THE REHABILITATION DESIGN IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS20-44 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/800 OF SPAN LENGTH.

THE IMPROVEMENTS SHOWN IN THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND SUPPLEMENTAL SPECIFICATIONS. THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE DESIGNED IN ACCORDANCE WITH AASHTO: A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2011 EDITION AND SECTION B (4R) OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION LOCAL AGENCY PROGRAMS FOR GEOMETRICS (DATED 03-04-14).

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

CONCRETE: GRADE D	f'c = 4,000 psi
STEEL REINFORCEMENT:	fy = 60,000 psi

UNLESS OTHERWISE SHOWN ON THE PLANS, PROVIDE MINIMUM CONCRETE CLEAR COVER FOR REINFORCEMENT ACCORDING TO THE FOLLOWING:

CONCRETE CAST AGAINST EARTH:	3 IN.
PRESTRESSED BEAMS:	1 IN.
ALL OTHER UNLESS SHOWN ON PLANS:	2 IN.

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

EXISTING PLANS ARE FOR INFORMATION ONLY.

		TRAFFIC DATA			SPEED DATA		
ROAD	YEAR	ADT	DHV	COMM	DESIGN	POSTED	LIMITS
SHERIDAN	2018	2938		5%	5%	50	
	2038	3585				**	

