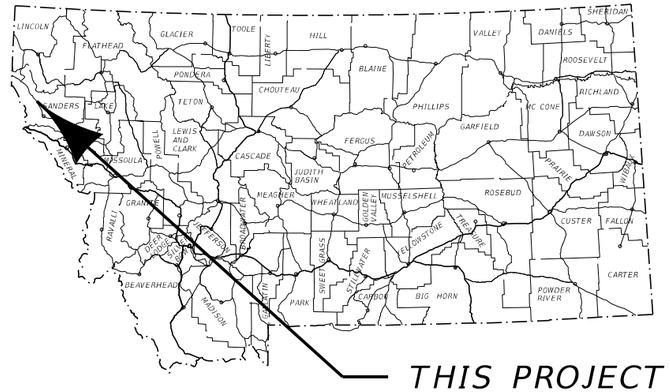
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MONTANA DEPARTMENT OF TRANSPORTATION



FEDERAL AID PROJECT STPB 6-1(168)16
DECK REHABILITATION
MT-200 BRIDGE PRES MP 17
SANDERS COUNTY

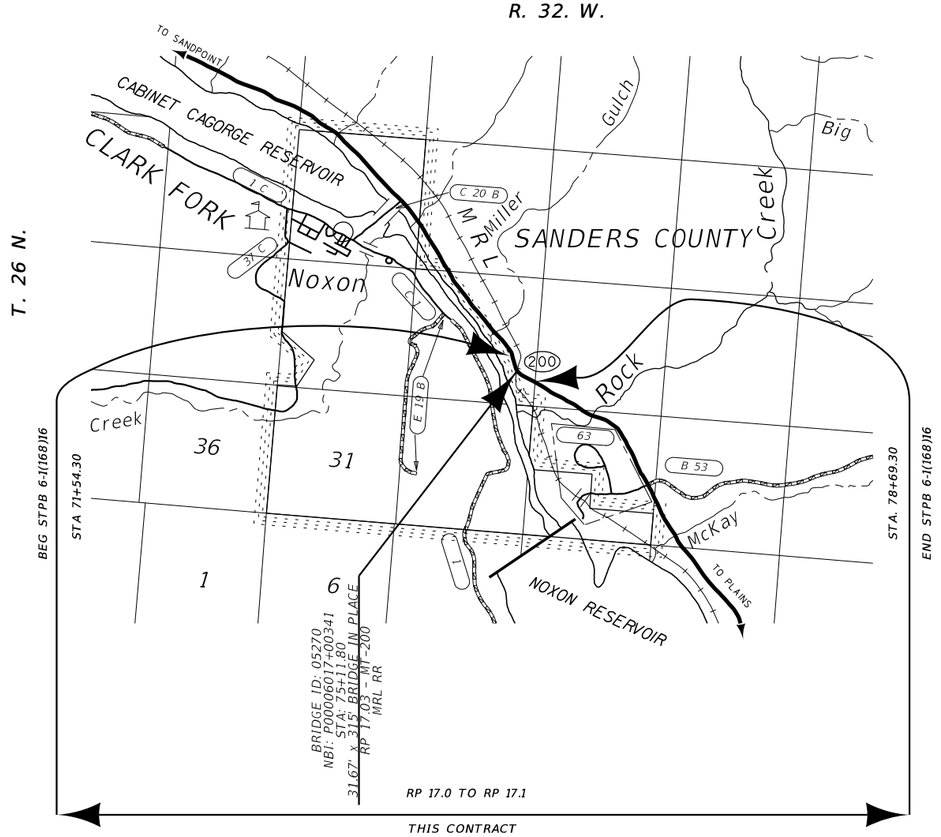
LENGTH 0.1 MILES

SURFACING SOURCES –
CONTRACTOR FURNISHED

PROJECT DESIGN DATA		
PRESENT 2020	A.D.T. =	1,367
LETTING	A.D.T. =	
DESIGN 2040	A.D.T. =	1,435
	D.H.V. =	145
	TRUCKS =	6 %
	V. =	N/A
	18 KIP ESAL'S =	DAILY
	GROWTH RATE =	3.5 % ANNUALLY

R. 32. W.

T. 26 N.



N

APPROVED BY:

MONTANA
STEPHEN J. WALDINGER
No. 14622 PE
LICENSED PROFESSIONAL ENGINEER

DocuSigned by:
Stephen J. Waldinger 3/8/2024
A5969AADC5F9485... DATE

MONTANA
DEPARTMENT OF TRANSPORTATION

RECEIVED BY: CONSULTANT DESIGN ENGINEER

DocuSigned by:
Kelly Williams 3/11/2024
EF7F5DDAB5A7471... DATE

PLANS PREPARED BY

FORSGREN ASSOCIATES
1109 W MYRTLE ST, SUITE 300
BOISE, ID 83702

FORSGREN Associates Inc.

ASSOCIATED PROJECT AGREEMENT NUMBERS	
R / W	
I.C.	
P. E.	STPB 6-1(167)16

3	MDT	MONTANA DEPARTMENT OF TRANSPORTATION	...\DGN\9548000RDTTLZ01.dgn	DESIGNED BY	KEVIN EBERSOLE	12/28/2023
2			12/22/2023	REVIEWED BY	DANIEL GARZ	12/28/2023
			8:29:32 AM dgarz	CHECKED BY	STEPHEN WALDINGER	12/28/2023

ROAD PLANS

UPN 9548000

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ROAD PLANS	SHEET NO.
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AS-BUILT DRAWINGS	13 SHEETS

NOTES

BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

COMP. AGGREGATE WEIGHT	= 3700 LBS. PER CUBIC YARD
COMP. WEIGHT OF PL. MIX BIT. SURF.	= 3855 LBS. PER CUBIC YARD
ASPHALT CEMENT - GRADE S - 3/8" AGG.	= 6.2% OF PL.MIX BIT.SURF.
BITUMINOUS MATERIAL	= 8.5 LBS. PER GAL.
EMULSIFIED ASPHALT - TACK (ALL OTHER SURFACES)	= 0.05 GAL. PER SQ.YARD (UNDILUTED)

UTILITIES

CALL THE UTILITIES UNDERGROUND LOCATION CENTER (811) OR OTHER NOTIFICATION SYSTEM FOR THE MARKING AND LOCATION OF ALL LINES AND SERVICES BEFORE EXCAVATING. ALL CLEARANCES OR DEPTHS PROVIDED FOR UTILITIES ARE FROM EXISTING GROUND LINE.

PUBLIC LAND SURVEY MONUMENTS

ALL MONUMENTS TO BE REMOVED AND RELOCATED OR RESET BY STATE FORCES.

AS-BUILTS

FOR ALIGNMENT & STATIONING INFORMATION REFER TO THE FOLLOWING "AS-BUILTS" PROJECT:

AR 5063

COLD MILLING

THIS PROJECT IS EXPECTED TO PRODUCE APPROX. 70 CUBIC YARDS OF MILLINGS. THESE MILLINGS BECOME THE PROPERTY OF THE CONTRACTOR AND COSTS INCURRED IN DISPOSAL ARE INCLUDED IN THE UNIT BID PRICE FOR COLD MILLING

WETLANDS

WETLANDS MAY EXIST ADJACENT TO THE ROADWAY AND BEYOND THE PROJECT LIMITS. A WETLAND DELINEATION HAS NOT BEEN COMPLETED FOR THIS PROJECT. IMPACTS TO WETLAND AREAS ARE NOT ANTICIPATED IN ASSOCIATION WITH THE PROPOSED WORK. NO PERMITS HAVE BEEN OBTAINED. ANY ACTION IMPACTING WETLAND AREAS WITHOUT THE APPROPRIATE PERMITTING IS THE RESPONSIBILITY OF THE CONTRACTOR.

CENTERLINE ALIGNMENT COORDINATE TABLE

STATION	DESCRIPTION	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
68+82.10	POT	1,420,808.799	441,649.433	
71+54.30	POT	1,420,608.493	441,833.743	BEGIN PROJECT
78+48.51	TS	1,420,097.639	442,303.804	
78+69.30	POS	1,420,082.342	442,317.882	END PROJECT
80+48.58	POS	1,419,950.416	442,439.271	
81+48.51	SC	1,419,882.327	442,512.590	
83+11.12	PI	1,419,771.672	442,631.745	NOT SHOWN IN PLANS
84+72.95	PT	1,419,682.753	442,767.891	NOT SHOWN IN PLANS

GPK NAME: J0B548.GPK CHAIN NAME: 5270 PROFILE NAME: NA

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CONTROL DIAGRAM

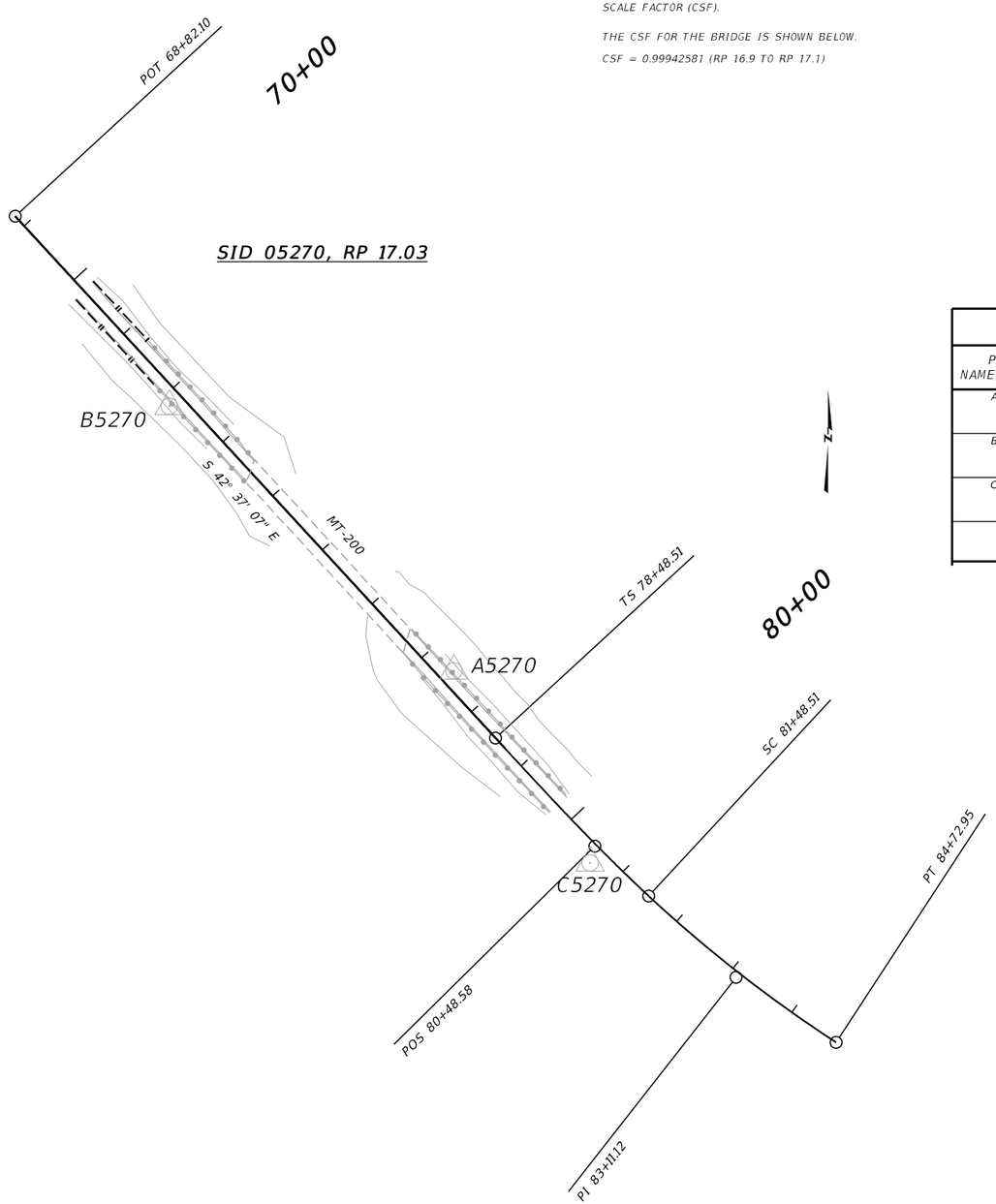
SCALE: N/A

NOTE:
THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (2011) (EPOCH 2010), PROJECTED TO THE MONTANA COORDINATE SYSTEM OF 1983. NORTHING AND EASTING COORDINATE VALUES ARE EXPRESSED IN UNITS OF INTERNATIONAL FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (1988), DERIVED BY STATIC GPS TECHNIQUES RELATIVE TO THE CORS NETWORK AND EXPRESSED IN US SURVEY FEET.

DIMENSIONS SHOWN ON THE PLANS ARE ON THE GRID DATUM AND PROJECTION DESCRIBED ABOVE. ALL SURVEY AND STAKING REQUIRES THE USE OF A COMBINED SCALE FACTOR (CSF).

THE CSF FOR THE BRIDGE IS SHOWN BELOW.

CSF = 0.99942581 (RP 16.9 TO RP 17.1)



LEVEL DATUM SOURCE

NAVD 88 (GNSS DERIVED ELEVATIONS USING GEOID 18 AND HOLDING BMS CORS MSOL, MTFV, P047)

CONTROL ABSTRACT

POINT NAME/NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION	LOCATION AND DESCRIPTION
A5270	1,420,189.046	442,246.541	2346.81	SET MDT 2" CONTROL CAP ON 5/8" X 30" REBAR STAMPED "A5270" FLUSH WITH THE GROUND. THE MONUMENT IS ON MT200 HIGHWAY SE 80' OF BRIDGE, 20' EAST OF CENTERLINE AT MM 17.094.
B5270	1,420,549.668	441,858.656	2343.03	SET MDT 2" CONTROL CAP ON 5/8" X 30" REBAR STAMPED "B5270" FLUSH WITH THE GROUND. THE MONUMENT IS ON MT200 HIGHWAY NW OF BRIDGE 150', EAST 21 OF MT 200 CENTERLINE AT MM 16.953.
C5270	1,419,927.230	442,432.090	2349.33	SET MDT 2" CONTROL CAP ON 5/8" X 30" REBAR STAMPED "C5270" FLUSH WITH THE GROUND. THE MONUMENT IS ON MT200 HIGHWAY SE OF BRIDGE, 25' SW PERPINDICULAR FROM THE CENTER LINE AT MM 17.154, WEST 11' OF END OF GUARDRAIL.

FORSGREN Associates Inc.

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\DGN\9548000RDTRVZ01.DGN	DESIGNED BY KEVIN EBERSOLE	12/28/2023	ROAD PLANS	MT-200 BRIDGE PRES MP 17	STPB 6-1(168)16
2		12/22/2023	REVIEWED BY DANIEL GARZ	12/28/2023			
		8:27:45 AM dgarz	CHECKED BY STEPHEN WALDINGER	12/28/2023	SANDERS COUNTY	CSF = 0.99942581 UPN 9548000	3

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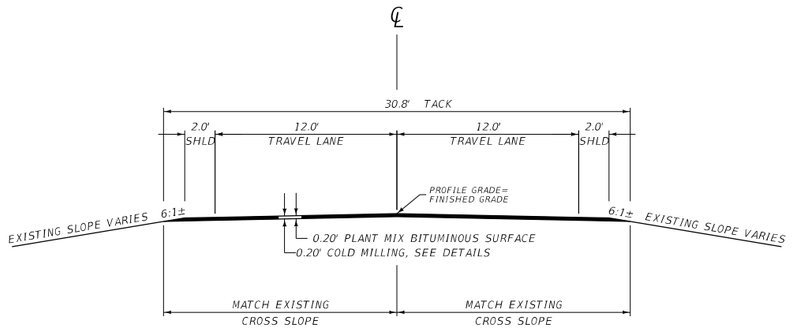
FORSGREN Associates Inc.

TYPICAL SECTION NO. 1

MT-200

71+54.30			BEGIN PROJECT
71+54.30	TO	72+95.19	
72+95.19	TO	73+20.19	TRANS. TYP. NO. 1 TO TYP. NO. 2
77+28.52	TO	78+69.30	
		78+69.30	END PROJECT

NOTE:
BRIDGE PARAPET AT STA 73+20.19



QUANTITIES

UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL				
	COVER	PLANT MIX	CR. AGG. COURSE					ASPHALT CEMENT	SEAL	AGG. TREATMENT	EMULSIFIED ASPHALT TACK*	EMULSIFIED ASPHALT FOG SEAL
AREA square feet		5.88					square yards PER STATION				342	
cubic yards PER STATION		21.8					tons PER STATION					
tons PER STATION		42.0					gals. PER STATION				17	
square yards PER STATION												

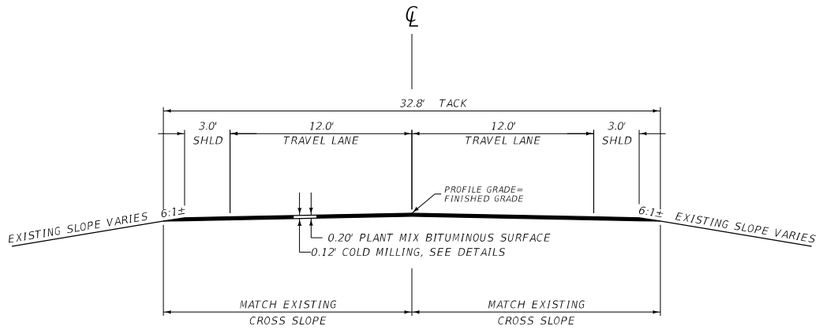
*BASED ON 1 APPLICATION

TYPICAL SECTION NO. 2

MT-200

73+20.19	TO	73+54.30	APPROACH SLAB BEGINS AT 73+54.30
76+69.30	TO	77+03.52	APPROACH SLAB ENDS AT 76+69.30
77+03.52	TO	77+28.52	TRANS. TYP. NO. 2 TO TYP. NO. 1

NOTE;
BRIDGE PARAPET AT STA 77+03.52
APPROACH SLAB STA. 73+54.30 TO STA. 73+76.80 BE
APPROACH SLAB STA. 76+46.80 BE TO STA. 76+69.30



QUANTITIES

UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL				
	COVER	PLANT MIX	CR. AGG. COURSE					ASPHALT CEMENT	SEAL	AGG. TREATMENT	EMULSIFIED ASPHALT TACK*	EMULSIFIED ASPHALT FOG SEAL
AREA square feet		6.28					square yards PER STATION				364	
cubic yards PER STATION		23.3					tons PER STATION					
tons PER STATION		44.9					gals. PER STATION				18	
square yards PER STATION												

*BASED ON 1 APPLICATION

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\DGN\9548000RDTYPZ01.DGN	DESIGNED BY	KEVIN EBERSOLE	12/28/2023	ROAD PLANS	MT-200 BRIDGE PRES MP 17 / STPB 6-1(168)16
2		12/22/2023	REVIEWED BY	DANIEL GARZ	12/28/2023		
		8:27:48 AM dgarz	CHECKED BY	STEPHEN WALDINGER	12/28/2023	SANDERS COUNTY	UPN 9548000 / 4

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SUMMARY

TEMPORARY BARRIER RAIL

STATION		LINEAR FEET				EACH				REMARKS
		TEMPORARY BARRIER RAIL		RESET TEMPORARY BARRIER RAIL*		TEMPORARY IMPACT ATTENUATOR		RESET TEMPORARY IMPACT ATTENUATOR*		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
73+29.30	76+94.30	365		730		2	2	4	4	PER BRIDGE PHASING
SUBTOTAL		365		730		2	2	4	4	
TOTAL		365		730		4		8		

*BASED ON TWO OPERATIONS

COLD MILLING *

STATION		sq. yards	REMARKS
		COLD MILLING	
FROM	TO	VARIES 0.20' TO 0.12'	
71+54.30	73+54.30	695	
76+69.30	78+69.30	695	
TOTAL		1,390	

*SEE DETAILS & TYPICAL SECTIONS

SURFACING

STATION		linear feet				FOR	AGGREGATE	BITUMINOUS MATERIAL	REMARKS
		GROSS	NET	+	-		tons	gals.	
FROM	TO						COMM MIX - 3/8" PG 58V-34	EMULSIFIED ASPHALT TACK	
71+54.30	72+95.19	140.89	140.89				59	24	TYPICAL NO. 1
72+95.19	73+20.19	25.00	25.00				11	4	TRANS TYPICAL NO. 1 TO TYPICAL NO. 2
73+20.19	73+54.30	34.11	34.11				15	6	TYPICAL NO. 2
73+54.30	73+76.80 BE	22.50			22.50	APPROACH SLAB			
73+76.80 BE	76+46.80 BE	270.00			270.00	BRIDGE			
76+46.80 BE	76+69.30	22.50			22.50	APPROACH SLAB			
76+69.30	77+03.52	34.22	34.22				15	6	TYPICAL NO. 2
77+03.52	77+28.52	25.00	25.00				11	4	TRANS TYPICAL NO. 2 TO TYPICAL NO. 1
77+28.52	78+69.30	140.78	140.78				59	24	TYPICAL NO. 1
TOTAL		715.00	400.00	0.00	315.00		170	68	

PAVEMENT MARKINGS

ITEM	UNIT	FINAL APPLICA-TION*	TOTAL
STRIPING - WHITE EPOXY	gallon	6	6
STRIPING - YELLOW EPOXY	gallon	6	6

*BASED ON ONE APPLICTION OF 20 MILS

GUARDRAIL

STATION		LINEAR FEET				EACH		REMARKS
		REMOVE AND SALVAGE GUARDRAIL		MGS GUARDRAIL*		MASH THRIE BEAM BR APPRCH SECTION		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
NEW RAIL								
72+54.59	73+20.19			28.1		1		NEW RAIL AND APPROACH SECTION
72+94.83	73+60.43				28.1		1	NEW RAIL AND APPROACH SECTION
76+63.27	77+28.87			28.1		1		NEW RAIL AND APPROACH SECTION
77+03.52	77+69.12				28.1		1	NEW RAIL AND APPROACH SECTION
REMOVE RAIL								
72+54.59	73+20.19	65.6						W-BEAM RAIL IN PLACE
72+94.83	73+60.43		65.6					W-BEAM RAIL IN PLACE
76+63.27	77+28.87	65.6						W-BEAM RAIL IN PLACE
77+03.52	77+69.12		65.6					W-BEAM RAIL IN PLACE
SUBTOTAL		131.2	131.2	56.2	56.2	2	2	
TOTAL		262.4		112.4		4		

*TRANSITION FROM 31" HIGH MGS BRIDGE APP. SECT. TO EXISTING 29" HEIGHT METAL GUARDRAIL

REVEGETATION

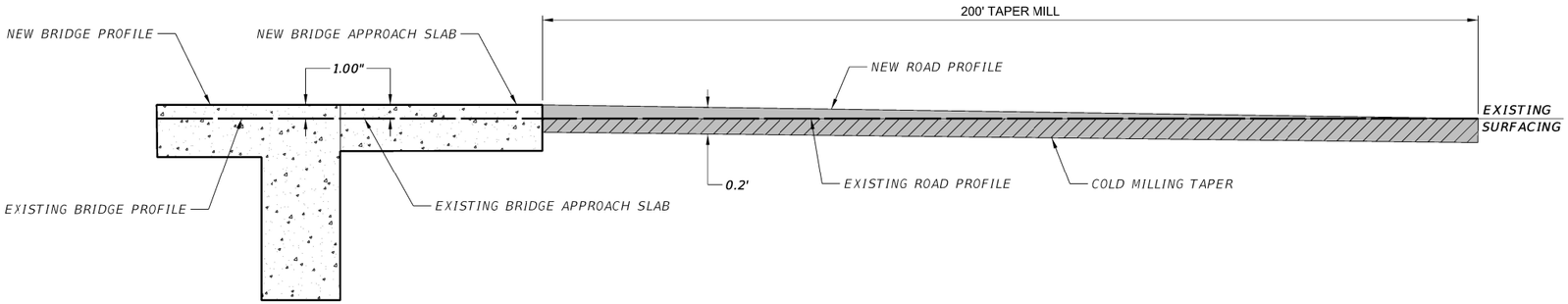
STATION		lump sum	REMARKS
		REVEGE-TATION	
FROM	TO		
71+54	78+69	1	
TOTAL		1	

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DETAIL



COLD MILLING

NEW PLANT MIX

NOTE:
WORK ASSOCIATED WITH BRIDGE DECK AND CONCRETE APPROACH SLABS INCLUDED IN BRIDGE PLANS AND PAID FOR AS BRIDGE ITEMS

NEW BRIDGE SID 05270 APPROACH (TYP)

NOT TO SCALE

DETAIL

BRIDGE APPROACH MILLING

NO SCALE

FORSGREN Associates Inc.

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\DGN\9548000RDDETZ01.DGN	DESIGNED BY	KEVIN EBERSOLE	12/28/2023	ROAD PLANS	MT-200 BRIDGE PRES MP 17 / STPB 6-1(168)16
2		12/22/2023	REVIEWED BY	DANIEL GARZ	12/28/2023		
		8:27:55 AM dgarz	CHECKED BY	STEPHEN WALDINGER	12/28/2023	SANDERS COUNTY	UPN 9548000 / 6

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FORSGREN *Associates Inc.*

70+00

80+00

POT 68+82.10

TS 78+48.51

SC 81+48.51

PI =83+11.12
Δ =14° 13' 56" (LT)
Rc =1,910'
Ls1 =300'
Δc =9° 43' 57" (LT)
Ts1 =380.68'
Ts2 =246.43'
Lc =324.44'
Es =15.83'

STA. 72+54.59 TO 73+20.19 LT
REMOVE AND SALVAGE GUARDRAIL
NEW MGS GUARDRAIL
NEW MASH THRIE BEAM BR APPROACH SECTION

STA. 76+63.27 TO 77+28.87 LT
REMOVE AND SALVAGE GUARDRAIL
NEW MGS GUARDRAIL
NEW MASH THRIE BEAM BR APPROACH SECTION

MILL OVERLAY

MILL OVERLAY

STA. 71+54.30
BEGIN PROJECT

STA. 73+54.30

STA. 76+69.30

STA. 78+69.30
END PROJECT

GOVERNMENT MOUNTAIN RD

B.E. = 73+76.80

MT 200

S 42° 37' 07" E

B.E. = 76+46.80

STA. 72+94.83 TO 73+60.43 RT
REMOVE AND SALVAGE GUARDRAIL
NEW MGS GUARDRAIL
NEW MASH THRIE BEAM BR APPROACH SECTION

STA. 73+29.30 TO 76+94.30
TEMPORARY BARRIER RAIL AND
TEMPORARY IMPACT ATTENUATORS

STA. 77+03.52 TO 77+69.12 RT
REMOVE AND SALVAGE GUARDRAIL
NEW MGS GUARDRAIL
NEW MASH THRIE BEAM BR APPROACH SECTION

POS 80+48.58

T. 26 N.
R. 32 W.
SECT. 29

SID 05270
MT-200 OVER MONTANA
RAIL LINK R.R.

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\DGN\9548000RDPLNZ01.dgn	DESIGNED BY	KEVIN EBERSOLE	12/28/2023	ROAD PLANS	MT-200 BRIDGE PRES MP 17 / STPB 6-1(168)16
2		12/22/2023	REVIEWED BY	DANIEL GARZ	12/28/2023		
		8:28:03 AM dgarz	CHECKED BY	STEPHEN WALDINGER	12/28/2023	SANDERS COUNTY	CSF = 0.99942581 / UPN 9548000 / 7

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ASSOCIATED PROJECT AGREEMENT NUMBERS	
P. E.	6-1(167)16

MONTANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS AND QUANTITIES

FEDERAL AID PROJECT STPB 6-1(168)16

MT-200 BRIDGE PRES MP 17

SANDERS COUNTY

BRIDGE IDENTIFICATION	
MDT STR ID	NBI NUMBER
05270	P00006017+00341

DocuSigned by:
Brett R. Broadhead
D3FF895A0CF1416...
3/11/2024
DATE

MONTANA
BRETT R. BROADHEAD
No. 20252 PE
LICENSED PROFESSIONAL ENGINEER

SCALES SHOWN ON BRIDGE PLAN SHEETS ARE FOR FULL SIZE (22 X 34) PRINTS REDUCED PRINTS ARE APPROXIMATELY ONE-HALF ORIGINAL SCALE

LIST OF DRAWINGS

SHEET NO.	DWG. NO.	TITLE
BRIDGE DRAWINGS		
B1	28239	LIST OF DRAWINGS
B2	28240	ESTIMATED BRIDGE PLAN QUANTITIES, GENERAL NOTES, AND BRIDGE WORK SUMMARY
B3	28241	RAILROAD GUIDELINES
B4	28242	PHASE 1, PHASE II, & PHASE III CONSTRUCTION DIAGRAMS - PLAN
B5	28243	PHASE I CONSTRUCTION DIAGRAMS - DECK
B6	28244	PHASE II & PHASE III CONSTRUCTION DIAGRAMS - DECK
B7	28245	PHASE I CONSTRUCTION DIAGRAMS - BENT
B8	28246	PHASE II & PHASE III CONSTRUCTION DIAGRAMS - BENT
B9	28247	DEAD LOAD DEFLECTION DIAGRAM & TABLE OF DEAD LOAD DEFLECTION
B10	28248	PHASE I & PHASE II DECK REINFORCING PLAN
B11	24249	PHASE III DECK REINFORCING PLAN
B12	24250	DECK REINFORCING DETAILS
B13	28251	PHASE I BILL OF REINFORCING STEEL
B14	28252	PHASE II BILL OF REINFORCING STEEL
B15	28253	PHASE II & PHASE III BILL OF REINFORCING STEEL
B16	28254	APPROACH SLAB
B17	28255	APPROACH SLAB DETAILS
B18	28256	EXPANSION JOINT DETAILS

DWG. NO.	TITLE
STANDARD DRAWINGS	
SBR-SS36	STANDARD BRIDGE RAIL TYPE SINGLE SLOPE 36"
SBR-SS36R	STANDARD BRIDGE RAIL TYPE SINGLE SLOPE 36" REINFORCING

DWG. NO.	TITLE
AS-BUILT DRAWINGS	
C-143083-1	BAR BENDING SCHEDULE
C-143083-2	BAR BENDING SCHEDULE
C-143083-2	BAR BENDING SCHEDULE
C-143083-3	BAR BENDING SCHEDULE
C-143084	GENERAL ARRANGEMENT
C-143085	EAST & WEST ABUTMENTS - MASONRY
C-143086	EAST & WEST ABUTMENTS - REINF.
C-143087	PIERS NO. 1 & 2 - MASONRY & REINF.
C-143088	GIRDERS & DETAILS
C-143089	BLAST PLATES & SHOES
C-143091	EXPANSION DAMS & DIAPHRAGMS
C-143092	RAILING & DECK SLAB - MASONRY & REINF.
C-143093	OVERPASS & ROAD RELOC. R.R. STA. 1631+40 PLAN & PROFILE

SHEET NO. B1

LIST OF DRAWINGS

SCALE: No Scale

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED								J.W.W.	
REVISED								T.D.G.	
REVISED								B.R.B.	
REVISED									
CHECKED	07-25-22								
DRAWN	07-25-22								
DESIGNED	07-25-22								

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12/22/2023 12:50:21 PM

MONTANA MDT DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

UPN NUMBER
9548000

DRAWING NO.
28239

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ESTIMATED BRIDGE PLAN QUANTITIES

MDT STRUCTURE ID. NUMBER	FEATURE INTERSECTED	REFERENCE POINT	GENERAL LAYOUT DRAWING NO.	NBI STRUCTURE ID. NUMBER	PHASE NUMBER	REMOVE GUARD ANGLE (LN. FT.)	REMOVE DECK (YD^2)	REVISE CONCRETE BARRIER RAIL -BR (LN. FT.)	PAINT EXISTING STRUCTURAL STEEL (YD^2)	CONCRETE - CLASS STRUCTURE LOW SLUMP (YD^3)	TRANSVERSE DECK GROOVING (YD^2)	BRIDGE DECK HYDRODEMOLITION (YD^2)	EXPANSION JOINT STRIP SEAL (LN. FT.)	REINFORCING STEEL EPOXY COATED (LB)	CLASS A BRIDGE DECK REPAIR (YD^2)	*CLASS B BRIDGE DECK REPAIR (YD^2)	CONCRETE - CLASS OVERLAY (YD^2)	36 IN SS CONCRETE BARRIER RAIL -BR (LN. FT.)	BRIDGE DECK CRACK SEAL (YD^2)
05270	MONTANA RAIL LINK	17+0.030	C-143084	P0006017+00341	PHASE I	34.6	464.6	73.3	92.6	95.4		68.9	58.3	36438.0	3.5	6.3	68.9	273.2	
					PHASE II	32.2	494.8	73.3	138.9	112.2	-	66.4	-	40386.0	3.3	6.5	66.4	273.2	-
					PHASE III					10.1	846.3		62.4	1794.0					908.9
					STRUCTURE TOTAL	66.8	959.4	146.6	231.5	217.7	846.3	135.3	120.7	78618.0	6.8	12.8	135.3	546.4	908.9

* NOTE: While not anticipated, 2% of the Bridge Deck Hydrodemolition area was added to the Class B deck repair as a contingency.

