DEPARTMENT OF TRANSPORTATION

Planning & Engineering
Office of Project Development
700 E Broadway Avenue
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dot.sd.gov

November 3, 2025

ADDENDUM NO. 1

RE: Item #5, November 5, 2025 Letting - NH 0212(200)313, PCN 06PQ, Spink County - Cold Milling, Asphalt Concrete Resurfacing, Asphalt Concrete Surfacing, Pipe Work, Bridge Approach Work

TO WHOM IT MAY CONCERN:

The following addenda to the plans shall be inserted and made a part of your proposal for the referenced project.

SPECIAL PROVISIONS: NO CHANGE

SDEBS BID PROPOSAL: *The electronic bid proposal for this contract has been revised to include the changes associated with this addendum. Bidders must log in to the SDEBS to retrieve and incorporate these changes into their bid.*

Bid Items were added:
Bid Item 210E0100 "Shoulder Clearing"
Bid Item 634E0600 "4" Temporary Pavement Marking Tape Type I"

Quantities for Bid Items were changed:
Bid Item 460E0160 "Concrete Approach Sleeper Slab for Bridge" changed from 21.0 to 42.0 SqYd

PLANS: Please destroy sheets A1, C2, C3, E2, E4, E12, F2, F3, F4 & F5 and replace with the enclosed sheets, dated 10/28/25, 10/29/25, 10/31/25 & 11/3/25.

Sheet A1: Section C-Traffic Control
Bid Items were added:
Bid Item 634E0600 "4" Temporary Pavement Marking Tape Type I"

Section E-Structure
Quantities for Bid Items were changed:
Bid Item 460E0160 "Concrete Approach Sleeper Slab for Bridge" changed from 21.0 to 42.0 SqYd

Section F-Surfacing
Bid Items were added:
Bid Item 210E0100 "Shoulder Clearing"

Sheets E2, E4 & E12: Quantity for Bid Item 460E0160 “Concrete Approach Sleeper Slab for Bridge” changed from 21.0 to 42.0 SqYd.

Sheet C2: Bid Item 634E0600 “4” Temporary Pavement Marking Tape Type I” was added.
TEMPORARY PAVEMENT MARKING TAPE, TYPE 1 note was added. TEMPORARY PAVEMENT MARKING note was moved to Sheet C3.

Sheet C3: TEMPORARY PAVEMENT MARKING TAPE, TYPE I CONT. table was added.
TEMPORARY PAVEMENT MARKING notes were revised and note placement was adjusted.

Sheet F2: Bid Item 210E0100 “Shoulder Clearing” was added.
COLD MILLING ASPHALT CONCRETE note was revised.

Sheet F3: TABLE OF SALVAGED MATERIAL UTILIZATION was revised.

Sheet F4: CLASS Q3R HOT MIXED ASPHALT CONCRETE note was revised.

Sheet F5: SHOULDER CLEARING note was added.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/gp

CC: Mark Peterson, Aberdeen Region Engineer
Brad Letcher, Huron Area Engineer

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0212(200)313	A1	A3

Revised: 11-03-2025 LLA

Section C – Traffic Control

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	940.0	Hour
634E0020	Pilot Car	450.0	Hour
634E0110	Traffic Control Signs	677.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0525	Linear Delineation System Panel, Barrier Mounted	16	Each
634E0600	4" Temporary Pavement Marking Tape Type I	3,494	Ft
634E0630	Temporary Pavement Marking	61.4	Mile
634E0700	Traffic Control Movable Concrete Barrier	47	Each
634E0750	Temporary Concrete Barrier End Protection	2	Each
634E0900	Portable Temporary Traffic Control Signal	2	Unit
634E1002	Detour and Restriction Signing	1,379.0	SqFt

Section D – Erosion Control

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
734E0010	Erosion Control	Lump Sum	LS

Section E – Structure

Str. No. 58-242-240

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
120E0010	Unclassified Excavation	21	CuYd
410E2600	Membrane Sealant Expansion Joint	133.2	Ft
430E0200	Bridge End Embankment	6	CuYd
430E0300	Granular Bridge End Backfill	60.0	CuYd
430E0510	Approach Slab Underdrain Excavation	3.2	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0150	Concrete Approach Slab for Bridge	230.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	42.0	SqYd
460E0300	Breakout Structural Concrete	1.2	CuYd
460E0380	Install Dowel in Concrete	56	Each
480E0504	No. 4 Rebar Splice	34	Each
480E0505	No. 5 Rebar Splice	32	Each
480E0506	No. 6 Rebar Splice	54	Each
491E0006	Two Coat Bridge Deck Polymer Chip Seal Repair	217.8	SqYd
491E0110	Abrasive Blasting of Bridge Deck	217.8	SqYd
491E0120	Bridge Deck Grinding	217.8	SqYd
680E0040	4" Underdrain Pipe	156	Ft
680E2500	Porous Backfill	6.0	Ton

Section F – Surfacing

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E1350	Restoration of Stockpile Site	Lump Sum	LS
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0400	Remove Drop Inlet	2	Each
110E0420	Remove Drop Inlet Frame and Grate Assembly	2	Each
110E0500	Remove Pipe Culvert	46	Ft
110E0730	Remove Beam Guardrail	500.0	Ft
110E1010	Remove Asphalt Concrete Pavement	617.5	SqYd
110E6410	Remove Type 1 MGS for Reset	175.0	Ft
110E6501	Remove Type 1 Retrofit Guardrail Transition for Reset	4	Each
110E6619	Remove MGS MASH Tangent End Terminal for Reset	4	Each
110E7152	Remove Delineator for Reset	20	Each
120E0010	Unclassified Excavation	639	CuYd
120E0100	Unclassified Excavation, Digouts	687	CuYd
120E0600	Contractor Furnished Borrow	68	CuYd
120E6200	Water for Granular Material	196.8	MGal
210E0100	Shoulder Clearing	16.5	Mile
210E1000	Shoulder Preparation	15.504	Mile
210E1005	Surface Preparation	1.500	Mile
260E1010	Base Course	2,005.2	Ton
260E1030	Base Course, Salvaged	1,024.4	Ton
270E0110	Salvage and Stockpile Granular Material	1,024.4	Ton
320E0005	PG 58-34 Asphalt Binder	3,146.3	Ton
320E1200	Asphalt Concrete Composite	205.8	Ton
320E1203	Class Q3R Hot Mixed Asphalt Concrete	65,912.5	Ton
320E1800	Asphalt Concrete Blade Laid	1,235.0	Ton
320E4000	Hydrated Lime	663.9	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	26.6	Mile
320E7028	Grind Centerline Rumble Stripe in Asphalt Concrete	10.4	Mile
320E7030	Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete	2.9	Mile
330E0010	MC-70 Asphalt for Prime	132.9	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	237.2	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	79.1	Ton
330E1000	Blotting Sand for Prime	107.5	Ton
330E2000	Sand for Flush Seal	739.2	Ton
332E0010	Cold Milling Asphalt Concrete	140,823	SqYd
450E0122	18" RCP Class 2, Furnish	8	Ft
450E0130	18" RCP, Install	8	Ft
450E2008	18" RCP Flared End, Furnish	1	Each
450E2009	18" RCP Flared End, Install	1	Each
450E4759	18" CMP 16 Gauge, Furnish	4	Ft

INDEX OF SHEETS

Section F – Surfacing (cont.)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E4760	18" CMP, Install	4	Ft
450E5010	18" CMP Elbow, Furnish	2	Each
450E5011	18" CMP Elbow, Install	2	Each
450E8009	18" RCP to CMP Transition, Furnish	1	Each
450E8010	18" Pipe Transition, Install	1	Each
600E0300	Type III Field Laboratory	1	Each
630E0500	Type 1 MGS	237.5	Ft
630E1501	Type 1 Retrofit Guardrail Transition	4	Each
630E2017	MGS MASH Flared End Terminal	4	Each
630E2100	Beam Guardrail Post	92	Each
630E5010	Reset Type 1 MGS	175.0	Ft
630E5204	Reset MGS MASH Tangent End Terminal	4	Each
630E5301	Reset Type 1 Retrofit Guardrail Transition	4	Each
632E2100	Reset Delineator	20	Each
632E2220	Guardrail Delineator	16	Each
670E0200	Type A Frame and Grate	2	Each
670E1010	2' x 3' Type B Drop Inlet	2	Each
670E5400	Precast Drop Inlet Collar	2	Each
831E0300	Reinforcement Fabric (MSE)	1,073	SqYd
900E0022	Remove and Reset Mailbox	2	Each
900E1980	Storage Unit	1	Each

Section M – Pavement Marking

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0030	Cold Applied Plastic Pavement Marking, 24"	737	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	17	Each
633E1200	High Build Waterborne Pavement Marking Paint, White	634	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	116	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	737	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	17	Each

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 10-1-25 Version, Required Provisions, and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges is available for download and viewing at https://dot.sd.gov/doing-business/contractors/standard-specifications.

