

September 25, 2025

ADDENDUM NO. 2

**RE: Item #1, October 1, 2025 Letting - P-CR 0046(73)366, P-CR 0011(152)34, PCN 05J5, 06QY,
Union County - PCC Surfacing, Asphalt Concrete Surfacing, Cold Milling Asphalt,
Pavement Markings, Culvert Work, Guardrail**

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:

Please remove the Index of Special Provisions and replace with the attached Index of Special Provisions revised 9/25/25.

Please remove the "Special Provision for Contractor Staking", dated 8/21/25 and replace with the "Special Provision for Contractor Staking", dated 9/24/25.

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 009E3210 "Construction Staking"

Quantities for Bid Items were changed:

Bid Item 009E3230 "Grade Staking" changed from 22.141 to 17.160 Mile

Bid Items were removed:

Bid Item 633E9200 "Mobile Retroreflectometer Measurements"

PLANS: Please destroy sheets A2, F2, F16 & M2 and replace with the enclosed sheets, dated 9/18/25 & 9/25/25.

Sheets A2 & F2:

Bid Item 009E3210 "Construction Staking" was added & Bid Item 009E3230 "Grade Staking" was removed on PCN 06QY.

Sheets A2 & M2:

Bid Item 633E9200 "Mobile Retroreflectometer Measurements" was deleted on PCN 05J5.

Sheet F16:

TABLE OF CONSTRUCTION STAKING (SD11) was revised.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/gp

CC: Travis Dressen, Mitchell Region Engineer
Greg Rothschadl, Yankton Area Engineer

REV 9/25/25

INDEX OF SPECIAL PROVISIONS

PROJECT NUMBER(S): P-CR 0046(73)366, P-CR 0011(152)34 PCN: 05J5, 06QY

**TYPE OF WORK: PCC SURFACING, ASPHALT CONCRETE SURFACING, COLD MILLING
ASPHALT, PAVEMENT MARKINGS, CULVERT WORK, GUARDRAIL**

COUNTY: UNION

The following clauses have been prepared subsequent to the Standard Specifications for Roads and Bridges and refer only to the above described improvement, for which the following Proposal is made.

The Contractor's attention is directed to the need for securing from the Department of Environment & Natural Resources, Foss Building, Pierre, South Dakota, permission to remove water from public sources (lakes, rivers, streams, etc.). The Contractor should make his request as early as possible after receiving his contract, and insofar as possible at least 30 days prior to the date that the water is to be used.

Kristal McKee, Jaci Benjamin is the official in charge of the Vermillion, North Sioux City Career Center for Union County.

THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:

Special Provision for Contract Time, dated 8/21/25.

Special Provision Regarding Section 404 of the Clean Water Act, dated 8/22/25.

Fact Sheet #3.

Special Provision for On-The-Job Training Program, dated 3/10/16.

**Special Provision Regarding Railroad Insurance Requirements
for D&I Railway Company, dated 8/12/25.**

NOTE: The Contractor WILL NOT be granted permission to proceed with any work on Railroad Right-of-Way until he has been notified by the Railroad that the insurance has been approved and the insurances and certificates has been provided to the SDDOT area office.

**Special Provision Regarding Working on Railroad Property for D&I Railway
Company, dated 8/12/25.**

Special Provision for Contractor Staking, dated 9/24/25.

**Special Provision for Contractor Furnished Mix Design for PCC
Pavement, dated 8/30/18.**

Special Provision for Flexible Pavement Smoothness, dated 5/20/21.

Special Provision for IRI PCC Pavement Smoothness, dated 10/1/18.

Special Provision for Durable Pavement Markings, dated 8/21/25.

Special Provision for Traffic Control Supervisor, dated 8/21/25.

Special Provision for Steel Beam Guardrail AASHTO M 180 Designation, date 10/1/25.

Special Provision for Acknowledgment and Certification Regarding Article 3, Section 12 of the South Dakota Constitution, dated 8/24/23.

Special Provision for Buy America, dated 10/1/25.

Fuel Adjustment Affidavit, DOT form 208 dated 7/15.