GENERAL NOTES

GENERAL: Plans were prepared from original drawings and as-built drawings. No additional survey information was procured for this project. Existing structure dimensions may vary from those shown on the drawings. Verify ail dimensions necessary to complete the work.

SPECIFICATIONS: Montana Department of Transportation 2020 Standard Specifications V5.0 and special provisions govern unless otherwise noted.

The design was prepared in accordance with AASHTO LRFD Bridge Design Specifications, 9th Edition, with standard HL-93 loading.

See As-built drawings for design specifications and live loading for existing components.

TRAFFIC CONTROL PLAN AND SEQUENCE OF OPERATIONS:
See Plans and Special Provisions.

DIMENSIONS: All dimensions are in feet and inches except as noted. Verify all necessary dimensions of the existing structures in the field before ordering materials. Obtain approval of shop plans from the State of Montana, Department of Transportation before beginning fabrication. If the dimensions and details of the existing structure are not as shown on the plans, vary construction as necessary to best suit existing conditions and the nature of the intended work.

BRIDGE SURVEY: Establish a control elevation at the bridge before removing the deck.

REINFORCING STEEL: Use new deformed type reinforcing steel meeting the requirements of AASHTO M 31 Grade 60. Include all costs associated with furnishing and placing new reinforcing steel in the unit price bid for Reinforcing Steel or Reinforcing Steel - Epoxy Coated unless noted otherwise.

Replace existing reinforcing steel damaged during construction that is called out to remain in place at no additional cost to the State.

Include cleaning exposed existing reinforcing steel in other items of work.

CLASS A AND B BRIDGE DECK REPAIR: Quantities shown may vary from actual field quantities.

Perform Class A and B Repair prior to placing overlay

CONCRETE STRENGTH: Use f'c= 4000 p.s.i. for Concrete Class Structure Low Slump. Use f'c = 4000 p.s.i. for Concrete Class Overlay.

REINFORCING STEEL SUFFIX:
The suffix E denotes epoxy coated reinforcing steel.

REINFORCING STEEL COVER: Unless specified otherwise on the drawings, the minimum concrete cover measured from the face of the concrete to the face of any reinforcing steel is 2" except as noted below:

Bottom of Slab	1"
Top of Slab	2½"
Concrete Barriers & Curbs	1½"

Concrete cover to any tie bar is ½" less than what is listed above.

BRIDGE APPROACH RAIL DETAIL: See the road plans for bridge approach rail connection details.

BRIDGE PLANS: Existing bridge plans are available upon request from Montana Department of Transportation.

BRIDGE DECK REMOVAL: Remove the bridge deck to the limits shown in the plans taking care to not damage the steel girders. In the event of damage, halt removal operation and submit a repair plan for approval at no expense to the Department.

TEMPORARY BARRIER: See road plans for additional information. Use type 2 or 3 anchors to attach temporary barrier to existing and new bridge decks with less than 2 ft of clearance to the edge of the deck.

No shear connections along the top flange of the girders are shown on the original drawings and as-built drawings. If shear connections are found during the bridge deck removal process, submit a document noting the type, location, and spacing of any shear connections found.

EXISTING BRIDGE RAIL: For Bridge 05270 include the cost to remove the existing bridge rail on the deck in the unit price bid for Remove Deck.

CONCRETE: Use Concrete - Class Sturucture Low Slump for the Deck and Revised Concrete Barrier Rail.

Use Concrete Class Overlay at the Approach Slabs as shown on Sheet B17.

RAILROAD BLAST PLATES: Railroad exhaust plates are to be protected in place.

PAINT EXISTING STRUCTURAL STEEL: Within 5 feet of girder ends, fully remove existing paint from girders and bearing devices per 612.03.3.E and repaint with a system per 710.05 and that is compatible with existing paint at the edges of the zone. Outside of the 5 foot zone, prepare underside and edges of top flange per 612.03.3.C and 612.03.3.D, and paint in accordance with Epoxy Paint System in the Special Provisions. [Note: Referenced from Spec Book V5.0 (11/30/2023]

BRIDGE WORK SUMMARY

MDT STRUCTURE ID. NUMBER	REMOVE GUARD ANGLE	REMOVE DECK	PAINT STRUCTURE	REVISE CONCRETE BARRIER RAIL -BR	CONCRETE - CLASS STRUCTURE LOW SLUMP	TRANSVERSE DECK GROOVING	BRIDGE DECK HYDRODEMOLITION	EXPANSION JOINT STRIP SEAL	CLASS A BRIDGE DECK REPAIR	*CLASS B BRIDGE DECK REPAIR	CONCRETE - CLASS OVERLAY	36 IN SS CONCRETE BARRIER RAIL - BR	BRIDGE DECK CRACK SEAL
05270	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* NOTE: Class B Deck Repair is not anticipated in the approach slabs. The project manager will identify any Class A or Class B Deck Repair areas if they are needed.

SHEET NO. B2

ESTIMATED BRIDGE PLAN QUANTITIES, GENERAL NOTES, AND BRIDGE WORK SUMMARY

SCALE: No Scale

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED					J.W.W.	
REVISED					T.D.G.	
REVISED					B.R.B.	
REVISED	CHECKED	07-25-22				
	DRAWN	07-25-22				
	DESIGNED	07-25-22				

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MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

UPN NUMBER
9548000

DRAWING NO.
28240

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RAILROAD CONSTRUCTION NOTES:

All demolition within the railroad's right-of-way and/or demolition that may impact the railroad's tracks or operations shall comply with the railroad's demolition requirements.

Erection over the railroad's track shall be planned such that it enables the track(s) to remain open to traffic per railroad requirements.

Refer to the railroad's coordination requirements as part of the specifications or special provisions of the project.

Temporary construction clearances, including falsework clearances, will comply with Figure 1.

Verify all permanent clearances before project closeout.

Railroad requirements do not allow work within 50 feet of track centerline. when a train passes the work site all personnel shall clear the area within 25 feet of the track centerline and secure all equipment.

All dimensions are measured perpendicular to ℄ track.

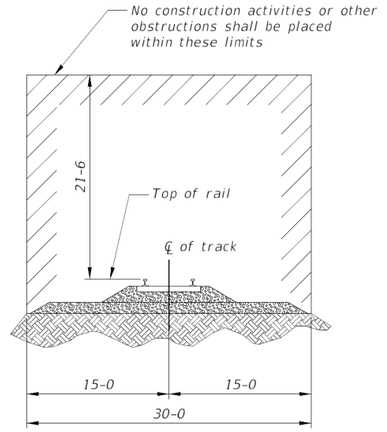


FIGURE 1
MINIMUM CONSTRUCTION CLEARANCE ENVELOPE
(Normal to railroad)

NOTES:
Deck drains will not be used on this bridge. Storm water will be collected on the roadway at each end of the structure.

Submit falsework to the Project Manager and railroad for review and approval.

The approach rail and transition section for guardrail is included in the roadway plans.

SHEET NO. B3

RAILROAD GUIDELINES

SCALE: No Scale

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

	REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED
					07-25-22	T.D.G.	B.R.B.

MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

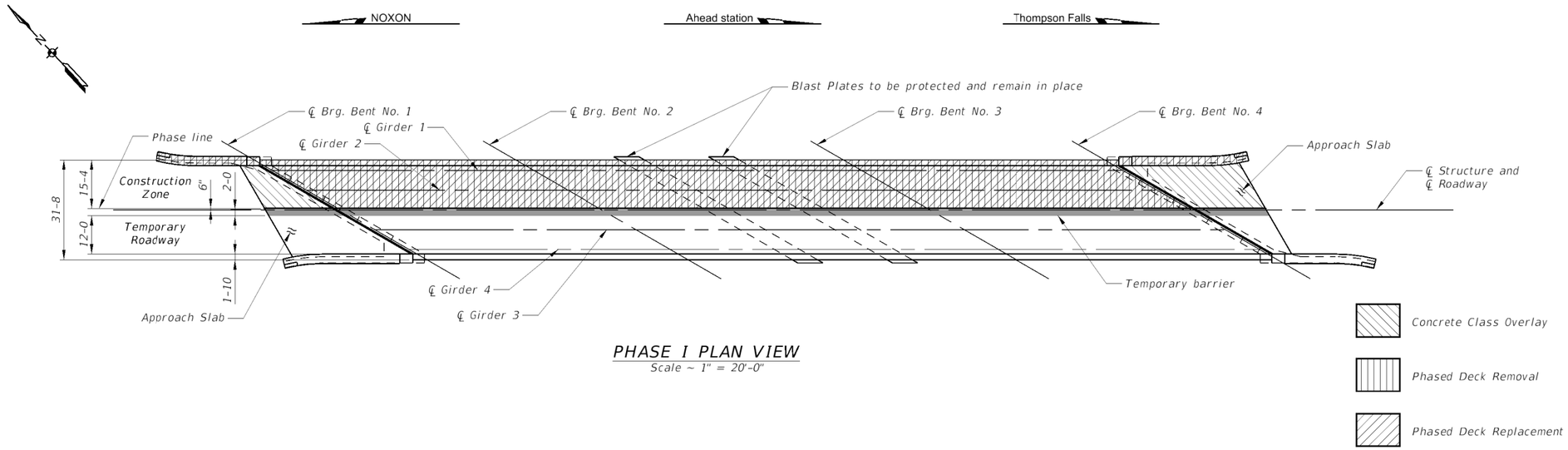
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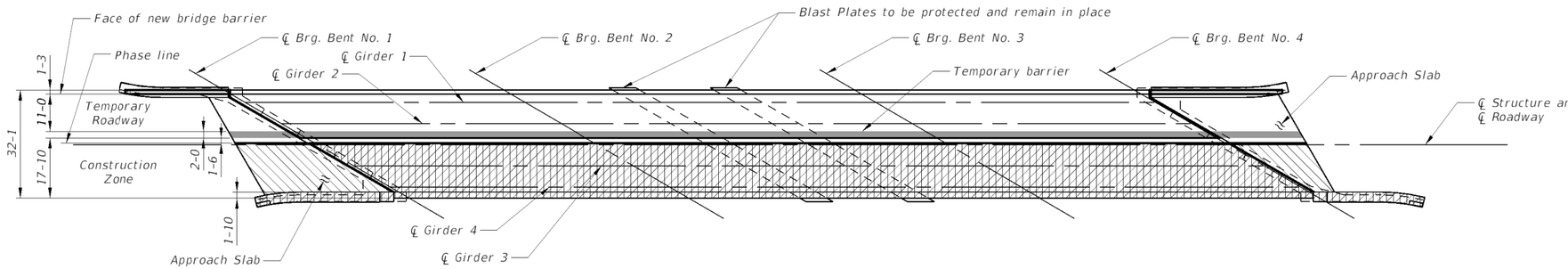
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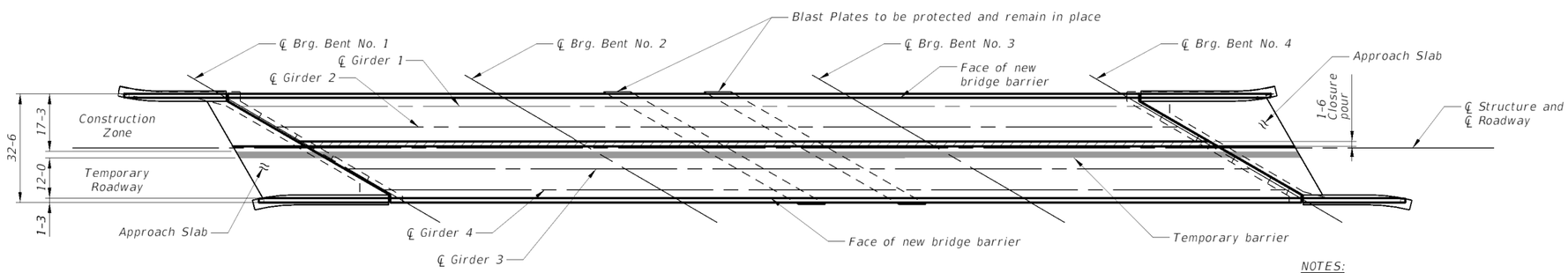
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PHASE I PLAN VIEW
Scale ~ 1" = 20'-0"



PHASE II PLAN VIEW
Scale ~ 1" = 20'-0"



NOTES:
See Sheet No. B9 for pouring sequence.

PHASE III PLAN VIEW
Scale ~ 1" = 20'-0"

CONSTRUCTION DIAGRAM

SHEET NO. B4

PHASE I, PHASE II, & PHASE III CONSTRUCTION DIAGRAMS - PLAN

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED					J.W.W.	
REVISED					T.D.G.	
REVISED					B.R.B.	
CHECKED	07-25-22					
DRAWN	07-25-22					
DESIGNED	07-25-22					

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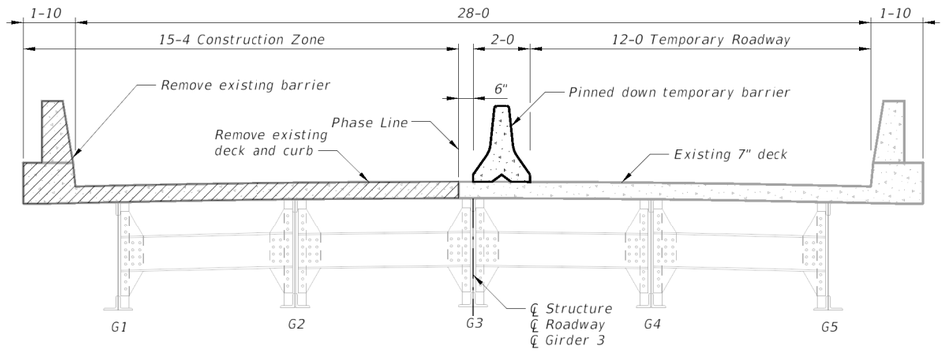
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PHASE I DECK REMOVAL - SPANS 1, 2 & 3

(Looking Ahead Station)

Scale ~ ⅜" = 1'-0"

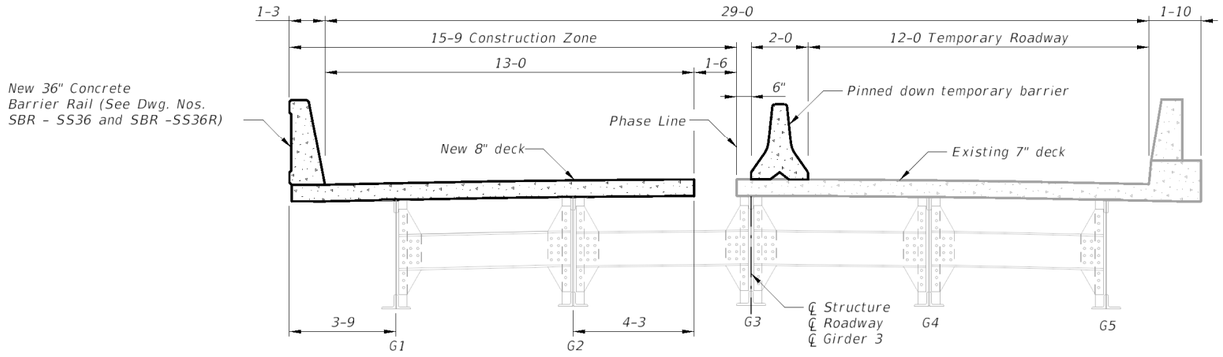
NOTES:

For Phase I, anchor temporary barrier to deck using type 2 or type 3 anchors.

Include the cost of removing existing bridge barrier on deck in the unit price for Remove Deck.

Retain and protect railroad blast plates. Not shown for clarity.

Retain and protect steel girders, diaphragms and other steel girder appurtenances.



PHASE I DECK REPLACEMENT - SPANS 1, 2 & 3

(Looking Ahead Station)

Scale ~ ⅜" = 1'-0"

SHEET NO. B5

PHASE I CONSTRUCTION DIAGRAMS - DECK

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

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REVISED							
REVISED							
CHECKED							J.W.W.
DRAWN							T.D.G.
DESIGNED							B.R.B.
07-25-22	07-25-22	07-25-22					

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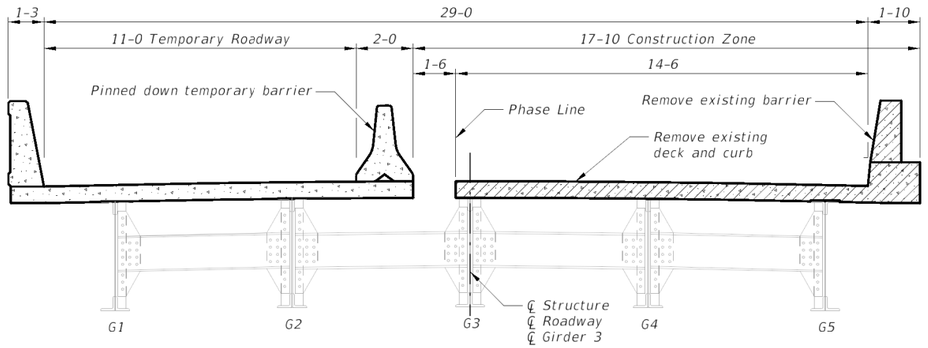
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PHASE II DECK REMOVAL - SPANS 1, 2 & 3

(Looking Ahead Station)

Scale ~ ⅜" = 1'-0"

NOTES:

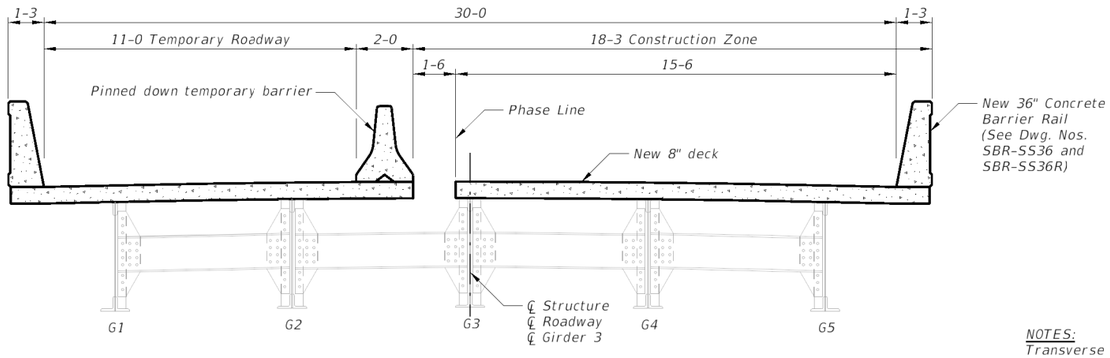
For Phase II, anchor temporary barrier to deck using three Type 2 anchors on the traffic side only for each barrier segment.

For Phase III, anchor temporary barrier to deck using type 2 or type 3 anchors.

Include the cost of removing existing bridge barrier on deck in the unit price for Remove Deck.

Retain and protect railroad blast plates. Not shown for clarity.

Retain and protect steel girders, diaphragms and other steel girder appurtenances.



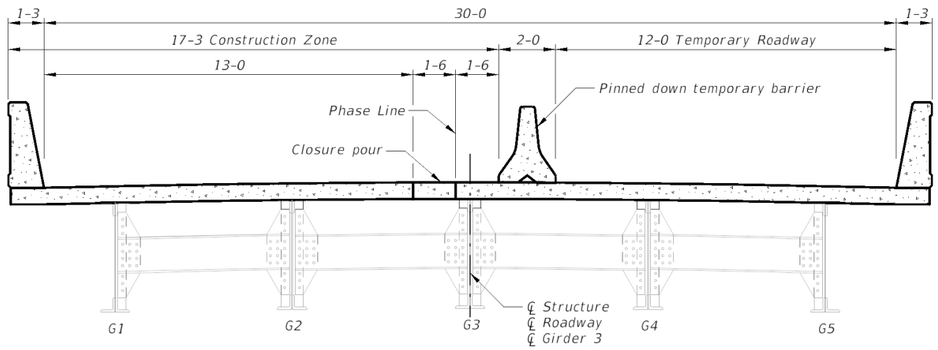
PHASE II DECK REPLACEMENT - SPANS 1, 2 & 3

(Looking Ahead Station)

Scale ~ ⅜" = 1'-0"

NOTES:

Transverse Deck Grooving and Bridge Deck Crack Seal shall be completed once closure pour is completed.



PHASE III CLOSURE POUR - SPANS 1, 2 & 3

(Looking Ahead Station)

Scale ~ ⅜" = 1'-0"

SHEET NO. B6

PHASE II & PHASE III CONSTRUCTION DIAGRAMS - DECK

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

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CHECKED	07-25-22	J.W.W.				
DRAWN	07-25-22	T.D.G.				
DESIGNED	07-25-22	B.R.B.				

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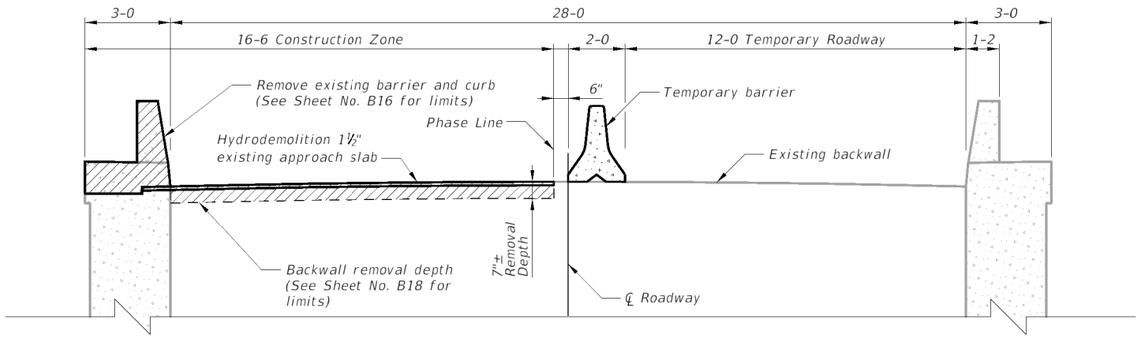
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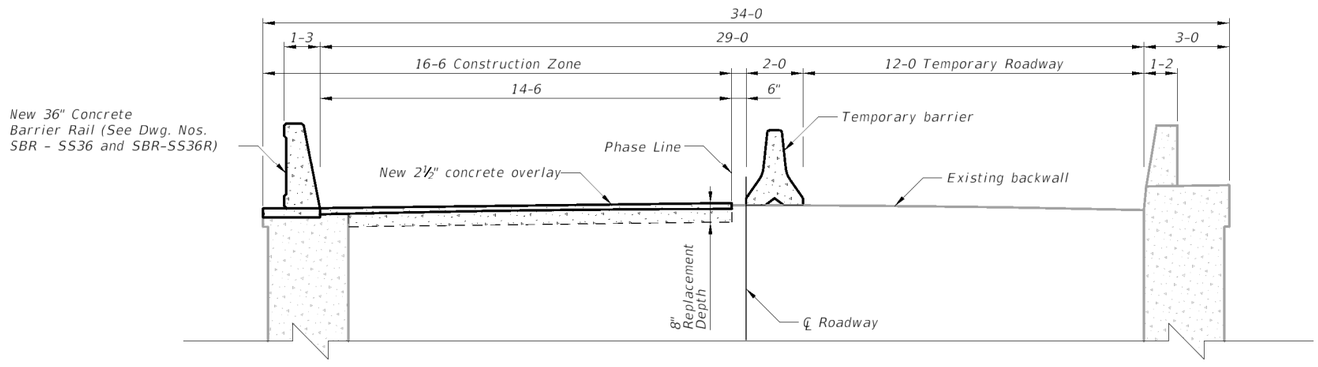
PHASE I
WINGWALL, BARRIER, AND
BACKWALL REMOVAL
(Looking Ahead Station Near Backwall)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale ~ ⅜" = 1'-0"

NOTES:
Approach slab girders and sleeper beam not shown for clarity.

Include the cost of curb removal in unit price for remove Revise Concrete Barrier Rail - BR.

Retain and protect steel girders, diaphragms and other steel girder appurtenances.

Retain and protect concrete girders in approach slab. Girders not shown for clarity.



PHASE I
WINGWALL, BARRIER, AND
BACKWALL REPLACEMENT
(Looking Ahead Station Near Backwall)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale ~ ⅜" = 1'-0"

SHEET NO.
B7

PHASE I
CONSTRUCTION
DIAGRAMS - BENT

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

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CHECKED	07-25-22	J.W.W.				
DRAWN	07-25-22	T.D.G.				
DESIGNED	07-25-22	B.R.B.				

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BRIDGE BUREAU

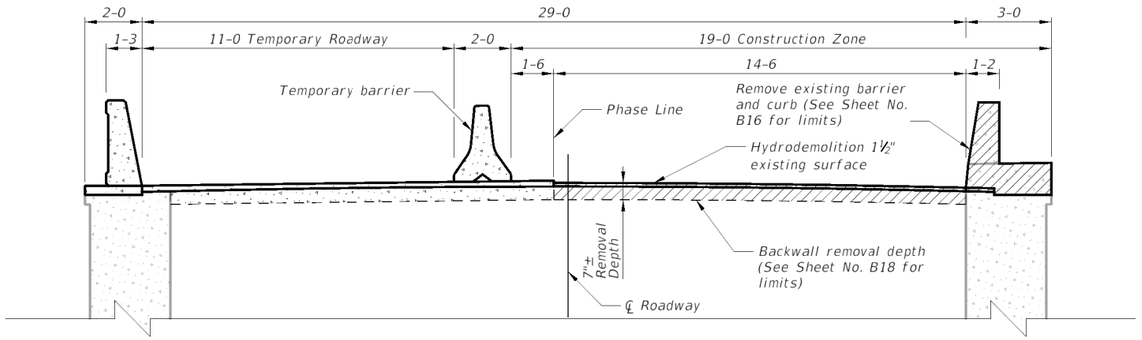
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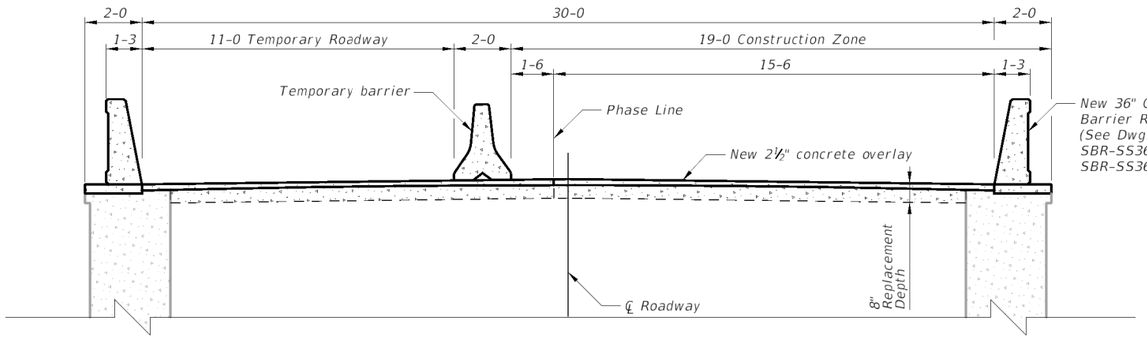
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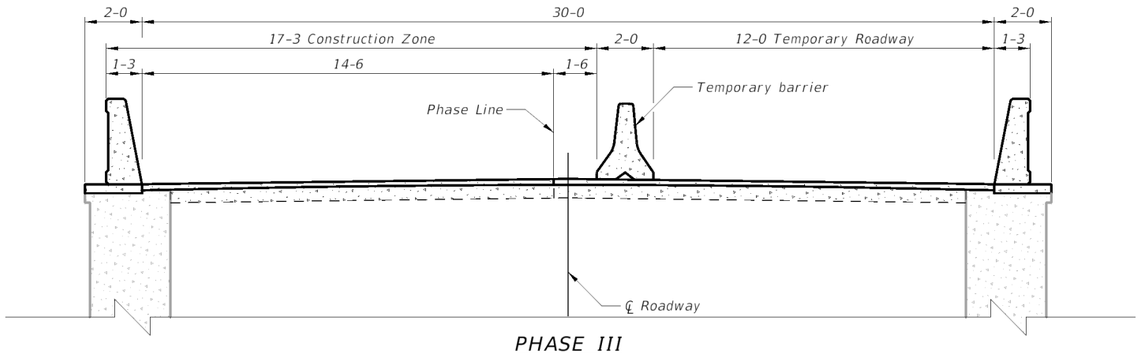
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PHASE II
WINGWALL, BARRIER, AND BACKWALL REMOVAL
(Looking Ahead Station Near Backwall)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale ~ ⅜" = 1'-0"



PHASE II
WINGWALL, BARRIER, AND BACKWALL REPLACEMENT
(Looking Ahead Station Near Backwall)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale ~ ⅜" = 1'-0"



PHASE III
(Looking Ahead Station Near Backwall)
(Bent No. 1 Shown, Bent No. 4 Similar)
Scale ~ ⅜" = 1'-0"

NOTES:
Approach slab girders and sleeper beam not shown for clarity.

