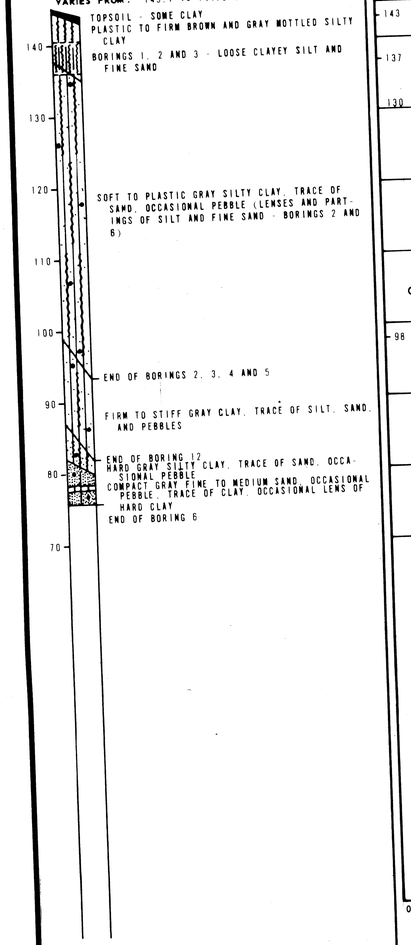
COMPOSITE SOIL PROFILE

ELEV. IN FEET

BORING NOS: 1 THRU 6 AND 12 (SEWER BORING)

GROUND SURFACE ELEV. (FT.) VARIES FROM: 145.1 to 144.0 (CITY OF DETROIT)



TOPSOIL - SOME CLAY
PLASTIC TO FIRM BROWN AND GRAY MOTTLED SILTY CLAY
BORINGS 1, 2 AND 3 - LOOSE CLAYEY SILT AND FINE SAND

SOFT TO PLASTIC GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE (LENSES AND PARTINGS OF SILT AND FINE SAND - BORINGS 2 AND 6)

END OF BORINGS 2, 3, 4 AND 5

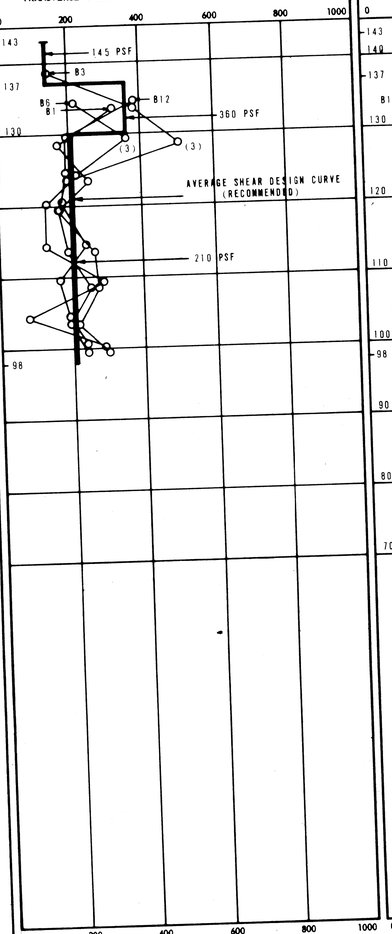
FIRM TO STIFF GRAY CLAY, TRACE OF SILT, SAND, AND PEBBLES

END OF BORING 12
HARD GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
COMPACT GRAY FINE TO MEDIUM SAND, OCCASIONAL PEBBLE, TRACE OF CLAY, OCCASIONAL LENS OF HARD CLAY
END OF BORING 6

THE ABOVE COMPOSITE SOIL PROFILE IS INTENDED ONLY TO PRESENT AVERAGE CONDITIONS THROUGHOUT THE GROUP OF BORINGS REPRESENTED. SEE INDIVIDUAL BORING CHARTS FOR DETAILS.

TRANSVERSE SHEARING RESISTANCE

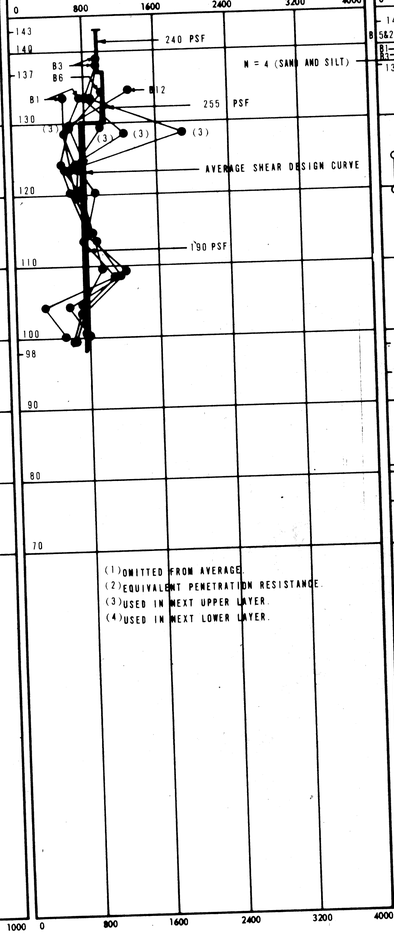
TRANSVERSE SHEARING RESISTANCE (S_c) IN LB PER SQ FT



COMPRESSION SHEARING RESISTANCE

COMPRESSION SHEARING RESISTANCE ($S_{uc}/4$) IN LB PER SQ FT

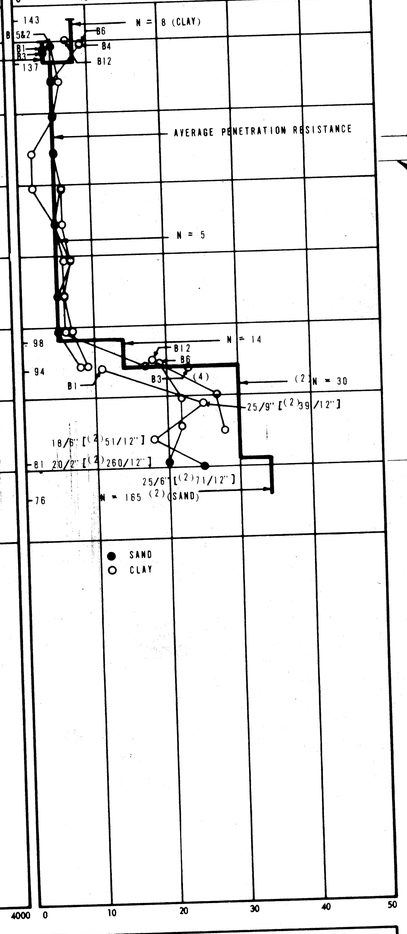
ONE-HALF COMPRESSIVE STRENGTH (S_{uc}) IN LB PER SQ FT



(1) OMITTED FROM AVERAGE.
(2) EQUIVALENT PENETRATION RESISTANCE.
(3) USED IN NEXT UPPER LAYER.
(4) USED IN NEXT LOWER LAYER.

ASTM MODIFIED PENETRATION RESISTANCE

PENETRATION RESISTANCE (N) = BLOWS PER FOOT (USING A 140-LB WEIGHT FALLING 30 IN.)



Abut A or B Footing Elev. 125.50

Pier #1, #2, or #3 Footing Elev. 122.00

Est. Bottom of Pile Elev. 80.0

● SAND
○ CLAY

COMPOSITE SUBSOIL ANALYSIS OF BORINGS: 1 THRU 6 AND 12 (SEWER BORING)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
TESTING AND RESEARCH DIVISION
TESTING LABORATORY SECTION
SOILS LABORATORY ANN ARBOR, MICHIGAN

SOIL MECHANICS ANALYSIS

PROJECT S24 of 82122K
PROPOSED GLENDALE BRIDGE CROSSING I-96 (JEFFRIES FREEWAY)
DETROIT MICHIGAN

PREPARED BY: Donna D. Brooks DATE: 7-17-69
CHECKED BY: Paul H. Martucci DATE: 7-17-69

PRELIMINARY PLAN "A"
DATED: MAY 19, 1970

COMPOSITE SUBSOIL ANALYSIS OF BORINGS NO.1, NO.2, NO.3, NO. 4, NO.5, NO.6 & NO. 12 DETROIT, MICHIGAN

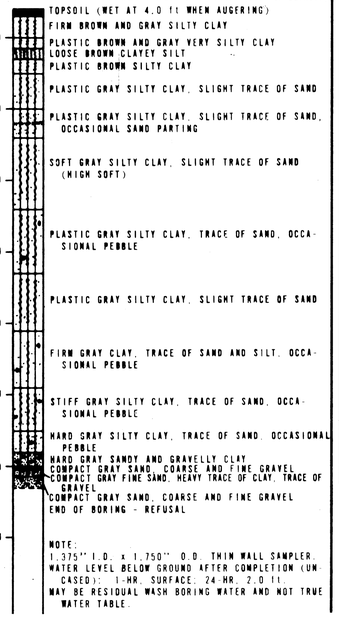
S24 OF 82122K	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
			3

LOG OF SOIL PROFILE

BORING NO. 1 HYDRAULIC WASH BORING

LOCATION STA. 34+06, 80'Lt HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.0 (CITY OF DETROIT)



TOPSOIL (WET AT 4.0 ft WHEN AUGERING)
FIRM BROWN AND GRAY SILTY CLAY
PLASTIC BROWN AND GRAY VERY SILTY CLAY
LOOSE BROWN CLAYEY SILT
PLASTIC BROWN SILTY CLAY
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL SAND PARTING
SOFT GRAY SILTY CLAY, SLIGHT TRACE OF SAND (HIGH SOFT)
PLASTIC GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND
FIRM GRAY CLAY, TRACE OF SAND AND SILT, OCCASIONAL PEBBLE
STIFF GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
HARD GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
HARD GRAY SANDY AND GRAVELLY CLAY
COMPACT GRAY SAND, COARSE AND FINE GRAVEL
COMPACT GRAY FINE SAND, HEAVY TRACE OF CLAY, TRACE OF GRAVEL
COMPACT GRAY SAND, COARSE AND FINE GRAVEL
END OF BORING - REFUSAL

NOTE:
1.375" I.D. x 1.750" O.D. THIN WALL SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 1-HR. SURFACE; 24-HR. 2.0 ft
MAY BE RESIDUAL WASH BORING WATER AND NOT TRUE WATER TABLE.

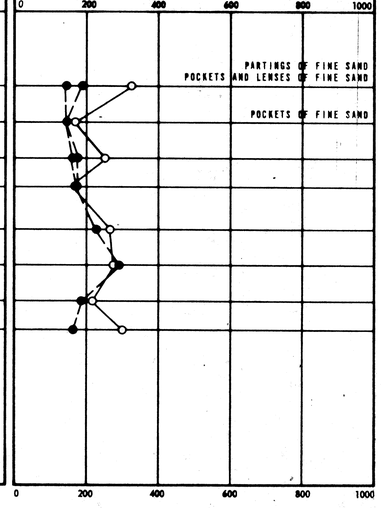
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	PENETRATION DRIVE IN INCHES	FIELD DATA: CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	MOISTURE PER CENT DRY WT.	DRY WT. LB PER CU FT
	139.0	2-2	6-6	--	NO	SAMPLE	
1	133.5	PUSHED		PLASTIC	SOFT TO PLASTIC	22.3	102.3
2	128.5	PUSHED		PLASTIC	SOFT	17.0	115.4
3	123.5	PUSHED		SOFT	SOFT	21.4	104.8
4	118.5	PUSHED		SOFT	SOFT	21.5	106.7
5	113.5	PUSHED		PLASTIC	SOFT	22.2	104.2
6	108.5	PUSHED		PLASTIC	PLASTIC	20.8	104.2
7	103.5	PUSHED		PLASTIC	SOFT	24.6 24.9	-- 99.8
8	99.5	PUSHED		PLASTIC	SOFT TO PLASTIC	13.7 11.0 18.5	-- 129.8 111.7
	94.0	4-7	6-6	--	NO	SAMPLE	
9	89.0	14-11	6-3	--	NO	SAMPLE	
10	84.0	18	6	--	NO	SAMPLE	
	80.0	25	6	--	NO	SAMPLE	

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 1 HYDRAULIC WASH BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 34+06, 80'Lt OF HEYDEN AVE CENTERLINE

MADE BY JAMES G. ANDREWS, BORING CHIEF

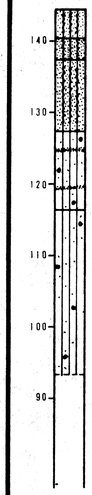
TEST HOLE NO. 1

LOG OF SOIL PROFILE

BORING NO. 2 AUGER BORING

LOCATION STA. 35+02, 100'Lt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.4 (CITY OF DETROIT)



FIRM BROWN MOTTLED SILTY SANDY CLAY
PLASTIC BROWN SILT AND FINE SAND
PLASTIC GRAY SILTY SANDY CLAY
SOFT GRAY CLAY, TRACE OF SAND AND FINE GRAVEL, LENSES OF SAND (WET)
PLASTIC GRAY CLAY, TRACE OF SAND AND FINE GRAVEL
END OF BORING

NOTE:
1.50" I.D. x 2.0" O.D. SPLIT SPOON SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 7 ft.

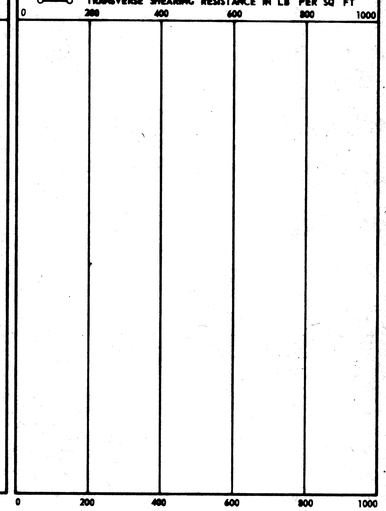
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	PENETRATION DRIVE IN INCHES	FIELD DATA: CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	MOISTURE PER CENT DRY WT.	DRY WT. LB PER CU FT
	139.4	2-3	6-6	--			
	134.4	2-3	6-6	--			
	129.4	2-3	6-6	--			
	124.4	1-1	6-6	--			
	119.4	1-1	6-6	--			
	114.4	2-3	6-6	--			
	109.4	3-4	6-6	--			
	104.4	2-3	6-6	--			
	99.4	2-3	6-6	--			
	94.4	3-5	6-6	--			

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 2 AUGER BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 35+02, 100'Lt OF HEYDEN AVE CENTERLINE

MADE BY E. BRIDENBAUGH, BORING CHIEF

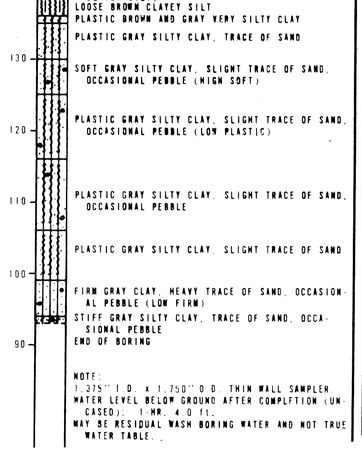
TEST HOLE NO. 2

LOG OF SOIL PROFILE

BORING NO. 3 HYDRAULIC WASH BORING

LOCATION STA. 35+38, 50'Lt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.0 (CITY OF DETROIT)



TOPSOIL
FIRM BROWN AND GRAY VERY SILTY CLAY
PLASTIC BROWN AND GRAY VERY SILTY CLAY (ALMOST CLAYEY SILT)
LOOSE BROWN CLAYEY SILT
PLASTIC BROWN AND GRAY VERY SILTY CLAY
PLASTIC GRAY SILTY CLAY, TRACE OF SAND
SOFT GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE (HIGH SOFT)
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE (LOW PLASTIC)
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND
FIRM GRAY CLAY, HEAVY TRACE OF SAND, OCCASIONAL PEBBLE (LOW FIRM)
STIFF GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
END OF BORING

NOTE:
1.375" I.D. x 1.750" O.D. THIN WALL SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 1-HR. 4.0 ft.
MAY BE RESIDUAL WASH BORING WATER AND NOT TRUE WATER TABLE.

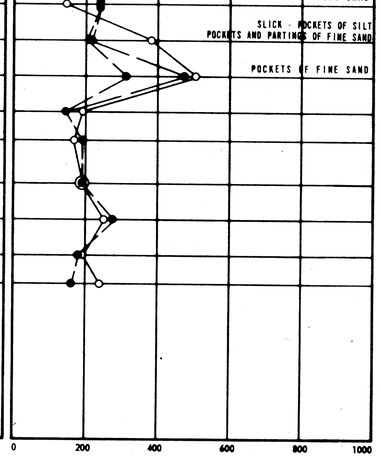
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	PENETRATION DRIVE IN INCHES	FIELD DATA: CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	MOISTURE PER CENT DRY WT.	DRY WT. LB PER CU FT
1	138.5	2-2-3	6-6-6	CLAYEY SILT	SOFT	25.0	99.8
2	133.5	PUSHED		PLASTIC	SOFT TO PLASTIC	31.1	89.2
3	128.5	PUSHED		SOFT	PLASTIC TO FIRM	15.0	117.3
4	123.5	PUSHED		PLASTIC	SOFT	21.6	104.8
5	119.5	PUSHED		PLASTIC	SOFT	21.8	106.1
6	113.5	PUSHED		PLASTIC	SOFT	23.3	101.7
7	108.5	PUSHED		PLASTIC	SOFT	23.6	102.3
8	103.5	PUSHED		PLASTIC	SOFT	24.9	99.8
9	99.5	PUSHED		PLASTIC	SOFT	26.2 29.0	-- 93.6
	94.0	8-15	6-6	--	NO	SAMPLE	

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 3 HYDRAULIC WASH BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 35+38, 50'Lt OF HEYDEN AVE CENTERLINE

MADE BY JAMES G. ANDREWS, BORING CHIEF

TEST HOLE NO. 3

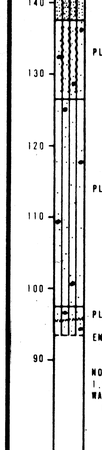
PRELIMINARY PLAN "A"
DATED: MAY 19, 1970

LOG OF SOIL PROFILE

BORING NO. 4 AUGER BORING

LOCATION STA. 35+38, 32'Rt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.5 (CITY OF DETROIT)



FIRM BROWN MOTTLED SILTY SANDY CLAY
PLASTIC GRAY SILTY CLAY, TRACE OF SAND AND FINE GRAVEL
PLASTIC GRAY CLAY, TRACE OF SAND AND FINE GRAVEL
PLASTIC GRAY CLAY, TRACE OF SAND AND FINE GRAVEL, LENSES OF SAND
END OF BORING

NOTE:
1.50" I.D. x 2.0" O.D. SPLIT SPOON SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): DRY.

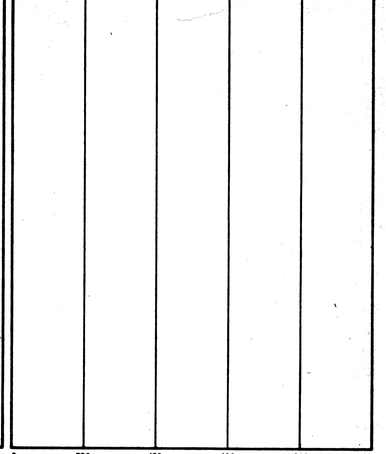
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	PENETRATION DRIVE IN INCHES	FIELD DATA: CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	MOISTURE PER CENT DRY WT.	DRY WT. LB PER CU FT
	139.5	4-5	6-6	--			
	134.5	2-3	6-6	--			
	129.5	2-3	6-6	--			
	124.5	2-3	6-6	--			
	119.5	3-3	6-6	--			
	114.5	3-3	6-6	--			
	109.5	3-4	6-6	--			
	104.5	3-3	6-6	--			
	99.5	3-4	6-6	--			
	94.5	4-5	6-6	--			

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



PENETRATION NOTE: NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLER DISTANCE GIVEN, USING 140-LB WEIGHT FALLING 30 IN.

GENERAL NOTE: FIELD CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND SUBSTANTIATED BY RESISTANCE TO PIPE CASING AND JET ROD. BELOW DEPTH OF SAMPLING, CONSISTENCY DETERMINED BY SOIL RESISTANCE TO JET ROD.

BORING DATA

NUMBER 4 AUGER BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 35+38, 32'Rt OF HEYDEN AVE CENTERLINE

MADE BY E. BRIDENBAUGH, BORING CHIEF

TEST HOLE NO. 4

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
TESTING AND RESEARCH DIVISION
TESTING LABORATORY SECTION
SOILS LABORATORY ANN ARBOR, MICHIGAN

SOIL MECHANICS ANALYSIS

PROJECT S24 of 82122K
PROPOSED GLENDALE BRIDGE CROSSING I-96 (JEFFRIES FWY)
DETROIT, MICHIGAN

S24 OF 82122K

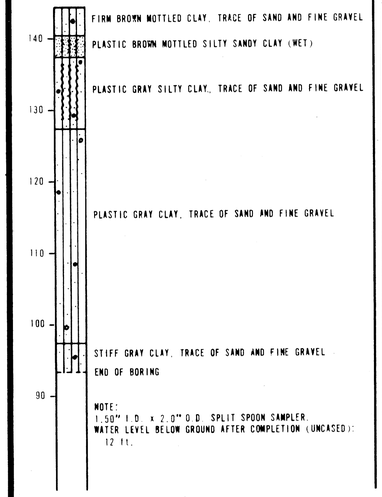
STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		4

LOG OF SOIL PROFILE

BORING NO. 5 AUGER BORING

LOCATION STA. 36+14, 40'Rt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.4 (CITY OF DETROIT)



FIRM BROWN MOTTLED CLAY, TRACE OF SAND AND FINE GRAVEL

PLASTIC BROWN MOTTLED SILTY SANDY CLAY (WET)

PLASTIC GRAY SILTY CLAY, TRACE OF SAND AND FINE GRAVEL

PLASTIC GRAY CLAY, TRACE OF SAND AND FINE GRAVEL

STIFF GRAY CLAY, TRACE OF SAND AND FINE GRAVEL

END OF BORING

NOTE:
1.50" I.D. x 2.0" O.D. SPLIT SPOON SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 12 ft.

SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	FIELD DATA: PENETRATION DRIVE IN INCHES	FIELD DATA: CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	LABORATORY DATA: MOISTURE PER CENT DRY WT.	LABORATORY DATA: DRY WT. LB PER CU FT
	139.4	2-3	6-6	--			
	134.4	3-3	6-6	--			
	129.4	2-3	6-6	--			
	124.4	2-3	6-6	--			
	119.4	3-3	6-6	--			
	114.4	2-3	6-6	--			
	109.4	3-3	6-6	--			
	104.4	3-3	6-6	--			
	99.4	3-3	6-6	--			
	94.4	7-10	6-6	--			

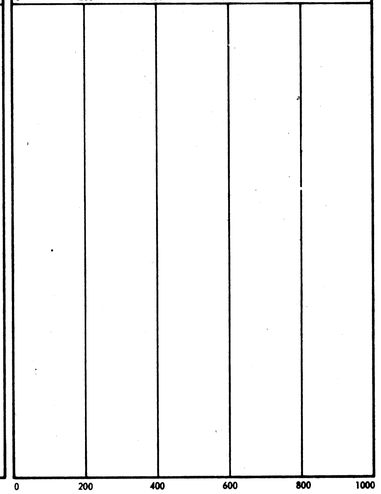
SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)

0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT

0 200 400 600 800 1000



BORING DATA

NUMBER 5 AUGER BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 36+14, 40'Rt OF HEYDEN AVE CENTERLINE

MADE BY E. BRIDENBAUGH, BORING CHIEF

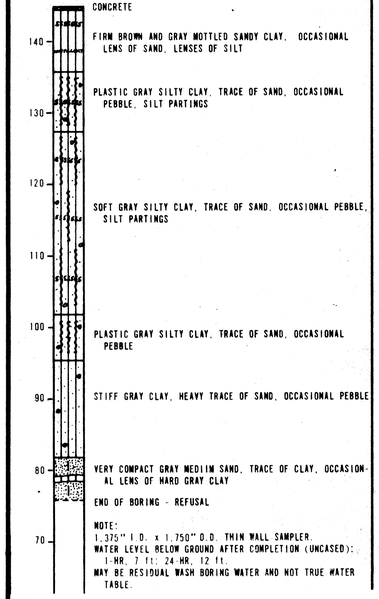
TEST HOLE NO. 5

LOG OF SOIL PROFILE

BORING NO. 6 HYDRAULIC WASH BORING

LOCATION STA. 35+90, 95'Rt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.7 (CITY OF DETROIT)



CONCRETE

FIRM BROWN AND GRAY MOTTLED SANDY CLAY, OCCASIONAL LENS OF SAND, LENSES OF SILT

PLASTIC GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE, SILT PARTINGS

SOFT GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE, SILT PARTINGS

PLASTIC GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE

STIFF GRAY CLAY, HEAVY TRACE OF SAND, OCCASIONAL PEBBLE

VERY COMPACT GRAY MEDIUM SAND, TRACE OF CLAY, OCCASIONAL LENS OF HARD GRAY CLAY

END OF BORING - REFUSAL

NOTE:
1.375" I.D. x 1.750" O.D. THIN WALL SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 1-HR. 7 ft., 24-HR. 12 ft.
MAY BE RESIDUAL WASH BORING WATER AND NOT TRUE WATER TABLE.

SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	FIELD DATA: PENETRATION DRIVE IN INCHES	FIELD DATA: CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	LABORATORY DATA: MOISTURE PER CENT DRY WT.	LABORATORY DATA: DRY WT. LB PER CU FT
1	139.7	4-5	6-6	--	NO	SAMPLE	
2	134.2	LEVERED		PLASTIC	SOFT	23.7	101.1
3	129.2	LEVERED		PLASTIC	SOFT TO PLASTIC	28.4 43.0	-- 76.8
4	124.2	PUSHED		SOFT	SOFT	20.2 27.0	106.7 94.8
5	120.2	PUSHED		SOFT	SOFT	19.0	106.1
6	114.2	PUSHED		SOFT	SOFT	24.9	103.6
7	109.2	PUSHED		SOFT	PLASTIC	23.3	101.7
8	104.2	PUSHED		SOFT	VERY SOFT TO SOFT	22.9	103.6
9	100.2	LEVERED		PLASTIC	SOFT TO PLASTIC	26.0	97.3
10	94.7	8-11	6-6	--	NO	SAMPLE	
	89.7	9-13	6-6	--	NO	SAMPLE	
	84.7	9-13	6-6	--	NO	SAMPLE	
11	80.7	20	2	--	NO	SAMPLE	

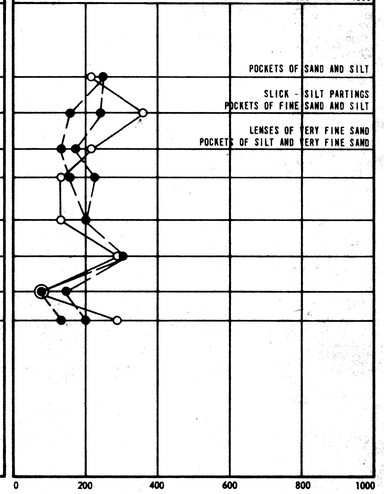
SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)

0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT

0 200 400 600 800 1000



POCKETS OF SAND AND SILT

SLICK - SILT PARTINGS
POCKETS OF FINE SAND AND SILT

LENSES OF VERY FINE SAND
POCKETS OF SILT AND VERY FINE SAND

BORING DATA

NUMBER 6 HYDRAULIC WASH BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 35+90, 95'Rt OF HEYDEN AVE CENTERLINE

MADE BY PAT McGOVERN, BORING CHIEF

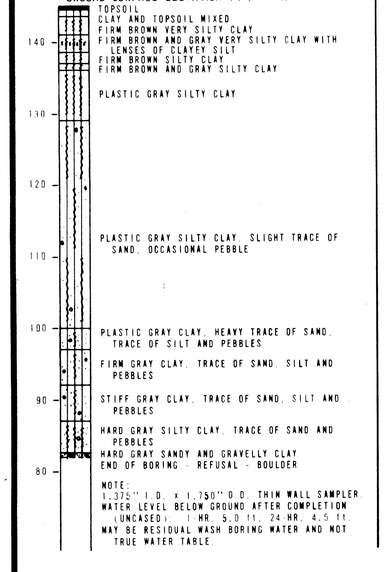
TEST HOLE NO. 6

LOG OF SOIL PROFILE

BORING NO. 12 HYDRAULIC WASH BORING

LOCATION STA. 704+00, 25'Rt OF SEWER CONSTRUCTION CENTERLINE
CITY OF DETROIT

GROUND SURFACE ELEVATION (FT.) 145.1



TOPSOIL
CLAY AND TOPSOIL MIXED
FIRM BROWN VERY SILTY CLAY
FIRM BROWN AND GRAY VERY SILTY CLAY WITH LENSES OF CLAYEY SILT
FIRM BROWN SILTY CLAY
FIRM BROWN AND GRAY SILTY CLAY

PLASTIC GRAY SILTY CLAY

PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE

PLASTIC GRAY CLAY, HEAVY TRACE OF SAND, TRACE OF SILT AND PEBBLES

FIRM GRAY CLAY, TRACE OF SAND, SILT AND PEBBLES

STIFF GRAY CLAY, TRACE OF SAND, SILT AND PEBBLES

HARD GRAY SILTY CLAY, TRACE OF SAND AND PEBBLES

HARD GRAY SANDY AND GRAVELLY CLAY

END OF BORING - REFUSAL - BOULDER

NOTE:
1.375" I.D. x 1.750" O.D. THIN WALL SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 1-HR. 5.0 ft., 24-HR. 4.5 ft.
MAY BE RESIDUAL WASH BORING WATER AND NOT TRUE WATER TABLE.

SOIL SAMPLE

SA NO	ELEV IN FEET	FIELD DATA: PENETRATION NO OF BLOWS	FIELD DATA: PENETRATION DRIVE IN INCHES	FIELD DATA: CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	LABORATORY DATA: MOISTURE PER CENT DRY WT	LABORATORY DATA: DRY WT LB PER CU FT
	140.1	4-3	6-6	--	NO	SAMPLE	
1	134.6	PUSHED		PLASTIC	PLASTIC	24.1	100.5
2	129.6	PUSHED		PLASTIC	SOFT	18.5	108.6
3	124.6	PUSHED		PLASTIC	SOFT	21.8	106.7
4	120.6	PUSHED		PLASTIC	SOFT	22.0	105.5
5	114.6	PUSHED		PLASTIC	SOFT	23.0	101.1
6	109.6	PUSHED		PLASTIC	SOFT	24.4	98.6
7	104.6	PUSHED		PLASTIC	SOFT	25.6 25.4	99.2 99.2
8	100.6	PUSHED		PLASTIC	SOFT	26.5	97.3
	95.1	7-11	6-6	--	NO	SAMPLE	
9	90.1	11-16	6-6	--	NO	SAMPLE	(JAR)
	85.1	11-17	6-6	--	NO	SAMPLE	

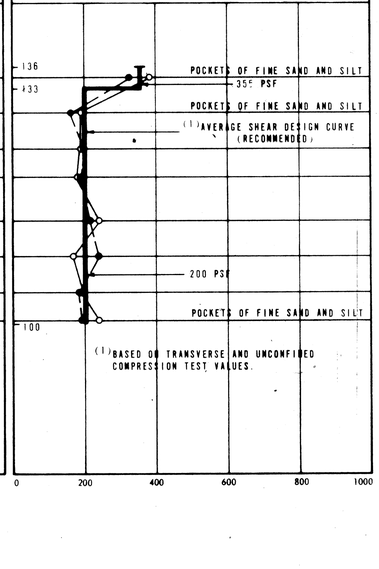
SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)

0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT

0 200 400 600 800 1000



POCKETS OF FINE SAND AND SILT

35° PSF

POCKETS OF FINE SAND AND SILT

(1) AVERAGE SHEAR DESIGN CURVE (RECOMMENDED)

200 PSF

POCKETS OF FINE SAND AND SILT

(1) BASED ON TRANSVERSE AND UNCONFINED COMPRESSION TEST VALUES.

BORING DATA

NUMBER 12 HYDRAULIC WASH BORING

DATE OF BORING MARCH, 1969

LOCATION STA. 704+00, 25'Rt OF SEWER CONSTRUCTION CENTERLINE

MADE BY JAMES ANDREWS, BORING CHIEF

TEST HOLE NO. 12

PROJECT 82122K
I-96 JEFFRIES FREEWAY (SEWER)
DETROIT, MICHIGAN

PRELIMINARY PLAN "A"
DATED: MAY 19, 1970

PENETRATION NOTE: NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLER DISTANCE GIVEN, USING 140 - LB WEIGHT FALLING 30 IN.

GENERAL NOTE: FIELD CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND SUBSTANTIATED BY RESISTANCE TO PIPE CASING AND JET ROD. BELOW DEPTH OF SAMPLING, CONSISTENCY DETERMINED BY SOIL RESISTANCE TO JET ROD.

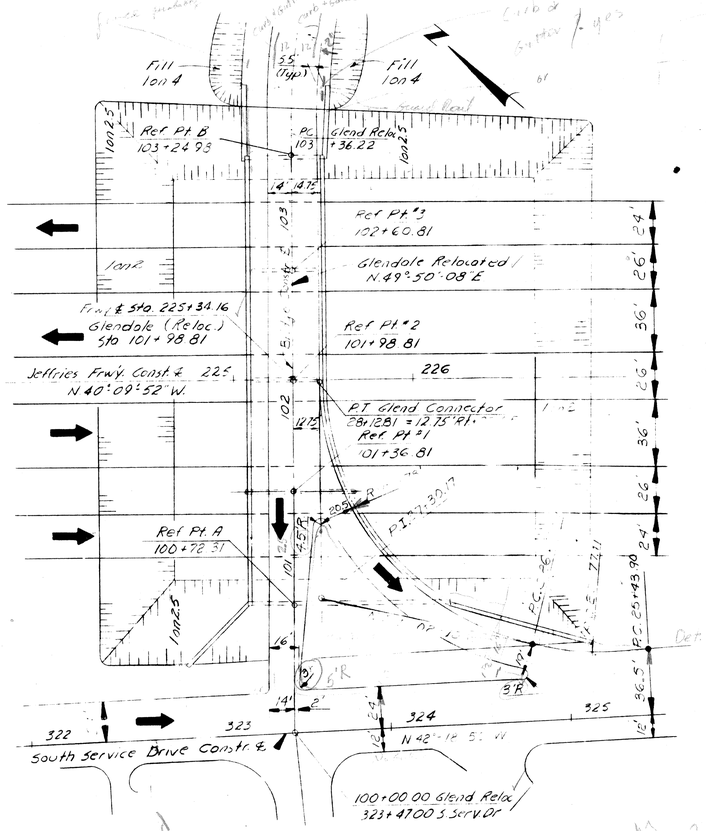
MICHIGAN DEPARTMENT OF STATE HIGHWAYS
TESTING AND RESEARCH DIVISION
TESTING LABORATORY SECTION
SOILS LABORATORY ANN ARBOR, MICHIGAN

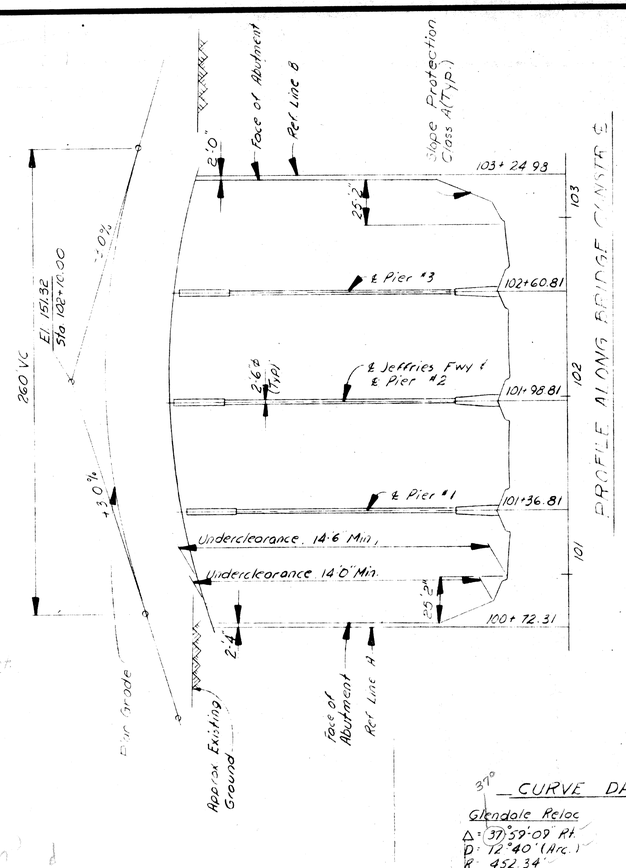
SOIL MECHANICS ANALYSIS

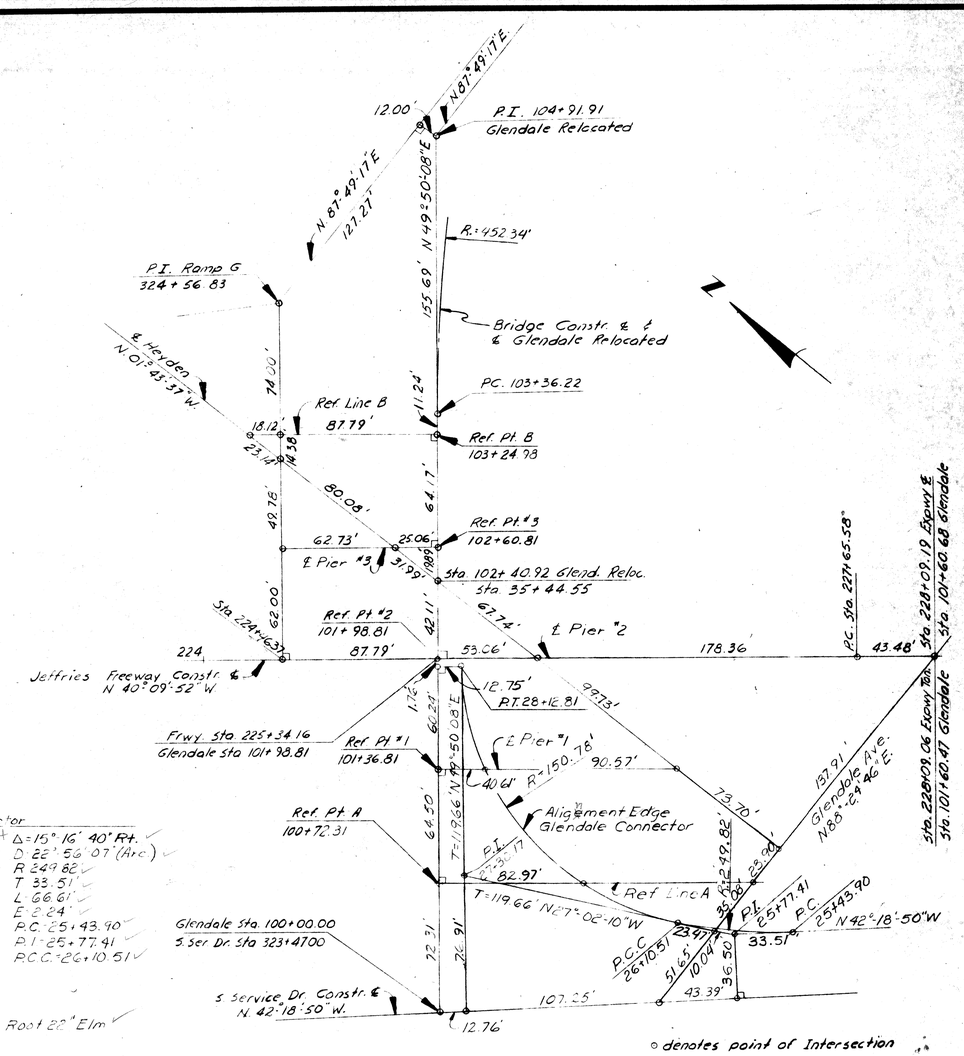
PROJECT S24 of 82122K
PROPOSED GLENDALE BRIDGE CROSSING I-96 (JEFFRIES FWY.)
DETROIT, MICHIGAN

S24 OF 82122K

STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		5

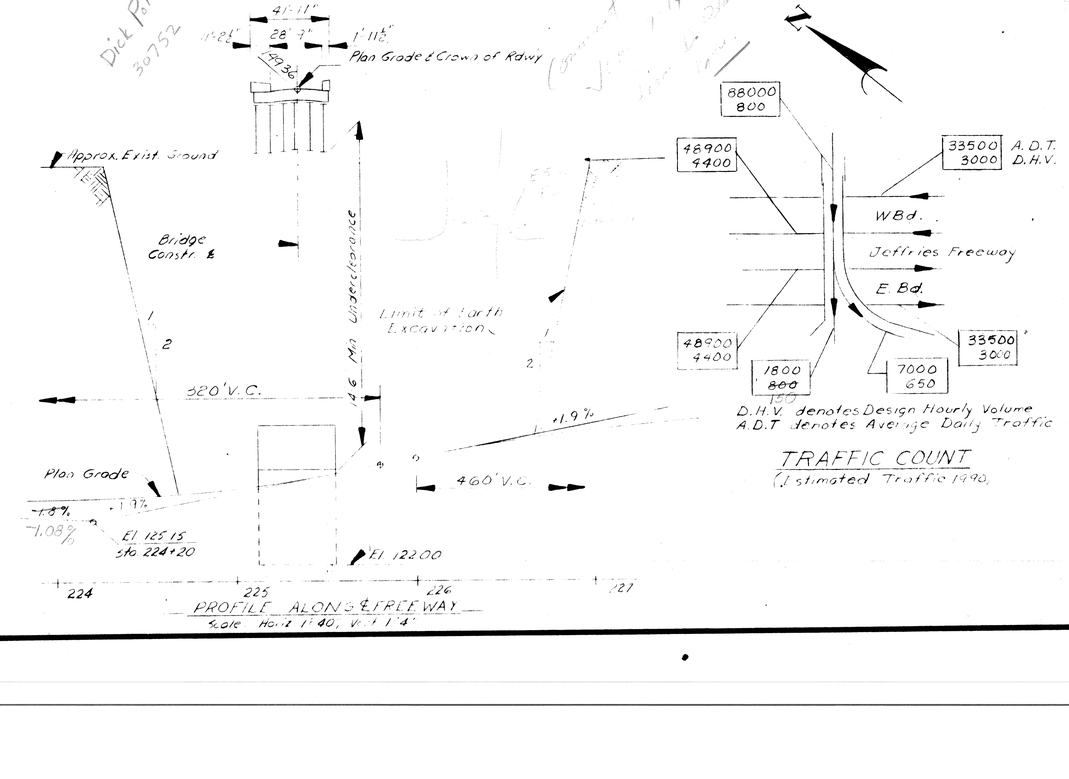






○ denotes point of Intersection

ALIGNMENT DIAGRAM
No Scale



TRAFFIC COUNT
(Estimated Traffic 1990)

CURVE DATA

Glendale Reloc	Glendale Connector	
Δ = 37°-59'-09" Rt.	Δ = 76°-52'-(10") 18" Rt.	Δ = 15°-16'-40" Rt.
D = 12°-40' (Arc.)	D = 38°-00' (Arc.)	D = 22°-56'-07" (Arc.)
R = 452.34'	R = 150.78'	R = 249.82'
T = 155.69'	T = 119.66'	T = 33.51'
L = 299.89'	L = 202.89' 28	L = 66.61'
E = 26.04'	E = 41.77'	E = 2.24'
P.C. = 103+36.22	P.C. = 26+10.51	P.C. = 25+43.90
P.I. = 104+91.91	P.I. = 27+30.17	P.I. = 25+77.41
P.T. = 106+36.11	P.T. = 28+12.81	P.C.C. = 26+10.51

BENCH MARKS

C.B.M. #31A Elev. 144.04 Nail Nut & Tag S.E. Root 22" Elm N.W. corner Glendale and Kentfield.

C.B.M. #32 Elev. 145.48 Tip of Arrow S.E. corner Davison & Heyden in front of house #12956.

C.B.M. #32A Elev. 146.19 Tip of Arrow on Fire Hyd. E. Side Heyden St. between Hses. #12654 & #12670.

C.B.M. #33 Elev. 142.79 Pk. No. 1 Nut & Tag W. Root 16" Box Elder E. Side Vaughan St. Hse. #12908.

P.B.M. #112.254 Elev. 42.617 4' south of north line of Schoolcraft ℄ 4 west of east line of Evergreen.

Note: C.B.M. denotes Constructin Bench Mark
P.B.M. denotes Permanent Bench Mark

PRELIMINARY PLAN "A"
DATED: MAY 19, 1970

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
BUREAU OF HIGHWAYS & DEPUTY SUPERVISOR
APPROVED _____ STRUCTURAL ENGINEER
JOB No. PW 990 (19)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

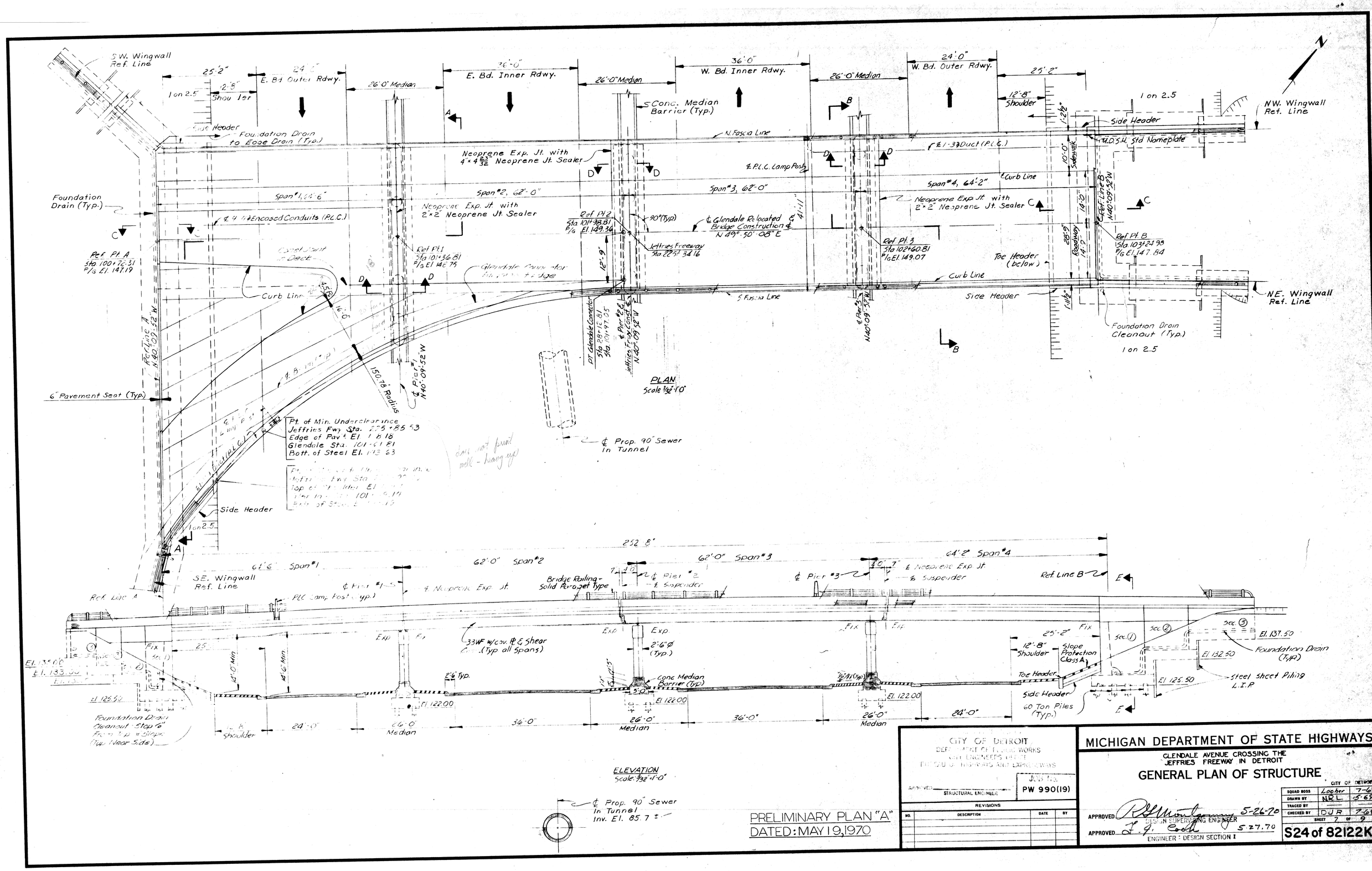
CITY OF DETROIT

SQUAD BOSS	Locher	7-69
DRAWN BY	A.G.	4-69
TRACED BY		
CHECKED BY	F.G.G.	7-69

SHEET 6 OF 9

APPROVED R. J. Wiseman 5-26-70
HIGHWAY SOUTH WAY ENGINEER
APPROVED J. J. Cook 5.27.70
ENGINEER - DESIGN SECTION I

S24 of 82122K



PRELIMINARY PLAN "A"
DATED: MAY 19, 1970

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990(19)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

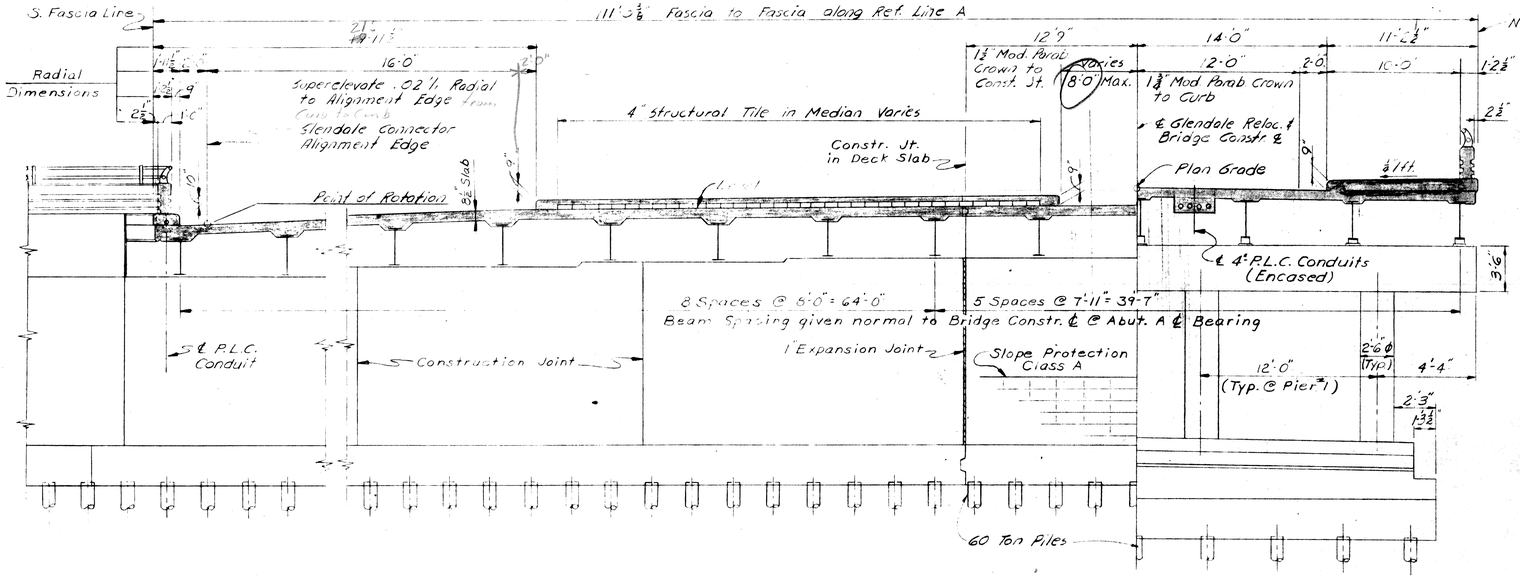
GENERAL PLAN OF STRUCTURE

APPROVED R.G. Montgomery 5-26-70
DESIGN SUPERVISING ENGINEER

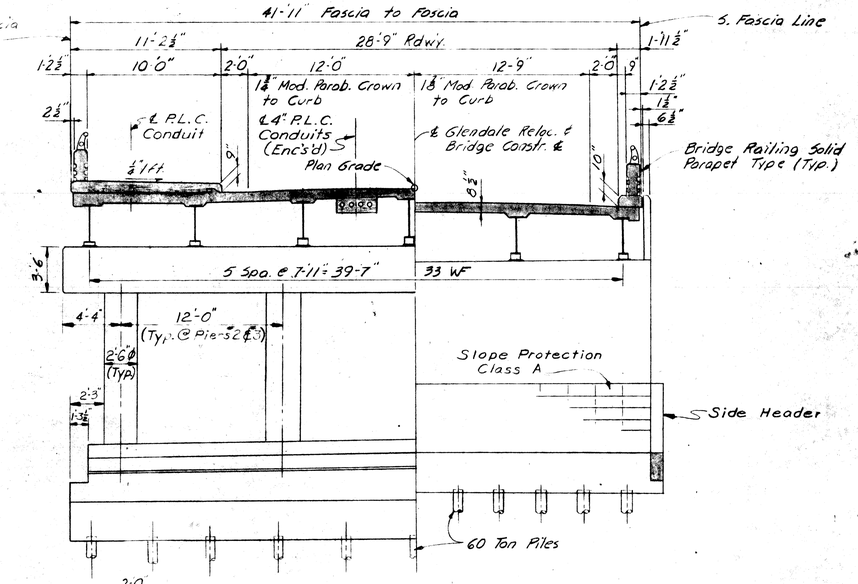
APPROVED L. G. Cook 5-27-70
ENGINEER - DESIGN SECTION I

	CITY OF DETROIT	
SQUAD BOSS	Locher	7-69
DRAWN BY	NRL	5-69
TRACED BY		
CHECKED BY	DJR	7-69
SHEET	7 OF	9

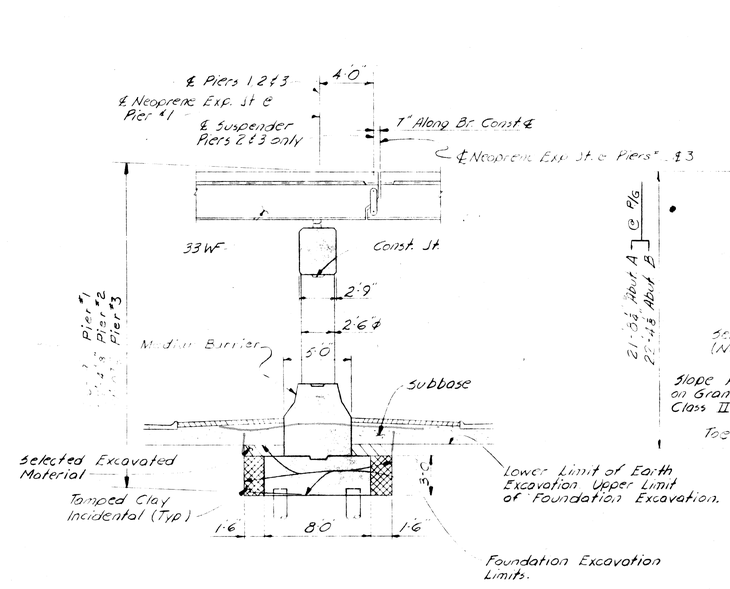
S24 of 82122K



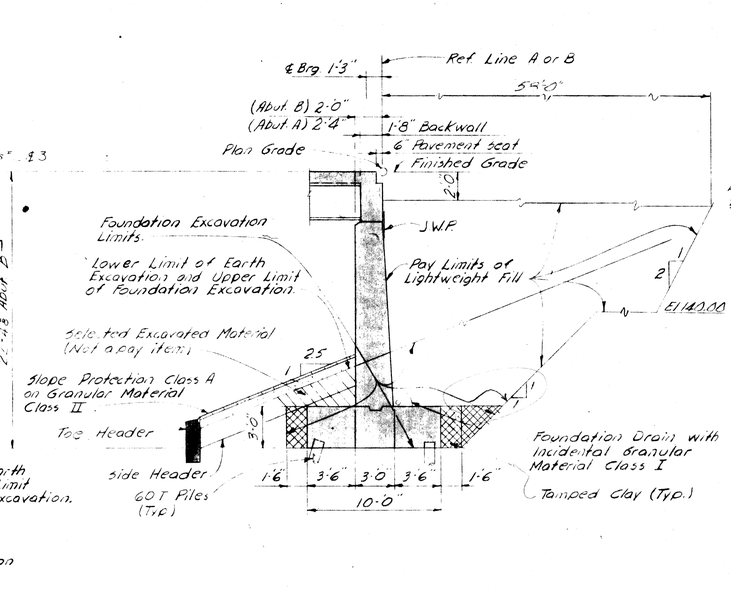
SECTION A-A
Scale: 3/16" = 1'-0"



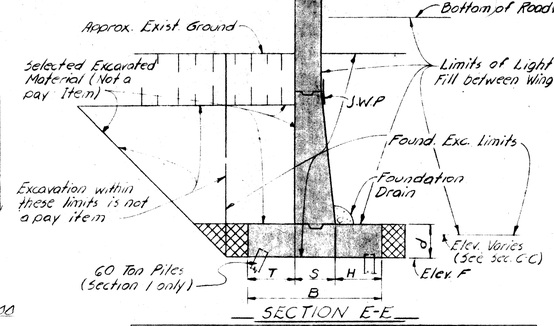
SECTION B-B
Scale: 3/16" = 1'-0"



SECTION D-D
Scale 3/16" = 1'-0"



SECTION C-C
Scale: 3/16" = 1'-0"



SECTION E-E

WINGWALL DIMENSIONS

	Sec.	T	S	H	B	d	Elev. F
N.W.	1	3'-3"	3'-0"	5'-9"	12'-0"	3'-0"	125.50
	2	2'-3"	2'-0"	5'-6"	9'-9"	2'-6"	132.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	137.50
S.W.	1	3'-3"	3'-0"	5'-9"	12'-0"	3'-0"	125.50
	2	2'-3"	2'-0"	5'-6"	9'-9"	2'-6"	132.00
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	136.00
N.E.	1	3'-3"	3'-0"	5'-9"	12'-0"	3'-0"	125.50
	2	2'-3"	2'-0"	5'-6"	9'-9"	2'-6"	132.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	137.50
S.E.	1	3'-3"	3'-0"	5'-9"	12'-0"	3'-0"	125.50
	2	2'-3"	2'-0"	5'-6"	9'-9"	2'-6"	130.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	133.00
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	135.00

GENERAL NOTES

The design of this structure is based on the M.D.S.H. Specifications for the Design of Highway Bridges, 1958 edition and current AASHO Standard Specifications for Highway Bridges H S 20-44 loading.

Live load plus impact deflection equals 1/1000 of span length and 1/350 of cantilever arm.

The top of roadway slab and tops of curbs & sidewalks are parallel to the vertical curve and tangents.

This structure is partly on horizontal curves. The fascia lines, curb lines and longitudinal construction joints are parallel to the curves and tangents.

Tamped Clay is incidental to unclassified excavation.

For details of Slope Protection Class A, see Standard Sheet SP2

Granular Material Class I is incidental to Foundation Drain.

P.G. denotes plan grade elevation

Selected Excavated Material is incidental to Foundation Excavation.

Structural Steel shall be unpainted A.S.T.M A-588.

PRELIMINARY PLAN "A"
DATED: MAY 19, 1970

QUANTITIES BILLED ON ROAD PLANS

Item	Unit	Amount
Earth Excavation	Cu. Yds.	34,100
Gran. Matl. Cl. II	Cu. Yds.	35

MISCELLANEOUS QUANTITIES

Item	Unit	Amount
Lightweight Fill	Cu. Yds.	4800
Foundation Drains	Lin. Ft.	60
Slope Protection - Class A	Sq. Yds.	205
Slope Protection - Header	Lin. Ft.	188
Steel Sheet Piling Left in Place	Sq. Ft.	1090

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVE. CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

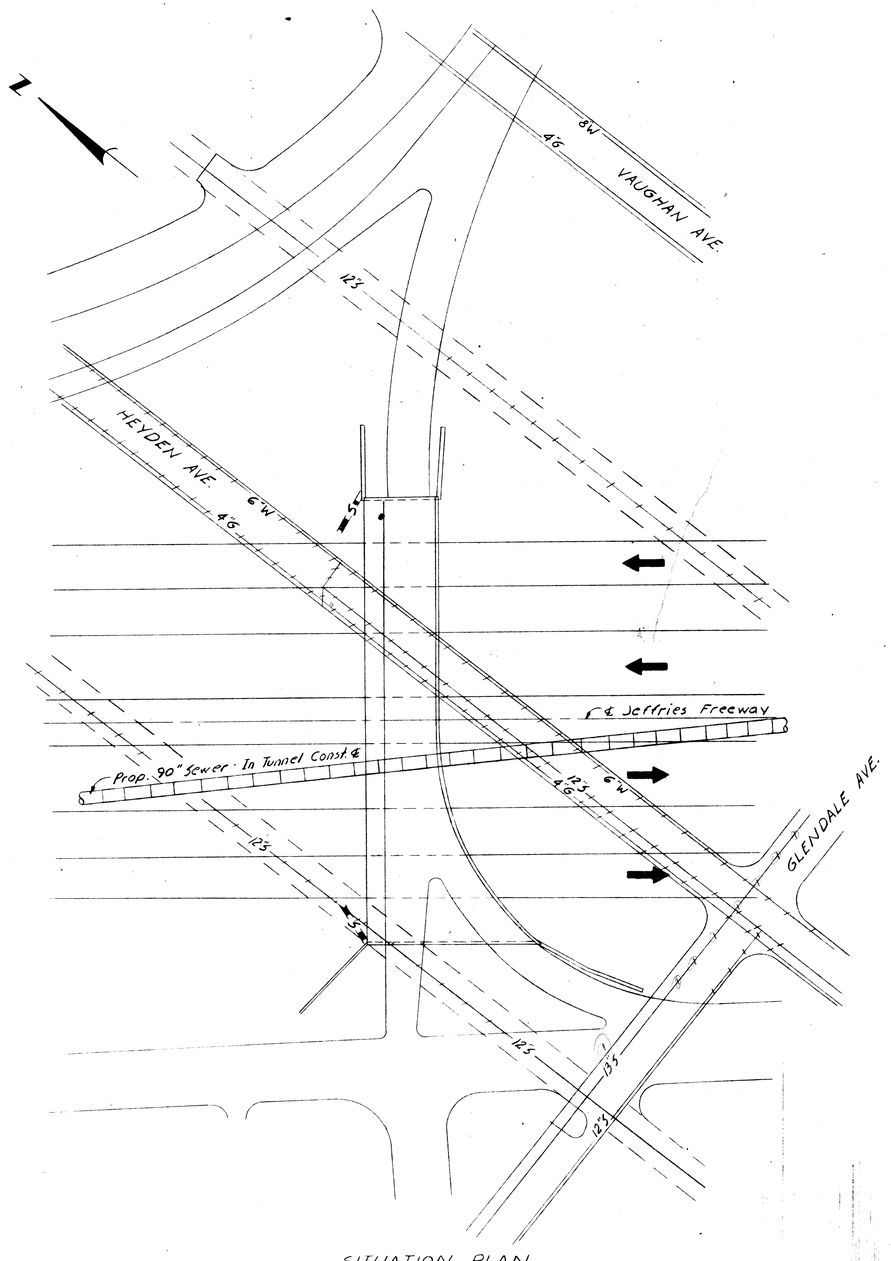
CITY OF DETROIT

SQUAD BOSS	Lochen	7-69
DRAWN BY	A. G.	7-69
TRACED BY		
CHECKED BY	D.U.R.	7-69
SHEET 5 OF 9		

APPROVED R. L. Montgomery 5-26-70
DESIGN SUPERVISING ENGINEER

APPROVED L. J. Cook 5-27-70
ENGINEER - DESIGN SECTION I

S24 of 82122K



SITUATION PLAN
Scale: 1" = 40'

LEGEND

UTILITY	Existing	Abandoned or Deleted	New Work by Others	New Work by Contractor
Michigan Consolidated Gas Co.	—— G ——	+++ G +++		
Water	—— W ——	+++ W +++		
Sewers	—— S ——	+++ S +++	= S =	■ S ■

Note:—

Bridge construction and utility alterations are included in package contract for control section 82122 K.

