

MICHIGAN DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED BRIDGE RECONSTRUCTION

MICHIGAN PROJECT

CONTROL SECTION 38051

JOB NUMBER 53274A

M-106

HENRIETTA TOWNSHIP

JACKSON COUNTY

PLAN INDEX	
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1	TITLE SHEET
1A-1E	APPROACH PLANS
2	GENERAL PLAN OF SITE
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16-21	ABUTMENT DETAILS
22-24	BOX BEAM DETAILS
25-29	SUPERSTRUCTURE DETAILS
30	SLAB AND SCREED DETAILS
31-32	STEEL REINFORCEMENT DETAILS

GENERAL NOTES

THE RECONSTRUCTION DESIGN IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS25 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/800 OF SPAN LENGTH. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS DESIGN. THE ORIGINAL STRUCTURE WAS DESIGNED FOR H20 LOADING.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

CONCRETE: GRADE S2	f'c = 3,000 psi
CONCRETE: GRADE D	f'c = 4,000 psi
STEEL REINFORCEMENT	fy = 60,000 psi
STEEL REINFORCEMENT:	
STIRRUPS FOR PRESTRESSED BEAMS	fy = 60,000 psi
PRESTRESSED CONCRETE	f'c = 5,000 psi
PRESTRESSING STRANDS	f's = 270,000 psi

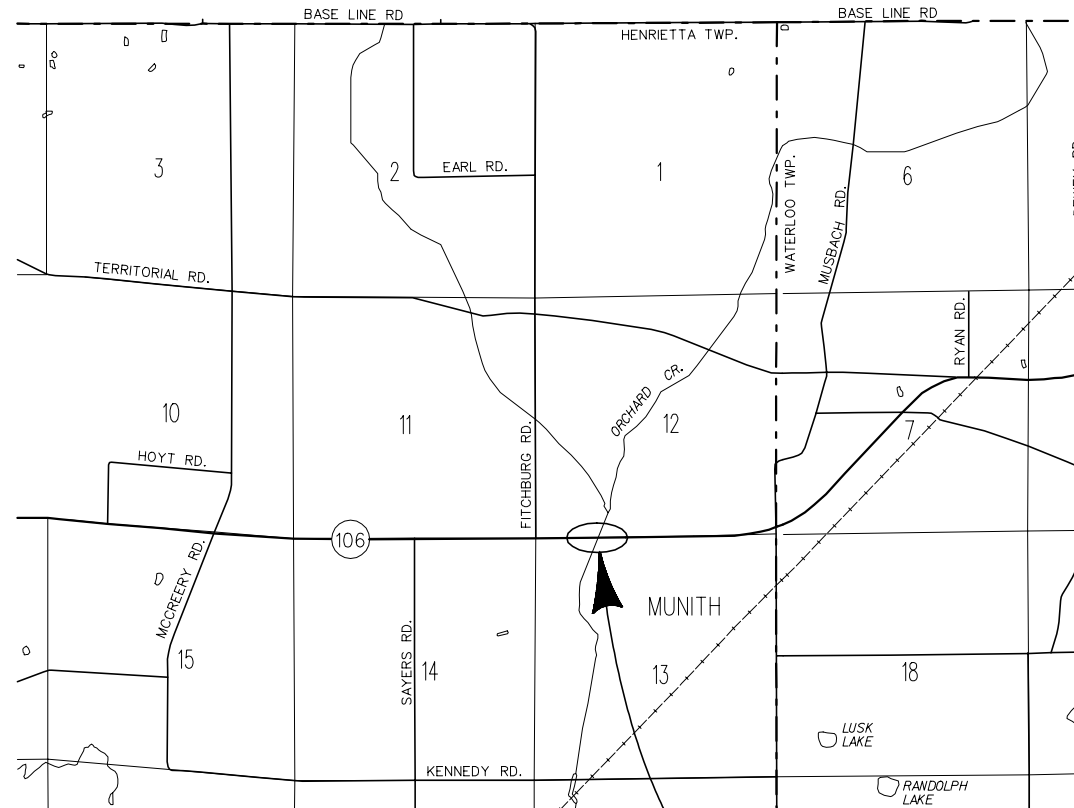
EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS, OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE ACCORDING TO THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 2003 EDITION.

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

B-25-C	BRIDGE RAILING, AESTHETIC PARAPET TUBE
B-103-D	MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY AND NAME PLATE DETAILS
R-80-C	GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS



COUNTY KEY

TITLE SHEET LEGEND

PROPOSED BRIDGE PROJECT	
EXISTING ROADS	
CITY STREET	
COUNTY	
STATE ROUTES	
FEDERAL DIVIDED ROUTES	
FEDERAL DIVIDED INTERSTATE ROUTES	
HOT MIX ASPHALT	
GRAVEL	
SECTION LINE	
CITY, VILLAGE OR TOWNSHIP LIMITS	
RAILROADS	

CONTRACT FOR: SUPERSTRUCTURE REPLACEMENT, PLACEMENT OF LIGHT WEIGHT FILL BEHIND THE ABUTMENTS, MAINTAINING TRAFFIC AND ROAD WORK.

APPROVALS

RECOMMENDED FOR APPROVAL	PROJECT MANAGER	DATE
RECOMMENDED FOR APPROVAL	RESIDENT ENGINEER	DATE

**MICHIGAN
DEPARTMENT OF TRANSPORTATION**
KIRK T. STEUDLE - DIRECTOR

APPROVED BY _____ DATE _____
ENGINEER OF DEVELOPMENT



DESIGN SQUAD

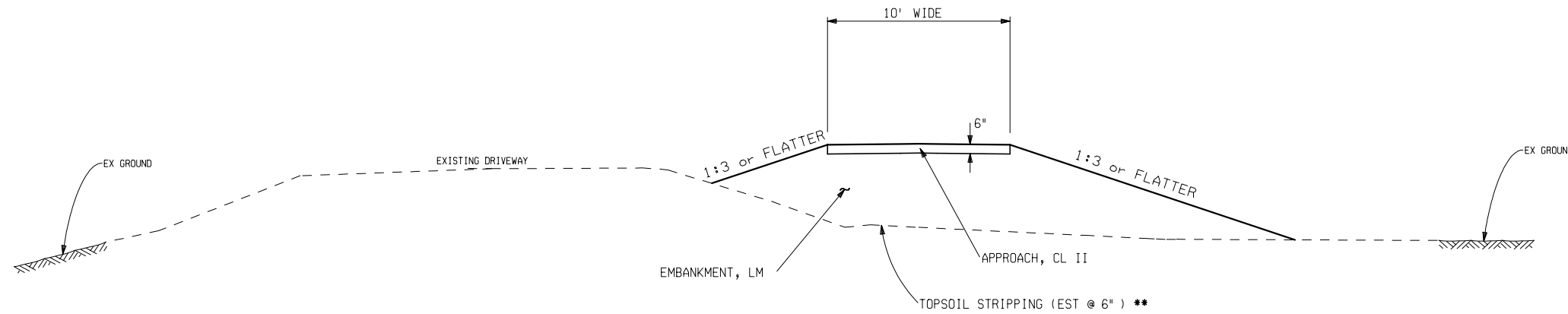
CONTROL SECTION	JOB NUMBER	FEDERAL NUMBERS		SHEET NO.
		PROJECT	ITEM	
38051	53274A			1

CONTROL SECTION — JOB NUMBER — B02 OF 38051 - 53274A

DATE: _____ CHECKED BY: _____ DATE: _____ CORRECTED BY: _____ DRAWN BY: _____

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

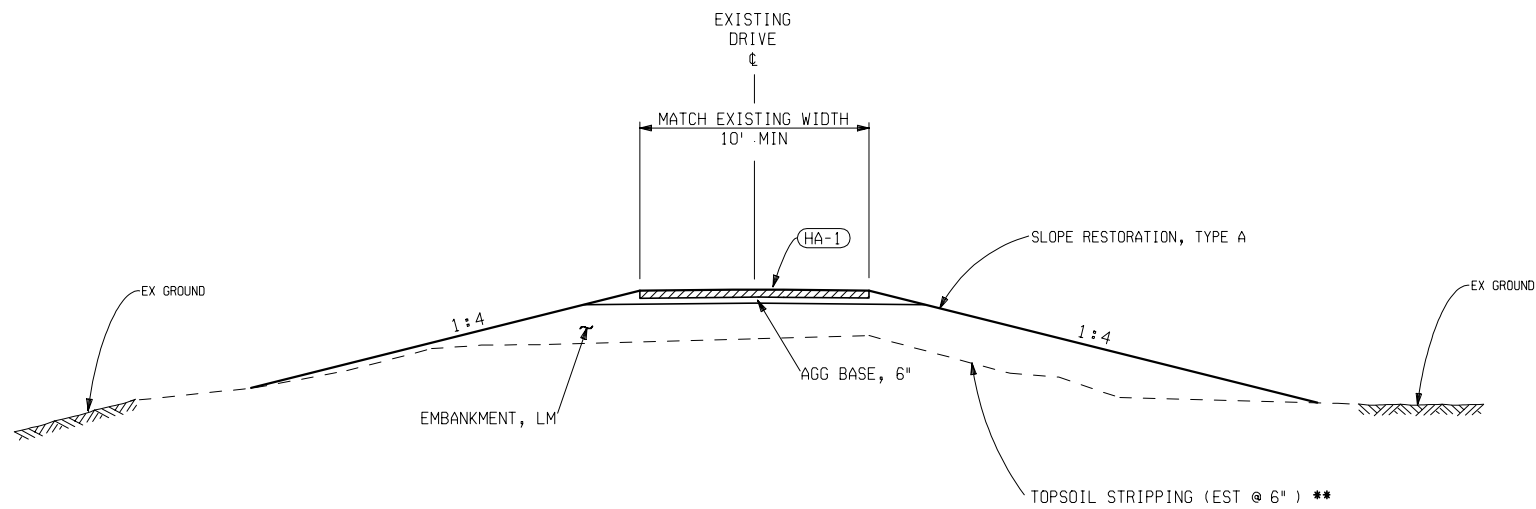
FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



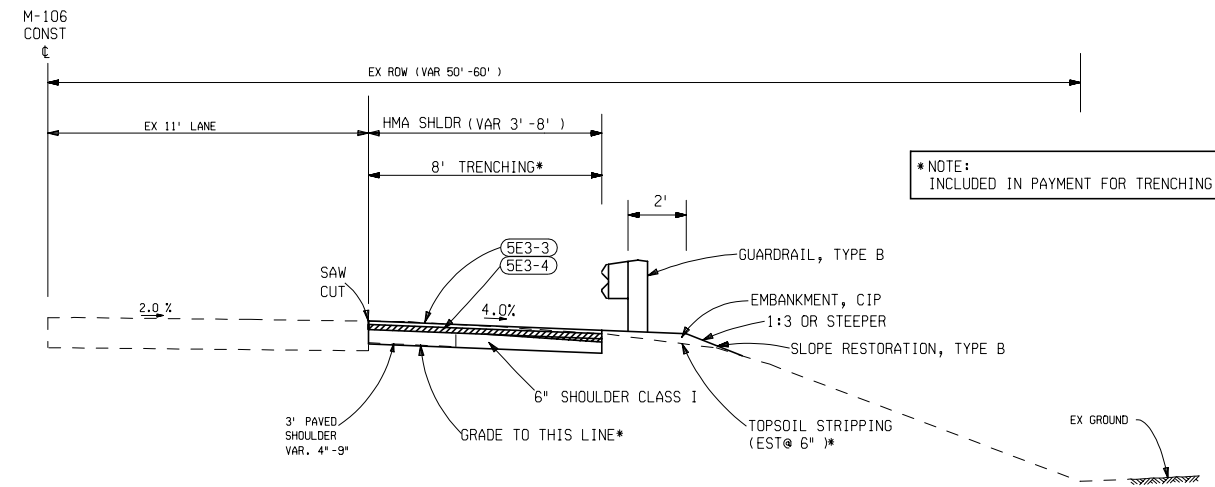
NOTE:
 **TEMPORARY DRIVE TO BE REMOVED
 AFTER THE COMPLETION OF CONSTRUCTION
 PAID FOR AS EXCAVATION, EARTH &
 SLOPE RESTORATION, TYPE A **