Include the cost of curb removal in unit price for remove Revise Concrete Barrier Rail – BR.

Retain and protect steel girders, diaphragms and other steel girder appurtenances.

Retain and protect concrete girders in approach slab. Girders not shown for clarity.

SHEET NO. B8

PHASE II & PHASE III CONSTRUCTION DIAGRAMS - BENT

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED						
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REVISED						
CHECKED	07-25-22	J.W.W.				
DRAWN	07-25-22	T.D.G.				
DESIGNED	07-25-22	B.R.B.				

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MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

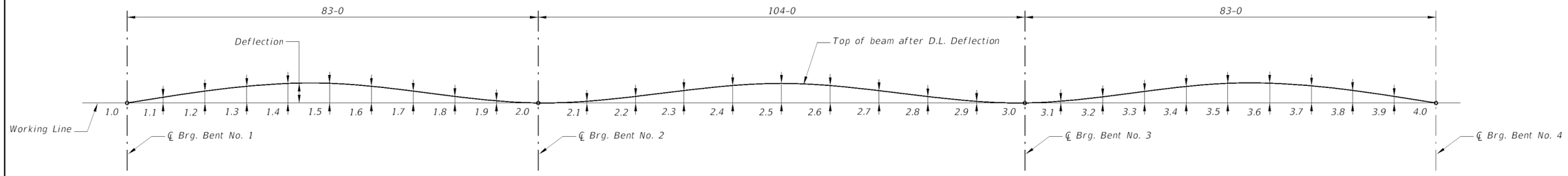
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DEAD LOAD DEFLECTION DIAGRAM

		DEAD LOAD DEFLECTIONS - PHASE III																													
		SPAN 1										SPAN 2										SPAN 3									
		1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
G1	GIRDER AND DIAPHRAGM DEFLECTION	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/8	3/16	1/4	1/4	1/4	3/16	1/8	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0
	PHASE I DECK REPLACEMENT	0	3/16	3/8	1/2	9/16	9/16	7/16	5/16	1/8	1/16	0	1/16	1/4	7/16	5/8	5/8	5/8	7/16	1/4	1/16	0	1/16	1/8	5/16	7/16	9/16	9/16	1/2	3/8	3/16	0
	PHASE III CLOSURE POUR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	- 1/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL D.L DEFLECTION	0	1/4	1/2	5/8	11/16	5/8	1/2	3/8	3/16	1/16	0	1/8	3/8	5/8	13/16	15/16	13/16	5/8	3/8	1/8	0	1/16	3/16	3/8	1/2	5/8	11/16	5/8	1/2	1/4	0
G2	GIRDER AND DIAPHRAGM DEFLECTION	0	1/16	1/8	1/8	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	3/16	3/16	1/4	3/16	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	1/8	1/8	1/16	0
	PHASE I DECK REPLACEMENT	0	1/4	7/16	9/16	5/8	5/8	1/2	5/16	3/16	1/16	0	1/16	1/4	1/2	11/16	12/16	11/16	1/2	1/4	1/16	0	1/16	3/16	5/16	1/2	5/8	5/8	9/16	7/16	1/4	0
	PHASE III CLOSURE POUR	0	-1/16	-1/16	- 1/8	- 1/8	- 1/8	-1/16	-1/16	0	0	0	0	-1/16	-1/16	- 1/8	- 1/8	- 1/8	-1/16	-1/16	0	0	0	0	-1/16	-1/16	- 1/8	- 1/8	- 1/8	-1/16	-1/16	0
	TOTAL D.L DEFLECTION	0	1/4	1/2	5/8	11/16	5/8	1/2	3/8	3/16	1/16	0	1/8	5/16	9/16	3/4	13/16	3/4	9/16	5/16	1/8	0	1/16	3/16	3/8	1/2	5/8	11/16	5/8	1/2	1/4	0
G3	GIRDER AND DIAPHRAGM DEFLECTION	0	1/16	1/8	1/8	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	3/16	1/4	1/4	1/4	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	1/8	1/8	1/16	0
	PHASE II DECK REPLACEMENT	0	1/8	1/4	5/16	5/16	5/16	1/4	3/16	1/16	0	0	1/16	1/8	1/4	3/8	3/8	3/8	1/4	1/8	1/16	0	0	1/16	3/16	1/4	5/16	5/16	5/16	1/4	1/8	0
	PHASE III CLOSURE POUR	0	1/16	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	0	1/16	1/8	3/16	3/16	3/16	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/16	0
	TOTAL D.L DEFLECTION	0	1/4	7/16	5/8	11/16	5/8	1/2	5/16	3/16	1/16	0	1/8	5/16	9/16	3/4	13/16	3/4	9/16	5/16	1/8	0	1/16	3/16	5/16	1/2	5/8	11/16	5/8	7/16	1/4	0
G4	GIRDER AND DIAPHRAGM DEFLECTION	0	1/16	1/8	1/8	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	3/16	3/16	1/4	3/16	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	1/8	1/8	1/16	0
	PHASE II DECK REPLACEMENT	0	3/16	3/8	1/2	1/2	1/2	3/8	1/4	1/8	1/16	0	1/16	1/4	3/8	9/16	9/16	9/16	3/8	1/4	1/16	0	1/16	1/8	1/4	3/8	1/2	1/2	1/2	3/8	3/16	0
	PHASE III CLOSURE POUR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL D.L DEFLECTION	0	1/4	1/2	5/8	11/16	5/8	1/2	3/8	3/16	1/16	0	1/8	5/16	9/16	3/4	13/16	3/4	9/16	5/16	1/8	0	1/16	3/16	3/8	1/2	5/8	11/16	5/8	1/2	1/4	0
G5	GIRDER AND DIAPHRAGM DEFLECTION	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/8	3/16	1/4	1/4	1/4	3/16	1/8	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0
	PHASE II DECK REPLACEMENT	0	3/16	3/8	1/2	9/16	1/2	7/16	5/16	1/8	1/16	0	1/16	1/4	7/16	9/16	5/8	9/16	7/16	1/4	1/16	0	1/16	1/8	5/16	7/16	1/2	9/16	1/2	3/8	3/16	0
	PHASE III CLOSURE POUR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL D.L DEFLECTION	0	1/4	1/2	5/8	11/16	5/8	8/16	3/8	3/16	1/16	0	1/8	3/8	5/8	13/16	15/16	13/16	5/8	3/8	1/8	0	1/16	3/16	3/8	1/2	5/8	11/16	5/8	1/2	1/4	0

NOTE: Value shown are the theoretical defections assuming new construction. Actual deflections may very.
NOTE: Deflections do not include the Temporary Parapet.
NOTE: Deflections are rounded to the nearest sixteenth of an inch.
NOTE: Negative value is upwards.

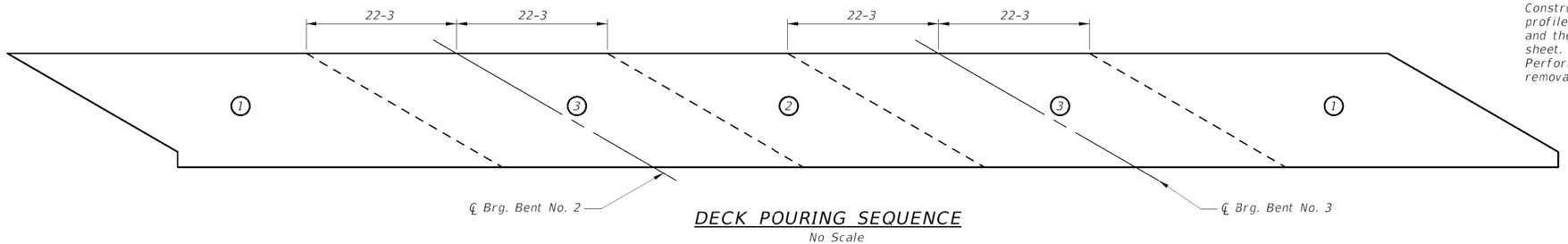
NOTES:
Survey top of existing girder elevations at 10th points after deck removal and provide Project Manager with girder and anticipated finish grade 10th-point elevations for review and approval prior to forming new deck.

Deflections are rounded to the nearest sixteenth of an inch.

Positive values are downward deflections.

Camber is the distance from the working line to the top of the beam and may vary between adjacent beams.

Construct finished grade of bridge deck to match existing profile. Adjust profile to account for the 1-inch grade raise and the concrete dead load deflections as reported on this sheet. See as-built general layout for existing profile data. Perform survey to verify existing profile prior to deck removal.



DECK POURING SEQUENCE

No Scale

NOTES:
Pour numbers indicate sequence of pours. Pours over interior supports will be made last to reduce the effect of the slab dead load in the negative moment area.

Pouring sequence applies for the Phase I and Phase II deck pours. The Phase III deck closure pour may be poured in one continuous operation.

SHEET NO. B9

DEAD LOAD DEFLECTION DIAGRAM & TABLE OF DEAD LOAD DEFLECTION

SCALE: No Scale

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED			CHECKED	07-25-22 J.W.W.
REVISED			DRAWN	07-25-22 T.D.G.
REVISED			DESIGNED	07-25-22 B.R.B.
REVISED				\brl9-9548000BRMDE202.dgn
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MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

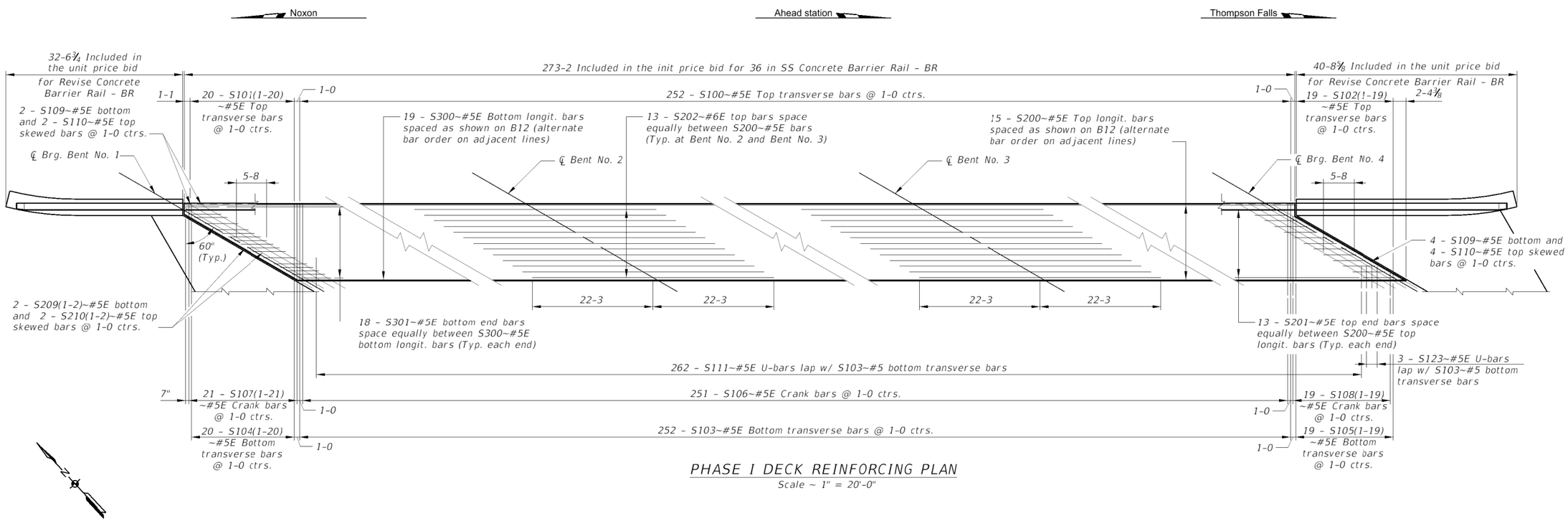
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DRAWING NO.
28247

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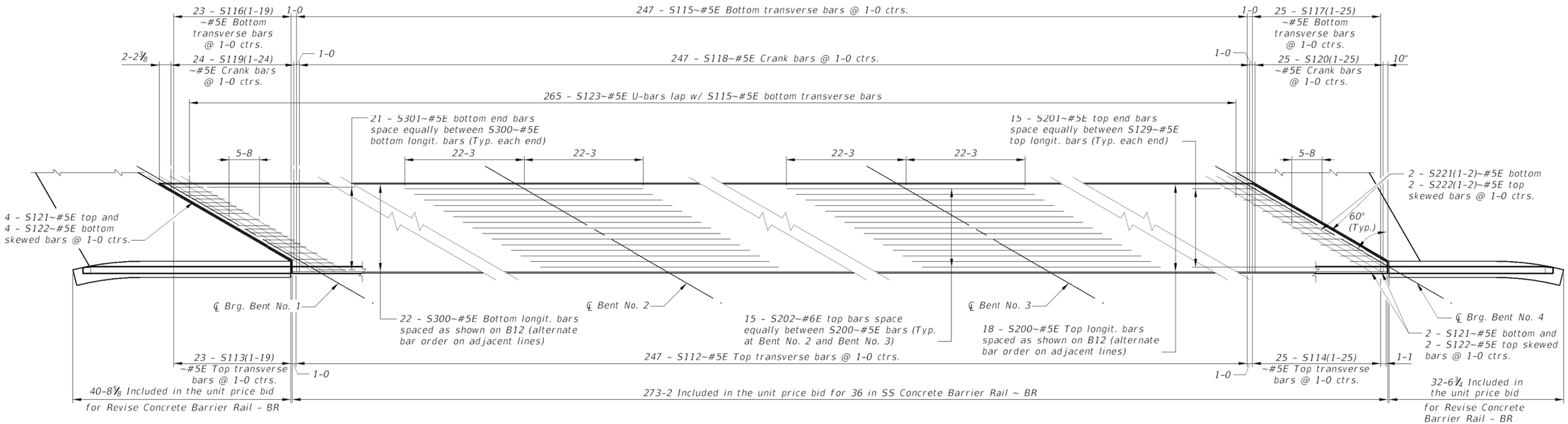
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FORSGREN Associates Inc



PHASE I DECK REINFORCING PLAN

Scale ~ 1" = 20'-0"



NOTES:
Railroad blast plates not shown for clarity.

See sheets B13, B14 and B15 for Bill of reinforcing.

PHASE II DECK REINFORCING PLAN

Scale ~ 1" = 20'-0"

SHEET NO.
B10

PHASE I & PHASE II
DECK REINFORCING PLAN

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED				CHECKED	07-25-22	J.W.W.
REVISED				DRAWN	07-25-22	T.D.G.
REVISED				DESIGNED	07-25-22	B.R.B.

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MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

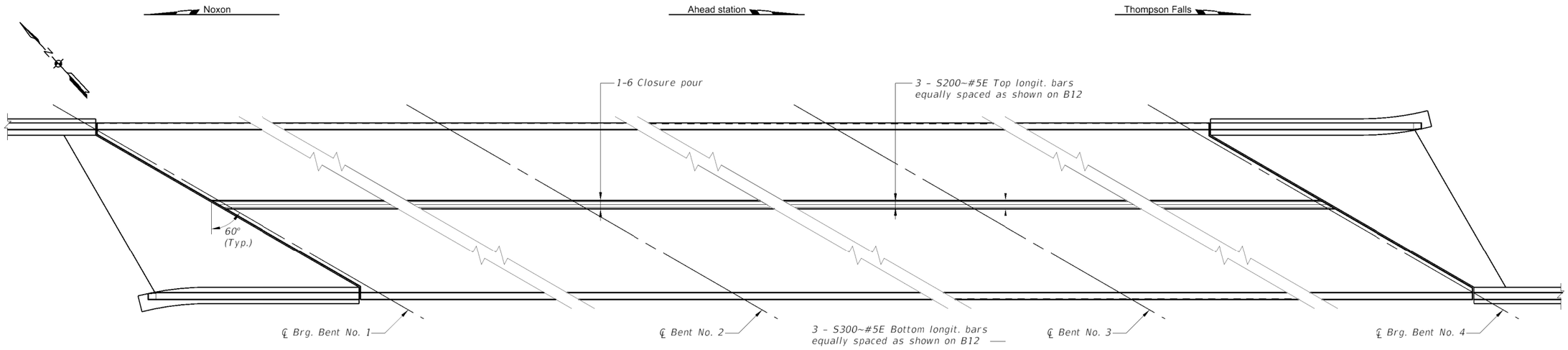
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PHASE III DECK CLOSURE POUR REINFORCING PLAN

Scale ~ 3/4" = 1'-0"

NOTES:
Railroad blast plates not shown for clarity.

See Sheet No. B15 for Bill of reinforcing.

SHEET NO. B11

PHASE III
DECK REINFORCING PLAN

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

	REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED
					07-25-22	07-25-22	07-25-22
					J.W.W.	T.D.G.	B.R.B.

MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

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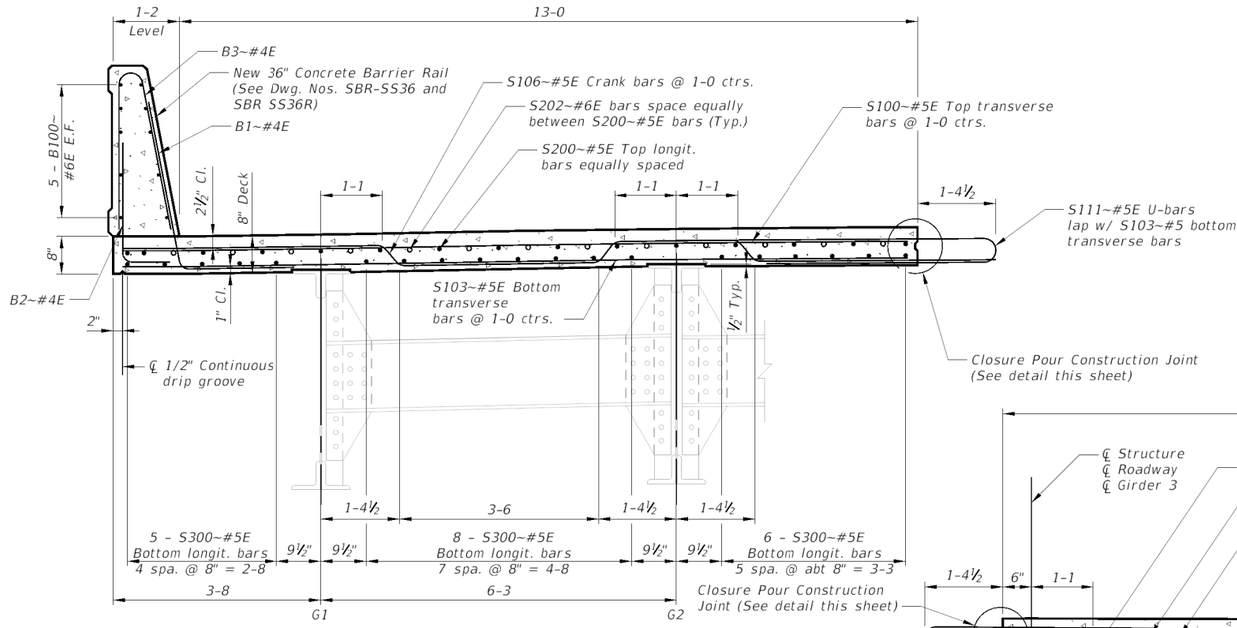
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DRAWING NO.
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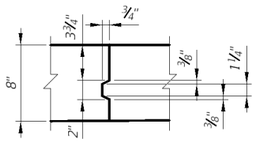
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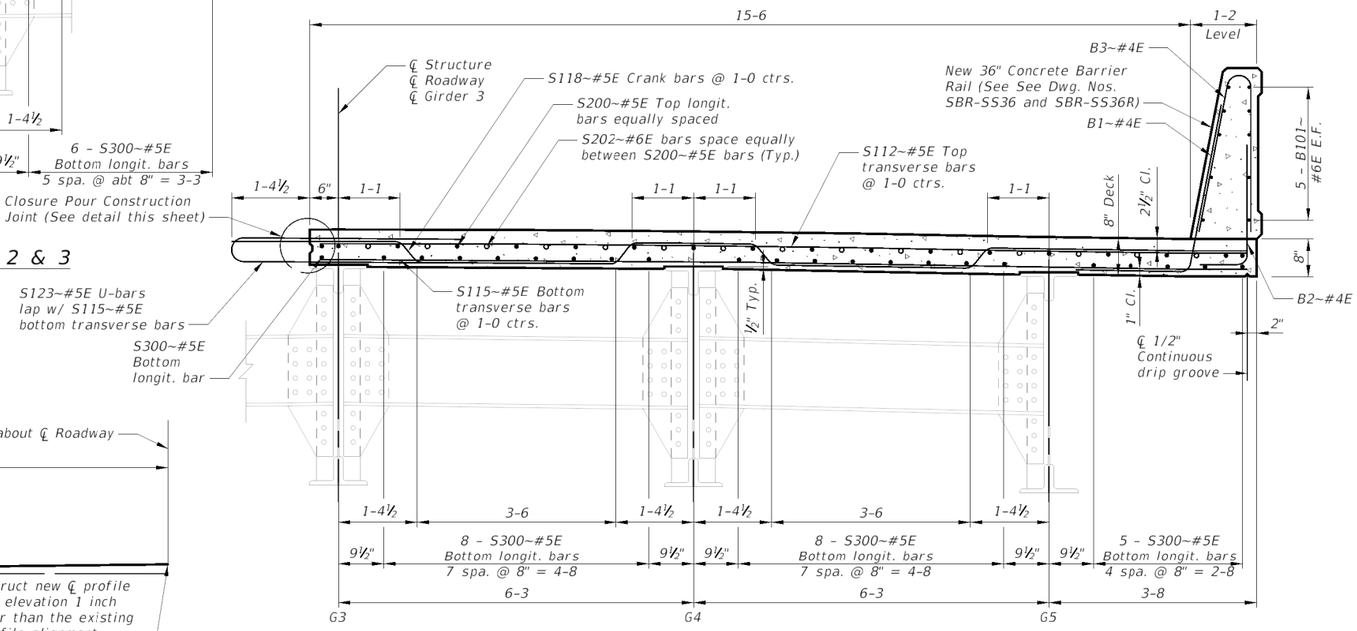
PHASE I DECK REPLACEMENT - SPANS 1, 2 & 3

(Looking Ahead Station)
Scale ~ ¾" = 1'-0"



CLOSURE POUR CONSTRUCTION JOINT

Scale ~ 1½" = 1'-0"



PHASE II DECK REPLACEMENT - SPANS 1, 2 & 3

(Looking Ahead Station)
Scale ~ ¾" = 1'-0"

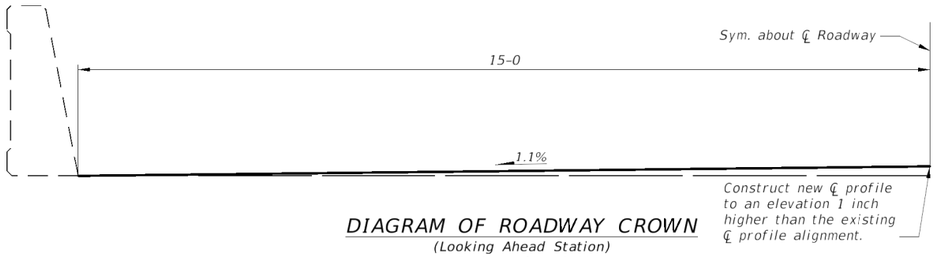
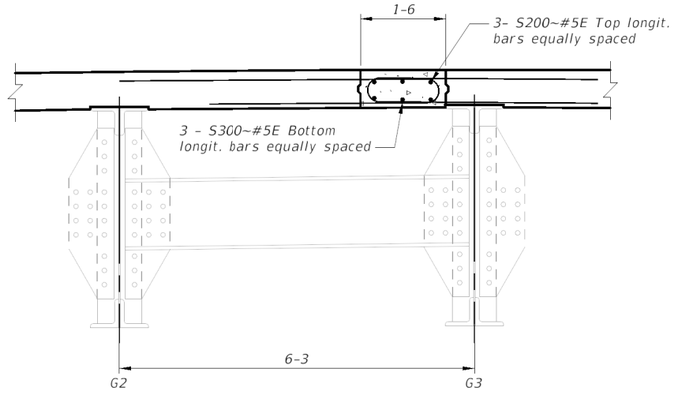


DIAGRAM OF ROADWAY CROWN

(Looking Ahead Station)
Scale ~ ¾" = 1'-0"



PHASE III CLOSURE POUR - SPANS 1, 2 & 3

(Looking Ahead Station)
Scale ~ ¾" = 1'-0"

NOTE:
See Sheet Nos. B13, B14 and B15 for Bill of Reinforcing.

SHEET NO. B12

DECK REINFORCING DETAILS

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED					J.W.W.	
REVISED					T.D.G.	
REVISED					B.R.B.	
REVISED				CHECKED	07-25-22	
				DRAWN	07-25-22	
				DESIGNED	07-25-22	

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MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

UPN NUMBER
9548000

DRAWING NO.
28250

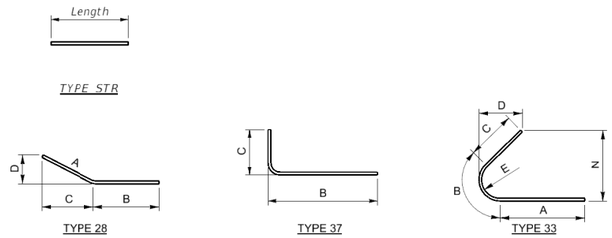
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FORSGREN Associates Inc.

BILL OF REINFORCING STEEL (PHASE I)

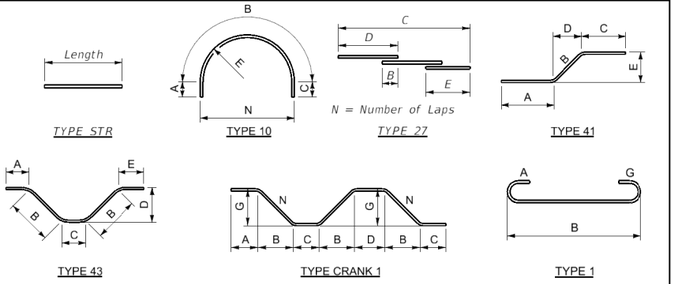
(ALL DIMENSIONS ARE OUT TO OUT)



Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
S100	5E	252	STR	13-10							
S101-1	5E	1	STR	2-5							
S101-2	5E	1	STR	3-0							
S101-3	5E	1	STR	3-7							
S101-4	5E	1	STR	4-2							
S101-5	5E	1	STR	4-9							
S101-6	5E	1	STR	5-3							
S101-7	5E	1	STR	5-10							
S101-8	5E	1	STR	6-5							
S101-9	5E	1	STR	7-0							
S101-10	5E	1	STR	7-7							
S101-11	5E	1	STR	8-2							
S101-12	5E	1	STR	8-9							
S101-13	5E	1	STR	9-4							
S101-14	5E	1	STR	9-11							
S101-15	5E	1	STR	10-6							
S101-16	5E	1	STR	11-1							
S101-17	5E	1	STR	11-8							
S101-18	5E	1	STR	12-3							
S101-19	5E	1	STR	12-10							
S101-20	5E	1	STR	13-4							
S102-1	5E	1	STR	11-4							
S102-2	5E	1	STR	10-10							
S102-3	5E	1	STR	10-3							
S102-4	5E	1	STR	9-8							
S102-5	5E	1	STR	9-1							
S102-6	5E	1	STR	8-6							
S102-7	5E	1	STR	7-11							
S102-8	5E	1	STR	4-4							
S102-9	5E	1	STR	6-9							
S102-10	5E	1	STR	6-2							
S102-11	5E	1	STR	5-7							
S102-12	5E	1	STR	5-0							
S102-13	5E	1	STR	4-5							
S102-14	5E	1	STR	3-10							
S102-15	5E	1	STR	3-3							
S102-16	5E	1	STR	2-9							
S102-17	5E	1	STR	2-2							
S102-18	5E	1	STR	1-7							
S102-19	5E	1	STR	1-0							
S103	5E	252	STR	13-10							
S104-1	5E	1	STR	2-5							
S104-2	5E	1	STR	3-0							
S104-3	5E	1	STR	3-7							
S104-4	5E	1	STR	4-2							
S104-5	5E	1	STR	4-9							
S104-6	5E	1	STR	5-3							
S104-7	5E	1	STR	5-10							
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S104-10	5E	1	STR	7-7							
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S105-6	5E	1	STR	8-6							
S105-7	5E	1	STR	7-11							
S105-8	5E	1	STR	4-4							
S105-9	5E	1	STR	6-9							
S105-10	5E	1	STR	6-2							
S105-11	5E	1	STR	5-7							
S105-12	5E	1	STR	5-0							
S105-13	5E	1	STR	4-5							

BILL OF REINFORCING STEEL (PHASE I)

(ALL DIMENSIONS ARE OUT TO OUT)



Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
S105-14	5E	1	STR	3-10							
S105-15	5E	1	STR	3-3							
S105-16	5E	1	STR	2-9							
S105-17	5E	1	STR	2-2							
S105-18	5E	1	STR	1-7							
S105-19	5E	1	STR	1-0							
S106	5E	251	CRANK1	15-10	4-7	3½	3-6	2-2	4-2½	4½	5½
S107-1	5E	1	STR	2-1							
S107-2	5E	1	STR	2-8							
S107-3	5E	1	STR	3-3							
S107-4	5E	1	STR	3-10							
S107-5	5E	1	STR	4-5							
S107-6	5E	1	STR	5-0							
S107-7	5E	1	41	5-9	4-7	5½	8½	3½	4½		
S107-8	5E	1	41	6-4	4-7	5½	1-3½	3½	4½		
S107-9	5E	1	41	6-11	4-7	5½	1-10½	3½	4½		
S107-10	5E	1	41	7-6	4-7	5½	2-5½	3½	4½		
S107-11	5E	1	41	8-1	4-7	5½	3-0½	3½	4½		
S107-12	5E	1	41	8-7½	4-7	5½	3-7	3½	4½		
S107-13	5E	1	43	9-4	4-7	5½	3-6	4½	5		
S107-14	5E	1	43	9-11	4-7	5½	3-6	4½	11		
S107-15	5E	1	43	10-6	4-7	5½	3-6	4½	1-6		
S107-16	5E	1	43	11-1	4-7	5½	3-6	4½	2-1		
S107-17	5E	1	43	11-8	4-7	5½	3-6	4½	2-8		
S107-18	5E	1	CRANK1	12-5	4-7	3½	3-6	2-2	0-9½	4½	5½
S107-19	5E	1	CRANK1	13-0	4-7	3½	3-6	2-2	1-4½	4½	5½
S107-20	5E	1	CRANK1	13-7	4-7	3½	3-6	2-2	1-11½	4½	5½
S107-21	5E	1	CRANK1	14-2	4-7	3½	3-6	2-2	2-6½	4½	5½
S108-1	5E	1	CRANK1	13-8	2-5	3½	3-6	2-2	4-2½	4½	5½
S108-2	5E	1	CRANK1	13-1	1-10	3½	3-6	2-2	4-2½	4½	5½
S108-3	5E	1	CRANK1	12-6	1-3	3½	3-6	2-2	4-2½	4½	5½
S108-4	5E	1	CRANK1	11-11	8	3½	3-6	2-2	4-2½	4½	5½
S108-5	5E	1	43	11-2½	3-11	5½	2-2	4½	4-2½		
S108-6	5E	1	43	10-7½	3-4	5½	2-2	4½	4-2½		
S108-7	5E	1	43	10-0½	2-9	5½	2-2	4½	4-2½		
S108-8	5E	1	43	9-5½	2-2	5½	2-2	4½	4-2½		
S108-9	5E	1	43	8-10½	1-7	5½	2-2	4½	4-2½		
S108-10	5E	1	43	8-3½	1-0	5½	2-2	4½	4-2½		
S108-11	5E	1	43	7-8½	5	5½	2-2	4½	4-2½		
S108-12	5E	1	41	7-0	2-4	5½	4-2½	3½	4½		
S108-13	5E	1	41	6-5	1-9	5½	4-2½	3½	4½		
S108-14	5E	1	41	5-10	1-2	5½	4-2½	3½	4½		
S108-15	5E	1	41	5-3	7	5½	4-2½	3½	4½		
S108-16	5E	1	STR	4-6							
S108-17	5E	1	STR	3-11							
S108-18	5E	1	STR	3-4							
S108-19	5E	1	STR	2-9							
S109	5E	6	STR	30-8							
S110	5E	6	STR	30-8							
S111	5E	262	10	9-11	5-6	7	3-10		2½		4½
S123	5E	3	10	8-3	3-10	7	3-10		2½		4½
S200	5E	15	27	280-8		2-2	272-0	60-0	40-8		4
S201	5E	26	STR	6-0							
S202	6E	26	STR	44-6							
S209-1	5E	1	STR	29-6							
S209-2	5E	1	STR	27-2							
S210-1	5E	1	STR	29-6							
S210-2	6E	1	STR	27-2							
S300	5E	19	27	280-8		2-2	272-0	60-0	40-8		4
S301	5E	36	STR	6-0							
J1	5E	8	STR	26-10							
W100-1	4E	3	STR	30-3							
W100-2	4E	3	STR	38-6							
W2	4E	94	STR	See Sheet B16							
W3	4E	94	28	See Sheet B16							
W4	4E	94	STR	See Sheet B16							
B1	4E	285	28	See Dwg. No. SBR-SS36R							
B2	4E	285	37	See Dwg. No. SBR-SS36R							
B3	4E	373	33	See Dwg. No. SBR-SS36R							
B4	4E	6	33	See Dwg. No. SBR-SS36R							
B100-1	6E	10	STR	30-3							4
B100-2	6E	10	27	287-8		3-10	272-4	60-0	47-8		
B100-3	6E	10	STR	38-6							

SHEET NO. B13

PHASE I
BILL OF REINFORCING STEEL

SCALE: No Scale

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED			
REVISED			
REVISED			
REVISED	CHECKED	07-25-22	J.W.W.
	DRAWN	02-25-22	T.D.G.
	DESIGNED	07-25-22	B.R.B.