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.

PRELIMINARY PLAN "A"
DATED: MAY 19, 1970

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 990(19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

EXISTING UTILITIES & PROPOSED ALTERATIONS

CITY OF DETROIT

SQUAD BOSS	Locher	7-69
DRAWN BY	A.G.	4-69
TRACED BY		
CHECKED BY	W.A.L.	7-69
SHEET	9 OF	9

REVISIONS

NO.	DESCRIPTION	DATE	BY

S24 of 82122K

SURVEY PLAN
Scale 1" = 40'

SECTION B-B

SECTION A-A

LEGEND

- Tree
- Fence
- Sewer Manhole
- P.L.C. Manhole
- Water Gatewell & Valve
- D.E. Manhole
- P.L.C. Lightpole
- Sewer Inlet or Catch Basin
- Test Hole for Soil Profile

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 has been started.

Bench Marks are referenced to the City of Detroit Datum.

The work covered by these plans includes construction of the proposed bridge S24, placing slope protection and lightweight fill to the limits shown.

All other work is included in the Road Plans which are a part of this contract.

Removal of fences and buildings is not a part of this contract.

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 (19)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF SITE

APPROVED [signature] 9-25-70 DESIGN SUPERVISING ENGINEER

APPROVED ENGINEER - DESIGN SECTION

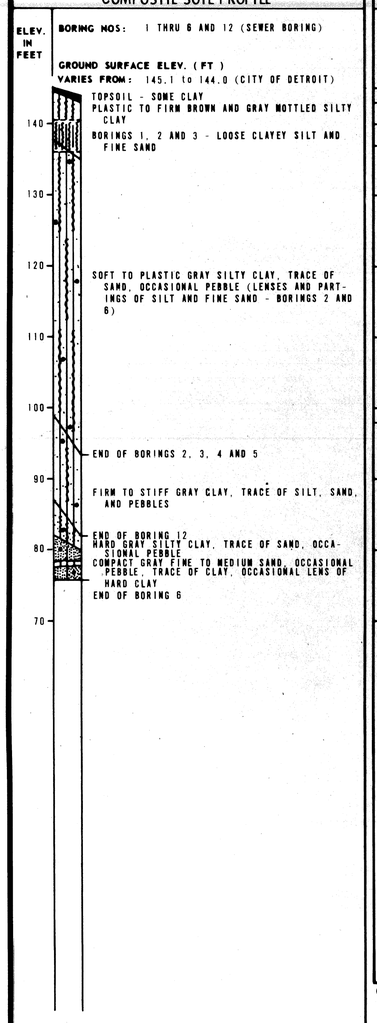
CITY OF DETROIT

SQUAD BOSS	Locher	7-69
DRAWN BY	Harl	7-69
TRACED BY		
CHECKED BY	P.G.G.	7-69
SHEET 2 OF 33		

S24 of 82122K

01253A

COMPOSITE SOIL PROFILE



BORING NOS: 1 THRU 6 AND 12 (SEWER BORING)

GROUND SURFACE ELEV. (FT)
VARIES FROM: 145.1 to 144.0 (CITY OF DETROIT)

TOPSOIL - SOME CLAY
PLASTIC TO FIRM BROWN AND GRAY MOTTLED SILTY CLAY
BORINGS 1, 2 AND 3 - LOOSE CLAYEY SILT AND FINE SAND

SOFT TO PLASTIC GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE (LENSES AND PARTINGS OF SILT AND FINE SAND - BORINGS 2 AND 6)

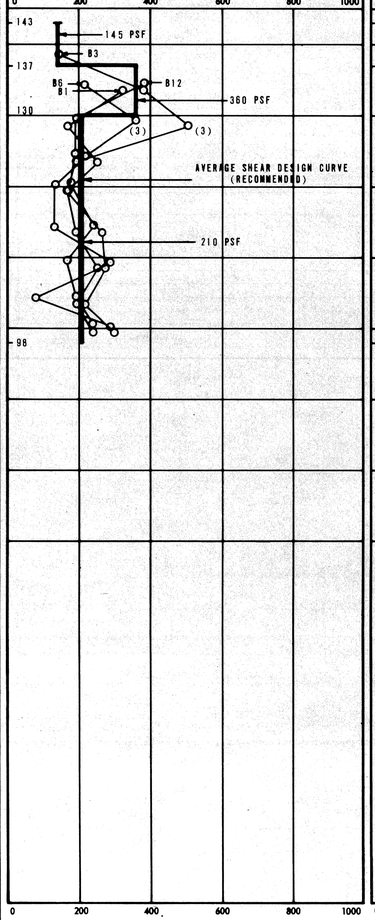
END OF BORINGS 2, 3, 4 AND 5

FIRM TO STIFF GRAY CLAY, TRACE OF SILT, SAND, AND PEBBLES

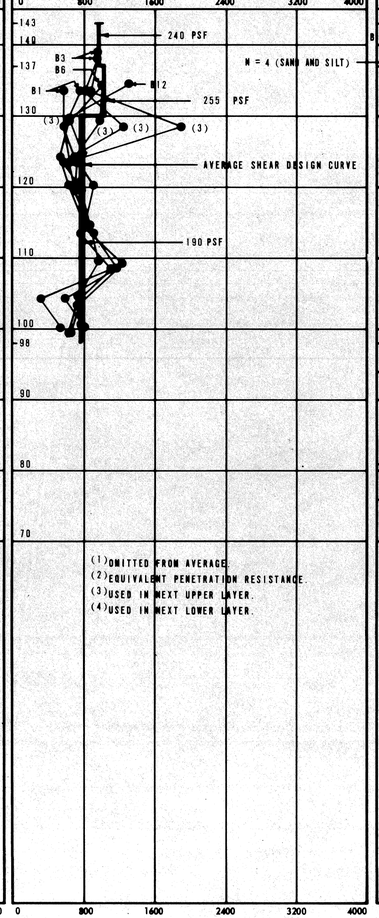
END OF BORING 12
HARD GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
COMPACT GRAY FINE TO MEDIUM SAND, OCCASIONAL PEBBLE, TRACE OF CLAY, OCCASIONAL LENS OF HARD CLAY
END OF BORING 6

THE ABOVE COMPOSITE SOIL PROFILE IS INTENDED ONLY TO PRESENT AVERAGE CONDITIONS THROUGHOUT THE GROUP OF BORINGS REPRESENTED. SEE INDIVIDUAL BORING CHARTS FOR DETAILS.

TRANSVERSE SHEARING RESISTANCE

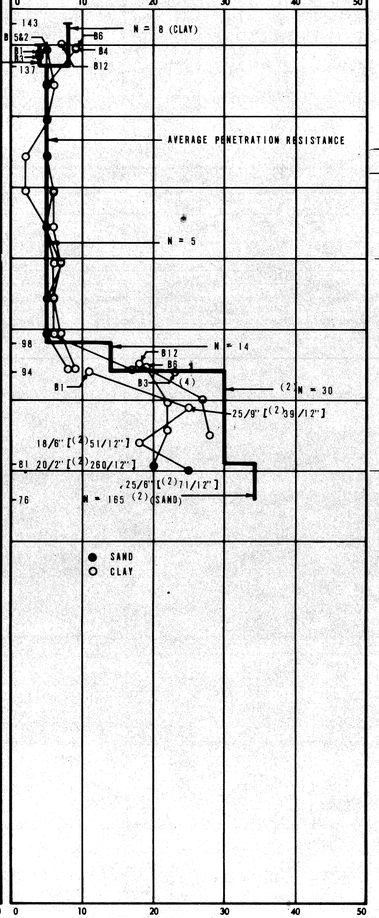


COMPRESSION SHEARING RESISTANCE



(1) OMITTED FROM AVERAGE.
(2) EQUIVALENT PENETRATION RESISTANCE.
(3) USED IN NEXT UPPER LAYER.
(4) USED IN NEXT LOWER LAYER.

ASTM MODIFIED PENETRATION RESISTANCE



● SAND
○ CLAY

Abut. A or B Footing Elev. 125.50

Pier #1, #2, or #3 Footing Elev. 122.00

Min. Pile Penetration El. 110.00

Est. Bottom of Pile Elev. 80.00

COMPOSITE SUBSOIL ANALYSIS OF BORINGS: 1 THRU 6 AND 12 (SEWER BORING)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS TESTING AND RESEARCH DIVISION TESTING LABORATORY SECTION SOILS LABORATORY ANN ARBOR, MICHIGAN
SOIL MECHANICS ANALYSIS
PROJECT S24 of 82122K PROPOSED GLENDALE BRIDGE CROSSING I-96 (JEFFRIES FREEWAY) DETROIT, MICHIGAN
PREPARED BY: Jerome D. Brooks DATE: 7-17-69
CHECKED BY: Paul H. Wardell DATE: 7-17-69

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

APPROVED _____ STRUCTURAL ENGINEER

JOB NO. PW 990 74

COMPOSITE SUBSOIL ANALYSIS OF BORINGS NO.1, NO.2, NO.3, NO. 4, NO.5, NO.6 & NO. 12 DETROIT, MICHIGAN

S24 OF 82122K	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
			3

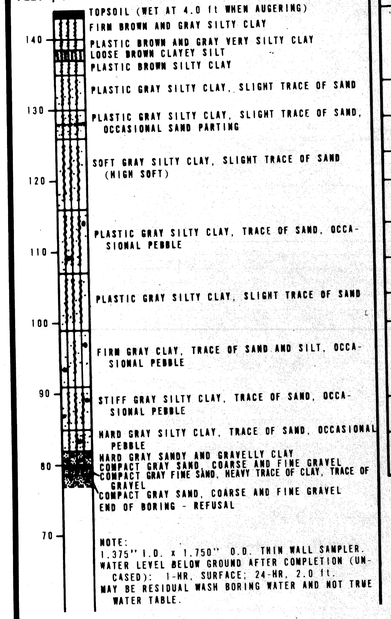
01253A

LOG OF SOIL PROFILE

BORING NO. 1 HYDRAULIC WASH BORING

LOCATION STA. 34+06, 80'Lt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.0 (CITY OF DETROIT)



TOPSOIL (WET AT 4.0 ft WHEN AUGERING)
FIRM BROWN AND GRAY SILTY CLAY
PLASTIC BROWN AND GRAY VERY SILTY CLAY
LOOSE BROWN CLAYEY SILT
PLASTIC BROWN SILTY CLAY
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL SAND PARTING
SOFT GRAY SILTY CLAY, SLIGHT TRACE OF SAND (HIGH SOFT)
PLASTIC GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND
FIRM GRAY CLAY, TRACE OF SAND AND SILT, OCCASIONAL PEBBLE
STIFF GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
HARD GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
HARD GRAY SANDY AND GRAVELLY CLAY
COMPACT GRAY SAND, COARSE AND FINE GRAVEL
COMPACT GRAY FINE SAND, HEAVY TRACE OF CLAY, TRACE OF GRAVEL
COMPACT GRAY SAND, COARSE AND FINE GRAVEL
END OF BORING - REFUSAL

NOTE:
1.375" I.D. x 1.750" O.D. THIN WALL SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 1-HR, SURFACE; 24-HR, 2.0 ft.
MAY BE RESIDUAL WASH BORING WATER AND NOT TRUE WATER TABLE.

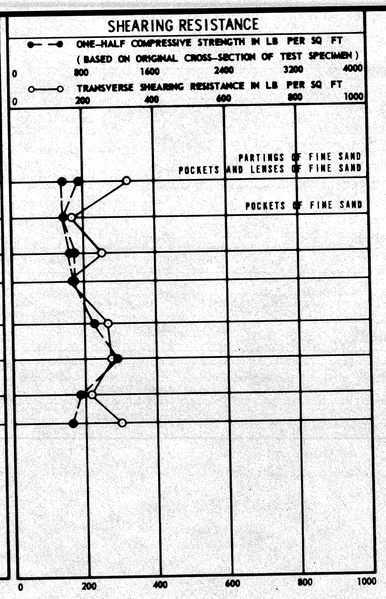
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	FIELD DATA: PENETRATION DRIVE IN INCHES	FIELD DATA: CONSISTENCY	LABORATORY DATA: CONSISTENCY	LABORATORY DATA: MOISTURE PER CENT DRY WT.	LABORATORY DATA: DRY WT. LB PER CU FT
	139.0	2-2	6-6	--	NO	SAMPLE	
1	133.5	PUSHED		PLASTIC	SOFT TO PLASTIC	22.3	102.3
2	128.5	PUSHED		PLASTIC	SOFT	17.0	115.4
3	123.5	PUSHED		SOFT	SOFT	21.4	104.8
4	119.5	PUSHED		SOFT	SOFT	21.5	108.7
5	113.5	PUSHED		PLASTIC	SOFT	22.2	104.2
6	108.5	PUSHED		PLASTIC	PLASTIC	20.8	104.2
7	103.5	PUSHED		PLASTIC	SOFT	24.6 24.9	-- 99.8
8	99.5	PUSHED		PLASTIC	SOFT TO PLASTIC	17.0 18.5	129.8 111.7
	94.0	4-7	6-6	--	NO	SAMPLE	
9	89.0	14-11	6-3	--	NO	SAMPLE	
10	84.0	18	6	--	NO	SAMPLE	
	80.0	25	6	--	NO	SAMPLE	

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 1 HYDRAULIC WASH BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 34+06, 80'Lt OF HEYDEN AVE CENTERLINE

MADE BY JAMES G. ANDREWS, BORING CHIEF

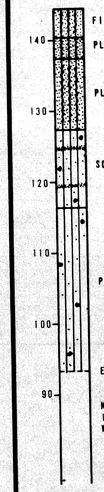
TEST HOLE NO. 1

LOG OF SOIL PROFILE

BORING NO. 2 AUGER BORING

LOCATION STA. 35+02, 100'Lt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.4 (CITY OF DETROIT)



FIRM BROWN MOTTLED SILTY SANDY CLAY
PLASTIC BROWN SILT AND FINE SAND
PLASTIC GRAY SILTY SANDY CLAY
SOFT GRAY CLAY, TRACE OF SAND AND FINE GRAVEL, LENSES OF SAND (WET)
PLASTIC GRAY CLAY, TRACE OF SAND AND FINE GRAVEL
END OF BORING

NOTE:
1.50" I.D. x 2.0" O.D. SPLIT SPOON SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 7 ft.

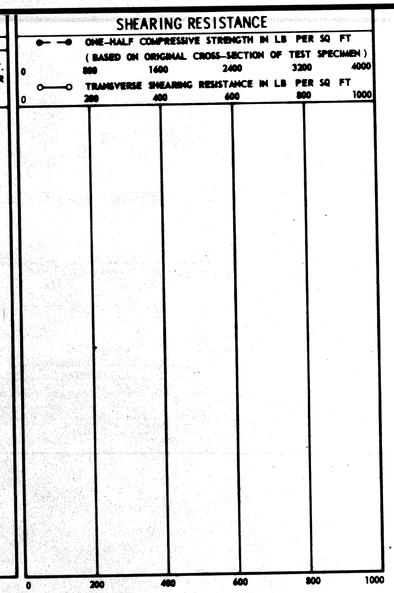
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	FIELD DATA: PENETRATION DRIVE IN INCHES	FIELD DATA: CONSISTENCY	LABORATORY DATA: CONSISTENCY	LABORATORY DATA: MOISTURE PER CENT DRY WT.	LABORATORY DATA: DRY WT. LB PER CU FT
	139.4	2-3	6-6	--			
	134.4	2-3	6-6	--			
	129.4	2-3	6-6	--			
	124.4	1-1	6-6	--			
	119.4	1-1	6-6	--			
	114.4	2-3	6-6	--			
	109.4	3-4	6-6	--			
	104.4	2-3	6-6	--			
	99.4	2-3	6-6	--			
	94.4	3-5	6-6	--			

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 2 AUGER BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 35+02, 100'Lt OF HEYDEN AVE CENTERLINE

MADE BY E. BRIDENBAUGH, BORING CHIEF

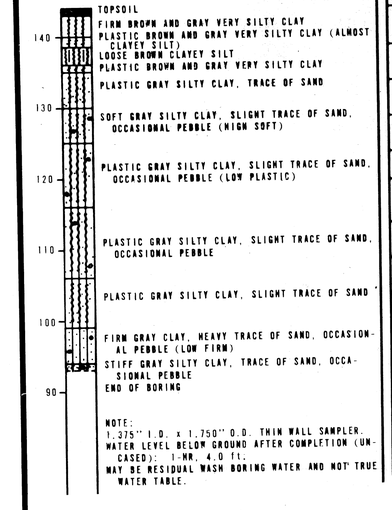
TEST HOLE NO. 2

LOG OF SOIL PROFILE

BORING NO. 3 HYDRAULIC WASH BORING

LOCATION STA. 35+38, 50'Lt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.0 (CITY OF DETROIT)



TOPSOIL
FIRM BROWN AND GRAY VERY SILTY CLAY
PLASTIC BROWN AND GRAY VERY SILTY CLAY (ALMOST CLAYEY SILT)
LOOSE BROWN CLAYEY SILT
PLASTIC BROWN AND GRAY VERY SILTY CLAY
PLASTIC GRAY SILTY CLAY, TRACE OF SAND
SOFT GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE (HIGH SOFT)
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE (LOW PLASTIC)
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE
PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND
FIRM GRAY CLAY, HEAVY TRACE OF SAND, OCCASIONAL PEBBLE (LOW FIRM)
STIFF GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE
END OF BORING

NOTE:
1.375" I.D. x 1.750" O.D. THIN WALL SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 1-HR, 4.0 ft.
MAY BE RESIDUAL WASH BORING WATER AND NOT TRUE WATER TABLE.

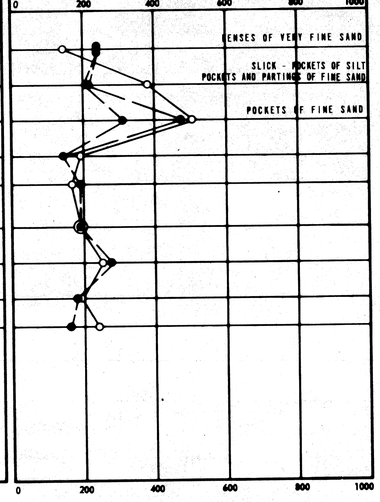
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	FIELD DATA: PENETRATION DRIVE IN INCHES	FIELD DATA: CONSISTENCY	LABORATORY DATA: CONSISTENCY	LABORATORY DATA: MOISTURE PER CENT DRY WT.	LABORATORY DATA: DRY WT. LB PER CU FT
1	138.5	2-2-3	6-6-6	CLAYEY SILT	SOFT	25.0	99.8
2	133.5	PUSHED		PLASTIC	SOFT TO PLASTIC	31.1	89.2
3	128.5	PUSHED		SOFT	PLASTIC TO FIRM	15.0	117.3
4	123.5	PUSHED		PLASTIC	SOFT	21.6	104.8
5	119.5	PUSHED		PLASTIC	SOFT	21.8	106.1
6	113.5	PUSHED		PLASTIC	SOFT	23.3	101.7
7	108.5	PUSHED		PLASTIC	SOFT	23.6	102.3
8	103.5	PUSHED		PLASTIC	SOFT	24.9	99.8
9	99.5	PUSHED		PLASTIC	SOFT	26.2 29.0	-- 93.6
	94.0	8-15	6-6	--	NO	SAMPLE	

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 3 HYDRAULIC WASH BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 35+38, 50'Lt OF HEYDEN AVE CENTERLINE

MADE BY JAMES G. ANDREWS, BORING CHIEF

TEST HOLE NO. 3

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

APPROVED _____ STRUCTURAL ENGINEER

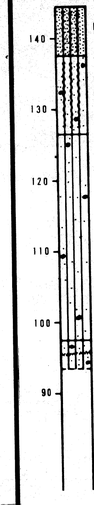
JOB No. PW 990 591

LOG OF SOIL PROFILE

BORING NO. 4 AUGER BORING

LOCATION STA. 35+38, 32'Rt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.5 (CITY OF DETROIT)



FIRM BROWN MOTTLED SILTY SANDY CLAY
PLASTIC GRAY SILTY CLAY, TRACE OF SAND AND FINE GRAVEL
PLASTIC GRAY CLAY, TRACE OF SAND AND FINE GRAVEL
PLASTIC GRAY CLAY, TRACE OF SAND AND FINE GRAVEL, LENSES OF SAND
END OF BORING

NOTE:
1.50" I.D. x 2.0" O.D. SPLIT SPOON SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): DRY.

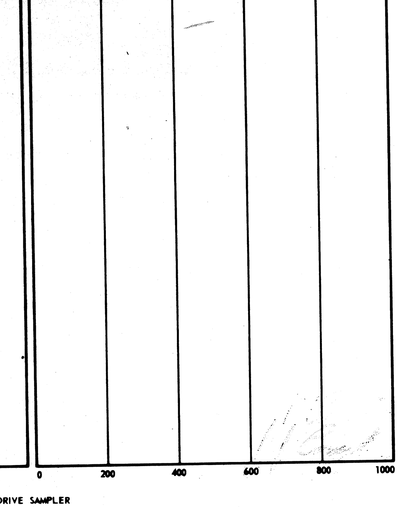
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	FIELD DATA: PENETRATION DRIVE IN INCHES	FIELD DATA: CONSISTENCY	LABORATORY DATA: CONSISTENCY	LABORATORY DATA: MOISTURE PER CENT DRY WT.	LABORATORY DATA: DRY WT. LB PER CU FT
	139.5	4-5	6-6	--			
	134.5	2-3	6-6	--			
	129.5	2-3	6-6	--			
	124.5	2-3	6-6	--			
	119.5	3-3	6-6	--			
	114.5	3-3	6-6	--			
	109.5	3-4	6-6	--			
	104.5	3-3	6-6	--			
	99.5	3-4	6-6	--			
	94.5	4-5	6-6	--			

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT (BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 4 AUGER BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 35+38, 32'Rt OF HEYDEN AVE CENTERLINE

MADE BY E. BRIDENBAUGH, BORING CHIEF

TEST HOLE NO. 4

PENETRATION NOTE: NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLER DISTANCE GIVEN, USING 140-LB WEIGHT FALLING 30 IN.

GENERAL NOTE: FIELD CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND SUBSTANTIATED BY RESISTANCE TO PIPE CASING AND JET ROD. BELOW DEPTH OF SAMPLING, CONSISTENCY DETERMINED BY SOIL RESISTANCE TO JET ROD.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
TESTING AND RESEARCH DIVISION
TESTING LABORATORY SECTION
SOILS LABORATORY ANN ARBOR, MICHIGAN

SOIL MECHANICS ANALYSIS

PROJECT S24 of 82122K
PROPOSED GLENDALE BRIDGE CROSSING I-96 (JEFFRIES FWY)
DETROIT, MICHIGAN

S24 OF 82122K | STATE PROJECT | FEDERAL PROJECT | SHEET NO. 4

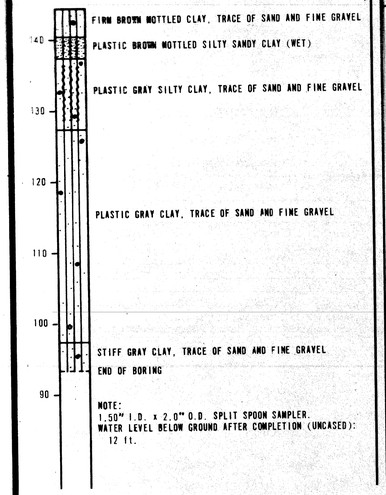
01253A

LOG OF SOIL PROFILE

BORING NO. 5 AUGER BORING

LOCATION STA. 36+14, 40'Rt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.4 (CITY OF DETROIT)



FIRM BROWN MOTTLED CLAY, TRACE OF SAND AND FINE GRAVEL

PLASTIC BROWN MOTTLED SILTY SANDY CLAY (WET)

PLASTIC GRAY SILTY CLAY, TRACE OF SAND AND FINE GRAVEL

PLASTIC GRAY CLAY, TRACE OF SAND AND FINE GRAVEL

STIFF GRAY CLAY, TRACE OF SAND AND FINE GRAVEL

END OF BORING

NOTE:
1.50" I.D. x 2.0" O.D. SPLIT SPOON SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 12 ft.

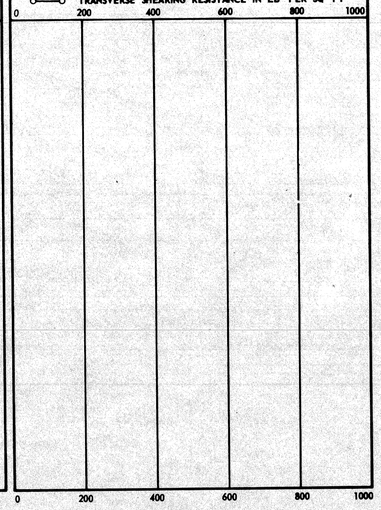
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	DRIVE IN INCHES	CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	MOISTURE PER CENT DRY WT.	DRY WT. LB PER CU FT
	139.4	2-3	6-6	--			
	134.4	3-3	6-6	--			
	129.4	2-3	6-6	--			
	124.4	2-3	6-6	--			
	119.4	3-3	6-6	--			
	114.4	2-3	6-6	--			
	109.4	3-3	6-6	--			
	104.4	3-3	6-6	--			
	99.4	3-3	6-6	--			
	94.4	7-10	6-6	--			

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT
(BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 5 AUGER BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 36+14, 40'Rt OF HEYDEN AVE CENTERLINE

MADE BY E. BRIDENBAUGH, BORING CHIEF

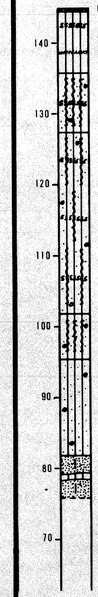
TEST HOLE NO. 5

LOG OF SOIL PROFILE

BORING NO. 6 HYDRAULIC WASH BORING

LOCATION STA. 35+90, 95'Rt OF HEYDEN AVE CENTERLINE

GROUND SURFACE ELEVATION (FT) 144.7 (CITY OF DETROIT)



CONCRETE

FIRM BROWN AND GRAY MOTTLED SANDY CLAY, OCCASIONAL LENS OF SAND, LENSES OF SILT

PLASTIC GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE, SILT PARTINGS

SOFT GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE, SILT PARTINGS

PLASTIC GRAY SILTY CLAY, TRACE OF SAND, OCCASIONAL PEBBLE

STIFF GRAY CLAY, HEAVY TRACE OF SAND, OCCASIONAL PEBBLE

VERY COMPACT GRAY MEDIUM SAND, TRACE OF CLAY, OCCASIONAL LENS OF HARD GRAY CLAY

END OF BORING - REFUSAL

NOTE:
1.375" I.D. x 1.750" O.D. THIN WALL SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED):
1-HR, 7 ft; 24-HR, 12 ft.
MAY BE RESIDUAL WASH BORING WATER AND NOT TRUE WATER TABLE.

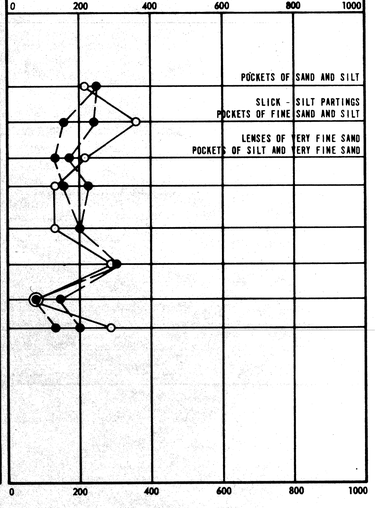
SOIL SAMPLE

SA. NO.	ELEV. IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	DRIVE IN INCHES	CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	MOISTURE PER CENT DRY WT.	DRY WT. LB PER CU FT
1	139.7	4-5	6-6	--	NO	SAMPLE	
2	134.2	LEVERED		PLASTIC	SOFT	23.7	101.1
3	129.2	LEVERED		PLASTIC	SOFT TO PLASTIC	28.4 43.0	-- 76.8
4	124.2	PUSHED		SOFT	SOFT	20.2 27.0	106.7 94.8
5	120.2	PUSHED		SOFT	SOFT	19.0	106.1
6	114.2	PUSHED		SOFT	SOFT	24.9	103.6
7	109.2	PUSHED		SOFT	PLASTIC	23.3	101.7
8	104.2	PUSHED		SOFT	VERY SOFT TO SOFT	22.9	103.6
9	100.2	LEVERED		PLASTIC	SOFT TO PLASTIC	26.0	97.3
10	94.7	8-11	6-6	--	NO	SAMPLE	
	89.7	9-13	6-6	--	NO	SAMPLE	
	84.7	9-13	6-6	--	NO	SAMPLE	
11	80.7	20	2	--	NO	SAMPLE	

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT
(BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



BORING DATA

NUMBER 6 HYDRAULIC WASH BORING

DATE OF BORING APRIL, 1969

LOCATION STA. 35+90, 95'Rt OF HEYDEN AVE CENTERLINE

MADE BY PAT McGOVERN, BORING CHIEF

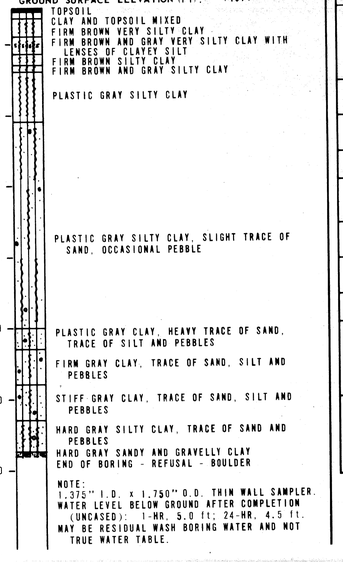
TEST HOLE NO. 6

LOG OF SOIL PROFILE

BORING NO. 12 HYDRAULIC WASH BORING

LOCATION STA. 704+00, 25'Rt OF SEWER CONSTRUCTION CENTERLINE CITY OF DETROIT

GROUND SURFACE ELEVATION (FT): 145:1



TOPSOIL
CLAY AND TOPSOIL MIXED
FIRM BROWN VERY SILTY CLAY
FIRM BROWN AND GRAY VERY SILTY CLAY WITH LENSES OF CLAYEY SILT
FIRM BROWN SILTY CLAY
FIRM BROWN AND GRAY SILTY CLAY

PLASTIC GRAY SILTY CLAY

PLASTIC GRAY SILTY CLAY, SLIGHT TRACE OF SAND, OCCASIONAL PEBBLE

PLASTIC GRAY CLAY, HEAVY TRACE OF SAND, TRACE OF SILT AND PEBBLES

FIRM GRAY CLAY, TRACE OF SAND, SILT AND PEBBLES

STIFF GRAY CLAY, TRACE OF SAND, SILT AND PEBBLES

HARD GRAY SILTY CLAY, TRACE OF SAND AND PEBBLES

HARD GRAY SANDY AND GRAVELLY CLAY

END OF BORING - REFUSAL - BOULDER

NOTE:
1.375" I.D. x 1.750" O.D. THIN WALL SAMPLER.
WATER LEVEL BELOW GROUND AFTER COMPLETION (UNCASED): 1-HR, 5.0 ft; 24-HR, 4.5 ft.
MAY BE RESIDUAL WASH BORING WATER AND NOT TRUE WATER TABLE.

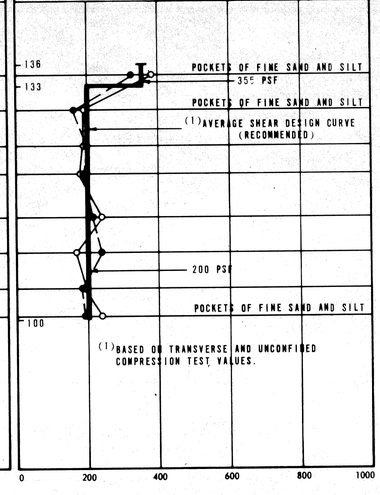
SOIL SAMPLE

SA. NO.	ELEV IN FEET	FIELD DATA: PENETRATION NO. OF BLOWS	DRIVE IN INCHES	CONSIST-ENCY	LABORATORY DATA: CONSIST-ENCY	MOISTURE PER CENT DRY WT	DRY WT LB PER CU FT
	140.1	4-3	6-6	--	NO	SAMPLE	
1	134.6	PUSHED		PLASTIC	PLASTIC	24.1	100.5
2	129.6	PUSHED		PLASTIC	SOFT	18.5	108.6
3	124.6	PUSHED		PLASTIC	SOFT	21.8	106.7
4	120.6	PUSHED		PLASTIC	SOFT	22.0	105.5
5	114.6	PUSHED		PLASTIC	SOFT	23.0	101.1
6	109.6	PUSHED		PLASTIC	SOFT	24.4	98.6
7	104.6	PUSHED		PLASTIC	SOFT	25.6 25.4	99.2 99.2
8	100.6	PUSHED		PLASTIC	SOFT	26.5	97.3
	95.1	7-11	6-6	--	NO	SAMPLE	
9	90.1	11-16	6-6	--	NO	SAMPLE	(JAR)
	85.1	11-17	6-6	--	NO	SAMPLE	

SHEARING RESISTANCE

ONE-HALF COMPRESSIVE STRENGTH IN LB PER SQ FT
(BASED ON ORIGINAL CROSS-SECTION OF TEST SPECIMEN)
0 800 1600 2400 3200 4000

TRANSVERSE SHEARING RESISTANCE IN LB PER SQ FT
0 200 400 600 800 1000



(1) BASED ON TRANSVERSE AND UNCONFINED COMPRESSION TEST VALUES.

BORING DATA

NUMBER 12 HYDRAULIC WASH BORING

DATE OF BORING MARCH, 1969

LOCATION STA. 704+00, 25'Rt OF SEWER CONSTRUCTION CENTERLINE

MADE BY JAMES ANDREWS, BORING CHIEF

TEST HOLE NO. 12

PROJECT 82122K
I-96 JEFFRIES FREEWAY (SEWER)
DETROIT, MICHIGAN

PENETRATION NOTE: NUMBER OF BLOWS REQUIRED TO DRIVE SAMPLER DISTANCE GIVEN, USING 140-LB WEIGHT FALLING 30 IN.

GENERAL NOTE: FIELD CONSISTENCY DETERMINED BY INSPECTION OF SAMPLES AND SUBSTANTIATED BY RESISTANCE TO PIPE CASING AND JET ROD. BELOW DEPTH OF SAMPLING, CONSISTENCY DETERMINED BY SOIL RESISTANCE TO JET ROD.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 119

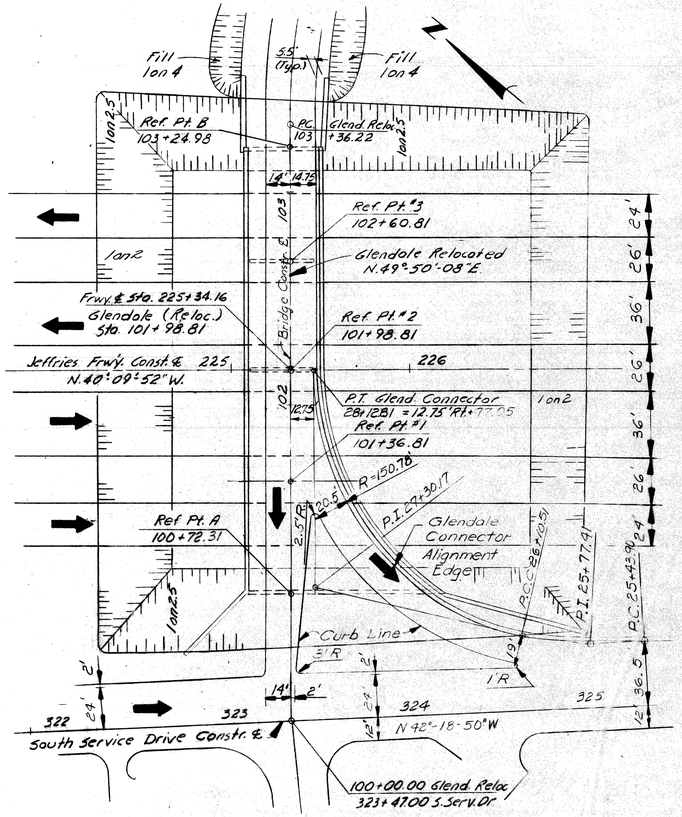
MICHIGAN DEPARTMENT OF STATE HIGHWAYS
TESTING AND RESEARCH DIVISION
TESTING LABORATORY SECTION
SOILS LABORATORY ANN ARBOR, MICHIGAN

SOIL MECHANICS ANALYSIS

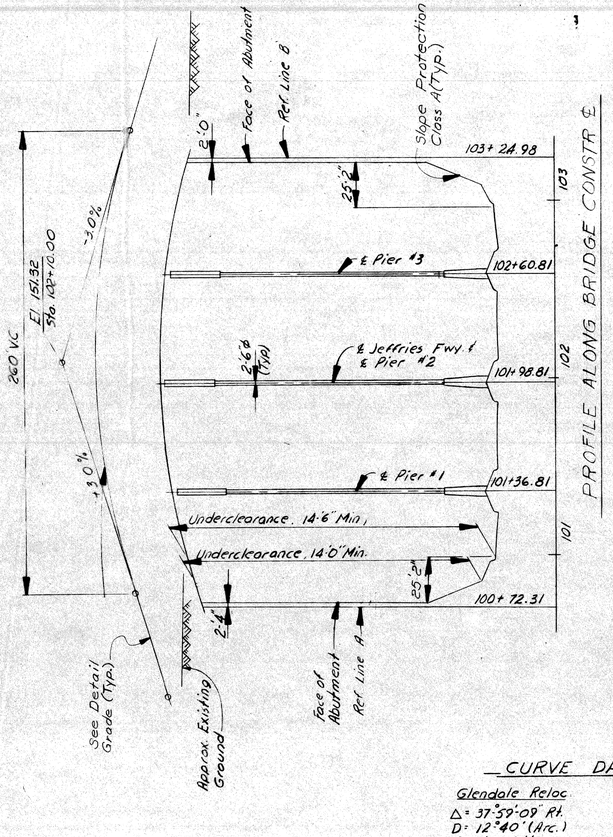
PROJECT S24 of 82122K
PROPOSED GLENDALE BRIDGE CROSSING I-96 (JEFFRIES FWY.)
DETROIT, MICHIGAN

S24 OF 82122K	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
			5

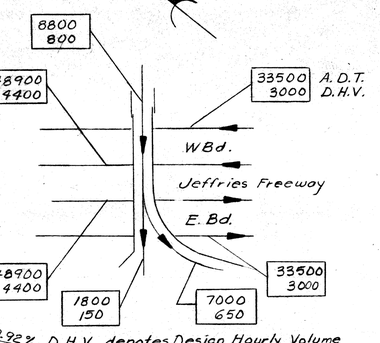
01253A



PLAN
Scale: 1"=40'



PROFILE ALONG ℄ FREEWAY
Scale: Horiz. 1"=40', Vert. 1"=4'



D.H.V. denotes Design Hourly Volume
A.D.T denotes Average Daily Traffic

TRAFFIC COUNT
(Estimated Traffic 1990)

CURVE DATA

Glendale Reloc	Glendale Connector	
Δ = 37°-59'-09" Rt.	Δ = 76°-52'-18" Rt.	Δ = 15°-16'-40" Rt.
D = 12°40' (Arc.)	D = 38°00' (Arc)	D = 22°-56'-07" (Arc.)
R = 452.34'	R = 150.78'	R = 249.82'
T = 155.69'	T = 119.66'	T = 33.51'
L = 299.89'	L = 202.29'	L = 66.61'
E = 26.04'	E = 41.79'	E = 2.24'
P.C. = 103+36.22	P.C. = 26+10.51	P.C. = 25+43.90
P.I. = 104+91.91	P.I. = 27+30.17	P.I. = 25+77.41
P.T. = 106+36.11	P.T. = 28+12.81	P.C.C. = 26+10.51

BENCH MARKS

C.B.M. #31A Elev. 144.04 Nail Nut & Tag S.E Root 22" Elm N.W. corner Glendale and Kentfield.

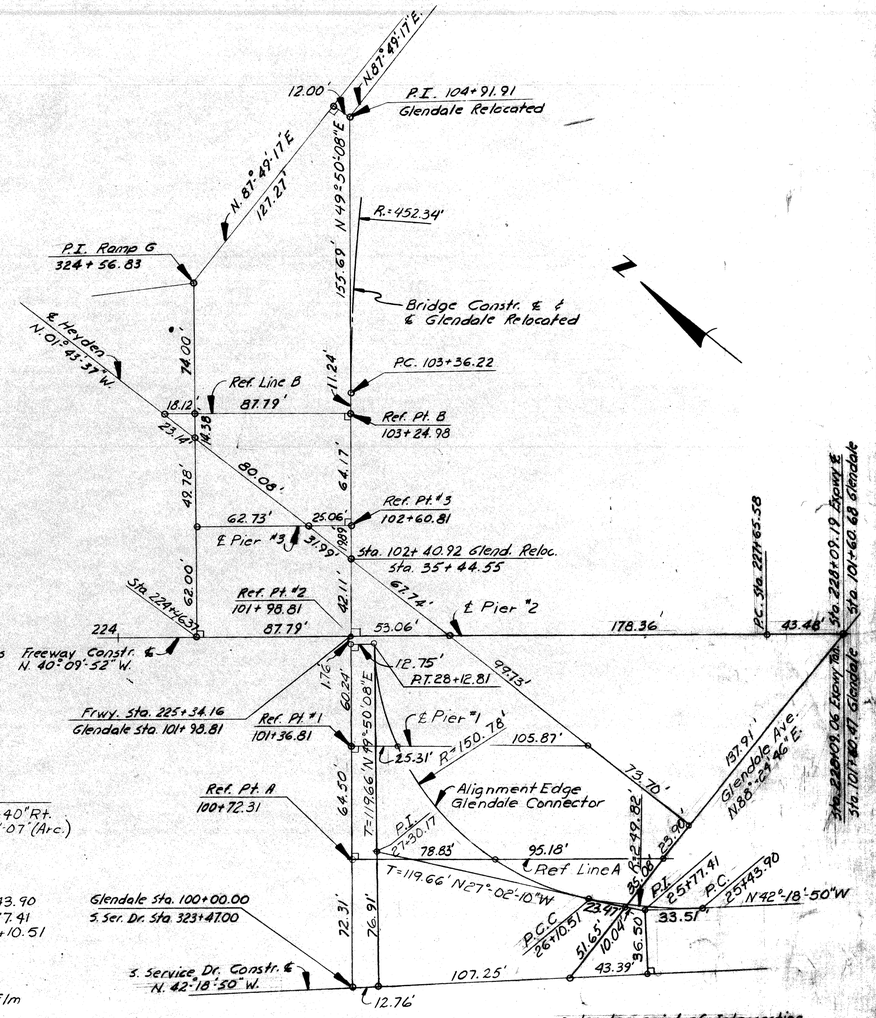
C.B.M. #32 Elev. 145.48 Tip of Arrow S.E. corner Davison & Heyden in front of house #12956.

C.B.M. #32A Elev. 146.19 Tip of Arrow on Fire Hyd. E. side Heyden St. between Hses. #12684 & #12670.

C.B.M. #33 Elev. 142.79 Pk. Nail, Nut & Tag W. Root 16" Box Elder E. Side Vaughan St. Hse. # 12908.

P.B.M. #112.254 Elev. 142.617 4' south of north line of Schoolcraft & 4' west of east line of Evergreen.

Note: C.B.M denotes Construction Bench Mark
P.B.M denotes Permanent Bench Mark



◎ denotes point of Intersection

ALIGNMENT DIAGRAM
No Scale

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

CITY OF DETROIT

SQUAD BOSS	Locher	7-69
DRAWN BY	A.G.	4-69
TRACED BY		
CHECKED BY	P.G.A.	7-69

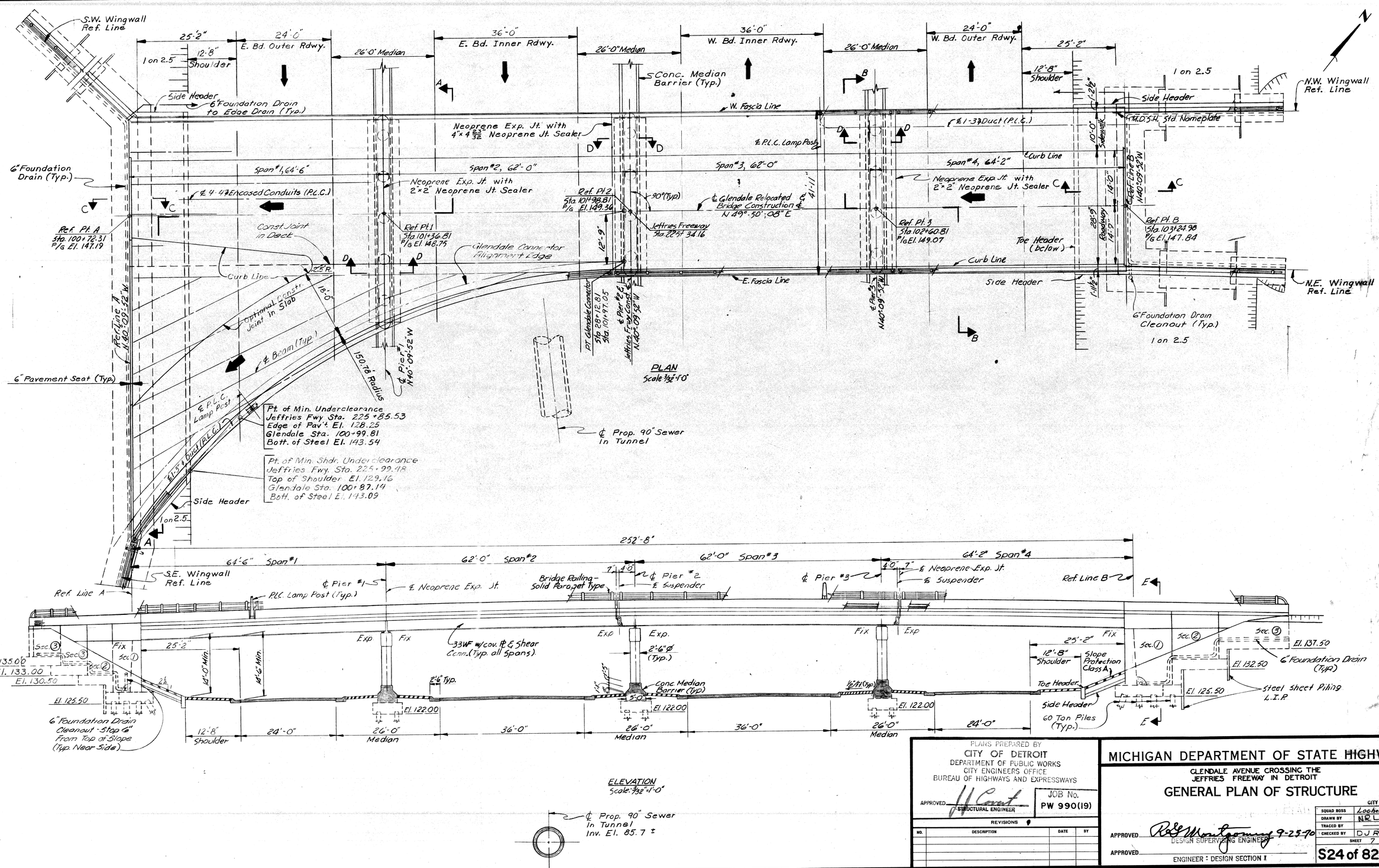
SHEET 2 OF 33

APPROVED _____ DESIGN SUPERVISING ENGINEER 9-25-70

APPROVED _____ ENGINEER - DESIGN SECTION I

S24 of 82122K

01253A



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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990(19)

REVISIONS			
NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

CITY OF DETROIT

SQUAD BOSS	Locher	7-69
DRAWN BY	NRL	5-69
TRACED BY		
CHECKED BY	DJR	7-69

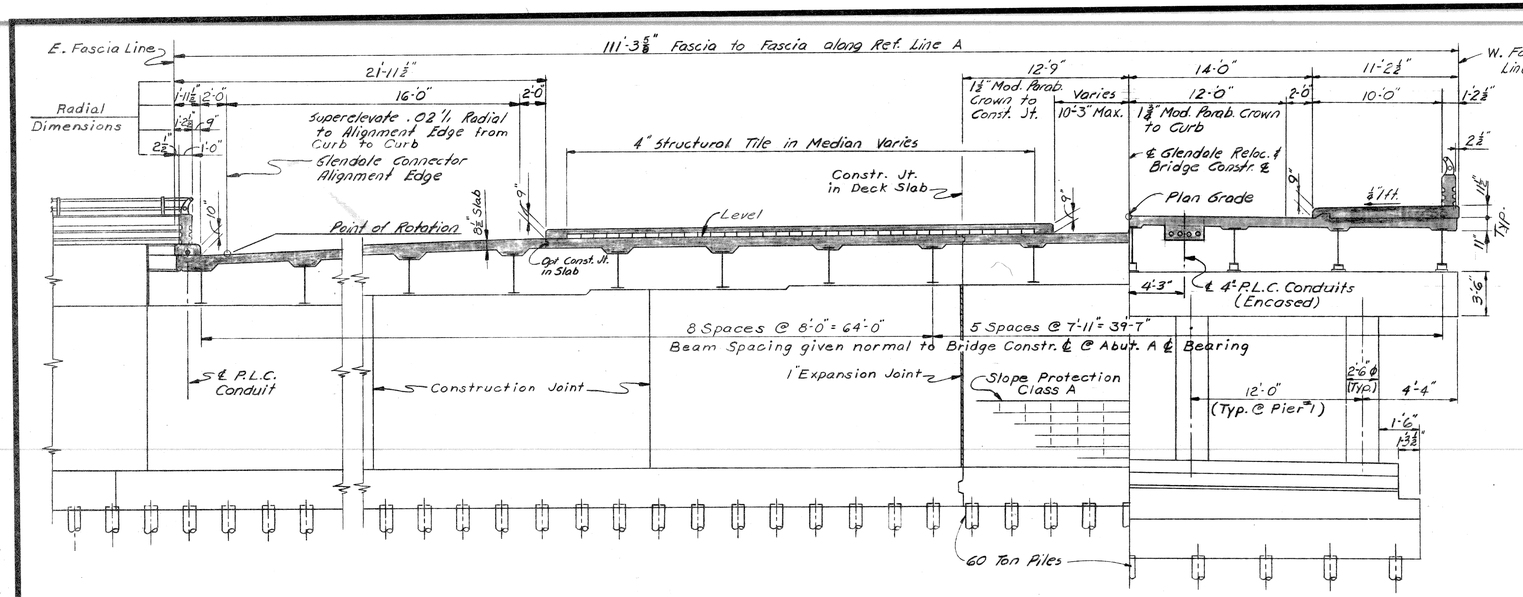
SHEET 7 OF 33

APPROVED _____ DESIGN SUPERVISING ENGINEER 9-25-70

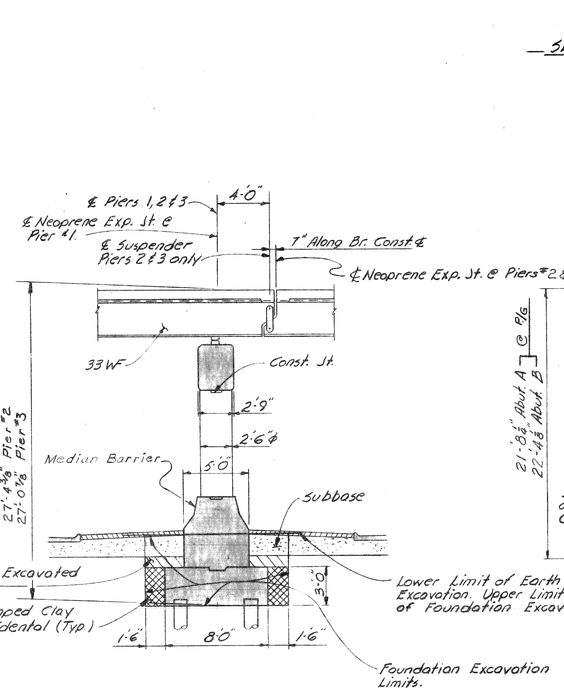
APPROVED _____ ENGINEER - DESIGN SECTION I

S24 of 82122K

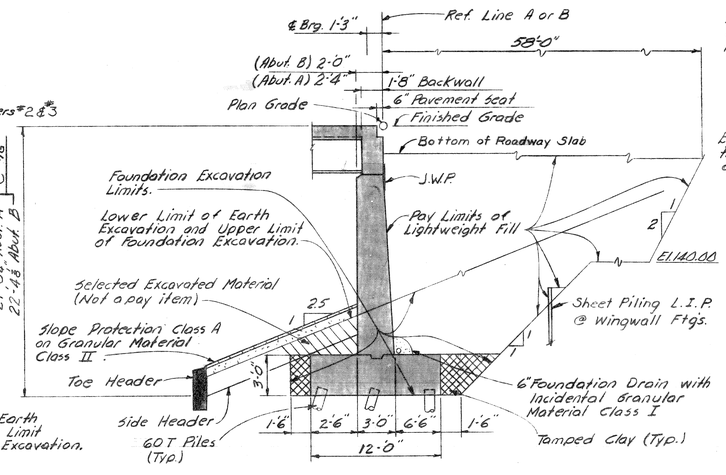
01253A



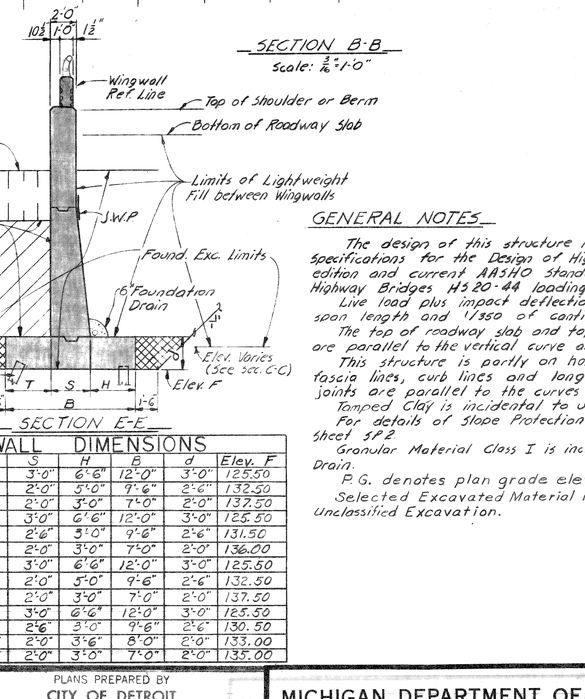
SECTION A-A
Scale: 1/16" = 1'-0"



SECTION D-D
Scale: 3/16" = 1'-0"



SECTION C-C
Scale: 3/16" = 1'-0"



SECTION B-B
Scale: 3/16" = 1'-0"

SECTION E-E

WINGWALL DIMENSIONS

	Sec.	T	S	H	B	d	Elev. F
N.W.	1	2'-6"	3'-0"	6'-6"	12'-0"	3'-0"	125.50
	2	2'-6"	2'-0"	5'-0"	9'-6"	2'-6"	132.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	137.50
S.W.	1	2'-6"	3'-0"	6'-6"	12'-0"	3'-0"	125.50
	2	4'-0"	2'-6"	3'-0"	9'-6"	2'-6"	131.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	136.00
N.E.	1	2'-6"	3'-0"	6'-6"	12'-0"	3'-0"	125.50
	2	2'-6"	2'-0"	5'-0"	9'-6"	2'-6"	132.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	137.50
S.E.	1	2'-6"	3'-0"	6'-6"	12'-0"	3'-0"	125.50
	2	4'-0"	2'-6"	3'-0"	9'-6"	2'-6"	130.50
	3	2'-6"	2'-0"	3'-6"	8'-0"	2'-0"	133.00
	4	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	135.00

GENERAL NOTES

The design of this structure is based on the M.D.S.H. Specifications for the Design of Highway Bridges, 1958 edition and current AASHO Standard Specifications for Highway Bridges H 5 20-44 loading.

Live load plus impact deflection equals 1/1000 of span length and 1/350 of cantilever arm.

The top of roadway slab and tops of curbs & sidewalks are parallel to the vertical curve and tangents.

This structure is partly on horizontal curves. The fascia lines, curb lines and longitudinal construction joints are parallel to the curves and tangents.

Tamped Clay is incidental to unclassified excavation.

For details of Slope Protection Class A, see Standard Sheet SP2.

Granular Material Class I is incidental to 6" Foundation Drain.

P.G. denotes plan grade elevation.

Selected Excavated Material is incidental to Unclassified Excavation.