TEMPORARY DRIVEWAY
 TO APPLY:
 STA 0+19 TO STA 1+71.22

** INCLUDED IN THE PAY ITEM OF EXCAVATION, EARTH



PERMANENT DRIVEWAY
 TO APPLY:
 STA 0+11 TO STA 1+15.18



GUARDRAIL HALF SECTION
 TO APPLY:
 STA 515+58.97 (POB) TO STA 517+23.53 RT
 STA 521+74.75 TO STA 523+25.16 (POE) LT

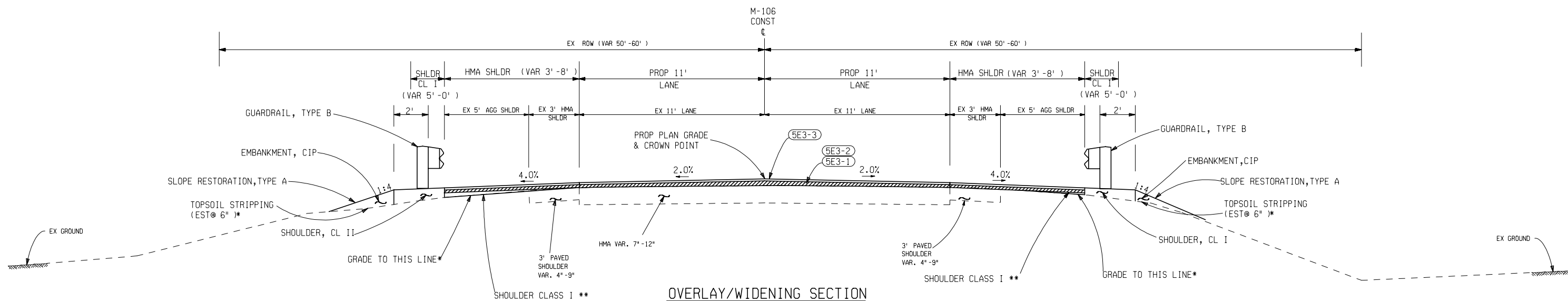
*NOTE:
 INCLUDED IN PAYMENT FOR TRENCHING

	PROPOSED DRIVEWAY TYPICALS				
	DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT
	1" = NONE	38051	53274A		
				SHEET NO.	
				R.O.W CONST.	1A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

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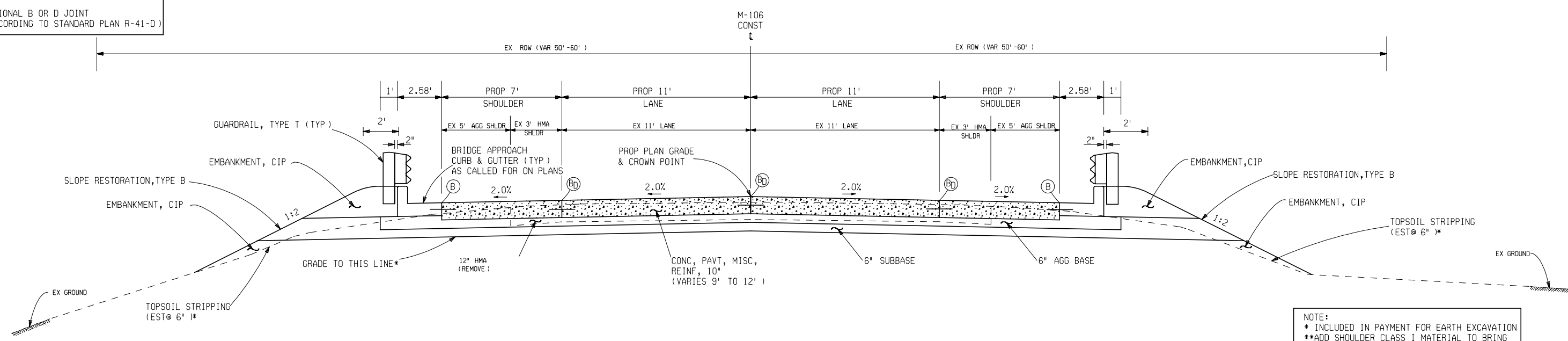
FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



OVERLAY/WIDENING SECTION
 TO APPLY:
 STA 517+23.53 TO STA 518+74.47
 STA 519+90.53 TO STA 521+74.75

LEGEND

(B)	LONGITUDINAL BULKHEAD JOINT
(D)	LONGITUDINAL LANE TIE JOINT
(BD)	OPTIONAL B OR D JOINT (ACCORDING TO STANDARD PLAN R-41-D)



CONCRETE APPROACH SECTION
 TO APPLY:
 STA 518+74.47 TO STA 519+10.00
 STA 519+54.16 TO STA 519+90.53

NOTE:
 * INCLUDED IN PAYMENT FOR EARTH EXCAVATION
 **ADD SHOULDER CLASS I MATERIAL TO BRING EXISTING SHOULDER UP TO PROPOSED GRADE PAID FOR AS SHOULDER, CL I

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE PER SYD	PERFORMANCE GRADE	REMARKS
5E3-4	HMA, 5E3	220-440	PG 64-28	SHOULDER
5E3-3	HMA, 5E3	165	PG 64-28	(AWI=260), TOP COURSE
5E3-2	HMA, 5E3	110-220	PG 64-28	VARIABLE WEDGING COURSE
5E3-1	HMA, 5E3	110-220	PG 64-28	VARIABLE WEDGING COURSE
HA-1	HMA APPROACH	330	PG 64-22	DRIVEWAY (13A)
	* BOND COAT	0-0.10 GAL		

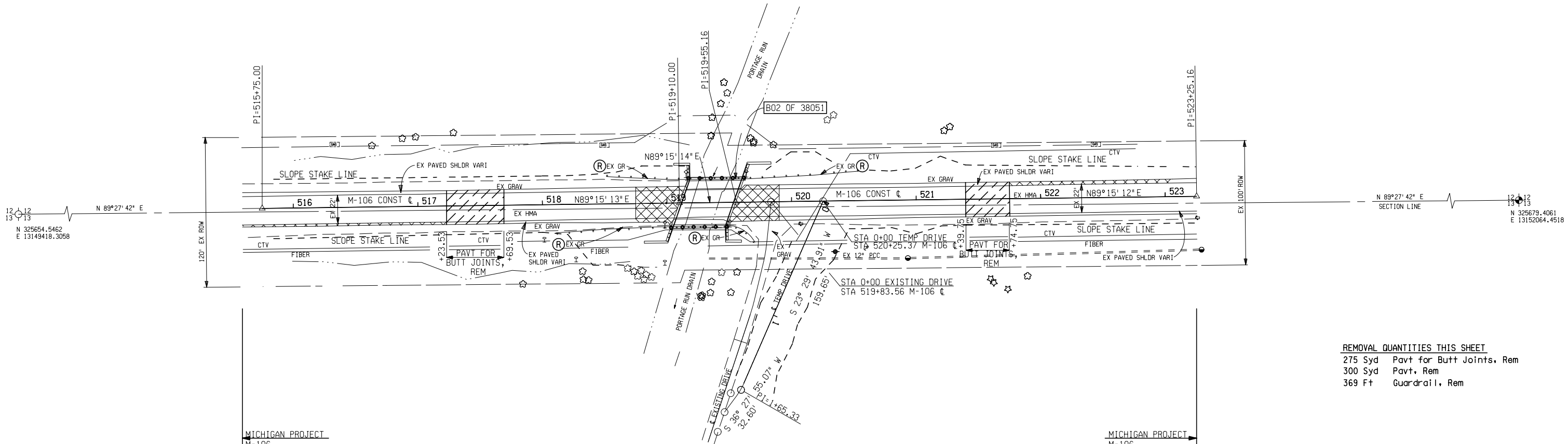
*FOR INFORMATION ONLY

	M-106 TYPICAL CROSS SECTIONS				
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				SHEET NO.	
				R.O.W	CONST.
					1B

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63

DATE: WORKED ON BY: DATE: WORKED ON BY: DATE: WORKED ON BY: FILE NAME: 53274typcal.dgn

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REMOVAL QUANTITIES THIS SHEET
 275 Syd Pavt for Butt Joints, Rem
 300 Syd Pavt, Rem
 369 Ft Guardrail, Rem

MICHIGAN PROJECT
 M-106
 CS 38051
 JN 53274 A
 CSMP 8.454
 POB STA 515+58.97
 PR 900809

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 M-106
 CS 38051
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 CSMP 8.454
 POE STA 523+25.16
 PR 900809

REMOVAL LEGEND

REMOVING BITUMINOUS	
REMOVING SIDEWALK	
REMOVING PAVEMENT	
REMOVING CURB, GUTTER AND CURB & GUTTER	
REMOVING	(R)
ABANDONING	(A)
SAVE	(S)
BULKHEAD	(B)
CLEARING	(C)

TEMP DRIVE C
 CURVE DATA
 $\Delta = 12^\circ 58' 11''$ (RT)
 $D = 114^\circ 35' 30''$
 $R = 50.00'$
 $T = 5.68'$
 $L = 11.32'$
 $E = 0.32'$
 $PC = 1+59.65$
 $PI = 1+65.33$
 $PT = 1+70.97$
 $PC = X = 13,150,858.7781 \quad Y = 325,526.9049$
 $PI = X = 13,150,856.5123 \quad Y = 325,521.6927$
 $PT = X = 13,150,853.1344 \quad Y = 325,517.1220$



M-106; STA 515+59.22 TO STA 523+25.16

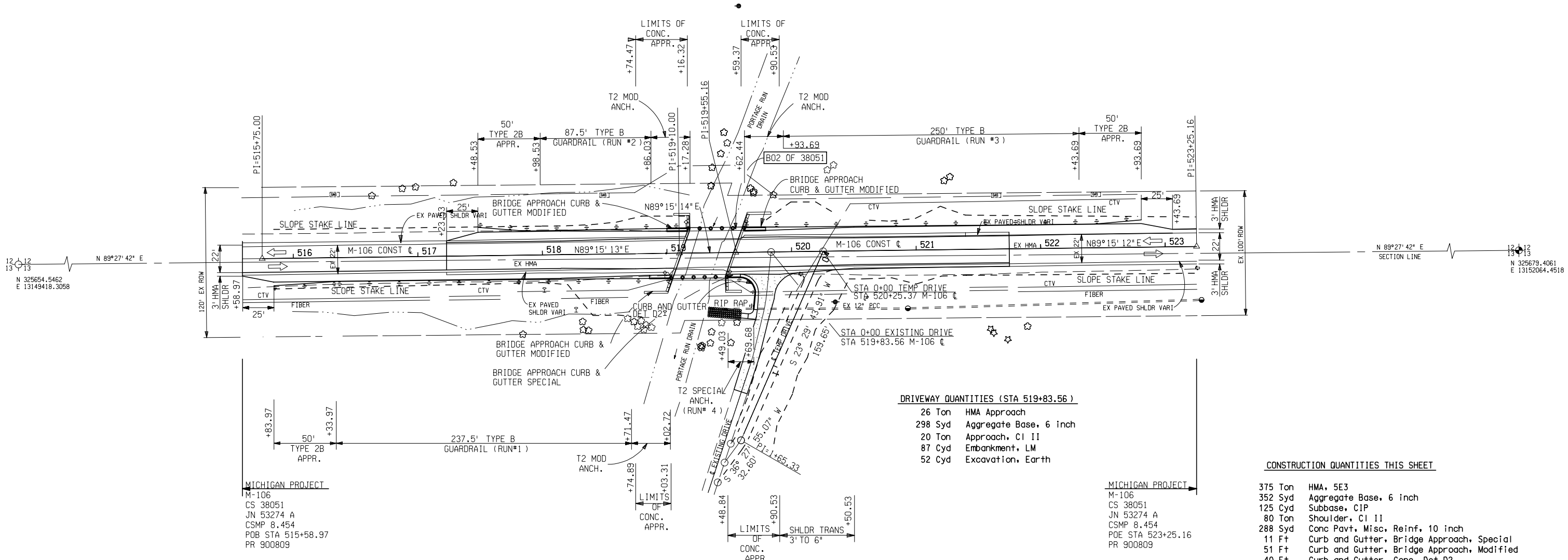
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	1" = 40	38051	53274 A		R.O.W CONST. 1C

