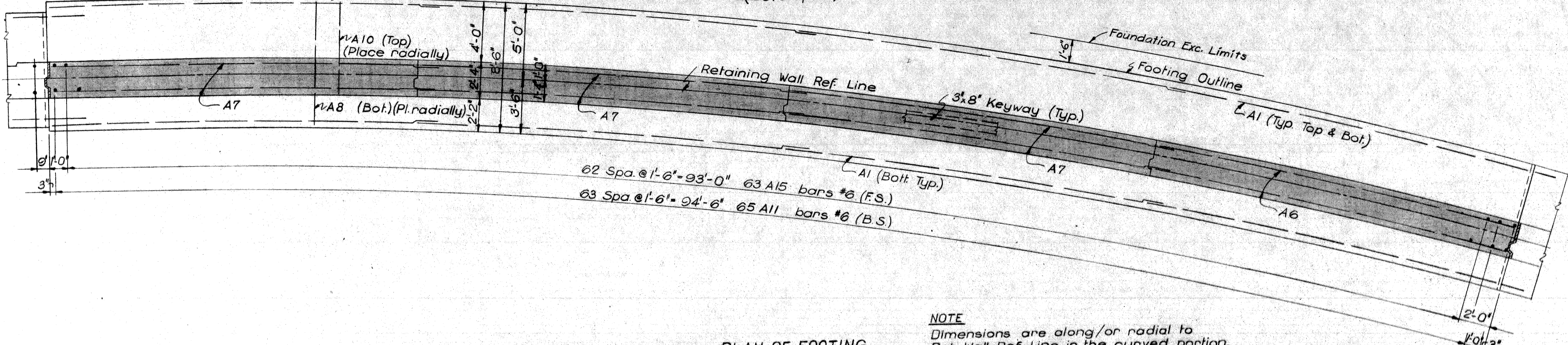


CONCRETE QUANTITIES	
Pour	A(6A) A6(AA)
A	75.7
B	18.1
C	18.5
D	18.8
E	18.9
Total Cu yds	75.7 74.3

PLAN OF TOP

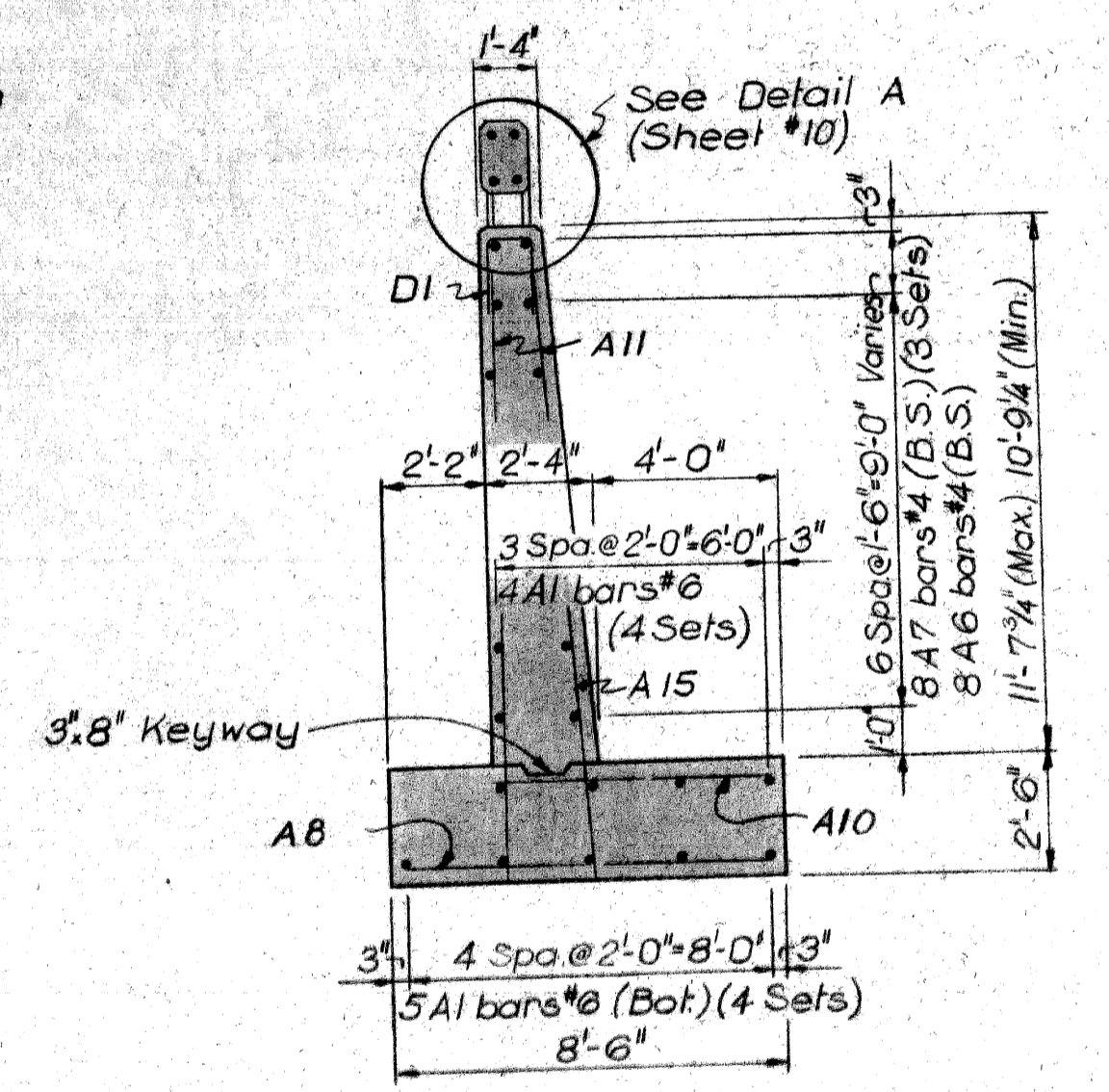


ELEVATION (Developed)



PLAN OF FOOTING

NOTE
 Dimensions are along/or radial to Ret. Wall Ref. Line in the curved portion.
 All Joints of the Retaining Wall are to be radial to Ret. Wall Reference Line.