MONTANA MDT DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

12/22/2023 12:51:20 PM ...\br13-9548000BRSLDz04.dgn

UPN NUMBER
9548000

DRAWING NO.
28251

DocuSign Envelope ID: 3FA987B0-F1F0-464C-9F99-B550D1382F0C

AWARD COPY

FORSGREN Associates Inc.

BILL OF REINFORCING STEEL (PHASE II)

(ALL DIMENSIONS ARE OUT TO OUT)

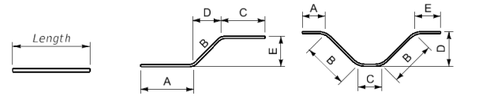


TYPE STR

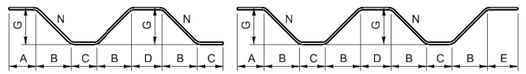
Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
S112	5E	247	STR	16-4							
S113-1	5E	1	STR	1-2							
S113-2	5E	1	STR	1-9							
S113-3	5E	1	STR	2-4							
S113-4	5E	1	STR	2-11							
S113-5	5E	1	STR	3-6							
S113-6	5E	1	STR	4-1							
S113-7	5E	1	STR	4-8							
S113-8	5E	1	STR	5-3							
S113-9	5E	1	STR	5-9							
S113-10	5E	1	STR	6-4							
S113-11	5E	1	STR	6-11							
S113-12	5E	1	STR	7-6							
S113-13	5E	1	STR	8-1							
S113-14	5E	1	STR	8-8							
S113-15	5E	1	STR	9-3							
S113-16	5E	1	STR	9-10							
S113-17	5E	1	STR	10-5							
S113-18	5E	1	STR	11-0							
S113-19	5E	1	STR	11-7							
S113-20	5E	1	STR	12-2							
S113-21	5E	1	STR	12-9							
S113-22	5E	1	STR	13-4							
S113-23	5E	1	STR	13-10							
S114-1	5E	1	STR	16-3							
S114-2	5E	1	STR	15-8							
S114-3	5E	1	STR	15-1							
S114-4	5E	1	STR	14-6							
S114-5	5E	1	STR	13-11							
S114-6	5E	1	STR	13-4							
S114-7	5E	1	STR	12-10							
S114-8	5E	1	STR	12-3							
S114-9	5E	1	STR	11-8							
S114-10	5E	1	STR	11-1							
S114-11	5E	1	STR	10-6							
S114-12	5E	1	STR	9-11							
S114-13	5E	1	STR	9-4							
S114-14	5E	1	STR	8-9							
S114-15	5E	1	STR	8-2							
S114-16	5E	1	STR	7-7							
S114-17	5E	1	STR	7-0							
S114-18	5E	1	STR	6-5							
S114-19	5E	1	STR	5-10							
S114-20	5E	1	STR	5-3							
S114-21	5E	1	STR	4-9							
S114-22	5E	1	STR	4-2							
S114-23	5E	1	STR	3-7							
S114-24	5E	1	STR	3-0							
S114-25	5E	1	STR	2-5							
S115	5E	247	STR	16-4							
S116-1	5E	1	STR	1-2							
S116-2	5E	1	STR	1-9							
S116-3	5E	1	STR	2-4							
S116-4	5E	1	STR	2-11							
S116-5	5E	1	STR	3-6							
S116-6	5E	1	STR	4-1							
S116-7	5E	1	STR	4-8							
S116-8	5E	1	STR	5-3							
S116-9	5E	1	STR	5-9							
S116-10	5E	1	STR	6-4							
S116-11	5E	1	STR	6-11							
S116-12	5E	1	STR	7-6							
S116-13	5E	1	STR	8-1							
S116-14	5E	1	STR	8-8							
S116-15	5E	1	STR	9-3							
S116-16	5E	1	STR	9-10							
S116-17	5E	1	STR	10-5							
S116-18	5E	1	STR	11-0							
S116-19	5E	1	STR	11-7							
S116-20	5E	1	STR	12-2							
S116-21	5E	1	STR	12-9							
S116-22	5E	1	STR	13-4							

BILL OF REINFORCING STEEL (PHASE II)

(ALL DIMENSIONS ARE OUT TO OUT)



TYPE STR TYPE 41 TYPE 43



TYPE CRANK 1 TYPE CRANK 2

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
S116-23	5E	1	STR	13-10							
S117-1	5E	1	STR	16-3							
S117-2	5E	1	STR	15-8							
S117-3	5E	1	STR	15-1							
S117-4	5E	1	STR	14-6							
S117-5	5E	1	STR	13-11							
S117-6	5E	1	STR	13-4							
S117-7	5E	1	STR	12-10							
S117-8	5E	1	STR	12-3							
S117-9	5E	1	STR	11-8							
S117-10	5E	1	STR	11-1							
S117-11	5E	1	STR	10-6							
S117-12	5E	1	STR	9-11							
S117-13	5E	1	STR	9-4							
S117-14	5E	1	STR	8-9							
S117-15	5E	1	STR	8-2							
S117-16	5E	1	STR	7-7							
S117-17	5E	1	STR	7-0							
S117-18	5E	1	STR	6-5							
S117-19	5E	1	STR	5-10							
S117-20	5E	1	STR	5-3							
S117-21	5E	1	STR	4-9							
S117-22	5E	1	STR	4-2							
S117-23	5E	1	STR	3-7							
S117-24	5E	1	STR	3-0							
S117-25	5E	1	STR	2-5							
S118	5E	247	CRANK2	18-6½	2-11½	3½	3-6	2-2	4-7	0-4½	0-5½
S119-1	5E	1	STR	2-5½							
S119-2	5E	1	STR	3-0							
S119-3	5E	1	41	3-9	2-11½	5½	4	3½	4½		
S119-4	5E	1	41	4-4	2-11½	5½	11	3½	4½		
S119-5	5E	1	41	4-11	2-11½	5½	1-6	3½	4½		
S119-6	5E	1	41	5-6	2-11½	5½	2-1	3½	4½		
S119-7	5E	1	41	6-0	2-11½	5½	2-7	3½	4½		
S119-8	5E	1	41	6-7	2-11½	5½	3-2	3½	4½		
S119-9	5E	1	41	7-2	2-11½	5½	3-9	3½	4½		
S119-10	5E	1	43	7-11½	2-11½	5½	3-6	4½	1		
S119-11	5E	1	43	8-6½	2-11½	5½	3-6	4½	1-2		
S119-12	5E	1	43	9-1½	2-11½	5½	3-6	4½	1-9		
S119-13	5E	1	43	9-8½	2-11½	5½	3-6	4½	2-4		
S119-14	5E	1	CRANK1	10-5	2-11½	3½	3-6	2-2	5	4½	5½
S119-15	5E	1	CRANK1	11-0	2-11½	3½	3-6	2-2	1-0	4½	5½
S119-16	5E	1	CRANK1	11-7	2-11½	3½	3-6	2-2	1-7	4½	5½
S119-17	5E	1	CRANK1	12-2	2-11½	3½	3-6	2-2	2-2	4½	5½
S119-18	5E	1	CRANK1	12-9	2-11½	3½	3-6	2-2	2-9	4½	5½
S119-19	5E	1	CRANK1	13-4	2-11½	3½	3-6	2-2	3-4	4½	5½
S119-20	5E	1	CRANK1	13-10	2-11½	3½	3-6	2-2	3-10	4½	5½
S119-21	5E	1	CRANK2	14-8	2-11½	3½	3-6	2-2	8½	4½	5½
S119-22	5E	1	CRANK2	15-2½	2-11½	3½	3-6	2-2	1-3	4½	5½
S119-23	5E	1	CRANK2	15-9½	2-11½	3½	3-6	2-2	1-10	4½	5½
S119-24	5E	1	CRANK2	16-4½	2-11½	3½	3-6	2-2	2-5	4½	5½
S120-1	5E	1	CRANK2	16-8	1-1	3½	3-6	2-2	4-7	4½	5½
S120-2	5E	1	CRANK2	16-1	6	3½	2-2	3-6	4-7	4½	5½
S120-3	5E	1	CRANK1	15-3½	3-8	3½	2-2	3-6	4-7	4½	5½
S120-4	5E	1	CRANK1	14-8½	3-1	3½	2-2	3-6	4-7	4½	5½
S120-5	5E	1	CRANK1	14-1½	2-6	3½	2-2	3-6	4-7	4½	5½
S120-6	5E	1	CRANK1	13-6½	1-11	3½	2-2	3-6	4-7	4½	5½
S120-7	5E	1	CRANK1	13-0	1-4½	3½	2-2	3-6	4-7	4½	5½
S120-8	5E	1	CRANK1	12-5	9½	3½	2-2	3-6	4-7	4½	5½
S120-9	5E	1	43	11-8	2-8	5½	3-6	4½	4-7		
S120-10	5E	1	43	11-1	2-1	5½	3-6	4½	4-7		
S120-11	5E	1	43	10-6	1-6	5½	3-6	4½	4-7		
S120-12	5E	1	43	9-11	11	5½	3-6	4½	4-7		
S120-13	5E	1	43	9-4	4	5½	3-6	4½	4-7		
S120-14	5E	1	41	8-8	3-7½	5½	4-7	3½	4½		
S120-15	5E	1	41	8-1	3-0½	5½	4-7	3½	4½		
S120-16	5E	1	41	7-6	2-5½	5½	4-7	3½	4½		
S120-17	5E	1	41	6-11	1-10½	5½	4-7	3½	4½		
S120-18	5E	1	41	6-4	1-3½	5½	4-7	3½	4½		
S120-19	5E	1	41	5-9	8½	5½	4-7	3½	4½		
S120-20	5E	1	STR	5-0							
S120-21	5E	1	STR	4-5							

SHEET NO. B14

PHASE II
BILL OF REINFORCING STEEL

SCALE: No Scale

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED				CHECKED	07-25-22	J.W.W.
REVISED				DRAWN	07-25-22	T.D.G.
REVISED				DESIGNED	07-25-22	B.R.B.
REVISED						

MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

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UPN NUMBER
9548000

DRAWING NO.
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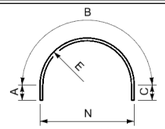
FORSGREN Associates Inc.

BILL OF REINFORCING STEEL (PHASE II)

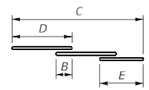
(ALL DIMENSIONS ARE OUT TO OUT)



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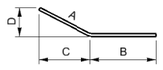


TYPE 10

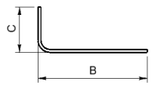


N = Number of Laps

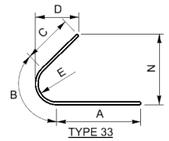
TYPE 27



TYPE 28



TYPE 37

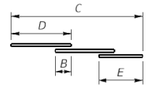


TYPE 33

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
S120-22	5E	1	STR	3-10							
S120-23	5E	1	STR	3-3							
S120-24	5E	1	STR	2-8							
S120-25	5E	1	STR	2-1							
S121	5E	6	STR	35-8							
S122	5E	6	STR	35-8							
S123	5E	265	10	8-3	3-10	0-7	3-10		2½		4½
S200	5E	18	27	280-8		2-2	272-0	60-0	40-8		4
S201	5E	30	STR	6-0							
S202	6E	30	STR	44-6							
S221-1	5E	1	STR	34-6							
S221-2	5E	1	STR	32-2							
S222-1	5E	1	STR	34-6							
S222-2	5E	1	STR	32-2							
S300	5E	22	27	280-8		2-2	272-0	60-0	40-8		4
S301	5E	42	STR	6-0							
J1	5E	8	STR	31-10							
W101-1	4E	3	STR	30-3							
W101-2	4E	3	STR	38-6							
W2	4E	94	STR	See Sheet B16							
W3	4E	94	28	See Sheet B16							
W4	4E	94	STR	See Sheet B16							
B1	4E	285	28	See Dwg. No. SBR-SS36R							
B2	4E	285	37	See Dwg. No. SBR-SS36R							
B3	4E	373	33	See Dwg. No. SBR-SS36R							
B4	4E	6	33	See Dwg. No. SBR-SS36R							
B101-1	6E	10	STR	30-3							
B101-2	6E	10	27	287-8		3-10	272-4	60-0	47-8		4
B101-3	6E	10	STR	38-6							

BILL OF REINFORCING STEEL (PHASE III)

(ALL DIMENSIONS ARE OUT TO OUT)



N = Number of Laps

TYPE 27

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
S200	5E	3	27	286-8		1-9	272-8	60-0	46-8		4-0
S300	5E	3	27	286-8		1-9	272-8	60-0	46-8		4-0

SHEET NO. B15

PHASE II & PHASE III BILL OF REINFORCING STEEL

SCALE: No Scale

PROJECT NAME MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID 05270

FEDERAL AID PROJECT STPB 6-1(168)16

COUNTY SANDERS

	REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED
					07-25-22	07-25-22	07-25-22
					J.W.W.	T.D.G.	B.R.B.

MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

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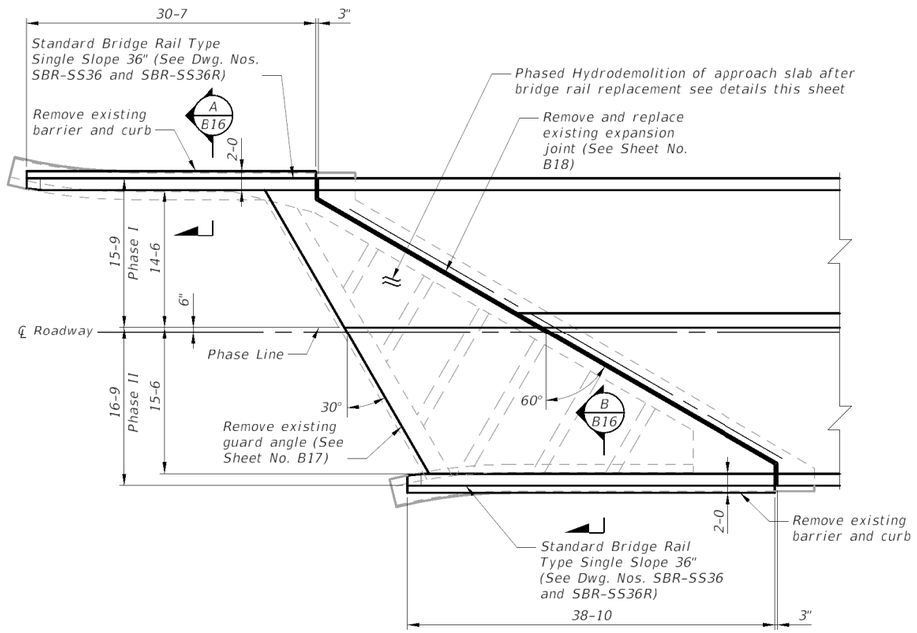
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FORSGREN Associates Inc.

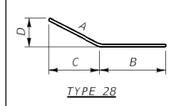


APPROACH SLAB PLAN

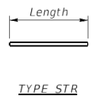
(Bent 1 location shown Bent No. 4 location similar)

Scale ~ ⅛" = 1'-0"

BILL OF REINFORCING STEEL (ALL DIMENSIONS ARE OUT TO OUT)



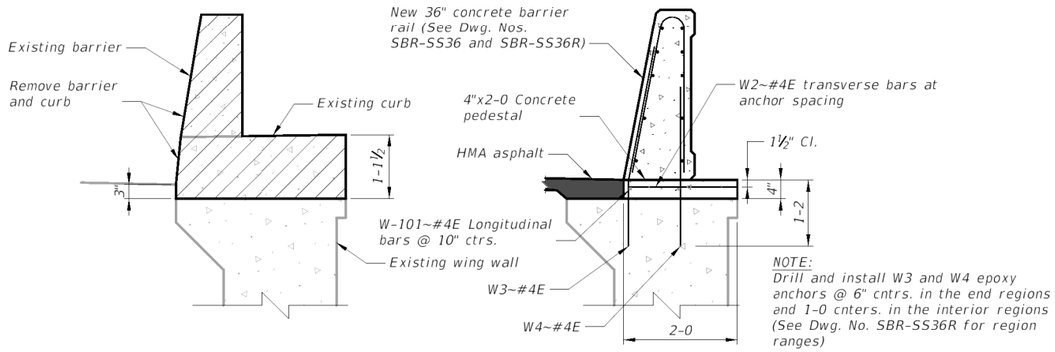
TYPE 28



TYPE STR

NOTE: See Bridge Plans for number of bars required and longitudinal bars.

Mark	Size	Type	Length	A	B	C	D	E	G	N
W2	#4E	STR	1-8							
W3	#4E	37	3-8½	2-6½	1-2	2-6	5¾			
W4	#4E	33	2-6							

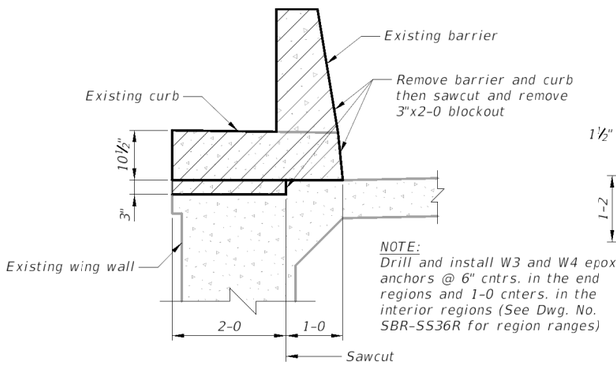


A B16 CURB AND BARRIER REMOVAL

Scale ~ ¾" = 1'-0"

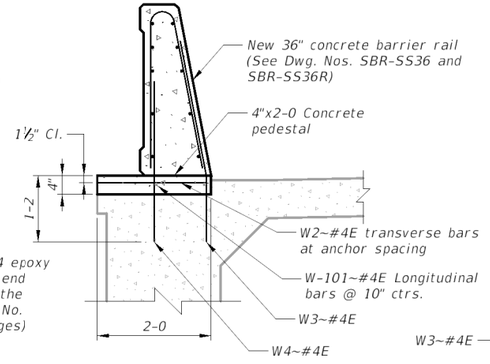
A B16 CURB AND BARRIER REPLACEMENT

Scale ~ ¾" = 1'-0"



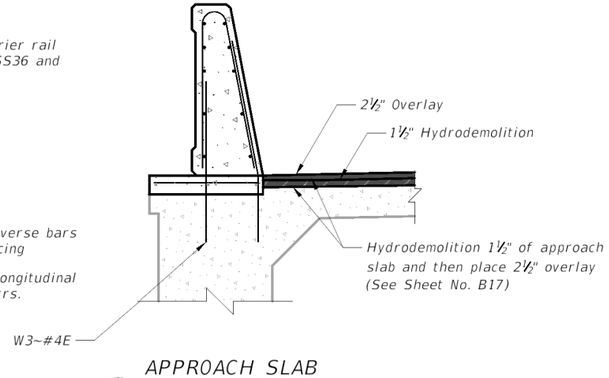
B B16 CURB AND BARRIER REMOVAL

Scale ~ ¾" = 1'-0"



B B16 CURB AND BARRIER REPLACEMENT

Scale ~ ¾" = 1'-0"



B B16 APPROACH SLAB HYDRODEMOLITION AND OVERLAY

Scale ~ ¾" = 1'-0"

NOTES:

Include all costs associated with removing curb (including reinforcing steel), removing existing rail, and placing new concrete barrier rail on the wingwalls in the unit bid price for Revise Concrete Barrier Rail – BR.

Construct the Revised Concrete Barrier Rail on the existing wing walls per Dwg. Nos. SBR-SS36 and SBR-SS36R except as modified on the sheet.

Verify all dimensions in the field before ordering materials and fabrication.

Drill and grout anchors for the barrier per the standard specifications and special provisions.

Place 4"x2-0 concrete pedestal after epoxy anchors are installed

Concrete Pedestal and Concrete Barrier may be poured concurrently at contractors discretion.

SHEET NO. B16

APPROACH SLAB

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

				J.W.W.	
				T.D.G.	
REVISED	REVISED	REVISED	CHECKED	07-25-22	
			DRAWN	07-25-22	B.R.B.
			DESIGNED	07-25-22	

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MONTANA DEPARTMENT OF TRANSPORTATION MDT BRIDGE BUREAU

UPN NUMBER
9548000

DRAWING NO.
28254

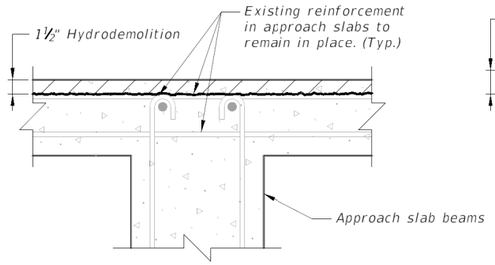
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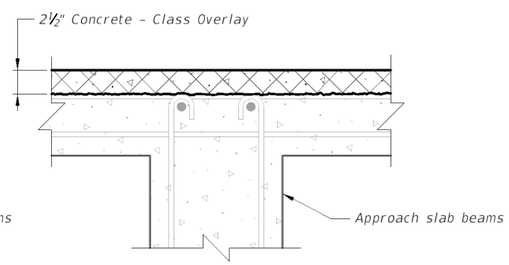
FORSGREN Associates Inc.

NOTES:
Take special care not to damage approach slab beams.

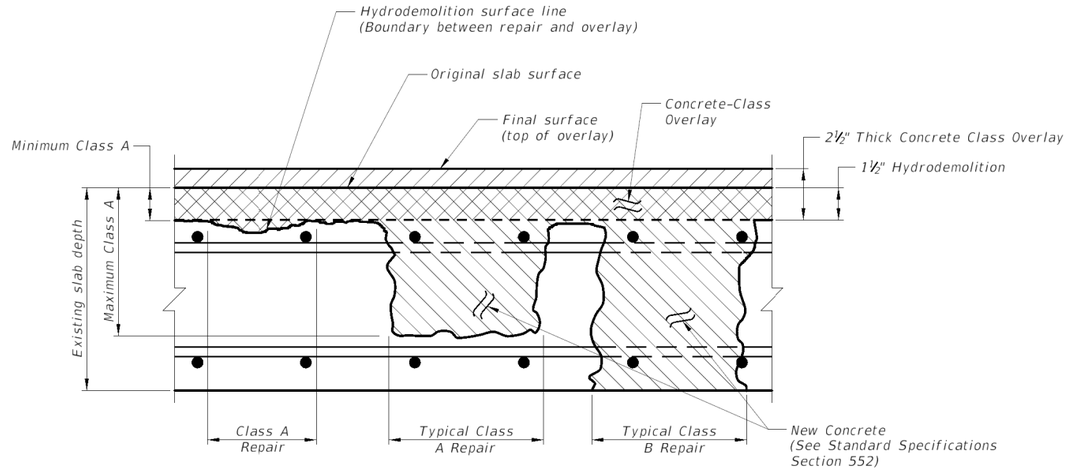
Clean all existing reinforcement prior to placing new concrete.



EXISTING CONCRETE REMOVAL
BENT NO. 1 AND BENT NO. 4 APPROACHES
Scale ~ 1½" = 1'-0"



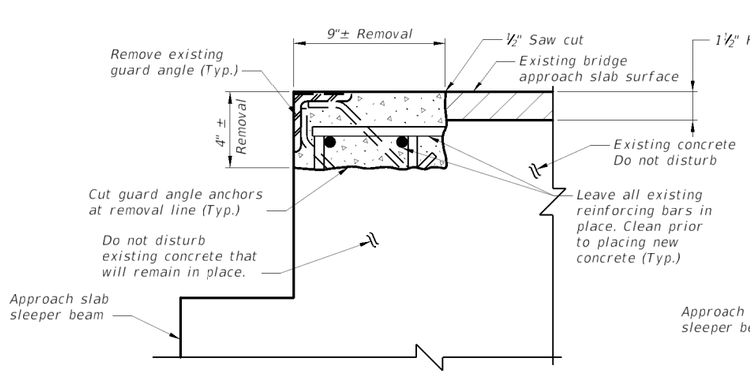
NEW CONCRETE PLACEMENT
BENT NO. 1 AND BENT NO. 4 APPROACHES
Scale ~ 1½" = 1'-0"



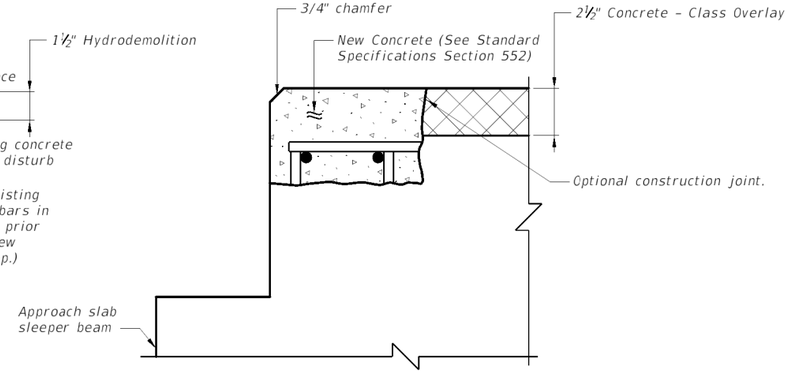
NOTES:
Reinforcing steel may be located above the hydrodemolition limit.

Place repair concrete concurrently with and just ahead of the concrete overlay.

BRIDGE DECK REPAIR AND THIN OVERLAY DEFINITION
Scale ~ 3" = 1'-0"



EXISTING GUARD ANGLE REMOVAL
Approach slab ends on Bent No. 1 and Bent No. 4



NEW APPROACH END DETAIL

NOTES:
Include all costs associated with removing the existing guard angle formwork, placing new reinforcing steel and concrete, and removing and replacing any approach pavement subgrade or asphalt that is required to complete the work in the unit price bid for Remove Guard Angle.

If two transverse reinforcing bars are not present within 3" of the top of the slab, place new #4 transverse bars as necessary so there are two bars within the repair area. Ensure new bars have a minimum 11#2" clear cover.

New approach end may be poured concurrently with the overlay.

GUARD ANGLE REMOVAL DETAIL
Scale ~ 3" = 1'-0"

SHEET NO.
B17

APPROACH SLAB DETAILS

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED						
REVISED						
REVISED						
REVISED						
CHECKED	07-25-22	J.W.W.				
DRAWN	07-25-22	T.D.G.				
DESIGNED	07-25-22	B.R.B.				

