

**GENERAL NOTES**

All work shall be done according to CDDT Standard Specifications for Road and Bridge Construction with project special provisions.

The bridge shall be closed to vehicular traffic during the construction. The contractor shall provide a minimum 2 week notice to the City of Cañon City and the public prior to closing any roadways. All concrete repair work shall have attained a strength of 3,600 psi and at least 7 days cure time prior to reopening the bridge to vehicular traffic. Traffic control plan and signing to be developed and provided by the contractor, subject to approval by City of Cañon City.

All exposed concrete corners shall be chamfered 3/4 inch.

The contractor shall be responsible for acquiring the required permits and insurances for work within the railroad right-of-way and for coordination with railroad flagging services.

AASHTO M-222 (ASTM A-588) may be substituted for M270 Grade 50 (ASTM A-572) at no additional cost to the project.

Grade 60 reinforcing steel is required.

All reinforcing steel shall be epoxy coated unless otherwise noted.

Ⓝ denotes non coated reinforcing steel.

The following table gives the minimum lap splice length for epoxy coated reinforcing bars placed in accordance with subsection 602.06. These splice lengths shall be increased by 25% for bars spaced at less than 6" on center or less than 3" of lateral cover.

Bar size	#4	#5	#6	#7	#8	#9	#10	#11
Splice length for Class B or D concrete	1'-3"	1'-7"	2'-5"	2'-10"	3'-8"	4'-8"	5'-11"	7'-3"

The Contractor shall be responsible for the stability of the structure during construction.

Stations, Elevations, and Dimensions contained in these plans are calculated from the "As Constructed Plans". These Station, Elevations and Dimensions may be adjusted to meet the existing structure. The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material. Contractor shall perform construction surveying as needed to verify existing and proposed dimensions, elevations, profile grades, cross slopes and any other features impacting the work and notify the Engineer in writing of all discrepancies.

The existing asphalt overlay shall be removed down to 1/2" minimum remaining thickness on the bridge and down to full depth on the approaches, to the limits shown on the plans. The new asphalt shall be placed to match the elevations, profile grade and cross slope of the existing roadway and concrete joint headers. For estimating purposes, average final thickness of asphalt complete in place is assumed to be 3". If additional concrete deck and waterproofing membrane preparation is required, it shall be included as extra work.

Contractor shall perform construction surveying as needed to verify existing and proposed dimensions, elevations, profile grades, cross slopes, and any other features impacting the work.

All longitudinal and transverse dimensions are measured horizontally and include no correction for grade.

The information shown on these plans concerning the type and location of underground utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determination as to the type and location of underground utilities as may be necessary to avoid damage thereto. The Contractor shall contact the Utility Notification Center of Colorado at 811 (1-800-922-1987) at least 3 days (2 days not including the day of notification) prior to any excavation or other earthwork.

Any damage caused to the existing structure to remain as a result of the contractor's operations shall be repaired at contractor's expense to the satisfaction of the engineer.

Removal and resetting of existing light poles (if required) will be performed by others. The scheduling and sequence of this work shall be coordinated with the City of Cañon City prior to beginning construction.

**DESIGN DATA**

AASHTO, Sixth Edition LRFD with current interims

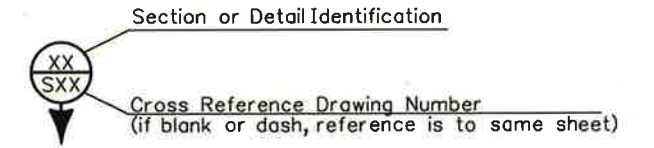
Design Method: Load and Resistance Factor Design

Reinforced Concrete:

Class B Concrete: f'c = 4,500 psi  
 Class D Concrete: f'c = 4,500 psi  
 Reinforcing Steel: fy = 60,000 psi

Structural Steel:

AASHTO M270 (ASTM A-36) Grade 36 fy = 36,000 psi  
 AASHTO M270 (ASTM A-572) Grade 50 fy = 50,000 psi