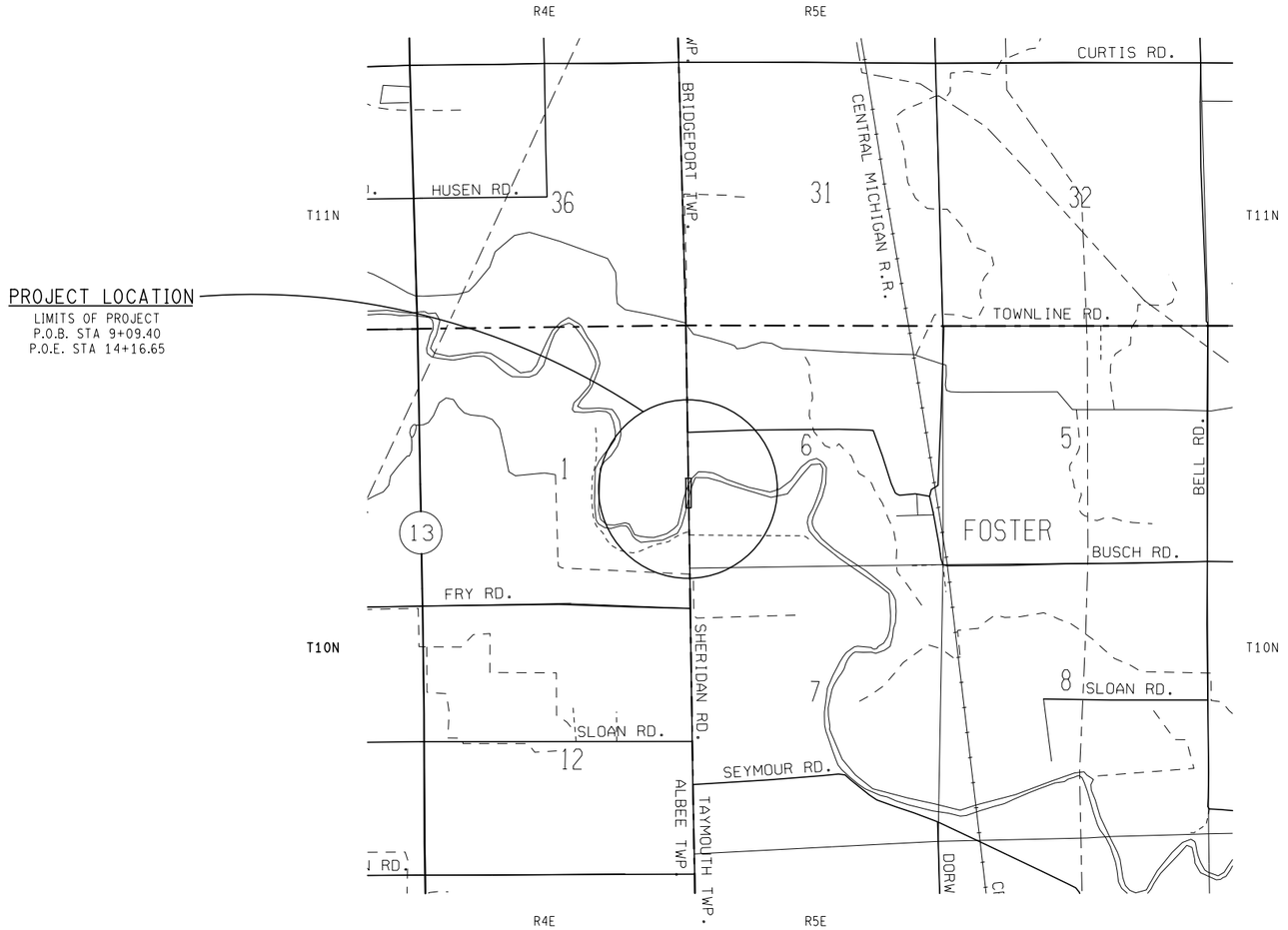
SAGINAW COUNTY ROAD COMMISSION

SHERIDAN ROAD OVER THE FLINT RIVER
STRUCTURE NUMBER 9256
SECTION 1, T10N, R4E
TAYMOUTH TOWNSHIP
SAGINAW COUNTY
JOB NUMBER 133002A
CONTROL SECTION

INFORMATION ONLY

N

COUNTY KEY



THESE PLANS WERE PREPARED FOR THE SAGINAW COUNTY ROAD COMMISSION BY

CASEY COLLINGS, P.E. - PROJECT MANAGER — DATE

GREAT LAKES ENGINEERING GROUP
521 SEYMOUR STREET
LANSING, MI. 48933
517-363-4400

APPROVALS

RECOMMENDED FOR APPROVAL BY:

JOSEPH WISNIEWSKI, P.E. - DIRECTOR OF ENGINEERING — DATE

MILES: 0.08

CONTRACT FOR:
THE WORK COVERED IN THESE PLANS INCLUDES JOINT REPLACEMENT, DECK PATCHING, RAILING REPLACEMENT, EPOXY OVERLAY, BEAM END REPAIRS, AND CONCRETE SURFACE SEALER.

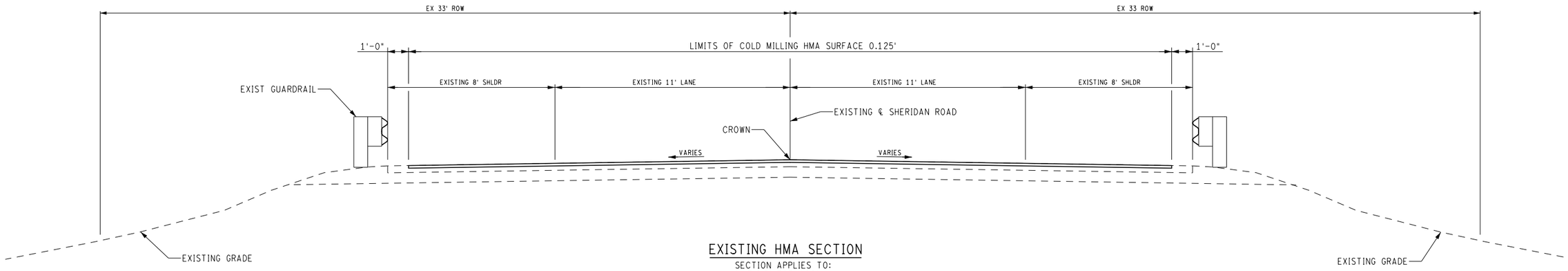
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

GREAT LAKES ENGINEERING GROUP, LLC

NO SCALE

DRAWN BY: JLS	DATE:	REVISIONS: 01/21/19	CS:
CHECKED BY: CJC	DESIGN UNIT: GLEG		JN: 133002A
FILE:	TSC: BAY CITY		1018-2-497

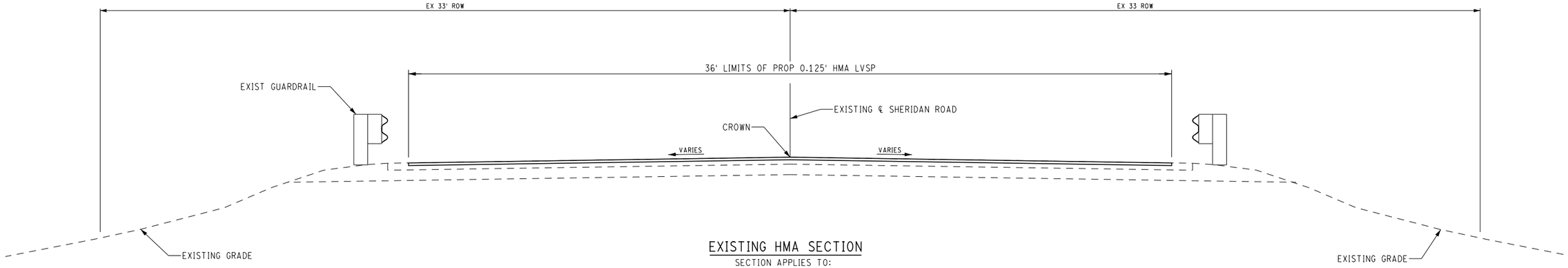
TITLE SHEET	DRAWING	SHEET
SHERIDAN ROAD OVER THE FLINT RIVER		SECT 1
SAGINAW COUNTY ROAD COMMISSION		1