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MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

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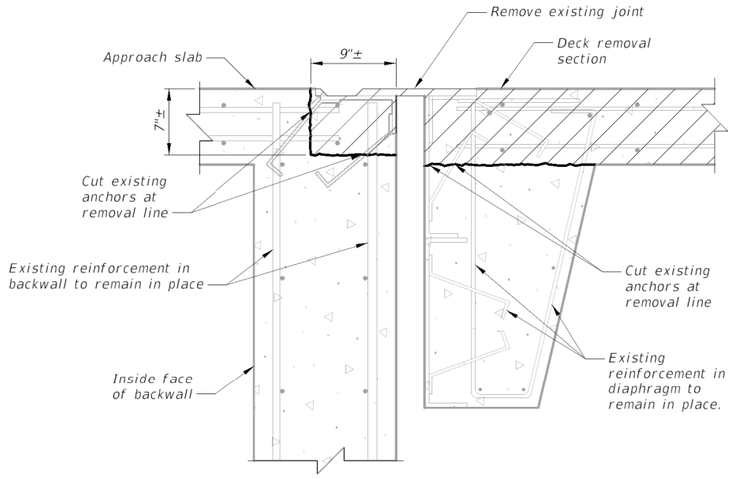
UPN NUMBER
9548000

DRAWING NO.
28255

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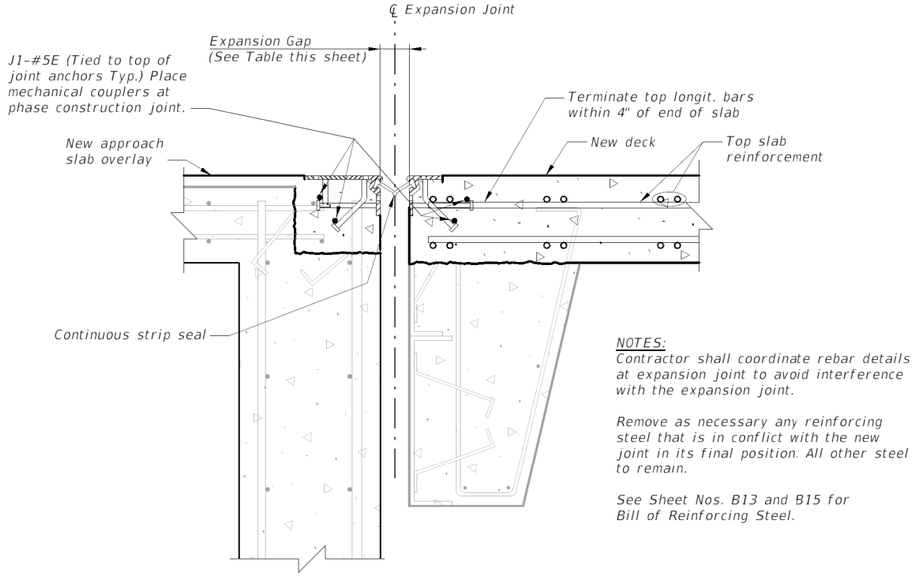
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FORSGREN Associates Inc.



EXISTING EXPANSION JOINT REMOVAL
BENT NO. 1 AND BENT NO. 4

Scale ~ ¾" = 1'-0"



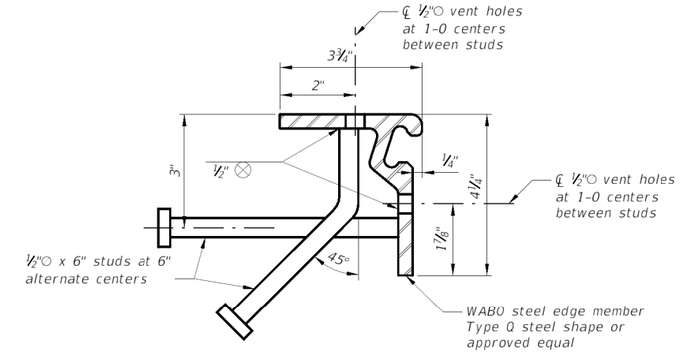
NOTES:
Contractor shall coordinate rebar details at expansion joint to avoid interference with the expansion joint.

Remove as necessary any reinforcing steel that is in conflict with the new joint in its final position. All other steel to remain.

See Sheet Nos. B13 and B15 for Bill of Reinforcing Steel.

NEW EXPANSION JOINT PLACEMENT
BENT NO. 1 AND BENT NO. 4

Scale ~ ¾" = 1'-0"



STEEL EDGE MEMBER AND ANCORAGE SYSTEM

Scale ~ 1½" = 1'-0"

TABLE OF EXPANSION GAPS

LOCATION	EPANSION GAP ORIENTATION	TEMPERATURE (°F)						Adjustment for 1/8" movement (°F)	Total Movement (in)
		-40	0	38	60	90	115		
BENT NO. 1 AND BENT NO. 4	Perpendicular to CL Joint	3.625	3.375	3.125	3	2.750	2.625	19.8°F	1.01

NOTES:

Include all costs associated with removing expansion joint in backwall in the unit price bid for Class B Bridge deck repair.

Clean all existing reinforcing steel to within 1" from the removal line. Include all costs associated with cleaning existing reinforcing steel in the unit price bid for Class A Bridge Deck Repair.

Include all costs associated with furnishing and placing new concrete in backwall in the unit price bid for Concrete - Class Overlay.

Design live load is HL-93 with impact. See special provisions for additional design and submittal requirements. Submit shop drawings that include expansion devices, method of support during installation, and installation procedures.

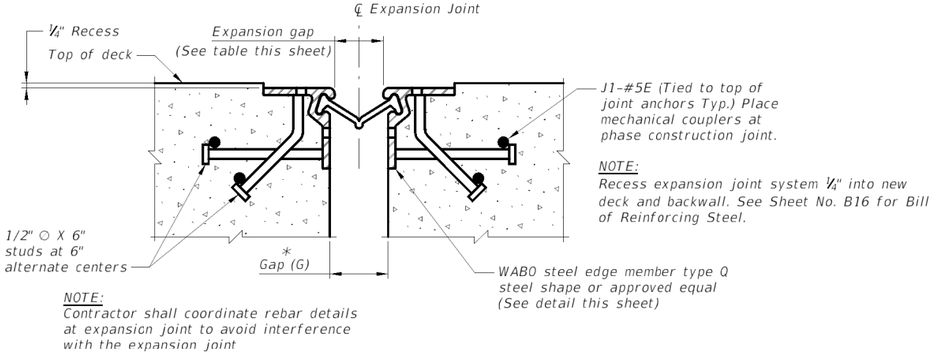
Provide continuous seals across the width of the joint, including turn ups. Do not field splice seals unless approved by the Project Manager.

Set the expansion joint to accomodate the expected movements shown in the Table of Expansion Gaps. Adjust joint opening for structure temperature. The structure temperature is taken as the actual air temperature averaged over the 24 hour period immediately preceding setting. Movements shown include a 1.2 factor per AASHTO. Clearly show joint opening dimensions with corresponding temperatures on shop drawings and installation instructions.

Install expansion joint device such that it conforms to the roadway grades and slope at the joint location and provides a smooth riding surface.

Support the expansion joint assembly accurately and firmly while placing the concrete. Use a support method strong enough to withstand contact with concrete vibrators.

For requirements of expansion joints, see Special Provisions.



NOTE:
Contractor shall coordinate rebar details at expansion joint to avoid interference with the expansion joint

EXPANSION JOINT

SCALE ~ 1½" = 1'-0"

SHEET NO. B18

EXPANSION JOINT DETAILS

SCALE: As Shown

PROJECT NAME
MT-200 BRIDGE PRES MP 17

MDT STRUCTURE ID
05270

FEDERAL AID PROJECT
STPB 6-1(168)16

COUNTY
SANDERS

REVISED					J.W.W.	
REVISED					T.D.G.	
REVISED				07-25-22	B.R.B.	
REVISED				07-25-22		
CHECKED				07-25-22		
DRAWN						
DESIGNED						

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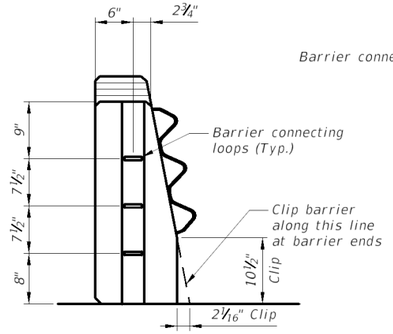
MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

UPN NUMBER
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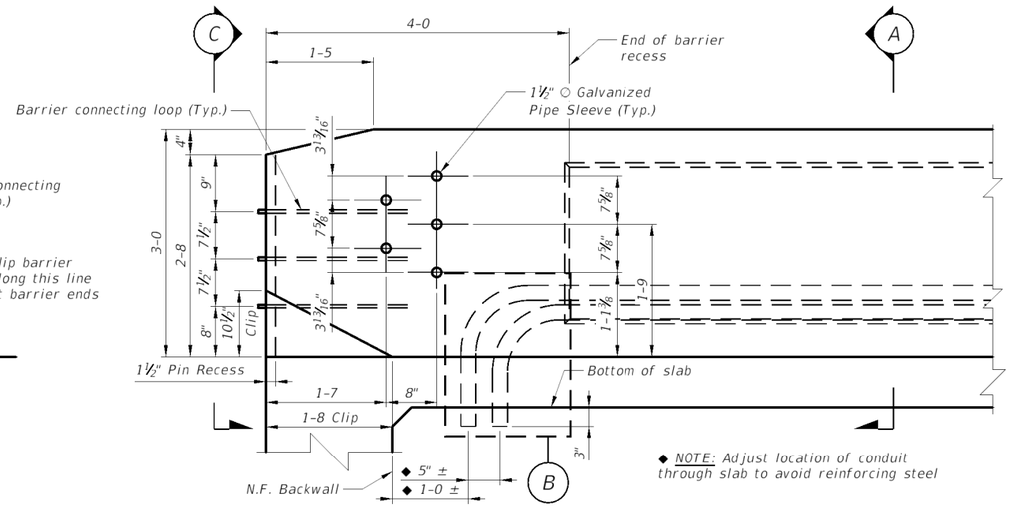
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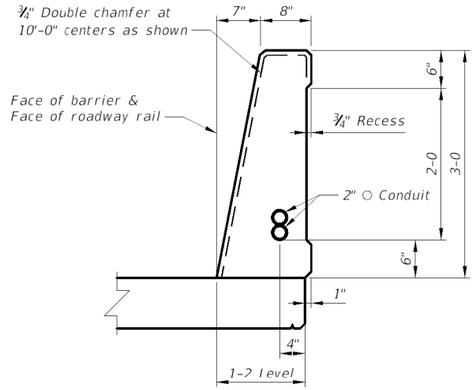
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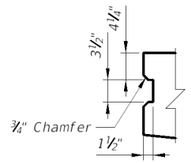
VIEW C



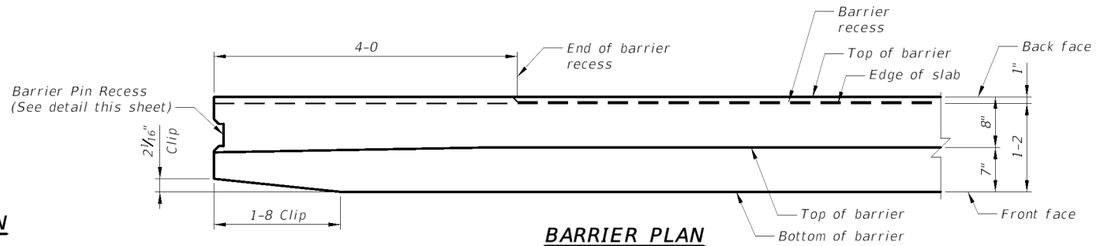
BARRIER INSIDE ELEVATION



SECTION A



BARRIER PIN RECESS PLAN



BARRIER PLAN

NOTES

PLACEMENT: Do not disturb the deck cure to construct the concrete barrier.

CONCRETE STRENGTH: Do not place construction vehicles or equipment on the deck until the concrete has reached 90% of its specified 28-Day compressive strength or without approval from the Project Manager.

Do not open bridge to traffic for at least 14 days after placement of concrete barrier or until concrete in barrier has reached 90% of its specified 28-Day compressive strength.

CONTROL JOINT: Do not place ¾" double chamfer in the barrier recess or the bottom outside edge of the barrier.

REFLECTOR: Place a white reflector on the top of barrier rail at 30-foot spacing between the barrier ends. See Dtl. Dwg. No. 605-00 for reflector detail.

TOLERANCES: Construct the concrete bridge rail to the same tolerances specified for concrete barrier rail, see Section 564 of the Standard Specifications.

REINFORCING STEEL: See Std. Dwg. No. SBR-SS36R for reinforcing steel locations.

GALVANIZING: Galvanize pipe sleeves in accordance with AASHTO M 111.

RADIUS: A ¾" radius may be substituted for the ¾" chamfers and fillets shown.

PAYMENT: Include all costs associated with the barrier as shown on this sheet in the unit price bid for 36 IN SS Concrete Barrier Rail-Br. See Std. Dwg. No. SBR-SS36R for reinforcing steel payment.

EXCEPTIONS: Use details shown on this drawing only as they apply to the project. Refer to other drawings for variations in these details.

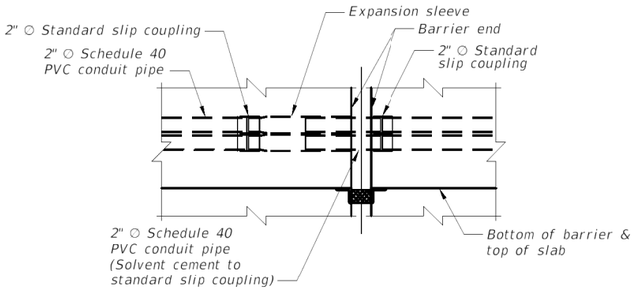
CONDUIT: Omit conduit in any barrier not located at the edge of slab.

RAIL WEIGHT: For informational purposes only and based on Section A dimensions.
Rail weight = 411 lb/ft
Rail Volume = 2.74 ft3/ft

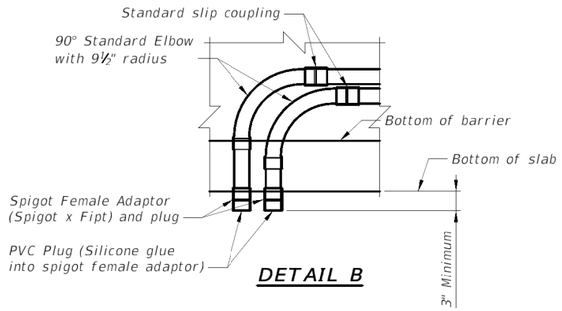
CRASH TEST: This rail has been evaluated and approved to be of equal strength to railings with like geometry, which have been crash tested to meet MASH TL-4 criteria.

RAIL DESIGN CAPACITY

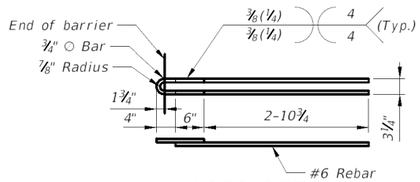
	Interior Region	End Region
Rw	100 kips	67 kips
Lc	16'-9"	5'-9"
Mc	106 kip*in/ft	209 kip*in/ft



CONDUIT EXPANSION JOINT DETAIL



DETAIL B

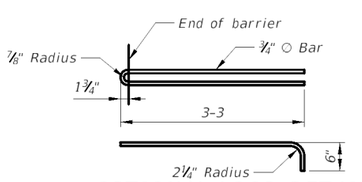


LOOP DETAIL

NOTE: Use reinforcing steel conforming to ASTM A 706, Grade 60 for rebar being welded to loops.

NOTE: Loop ends and the optional loop detail consist of smooth round bars conforming to AASHTO M 270, Grade 36.

NOTE: Cold bend the loops by using a jig that will produce an accurate radius without marring the bar. Do not heat the bar to facilitate bending.



OPTIONAL LOOP DETAIL

NOTE: Weld rebar to loops using ⅛" ○ E8018 rod. Do not tack weld the pieces together prior to welding. Use a certified welder in accordance with the current edition of AWS D1.4. Do not place the welded assembly in the form until it has been inspected.

NOTE: No additional welding is permitted on the smooth round bars or reinforcing steel.

STANDARD BRIDGE RAIL
TYPE SINGLE SLOPE 36"

No Scale

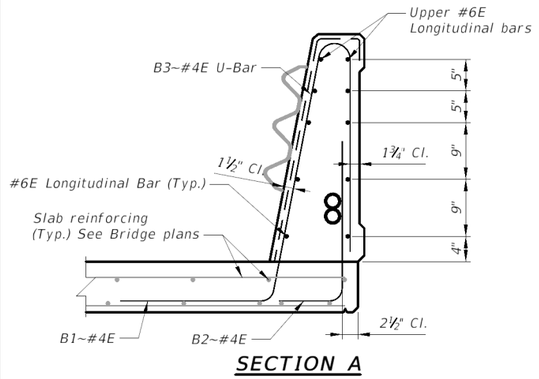
MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

REVISED	
REVISED	
REVISED	
APPROVED	J.S.O. 9-27-18
CHECKED	T.W.S. 6-28-18
DRAWN	T.J.B. 5-8-18
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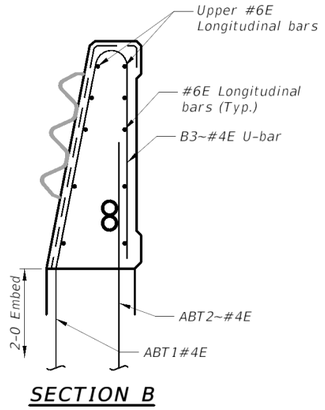
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SBR-SS36

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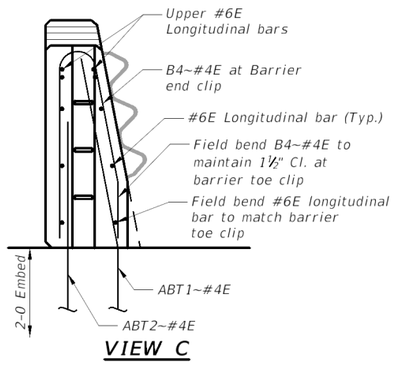
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SECTION A



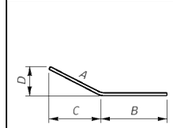
SECTION B



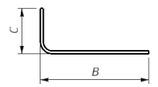
VIEW C

BILL OF REINFORCING STEEL

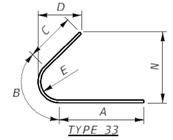
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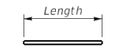
TYPE 28



TYPE 37



TYPE 33



TYPE STR

NOTE: See Bridge Plans for number of bars required and longitudinal bars.

Mark	Size	Type	Length	A	B	C	D	E	G	N
B1	#4E	28	5-0	3-0	2-0	6¾"	2-11¼			
B2	#4E	37	2-11¼		10"	2-1¼				
B3	#4E	33	5-9¼	2-6½	7½"	2-7½	2-9	2"		11"
B4	#4E	33	5-5¾	2-4¼	8¼"	2-5¼	2-7	2¼"		11¼"
ABT1	#4E	28	4-6½	2-6½	2-0	2-6	5¾"			
ABT2	#4E	STR	3-8							

NOTES

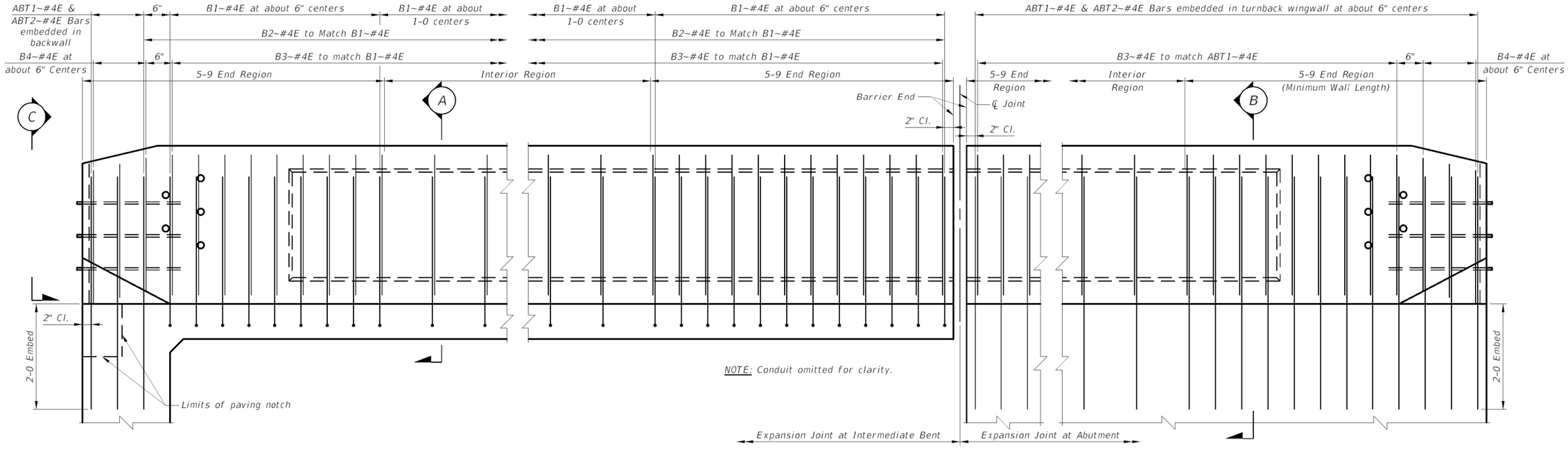
REINFORCING STEEL: All barrier reinforcing steel is epoxy coated.

DETAILS: See Std. Dwg. No SBR-SS36 for barrier details not shown on this drawing.

PAYMENT: Include all costs associated with furnishing and placing reinforcing steel in the barrier in the unit price bid for Reinforcing Steel – Epoxy Coated.

EXCEPTIONS: Use details shown on this drawing only as they apply to the project. Anchorage details may vary. Refer to other drawings for variations in these details.

UPPER LONGITUDINAL BARS: Adjust the lap length by approximately 10½" at the tapered ends of the barrier.



SEMI-INTEGRAL ABUTMENT

ABUTMENT OR INTERMEDIATE BENT
WITH EXPANSION JOINT

TURNBACK WINGWALL

BARRIER INSIDE ELEVATION

STANDARD BRIDGE RAIL TYPE SINGLE SLOPE 36" REINFORCING

No Scale

MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

REVISED		
REVISED		
REVISED		
APPROVED	9-27-18	J.S.O.
CHECKED	6-28-18	T.W.S.
DRAWN	5-8-18	T.J.B.
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DRAWING NO.
SBR-SS36R

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STRUCTURE COVERED: HWY. OVERPASS N.P.RWY AT R.R. STA. 631+40
PIERS NO. 1 & NO. 2

ORDER NO. 4185.22

DWG. NO. C-143087

SUP. NO.

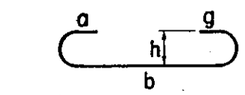
BENDING DIMENSIONS ARE OUT TO OUT — DIMENSIONS OMITTED ARE ZERO

MARK	QTY.	SIZE	LENGTH	TYPE	a	b	c	d	e	f	g	h	k	m	REMARKS
B1	264	#8	11'-0"	II		8'-0"	3'-0"								
B2	78	#10	14'-8"	STR.											
B3	72	#8	11'-8"	STR.											
B4	56	#6	27'-0"	STR.											
B5	48	#5	27'-0"	STR.											
B6	176	#5	6'-9"	STR.											
B7	88	#5	5'-6"	II		0'-11"	3'-8"	0'-11"							
B8	16	#10	8'-0"	STR.											
B9	40	#11	25'-0"	STR.											
B10	24	#11	17'-10"	II		3'-0"	14'-10								
B11	148	#5	10'-10"	TV	3"	2'-2"	3'-0"	2'-2"	3'-0"		3"				
B12	8	#5	13'-4"	TV	3"	2'-2"	4'-3"	2'-2"	4'-3"		3"				
B13	12	#11	27'-6"	STR.											
B14	12	#11	14'-0"	STR.											
B15	312	#4	5'-10"	TII		2'-2"	1'-6½"	2'-1½"							
B16	366	#4	3'-2"	TII		0'-6"	2'-2"	0'-6"							
B17	282	#4	5'-6"	TII		2'-0"	1'-6½"	1'-11½"							
B18	84	#11	27'-6"	IV				22'-0"	5'-6"				0'-2¾"		
B19	36	#11	27'-6"	STR.											
B20	24	#11	23'-0"	STR.											
B21	24	#11	14'-6"	STR.											
B22	88	#4	2'-5"	II		0'-9"	0'-11"	0'-9"							
B23	24	#11	10'-0"	STR.											
B24	16	#8	30'-0"	STR.											
B25	12	#8	15'-0"	STR.											
B26	24	#11	10'-9"	II		3'-0"	7'-9"								

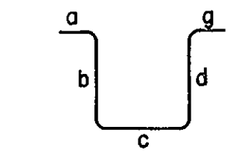
TYPES

BENDING DIMENSIONS ARE OUT TO OUT

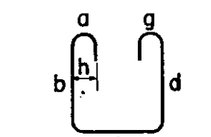
S – PREFIX FOR STIRRUPS
T – PREFIX FOR TIES



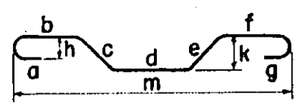
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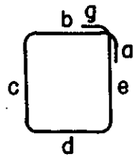
II



III



IV



V

WEIGHTS

REINFORCING BARS — LB.

¼" φ (PLAIN ONLY) ..... _____
⅜" φ #3 ..... _____
½" φ #4 ..... _____
⅝" φ #5 ..... _____
¾" φ #6 ..... _____
⅞" φ #7 ..... _____
1" φ #8 ..... _____
1" □ #9 ..... _____
1⅛" □ #10 ..... _____
1¼" □ #11 ..... _____

TOTAL ..... _____

NOTES

BENDS FOR STIRRUPS AND TIES SHALL BE MADE AROUND A PIN HAVING A DIAMETER NOT LESS THAN TWO TIMES THE MINIMUM THICKNESS OF THE BAR. BENDS FOR OTHER BARS SHALL BE MADE AROUND A PIN HAVING A DIAMETER NOT LESS THAN SIX TIMES THE MINIMUM THICKNESS OF THE BAR, EXCEPT FOR BARS #8 AND LARGER, THE PIN SHALL BE NOT LESS THAN EIGHT TIMES THE MINIMUM THICKNESS OF THE BAR. ALL BARS SHALL BE BENT COLD. REINFORCING BARS SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR BILLET STEEL, CONCRETE REINFORCING BARS INTERMEDIATE GRADE, OPEN HEARTH STEEL (SERIAL DESIGNATION A15) OF THE A.S.T.M. ALL BARS SHALL BE DEFORMED. NO REROLLED MATERIAL WILL BE ACCEPTED.

REV. NO. DATE

EBASCO SERVICES INCORPORATED
NEW YORK

DIV C-H DR. G.C.
SCALE CH. MBF
DATE AUG. 7, 1956

APPROVED
ELS

THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959 - 400,000KW INITIAL CAPABILITY
HIGHWAY BRIDGES
BAR BENDING SCHEDULE

B-143083-1
4840A
SHEET 1 OF 1

FORM 407

DocuSign Envelope ID: 3FA987B0-F1F0-464C-9F99-B550D1382F0C

STRUCTURE COVERED: HWY OVERPASS N.P.RWY. AT R.R.STA. 1631+40
EAST & WEST ABUTMENTS

ORDER NO. 4185.22

DWG. NO. C-143086

SUP. NO.

BENDING DIMENSIONS ARE OUT TO OUT — DIMENSIONS OMITTED ARE ZERO

MARK	QTY.	SIZE	LENGTH	TYPE	a	b	c	d	e	f	g	h	k	m	REMARKS
B31	12	#6	58'-0"	STR.											
B32	10	#6	37'-0"	STR.											
B33	6	#6	45'-0"	STR.											
B34	4	#8	39'-6"	STR.											
B35	2	#6	41'-3"	STR.											
B36	2	#6	43'-0"	STR.											
B37	78	#6	VARIES	STR.	MIN. L = 6'-3", 38 INC. @ 1/2" = 1'-7", MAX. L = 7'-10". (2 SETS)										
B38	66	#6	VARIES	STR.	MIN. L = 4'-8", 32 INC. @ 3/4" = 2'-0", MAX. L = 6'-8". (2 SETS)										
B39	54	#6	VARIES	STR.	MIN. L = 4'-7", 26 INC. @ 3/4" = 1'-7 1/2", MAX. L = 6'-2 1/2" (2 SETS)										
B40	10	#6	11'-0"	STR.											
B41	2	#6	6'-10"	VI		2'-0"	2'-10"	2'-0"					1'-9"		
B42	2	#6	4'-0"	VI			2'-0	2'-0"					1'-0"		
B43	4	#6	7'-0"	STR.											
B44	4	#6	8'-0"	STR.											
B45	112	#6	8'-5"	II	0'-6"	7'-11"									
B46	400	#6	3'-9"	II	0'-6"	3'-3"									
B47	112	#6	4'-0"	II	1'-0"	3'-0"									
B48	38	#6	11'-9"	STR.											
B49	220	#6	12'-4"	STR.											
B50	112	#6	11'-8"	STR.											
B51	30	#6	60'-0"	STR.											
B52	24	#6	51'-0"	STR.											
B53	112	#8	9'-6"	II	2'-0"	7'-6"									
B54	24	#6	34'-0"	STR.											
B55	24	#6	27'-0"	STR.											
B56	146	#4	6'-10"	VI	1'-0"	2'-7"	1'-3"	2'-0"					1'-5		
B57	28	#6	39'-9"	STR.											
B58	2	#6	39'-0"	STR.											
B59	28	#6	32'-4"	STR.											
B60	2	#6	31'-6"	STR.											
B61	14	#6	10'-3"	VI		6'-0"	2'-3"	2'-0"					1'-9"		
B62	20	#6	14'-3"	II		6'-0"	2'-3"	6'-0"							
B63	10	#8	9'-0"	VI		1'-0"	7'-0"	1'-0"					0'-10"		
B64	24	#8	14'-0"	STR.											

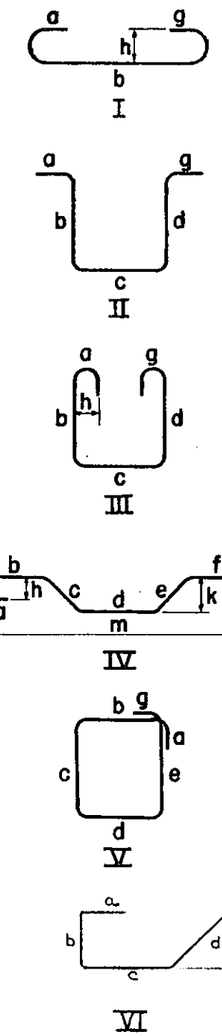
ABBREVIATION INC. = INCREMENTS

TYPES

BENDING DIMENSIONS ARE OUT TO OUT

S – PREFIX FOR STIRRUPS

T – PREFIX FOR TIES



WEIGHTS

REINFORCING BARS — LB.