**BRIDGE DESCRIPTION**

11 SPAN BRIDGE (522'-8 3/4" END WW ABUT 1 TO END WW ABUT 12) PRESTRESSED CONCRETE DOUBLE-TEE GIRDERS 35'-6" OUT-TO-OUT 28'-0" CURB-TO-CURB (OPTION B)

**OPTION B - SUMMARY OF APPROXIMATE QUANTITIES**

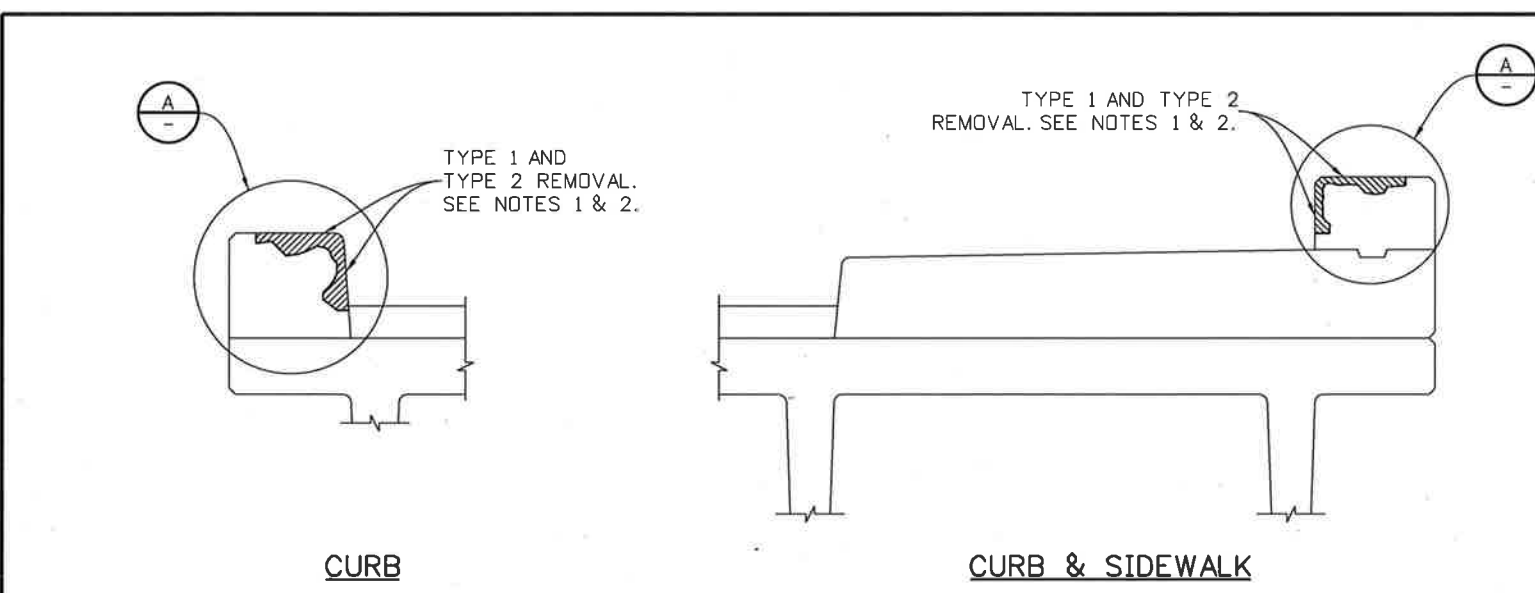
ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY		BRIDGE	
			PLAN	AS CONST.	PLAN	AS CONST.
202-00246	Removal of Asphalt Mat (Planing) (Special)	SY	95		1532	
202-00425	Removal of Bridge Railing	LF			1046	
202-00502	Removal of Portions of Present Structure	CY			6	
202-00520	Removal of Expansion Joint Material	LF			399	
202-01000	Remove Fence	LF			104	
202-01130	Removal of Guardrail Type 3	LF	125			
403-34701	Hot Mix Asphalt (Grading SX) (75)	TON	16		205	
518-03100	Rapid Cure Silicone Joint Seal	LF			310	
518-03110	Preformed Silicone Joint Sealant	LF			29	
519-03000	Thin Bonded Epoxy Overlay	SY			591	
601-06020	Concrete (Patching) (Polymer)	CY			1	
601-06100	Concrete (Patching)	CY			6	
606-00301	Guardrail Type 3 (6-3 Post Spacing)	LF	50			
606-01371	Transition Type 3G (Special)	EACH	4			
606-11010	Bridge Rail Type 10R	LF			523	
606-11015	Bridge Rail Type 10R (Special)	LF			523	
607-53173	Fence Chain Link (Special) (72 Inch)	LF			104	
620-00020	Sanitary Facility	EACH	1			
625-00000	Construction Surveying	LS	1			
626-00000	Mobilization	LS	1			
626-01000	Public Information Services	LS	1			
627-00011	Pavement Marking Paint (Waterborne)	GAL	4			
630-00008	Traffic Control (Special)	LS	1			



