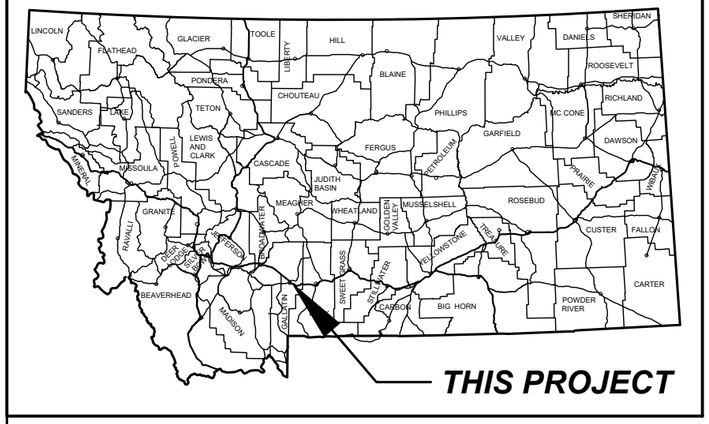
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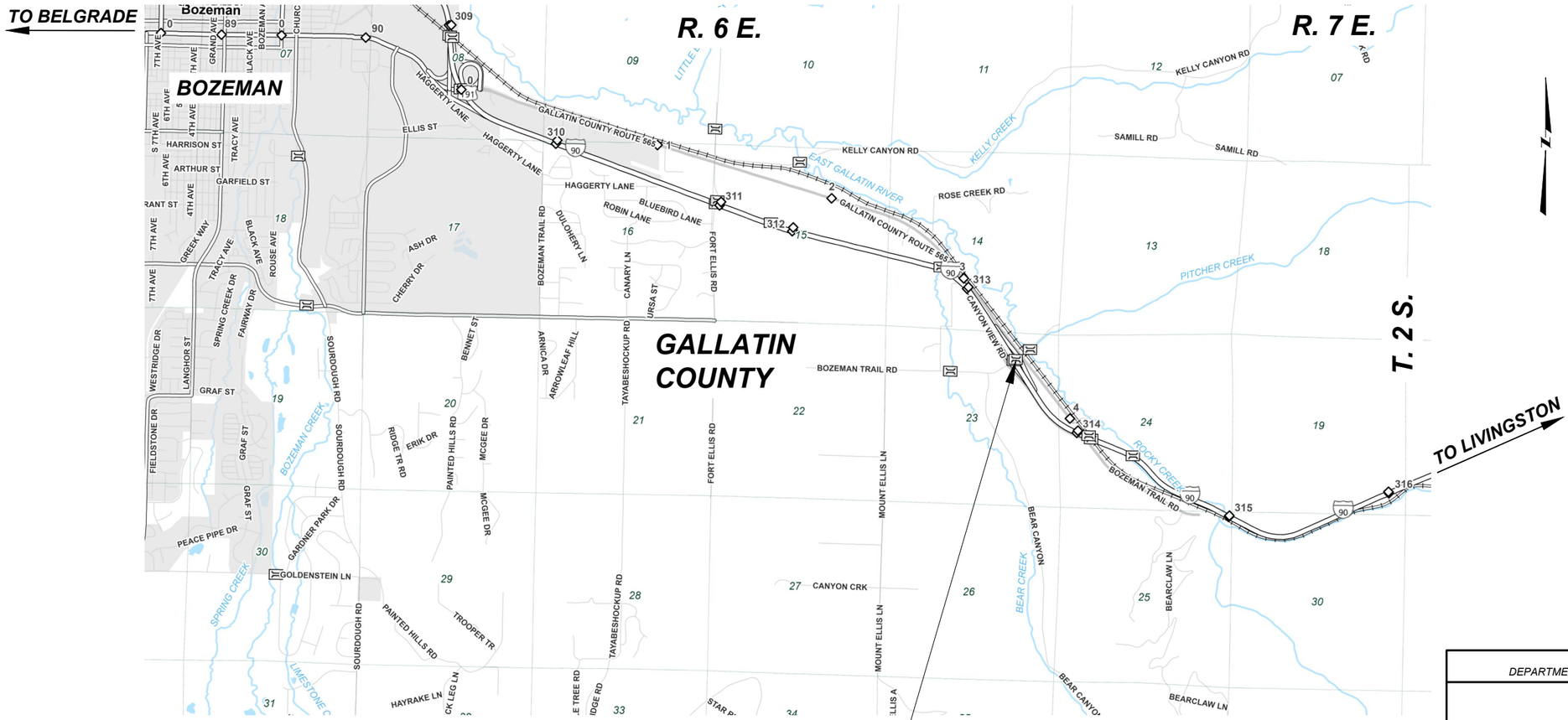
AWARD COPY



MONTANA DEPARTMENT OF TRANSPORTATION

PROJECT AR 10774(0)
MAJOR BRIDGE REHAB
I-90 BRIDGE REPAIR-BEAR CANYON
GALLATIN COUNTY

LENGTH N/A MILES



RP 313.5 EB
I00090313+04471 (MDT ID 01602)
113.0' X 38.0' CONCRETE BRIDGE
INT BEAR CANYON
THIS CONTRACT

MONTANA
DEPARTMENT OF TRANSPORTATION

APPROVED BY:

BRIDGE ENGINEER

MONTANA
ANDIN CULLISON
39000PE
LICENSED PROFESSIONAL ENGINEER

Signed by:
Andin Cullison 2/10/2026
49429C814AE44D1... DATE

SHEET NO.
01

TITLE SHEET

PROJECT NAME	I-90 BRIDGE REPAIR-BEAR CANYON
COUNTY	GALLATIN
PROJECT ID	AR 10774(0)
UPN	10774000
DESIGNED BY	
REVIEWED BY	
CHECKED BY	
10774000RDTTL001.DWG	
2/2/2026 12:58 PM	

MONTANA
Department of Transportation

Docusign Envelope ID: E31CFBAE-E0BD-49D0-89EB-102B5CF5D00A

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STATE OF MONTANA
STATE HIGHWAY COMMISSION

BRIDGE PLANS & QUANTITIES

AR 10774(0)

GALLATIN COUNTY

Sheet 1: Estimated Quantities & General Notes
Sheet 2: General Layout; Plan & Profile
Sheet 3: Shear Blocks at Bents 2 & 3
Sheet 4: Standard Type A beam & bearing removal
Sheet 5: Deck Removal Dimensions & New Reinforcing Steel

General Notes:

General: The plans provided are the original and as-built drawings for this structure. The mark-ups and notes reflect the work needed to replace two damaged Type 4 prestressed beams in the center span of the bridge.

