K&E 10 1253 3-81 4989•

BENCH MARKS	
B.M.#44A Chiseled Square on Nly. Side of Conc. Base of Steel Power Pole # 8330, 05' Lt. of Sta. 244+63.	El. 634.48
B.M.#43 Chiseled Square on S.E. Corner of Bridge Wingwall 40' Rt. of Sta. 254+75.	El. 625.84
B.M.#42A Chiseled Square on East Retaining Wall for Telegraph Rd. Bridge, on Center Line at Sta. 263+30.	El. 640.45

EXISTING STRUCTURES

The exist. structures are 70 ft. span, riveted Plate Girder bridges.

WITNESSES

P.O.T. Sta. 252+00.41
Boat Spike
S. 05° E. - 21.97' - 3" Ash
S. 80° W. - 64.53' - 3" Ash
N. 40° E. - 50.04' - N.E. Cor. of C.B., Rim

P.O.T. Sta. 256+47.65
Boat Spike
N. 25° E. - 26.07' - 3" Ash
N. 65° W. - 81.72' - 3" Ash
S. 65° W. - 37.89' - 3" Ash

UTILITIES

Detroit Edison Co.: - has overhead wires South of Eastbound structure.

Mich. Consolidated Gas Co.: - has a 20" Gas Pipe Line in the median, to be relocated through the Eastbound structure.

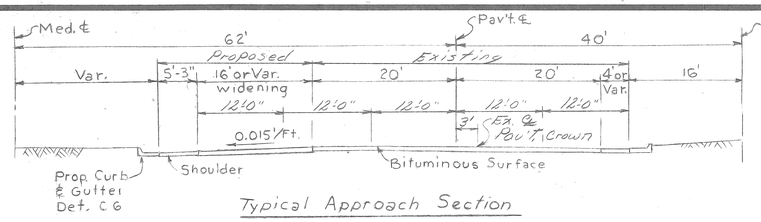
Consumers Power Co.: - has a 6" Gas Pipe Line 10' North of the Westbound structure.

Detroit Southern: - has a 6" Gasoline Pipe Line 15' South of the Eastbound structure.

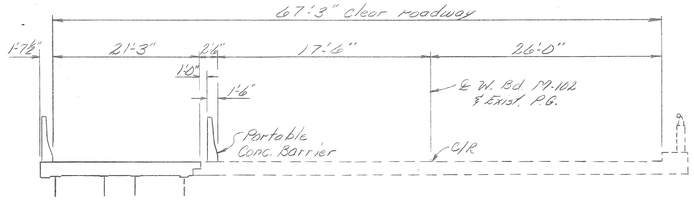
Water: - 16" Water Pipe Line is 72' South of the Eastbound structure.

M.D.O.T. has a 8" storm sewer between the structures on (west side). This will be extended to protrude from the proposed retaining wall.

M.D.O.T. has a 12" storm sewer between the structures, that will protrude through the proposed retaining wall on (east side).