SECTION C ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	940.0	Hour
634E0020	Pilot Car	450.0	Hour
634E0110	Traffic Control Signs	677.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0525	Linear Delineation System Panel, Barrier Mounted	16	Each
634E0600	4" Temporary Pavement Marking Tape Type I	3,494	Ft
634E0630	Temporary Pavement Marking	61.4	Mile
634E0700	Traffic Control Movable Concrete Barrier	47	Each
634E0750	Temporary Concrete Barrier End Protection	2	Each
634E0900	Portable Temporary Traffic Control Signal	2	Unit
634E1002	Detour and Restriction Signing	1,379.0	SqFt

SEQUENCE OF OPERATIONS

1. Install fixed location signing prior to start of work.
2. Complete cold milling operations.
3. Complete asphalt paving operations.
4. Complete guardrail installation.
5. Complete rumble stripe installation and flush seal
6. Complete pavement marking installation.
7. Complete all remaining project items.

Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

COORDINATION BETWEEN CONTRACTORS

A separate contract for Project P-PH 0212(206)313 – PCN 0808 will be awarded to another Contractor for Grading & Interim Surfacing on highway 212 adjacent to this project (PCN 06PQ). The Grading & Interim Surfacing for PCN 0808 will begin at MRM 313.00+0.903 and end at MRM 319.00+0.023.

The Contractor will schedule work so as not to interfere with or hinder the progress of the work performed by the other Contractor on PCN 0808. Conflicting traffic control devices may need to be temporarily adjusted or removed as directed by the Engineer and at no additional cost to the contract.

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

All temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports.

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

At no time will a vertical drop-off of greater than 3 inches be left overnight adjacent to the traveled way. The Contractor will utilize embankment material to ensure a 3-inch vertical drop-off is not exceeded. The slope of the embankment material will not be steeper than a 4:1 within 30 feet of the traveled way.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment will be repaired at no expense to the Department.

The Contractor will furnish, install, maintain, and remove TRUCK CROSSING (W8-6) signs daily. The TRUCK CROSSING signs will be displayed always when haul vehicles are hauling material. When hauling conditions no longer exist, the signs will be covered or removed from view. The exact number and location will be determined during construction. Payment for additional signs will be based on the contract unit price per square foot for "Traffic Control Signs".

GROOVED PAVEMENT (W8-15) signs with MOTORCYCLE (W8-15P) plaques are required in advance of areas that have been cold milled and are not resurfaced the same day. The GROOVED PAVEMENT sign assemblies will be installed a minimum of 1000 feet in advance of cold milled sections and remain in place until the sections have been resurfaced.

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate arrangements.

A mobile work operation will be allowed provided the rumble strip or rumble stripe grooving, flush sealing, and pavement marking can be completed satisfactorily by a continuously moving work operation. A mobile work operation will require approval by the Engineer.

If inappropriate or conflicting pavement markings exist, the markings will be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict will be placed at one-half of the normal channelizing device spacing. Pavement marking removals will be incidental to the contract unit price per foot for "Remove Pavement Marking, 4" or equivalent". Temporary pavement marking will be paid for at the contract unit price per mile/foot for "Temporary Pavement Marking". The additional channelizing devices will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

FLAGGING

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

Additional flagger warning signs and **40** flagger hours have been included in the Estimate of Quantities for use on intersecting roads. These flaggers will be used as directed by the Engineer and will be used primarily during daytime hours. Also included in the Estimate of Quantities are WAIT FOLLOW PILOT CAR signs for use on low volume intersecting roads as determined by the Engineer. WAIT FOLLOW PILOT CAR signs will not block the view of the stop sign.

It is required that the flaggers and pilot car operators be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for "Flagging".

TEMPORARY PAVEMENT MARKING TAPE, TYPE I

Temporary pavement marking for stop lines will consist of 4" Temporary Pavement Marking Tape Type I. Placement of each 24" white stop line will be accomplished by placing six pieces of 4" x 12' tape adjacent to one another. Temporary pavement marking on centerline will also consist of Temporary Pavement Marking Tape Type I be used as depicted on standard plate 634.24 when the stop condition must remain in place during nighttime hours, 9:00 pm to 6:00 am. Temporary tape will be removed upon completion of the project.

All Temporary Pavement Marking will be clean at all times such that they are visible during daylight and have full reflectivity at night.

TEMPORARY PAVEMENT MARKING TAPE, TYPE I CONT.

4" White Temp Tape	2 Stop Bars	144 FT
4" White Temp Tape	4" White Line	950 FT
4" Yellow Temp Tape	4" Yellow Line	2400 FT
TOTAL		**3494 FT**

TEMPORARY PAVEMENT MARKING

Temporary flexible vertical markers (tabs) will be installed on one side of the centerline rumble for the temporary pavement marking. No passing zones will be marked in accordance with Specifications. DO NOT PASS (R4-1) and PASS WITH CARE (R4-2) signs will also be used in addition to the temporary flexible vertical markers (tabs) placed per Specifications to mark no passing zones.

The total length of no passing zone on this project is estimated to be 2.8 miles.

It is estimated that 5 DO NOT PASS and 5 PASS WITH CARE signs will be required.

Temporary flexible vertical markers (tabs) may be used as detailed in the specifications.

Temporary pavement marking paint will not be allowed on the final lift of asphalt surfacing. Temporary pavement marking paint will not be allowed on the chip seal, fog seal, or flush seal. Temporary flexible vertical markers (tabs) must be used on the final lift of asphalt surfacing. The Contractor may use tabs with covers, uncovering them for the chip seal, fog seal, or flush seal. As an alternative, the Contractor may install new tabs for the fog seal or flush seal.

Covers on the tabs will be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers will be properly disposed of. The Contractor will remove and properly dispose of the tabs after permanent pavement marking is applied. Method of removal will be nondestructive to the road surface and will be accomplished within one week of completion of the permanent pavement marking.

Full reflectivity of all temporary flexible vertical markers (tabs) is required at all times. The Contractor will be required to replace any missing or non-reflective tabs after each installation as detailed below at no additional cost to the State.

Quantities of Temporary Pavement Markings consist of:

STA 10+00.00 to STA 277+71.00:

One pass on the first lift of asphalt concrete
One pass on top of the final lift of asphalt concrete
One pass prior to the flush seal, length as determined by Engineer
One pass after the flush seal

STA 277+71.00 to STA 713+71.00:

One pass on top of the milled surface
One pass on top of the blade laid asphalt concrete
One pass on top of the Q mix asphalt concrete
One pass prior to the flush seal, length as determined by Engineer
One pass on to of the Flush Seal

If the Engineer determines that an additional pass prior to the flush seal is not required, this application of the temporary pavement marking will be eliminated. If the flush seal is eliminated for the project, the application of the temporary pavement marking on top of the flush seal as well as the additional pass prior to the flush seal will be eliminated.

No adjustment in the contract unit price for "Temporary Pavement Marking" will be made because of a variation in quantities.