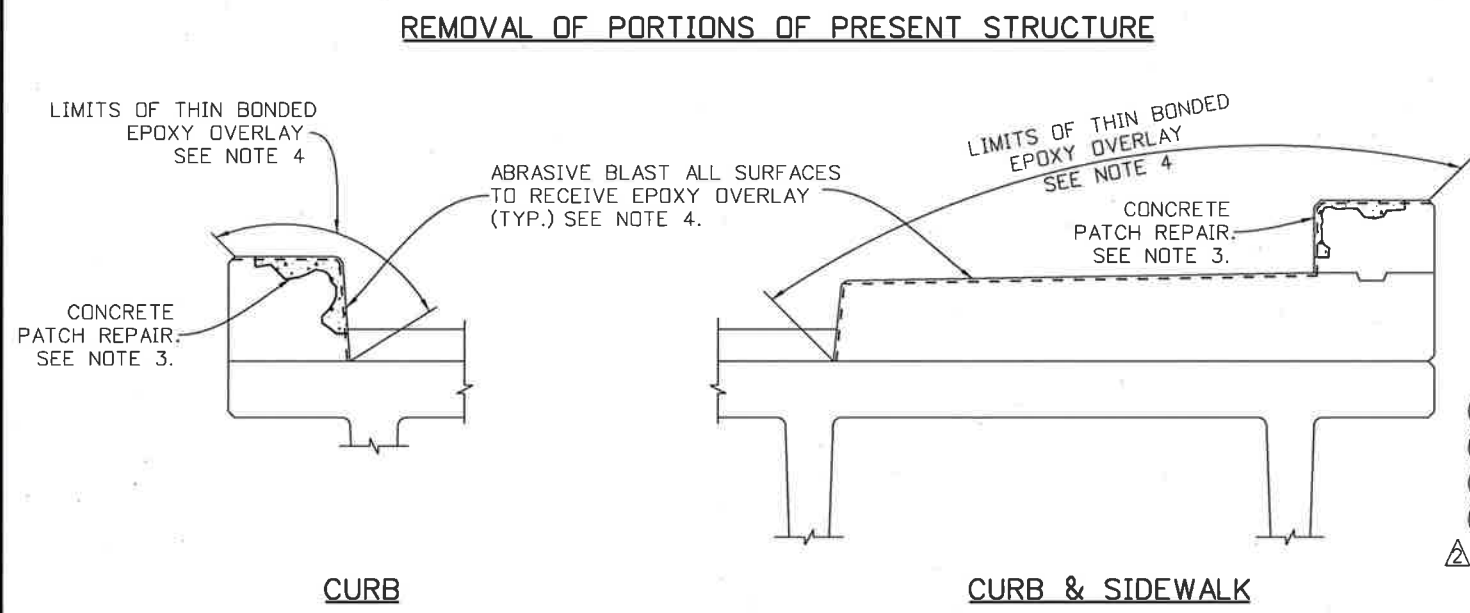
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 Print Date: 9/14/2017  
 File Name: S-2B\_General Information.dgn  
 Horiz. Scale: 1:12  
 Unit Information  
 Stantec