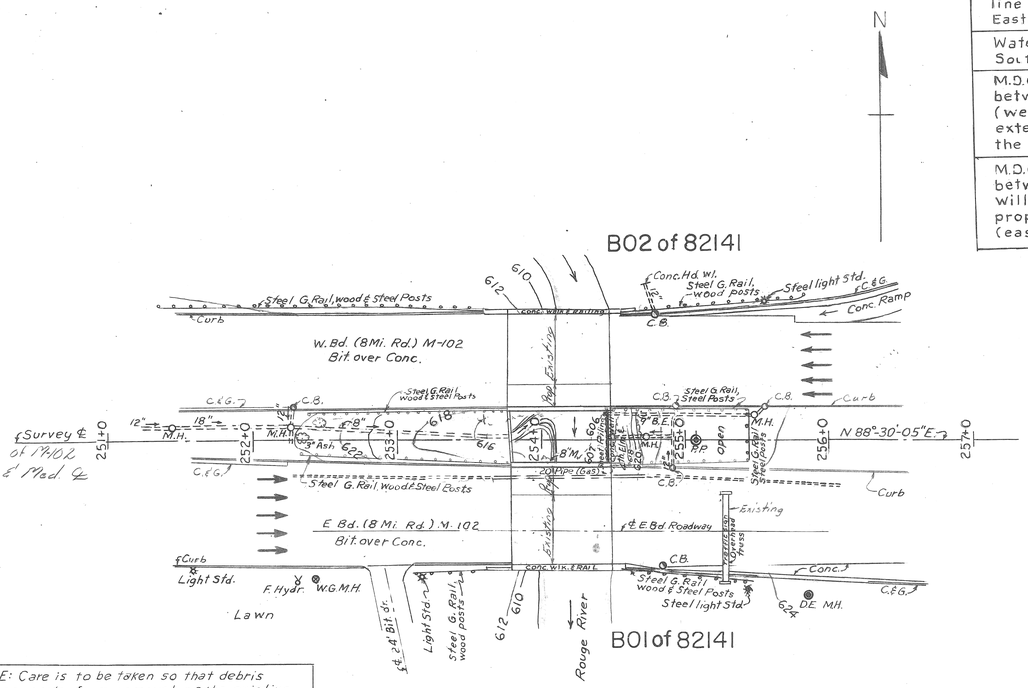


Typical Approach Section



CONSTRUCTION STAGING

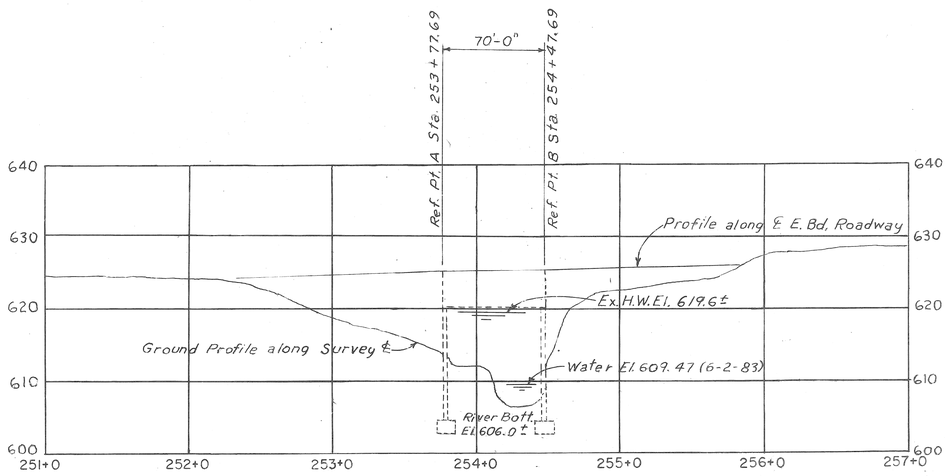
B02 of 82141



B01 of 82141

NOTE: Care is to be taken so that debris and concrete from removal of the existing structures or from construction of the proposed bridges does not fall into the river.

SITUATION PLAN
Scale: 1" = 50'



PROFILE
VERT. SCALE-1" = 10'
HOR. SCALE-1" = 50'

NOTES:

The work covered by these plans includes removal of portions of structure, widening of the abutments and superstructure, and construction of a new retaining wall. All other work is included in the road plans that are a part of this contract.

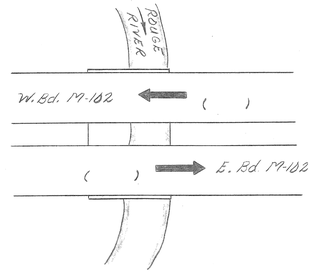
The contractor shall locate all active underground utilities prior to staring work and shall conduct his operations in such a manner as to ensure that those utilities not requiring relocation will not be disturbed.

For protection of underground utilities, the contractor shall dial 800-482-7171 a minimun of 48 hours prior to excavating in the vicinity of utility lines. All "Miss Dig" participating members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

Traffic is to be maintained over the bridge.

Water level is subject to change. The contractor is responsible for making his own determination of water levels that will exist during construction.

The existing structure shall be checked at the time of starting construction to see that its relationship to the proposed work is as shown on these plans and any differences requiring changes in the new work shall be reported to the Design office.