QUANTITIES BILLED ON ROAD PLANS

Item	Unit	Amount
Earth Excavation	Cu. Yds.	35,600
Granular Material Class II	Cu. Yds.	35

MISCELLANEOUS QUANTITIES

Item	Unit	Amount
Lightweight Fill	Cu. Yds.	4390
6" Foundation Drains	Lin. Ft.	60
Slope Protection - Class A	Sq. Yds.	196
Slope Protection - Header	Lin. Ft.	199
Steel Sheet Piling Left in Place	Sq. Ft.	1,003

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

REVISIONS

NO.	DESCRIPTION	DATE	BY
A	Increase Steel Sht. Piling L.I.P.	4-5-71	AFB

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVE. CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

PROPOSED ALTERATION

CITY OF DETROIT

SQUAD BOSS	Lacher	7-69
DRAWN BY	A. G.	7-69
TRACED BY		
CHECKED BY	D.V.R.	7-69

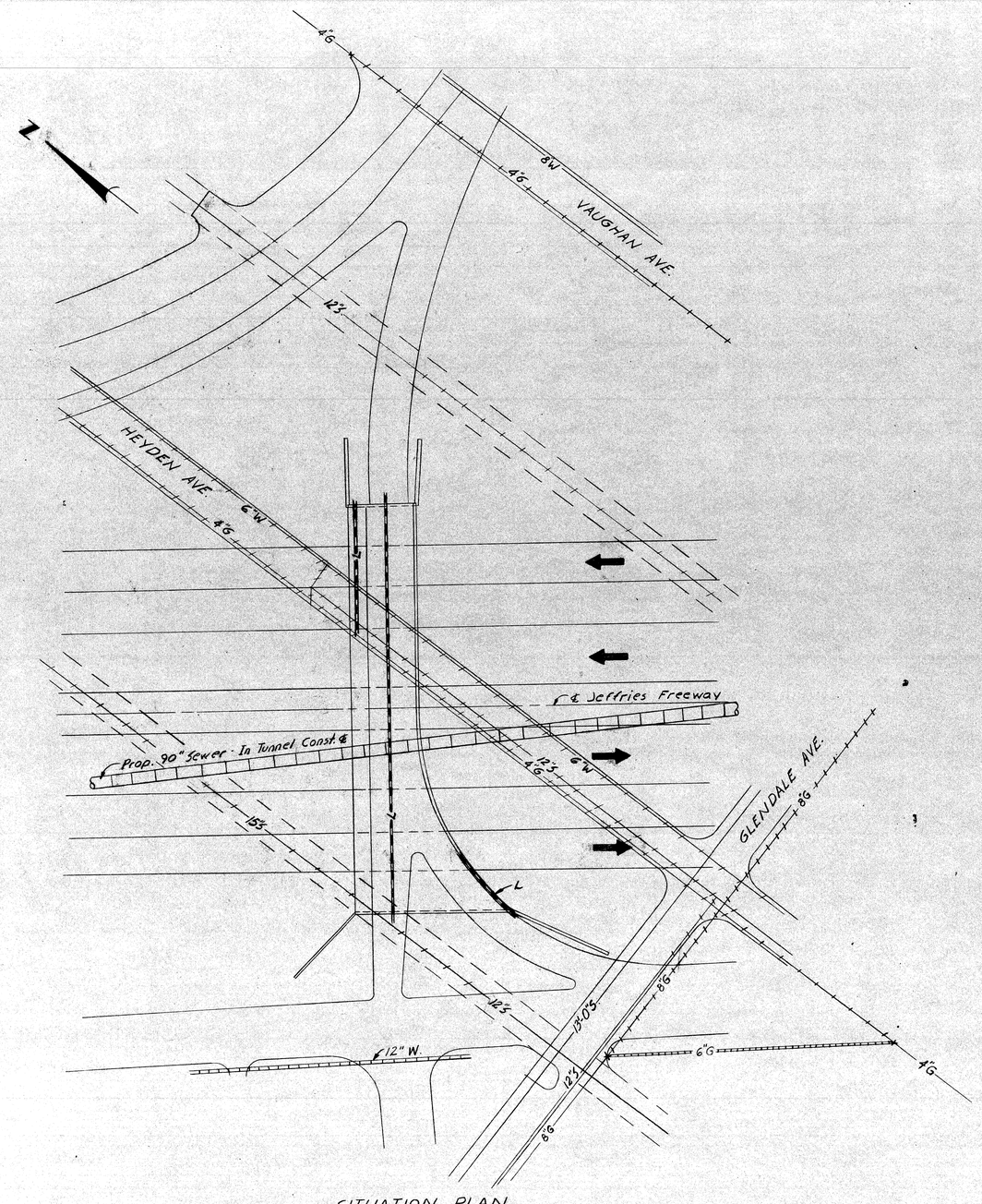
SHEET 5 OF 33

APPROVED _____ DESIGN SUPERVISING ENGINEER 9-25-70

APPROVED _____ ENGINEER - DESIGN SECTION I

S24 of 82122K

01253A



SITUATION PLAN
Scale: 1" = 40'

LEGEND

UTILITY	Existing	Abandoned or Deleted	New Work by Others	New Work by Contractor
Michigan Consolidated Gas Co.	G	G		
Detroit Water Dept.	W	W	W	
Expwy. and City of Detroit Sewers	S	S	S	
Public Lighting Commission				L

Note:—
Bridge construction and utility alterations are included in package contract for control section 82122 K.
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.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 990(19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

EXISTING UTILITIES & PROPOSED ALTERATIONS

CITY OF DETROIT

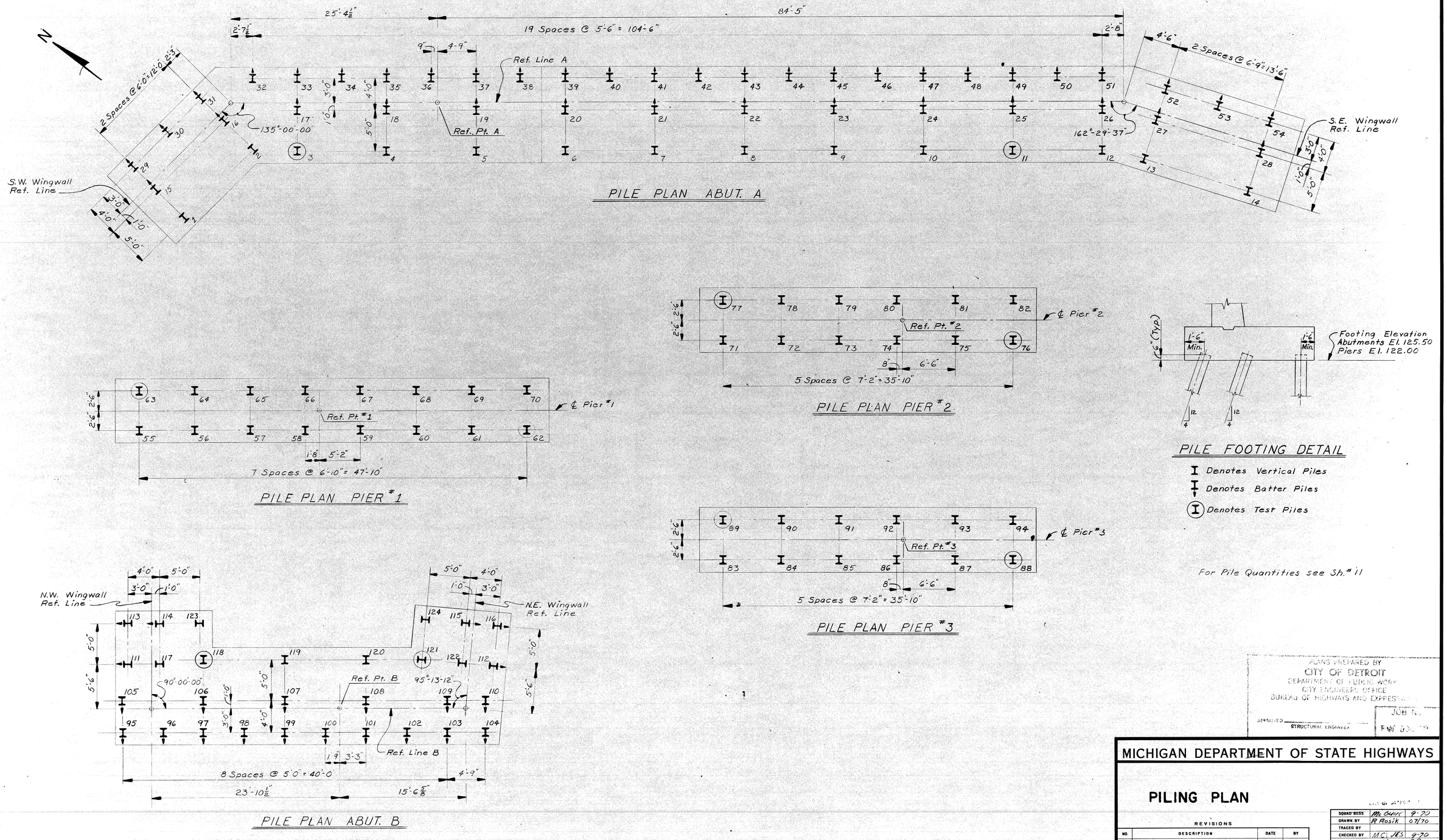
REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	Locher	7-69
DRAWN BY	A.G.	7-69
TRACED BY		
CHECKED BY	W.A.L.	7-69

SHEET 9 OF 33

S24 of 82122K

01253A



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

APPROVED _____ STRUCTURAL ENGINEER

JOB NO. FW 93...

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PILING PLAN

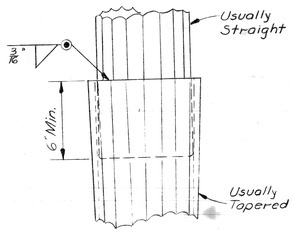
REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	McGuire	9-70
DRAWN BY	R Rosik	07/70
TRACED BY		
CHECKED BY	MC JES	9-70
SHEET 10 OF 33		

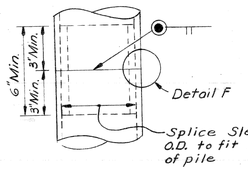
S24 of 82122K

01253A



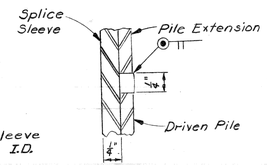
FIELD SPLICE

For Fluted Pipe Pile Shells (Use ¼" weld when shell is #3 gage metal)



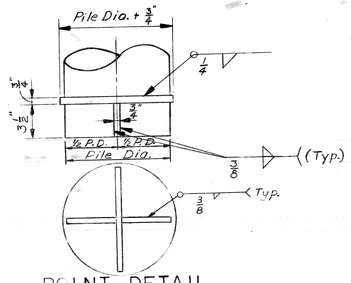
For Spiral Welded & Seamless Pipe Shells.

STEEL PIPE SPLICE SLEEVE



Split chill rings as recommended by the manufacturer may be substituted for splice sleeves at the option of the contractor

DETAIL - F

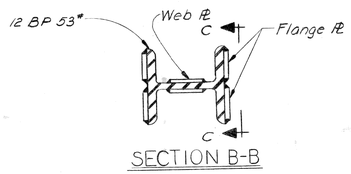


POINT DETAIL

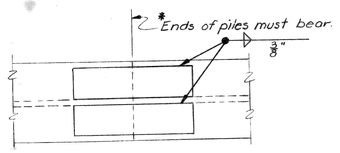
CAST-IN-PLACE PILE POINT & SPLICE DETAILS

QUANTITIES - 60 TON PILES				
Location	Type	No.	Est. Length Each Furnished & Driven Lin. Ft.	Total Est. Length Furnished & Driven Lin. Ft.
Abut. A	Vert.	12	50	600
	Batter	40	50	2000
	Test	2	60	120
Pier #1	Vert.	14	50	700
	Test	2	60	120
Pier #2	Vert.	10	50	500
	Test	2	60	120
Pier #3	Vert.	10	50	500
	Test	2	60	120
Abut. B	Vert.	6	50	300
	Batter	22	50	1100
	Test	2	60	120
Total	Vert	52		2600
	Batter	62		3100
	Test	10		600

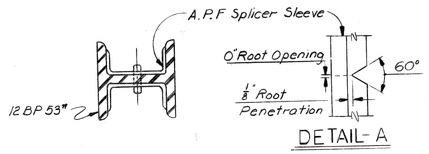
60 TON PILES - FURNISHED & DRIVEN ____ LN. FT. 6300
SPLICES - 60 TON PILES ____ EACH 142
TEST PILES - 60 TON PILES ____ EACH 10
FURNISHING EQUIPMENT FOR DRIVING PILES ____ LUMP SUM



SECTION B-B



VIEW C-C



DETAIL - A

NOTES:

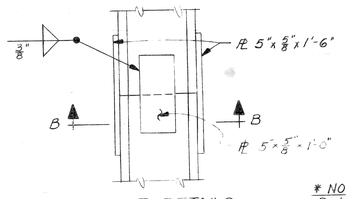
All piles shall be driven to a minimum bearing capacity of 60 Tons
Pile shells for cast-in-place concrete piles driven without a removable core shall be a minimum of #3 U.S. standard gauge (.230" nominal thickness), 12" O.D., and may be steel pipe of seamless or spiral welded type or fluted pipe as manufactured by the Union Metal Manufacturing Company or an approved equal.

For minimum Pile penetration see boring log.

Steel H piles shall be 12" H section weighing 53 lbs. per ft.

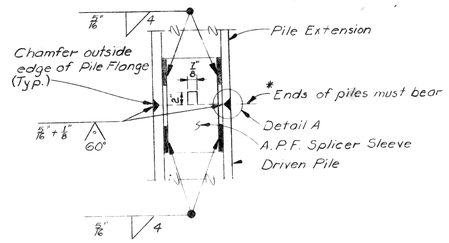
Butt welded splices for steel H piles will be permitted as an alternate to the splice shown on the plans.

For pile layout, see sheet # 10



SPLICE DETAILS

* NOTE
Set upper splice section in place with splice PL's attached, tap several times with the hammer to improve bearing contact, then complete welding of PL's to the lower section.



ALTERNATE SPLICE DETAILS
(A.P.F. = Associate Pipe & Fitting Co.)

"H" PILE SPLICE DETAILS

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PILING DETAILS

REVISIONS

NO.	DESCRIPTION	DATE	BY
	Fix Quantity Table	1-4-71	AFB

SQUAD BOSS		
DRAWN BY	D. Lyons	7-1-70
TRACED BY		
CHECKED BY		

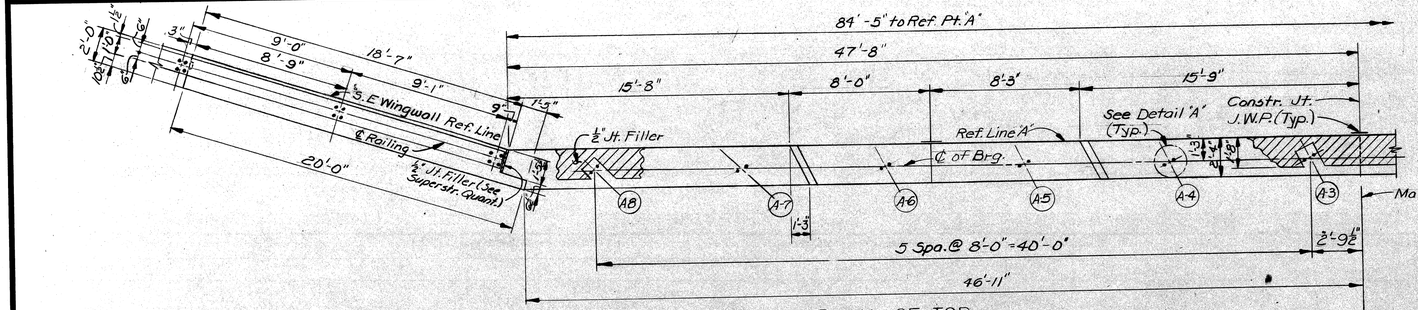
SHEET 11 OF

S24of 82122J

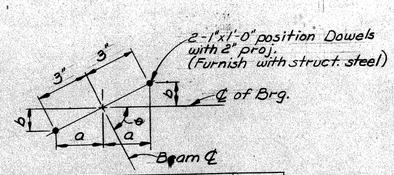
JOB NO. (19)

APPROVED

01253A

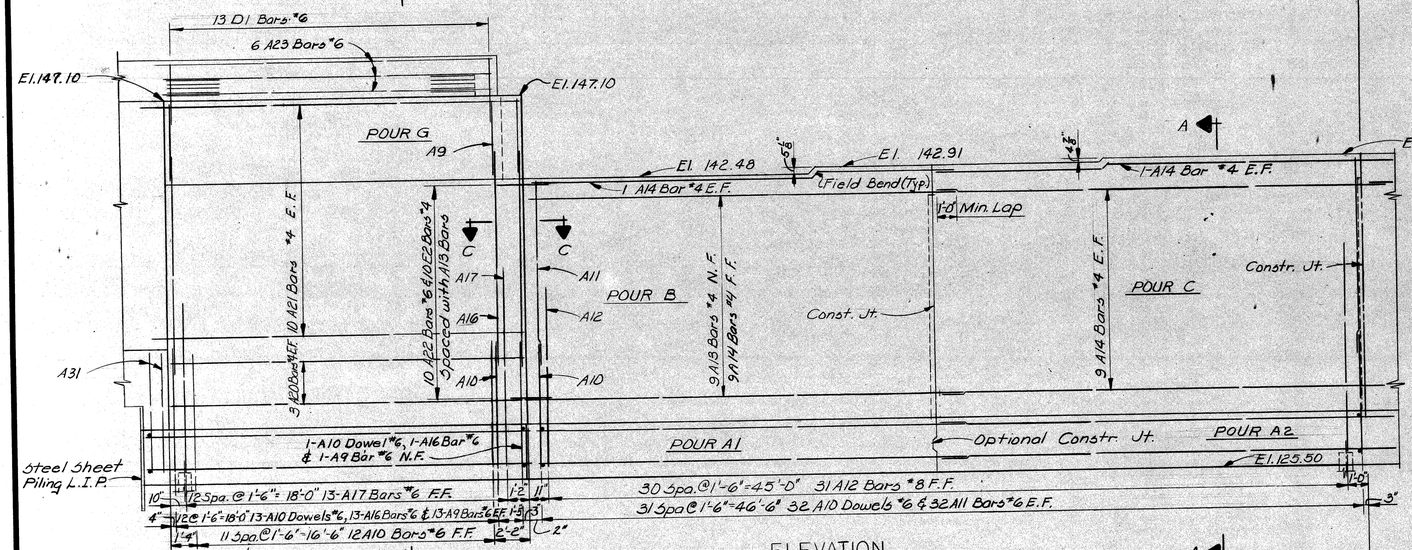


PLAN OF TOP

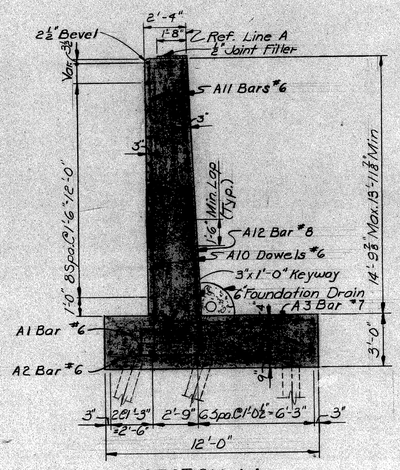


Beam	e	a	b
A thru F	90°-00'-00"	0	0
A1 thru A4	64°-15'-21"	2 3/8"	1 1/4"
A5	62°-09'-04"	2 5/8"	1 3/8"
A6	60°-07'-30"	2 8/8"	1 1/2"
A7 & A8	42°-13'-52"	2"	2 1/4"

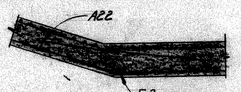
DETAIL "A"



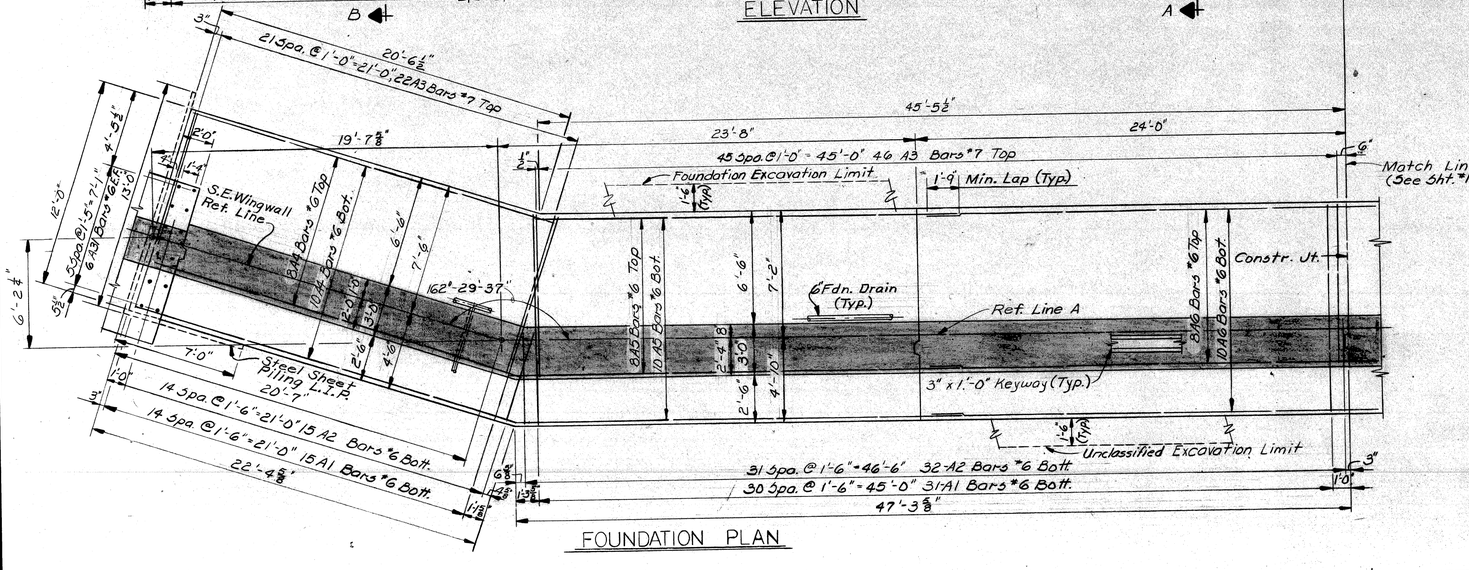
ELEVATION



SECTION A-A



SECTION CC



FOUNDATION PLAN

NOTE: Work this sheet with sheet "13

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT A DETAILS

CITY OF DETROIT

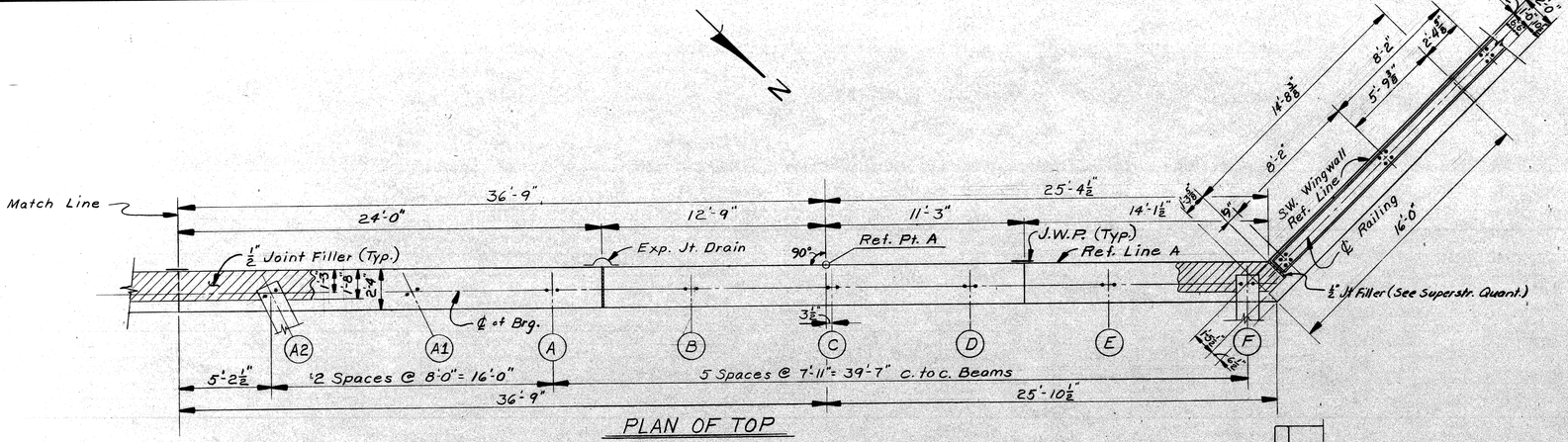
SQUAD BOSS	Mc Guire	10-70
DRAWN BY	O. Lyons	7-69
TRACED BY	JES	10-70
CHECKED BY		
SHEET	12 OF 33	

REVISIONS

NO.	DESCRIPTION	DATE	BY

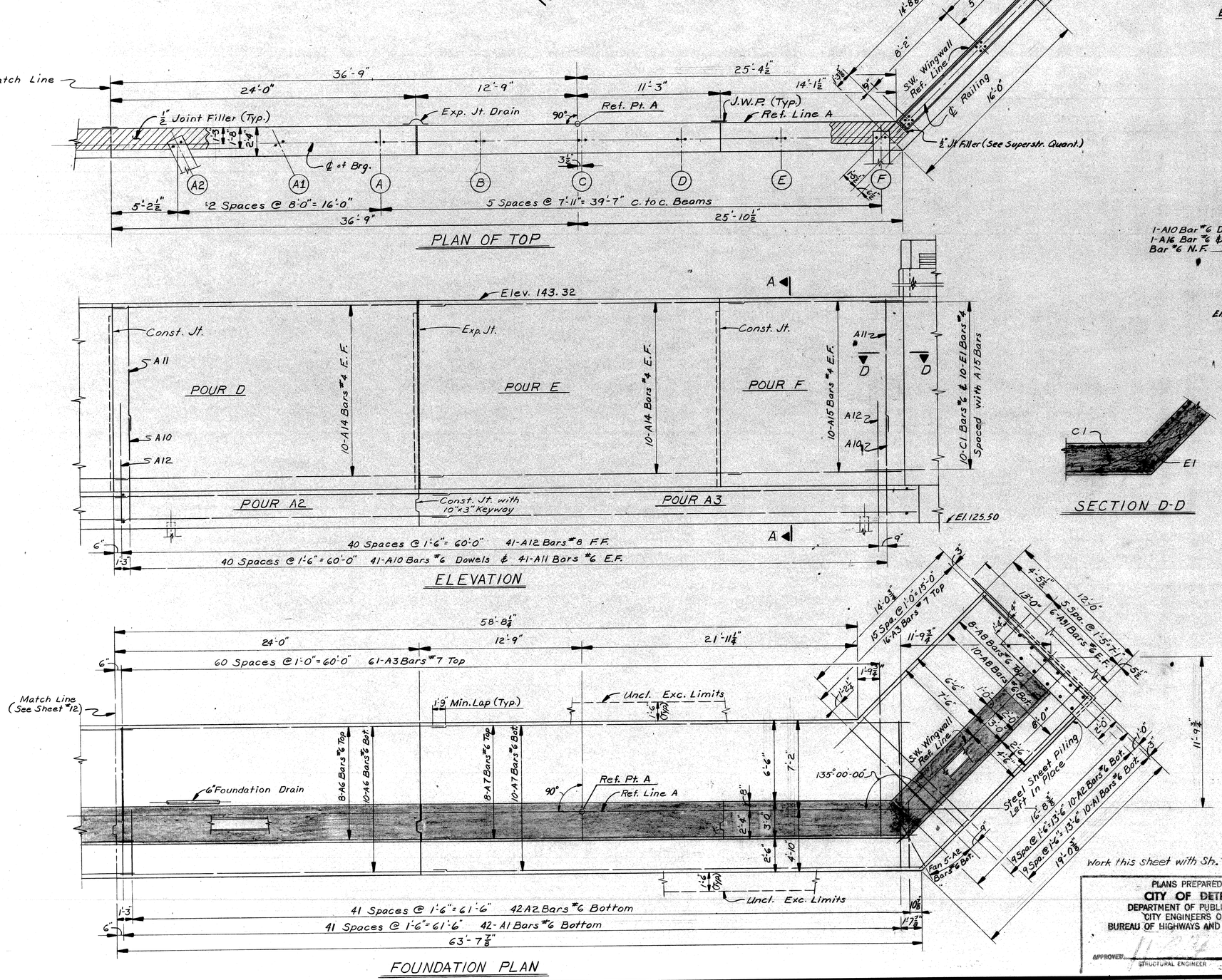
S24 of 82122K

01253A



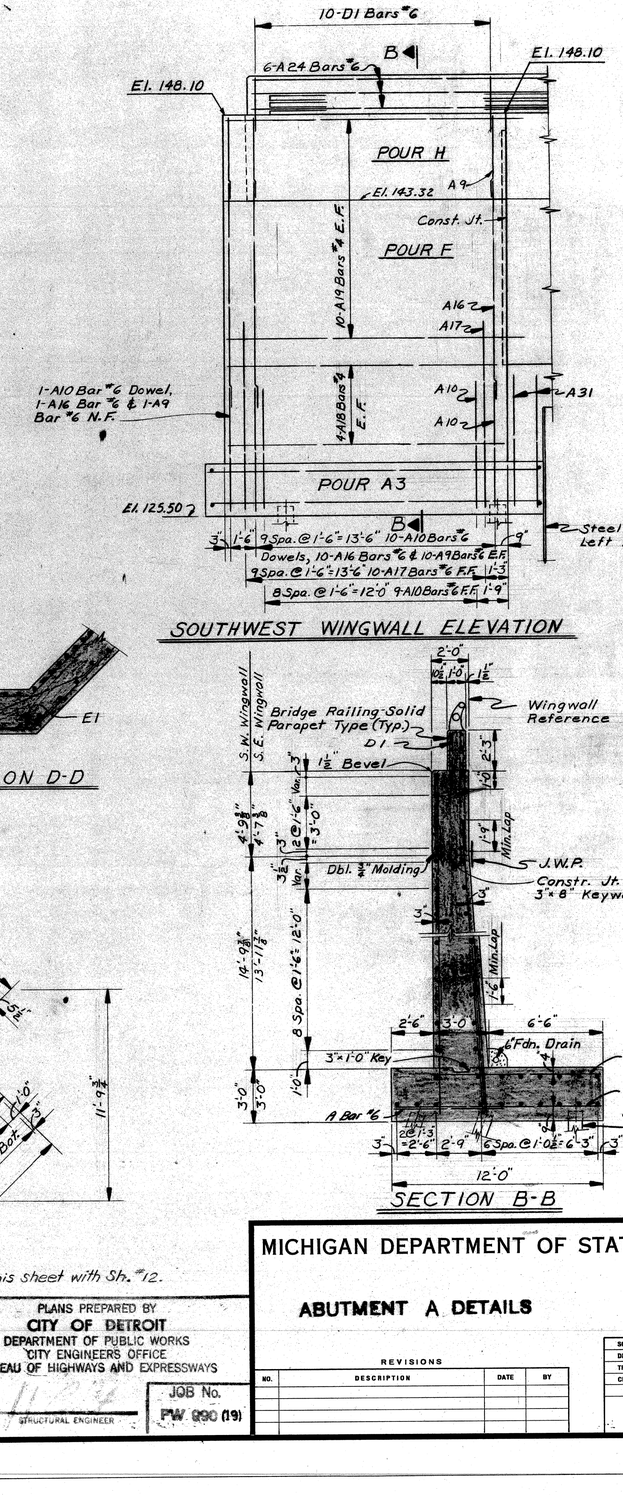
PLAN OF TOP

ELEVATION

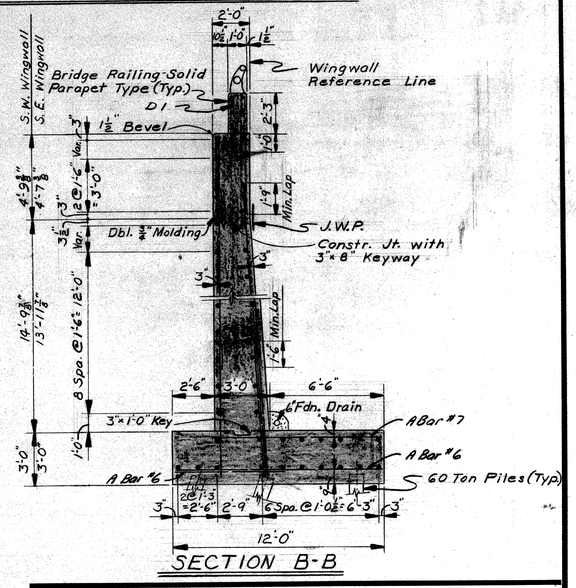


FOUNDATION PLAN

SECTION D-D



SOUTHWEST WINGWALL ELEVATION



SECTION B-B

Work this sheet with Sh. #12.

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

APPROVED: _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT A DETAILS

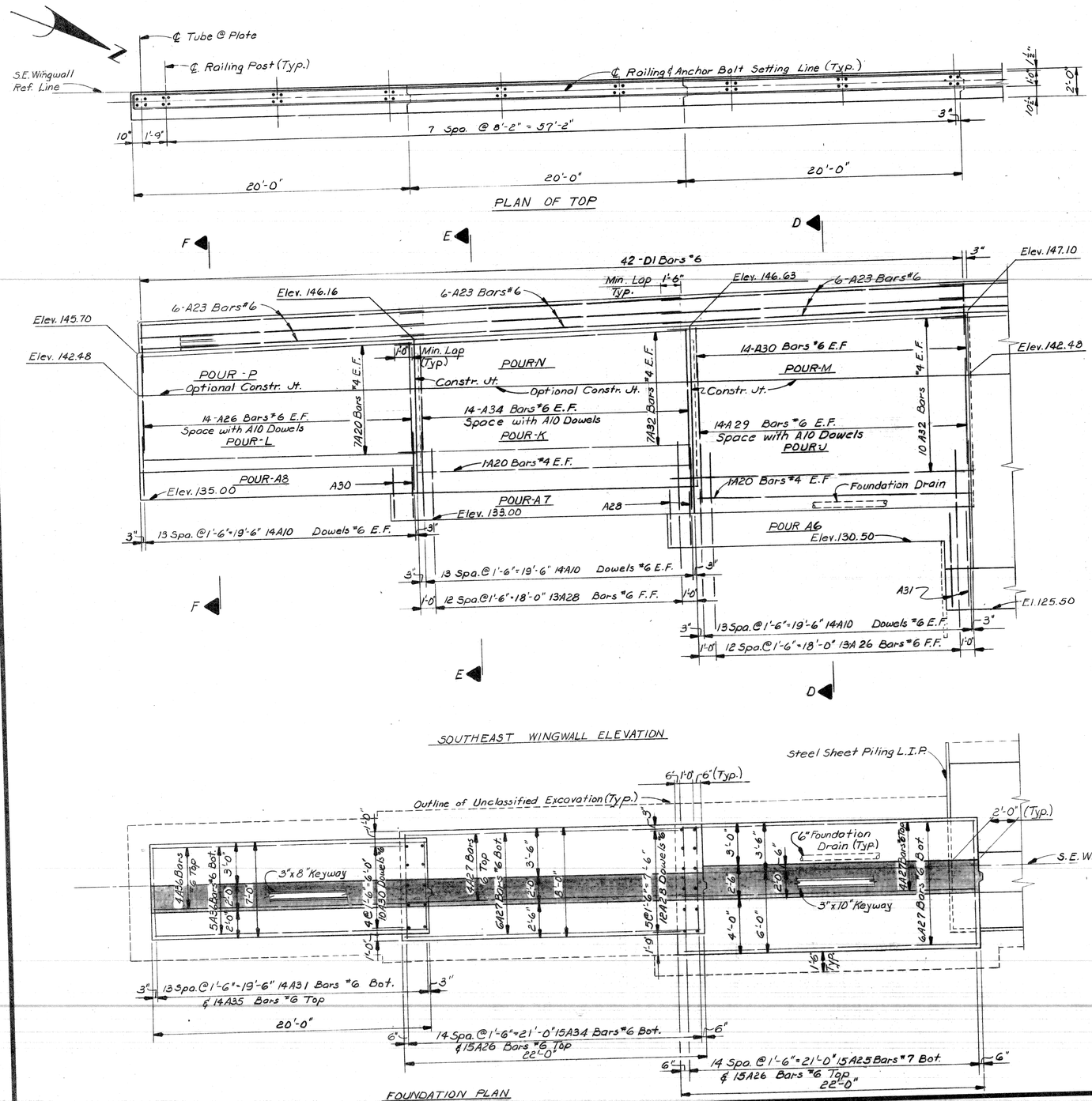
CITY OF DETROIT

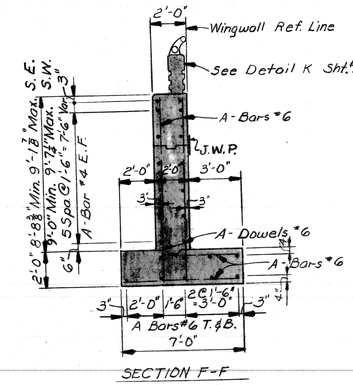
REVISIONS			
NO.	DESCRIPTION	DATE	BY

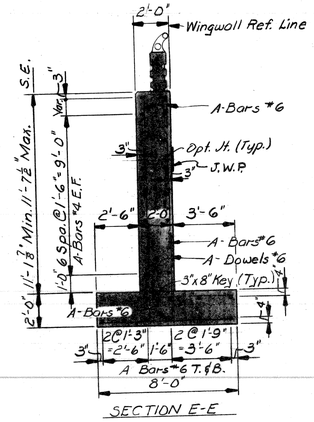
SQUAD BOSS	McGuire	10-70
DRAWN BY	M.C.	8-70
TRACED BY	Rcs/K	8-70
CHECKED BY	VES	10-70
SHEET 13 OF 33		

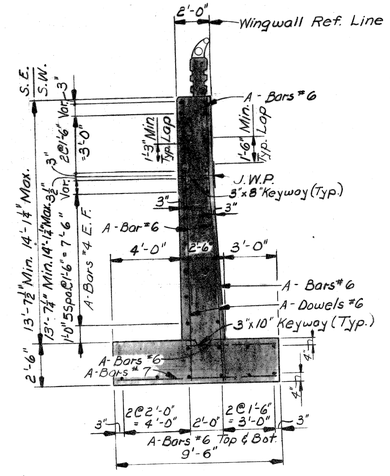
S24 of 82122K

01253A









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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 119

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT A DETAILS

CITY OF DETROIT

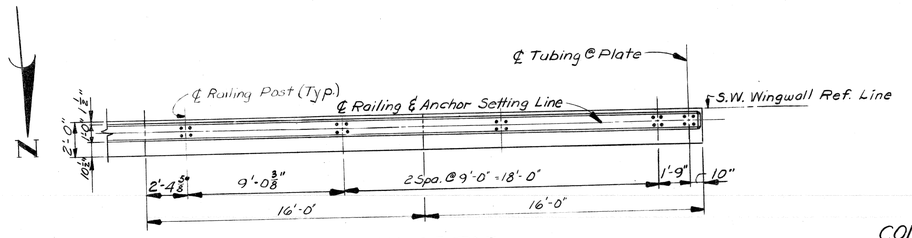
SQUAD BOSS	Mc Carr	10-70
DRAWN BY	R Rosik	07/70
TRACED BY	O. Lyons	8/21/70
CHECKED BY	JAS	10-70
SHEET	14 OF 33	

REVISIONS

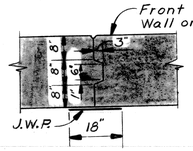
NO.	DESCRIPTION	DATE	BY
A	Show JT. Waterproofing Sec. EE & FF	1-4-71	AFB

S24 of 82122K

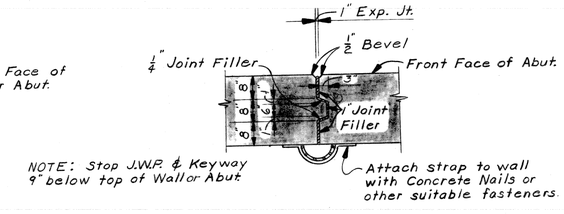
01253A



PLAN OF TOP

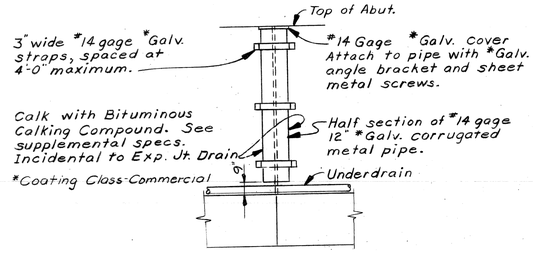


CONSTRUCTION JOINT DETAIL

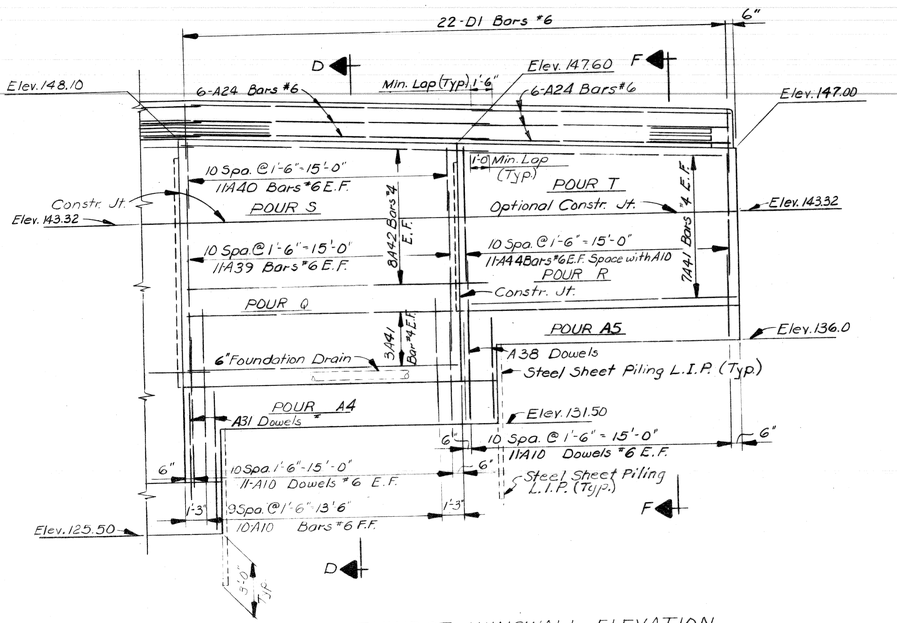


NOTE: Stop J.W.P. & Keyway 9" below top of Wall or Abut.

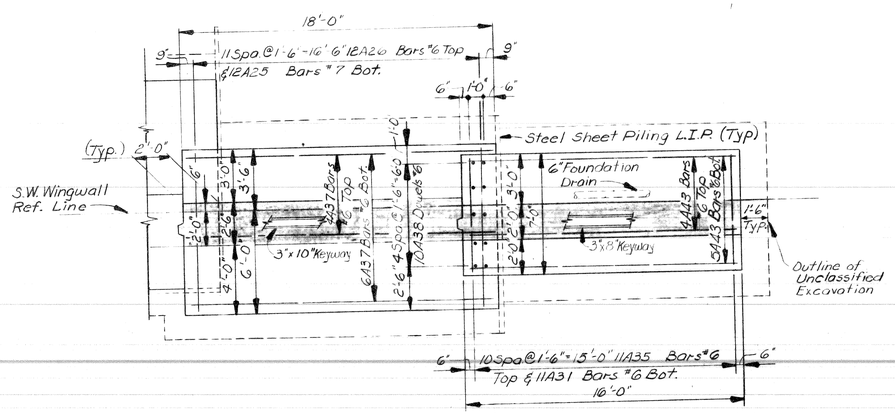
EXPANSION JOINT DETAIL



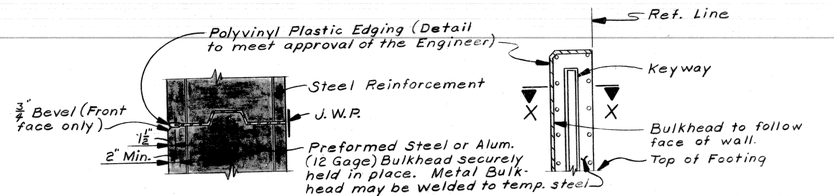
EXPANSION JOINT DRAIN



SOUTHWEST WINGWALL ELEVATION



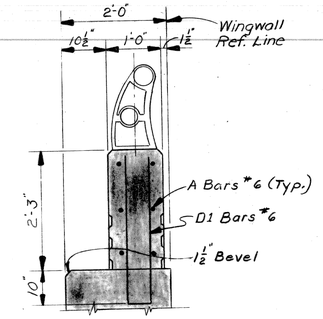
FOUNDATION PLAN



SECTION X-X SECTION THRU CONSTRUCTION JOINT

NOTE: 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.

ALTERNATE CONSTRUCTION JOINT DETAIL



DETAIL K

CONCRETE QUANTITIES

POUR	LOCATION	ABUT-A Gr. A(6A)	ABUT-A Gr. A(6AA)	ABUT.-B Gr. A(6A)	ABUT.-B Gr. A(6AA)
A1	Footing	59.0	–	38.4	–
A2	Footing	64.0	–	39.4	–
A3	Footing	72.2	–	15.7	–
A4	Footing	18.5	–	11.8	–
A5	Footing	9.5	–	15.7	–
A6	Footing	20.9	–	10.8	–
A7	Footing	13.0	–	–	–
A8	Footing	10.4	–	–	–
B	Abut and W.W. Stem	–	57.3	–	44.4
C	Abut and, or W.W. Stem	–	34.7	–	44.9
D	Abut or W.W. Stem	–	35.1	–	3.9
E	Abut or W.W. Stem	–	35.1	–	8.0
F	Abut and, or W.W. Stem	–	41.8	–	4.5
G	Wingwall Stem	–	6.5	–	13.6
H	Wingwall Stem	–	5.3	–	3.6
J	Wingwall Stem	–	15.8	–	8.0
K	Wingwall Stem	–	11.1	–	4.0
L	Wingwall Stem	–	8.1	–	11.5
M	Wingwall Stem	–	6.5	–	–
N	Wingwall Stem	–	5.8	–	–
P	Wingwall Stem	–	5.1	–	–
Q	Wingwall Stem	–	12.4	–	–
R	Wingwall Stem	–	6.3	–	–
S	Wingwall Stem	–	5.4	–	–
T	Wingwall Stem	–	4.7	–	–
TOTAL Grade A(6A) = 399.3 Cu. Yds.					
TOTAL Grade A(6AA) = 443.4 Cu. Yds.					

Bridge Parapet Concrete = 17.2 Cu. Yds. Gr. A(6AA) is not a pay item.

MISCELLANEOUS QUANTITIES

ITEM	Unit	Abut. A	Abut. B	Total	
Unclassified Excavation	Cu. Yds.	2777	723	3500	(A)
Clear Protective Coating for Substructure Concrete	Sq. Ft.	1863	754	2617	
¼" Jt. Filler	Sq. Ft.	8	–	8	
½" Jt. Filler	Sq. Ft.	172	65	237	
1" Jt. Filler	Sq. Ft.	35	–	35	
Joint Waterproofing	Sq. Ft.	330	210	540	(A)
Bridge Railing-Solid Parapet Type	Lin. Ft.	124.6	81.4	206.0	
Exp. Jt. Drain	Lin. Ft.	14.3	–	14.3	
6" Foundation Drains	Lin. Ft.	267	158	425	

GENERAL NOTES

J.W.P. denotes Joint Waterproofing. E.F denotes Each Face, N.F. denotes Near Face, F.F. denotes For Face.
No False Joint required between alternate railing post.

Steel sheet piling left in place shall be of continuous interlock type, either new or used, in good condition, weighing not less than 22 pounds per square foot of wall, and shall be furnished with suitable connecting and corner pieces. Ladle analysis and mill reports are not required for steel used in Sheet Piling.
Steel sheet piling left in place shall be driven to its final penetration before adjacent concrete is poured. If it is necessary to lower the top of sheeting after the concrete has been poured, the excess shall be removed by cutting.
The exposed faces of the wingwalls and abutment walls shall have special architectural treatment in accordance with Section 5.03.06 (c) of the Standard Specifications.
Clear protective coating for substructure concrete is to be applied to the bridge seat and front face of abutment between wingwall returns.
Footing concrete quantities are computed on the basis of an outline 3" outside of the footing outline where the concrete is poured against Steel Sheet Piling Left in Place. No additional allowance will be made in concrete or excavation quantities regardless of steel sheet piling used.
Position Dowels lengths shown on the plans are minimum. Dowels longer than those shown may be furnished at no additional cost.
For Pile layout, see Sh. #10.
For Pile Quantities, see Sh. #11.

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PUL 901 MS

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT A DETAILS

REVISIONS			
NO.	DESCRIPTION	DATE	BY
	A Corrected Misc. Quantities	1-4-71	AFB

SQUAD BOSS	
DRAWN BY	RosiK
TRACED BY	
CHECKED BY	
SHEET	10 OF 33

S24 of 82122K

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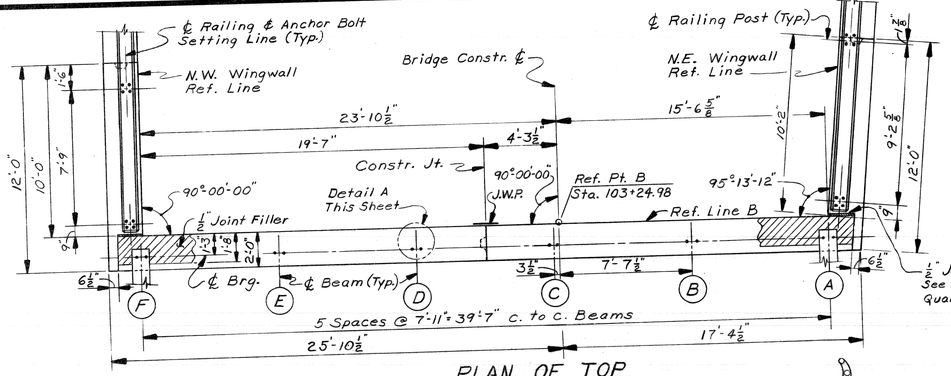
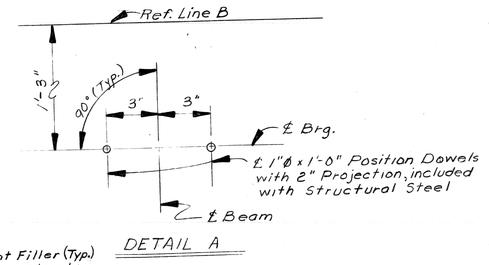
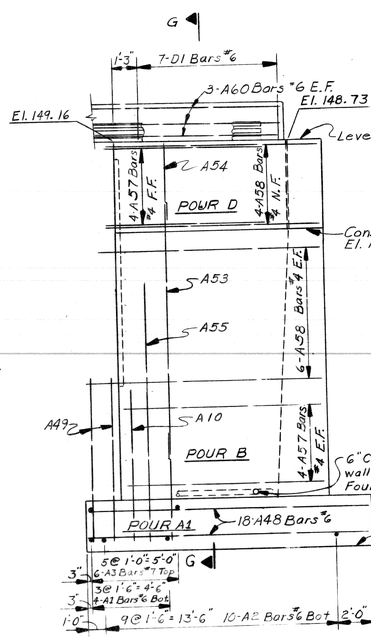


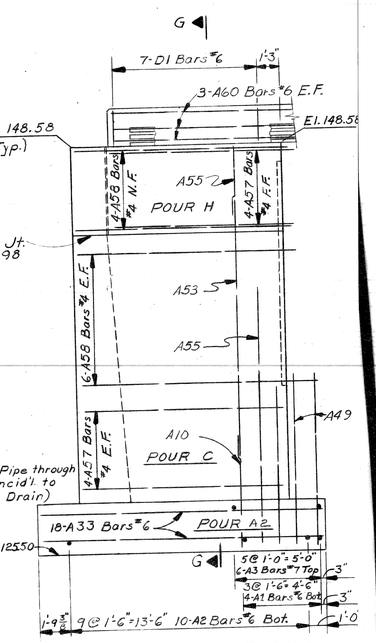
PLAN OF TOP



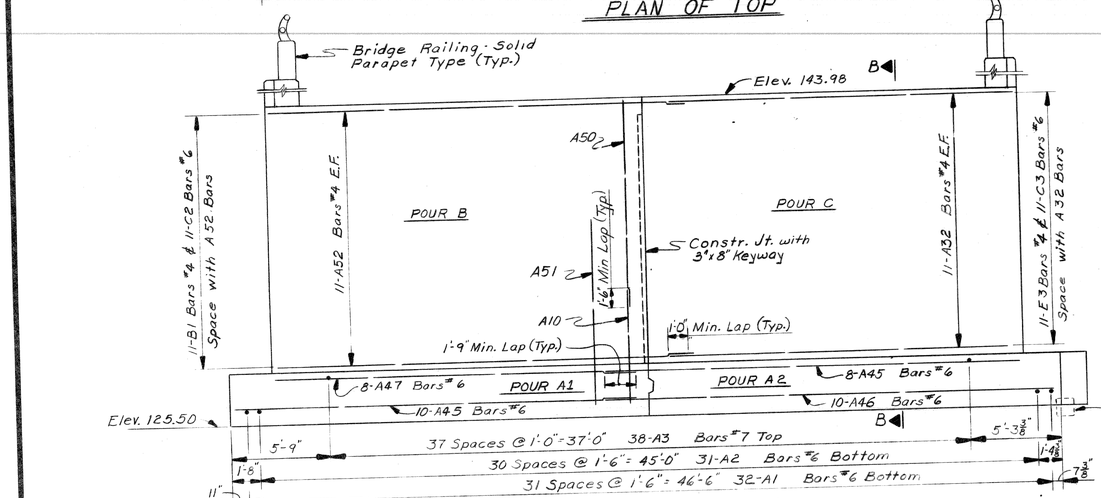
DETAIL A



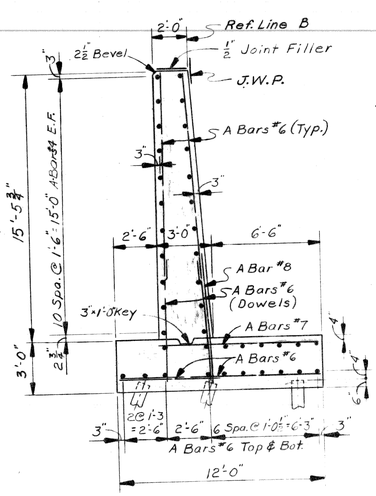
N.W. WINGWALL ELEVATION



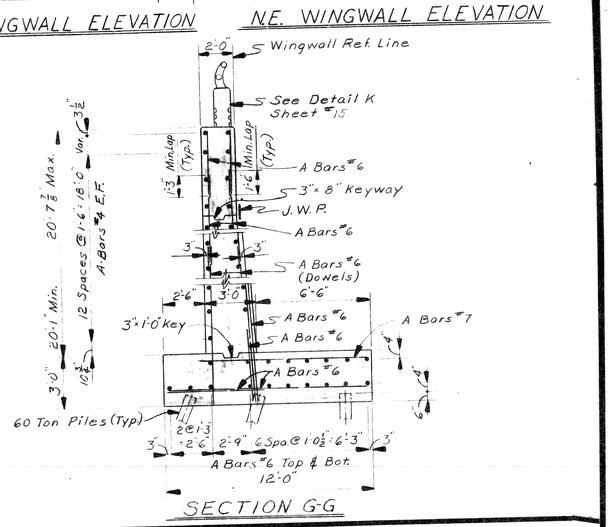
N.E. WINGWALL ELEVATION



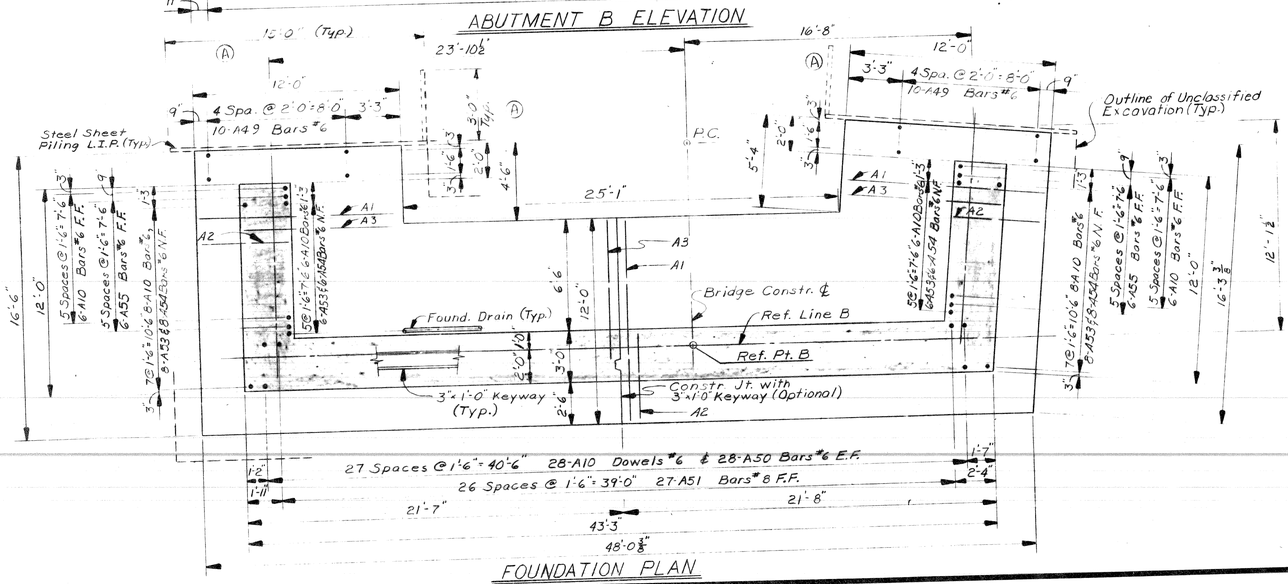
ABUTMENT B ELEVATION



SECTION B-B



SECTION G-G



FOUNDATION PLAN

PREPARED BY CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING SHEET FOR ABUTMENTS AND WINGWALLS

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 860 119

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT B DETAILS

CITY OF DETROIT

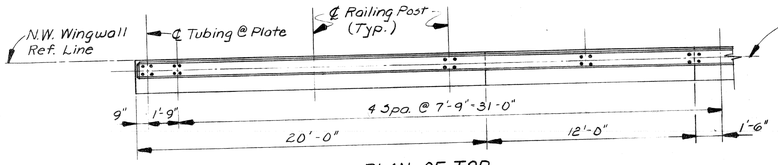
REVISIONS		
DESCRIPTION	DATE	BY
A Correct limits Steel Sht. Piling L.I.P.	1-4-71	AFB

SQUAD BOSS		
DRAWN BY		4-22-70
TRACED BY		
CHECKED BY		

SHEET 16 OF 33

STATE JOB 82122K

01253A



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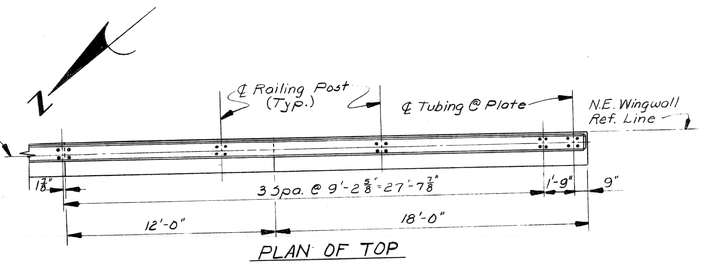
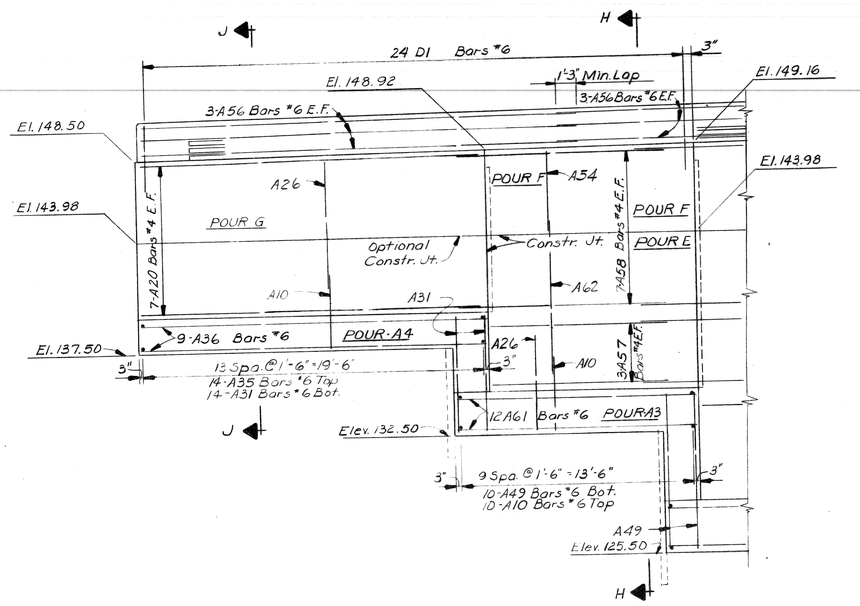
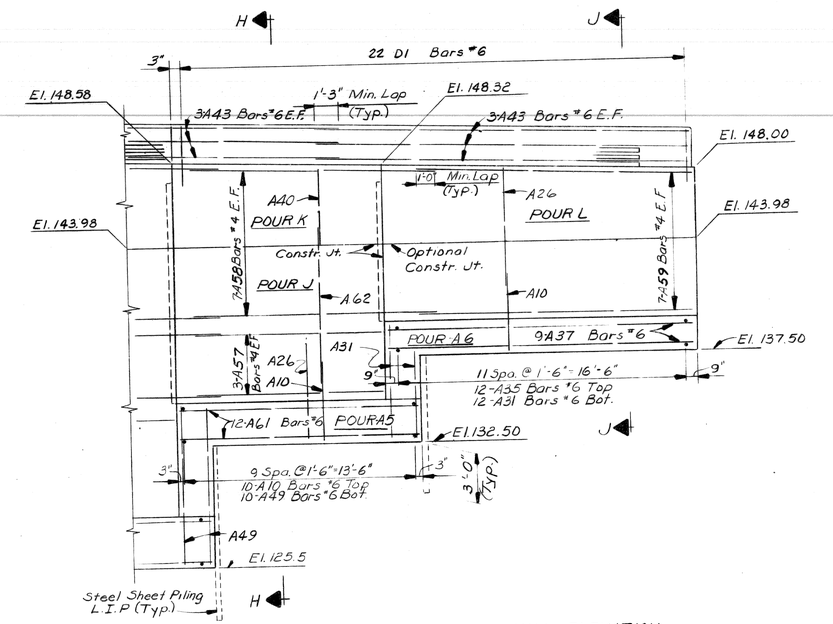


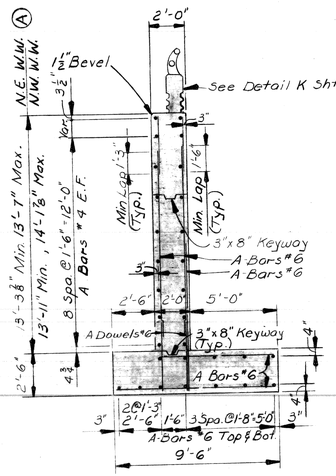
PLAN OF TOP



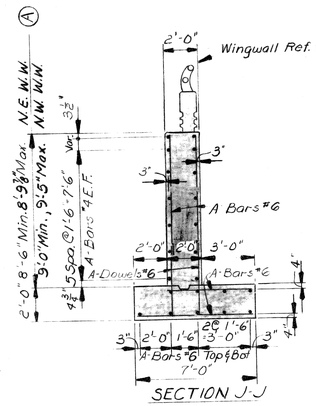
NORTHWEST WINGWALL ELEVATION



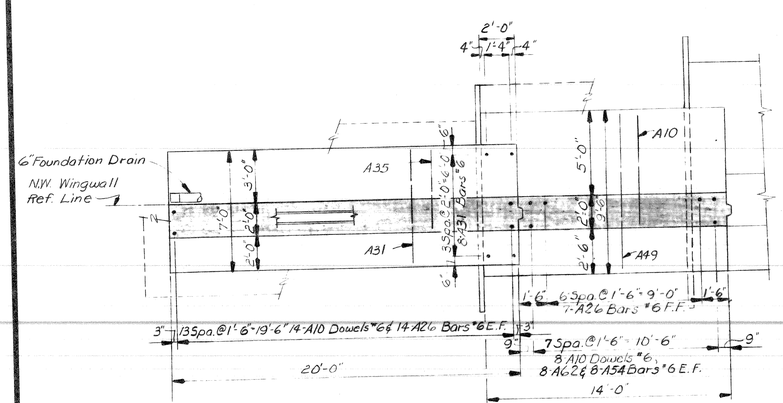
NORTHEAST WINGWALL ELEVATION



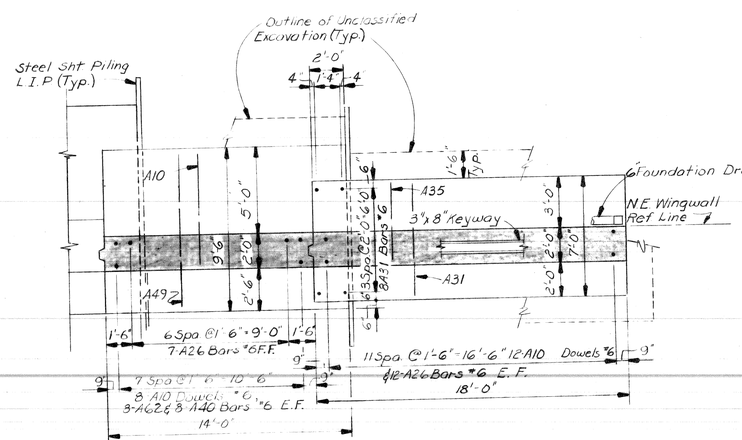
SECTION H-H



SECTION J-J



FOUNDATION PLAN



FOUNDATION PLAN

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB NO. PW 990 HS

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

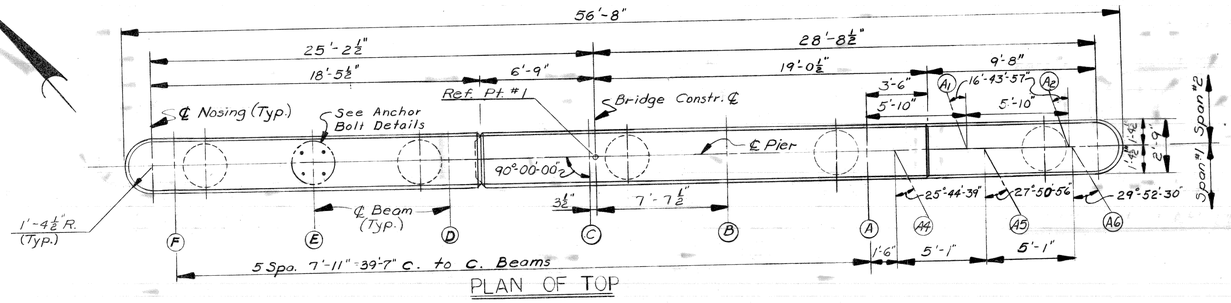
ABUTMENT DETAILS

REVISIONS			
NO	DESCRIPTION	DATE	BY
A	Corr. dim. See H-H & J-J	1-4-71	AFB

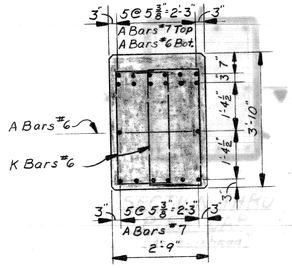
SQUAD BOSS		
DRAWN BY	O. Lyons	7-24-70
TRACED BY		
CHECKED BY		

SHEET 17 OF

01253A



PLAN OF TOP



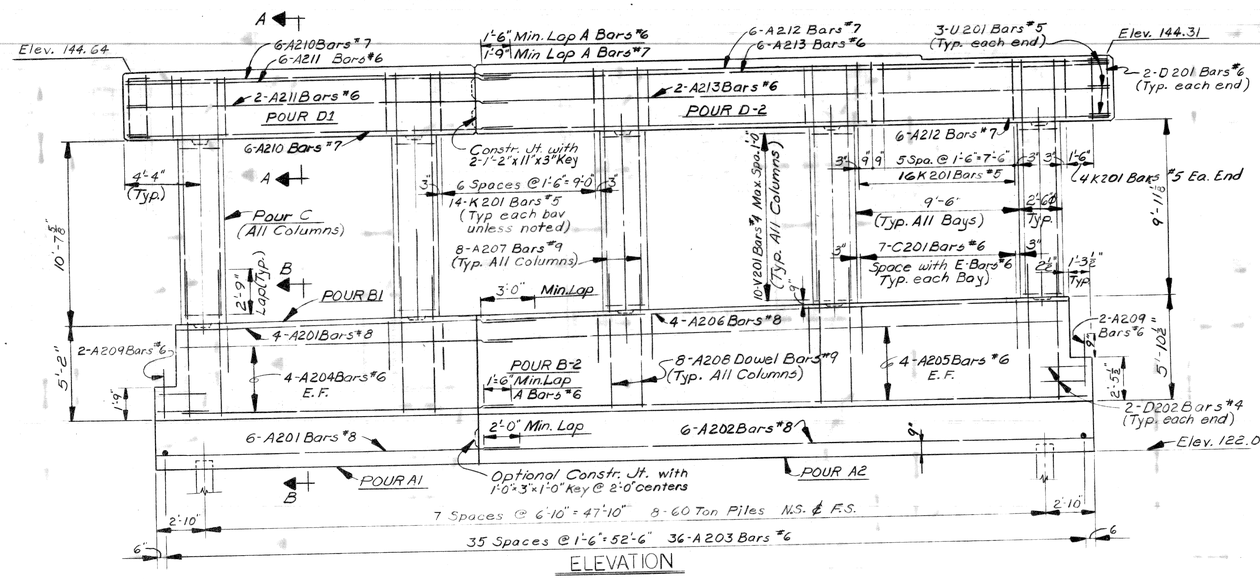
SECTION A-A

CONCRETE QUANTITIES Cu.Yds.