Print Date: 9/14/2017	<b>Sheet Revisions</b>			<p style="text-align: center;">CITY OF CAÑON CITY</p>	As Constructed No Revisions: Revised: Void:	<b>OPTION B - GENERAL INFORMATION</b>			Project No./Code
File Name: S-2B_General Information.dgn	Date:	Comments	Init.						BRD M175-020
Horiz. Scale: 1:12 Vert. Scale: As Noted	01/29/16	100% SUBMITTAL	JEB						20647
Unit Information Unit Leader Initials	08/21/17	OPTION A REMOVED	JEB			Designer:	JEB	Structure	CC-1
	09/14/17	F. OFFICE REMOVED	JEB			Detailer:	MAW	Numbers	
				Sheet Subset:		Subset Sheets:	Sheet Number	S-2B	

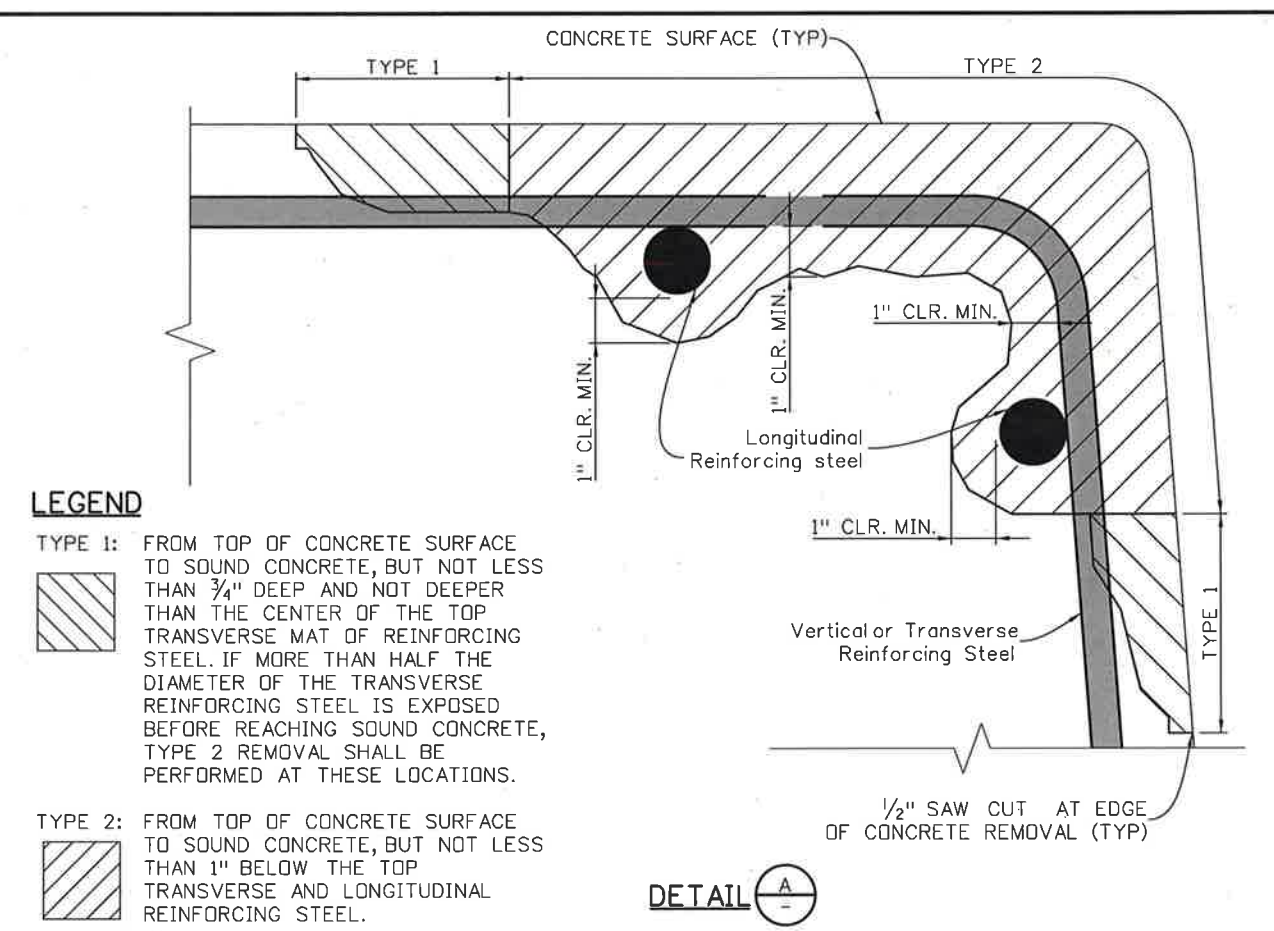
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**REMOVAL OF PORTIONS OF PRESENT STRUCTURE**