Specifications: Montana Department of Transportation Standard Specifications for Road and Bridge Construction; 2025 edition; effective Jan-15-26.

Grades: Field survey was not collected for the bridge. Disregard all stationing and elevation references shown on these as-builts.

Field Modifications: Adjust details only when necessary to meet the design intent of the work. The Project Manager will approve all field modifications.

Dimensions: All dimensions are horizontal ground distances unless specified otherwise.

Reinforcing Steel: Use new deformed type reinforcing steel meeting the requirements of AASHTO M 31; Grade 60. The suffix E in the bar callouts denotes epoxy coated reinforcing.

Estimated Bridge Plan Quantities:

MDT ID: 01602
NBI ID: I00090313+04471 (Eastbound)
RP: 313.44

~ All items of work are limited to Span 2 & Span 2 bearings ~

*Miscellaneous Items-LS (Lump Sum)	**Remove Structure (Lump Sum)	Remove Deck (SQYD)	Concrete-Class Structure Low Slump (CUYD)	Transverse Deck Grooving (SQYD)	Reinforcing Steel - Epoxy Coated (LB)
1.0	1.0	91.4	17.8	91.4	890 ~ Diaphragms (3 bays total) ~ 4980 ~ Deck ~

* See State Furnished Prestressed Type A Beams special provision.
** See Remove Structure special provision.

Drawn By G.C.S. 11-22-60 Checked By C.A.M. 12-12-60 Revised by Hes. 1-23-62

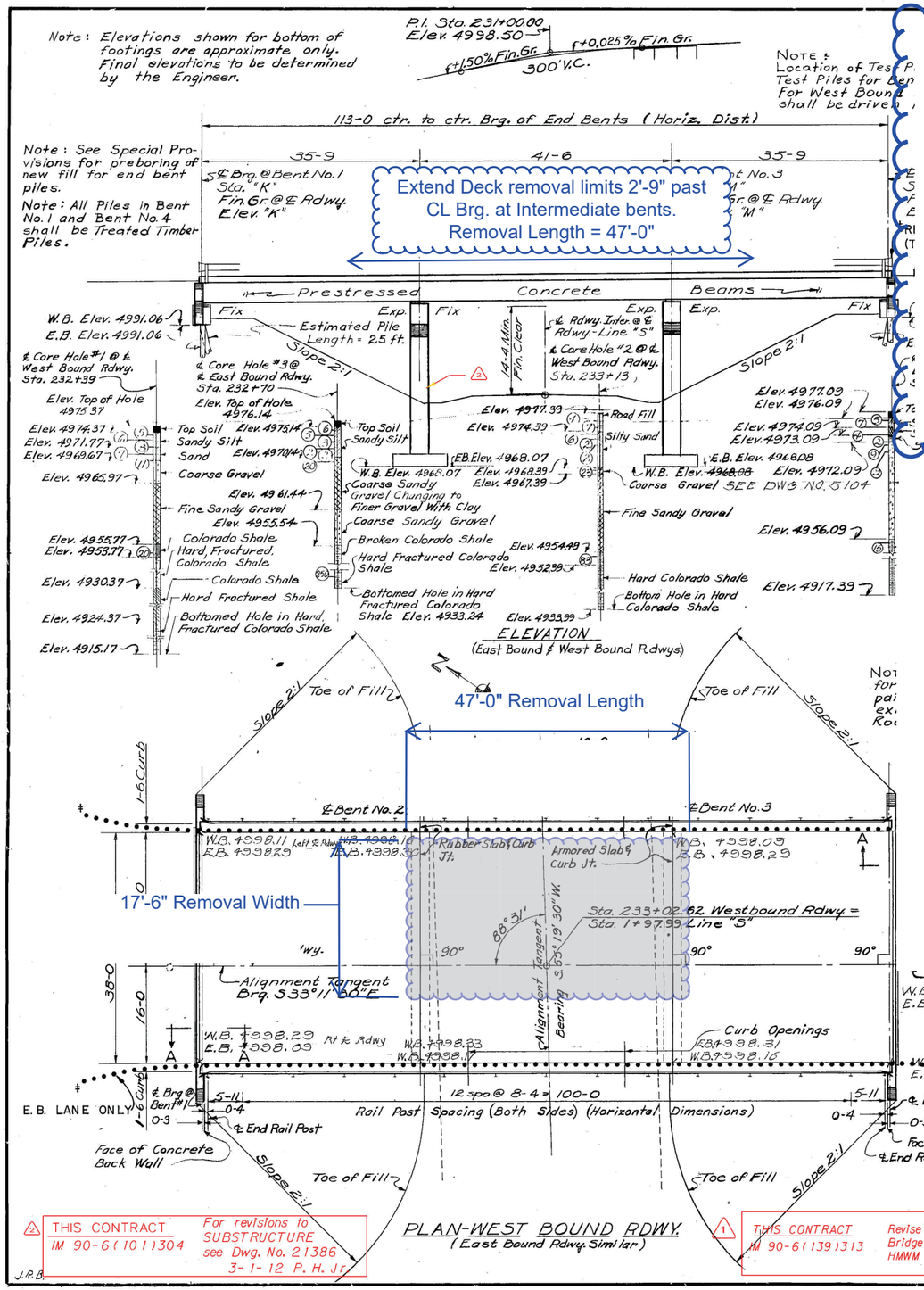
J.R.B.