SECTION L-L

Work this Sheet with Sheets No. 2 thru 11

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

RETAINING WALL DETAILS

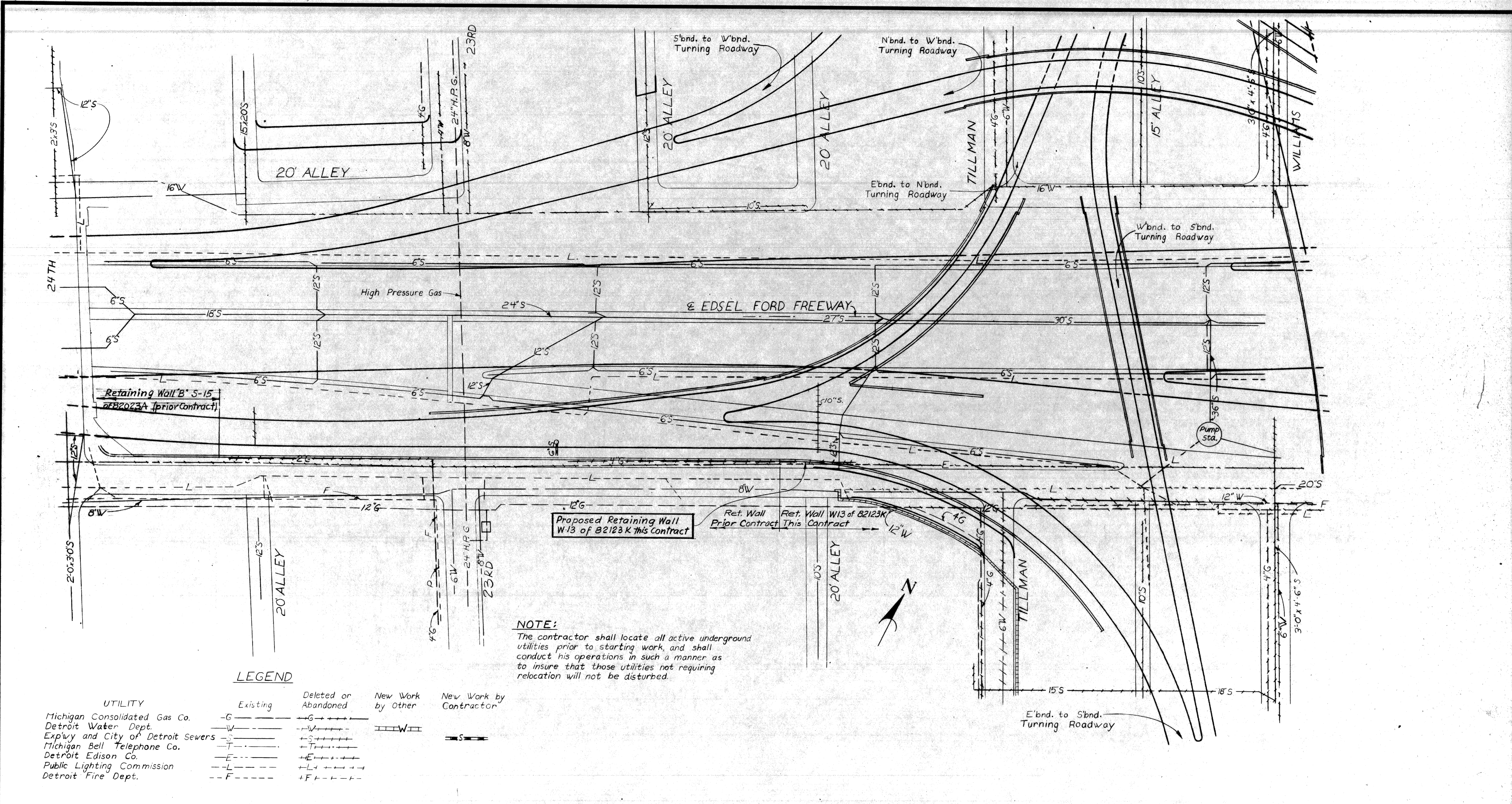
PLANS PREPARED BY
 CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

JOB No.
 PW 990(2)

NO.	REVISIONS	DATE	BY

CITY OF DETROIT
 DRAWN BY: A. Fraiberg 12-67
 CHECKED BY: G. Mohan Nov 1967
 SHEET 6 OF 11

W13 of 82123 K



NOTE:
 The contractor shall locate all active underground utilities prior to starting work, and shall conduct his operations in such a manner as to insure that those utilities not requiring relocation will not be disturbed.

LEGEND

UTILITY	Existing	Deleted or Abandoned	New Work by Other	New Work by Contractor
Michigan Consolidated Gas Co.	-G-	+G+		—S—
Detroit Water Dept.	-W-	+W+		—S—
Expwy and City of Detroit Sewers	-S-	+S+		—S—
Michigan Bell Telephone Co.	-T-	+T+		—S—
Detroit Edison Co.	-E-	+E+		—S—
Public Lighting Commission	-L-	+L+		—S—
Detroit Fire Dept.	-F-	+F+		—S—

SITUATION PLAN
 Scale: 1" = 40'