In the absence of a signed lane closure or pilot car operation, FLAGGER (W20-7) symbol signs and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights will be positioned on the shoulder in advance of workers for both directions of traffic during the installation and removal of the temporary flexible vertical markers (tabs). The traffic control device used will be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1) sign, a WORKER (W21-1) symbol sign or a BE PREPARED TO STOP (W3-4) sign will be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work must be approved by the Engineer.

Prior to nightfall, tabs will be required to mark centerline on segments of roadway where existing centerline markings have been removed and new markings have not been installed.

OVERWIDTH RESTRICTION SIGNING

The Contractor will furnish and install the overwidth restriction as shown in these plans. Prior to installing the signs, the Contractor will mark the sign locations and review them with the Engineer. Overwidth restriction signs will be installed on fixed location, ground mounted, breakaway supports. It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by the construction progress. Upon completion of the project, the Contractor will remove the overwidth restriction and signs.

All costs for furnishing the signs, posts, and mounting hardware, and for installing, maintaining, covering, and removing the overwidth restriction signs will be incidental to the contract unit price per square foot for "Detour and Restriction Signing".

PORTABLE TEMPORARY TRAFFIC CONTROL SIGNAL

The Contractor will furnish, install, operate, and maintain a portable temporary traffic control signal during construction phases as determined by the Engineer. There will be one controller and one slave unit per location.

The portable temporary traffic control signal will be set up to dwell in red. Detection will be video, microwave, or radar. The green time may be adjusted as needed. The initial timings for the construction sites are given below:

Timing for both directions:

Red = 22 sec. Yellow = 4 sec.
Min. Green = 5 sec. Max. Green = 15 sec. Extension = 3 sec.

The timings above are based on 1100 feet between opposing stop lines. All vehicle signal heads will have backplates with retroreflective border. The vehicle signal head backplates will have a factory applied 3-inch wide yellow retroreflective border. Sheeting for the border will be Type IX or Type XI in conformance with ASTM D4956.

Signal backplates will extend not less than 5 inches from the edge of the signal head at the top, bottom, and sides.

All traffic signal equipment and materials will meet the requirements of Sections 635 and 985 of the Specifications except the controller requirements.

All costs involved with constructing the portable temporary traffic control signal as specified above and on the plans, will be included in the contract unit price per unit for PORTABLE TEMPORARY TRAFFIC CONTROL SIGNAL.

REMOVE EXISTING PAVEMENT MARKINGS

Centerline pavement markings will be removed within the transition areas. Payment for this work will be incidental to the contract lump sum price for TRAFFIC CONTROL, MISCELLANEOUS.

TRAFFIC CONTROL MOVABLE CONCRETE BARRIERS

Concrete barriers will be provided by the State and are available for pickup from the East Aberdeen Maintenance Yard located approximately ½ mile west of the US 12/US 281 Junction. The sloped ends will be picked up from the Watertown Maintenance Yard approximately 1 mile east of Interstate 29 on US 212. The barriers will be hauled back to the SDDOT East Aberdeen Maintenance Yard when they are no longer needed on the project.

Barriers to be adjusted or moved will be disconnected from adjacent barriers to minimize damage to connecting pins. Pins damaged by the Contractor will be replaced at no cost to the Department.

Concrete barrier sections will be placed as depicted in the plans to comply with clear zone requirements and as required by the Engineer. The barriers will be pinned and bolted together as directed by the Engineer.

All costs associated with picking the barriers up from the SDDOT Maintenance Yard, transporting, setting, connecting, and hauling them back to the SDDOT Maintenance Yard will be incidental to the contract unit price per each for Traffic Control Movable Concrete Barrier.

After the initial placement, the concrete barriers may need to be adjusted. Adjustment of the barriers, where they do not need to be loaded on a truck for transport, will be incidental to the contract unit price per each for Traffic Control Movable Concrete Barrier. All costs associated with removing, loading, unloading, and resetting of the barriers at a new site, will be incidental to the contract unit price per each for Remove and Reset Traffic Control Movable Concrete Barrier. No additional payment will be made for barriers that are not immediately reset at a new location on the project and stored on-site until they are either reset on the project or returned to the SDDOT as indicated in these plans.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E2	E19

Revised 10/31/2025 JRB

SECTION E – ESTIMATE OF STRUCTURE QUANTITIES

PCN 06PQ

Str. No. 58-242-240

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
120E0010	Unclassified Excavation	21	CuYd
410E2600	Membrane Sealant Expansion Joint	133.2	Ft
430E0200	Bridge End Embankment	6	CuYd
430E0300	Granular Bridge End Backfill	60.0	CuYd
430E0510	Approach Slab Underdrain Excavation	3.2	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0150	Concrete Approach Slab for Bridge	230.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	42.0	SqYd
460E0300	Breakout Structural Concrete	1.2	CuYd
460E0380	Install Dowel in Concrete	56	Each
480E0504	No. 4 Rebar Splice	34	Each
480E0505	No. 5 Rebar Splice	32	Each
480E0506	No. 6 Rebar Splice	54	Each
491E0006	Two Coat Bridge Deck Polymer Chip Seal Repair	217.8	SqYd
491E0110	Abrasive Blasting of Bridge Deck	217.8	SqYd
491E0120	Bridge Deck Grinding	217.8	SqYd
680E0040	4" Underdrain Pipe	156	Ft
680E2500	Porous Backfill	6.0	Ton

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E4	E19

Revised 10/31/2025 JRB

ESTIMATE OF STRUCTURE QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
120E0010	Unclassified Excavation	21	CuYd
410E2600	Membrane Sealant Expansion Joint	133.2	Ft
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430E0300	Granular Bridge End Backfill	60.0	CuYd
430E0510	Approach Slab Underdrain Excavation	3.2	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0150	Concrete Approach Slab for Bridge	230.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	42.0	SqYd
460E0300	Breakout Structural Concrete	1.2	CuYd
460E0380	Install Dowel in Concrete	56	Each
480E0504	No. 4 Rebar Splice	34	Each
480E0505	No. 5 Rebar Splice	32	Each
480E0506	No. 6 Rebar Splice	54	Each
491E0006	Two Coat Bridge Deck Polymer Chip Seal Repair	217.8	SqYd
491E0110	Abrasive Blasting of Bridge Deck	217.8	SqYd
491E0120	Bridge Deck Grinding	217.8	SqYd
680E0040	4" Underdrain Pipe	156	Ft
680E2500	Porous Backfill	6.0	Ton

SPECIFICATIONS

Construction Specifications: Standard Specifications for Roads and Bridges, 10-1-25 Version; Required Provisions; and Special Provisions as included in the Proposal. The Standard Specifications for Roads and Bridges is available for download and viewing at https://dot.sd.gov/doing-business/contractors/standard-specifications.

SCOPE OF BRIDGE WORK & SEQUENCE OF OPERATIONS

All work on this structure will be accomplished with the traffic control shown elsewhere in the plans. Alternate sequence of operations may be submitted by the Contractor for approval by the Engineer a minimum of two weeks prior to the preconstruction meeting.

1. Perform underdrain excavation for the first phase of construction.
2. Remove reinforced paving notch for the first phase of construction.
3. Place bridge end backfill and underdrain system material for the first phase of construction.
4. Place approach slabs and sleeper slabs to the correct grade for the first phase of construction.
5. Place sleeper slab joints with approved Membrane Sealant Expansion Joint for the first phase of construction.
6. Perform bridge deck grinding for the first phase of construction.
7. Perform abrasive blasting and repair Two Coat Bridge Deck Polymer Chip Seal for the first phase of construction.
8. Switch traffic and repeat steps 1 to 7 for the second phase of construction.

GENERAL CONSTRUCTION – BRIDGE

1. All mild reinforcing steel will conform to ASTM A615, Grade 60.
2. All exposed concrete corners and edges will be chamfered ¾-inch unless noted otherwise in the plans.
3. Use 2-inch clear cover on all reinforcing steel except as shown otherwise.
4. Request for construction joints or reinforcing steel splices at points other than those shown, must be submitted to the Engineer for prior approval. If additional splices are approved, no payment will be allowed for the added quantity of reinforcing steel.
5. All lap splices are contact lap splices unless noted otherwise.