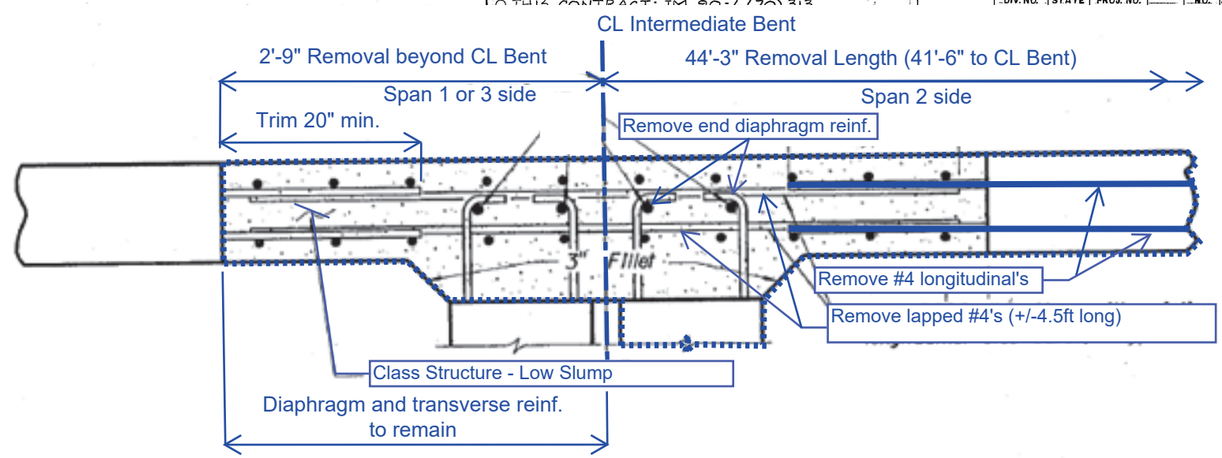
Final Quantities in Red
Changes as noted

Sheet 1

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Slab Removal @ Intermediate Bents

Notes:

1.) Saw cut 1/2" deep around the perimeter of the Deck Removal limits (typ).
2.) Lap splice #4 longitudinal bars 20" min.
3.) Clean all existing reinforcing steel prior to pouring new concrete.
4.) Reinforcing steel that is called out to remain and is damaged during construction will be replaced at no additional cost to the state.
5.) See sheet 5 for deck removal location.

* This PARTIAL BILL of REINFORCING STEEL shall be used in Conjunction with the BILL of REINFORCING STEEL shown on DWG. No. SLAB-30 to 65-R38-LIS.

NOTE: The numbers inscribed in the circles shown on the log of borings indicate the number of blows per foot penetration of a 2" sample tube which has been driven in accordance with the Standard Penetration Test made with a 2" split tube sampler using a 140 lb. hammer having a 30" drop.

NOTE: Quantities of Class "AD" concrete have been computed using pretensioned beams. Quantities of Class "AD" concrete and reinforcing steel will vary slightly using post-tensioned beams.

‡‡ Note: Expansion Jt. replaced @ Bent No. 3 E.B. & W.B. See Dwg. No. 12630

1	REVISE	1-3-12	P.H.Jr.	2	
1	Revised By	D.G.G.	1-13-12		
*	REVISED	D.W.Co.	8-19-03	‡	
○	REVISED	L.R.T.	1-17-95	‡‡	

DESIGNED		
DRAWN	H.W.S.	4-20-60
TRACED		
CHECKED	C.A.M.	8-30-60
REVISED	N.H.R.	2-11-74
REVISED	M.L.R.	11-15-79

2 THIS CONTRACT IM 90-6(101)304 — For revisions to SUBSTRUCTURE see Dwg. No. 21386 3-1-12 P. H. Jr.

1 THIS CONTRACT M 90-6(139)313 — Revise Bridge Rail-Concrete Barrier Bridge Deck Repair, Expansion Joints HMWM See Dwg. No. 21346

J.R.B.

STATE OF MONTANA
STATE HIGHWAY COMMISSION

BEAR CANYON INTERCHANGE
STA. 233+03.40
~~FEDERAL AID PROJECT NO. I90-6(2)309~~
GALLATIN COUNTY
GENERAL LAYOUTS
EAST BOUND & WEST BOUND RDWYS.
Scale: 1"=10'-0" Except As Noted