1/4" φ (PLAIN ONLY).. _____
3/8" φ #3 ..... _____
1/2" φ #4 ..... _____
5/8" φ #5 ..... _____
3/4" φ #6 ..... _____
7/8" φ #7 ..... _____
1" φ #8 ..... _____
1" □ #9 ..... _____
1 1/8" □ #10 ..... _____
1 1/4" □ #11 ..... _____

TOTAL ..... _____

NOTES

BENDS FOR STIRRUPS AND TIES SHALL BE MADE AROUND A PIN HAVING A DIAMETER NOT LESS THAN TWO TIMES THE MINIMUM THICKNESS OF THE BAR. BENDS FOR OTHER BARS SHALL BE MADE AROUND A PIN HAVING A DIAMETER NOT LESS THAN SIX TIMES THE MINIMUM THICKNESS OF THE BAR, EXCEPT FOR BARS #8 AND LARGER, THE PIN SHALL BE NOT LESS THAN EIGHT TIMES THE MINIMUM THICKNESS OF THE BAR. ALL BARS SHALL BE BENT COLD. REINFORCING BARS SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR BILLET STEEL, CONCRETE REINFORCING BARS, INTERMEDIATE GRADE, OPEN HEARTH STEEL (SERIAL DESIGNATION A15) OF THE A.S.T.M. ALL BARS SHALL BE DEFORMED. NO REROLLED MATERIAL WILL BE ACCEPTED.

REV. NO. DATE

EBASCO SERVICES INCORPORATED NEW YORK	THE WASHINGTON WATER POWER COMPANY NOXON RAPIDS H.E.D. 1959-400,000 KW INITIAL CAPABILITY HIGHWAY BRIDGES BAR BENDING SCHEDULE	B-143083-2 4839A SHEET 1 OF 2
DIV C-H DR. STC SCALE CH. MBF DATE AUG. 7, 1956 APPROVED G.R. Johnson ELS		

FORM 407

DocuSign Envelope ID: 3FA987B0-F1F0-464C-9F99-B550D1382F0C

Y. OVERPASS N.P.RWY. AT RR STA. 1631+40 EAST & WEST ABUTMENTS

DWG. NO. C-143086

ORDER NO. 4185.22

SUP. NO.

BENDING DIMENSIONS ARE OUT TO OUT — DIMENSIONS OMITTED ARE ZERO

MARK	QTY.	SIZE	LENGTH	TYPE	a	b	c	d	e	f	g	h	k	m	REMARKS
B65	14	#4	VARIES	STR	MIN.	L=3'-6"	6"	6	INC@	5"=2'-6"	MAX. L=	6'-0"	(2 SETS)		
B66	28	#4	"	"	MIN.	L=6'-6"	6"	6	INC@	6"=3'-0"	MAX. L=	9'-6"	(4 SETS)		
B67	28	#4	"	"	MIN.	L=10'-6"	6"	6	INC@	6"=3'-0"	MAX. L=	13'-6"	(4 SETS)		
B68	28	#4	"	"	MIN.	L=14'-6"	6"	6	INC@	6"=3'-0"	MAX. L=	17'-6"	(4 SETS)		
B69	28	#4	"	"	MIN.	L=16'-9"	6	INC@	5"=2'-6"	MAX. L=	19'-3"	(4 SETS)			
B70	28	#4	"	"	MIN.	L=12'-9"	6	INC@	6"=3'-0"	MAX. L=	15'-9"	(4 SETS)			
B71	28	#4	"	"	MIN.	L=9'-0"	6	INC@	6"=3'-0"	MAX. L=	12'-0"	(4 SETS)			
B72	40	#4	"	"	MIN.	L=3'-6"	9	INC@	6"=4'-6"	MAX. L=	8'-0"	(4 SETS)			
B73	128	#4	"	"	MIN.	L=8'	4"	31	INC@	1'-8"=5'	8"	MAX. L=	60'-0"	(4 SETS)		
B74	76	#4	10'-9"	TV		3'-3"	2'-8"	1'-8"	2'-8"		0'-6"				
B75	64	#4	5'-2"	SIII	5"	1'-9"	0'-10"	1'-9"			5"	3½"			
B76	12	#8	12'-9"	II		1'-0"	10'-9"	1'-0"							
B77	12	#8	16'-6"	II		1'-0"	14'-6"	1'-0"							
B78	16	#8	21'-3"	II		1'-0"	19'-3"	1'-0"							
B79	16	#8	18'-0"	II		1'-0"	16'-0"	1'-0"							
B80	12	#8	14'-0"	II		1'-0"	12'-0"	1'-0"							
B81	12	#8	10'-3"	II		1'-0	8'-3	1'-0"							
B82	66	#4	3'-1"	VI		1'-4	0'-6"	1'-3"					7½		
B83	16	#9	38'-6"	STR											
B84	4	#9	44'-2"	VII	2'-0"	7'-6"	2'-11"	19-4"	2'-11"	7'-6"	2'-0"		2'-1"	38'-6	
B85	4	#9	44'-2"	VIII	2'-0"	10'-6"	2'-11"	13'-4"	2'-11"	10'-6"	2'-0"		2'-1"	38'-6	
B86	16	#9	43'-0"	II		2'-3	38'-6	2'-3"							
B87	24	#4	3'-8"	STR											
B88	8	#4	2'-0"	STR											
B89	16	#4	3'-6"	STR											
B90	8	#4	5'-2"	VII		1'-10	2'-9"	0'-7"						1'-9"	
B91	58	#8	12'-4"	STR											
B92	4	#4	8'-1"	II		2'-0	2'-6"	3'-7"							
B93	14	#8	11'-0"	II		1'-0"	9'-0	1'-0"							
B94	14	#6	10'-0"	II		5'-0"	5'-0"								
B95	4	#8	37'-0"	STR											
B96	4	#8	58'-0"	STR											
B97	6	#6	38'-6"	STR											
B98	66	#4	5'-10"	SIII	5"	2'-1"	0'-10"	2'-1"			5"	3½"			
B99	66	#4	VARIES	STR.	MIN. L = 4'-8", 32 INC. @ ¾" = 2'-0", MAX. L = 6'-8" (2 SETS)										
B100	54	#4	VARIES	STR.	MIN. L = 4'-7" 26 INC. @ ¾" = 1'-7½". MAX. L = 6'-2½" (2 SETS)										

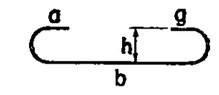
ABBREVIATION INC. = INCREMENTS

TYPES

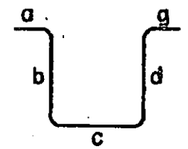
BENDING DIMENSIONS ARE OUT TO OUT

S – PREFIX FOR STIRRUPS

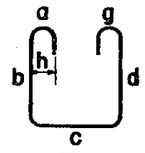
T – PREFIX FOR TIES



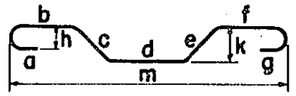
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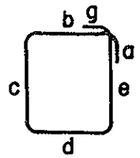
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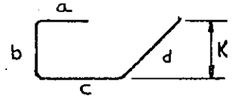
III



IV



V



VI

WEIGHTS

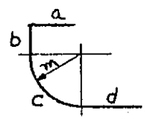
REINFORCING BARS — LB.

¼" φ (PLAIN ONLY) ..... _____
⅜" φ #3 ..... _____
½" φ #4 ..... _____
⅝" φ #5 ..... _____
¾" φ #6 ..... _____
⅞" φ #7 ..... _____
1" φ #8 ..... _____
1" □ #9 ..... _____
1⅛" □ #10 ..... _____
1¼" □ #11 ..... _____

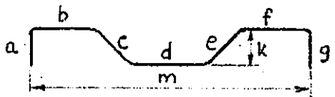
TOTAL ..... _____

NOTES

BENDS FOR STIRRUPS AND TIES SHALL BE MADE AROUND A PIN HAVING A DIAMETER NOT LESS THAN TWO TIMES THE MINIMUM THICKNESS OF THE BAR. BENDS FOR OTHER BARS SHALL BE MADE AROUND A PIN HAVING A DIAMETER NOT LESS THAN SIX TIMES THE MINIMUM THICKNESS OF THE BAR, EXCEPT FOR BARS #8 AND LARGER, THE PIN SHALL BE NOT LESS THAN EIGHT TIMES THE MINIMUM THICKNESS OF THE BAR. ALL BARS SHALL BE BENT COLD. REINFORCING BARS SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR BILLET STEEL, CONCRETE REINFORCING BARS, INTERMEDIATE GRADE, OPEN HEARTH STEEL (SERIAL DESIGNATION A15) OF THE A.S.T.M. ALL BARS SHALL BE DEFORMED. NO REROLLED MATERIAL WILL BE ACCEPTED.



VII



VIII

REV. NO. 1 DATE 1-14-57

EBASCO SERVICES INCORPORATED NEW YORK DIV C-H DR. S.T.C. SCALE CH. MBF DATE AUG. 7, 1956	APPROVED REVELS	THE WASHINGTON WATER POWER COMPANY NOXON RAPIDS H.E.D. 1959 - 400,000 K.W. INITIAL CAPABILITY HIGHWAY BRIDGES BAR BENDING SCHEDULE	B-143083-2 4839B SHEET 2 OF 2

FORM 407

DocuSign Envelope ID: 3FA987B0-F1F0-464C-9F99-B550D1382F0C

STRUCTURE COVERED HIGHWAY OVERPASS N.P. RWY. AT STA. 1631+40
DECK SLAB

DWG. NO. C-143092

ORDER NO. 4185.22

SUP. NO.

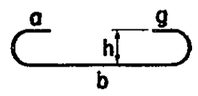
BENDING DIMENSIONS ARE OUT TO OUT — DIMENSIONS OMITTED ARE ZERO

MARK	QTY.	SIZE	LENGTH	TYPE	a	b	c	d	e	f	g	h	k	m	REMARKS
B111	4	#6	32'-3"	IV				30'-9"	1'-6"				1'-3½"		
B112	315	#4	40'-0"	STR.											
B113	124	#4	4'-1"	II		0'-6"	1'-1"	2'-6"							
B114	128	#5	VARIES	STR.	MIN. L = 2'-0", 63 INC. @ 5" = 26'-3", MAX. L = 28'-3" (2 SETS)										
B115	24	#4	12'-0"	STR.											
B116	4	#5	3'-3"	STR.											
B117	44	#3	7'-2"	X		1'-6"	2'-0"	0'-11"	2'-3"	0'-6"			1'-1"		
B118	159	#5	29'-4"	STR.											
B119	158	#5	30'-4"	VI		3'-6½"	3'-6"	2'-9"					0'-4¾"	29'-4"	
B120	62	#5	7'-10"	IX		0'-8"	1'-5"	1'-2"	1'-0"				0'-1½"		
B121	48	#6	1'-0"	STR.											WELD TO GIRDER
B122	500	#4	4'-0"	IX			1'-5"	1'-2"	1'-5"				0'-1½"		
B123	159	#5	31'-0"	II		0'-10"	29'-4"	0'-10"							
B124	4	#6	32'-3"	IV				30'-9"	1'-6"				0'-9"		
B125	16	#4	5'-10"	VII	3½"	1'-6"	1'-1"	1'-7"	1'-1½"		3"				
B126	8	#4	5'-3"	VIII		1'-6"	2'-1½"	1'-7½"					0'-8"		WELD TO GIRDER
B127	128	#5	VARIES	II		0'-10"	VARIES		MIN. C = 2'-0" MIN. L = 7'-10"		63 INC. @ 5" MAX. L = 79'-1"		MAX C = 28'-3" (2 SETS)		

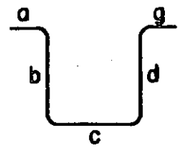
TYPES

BENDING DIMENSIONS ARE OUT TO OUT

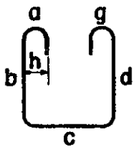
S – PREFIX FOR STIRRUPS
T – PREFIX FOR TIES



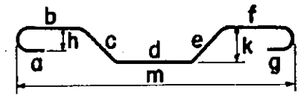
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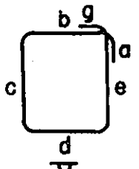
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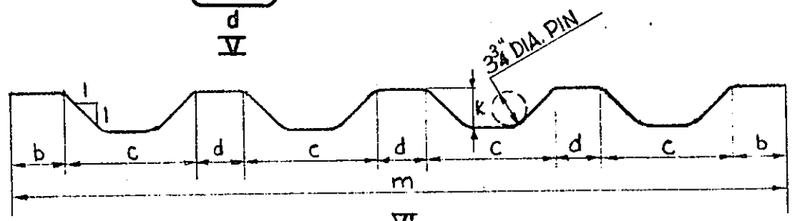
III



IV



V



VI

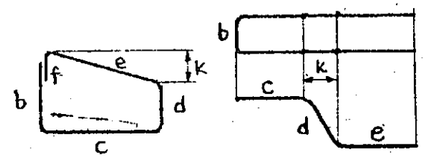
WEIGHTS

REINFORCING BARS — LB.

¼" ϕ (PLAIN ONLY)	
⅜" ϕ #3	
½" ϕ #4	
⅝" ϕ #5	
¾" ϕ #6	
⅞" ϕ #7	
1" ϕ #8	
1" □ #9	
1⅛" □ #10	
1¼" □ #11	
TOTAL	

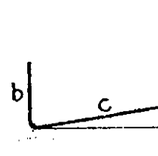
NOTES

BENDS FOR STIRRUPS AND TIES SHALL BE MADE AROUND A PIN HAVING A DIAMETER NOT LESS THAN TWO TIMES THE MINIMUM THICKNESS OF THE BAR. BENDS FOR OTHER BARS SHALL BE MADE AROUND A PIN HAVING A DIAMETER NOT LESS THAN SIX TIMES THE MINIMUM THICKNESS OF THE BAR, EXCEPT FOR BARS #8 AND LARGER, THE PIN SHALL BE NOT LESS THAN EIGHT TIMES THE MINIMUM THICKNESS OF THE BAR. ALL BARS SHALL BE BENT COLD. REINFORCING BARS SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR BILLET STEEL, CONCRETE REINFORCING BARS, INTERMEDIATE GRADE, OPEN HEARTH STEEL (SERIAL DESIGNATION A15) OF THE A.S.T.M. ALL BARS SHALL BE DEFORMED. NO REROLLED MATERIAL WILL BE ACCEPTED.

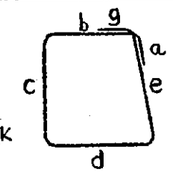


X

IX



VIII



VII

REV. NO. DATE

EBASCO SERVICES INCORPORATED
NEW YORK

DIV C-H DR. G.C.
SCALE CH. MBF
DATE AUG. 7, 1956
APPROVED
ELS & T

THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H. E. D.
1959 - 400,000 K.W. INITIAL CAPABILITY
HIGHWAY BRIDGES
BAR BENDING SCHEDULE

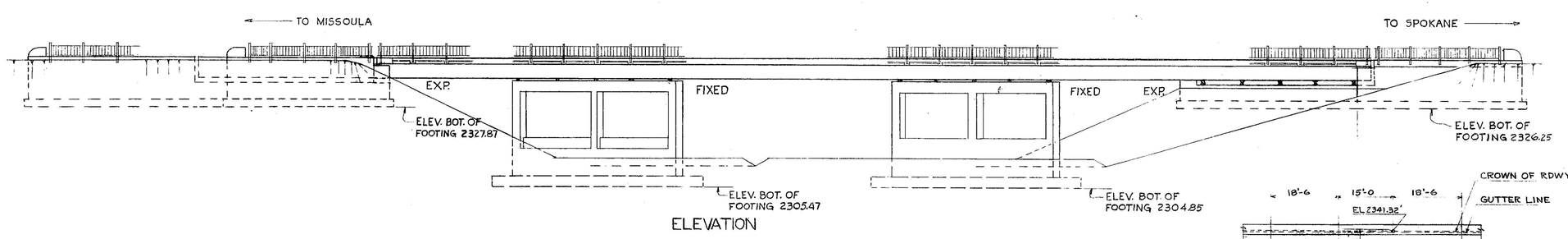
B-143083-3
4845A
SHEET 1 OF 1

FORM 407

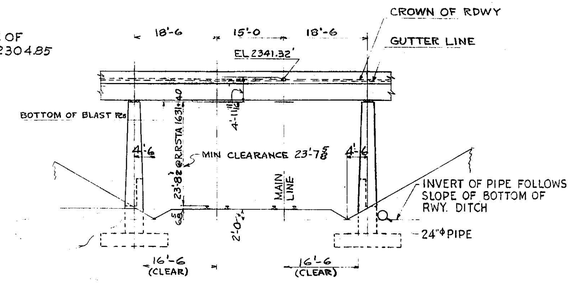
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C-143084

STATE	PROJECT NO.	SHEET NO.
MONTANA	STPP 6-1(70)15	B3



ELEVATION



SECTION A-A

AWARD COPY

PLAN OF ROADWAY

PLAN OF SUBSTRUCTURE

DESIGN SPECIFICATIONS

BRIDGE IS DESIGNED IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS SPECIFICATIONS FOR DESIGN OF BRIDGES 1953 EDITION WITH SUPPLEMENTAL PROVISIONS AS PROPOSED BY AASHO BRIDGE DESIGN COMMITTEE.
DESIGN LIVE LOAD H20 - S16 - 44.
CONCRETE MATERIALS & PLACING SHALL BE IN CONFORMANCE WITH LATEST MONTANA STATE HIGHWAY SPECIFICATIONS.

EXCAVATION OF CLAY MATERIALS IN VICINITY OF BRIDGE SHALL CONFORM TO THE OUTLINES SHOWN ON DWG. C.143093 OVERPASS & ROAD RELOCATION R.R. STA. 1631+40 PLANS & PROFILE.
NEW FILL SHALL BE OF SELECTED MATERIAL ROLLED TO 95% COMPACTION. FILL PLACEMENT SHALL BE INSPECTED BY A REPRESENTATIVE OF THE U.S. BUREAU OF PUBLIC ROADS AND NO FOOTINGS ARE TO BE PLACED UNTIL HE HAS GIVEN HIS APPROVAL IN WRITING.

*THIS CONTRACT: STPP 6-1(70)15 Removed and replaced existing rail with concrete barrier shape. Curb tapers added. See Dwgs. No. 16233.A and 16234. Curb inlets removed.

LIST OF DRAWINGS

BAR BENDING SCHEDULE	B-143083
EAST & WEST ABUTMENTS-MAS.	C-143085
EAST & WEST ABUTMENTS-REINF.	C-143086
PIERS 1 & 2 - MAS. & REINF.	C-143087
GIRDERS & DETAILS	C-143088
BLAST PLATES & SHOES	C-143089
EXPANSION DAMS & DIAPHRAGMS	C-143091
RAILING & DECK SLAB-MAS. & REINF.	C-143092
PLAN & PROFILE	C-143093
CURB INLETS	B-143116

U.S. BUR. OF PUB. RDS - DIV. ENGR.
MONTANA HWY DEP'T.
WASHINGTON WATER POWER CO.

NO.	DATE	REVISION	BY	CH.	APPROVED
3	11-28-95	Revised	KLS	LMS	
2	1-8-58	Revised as built	MG	MBF	
1	5-14-57	Added curb inlets & ref. dwg.	MBF	G.C.	

CLARK FORK FOREST HIGHWAY NO. 6

THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400,000 KW INITIAL CAPABILITY-HIGHWAY BRIDGES
HIGHWAY OVERPASS N.P. RWY. AT R.R. STA. 1631+40
GENERAL ARRANGEMENT

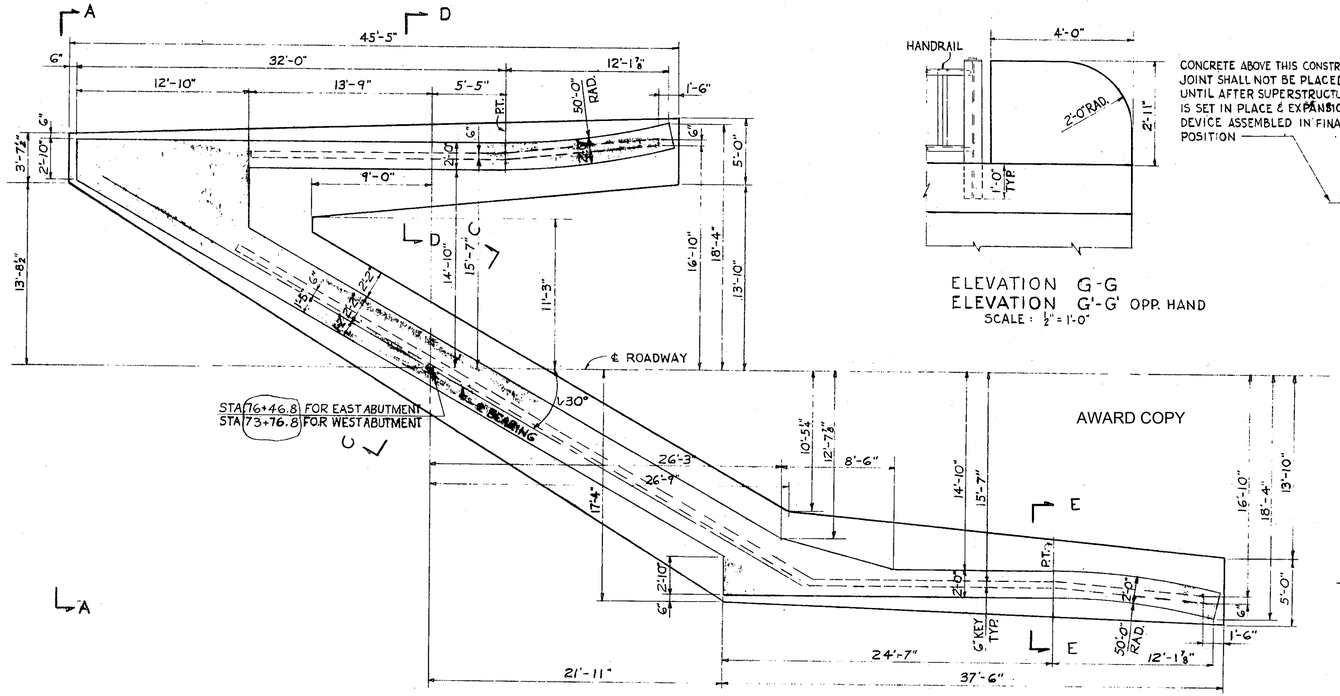
EBASCO SERVICES INCORPORATED NEW YORK

SCALE 1" = 1'-0
DIV. ARCH-STRUC
WORKER DR. CIBELLI
CH. FAIRTILE
APPROVED
DATE AUG. 7, 1956
4837
C-143084

LOUIS FREY CO., INC. 14472

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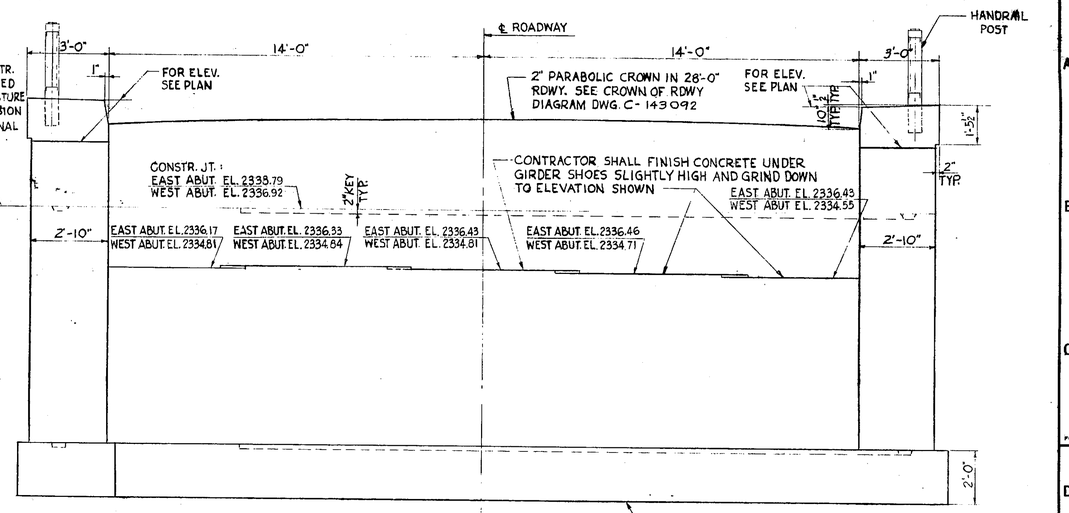
C-143085



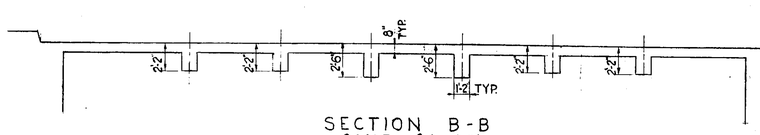
PLAN AT ELEV. 2333.0
FOR ORIENTATION SEE DWG. C-143084
SCALE: 3/16" = 1'-0"

ELEVATION G-G
ELEVATION G'-G' OPP. HAND
SCALE: ½" = 1'-0"

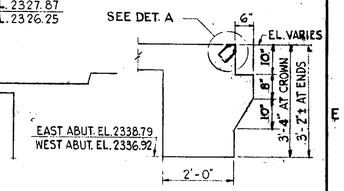
CONCRETE ABOVE THIS CONSTR. JOINT SHALL NOT BE PLACED UNTIL AFTER SUPERSTRUCTURE IS SET IN PLACE & EXPANSION DEVICE ASSEMBLED IN FINAL POSITION



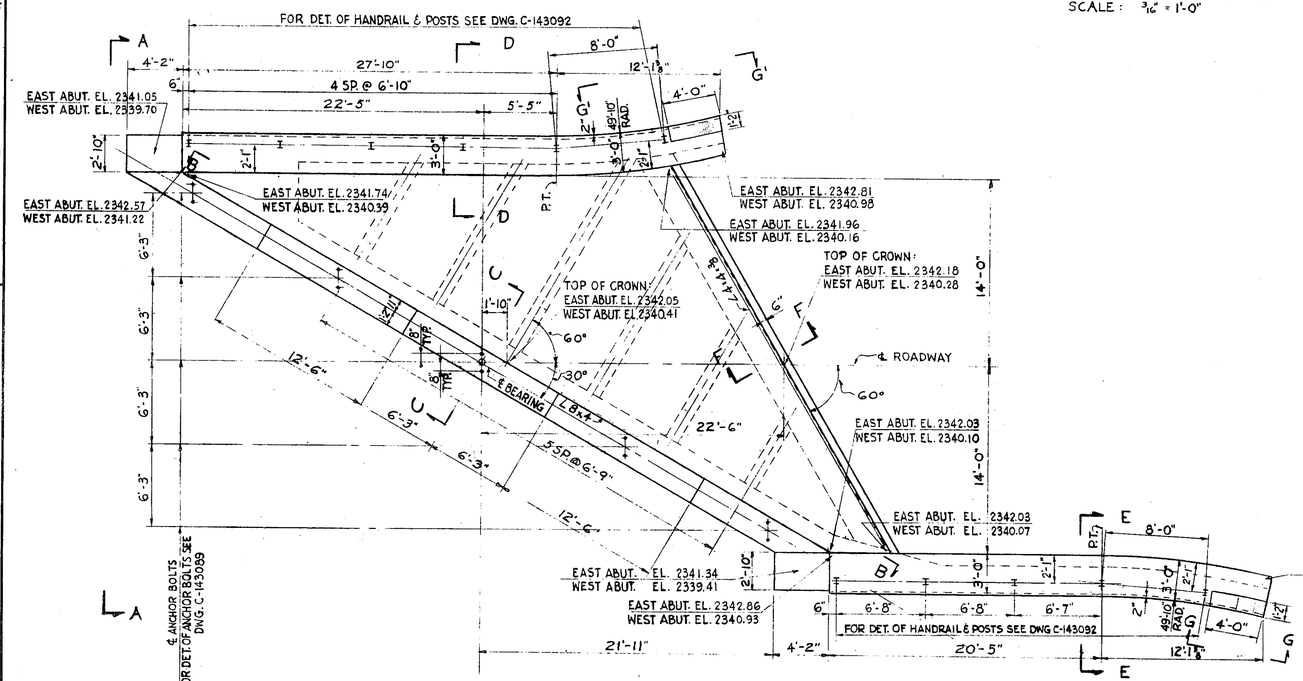
ELEVATION A-A
SCALE: ⅜" = 1'-0"



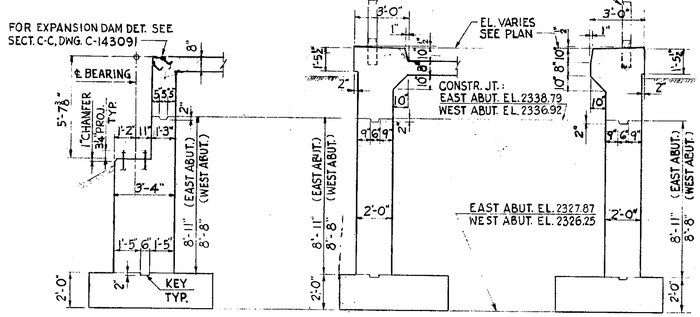
SECTION B-B
SCALE: 3/16" = 1'-0"



SECTION F-F
SCALE: ½" = 1'-0"



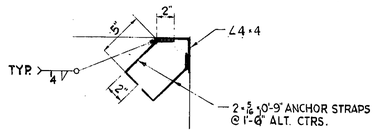
PLAN - TOP
SCALE: 3/16" = 1'-0"



SECTION C-C
SCALE: ¼" = 1'-0"

SECTION D-D
SCALE: ¼" = 1'-0"

SECTION E-E
SCALE: ¼" = 1'-0"



DETAIL A
SCALE: 1½" = 1'-0"

NOTES
ALL CONCRETE SHALL BE CLASS AD; MIXED AND PLACED IN ACCORDANCE WITH MONTANA STATE HIGHWAY DEPARTMENT SPECIFICATIONS (LATEST EDITION).
CEMENT SHALL BE TYPE II, SHALL CONTAIN AN AIR-ENTRAINING AGENT AND CONFORM TO LATEST AASHO. SPECIFICATIONS FOR THAT CLASSIFICATION.

U.S. BUR. OF PUB. RDS. – DIV. ENGR.
MONTANA HWY DEPT
WASHINGTON WATER POWER CO.