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 DATE: _____

1.2.3
8.9.10.11.12.13.14.15.16.17.18.19.21.22.24.25.29.31.35.37.51

SECTION 12
T1S ,R1E
HENRIETTA TWP

FINAL R.O.W.			
AUTH	DATE	NO.	REVISION



DRIVEWAY QUANTITIES (STA 519+83.56)

26 Ton	HMA Approach
298 Syd	Aggregate Base, 6 inch
20 Ton	Approach, C1 II
87 Cyd	Embankment, LM
52 Cyd	Excavation, Earth

CONSTRUCTION QUANTITIES THIS SHEET

375 Ton	HMA, 5E3
352 Syd	Aggregate Base, 6 inch
125 Cyd	Subbase, CIP
80 Ton	Shoulder, C1 II
288 Syd	Conc Pavt, Misc. Reinf, 10 inch
11 Ft	Curb and Gutter, Bridge Approach, Special
51 Ft	Curb and Gutter, Bridge Approach, Modified
40 Ft	Curb and Gutter, Conc, Det D2
15 Ft	Spillway, Conc
1 Ea	Shoulder Gutter, Conc, Det 2
30 Syd	Riprap, Plain
4 Sta	Trenching

TEMPORARY DRIVE QUANTITIES (STA 520+25.37)

75 Ton	Approach, C1 II
477 Cyd	Embankment, CIP
351 Cyd	Excavation, Earth

MICHIGAN PROJECT
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POB STA 515+58.97
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CSMP 8.454
POE STA 523+25.16
PR 900809

GUARDRAIL TABLE										
RUN NUMBER	Proposed Offset From EOM	Guardrail, Type B (ft)	Guardrail Approach Terminal Type 2B (ea)	Guardrail Reflector (ea)	Delinotor Reflector (ea)	Post, Delinotor (ea)	Guardrail Anch, Bridge, Det T2 Modified (ea)	Guardrail Anch, Bridge, Det T2 Special (ea)	Guardrail Departing Terminal Type B (ea)	Guardrail Curved Type T (ft)
1	8	237.5	1	16	1	1	1			
2	8	87.5	1	10	1	1	1			
3	8	250	1	15	1	1	1			
4	8			4	1	1		1		25
TOTAL		575	3	45	4	4	3	1	1	25

TEMP DRIVE & CURVE DATA
 $\Delta = 12^\circ 58' 11''$ (RT)
 $D = 114^\circ 35' 30''$
 $R = 50.00'$
 $T = 5.68'$
 $L = 11.32'$
 $E = 0.32'$
 $PC = 1+59.65$
 $PI = 1+65.33$
 $PT = 1+70.97$
 $PC = X=13,150,858.7781 \ Y=325,526.9049$
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 $PT = X=13,150,853.1344 \ Y=325,517.1220$

SECTION 13
T1S ,R1E
HENRIETTA TWP

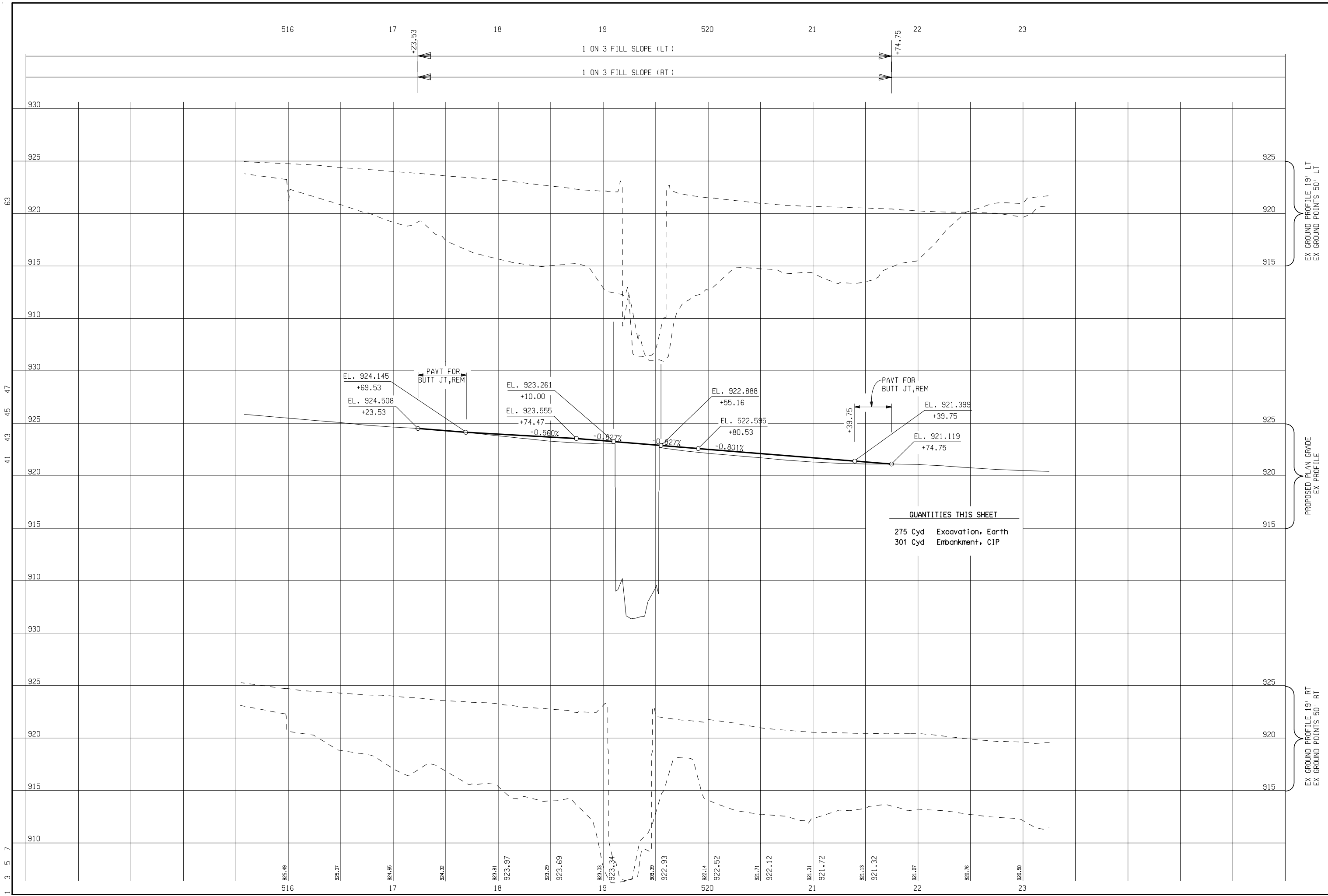


M-106; STA 515+59.22 TO STA 523+25.16

DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
	1" = 40	38051	53274 A		R.O.W CONST. 1D

1.2.3 8.9.10.11.12.13.14.15.16.17.18.19 21.22 24.25.26.27.28 30.31 33 51

FILE NAME: 53274515.dgn CHECKED BY: DATE: WORKED ON BY: DATE:



1 3 5 7
41 43 45 47 63

516 17 18 19 20 21 22 23

516 17 18 19 20 21 22 23

SHEET NO.		R.O.W CONST.		DATE		SCALE		CUNT. SEC.		JOB NO.		DESIGN UNIT	
1E						HORZ. 1" = 40' VERT. 1" = 4'		38051		53274 A			
M-106; STA 515+59.22 TO STA 523+25.16												WORKED ON BY:	
MICHIGAN DEPARTMENT OF TRANSPORTATION												DATE:	
FINAL R.O.W.												DATE:	
REVISION												DATE:	
AUTH												DATE:	

REVISIONS			
NO.	DESCRIPTION	DATE	BY

EXISTING STRUCTURE

THE EXISTING STRUCTURE IS A 1-SPAN, ROLLED BEAM, CANTILEVER TYPE ABUTMENT BRIDGE HAVING A CLEAR ROADWAY WIDTH OF 35'-0" AND A LENGTH OF 45'-0" THIS BRIDGE WAS BUILT IN 1939 AND WAS DESIGNED FOR H-20 LOADING.