APPROVED BY ℄
Change as noted

Sheet 2

Docusign Envelope ID: E31CFBAE-E0BD-49D0-89EB-102B5CF5D00A

AWARD COPY
AS-BUILTS DATE SENSITIVE - FOR INFORMATION ONLY

08/05/2015

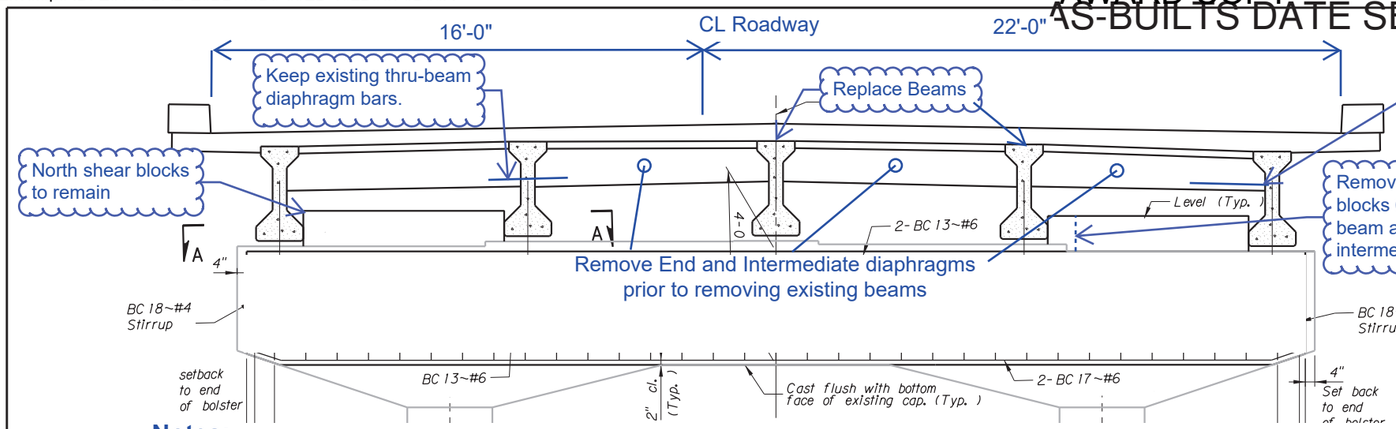
STATE	PROJECT NUMBER	SHEET NO.
Highways & Engineering Division MONTANA	IM 90-6(101)304	B18

AS-BUILTS

...RCING STEEL

ONE INTERMEDIATE BENT ONLY
(ALL DIMENSIONS ARE OUT TO OUT)

Length

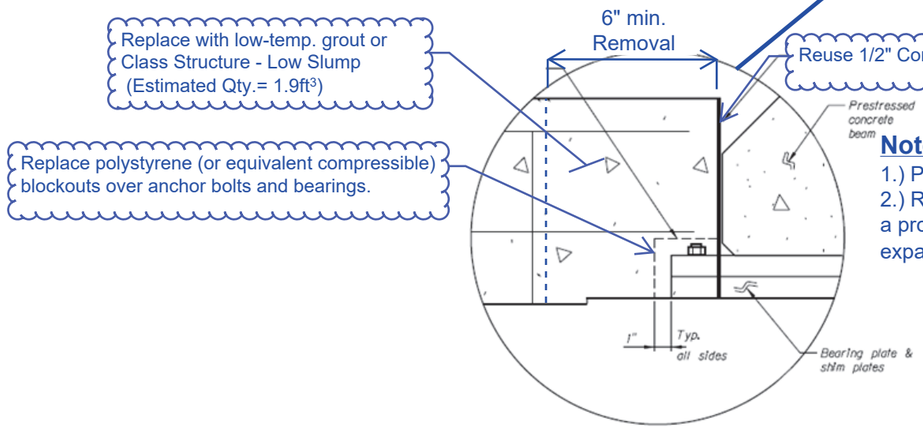


Notes:

1.) Saw cut 1/2" deep around the perimeter of the shear blocks before partial removal (typ). Do not cut existing reinforcing.
2.) Clean reinf. bars before placing new concrete or grout.
3.) Recasting the shear blocks is allowed after traffic is back on the bridge.



Symmetric about ℄ Bent unless noted otherwise

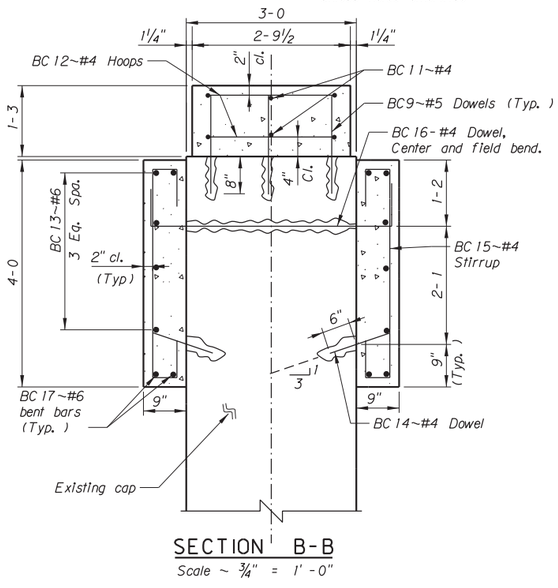


POLYSTYRENE BLOCKOUT DETAIL

Scale ~ 3" = 1' 0"

Notes:

1.) Preapproved low-temp grout: Five Star RSR Easy Mix.
2.) Replace corkboard that is damaged during shear block removal. Use a product from the Qualified Product List or an alternative preformed expansion joint filler with similar performance characteristic.



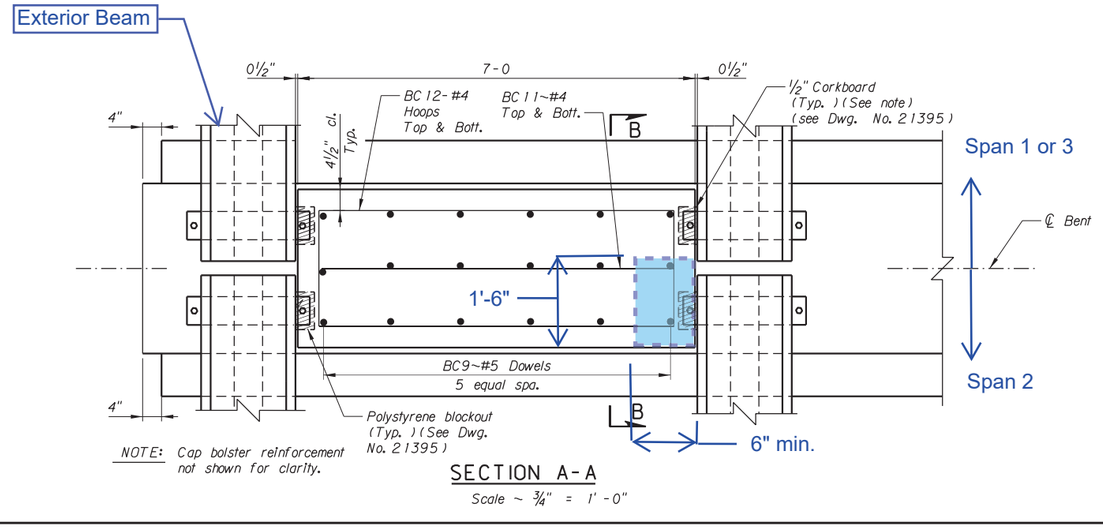
SECTION B-B

Scale ~ ¾" = 1' -0"

NOTES:

Remove all laitance, loose and foreign materials from existing concrete surfaces which will be in contact with new concrete.