NO.	DATE	REVISION	BY	CH.	APPROVED
3	1-9-58	REVISED AS BUILT	MG	MBF	Aug S
2	1-28-57	REV. ANCH. BOLT PROJECTION	MBF	F.J.F.	Aug S
1	1-14-57	SQUARED WING WALL CORNERS	G.C.	MBF	MAY S

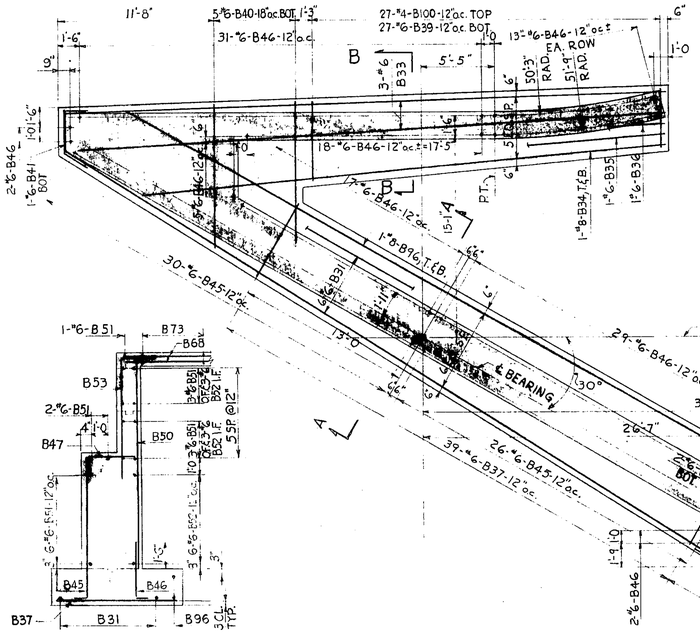
THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400,000 KW INITIAL CAPABILITY - HIGHWAY BRIDGES
HIGHWAY OVERPASS N.P. RWY. AT R.R. STA. 1631+40
EAST & WEST ABUTMENTS - MASONRY
EBASCO SERVICES INCORPORATED NEW YORK

SCALE AS NOTED | APPROVED | DATE AUG. 7, 1956
DIV. CONC-HYD CHANG | DR. GILLILL | CH. FAIRTILE | ELS
4838
C-143085

LOUIS PREY CO., INC.

DocuSign Envelope ID: 3FA987B0-F1F0-464C-9F99-B550D1382F0C

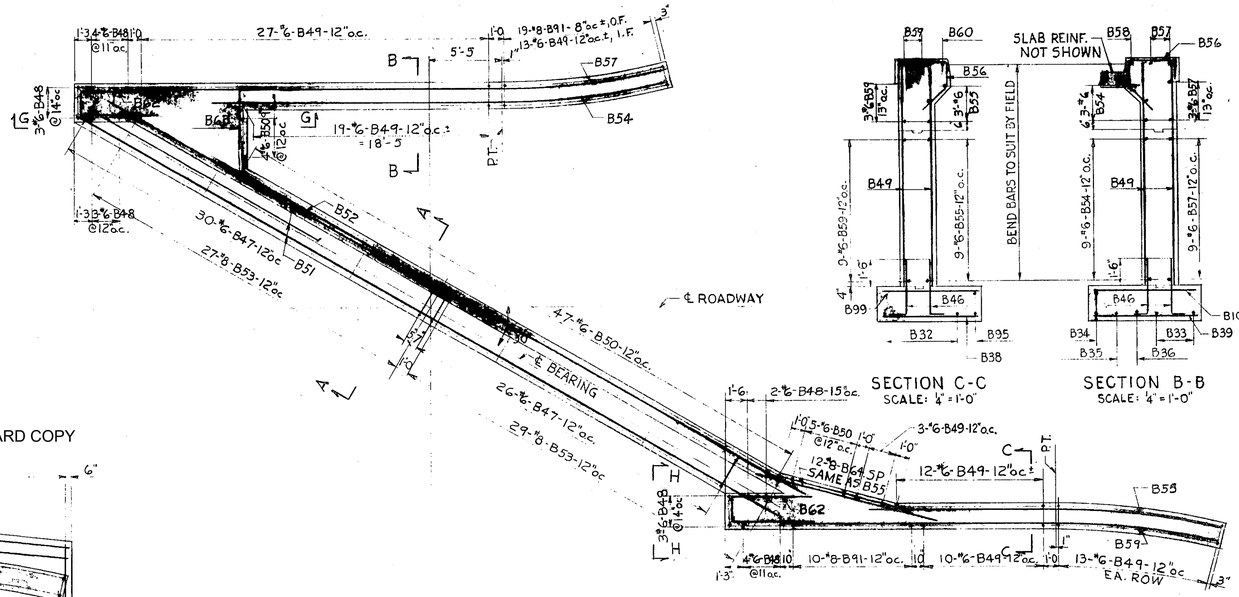
C-143086



PLAN AT ELEV. 2331.0
SHOWING FTG. REINF. & DOWELS ONLY
SCALE: 3/16" = 1'-0"

AWARD COPY

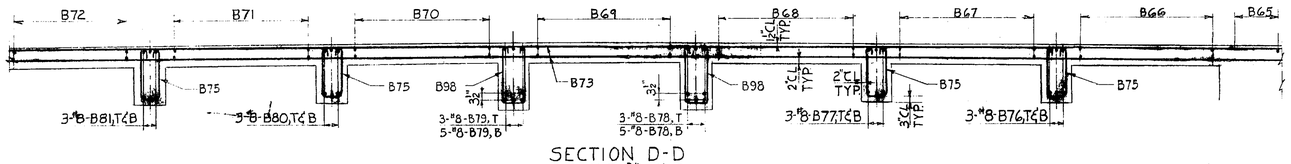
SECTION A-A
SCALE: 1/4" = 1'-0"



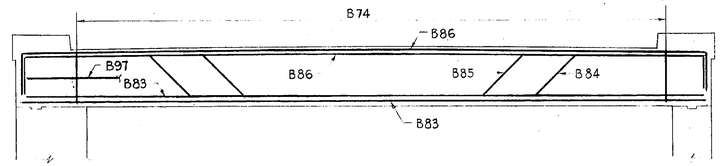
PLAN AT ELEV. 2337.0
SCALE: 3/16" = 1'-0"

SECTION C-C
SCALE: 1/4" = 1'-0"

SECTION B-B
SCALE: 1/4" = 1'-0"

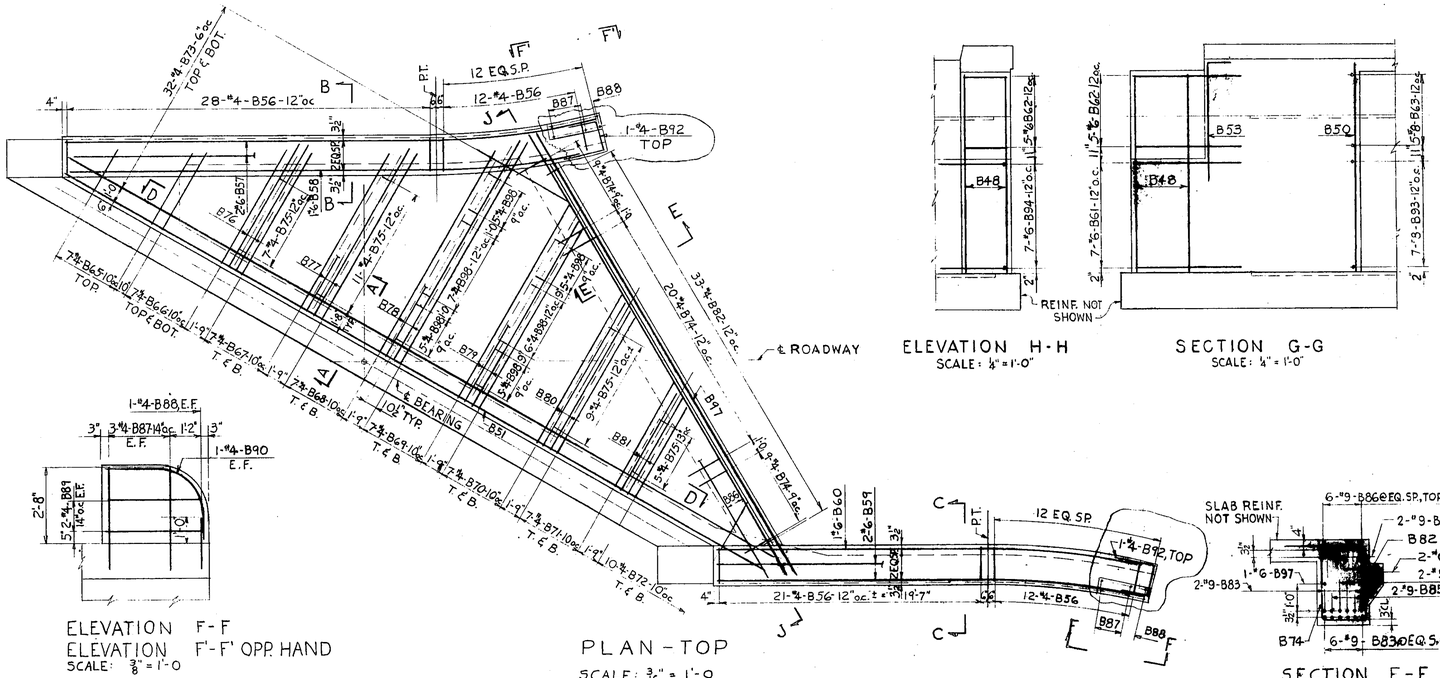


SECTION D-D
SCALE: 3/8" = 1'-0



SECTION J-J
SHOWING CROSS-BEAM REINF. ONLY
SCALE: 1/4" = 1'-0"

NOTES
REINFORCING STEEL SHALL BE IN CONFORMANCE WITH A.S.T.M. SPECIFICATION A15 AND A305 (LATEST REVISION).
FOR REINF. STEEL SEE BAR BENDING SCHEDULE B-143083-2



ELEVATION F-F
ELEVATION F'-F' OPP. HAND
SCALE: 3/8" = 1'-0

PLAN-TOP
SCALE: 3/16" = 1'-0

ELEVATION H-H
SCALE: 1/4" = 1'-0"

SECTION G-G
SCALE: 1/4" = 1'-0"

SECTION E-E
SCALE: 3/8" = 1'-0"

W. B. Gillies
U.S. BUR. OF PUB. RDS - DIV. ENGR.
MONTANA HWY DEP'T
WASHINGTON WATER POWER CO.

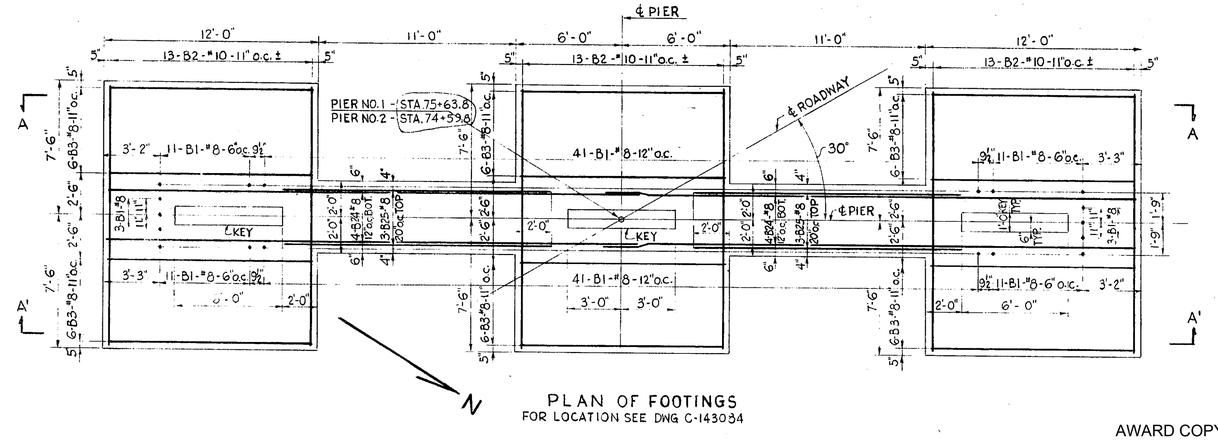
THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400,000KW INITIAL CAPABILITY-HIGHWAY BRIDGE
HIGHWAY OVERPASS N.P. RWY. AT R.R. STA. 1631+.0
EAST & WEST ABUTMENTS - REINF.
EBASCO SERVICES INCORPORATED NEW YORK

SCALE AS NOTED	APPROVED	DATE AUG. 7, 1956
DIV. CONC-HYD. DR. CIARELLI		4839
CH. FAIRTILE		C-143086

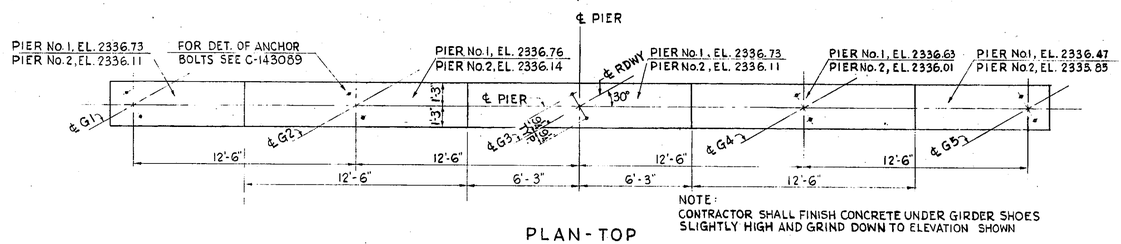
NO.	DATE	REVISION	BY	CH.	APPROVED
1	1-14-57	WINGWALL REINF. B92	MBF	G.C.	

LOUIS PREY CO., INC. 10472

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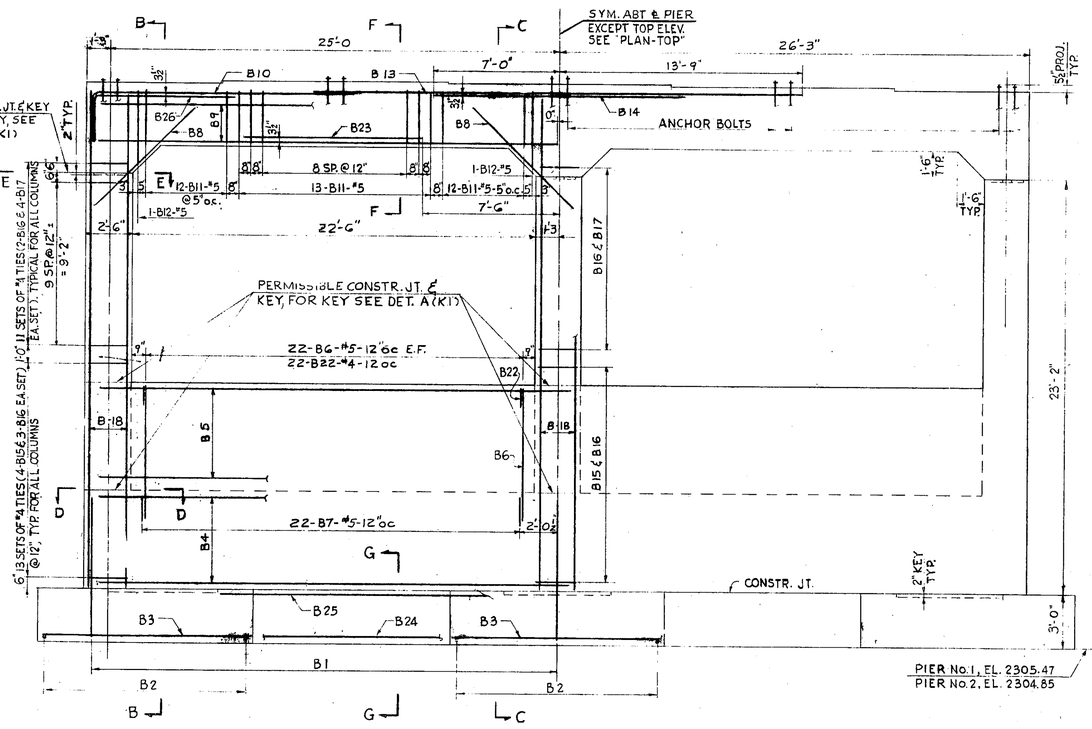
PLAN OF FOOTINGS
FOR LOCATION SEE DWG C-143034



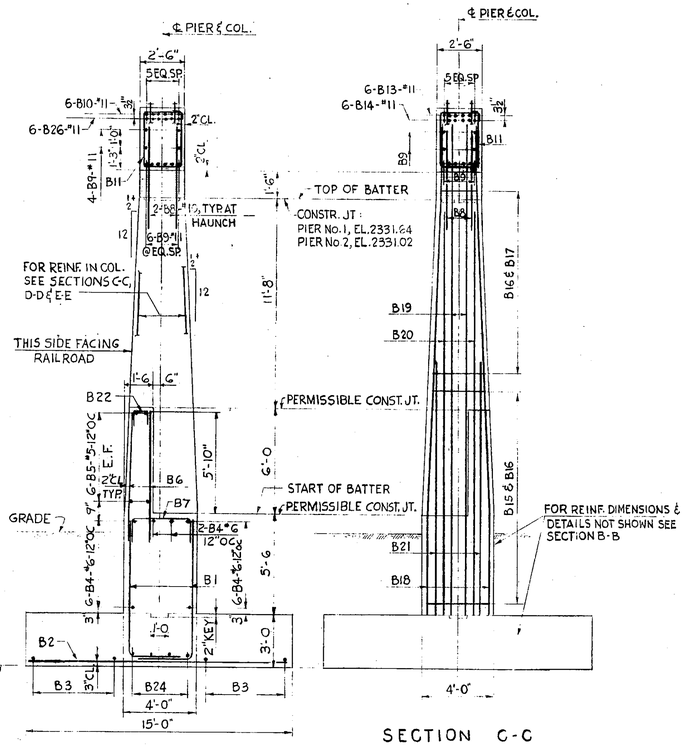
PLAN - TOP

NOTE:
CONTRACTOR SHALL FINISH CONCRETE UNDER GIRDER SHOES SLIGHTLY HIGH AND GRIND DOWN TO ELEVATION SHOWN

AWARD COPY



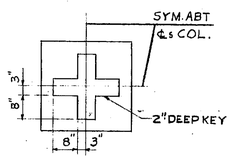
SECTION A-A (PIER NO 1)
SECTION A'-A' (PIER NO 2)



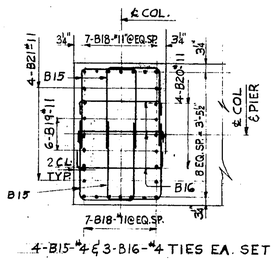
SECTION B-B

SECTION C-C

NOTES
FOR NOTES SEE C-143085 & C-143086
FOR REINF. STEEL SEE BAR BENDING SCHEDULE B-143083-1

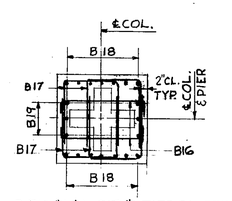


DETAIL A
PLAN
TYPICAL AT COL. CONSTR. JT.
SCALE 1/2" = 1'-0



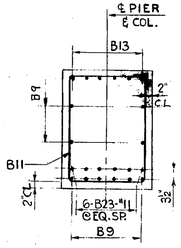
4-B15-#4 & 3-B16-#4 TIES EA. SET

SECTION D-D
TYP COLUMN REINF. AT BOTTOM
SCALE 1/2" = 1'-0

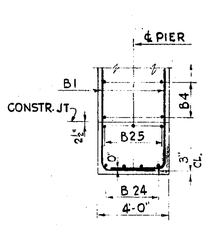


2-B16-#4 & 4-B17-#4 TIES EA. SET

SECTION E-E
TYP COLUMN REINF. AT TOP
SCALE 1/2" = 1'-0



SECTION F-F
SCALE 1/2" = 1'-0



SECTION G-G

3	1-8-58	REVISED AS BUILT	MG	MBF	[illegible]	
2	1-28-57	REV. ANCH. BOLT PROJECTION	MBF	F.J.F.	[illegible]	
1	1-17-57	℄ RDWY. STATIONING	MBF	LEE	[illegible]	
NO.	DATE	REVISION	BY	CH.	APPROVED	

U.S. BUR. OF PUB. RDS - DIV. ENGR.
MONTANA HWY. DEPT.
WASHINGTON WATER POWER CO.

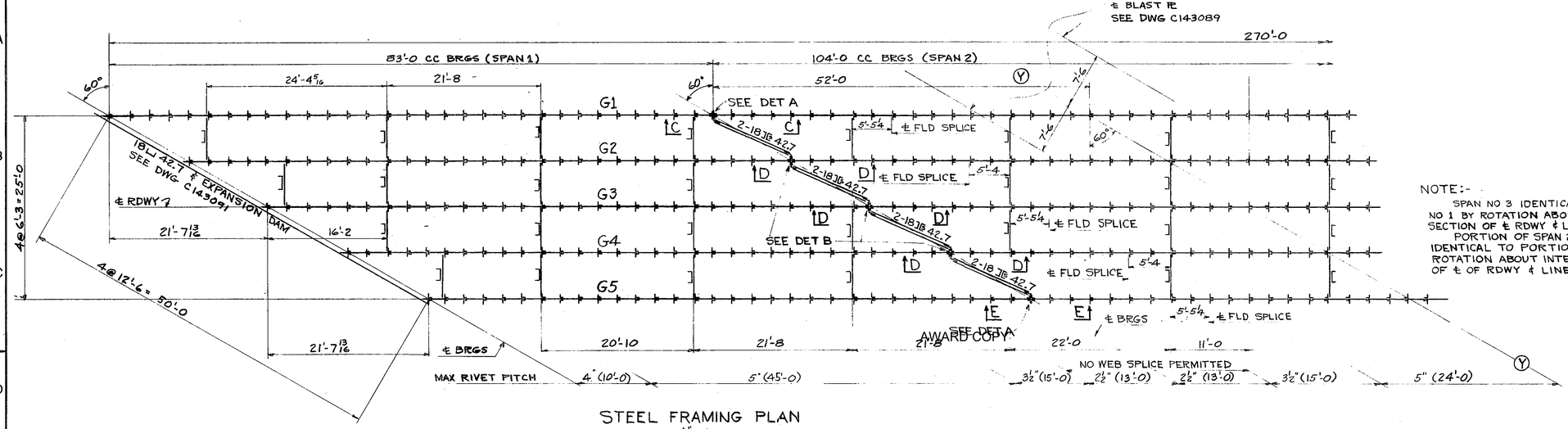
THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400,000 KW INITIAL CAPABILITY-HIGHWAY BRIDGES
HIGHWAY OVERPASS N.P. RWY. AT R.R. STA. 1631+40
PIERS NO. 1 & 2 - MASONRY & REINF.
EBASCO SERVICES INCORPORATED NEW YORK

SCALE 1/4"=1'-0" UNLESS NOTED
APPROVED
DATE AUG. 7, 1956
DIV. CONC-HYD.
DR. CIBELLI
CH. FAIRTILE
4840
C-143087

LOUIS FREY CO., INC.

DocuSign Envelope ID: 3FA987B0-F1F0-464C-9F99-B550D1382F0C

C-143088

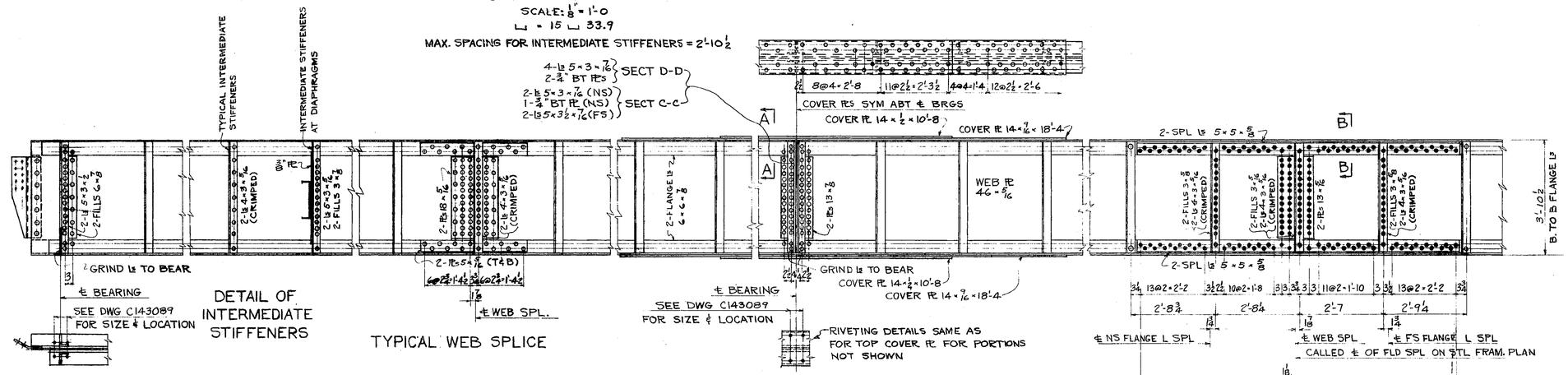


NOTE:-
SPAN NO 3 IDENTICAL TO SPAN NO 1 BY ROTATION ABOUT INTERSECTION OF ℄ RDWY & LINE Y-Y.
PORTION OF SPAN 2 NOT SHOWN IDENTICAL TO PORTION SHOWN BY ROTATION ABOUT INTERSECTION OF ℄ OF RDWY & LINE Y-Y.

STEEL FRAMING PLAN

SCALE: 1/8" = 1'-0
⌊ = 15 ⌊ 33.9

MAX. SPACING FOR INTERMEDIATE STIFFENERS = 2'-10 1/2

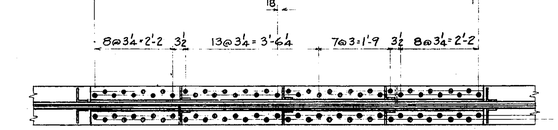


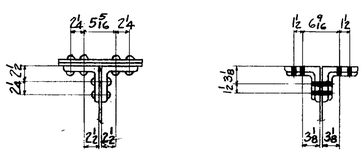
DETAIL OF INTERMEDIATE STIFFENERS

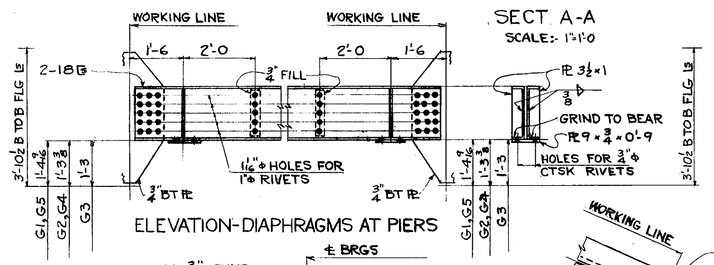
TYPICAL WEB SPLICE

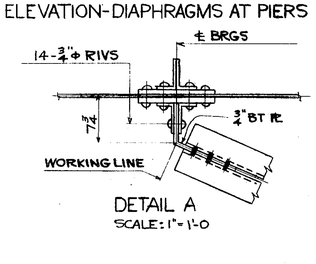
GIRDER DETAIL AT ABUTMENTS

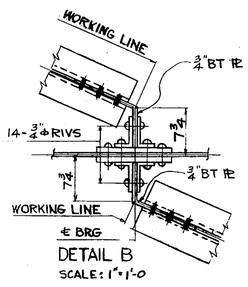
SECTION C-C AS SHOWN
SECTION D-D AS SHOWN
SECTION E-E OPP HAND TO SECT C-C

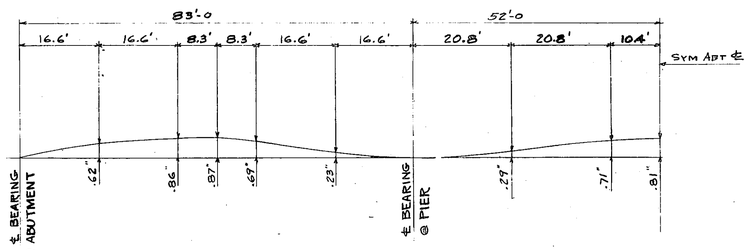












DEAD LOAD CAMBER DIAGRAM
SCALE:- NONE

NOTES

ALL STRUCTURAL STEEL SHALL CONFORM TO A.S.T.M.- A 7-50T.

RIVET STEEL SHALL CONFORM TO A.A.S.H.O.-M 97-39 (A.S.T.M.- A 141-39).

RIVETS SHALL BE 3/4" ϕ; HOLES 13/16" ϕ UNLESS OTHERWISE NOTED.

SPLICES SHALL BE SHOP ASSEMBLED AND HOLES SUBPUNCHED AND REAMED OR DRILLED FROM THE SOLID WITH CONNECTING PARTS IN CORRECT RELATIVE POSITIONS.

GIRDERS SHALL BE CAMBERED SO THAT THE BACKS OF FLANGE ANGLES SHALL CONFORM TO THE CURVATURE SHOWN IN THE CAMBER DIAGRAM.

ALL STRUCTURAL STEEL NOT IN CONTACT WITH CONCRETE IN THE COMPLETED STRUCTURE SHALL BE THOROUGHLY CLEANED AND GIVEN A SHOP COAT OF RED LEAD PAINT. AFTER ERECTION ALL RIVET & BOLT HEADS, WELDS AND ABRADED SURFACES SHALL BE GIVEN A TOUCH-UP COAT OF RED LEAD PAINT. THE FIRST FIELD COAT SHALL BE APPLIED TO CLEAN, DRY SURFACES AFTER CONCRETE HAS BEEN PLACED. THE PAINT SHALL BE RED LEAD PAINT TINTED BROWN. THE FINAL FIELD COAT SHALL BE ALUMINUM PAINT. PAINT MATERIALS & APPLICATION SHALL BE IN CONFORMANCE WITH MONTANA STATE HIGHWAY STANDARD SPECIFICATIONS SECTION 451.0 & SECTION 710 TO 710.6 INCLUSIVE. NO PAINTING SHALL BE DONE WHEN AIR TEMPERATURE IS BELOW 40°F.

GIRDERS SHALL BE BRACED TO PREVENT SIDE BUCKLING DURING HANDLING AND ERECTION.

THE CONTRACTOR SHALL FURNISH THE BUREAU OF PUBLIC ROADS WITH PRINTS OF THE SHOP DWGS IN QUADRUPLICATE FOR APPROVAL AND AFTER APPROVAL HE SHALL FURNISH FOUR OR MORE PRINTS, AS REQUIRED, OF THE APPROVED DRAWINGS. APPROVAL SHALL BE SECURED BEFORE FABRICATION.