APPROACH SLAB UNDERDRAIN SYSTEM

A new underdrain system will be placed underneath the sleeper slabs as shown in the plans. The Approach Slab Underdrain System will be constructed in accordance with Section 435 of the Construction Specifications except the drainage tubing will be as specified in these notes and as detailed in the plans.

DRAINAGE TUBING

1. The underdrains will be constructed of a PVC pipe system as shown on the plans and meeting the following requirements:

   The 4" Dia. Perforated PVC Drain Pipe will be PS 46 Solvent Weld PVC pipe conforming ASTM F758 or SDR 35 Solvent Weld PVC Pipe conforming to ASTM D3034 with perforations in accordance with ASTM F758. The 4" Dia. PVC Outlet Pipe will be Schedule 40 PVC Pipe conforming to ASTM D1785 designated as PVC 1120, PVC 1220, or PVC 2120. Pipe sections will be connected using a PVC Solvent Cement conforming to ASTM D2564. The Drain Sleeve will conform to ASTM D6707.
2. Care will be taken to ensure that the 4" Dia. Perforated PVC Drain Pipe (with Drain Sleeve) and the 4" Dia. PVC Outlet Pipe are not damaged during construction. Sufficient cover material will be placed over the pipes before compaction equipment is allowed over the underdrain system. Any damaged pipes will be replaced by the Contractor at no additional cost to the Department.
3. All labor, tools, equipment, and any incidentals necessary for the installation of 4" Dia. Perforated PVC Drain Pipe (with Drain Sleeve), 4" Dia. PVC Outlet Pipe, 5" Black Steel Pipe, SDR Solvent Weld PVC Coupling, and PVC Cement will be incidental to the contract unit price per foot for 4" Underdrain Pipe.

DESIGN MIX OF CONCRETE

1. Class A45 Concrete will be used for the contract items Concrete Approach Slab for Bridge and Concrete Approach Sleeper Slab for Bridge.
2. The type of cement, concrete strength requirements, aggregate requirements, slump, and air requirements for the contract items Concrete Approach Sleeper Slab for Bridge and Concrete Approach Slab for Bridge will conform to the requirements of Section 460 of the Construction Specifications.

APPROACH SLABS

1. Bridge end backfill will be constructed in accordance with Section 430 of the Construction Specifications except the drainage tubing will be as specified in these notes and as detailed in the plans.
2. Excavation for placement of new approach slabs, sleeper slabs, bridge end backfill, and drainage tubing will be done with minimal disturbance to the underlying material.
3. Prior to the placement of the approach and sleeper slabs, the existing Granular Bridge End Backfill material will be compacted using at least four complete passes of a smooth face vibratory roller or vibratory plate compactor. Care will be taken to ensure an adequate compaction will be completed in this area. Base Course will be placed as required to fill any low spots and to achieve the elevation needed for installation of the new approach and sleeper slabs. The existing and fill material will be thoroughly watered prior to and during compaction. Base Course will be in accordance with Section 882 of the Construction Specifications.
4. The top of approach slab elevations will be as provided and subject to the approval of the Engineer. Care will be taken to provide a smooth transition from the bridge deck elevations to the new pavement elevations to prevent any dips or bumps in the areas of the bridge ends or ends of the new approach slabs. The maximum rate of grade transition through the approach slab will be 1/8-inch per 10 feet.
5. Sleeper slab riser will be cast with or later than the approach slab. Care will be taken to ensure the correct grade is maintained across the joint.
6. The portion of the sleeper slab below the construction joint may be precast. If the bottom portion of the sleeper slab is precast, the Contractor will submit proposed lifting and setting plans to the Bridge Construction Engineer for approval. In addition, if reinforcing or other details differ from those shown in the plans, the Contractor will submit proposed alternate details for approval.

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

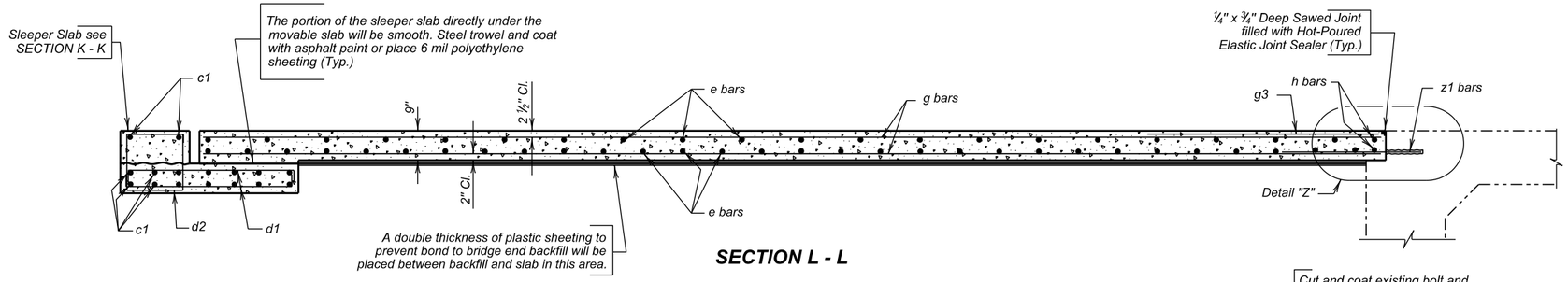
STR. NO. 58-242-240

MAY 2025

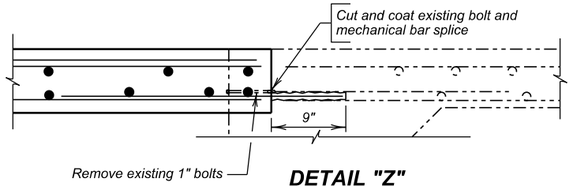
DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	Steve A Johnson BRIDGE ENGINEER
SPNK06PQ	06PQBA02		

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	NH 0212(200)313	E12	E19

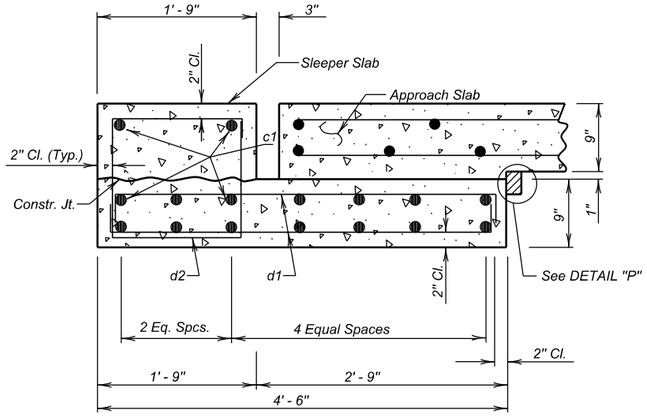
Revised 10/31/2025 JRB



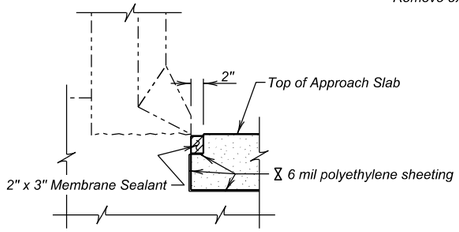
SECTION L - L



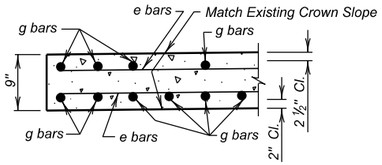
DETAIL "Z"



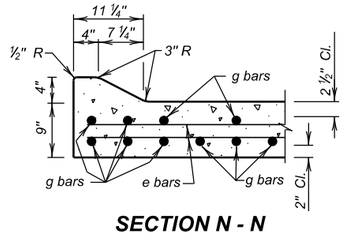
SECTION K - K
(Sleeper Slab)