Standard Title VI Assurance, dated 3/1/16.

Special Provision For Disadvantaged Business Enterprise, dated 2/9/24.

Special Provision For EEO Affirmative Action Requirements on Federal and Federal-Aid Construction Contracts, dated 2/5/24.

Special Provision For Required Contract Provisions Federal-Aid Construction Contracts, Form FHWA 1273 (Rev. October 23, 2023), dated 10/18/23.

Required Contract Provisions Federal-Aid Construction Contracts, Form FHWA 1273 (Rev. 10/23/23).

Special Provision Regarding Minimum Wage on Federal-Aid Projects, dated 10/24/19.

Wage and Hour Division US Department of Labor Washington DC. - US Dept. of Labor Decision Number SD20230032, dated 3/10/23.

Special Provision Regarding Storm Water Discharge, dated 5/8/18.

General Permit for Storm Water Discharges Associated with Construction Activities, dated 4/1/18

<https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/StormWaterConstruction.aspx>

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
CONTRACTOR STAKING**

**PROJECT P-CR 0046(73)366 & P-CR 0011(152)34, PCN 05J5 & 06QY
UNION & LINCOLN COUNTY**

SEPTEMBER 24, 2025

Delete Section 5.8 of the specifications and insert the following:

**SECTION 5.8
CONSTRUCTION STAKES, LINES AND GRADES
CONTRACTOR GRADE STAKING**

A. DESCRIPTION

The Contractor will perform all Construction staking. The staking work includes, but is not limited to, re-establishing the mainline and intersecting road centerlines; establishing a design centerline profile; establishing control points and benchmarks as needed; setting additional benchmarks as needed; taking original and final cross sections of all Contractor secured borrow sources and State designated borrow sources; taking cross sections of all topsoil stockpiles; and staking right-of-way, easements, and fence.

The Contractor will perform all construction layout and reference staking necessary for the accurate control and completion of all grading, milling, paving, drainage, median crossovers, signing, pavement marking, permanent benchmarks, detours, fence, and all other appurtenances required for the complete construction and acceptance of the work. The layout will include, but is not limited to, staking clearing line, grade staking (blue tops), grade staking (paving hubs), graded centerline staking, construction staking, and performing the miscellaneous staking as described in the plans and in this specification.

The Department has established horizontal and vertical control as shown on the plans. Each horizontal and vertical control point will be preserved or reset out of the work limits and available during and after construction is complete. Prior to the Department's final acceptance of the project, the Contractor will replace or reset any control that is disturbed during the construction of the project. The Contractor

will provide the Department a list of the in-place control points, including coordinates and elevations relevant to the project control, at the end of the project.

The Contractor will perform the staking work in accordance with the Department's Survey Manual, except as modified by this specification.

B. MATERIALS

The Contractor will furnish all staking materials of adequate quality for the purpose intended including all stakes, stake chasers, paint, field notebooks, and all other materials and equipment necessary to perform the required work.

C. CONSTRUCTION REQUIREMENTS

- 1. General:** The Contractor will perform all staking work under the supervision of a qualified surveyor or engineer who is experienced and competent in road and bridge construction surveying and staking. The surveyor or engineer will be available to review work, resolve problems, and make decisions in a timely manner. A crew chief, competent to perform all required surveying duties, will supervise the staking in the absence of the surveyor or engineer from the project. The Contractor will submit the qualifications and work experience history of the surveyor or engineer who will supervise the construction survey work to the Engineer for review at least 14 calendar days prior to beginning the staking work.

The Contractor will also submit the proposed starting date of the staking and the anticipated surveying work schedule.

The Contractor will furnish, set, and properly reference all stakes, references, lines, grades, and batter boards required. Minimum reference notations will be for type, location, and alignment (when there are multiple alignments in the same area). The Contractor will perform the survey and staking work in a manner consistent with standard engineering practices and approved by the Engineer.

The Contractor is solely responsible for the accuracy of the survey and staking work. The Contractor will notify the Engineer of any errors and discrepancies found in previous surveys, plans, specifications, or special provisions prior to proceeding with the survey work.