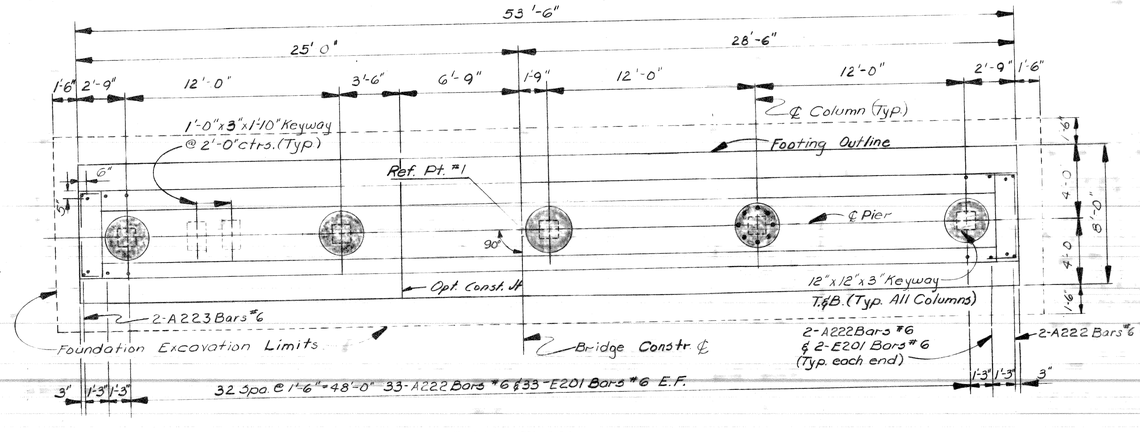
POUR	LOCATION	PIER #1 Gr. AGA	PIER #1 Gr. AGAA	PIER #2 Gr. AGA	PIER #2 Gr. AGAA	PIER #3 Gr. AGA	PIER #3 Gr. AGAA	
A-1	Footing	16.2	–	16.2	–	16.2	–	
A-2	Footing	31.3	–	20.7	–	20.7	–	
B-1	Grade Beam	–	15.0	–	14.8	–	14.8	A
B-2	Grade Beam	–	31.9	–	20.3	–	20.3	A
C	Columns	–	9.4	–	7.8	–	8.2	
D-1	Beam	–	7.6	–	7.0	–	7.0	
D-2	Beam	–	13.9	–	8.7	–	8.7	
Total		47.5	77.8	36.9	58.6	36.9	59.0	A

MISCELLANEOUS QUANTITIES

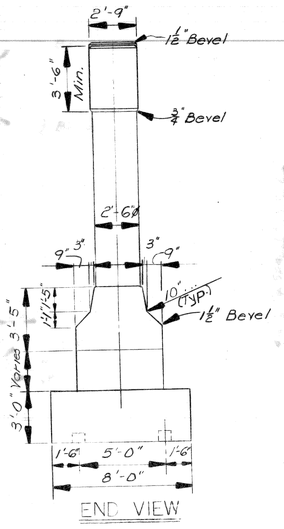
ITEM	UNIT	PIER #1	PIER #2	PIER #3	TOTAL	
Unclassified Excavation	C.Y.	66	47	47	160	A
Clear Protective Coating for Substructure Concrete	Sq. Ft.	1705	1432	1447	4584	A
Protective Sealant Coating for Substructure Concrete	Sq. Ft.	155	–	–	155	



ELEVATION



FOUNDATION PLAN



END VIEW

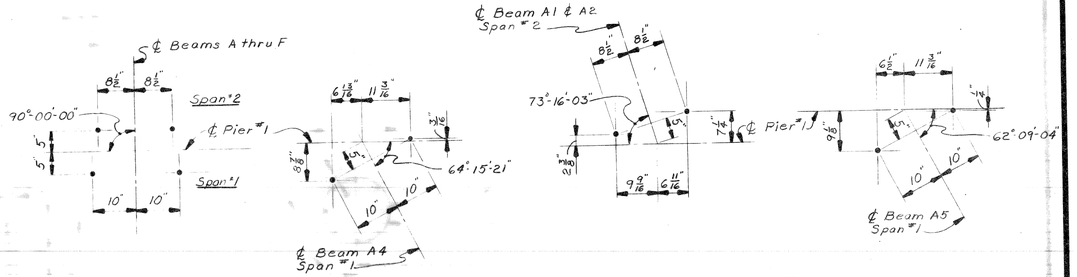
GENERAL NOTES

N.S., F.S. denotes near side, far side.
N.F., F.F., E.F. denotes near face, far face and each face respectively.
For bevel and molding details, see standard sheet R 16.

Adjust the spacing of the reinforcing steel as required to permit placing of anchor bolts.

Clear protective coating for substructure concrete is to be applied to the complete area of the pier concrete above footings except the top of Pier #1 which, shall be given an application of protective sealant coating for substructure concrete prior to placing masonry plates.

Drilling holes for Anchor Bolts will not be permitted.
Work this sheet with Sheet # 19
For piling details see sheet #10 & #11.



ANCHOR BOLT SETTING DETAILS

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

APPROVED _____ STRUCTURAL ENGINEER

JOB NO. PW 990 (19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

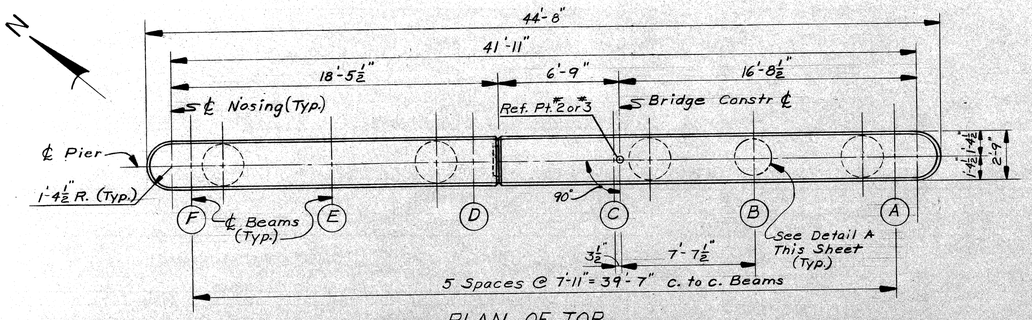
PIER No. 1 DETAILS

NO.	REVISIONS DESCRIPTION	DATE	BY
A	Corr. Conc. & Misc. Quantities	1-4-71	AFB

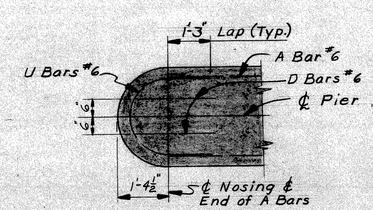
SQUAD BOSS			
DRAWN BY	O. Lyons	4-21-70	
TRACED BY			
CHECKED BY	MC	JES	
SHEET	3	OF 33	

S24 of 82122K

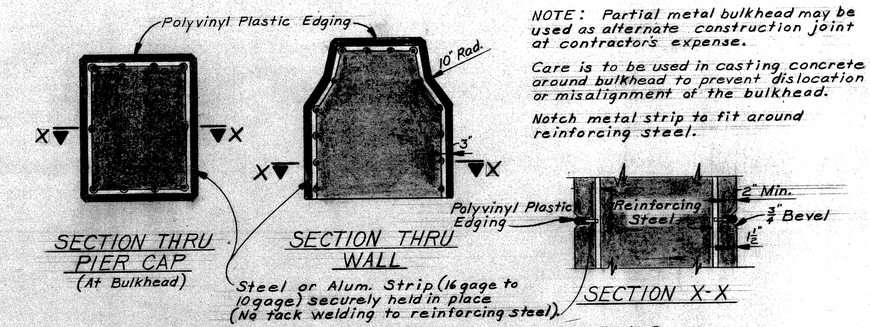
01253A



PLAN OF TOP



END OF CAP DETAIL



SECTION THRU PIER CAP (At Bulkhead)

SECTION THRU WALL

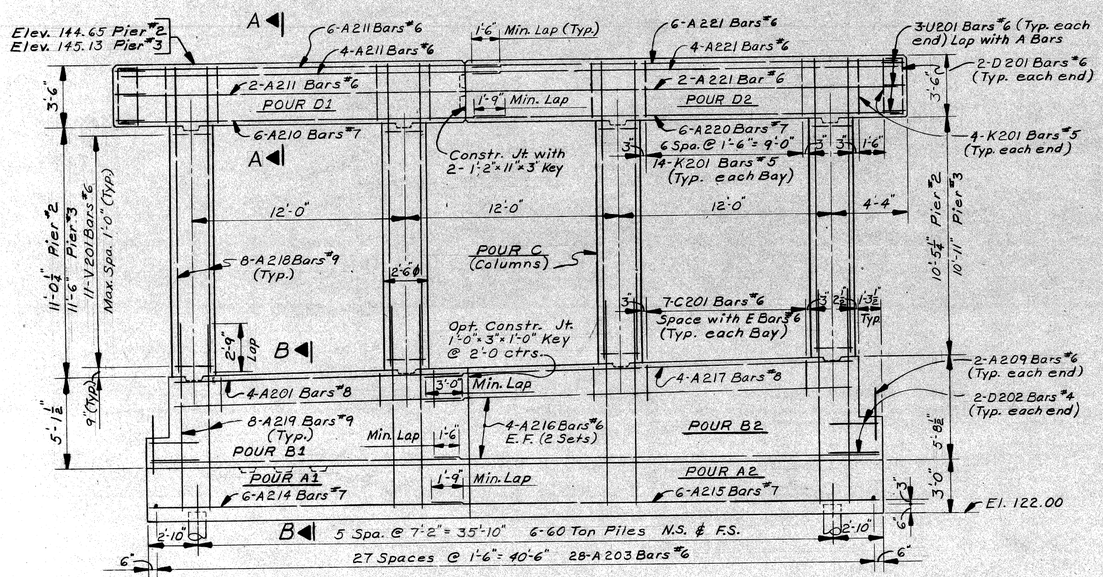
SECTION X-X

NOTE: Partial metal bulkhead may be used as alternate construction joint at contractors expense.

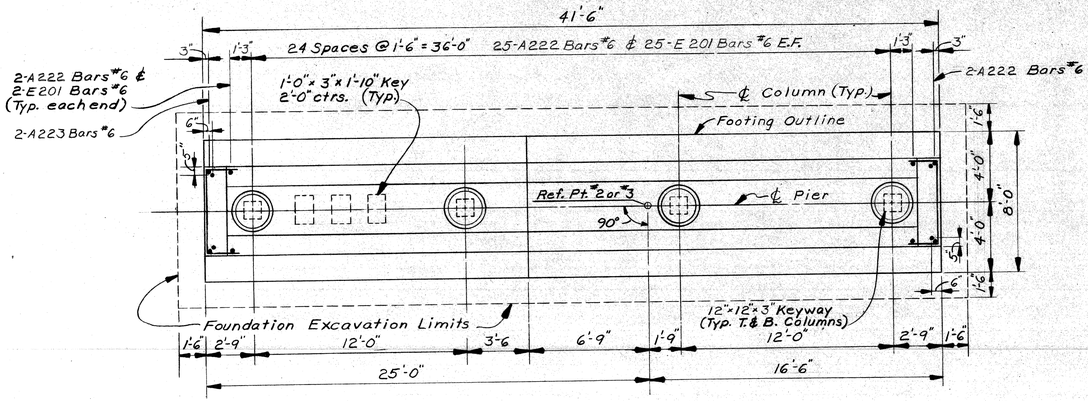
Care is to be used in casting concrete around bulkhead to prevent dislocation or misalignment of the bulkhead.

Notch metal strip to fit around reinforcing steel.

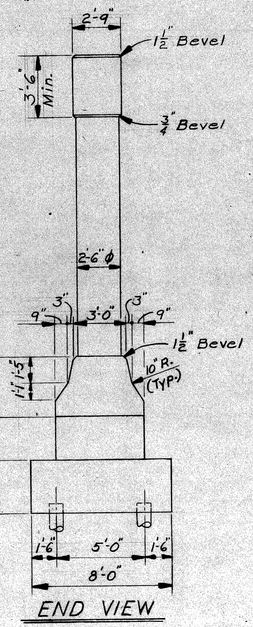
ALTERNATE CONSTRUCTION JOINT DETAILS



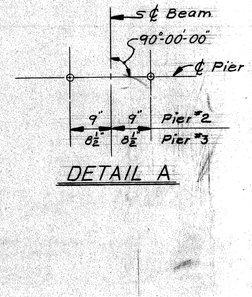
ELEVATION



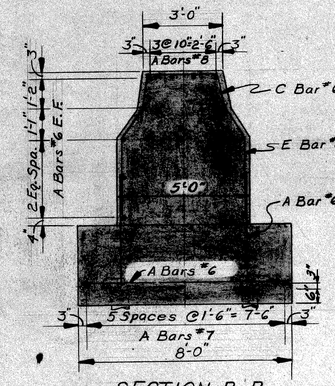
FOUNDATION PLAN



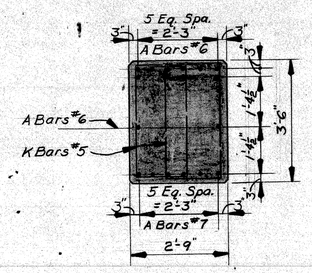
END VIEW



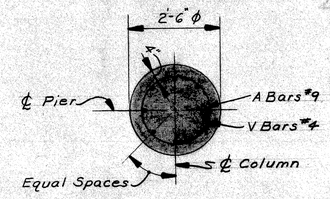
DETAIL A



SECTION B-B



SECTION A-A



TYPICAL SECTION THRU COLUMN

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PIER No. 2&3 DETAILS

CITY OF DETROIT

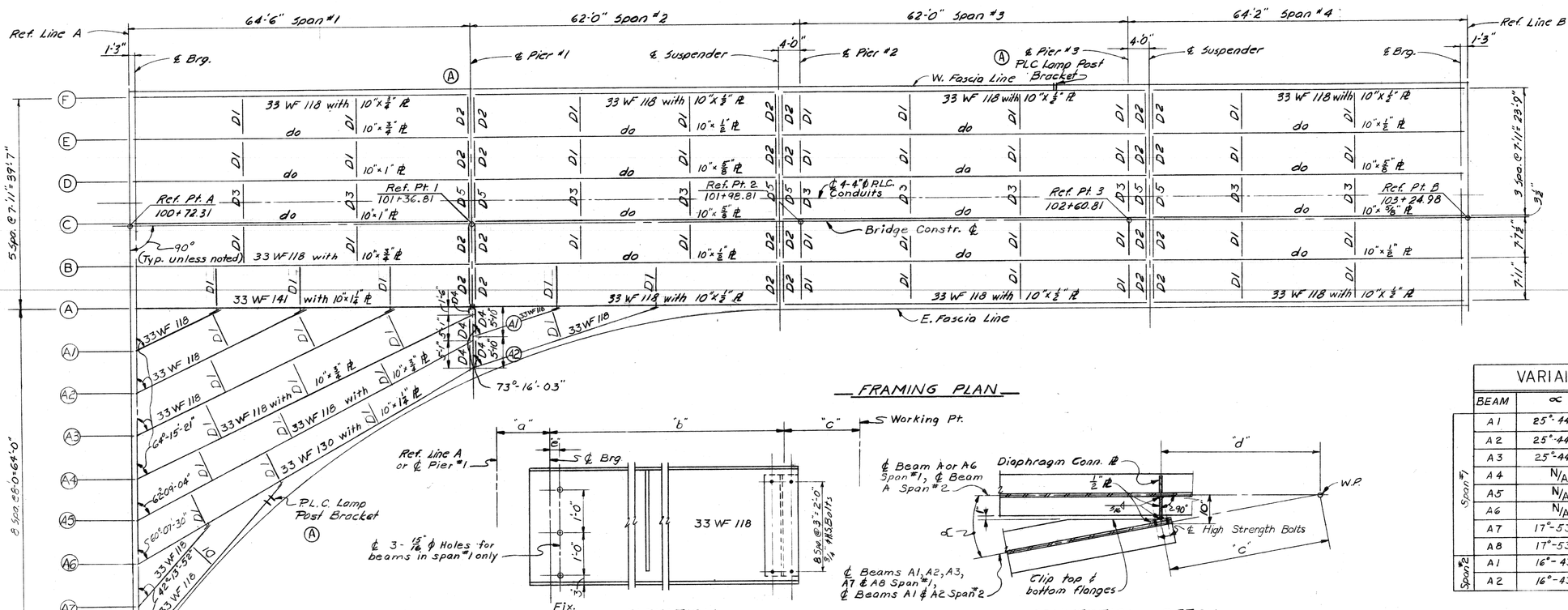
SQUAD BOSS	McGuire	10-70
DRAWN BY	R Rosik	4-21
TRACED BY		
CHECKED BY	RC	JES 10-70
SHEET	19 OF 33	

REVISIONS

NO.	DESCRIPTION	DATE	BY

S24 of 82122K

01253A



FRAMING PLAN

ELEVATION

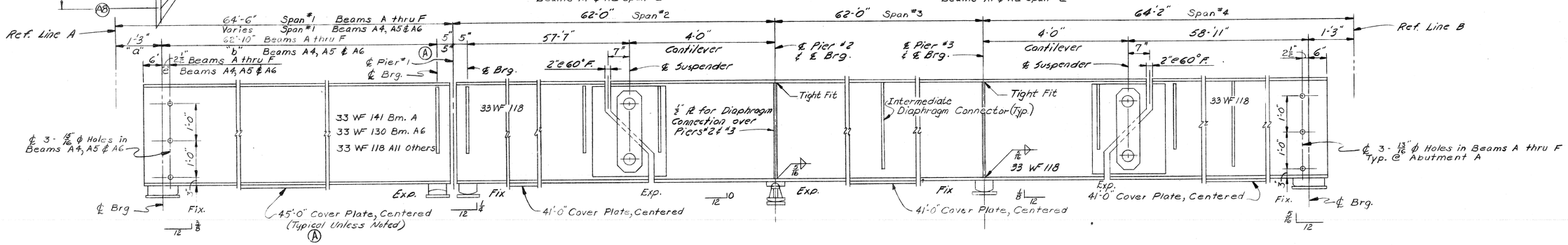
Beams A1, A2, A3, A7 & A8-Span #1
Beams A1 & A2-Span #2

CONNECTION DETAIL

Beams A1, A2, A3, A7 & A8-Span #1
Beams A1 & A2-Span #2

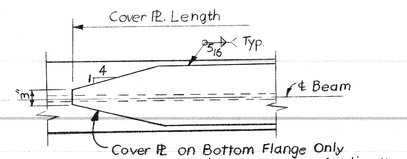
VARIABLE DIMENSIONS							
	BEAM	∝	"a"	"b"	"c"	"d"	"e"
Span #1	A1	25°-44'-39"	1'-4 5/8"	16'-6"	1'-11"	1'-8 3/4"	2 3/4"
	A2	25°-44'-39"	1'-4 5/8"	34'-11"	1'-11"	1'-8 3/4"	2 3/4"
	A3	25°-44'-39"	1'-4 5/8"	53'-4"	1'-11"	1'-8 3/4"	2 3/4"
	A4	N/A	1'-4 5/8"	69'-9 5/8"	N/A	N/A	2 3/4"
	A5	N/A	1'-5"	71'-1 3/8"	N/A	N/A	2 7/8"
	A6	N/A	1'-5 1/4"	72'-6 3/8"	N/A	N/A	2 7/8"
	A7	17°-53'-38"	1'-10 3/8"	19'-10 3/8"	2'-8 1/2"	2'-7"	3 3/4"
	A8	17°-53'-38"	1'-10 3/8"	42'-5 1/4"	2'-8 1/2"	2'-7"	3 3/4"
Span #2	A1	16°-43'-57"	5"	16'-11 3/8"	2'-10 3/4"	2'-9 1/4"	N/A
	A2	16°-43'-57"	5"	37'-2 1/2"	2'-10 3/4"	2'-9 1/4"	N/A

Ⓐ Ⓐ



ELEVATION

Ⓐ NOTE:
Beam A, Span #1, has a cover plate length of 48'-0" (centered).
Beams A4 & A5 have cover Pl. lengths of 45'-0" (centered).
Beam A6 has a cover Pl. length of 56'-0" (centered).
See elevation above for beams A1, A2, A3, A7, & A8 of span #1 and beams A1 & A2 of span #2.



COVER PLATE DETAIL

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

APPROVED: H Cavet
STRUCTURAL ENGINEER

JOB No. PW 990(19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

CITY OF DETROIT

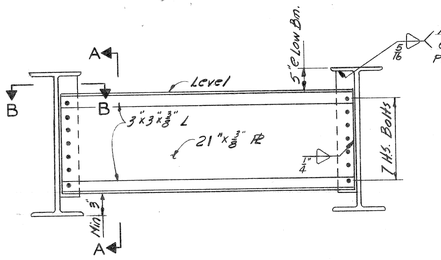
SQUAD BOSS	McGuire	9-70
DRAWN BY	JAU	
TRACED BY	R Rosik	07/70
CHECKED BY	JAU	9-70
SHEET 20 OF 33		

REVISIONS

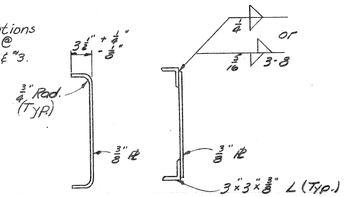
NO.	DESCRIPTION	DATE	BY
A	Misc Corrections	1-8-71	RFB

S24 of 82122K

01253A

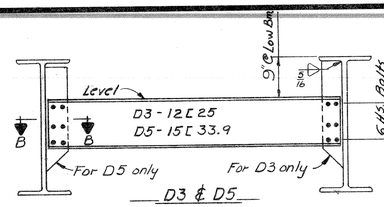


D1

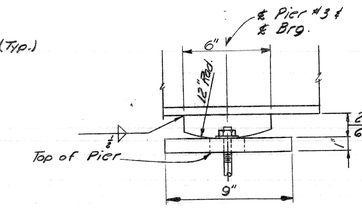


Either detail may be used

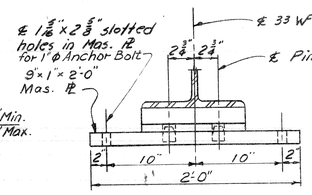
SECTION A-A



D3 & D5

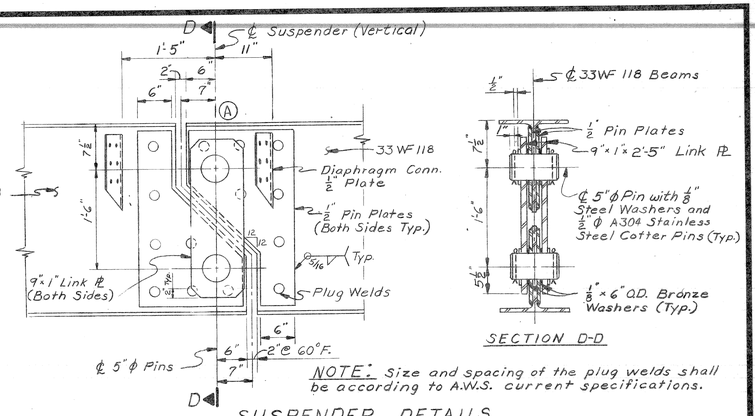


ELEVATION



SECTION

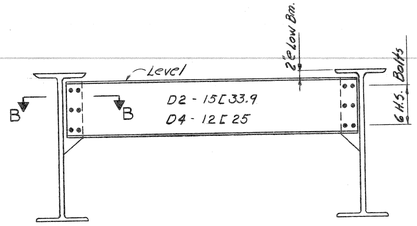
BEARING AT PIER #3



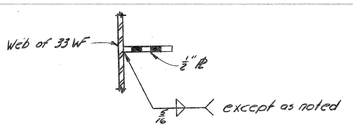
SECTION D-D

NOTE: Size and spacing of the plug welds shall be according to A.W.S. current specifications.

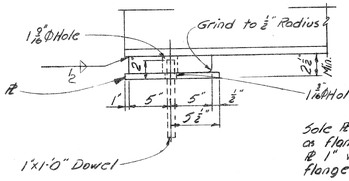
SUSPENDER DETAILS



D2 & D4

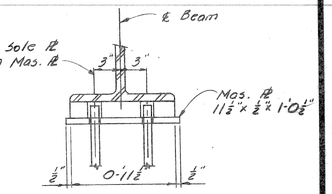


SECTION B-B



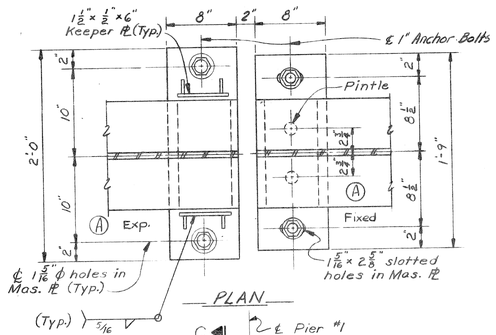
Sole PL same width as flange. Masonry PL 1" wider than flange.

ELEVATION

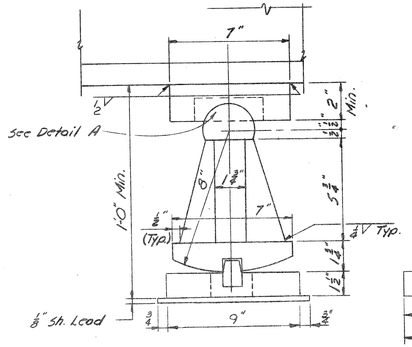


SECTION

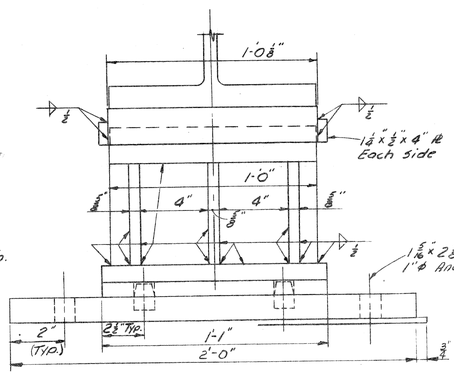
BEARING AT ABUTMENTS



PLAN

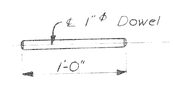


SECTION



END VIEW

BEARING AT PIER # 2

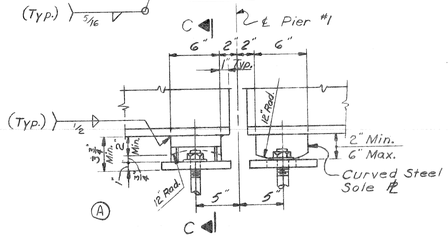


POSITION DOWEL DETAIL

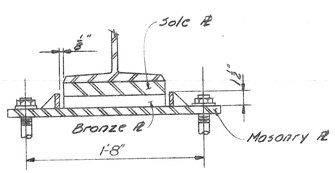
SOLE PL THICKNESS TABLE						
Beam	Abut. A	Pier #1		Pier #2	Pier #3	Abut. B
		Span #1	Span #2			
A	2"	2"	3½"	2"	2"	2"
B	3½"	4½"	5¼"	3¼"	3¼"	3"
C	4"	5"	6"	3¾"	3¾"	3¾"
D	3¼"	4¼"	5¼"	3"	3"	3"
E	2¾"	3¼"	4½"	2"	2"	2"
F	2¼"	3¼"	4¼"	2"	2"	2"
A1	2½"		5½"			
A2	2½"		3¼"			
A3	2½"					
A4	2½"	2"				
A5	5"	4"				
A6	2"	2"				
A7	4½"					
A8	2"					

NOTE: Sole Plate Thickness is given at ℄ of Bearing. Bevel Sole plate as shown on Beam Elevation.

Ⓐ

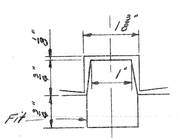


ELEVATION

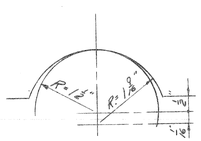


SECTION C-C

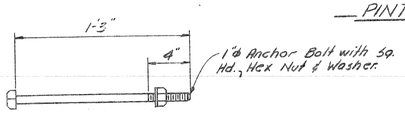
BEARING AT PIER #1



PINTLE DETAIL



DETAIL A



ANCHOR BOLT DETAIL

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 990 (19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

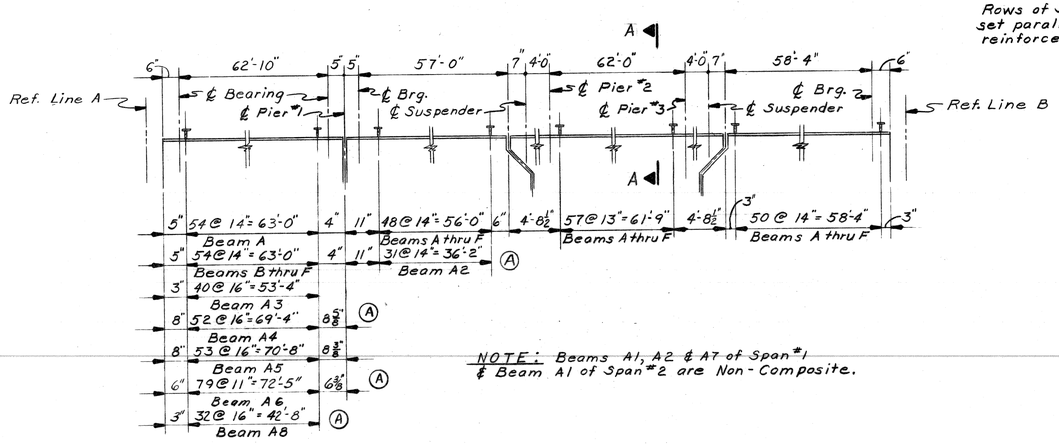
CITY OF DETROIT

REVISIONS			
NO.	DESCRIPTION	DATE	BY
B	Core Diaphram D1	2-4-71	APB
A	Misc Minor corrections	1-4-71	APB

SQUAD BOSS	[illegible]	10-70
DRAWN BY	A.S.	8-69
TRACED BY	JDH	9-70
CHECKED BY	APB	10-70
SHEET	1 OF 32	

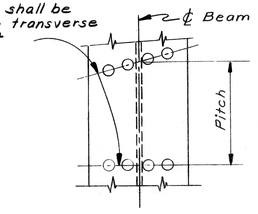
S24 of 82122K

01253A

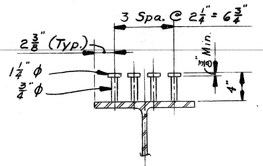


NOTE: Beams A1, A2 & A7 of Span #1 & Beam A1 of Span #2 are Non-Composite.

Rows of Studs shall be set parallel to transverse reinforcement

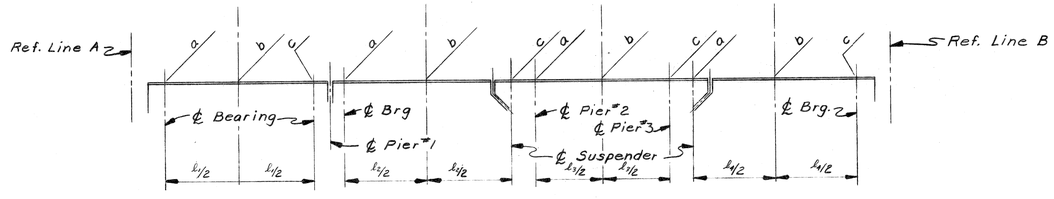


PLAN



SECTION A-A

STUD SHEAR DEVELOPERS



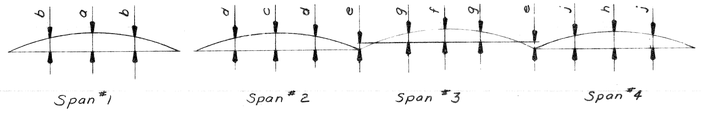
CAMBER TABLE

Beam	Span #1		Span #2		Span #3			Span #4	
	a	b	c	d	e	f	g	h	j
A	3¼"	2⅜"	2⅜"	1⅜"	1"	2⅛"	1⅝"	2"	1½"
B	3⅝"	2⅜"	2¼"	1⅜"	⅝"	2½"	1⅝"	2⅜"	1¾"
C	3"	2¼"	2½"	1⅝"	¾"	2⅜"	2⅛"	2¾"	2⅛"
D	3"	2¼"	2½"	1⅝"	¾"	2⅜"	2⅛"	2⅝"	2"
E	2⅞"	2⅛"	2½"	1⅝"	¾"	2¾"	2⅛"	2⅝"	2"
F	2½"	1⅞"	2⅛"	1⅝"	⅝"	2⅜"	1¾"	2¼"	1¾"
A1	-0-	-0-	-0-	-0-					
A2	-0-	-0-	-0-	-0-					
A3	1½"	1⅛"							
A4	-0-	-0-							
A5	-0-	-0-							
A6	1"	¾"							
A7	-0-	0-							
A8	-0-	0-							

BEAM ELEVATION TABLE

BEAM	SPAN #1			SPAN #2			SPAN #3			SPAN #4		
	a	b	c	a	b	c	a	b	c	a	b	c
A	146.31	147.25	147.73	147.75	148.23	148.36	148.40	148.42	148.12	148.07	147.63	146.93
B	146.37	147.36	147.88	147.90	148.36	148.47	148.50	148.56	148.22	148.15	147.76	147.01
C	146.43	147.42	147.94	147.96	148.43	148.50	148.55	148.63	148.26	148.19	147.85	147.07
D	146.37	147.36	147.88	147.90	148.37	148.44	148.48	148.57	148.20	148.12	147.77	147.01
E	146.29	147.26	147.80	147.82	148.28	148.36	148.40	148.47	148.12	148.04	147.69	146.93
F	146.29	147.23	147.80	147.82	148.26	148.37	148.40	148.44	148.12	148.05	147.66	146.93
A1	146.31	146.56	146.81	147.59	147.83	148.07						
A2	146.31	146.78	147.25	147.40	147.85	148.30						
A3	146.31	147.05	147.56									
A4	146.31	146.97	147.69									
A5	146.11	146.78	147.53									
A6	145.88	146.66	147.38									
A7	145.64	145.92	146.20									
A8	145.43	145.99	146.58									

NOTE: Elevations are top of steel elevations for Dead Load due to weight of beam only.



CAMBER DIAGRAM

TOP FLANGE CLIP DETAIL

STRUCTURAL STEEL NOTES

DESIGN M.D.S.H. Specifications for Design of Highway Bridges - 1958 edition and current AASHO Standard Specifications for Highway Bridges (H.S 20-44 Loading).

FABRICATION M.D.S.H. Standard Specifications for Highway Construction - 1970 edition.

SHOP CONNECTIONS shall be welded as shown on the plans.

FIELD CONNECTIONS shall be bolted with ¾" ϕ high strength bolts or ⅞" ϕ H.S. pin bolts.

CAMBER The beams are to have a parabolic camber as shown on the camber diagram. This camber is to be measured with the beam lying on its side. Heating is to be used, if necessary, to assure camber permanency within the tolerance shown. The dead load deflection of the beams alone is shown in the beam elevation table.

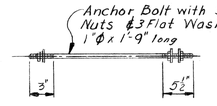
SOLE PLATES 3" or more in thickness may be built up by welding together plates not less than 1½" in thickness. Edges must be beveled ¼" and welded with a continuous weld for the full perimeter. Welds shall be ground flush with faces of plates.
All steel material used for bearings, with exception of portion welded to beams, shall be galvanized in accordance with ASTM Designation A123. Galvanizing shall be applied after fabrication of bearing. Mill scale and foreign material shall be removed prior to galvanizing.

WELDING Magnetic particle inspection of welds is required and shall consist of 100% inspection of not less than one fabricated section selected at random from each ten sections or fractions thereof.

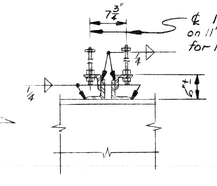
STEEL All structural steel shall be unpainted ASTM Designation A-588.
Position Dowels and Anchor Bolts (including nuts and washers) shall be galvanized in accordance with ASTM Designation A-153.
Steel in anchor bolts may be ASTM A-307.
Bronze for washers shall be ASTM B-100 or ASTM B22.

QUANTITIES The quantity "Structural Steel - Furnishing and Fabricating" includes:

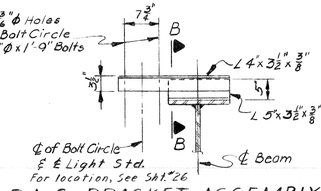
Bronze	300 lbs.
Lead	70 lbs.
Steel	319330 lbs.
Total Structural Steel - Furn'g. and Fabg. (A-588 Rolled)	319700 lbs.
Total Structural Steel, Erection (A-588 Rolled)	319700 lbs.
Shear Developers	Lump Sum



P.L.C. ANCHOR BOLTS



SECTION B-B



P.L.C. BRACKET ASSEMBLY

PLANS PREPARED BY
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CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990(19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

CITY OF DETROIT

SQUAD BOSS	M. Bourke	10-70
DRAWN BY	R. Rosik	09-70
TRACED BY	V.B.W.	9-70
CHECKED BY	A.V.K.	10-70

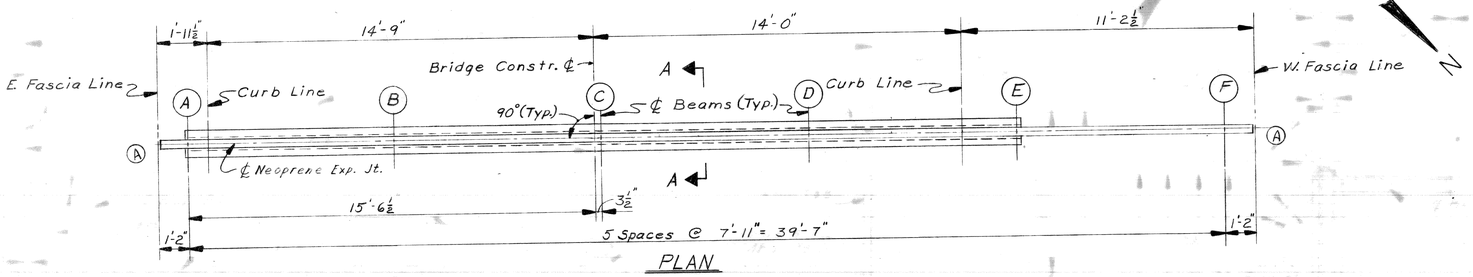
SHEET 22 OF 33

S24 of 82122K

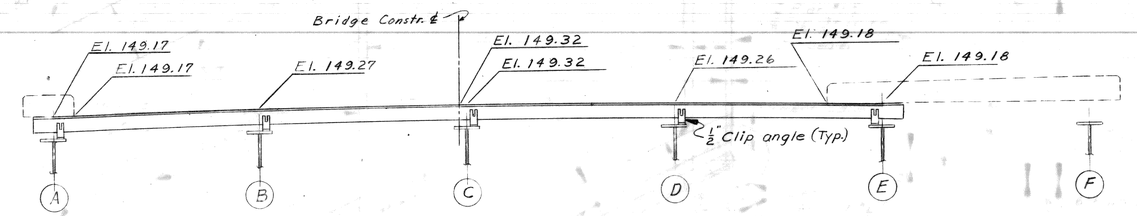
REVISIONS

NO	DESCRIPTION	DATE	BY
A	Correct Stud Shear Dev. Spg.	1-4-71	AFB

01253A



PLAN



ELEVATION

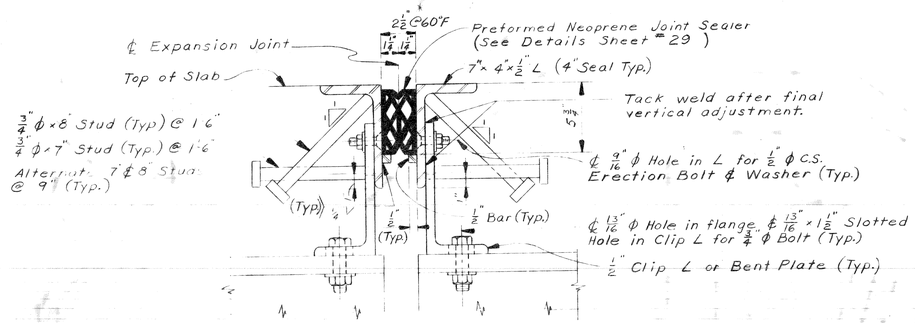
NOTES

The armor angles shall be bent in the shop to conform to the contour of the top of the roadway

Elevations given are along ℄ Expansion Joint @ ℄ Beams and Curb Lines before any concrete is poured

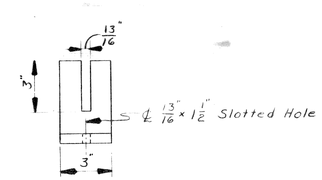
Preformed Neoprene Joint Sealer is included in Superstructure Quantities (Sht. #27).

Weight of Expansion Joint is included in Structural Steel Weight (Sht. #22).

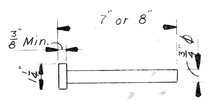


SECTION A-A

Increase by ¼" for each 10° of beam temperature below 60° for each 10' of slab length.



CLIP ANGLE



STUD

NOTE:
Space ¾" ϕ Studs at 1'-6", Alternate 7" & 8" Studs. ⅝" ϕ Studs may be used instead of ¾" ϕ Studs. The spacing of the ⅝" ϕ Studs shall be ⅔ of that shown for ¾" ϕ Studs.

REVISED BY
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DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____ STRUCTURAL ENGINEER

JOB NO. PW990(19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

NEOPRENE EXPANSION JOINT DETAILS

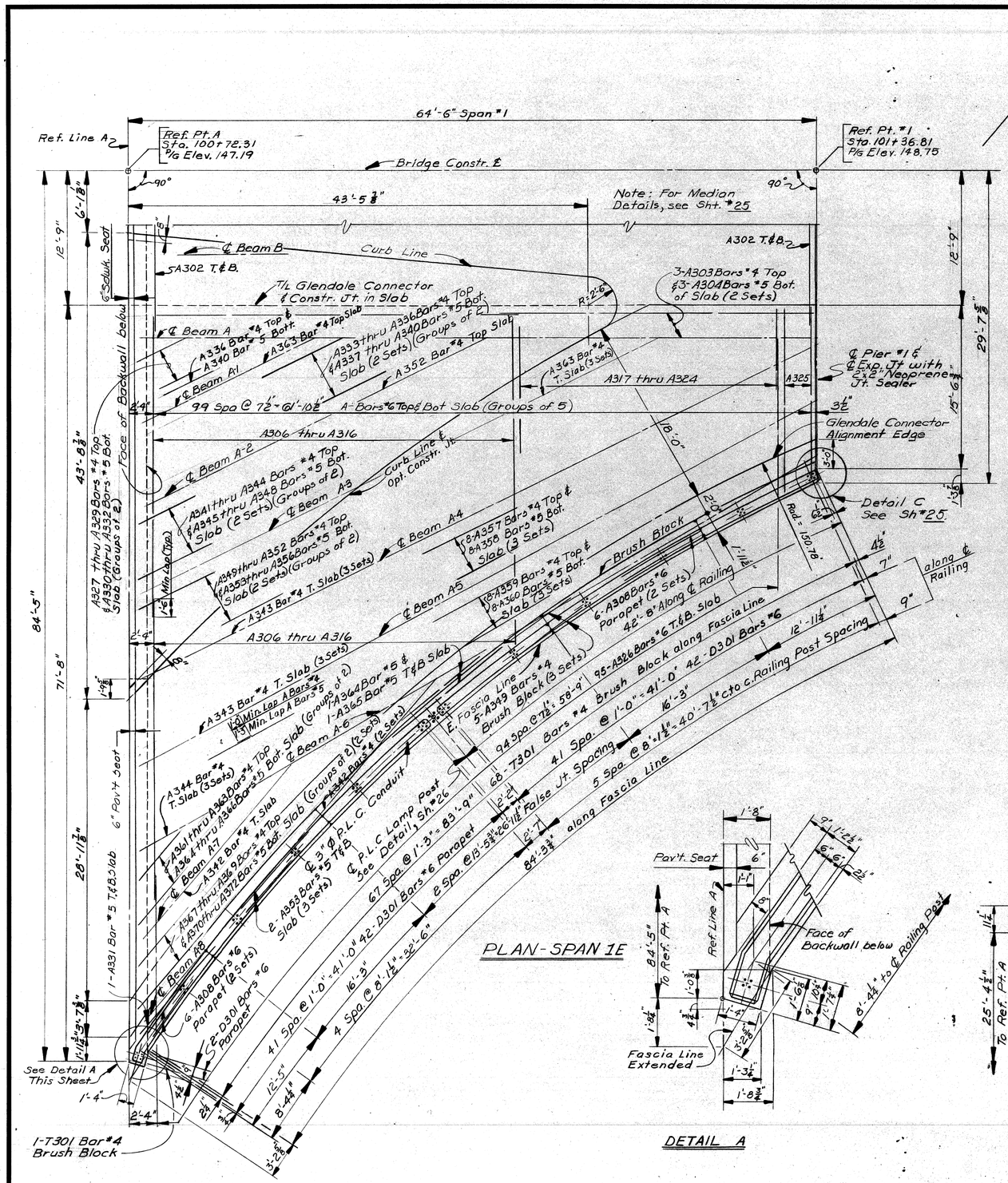
CITY OF DETROIT

REVISIONS			
NO.	DESCRIPTION	DATE	BY
A	Minor Detail Corrections	1-4-71	AFB

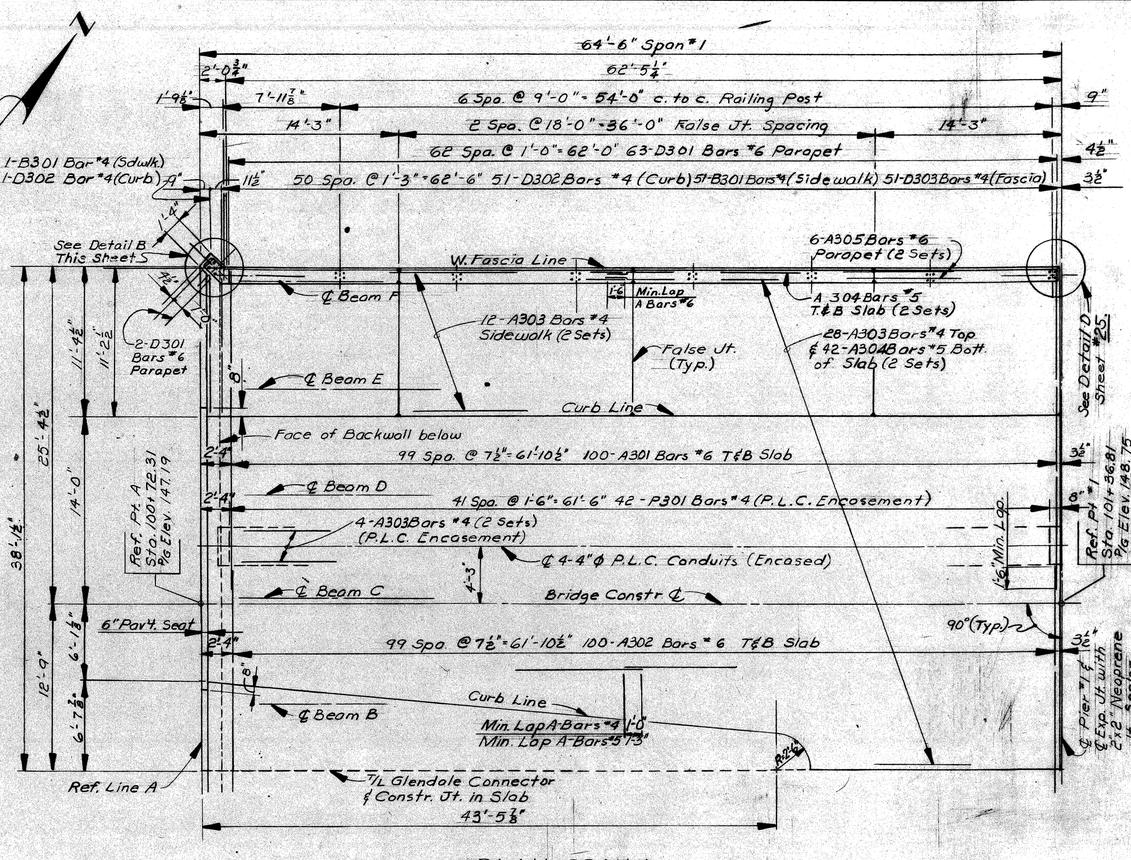
SQUAD BOSS
DRAWN BY R. Rosik 04/70
TRACED BY
CHECKED BY
SHEET 23 OF 33

S24 of 82122K

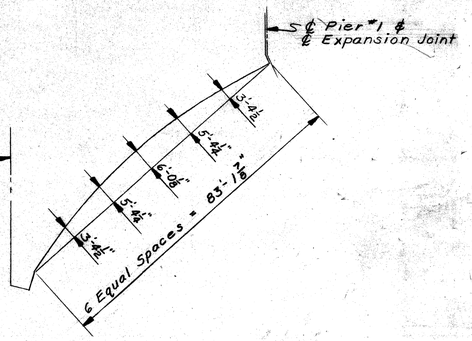
01253A



PLAN - SPAN 1E

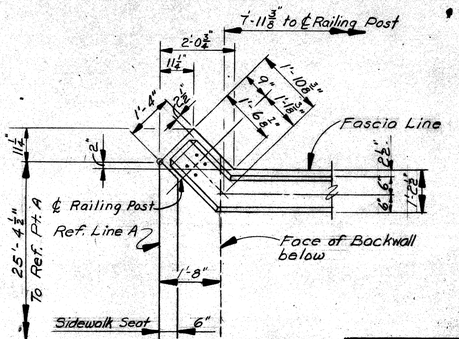


PLAN - SPAN 1W



FASCIA OFFSETS SPAN 1E

DETAIL A



DETAIL B

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APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 1191

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

SQUAD BOSS	M. Guest	9-70
DRAWN BY	O. Lyons	5-12-70
TRACED BY		
CHECKED BY	JM	9-70

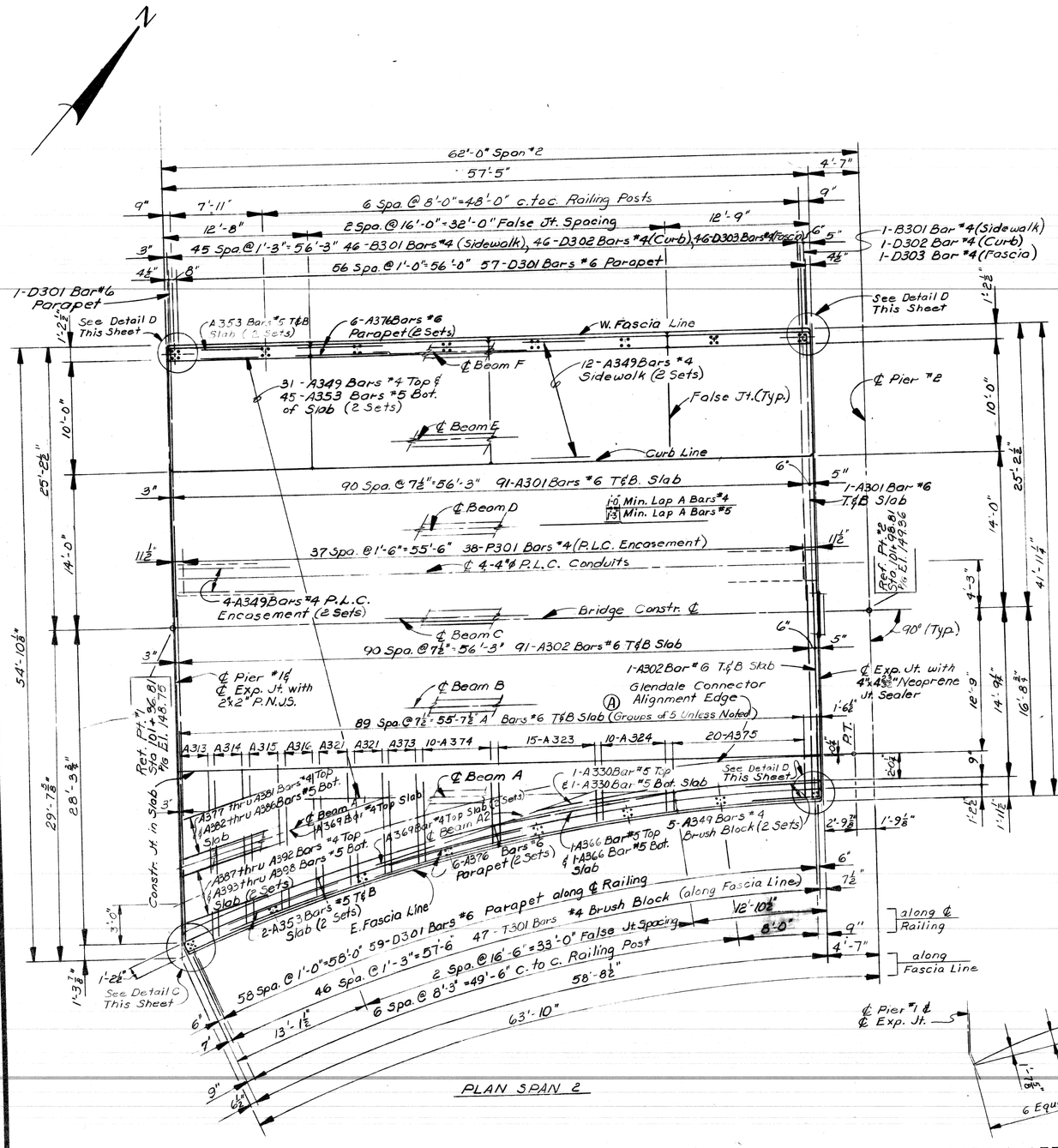
SHEET 24 OF 33

REVISIONS

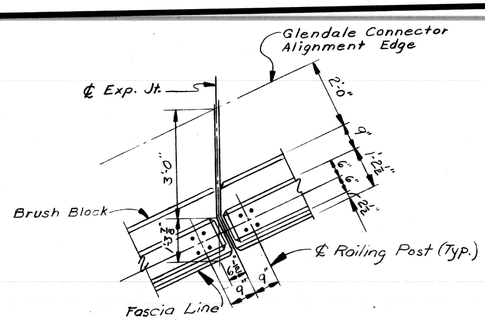
NO.	DESCRIPTION	DATE	BY

S24 of 82122K

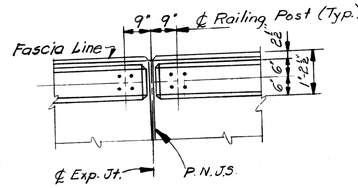
01253A



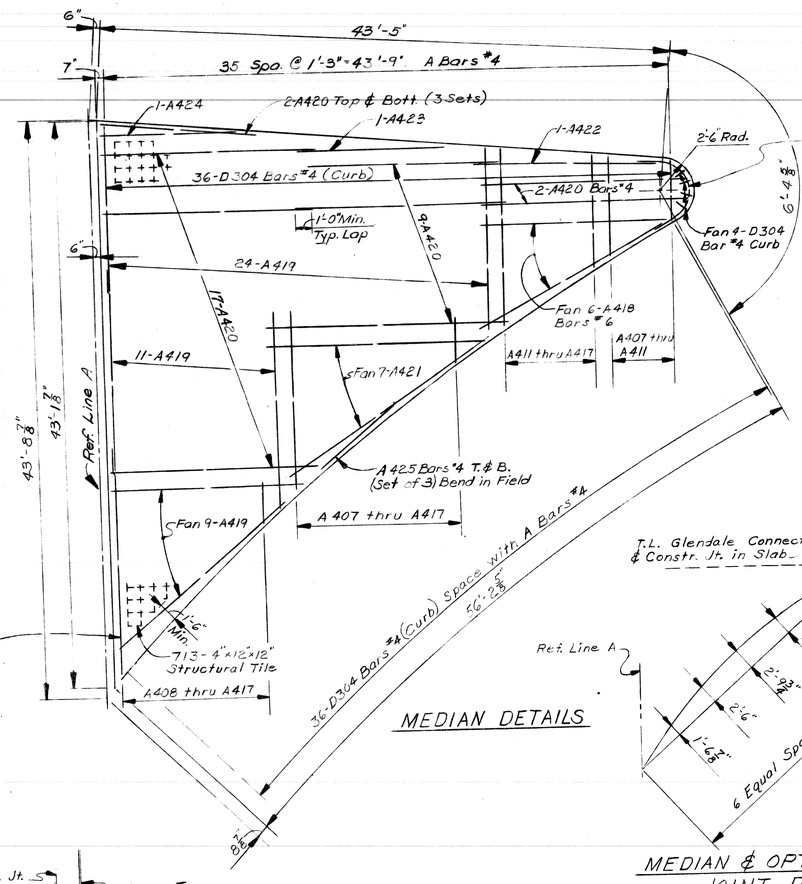
PLAN SPAN 2



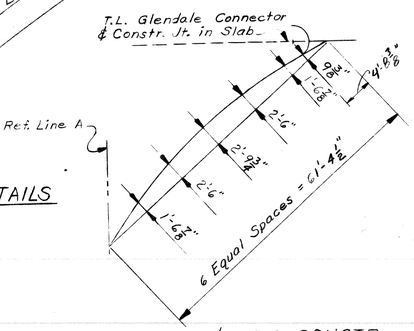
DETAIL C



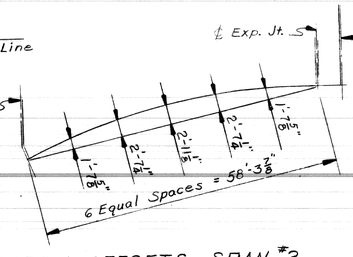
DETAIL D



MEDIAN DETAILS



MEDIAN & OPT. CONSTR. JOINT DETAILS



FASCIA OFFSETS SPAN #2

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

APPROVED 11 Carl
STRUCTURAL ENGINEER

JOB No. PW 990 M&H

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

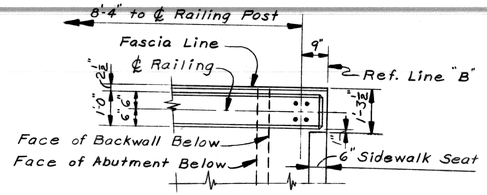
REVISIONS			
NO.	DESCRIPTION	DATE	BY
A	Cors notation - A Bar Spa. Sym. 2	1-4-71	AFB