SECTION I - I



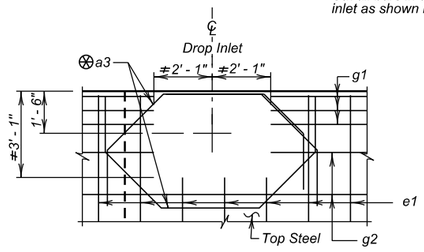
SECTION M - M



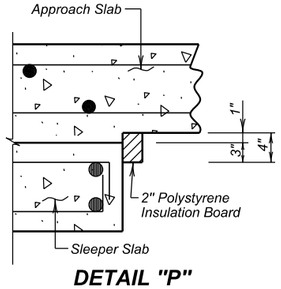
SECTION N - N

⊛ *Add a3 bar to top and bottom layer of steel as shown in DETAIL "X".*

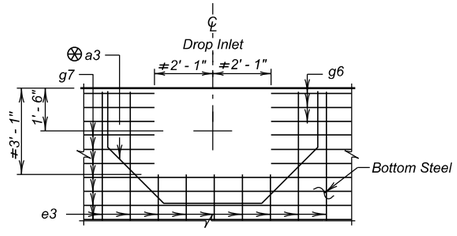
≠ *Cut all bars in area of drop inlet as shown in DETAIL "X".*



DETAIL "X"
(Plan for Top Steel when drop inlet is used.)



DETAIL "P"

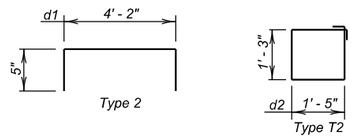


DETAIL "X"
(Plan for Bottom Steel when drop inlet is used.)

REINFORCING SCHEDULE
(For Two Approach Slabs and Two Sleeper Slabs)

	Mk.	No.	Size	Length	Type
	Phase 1				
	a3	3	4	11' - 6"	14
⌀	c1	32	5	20' - 9"	Str.
	d1	84	4	5' - 0"	2
	d2	42	4	6' - 1"	T2
⌀	e1	20	4	20' - 9"	Str.
⌀	e2	14	4	19' - 8"	Str.
⌀	e3	29	6	20' - 9"	Str.
⌀	e4	21	6	19' - 8"	Str.
	g1	3	4	19' - 0"	Str.
	g2	13	4	29' - 8"	Str.
	g3	28	4	6' - 0"	Str.
	g4	3	4	9' - 6"	Str.
	g5	13	4	20' - 2"	Str.
	g6	3	8	19' - 0"	Str.
	g7	39	8	29' - 8"	Str.
	g8	3	8	9' - 6"	Str.
	g9	39	8	20' - 2"	Str.
⌀	h1	4	6	19' - 8"	Str.
⟠	z1	28	7	2' - 9"	Str.
	Phase 2				
	a3	3	4	11' - 6"	14
⌀	c1	32	5	20' - 9"	Str.
	d1	84	4	5' - 0"	2
	d2	42	4	6' - 1"	T2
⌀	e1	20	4	20' - 9"	Str.
⌀	e2	14	4	19' - 8"	Str.
⌀	e3	29	6	20' - 9"	Str.
⌀	e4	21	6	19' - 8"	Str.
	g1	3	4	19' - 0"	Str.
	g2	13	4	29' - 8"	Str.
	g3	28	4	6' - 0"	Str.
	g4	3	4	9' - 6"	Str.
	g5	13	4	20' - 2"	Str.
	g6	3	8	19' - 0"	Str.
	g7	39	8	29' - 8"	Str.
	g8	3	8	9' - 6"	Str.
	g9	39	8	20' - 2"	Str.
⌀	h1	4	6	19' - 8"	Str.
⟠	z1	28	7	2' - 9"	Str.

Bending Details



NOTES:
All Dimensions are out to out of bars.
All Bars to be Epoxy Coated.

⟠ *Dowels*
⌀ *Splice (Mechanically Spliced)*

ESTIMATED QUANTITIES
(For Two Approach Slabs and Two Sleeper Slabs)

ITEM	UNIT	QUANTITY	
		Phase I	Phase 2
Concrete Approach Slab for Bridge	SqYd	115.3	115.3
Concrete Approach Sleeper Slab for Bridge	SqYd	21.0	21.0
No. 4 Rebar Splice	Each	34	—
No. 5 Rebar Splice	Each	32	—
No. 6 Rebar Splice	Each	54	—
Membrane Sealant Expansion Joint	Ft	23.7	23.7
Install Dowel in Concrete	Each	28	28

	PHASE I	PHASE 2
1. Concrete in Approach Slabs.	28.8 CuYd	28.8 CuYd
2. Epoxy Coated Reinforcing Steel in Approach Slabs	8146 Lbs.	8146 Lbs.
3. Concrete in Sleeper Slabs	7.5 CuYd	7.5 CuYd
4. Epoxy Coated Reinforcing Steel in Sleeper Slabs	1144 Lbs.	1144 Lbs.
5. Epoxy Coated Reinforcing Steel in Dowels	158 Lbs.	158 Lbs.

Items 1 thru 5 are approximate quantities contained in the above bid items and are for information only.

Notes for Membrane Sealant Expansion Joint can be found on APPROACH SLAB JOINT DETAILS sheet.

APPROACH SLAB DETAILS (C)

FOR

130' - 0" PRESTRESSED GIRDER BRIDGE

40' - 0" ROADWAY — 0° SKEW
OVER TIMBER CREEK — SEC. 31/06-T117/116N-R61W
STR. NO. 58-242-240 — NH 0212(200)313

SPINK COUNTY

S. D. DEPT. OF TRANSPORTATION

MAY 2025

10 OF 17

DESIGNED BY	CK. DES. BY	DRAFTED BY	
JRB	AP	JRB	BRIDGE ENGINEER
SPNK06PQ	06PQBA10		

SECTION F – ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E1350	Restoration of Stockpile Site	Lump Sum	LS
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0400	Remove Drop Inlet	2	Each
110E0420	Remove Drop Inlet Frame and Grate Assembly	2	Each
110E0500	Remove Pipe Culvert	46	Ft
110E0730	Remove Beam Guardrail	500.0	Ft
110E1010	Remove Asphalt Concrete Pavement	617.5	SqYd
110E6410	Remove Type 1 MGS for Reset	175.0	Ft
110E6501	Remove Type 1 Retrofit Guardrail Transition for Reset	4	Each
110E6619	Remove MGS MASH Tangent End Terminal for Reset	4	Each
110E7152	Remove Delineator for Reset	20	Each
120E0010	Unclassified Excavation	639	CuYd
120E0100	Unclassified Excavation, Digouts	687	CuYd
120E0600	Contractor Furnished Borrow	68	CuYd
120E6200	Water for Granular Material	196.8	MGal
210E0100	Shoulder Clearing	16.5	Mile
210E1000	Shoulder Preparation	15.504	Mile
210E1005	Surface Preparation	1.500	Mile
260E1010	Base Course	2,005.2	Ton
260E1030	Base Course, Salvaged	1,024.4	Ton
270E0110	Salvage and Stockpile Granular Material	1,024.4	Ton
320E0005	PG 58-34 Asphalt Binder	3,146.3	Ton
320E1200	Asphalt Concrete Composite	205.8	Ton
320E1203	Class Q3R Hot Mixed Asphalt Concrete	65,912.5	Ton
320E1800	Asphalt Concrete Blade Laid	1,235.0	Ton
320E4000	Hydrated Lime	663.9	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	26.6	Mile
320E7028	Grind Centerline Rumble Stripe in Asphalt Concrete	10.4	Mile
320E7030	Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete	2.9	Mile
330E0010	MC-70 Asphalt for Prime	132.9	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	237.2	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	79.1	Ton
330E1000	Blotting Sand for Prime	107.5	Ton
330E2000	Sand for Flush Seal	739.2	Ton
332E0010	Cold Milling Asphalt Concrete	140,823	SqYd
450E0122	18" RCP Class 2, Furnish	8	Ft
450E0130	18" RCP, Install	8	Ft
450E2008	18" RCP Flared End, Furnish	1	Each
450E2009	18" RCP Flared End, Install	1	Each
450E4759	18" CMP 16 Gauge, Furnish	4	Ft

