

# CITY OF WHEAT RIDGE

## REHABILITATION PROJECT: B-01-15

### MARSHALL STREET OVER CLEAR CREEK JOINT REPAIRS

#### Marshall Street over Clear Creek



VICINITY MAP  
NOT TO SCALE

#### INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	GENERAL NOTES
3	GENERAL NOTES AND SUMMARY OF APPROXIMATE QUANTITIES
4	PLAN AND ELEVATION
5	BRIDGE EXPANSION DEVICE (0-4 INCH) REPLACEMENT
6	BRIDGE EXPANSION DEVICE REPAIR JOINT AT PIER
7	BRIDGE EXPANSION DEVICE (0-4 INCH) AT ABUTMENT
8	CONCRETE DECK REPAIR DETAILS

Revision	Dates	(Preliminary Stage Only)

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Designed by	Date	Detailed by	Date	Initial	Date
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**GENERAL NOTES**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF WHEAT RIDGE CONSTRUCTION STANDARDS AND CONCRETE SPECIFICATIONS, THESE CONSTRUCTION PLANS AND THE CURRENT COLORADO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS WHEN NOT IN THE CITY OF WHEAT RIDGE SPECIFICATIONS AND STANDARDS.
2. A TACK COAT OF EMULSIFIED ASPHALT (SLOW-SETTING) IS TO BE APPLIED BETWEEN PAVEMENT COURSES TO IMPROVE THE BOND. DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER. RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.
3. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED. WATER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
4. WHERE EXISTING ASPHALT OR CONCRETE PAVEMENT IS WIDENED OR REMOVED, IT SHALL BE CUT TO A NEAT WORK LINE WITH A PAVEMENT CUTTING SAW OR OTHER METHOD AS APPROVED BY THE ENGINEER, THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS SUBSIDIARY WORK.
5. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPE AS SHOWN ON THE PLANS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT HIS OWN EXPENSE. CONSTRUCTION ACTIVITIES, IN ADDITION TO NORMAL CONSTRUCTION PROCEDURES SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY ACTION WHICH WOULD ALTER EXISTING CONDITIONS.
6. THE CONTRACTOR WILL BE REQUIRED TO BROOM THE TRAVELED ROADWAY WHEN OPERATIONS ARE USING OR CROSSING THE ROADWAYS. THE BROOMING MAY BE REQUIRED ON A DAILY BASIS OR AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK. ANY CONSTRUCTION DEBRIS OR MUD TRACKED ONTO EXISTING ROADWAYS SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REPAIR ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY HIS CONSTRUCTION. THE CONTRACTOR SHALL PROPERLY BARRICADE THE CONSTRUCTION SITE UNTIL CONSTRUCTION IS COMPLETE.
7. ALL SCALES LISTED IN PLANS ARE ORIGINAL.
8. UTILITY LINES AS SHOWN ON THE PLAN SHEETS ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 105 SUBSECTION 105.10 OF THE CDOT SUPPLEMENTAL SPECIFICATIONS CONCERNING UTILITIES. THE CONTRACTOR SHALL CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 FOR UTILITY LOCATIONS AT LEAST 2 WORKING DAYS PRIOR TO ANY EXCAVATION, NOT INCLUDING THE DAY OF ACTUAL NOTICE. XCEL ENERGY WILL LOCATE STREET LIGHT FEEDS AT NO COST TO THE PROJECT.
9. ALL REMOVED STRUCTURE, PAVEMENT AND MISCELLANEOUS MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF DAILY OFF-SITE AT THE CONTRACTOR'S EXPENSE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ADDITIONAL WORK PERFORMED BY OTHERS. THIS SHALL INCLUDE ALL UTILITY COMPANIES WHICH HAVE ASSOCIATED WORK IN THE PROJECT SITE.
11. THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM STORM AND IRRIGATION WATER AT ALL TIMES. AREAS AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER, SHALL BE PROMPTLY DEWATERED USING APPROVED STORMWATER QUALITY BMP'S AND RESTORED WITHOUT COST TO THE CITY. THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM WATER AT ALL TIMES. AREAS AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER, SHALL BE PROMPTLY DEWATERED AND RESTORED AT NO COST TO THE OWNER.
12. THE PHYSICAL FEATURES WITHIN THE LIMITS OF THE PROJECT HAVE BEEN SHOWN BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF THE DESIGN. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL FEATURES PRIOR TO BEGINNING ANY WORK. DIMENSIONS SHOWN TO RIGHT-OF-WAY LINES AND EXISTING PHYSICAL STRUCTURES ARE TYPICAL AND MAY VARY.
13. EROSION CONTROL SHALL BE PLACED PER THE CONTRACTOR'S PROVIDED AND APPROVED SWMP PLAN AND AS DIRECTED BY THE ENGINEER. EROSION LOGS/GRAVEL BAGS AND INLET PROTECTION ARE ANTICIPATED AS BMP'S; COST INCLUDED IN THE WORK.
14. IT IS SUGGESTED THAT THE CONTRACTOR INITIATE A REQUEST TO THE XCEL ENERGY FOR ANY CONSTRUCTION RELATED TEMPORARY ELECTRICAL POWER SOURCES AS SOON AS POSSIBLE. IN SOME INSTANCES, UP TO 30 DAYS MAY BE REQUIRED TO PROVIDE THE SOURCES. THE REQUEST IS TO BE PROCESSED THROUGH XCEL ENERGY, AT (800) 628-2121.
15. THE CONTRACTOR SHALL PROTECT PEDESTRIANS AND VEHICLES FROM ALL WORK AREAS WITH BARRICADES.
16. THE CONTRACTOR SHALL OBTAIN ALL CITY OF WHEAT RIDGE PERMITS INCLUDING, BUT NOT LIMITED TO, ELECTRICAL, EXCAVATION, AND CONCRETE. THE CONTRACTOR SHALL NOTIFY RESPECTIVE AGENCIES A MINIMUM OF 48 HOURS PRIOR TO THE INSTALLATION OF ITEMS REQUIRING THEIR INSPECTION.
17. POTHOLING WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN ITEMS FOR WHICH PAYMENT IS MADE.
18. CONSTRUCTION SURVEYING SHALL BE PROVIDED BY THE CONTRACTOR AND COST INCLUDED IN THE WORK.
19. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A CONSTRUCTION SCHEDULE AT THE PROJECT PRE-CONSTRUCTION MEETING. THIS SCHEDULE WILL SHOW THE BEGINNING AND ENDING DATES OF MAJOR CONTRACT ITEMS. THIS SCHEDULE WILL BE UPDATED BY THE CONTRACTOR EVERY 10 WORKING DAYS, OR AS REQUIRED BY THE CITY.