EXISTING HMA SECTION

SECTION APPLIES TO:
P.O.B. FOR 100'
P.O.E. FOR 100'

INFORMATION ONLY



EXISTING HMA SECTION

SECTION APPLIES TO:
P.O.B. FOR 100'
P.O.E. FOR 100'

HMA APPLICATION ESTIMATE

IDENT NO.	ITEM	RATE LBS PER SYD	PERFORMANCE GRADE	REMARKS
HMA, LVSP-T	HMA, LVSP	165	58-28	TOP COURSE AWI=220
	HAND PATCHING	660	58-28	MIX-HMA-LVSP, PLACE IN 3 LIFTS
	* BOND COAT	0.05-0.15 GAL		

*FOR INFORMATION ONLY

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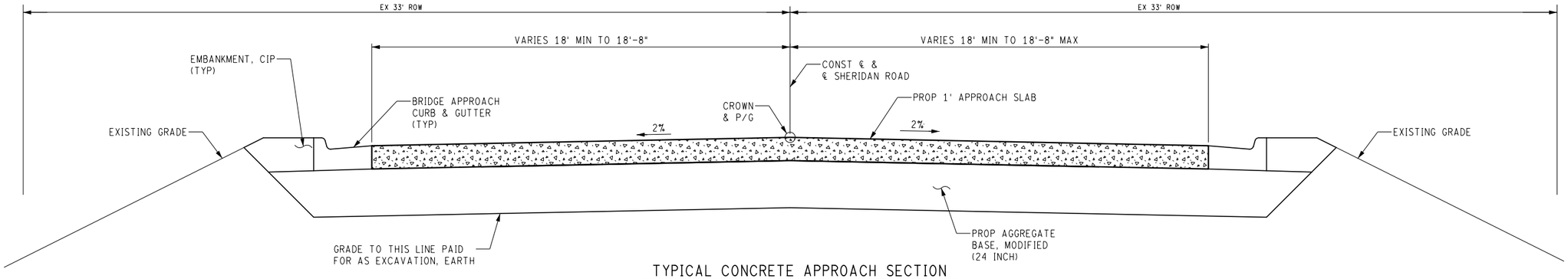
GREAT LAKES ENGINEERING GROUP, LLC

NO SCALE

DRAWN BY: JLS	DATE:	REVISIONS: 01/21/19	CS:	TYPICAL SECTIONS	DRAWING / SHEET
CHECKED BY: CJC	DESIGN UNIT: GLEG		JN: 133002A	SHERIDAN ROAD OVER THE FLINT RIVER	SECT 1
FILE: 497 typ.dgn	TSC: BAY CITY		1018-2-497	SAGINAW COUNTY ROAD COMMISSION	3



TYPICAL CONCRETE APPROACH SECTION

(LOOKING UPSTATION)

INFORMATION ONLY

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NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