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

APPROVED: *H. Conant*
 STRUCTURAL ENGINEER

JOB No.
PW990(2)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

RETAINING WALL
JEFFRIES-FORD INTERCHANGE

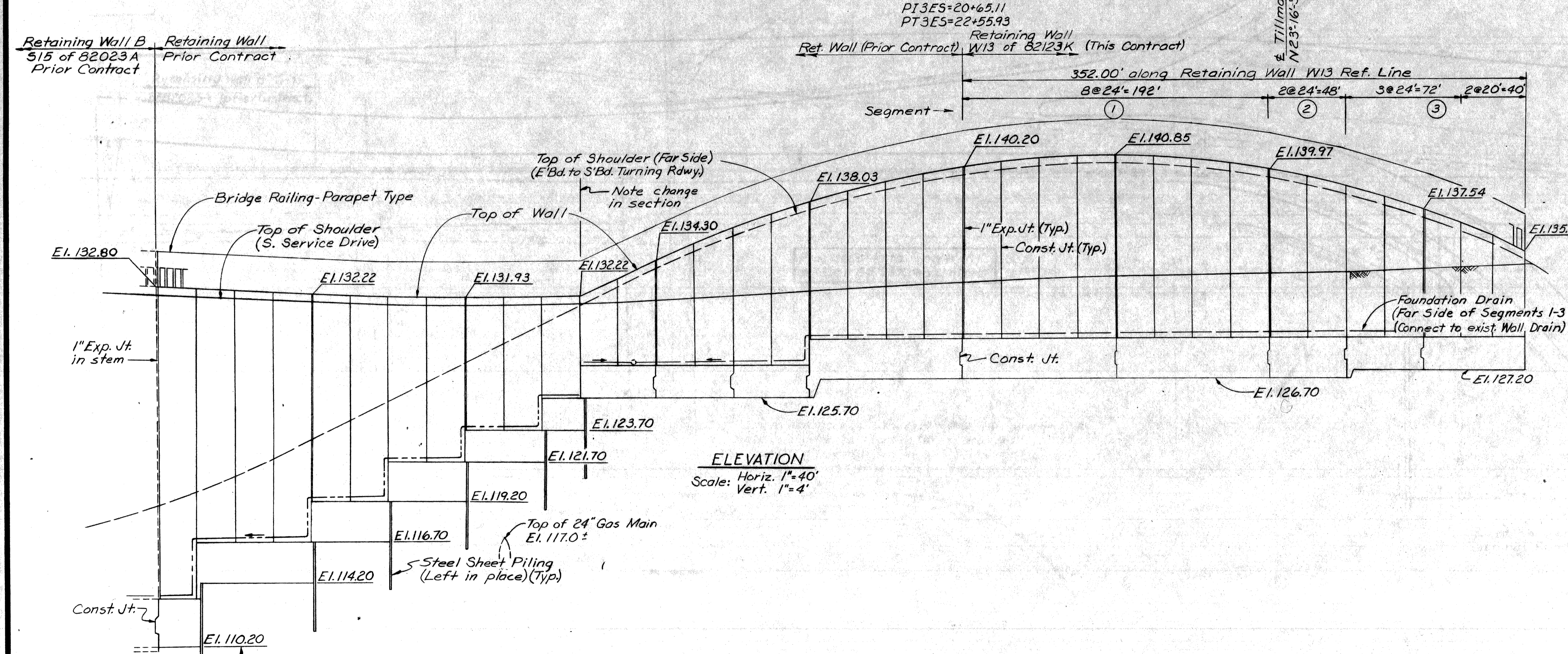
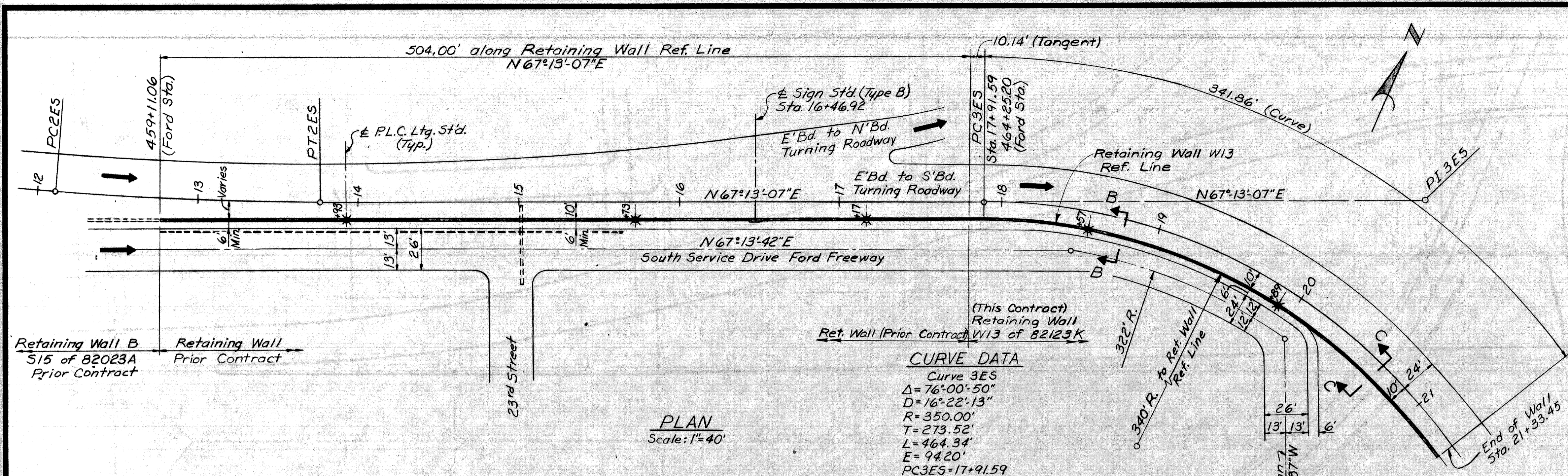
EXISTING UTILITIES AND PROPOSED ALTERATIONS

CITY OF DETROIT

SQUAD BOSS: *A. Freiberg* 10-67
 DRAWN BY: *V. Karczak* 12-14-68
 CHECKED BY: *L.B. / A.P.* 10-67
 SHEET 5 of 11