Place ½" corkboard between shear blocks and bottom flange of existing concrete beam. Extend corkboard to the top of shear block.



NOTE: Cap bolster reinforcement not shown for clarity.

SECTION A-A

Scale ~ ¾" = 1' -0"

MDTA Montana Department of Transportation

INTERCHANGE BEAR CANYON
E.B. & W.B. 190 R.P. 313.410

~~FEDERAL AID PROJECT NO.~~
~~IM 90-6(101)304~~

GALLATIN COUNTY

SHEAR BLOCK & CAP RETROFIT
DETAILS BENTS NO. 2 & 3

SCALE ~ AS

DESIGNED	2-23-12	D. C. M.
DRAWN	2-23-12	P. H. Jr.
CHECKED	3-14-12	D. M. P.
REVISED		
REVISED		
REVISED		

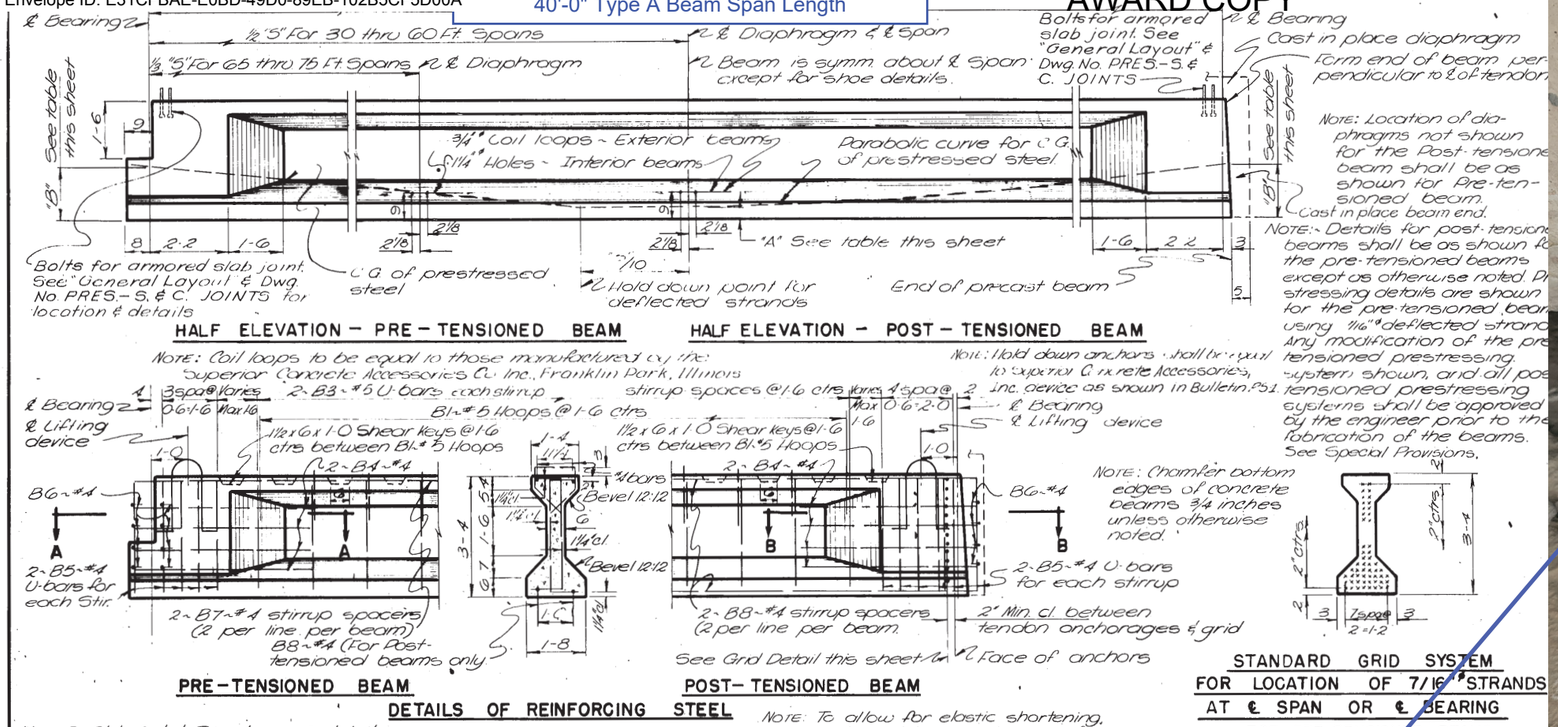
c:\dgn\a871brbntbc4ab.dgn
CPS - U4820 8/5/2015 11:43:03

Sheet 3

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40'-0" Type A Beam Span Length

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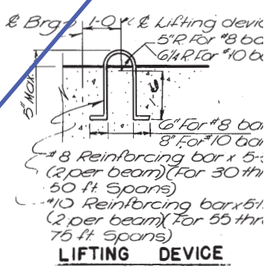




Notes:

1.) Prestressed Type A beams are being state furnished. See special provision for shipping contact information.

2.) Include all cost associated with cutting beams loose from the bearings, removing anchor bolt nut, and bearing plates in the cost for Miscellaneous Items - LS.