The Contractor will be responsible for the supervision of the construction staking personnel. The Contractor will correct any deficient survey or staking work that results in construction errors at no additional cost to the Department.

The Contractor will keep field notes in conventional handwritten notebooks or in a computerized form acceptable to the Engineer in a clear, orderly, and neat

manner. The notebooks will become the property of the Department upon completion of the project. The notebooks will provide enough information such that quantity measurements are verifiable by the Department. Field notes are subject to inspection by the Engineer at any time.

The Contractor is required to submit any remaining required quantity calculations and notes to the Engineer no later than 60 calendar days after completion of the survey and staking work.

The Department will set reference control points. The Contractor is responsible for the preservation of ties and references to all control points necessary for the accurate re-establishment of all base lines and centerlines shown in the plans, whether established by the Contractor or found on or adjacent to the project. The Contractor will also establish benchmark elevations. It is the responsibility of the Contractor to verify the accuracy of the benchmark elevations prior to use on the project.

The Contractor will furnish stakes and wooden hubs or steel pins of sufficient length to provide a solid set in the ground. The Contractor will place half-length lath stakes or stake chasers or an alternate, acceptable to the Engineer, adjacent to or on the blue top hubs for guards. The Contractor will place guard stakes or an alternate, acceptable to the Engineer, adjacent to the paving hub with stationing and a grade to the top of slab written on the stake. Stakes set not meeting these requirements will be reset at the Contractor's expense. The Contractor will replace stakes and paving hubs damaged, destroyed, or made unusable at no additional expense to the Department.

The Engineer may check the accuracy and control of the Contractor's survey and staking work at any time. The checks performed by the Engineer will not relieve the Contractor of the responsibility for the accuracy of the survey layout or the construction work. If the random checks show the grade is out of tolerance, the Engineer may require the Contractor to set additional grade stakes and paving hub stakes, at the discretion of the Engineer, at no additional cost to the Department. If the Engineer orders additional stakes, the Contractor will perform the additional staking until the Contractor can show the staking operations achieve the specified grade tolerances.

Prior to any project staking, the Contractor will run a level circuit to check the plan benchmarks the full length of the project.

2. **Construction Staking:** Construction staking will consist of all staking for centerline offset and stationing stakes in accordance with the following:

Centerline Offset and Stationing Stakes: The Contractor will perform all survey work necessary to establish offset points to be used for re-establishment of centerline on the entire project prior to placement of

asphalt surfacing. The Contractor will place a nail and lath on one side of the roadway at an offset from centerline so as to not interfere with construction work. Once established, this offset will remain constant throughout the project length. Place the nail and lath at even 200 foot intervals throughout the entire length of the project in tangent sections. Place the nail and lath at even 100 foot intervals throughout all horizontally curved sections. Clearly mark stationing with a permanent marker on each lath placed. The Contractor is solely responsible for the accuracy of this work.

The Contractor shall use a surveying instrument to set the offset nails at a true offset from actual centerline. A tolerance of 0.04' will be allowed on the offset nails. Original Construction plans showing locations of alignment points are available at the Area Office.

The Contractor is hereby advised that spiral curves may be present along some South Dakota Highway routes, and if found will need to be duplicated as well as normal simple curves when staking this offset line. Any deficient work which may result in staking errors shall be corrected by the Contractor at no additional expense to the Department. All costs associated with this work will be paid under the bid item construction staking.

- 3. Grade Staking:** The Contractor will set grade finishing stakes (blue tops) for grade elevations and horizontal alignment on the roadway centerline and at each shoulder at the top of the subgrade. Where additional lanes or turnouts are to be constructed, The Contractor will set blue tops at centerline, the normal shoulder distance, and the extended shoulder distance or outside the additional lane edge.

The transverse distance between blue tops will not exceed 20 feet. The Contractor will be required to set intermediate blue tops when the transverse distance is greater than 20 feet. When intermediate blue tops are required, The Contractor will set the intermediate blue tops at locations approved by the Engineer.