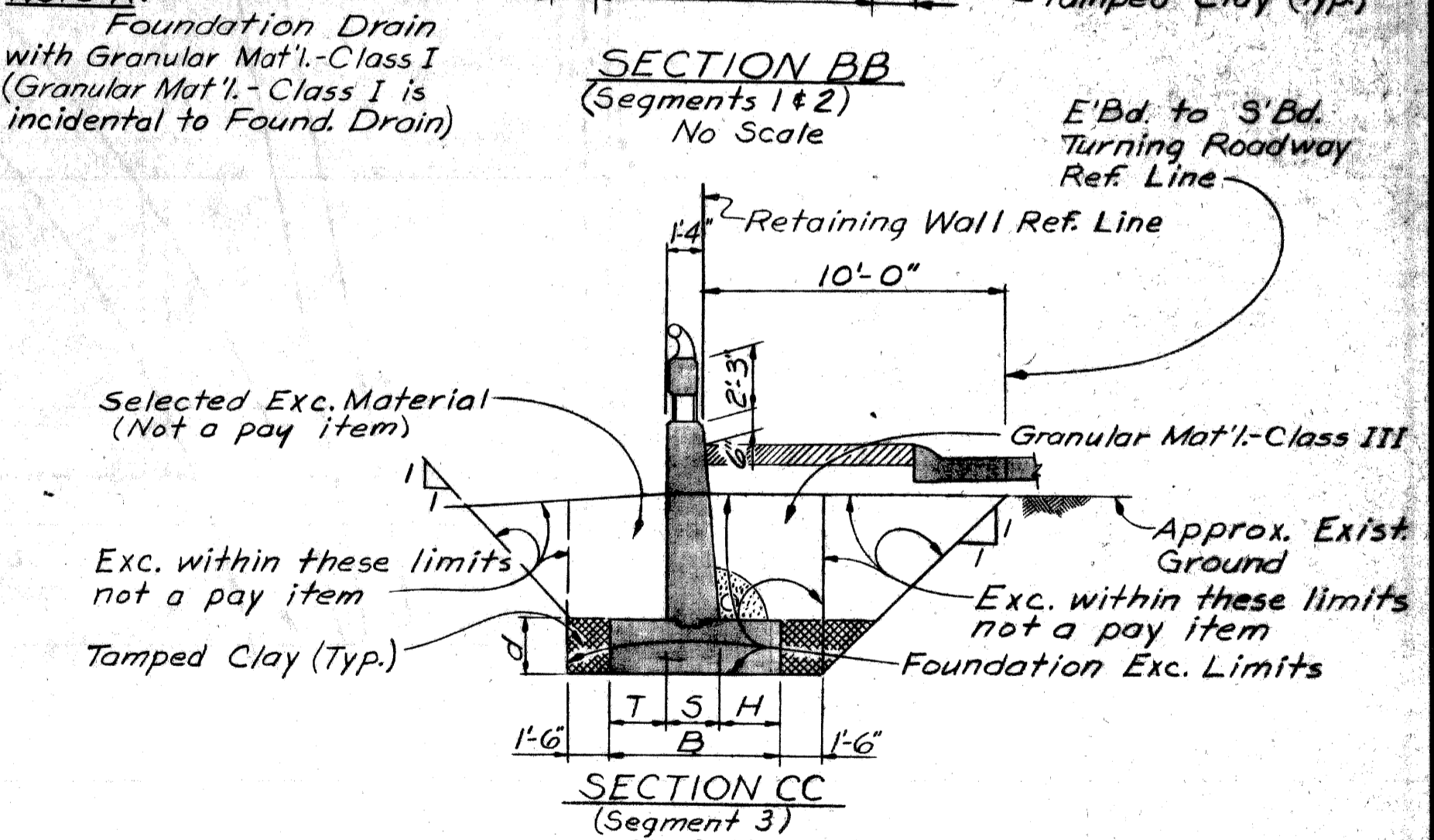
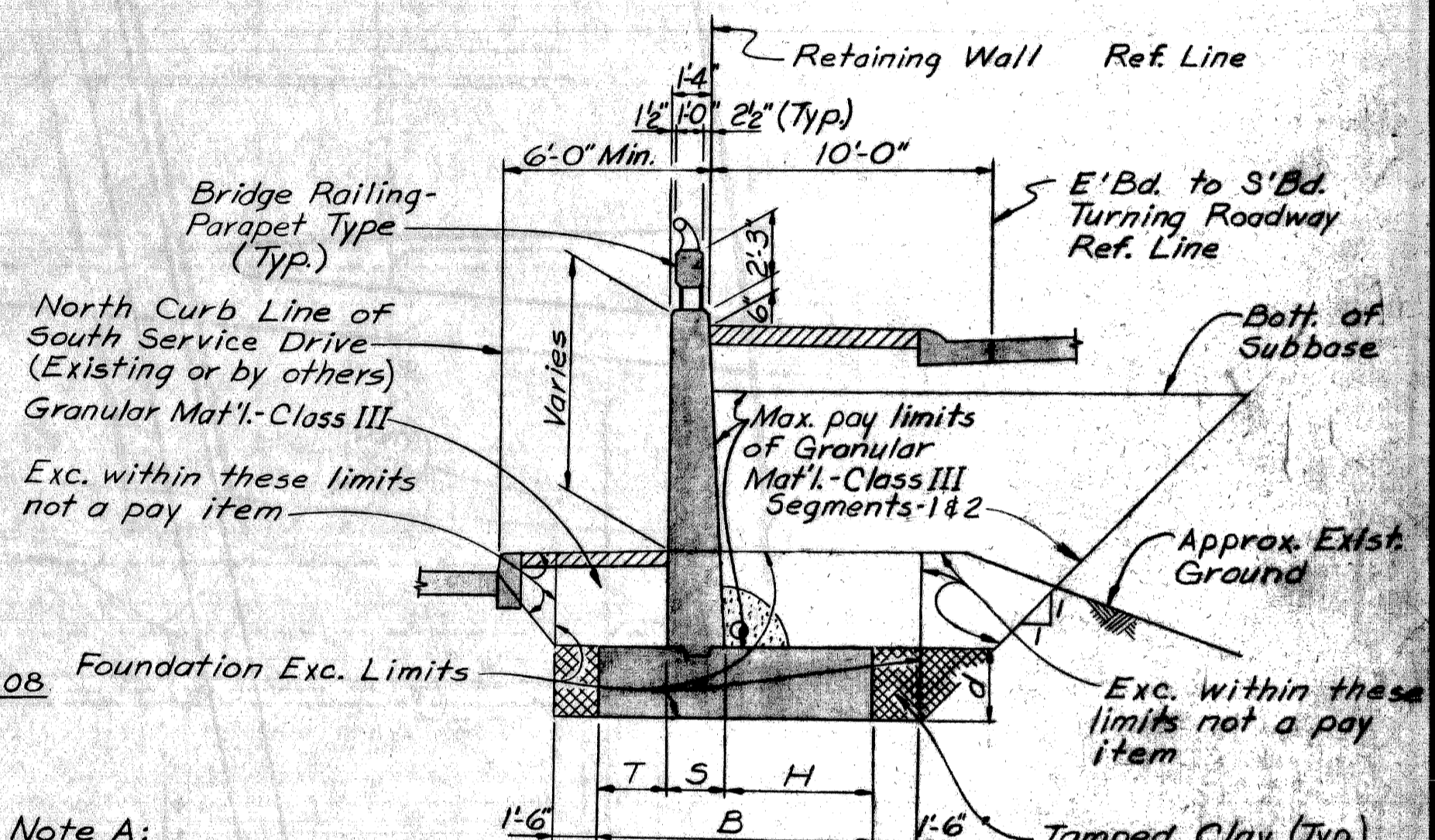
W13 of 82123K

NO.	DESCRIPTION	DATE	BY



Segment	d	B	T	S	H
1	2'-6"	8'-6"	2'-2"	2'-4"	4'-0"
2	2'-6"	7'-6"	1'-10"	2'-2"	3'-6"
3	2'-0"	7'-6"	1'-10"	2'-2"	3'-6"

Notes:
Selected Excavated Material and Tamped Clay are incidental to Unclassified Excavation.
Granular Material-Class III is not a Retaining Wall Pay Item.
A total of 1200 Cu. Yds. for this wall is billed on Road Plans.



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

APPROVED: *[Signature]* STRUCTURAL ENGINEER

JOB No.
PW 990(2)