SECTION F – ESTIMATE OF QUANTITIES (cont.)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E4760	18" CMP, Install	4	Ft
450E5010	18" CMP Elbow, Furnish	2	Each
450E5011	18" CMP Elbow, Install	2	Each
450E8009	18" RCP to CMP Transition, Furnish	1	Each
450E8010	18" Pipe Transition, Install	1	Each
600E0300	Type III Field Laboratory	1	Each
630E0500	Type 1 MGS	237.5	Ft
630E1501	Type 1 Retrofit Guardrail Transition	4	Each
630E2017	MGS MASH Flared End Terminal	4	Each
630E2100	Beam Guardrail Post	92	Each
630E5010	Reset Type 1 MGS	175.0	Ft
630E5204	Reset MGS MASH Tangent End Terminal	4	Each
630E5301	Reset Type 1 Retrofit Guardrail Transition	4	Each
632E2100	Reset Delineator	20	Each
632E2220	Guardrail Delineator	16	Each
670E0200	Type A Frame and Grate	2	Each
670E1010	2' x 3' Type B Drop Inlet	2	Each
670E5400	Precast Drop Inlet Collar	2	Each
831E0300	Reinforcement Fabric (MSE)	1,073	SqYd
900E0022	Remove and Reset Mailbox	2	Each
900E1980	Storage Unit	1	Each

SURFACING THICKNESS DIMENSIONS

The plans shown spread rates will be applied even though the thickness may vary from that shown in the plans.

At those locations where material must be placed to achieve a required elevation, the depth/quantity may be varied to achieve the required elevation.

TYPE III FIELD LABORATORY

The Contractor will provide high-speed broadband internet connection to the field lab. The multiport internet connection may be hardwired, through a cellular method, or other approved service that allows Wi-Fi connection. Prior to obtaining the internet connection, the Contractor will submit the internet connection's technical data to the Area Office to check for compatibility with the state's computer equipment. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. The internet service will be incidental to the contract unit price per each for "Type III Field Laboratory".

COLD MILLING ASPHALT CONCRETE

The Los Angeles Abrasion Loss value on the aggregate used for the in-place asphalt concrete was 21. This value was obtained from testing during construction of the in-place asphalt concrete.

Cold milling asphalt concrete will be done according to the typical section(s). In areas where maintenance patches have raised and/or widened the road, additional asphalt concrete will be milled to provide a uniform typical section from centerline to the edge of the finished shoulder. These areas also include farm, residential, field entrances and intersecting roads. Milling will be daylighted to the outside edge of the roadway. Any additional costs associated with this additional cold milling will be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

Cold milling asphalt is estimated to produce 7,571.0 tons of cold milled asphalt concrete material. An estimated 3,900.3 tons of cold milled asphalt concrete material will be used on this project as RAP in the Class Q3R Hot Mixed Asphalt Concrete mixture. The Contractor is responsible to assure enough asphalt concrete salvage is available for the Class Q3R Hot Mixed Asphalt Concrete. Excess millings not used on the project will become property of the Contractor.

RAP achieved for project use and/or other uses is based on the dimensions given in the typical section(s). Field conditions will vary from that given in the typical section(s). Therefore, the Contractor may be required to adjust the mill depth, as necessary, to provide the quantity of RAP specified by the plans, if approved by the Engineer.

TABLE OF COLD MILLING ASPHALT CONCRETE

Location of Cold Milling Areas	Width of Cold Milling Asphalt Concrete	Cold Milled Asphalt Concrete	Cold Milled Asphalt Concrete
	Feet	SqYds	Tons
Sta. 277+71 to 376+02	28.5	31,132	1,634
Sta. 376+02 to 378+83	34.5	1,077	57
Sta. 378+83 to 416+73	28.5	12,002	630
Sta. 416+73 to 421+11	34.5	1,679	88
Sta. 421+11 to 423+14.5	40.67	920	48
Sta. 423+14.5 to 424+21	43.0	509	120
Sta. 425+51 to 426+48	43.0	463	109
Sta. 426+48 to 427+48	40.67	452	24
Sta. 427+48 to 431+68	46.5 avg.	2,170	114
Sta. 431+68 to 433+18	52.5	875	46
Sta. 433+18 to 434+38	50.5 avg.	673	35
Sta. 434+38 to 437+38	44.5 avg.	1,483	78
Sta. 437+38 to 515+96	28.5	24,884	1,306
Sta. 515+96 to 524+07	34.5	3,109	163
Sta. 524+07 to 549+26	28.5	7,977	419
Sta. 549+26 to 552+07	34.5	1,077	57
Sta. 552+07 to 711+04	28.5	50,341	2,643
	TOTAL	140,823	7,571

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STORAGE UNIT

The Contractor will provide a storage unit such as a portable storage container or a semi-trailer meeting the minimum size requirements from the table below:

Project Total Asphalt Concrete Tonnage	Minimum Internal Size (Cu Ft)	Minimum External Size (L x W x H)
Less than 50,000 ton	1,166	20' x 8' x 8.6' std
More than 50,000 ton	2,360	40' x 8' x 8.6' std
All Gyratory Controlled QC/QA Projects	2,360	40' x 8' x 8.6' std

The storage unit is intended for use only by the Engineer for the duration of the project. The QC lab personnel or the Contractor will not be allowed to use the storage container while it is on the project, without permission of the Engineer.

The storage unit will be on site and operational prior to asphalt concrete production. Upon completion of asphalt concrete production, the Engineer will notify the Contractor when the storage unit can be removed from the project. The storage unit use will not exceed 30 calendar days from the completion of asphalt concrete production. The storage unit will remain the property of the Contractor.

The storage unit will be weather proof and will be set in a level position. The storage unit will be able to be locked with a padlock.

The storage unit will be placed adjacent to the QA lab, as approved by the Engineer.

The following will apply when the storage unit provided on the project is a portable storage container:

1. The portable storage container will be constructed of steel.
2. The portable storage container will be set such that it is raised above the surrounding ground level to keep water from ponding under or around the storage container.

The following will apply when the storage unit provided on the project is a semi-trailer:

1. A set of steps and hand railings will be provided at the exterior door.
2. If the floor of the semi-trailer is 18 inches or more above the ground, a landing will be constructed at the exterior door. The minimum dimensions for the landing will be 4 feet by 5 feet. The top of the landing will be level with the threshold or opening of the doorway.
3. The semi-trailer may be connected to the QA lab by a stable elevated walkway. The walkway will be a minimum of 48 inches wide and contain handrails installed at 32 inches above the deck of the walkway. The walkway will be constructed such that it is stable and the deck does not deform during use and allows for proper door operation. Walkway construction will be approved by the Engineer.

All cost for furnishing, maintaining, and removing the storage unit including labor, equipment, and materials including any necessary walkways, landings, stairways, and handrails will be included in the contract unit price per each for "Storage Unit".

CHECKING SPREAD RATES

The Contractor will be responsible for checking the Class Q3R Hot Mixed Asphalt Concrete spread rates and taking the weigh delivery tickets as the surfacing material arrives on the project and is placed onto the roadway.

The Contractor will compute the required spread rates for each typical surfacing section and create a spread chart prior to the start of material delivery and placement. The Engineer will review and check the Contractor's calculations and spread charts. The station to station spread will be written on each ticket as the surfacing material is delivered to the roadway.

At the end of each day's shift, the Contractor will verify the following:

- All tickets are present and accounted for,
- The quantity summary for each item is calculated,
- The amount of material wasted if any,
- Each day's ticket summary is marked with the corresponding 'computed by',
- The ticket summary is initialed and certified that the delivered and placed quantity is correct.

All daily tickets and the summary by item will be given to the Engineer no later than the following morning.

If the checker is not properly and accurately performing the required duties, the Contractor will correct the problem or replace the checker with an individual capable of performing the duties to the satisfaction of the Engineer. Failure to do so will result in suspension of the work.