The blue top grade stakes will be set at 100-foot intervals on tangents and 50-foot intervals on horizontal curves. The horizontal tolerance for blue tops is ± 0.2 foot and the vertical tolerance is ± 0.02 foot.

The Contractor is responsible to provide all grade staking (blue top) notes. The Contractor will develop the grade stake (blue top) notes from the design centerline profile following the Department confirming a completed review. The Contractor will make necessary adjustments to the design centerline profile and placement of the grade stakes (blue tops). If adjustments to the new design centerline profile are required subsequent to grade stake placement, the re-

staking of the grade stakes (blue tops) will be incidental to the contract unit price for grade staking.

When paving hub staking is required, the Contractor will set paving hubs at a maximum longitudinal distance of double the transverse joint spacing. The paving contractor may require a closer spacing. The horizontal and vertical tolerance for the paving hubs or grade nails is $\pm 0.02'$. If the Contractor elects to use GPS/Total Station to control the direction of forward motion and grade (vertical elevation), the Contractor will set necessary control in lieu of paving hubs.

The Contractor is responsible to provide all paving hub notes.

4. Miscellaneous Staking: Miscellaneous staking includes the following work:

- a. Approach road staking and all tie-in checks. The Contractor will submit profiles and elevations of all approach roads and other tie-ins throughout the project to the Engineer at least 3 business days prior to staking;
- b. Topsoil measurement and computation of quantities;
- c. Special ditch staking;
- d. Staking of signs, delineators, pavement markings, guardrail, curb & gutter, light poles, conduit, junction boxes, and related items (Staking is for all aspects, i.e. detours, temporary, and permanent);
- e. Right-of-way staking including easement lines and fence post panels;
- f. Pipe and storm sewer staking including drop inlets, manholes, cattle passes, and related items. If additional pipe, storm sewer, drop inlets, manholes, or cattle passes are required which are not shown on the plans, the staking will be paid in accordance with the bid item Engineer Directed Surveying/Staking;
- g. Mark limits of removal items (trees, foundations, curb & gutter, sidewalk, etc.);
- h. Detours, roadway diversions, and crossovers. (This work includes all design and staking notes required to design and stake the detour, roadway diversion, or crossover in accordance with the plan requirements. The Contractor will submit the completed design including profile and alignment and staking notes to the Engineer at least 3 business days prior to staking.);
- i. Final and original cross sections of Contractor and State furnished borrow pits and computations. The Contractor will perform earthwork computations by the average end area method, surface-to-surface method, or alternate computation method approved by the Engineer;
- j. Resetting horizontal and vertical control, if disturbed;
- k. Approach slab and sleeper slab staking;
- l. Staking of sidewalks and curb ramps; and,
- m. Staking of steps and wheel chair ramps.

The Contractor will perform the pipe staking so the pipe will fit the field conditions. The plans show only approximate pipe locations and grades. The Contractor will not install pipe prior to gaining the Engineer's approval of minor location and grade adjustments necessary for proper staking of the pipe.

The Contractor will stake the slope catch points to determine the inlet and outlet locations, set reference stakes for the inlet and outlet locations, and stake ditches and special inlet and outlet grades to ensure proper drainage. The staking of manholes and drop inlets will be included in pipe and storm sewer staking. The Contractor will stake precast cattle passes similar to drainage pipes.

The horizontal tolerance for the pipe and storm sewer staking is ± 0.05 foot and the vertical tolerance is ± 0.03 foot.

The Contractor will keep pipe staking notes on a DOT Form 214.

- 5. Engineer Directed Surveying/Staking:** The use of the engineer directed surveying/staking contract item is intended for surveying/staking not included in the plan notes and this special provision. The Contractor may use a survey crew to perform additional survey/staking work caused or required by the Department. The Engineer will use a written order to authorize the hourly engineer directed surveying/staking item and describe the surveying/staking work required of the Contractor.
- 6. Graded Centerline Staking:** The Contractor will take profile elevations along the existing roadway centerline and along each proposed edge of the new concrete pavement for the entire length of the section prior to the removal of the pavement. In addition, the Contractor will take profile elevations on the intersecting roads 500 feet back to provide a smooth transition on the intersecting roads. The Contractor will take the profile elevations at 100-foot intervals in tangents and at 50-foot intervals in super elevated curves. The Department will not make separate payment for the profile elevations taken by the Contractor on intersecting roads or approaches. Payment for all profile elevations will be incidental to graded centerline staking. If the Contractor elects to use a GPS/Total Station system to collect the profile elevations, The Contractor will provide the Engineer the equipment and methods proposed for use for review by the Engineer.