SQUAD BOSS	M. Curtis	9-70
DRAWN BY	C. Shurtis	6-70
TRACED BY	JM	9-70
CHECKED BY	JM	9-70

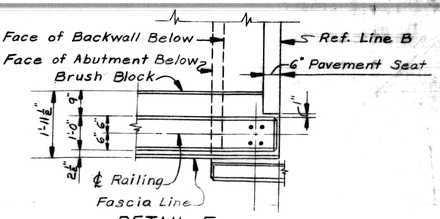
SHEET 25 OF 33

$24 of 82122K

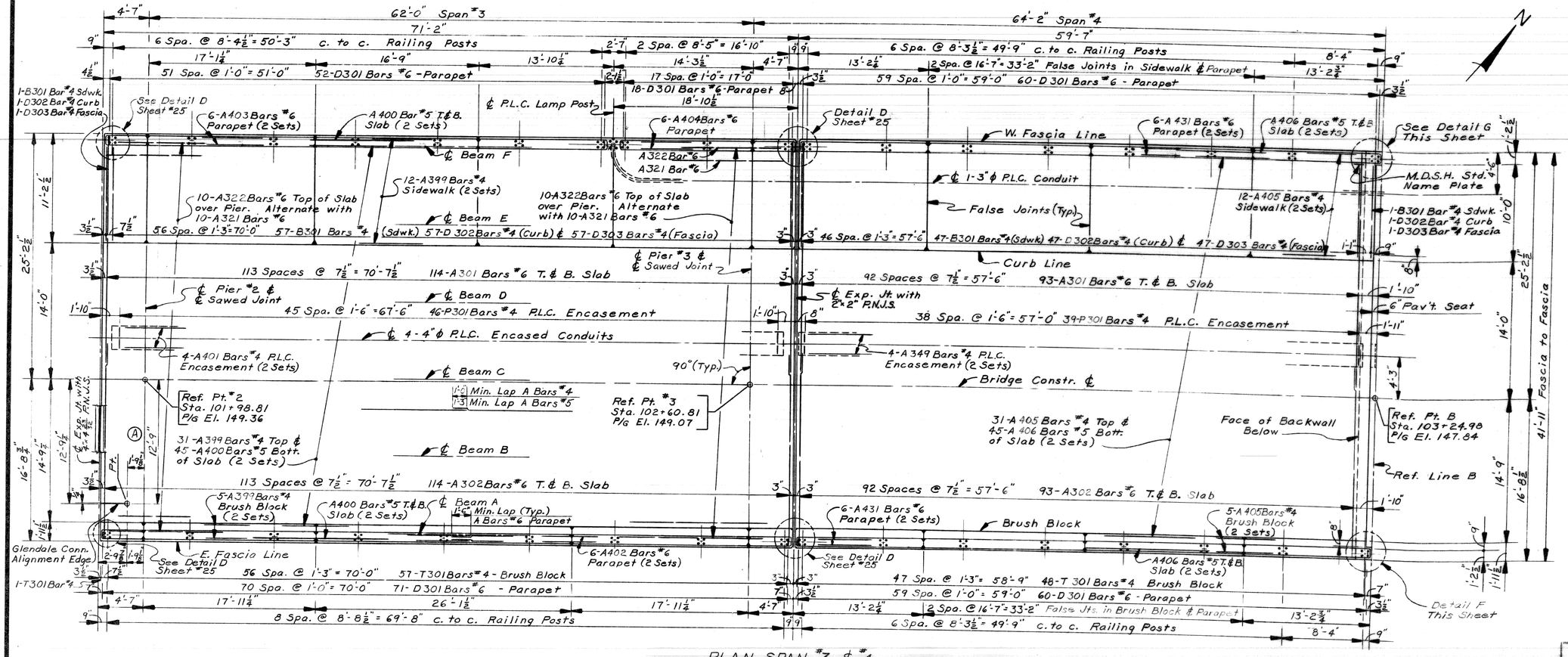
01253A



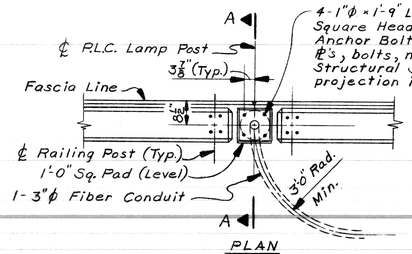
DETAIL G



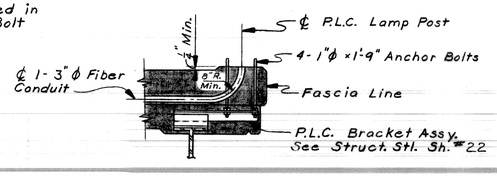
DETAIL F



PLAN SPAN #3 & #4



PLAN



SECTION A-A

P.L.C. LAMP POST BASE DETAILS

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990-(19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

SQUAD BOSS	M. Gunt	9-70
DRAWN BY	R. Rosik	05/70
TRACED BY		
CHECKED BY	JM	9-70

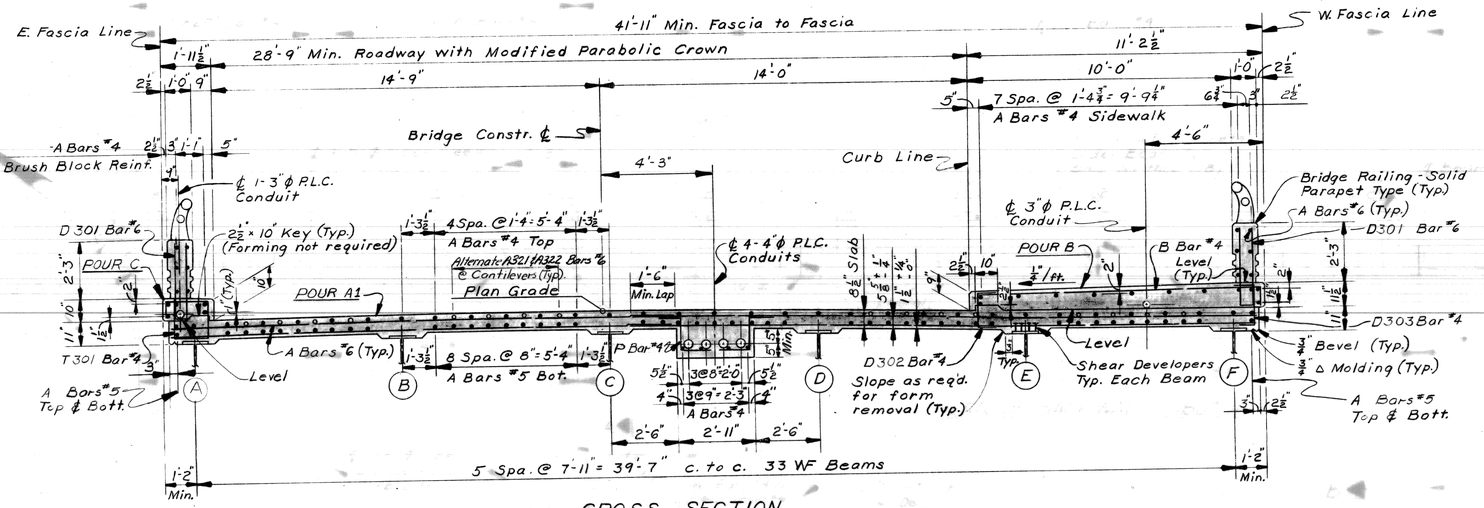
SHEET 26 OF 33

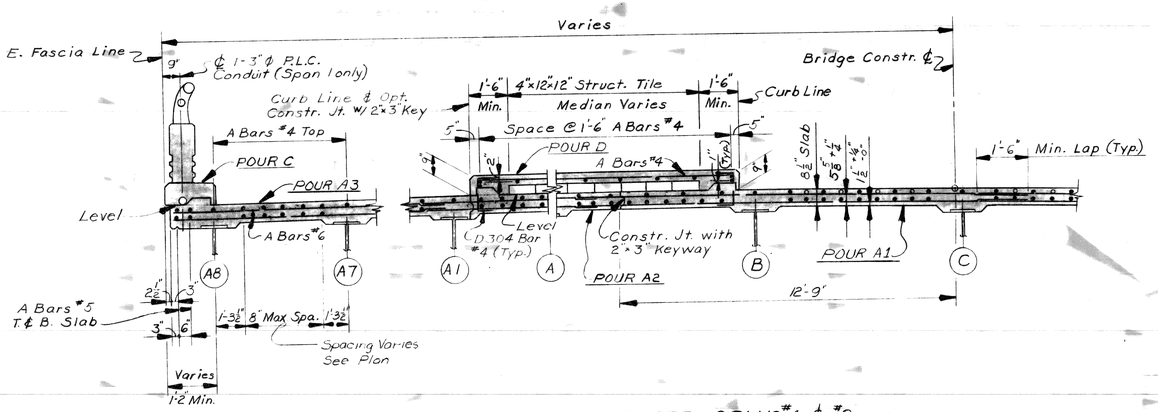
REVISIONS

NO.	DESCRIPTION	DATE	BY
A	Corr. dim. - See pl. @ Glendale Conn.	1-4-71	AFB

S24 of 82122K

01253A





SECTION @ EAST FASCIA TAPER - SPANS #1 & #2

Note: For details not shown, see Cross Section above.

CONCRETE QUANTITIES (cu.yds.)

POUR	Span 1	Span 2	Span 3	Span 4
A1	79.9	64.6	88.7	80.7
A2	29.1	14.1	—	—
A3	56.7	—	—	—
B	23.1	20.7	25.6	21.3
C	5.1	3.6	4.3	3.6
D	18.2	—	—	—

Total Concrete Grade A (6AA) = 539.3 cu.yds.

NOTE: Parapet Concrete = 44.1 cu.yds. (Gr. A 6AA) incidental to Bridge Railing - Solid Parapet Type and not a pay item

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT	
Water Reducing Retarding Admixture	Gal.	77	
Protective Treatment for Bridge Decks	Sq. Ft.	12,940	A
Structural Tile 4"x12"x12"	Each	713	
½" Joint Filler	Sq. Ft.	25	A
2" Preformed Neoprene Joint Sealer	Lin. Ft.	99	A
4" Preformed Neoprene Joint Sealer	Lin. Ft.	43	
Joint Waterproofing	Sq. Ft.	260	A
Bridge Railing Solid Parapet Type	Lin. Ft.	524.3	A
3" ϕ Conduits	Lin. Ft.	123	A
4" ϕ Conduits	Lin. Ft.	1011	

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

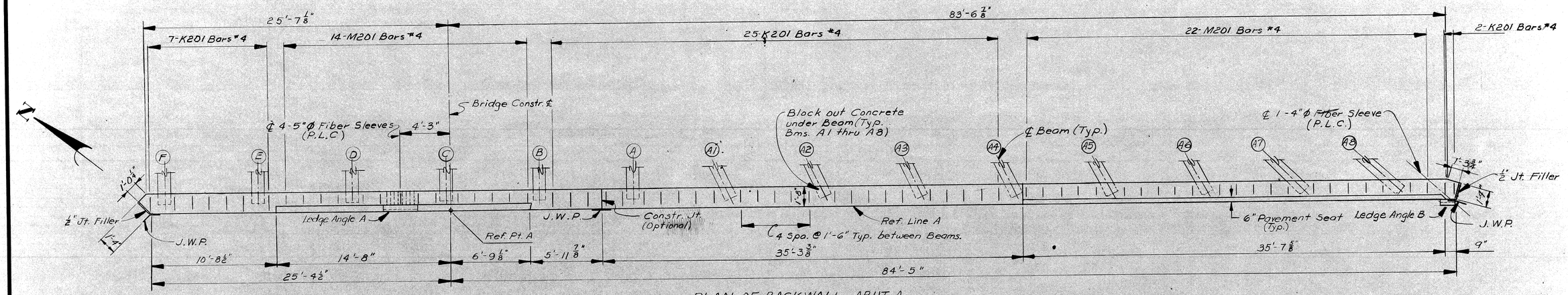
SUPERSTRUCTURE DETAILS

NO	REVISIONS DESCRIPTION	DATE	BY
A	Corr. Misc. Quantities	1-4-71	AEB

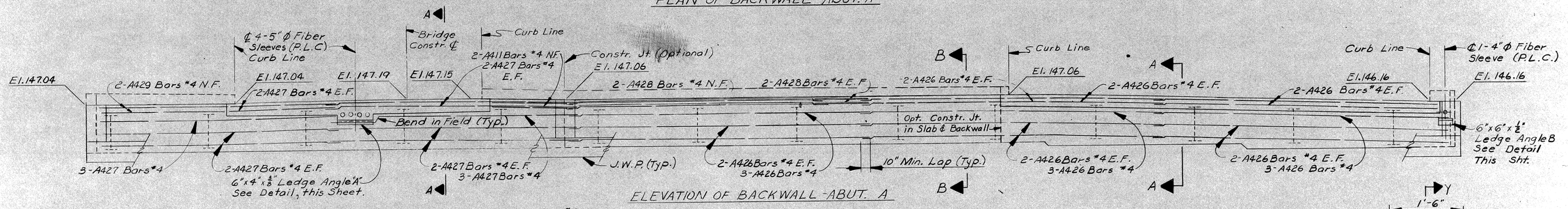
SQUAD BOSS _____ 9-70
DRAWN BY _____
TRACED BY _____
CHECKED BY _____ 9-70
SHEET 27 OF 82

S24 of 82122K

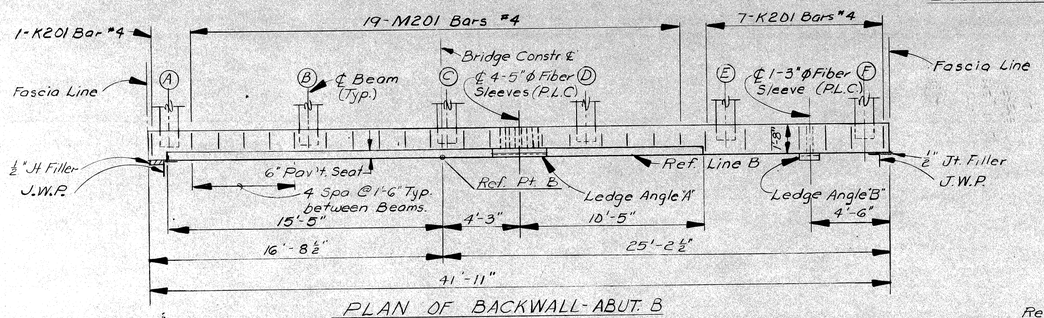
01253A



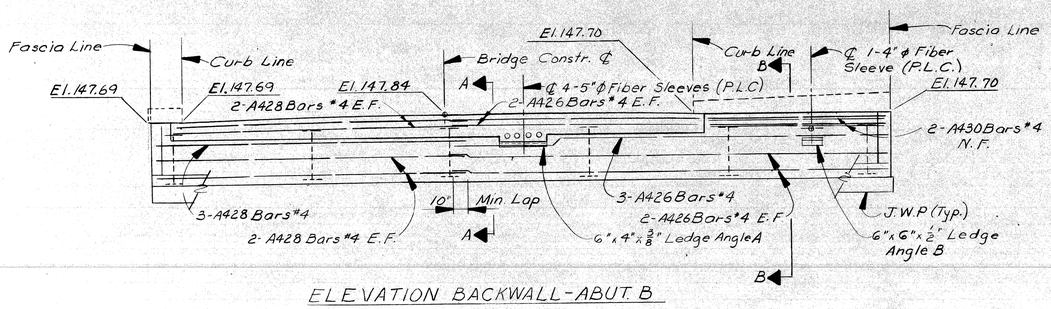
PLAN OF BACKWALL - ABUT. A



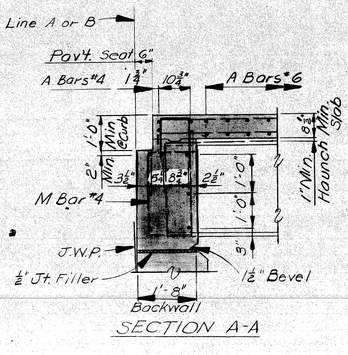
ELEVATION OF BACKWALL - ABUT. A



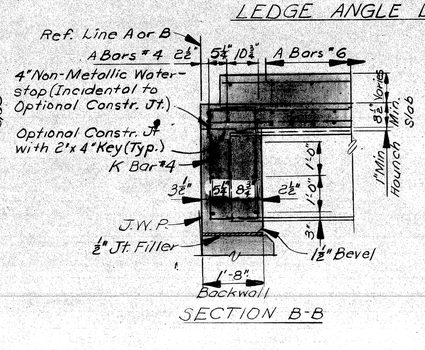
PLAN OF BACKWALL - ABUT. B



ELEVATION BACKWALL - ABUT. B



SECTION A-A



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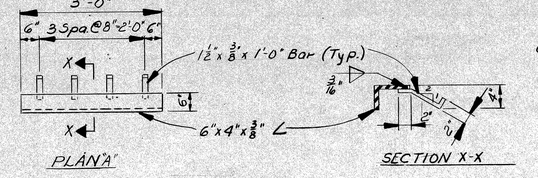
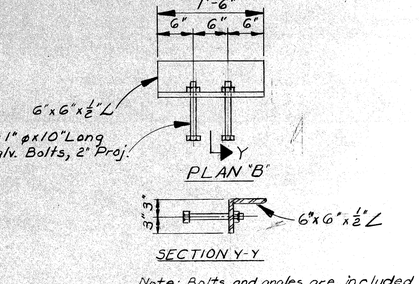


PLAN "A"

SECTION X-X

LEDGE ANGLE DETAILS



Note: Bolts and angles are included in Structural Steel Weights.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 990 (19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

SQUAD BOSS	M. Gurc	9-70
DRAWN BY	O. Lyons	5-14-70
TRACED BY		
CHECKED BY		9-70

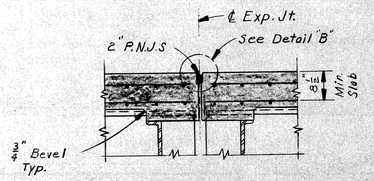
SHEET 28 OF 33

REVISIONS

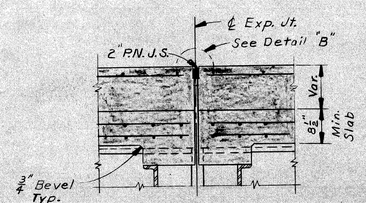
NO.	DESCRIPTION	DATE	BY

S24 of 82122K

01253A



SECTION THRU SLAB
@ 2 EXP. JT.



SECTION THRU WALK
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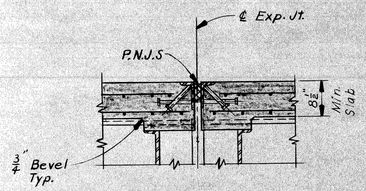

SECTION THRU SLAB
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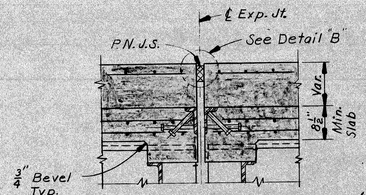
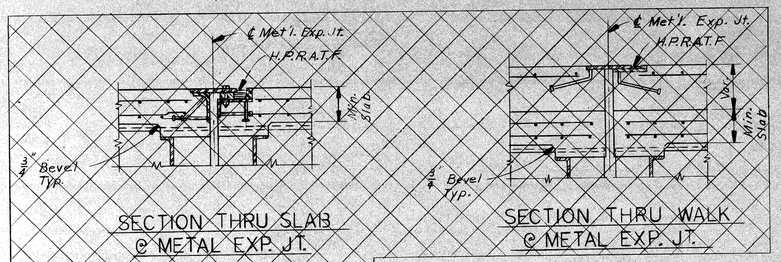
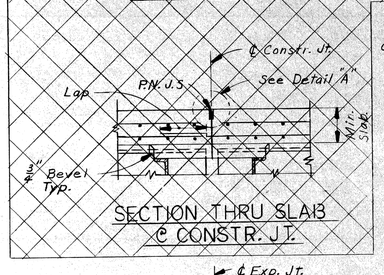


SECTION THRU WALK
@ 3 OR 4" EXP. JT.

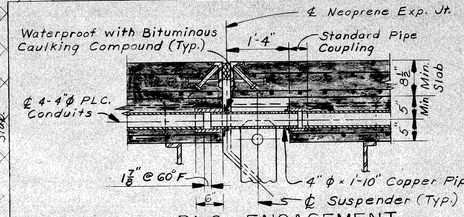


SECTION THRU SLAB
@ METAL EXP. JT.

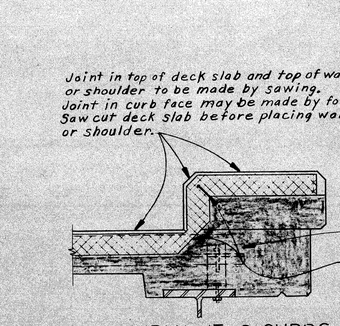
SECTION THRU WALK
@ METAL EXP. JT.



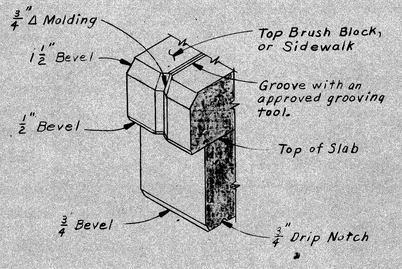
SECTION THRU SLAB
@ CONSTR. JT.



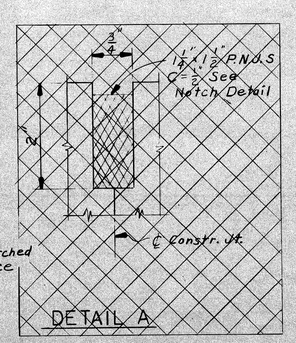
P.L.C. ENCASEMENT
@ SUSPENDER



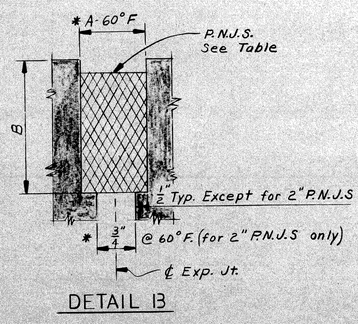
EXPAN. JT. @ CURBS
(SHOWN @ BRUSHBLOCK
SIMILAR @ WALK)



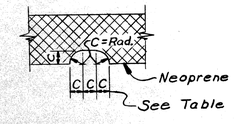
FASCIA MOLDING DETAIL



DETAIL A



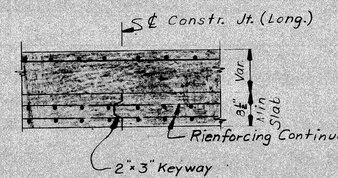
DETAIL B



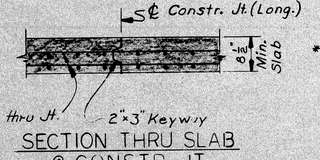
TYPICAL NOTCH

JOINT DIMENSIONS				
Sealer Size		Joint Size		Notch
Wd.	Dpth.	A	B	C
2"	2"	1¼" ± 1/16"	2¾"	½"
3	3 3/32"	1⅝" ± 1/16"	4 3/8"	1"
4"	4 23/32"	2 1/2" ± 1/16"	5¼"	1"

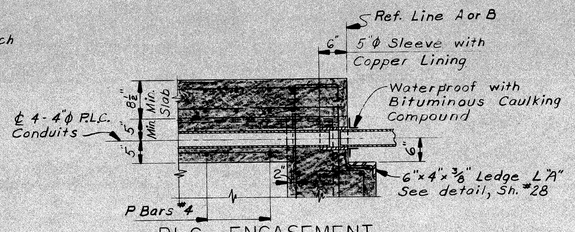
* Increase by 1/16" for each 10° of beam temperature below 60°F. for each 70' of slab length or decrease by 1/16" for each 10° of beam temperature above 60°F. for each 70' of slab length (slab length is measured at right angles to joint.)



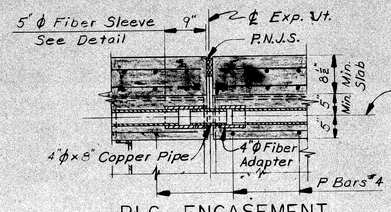
SECTION THRU WALK OR
MEDIAN @ CONSTR. JT.



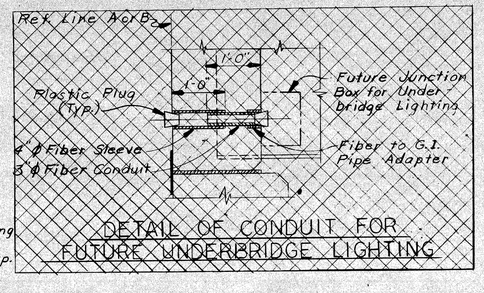
SECTION THRU SLAB
@ CONSTR JT.



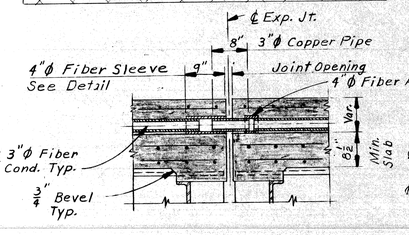
P.L.C. ENCASEMENT
@ ABUTMENT



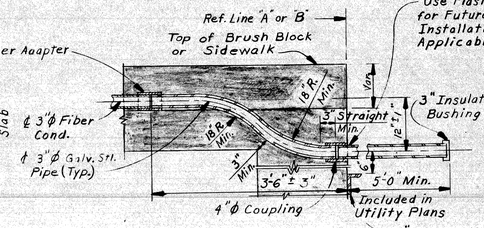
P.L.C. ENCASEMENT
@ EXP. JT.



DETAIL OF CONDUIT FOR
FUTURE UNDERBRIDGE LIGHTING

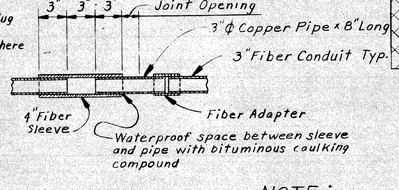


P.L.C. CONDUIT DETAIL
@ EXP. JT.



P.L.C. CONDUIT DETAIL
@ BACKWALL

NOTE:
Use Plastic Plug for Future Installation where Applicable



SLEEVE DETAIL

NOTE:
The contractor will furnish and place all the materials. Sleeves, copper pipe, adapters, couplings, galvanized steel conduit, bushings, plug and waterproofing are incidental to the item 3" or 4" Fiber Conduit.

GENERAL NOTES

P.L.C. denotes Public Lighting Commission. J.W.P. denotes Joint Waterproofing. N.F. denotes near face. E.F. denotes each face. F.F. denotes face. H.P.R.A.T.F denotes Hot Poured Rubber Asphalt Type Filler. P.N.J.S. denotes Preformed Neoprene Joint Sealer.

For Bevel, Molding, and Railing details, see M.D.S.H. Standard sheet R16.

Edge and Groove denotes Edging and Grooving with an approved tool.

Sidewalk pours shall not be cast until slab concrete has attained at least 50% of its design strength as determined in Section 7.01.05 of the Standard Specifications.

Alphabetical designation of pours is not to be construed as a pour sequence.

The contractor is to provide a sawed joint ½" deep by ⅛" wide (min.) in the top of slab over and parallel to the ℄ of pier. The sawed joint where called for on the plan is to be sawed before casting of sidewalk, brush block or median and is to be tilled with H.P.R.A.T.F. The sawing and H.P.R.A.T.F. are incidental to superstructure concrete.

For name plate mounting details see M.D.S.H. Standard sheet R16. For location of name plate see Sheet # 7&26.

P.N.J.S. denotes Preformed Neoprene Joint Sealer.
T denotes Top and B or Bot. denotes Bottom.

Protective Treatment for Bridge Decks is to be applied to all superstructure concrete surfaces between inside faces of Parapet.

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 990(19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

REVISIONS

NO	DESCRIPTION	DATE	BY

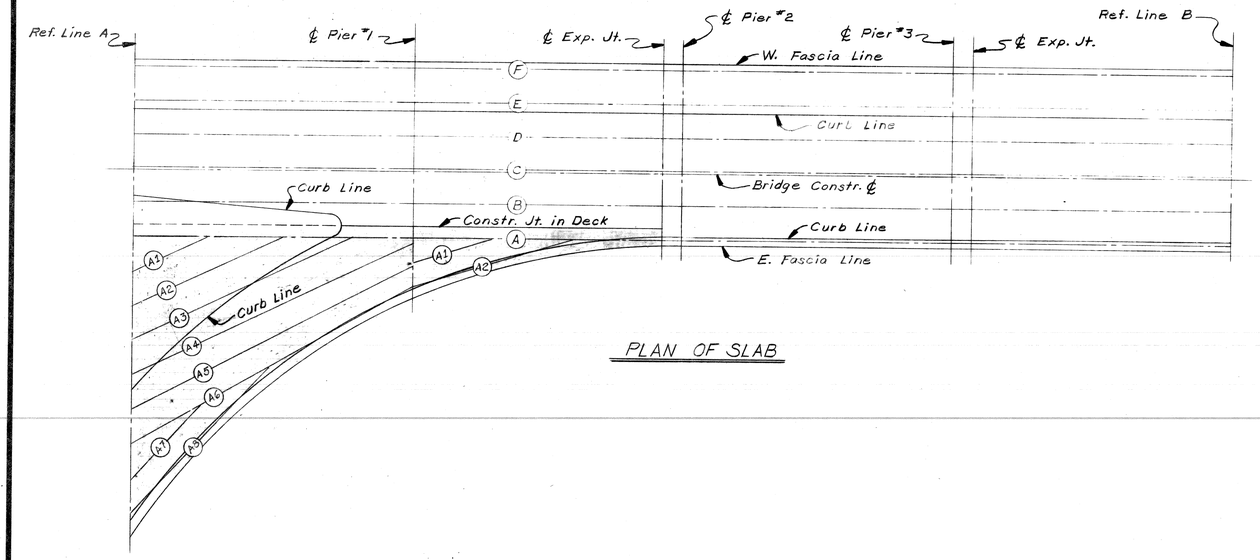
CITY OF DETROIT

SQUAD BOSS	McBurney	9-70
DRAWN BY	K.R.	7-70
TRACED BY		
CHECKED BY	J.M.	9-70

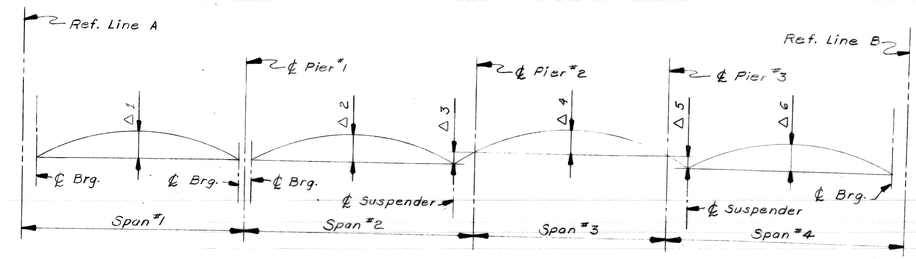
SHEET 29 OF 33

S24 of 82122K

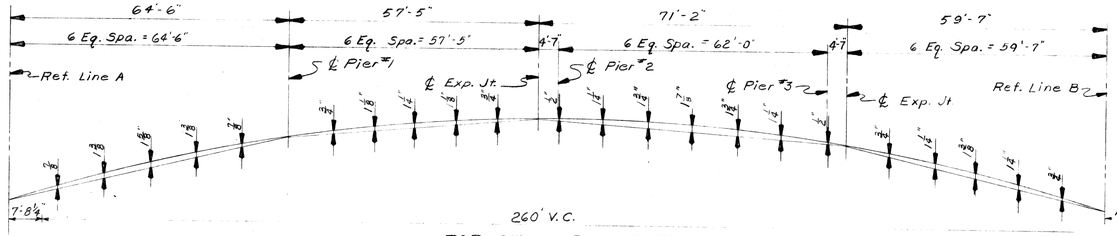
01253A



PLAN OF SLAB



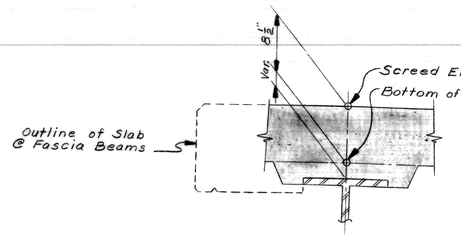
CAMBER DIAGRAM



TOP OF SLAB OFFSETS

CAMBER ORDINATES (Inches Top of top flange)

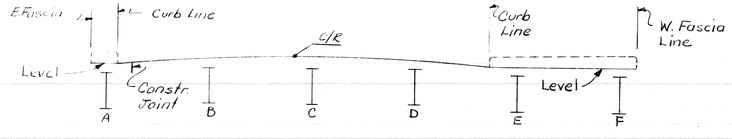
Location	Loading Case	Beams A	B	C	D	E	F
△ 1	I	2 7/8"	2 2/3"	2 3 3/8"	2 3 3/8"	2 2 5/8"	2 2 1/4"
	II	2 1/2"	2 1/16"	2 2 9/16"	2 2 9/16"	2 2 7/16"	2 2 1/8"
	III	1"	1 5/16"	1 1/16"	1 1/16"	1 1/16"	1 1/16"
△ 2	I	2 1/8"	2 1/8"	2 2 3/8"	2 2 3/8"	2 2 3/8"	2"
	II	2 1/16"	1 15/16"	2 2 1/4"	2 2 1/4"	2 2 3/16"	1 7/8"
	III	1"	1"	1 1/8"	1 1/8"	1 1/8"	1 1/8"
△ 3	I	9/16"	5/8"	3/4"	3/4"	11/16"	9/16"
	II	9/16"	5/8"	11/16"	11/16"	11/16"	9/16"
	III	7/16"	7/16"	1/2"	1/2"	1/2"	7/16"
△ 4	I	2"	2 7/16"	2 2 3/4"	2 2 3/4"	2 2 5/8"	2 2 1/4"
	II	1 7/8"	2 3/16"	2 2 7/16"	2 2 9/16"	2 2 7/16"	2 2 1/8"
	III	1 5/16"	1 1/4"	1 1 7/16"	1 1 7/16"	1 1 7/16"	1 1 3/16"
△ 5	I	9/16"	5/8"	3/4"	3/4"	11/16"	9/16"
	II	9/16"	5/8"	11/16"	11/16"	11/16"	9/16"
	III	7/16"	7/16"	1/2"	1/2"	1/2"	7/16"
△ 6	I	1 13/16"	2 3/16"	2 2 5/8"	2 2 1/2"	2 2 7/16"	2 2 7/16"
	II	1 3/4"	2 1/16"	2 2 1/4"	2 2 5/16"	2 2 1/8"	2" (A)
	III	1"	1"	1 1/4"	1 1/8"	1 1/8"	1 1/8" (A)



TYPICAL SECTION AT EACH BEAM

BOTTOM OF SLAB ELEVATIONS (Add 140.00)

	SPAN #1							SPAN #2							SPAN #3							SPAN #4						
Beam	℄ Brg.	1/6	2/6	3/6	4/6	5/6	℄ Brg.	℄ Brg.	1/6	2/6	3/6	4/6	5/6	℄ Exp. Jt	℄ Brg.	1/6	2/6	3/6	4/6	5/6	℄ Brg.	℄ Exp. Jt	1/6	2/6	3/6	4/6	5/6	℄ Brg.
A	6.39	6.78	7.13	7.42	7.64	7.71	7.83	7.84	8.04	8.21	8.34	8.41	8.45	8.44	8.49	8.53	8.54	8.51	8.45	8.34	8.21	8.15	8.05	7.92	7.75	7.54	7.29	7.01
B	6.46	6.84	7.18	7.46	7.68	7.85	7.98	8.00	8.19	8.35	8.47	8.54	8.57	8.57	8.59	8.65	8.67	8.65	8.58	8.46	8.31	8.25	8.16	8.05	7.88	7.67	7.41	7.11
C	6.52	6.90	7.24	7.52	7.75	7.91	8.04	8.05	8.25	8.42	8.54	8.61	8.63	8.61	8.65	8.71	8.74	8.71	8.64	8.52	8.36	8.29	8.22	8.11	7.95	7.74	7.47	7.17
D	6.45	6.84	7.18	7.47	7.69	7.85	7.97	7.99	8.19	8.35	8.47	8.54	8.56	8.55	8.58	8.64	8.67	8.65	8.58	8.46	8.30	8.23	8.16	8.05	7.89	7.67	7.41	7.10
E	6.37	6.75	7.09	7.37	7.60	7.76	7.89	7.90	8.10	8.26	8.38	8.45	8.48	8.47	8.50	8.56	8.58	8.56	8.49	8.37	8.22	8.15	8.07	7.96	7.80	7.58	7.32	7.02
F	6.37	6.73	7.05	7.33	7.56	7.74	7.89	7.90	8.09	8.24	8.36	8.43	8.47	8.48	8.50	8.55	8.56	8.53	8.46	8.36	8.22	8.16	8.06	7.93	7.76	7.55	7.30	7.02
	(A)	(A)	(A)	(A)	(A)																				(A)			



(A) SCREED TEMPLATE

SCREED TEMPLATE ELEVATIONS

Beam	Constr. Jt.	A	B	C	D	E	F
Ref. Line A	147.06	—	147.13	147.19	147.12	147.04	147.04
℄ Pier #1	148.62	—	148.69	148.75	148.69	148.61	148.61
℄ Exp. Jt. (2)	149.21	149.17	149.27	149.32	149.26	149.18	149.18
℄ Exp. Jt. (4)	—	148.85	148.94	149.00	148.93	148.85	148.86
Ref. Line B	—	147.69	147.79	147.84	147.78	147.70	147.70
	(A)				(A)	(A)	

GENERAL NOTES

Use longitudinal strike-off finishing machine in placing slab concrete, except shaded area use transverse screeding.

Concrete in the suspended span is to be cast before concrete in the anchor span.

Screed Elevations and Screed Template Elevations are based on the condition that no deck concrete has been cast and that form-work, steel reinforcement, and shear developers are in place.

Screeds affected by loads in the other span are to be set to the elevations shown before casting any concrete.

After screeds are set, it a check indicates that less than the minimum slab thickness will be obtained, adjust the screeds accordingly

Top of Slab Offsets are measured from a straight line between transverse joints at equal intervals across spans and include vertical curve ordinates and allowance for deflections due to sidewalk, brush block median, and railing.

Girder Camber Ordinates at the following cases:

Case I - Structural Steel erected and no other loads applied.

Case II - Forms, shear developers, and steel reinforcement in place on structural steel. (All spans complete.)

Case III - Deck concrete cast, sidewalk, brush block, median and railing in place on structural steel. (All spans complete with forms removed.)

Bottom of slab elevations are based on the condition that all structural steel has been erected, but no other loads applied.

These elevations include allowance for deflections due to forms, steel reinforcement, deck concrete, sidewalk, brush block, median and railing.

PLANS APPROVED BY CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

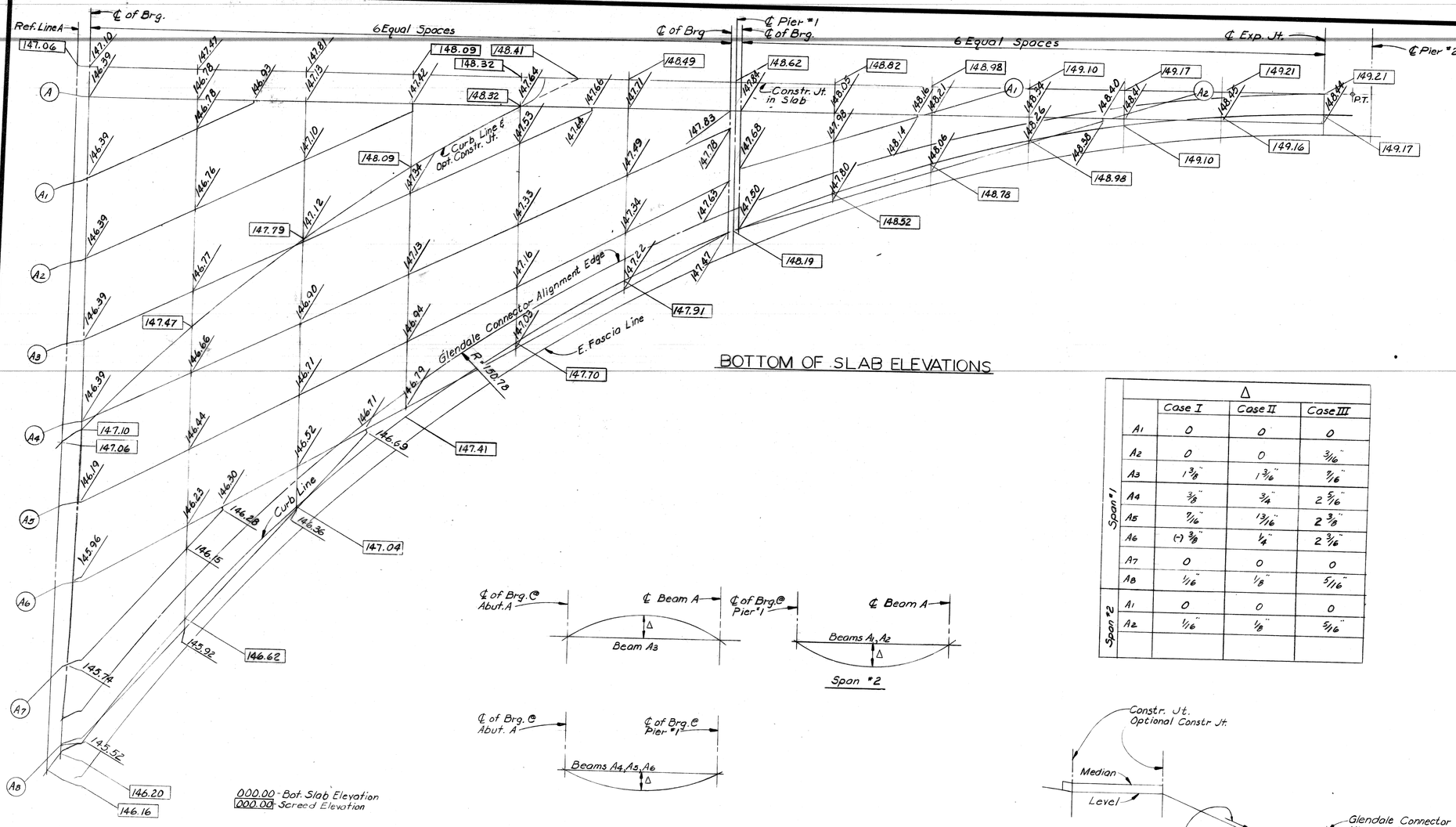
REVISIONS			
NO.	DESCRIPTION	DATE	BY
A	Corr. Both/Slab & Screed Ord. etc.	1-4-71	RFB

SQUAD BOSS	M. Quire	9-70
DRAWN BY	R. Rook	10/70
TRACED BY	J.E.S.	9-70
CHECKED BY	J.W.	9-70

SHEET 30 OF 33

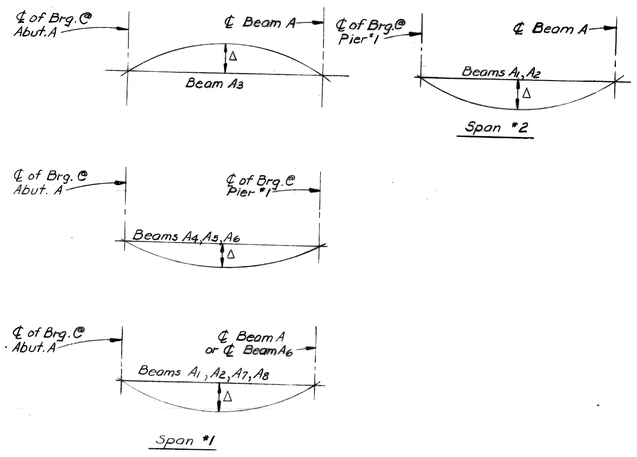
STATE PROJECT 82122K

01253A

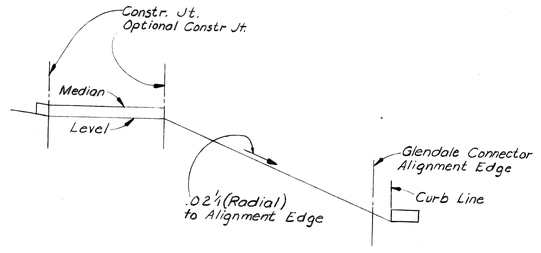


BOTTOM OF SLAB ELEVATIONS

		Δ		
		Case I	Case II	Case III
Span #1	A1	0	0	0
	A2	0	0	3/16"
	A3	1 3/8"	1 3/16"	1/16"
	A4	3/8"	3/4"	2 5/16"
	A5	1/16"	1 3/16"	2 3/8"
	A6	(-) 3/8"	1/4"	2 3/16"
	A7	0	0	0
	A8	1/16"	1/8"	5/16"
Span #2	A1	0	0	0
	A2	1/16"	1/8"	5/16"



CAMBER DIAGRAM



SCREED TEMPLATE

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

CITY OF DETROIT

REVISIONS			
NO.	DESCRIPTION	DATE	BY
A	Corr. Bott. Slab Elev's.	1-4-71	AEB

SQUAD BOSS	McGraw	9-70
DRAWN BY	O. Ayers	9-70
TRACED BY		
CHECKED BY		
SHEET 31 OF 33		

S24 of B2122K

01253A

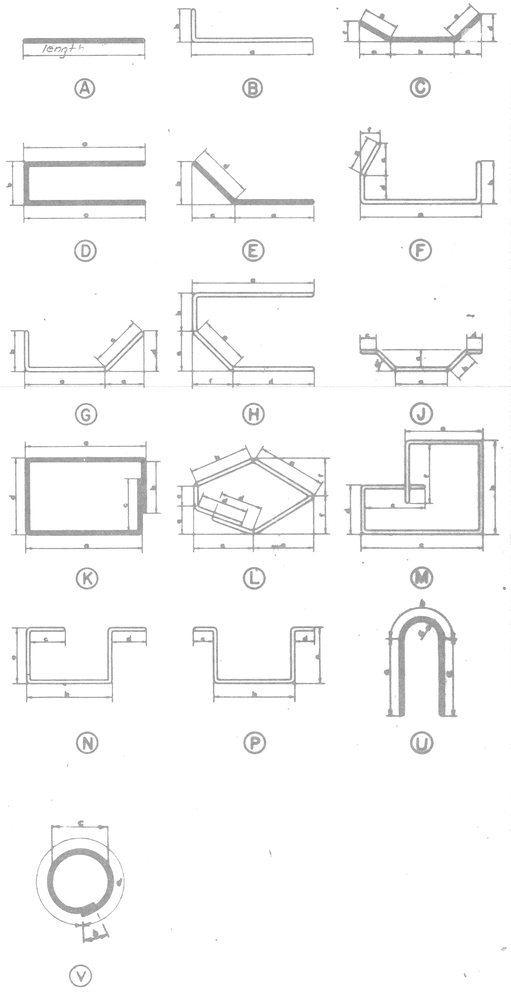
PIERS

BAR	DIMENSIONS a	b	c	d	e	f	g	h	SIZE	LGTH.	NUMBER REQ'D PIER 1	PIER 2	PIER 3	TOTAL	TOTAL WT.
A201									#8	20'-3"	10	4	4	18	973
A202									#8	34'-9"	6			6	557
A203									#6	7'-6"	36	28	28	92	1036
A204									#6	18'-6"	8			8	222
A205									#6	33'-6"	8			8	403
A206									#8	33'-6"	4			4	358
A207									#9	13'-3"	40			40	1802
A208									#9	9'-0"	40			40	1224
A209									#6	2'-3"	4	4	4	12	41
A210									#7	20'-6"	12	6	6	24	1006
A211									#6	20'-3"	8	12	12	32	973
A212									#7	35'-3"	12			12	865
A213									#6	35'-3"	8			8	424
A214									#7	20'-0"		6	6	12	491
A215									#7	22'-9"		6	6	12	558
A216									#6	20'-6"		16	16	32	985
A217									#8	21'-6"		4	4	8	459
A218									#9	13'-6"		32	32	64	2938
A219									#9	8'-9"		32	32	64	1904
A220									#7	23'-3"		6	6	12	570
A221									#6	23'-3"		12	12	24	838
A222									#6	5'-0"	72	56	56	184	1382
A223									#6	4'-6"	2	2	2	6	41
C201	2'-2½"	2'-7"	2'-2½"	5½"	2'-4½"	5½"	2'-4½"		#6	7'-3"	28	21	21	70	762
D201	2'-6"	3'-1"							#6	8'-0"	4	4	4	12	144
D202	2'-3"	4'-7"							#4	9'-0"	4	4	4	12	72
Ⓐ E201	2'-6"	1'-7"	1'-7"	2'-3"					#6	4'-9"	70	54	54	178	1270
Ⓐ K201	3'-2"	1'-4½"	1'-4½"	1'-6"					#5	10'-6"	66	50	50	166	1818
Ⓐ V201	1'-6"	3'-6"	1'-1½"						#6	6'-6"	6	6	6	18	176
V201	5'-11"	10"	1'-10⅜"						#4	6'-9"	50	44	44	138	622

TOTAL PIERS = 24,914 lbs.

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

BAR BENDING DIAGRAM



Note :—
All right angle bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.
All bar numbers on this sheet to be prefixed S24

Tolerances in cutting and bending bars are as established in Manual of Standard Practices of the Concrete Reinforcing Steel Institute and Detailing Manual of the American Concrete Institute
Grand Total Steel Reinforcement 174,658 lbs. (B)

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS
APPROVED H Lund STRUCTURAL ENGINEER
JOB No. PW 990(19)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STEEL REINFORCEMENT DETAILS

CITY OF DETROIT

REVISIONS NO	DESCRIPTION	DATE	BY
B	Corr. Total Re-Steel	2-4-71	AFB
A	Add Dim's E-K & U Bars	1-4-71	AFB

DRAWN BY	McBurney	9-70
TRACED BY	O. Lyons	8-21-70
CHECKED BY	JAJ	9-70

SHEET 33 OF 33

S24 of 82122K

01253A

BAR	a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	DIMENSIONS										
A1								#6	11'-6"	138	2383
A2								#6	5'-6"	155	1280
A3								#7	9'-6"	195	3787
A4								#6	22'-3"	18	602
A5								#6	24'-9"	18	669
A6								#6	25'-9"	36	1392
A7								#6	38'-9"	18	1048
A8								#6	18'-9"	18	507
A9								#6	4'-6"	48	324
A10								#6	7'-0"	553	5,814 (B)
A11								#6	11'-6"	146	2,522 (B)
A12								#8	9'-9"	72	1,874 (B)
A13								#4	24'-3"	9	146
A14								#4	25'-0"	71	1185
A15								#4	14'-6"	20	194
A16								#6	13'-9"	48	991
A17								#6	10'-6"	23	363
A18								#4	15'-6"	8	83
A19								#4	17'-3"	20	230
A20								#4	19'-6"	38	495
A21								#4	21'-3"	20	284
A22								#6	10'-0"	10	150
A23								#5	20'-6"	24	739
A24								#6	16'-6"	18	446
A25								#7	9'-0"	27	497
A26								#6	5'-3"	149	1175
A27								#6	21'-6"	20	646
A28								#6	4'-0"	25	150
A29								#6	8'-3"	28	347
A30								#6	3'-6"	38	200
A31								#6	6'-6"	91	888 (B)
A32								#4	21'-0"	56	785
A33								#6	15'-9"	18	426
A34								#6	7'-6"	43	484
A35								#6	4'-9"	51	364
A36								#6	19'-6"	18	527
A37								#6	17'-6"	19	499
A38								#6	6'-0"	10	90
A39								#6	7'-9"	22	256
A40								#6	3'-9"	38	214
A41								#4	15'-6"	20	207
A42								#4	17'-0"	16	182
A43								#6	15'-6"	21	489
A44								#6	5'-6"	22	182
A45								#6	24'-0"	18	649
A46								#6	26'-0"	10	390
A47								#6	22'-0"	8	264
A48								#6	16'-0"	18	433
A49								#6	9'-0"	40	541
A50								#6	12'-6"	56	1051
A51								#8	9'-0"	27	703
A52								#4	22'-9"	22	334
A53								#6	14'-6"	28	610
A54								#6	4'-3"	44	281
A55								#6	9'-6"	12	171
A56								#6	16'-6"	12	297
A57								#4	11'-6"	36	276
A58								#4	13'-0"	60	521
A59								#4	17'-6"	14	164
A60								#6	11'-9"	12	212
A61								#6	13'-6"	24	487
A62								#6	8'-0"	32	384
B1	1'-6"	1'-6½"						#4	3'-0"	11	22
C1	1'-4½"	8'-9"	1'-4½"	6⅜"	1'-6"	6⅜"	1'-6"	#6	11'-9"	10	176
C2	1'-0¾"	4'-9"	1'-0⅜"	1'-0⅜"	1'-6"	1'-0⅜"	1'-6"	#6	7'-9"	11	128
C3	1'-1¼"	5'-0"	1'-1¼"	1'-0⅝"	1'-6"	1'-0⅝"	1'-6"	#6	8'-0"	11	132
D1	3'-0⅝"	0'-6¼"						#6	6'-6"	147	1435
E1	1'-6"	1'-0¾"	1'-0¾"	1'-6"				#4	3'-0"	10	20
E2	1'-6"	5⅝"	1'-5⅝"	1'-6"				#4	3'-0"	10	20 (B)
E3	1'-6"	1'-5⅝"	1⅝"	1'-6"				#4	3'-0"	11	22

ABUTMENT

ABUTMENT TOTAL = [illegible] lbs. (B)

BAR	a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	DIMENSIONS										
A301								#6	23'-9"	698	24897
A302								#6	19'-0"	698	19918
A303								#4	32'-3"	94	2024
A304								#5	32'-6"	94	3186
A305								#6	32'-9"	12	590
A306								#6	27'-3"	20	819
A307								#6	25'-0"	20	751
A308								#6	23'-0"	44	1520
A309								#6	21'-3"	20	638
A310								#6	19'-9"	20	593
A311								#6	17'-9"	20	533
A312								#6	16'-3"	20	488
A313								#6	14'-9"	30	665
A314								#6	13'-3"	30	597
A315								#6	12'-0"	30	541
A316								#6	10'-9"	30	484
A317								#6	17'-9"	10	267
A318								#6	15'-6"	10	233
A319								#6	13'-6"	10	203
A320								#6	11'-6"	10	173
A321								#6	9'-6"	50	713
A322								#6	7'-6"	30	338
A323								#5	5'-6"	40	330
A324								#6	4'-0"	30	180
A325								#6	16'-6"	10	248
A326								#6	15'-0"	190	4280
A327								#4	8'-0"	2	11
A328								#4	11'-0"	2	15
A329								#4	15'-0"	2	20
A330								#5	8'-0"	4	33
A331								#5	11'-0"	4	46
A332								#5	15'-0"	2	31
A333								#4	12'-6"	4	33
A334								#4	14'-0"	4	37
A335								#4	15'-6"	4	41
A336								#4	17'-0"	5	57
A337								#5	12'-9"	4	53
A338								#5	14'-3"	4	59
A339								#5	15'-9"	4	66
A340								#5	17'-3"	4	72
A341								#4	21'-0"	4	56
A342								#4	22'-6"	7	105
A343								#4	24'-0"	10	160
A344								#4	25'-6"	7	119
A345								#5	21'-3"	4	89
A346								#5	22'-9"	4	95
A347								#5	24'-3"	4	101
A348								#5	25'-9"	4	107
A349								#4	30'-6"	131	2667
A350								#4	32'-0"	4	85
A351								#4	34'-0"	4	91
A352								#4	36'-6"	5	122
A353								#5	30'-9"	122	3913
A354								#5	32'-3"	4	135
A355								#5	34'-3"	4	143
A356								#5	36'-9"	4	153
A357								#4	24'-9"	24	396
A358								#5	25'-0"	24	626
A359								#4	25'-3"	24	405
A360								#5	25'-6"	24	638
A361								#4	7'-0"	2	9
A362								#4	12'-6"	2	17
A363								#4	18'-9"	6	75
A364								#5	7'-0"	2	15
A365								#5	[illegible]'-6"	4	52
A366								#5	18'-9"	6	117
A367								#4	15'-6"	2	21
A368								#4	18'-0"	2	24
A369								#4	20'-6"	5	68
A370								#5	15'-6"	2	32
A371								#5	18'-0"	2	38
A372								#5	20'-6"	2	43
A373								#6	8'-0"	10	120
A374								#6	7'-0"	20	210
A375								#6	3'-0"	40	180
A376								#6	30'-0"	24	1081
A377								#4	5'-6"	1	4
A378								#4	7'-6"	1	5

SUPERSTRUCTURE

BAR	a	b	c	d	e	f	g	SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	DIMENSIONS										
A379								#4	9'-6"	1	6
A380								#4	11'-6"	1	8
A381								#4	13'-6"	1	9
A382								#5	5'-6"	1	6
A383								#5	7'-6"	1	8
A384								#5	9'-6"	1	10
A385								#5	11'-6"	1	12
A386								#5	13'-6"	1	14
A387								#4	13'-0"	2	17
A388								#4	14'-0"	2	19
A389								#4	15'-0"	2	20
A390								#4	16'-0"	2	21
A391								#4	17'-0"	2	23
A392								#4	18'-0"	2	24
A393								#5	13'-3"	2	28
A394								#5	14'-3"	2	30
A395								#5	15'-3"	2	32
A396								#5	16'-3"	2	34
A397								#5	17'-3"	2	36
A398								#5	18'-3"	2	38
A399								#4	36'-0"	96	2307
A400								#5	36'-[illegible]	98	3705
A401								#4	34'-9"	8	186
A402								#6	36'-3"	12	653
A403								#6	26'-3"	12	473
A404								#6	17'-9"	6	160
A405								#4	30'-3"	96	1938
A406								#5	30'-3"	98	309[illegible]
A407								#4	3'-0"	2	[illegible]
A408								#4	4'-0"	3	8
A409								#4	5'-0"	3	10
A410								#4	6'-0"	3	12
A411								#4	7'-0"	6	28
A412								#4	8'-0"	5	27
A413								#4	9'-0"	3	18
A414								#4	10'-0"	3	20
A415								#4	11'-0"	3	22
A416								#4	12'-0"	3	24
A417								#4	13'-0"	3	26
A418								#4	14'-0"	6	56
A419								#4	14'-6"	45	436
A420								#4	15'-9"	34	357
A421								#4	13'-6"	7	63
A422								#4	1[illegible]'-6"	1	10
A423								#4	11'-6"	1	8
A424								#4	9'-6"	1	6
A425								#4	1[illegible]'-6"	[illegible]	78
A426								#4	24'-6"	44	720
A427								#4	20'-3"	22	297
A428								#4	18'-0"	15	180
A429								#4	10'-3"	2	14
A430								#4	10'-0"	2	13
A431								#6	30'-3"	24	1090
B301	10'-8"	0'-9"						#4	11'-4½"	20[illegible]	1557
D301	2'-1⅝"	0'-6¼"						#6	6'-2"	551	[illegible]
D302	0'-6"	1'-3"						[illegible]	2'-2"	225	293
D303	0'-[illegible]"	1'-[illegible]½"						#4	2'-4½"	[illegible]	[illegible]
D304	1'-0"	1'-3"						#4	3'-2"	76	161
K301	3'-1"	1'-1¼"	1'-1¼"	1'-[illegible]"				#4	9'-7"	[illegible]	[illegible]
M301	[illegible]'-1¾"	3'-1"	1'-3½"	[illegible]	[illegible]¾"	1'-5½"		#4	9'-9"	55	358
P301	1'-[illegible]½"	2'-6"	1'-0"	1'-0"				#4	[illegible]	165	71[illegible]
T301	1'-1½"	1'-2"	1'-5½"	0'-7"				#4	5'-4"	222	7[illegible]

SUPERSTRUCTURE CON'T

SUPERSTRUCTURE TOTAL = [illegible]

BAR BENDING DIAGRAM

Note :—
All right angle bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.
All bar numbers on this sheet to be prefixed S24.