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

RETAINING WALL
JEFFRIES-FORD INTERCHANGE

GENERAL PLAN OF STRUCTURE

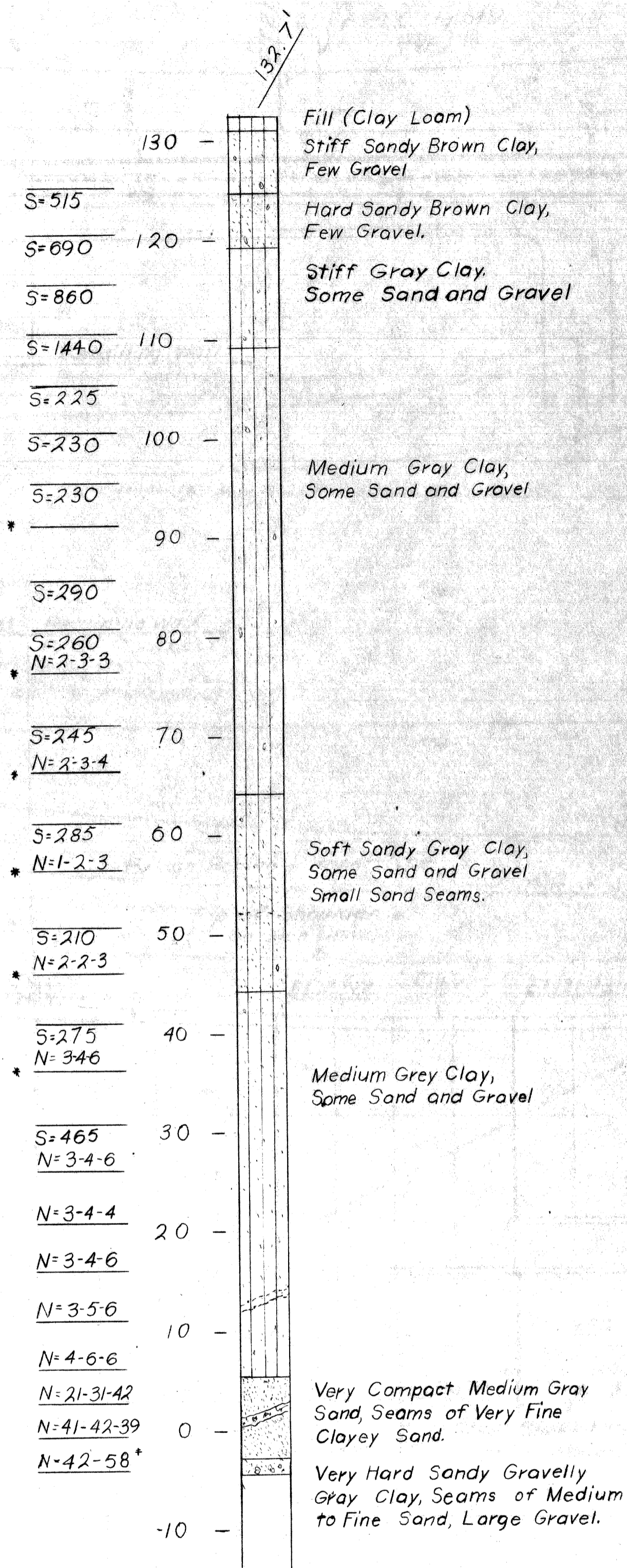
APPROVED: _____ DESIGN SUPERVISING ENGINEER

APPROVED: _____ DESIGN ENGINEER

CITY OF DETROIT
SQUAD ROOM: A. Freiberg 6-66
DRAWN BY: Rome 6-66
CHECKED BY: G. M. ...
SHEET 4 of 11