GREAT LAKES ENGINEERING GROUP, LLC

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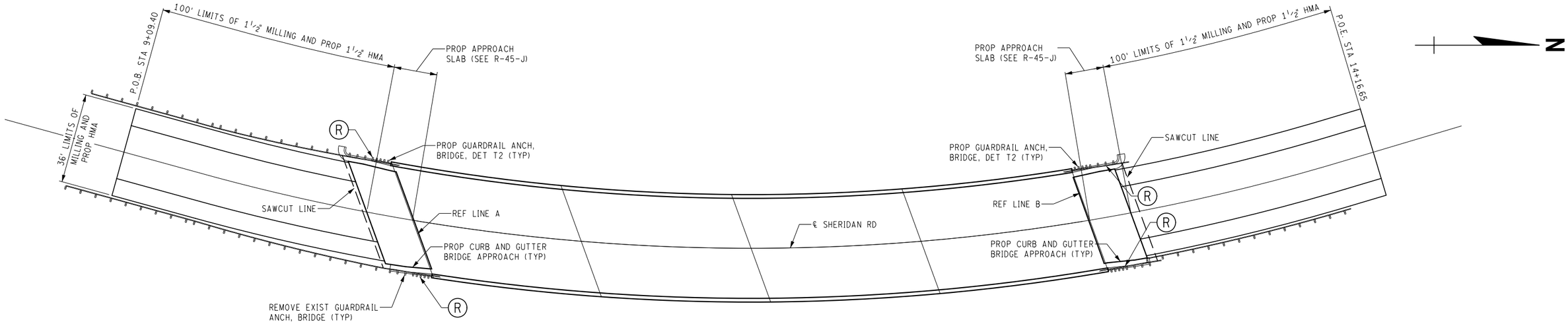
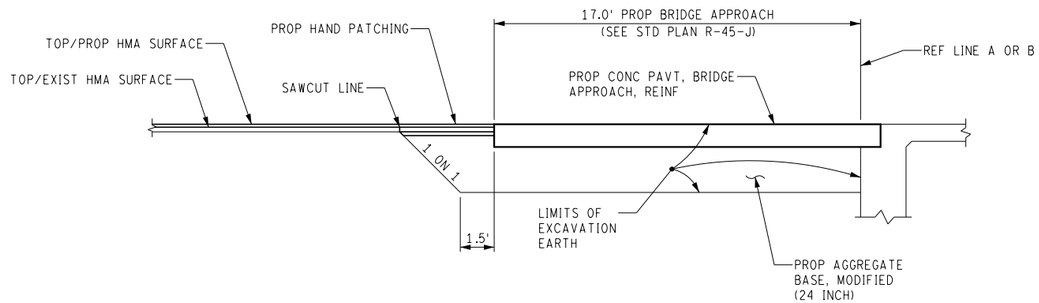
TYPICAL SECTIONS	DRAWING	SHEET
SHERIDAN ROAD OVER THE FLINT RIVER		SECT 1
SAGINAW COUNTY ROAD COMMISSION		4



PLAN OF CONSTRUCTION

INFORMATION ONLY



TYPICAL APPROACH SECTION

MISCELLANEOUS QUANTITIES

100	Ft	Curb and Gutter, Rem
135	Ft	Guardrail, Rem
130	Syd	Pavt, Rem
178	Syd	HMA Surface, Rem
800	Syd	Cold Milling HMA Surface
145	Syd	Conc Pavt, Bridge Approach, Reinf
4	Ea	Guardrail Anch, Bridge, Det T2
100	Ft	Curb and Gutter, Bridge Approach
230	Ton	Aggregate Base, Modified
18	Ton	Hand Patching
187	Cyd	Excavation, Earth
25	Cyd	Embankment, CIP
1000	Ft	Pavt Mrkg, Waterborne, 4 inch, White
1000	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
27	SYD	Slope Restoration
200	Ft	Pavt Mrkg, Type NR, Tape, 4 inch, Yellow, Temp
75	Ton	HMA, LVSP

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)

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GREAT LAKES ENGINEERING GROUP, LLC

NO SCALE

DRAWN BY: JLS	DATE:	REVISIONS: 01/21/19	CS:	CONSTRUCTION SHEET	DRAWING / SHEET
CHECKED BY: CJC	DESIGN UNIT: GLEG		JN: 133002A	SHERIDAN ROAD OVER THE FLINT RIVER	SECT 1
FILE: 497 typ.dgn	TSC: BAY CITY		1018-2-497	SAGINAW COUNTY ROAD COMMISSION	5

JN 133002A
REMOVE AND SALVAGE THE EXISTING NAMEPLATE. RE-EMBED IN PROP RAILING. INCLUDED IN THE BID ITEM "NAMEPLATE".

JN 133002A
REMOVE EXISTING E3 JOINT. INCLUDED IN "STRUCTURES, REHABILITATION, REM PORTIONS"

JN 133002A
434'-6"
LIMITS OF P.O.B. TO P.O.E.

JN 133002A
REMOVE EXISTING APPROACH SLABS & CURB AND GUTTER. INCLUDED IN "STRUCTURES, REHABILITATION, REM PORTIONS"

NOTE: CONSTRUCT GALVANIZED BEAM GUARDRAIL TYPE B PARALLEL TO ℄ SHERIDAN ROAD.

JN 133002A
REMOVE EXISTING EXP JT DEVICE AT ALL PIERS. INCLUDED IN "DECK JOINT, REM".