Tolerances in cutting and bending bars are as established in Manual of Standard Practices of the Concrete Reinforcing Steel Institute and Detailing Manual of the American Concrete Institute

PLANS PREPARED BY
CITY OF DETROIT
[illegible] PUBLIC WORKS
[illegible] ENGINEERS OFFICE
BUR[illegible] AND EXPRESSWAYS

APPROVED [signature] STRUCTURAL ENGINEER

JOB No. PW 990 (18)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STEEL REINFORCEMENT DETAILS

CITY OF DETROIT

NO	DESCRIPTION	DATE	BY
	REVISIONS		
B	Corr. Abut Re-Steel	2-4-71	AFB

SQUAD BOSS
DRAWN BY
TRACED BY
CHECKED BY
SHEET OF

S24 of 82122K

01253A

RAMP "H"
Curve Data. Lt. Edge
Δ = 10° 00' 00" Lt.
D = 2° 45' 00" Arc.
R = 2083.48'
T = 182.28'
L = 363.64'
E = 7.96'
P.C. = 219+60.04 = Ramp H 419+60.04
P.I. = 221+42.32
P.T. = 223+23.68 = 24' Lt. of S.S.D. 321+55.48

RAMP "H"
Curve Data.
Δ = 10° 00' 00" Lt.
D = 3° 00' 00" Arc.
R = 1909.86'
T = 167.09'
L = 333.33'
E = 7.30'
P.C. = 420+48.31
P.I. = 422+15.40
P.T. = 423+81.64

No. SERVICE DRIVE
Curve Data
Δ = 58° 11' 59.14" Lt.
D = 78° 29' 14.53" Arc
R = 73.00'
T = 38.16'
L = 70.33'
E = 9.37'
P.C. = 9+69.15
P.I. = 10+07.31
P.C.C. = 10+39.48

No. SERVICE DRIVE
Curve Data.
Δ = 95° 52' 19.76" Lt.
D = 133° 14' 65.60" Arc
R = 43.00'
T = 47.65'
L = 71.95'
E = 21.18'
P.C.C. = 12+56.36
P.I. = 13+04.01
P.T. = 13+28.32

No. SERVICE DRIVE.
Curve Data.
Δ = 28° 55' 16.12" Lt.
D = 13° 20' 04.88" (Arc)
R = 429.67'
T = 110.81'
L = 216.89'
E = 14.06'
P.C.C. = 10+39.48
P.I. = 11+50.29
P.C.C. = 12+56.36

RAMP "G"
Curve Data.
Δ = 45° 18' 24" Lt.
D = 13° 00' 00" (Arc)
R = 440.74'
T = 183.94'
L = 348.51'
E = 36.84'
P.C. = 322+72.89
P.I. = 324+56.83
P.T. = 326+21.40

RAMP "K"
Curve Data.
Δ = 68° 18' 18.61" Lt.
D = 22° 00' 00" Arc.
R = 260.44'
T = 176.68'
L = 310.48'
E = 34.27'
P.C.C. = 126+55.38
P.I. = 128+32.06
P.C.C. = 129+65.86

GLEN. RELOC.
Curve Data.
Δ = 15° 16' 40" Rt.
D = 22° 54' 07" Arc.
R = 249.82'
T = 33.51'
L = 66.61'
E = 2.24'
P.C. = 25+43.90 = 36.5' Lt. S.S.D. 325+43.90
P.I. = 25+77.41 = 36.5' Lt. S.S.D. 325+10.40
P.C.C. = 26+10.51

GLEN. CONN.
Curve Data.
Δ = 76° 52' 18" Rt.
D = 38° 00' 00" Arc.
R = 150.78'
T = 119.66'
L = 202.29'
E = 41.71'
P.C.C. = 26+10.51
P.I. = 27+30.17 = 12.75' Rt. of Glen. Rel. 100+77.39
P.T. = 28+12.81 = 12.75' Rt. Glen. Rel. 101+97.05

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
I-96	B2122K	WAYNE	DETROIT		

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

Ramp "K" Taper
Curve Data
Δ = 61° 00' 51" Lt.
D = 31° 20' 49" (Arc.)
R = 182.78'
T = 107.70'
L = 194.64'
E = 29.37'
P.C.C. = 25+30.00 = 13.5' Lt.
Ramp Sta. 125+30.00
P.I. = 26+37.70
P.C.C. = 27+24.64 = 1' Lt.
Ramp Sta. 127+33.25

DETAILS OF ALIGNMENT
STA 220+00 TO STA 230+00

FILE NO. 138 NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.

SURVEY PLAN
Scale 1" = 40'

SECTION B-B

SECTION A-A

LEGEND

- Tree
- Fence
- Sewer Manhole
- P.L.C. Manhole
- Water Gatewell & Valve
- D.E. Manhole
- P.L.C. Lightpole
- Sewer Inlet or Catch Basin
- Test Hole for Soil Profile

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.

The work covered by these plans includes construction of the proposed bridge S24 and placing lightwgt. Fill & slope protection to the limits shown.

All other work is included in the Road Plans which are a part of this contract.

Removal of fences and buildings is not a part of this contract.

PRELIMINARY PLAN 'A' DATE: 7-25-69

PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED ______ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF SITE

APPROVED ______ SUPERVISOR – DESIGN

APPROVED ______ ENGINEER – DESIGN SECTION I

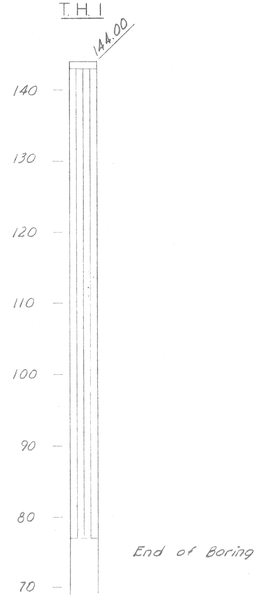
SQUAD BOSS	Locher	7-69
DRAWN BY	[illegible]	7-69
TRACED BY	—	—
CHECKED BY	P.G.G.	7-69

SHEET 1 OF 6

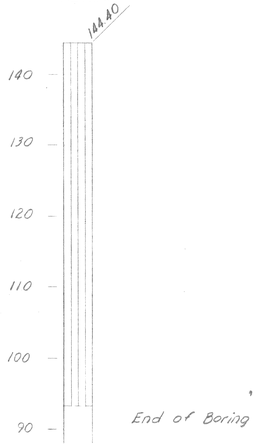
S24 of 82122K

LOG OF SOIL BORINGS

T.H. 1



T.H. 2



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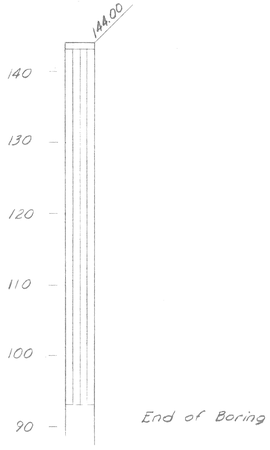

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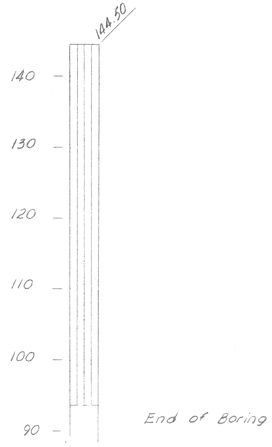

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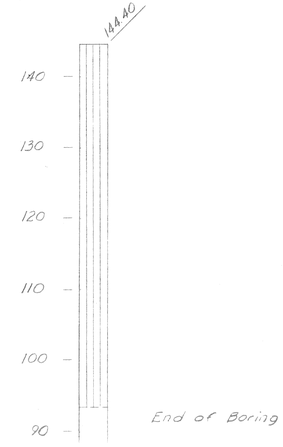
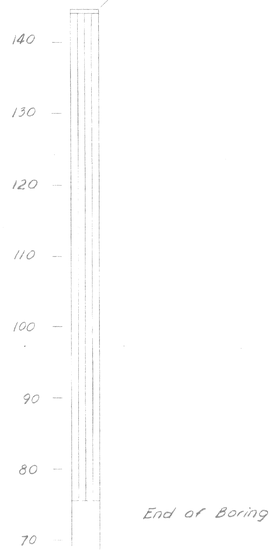
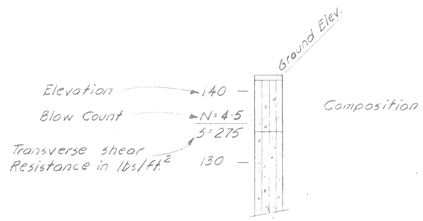
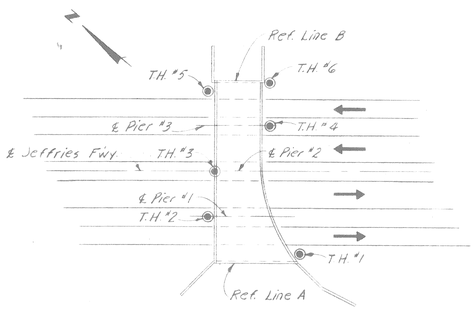


T.H. 6





LEGEND



SOIL BORING LOCATION

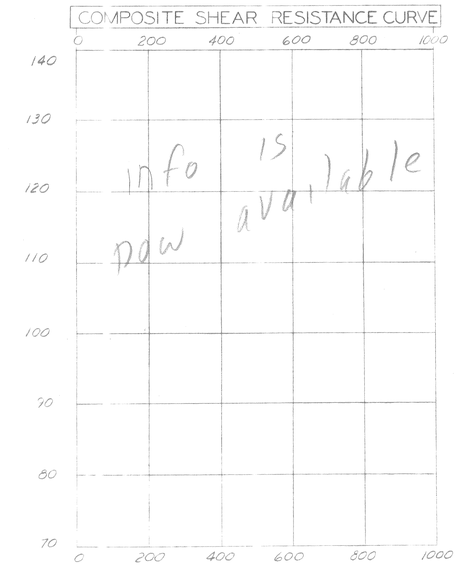
Notes:

N- Indicates the number of blow counts required to drive the 2" ϕ 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.D.S.H. Standard Test.

✱ - Indicates no sample.

All elevations are based on City of Detroit Datum.



TRANSVERSE SHEARING RESISTANCE

(lbs. per Sq. Ft.)

PRELIMINARY PLAN 'A' DATE 7-25-69

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

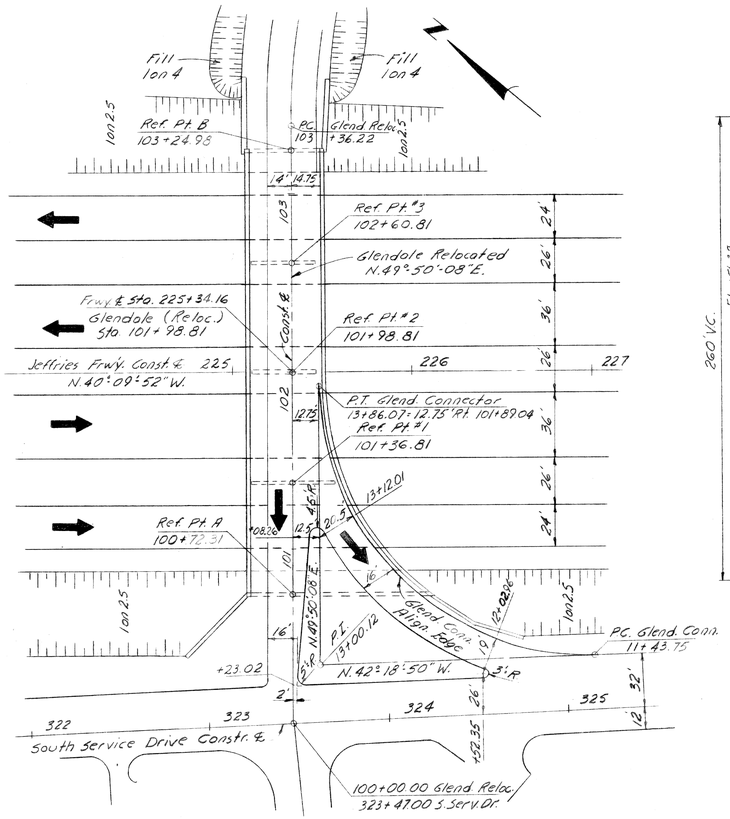
LOG OF BORINGS

SQUAD BOSS		
DRAWN BY	A.G.	6-69
TRACED BY		
CHECKED BY		
SHEET 2 OF 6		

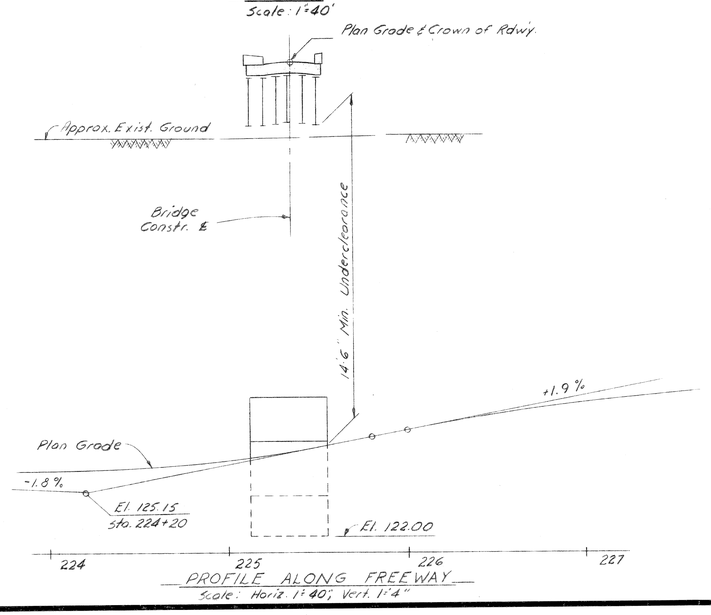
APPROVED _____ SUPERVISOR - DESIGN

APPROVED _____ ENGINEER - DESIGN SECTION 1

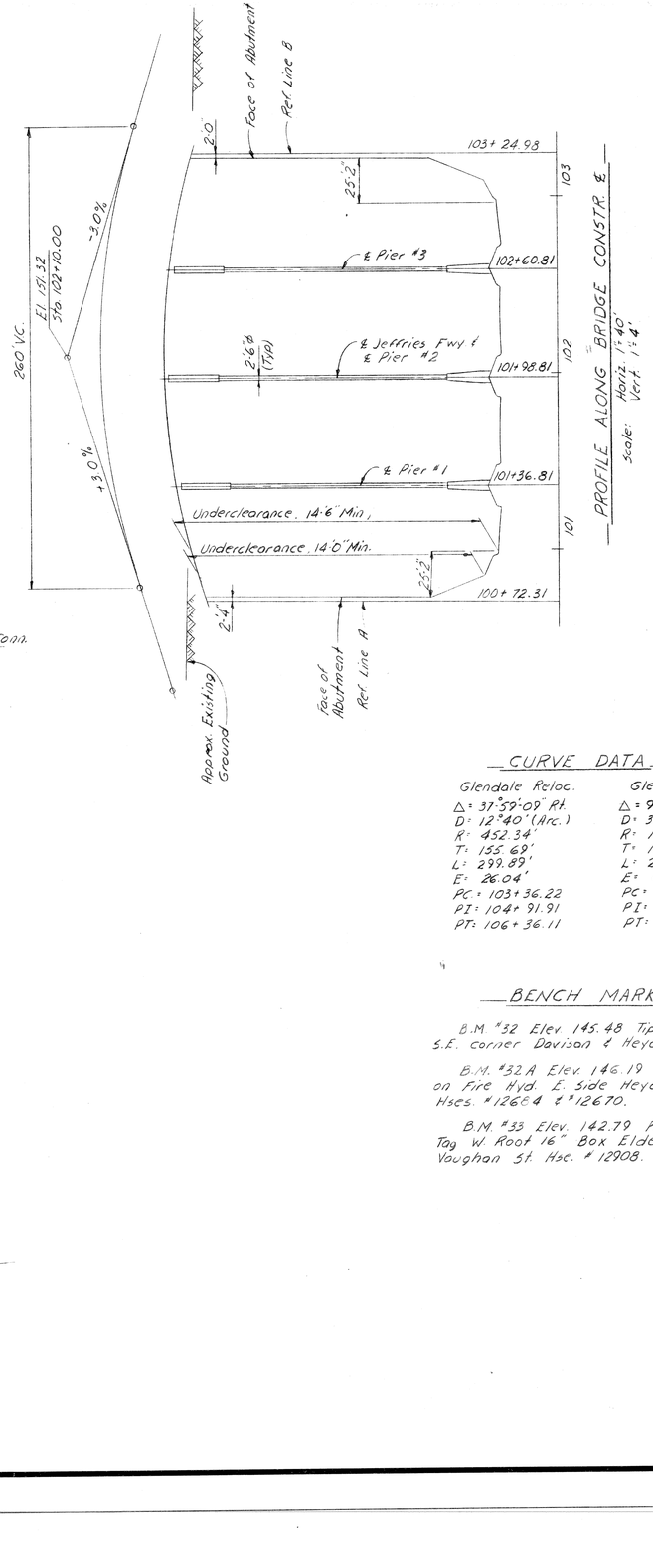
S24 of 82122K



PLAN
Scale: 1"=40'



PROFILE ALONG FREEWAY
Scale: Horiz. 1"=40', Vert. 1"=4'



PROFILE ALONG ℄ BRIDGE CONSTR. ℄
Scale: Horiz. 1"=40' Vert. 1"=4'

CURVE DATA

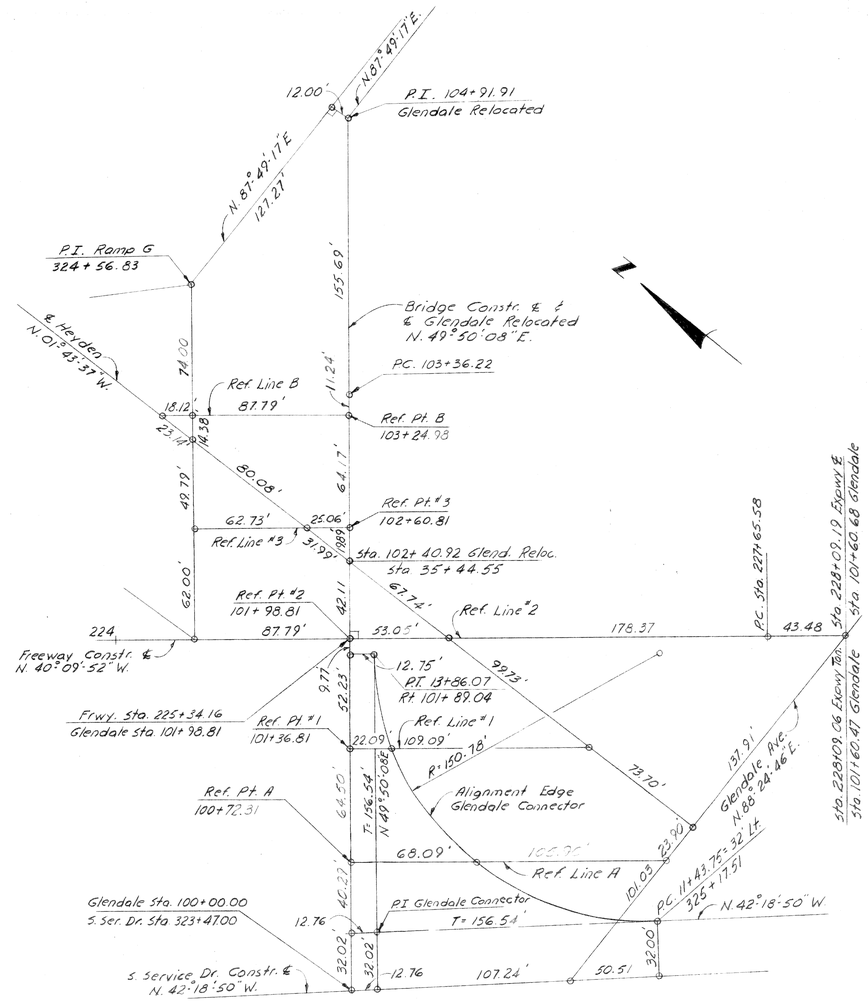
Glendale Reloc.	Glendale Conn.
Δ = 37°59'09" Rt.	Δ = 92°08'58" Rt.
D = 12°40' (Arc.)	D = 38°00' (Arc.)
R = 452.34'	R = 150.78'
T = 155.69'	T = 156.54'
L = 299.89'	L = 242.50'
E = 26.04'	E = 66.57'
PC = 103+36.22	PC = 11+43.57
PI = 104+91.91	PI = 13+00.12
PT = 106+36.11	PT = 13+86.07

BENCH MARKS

B.M. #32 Elev. 145.48 Tip of Arrow S.E. corner Davison & Heyden in front House #12956.

B.M. #32 A Elev. 146.19 Tip of Arrow on Fire Hyd. E. Side Heyden St. between Hses. #12664 & #12670.

B.M. #33 Elev. 142.79 PK. Nail, Nut & Tag W. Root 16" Box Elder E. Side Vaughan St. Hse. # 12908.



⊙ denotes point of Intersection

ALIGNMENT DIAGRAM
No Scale

PRELIMINARY PLAN 'A' DATE 7-25-69

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

REVISIONS			
NO	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

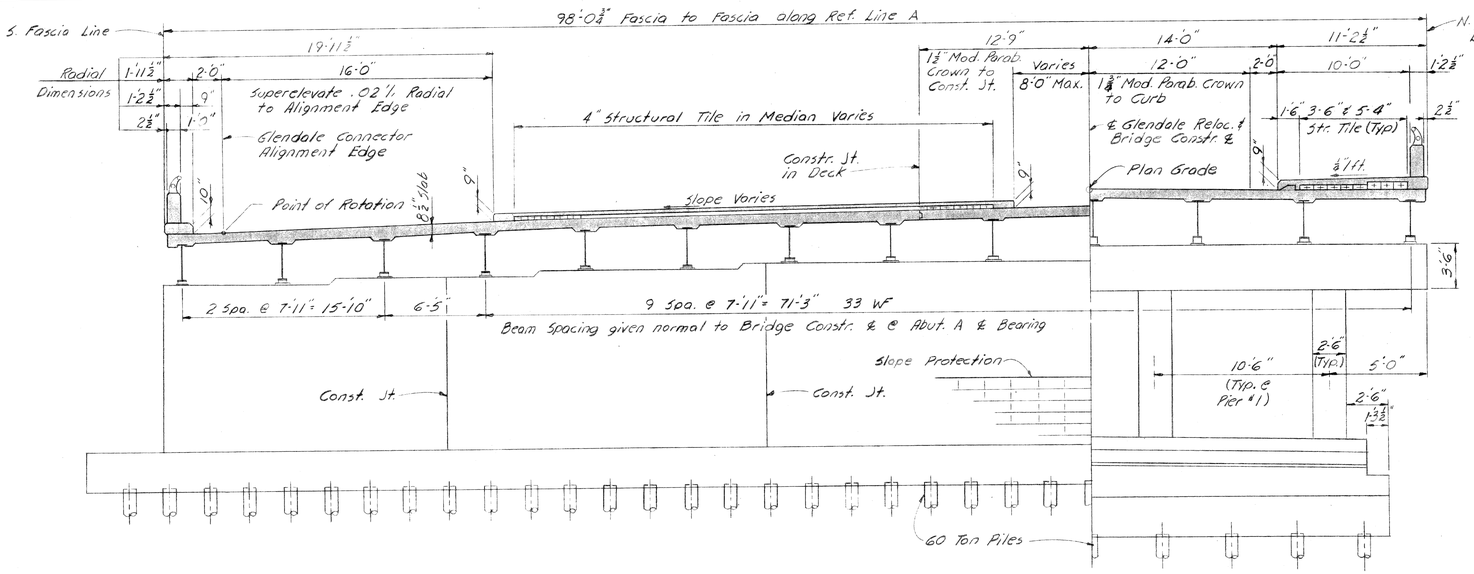
SQUAD BOSS	Locher	7-69
DRAWN BY	A.G.	4-69
TRACED BY		
CHECKED BY	F.G.G.	7-69

SHEET 3 OF 6

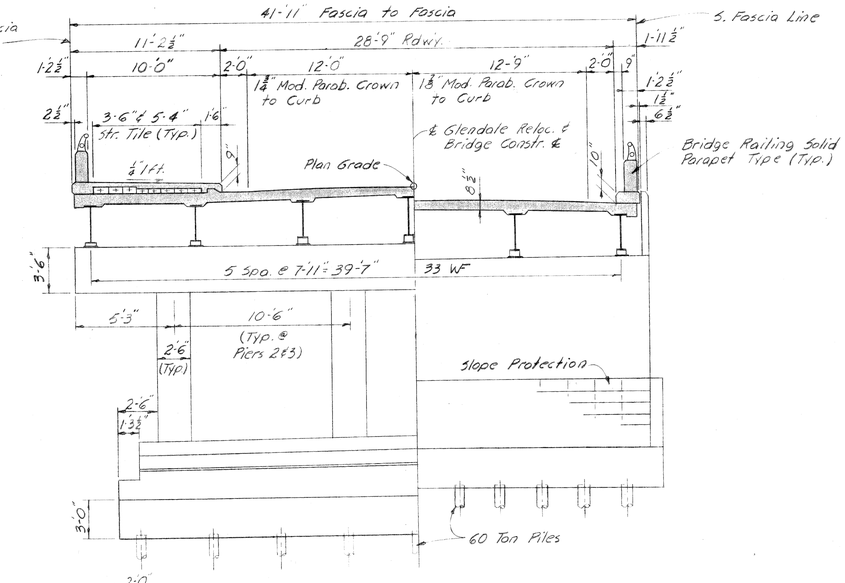
APPROVED _____ SUPERVISOR - DESIGN

APPROVED _____ ENGINEER - DESIGN SECTION 1

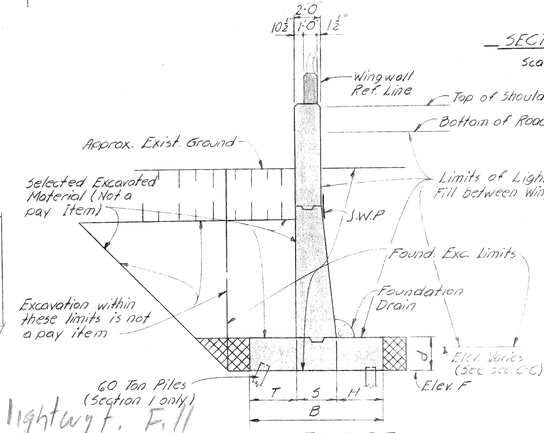
S24 of 82122K



SECTION A-A
Scale: ¾"=1'-0"

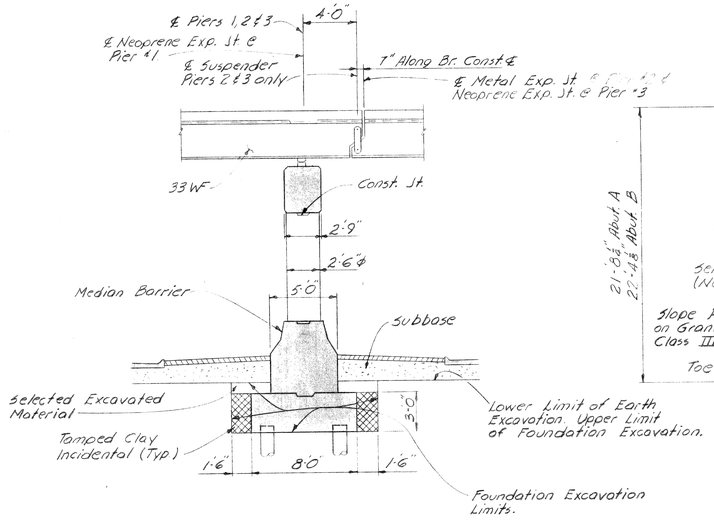


SECTION B-B
scale: 1/16"=1'-0"

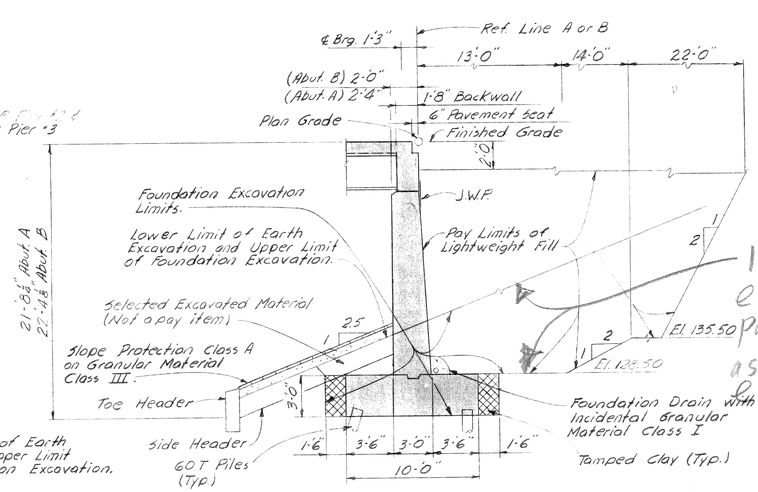


SECTION E-E

	Sec.	T	S	H	B	d	Elev. F
NW	1	3'-3"	3'-0"	5'-9"	12'-0"	3'-0"	125.50
	2	2'-3"	2'-0"	5'-6"	9'-9"	2'-6"	130.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	135.50
SW	1	3'-3"	3'-0"	5'-9"	12'-0"	3'-0"	125.50
	2	2'-3"	2'-0"	5'-6"	9'-9"	2'-6"	130.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	135.50
NE	1	3'-3"	3'-0"	5'-9"	12'-0"	3'-0"	125.50
	2	2'-3"	2'-0"	5'-6"	9'-9"	2'-6"	132.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	135.50
SE	1	3'-3"	3'-0"	5'-9"	12'-0"	3'-0"	125.50
	2	2'-3"	2'-0"	5'-6"	9'-9"	2'-6"	132.50
	3	2'-0"	2'-0"	3'-0"	7'-0"	2'-0"	135.50



SECTION D-D
Scale: ⅜"=1'-0"



SECTION C-C
Scale: ⅜"=1'-0"

lightwgt. Fill excav. to be paid for as Earth Excav.

GENERAL NOTES

The design of this structure is based on the M.D.S.H. specifications for the Design of Highway Bridges, 1958 edition and current AASHO standard specifications for Highway Bridges, H S 20-44 loading.

Live load plus impact deflection equals 1/1000 of span length and 1/350 of cantilever arm.

The top of roadway slab and tops of curbs & sidewalks are parallel to the vertical curve and tangents.

This structure is partly on horizontal curves. The fascia lines, curb lines and longitudinal construction joints are parallel to the curves and tangents.

Tamped Clay is incidental to unclassified excavation.

For details of Slope Protection Class A, see Standard Sheet SP2.

Granular Material Class I is incidental to Foundation Drain.

℄R El. denotes Crown of Roadway Elevation.

MISCELLANEOUS QUANTITIES

Item	Unit	Amount
Lightweight Fill	Cu. Yds.	4800
Foundation Drains	Lin. Ft.	60
Slope Protection - Class A	Sq. Yds.	205
Slope Protection - Header	Lin. Ft.	188
Steel Sheet Piling Left in Place	Sq. Ft.	1090

PRELIMINARY PLAN 'A' DATE 7-25-69

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No. PW 990 (19)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVE. CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL PLAN OF STRUCTURE

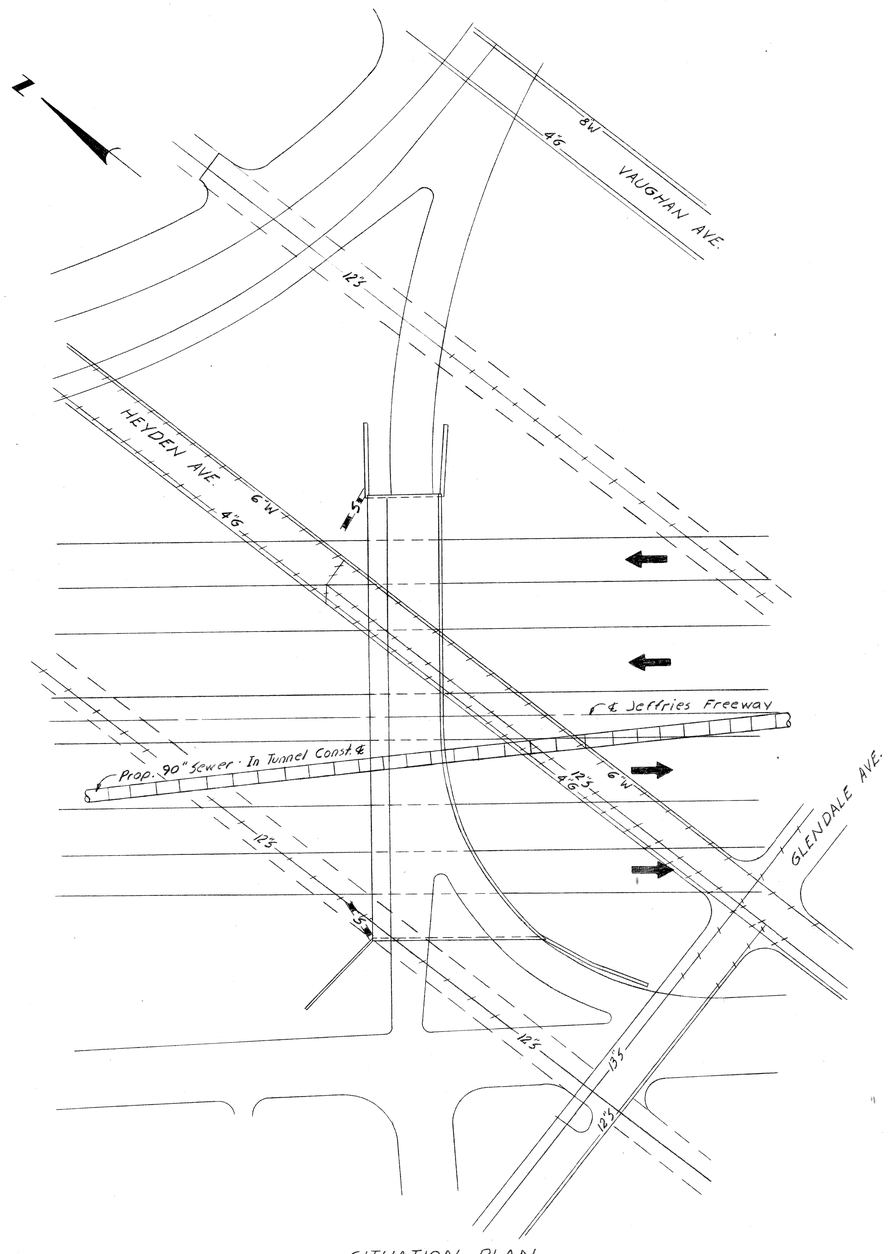
CITY OF DETROIT

SQUAD BOSS	Lochen	7-69
DRAWN BY	A.G.	7-69
TRACED BY		
CHECKED BY	D.J.R.	7-69
SHEET 5 OF 8		

APPROVED _____ SUPERVISOR - DESIGN

APPROVED _____ ENGINEER - DESIGN SECTION I

S24 of 82122K



SITUATION PLAN
scale: 1"=40'

LEGEND

UTILITY	Existing	Abandoned or Deleted	New Work by Others	New Work by Contractor
Michigan Consolidated Gas Co.	G	G		
Water	W	W		
sewers	S	S	S	S

Note:—
Bridge construction and utility alterations are included in package contract for control section 82122 K.
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.

PRELIMINARY PLAN 'A' DATE 7-25-69

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 990(13)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT
EXISTING UTILITIES & PROPOSED ALTERATIONS

CITY OF DETROIT

SQUAD BOSS	Locher	7-69
DRAWN BY	A.G.	4-69
TRACED BY		
CHECKED BY	W.A.L.	7-69
SHEET 6 OF 6		

REVISIONS

NO.	DESCRIPTION	DATE	BY

S24 of 82122K

51 @ 201 Bars #4 (Sidewalk) spaced with alternate slab bars.

36'-3"

32'-3½" #4

10"

183 (Welded) @ 305 - (4"x4"x⅜") Structural Tee

1'-6"

Bridge Center ℄

35'-11½"

32 SPA @ 1'-3" = 40'-3", 22 H (11'-0") Bars #6 Tee (Mod.)

13 H (2'-6") Bars #4 (Hdl.) spaced with alt. (-)

Fan to Fascia

12'-6"

5'-3"

4'-9"

1'-0"

6" Fillet

Fascia Line

Slab Edge

135 / 10 @ 1'-2" = 114 H 19'-0" Bars #4

6 SPACES = 7 H (19'-0") Bars #4

5A (7'-0") Min. Bars #3

14 (5') ± ?

Fascia to Cent. ℄

43'-0½"

14'-5½"

29'-0"

Slab Edge

Fascia Line

See Detail "A" Sheet #0

64'-6"

N. Fascia

Slab Edge

50 SPACES @ 1'-3" = 51 D Bars #4 (Sidewalk)

Curb Line

101 SPA @ 7½" = 63'-1½" 102 H 21'-6" Bars #6 Top & Bottom Slab

2 SETS

1½" (Typ.)

25'-2½"

11'-2"

14'-0"

Ref. PX "J" Sta 1001+(-)3 ℄ El. 1477.9

Ref. PX "I" Sta. 1014+36.81 ℄ El. 1483.73

1'-8" Backwall Face

℄ Brg. C ℄

Sta 1010+08.26

Bridge Center ℄

5'-5⅝"

6" Parapet

℄ Brg. B ℄

32 SPA @ 1'-3" =

Curb Line

Ref. Line "A"

Locate D Bars on every other Transverse bar of Slab

Expansion Joint with Header

8'-0"

℄ Brg. A ℄

7½"

26 SPA @ 7½" = 21 H (13'-0") Bars #6 Top & Bottom Slab

Curb Line

20 SPA @ 7½" = 13'-4½", 11 H (21'-6") Bars #6 Top & Bottom Slab

22 SPA @ 7½" = 13'-6½"

1'-0"

℄ Brg. A6 ℄

3 SPA @ 1'-3"

4 SPA @ 2'-6"

7'-0"

See Detail "B" Sheet #0

℄ Brg. H5 ℄

28 SPA @ 1'-6" = 17'-6" 29 H (21'-6") Bars #6 Top & Bottom Slab

3 SPA @ 1'-6"

13 SPA 19'-6"

14 SPA 3'-0"

8 SPA 7'-0"

℄ Brg. H ℄

Curb Line

Step Seat

℄ Brg. H2 ℄

10 SPA @ 1'-3" = 11'-6"

9 SPA @ 1'-3" = 9'-6"

13 SPA @ 1'-6" = 19'-6"

7 SPA @ 1'-6" = 9'-6"

7½"

Curb Line

℄ Brg. H1 ℄

Slab Edge

Fascia Line

See Detail "A" Sheet #0

51 D Bars #4 (Sidewalk)

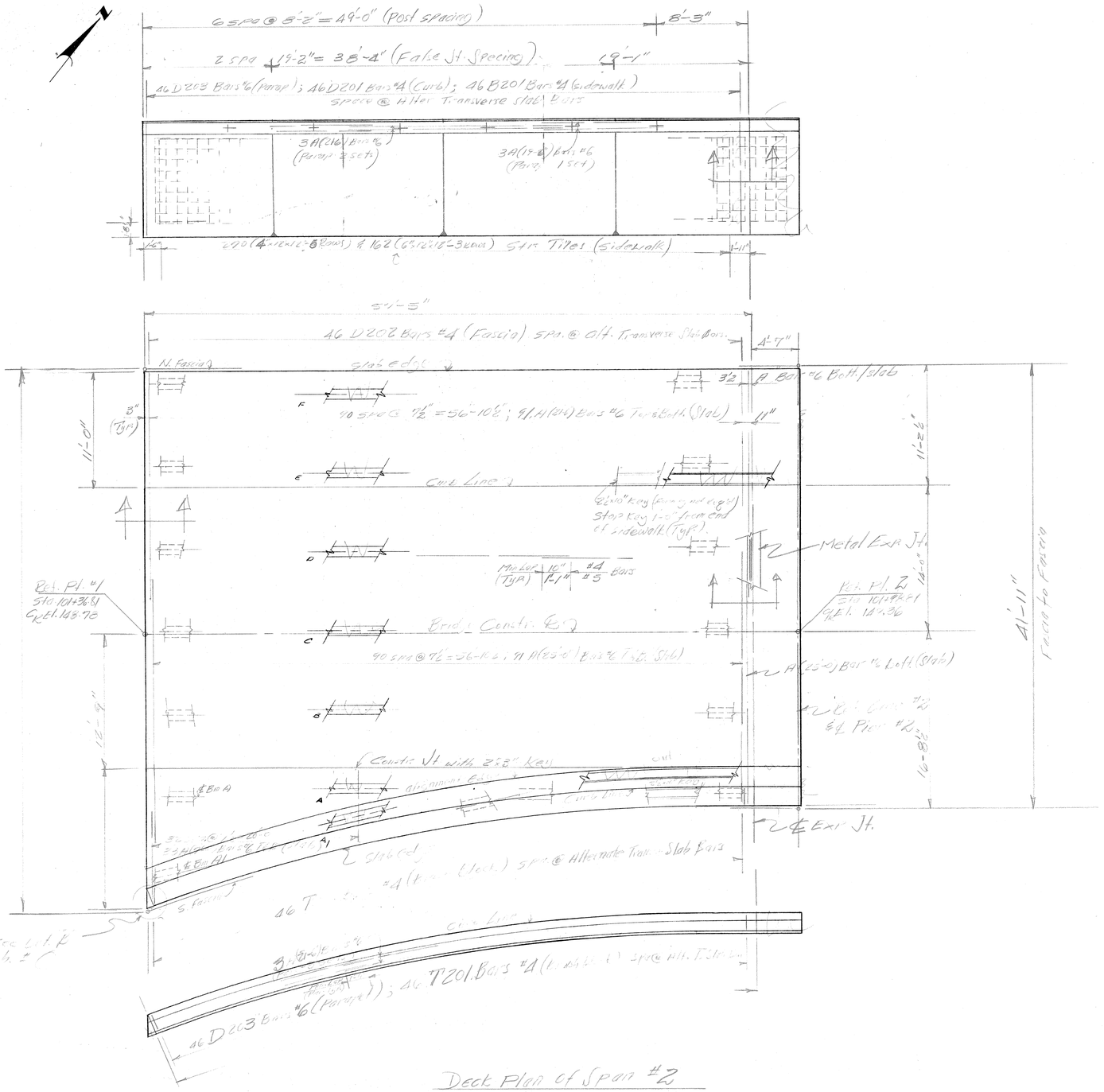
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS		
DRAWN BY		
TRACED BY		
CHECKED BY		

SHEET OF



Deck Plan of Span #2

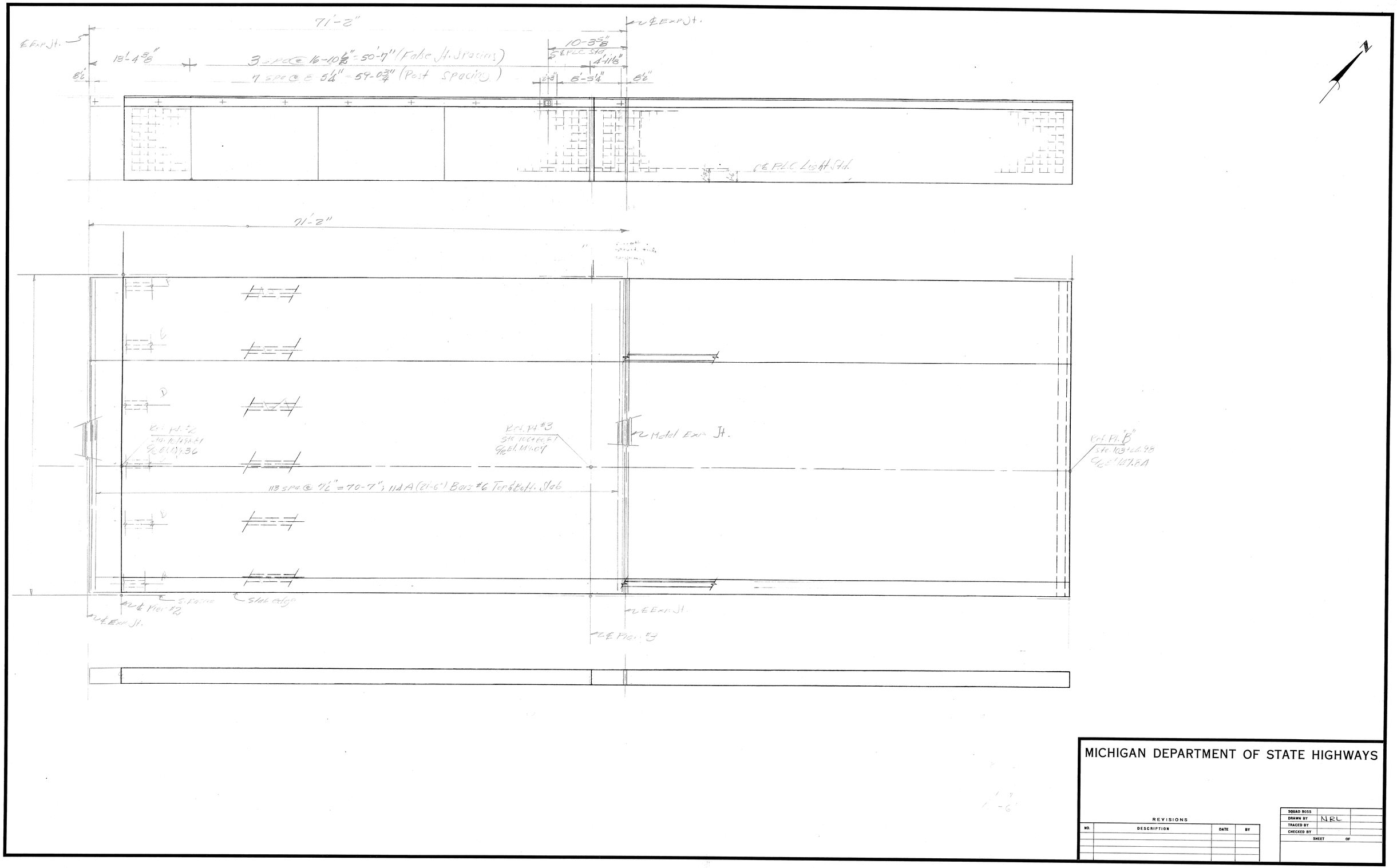
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS			
DRAWN BY			
TRACED BY			
CHECKED BY			
SHEET		OF	

Superstructure Plan - Span #2

S 24 of 22 K



MICHIGAN DEPARTMENT OF STATE HIGHWAYS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	
DRAWN BY	NRL
TRACED BY	
CHECKED BY	
SHEET	OF

Superstructure . Spans 3 & 4 824 of 30[illegible]

BORROW REQUIREMENTS				
WHERE REQUIRED STA. TO STA.	AMT. REQUIRED CYDS.	AMT. AVAILABLE CYDS.	SOILS SERIES	PIT LOCATION
REGULAR BORROW				

ROUTE	STATE PROJECT NO.	FEDERAL NO.	SHEET NO.	TOTAL SHEETS

MICHIGAN
STATE HIGHWAY DEPARTMENT

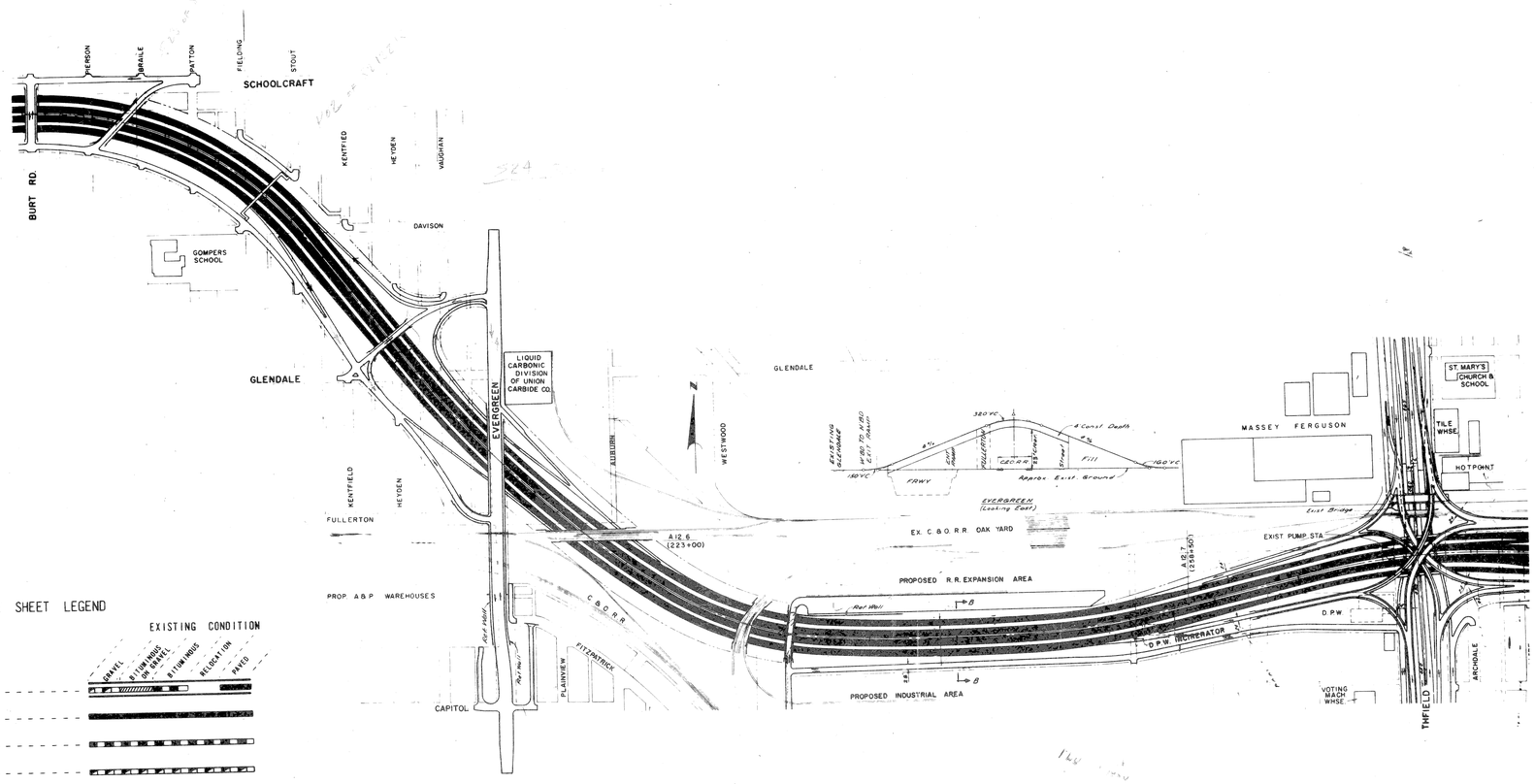
*

PLANS OF PROPOSED

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

LEGEND

A D T
D H V
COMM
DESIGN SPEED



TITLE SHEET LEGEND

EXISTING CONDITION

GRAVEL · BITUMINOUS OR GRAVEL · BITUMINOUS · RELOCATION · PAVED

PROPOSED PROJECT
PAVED
BITUMINOUS
GRAVEL
UNIMPROVED OR CITY STREET
COUNTY LINE
CITY OR VILLAGE LIMITS
TOWNSHIP LINE
SECTION LINE
RAILROADS

CONTRACT FOR

DIVISION APPROVAL

CHECKED — ENGINEER OF DESIGN — DATE

RECOMMENDED FOR APPROVAL — TRAFFIC ENGINEER — DATE

RECOMMENDED FOR APPROVAL — ENGINEER OF BRIDGE & ROAD DESIGN — DATE

OFFICES OF DESIGN AND CONSTRUCTION

APPROVED — CONSTRUCTION ENGINEER — DATE

APPROVED — CHIEF OF DESIGN & TRAFFIC — DATE

STATE HIGHWAY DEPARTMENT APPROVAL

HOWARD E. HILL - STATE HIGHWAY DIRECTOR

APPROVED BY — DIRECTOR OF ENGINEERING - CHIEF ENGINEER — DATE

PLANS PREPARED BY
MICHIGAN
STATE HIGHWAY DEPT.
SQUAD

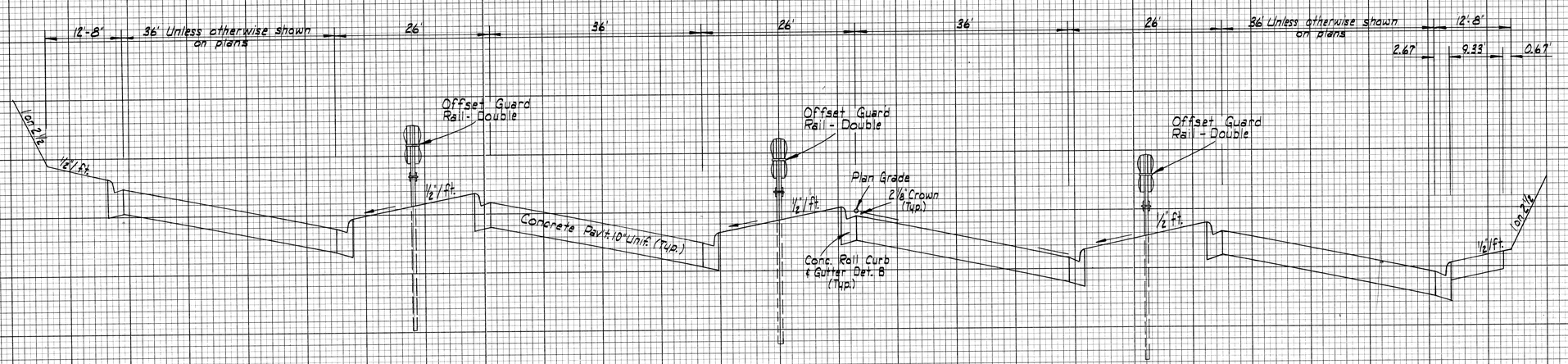
DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
FOR THE DIVISION ENGINEER — DATE

STATE PROJECT NO.	FEDERAL PROJECT	SHEET NO.

STATE PROJECT NO.

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		SHEET NO.	TOTAL SHEETS

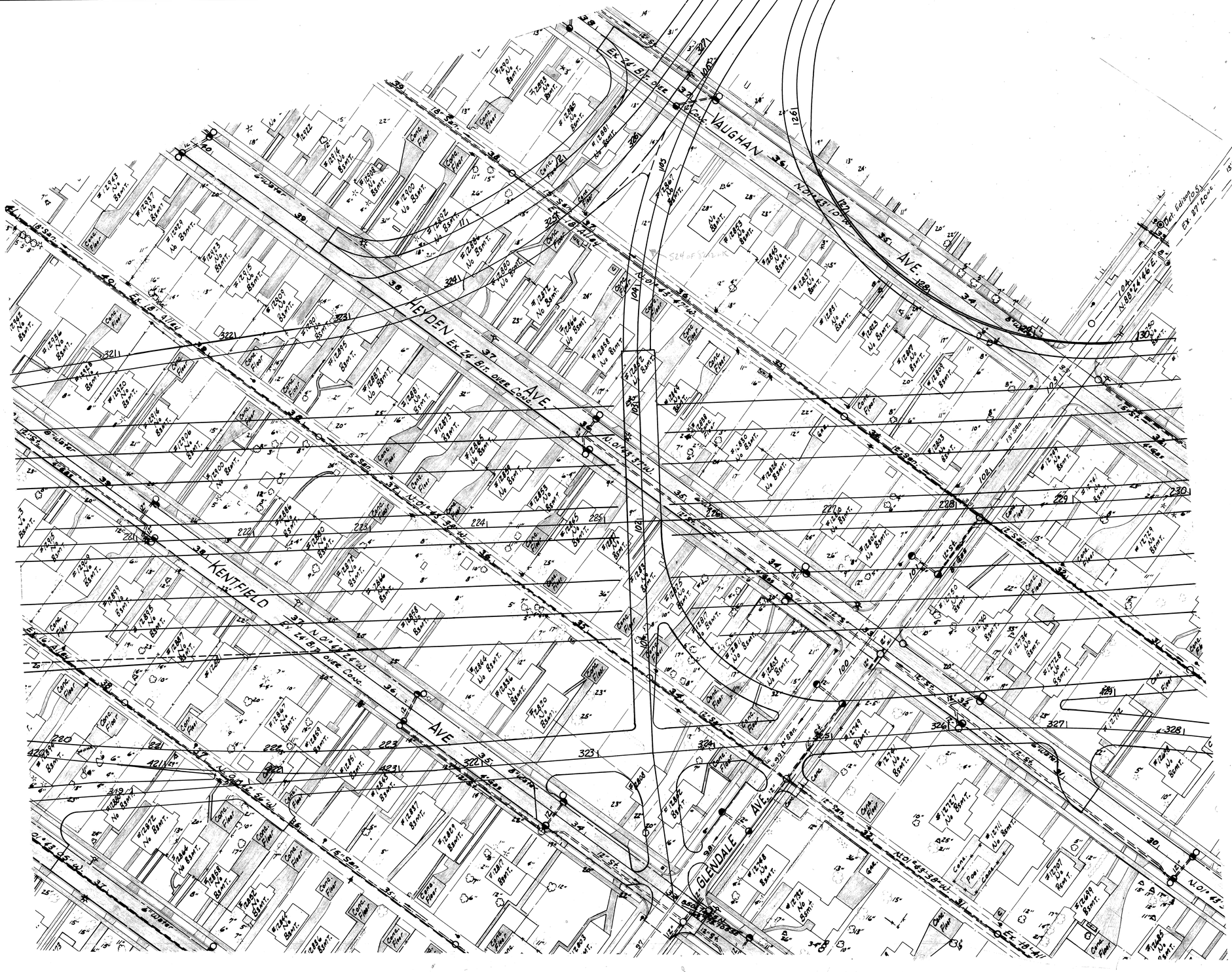


DATE	BY
PLOTTED	
COMPUTED	
CHECKED	

FILE NO. 1280 NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.

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		SHEET NO.	TOTAL SHEETS



Utilities
City of Detroit
D. Light Edison Co.
Michigan Consolidated Gas Co.

GI 9

Latest 5/25/67

FILE NO. USE NO. 350 STENCIL	82122 K	STATE PROJECT	FEDERAL PROJECT	SHEET NO.

RAMP "H"
Curve Data.
Δ = 10°-00'-00" Rt.
D = 2°-45'-00" Arc.
R = 2083.48
T = 182.28
L = 363.64
E = 7.96
P.C. = 219+77.32
P.I. = 221+59.60
P.T. = 223+40.96

RAMP "H"
Curve Data.
Δ = 10°-00'-00" Rt.
D = 3°-00'-00" Arc.
R = 1909.86'
T = 167.09'
L = 333.33'
E = 7.30'
P.C. = 420+48.31
P.I. = 422+15.40
P.T. = 423+81.64

No. SERVICE DRIVE
Curve Data
Δ = 55°-11'-59.14" Lt.
D = 78°-29'-14.53" Arc
R = 73+00'
T = 38+16'
L = 70.33'
E = 9.37'
P.C. = 9+69.15
P.I. = 10+07.31
P.O.C. = 10+39.48

No. SERVICE DRIVE
Curve Data
Δ = 95°-52'-19.76 Lt.
D = 83°-14'-45.60" Arc
R = 69.00'
T = 67.65'
L = 71.95'
E = 21.18'
P.O.C. = 12+56.36
P.I. = 13+04.01
P.T. = 13+28.32

No. SERVICE DRIVE.
Curve Data.
Δ = 40°-30'-58.44"
D = 13°-20'-04.88"
R = 429.67'
T = 158.58
L = 303.84
E = 28.33
P.C. = 10+00.00
P.I. = 11+58.58
P.T. = 13+03.84

RAMP "G"
Curve Data.
Δ = 65°18'-24"
D = 13°00'-00"
R = 440.74'
T = 183.94'
L = 348.51'
E = 36.84'
P.C. = 322+72.89
P.I. = 324+56.83
P.T. = 326+21.40

RAMP "K"
Curve Data.
Δ = 68°-18'-18.61"
D = 22°-00'-00" Arc.
R = 260.44'
T = 176.68'
L = 310.48'
E = 54.27'
P.C.C. = 126+55.38
P.I. = 128+32.06
P.C.C. = 129+65.86

GLENDALE
Curve Data.
Δ = 37°-59'-09"
D = 12°-40'-00"
R = 452.34'
T = 155.69
L = 299.89'
E = 26.04'
P.C. = 103+36.22
P.I. = 104+91.91
P.T. = 106+36.11

GLENDALE
Curve Data.
Δ = 92°-08'-58"
D = 38°-00'-00" Arc
R = 150.78'
T = 156.54'
L = 242.50'
E = 66.57'
P.C. = 11+43.57
P.I. = 13+00.11
P.T. = 13+86.07

So. SERVICE DRIVE
Curve Data.
Δ = 14°-32'-39"
D = 4°-22'-30"
R = 1,309.62'
T = 167.12'
L = 332.44'
E = 10.62'
P.C. = 325+81.16
P.I. = 327+48.28
P.T. = 329+13.60

S.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

S.P.R. DIV. NO.	STATE	PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

Laket 5/25/67

FILE NO. USE NO. 3350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.

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

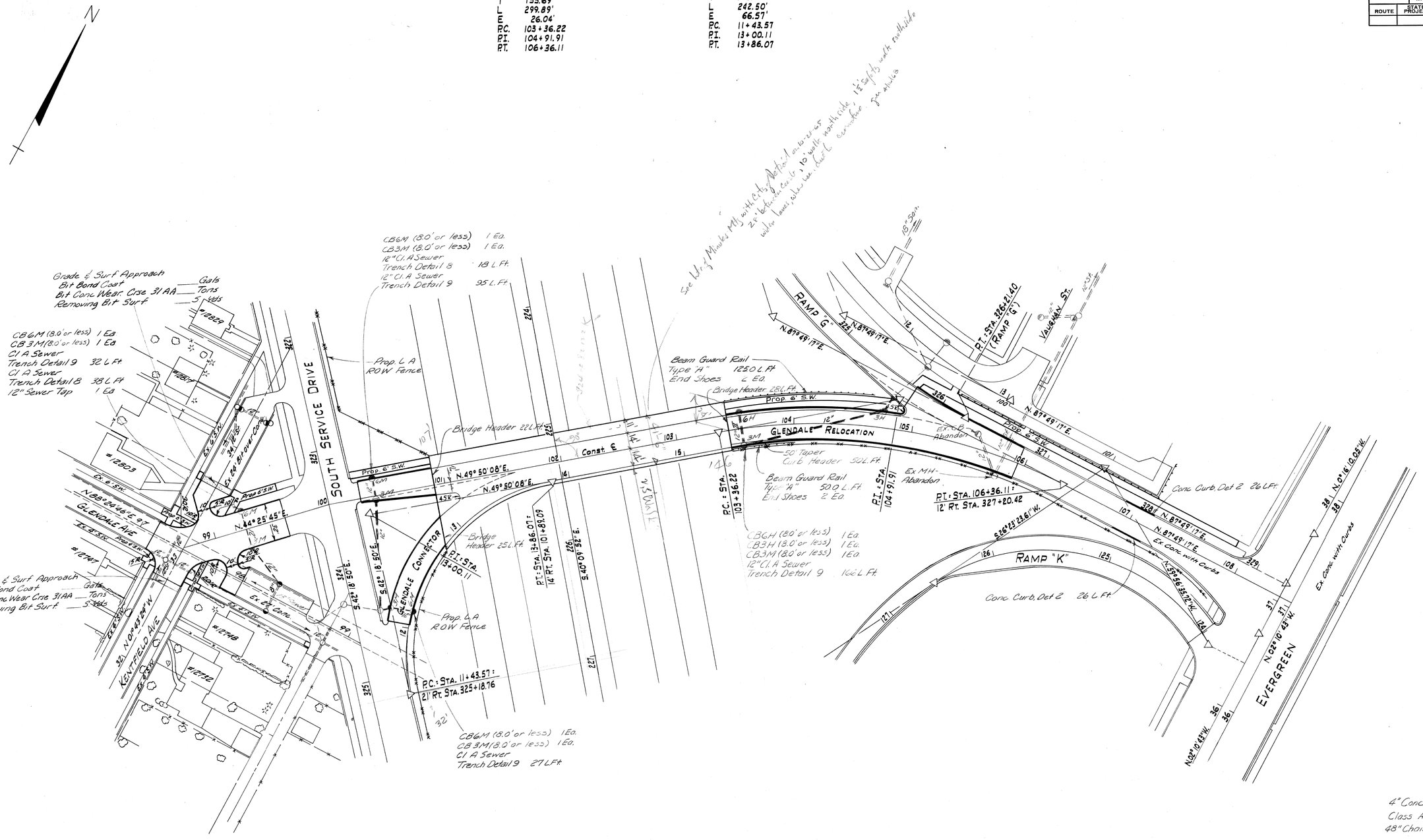
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

GLENDALE RELOCATION CURVE DATA

Δ	37° 59' 09" Rt.
D	12° 40' 00" Arc.
R	452.34'
T	155.69'
L	299.89'
E	26.04'
P.C.	103 + 36.22
P.I.	104 + 91.91
P.T.	106 + 36.11

GLENDALE CONNECTOR CURVE DATA

Δ	92° 08' 58" Rt.
D	38° 00' 00" Arc.
R	150.78'
T	156.54'
L	242.50'
E	66.57'
P.C.	11 + 43.57
P.I.	13 + 00.11
P.T.	13 + 86.07



THIS SHEET

4" Concrete Sidewalk	S.Ft.
Class A Sodding	S Yds.
48" Chain Link Fence	L.Ft.