W13 of 82123K

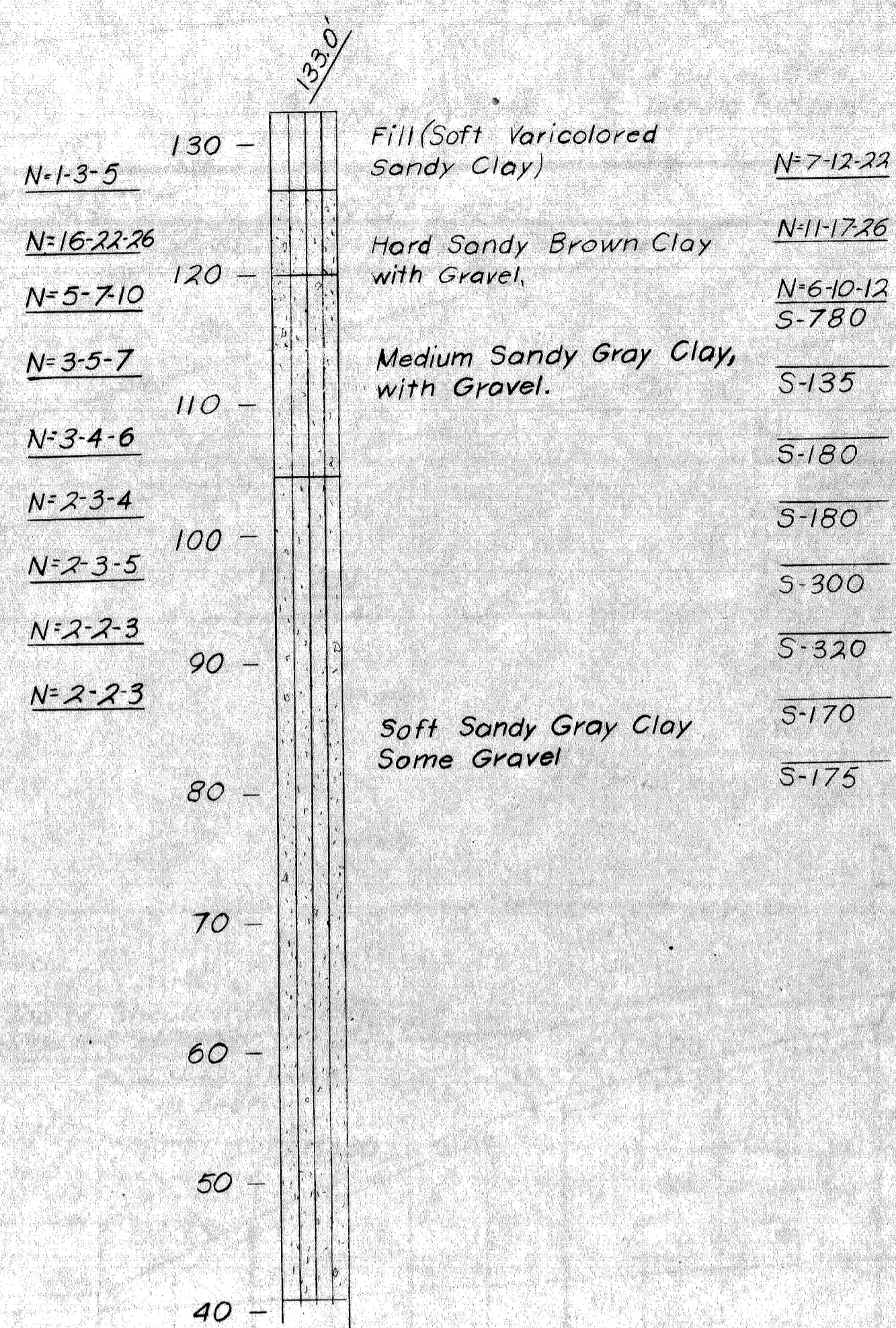
TH #J52



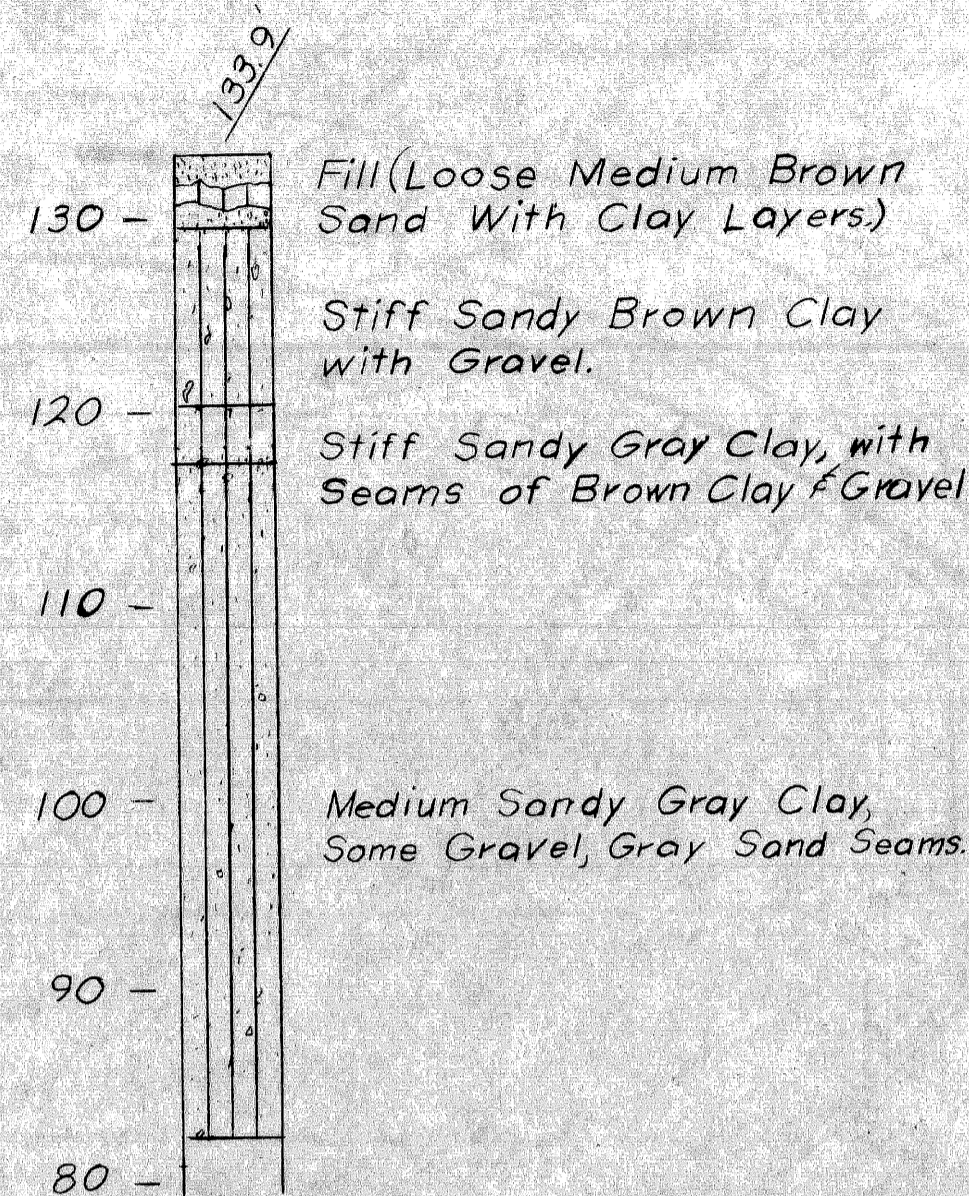
Note:
Water at 26' on
Completion of Boring.

* Sampler was driven 5"

TH #J53



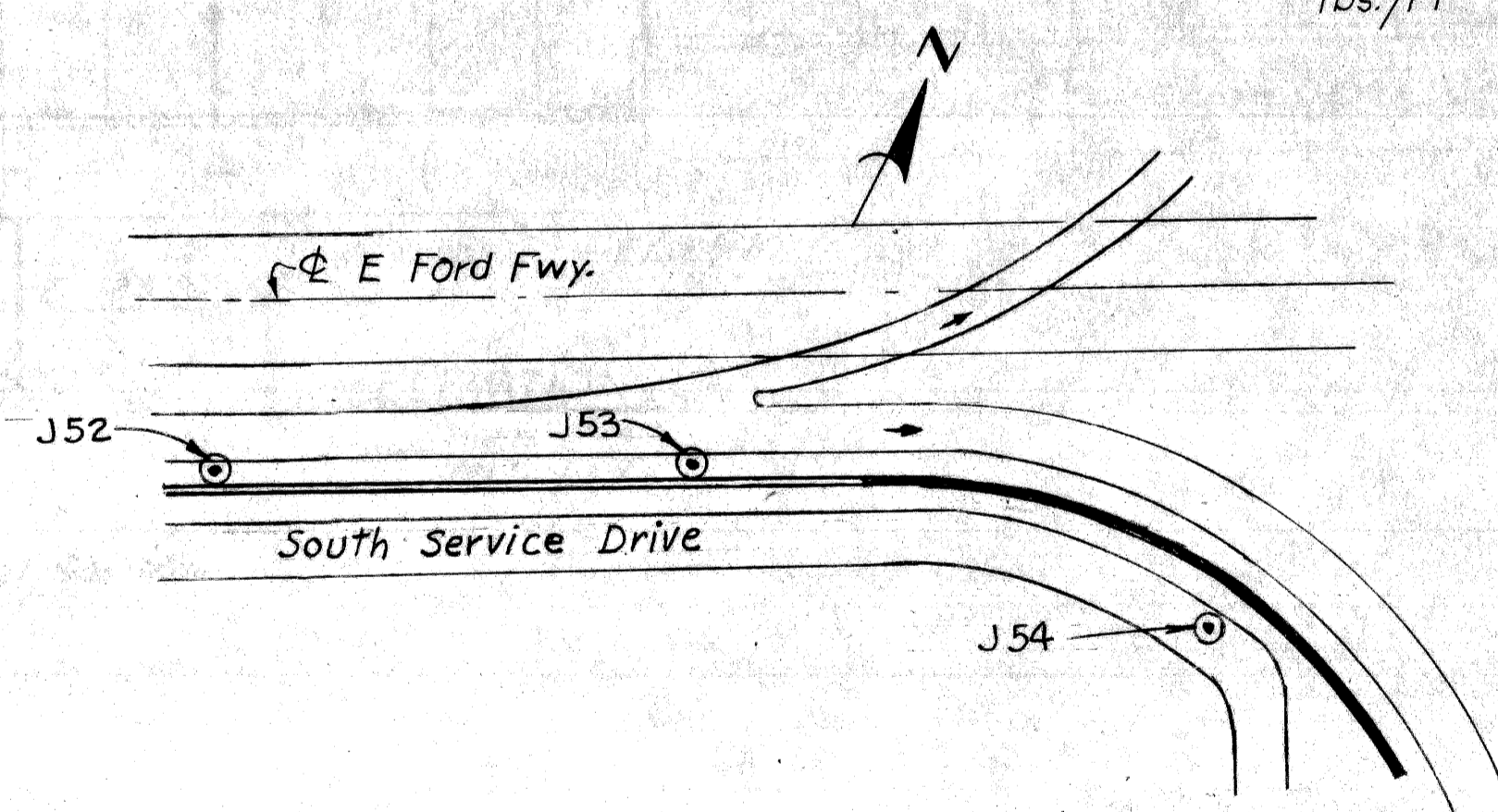
TH #J54



Note:
Water Encountered
at 2'-7" on Completion
of Boring.