ESTIMATED TRAFFIC DISTRIBUTION

0000 AVERAGE DAILY TRAFFIC
(000) DESIGN HOURLY VOLUME
% COMMERCIAL
→ DIRECTIONAL TRAFFIC
↔ TOTAL TRAFFIC

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF TRANSPORTATION

M-102 E. BD. & W. BD. OVER THE ROUGE RIVER W. OF U.S-24

GENERAL PLAN OF SITE

PRELIMINARY PLAN A

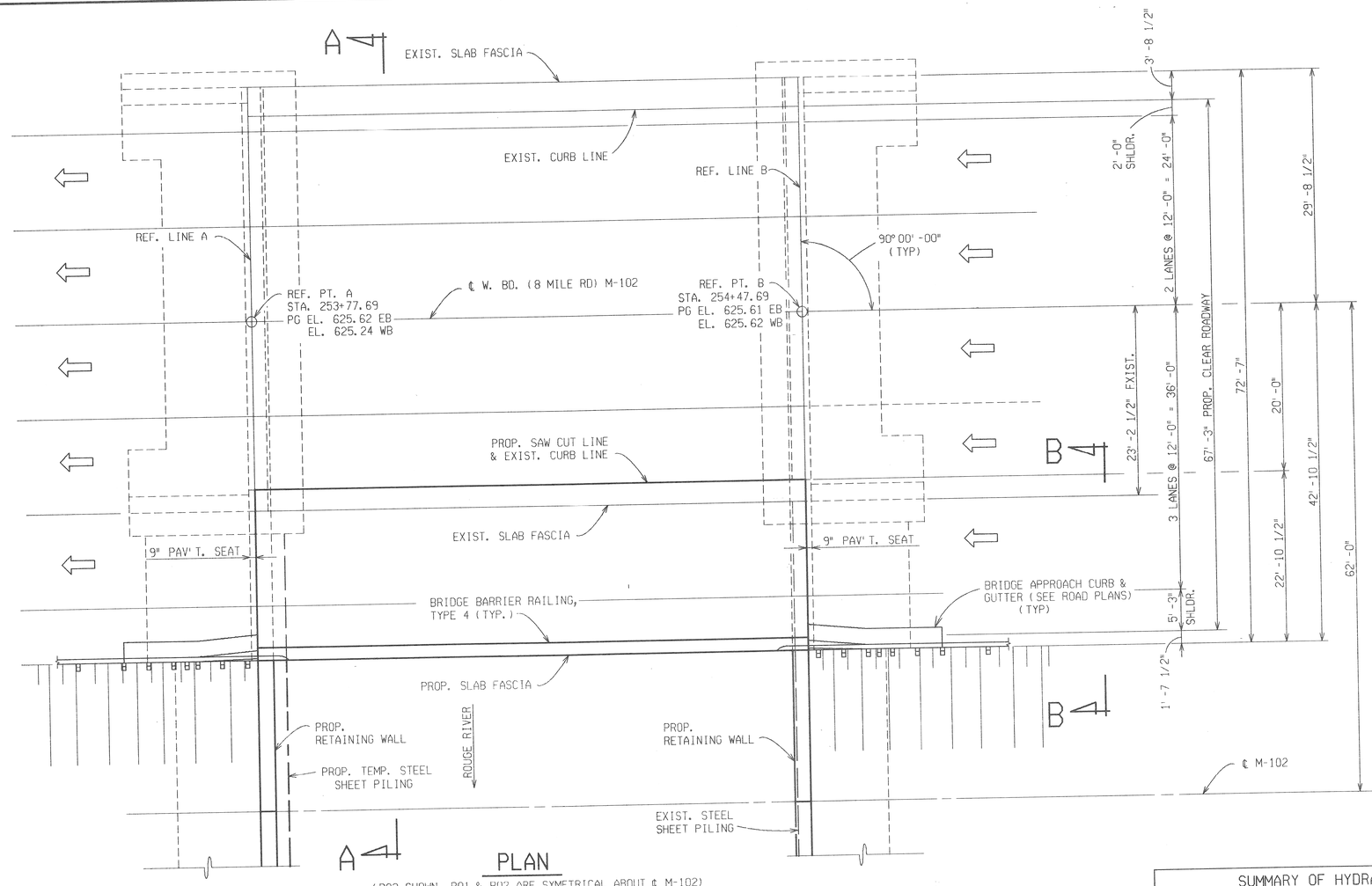
APPROVED Lawrence C. Chick 4-24-85
DESIGN SUPERVISING ENGINEER