WITNESSES

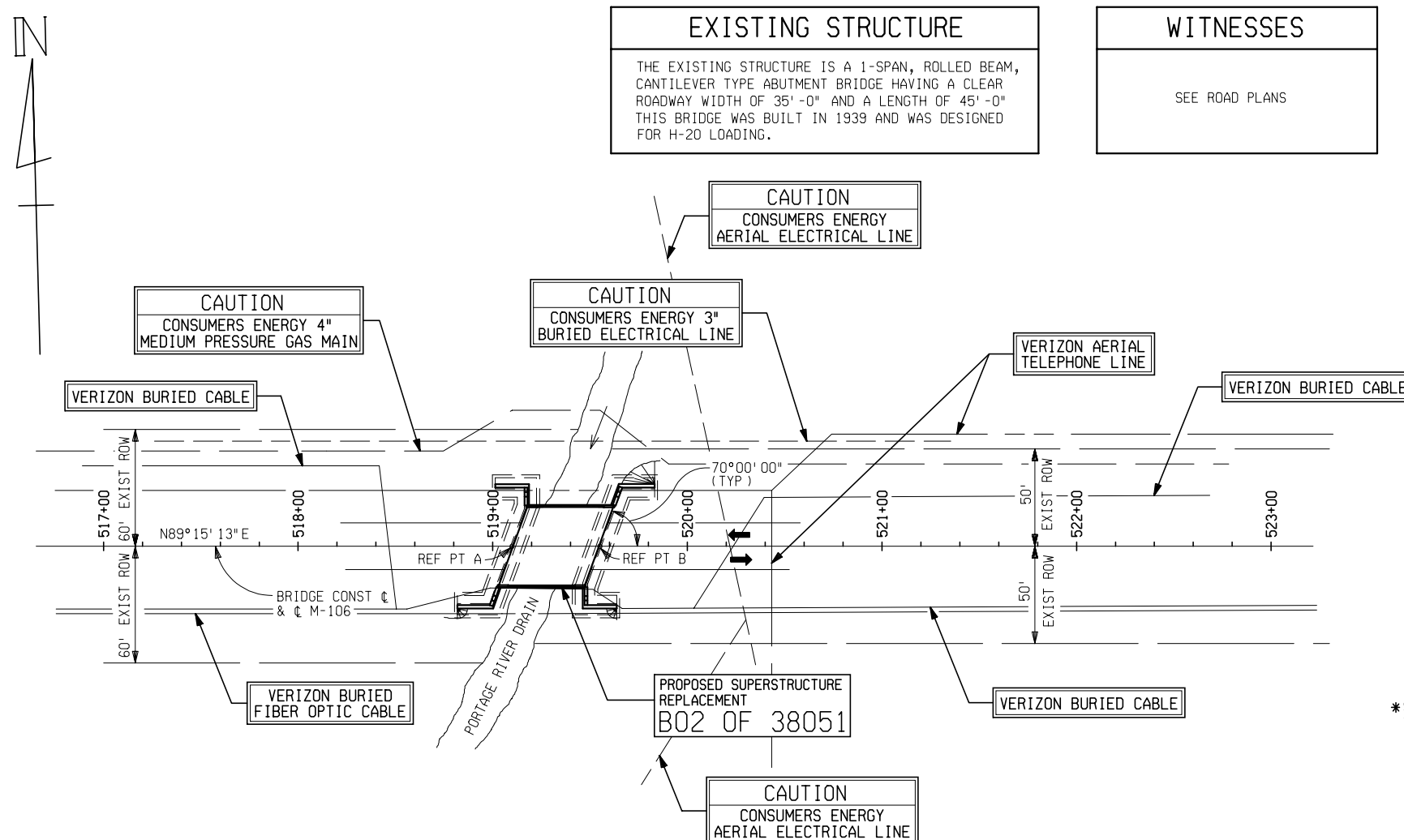
SEE ROAD PLANS

BENCH MARKS

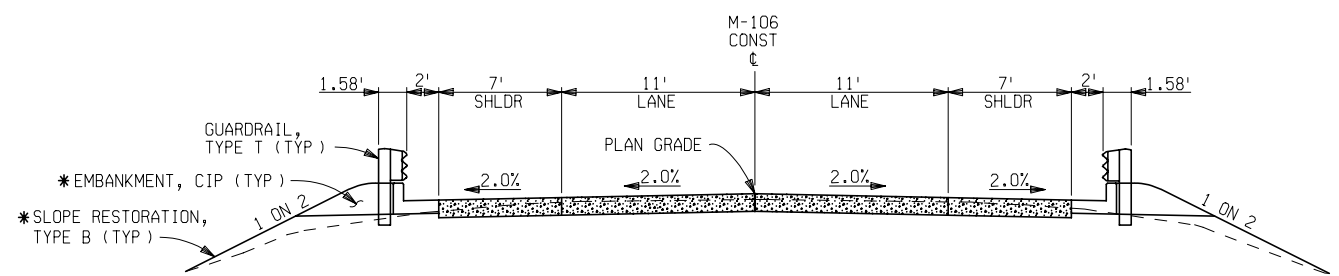
SEE ROAD PLANS

UTILITIES

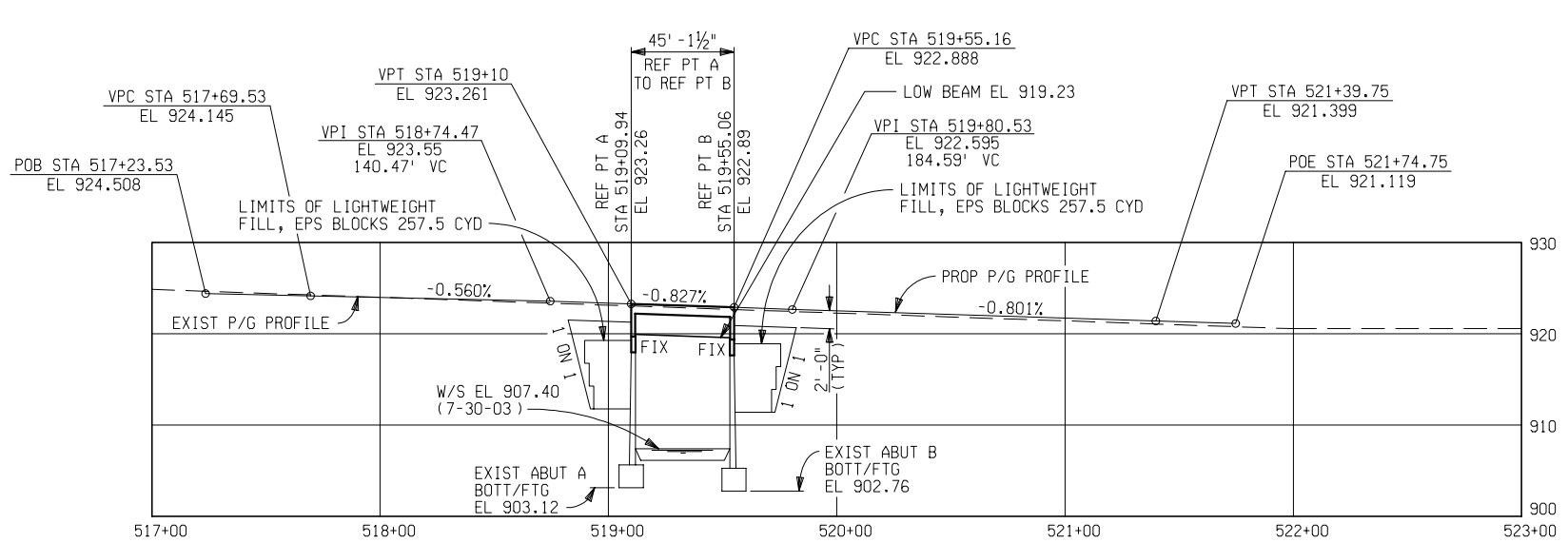
SEE ROAD PLANS



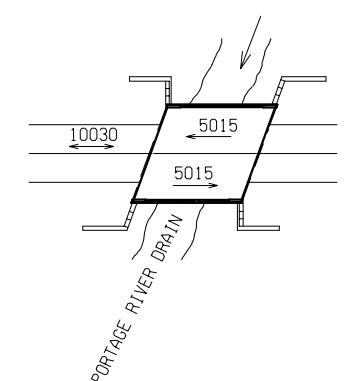
SITUATION PLAN
SCALE: 1" = 40' - 0"



TYPICAL APPROACH SECTION
*(FOR QUANTITIES & DETAILS SEE RD PLANS)



PROFILE & M-106 RDWY
VERT. SCALE - 1" = 10'
HOR. SCALE - 1" = 40'



2020 ESTIMATED TRAFFIC DISTRIBUTION

- 10030 AVERAGE DAILY TRAFFIC
- 710 DESIGN HOURLY VOLUME
- 3.2% COMMERCIAL
- DIRECTIONAL TRAFFIC
- ← TOTAL TRAFFIC
- 25 COMMERCIAL DIRECTIONAL DESIGN HOURLY VOLUME

NOTES:

THE WORK COVERED BY THESE PLANS INCLUDES SUPERSTRUCTURE REPLACEMENT, PLACEMENT OF LIGHTWEIGHT FILL BEHIND THE ABUTMENTS, PLACEMENT OF RIPRAP TO THE LIMITS SHOWN AND MAINTAINING TRAFFIC. ALL OTHER WORK IS INCLUDED IN THE ROAD PLANS THAT ARE A PART OF THIS CONTRACT.

M-106 TRAFFIC IS TO BE MAINTAINED BY DETOUR USING EXISTING ROADS.

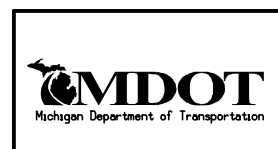
THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING A DETERMINATION OF WATER LEVELS THAT MAY EXIST DURING CONSTRUCTION.

MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURE. IF DEBRIS FALLS INTO THE WATERWAY, IT SHALL BE REMOVED WITHIN 24 HOURS. SINCE DISTURBANCE OF THE WATERWAY BOTTOM MAY BE AS HARMFUL AS THE DEBRIS ITSELF, THE PREVENTIVE MEASURES MUST BE EFFECTIVE.

PLAN ELEVATIONS REFER TO NAVD 88 DATUM.

IMMEDIATELY AFTER THE CONSTRUCTION OF AN ABUTMENT IS COMPLETED, SLOPE PROTECTION AND SEEDING OR SODDING SHALL BE PLACED ON THE ADJACENT EMBANKMENT SLOPES.

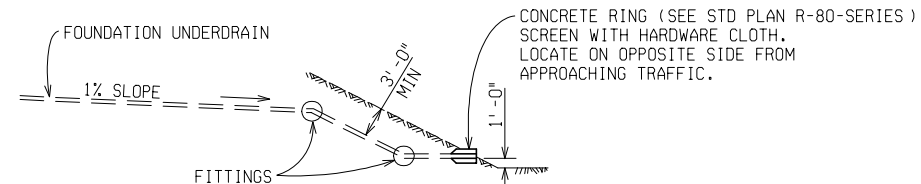
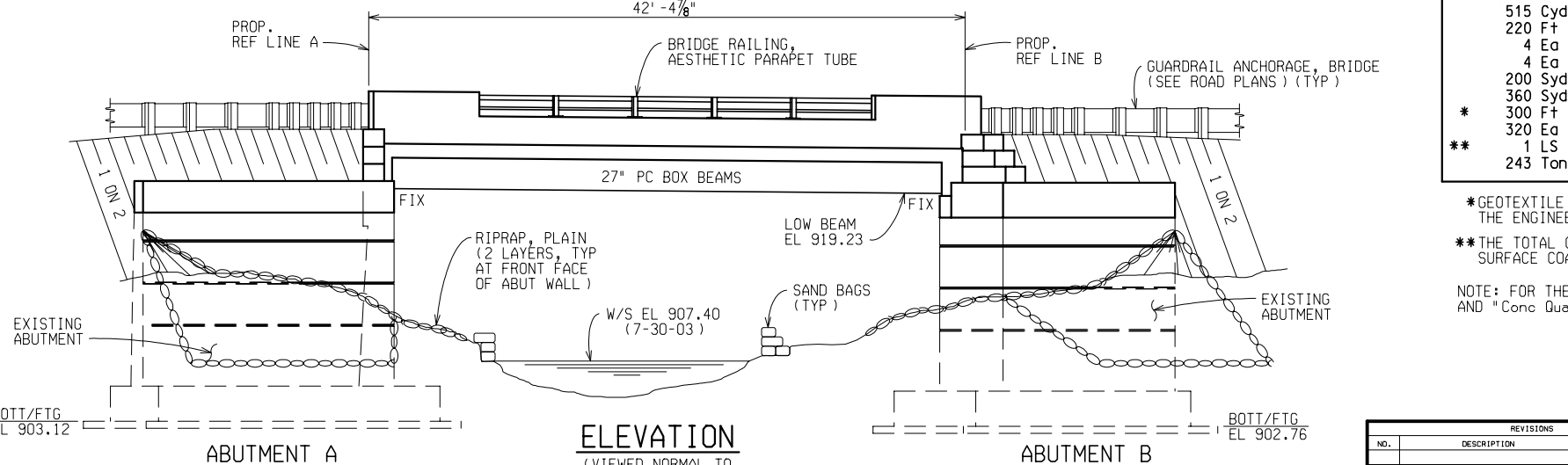
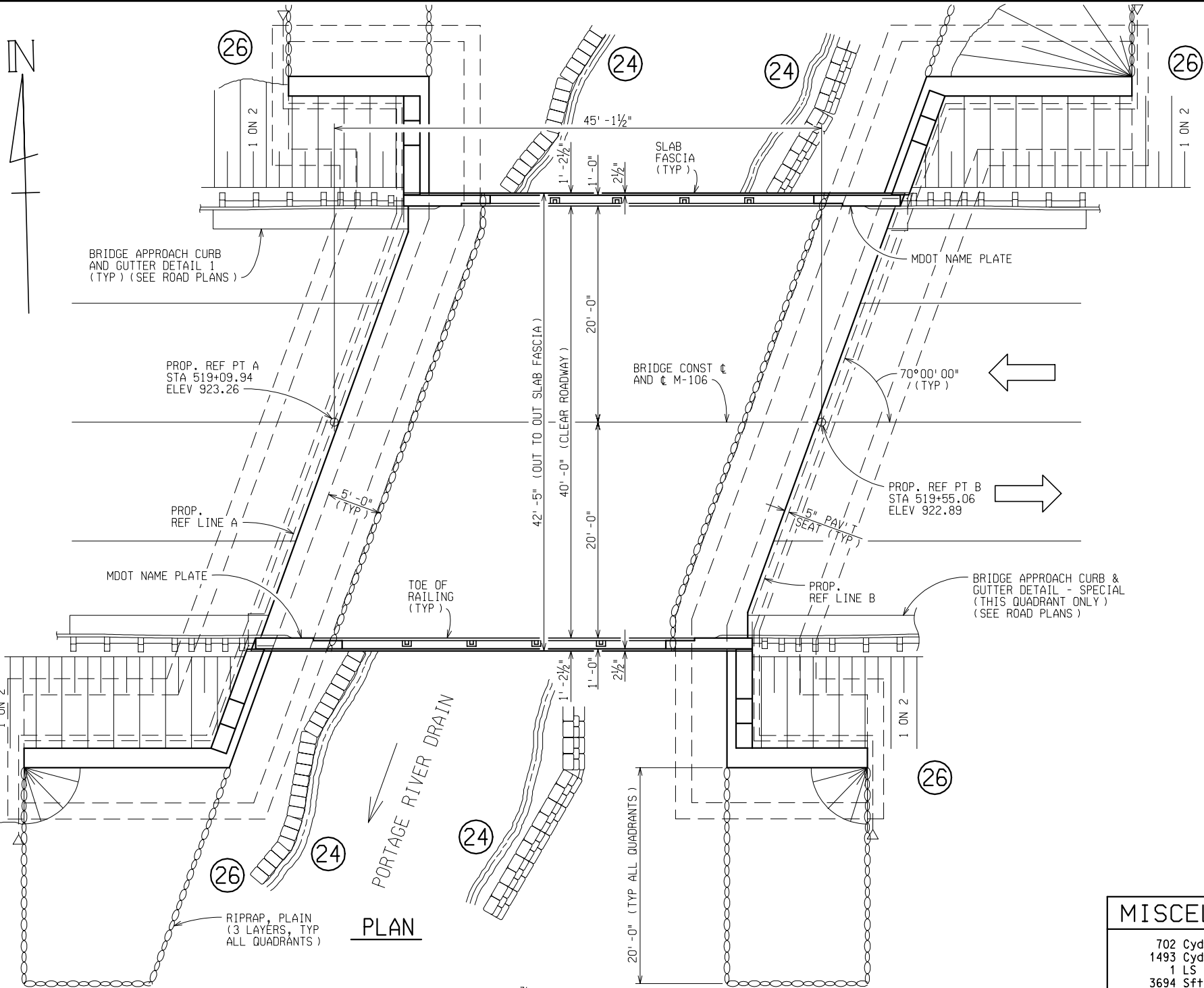