The Contractor will plot the profile elevations taken from the existing roadway centerline and each proposed edge of new concrete pavement, select a grade line that corrects all existing dips and bumps and ensures the placement of the required minimum thickness of new concrete pavement, and create the proposed design centerline profile for Department review. The Contractor will incorporate the super elevation rates, transition lengths, and locations of super elevation as shown in the plans in the proposed design centerline profile.

The new concrete pavement in the proposed design centerline profile must smoothly transition into the pavement at each end of the section and provide for a smooth grade line. The existing in place crown slope may vary from the typical section shown in the plans. The contractor is responsible to field verify crown slopes when designing the new vertical profile. The Contractor is solely responsible for adjusting the grade line to ensure the granular materials placed beneath the concrete and shoulders do not deviate from the plan shown spread rates by more than 5%. The Department will not make any additional payment for granular material placed more than 5% over the plan shown spread rates.

The Contractor will submit the proposed design centerline profile to the Engineer for review. The proposed design centerline profile will consist of a digital terrain model (DTM) of the existing pavement surface; a DTM of the proposed pavement surface; and a project centerline alignment file showing the proposed new design centerline profile at the top of the finished concrete pavement and that includes the station, length of curve, K-value, and grades at each vertical PI. Within 14 calendar days of receiving the required information, the Engineer will respond to the Contractor in one of the following ways: 1) No Exceptions Noted; 2) Returned for Revision; or 3) Not Required for Review. If the Department's response states "Returned for Revision", the Contractor must make the revisions and resubmit the proposed design centerline profile for review as specified above.

The Contractor will not set any horizontal or vertical control on the project prior to the Engineer confirming, in writing, a completed review with a response of "No Exceptions Noted" or "Not Required for Review". The Contractor is solely responsible for the accuracy of this profile and any impact the design vertical profile causes to the work being done on the project. Under no circumstances will adjustments to the design centerline profile be allowed without prior review by the Engineer. The Department's review of the new design centerline profile or the Department's review of adjustments to the new design centerline profile will not relieve the Contractor's responsibility of adhering to the smoothness specifications.

Note: The Contractor is responsible for hauling existing material to any portion of the project as required by the proposed profile.

All additional staking required for completion of the graded centerline staking will be incidental to the contract unit price for graded centerline staking.

D. METHOD OF MEASUREMENT

Refer to the Table of Contractor Staking in the plans for more detail on how quantities were calculated.

1. **Grade Staking:** The Department will not measure grade staking. The Department will pay the plan quantity as the final quantity unless the Engineer orders additional grade staking in writing.

The Department will consider a two-lane roadway as one set of grade stakes. The Department will proportionately increase the plan quantity for multi-lane roadways in excess to two-lanes as shown in the table of construction staking (lane factor). For example, a three-lane roadway is equivalent to 1.5 times the quantity for a two-lane roadway. On projects requiring grade staking on ramps, the Department will consider ramps as a two-lane roadway for measurement as shown in the table of construction staking. The Department will not consider acceleration lanes, deceleration lanes, turning lanes for intersecting roads, and median crossovers as an additional roadway.

When both blue top and paving hub stakes are required, the Department will base and calculate the plan quantity to include each type of grade staking as a separate set of stakes.

2. **Construction Staking:** The Department will not measure construction staking. The Department will pay the plan quantity as the final quantity.
3. **Miscellaneous Staking:** The Department will not measure miscellaneous staking. The Department will pay the plan quantity as the final quantity.
4. **Engineer Directed Surveying/Staking:** The Department will measure engineer directed surveying/staking to the nearest 0.1 hour with the following restrictions:

The use of engineer directed surveying/staking will be for the work ordered by the Engineer. The measured quantity will be the actual time the survey crew is working on the project, physically performing the field survey/staking work. The Department will not include travel time for the survey crew in the measurement.