GI 22

hedert 5/25/67

FILE NO. USE NO. 350 STENCIL	82122K	STATE PROJECT	FEDERAL PROJECT	SHEET NO.

2/13/66 D. [illegible] says some data given to [illegible] BM's etc.

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		SHEET NO.	TOTAL SHEETS

FILE NO. USE NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.

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		SHEET NO.	TOTAL SHEETS

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECK		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

FILE NO. USE NO. 350 STENCIL	82122K latest 5/25/67	STATE PROJECT	FEDERAL PROJECT	SHEET NO.

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		SHEET NO.	TOTAL SHEETS

THIS SHEET

4" Concrete Sidewalk ___ S.Ft

Class A Sodding ___ S.Yds

GI 26

Lakst 5/25/67

FILE NO. USE NO. 350 STENCIL	82122K	STATE PROJECT	FEDERAL PROJECT	SHEET NO.

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		SHEET NO.	TOTAL SHEETS

B. K. ELLIOTT CO. 401 2M 7-63 97

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED		
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

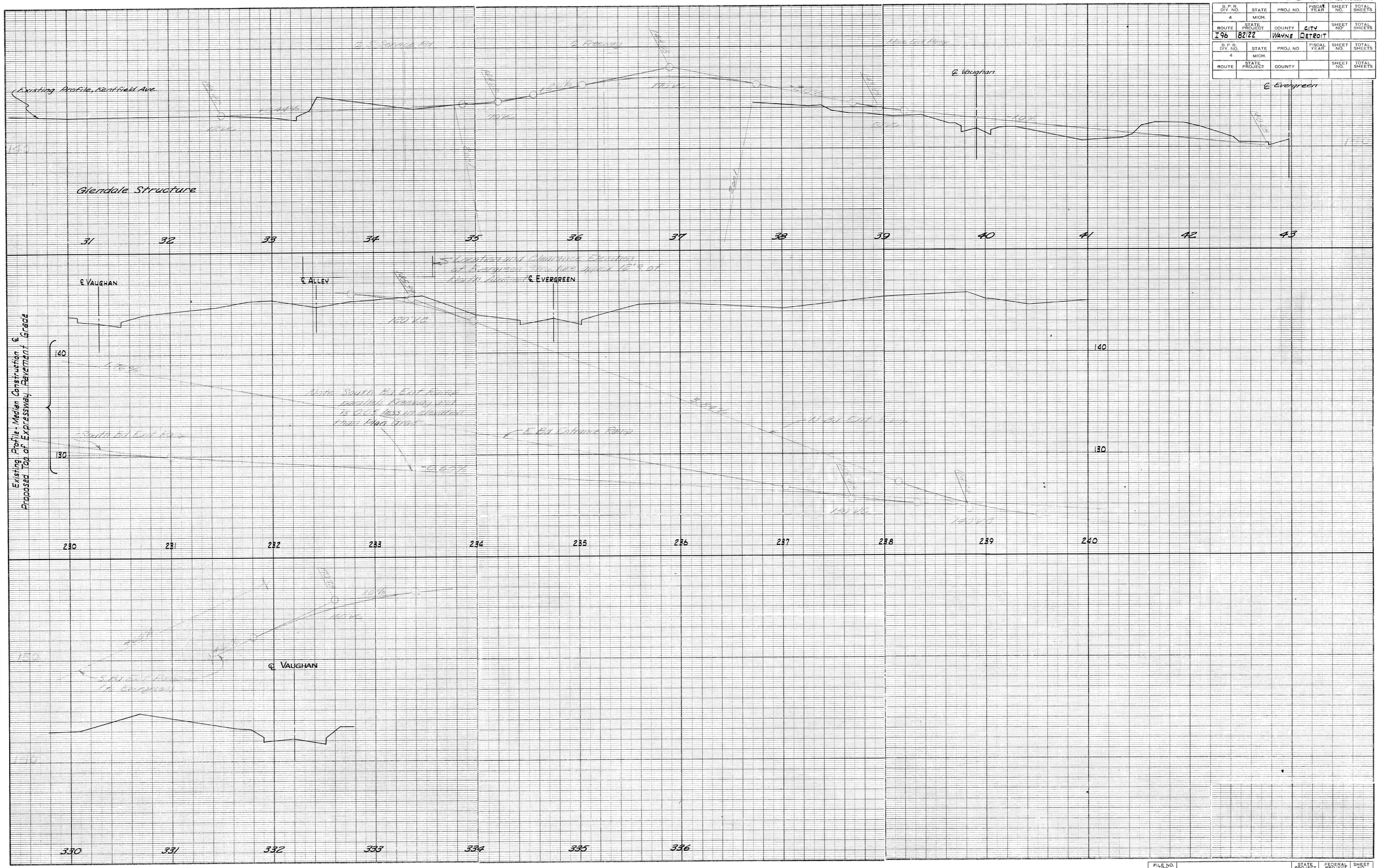
OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD		

FILE NO. USE NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82122K Latest 5/25/67			

G1 27

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
I96	82122	WAYNE	DETROIT		

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



OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED	R. SMITH	4-66
PROFILE CHECKED		
PRELIMINARY GRADE		
GRADE INSPECTION		
FEDERAL INSPECTION		

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED		
SQUAD	D. EDDY	1966

FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82122		

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
I 96	82122	WAYNE	DETROIT		

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

OPERATION	BY	DATE
SURVEYED		
PLAN PLOTTED		
PLAN CHECKED		
PROFILE PLOTTED	R. SMITH	4-66
PROFILE CHECKED		
PRELIMINARY R.O.W. CHECK		
GRADE INSPECTION		
FEDERAL INSPECTION		

OPERATION	BY	DATE
PRELIMINARY R.O.W. CHECKED		
FINAL DESIGN		
FINAL DESIGN CHECKED		
TRACED		
FINAL R.O.W. CHECK		
QUANTITIES		
QUANTITIES CHECKED	D. EDDY	1966
SQUAD		

Existing Profile- Median
Proposed Top of Expressway Pavement Grade

℄ KENTFIELD ℄ ALLEY ℄ HEYDEN ℄ GLENDALE ℄ ALLEY

140
130

220 221 222 223 224 225 226 227 228 229 230

℄ KENTFIELD ℄ ALLEY ℄ GLENDALE ℄ HEYDEN ℄ ALLEY

320 321 322 323 324 325 326 327 328 329 330

FILE NO. I&E NO. 330 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82122		-

Notes:
All elevations shown are City of Detroit Datum to convert to U.S.G.S. Datum add 479.775' to elevations shown.

FREEWAY
Curve Data
Δ = 51° 13' 51" Rt.
D = 3° 00' 00" (Arc.)
R = 1,909.86'
T = 915.68'
L = 1,707.69'
E = 208.17'
P.C. = 180+44.30
P.I. = 189+59.98
P.T. = 218+06.58 Ahead

Station Equation FREEWAY
Sta. 190+68.83 Back =
Sta. 211+23.41 Ahead.
Line Shortens 2,054.58'

B.M. #28 Elev. 148.31
Tip of arrow on Hydrant
N.E. Cor. Patton & Schoolcraft

Tunnel Sewer Curve Data
Δ = 41° 32' 08" Rt.
D = 19°00'00" (Arc)
R = 301.56'
T = 114.36'
L = 218.61'
E = 20.96'
P.C. = 687+49.22
P.I. = 688+63.57
P.T. = 689+67.83

B.M. #28A Elev. 147.39
tip of arrow on hydrant
N.E. Cor. Patton & Davison

B.M. #29 Elev. 147.93
tip of arrow on hydrant
between East side of Fielding
& House # 13584 & # 13578

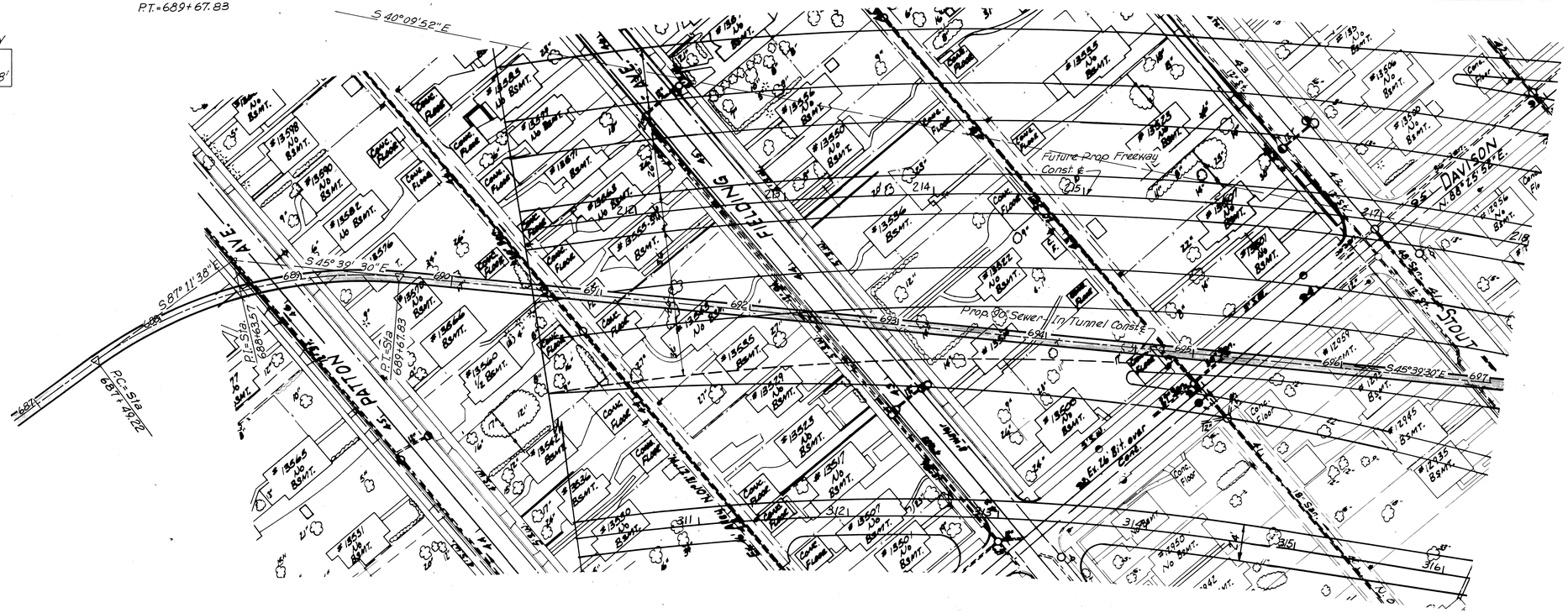
B.M. #29A Elev. 147.37
tip of Arrow on hydrant
S.E. Cor. of Fielding & Davison

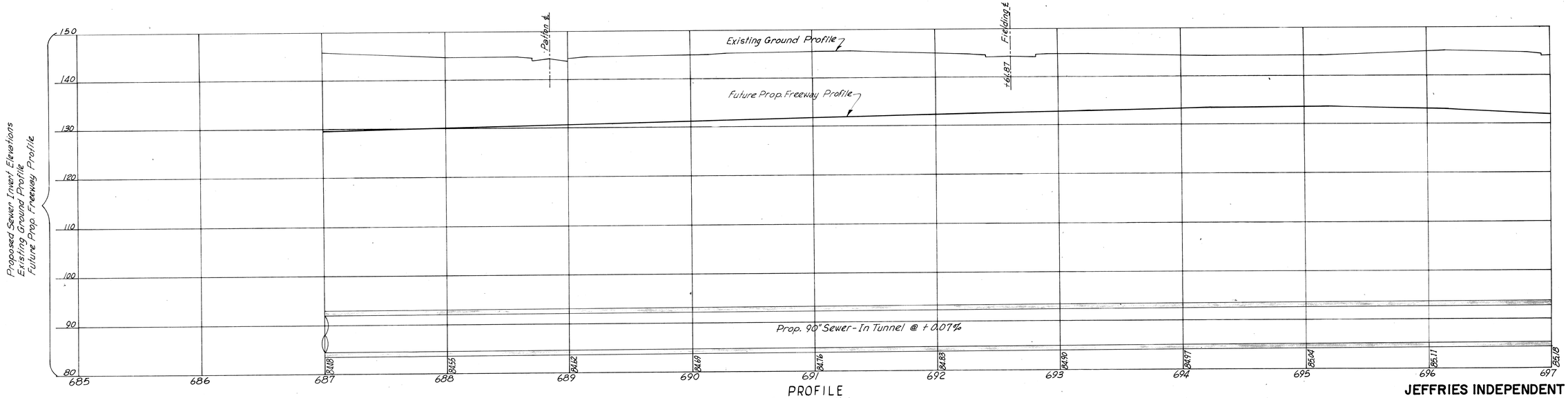
B.M. #30 Elev. 148.20
tip of arrow on hydrant
between Stout St. & house
13570 & # 13584

B.M. #30A Elev. 146.89
arrow on hydrant E. side
Stout St. & house #
13570 & # 13584

B. P. R. DIV. NO.	STATE	MICHIGAN PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	I-UI-96-4(			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	82122 K	WAYNE	DETROIT	9	

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





PROFILE
SCALE: 1" : 40' HORZ.
1" : 10' VERT.

JEFFRIES INDEPENDENT SEWER
STA 687+00 TO STA 697+00

FILE NO. TAB NO. 350 STENCIL	82122	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82122 K	I-UI-96-4(	9

B.M. # 31 Elev. 145.19
Kentfield 22" Elm W. side in front house # 13517

B.M. # 31A Elev. 144.04
Nail, nut & tag S.E. root 22" Elm N.W. Cor. Glendale & Kentfield

B.M. # 32 Elev. 145.48
tip of arrow S.E. Cor. Davison & Heyden

B.M. # 32A Elev. 146.19
tip of arrow on fire hyd. E. side Heyden St. between houses # 12684 & # 12670

B.M. # 33 Elev. 142.79
P.K. nail, nut & tag W. root of 16" Box Elder E. side Vaughan St. house # 12908

B.M. # 33A Elev. 146.43
tip of arrow on hydrant N.E. Cor. Vaughan & Fullerton

B.M. # 34 Elev. 144.30
Evergreen and Glendale Sts. tip of arrow on Fire hyd. at Welding Equip. & Supplies Co.

B.P.R. DIV. NO.	STATE	MICHIGAN PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	I-UI-96-4(			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	82122K	WAYNE	DETROIT	10	
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

PROFILE
SCALE : 1" = 40' HORZ.
1" = 10' VERT.

JEFFRIES INDEPENDENT SEWER

STA 697+00 TO STA 709+00

FILE NO. USE NO. 350 STENCIL	82122.	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82122K	I-UI-96-4(	10

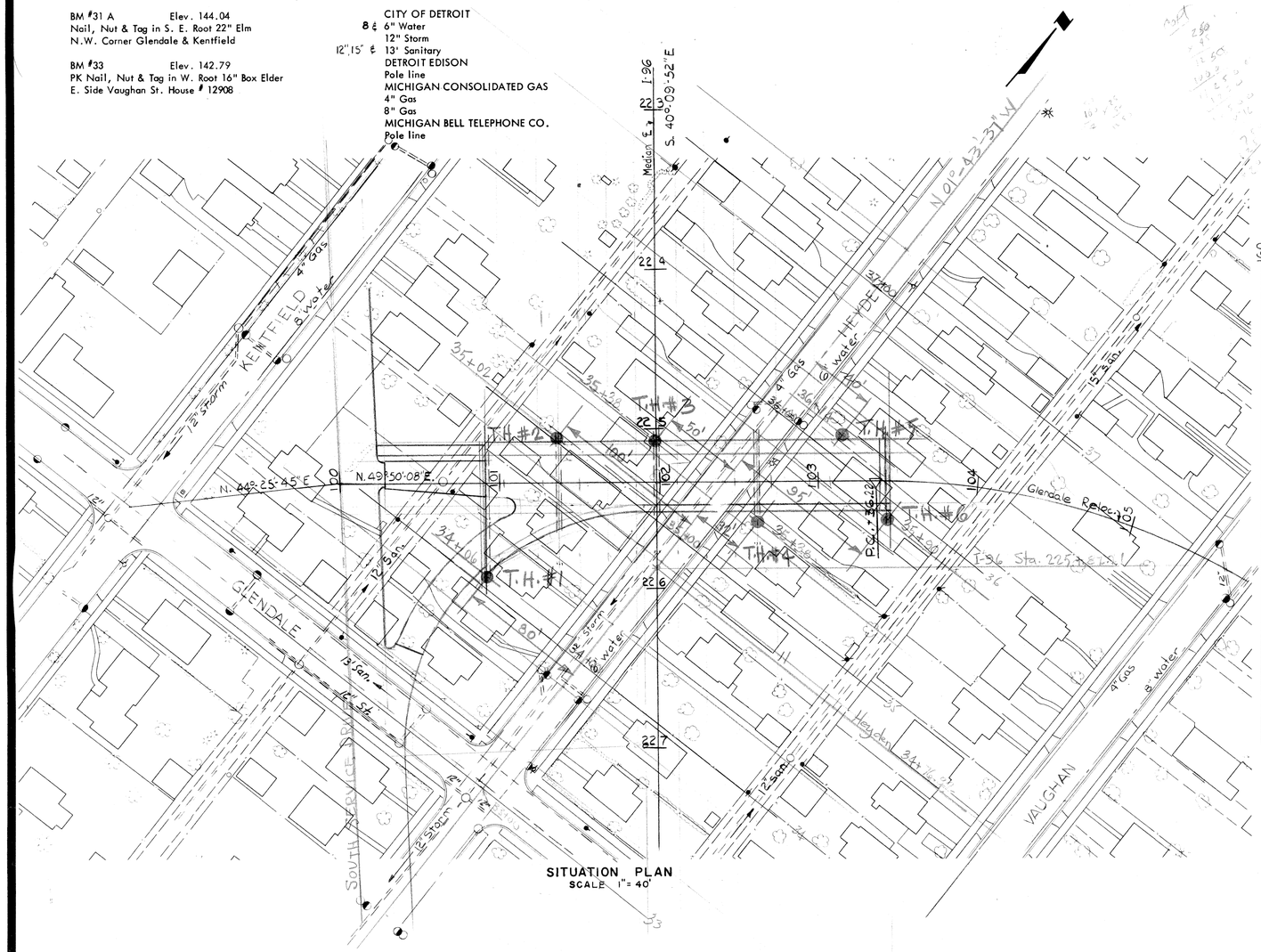
BENCH MARKS

BM #31 A Elev. 144.04
Nail, Nut & Tag in S. E. Root 22" Elm
N.W. Corner Glendale & Kentfield

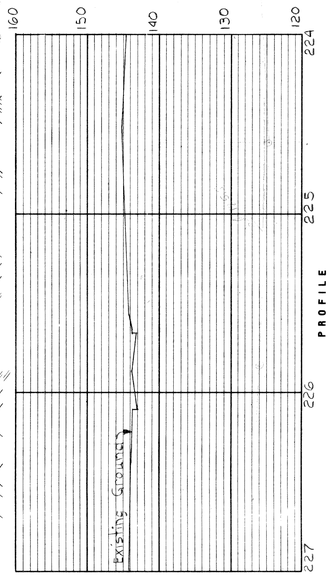
BM #33 Elev. 142.79
PK Nail, Nut & Tag in W. Root 16" Box Elder
E. Side Vaughan St. House # 12908

UTILITIES

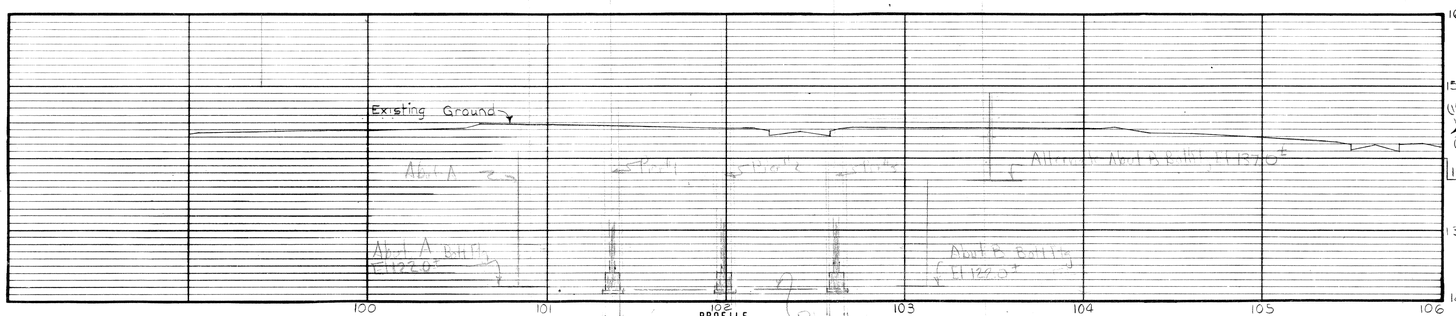
CITY OF DETROIT
8 ℄ 6" Water
12" Storm
12"15" ℄ 13" Sanitary
DETROIT EDISON
Pole line
MICHIGAN CONSOLIDATED GAS
4" Gas
8" Gas
MICHIGAN BELL TELEPHONE CO.
Pole line



SITUATION PLAN
SCALE 1" = 40'



PROFILE
VERT. SCALE — 1" = 10'
HOR. SCALE — 1" = 40'



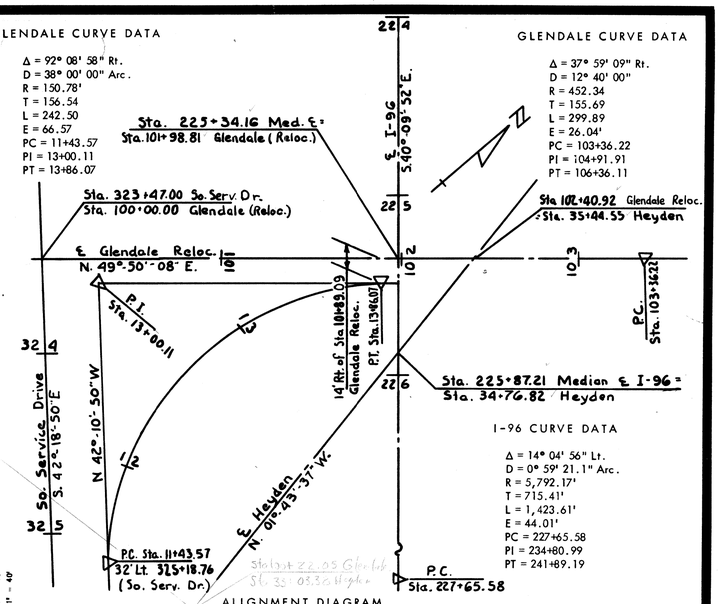
PROFILE
GLENDALE RELOCATION

GLENDALE CURVE DATA

Δ = 92° 08' 58" Rt.
D = 38° 00' 00" Arc.
R = 150.78'
T = 156.54
L = 242.50
E = 66.57
PC = 11+43.57
PI = 13+00.11
PT = 13+86.07

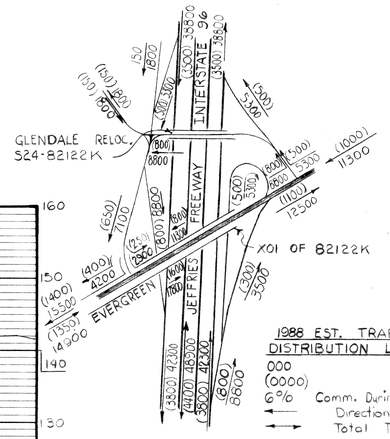
GLENDALE CURVE DATA

Δ = 37° 59' 09" Rt.
D = 12° 40' 00"
R = 452.34
T = 155.69
L = 299.89
E = 26.04'
PC = 103+36.22
PI = 104+91.91
PT = 106+36.11



I-96 CURVE DATA

Δ = 14° 04' 56" Lt.
D = 0° 59' 21.1" Arc.
R = 5,792.17'
T = 715.41'
L = 1,423.61'
E = 44.01'
PC = 227+65.58
PI = 234+80.99
PT = 241+89.19



1988 EST. TRAFFIC
DISTRIBUTION LEGEND

000 A.D.T.
(0000) D.H.V.
6% Comm. During. D.H.V.
← Directional Traffic
↔ Total Traffic

REVISIONS

NO.	DESCRIPTION	DATE	BY

REQUEST FOR BORINGS

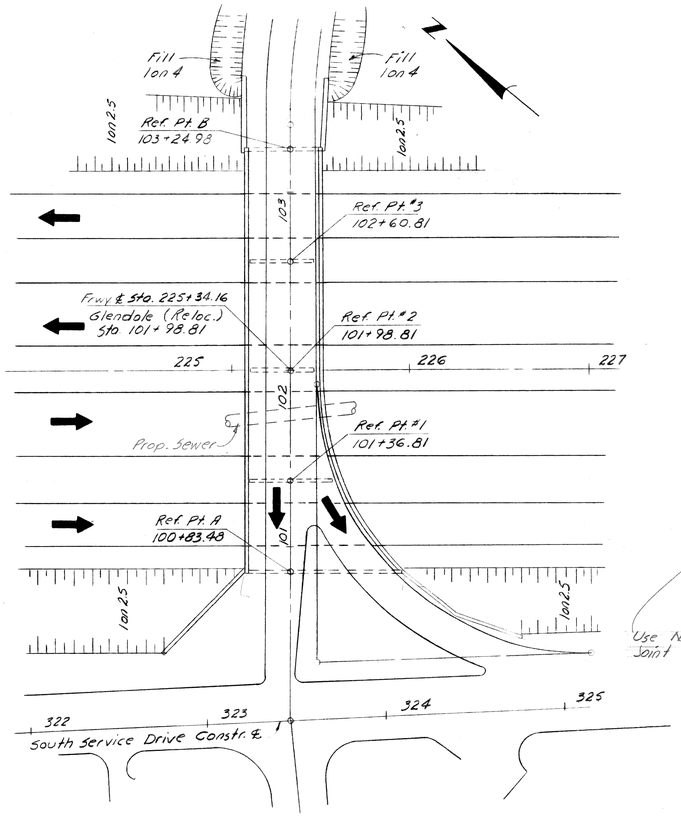
STATE OF MICHIGAN
Department of State Highways
I-96 UNDER GLENDALE IN DETROIT
GENERAL PLAN OF SITE

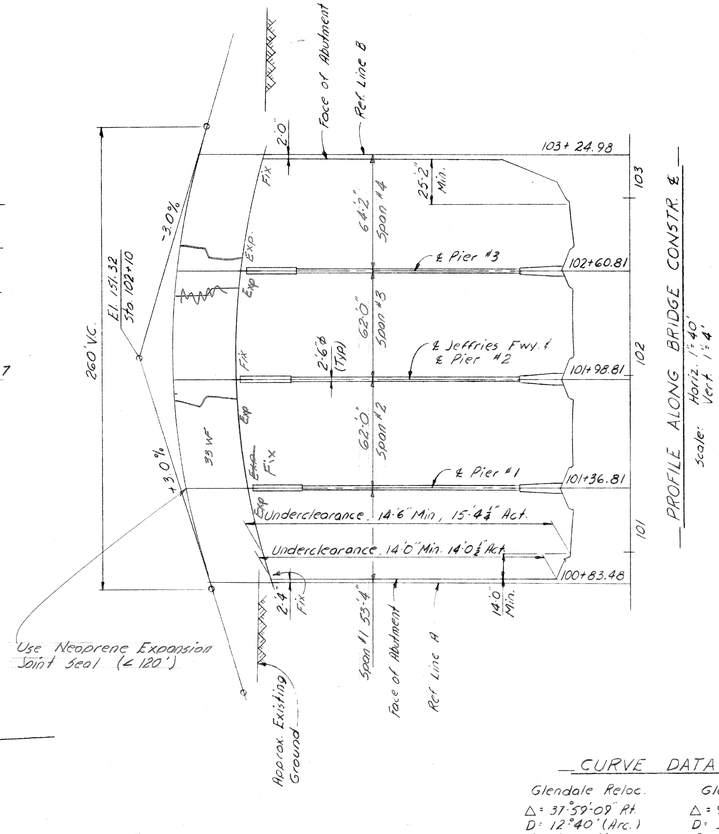
SQUAD BOSS	MILNE	
DRAWN BY	L.E.	5-19-67
TRACED BY		
CHECKED BY		
SHEET	OF	

APPROVED _____ ASSISTANT DESIGN SUPERVISING ENGINEER

APPROVED _____ DESIGN SUPERVISING ENGINEER

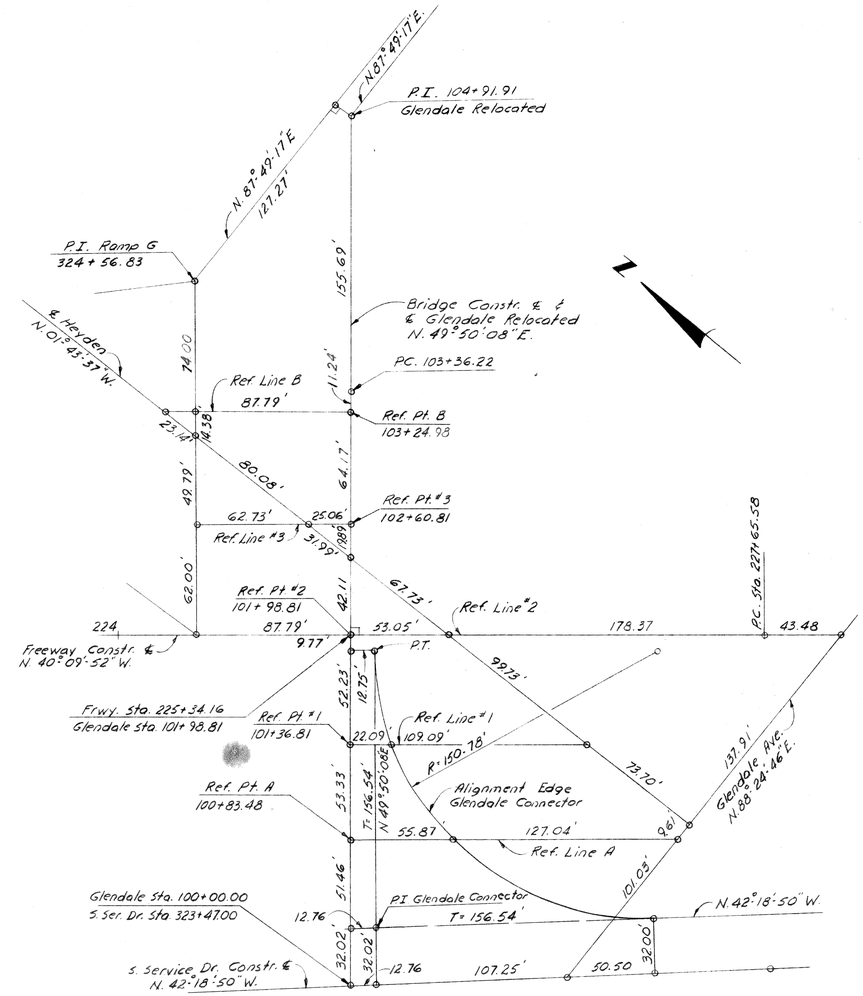
S24 of 82122K





PROFILE ALONG BRIDGE CONSTR. ℄

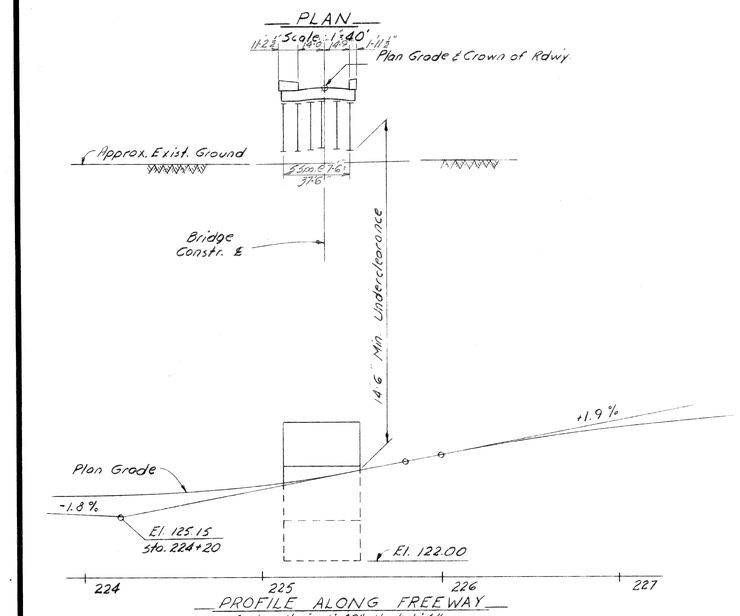
Scale: Horiz. 1"=40'
Vert. 1"=4'



○ denotes point of Intersection

ALIGNMENT DIAGRAM

No Scale



PROFILE ALONG FREEWAY

Scale: Horiz. 1"=40', Vert. 1"=4"

CURVE DATA

Glendale Reloc.	Glendale Conn.
△ = 37°59'09" Rt.	△ = 92°08'58" Rt.
D = 12°40' (Arc.)	D = 38°00' (Arc.)
R = 452.34'	R = 150.78'
T = 155.69'	T = 156.54'
L = 299.89'	L = 242.50'
E = 26.04'	E = 66.57'
PC = 103+36.22	PC = 11+43.57
PI = 104+91.91	PI = 13+00.12
PT = 106+36.11	PT = 13+86.07

Note:
Assume Pile Foundations, pending receipt of soil data.

BENCH MARKS

B.M. "32 Elev. 145.48 Tip of Arrow S.E. corner Davison & Heyden.

B.M. "32.A Elev. 146.19 Tip of Arrow on Fire Hyd. E. Side Heyden St. between Hses. #12654 & #12670.

B.M. "33 Elev. 142.79 Pk. Nail, Nitt & Tag W Root 16" Box Elder E. Side Vaughan St. Hse. # 12908.

STUDY "A" MAY 14, 1969

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.

REVISIONS

NO.	DESCRIPTION	DATE	BY

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ DESIGN ENGINEER

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

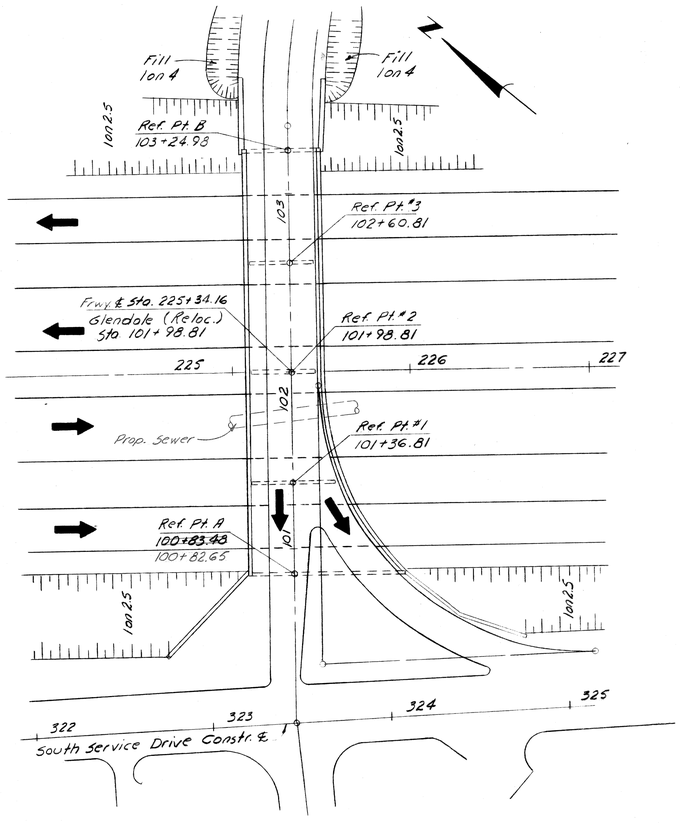
GENERAL DRAWING

CITY OF DETROIT

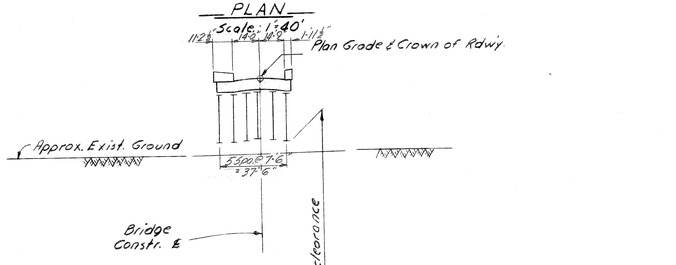
SQUAD BOSS		
DRAWN BY	A.G.	4-69
TRACED BY		
CHECKED BY		

SHEET OF

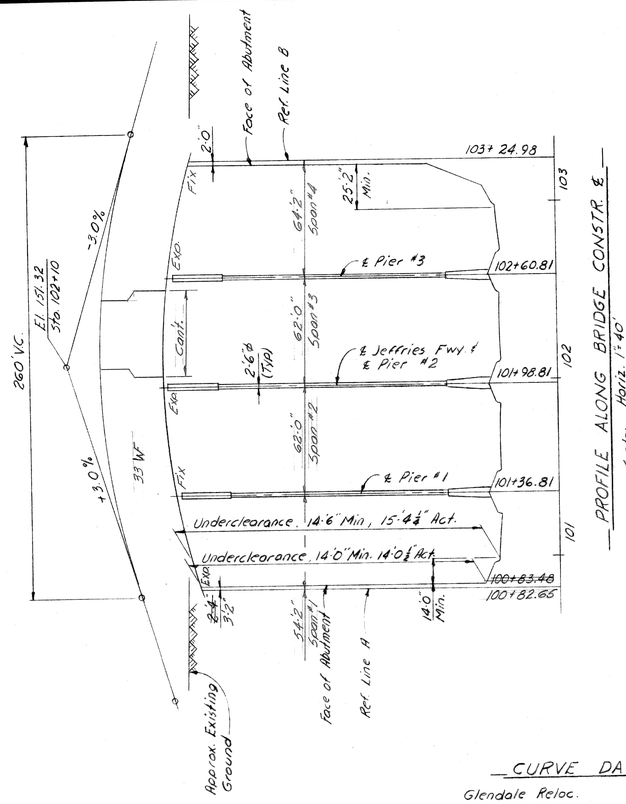
S24 of 82122K



PLAN
Scale: 1"=40'



PROFILE ALONG FREEWAY
Scale: Horiz. 1"=40', Vert. 1"=4"



PROFILE ALONG BRIDGE CONSTR. ℄
Scale: Horiz. 1"=40', Vert. 1"=4'

CURVE DATA

Glendale Reloc.	Glendale Conn.
△ = 37°59'09" Rt.	△ = 92°08'58" Rt.
D = 12°40' (Arc.)	D = 38°00' (Arc.)
R = 452.34'	R = 150.78'
T = 155.69'	T = 156.54'
L = 299.89'	L = 242.50
E = 26.04'	E = 66.57'
PC = 103+36.22	PC = 11+43.57
PI = 104+91.91	PI = 13+00.12
PT = 106+36.11	PT = 13+86.07

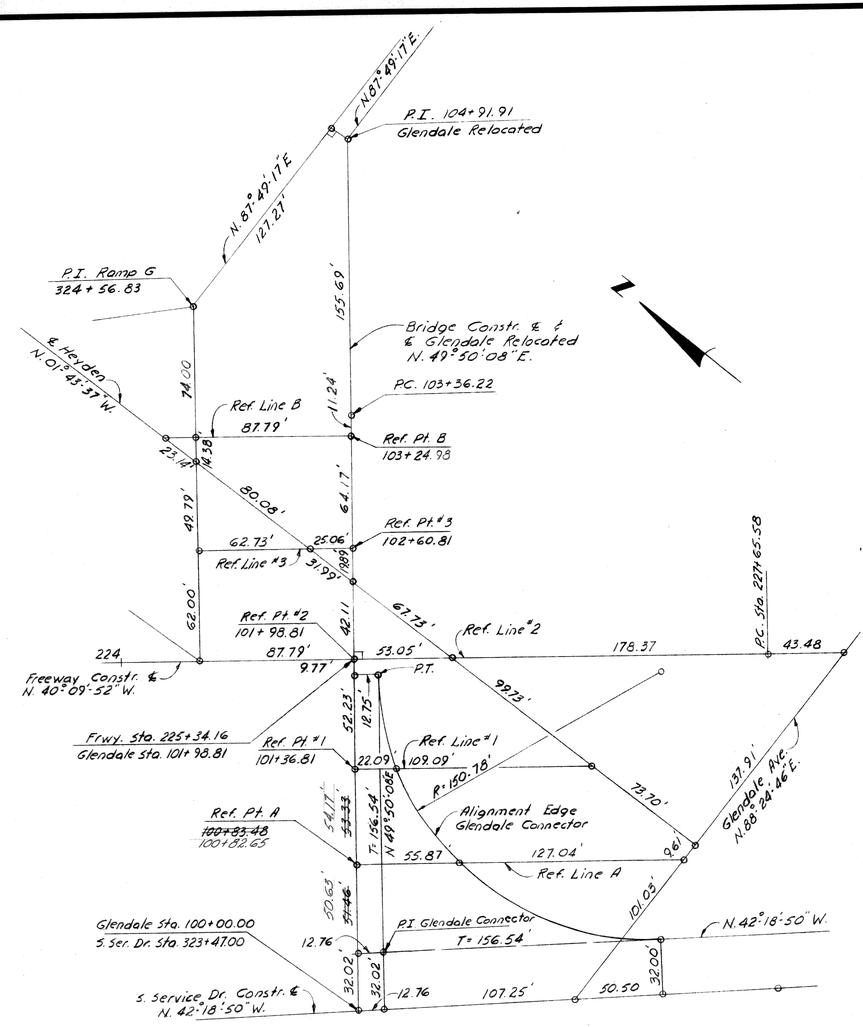
Note:
Assume Pile Foundations, pending receipt of soil data.

BENCH MARKS

B.M. #32 Elev. 145.48 Tip of Arrow S.E. corner Davison & Heyden.

B.M. #32 A Elev. 146.19 Tip of Arrow on Fire Hyd. E. Side Heyden St. between Hses. #12664 & #12670.

B.M. #33 Elev. 142.79 PK. Nail, Nut & Tag W. Root 16" Box Elder E. Side Vaughan St. Hse. #12908.



⊙ denotes point of Intersection

ALIGNMENT DIAGRAM
No Scale

See Study "A"

STUDY "B" MAY 14, 1969

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

GLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

GENERAL DRAWING

CITY OF DETROIT

SQUAD BOSS		
DRAWN BY	A.G.	4-69
TRACED BY		
CHECKED BY		

SHEET OF

APPROVED _____ DESIGN SUPERVISING ENGINEER

APPROVED _____ DESIGN ENGINEER

S24 of 82122K

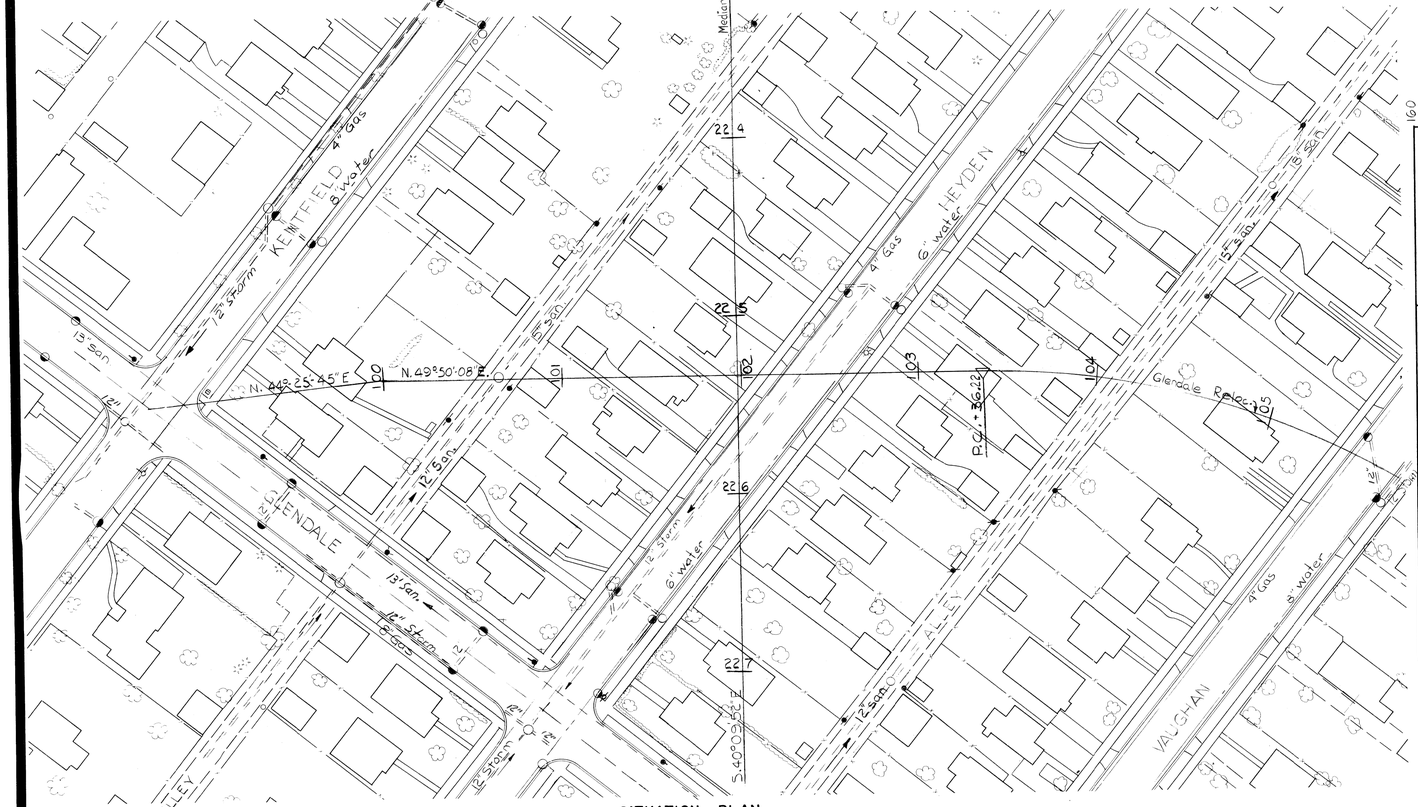
BENCH MARKS

BM #31 A Elev. 144.04
Nail, Nut & Tag in S. E. Root 22" Elm
N.W. Corner Glendale & Kentfield

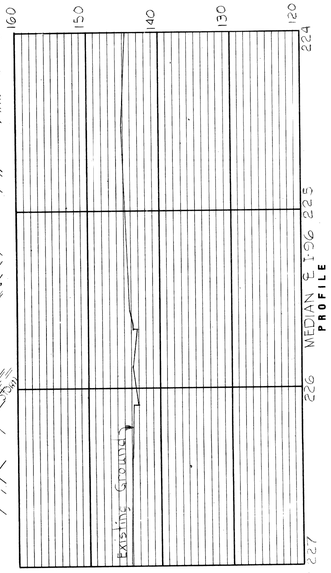
BM #33 Elev. 142.79
PK Nail, Nut & Tag in W. Root 16" Box Elder
E. Side Vaughan St. House # 12908

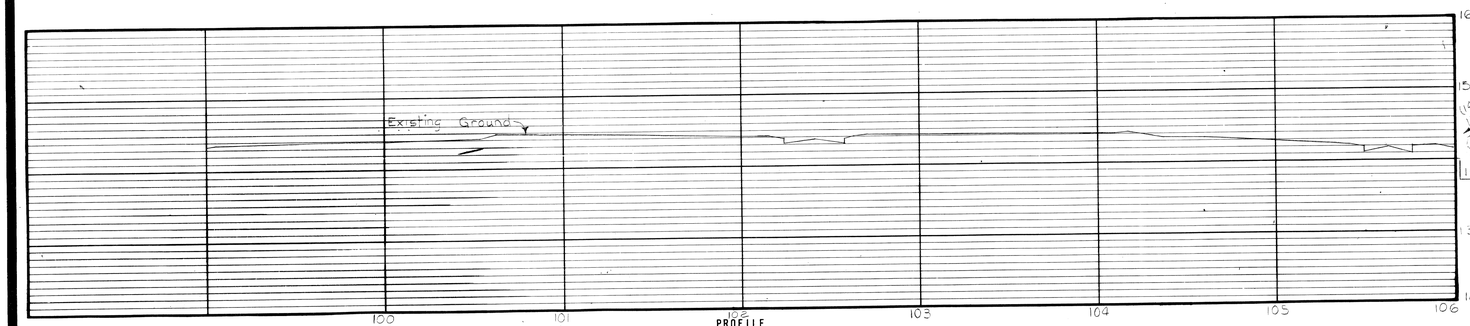
UTILITIES

CITY OF DETROIT
6" Water Heyden; 8" Water Kentfield & Vaughan
12" Storm
13' Sanitary Glendale; 12',15' & 18' Sanitary Kentfield Heyden & Vaughan
DETROIT EDISON
Pole line North Side of Glendale
MICHIGAN CONSOLIDATED GAS
4" Gas W. Side of Vaughan, Heyden & Kentfield
8" Gas S. Side of Glendale
MICHIGAN BELL TELEPHONE CO.
Pole line W. Side of Alleys



SITUATION PLAN
SCALE 1"= 40'



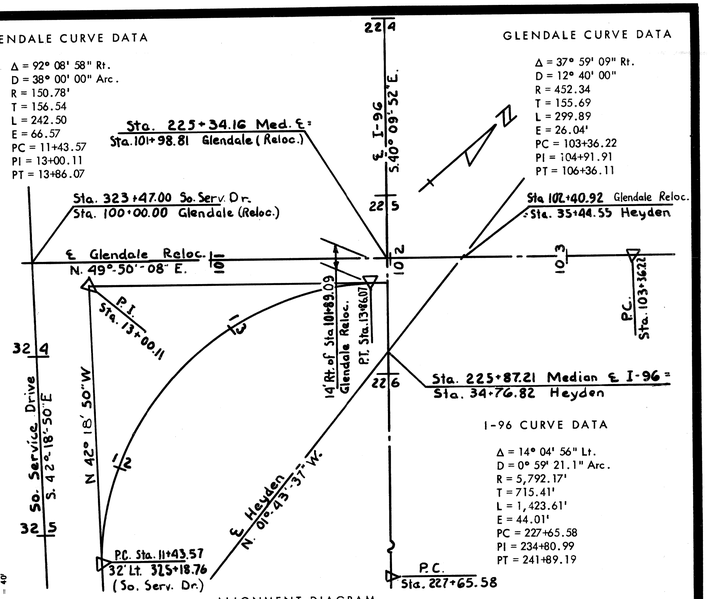


GLENDALE CURVE DATA

Δ = 92° 08' 58" Rt.
D = 38° 00' 00" Arc.
R = 150.78'
T = 156.54
L = 242.50
E = 66.57
PC = 11+43.57
PI = 13+00.11
PT = 13+86.07

GLENDALE CURVE DATA

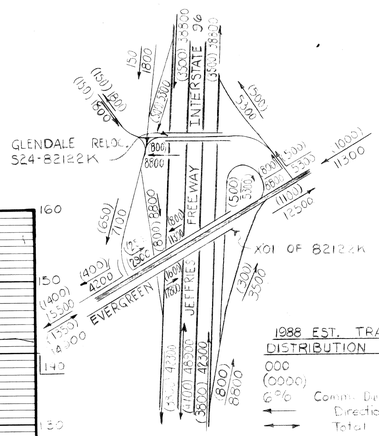
Δ = 37° 59' 09" Rt.
D = 12° 40' 00"
R = 452.34
T = 155.69
L = 299.89
E = 26.04'
PC = 103+36.22
PI = 104+91.91
PT = 106+36.11



ALIGNMENT DIAGRAM

I-96 CURVE DATA

Δ = 14° 04' 56" Lt.
D = 0° 59' 21.1" Arc.
R = 5,792.17'
T = 715.41'
L = 1,423.61'
E = 44.01'
PC = 227+65.58
PI = 234+80.99
PT = 241+89.19



1988 EST. TRAFFIC DISTRIBUTION LEGEND

000 A.D.T.
(0000) D.H.V.
6% Comm. During D.H.V.
Directional Traffic
Total Traffic

REVISIONS

NO.	DESCRIPTION	DATE	BY

STATE OF MICHIGAN
Department of State Highways

I-96 UNDER GLENDALE IN DETROIT

GENERAL PLAN OF SITE

SQUAD BOSS	MILNE	
DRAWN BY	LE	
TRACED BY		
CHECKED BY		
SHEET	OF	

APPROVED _____ ASSISTANT DESIGN SUPERVISING ENGINEER

APPROVED _____ DESIGN SUPERVISING ENGINEER

S24 of 82122K

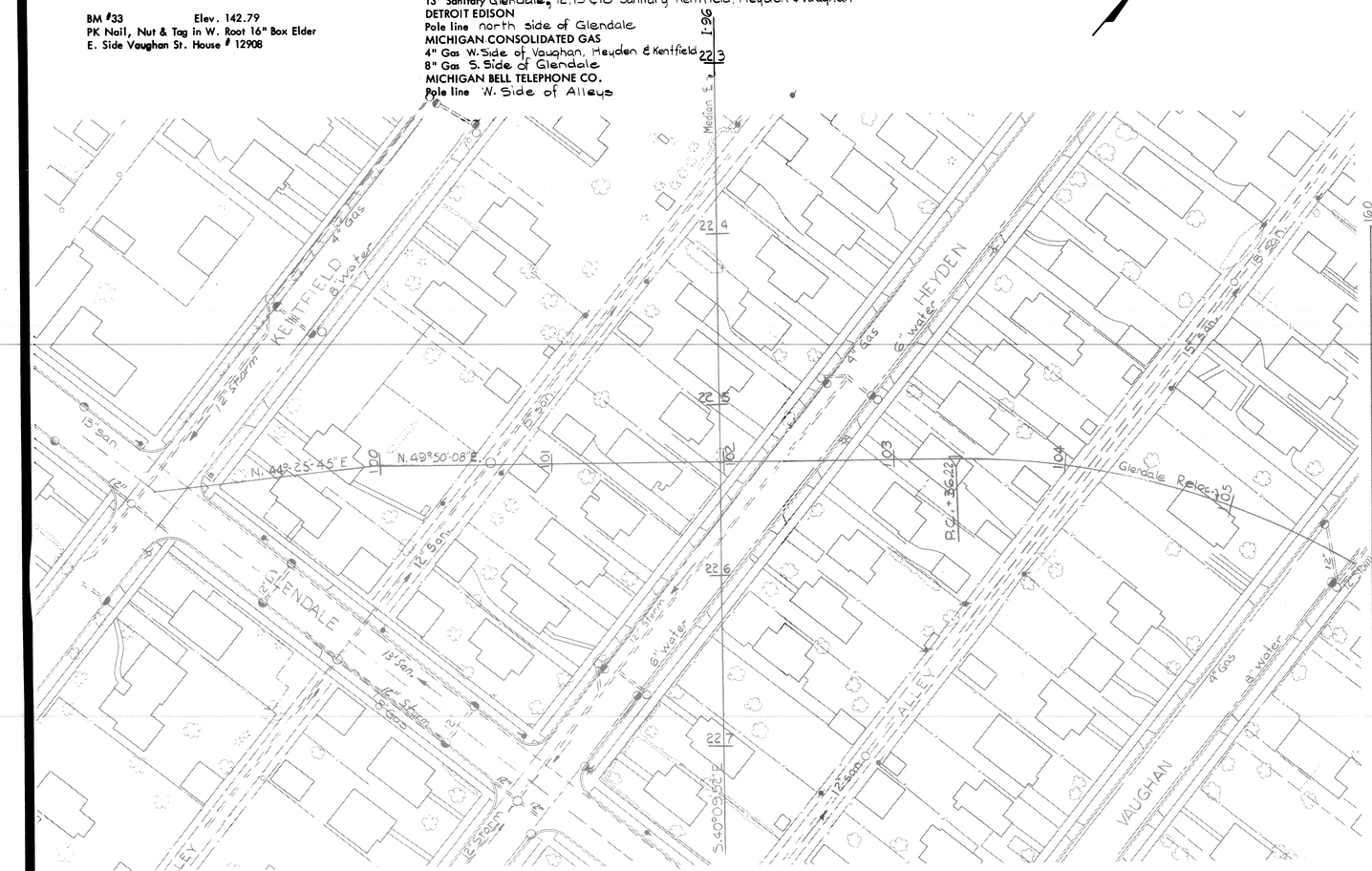
BENCH MARKS

BM #31 A Elev. 144.04
Nail, Nut & Tag in S. E. Root 22" Elm
N.W. Corner Glendale & Kentfield

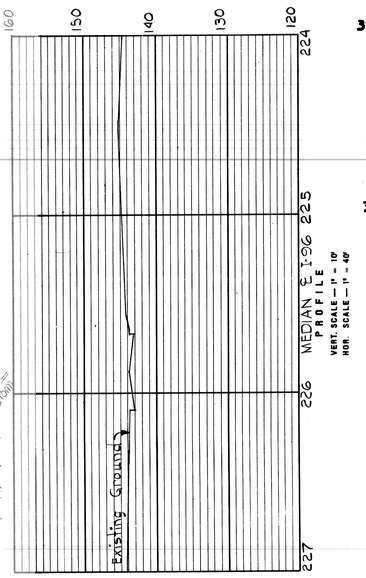
BM #33 Elev. 142.79
PK Nail, Nut & Tag in W. Root 16" Box Elder
E. Side Vaughan St. House # 12908

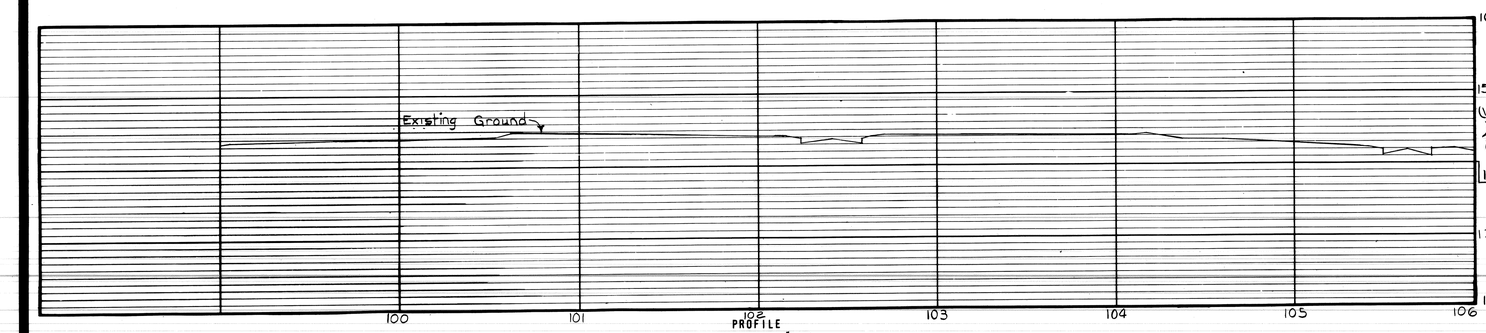
UTILITIES

CITY OF DETROIT
6" Water Heyden; 8" Water Kentfield & Vaughan
12" Storm
13' Sanitary Glendale; 12", 15' & 18" Sanitary Kentfield, Heyden & Vaughan
DETROIT EDISON
Pole line north side of Glendale
MICHIGAN CONSOLIDATED GAS
4" Gas W. Side of Vaughan, Heyden & Kentfield
8" Gas S. Side of Glendale
MICHIGAN BELL TELEPHONE CO.
Pole line W. Side of Alleys



SITUATION PLAN
SCALE 1" = 40'





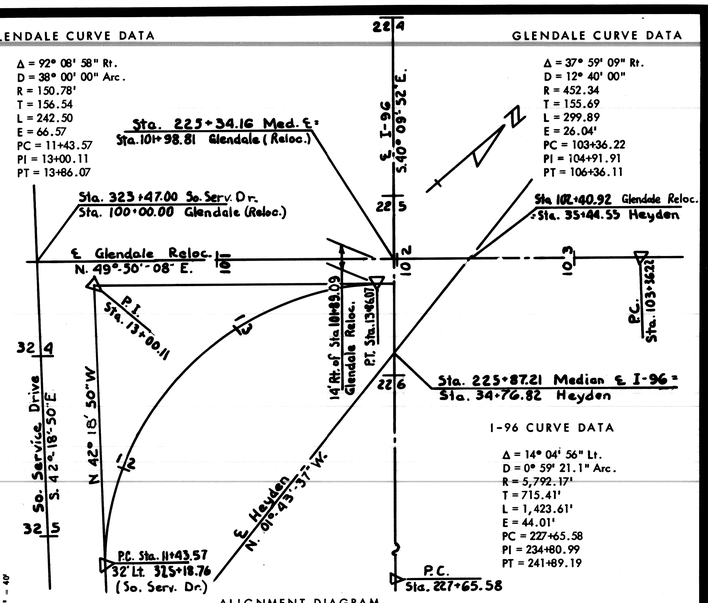
PROFILE
VERT. SCALE — 1" = 10'
HOR. SCALE — 1" = 40'
℄ GLENDALE RELOCATION

GLENDALE CURVE DATA

Δ = 92° 08' 58" Rt.
D = 38° 00' 00" Arc.
R = 150.78'
T = 156.54
L = 242.50
E = 66.57
PC = 11+43.57
PI = 13+00.11
PT = 13+86.07