GENERAL PLAN OF SITE				
M-106 OVER PORTAGE RIVER DRAIN 1.0 MI W OF MUNITH				
DATE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET
	B02 OF 38051	53274A		2 OF 32

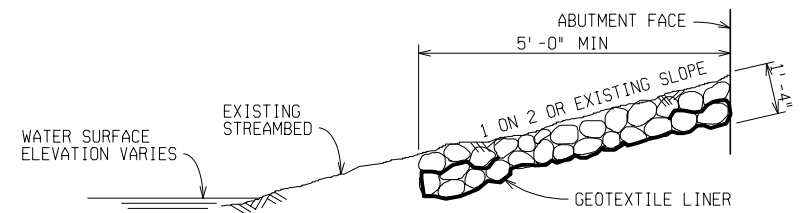
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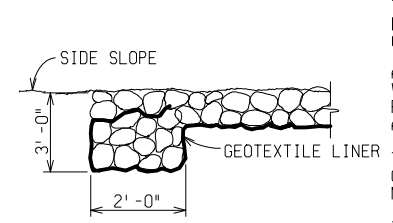
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62



DETAIL FOR DRAINAGE INTO DITCH



TOE HEADER



SIDE HEADER

NOTES:
 TOP OF RIPRAP MUST BE AT OR BELOW EXISTING STREAMBED OR GROUND ELEVATION.
 AN APPROPRIATE METHOD FOR WATER DIVERSION SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. IF WATER IS SHALLOW (LESS THAN TWO FEET DEEP), TEMPORARY CONCRETE BARRIERS OR SANDBAGS MAY BE USED TO DIVERT FLOW.
 THE RIPRAP SCHEME SHOWN IS A MINIMUM REQUIREMENT FOR SCOUR.

RIPRAP DETAILS - ABUTMENTS

SUMMARY OF HYDRAULIC ANALYSIS							
EXISTING				PROPOSED			
FLOOD DATA	DIS-CHARGE (CFS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE	VELOCITY AT D/S FACE (FPS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE	VELOCITY AT D/S FACE (FPS)	WATERWAY AREA (SFT) AT D/S FACE	CHANGE IN WS EL U/S OF PROPOSED STRUCTURE
50 YEAR	1600	918.37	3.75	918.37	3.75	426	0.00
100 YEAR	2000	919.16	4.37	919.15	4.37	457	-0.01
MAXIMUM BRIDGE AREA BELOW LOW CHORD IS 471						SQUARE FEET	

THE WATER SURFACE AND/OR ENERGY GRADE ELEVATIONS SHOWN ON THE ABOVE HYDRAULIC TABLE ARE TO BE USED FOR COMPARISON PURPOSES ONLY AND ARE NOT TO BE USED FOR ESTABLISHING A REGULATORY FLOODPLAIN.

NOTES:

THE RECONSTRUCTION DESIGN IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS25 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/800 OF SPAN LENGTH. THE LOAD FACTOR METHOD WAS USED FOR THIS DESIGN. THE ORIGINAL STRUCTURE WAS DESIGNED FOR H2O LOADING.

WITHOUT THE PREVENTIVE MEASURES SHOWN ON THESE PLANS, THERE IS A POSSIBILITY THAT STREAM BED SCOUR MAY OCCUR. THE ESTIMATED TOTAL SCOUR DEPTH IS CALCULATED TO BE 892 FEET AT ABUTMENT A AND 883 FEET AT ABUTMENT B. THESE DEPTHS ARE BASED ON A 100 YEAR RUNOFF EVENT. FOR A 500 YEAR RUNOFF EVENT, THE ESTIMATED TOTAL SCOUR DEPTH IS CALCULATED TO BE 877 AT ABUTMENT A AND 868 AT ABUTMENT B.

GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP. PAYMENT FOR GEOTEXTILE LINER SHALL BE INCLUDED IN THE PAYMENT FOR RIPRAP.

CONCRETE SURFACE COATING SHALL BE APPLIED TO EXPOSED SURFACES, INCLUDING SLOPEWALLS, RAILING END WALLS, SLAB FASCIA'S AND UNDERSIDE OF SLAB FASCIA'S, FASCIA BEAM FASCIA'S AND BOTTOMS AND ABUTMENTS AND WINGWALLS (EXISTING AND PROPOSED). THE CONCRETE SURFACE COATING SHALL BE A BEIGE COLOR MATCHING FEDERAL STANDARD 595b #36415, SEE SPECIAL PROVISION. CONCRETE AREA UNDER BEARINGS SHALL NOT BE COATED.

THE DRAINAGE AREA CONTRIBUTORY TO THIS CROSSING IS 43.7 SQUARE MILES.

FALSE DECKING SHALL INCLUDE THE AREA BOUNDED BY REFERENCE LINES A & B AND OUTSIDE FLANGE FASCIA'S OF BEAMS A & F. THE ESTIMATED AREA IS 1847 SQUARE FEET DURING REMOVAL AND 1847 SQUARE FEET DURING PROPOSED CONSTRUCTION.

MISCELLANEOUS QUANTITIES

702 Cyd	Backfill, Structure, CIP
1493 Cyd	Excavation, Fdn
1 LS	Structures, Rem Portions (B02)
3694 Sft	False Decking
515 Cyd	Fill, Lightweight, EPS Block
220 Ft	Underdrain, Fdn, 4 inch
4 Ea	Underdrain Outlet Ending, 4 inch
4 Ea	Dr Marker Post
200 Syd	Conc Base Cse, Reinf, 4 inch
360 Syd	Liner, PVC, 10 Mil
* 300 Ft	Erosion Control, Silt Fence (26)
320 Ea	Erosion Control, Sand Bag (24)
** 1 LS	Conc Surface Coating (B02)
243 Ton	Riprap, Plain

*GEOTEXTILE SILT FENCE IS TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

**THE TOTAL CONCRETE AREA REQUIRING APPLICATION OF CONCRETE SURFACE COATING = 335 SYD.

NOTE: FOR THE BID ITEMS *Conc Quality Assurance, Structure* AND *Conc Quality Initiative* SEE ROAD PLANS.

NO.	REVISIONS DESCRIPTION	DATE	BY



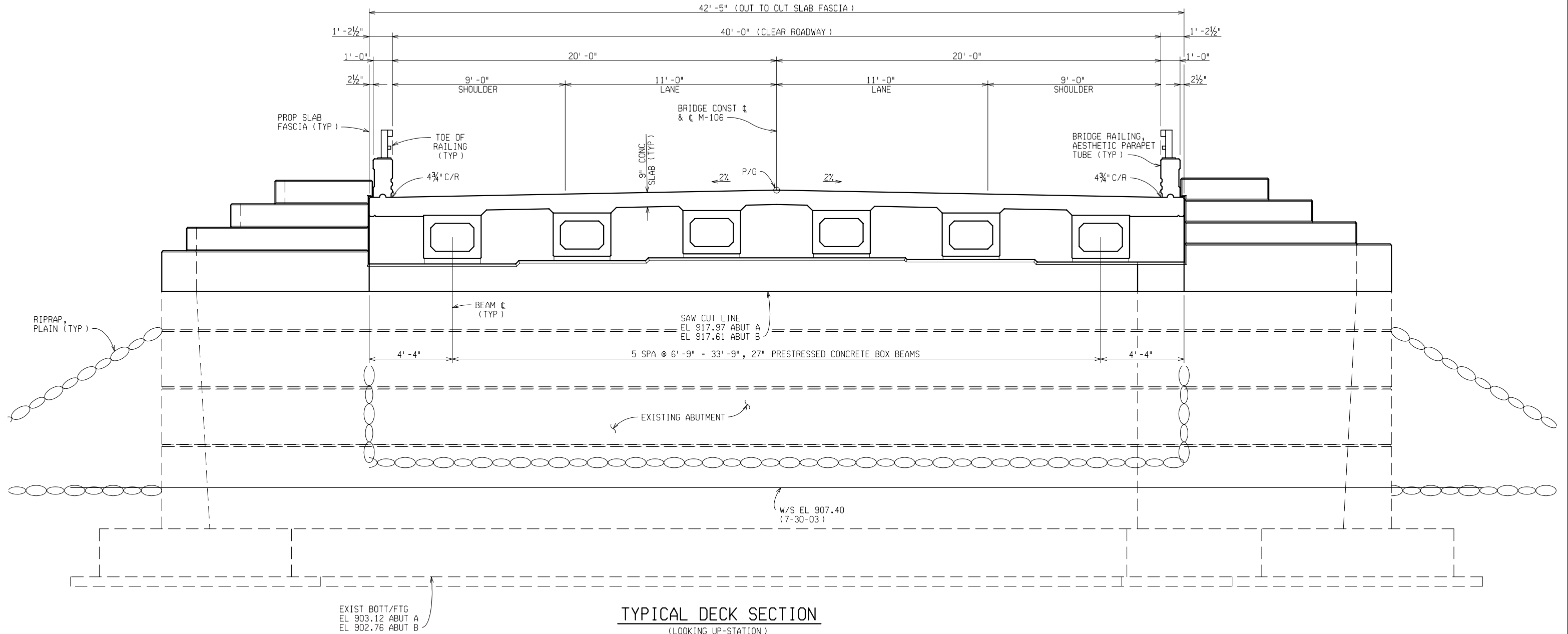
GENERAL PLAN OF STRUCTURE
 M-106 OVER PORTAGE RIVER DRAIN 1.0 MILE W OF MUNITH

DATE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET
	B02 OF 38051	53274A		3 OF 32

DATE: _____ CORRECTED BY: _____ DATE: _____ CHECKED BY: _____ DATE: _____ DRAWN BY: _____ FILE NAME: 60238051.st6.dgn

REVISIONS			
NO.	DESCRIPTION	DATE	BY

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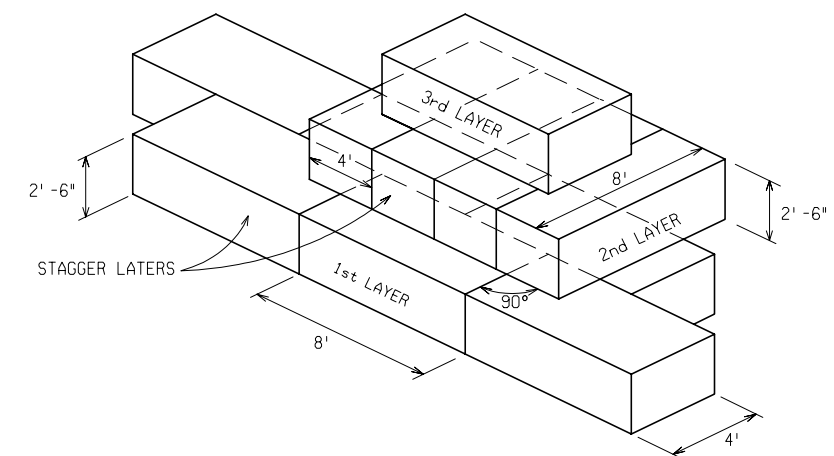