JN 133002A
REMOVE BARRIER RAILING, INCLUDED IN "STRUCTURES, REHABILITATION, REM PORTIONS" (TYP EACH SIDE)

JN 133002A
REMOVE GUARDRAIL BRIDGE APPROACH ANCHORAGE INCLUDED IN "STRUCTURES, REHABILITATION, REM PORTIONS" (TYP ALL QUADRANTS)

JN 133002A
REMOVE GUARDRAIL BRIDGE APPROACH ANCHORAGE INCLUDED IN "STRUCTURES, REHABILITATION, REM PORTIONS" (TYP ALL QUADRANTS)

JN 133002A
REMOVE BARRIER RAILING, INCLUDED IN "STRUCTURES, REHABILITATION, REM PORTIONS" (TYP EACH SIDE)

JN 133002A
REMOVE EXISTING APPROACH SLABS & CURB AND GUTTER. INCLUDED IN "STRUCTURES, REHABILITATION, REM PORTIONS"

FLINT RIVER — FLOW — W.V. 591.50

P.O.B. STA 9+46.75 — P.O.E. STA 13+81.25

SPAN #1 - 68'-0" ℄ ARC LENGTH — SPAN #2 - 68'-0" ℄ ARC LENGTH — SPAN #3 - 68'-0" ℄ ARC LENGTH — SPAN #4 - 68'-0" ℄ ARC LENGTH

CONC. PERIPHERAL PROT. BARRIER (TYP. BOTH SIDES)

REF. PT. A STA. 10+28 — REF. PT. B STA. 13+00

PIER #1 — PIER #2 — PIER #3

DRIVE 2280 SFT. OF PMA-22 INTERLOCKING STEEL SHEETING TOP 590.40 BOTTOM 570.40

TOP OF SLOPE (TYPICAL 4 QUAD.)

STA. 7+98 — STA. 8+58.58 — STA. 9+23.5 — STA. 13+78.5 — STA. 14+20.5 — STA. 15+29 — STA. 15+58 — STA. 15+86

PLAN
SCALE: 1" = 30'

OFFSET BLOCKS REQUIRED — 272'-0" - FROM REF. PT. A TO REF. PT. B — OFFSET BLOCKS REQUIRED

37'-6" GUARDRAIL ANCHORAGE, CABLE — 34 SPACES @ 6'-3" = 212'-6" BEAM GUARDRAIL TYPE B S.E. QUAD. — 91 SPACES @ 6'-3" = 568'-9" BEAM GUARDRAIL TYPE B S.W. QUAD. — 31'-3" GUARDRAIL ANCHOR - BRIDGE, DETAIL T-2

BRIDGE BARRIER RAILING TYPE 4, MODIFIED WITH 1 TUBE RAILING — SALVAGED NAME PLATE - SW. QUAD. STRUCTURE NAME PLATE - SE. QUAD. — TYPE III - 22 STRAND PRESTRESSED CONC. I-BEAM

31'-3" GUARDRAIL ANCHORAGE - BRIDGE, DETAIL T-2 — 30 SPACES @ 6'-3" = 187'-6" BEAM GUARDRAIL TYPE B N.E. & N.W. QUAD. — 37'-6" GUARDRAIL ANCHORAGE CABLE — TRANSITION INCLUDED WITH GUARDRAIL ANCHORAGE - BRIDGE, DETAIL T-2 (TYP.)

NOTE: STRUCTURE IS ON A -0.40% GRADE AND THE APPROACHES ARE ON A VERTICLE CURVE AND A HORIZONTAL CURVE.

FIXED — EXPANSION — FIXED — EXPANSION — FIXED — BUFFERED END SECTION (TYP.)

1 ON 2 — W.S. 586.8 9-4-86 — PROP. SHELF ELEV. 590.4 (TYPICAL) — HEAVY RIP-RAP (TYPICAL) — HP 12 x 53 PILES 70 TON CAPACITY (TYPICAL)

PIER #1 — PIER #2 — PIER #3

ELEVATION
SCALE: 1" = 30'

TOP OF STEEL SHEETING ELEVATION 591.90

43'-11" — 20'-0" — 20'-0" — 1'-11⅛" — 1½" — 12" — 10" — 1'-3" — 4'-6" — 3'-4"

9" STRUCTURAL DECK — SUPERELEVATION = .07"/FT. — 1" HAUNCH (TYPICAL) — DIAPHRAM (TYPICAL) — BRIDGE BARRIER RAILING TYPE 4, MODIFIED WITH 1 TUBE RAILING — 4" CONDUIT (TYPICAL)

STEEL SOLE PLATE (TYP.) INCLUDED W/ PRESTRESSED CONC. I-BEAM — TYPE III - 22 STRAND PRESTRESSED CONCRETE I-BEAM (TYPICAL)

6 SPACES @ 6'-9" = 40'-6" CENTER TO CENTER

PIER #1 STA. 9+23.734 — PIER #2 STA. 10+63.734 — PIER #3 STA. 12+03.734

NOTE: CONCRETE "I" BEAM SETTING SEQUENCE
CONC. "I" BEAM SHALL BE SET STARTING WITH THE CENTER BEAM, THEN WORKING TOWARD FASCIA BEAMS EVENLY ON BOTH SIDES.