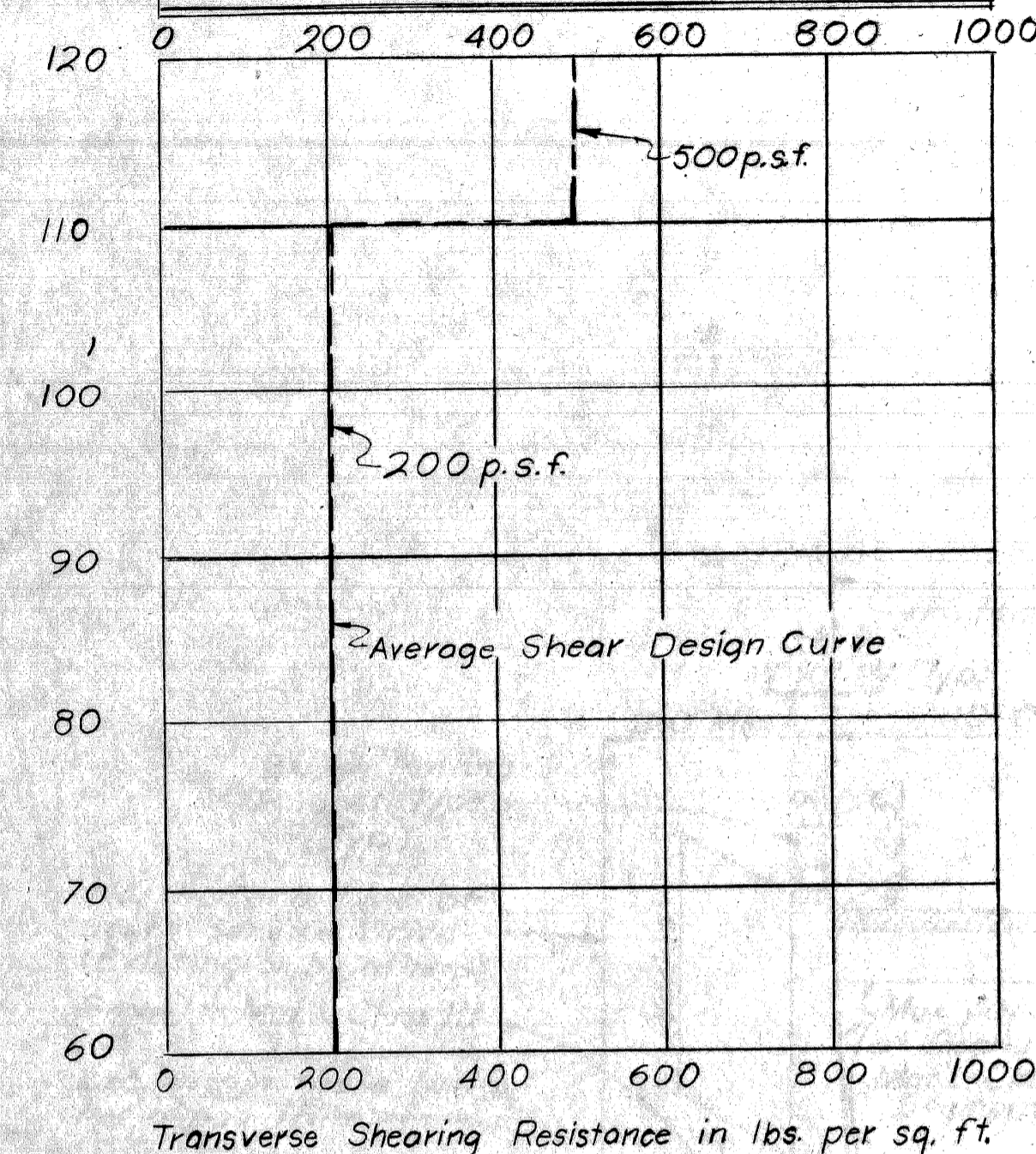
Blow Count
Transverse Shear
Resistance in
lbs./ft²

N=5
S=250



SOIL BORING LOCATION SKETCH
(No Scale)

COMPOSITE SHEAR RESISTANCE CURVE

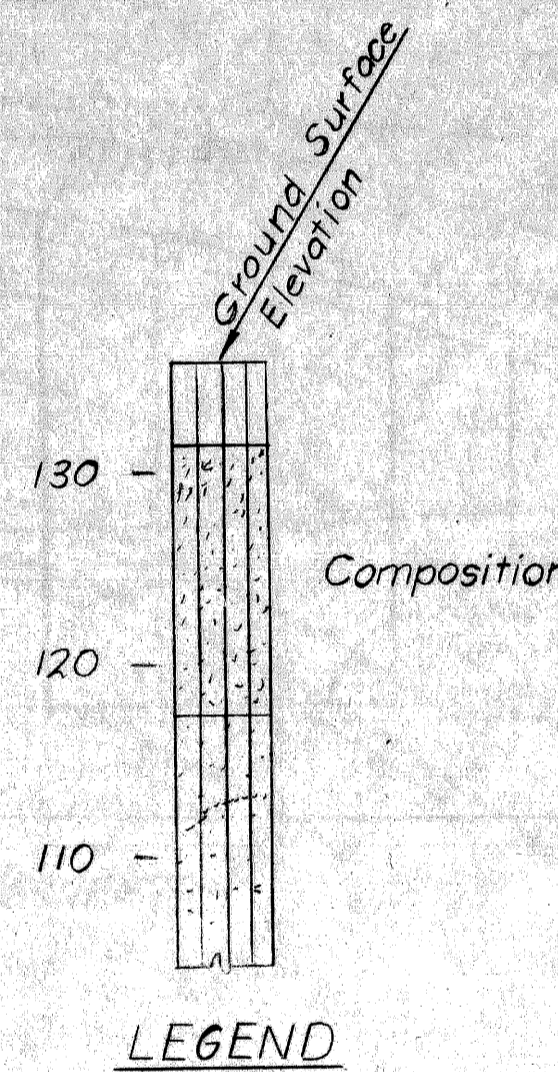


N. Indicates the number of blows required to drive the 2" ϕ O.D. Sampler 6" (or as noted) using a 140 lb hammer falling 30". Where blow count is not shown, Sampler was levered, pushed or hand driven.