SQUAD BOSS	RUESMAN	
DRAWN BY	MARSHALL	4-5-85
TRACED BY		
CHECKED BY		
SHEET 1 OF 4		

B01 & B02 of 82141

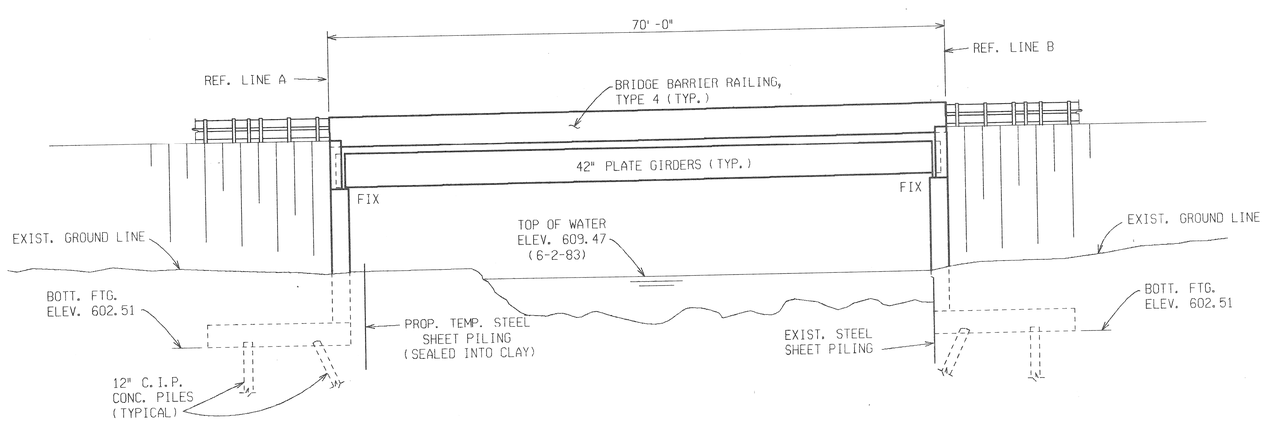
20550

MISC.



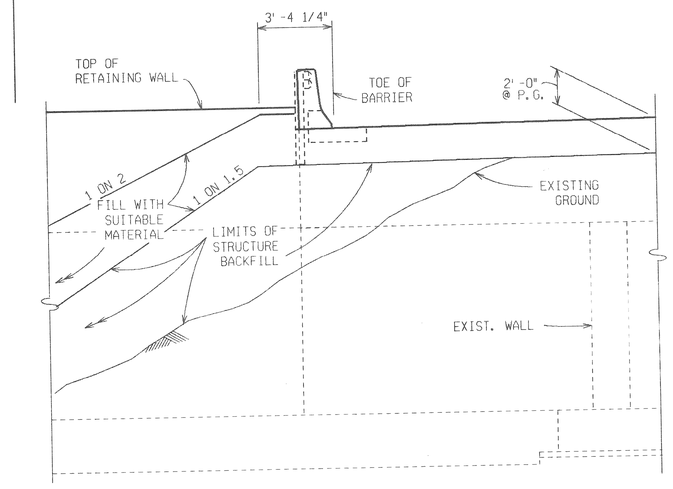
PLAN

(B02 SHOWN. B01 & B02 ARE SYMETRICAL ABOUT ℄ M-102)



ELEVATION

(@ ℄ M-102)



SECTION B-B

SUMMARY OF HYDRAULIC ANALYSIS							
FLOOD DATA	DISCHARGE IN CFS	WATER SURFACE ELEVATION	VELOCITY IN UNCONSTRICTED CHANNEL IN FPS	WATERWAY AREA PROVIDED IN SQ. FEET	VELOCITY IN CONSTRICTED CHANNEL IN FPS	BACKWATER ABOVE DESIGN STAGE IN FEET	FINAL WATER SURFACE ELEV. IN FEET
50 YEAR							
100 YEAR							

MISCELLANEOUS QUANTITIES		
ITEM	UNIT	AMOUNT
UNCLASSIFIED FOUNDATION EXCAVATION	CYD	
STRUCTURE BACKFILL (C.I.P.)	CYD	

NOTES:

THE DESIGN OF THIS STRUCTURE IS BASED ON THE MSHD SPECIFICATIONS FOR THE DESIGN OF HIGHWAY BRIDGES, 1958 EDITION, AND CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS20 AND ALTERNATE MILITARY LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH. THE WORKING STRESS METHOD OF DESIGN WAS USED FOR THIS STRUCTURE, EXCEPT WHERE OTHERWISE INDICATED.