20. COMPACTION FOR THIS PROJECT SHALL BE PER SECTION 203 OF THE 2011 CDOT STANDARD SPECIFICATIONS AND/OR ANY APPLICABLE PROJECT AND STANDARD SPECIAL REVISIONS.
21. MATERIALS TESTING FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH SECTION 720 OF THE CITY SPECIAL PROVISIONS.
22. TO PROVIDE FOR ADEQUATE SULFATE RESISTANCE IN ALL CONCRETE SUPPLIED, SEVERITY OF POTENTIAL EXPOSURE SHALL BE CLASS 2 FOR THIS PROJECT. THE CONTRACTOR MAY AT HIS OWN EXPENSE HAVE A CERTIFIED LABORATORY TEST THE SUB GRADE PER THE CDOT FIELD MATERIALS MANUAL. TESTING SHALL BE AT THE SAME SCHEDULE AND FREQUENCY AS REQUIRED FOR A PRELIMINARY SOIL SURVEY. THE CONTRACTOR MAY PROPOSE A DIFFERENT CLASS OF EXPOSURE FOR THE PROJECT BASED ON THOSE TEST RESULTS.
23. THE CONTRACTOR SHALL HAVE ONE SIGNED FULL SIZE COPY OF THE PLANS APPROVED BY THE GOVERNING AGENCIES AND ONE COPY OF THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS, CDOT PERMIT (IF APPLICABLE), AND SWMP DOCUMENT ON THE JOB SITE AT ALL TIMES.
24. REPAIR OF ANY DAMAGE TO EXISTING IMPROVEMENTS AND/OR LANDSCAPING IS THE RESPONSIBILITY OF THE CONTRACTOR AT HIS/HER EXPENSE. ALL DAMAGE CAUSED TO EXISTING CURB, GUTTER AND SIDEWALK DURING CONSTRUCTION SHALL BE REPAIRED PRIOR TO ACCEPTANCE OF COMPLETED IMPROVEMENTS, AT THE CONTRACTOR'S EXPENSE.
25. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS IN WRITING A MINIMUM OF 48 HOURS PRIOR TO ANY UTILITY SHUT OFF OR CLOSURE OF DRIVEWAYS. THE NOTICES MUST HAVE CONTRACTOR'S PHONE NUMBER AND NAME OF CONTACT PERSON, AND EMERGENCY PHONE NUMBER FOR AFTER-HOURS CALLS. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING LOCAL ACCESS TO ALL DRIVEWAYS.
26. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING CLEANLINESS ON ALL LOCAL ROADWAYS AFFECTED BY HIS CONSTRUCTION.
27. AS A CONDITION FOR QUALIFYING FOR FINAL PAYMENT THE CONTRACTOR WILL FURNISH UPON COMPLETION OF THE PROJECT, 3 SET OF AS-CONSTRUCTED DRAWINGS PER SECTION 105.02 OF THE CITY PROJECT SPECIAL PROVISIONS AND CDOT STANDARD SPECIFICATIONS.
28. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THE PLANS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT HIS EXPENSE. CONSTRUCTION ACTIVITIES, IN ADDITION TO NORMAL CONSTRUCTION PROCEDURES, SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD INCLUDE CLEARING AND GRUBBING, AND LANDSCAPE RESTORATION. ALL VEHICLES AND EQUIPMENT SHALL AVOID ANY DAMAGE TO SURROUNDING LANDSCAPING OR VEGETATION.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING ALL LAND MONUMENTS. MONUMENTS DISTURBED DURING CONSTRUCTION ACTIVITY SHALL BE RESET AT NO ADDITIONAL COST TO THE PROJECT. THE RESETTING OF MONUMENTS SHALL BE DONE UNDER THE DIRECT SUPERVISION OF A REGISTERED LAND SURVEYOR. THE CONTRACTOR SHALL FILE MONUMENT RECORDS WITH THE BOARD OF REGISTRATION OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS FOR ALL LAND MONUMENTS RESET DURING CONSTRUCTION.
30. ALL MATERIAL UNCLASSIFIED EXCAVATION SHALL BE REMOVED FROM THE PROJECT SITE. ALL EMBANKMENT MATERIAL MUST BE IMPORTED AND SHALL HAVE SULFATE LEVELS LESS THAN 2 PERCENT WATER-SOLUBLE SULFATE (SO4) IN DRY SOIL. IN ADDITION, ALL EMBANKMENT MATERIAL SHALL HAVE A MINIMUM R-VALUE OF 30.
31. THE 2014 CDOT FIELD MATERIALS MANUAL IS TO BE USED FOR THE LIFE OF THE PROJECT.

**TRAFFIC CONTROL**

1. THE CONTRACTOR SHALL PROVIDE TWO LANES OF TRAFFIC, ONE LANE IN EACH DIRECTION, EACH LANE A MINIMUM OF 11 FT. WIDE ON MARSHALL STREET AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE, PROGRAM AND MAINTAIN TWO EACH VARIABLE MESSAGE SIGNS (VMS) A MINIMUM OF ONE WEEK/7 DAYS PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES, AND THROUGHOUT THE CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A METHOD OF HANDLING TRAFFIC (MHT) FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION OR LIMITING TRAFFIC. CONTRACTOR SHALL UTILIZE CDOT STANDARD PLAN NO. S-630-1 CASES 3, 24, 29 AND OTHERS AS APPROPRIATE.
2. THE CONTRACTOR SHALL PREPARE AND PRESENT HIS/HER METHOD FOR HANDLING CONSTRUCTION ZONE TRAFFIC TO THE CITY FOR APPROVAL AT THE PRE-CONSTRUCTION MEETING.
3. WORK WITHIN CITY ROW ROADWAY AREAS CLOSED TO THROUGH TRAFFIC MAY PROCEED BETWEEN THE HOURS OF 7:00 AM AND 5:00 PM ON LOCAL STREETS, AND BETWEEN THE HOURS OF 8:30 AM AND 3:30 PM ON COLLECTOR, ARTERIAL AND HIGH VOLUME LOCAL STREETS AS DETERMINED IN WRITING BY THE CITY.
4. TRAFFIC CONTROL DURING CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF THE FHWA'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND OTHER DOCUMENTS DETAILED IN THE SPECIFICATIONS.
5. PROVISIONS FOR PEDESTRAIN TRAFFIC SHALL BE MADE FOR DURING ALL PHASES OF CONSTRUCTION.
6. WORKING HOURS LIMITATIONS SHALL BE CLEARLY IDENTIFIED.

**UTILITIES**

1. THE CONTRACTOR IS RESPONSIBLE TO EXCAVATE AND LOCATE ALL EXISTING UTILITIES WHICH MAY AFFECT CONSTRUCTION. ALL EXPLORATORY EXCAVATIONS SHALL OCCUR FAR ENOUGH IN ADVANCE TO PERMIT ANY NECESSARY RELOCATION TO BE MADE WITH MINIMAL DELAYS TO THE PROJECT. UNLESS A PAY ITEM HAS BEEN INCLUDED FOR EXPLORATORY EXCAVATIONS (POTHOLING), ALL EXPLORATORY EXCAVATIONS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. THE CONTRACTOR SHALL NOT BE COMPENSATED FOR ANY DELAY DUE TO UTILITY CONFLICTS.
2. ALL UTILITY RELOCATES WILL BE PERFORMED BY THE OWNING UTILITY COMPANY. DURING THE COURSE OF THE PROJECT, UNLESS A SEPARATE PAY ITEM IS PROVIDED. THE CITY CONTACTED UTILITIES DURING DESIGN PROCESS.
3. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT ALL UTILITIES TO COORDINATE SCHEDULES.
4. THE CONTRACTOR SHALL COMPLY WITH ARTICLE 1.5 OF TITLE 9, CRS ("EXCAVATION REQUIREMENTS") WHEN EXCAVATING OR GRADING IS PLANNED IN THE AREA OF THE UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 811 OR 1-800-922-1987, TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBER COMPANIES. ALL OTHER UNDERGROUND FACILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE OWNER. UTILITY SERVICE LATERALS SHALL ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING. THE CONTRACTOR SHALL LOCATE NON-MEMBER UTILITIES, SUCH AS STORM SEWER AND DITCH FACILITIES AS NECESSARY TO PREVENT DAMAGE THERETO.
5. IT IS SUGGESTED THAT THE CONTRACTOR CALL XCEL ENERGY AT 1-800-895-1999 FOR AN ELECTRICAL EMERGENCY.
6. IT IS SUGGESTED THAT THE CONTRACTOR CALL XCEL ENERGY AT 1-800-895-2999 FOR A GAS EMERGENCY.
7. CONTRACTOR SHALL POSITIVELY LOCATE AND POTHOLE ALL POTENTIAL CONFLICTS WITH EXISTING BURIED UTILITY FACILITIES WITH THE PROPOSED CONSTRUCTION AS SHOWN ON THE PLANS OR BY FIELD LOCATION MARKINGS. IF CONFLICT EXISTS, MODIFY PROPOSED CONSTRUCTION PLANS TO AVOID ALL EXISTING BURIED UTILITY FACILITIES.