**CONCRETE PATCHING & EPOXY OVERLAY**



**LEGEND**

**TYPE 1:** FROM TOP OF CONCRETE SURFACE TO SOUND CONCRETE, BUT NOT LESS THAN 3/4" DEEP AND NOT DEEPER THAN THE CENTER OF THE TOP TRANSVERSE MAT OF REINFORCING STEEL. IF MORE THAN HALF THE DIAMETER OF THE TRANSVERSE REINFORCING STEEL IS EXPOSED BEFORE REACHING SOUND CONCRETE, TYPE 2 REMOVAL SHALL BE PERFORMED AT THESE LOCATIONS.

**TYPE 2:** FROM TOP OF CONCRETE SURFACE TO SOUND CONCRETE, BUT NOT LESS THAN 1" BELOW THE TOP TRANSVERSE AND LONGITUDINAL REINFORCING STEEL.

**DETAIL A**

- NOTES:**
- REMOVAL OPERATIONS SHALL BE COORDINATED WITH THE ENGINEER AND PERFORMED IN A MANNER AS REQUIRED TO ENSURE THE STRUCTURAL INTEGRITY OF THE BRIDGE. CONCRETE SHALL BE REMOVED BY HYDRO-DEMOLITION (10,000 PSI MIN.), HAMMERING, OR OTHER APPROVED METHOD. ALL EXPOSED REINFORCING SHALL BE SANDBLASTED TO REMOVE CONCRETE REMNANTS AND CORROSION PRIOR TO PLACING CONCRETE. CONCRETE REMOVAL IN THE CURBS, SIDEWALKS, AND WINGWALLS, INCLUDING HYDRO-DEMOLITION, HAMMERING, SAW CUTTING, SANDBLASTING EXPOSED REINFORCING, AND INCIDENTALS SHALL BE INCLUDED IN THE COST FOR CONTRACT ITEM REMOVAL OF PORTIONS OF PRESENT STRUCTURE.
  - CARE SHALL BE TAKEN IN REMOVING CONCRETE FROM AROUND REINFORCING STEEL TO PREVENT DAMAGE TO THE STEEL. ANY REINFORCING DAMAGED BY CONSTRUCTION OPERATIONS SHALL BE REPLACED WITH REINFORCING (EPOXY-COATED) AS DIRECTED BY THE ENGINEER AT CONTRACTOR'S EXPENSE.
  - REMOVAL DEPTH TO SOUND CONCRETE < 3/8" SHALL BE PATCHED USING THE EPOXY BINDER SPECIFIED IN NOTE 4. REMOVAL DEPTH TO SOUND CONCRETE > 3/8" SHALL BE TYPE 1 OR TYPE 2 AND PATCHED WITH AN APPROVED HIGH STRENGTH CONCRETE REPAIR MORTAR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SURFACE PREPARATION, BONDING AGENT, CONCRETE REPAIR MORTAR, AND INCIDENTALS SHALL BE INCLUDED IN THE COST FOR CONTRACT ITEM CONCRETE (PATCHING).