The Department will perform depth checks. The Contractor will be responsible for placement of material to the correct depth unless otherwise directed by the Engineer. If the placed material is not within a tolerance of ±1/2 inch of the plan shown depth, the Contractor will correct the problem at no additional cost to the Department. Excess material above the tolerance will not be paid for. Achieving the correct depth may require picking up and moving material or other action as required by the Engineer. All costs for providing the Contractor furnished checker and performing all related duties will be incidental to the contract lump sum price for the CHECKER. No allowances will be made to the contract lump sum price for CHECKER due to authorized quantity variations unless the quantities for the material being checked vary above or below the estimated quantities by more than 25 percent. Payment for the Checker will then be increased or decreased by the same proportion as the placed material quantity bears to the estimated material quantity.

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BASE COURSE, SALVAGED

Base Course, Salvaged will be obtained from the stockpile site provided by the Contractor and will meet the requirements of 884.2 D.2.

All other requirements for Base Course, Salvaged will apply.

TABLE OF SALVAGED MATERIAL UTILIZATION

	RAP for Class Q3R Asphalt Concrete	Base Course, Salvaged	Excess Material	Total
	tons	tons	tons	tons
Cold Milling Asphalt Concrete	3,900.3		3,670.7	7,571.0
Stockpiled Asphalt Mix Material from 0808	9,000.0			9,000.0
Salvage and Stockpile and Granular Material		1,024.4		1,024.4
Total =	12,900.3	1,024.4	3,670.7	

UNCLASSIFIED EXCAVATION, DIGOUTS

The locations and extent of digout areas will be determined in the field by the Engineer. The backfilling material for the digouts will be Asphalt Concrete Composite and Base Course. The depth of asphalt will match the in-place thickness.

Included in the Estimate of Quantities are 50 cubic yards of Unclassified Excavation, Digouts per mile for the removal of unstable material for Sections 1, 2, 3, 7, and 8. (Estimated length = 5.496 miles)

Included in the Estimate of Quantities are 100 tons of Base Course per mile for backfill of Unclassified Excavation, Digouts of Sections 1, 2, 3, 7, and 8. (Estimated length = 5.496 miles)

Included in the Estimate of Quantities are 50 cubic yards of Unclassified Excavation, Digouts and 75 square yards of Remove Asphalt Concrete Pavement per mile for the removal of asphalt and unstable material for Sections 4, 5, and 6. (Estimated length = 8.233 miles)

Included in the Estimate of Quantities are 100 tons of Base Course and 25 tons of Asphalt Concrete Composite per mile for backfill of Unclassified Excavation, Digouts for Sections 4, 5, and 6. (Estimated length = 8.233 miles)

The digouts will be extended through the shoulder and backfilled with granular material that will daylight to the inslope to allow water to escape the subsurface.

ADDITIONAL QUANTITIES

Included in the Estimate of Quantities are 100 tons of Class Q3R Hot Mixed Asphalt Concrete, 1.0 tons of Hydrated Lime, and 4.7 tons of PG 58-34 Asphalt Binder per mile for spot leveling, strengthening, and repair of the existing surface of Sections 4, 5, and 6.

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ASPHALT TACK FOR LEVELING, AND REPAIR

Included in the estimate of quantities are 2.1 tons of SS-1h or CSS–1h Emulsified Asphalt for Tack for repair and leveling areas throughout the project.

CLASS Q3R HOT MIXED ASPHALT CONCRETE

Mineral Aggregate:

Asphalt concrete aggregates will consist of reclaimed asphalt pavement (RAP) and virgin aggregate.

Virgin mineral aggregate for Class Q3R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q3.

The Class Q3R Hot Mixed Asphalt Concrete will include 20 percent RAP in the mixture.

RAP will be obtained from the material produced by cold milling on this project. An estimated 3,900.3 tons of cold milled material will be required for use as RAP.

There is an estimated quantity of 9,000 tons of salvaged asphalt available for use as RAP and can be obtained from the stockpiled salvaged asphalt mix material produced from project PCN 0808, located within 1 mile of the PCN 0808 project limits. The RAP produced from PCN 0808 was planned to be removed and stockpiled the year prior to this project. The RAP was processed to meet the requirements of Section 884.2 C.1 prior to stockpiling. There is potential that some of the RAP has clumped or gummed together since the time it was processed and stockpiled. The Contractor may be required to re-process the material to meet the requirements of Section 884.2 C.1, prior to incorporating into the mixture. This determination will be made by the Engineer during construction. All costs to process the material will be incidental to "Class Q3R Hot Mixed Asphalt Concrete. The RAP stockpile is expected to contain 9,000 tons of salvaged asphalt.

Mix Design Criteria:

Gyratory Controlled QC/QA Mix Design requirements for the Class Q3R Hot Mixed Asphalt Concrete will conform to the requirements of Class Q3 except as modified by the following:

Gyratory Compactive Effort:

	$N_{initial}$	N_{design}	$N_{maximum}$
Class Q3R	6	50	75

All remaining requirements for Class Q3 will apply.

On the final surfacing lift, laydown operations will commence at the farthest point and progress continuously towards the plant.

SURFACE PREPARATION

Prior to placement of the Class Q3R Hot Mixed Asphalt Concrete on Sections 1, 2, 3, 7, and 8, the Contractor will be required to prepare the existing surface according to the Surface Preparation specifications provided in Section 210, at locations determined by the Engineer.

The locations provided on the typical sections for Asphalt Surface Treatment, In Place, represent the locations where an asphalt surface treatment is anticipated to be in place at the time of construction. The Contractor is advised that locations and dimensions of actual Asphalt Surface Treatment, In Place, may vary from that given on the typical sections. There will be no increase in the payment for Surface Preparation based on the actual surface treatment in place at the time of construction.

Quantities for Surface Preparation, MC-70 Asphalt for Prime, and Blotting Sand for Prime have been provided for 1.5 miles of the asphalt surfacing project. Actual limits to receive Surface Preparation, MC-70 Asphalt for Prime, and Blotting Sand for Prime ahead of Class Q3R Hot Mixed Asphalt Concrete placement will be limited to particular project conditions and will be subject to approval by the Engineer. In no case will Surface Preparation operations ahead of Class Q3R Hot Mixed Asphalt Concrete placement operations exceed fourteen calendar days.

SHOULDER PREPARATION

Prior to placement of asphalt concrete on the shoulders of Sections 4 and 6, the upper 4" of existing granular shoulder material will be scarified, reworked, shaped, watered, and compacted to obtain a uniform and stable surface according to Section 260.3 D. The cross slope and inslope requirements will meet what is shown in the typical sections. The final shaping of the granular material on the shoulder must be completed after the Cold Milling Asphalt Concrete operation. Cost for this work will be incidental to the contract unit price per mile for "Shoulder Preparation".

Included in the Estimate of Quantities are 10.3 MGals per shoulder, per mile of Water for Granular Material for shaping and recompaction.

All costs associated with blending, scarifying, reworking, shaping, and compacting the existing granular material will be incidental to the contract unit price per mile for "Shoulder Preparation".

BLOTTING SAND FOR PRIME

Included in the Estimate of Quantities are 10 tons of Blotting Sand for Prime to be used where necessary for maintenance of traffic as directed by the Engineer. (Rate = 10 pounds per square yard)

ASPHALT CONCRETE COMPOSITE

Section 324 will apply except that Class Q3R Hot Mixed Asphalt Concrete as specified elsewhere in the plans may be used as Asphalt Concrete Composite.

Plans specified locations for Asphalt Concrete Composite will be paid for at the contract unit price per ton for "Asphalt Concrete Composite" regardless of the class of asphalt concrete used at such locations

GRIND RUMBLE STRIPS/STRIPES IN ASPHALT CONCRETE

Asphalt concrete rumble strips/stripes will be constructed on the shoulders. Rumble strips/stripes will be paid for at the contract unit price per mile for Grind 12" Rumble Strip or Stripe in Asphalt Concrete. It is estimated that 26.6 miles of asphalt concrete rumble strips/stripes will be required.