**ENVIRONMENTAL/LANDSCAPING**

1. THE CONTRACTOR SHALL COMPLY WITH ALL CITY NOISE ORDINANCES APPLICABLE TO NIGHTTIME CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL COORDINATE WITH THE CITY FOR ALL NECESSARY NOISE EXEMPTIONS, NOTICES AND/OR PERMIT VARIANCES AS REQUIRED. THE CONTRACTOR SHALL SUBMIT A NIGHT TIME NOISE ORDINANCE EXEMPTION REQUEST (AT LEAST TWO WEEKS PRIOR TO THE PROPOSED NIGHT WORK START DATE) TO THE CITY OF WHEAT RIDGE FOR CONSTRUCTION WORK THAT IS SCHEDULED BETWEEN THE HOURS OF 9:00 P.M. AND 7:00 AM. THE FOLLOWING INFORMATION SHOULD BE INCLUDED IN THE EXEMPTION REQUEST SUBMITTALS AND SENT TO THE CITY: (1) REQUESTING ENTITY, (2) CONTACT PERSON AND PHONE NUMBER. (3) LOCATION OF THE WORK, REASONS NIGHT WORK IS BEING REQUESTED, (5) TYPE OF ACTIVITIES PROPOSED TO OCCUR AT NIGHT, EQUIPMENT PROPOSED TO BE USED AT NIGHT, (7) START AND END DATE PROPOSED, (8) TOTAL NUMBER OF NIGHTS WORK IS PROPOSED TO OCCUR ALL P.M. CONSTRUCTION ACTIVITIES SUBJECT TO NOISE RESTRICTIONS CANNOT START UNTIL THE NECESSARY DOCUMENTATION AND NOTIFICATIONS HAVE BEEN APPROVED BY THE CITY. ALL EXEMPTION REQUESTS AND PERMITTING REQUIREMENTS WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE AND CONTROL OF ALL SUBSURFACE DRAINAGE AND GROUNDWATER ENTERING THE PROJECT AREA. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DE-WATERING, IF NEEDED, AT NO ADDITIONAL COST TO THE PROJECT. DEWATERING METHODS SHALL BE APPROVED BY THE CITY.
3. ALL EROSION/SEDIMENT CONTROL BMP'S (STRUCTURAL AND NON-STRUCTURAL) SHALL BE IN PLACE AS NEEDED AND ACCORDING TO THE CONSTRUCTION PHASING AS APPROVED BY THE ENGINEER AND BE INCLUDED IN THE COST OF THE WORK.
4. FOR ANY EQUIPMENT OPERATING BELOW THE TOP OF STORM BANKS: REMOVE ALL MUD, PLANTS AND DEBRIS FROM EQUIPMENT (TRACKS, TURRETS, BUCKETS, DRAGS, TEETH, ETC.) AND SPRAY/SOAK EQUIPMENT IN A 1:15 SOLUTION OF QUAT 4 OR SUPER HDQ NEUTRAL INSTITUTION CLEANER AND WATER. KEEP EQUIPMENT MOIST FOR AT LEAST 10 MINUTES OR REMOVE ALL MUD, PLANTS AND DEBRIS FROM EQUIPMENT (TRACKS, TURRETS, BUCKETS, DRAGS, TEETH, ETC.) AND SPRAY/SOAK EQUIPMENT WITH WATER GREATER THAN 140 DEGREES F FOR AT LEAST 10 MINUTES CLEAN HAND TOOLS, BOOTS, AND ANY OTHER EQUIPMENT THAT WILL BE USED IN THE WATER WITH ONE OF THE ABOVE OPTIONS AS WELL. DO NOT MOVE WATER BODY TO ANOTHER. BE SURE EQUIPMENT IS DRY BEFORE USE.

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MARSHALL STREET OVER CLEAR CREEK JOINT REPAIRS	
Designer: C. DRESEN	Project No. B-01-15
Detailer: M. CASTANEDA	Sheet Number 2
GENERAL NOTES	Subset Sheets: 2 of 08



ENVIRONMENTAL/LANDSCAPING (CONT.)

5. IF SOIL AND/OR GROUNDWATER CONTAMINATION IS ENCOUNTERED, WORK WILL STOP IMMEDIATELY AND THE PROCEDURES OUTLINED IN THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) SPECIFICATION 250 AND SUBSECTION 107.25.8 SHALL BE FOLLOWED. ANY CONTAMINATED WATER RESULTING FROM DEWATERING OPERATIONS SHALL BE CONTAINED IN A TANK OR TRUCK, AND SHALL BE HAULED TO A PERMITTED TREATMENT FACILITY. A DEWATERING PERMIT MAY BE NECESSARY DEPENDING ON THE INTENDED USE OF GROUNDWATER BROUGHT TO THE SURFACE. ENCOUNTERING SUSPECTED CONTAMINATED MATERIAL, INCLUDING UTILITY LINES THAT MAY CONTAIN ASBESTOS OR BE CONTAMINATED BY ASBESTOS IS POSSIBLE AT SOME POINT DURING THE CONSTRUCTION OF THIS PROJECT. WHEN SUSPECTED ASBESTOS CONTAINING MATERIAL IS ENCOUNTERED THE PROCEDURES UNDER SUBSECTION 250.07 SHALL BE FOLLOWED.

STRUCTURE

- STRUCTURE EXCAVATION AND BACKFILL SHALL BE AS SHOWN ON THE PLANS.
- EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M213.
- THE FINAL FINISH FOR THE SURFACES OF THE BRIDGE RAIL CURBS SHALL BE CLASS 2. ALL OTHER EXPOSED CONCRETE SURFACES SHALL RECEIVE A CLASS 1 FINAL FINISH TO ONE FOOT BELOW THE GROUND LINE.
- CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING/FABRICATING MATERIALS AND PRIOR TO INSTALLING/CONSTRUCTING ANY WORK.
- ALL BOLTS SHALL BE HIGH STRENGTH, UNLESS OTHERWISE NOTED.
- GRADE 60 REINFORCING STEEL IS REQUIRED.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- 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 D CONCRETE	1'-3"	1'-7"	2'-5"	2'-10"	3'-8"	4'-8"	5'-11"	7'-3"