S. Indicates Transverse Shearing Resistance in lbs per sq. ft. as determined by M.S.D.H. Standard Test.

* Indicates no sample taken.

Boring J 53 is from Field report only.
Borings J 52 and J 54 are from Lab reports.
All elevations based on City of Detroit Datum. See Sh. 2 for list of Construction Bench Marks.



Work this sheet with sheets 2 & 4

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

APPROVED *J. J. Conant*
STRUCTURAL ENGINEER

JOB No.
PW 990(2)

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT

RETAINING WALL
JEFFRIES-FORD INTERCHANGE

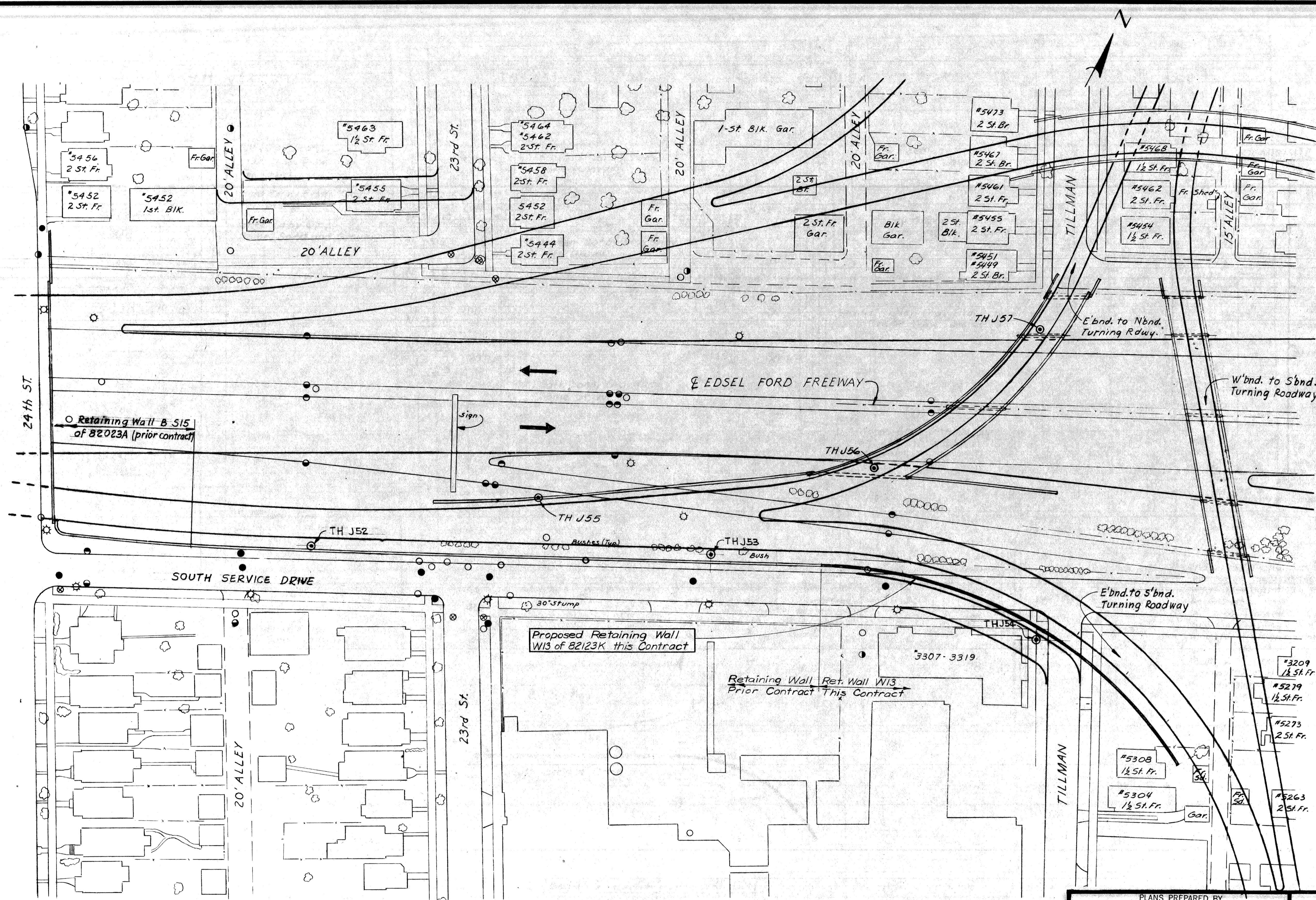
LOG OF SOIL BORINGS

APPROVED _____
DESIGN SUPERVISING ENGINEER

APPROVED _____
DESIGN ENGINEER

CITY OF DETROIT	
SQUAD BOSS	A. Preberg 10-67
DRAWN BY	L. G. 10-67
TRACED BY	
CHECKED BY	T. Baker 12-67
SHEET	3 OF 11

W13 of 82123 K



- LEGEND**
- ☼ Tree
 - Fence
 - Sewer Inlet or Catch Basin
 - ⊗ Water Main, Gate Valve & Well
 - PLC, Cable Manhole
 - ⊙ Detroit Edison Co. Cable Manhole
 - ⊙ M.B.T. Pole
 - ⊙ M.B.T. Cable Manhole
 - Sewer Manhole
 - ⊙ Test Hole for Soil Profile
 - ⊙ PLC Light Pole

NOTES

The topography shown represents conditions existing at the time the field survey was made. These conditions may have been altered by the operations of others before this work is started.

Bench Marks are referenced to the City of Detroit Datum.

C.B.M. #34 Elev 136.07 Arrow on Hydrant S.W. corner 24th St and South Service Dr.

C.B.M. #35 Elev 134.47 Arrow on Hydrant S.E. corner 23rd St and South Service Dr.

This set of drawings covers the construction of Retaining Wall W13 and incidental work. All other work is included in the Road Plans which are a part of this contract. This Retaining Wall is part of an Interchange and all area shown is within M.D.S.H. R.D.W. Removal of Fences and Buildings is not a part of this Contract.

SURVEY PLAN
Scale: 1" = 40'

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

APPROVED: *H. Carst*
STRUCTURAL ENGINEER

JOB No.
PW99021

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

**RETAINING WALL
JEFFRIES-FORD INTERCHANGE**

GENERAL PLAN OF SITE

APPROVED: _____
DESIGN SUPERVISING ENGINEER

APPROVED: _____
DESIGN ENGINEER

SQUAD BOSS	A. Freberg 10-67
DRAWN BY	SEIDLIN 5-11-66
CHECKED BY	L.B. J. 10-67
SHEET	2 of 11

W13 of 82123K