5'-9" DIA. — ℄ BRIDGE — VERTICAL — BATTERED — VERTICAL — BATTERED — VERTICAL

3'-9" — 4 SPACES @ 7'-6" = 30' — 3'-3" — 37'-0"

TOP OF FOOTING ELEV. 580.00

HP 12 x 53 PILES 70 TON CAPACITY (TYPICAL)

PIER — ABUTMENT SUBSTRUCTURE HALF SECTION
SCALE: 3/16" = 1'-0"

6' — 3' — HAMMERHEAD PIER CAP — 5'-9" DIA. CONC. COLUMN — W.S. 586.8 9/4/86 — COFFERDAM — RIVER BOTTOM

2'-0" TYP. — 1'-6" TYP. — 28'-28'-5 CONC. TREMIE — HP 12 x 53 PILES (49 TOTAL)

PIER SECTION
SCALE: 3/16" = 1'-0"

BITUMINOUS MIXTURE 1300L, 20AAA 230#/SYD. AND BITUMINOUS MIXTURE 1300T, 20AAA - 180#/SYD. — AGGREGATE BASE - BITUMINOUS (8" IN PLACE) — MIN. 12" CLASS II SUBBASE (C.I.P.) — EMBANKMENT (C.I.P.)

20'-0" — REF. A OR B — FIXED BACKWALL — 12'-0" CONCRETE PAVEMENT - REINFORCED - 8" SEE STD. DETAIL II-45E (TYPICAL BOTH ENDS) — BIT PAVE. 6" — 9" STRUCTURAL DECK — 45" PRESTRESSED CONC. I-BEAM

PAINT SEAT WITH ONE COAT OF BIT. PRIME COAT - INCID. TO CONC. PAVEMENT REINF.-8" — 12" — 1 ON 6 — PAY LIMITS OF STRUCTURE BACKFILL (C.I.P.) — EXCAVATE ALL TOPSOIL AND UNSTABLE MATERIAL A MIN. OF 12" BELOW EXISTING GRADE PRIOR TO PLACING STRUCTURE BACKFILL (C.I.P.) — EXISTING GROUND PROFILE — 1 ON 1 — 7'-7" TO 8'-1"

2'-6" — 5'-0" BERM — PAY LIMITS OF UNCLASSIFIED FOUNDATION EXCAVATION — ABUT. A ELEV. 601.50 ABUT. B ELEV. 602.50 — PAY LIMITS OF CHANNEL EXCAVATION — 1 ON 1 — 1 ON 2

ABUT. A ELEV. 597.00 ABUT. B ELEV. 598.00 — HP 12 x 53 PILES 70 TON CAPACITY — PAY LIMITS OF STRUCTURE BACKFILL (C.I.P.) — HEAVY RIP-RAP — PROPOSED SHELF ELEV. 591.90

1'-6" — 2'-0" — 8" — 8" — 2'-6" — 4'-0" — 3

ABUTMENT SECTION
SCALE: 3/16" = 1'-0"

SAGINAW COUNTY ROAD COMMISSION
SHERIDAN ROAD OVER THE FLINT RIVER
SECTION 11, BEE TOWNSHIP - SECTION 6, TAYMOUTH TOWNSHIP
SAGINAW COUNTY, MICHIGAN
GENERAL PLAN OF STRUCTURE

REVISED	OCTOBER 1988	J. A. R.
REVISED	SEPTEMBER 1988	J. A. R.

DATE OF PLAN: DECEMBER 1987 — DRAWN BY: K.J.L. — SHEET 11 OF 23 — SCALE: AS SHOWN — CHECKED BY: G.R.V. — APPROVED BY: C.J.C.

PREPARED UNDER THE SUPERVISION OF: RICHARD R. CRANELL, P.E. MICHIGAN REG. NO. 21221

ENGINEERING, INC.
3100 COURT STREET
SAGINAW, MI 48602
(517) 792-9488

JOB NUMBER 133002A

THE ONLY ITEMS OF WORK TO BE DONE FROM THIS SHEET ARE IDENTIFIED BY THE LEGEND BOX BELOW, LABELED WITH THIS PROJECT'S JOB NUMBER.