SUMMARY OF APPROXIMATE QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
201-00000	CLEARING AND GRUBBING	LS	1.00
202-00220	REMOVAL OF ASPHALT MAT	SY	141.00
202-00453	REMOVAL OF PORTIONS OF PRESENT STRUCTURE (CLASS 2)	SY	19.00
202-00460	REMOVAL OF PORTIONS OF PRESENT STRUCTURE (CLASS 3)	SY	20.00
202-00495	REMOVAL OF PORTIONS OF PRESENT STRUCTURE	LS	1.00
206-00000	STRUCTURE EXCAVATION	CY	24.00
208-00035	AGGREGATE BAG	LF	36.00
208-00045	CONCRETE WASHOUT STRUCTURE	EA	1.00
304-06007	AGGREGATE BASE COURSE (CLASS 6)	CY	10.00
403-34741	HOT MIX ASPHALT (GRADING SX) (PG 64-22)	TON	25.00
411-10255	EMULSIFIED ASPHALT (SLOW-SETTING)	GAL	15.00
515-00120	WATERPROOFING (MEMBRANE)	SY	75.00
518-01004	BRIDGE EXPANSION DEVICE (0-4 INCH)	LF	106.00
601-03040	CONCRETE CLASS D (BRIDGE)	CY	27.00
601-03540	CONCRETE CLASS DT (DECK TOPPING)	CY	5.00
602-00020	REINFORCING STEEL (EPOXY COATED)	LB	3,100.00
614-10120	VARIABLE MESSAGE SIGN	EA	2.00
620-00020	SANITARY FACILITY	EA	1.00
626-00000	MOBILIZATION	LS	1.00
627-00001	PAVEMENT MARKING PAINT	GAL	3.00
630-00000	FLAGGING	HR	160.00
630-80337	BARRICADE (TYPE 3 M-C) (TEMPORARY)	EA	2.00
630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EA	14.00
630-80360	DRUM CHANNELIZING DEVICE	EA	35.00
630-80380	TRAFFIC CONE	EA	20.00

SUMMARY OF SUGGESTED TRAFFIC CONTROL DEVICES

TABULATION TRAFFIC CONTROL PAY ITEMS		
ITEM	UNIT	QUANTITY
VARIABLE MESSAGE SIGN	EACH	2
FLAGGING ▲	HR	160
BARRICADE (TYPE 3 M-A) (TEMPORARY)	EACH	4
CONSTRUCTION TRAFFIC SIGN PANEL (SIZE A)	EACH	14
DRUM CHANNELIZING DEVICE	EACH	35
TRAFFIC CONE	EACH	20
▲ TRAFFIC CONTROL INSPECTION AND TRAFFIC CONTROL MANAGEMENT WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK		

SIGNS (FOR INFORMATION ONLY)					
SIGN CODE	LEGEND	DIMENSIONS	PANEL		
			A	B	C
			EACH		
G20-5P	WORK ZONE	24" X 24"	2		
R2-1(20)	SPEED LIMIT 20	24" X 30"	2		
R2-10	BEGIN FINES DOUBLED	24" X 30"	2		
R2-11	END FINES DOUBLED	24" X 30"	2		
W1-6	ARROW WARNING	36" X 18"	2		
W6-3	TWO-WAY TRAFFIC	36" X 36"	2		
W20-1	ROAD WORK AHEAD	36" X 36"	2		
<b>TOTAL THIS PROJECT</b>			<b>14</b>	<b>0</b>	<b>0</b>

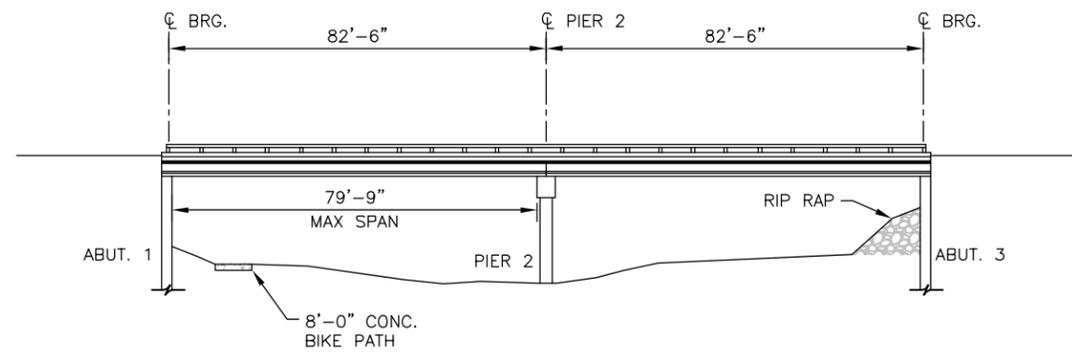
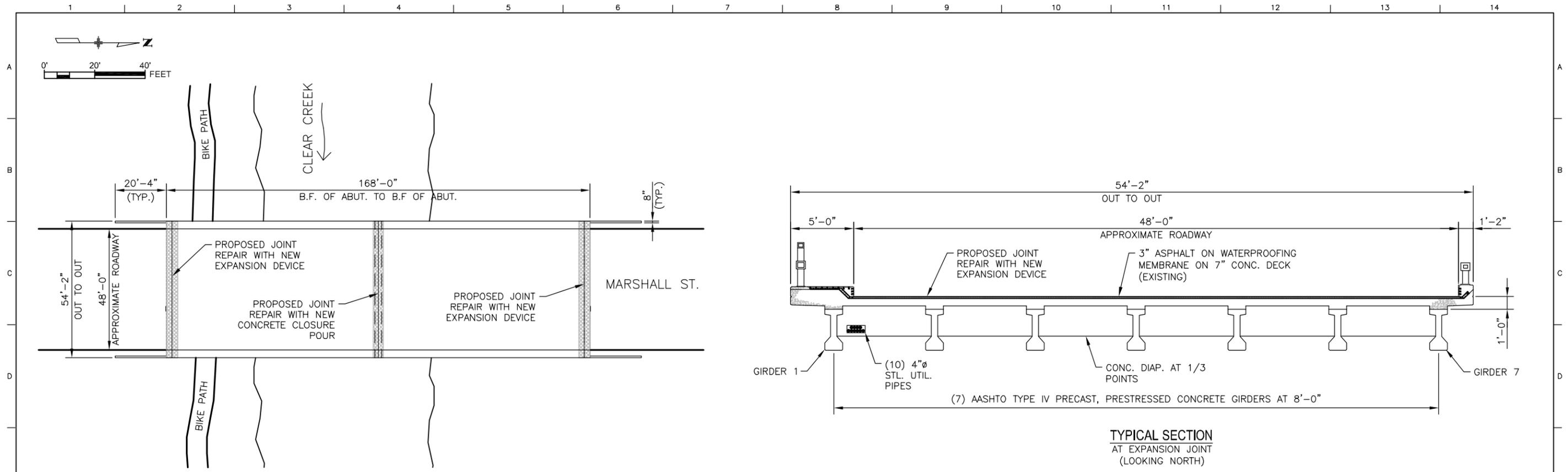
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Acad Ver:      Scale:      Units: ENGLISH		(R-5)