Rumble strip/stripe installation will be completed prior to application of the flush seal and permanent pavement markings. In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply a flush seal to the newly installed 12" rumble strips/stripes at a width of 18" and at the same rate as specified in this plan set. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

GRIND CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE

Rumble stripes will be constructed on the centerline, as detailed in the plans. Centerline rumble stripe installation will be completed prior to application of the flush seal and permanent pavement markings. Rumble stripes will be paid for at the contract unit price per mile for "Grind Centerline Rumble Stripe in Asphalt Concrete". It is estimated that 10.4 miles of centerline rumble stripes will be required.

GRIND SINUSOIDAL CENTERLINE RUMBLE STRIPE IN ASPHALT CONCRETE

Sinusoidal rumble stripes will be constructed on the centerline, as detailed in the plans. Sinusoidal centerline rumble stripe installation will be completed prior to application of the flush seal and permanent pavement markings. Sinusoidal centerline rumble stripes will be paid for at the contract unit price per mile for "Grind Sinusoidal Centerline Rumble Stripe in Asphalt Concrete". It is estimated that 2.9 miles of sinusoidal centerline rumble stripes will be required.

This sinusoidal centerline rumble stripes will be constructed according to the details of Standard Plate 320.40.

TABLE OF SINUSOIDAL CENTERLINE RUMBLE STRIPES

Location of Sinusoidal Rumble Stripes	Length (feet)	Length (miles)
Sta. 31+09 to Sta. 39+86	877	0.166
Sta. 48+51 to Sta. 61+83	1,332	0.252
Sta. 123+29 to Sta. 135+98	1,269	0.240
Sta. 284+21 to Sta. 297+01	1,280	0.242
Sta. 323+37 to Sta. 335+93	1,256	0.238
Sta. 369+76 to Sta. 382+02	1,226	0.232
Sta. 412+11 to Sta. 432+85	2,074	0.393
Sta. 490+63 to Sta. 531+19	4,056	0.768
Sta. 546+71 to Sta. 558+93	1,222	0.231
Sta. 704+31 to Sta. 713+71	940	0.178
TOTAL	15,532	2.9

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CENTERLINE RUMBLE STRIPES – ASPHALT FOR FLUSH SEAL

Asphalt for Flush Seal will be applied after the centerline rumble stripes have been installed and prior to the application of permanent pavement markings. The application width will extend 1 ft beyond the centerline of the roadway in each direction to create a total application rate of 0.10 Gal/SqYd on the centerline rumble stripes.

In the event the flush seal is eliminated from the contract, the Contractor will still be required to apply asphalt for flush seal to the newly installed centerline rumble stripes at a width of 24" and a rate of 0.10 Gal/SqYd. No adjustment in payment will be made and SS-1h or CSS-1h Asphalt for Flush Seal will be paid at the contract unit price per ton.

RESTORATION OF STOCKPILE SITE

The Contractor will be responsible for the removal of any remaining stockpiled material.

The Contractor will remove the entrance (including pipe) used for access and clean up the stockpile site. The Contractor will scarify, replace and blade smooth the upper six inches of topsoil in the stockpile site upon completion of the project.

All costs associated with this work will be incidental to the lump sum unit price bid for "Restoration of Stockpile Site".

ASPHALT CONCRETE BLADE LAID

Included in the Estimate of Surfacing Quantities are 150 tons of Asphalt Concrete Blade Laid, 1.5 tons of Hydrated Lime, and 11.1 tons of PG 58-34 Asphalt Binder per mile and will be tight bladed on the existing surface 24 feet wide prior to the overlay of Sections 4, 5, and 6. Gaps at centerline will not be permitted.

Mineral Aggregate for tight bladed material will use only the fine aggregate components combined in the same proportions as the Class Q3R Hot Mixed Asphalt Concrete mix. Mineral Aggregate for tight bladed material will meet the gradation requirements of the Job Mix Formula. Fine Aggregate Angularity and Sand Equivalent requirements will be the same as the Class Q3R Hot Mixed Asphalt Concrete mix. Quality testing is not required on the coarse aggregate (+No. 4 sieve) in this mixture.

The Asphalt Concrete Blade Laid Lift will be designed using an N_{design} Gyratory Compactive Effort of 65. The asphalt binder content will be determined so that the air voids of Asphalt Concrete Blade Laid Lift are between 3.0% and 5.0%.

Included in the Estimate of Surfacing Quantities are 46.1 tons of SS-1h or CSS-1h Asphalt for Tack for use prior to the application of the Blade Laid lift. (Rate = 0.09 Gal./SqYd)

MAILBOXES

The Contractor will reset the existing mailboxes on new posts with the necessary support hardware for single mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor will coordinate with the Engineer on the proper postal representative to contact.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware will be incidental to the contract unit price per each for "Remove and Reset Mailbox".

Single mailboxes will be removed and reset at Sta. 130+40 R and Sta. 56+03 R.

SALVAGE AND STOCKPILE GRANULAR MATERIAL

Granular material will be salvaged according to the Details for Surfacing Transitions sheets and typical sections. Salvaged material will be processed to meet the requirements of Section 884.2 D.2 prior to stockpiling. The Contractor will ensure that no vegetation, topsoil, subgrade, or other foreign material is incorporated into the salvaged granular base material.

The salvaged granular material, estimated at approximately 1,024.5 tons (542 cubic yards), will be used as Base Course, Salvaged on this project.

This work will be incidental to the contract unit price per ton for "Salvage and Stockpile Granular Material".

TABLE OF SALVAGE AND STOCKPILE GRANULAR MATERIAL

Location of Removal Areas	Salvage and Stockpile Granular Material
	Tons
Sta. 10+00 to Sta. 12+00	83.2
Sta. 96+88.61 to Sta. 98+88.61	100.5
Sta. 101+42.32 to Sta. 103+42.32	83.2
Sta. 275+71 to Sta. 277+71	90.7
Sta. 423+14.5 to Sta. 424+21	349.6
Sta. 425+51 to Sta. 426+48	317.5
Total	1,024.4

CONTRACTOR FURNISHED BORROW

The Contractor will provide a suitable site for Contractor Furnished Borrow material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material will be approved by the Engineer.

Restoration of the Contractor Furnished Borrow site will be the responsibility of the Contractor.

UNCLASSIFIED EXCAVATION

Payment will be based on plans quantity. Further measurements will not be made unless there is a change made in the limits of work.

TABLE OF UNCLASSIFIED EXCAVATION

Location of Removal Areas	Unclassified Excavation
	CuYd
Sta. 10+00 to Sta. 12+00	44
Sta. 96+88.61 to Sta. 98+88.61	53
Sta. 101+42.32 to Sta. 103+42.32	44
Sta. 275+71 to Sta. 277+71	48
Sta. 423+14.5 to Sta. 424+21	236
Sta. 425+51 to Sta. 426+48	214
Total	639

SHOULDER CLEARING

For Section 4, 5, 5a, and 6 vegetation and accumulated material on or adjacent to the existing roadway edge will be removed by the Contractor, to the satisfaction of the Engineer, prior to Shoulder Preparation operations or cold milling operations. Any remaining windrow of accumulated material will be spread evenly on the inslope adjacent to the asphalt shoulder, to the satisfaction of the Engineer, following application of the flush seal. In Section 5A, Topsoil will be bladed down the inslopes to a point necessary to allow for construction operations and prevent contamination, and upon completion of asphalt surfacing operations, topsoil will be restored back to top of inslope.

Each shoulder will be measured for payment. Costs associated with this work will be included in the contract unit price per mile for Shoulder Clearing.

The Contractor will be required to mow the inslopes with a rotary mower to a height of 6 inches for a distance of 14 feet from the edge of the roadway (or shoulder) for the length of the project. This work will be completed to the satisfaction of the Engineer after all construction activities are completed. All costs associated with this work will be incidental to the various contract items.