TYPICAL DECK SECTION
(LOOKING UP-STATION)

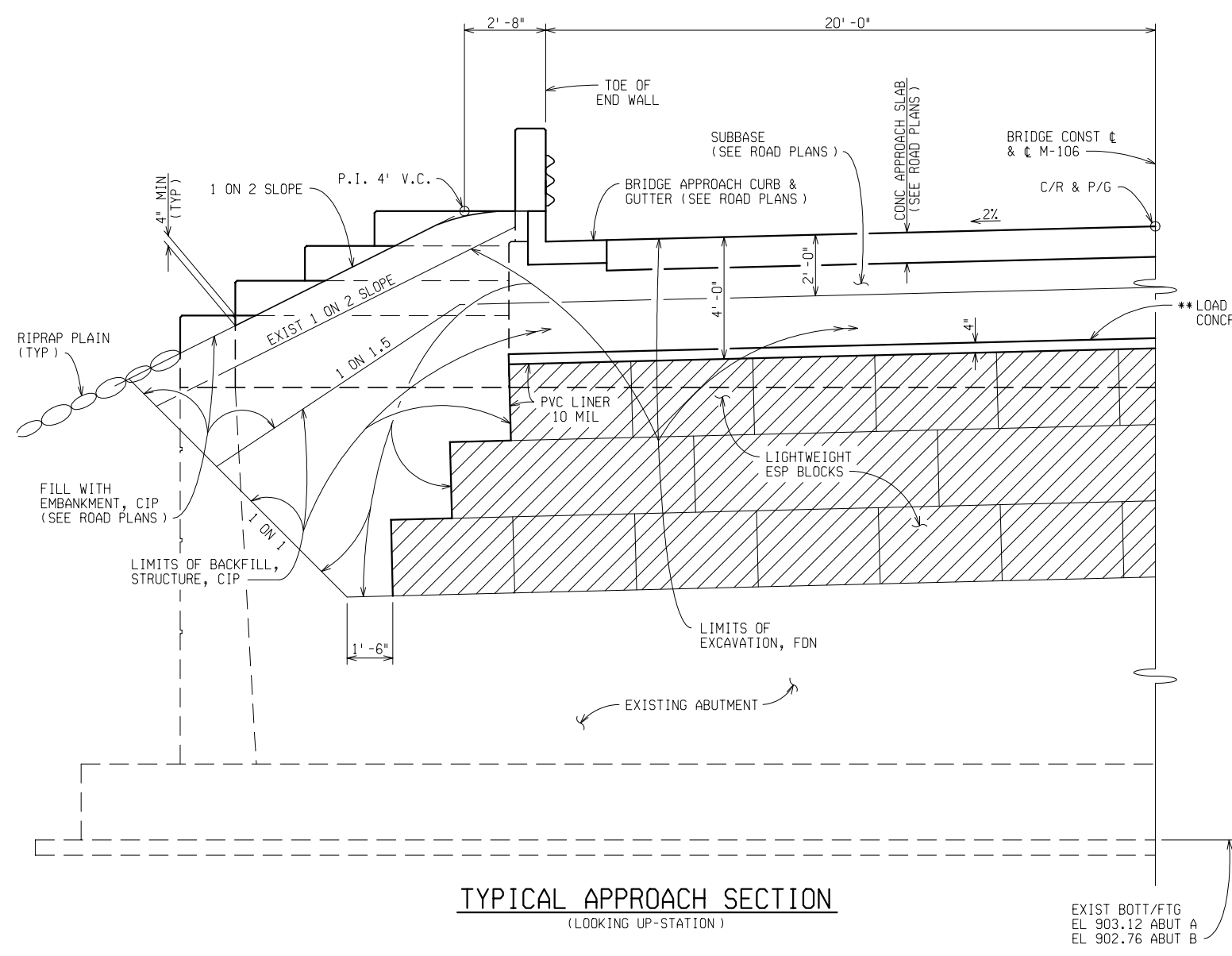
	GENERAL PLAN OF STRUCTURE			
	M-106 OVER PORTAGE RIVER DRAIN 1.0 MILE W OF MUNITH			
DATE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET
	B02 OF 38051	53274A		4 OF 32

DATE: CORRECTED BY: DATE: CHECKED BY: DATE: DRAWN BY: FILE NAME: 60238051.st6.dgn

REVISIONS			
NO.	DESCRIPTION	DATE	BY

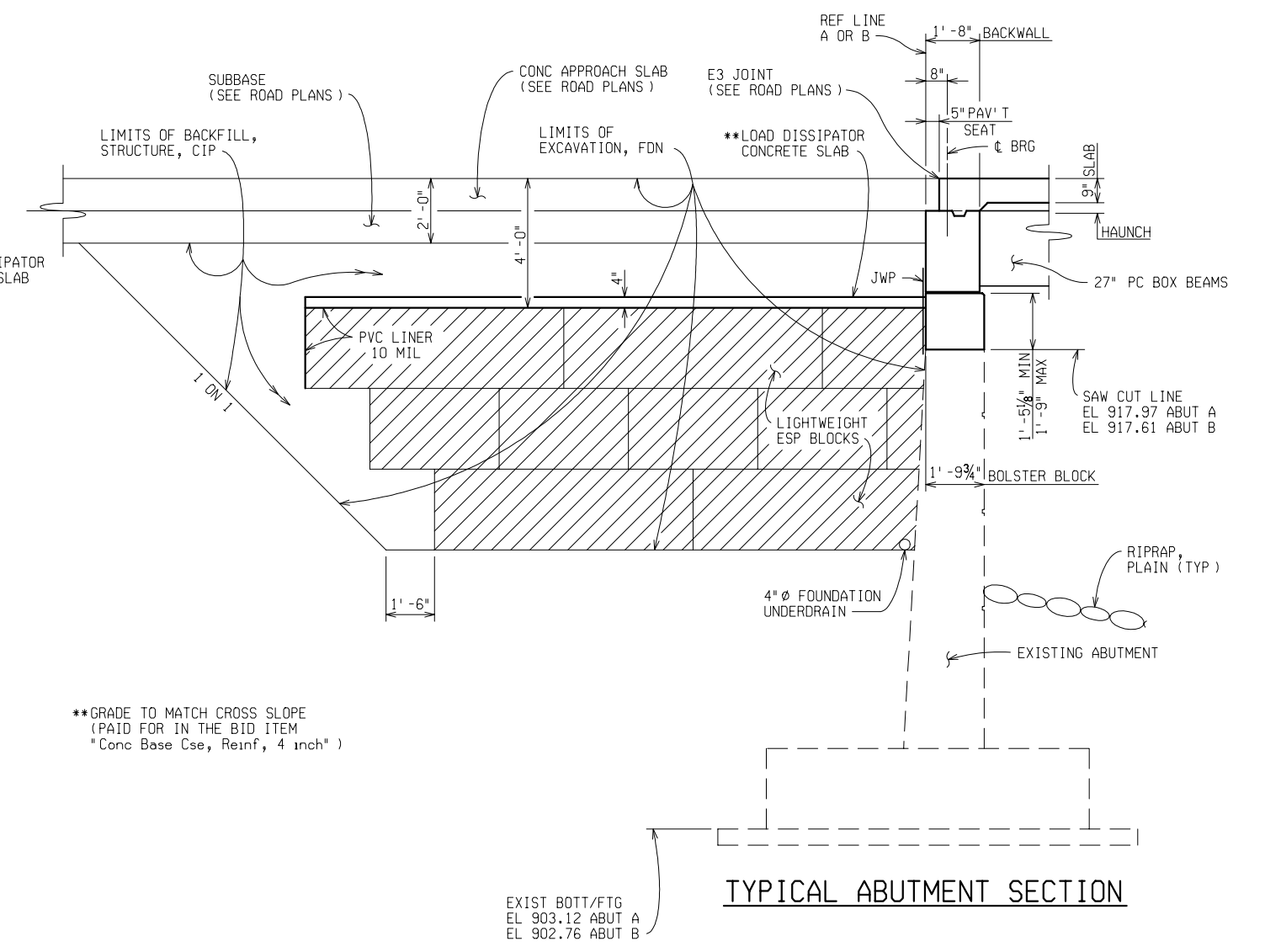


EPS BLOCK LIGHTWEIGHT FILL DETAILS



TYPICAL APPROACH SECTION
(LOOKING UP-STATION)

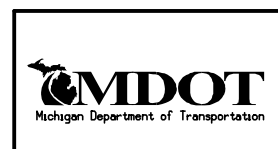
EXIST BOTT/FTG
EL 903.12 ABUT A
EL 902.76 ABUT B



TYPICAL ABUTMENT SECTION

**GRADE TO MATCH CROSS SLOPE
(PAID FOR IN THE BID ITEM
"Conc Base Cse, Reinf, 4 inch")

EXIST BOTT/FTG
EL 903.12 ABUT A
EL 902.76 ABUT B

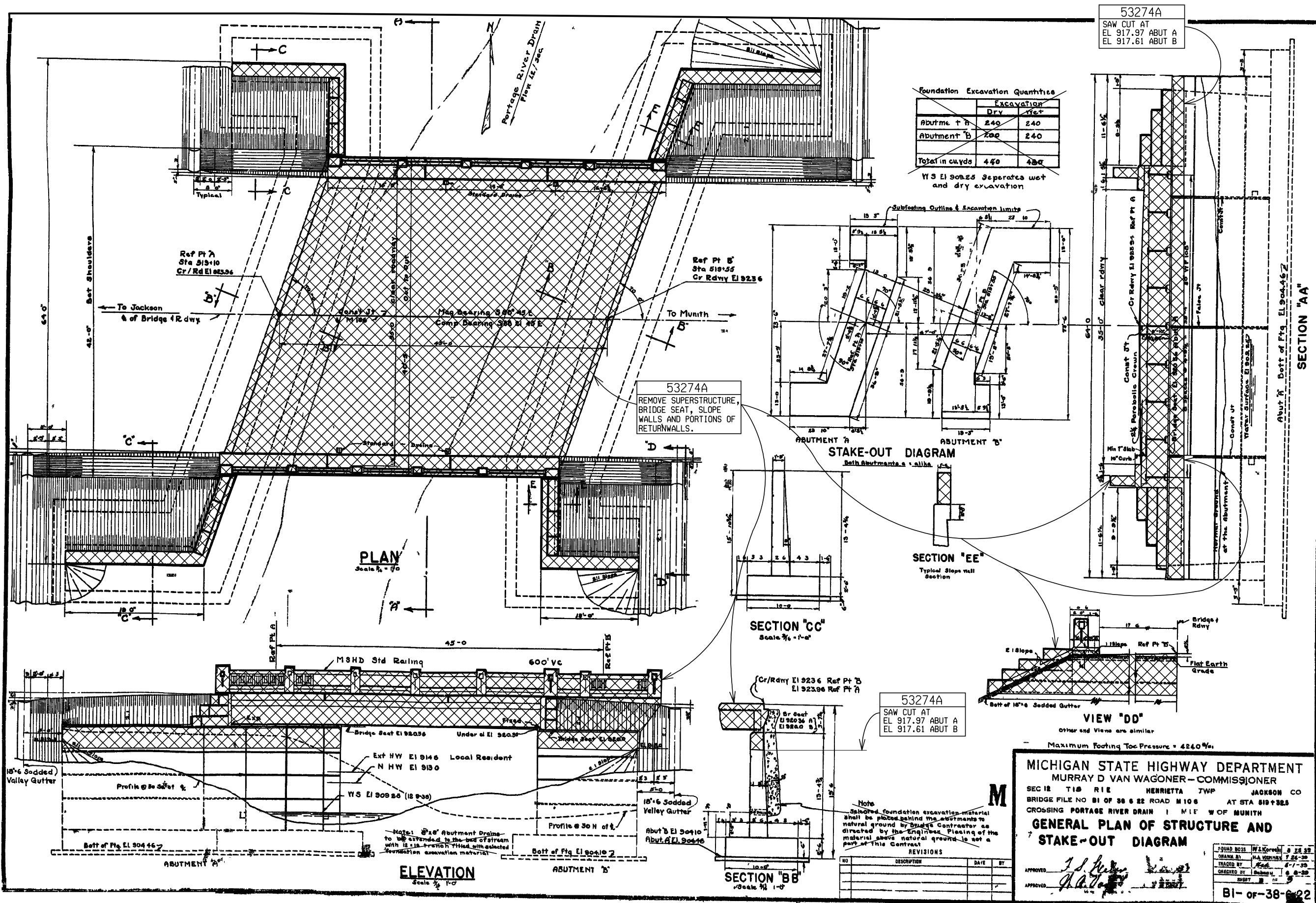


GENERAL PLAN OF STRUCTURE				
M-106 OVER PORTAGE RIVER DRAIN 1.0 MILE W OF MUNITH				
DATE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET
	B02 OF 38051	53274A		5 OF 32

1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62

DATE: 10/05/04 CORRECTED BY: CHECKED BY: DRAWN BY: FILE NAME: 60138051st6.dgn

REVISIONS			
NO.	DESCRIPTION	DATE	BY



JOB NO. 53274A

NOTE:
 CARE SHALL BE TAKEN TO AVOID DAMAGING THE EXISTING VERTICAL STEEL REINFORCEMENT DURING CONCRETE REMOVAL. PROJECTING REINFORCEMENT SHALL BE CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED CONCRETE, NOT PAID SEPARATELY BUT INCLUDED IN PAYMENT FOR "Structures, Rem Portions (B02)."