THE DRAINAGE AREA CONTRIBUTORY TO THIS CROSSING IS SQUARE MILES.

THE ADJACENT STRUCTURE MILES DOWNSTREAM PROVIDES A WATERWAY AREA OF SQUARE FEET TO HIGH WATER ELEVATION .

MICHIGAN DEPARTMENT OF TRANSPORTATION

M-102 OVER THE ROUGE RIVER, WEST OF US-24

GENERAL PLAN OF STRUCTURE

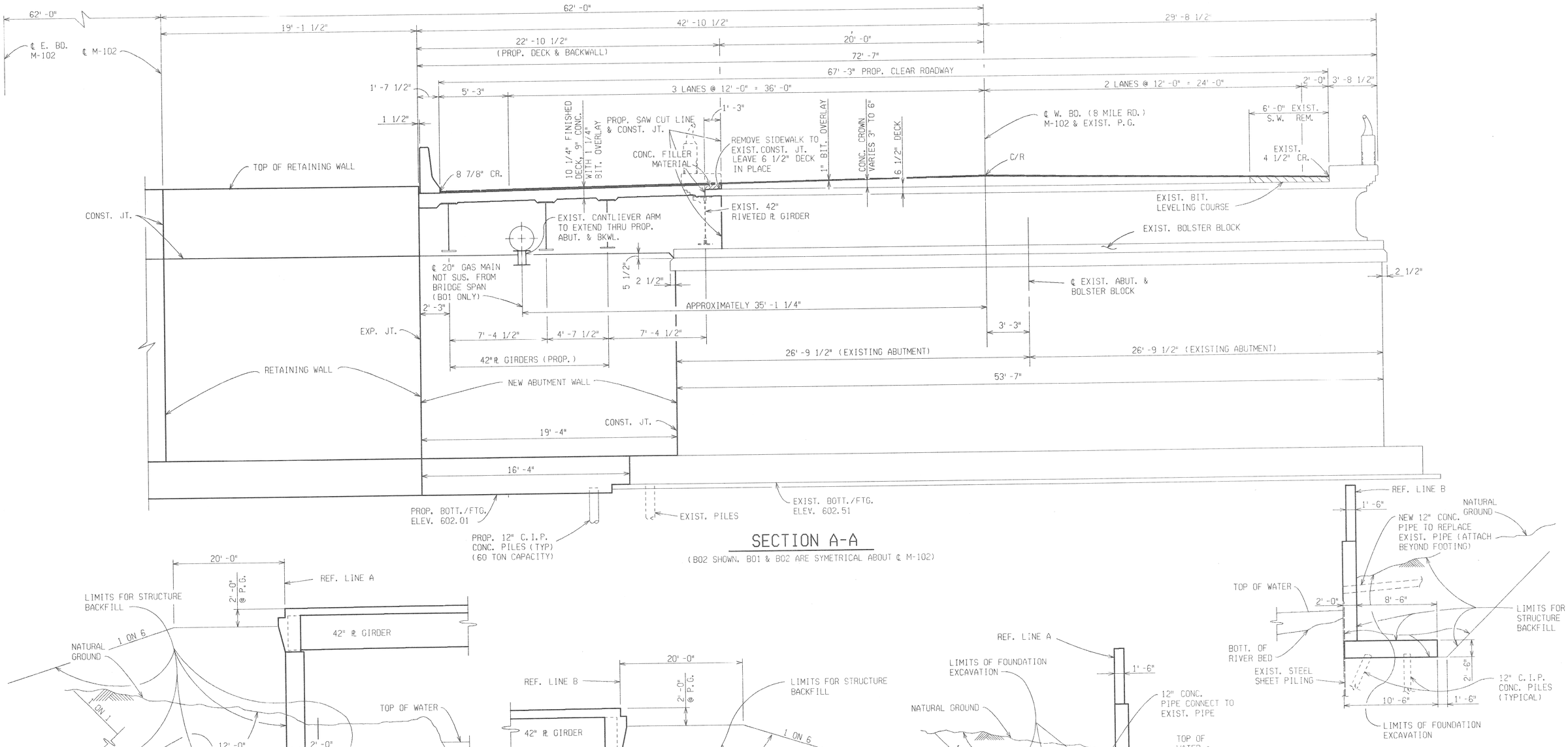
PRELIMINARY PLAN A

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	RUSSMAN	
DRAWN BY	J. THORN	4-21-85