W. B. Huffman
U.S. BUR. OF PUB. RDS. DIV. ENGR.
MONTANA HWY DEPT
WASHINGTON WATER POWER CO.

NO.	DATE	REVISION	BY	CH.	APPROVED

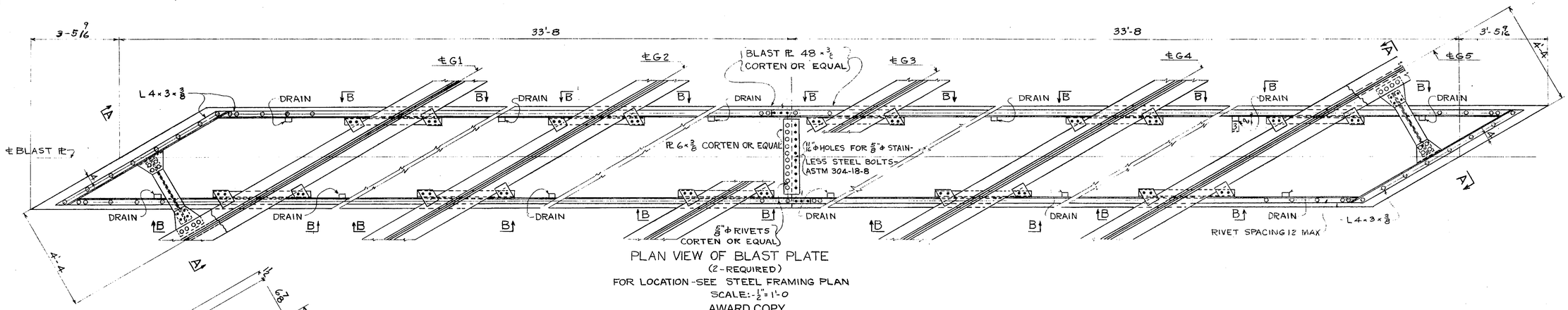
THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400,000 KW INITIAL CAPABILITY- HIGHWAY BRIDGES
HIGHWAY OVERPASS N.P. RWY. AT R.R. STA. 1631+40
GIRDERS & DETAILS
EBASCO SERVICES INCORPORATED NEW YORK

SCALE AS NOTED	APPROVED	DATE AUG. 7, 1959
DIV. ARCH-STRUCT		4841
DR. WOMER		C-143088
CH. FAIRTILE	ELS	

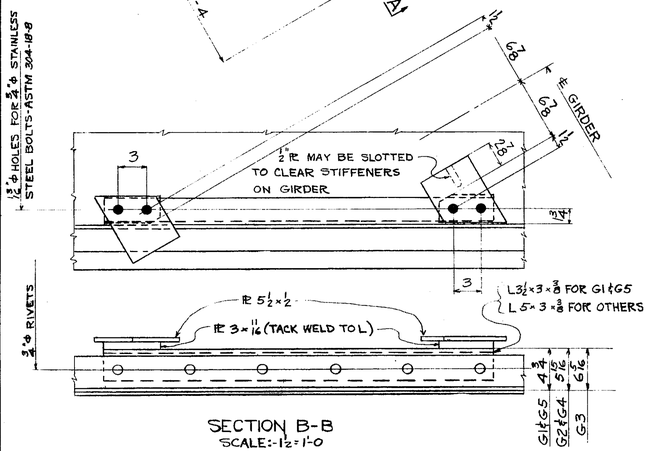
LOUIS FRY CO., INC. 14478

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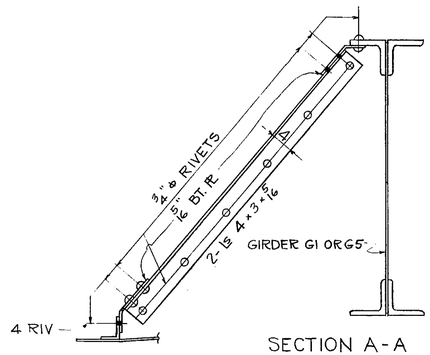
C-143089



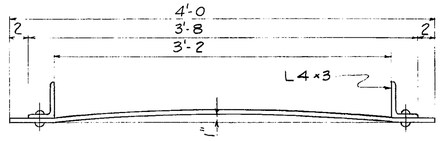
PLAN VIEW OF BLAST PLATE
(2-REQUIRED)
FOR LOCATION-SEE STEEL FRAMING PLAN
SCALE:- 1/2" = 1'-0
AWARD COPY



SECTION B-B
SCALE:- 1 1/2" = 1'-0



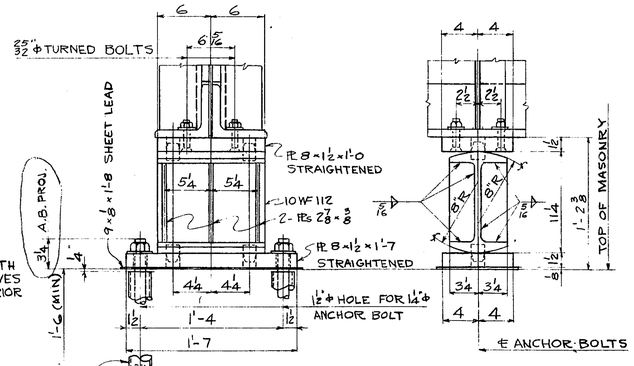
SECTION A-A
SCALE:- 1" = 1'-0



1" PERMANENT CAMBER TO BE ROLLED IN BLAST PLATE ℄ END ANGLES

TYPICAL BLAST PLATE SECTION
SCALE:- 1 1/2" = 1'-0

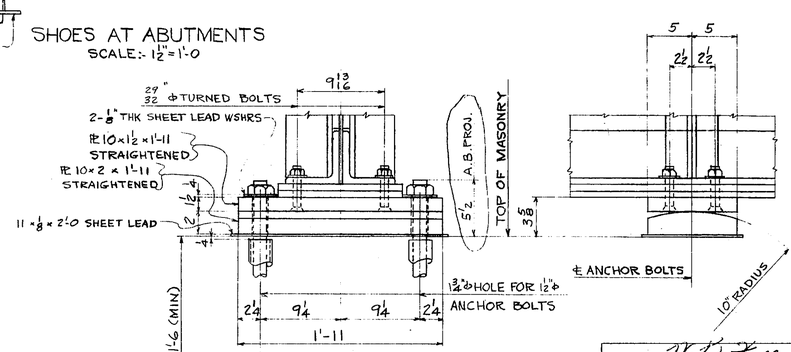
NOTES:
SETTING OF ROCKERS SHALL BE DONE SO THAT THE AXIS OF THE ROCKER WILL BE VERTICAL AT A TEMPERATURE OF 60°F.



NOTE
ANCHOR BOLTS & SLEEVES PLACED WITH CONCRETE. FILL SLEEVES WITH GROUT JUST PRIOR TO SETTING SHOE.

SHOES AT ABUTMENTS
SCALE:- 1 1/2" = 1'-0

PINTLE DETAIL
SCALE:- 3" = 1'-0



SHOES AT PIERS
SCALE:- 1 1/2" = 1'-0

W. D. Taffe
U.S. BUR. OF PUB. RDS - DIV. ENGR.
MONTANA HWY DEPT
WASHINGTON WATER POWER CO.

NO.	DATE	REVISION	BY	CH.	APPROVED
1	1-28-57	ADDED ANCH. BOLT PROJ.	MBF	F.J.F.	WWS

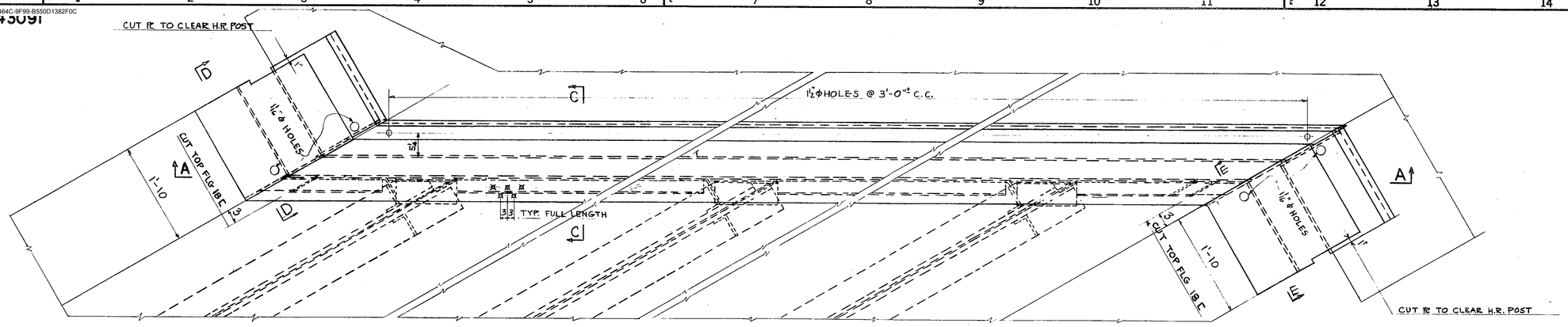
THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400,000 KW INITIAL CAPABILITY- HIGHWAY BRIDGES
HIGHWAY OVERPASS N.P. RWY. AT R.R. STA. 1631+40
BLAST PLATES & SHOES
EBASCO SERVICES INCORPORATED NEW YORK

SCALE AS NOTED	APPROVED	DATE AUG. 7, 1956
DIV. ARCH-STRUC		4842
DR. WOMER		C-143089
CH. FAIRTILE	ELS	

LOUIS PREY CO., INC. 1447B

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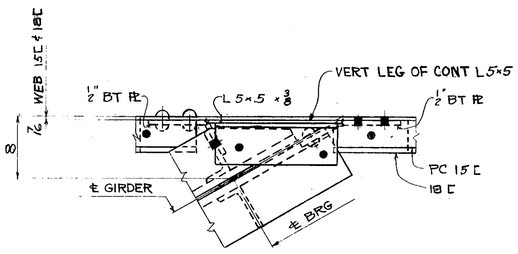
C-143091



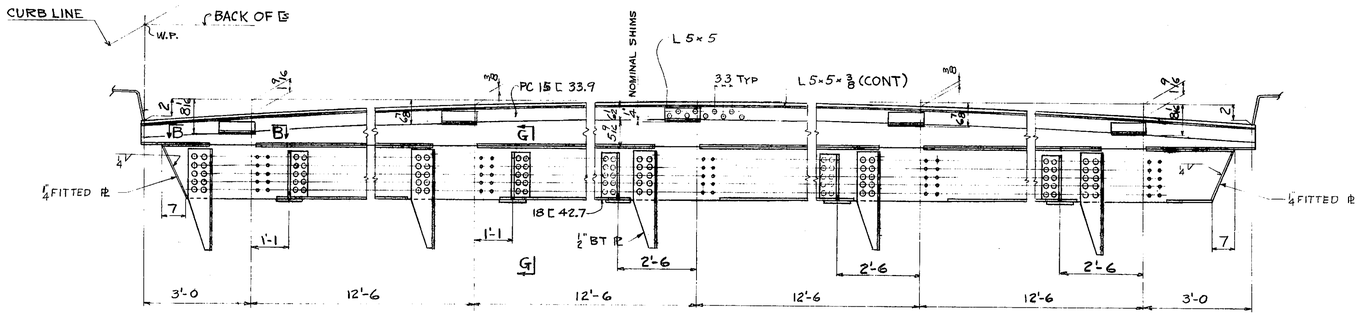
AWARD COPY

PLAN - EXPANSION END DAM DETAILS AT ABUTMENTS

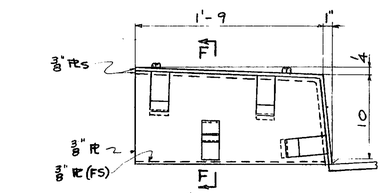
SCALE :- 1" = 1'-0



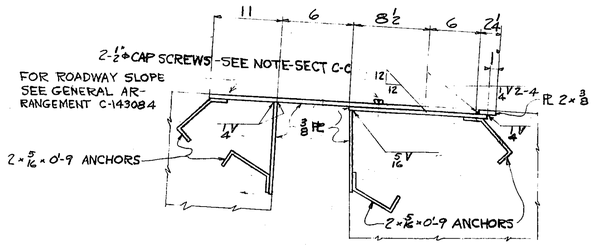
SECTION B-B
TYPICAL FOR ALL GIRDERS
SCALE:- 1½" = 1'-0



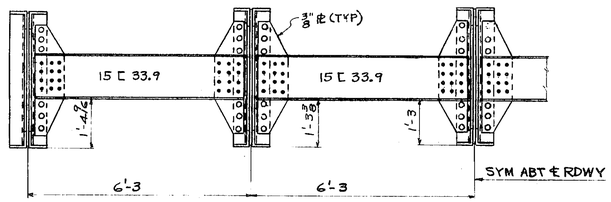
SECTION A-A
SCALE:- ½" = 1'-0



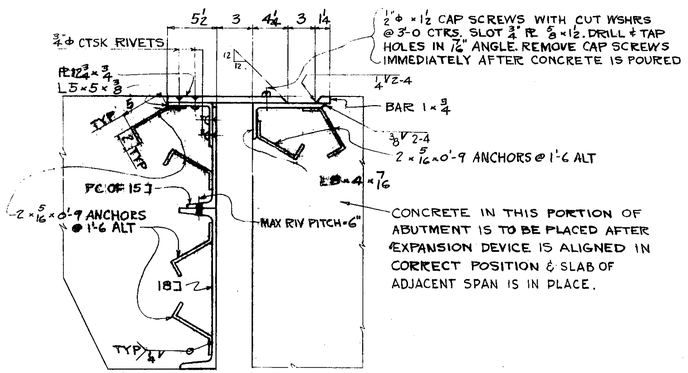
SECTION D-D (AS SHOWN)
SECTION E-E (OPP HAND)
CURB EXPANSION JOINT
SCALE:- 1½" = 1'-0



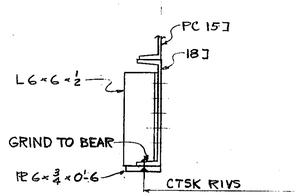
SECTION F-F
SCALE:- 1½" = 1'-0



INTERMEDIATE DIAPHRAGMS
SCALE:- ½" = 1'-0



SECTION C-C
SCALE:- 1½" = 1'-0



SECTION G-G
SCALE: 1" = 1'-0

NOTES

EXPANSION DEVICES SHALL BE SHOP ASSEMBLED TO OBTAIN A SLIDING FIT THROUGHOUT. THE ASSEMBLED UNIT SHALL BE SHIPPED WITHOUT DISMANTLING.

FAYING SURFACES SHALL BE FORMED OR GROUND TO OBTAIN AN EXACT FIT THROUGHOUT.

W. B. Huffine
U.S. BUR. OF PUB. RDS - DIV. ENGR.
MONTANA HWY DEPT
WASHINGTON WATER POWER CO.

NO.	DATE	REVISION	BY	CH.	APPROVED

THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400,000 KW INITIAL CAPABILITY - HIGHWAY BRIDGES
HIGHWAY OVERPASS N.P. RWY. AT R.R. STA. 1631+40
EXPANSION DAMS & DIAPHRAGMS
EBASCO SERVICES INCORPORATED NEW YORK

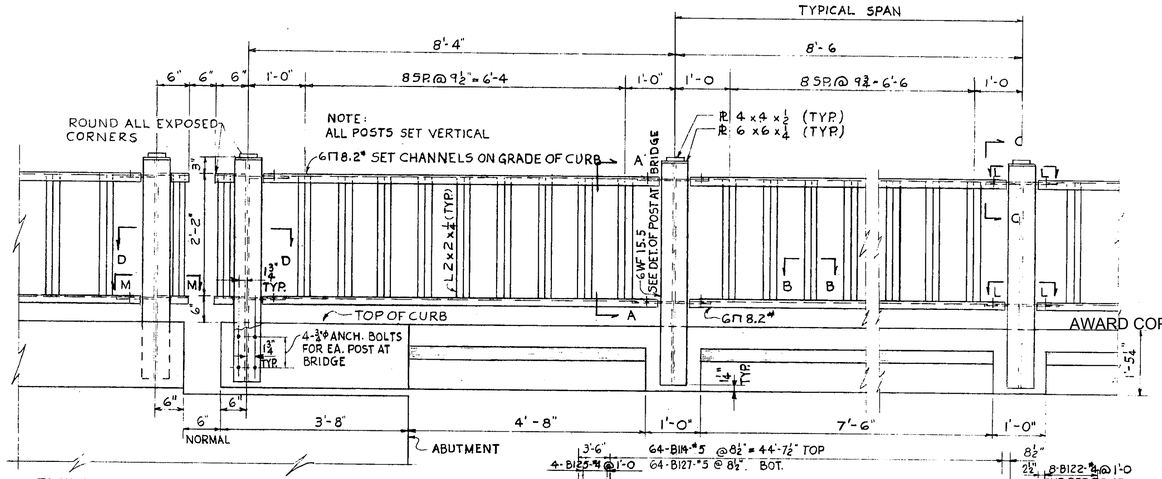
SCALE AS NOTED	APPROVED	DATE AUG. 7, 1956
DIV ARCH-STRUC		4844
DR NOMER		C-143091
CH FAIRTILE		

K-5-021

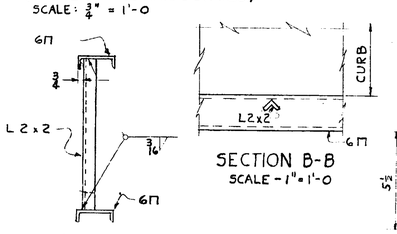
LOUIS PRAY CO., INC. 1925

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C-143032

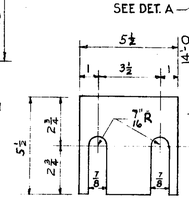


ELEVATION H-H
ELEVATION H'-H' OPP. HAND
(STEEL BRIDGE RAIL DETAILS)
SCALE: ¾" = 1'-0



SECTION A-A
SCALE - 1" = 1'-0

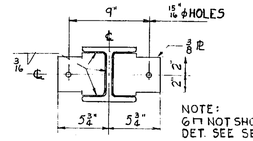
SECTION B-B
SCALE - 1" = 1'-0



PROVIDE 1-5½" x 5½" x ⅛ & 1-5½ x 5½ x 1/16 SHIMS FOR EACH POST TO ALIGN RAIL

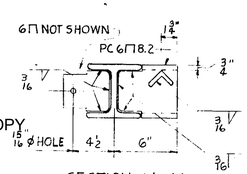
SHIM DETAIL
SCALE - 3" = 1'-0

DET. OF POST AT BRIDGE
SCALE 1" = 1'-0

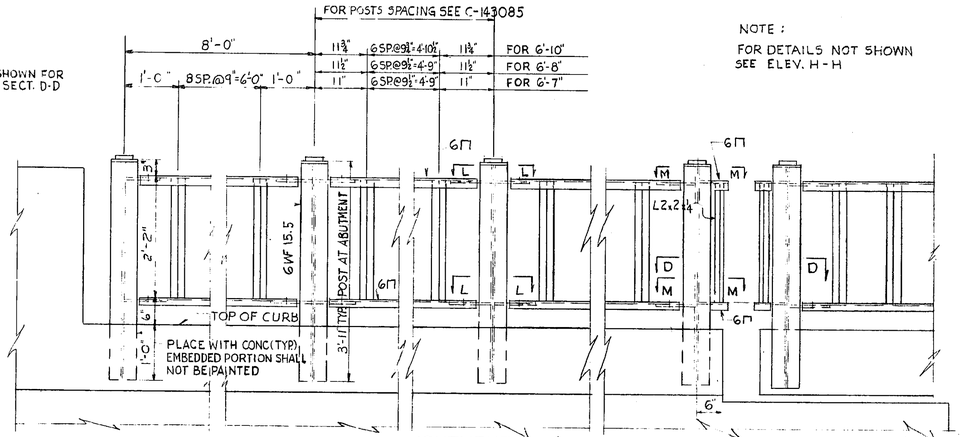


NOTE: 6Π NOT SHOWN FOR DET. SEE SECT. D-D

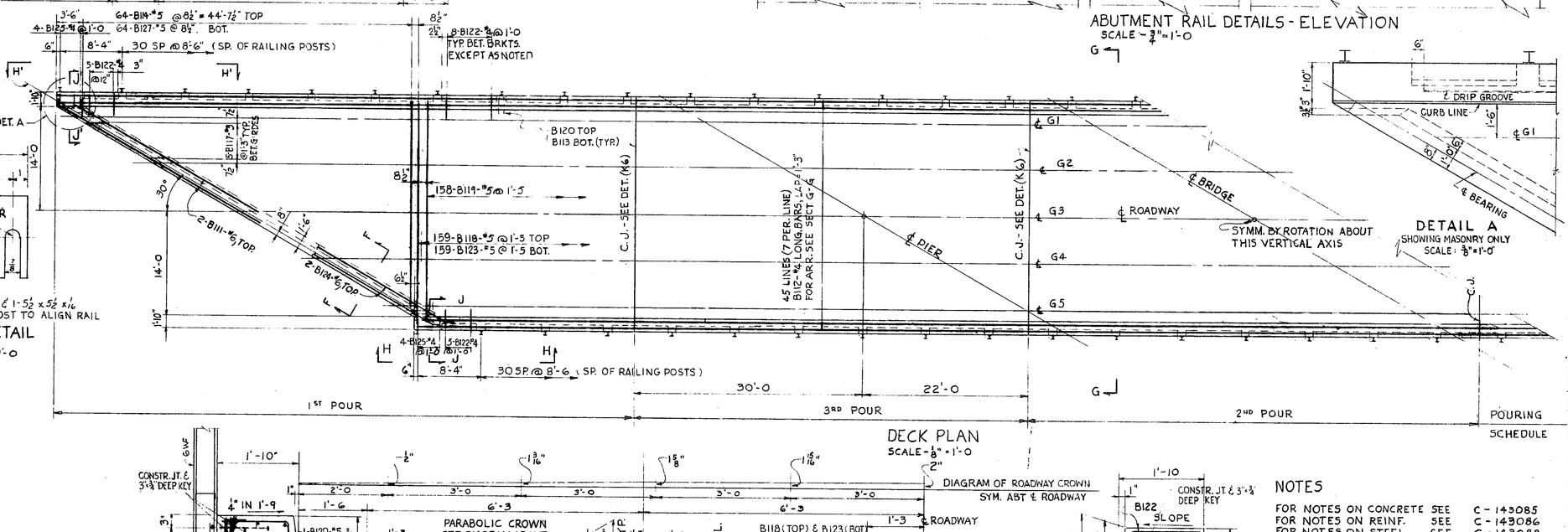
SECTION L-L
SCALE - 1½" = 1'-0



SECTION M-M
SCALE - 1½" = 1'-0

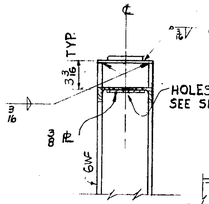


ABUTMENT RAIL DETAILS - ELEVATION
SCALE - ¾" = 1'-0

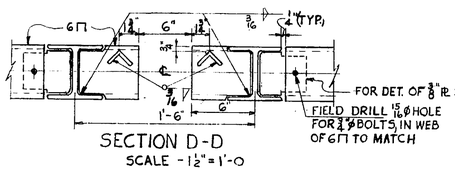


DECK PLAN
SCALE - ⅛" = 1'-0

DETAIL A
SHOWING MASONRY ONLY
SCALE - ¾" = 1'-0"



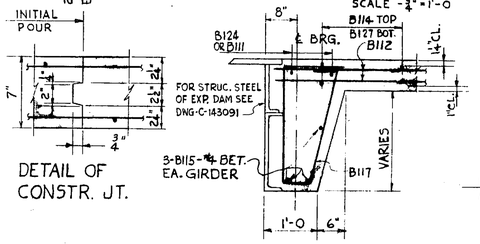
SECTION C-C
SCALE - 1½" = 1'-0



SECTION D-D
SCALE - 1½" = 1'-0

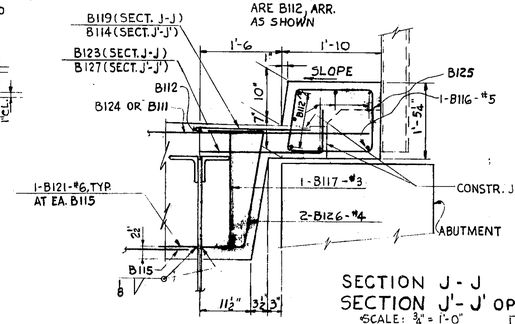
SECTION G-G
SCALE - ¾" = 1'-0

NOTE: ALL LONG. BARS ARE B112, ARR. AS SHOWN



DETAIL OF CONSTR. JT.

SECTION F-F
SCALE - ¾" = 1'-0



SECTION J-J
SECTION J'-J' OPP. HAND
SCALE: ¾" = 1'-0"

CURB BETWEEN H.R. BRKTS.

NOTES

FOR NOTES ON CONCRETE SEE C-143085
FOR NOTES ON REINF. SEE C-143086
FOR NOTES ON STEEL SEE C-143088
FOR REINF. STEEL, SEE BAR BENDING SCHEDULE B-143083-3.
PAINTING FOR HANDRAIL SHALL BE AS NOTED FOR STRUCTURAL STEEL ON DWG. C-143088.

U. S. BUR. OF PUB. RDS - DIV. ENGR.
MONTANA HWY DEP'T
WASHINGTON WATER POWER CO.

THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400,000 KW INITIAL CAPABILITY - HIGHWAY BRIDGES

HIGHWAY OVERPASS N.P. RWY AT R.R. STA. 1631+40
RAILING & DECK SLAB - MASONRY & REINF

EBASCO SERVICES INCORPORATED NEW YORK

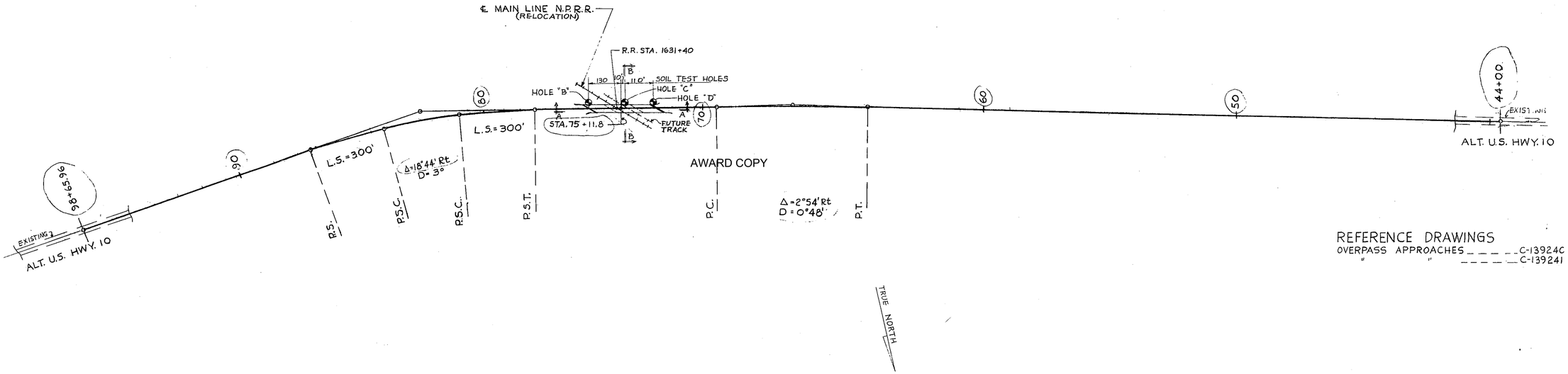
SCALE AS NOTED	APPROVED	DATE AUG. 7, 1956
DIV. ARCH-STRUC.		4845
DR. CIBELLI		C-143092
CH. CHANG		

NO.	DATE	REVISION	BY	CH.	APPROVED
1	1-14-57	DELETED DRAINS & DET.	G.C.	M&F	ANM

AWARD COPY

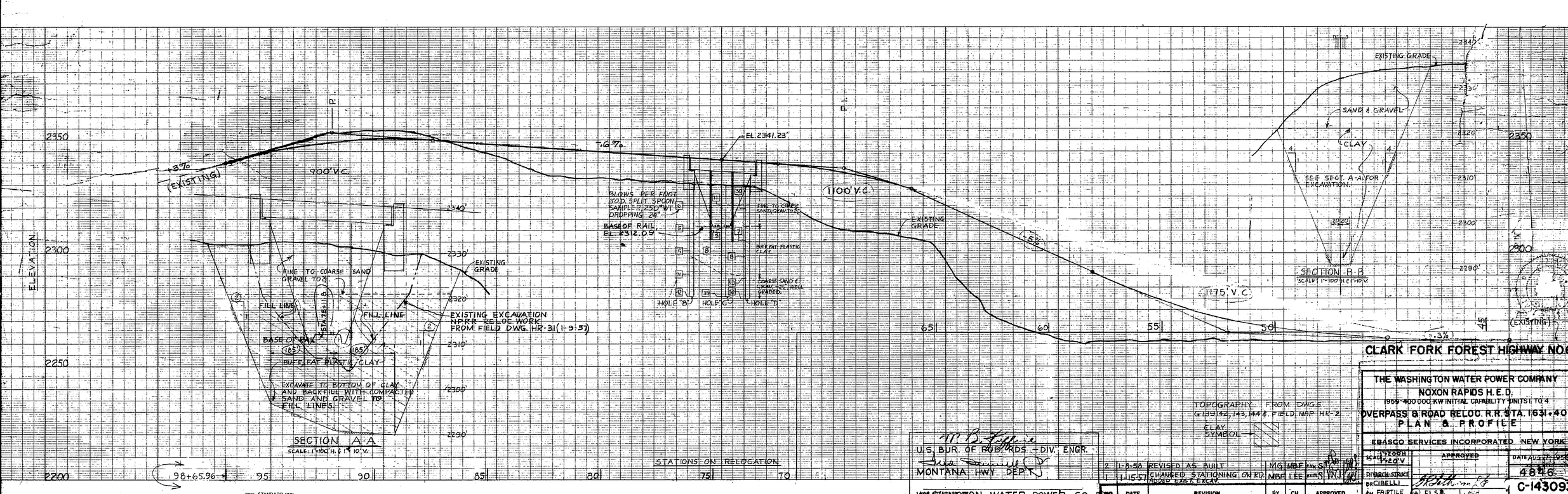
LOUIS FRK. CO., INC.

DocuSign Envelope ID: 3FA987B0-F1F0-464C-9F99-B550D1382F0C



REFERENCE DRAWINGS

OVERPASS APPROACHES _____ C-139240
" " _____ C-139241



TOPOGRAPHY FROM DWG.S G139142, 143, 144 & FIELD MAP HR-2

CLAY SYMBOL

CLARK FORK FOREST HIGHWAY NO.6

M. B. Tuffree
U.S. BUR. OF ROADS - DIV. ENGR.
MONTANA HWY DEPT

WASHINGTON WATER POWER CO.

NO.	DATE	REVISION	BY	CH.	APPROVED
2	1-8-58	REVISED AS BUILT	MG	MBF	
1	1-15-57	CHANGED STATIONING ON RD. MOVED EAST, EXCAV.	NRP	LEE	

THE WASHINGTON WATER POWER COMPANY
NOXON RAPIDS H.E.D.
1959-400 000 KW INITIAL CAPABILITY UNITS 1 TO 4
OVERPASS & ROAD RELOC. R.R. STA. 1631+40
PLAN & PROFILE
EBASCO SERVICES INCORPORATED NEW YORK

SCALE 1"=20'H 1"=20'V
APPROVED
DATE AUGUST 1956
DR. VARCHI-STRUCK
DR. CIBELLI
CH. FAIRTILE
No. EL5
4846
C-143093

TRADE STANDARD MAIN REG. U.S. PAT. OFF. PRINTED IN U.S.A. 4 X 20 100% RAG PAPER MADE IN U.S.A. KEUFFEL & ESSER CO. NEW YORK