JOB NO. 53274A

PROPOSED WORK
 DENOTES REMOVAL PORTIONS
 THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX ABOVE, LABELED WITH THIS PROJECTS JOB NUMBER



REMOVAL DETAILS				
DATE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET

MICHIGAN STATE HIGHWAY DEPARTMENT
 MURRAY D VAN WAGONER - COMMISSIONER

SEC 12 T18 R1E HENRIETTA TWP JACKSON CO
 BRIDGE FILE NO 81 OF 38 6 22 ROAD M 106 AT STA 519+28.5
 CROSSING PORTAGE RIVER DRAIN 1 MILE W OF MUNITH

GENERAL PLAN OF STRUCTURE AND STAKE-OUT DIAGRAM

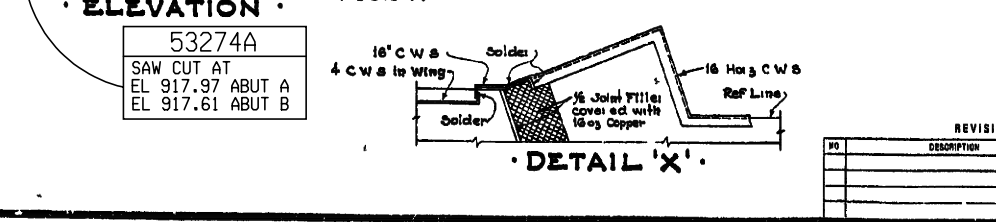
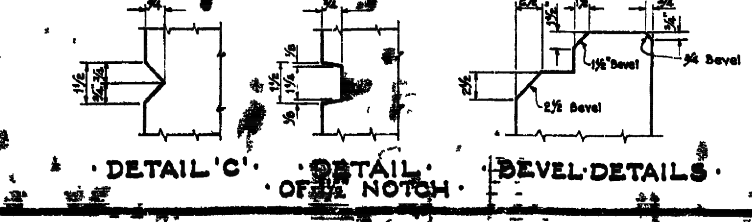
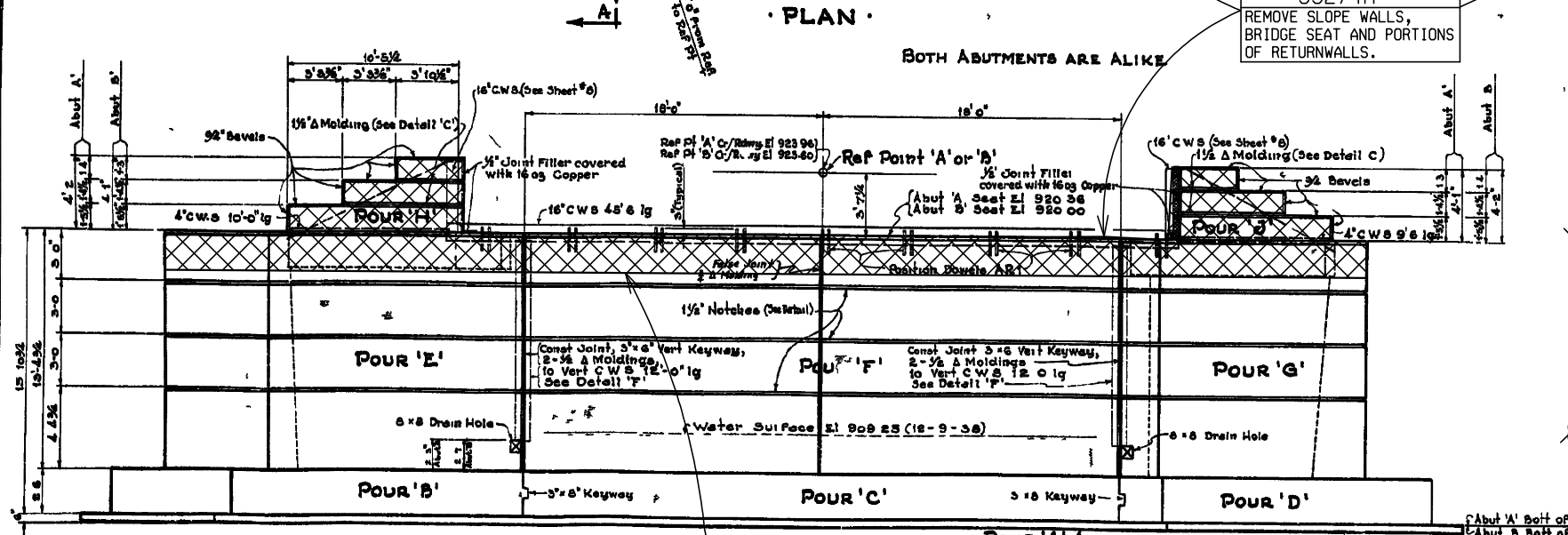
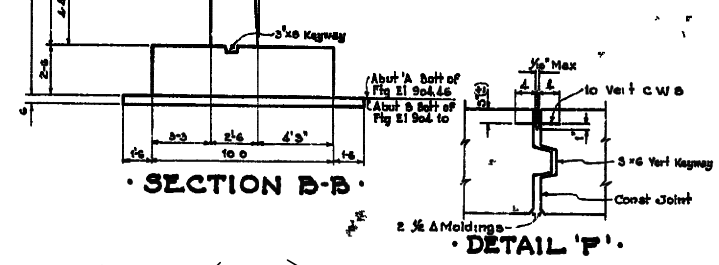
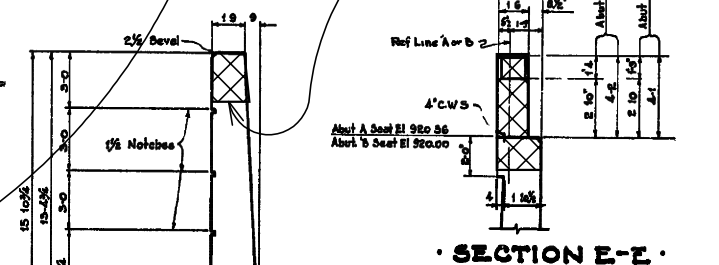
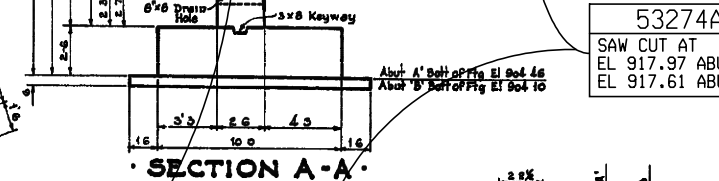
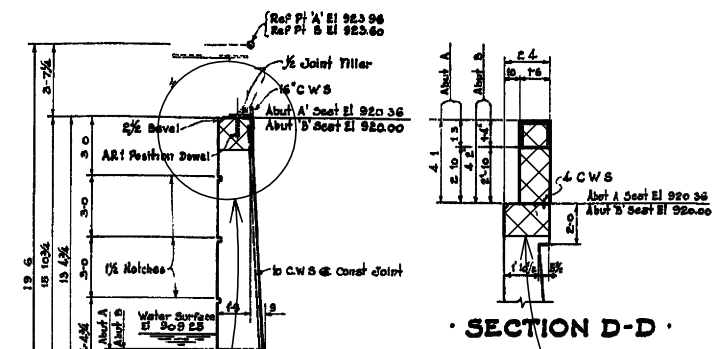
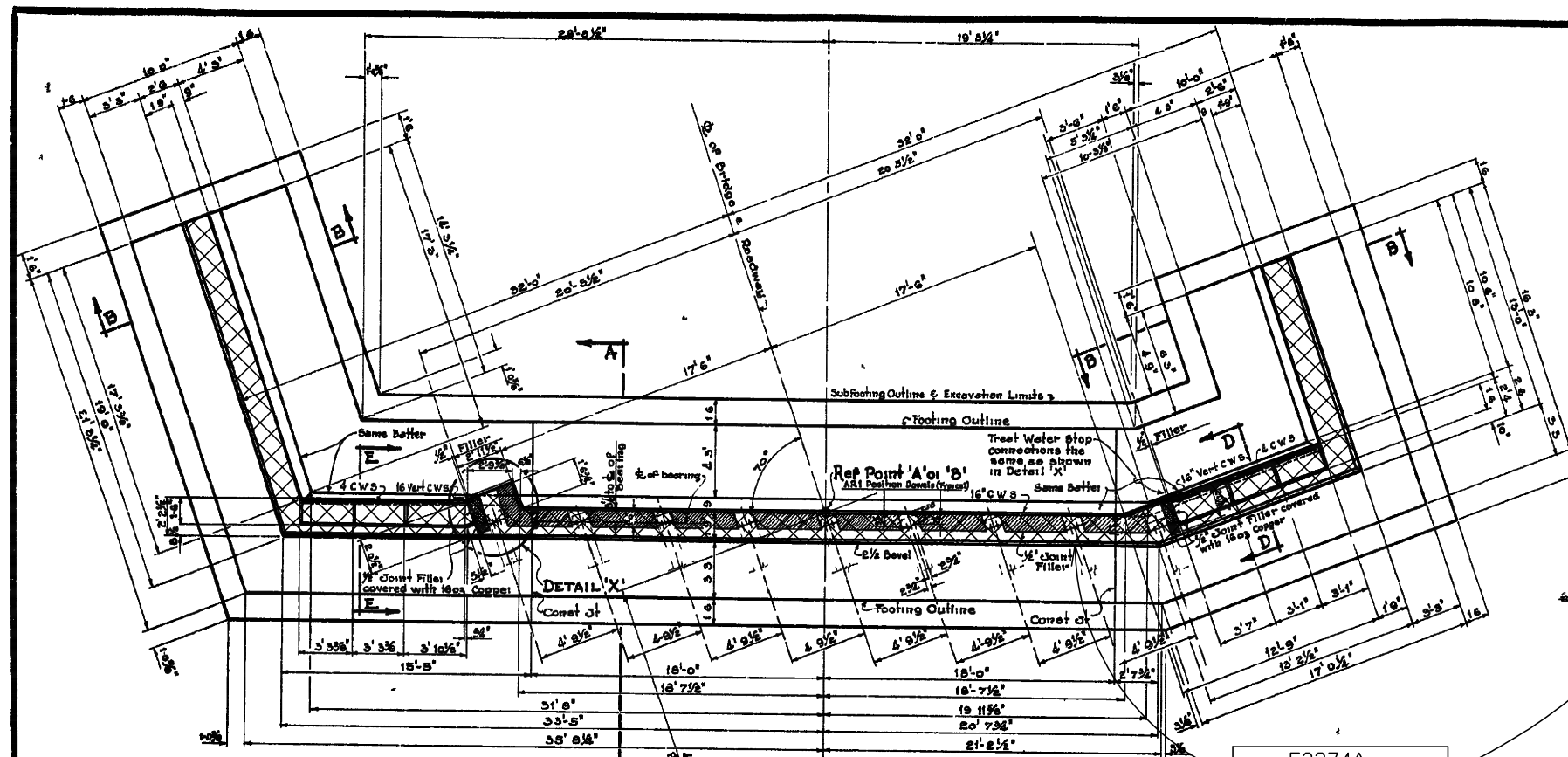
APPROVED: *J. L. ...*
 APPROVED: *H. A. ...*