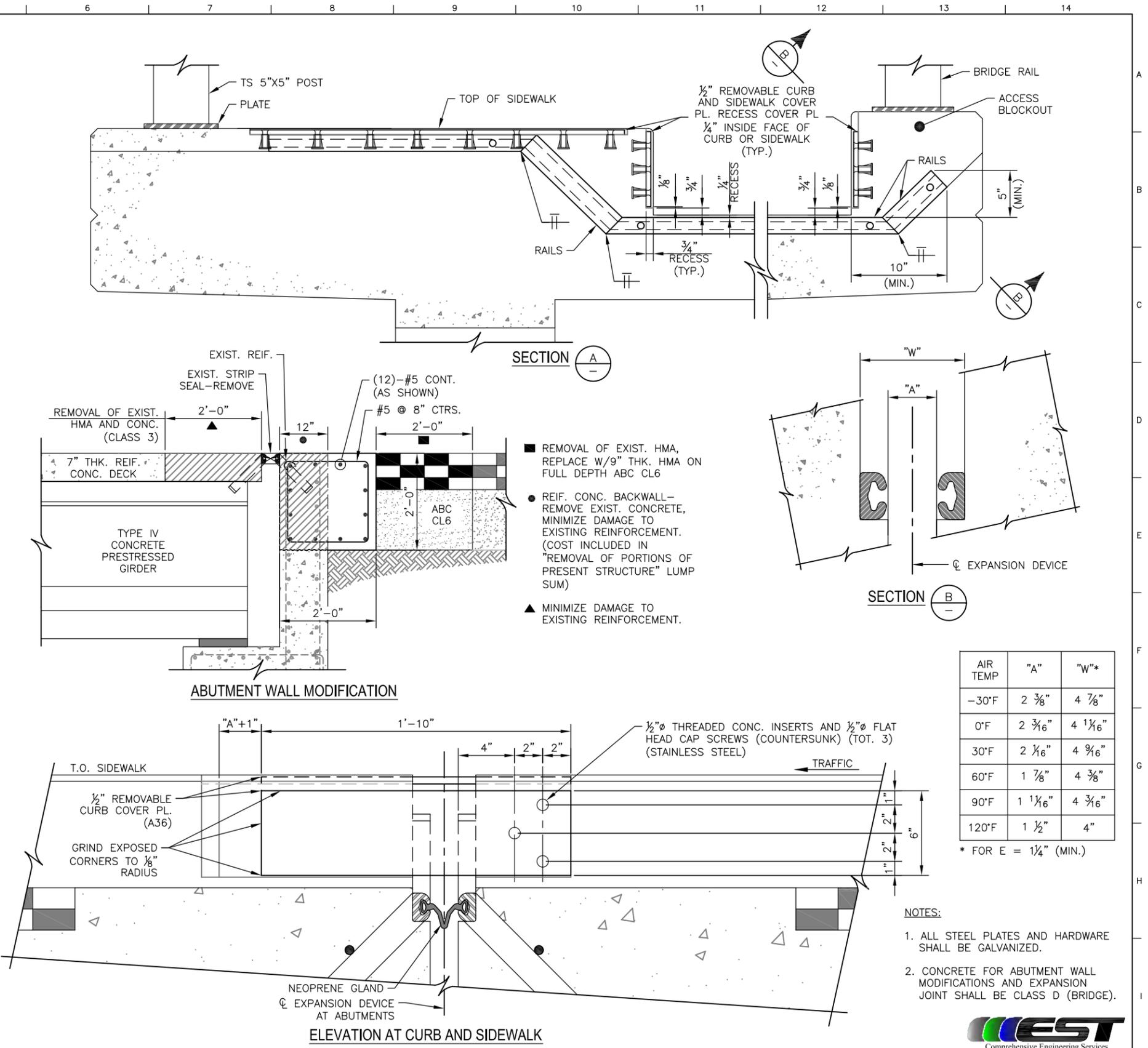
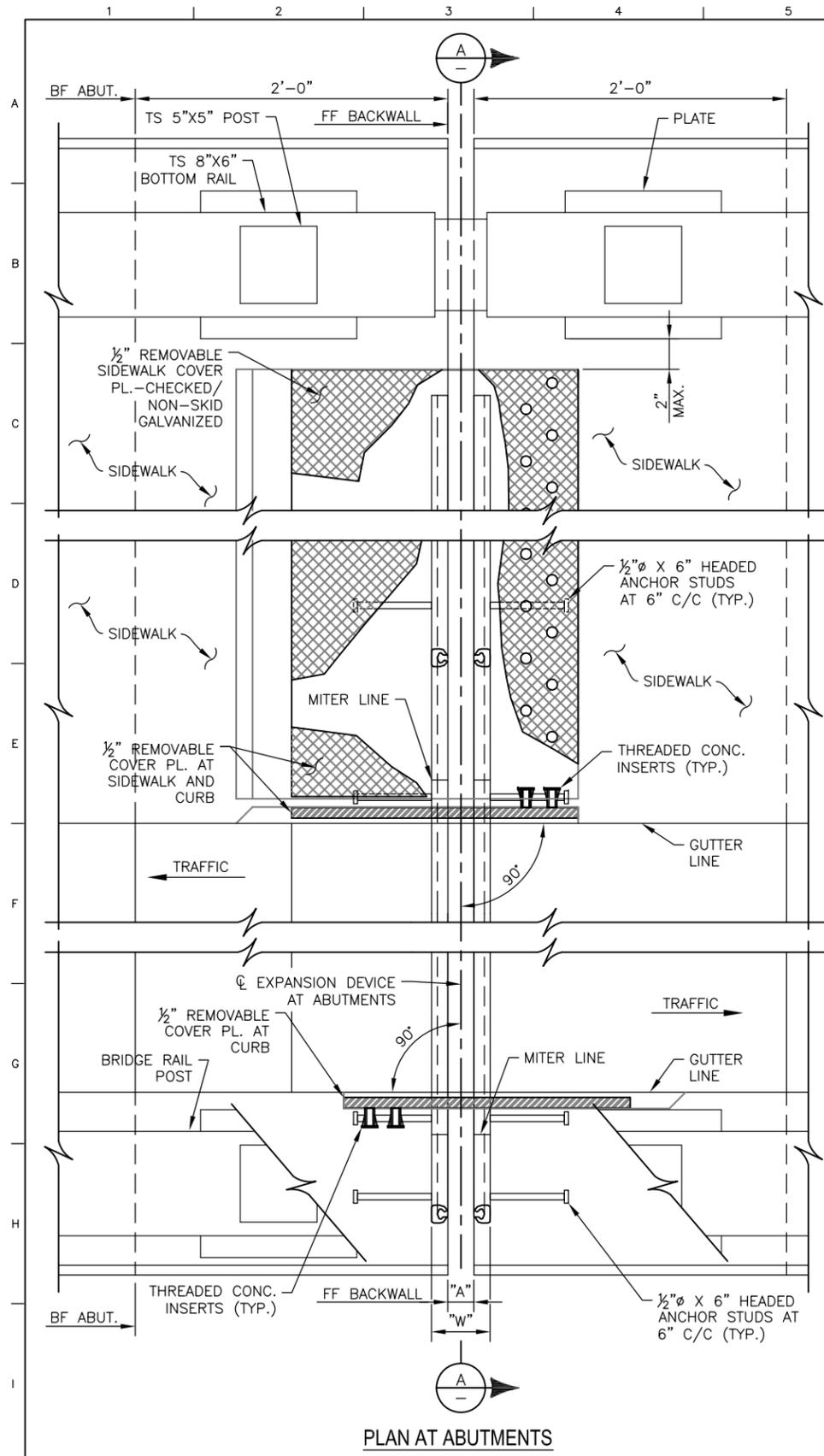
Sheet Revisions		



For Review
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Revised:
Void:

MARSHALL STREET OVER CLEAR CREEK JOINT REPAIRS		
Designer: C. DRESEN	PLAN AND ELEVATION	Project No. B-01-15
Detailer: M. CASTANEDA		
PLAN	Subset Sheets: 4 of 08	Sheet Number 4

DESIGN		DETAIL		QUANTITIES	
Initial	Date	Initial	Date	Initial	Date
Designed by		Detailed by		Quantities by	
Checked by		Checked by		Checked by	
Revision Dates		Revision Dates		Revision Dates	



AIR TEMP	"A"	"W"*
-30°F	2 3/8"	4 7/8"
0°F	2 3/16"	4 1 1/16"
30°F	2 1/16"	4 9/16"
60°F	1 7/8"	4 3/8"
90°F	1 1 1/16"	4 3/16"
120°F	1 1/2"	4"

\* FOR E = 1 1/4" (MIN.)