CHECKED BY		
SHEET	OF	

B01 & B02 OF 82141

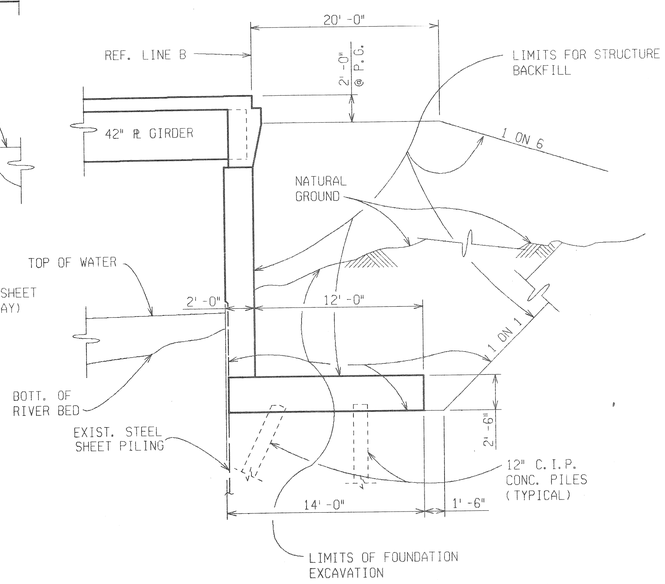
DRAWN BY: THORNTON
LAST CORRECTION BY: TIEDT
FILE NAME: B0182141.ST2
DATE: 9-22-83
DATE: 4-21-85
LAST GREEN ROOM REVIEW BY:
DATE:
1 2 3 4 6 7 8 9 10 11 12 21 25 26 27 28 29 30 31 34 35 36 37 38 39 40 41 42 43 44



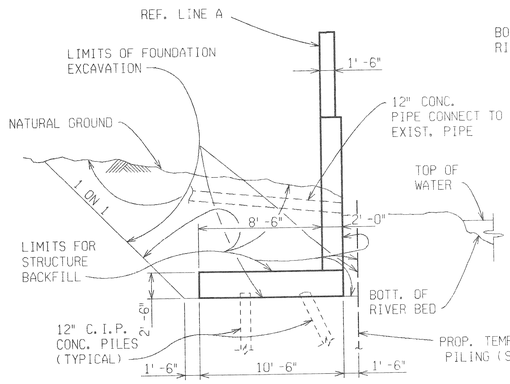
SECTION A-A

(B02 SHOWN, B01 & B02 ARE SYMETRICAL ABOUT ℄ M-102)