Seized and Frozen Anchor Bolt Nut Removal:

1.) Clean anchor bolt threads above the nut using a wire brush. Remove all rust, paint, and debris.

2.) Apply a liberal amount of penetrating oil (Tri-Flow, Kroil, or CRC Freeze-Off) and allow to sit a minimum of 12hr.

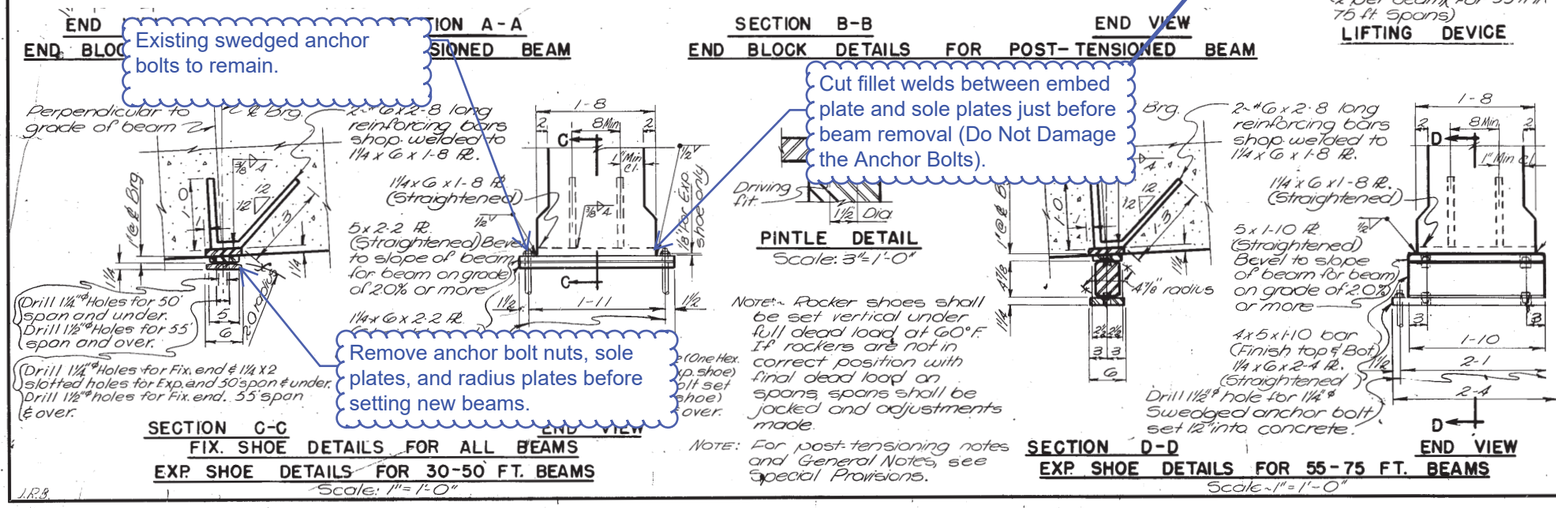
3.) Attempt to loosen anchor bolt nuts using standard hand tools. Do not round off the nuts or damage threads with excessive force. If the nut is still seized move to step 4.

4.) Use oxy/acetylene set up with cutting head or brazing tip and carefully heat only the nut to be removed. Do Not Heat the Anchor Bolt. The anchor bolt must not change color from it's ambient temperature color during heating of the anchor bolts. Concentrate the flame as shown by the arrows in the picture above.

5.) Immediately after removing the nut from the flame, attempt to loosen the nut using hand tools. If the nut cools before breaking loose, apply more penetrating oil and allow to sit.

6.) It is likely that it will take several heating/cooling cycles before the nuts can be completely removed. It is critical that the anchor bolt is not heated above the temperature explained in step 4. The heating and cooling process is what breaks the bond in the threads.

7.) Once the top nut is removed, clean the anchor bolt threads per step 1 and repeat steps 2 thru 6 as necessary to remove the nut.



DESIGNED	HEE	12-25-59
DRAWN	HKL	1-28-59
TRACED	KLF	2-3-59
CHECKED	HES.	2-10-59
REVISED	HES.	8-23-60
REVISED		

LOADING
Scale ~ 1½"=1'-0" Except As Otherwise Noted
APPROVED BY ___ BRIDGE
DRAWING NO. PRES.-

Docusign Envelope ID: E31CFBAE-E0BD-49D0-89EB-102B5CF5D00A

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FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.		SHEET NO.	TOTAL SHEETS
8	MONT.				

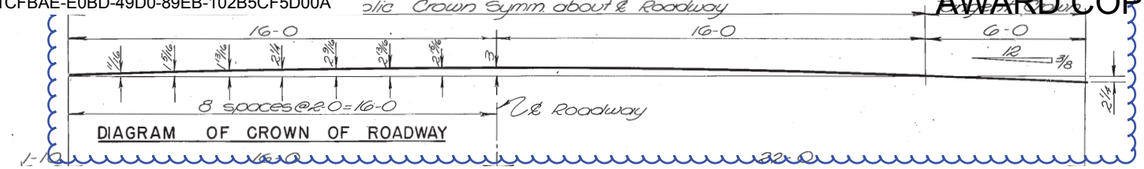
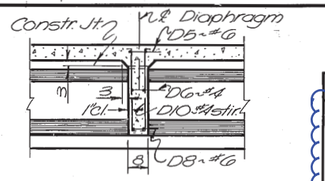


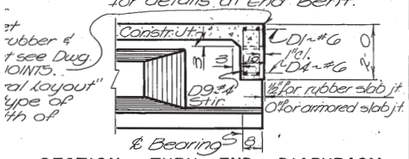
DIAGRAM OF CROWN OF ROADWAY



NOTE:- Provide one intermediate diaphragm at ℄ of beam for all beams 60 Ft. or less in length. Provide two intermediate diaphragms for beams over 60 Ft. in length.