  - AFTER THE CONCRETE REPAIRS HAVE ACHIEVED THE MANUFACTURER'S SPECIFIED STRENGTH, ABRASIVE BLAST THE ENTIRE INTERIOR FACES AND TOP SURFACES OF THE CONCRETE CURBS AND SIDEWALKS TO SOUND CONCRETE, BUT NOT LESS THAN THE CONCRETE SURFACE PROFILE RECOMMENDED BY THE THIN BONDED EPOXY MANUFACTURER. APPLY AN APPROVED THIN BONDED EPOXY BINDER TO THE ENTIRE INTERIOR AND TOP SURFACES OF THE CONCRETE CURBS AND SIDEWALKS WITHIN THE BRIDGE AND WING WALL LIMITS. THE EPOXY BINDER SHALL FILL ANY SHALLOW REMOVAL AREAS NOT PREVIOUSLY PATCHED TO PROVIDE A SMOOTH, UNIFORM FINISHED SURFACE. BROADCAST TWO COURSES OF FLINT 3 AGGREGATE, OR APPROVED EQUAL GRADATION, ON THE WALKING SURFACE OF THE SIDEWALK ONLY, FOLLOWING MANUFACTURER'S RECOMMENDATIONS. PROVIDE AGGREGATE COLOR BLEND SIMILAR TO EXISTING CONCRETE SHADE, AND SUBMIT SAMPLES FOR APPROVAL PRIOR TO ORDER. ABRASIVE BLASTING, SURFACE PREPARATION, THIN BONDED EPOXY BINDER, AGGREGATE COURSES, AND INCIDENTALS SHALL BE INCLUDED IN THE COST FOR CONTRACT ITEM THIN BONDED EPOXY OVERLAY.
  - THESE DETAILS REFLECT THE SCOPE AND NATURE OF THE WORK. THEY ARE NOT INTENDED TO REPRESENT THE ACTUAL STRUCTURE. CONDITIONS MAY VARY AT THE BRIDGE SITE, AND PLAN QUANTITIES ARE GIVEN FOR ESTIMATING PURPOSES ONLY. ACTUAL CONCRETE REMOVAL SHALL BE AS NEEDED TO REACH SOUND CONCRETE AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE BASED ON ACTUAL QUANTITIES OF CONCRETE REMOVAL, CONCRETE PATCHING, AND THIN BONDED EPOXY OVERLAY.



ESTIMATED REMOVAL AND PATCH VOLUMES		
TYPE	COMPUTATION METHOD	VOLUME
TYPE 1	45% OF CURB AREA (TOP & INSIDE FACES ONLY) W/ AVERAGE DEPTH OF 1 1/2"	4.75 CY
TYPE 2	5% OF CURB AREA (TOP & INSIDE FACES ONLY) W/ AVERAGE DEPTH OF 4"	1.25 CY

SEE NOTE 5.

Print Date: 9/14/2017		<b>Sheet Revisions</b> Date:            Comments            Init. 01/29/16        100% SUBMITTAL        JEB 09/14/17        Δ REVISED NOTES        JEB			<b>CITY OF CAÑON CITY</b>	As Constructed		<b>OPTION B - CONCRETE REPAIR DETAILS</b>		Project No./Code	
File Name: S-12B-Conc Repair Det.dgn						No Revisions:		Designer: JEB		Structure: CC-1	
Horiz. Scale: 1:12            Vert. Scale: As Noted						Revised:		Detailer: MAW		20647	
Unit Information            Unit Leader Initials						Void:		Sheet Subset:		Subset Sheets:	
										Sheet Number <b>S-12B</b>	