- NOTES:**
- ALL STEEL PLATES AND HARDWARE SHALL BE GALVANIZED.
  - CONCRETE FOR ABUTMENT WALL MODIFICATIONS AND EXPANSION JOINT SHALL BE CLASS D (BRIDGE).



**Computer File Information**

Creation Date: 03/01/2016	MC	(R-1)
Last Modification Date: 05/24/2016	MC	(R-2)
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Drawing File Name: 05-Details.dwg		(R-4)
Acad Ver: Scale: Units: ENGLISH		(R-5)

**Sheet Revisions**




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**MARSHALL STREET OVER CLEAR CREEK JOINT REPAIRS**

Designer: C. DRESEN	BRIDGE EXPANSION DEVICE	Project No. B-01-15
Detailer: M. CASTANEDA	(0-4 INCH) REPLACEMENT	
ABUTMENT DETAILS	Subset Sheets: 5 of 08	Sheet Number <b>5</b>



**NOTES:**

THE EXPANSION DEVICE SHALL BE INSTALLED ON GRADE, PARALLEL TO THE SLOPE AND GRADE OF THE DECK.

THE EXPANSION DEVICE SHALL NOT BE SET BEFORE THE DECK ELEVATIONS HAVE BEEN APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE SHOTS OF THE EXPANSION DEVICE TO ACHIEVE THE REQUIRED ELEVATIONS FOR SMOOTHER RIDEABILITY ON BRIDGE APPROACHES.

AFTER THE CONCRETE HAS ATTAINED INITIAL SET, THE ATTACHMENTS USED TO HOLD THE EXPANSION DEVICE ASSEMBLY IN ITS PROPER POSITION SHALL BE REMOVED.

"W" AND "E" DIMENSIONS ARE DEPENDENT UPON THE PARTICULAR EXPANSION DEVICE SUPPLIED, AND SHALL BE SHOWN ON THE WORKING DRAWINGS.

SEE TABLE FOR DIMENSIONS "A" AND "W"; INTERPOLATE AS NEEDED. DO NOT INSTALL THE GLAND UNTIL DIMENSION "A" HAS OPENED UP TO AT LEAST 1" (2" FOR SILICOFLEX).

THE NEOPRENE GLAND SHALL BE INSTALLED IN ONE PIECE IN ACCORDANCE WITH SECTION 518 OF THE STANDARD SPECIFICATIONS.

SEE SECTION 518.09 IN THE STANDARD SPECIFICATIONS FOR WATER TIGHT INTEGRITY TESTING REQUIREMENTS.

SET ELEVATIONS AT TOP OF HEADER AND SLEEPER STEM WITH THE GRADE PROJECTION SCHEME.

ALL STEEL ELEMENTS (WHETHER GRADE A36 OR A588) OF THE BRIDGE EXPANSION DEVICE, INCLUDING COVER PLATES, SHALL BE HOT DIP GALVANIZED AFTER FABRICATION AS PER SECTION 509.11 OF THE STANDARD SPECIFICATIONS.

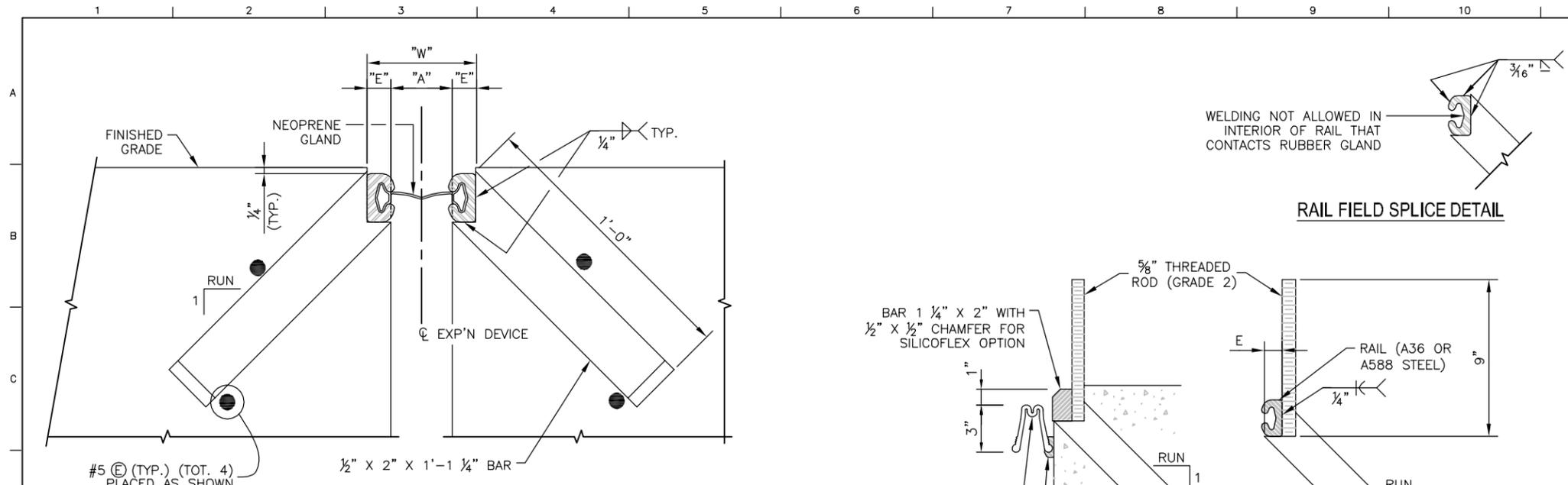
USE A RUN OF 1 OR MORE TO ACCOMODATE EXISTING CONDITIONS AND A RUN OF 1 FOR NEW CONSTRUCTION.

**ACCEPTABLE EXPANSION DEVICE ALTERNATES**

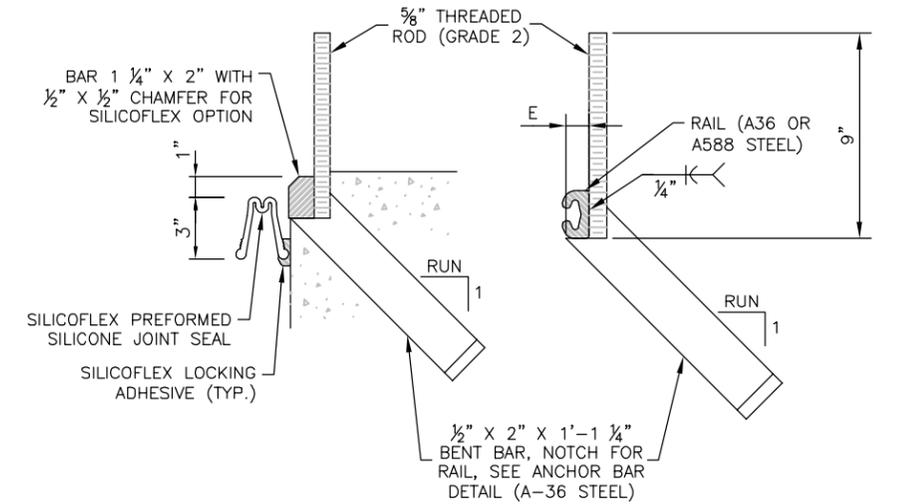
D.S. Brown A2R400-SSA2  
WABO SE400 Type A  
Epoxy Industries S400-A

**NOTES:**

1. PROVIDE EXPANSION DEVICE SUPPORT AS SHOWN AT 6'-0" INTERVALS.
2. FOR REINFORCING NOT SHOWN HEREON, SEE APPROACH SLAB DETAILS.
3. CUT THREADED ROD FLUSH TO CONCRETE FOR FINISHED JOINT.
4. CONCRETE SHALL BE PLACED AFTER EXPANSION DEVICE HAS BEEN ADJUSTED TO PROPER GRADE AND APPROVED BY THE ENGINEER. ALL SAW RESIDUE MATERIAL SHALL BE PROPERLY CONTAINED AND SHALL NOT BE ALLOWED TO RUN INTO ANY STORM DRAINS OR WATERWAYS.