PROPOSED WORK

DENOTES REMOVAL PORTIONS

RCB 543 0519

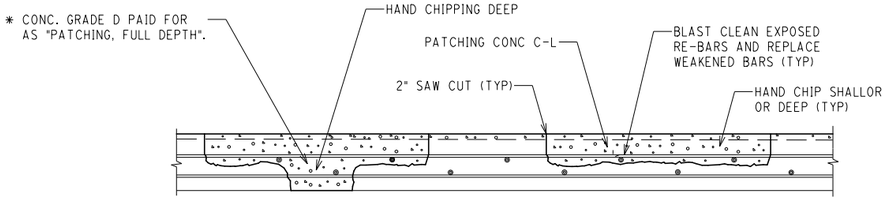
INFORMATION ONLY

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

GREAT LAKES ENGINEERING GROUP, LLC

NO SCALE

DRAWN BY: JLS	DATE:	REVISIONS: 01/21/19	CS:	REMOVAL DETAILS	DRAWING / SHEET
CHECKED BY: CJC	DESIGN UNIT: GLEG		JN: 133002A	SHERIDAN ROAD OVER THE FLINT RIVER	SECT 2
FILE: 497 rem.dgn	TSC: BAY CITY		1018-2-497	SAGINAW COUNTY ROAD COMMISSION	9

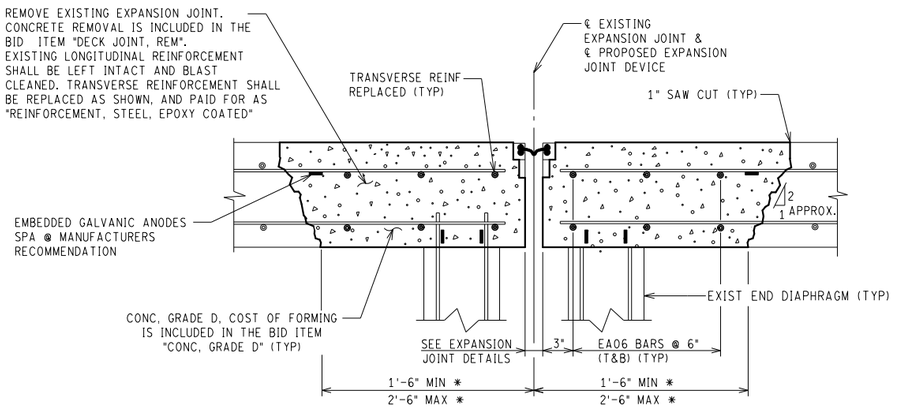


PARTIAL DECK SECTION

(SHOWING TYPICAL DECK PATCH AND FULL DEPTH PATCH)

* CONC. GRADE D SHALL BE USED IN LIEU OF PATCHING CONC C-L, WHEN FULL DEPTH PATCHING IS REQUIRED.

NOTE: THE CONTRACTOR SHALL SAW CUT A 2" DEEP LINE AROUND THE PERIMETER OF THE HAND CHIPPING LOCATIONS, TO ENSURE PATCHING AGAINST A VERTICAL SURFACE, NOT PAID FOR SEPARATELY BUT INCLUDED IN THE BID ITEM "HAND CHIPPING, SHALLOW" AND "HAND CHIPPING, DEEP".



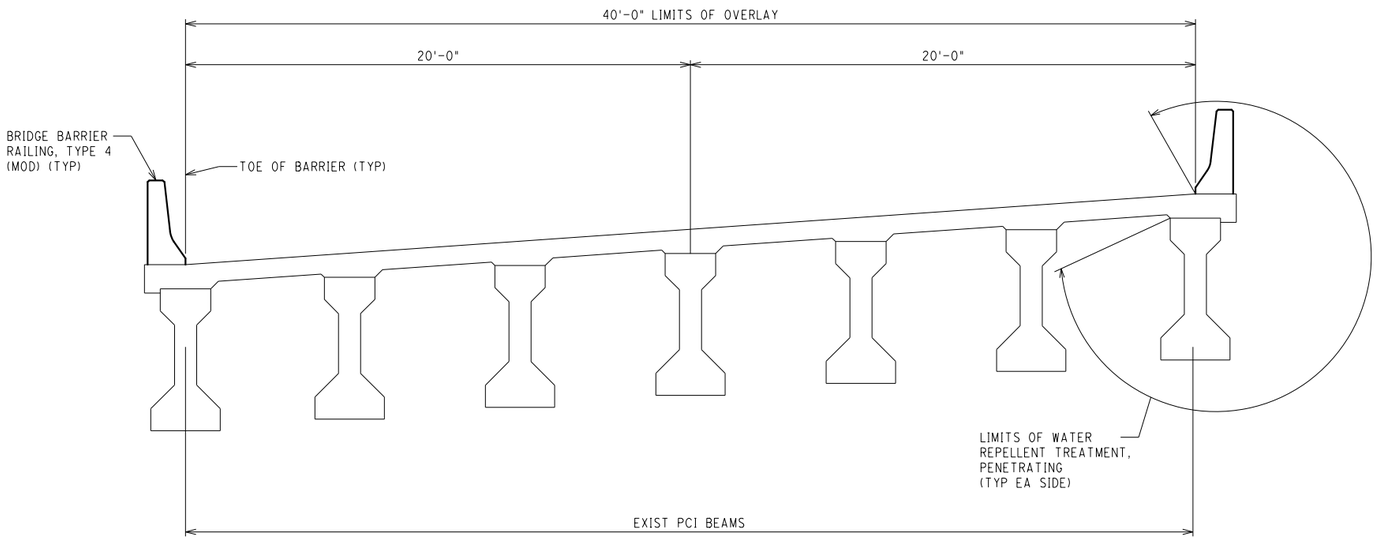
SECTION AT PROPOSED EXPANSION JOINT DEVICE