SECTION THRU INTERMEDIATE DIAPHRAGM

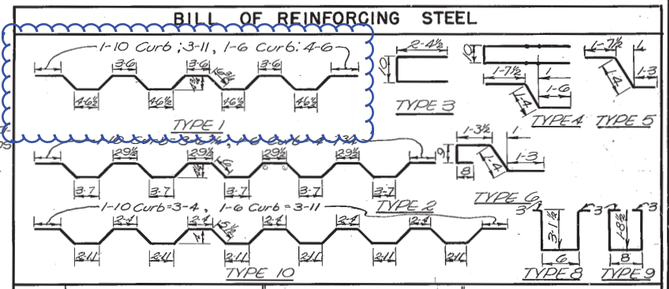
(Cast in place)



NOTE: See End Bent drawing for details at End Bent.

SECTION THRU END DIAPHRAGM FOR PRE-TENSIONED BEAM AT INTER. BENT OR PIER

BILL OF REINFORCING STEEL



SPAN	1-10 Curb MARK	SIZE	NO.	TYPE	LENGTH	MARK	SIZE	NO.	TYPE	LENGTH	1-6 Curb MARK	SIZE	NO.	TYPE	LENGTH
30 Thru 60	C2	#4	Varies	Str.	1'-4"						C8	#4	Varies	6	5'-3"
	C3	4	Varies	5	4-2										
	C4	6	Varies	4	9-9										
	C5	4	Varies	3	5-7										
30-0	S1	4	53	Str.	31-1						S1	4	53	Str.	31-1
	S2	5	68	Str.	39-4						S2	5	68	Str.	40-6
	S3	5	32	1	10-8						S3	5	32	1	11-10
	C1	4	8	Str.	31-1						C1	4	10	Str.	31-1
35-0	S1	4	53	Str.	36-1						S1	4	53	Str.	36-1
	S2	5	80	Str.	39-4						S2	5	80	Str.	40-6
	S3	5	38	1	10-8						S3	5	38	1	11-10
	C1	4	8	Str.	36-1						C1	4	10	Str.	36-1
40-0	S1	4	106	Str.	21-2						S1	4	106	Str.	21-2
	S2	5	88	Str.	39-4						S2	5	88	Str.	40-6
	S3	5	44	1	10-8						S3	5	44	1	11-10
	C1	4	16	Str.	21-2						C1	4	20	Str.	21-2
45-0	S1	4	106	Str.	23-8						S1	4	106	Str.	23-8
	S2	5	100	Str.	39-4						S2	5	100	Str.	40-6
	S3	5	50	1	10-8						S3	5	50	1	11-10
	C1	4	16	Str.	23-8						C1	4	20	Str.	23-8
50-0	S1	4	106	Str.	26-2						S1	4	106	Str.	26-2
	S2	5	112	Str.	39-4						S2	5	112	Str.	40-6
	S3	5	56	1	10-8						S3	5	56	1	11-10
	C1	4	16	Str.	26-2						C1	4	20	Str.	26-2
55-0	S1	4	120	Str.	28-8						S1	4	120	Str.	28-8
	S2	5	108	Str.	39-4						S2	5	108	Str.	40-6
	S3	5	54	2	10-9						S3	5	54	2	11-11
	C1	4	16	Str.	28-8						C1	4	20	Str.	28-8
60-0	S1	4	130	Str.	31-2						S1	4	130	Str.	31-2
	S2	5	108	Str.	39-4						S2	5	108	Str.	40-6
	S3	5	52	10	40-10						S3	5	52	10	42-0
	C1	4	16	Str.	31-2						C1	4	20	Str.	31-2
65-0	S1	4	130	Str.	33-8						S1	4	130	Str.	33-8
	S2	5	114	Str.	39-4						S2	5	114	Str.	40-6
	S3	5	57	10	40-10						S3	5	57	10	42-0
	C1	4	16	Str.	33-8						C1	4	20	Str.	33-8

INTERMEDIATE DIAPHRAGM AND END DIAPHRAGM BARS

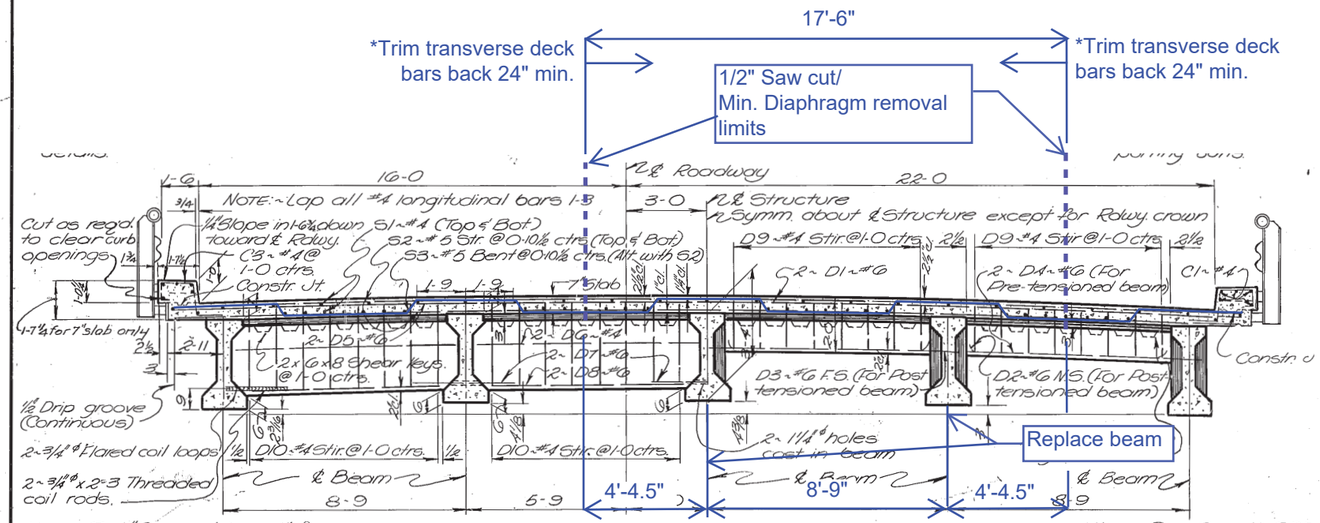
For 30 thru 50 Ft. Spans					For 55 Ft. Span					For 60 Ft. Span				
D1	#6	4	Str.	39-4*	D1	#6	4	Str.	39-4*	D1	#6	4	Str.	39-4*
~~D2~~	~~6~~	~~8~~	~~Str.~~	~~7-4~~	D2	6	10	Str.	5-7	D2	6	12	Str.	4-5
~~D3~~	~~6~~	~~2~~	~~Str.~~	~~36-0~~	D3	6	2	Str.	36-0	D3	6	2	Str.	36-0
D4	6	4	Str.	36-0	D4	6	4	Str.	36-0	D4	6	4	Str.	36-0
D5	6	2	Str.	39-4	D5	6	2	Str.	39-4	D5	6	2	Str.	39-4
D6	4	8	Str.	8-1	D6	4	10	Str.	6-4	D6	4	12	Str.	5-2
D7	6	6	Str.	4-10	D7	6	8	Str.	4-10	D7	6	10	Str.	4-10
D8	6	8	Str.	7-3	D8	6	10	Str.	5-6	D8	6	12	Str.	4-4
D9	4	64	9	4-7	D9	4	60	9	4-7	D9	4	60	9	4-7
D10	#4	32	8	7-3	D10	#4	30	8	7-3	D10	#4	30	8	7-3