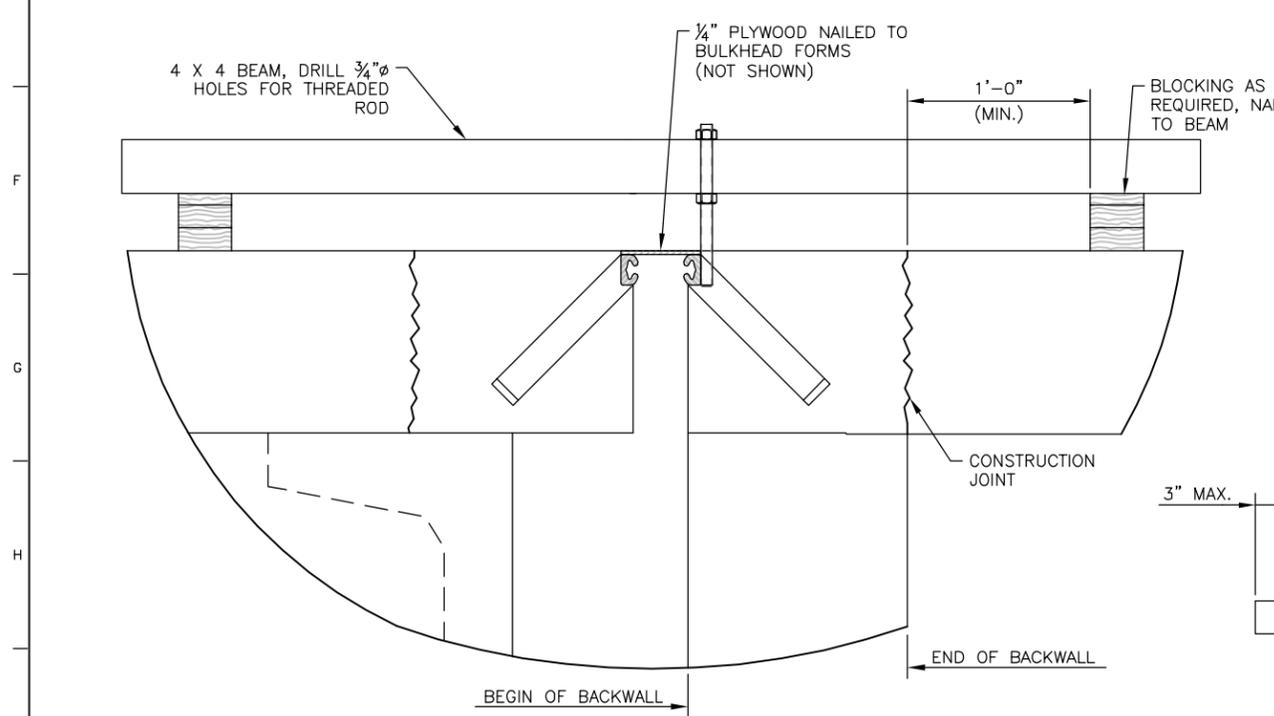


**SECTION THRU STRIP SEAL BRIDGE EXPANSION DEVICE**  
SECTION TAKEN PERPENDICULAR TO Q EXP'N DEVICE

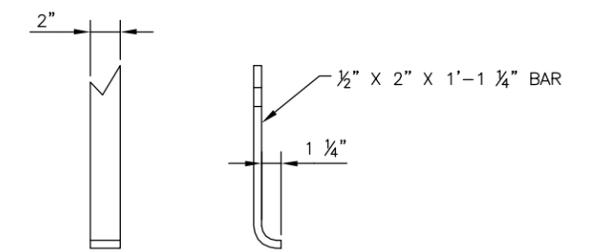


**RAIL FIELD SPLICE DETAIL**

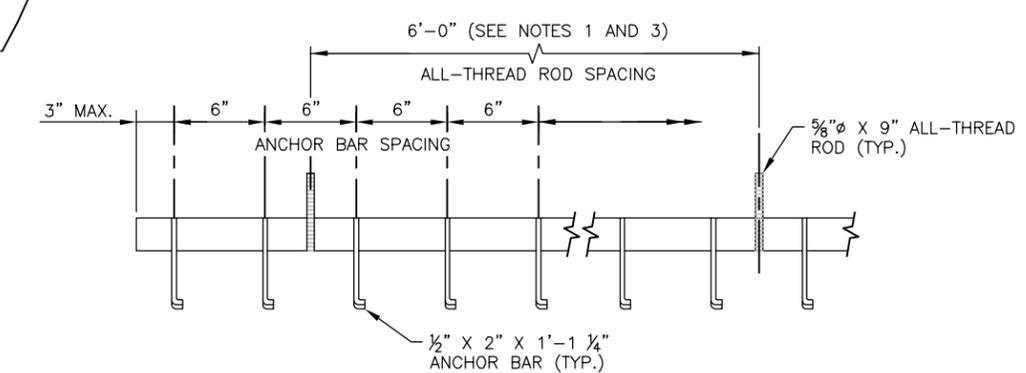
**ANCHORAGE DETAIL**



**MINIMUM SUPPORT BRACKET REQUIREMENTS**



**TYPICAL ANCHOR BAR DETAIL**



**ANCHOR BAR SPACING**

Revision	Date	Checked by

DESIGN	DATE	DESIGNED BY	CHECKED BY
DETAIL	DATE	DETAILED BY	CHECKED BY
QUANTITIES	DATE	QUANTITIES BY	CHECKED BY



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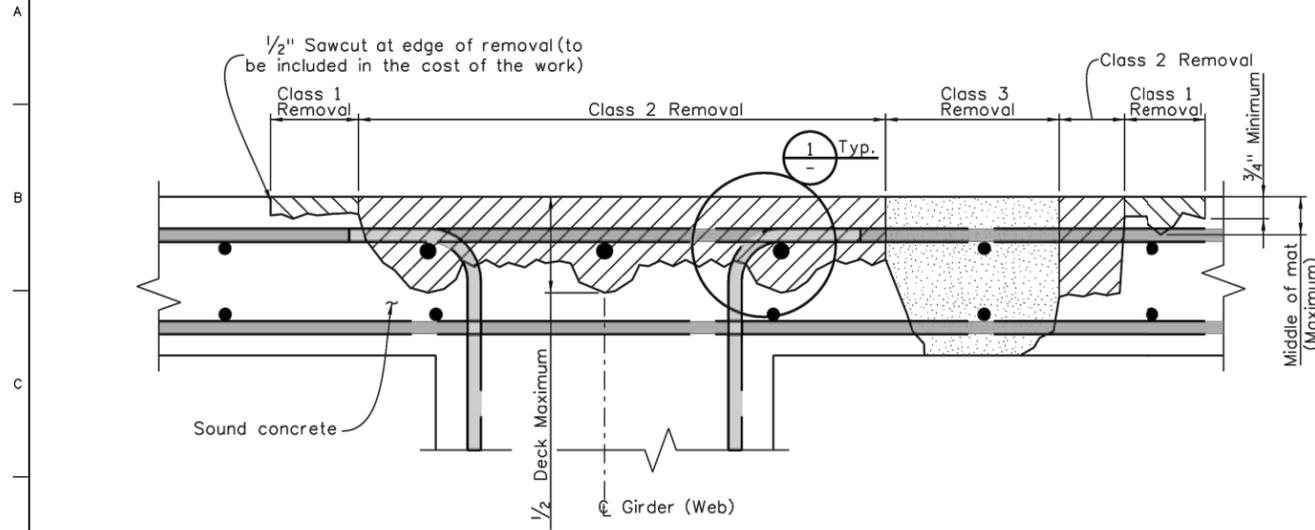
Sheet Revisions	



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Void:

MARSHALL STREET OVER CLEAR CREEK JOINT REPAIRS	
Designer: C. DRESEN	BRIDGE EXPANSION DEVICE
Detailer: M. CASTANEDA	(0-4 INCH) AT ABUTMENT
DETAILS	Subset Sheets: 7 of 08
Project No. B-01-15	Sheet Number 7

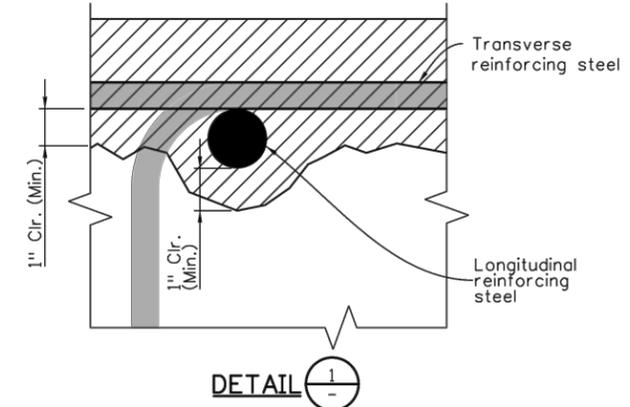




**REMOVAL OF PORTIONS OF PRESENT STRUCTURE (CLASS 1, 2 & 3)**

**LEGEND**

- Class 1: From top of deck to sound concrete, but not less than 3/4" 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, Class 2 removal shall be performed at these locations.
- Class 2: From top of deck to sound concrete, but not less than 1" below the top transverse and longitudinal reinforcing steel. If the bottom mat of reinforcing steel is exposed, then Class 3 removal shall be performed at these locations.
- Class 3: From top to bottom of deck, full depth removal.



**NOTES:**

Removal operations shall be coordinated with the Engineer and performed in a manner as required to ensure the structural integrity of the bridge.

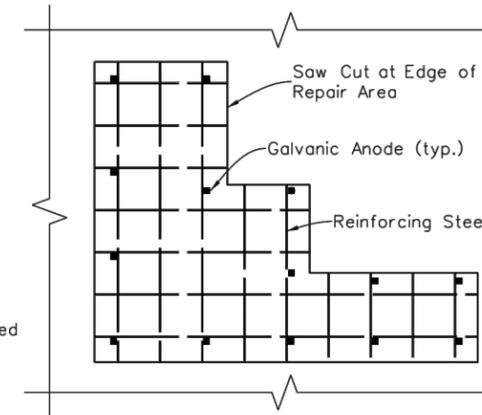
Care shall be taken in removing concrete from around structural steel elements and reinforcing steel to prevent damage to the steel.

These details reflect the scope and the nature of the work. They are not intended to represent the actual structure.

All damaged reinforcing shall be replaced with Reinforcing (Epoxy-Coated). All exposed reinforcing shall be sandblasted prior to placing concrete. Sandblasting will not be measured or paid for separately, but shall be included in the cost of the work.

Galvanic Anode Corrosion protection is required on all areas of exposed reinforcing prior to placing concrete. Manufacturer's recommendations shall be followed for installation. All materials required for this installation shall be included in the cost of the work.

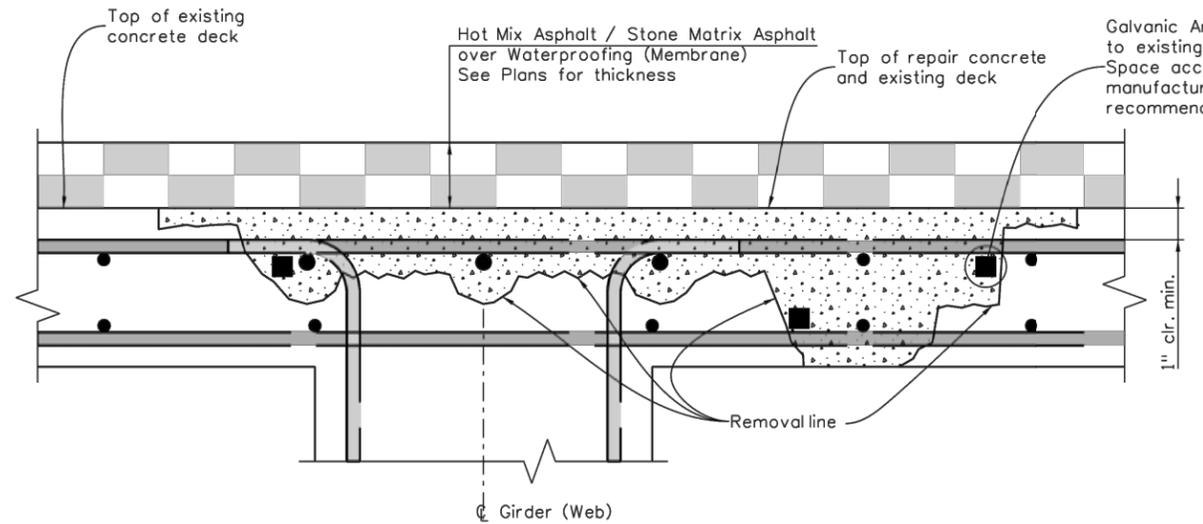
Patched deck may be opened to traffic as soon as new concrete has attained required strength, however, when HMA or SMA is used, a minimum of 10 days cure is required for concrete prior to placement of waterproofing membrane. The applicable classes of removal shall be as designated by the summary of quantities in the plans.



**CORROSION PROTECTION**

ESTIMATED REMOVAL AREAS		
CLASS	COMPUTATION METHOD	AREA
CLASS 1	##% OF DECK AREA	A1
CLASS 2	##% OF CLASS 1	##% x A1
CLASS 3	##% OF CLASS 1	##% x A1

Above areas are for information only. Percentages are provided for estimating purposes and are representative of past projects. Conditions may vary at each bridge site.



**CONCRETE REPLACEMENT**

QUANTITIES (Preliminary Stage Only)			
Revision	Date	Checked by	Initial

DETAIL			
Date	Initial	Checked by	Initial

DESIGN			
Date	Initial	Checked by	Initial



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