* ENGINEER TO VERIFY AND APPROVE THE LIMITS PRIOR TO REMOVAL OF THE DECK JOINT. ANY ADDITIONAL REMOVAL WITHOUT THE ENGINEER'S APPROVAL SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR, AS DIRECTED BY THE ENGINEER.

INFORMATION ONLY

MISCELLANEOUS QUANTITIES

20	Cyd	Conc, Grade D
2880	Sft	False Decking
12,300	Lb	Reinforcement, Steel, Epoxy Coated
1420	Syd	Water Repellent Treatment, Penetrating
548	Ft	Bridge Barrier Railing, Type 4, Modified
5	Syd	Hand Chipping, Shallow
4	Syd	Hand Chipping, Deep
1	Cyd	Patch, Full Depth
1216	Syd	Epoxy Ovly
1233	Ea	Adhesive Anchoring of Vertical Bar, 1/2 Inch
1	LS	Structures, Rehabilitation, Rem Portions
144	Ft	Deck Joint, Rem
1	Cyd	Patching Conc, C-L
432	Ea	Embedded Galvanic Anode
78	Ft	Joint, Expansion, E3
1	Ea	Nameplate, Salv and Reinstall



TYPICAL DECK SECTION

NOTES:

THE WORK COVERED BY THESE PLANS INCLUDES BRIDGE APPROACH, CURB AND GUTTER AND GUARDRAIL ANCHORAGE REPLACEMENT, BARRIER REPLACEMENT, EPOXY OVERLAY, DECK PATCHING, JOINT REPLACEMENT, BEAM END REPAIRS, AND CONCRETE SURFACE SEALING.

SHERIDAN ROAD TRAFFIC WILL BE DETOURED TO LOCAL ROADS.

THE BID ITEM "DECK JOINT, REM" INCLUDES HAND CHIPPING WITHIN LIMITS REQUIRED FOR REMOVAL.

FALSE DECKING SHALL INCLUDE THE AREA BOUNDED BY THE LIMITS SHOWN ON THE PLANS.

FOR MOLDING, BEVEL, LIGHT STANDARD ANCHOR BOLT ASSEMBLY, AND NAME PLATE DETAILS SEE STANDARD PLAN B-103-SERIES.

FOR GUARDRAIL ANCHORAGE, BRIDGE RAILING AND NAME PLATE MOUNTING DETAILS, SEE STANDARD PLAN B-103-SERIES.

REMOVAL OF EXISTING GUARDRAIL IS INCLUDED IN THE BID ITEM "GUARDRAIL, Rem".

MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURE.

THE METAL EXPANSION JOINT SHALL NOT BE COATED EXCEPT AS FOLLOWS, EXPOSED METAL SURFACES AT THE CONCRETE BARRIER SHALL BE SHOP AND FIELD COATED ACCORDING TO SUBSECTION 716 & 715 OF THE STANDARD SPECIFICATIONS. (INCLUDED IN THE BID ITEM "EXPANSION JOINT DEVICE".)

ALL STEEL FOR EXPANSION JOINT SHALL BE AASHTO M270, GRADE 36.

CONCRETE SURFACE COATING SHALL BE APPLIED TO THE ENTIRE SURFACE OF BARRIERS, FASCIA'S, AND EXTERIOR BEAMS.

WATER REPELLENT TREATMENT SHALL BE APPLIED TO THE ENTIRE EXPOSED SURFACES OF PIERS.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

GREAT LAKES ENGINEERING GROUP, LLC

NO SCALE

DRAWN BY: JLS	DATE:	REVISIONS: 01/21/19	CS:	DECK REHABILITATION DETAILS	DRAWING / SHEET
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FILE: 497 ov.dgn	TSC: BAY CITY		1018-2-497	SAGINAW COUNTY ROAD COMMISSION	15