For 65 Ft. Spans				
D1	#6	4	Str.	39-4*
D2	6	12	Str.	4-5
D3	6	2	Str.	36-0
D4	6	4	Str.	36-0
D5	6	4	Str.	39-4
D6	4	24	Str.	5-2
D7	6	20	Str.	4-10
D8	6	24	Str.	4-4
D9	4	60	9	4-7
D10	#4	60	8	7-3

NOTE: For details of Prestressed Concrete Beams and for other notes & details see Dwgs. No. PRES-BEAM STD. NO. 1 TYPE-A & No. PRES-5, & C. JOINTS.

NOTE: Concrete curb shall not be poured on spans over 60 Ft. in length for at least 72 hrs. after concrete in slab has taken initial set.

NOTE: D2 & D3 bars to be used with Post-tensioned beams only. D4 bars to be used with Pre-tensioned beams only.



NOTE:- See "General Layout" for curb opening locations & Dwg. No. SBR-T4 for curb opening details.

NEAR ℄ SPAN — NEAR ℄ BEARING

TYPICAL ROADWAY SECTION 30 THRU 50 FT. SPANS

1-6 CURB & STANDARD STEEL BRIDGE RAIL TYPE NO. 4

NOTE:- See Dwg. No. SBR-T4 for details of Bridge Rail & Bridge Rail supporting bolts.

Notes:

1.) Provide 30" minimum lap splice for #6 diaphragm bars (D1, D4, D5, D7, D8) and 20" minimum for #4 diaphragm bars (D6).

2.) Trim the transverse #5 straight bars (S2, top & btm. @10.5" ctrs) back from the saw cut line to provide 24" minimum lap length.
- Add #5E straight bars (17'-6") and lap with trimmed S2's.
  Assume Qty. = (47ft/10.5in ctrs)*2 (top & btm.) = 108 bars~For information only

3.) Trim the transverse #5 crank bars (S3 @10.5" ctrs, alternated w/S2's) back from the saw cut line to provide 24" minimum lap length.
- Add #5E straight bars (17'-6") and lap with trimmed S3's. At the 1/2 bay location the S3 should be in the bottom mat.
  Assume Qty. = (47ft/10.5in ctrs)*1 (btm.) = 54 bars~For information only
- Add #5E straight bars (17'-6") above the trimmed S3's to create a top mat.
  Assume Qty. = (47ft/10.5in ctrs)*1 (top) = 54 bars~For information only

4.) Add #4E bars (47ft) to the trimmed longitudinal bars (S1's) and lap 20" min.
- Assume Qty. = 15 (btm) + (17.5ft/12" ctrs) = 33 bars~For Information Only

* Use hand tools only to remove the last 24" of concrete in the lap splice lengths.

* NOTE: For number of C2, C3, C4 and C5 bars that are required for completed structure, see "Partial Bill of Reinforcing Steel" on "General Layout."

NOTE: Eliminate one-half of all D1, D2, D3, D4 and D9 end diaphragm bars for end span. Eliminate all D1, D2, D3, D4 and D9 end diaphragm bars for single span. See End Bent for additional details of end span.

E: For "Detail of curb at End ent" & End Bent details, see d Bent Drawing.

DESIGNED	J.C.B.	10-30-58
DRAWN	H.K.L.	12-23-58
TRACED	K.L.F.	1-23-1-58
CHECKED	H.E.S.	2-13-59
REVISED	J.C.B.	10-23-59
REVISED	D.R.S.	1-10-61

STATE OF MONTANA
STATE HIGHWAY COMMISSION

STANDARD SLAB, CURB & DIAPHRAGM FOR PRESTRESSED CONCRETE BEAMS
30 THRU 65 FT. SPANS-38 FT. ROADWAY
H20-S16 OR ALTERNATE LOADING
1-10 CURB & STD. STEEL BRIDGE RAIL-TYPE NO. 4
1-6 CURB & STD. STEEL BRIDGE RAIL-TYPE NO. 4
1-6 CURB & STEEL BEAM BRIDGE RAIL

Scale: 3/8" = 1'-0" Except As Noted.

Sheet 5