SECTION THRU ABUTMENT A



SECTION THRU ABUTMENT B



SECTION THRU RETAINING WALL AT ABUTMENT A

SECTION THRU RETAINING WALL AT ABUTMENT B

MICHIGAN DEPARTMENT OF TRANSPORTATION

M-102 OVER THE ROUGE RIVER, WEST OF US-24

GENERAL PLAN OF STRUCTURE

PRELIMINARY PLAN A

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SQUAD BOSS	RUSSMAN	
DRAWN BY	Z/THORN	4-22-85
CHECKED BY		
SHEET	OF	

B01 & B02 OF 82141

DRAWN BY: THORNTON
LAST CORRECTION BY: TIEDT
FILE NAME: B0182141.ST2; 1
DATE: 9-22-83
DATE: 4-22-85
LAST GREEN ROOM REVIEW BY:
DATE:
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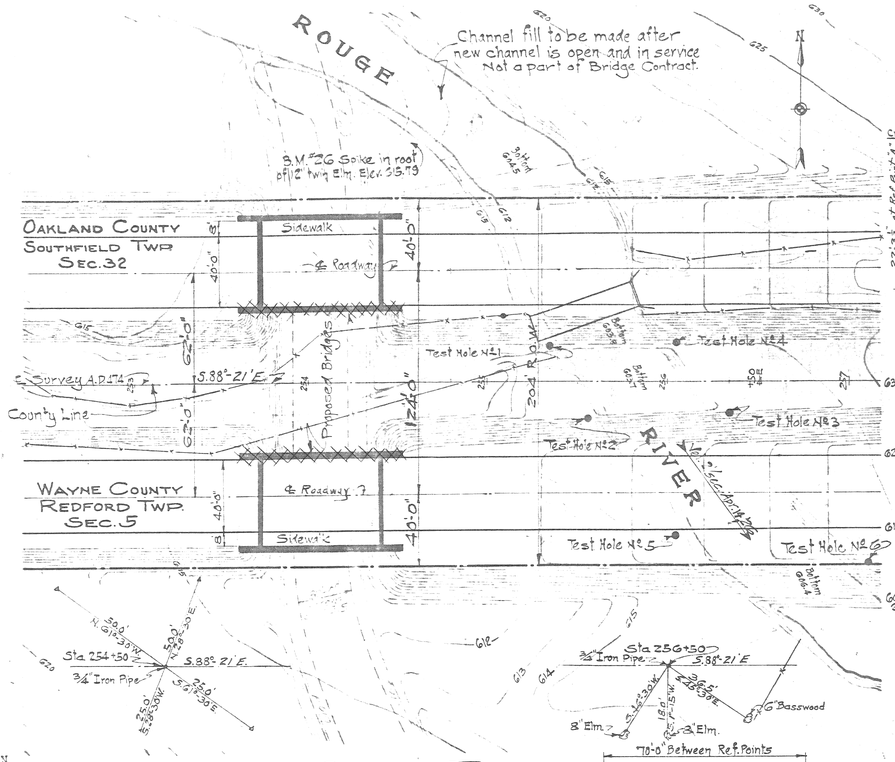
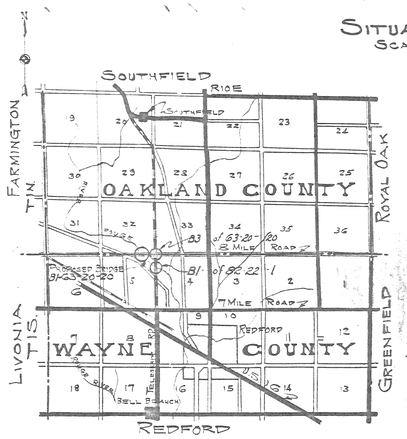
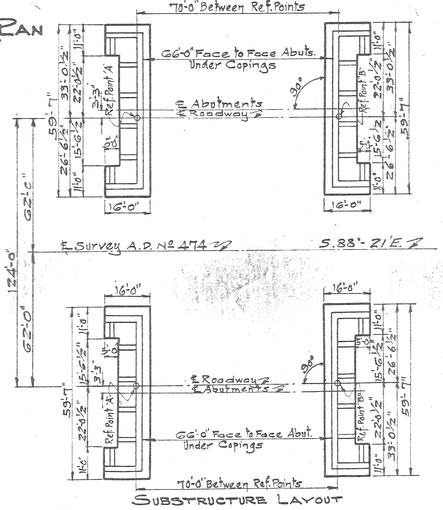
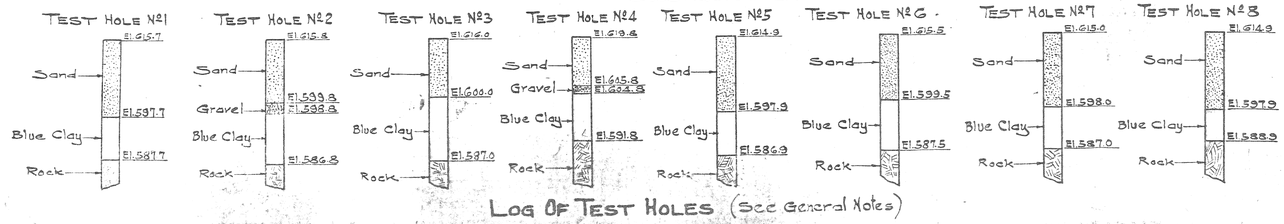




SITUATION PLAN
SCALE 1"=40'-0"