81-OF-38-22

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62

DATE: _____ CHECKED BY: _____ DATE: _____ CORRECTED BY: _____ DATE: _____

REVISIONS			
NO.	DESCRIPTION	DATE	BY



LOCATION	GRADE A - CU YDS	ABUT 'A'	ABUT 'B'
A	23.1	23.1	
B	22.6	22.6	
C	33.5	33.5	
D	23.1	23.1	
E	35.5	35.5	
F	35.0	35.0	
G	22.1	22.1	
H	1.7	1.7	
I	1.6	1.6	
TOTAL	214.0	214.0	

DESCRIPTION	QUANTITIES TWO ABUTMENTS
Copper	208
1/2 Joint Filler	50
Rubbed Surface Filler	270

ART Position Dowsels 36 Used for 2 Abutts Set Rebar Dowsels separately to templates See Sheet #3 for listings

Note: Cast wings above bridge seat elevation after superstructure is complete to top of cut 5 CWS denotes Copper Water stop Area shaded thus is to be covered with 1/2 Joint Filler Stop all vertical keys 6 below bridge seat

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D VAN WAGONER - COMMISSIONER
SEC 12 T 18 R 12 HENRIETTA TWP JACKSON CO
BRIDGE FILE NO B10-38-6 22 ROAD M 106 AT STA 319+32.3
CROSSING PORTAGE RIVER DRAIN 1 MILE W OF MUNITH

ABUTMENT GENERAL DETAILS

APPROVED: *J. J. [Signature]* 1/25/29
APPROVED: *[Signature]* 8 29 29

DATE: 8 29 29

B10-38-6-22

JOB NO. 53274A

NOTE:
CARE SHALL BE TAKEN TO AVOID DAMAGING THE EXISTING VERTICAL STEEL REINFORCEMENT DURING CONCRETE REMOVAL. PROJECTING REINFORCEMENT SHALL BE CLEANED, STRAIGHTENED AND EMBEDDED IN PROPOSED CONCRETE, NOT PAID SEPARATELY BUT INCLUDED IN PAYMENT FOR "Structures, Rem Portions (B02)."

JOB NO. 53274A

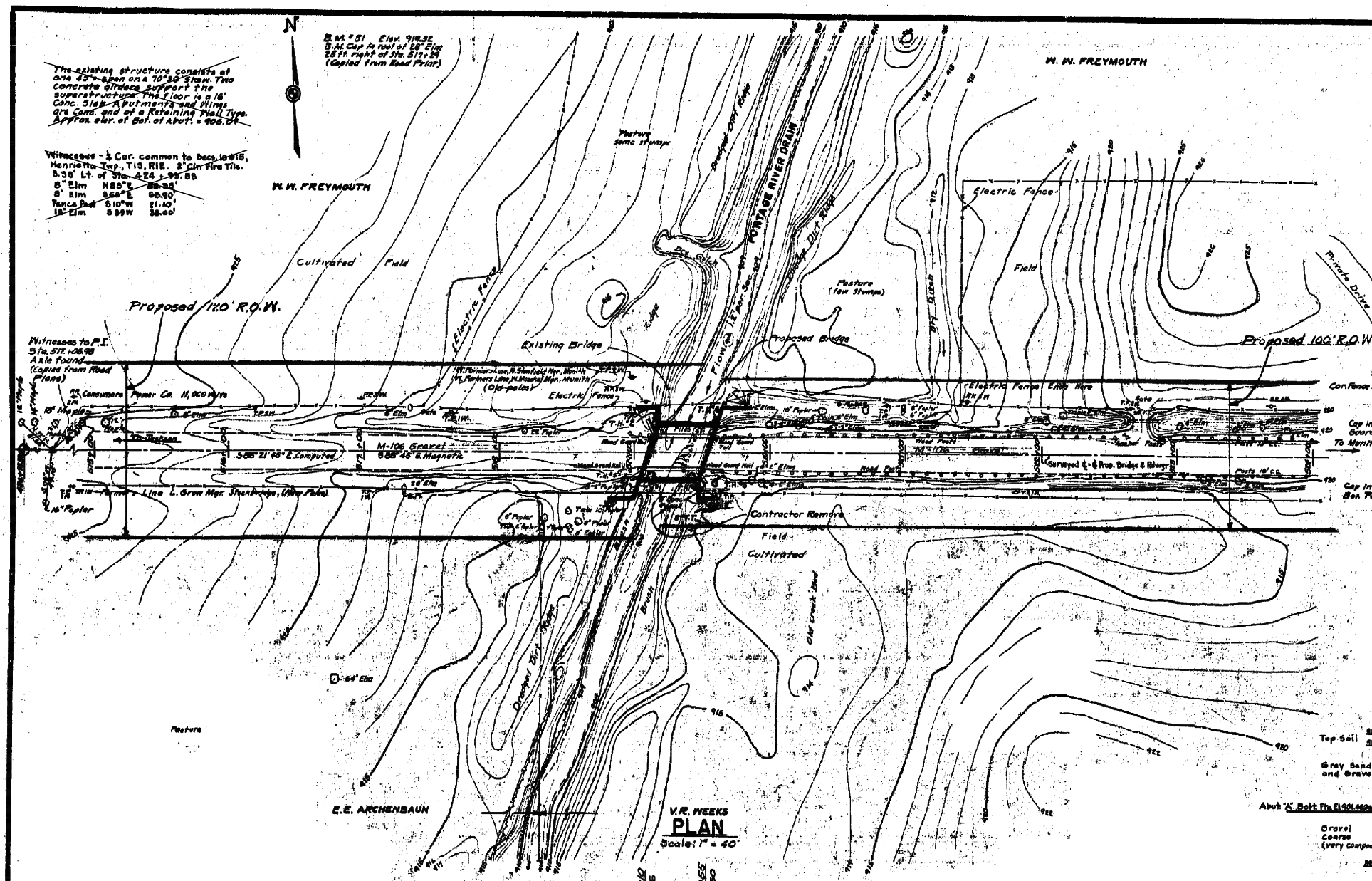
PROPOSED WORK
DENOTES REMOVAL PORTIONS
THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX ABOVE, LABELED WITH THIS PROJECTS JOB NUMBER



REMOVAL DETAILS				
DATE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET

DATE: _____ CHECKED BY: _____ DATE: _____ DRAWN BY: _____ FILE NAME: b0238051_rem

REVISIONS			
NO.	DESCRIPTION	DATE	BY

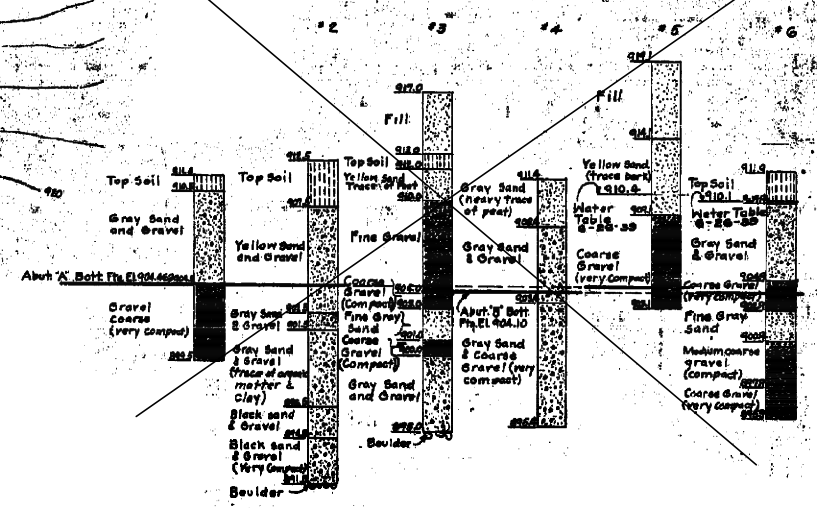


B.M. #52 Elev. 914.92
 2.34' Cap in 30' E. 170'
 14' Ft. left of Sta. 533 +10
 (Copied from Road Print)

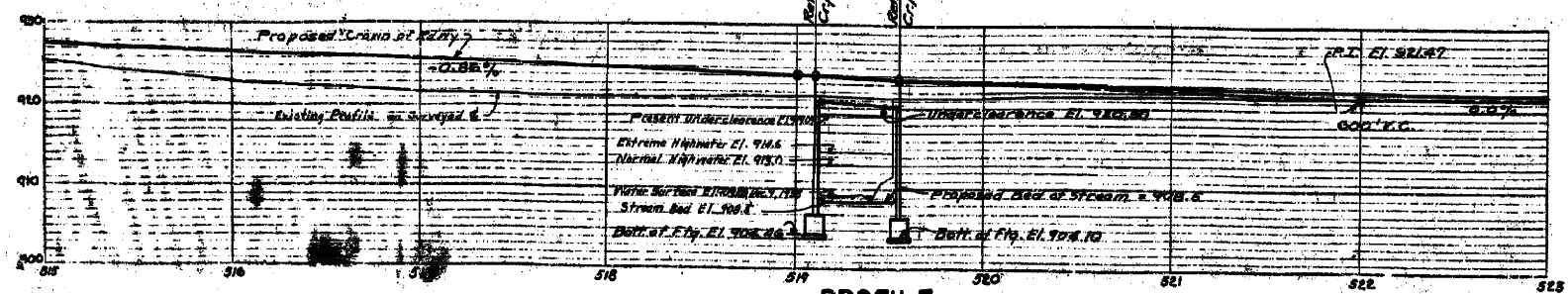
Witnesses - 1/4 Cor. common to Secs. 10 & 11, Henretta Twp., T10 R1E, S. 24 Twp. T10.
 S. 30' Lt. of Sta. 424 + 95.88
 8' Elm N85°E 88.34'
 8' Elm S68°E 90.90'
 Fence Post S10°W 11.10'
 12' Elm S89°W 38.00'

Witnesses to P.C. Sta. 514.572 +06.98
 Aisle Found (Copied from Road Print)

LOG OF BORINGS



V.R. WEEKS
PLAN
 Scale: 1" = 40'



PROFILE
 Vert. Scale: 1" = 10'
 Hor. Scale: 1" = 40'

MICHIGAN STATE HIGHWAY DEPARTMENT
 MURRAY D. VAN WAGONER - COMMISSIONER
 SEC. 12 T. 10 R. 1 E. HENRETTA TWP. JACKSON CO.
 BRIDGE FILE NO. BI OF 38-6-22 ROAD M108 AT STA. 519 + 38.50
 CROSSING PORTAGE RIVER DRAIN 1 MILE W. OF MUNITH
GENERAL PLAN OF SITE
 ONE 48'-0" ROLLED BEAM SPAN, 35'-0" CLEAR ROADWAY, 2'-1" C'
 CURBS, 2'-0" CANTILEVER TYPE ABUTMENTS
 125' HIGH 70° ANGLE OF CROSSING, 60% V.C.
 APPROVED: *J. L. Smith* *W. J. Smith*
 DATE: 6-22-22
 DRAWN BY: *W. J. Smith*
 CHECKED BY: *J. L. Smith*
 BI of 38-6-22

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DO NO WORK FROM THIS SHEET.
 THE INFORMATION SHOWN HERE IS FOR REFERENCE ONLY.
 NO PAY ITEMS ARE SHOWN.



FOR INFORMATION ONLY

DATE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET

1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.

FILE NAME: 60238051.F10
 DRAWN BY:
 CHECKED BY:
 DATE:
 CORRECTED BY:
 DATE: