



Division of Operations
Mitchell Region Design Office
Better Lives Through Better Transportation
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November 8, 2022

TO: Interested Bidders

ADDENDUM 1

RE: 090E-288, Minnehaha County - PCN I6WT
Detour Signing, Temporary Signals, Temporary Barriers,
Bridge Repair (Overheight Hit) – Partial Deck & Rail Replacement,
Girder Replacement, Girder Repair & Crossover Removal
190E MRM 390.28 Exit 390 Structure 50-119-166 over SD38

The following addenda to the contract proposal and plans will be inserted and made a part of your contract proposal and plans for the above referenced project:

PROPOSAL

PEN AND INK CHANGE: In the second paragraph under the terms for Substantial Completion, strike out reference to the “westbound lanes” and replace it with “eastbound lanes”.

PLANS

Insert new Sheet 9A into the plans. The sheet provides details for crossovers.

Delete Sheet 16 and replace it with the enclosed Sheet 16.

The INCIDENTAL WORK, GRADING note was revised to clarify the location of the temporary traffic crossover on the east side of the interchange.

A note titled 18” CMP FURNISH AND INSTALL was added to clarify where the culvert work is required.

In the Remove and Replace Topsoil note, reference to “ramp detour” was revised to “maintenance crossover” in two locations.

In the Topsoil table “WEST CROSSOVER” was revised to “EAST TRAFFIC CROSSOVER”.

Delete Sheet 17 and replace it with the enclosed Sheet 17.

In the Erosion Control Wattle table “WEST CROSSOVER” was revised to “EAST TRAFFIC CROSSOVER”.

In the High Flow Silt Fence table “WEST CROSSOVER” was revised to “EAST TRAFFIC CROSSOVER”.

Delete Sheet 20 and replace it with the enclosed Sheet 20. The notes for ROADWAY CANOPY were revised to clarify what work is expected to be completed prior to installation of the canopy.

Proposal and Plans (and Addenda, when applicable) can be accessed at the following link:
<https://apps.sd.gov/HC65BidLetting/RegionDefault.aspx> Prior to submitting a bid, it is the bidder’s responsibility to examine the project in accordance with Section 2.5 of the specifications. It is also the bidder’s responsibility to acknowledge and account for any addenda issued prior to bid opening.

Please verify that all required information is complete prior to mailing bid documents.

Very truly yours,

DEPARTMENT OF TRANSPORTATION

Travis Dressen, Region Engineer

Monte Rice, Region Design Engineer

cc: Bennett – Construction and Maintenance
R. Johnson/Paul/Kruger – Operations Support
Hansen – Civil Rights
S. Johnson/Thompson/Morford/J. Iverson – Bridge
Johnston/Pfaff/Aalberg/McClelland/Vandam – Sioux Falls Area
Weisz – Operations
Larson/Litka/A. Smith/Schnabel – Bridge Maintenance
Horstman – Materials
Leiferman – Project Development
Kaus – Data Inventory

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	090 E-288	9A	48

Revised CM on 11/05/22
 Revised CM on 11/07/22

CROSSOVER DETAILS FOR I-90



CROSSOVERS:
 PAVED TRAFFIC CROSSOVERS ARE CURRENTLY IN PLACE TO ALLOW HEAD-TO-HEAD TRAFFIC MOVEMENTS ON I90 FOR BRIDGE REPAIRS.
 A NEW MAINTENANCE CROSSOVER WILL REPLACE THE EXISTING TEMPORARY TRAFFIC CROSSOVER LOCATED AT MRM 390.84 AFTER THE HEAD-TO-HEAD OPERATIONS HAVE CONCLUDED AS APPROVED BY THE ENGINEER. THIS TEMPORARY TRAFFIC CROSSOVER IS LOCATED EAST OF THE BUFFALO RIDGE BRIDGES ON I90.

INCIDENTAL WORK, GRADING

A temporary traffic crossover will be used for two-way traffic on I90 WB. Once the bridge work has been completed, this temporary crossover will be removed, and a new maintenance crossover will be constructed in the same location. This temporary traffic crossover is located east of the Buffalo Ridge Bridges on I90 near MRM 390.84. This crossover was constructed using 933 tons of Base Course, 842 tons of granular material and 870 tons of Class E Asphalt.

Incidental Work, Grading includes removal of the in-place asphalt crossover and construction of the new maintenance crossover. The new maintenance crossover will be constructed using salvaged pit run and base course materials from the in-place crossover. It is anticipated there will be 400 CuYd's of excess materials that will need to be disposed by the Contractor as waste. Inslopes will also need to be reshaped to match the existing interstate cross-section. All equipment, labor, and tools necessary for compaction and excavation of material, sawing and removal of asphalt, removal and replacement of 4" of topsoil, and disposal of waste to complete this work will be incidental to the contract unit price for Incidental Work, Grading.

Remove and Replace Topsoil

Topsoil will be salvaged and stockpiled prior to constructing the maintenance crossover. Limits of this work, depth of salvage, and stockpile location will be directed by the Engineer. Following completion of construction, topsoil will be spread evenly over the disturbed areas and inslopes of the maintenance crossover. Minor shaping may be required for proper drainage to the existing pipe under the current crossover.

The estimated amount of topsoil to be removed and replaced is 100 CuYd. All costs associated with removing and replacing the topsoil along areas to be resurfaced will be incidental to the contract lump sum price for "Incidental Work, Grading".

LOCATION	TOPSOIL (CUYD)
EAST TRAFFIC CROSSOVER ON I-90	100
TOTAL	100

18" CMP FURNISH AND INSTALL

The new maintenance crossover will require the installation of 18" CMP 16 gauge for drainage.

EROSION CONTROL

The estimated area requiring erosion control is 7500 square feet (0.17 Acres). All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, seeding, fertilizing, mulching, waddles, and silt fence will be incidental to the contract lump sum price for "Erosion Control".

The limits of erosion control work will be determined by the Engineer during construction.

Permanent Seeding

Type G Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Switchgrass	Dacotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer	3
Indiangrass	Holt, Tomahawk, Chief, Nebraska 54	3
Big Bluestem	Bison, Bonilla, Champ, Sunnyview, Rountree, Bonanza	3
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

Fertilizing

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer will be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer will have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer will also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer will be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer will be as shown below or an approved equal:

<u>Product</u>	<u>Manufacturer</u>
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com

Mycorrhizal Inoculum

Revised CM on 11/05/22
Revised CM on 11/07/22
Revised CM on 11/08/22

Mycorrhizal inoculum will consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier will provide certification of the fungal species claimed and the live propagule count. The inoculum will include a minimum 25% the fungal species *Rhizophagus intraradices*. The remaining 75% may include other endomycorrhizal fungal species.

All seed will be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed will be incidental to the contract unit lump sum price for "Erosion Control".

The mycorrhizal inoculum will be as shown below or an approved equal:

<u>Product</u>	<u>Manufacturer</u>
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 www.mycorrhizae.com
AM 120 Multi Species Blend	Reforestation Technologies Int. Gilroy, CA Phone: 1-800-784-4769 www.reforest.com
LALRISE Prime and Max WP	Lallemand Specialties Inc. Milwaukee, WI Phone: 1-844-590-7781 www.lallemandplantcare.com

Mulching (Grass Hay or Straw)

An additional 0.5 tons of Grass Hay or Straw Mulch has been added to the lump sum price for "Erosion Control" on areas determined by the Engineer during construction.

If the Contractor uses a no-till drill, mulch may be applied prior to seeding and the mulch can then be punched into the soil by the no-till drill. If the Contractor uses this process, the no-till drill seeding will be completed immediately following the mulch application and the mulch will be punched into the soil at a 3-inch depth.

Erosion Control Wattle

Erosion control wattles for restraining the flow of runoff and sediment will be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor will provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles will remain on the project to decompose.

The erosion control wattle provided will be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

LOCATION	WATTLES (FT)
EAST TRAFFIC CROSSOVER ON I-90	160
TOTAL	160

High Flow Silt Fence

The high flow silt fence fabric provided will be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

High flow silt fence will be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.05 for details.

LOCATION	SILT FENCE (FT)
EAST TRAFFIC CROSSOVER ON I-90	25
TOTAL	25

Remove Silt Fence

Silt fence will be removed as determined by the Project Engineer. All costs associated with removing silt fence will be included in the contract lump sum price for "Erosion Control".

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	090 E-288	20	48

SUPERSTRUCTURE

- Girder lifting hooks will be cut off before placement of concrete deck slab.
- The diaphragms at the bents will be poured integrally with the deck slab. Placement of diaphragms at the bents will not slow down the rate of deck concrete placement and finishing. The Contractor will place the concrete for the specified diaphragms ahead of the deck concrete in such a manner that advancement of the deck concrete reaches the diaphragm just as placement of concrete in the diaphragm is complete.
- The use of an approved deck finishing machine or screed will be required during placement of bridge deck concrete. The deck finishing machine will be adjusted and operated in such a manner that the screed or screeds are parallel with the centerline of the bridge. The finish machine and concrete placement will be parallel to the skew of the bridge. If a screed is used for deck placement, submit equipment information to the OBD for approval.

ROADWAY CANOPY

- The Contractor will construct a rigid canopy above highway 38 under the structure during deck removal operations under traffic. The roadway canopy is intended to capture smaller debris and not act as safety net for falling deck sections. The Contractor will have the option of removing larger sections of deck prior to canopy installation. No traffic will be allowed under an area of active deck removal even with the canopy in place. The exception is traffic will be allowed under the canopy if the only removal occurring is using hand tools and chipping hammers. The canopy is an added safeguard and does not relieve the Contractor of any responsibility for the safety of the public. Include details of the deck section breakout and removal methods in the Demolition Plan. The canopy will meet the following minimum requirements.
 - The entire system will be above the bottom of the girders.
 - The canopy will be of a design and material which can adequately capture and contain falling debris as selected by the Contractor and approved by the Engineer.
 - The canopy will be constructed for the entire span before any breakout can occur.
 - The erection of the canopy will be completed in a manner which will cause the least inconvenience to the traveling public.
- The roadway canopy will be paid for at the contract lump sum price for Roadway Canopy. This payment will include all construction, maintenance, and removal of the roadway canopy.

CONCRETE BREAKOUT

- The Contractor will submit a detailed Demolition Plan, 7 days prior to any bridge deck removal. This Demolition Plan will include all canopy details, bridge deck slab removal, barrier removal, and bent diaphragm breakout details, and sequence of traffic control related to removal of the existing concrete.

- The existing girders #4 and #5, a portion of the deck, diaphragms at the bents, and curb will be broken out to the limits shown on the plans. Breakout limits will be defined with a 3/4" deep sawcut (unless specified otherwise in these plans or approved in the demolition plan), where practical, as approved by the Engineer. In areas where reinforcing steel and grout pads are to be salvaged, the Contractor will be limited to a 15 lb. jackhammer or smaller removal equipment or use hydro demolition. Reinforcing steel that is exposed and is scheduled for use in the new construction will be cleaned and straightened to the satisfaction of the Engineer.
- Any reinforcing steel that is damaged during concrete breakout will be replaced or repaired, as approved by the Engineer, by the Contractor at no cost to the Department.
- Any damage to the grout pad during concrete breakout will be repaired, as approved by the Engineer, by the Contractor at no cost to the Department. If grout pad repair is required, the mix will obtain A compressive strength of 2000 psi prior to erection of any beams. Chamfer edges of grout pads 3/4-inch.
- All broken out concrete, girders, and discarded reinforcing bars will become the property of the Contractor and will be disposed of at a site obtained by the Contractor and approved by the Engineer. An appropriate site will be as described in the Environmental Commitment Notes in the plans.
- All costs associated with breaking out and removal of concrete deck, removal of the existing damaged girders, barrier, cleaning and straightening of salvaged barrier and deck reinforcing, and any incidentals including labor, equipment, and materials necessary to complete the concrete removal outlined by these plans will be incidental to contract unit price per square yard for Remove Concrete Bridge Slab.
- All costs associated with breaking out and removal of concrete diaphragms, cleaning and straightening of salvaged reinforcing steel and prestressing strands, any incidentals including labor, equipment, and materials necessary to complete the concrete removal outlined by these plans will be incidental to the contract unit price per cubic yard for Breakout Structural Concrete.

HYDRODEMOLITION

- The Contractor has the option of using hydrodemolition for any of the concrete removal on this project. This work involves removal of concrete using high pressure water jets.
- Water will conform to Section 790 and be acceptable for use by the manufacturer of the hydrodemolition equipment.
- When hydrodemolition is used, a written water discharge plan will be submitted to the Engineer a minimum of 2 weeks before construction. The plan will detail how discharge water will be managed and controlled for each site. Concrete removal by hydrodemolition will not commence until the plan is approved.

- Hydrodemolition equipment will be capable of removing concrete to the required depth without damaging reinforcing steel and surrounding concrete. The machine will be capable of controlling the water pressure plus the angle and distance of the orifice head in relation to the concrete surface. The equipment must also have the ability to control the travel distance and the speed at which the head moves.
- The operator will be capable of adjusting the removal depths to the satisfaction of the engineer. The engineer may allow a test area on the bridge for the operator to determine what adjustments are necessary to get the proper depth of removals. If removal depths can't be controlled, hydrodemolition will not be allowed for concrete removals.
- The Contractor will provide protection and containment as required to prevent flying debris and water from leaving the construction area and entering a public travel way.
- If hydrodemolition is used for removals, sawcutting and sandblasting may be eliminated; provided hydrodemolition creates a vertical edge of at least 3/4 inch, reinforcing steel is clean, and the concrete surface is roughened to the satisfaction of the Engineer.
- Measurement will be based on the type of concrete removal that is being replaced with hydrodemolition.
- Hydrodemolition will be paid for at the contract unit price for the concrete removal that is being replaced by hydrodemolition. Payment will be full compensation for equipment, labor, materials, and all other incidental items required to remove the concrete and to manage and control the water discharge.

FALSEWORK PLANS

- The Contractor will be required to include with his Falsework Plans, details for the construction of an adequate "Walk-Way" including railing.
- Falsework plans will be submitted a minimum of 7 days prior to erection of superstructure falsework.

NOTES (CONTINUED)

FOR

239' - 3 1/16" PRESTR. GIRDER BRIDGE

STR. NO. 50-119-166

SEPTEMBER 2022

3 OF 23

DESIGNED BY TJM MINNIGWT	CK. DES. BY JKI 16WTMA03	DRAFTED BY TJM <i>Steve A. Johnson</i> BRIDGE ENGINEER
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