BILL OF MATERIALS FOR TWO BRIDGES

Description	Cu. Yds. Concrete Grade 'A'	Extra Grade 'A' In Piles Not Incl. in Cu. Yds.	Structural Steel Lbs.	Reinforcing Steel Lbs.	Spindles №.	Piles №.	Excavation Wet Cu. Yds.	Excavation Dry Cu. Yds.	Channel Change Cu. Yds.	Vitrified Conduit Lin. Ft.	For Details See
Abutments	657.4	28.4		53224		372	1075	625			Sh. #2-3-4-5-6
Superstructure	309.4			55338	252						Sh. #7-8-9-10
Structural Steel			313702								Sh. #10
Reinforcing Steel											Sh. #6-9
Wearing Surface	94.2										Sh. #7-8-9
C.I. Bearing Pls.											Sh. #10
Drains											Sh. #4-7-A-1-5-27
Railing											Sh. #5-7-A-1-5-29-A
Bar Chairs											A-1-5-27
Name Plates											Sh. #5
Channel Change											Sh. #1
Vit. Conduit 3"x3"											Sh. #9
											Sh. #9
Summary Total	1058.0	28.4	313702	108562	252	372	1075	625	4000	1400	

Total Concrete Yardage 1058.0 Cu. Yds. (Exclusive of Spindles)
Spindles are not included in Concrete Quantities given above but are to be furnished by the Contractor at a unit price per Spindle. Reinforcing Steel for Spindles is included in Superstructure bar list.
8 Drain Castings to be furnished by the Erecting Contractor Approx. Wt. 16# each.
Metal Fabric Reinforcing shall be provided for 5600 sq. ft. of Floor Surface as per Specifications.

Removal Portions

GENERAL NOTES

All materials and workmanship to be in accordance with the Michigan State Highway Department's Standard Specifications for Roads and Bridges 1929 Edition.

Each section shown as a distinct unit on these plans is to be poured in one continuous run.

Brass reference bars - 3"x6" long furnished by the Department are to be carefully set by the Inspector in the positions shown, so as to project 3" from the surface. After placing, the Inspector is to furnish a diagram showing the elevation of the bars and their distances from reference lines using monument plan to be furnished by the Engineer.

Piles will not be required unless ordered by the Engineer after excavations are complete. If piles are required they shall be driven to a 12 ton bearing capacity.

The Contractor will backfill both in front and behind the new abutments to the existing ground surface disposing of the excess excavated material as directed by the Engineer.

See supplemental Specifications for reinforcing the Wearing Surface.

All Expansion Joints are to be Asphaltic Felt of approved type except Bridge Seat.

Approach grading is not a part of this contract.

There will be no temporary bridge and detour.

Bench Mark - "26 - Spike in root of 2" twin Elm 30' left of Sta. 254+50 elevation 615.79.

Information furnished in regard to foundation conditions and stream data has been secured by the State Highway Department & may prove but is not guaranteed. Variations from these conditions as encountered in the field will be no cause for allowance of extras on this contract.

Bridge Contractor to excavate Channel from ℄ South of ℄ of South roadway to connect with present channel north of Bridge. Excavated material is to be disposed of as directed by the Engineer.

The Bridge Contractor is to remove the present bridge after the channel fill is made. The present bridge is a 230 riveted Pratt Truss span. The floor consists of two layers of 2" plank supported by I beam stringers, and 12" I beam floor beams. The distance center to center trusses is 14'-10". The substructure consist of concrete abutments, old masonry from the abutment is to be disposed of as directed by the Engineer and the superstructure is to become the property of the Contractor and is to be removed from the site by him before completion of the Contract.

RECORD OF EXTRA AND DIMINISH CLAIMS

Contr. №.	Supp. №.	Claim	№.	Description	Quantity	Date Auth.
2	H	Extra	3	Handpick coarse agg.	141 Cu. yds.	10-7-31
2	J	Change	7	Increase foundation piling	263.4 Lin. ft.	12-7-31

32, T.1N. R.10E. SOUTHFIELD OAKLAND
B1 of 63-20-20 A.D. №474 254+10
ROUGE RIVER 3 N.W. REDFORD

GENERAL LAYOUT

2 DUPLICATE SPANS, 70' STEEL DECK GIRDER, 40' ROADWAY, 1-8'-0" SIDEWALK SUBSTRUCTURE AND SUPERSTRUCTURE, 1-22'-3½", 1-22'-2¾" COUNTER FORT ABUTMENTS, 90° CROSSING, 0.5% GRADE.

APPROVED ..... CHIEF DRAFTSMAN ..... W.J. Brumgras
APPROVED ..... ENGINEER OF DESIGN ..... MsKown 5-25-29
APPROVED ..... ENGINEER OF DESIGN ..... " 5-28-29
APPROVED ..... BRIDGE ENGINEER ..... Col Hoppham 9-13-29

B01 & B02 of 82141 20550