GLENDALE CURVE DATA

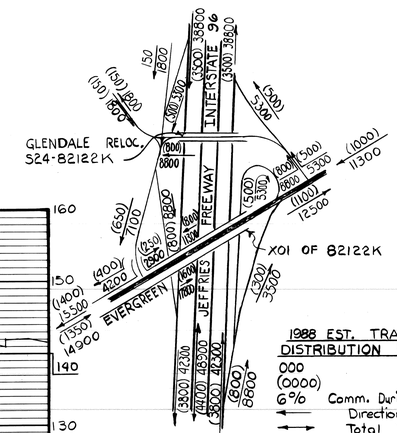
Δ = 37° 59' 09" Rt.
D = 12° 40' 00"
R = 452.34
T = 155.69
L = 299.89
E = 26.04'
PC = 103+36.22
PI = 104+91.91
PT = 106+36.11



ALIGNMENT DIAGRAM

I-96 CURVE DATA

Δ = 14° 04' 56" Lt.
D = 0° 59' 21.1" Arc.
R = 5,792.17'
T = 715.41'
L = 1,423.61'
E = 44.01'
PC = 227+65.58
PI = 234+80.99
PT = 241+89.19



1988 EST. TRAFFIC DISTRIBUTION LEGEND

000 A.D.T.
(0000) D.H.V.
6% Comm. During D.H.V.
← Directional Traffic
↔ Total Traffic

REVISIONS

NO.	DESCRIPTION	DATE	BY

STATE OF MICHIGAN
Department of State Highways

I-96 UNDER GLENDALE IN DETROIT

GENERAL PLAN OF SITE

SQUAD BOSS	MILNE
DRAWN BY	L.E.
TRACED BY	
CHECKED BY	
SHEET	OF

APPROVED _____ ASSISTANT DESIGN SUPERVISING ENGINEER

APPROVED _____ DESIGN SUPERVISING ENGINEER

S24 of 82122K

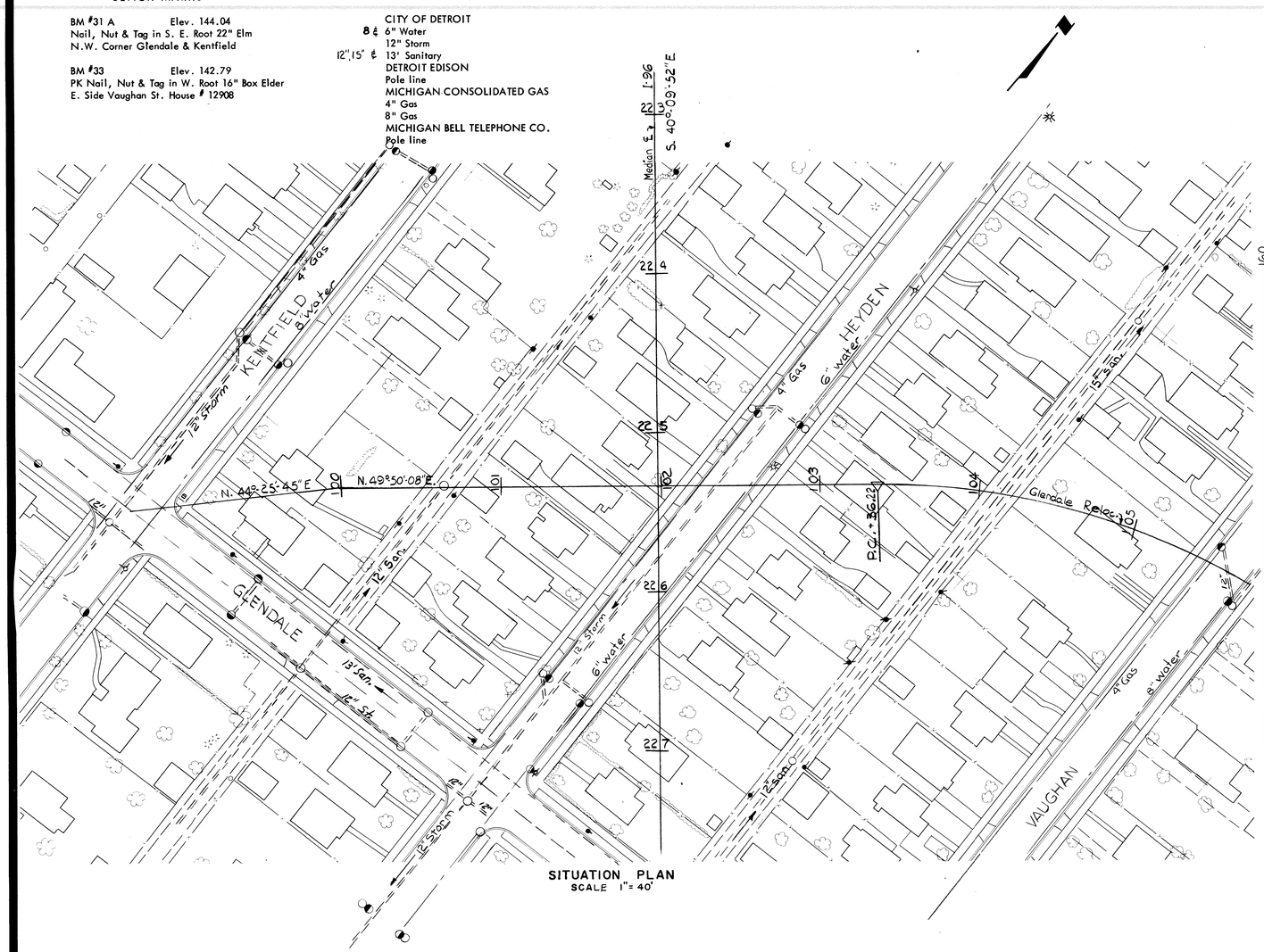
BENCH MARKS

BM #31 A Elev. 144.04
Nail, Nut & Tag in S. E. Root 22" Elm
N.W. Corner Glendale & Kentfield

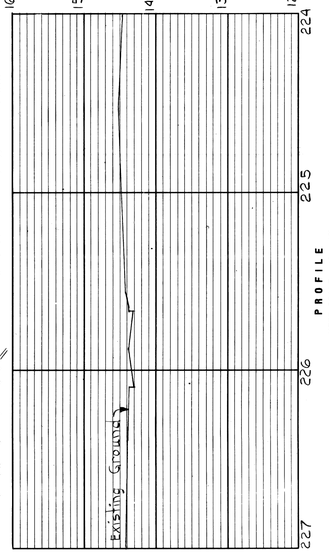
BM #33 Elev. 142.79
PK Nail, Nut & Tag in W. Root 16" Box Elder
E. Side Vaughan St. House # 12908

UTILITIES

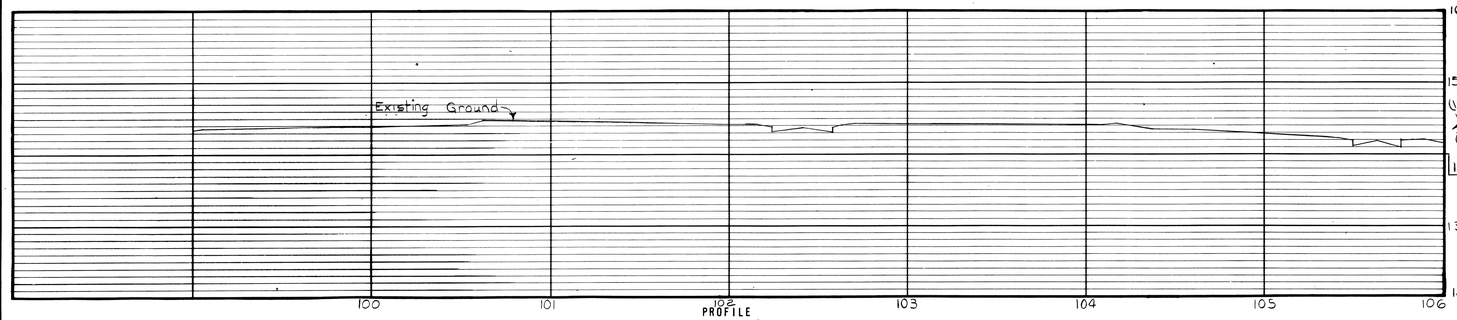
CITY OF DETROIT
8 ℄ 6" Water
12" Storm
12"15" ℄ 13' Sanitary
DETROIT EDISON
Pole line
MICHIGAN CONSOLIDATED GAS
4" Gas
8" Gas
MICHIGAN BELL TELEPHONE CO.
Pole line



SITUATION PLAN
SCALE 1"= 40'



PROFILE
VERT. SCALE — 1" = 10'
HOR. SCALE — 1" = 40'



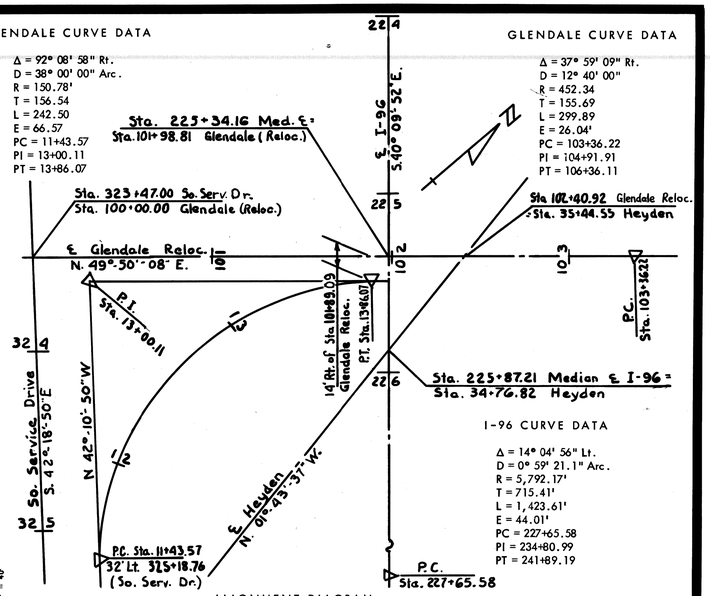
PROFILE
VERT. SCALE—1"= 10'
HOR. SCALE—1"= 40'
GLENDALE RELOCATION

GLENDALE CURVE DATA

Δ = 92° 08' 58" Rt.
D = 38° 00' 00" Arc.
R = 150.78'
T = 156.54
L = 242.50
E = 66.57
PC = 11+43.57
PI = 13+00.11
PT = 13+86.07

GLENDALE CURVE DATA

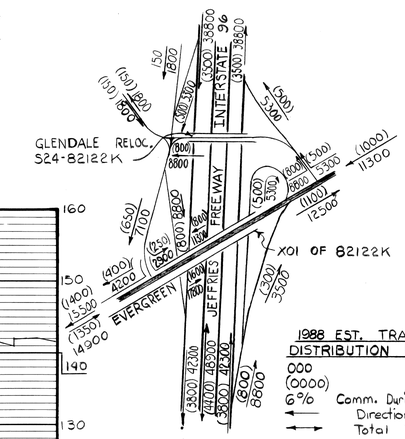
Δ = 37° 59' 09" Rt.
D = 12° 40' 00"
R = 452.34
T = 155.69
L = 299.89
E = 26.04'
PC = 103+36.22
PI = 104+91.91
PT = 106+36.11



ALIGNMENT DIAGRAM

I-96 CURVE DATA

Δ = 14° 04' 56" Lt.
D = 0° 59' 21.1" Arc.
R = 5,792.17'
T = 715.41'
L = 1,423.61'
E = 44.01'
PC = 227+65.58
PI = 234+80.99
PT = 241+89.19



1988 EST. TRAFFIC DISTRIBUTION LEGEND

000	A.D.T.
(0000)	D.H.V.
6%	Comm. During. D.H.V.
←	Directional Traffic
↔	Total Traffic

REVISIONS

NO.	DESCRIPTION	DATE	BY

STATE OF MICHIGAN
Department of State Highways

I-96 UNDER GLENDALE IN DETROIT

GENERAL PLAN OF SITE

SQUAD BOSS	MILNE	
DRAWN BY	L.E.	5-19-67
TRACED BY		
CHECKED BY		
SHEET	OF	

APPROVED _____ ASSISTANT DESIGN SUPERVISING ENGINEER

APPROVED _____ DESIGN SUPERVISING ENGINEER

S24 of 82122K

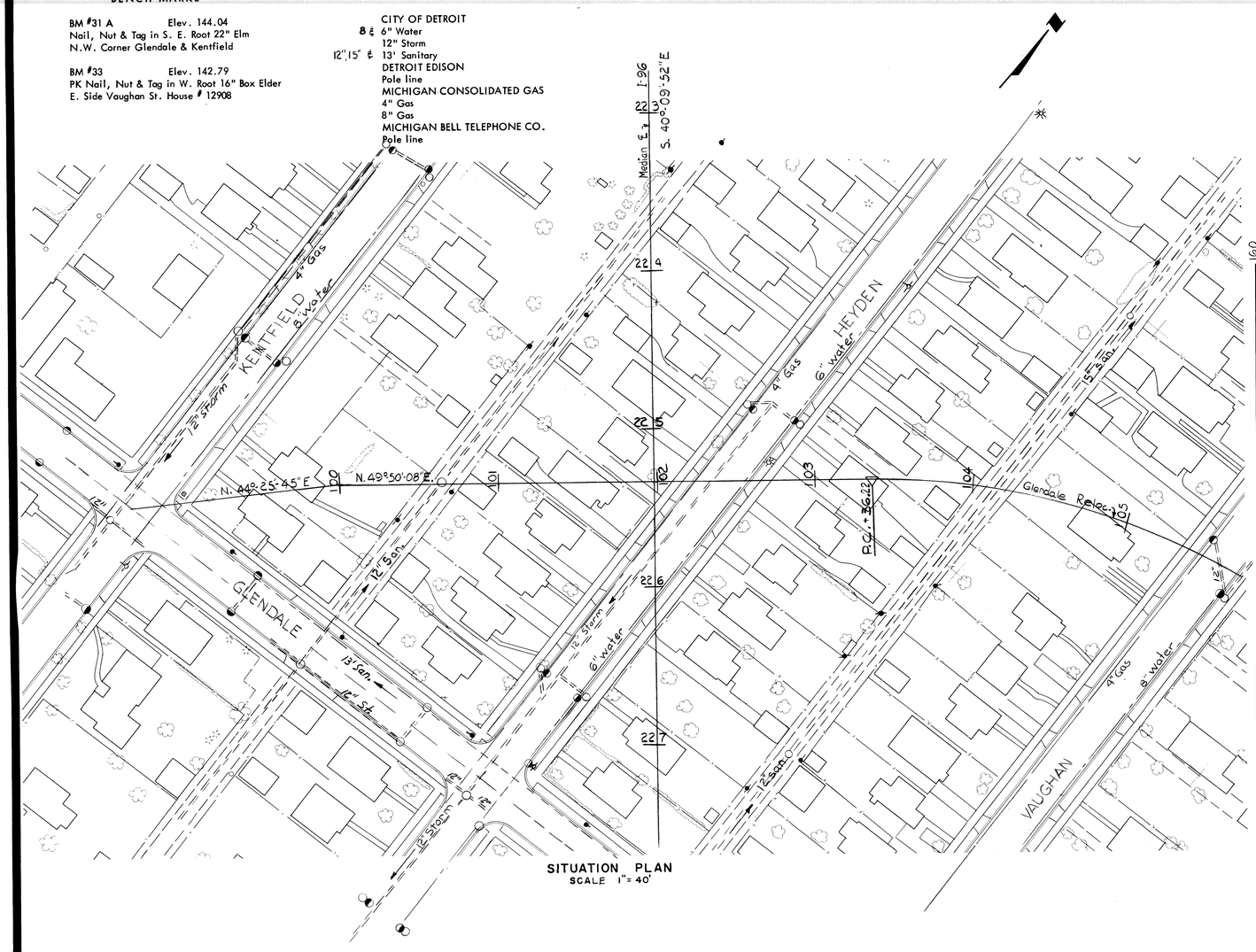
BENCH MARKS

BM #31 A Elev. 144.04
Nail, Nut & Tag in S. E. Root 22" Elm
N.W. Corner Glendale & Kentfield

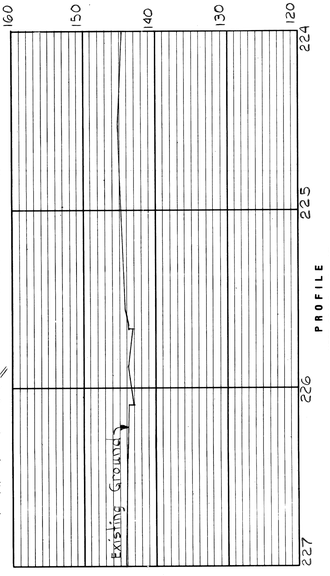
BM #33 Elev. 142.79
PK Nail, Nut & Tag in W. Root 16" Box Elder
E. Side Vaughan St. House # 12908

UTILITIES

CITY OF DETROIT
8" & 6" Water
12" Storm
12", 15" & 13' Sanitary
DETROIT EDISON
Pole line
MICHIGAN CONSOLIDATED GAS
4" Gas
8" Gas
MICHIGAN BELL TELEPHONE CO.
Pole line



SITUATION PLAN
SCALE 1" = 40'



GLENDALE CURVE DATA

Δ = 92° 08' 58" Rt.
D = 38° 00' 00" Arc.
R = 150.78'
T = 156.54
L = 242.50
E = 66.57
PC = 11+43.57
PI = 13+00.11
PT = 13+86.07

GLENDALE CURVE DATA

Δ = 37° 59' 09" Rt.
D = 12° 40' 00"
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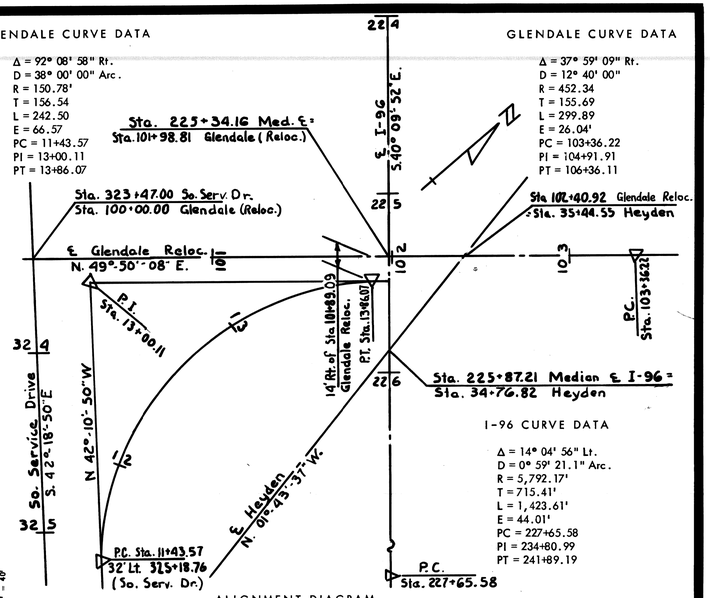
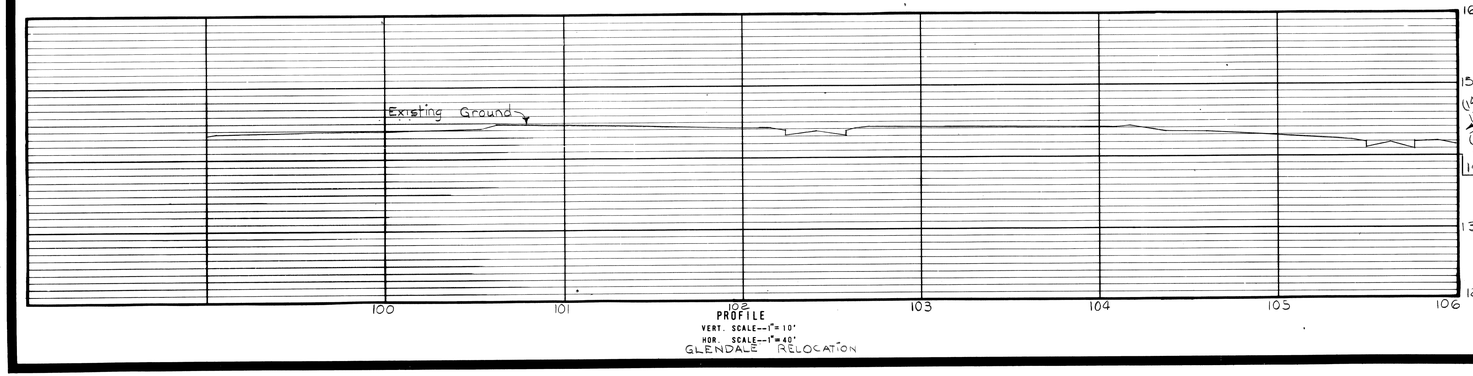
T = 155.69
L = 299.89
E = 26.04'
PC = 103+36.22
PI = 104+91.91
PT = 106+36.11

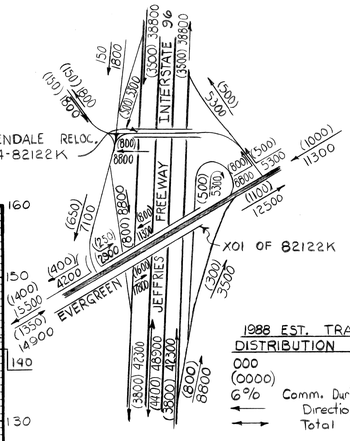


I-96 CURVE DATA

Δ = 14° 04' 56" Lt.
D = 0° 59' 21.1" Arc.
R = 5,792.17'
T = 715.41'
L = 1,423.61'
E = 44.01'
PC = 227+65.58
PI = 234+80.99
PT = 241+89.19

ALIGNMENT DIAGRAM





1988 EST. TRAFFIC DISTRIBUTION LEGEND

000 A.D.T.
(0000) D.H.V.
6% Comm. During. D.H.V.
→ Directional Traffic
↔ Total Traffic

REVISIONS

NO.	DESCRIPTION	DATE	BY

STATE OF MICHIGAN
Department of State Highways
I-96 UNDER GLENDALE IN DETROIT
GENERAL PLAN OF SITE

SQUAD BOSS	MILNE	
DRAWN BY	L.E.	5-12-67
TRACED BY		
CHECKED BY		
SHEET	OF	

APPROVED _____ ASSISTANT DESIGN SUPERVISING ENGINEER

APPROVED _____ DESIGN SUPERVISING ENGINEER

S24 of 82122K

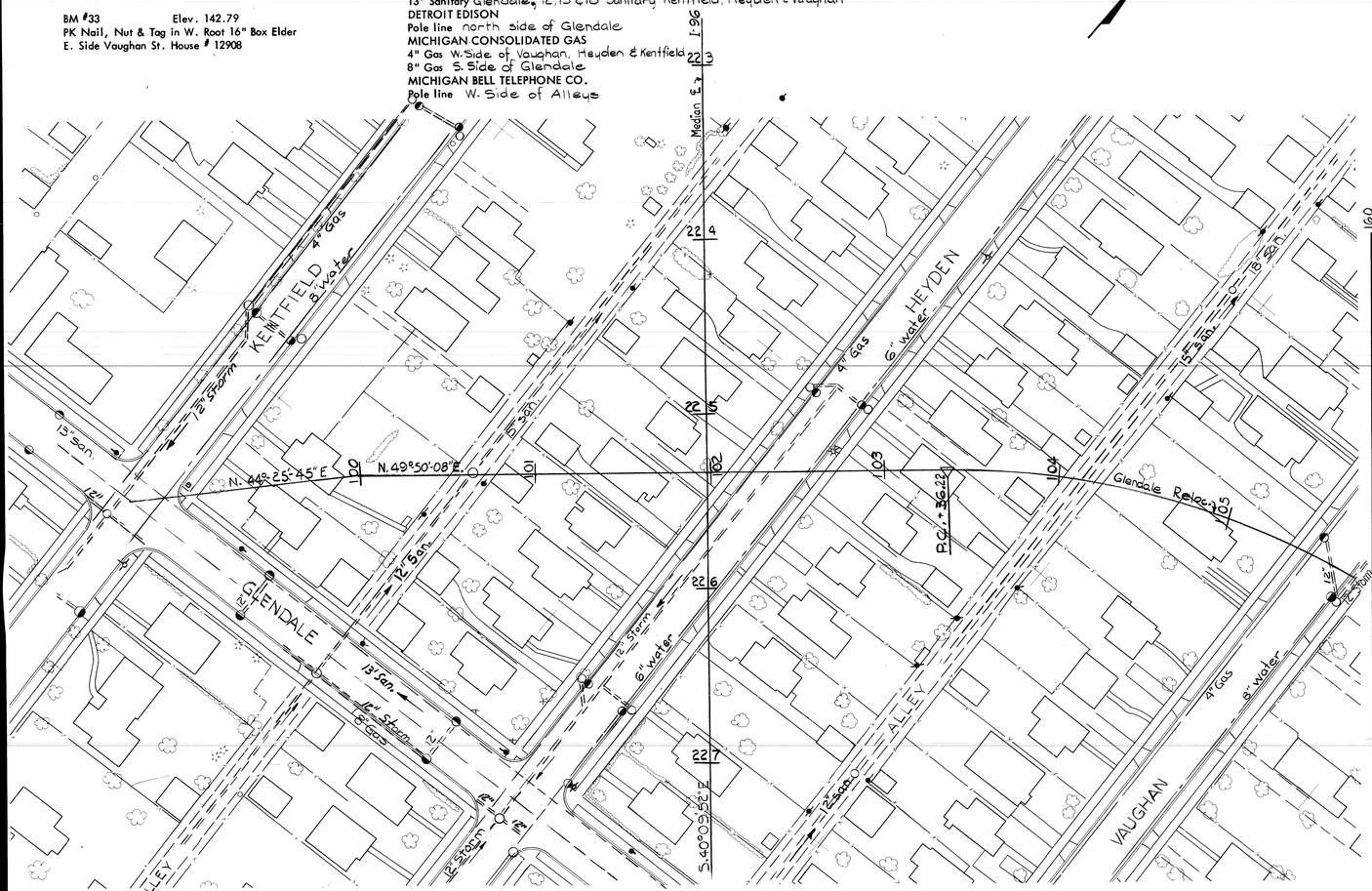
BENCH MARKS

BM #31 A Elev. 144.04
Nail, Nut & Tag in S. E. Root 22" Elm
N.W. Corner Glendale & Kentfield

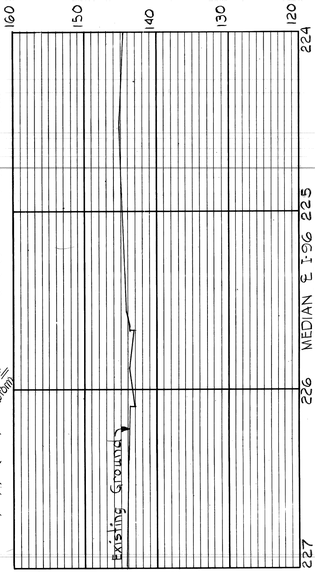
BM #33 Elev. 142.79
PK Nail, Nut & Tag in W. Root 16" Box Elder
E. Side Vaughan St. House # 12908

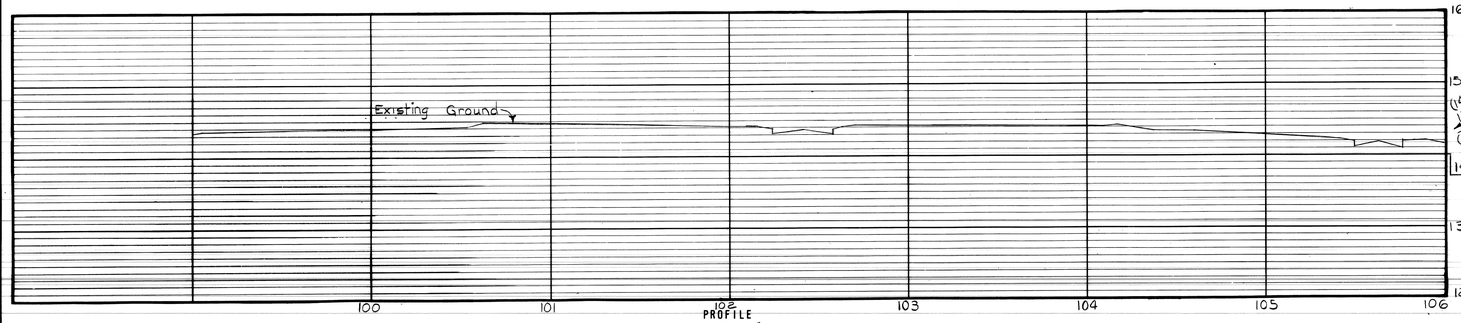
UTILITIES

CITY OF DETROIT
6" Water Heyden; 8" Water Kentfield & Vaughan
12" Storm
13' Sanitary Glendale; 12", 15' & 18" Sanitary Kentfield, Heyden & Vaughan
DETROIT EDISON
Pole line north side of Glendale
MICHIGAN CONSOLIDATED GAS
4" Gas W. Side of Vaughan, Heyden & Kentfield
8" Gas S. Side of Glendale
MICHIGAN BELL TELEPHONE CO.
Pole line W. Side of Alleys



SITUATION PLAN
SCALE 1" = 40'





PROFILE
VERT. SCALE — 1" = 10'
HOR. SCALE — 1" = 40'
℄ GLENDALE RELOCATION

GLENDALE CURVE DATA

Δ = 92° 08' 58" Rt.
D = 38° 00' 00" Arc.
R = 150.78'
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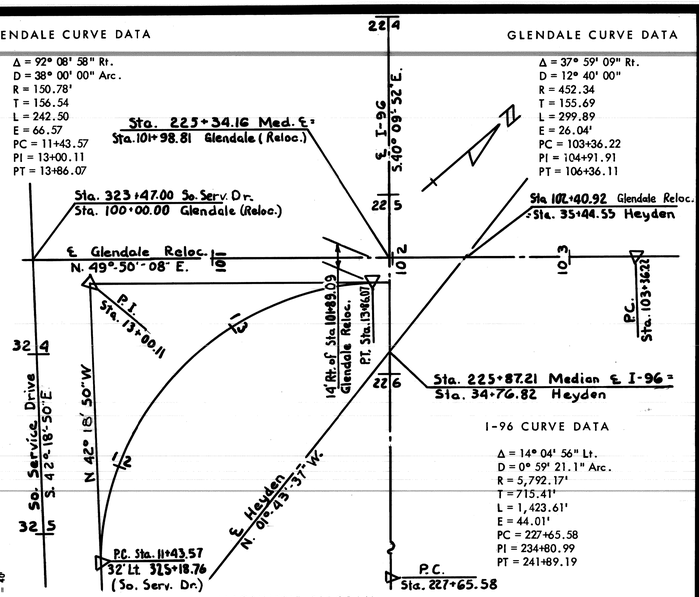
L = 242.50
E = 66.57
PC = 11+43.57
PI = 13+00.11
PT = 13+86.07

GLENDALE CURVE DATA

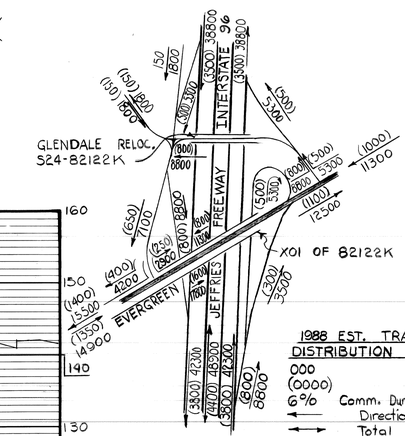
Δ = 37° 59' 09" Rt.
D = 12° 40' 00"
R = 452.34
T = 155.69
L = 299.89
E = 26.04'
PC = 103+36.22
PI = 104+91.91
PT = 106+36.11



ALIGNMENT DIAGRAM

I-96 CURVE DATA

Δ = 14° 04' 56" Lt.
D = 0° 59' 21.1" Arc.
R = 5,792.17'
T = 715.41'
L = 1,423.61'
E = 44.01'
PC = 227+65.58
PI = 234+80.99
PT = 241+89.19



1988 EST. TRAFFIC DISTRIBUTION LEGEND

000 A.D.T.
(0000) D.H.V.
G% Comm. During. D.H.V.
← Directional Traffic
↔ Total Traffic

REVISIONS

NO.	DESCRIPTION	DATE	BY

STATE OF MICHIGAN
Department of State Highways
I-96 UNDER GLENDALE IN DETROIT
GENERAL PLAN OF SITE

SQUAD BOSS	MILNE	
DRAWN BY	L.E.	
TRACED BY		
CHECKED BY		
SHEET	OF	

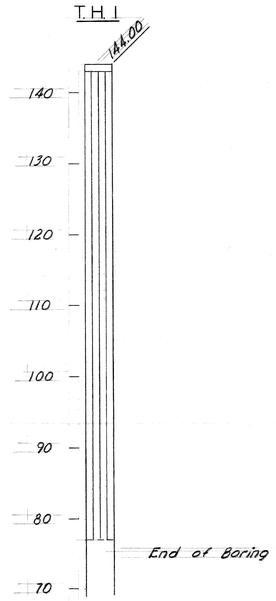
APPROVED _____ ASSISTANT DESIGN SUPERVISING ENGINEER

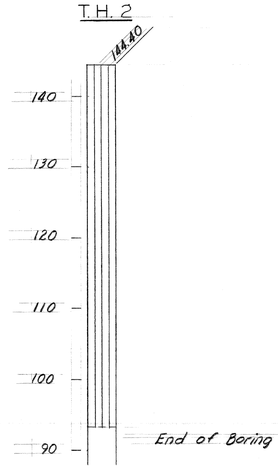
APPROVED _____ DESIGN SUPERVISING ENGINEER

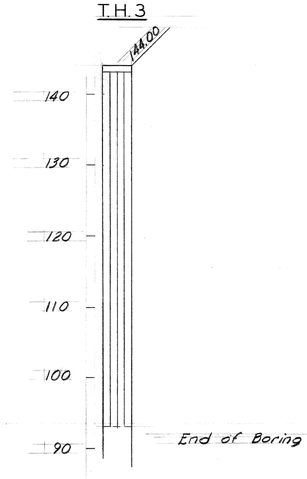
S24 of 82122K

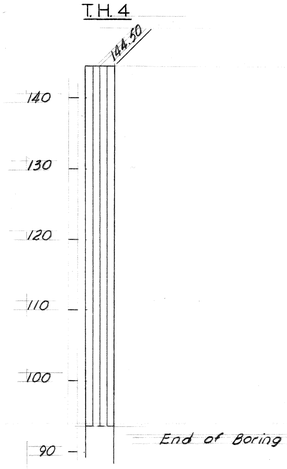
Obtain Town Survey Plat

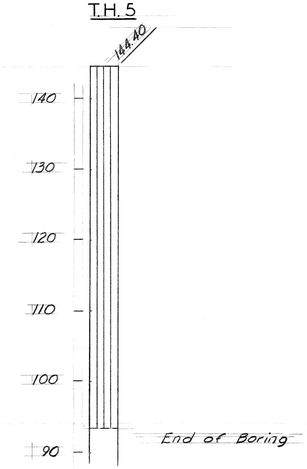
LOG OF SOIL BORINGS

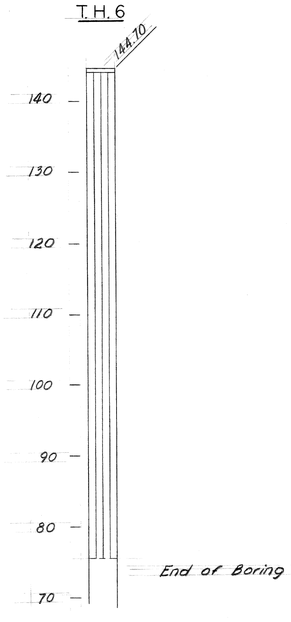


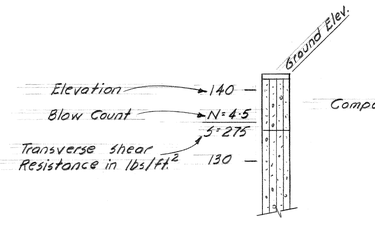




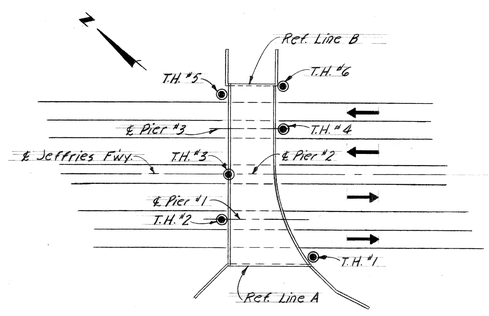








LEGEND



SOIL BORING LOCATION

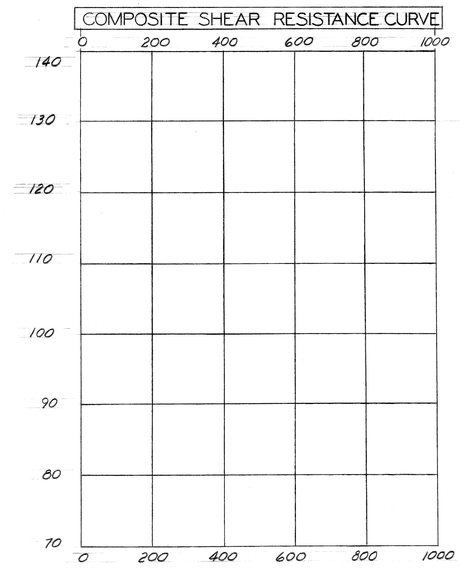
Notes:

N- Indicates the number of blow counts required to drive the 2"ϕ 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.D.S.H. Standard Test.

✱ - Indicates no sample.

All elevations are based on City of Detroit Datum.



TRANSVERSE SHEARING RESISTANCE
(lbs. per Sq. Ft.)

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

APPROVED _____ STRUCTURAL ENGINEER

JOB No.
PW 990 (19)

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

CLENDALE AVENUE CROSSING THE JEFFRIES FREEWAY IN DETROIT

LOG OF BORINGS

SQUAD BOSS		
DRAWN BY	A. G.	6-69
TRACED BY		
CHECKED BY		

SHEET 2 OF 6

APPROVED _____ SUPERVISOR - DESIGN

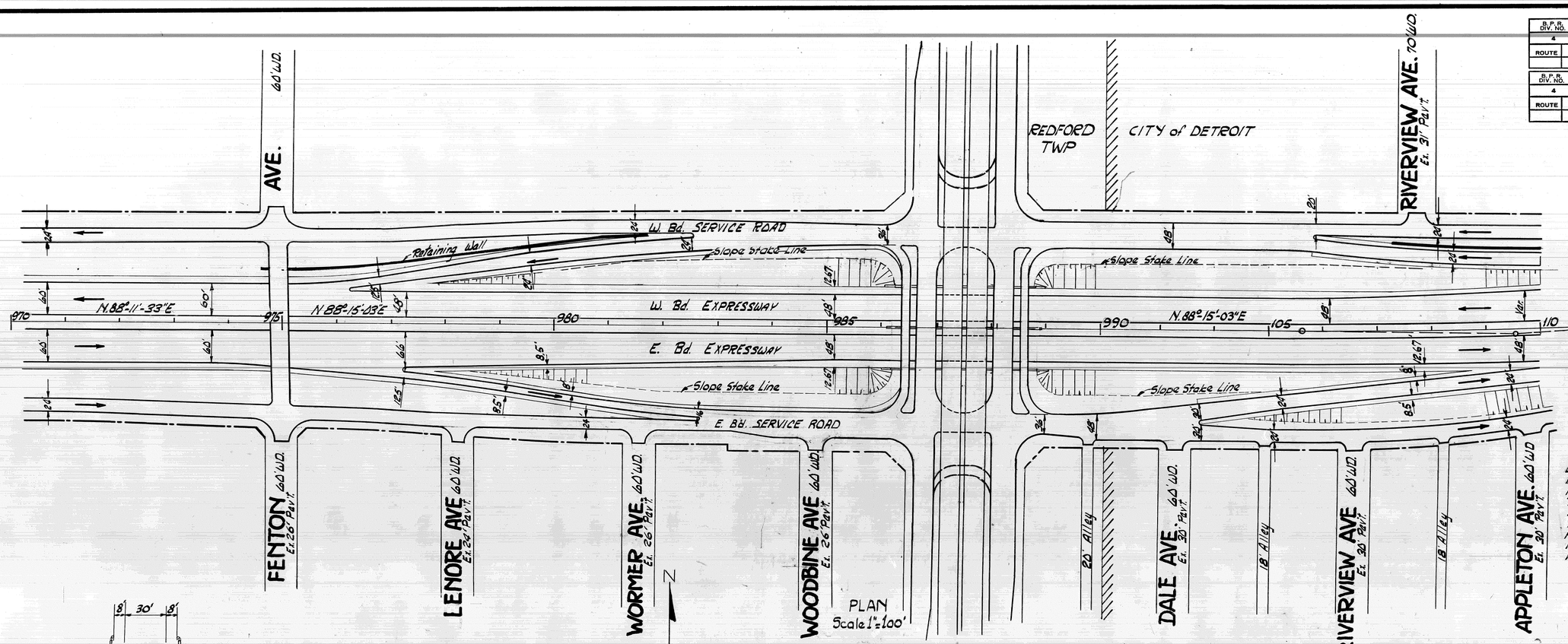
APPROVED _____ ENGINEER - DESIGN SECTION I

S24 of 82122K

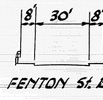
990(19)

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		SHEET NO.	TOTAL SHEETS



Curve Data
Δ = 3°56'-20" Lt.
D = 0°30'-00"
R = 11,459.16
T = 394.04
L = 787.78
E = 6.17
P.C. = 105+59.33
P.I. = 109+53.37
P.T. = 113+47.10

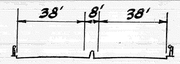


FENTON St. Bridge

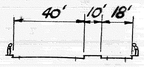
BEARING EQUATION @ 975+05.48
N. 87°-41'-15" E. Back =
N. 87°-44'-45" E. Ahead.

ELEVATION EQUATION
El. 580.00 U.S.G.S. =
El. 100.45 City of Detroit

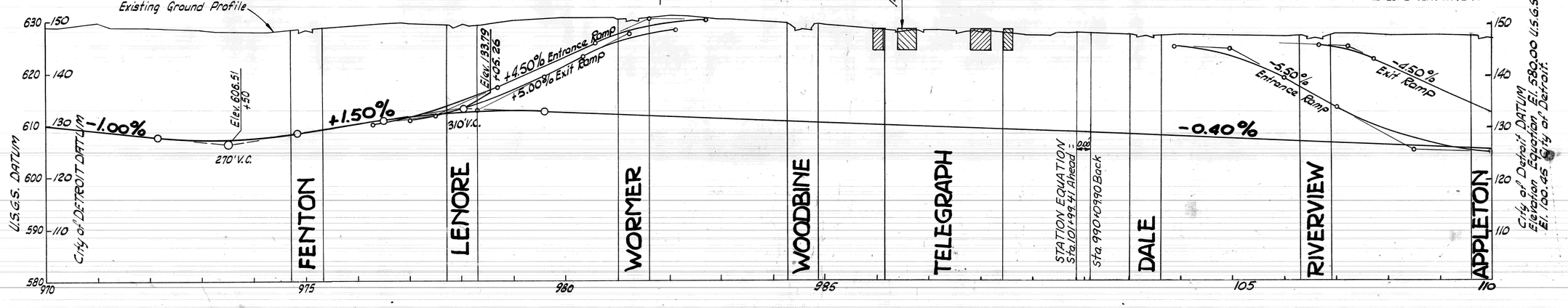
STATION EQUATION
Sta. 990+09.90 Back =
Sta. 101+99.41 Ahead.



TELEGRAPH ROAD



SERVICE ROAD & "U" Turn Bridge

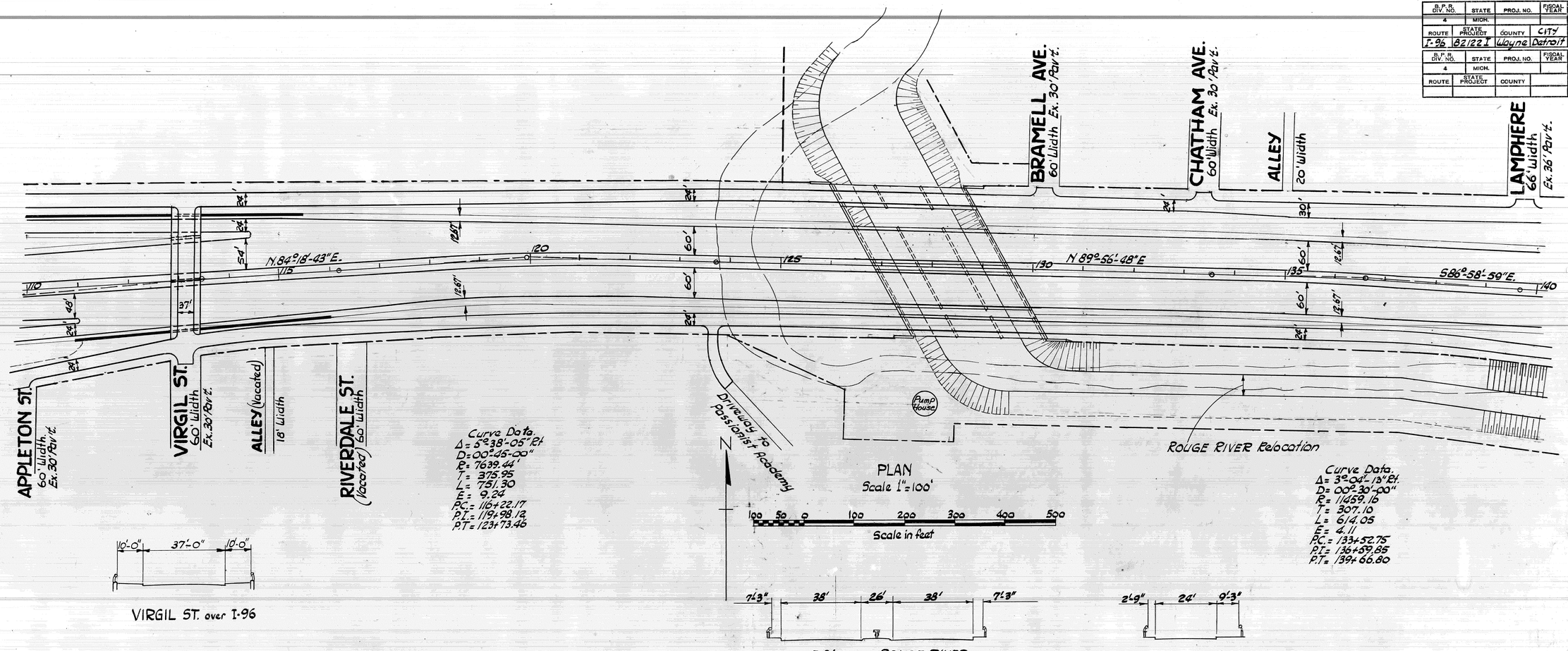


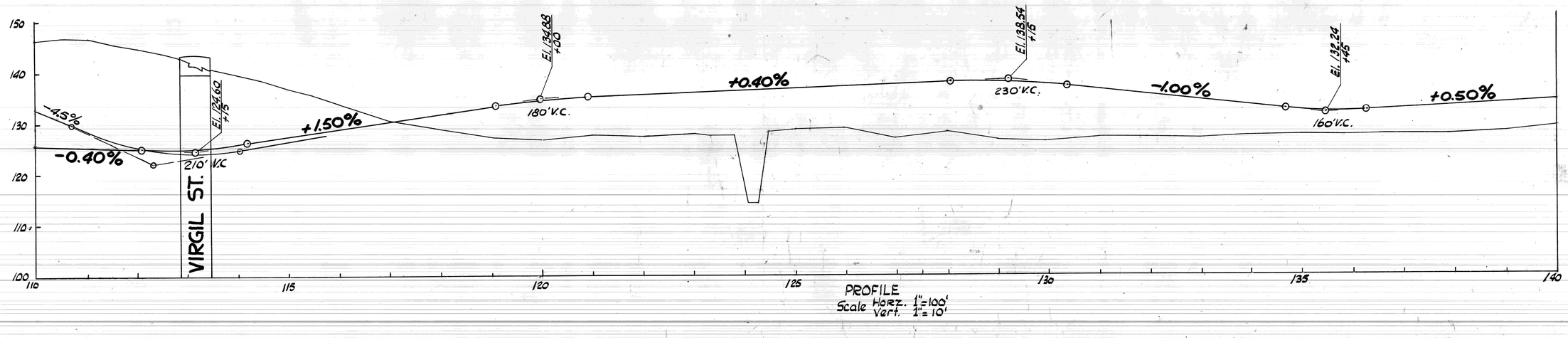
PROFILE
Scale Horz. 1" = 100'
Vert. 1" = 10'

FILE NO.	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
NO. SEQ. STENCIL			

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
I-96	82122 I	Wayne	Detroit		

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





PROFILE
Scale Horz. 1"=100'
Vert. 1"=10'

Goetsch

FILE NO. USE NO. 350 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82122 I		

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		SHEET NO.	TOTAL SHEETS

Da COSTA 60' Width
Ex. 30' Pav't.

ST. 60' Width

ST. 60' Width

DRIVE 150' Width

ST. 50' Width

JASON ST. 50' Width

AVE. 60' Width

AVE. 50' Width

S 86°-58'-59" E

S 86°-58'-59" E

S 89°-23'-08" E

ROUGE RIVER

Pump House

ROUGE River Relocation

DOLPHIN
Ex. 30' Pav't.

ROCKDALE
Ex. 30' Pav't.

18' Alley

OUTER
Ex. Dual 36' Pav't.

18' Alley

GREYDALE
Ex. Gravel St.

18' Alley (Vacated)

Turnaround

50' Width
HALLEY ST.
Ex. Gravel St.

18' Alley

30' Width
CHAPEL
Ex. 18' Pav't.

18' Alley

BENTLER
Ex. 30' Pav't.

18' Alley

WESTBROOK
Ex. 26' Pav't.

PLAN
Scale 1"=100'

100 50 0 100 200 300 400 500
Scale in feet.

Curve Data
Δ = 2°24'-06" Lt.
D = 00°-24'-00"
R = 14,323.94'
T = 300.25'
L = 600.42'
E = 3.15'
P.C. = 148+01.49
P.I. = 151+01.74
P.T. = 154+02.05

8'
Pedestrian Bridge

Curve Data
Δ = 2°-00'-35" Lt.
D = 00°-20'00"
R = 17,188.73'
T = 301.49'
L = 602.92'
E = 2.64'
P.C. = 165+01.33
P.I. = 168+02.82
P.T. = 171+04.25

18' 10' 48' ℄ 48' 10' 18'

OUTER DRIVE over I-96

Goetsch

150
140
130
120
110
100

El. 137.29 +55

+0.50%

+2.20% Exit Ramp

+1.50% Entrance Ramp

480' V.C.

-2.50%

380' V.C.

El. 121.94 +69

+1.08%

-4.00% Entrance Ramp

-4.5% Exit Ramp

-0.70%

290' V.C.

El. 136.58 +25

Da COSTA

DOLPHIN

ROCKDALE

OUTER DRIVE

GREYDALE Lt.

GREYDALE Rt.

JASON

BENTLER

140 145 150 155 160 165 170

PROFILE
Scale Horz. 1"=100'
Vert. 1"=10'

FILE NO. USE NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.

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		SHEET NO.	TOTAL SHEETS

BURT ST. over I-96

E.BD SCHOOLCRAFT
crossover over I-96

Curve Data
Δ = 5°-13-51" Rt.
D = 3°-00'-00"
R = 1909.86'
T = 915.68'
L = 1707.69
E = 208.17
P.C. = 180+44.30
P.T. = 189+52.98
P.T. = 218+06.58

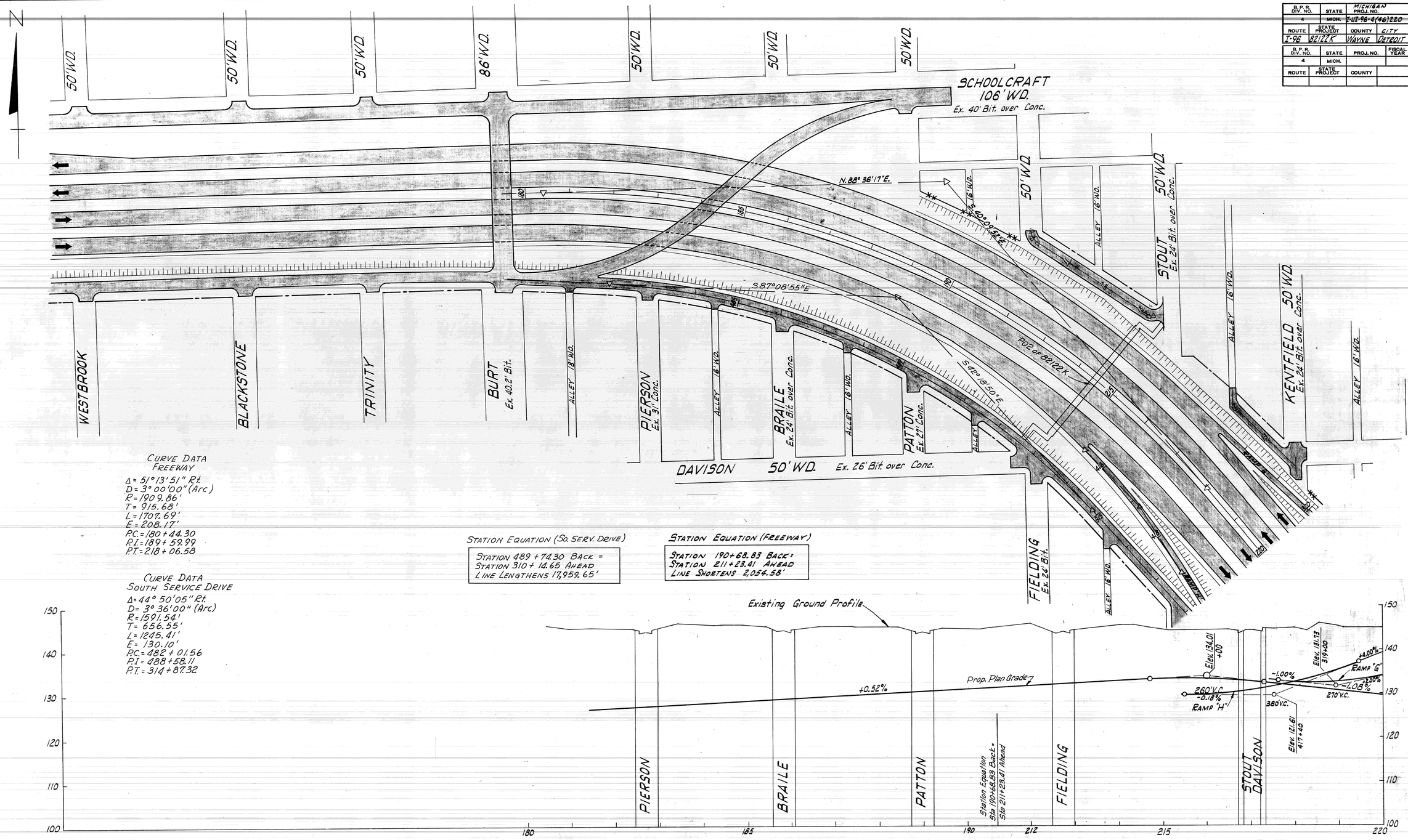
STATION EQUATION
Sta. 190+88.83 Back =
Sta 211+23.41 Ahead.

FILE NO. USE NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.

4

B. P. R. DIV. NO.	STATE	MICHIGAN PROJ. NO.		SHEET NO.	TOTAL SHEETS
4	MICH.	I-UI-96-4(46)220			
ROUTE	STATE PROJECT	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
I-96	82122K	WAYNE	DETROIT	5/1	

U. P. D. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS



SQUAD - EDDY 1961 M.H. POLAND 1968

CURVE DATA
FREEWAY

Δ = 51° 13' 51" Rt.
D = 3° 00' 00" (Arc)
R = 1909.86'
T = 915.68'
L = 1707.69'
E = 208.17'
P.C. = 180 + 44.30
P.I. = 189 + 59.99
P.T. = 218 + 06.58

CURVE DATA
SOUTH SERVICE DRIVE

Δ = 44° 50' 05" Rt.
D = 3° 36' 00" (Arc)
R = 1591.54'
T = 656.55'
L = 1245.41'
E = 130.10'
P.C. = 482 + 01.56
P.I. = 488 + 58.11
P.T. = 314 + 87.32

STATION EQUATION (So. SERV. DRIVE)

STATION 489 + 74.30 BACK =
STATION 310 + 14.65 AHEAD
LINE LENGTHENS 17,959.65'

STATION EQUATION (FREEWAY)

STATION 190+68.83 BACK =
STATION 211+23.41 AHEAD
LINE SHORTENS 2,054.58'

PROFILE

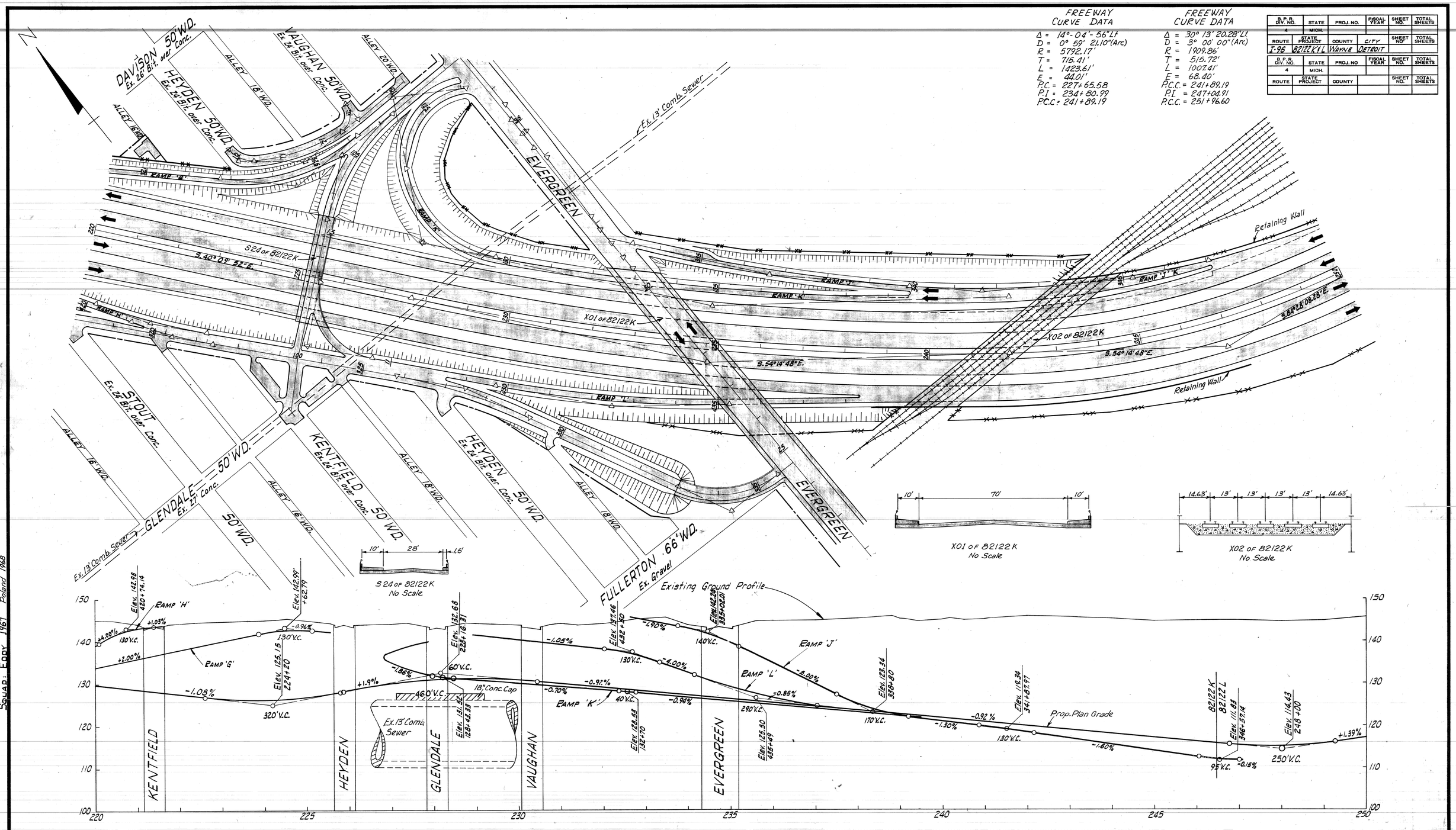
SCALE: Horz. 1" = 100'
Vert. 1" = 10'

FILE NO. USE NO. 350 STENCIL		STATE PROJECT	FEDERAL PROJECT	SHEET NO.
		82122K		5/1

FREEWAY CURVE DATA	FREEWAY CURVE DATA
Δ = 14°-04'-56"Lt	Δ = 30° 13' 20.28"Lt.
D = 0° 59' 21.10"(Arc)	D = 3° 00' 00"(Arc)
R = 5792.17'	R = 1909.86'
T = 715.41'	T = 515.72'
L = 1423.61'	L = 1007.41'
E = 44.01'	E = 68.40'
P.C. = 227+65.58	P.C.C. = 241+89.19
P.I. = 234+80.99	P.I. = 247+04.91
P.C.C. = 241+89.19	P.C.C. = 251+96.60

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
I-96	82122K&L	WAYNE	DETROIT		

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



PROFILE

SCALE: HORZ. 1" = 100'
VERT. 1" = 10'

SQUAD: EDDY 1967 Poland 1968

FILE NO. USE NO. 380 STENCIL	STATE PROJECT	FEDERAL PROJECT	SHEET NO.
	82122K&L		