The Engineer will issue a DOT 75 ticket for the hours authorized for engineer directed surveying/staking.

5. **Graded Centerline Staking:** The Department will not measure graded centerline staking. The Department will pay the plan quantity as the final quantity.

E. BASIS OF PAYMENT

Payment for all of the survey items will be considered full compensation for furnishing all necessary personnel, vehicles, surveying equipment, supplies, materials, recording fees, transportation, and incidentals to accurately and satisfactorily complete the work.

The Department reserves the right to omit any of these bid items without providing compensation to the contractor if the Department deems the bid prices are unreasonable.

1. **Grade Staking:** The Department will pay grade staking at the contract unit price per mile. All cost for additional grade staking for acceleration lanes, deceleration lanes, turning lanes, intersecting roads, grade adjustments, and median crossovers will be incidental to the contract unit price for grade staking. All additional grade staking for intersections and medians will be incidental to the roadway grade staking. Any additional staking the Contractor feels necessary to complete the grade staking work is the responsibility of the contractor and will be incidental to the contract unit price for grade staking.
2. **Construction Staking:** The Department will pay construction staking at the contract unit price per mile. The Department will make partial payment as follows:
 - a. Upon submission of the name, experience, and qualifications of the surveyor or engineer who will supervise the staking, the proposed starting date, and the staking schedule, the Department will pay the Contractor 25 percent of the plan quantity for the construction staking.
 - b. The Department will make intermediate payments based on the amount of the staking work completed.
 - c. The Department will make full payment at the plan quantity for construction staking upon completion of all surveying and staking and when the Contractor has furnished all field notebooks and records to the Engineer.

The Department will not adjust the contract unit price or plan quantity for construction staking due to overruns or under runs in the other contract items

3. **Miscellaneous Staking:** The Department will pay miscellaneous staking at the contract unit price per mile.

The Department will make partial payment as follows:

- d. Upon submission of the name, experience, and qualifications of the surveyor or engineer who will supervise the staking, the proposed starting date, and the staking schedule, the Department will pay the Contractor 25 percent of the plan quantity for the miscellaneous staking.
- e. The Department will make intermediate payments based on the amount of the staking work completed.

- f. The Department will make full payment at the plan quantity for miscellaneous staking upon completion of all surveying and staking and when the Contractor has furnished all field notebooks and records to the Engineer.

The Department will not adjust the contract unit price or plan quantity for miscellaneous staking due to overruns or under runs in the other contract items.

- 4. **Engineer Directed Surveying/Staking:** The Department will pay engineer directed surveying/staking on an hourly basis as per the Price Schedule for Miscellaneous Items. The value listed in the Price Schedule for Miscellaneous Items includes salaries, travel time, equipment, staking supplies, payroll additive, and all incidental expenses related to providing the survey crew.
- 5. **Graded Centerline Staking:** The Department will pay graded centerline staking at the contract unit price per mile.

The Contractor will include all cost for time spent in the office processing and plotting grades, reducing notes, and performing grade adjustments and general calculations for profiles (existing and proposed) in the contract unit price for Graded Centerline Staking.

* * * * *

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0046(73)366 & P-CR 0011(152)34		
		A2	A5

Section F – Surfacing (Continued)

Section M - Pavement Marking

Revised: 25Sept25, JPC

ESTIMATE OF QUANTITIES FOR PCN 06QY

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	4.981	Mile
009E3250	Miscellaneous Staking	4.981	Mile
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0730	Remove Beam Guardrail	325.0	Ft
110E1010	Remove Asphalt Concrete Pavement	372.6	SqYd
110E7500	Remove Pipe for Reset	14	Ft
110E7510	Remove Pipe End Section for Reset	4	Each
120E0010	Unclassified Excavation	549	CuYd
120E0100	Unclassified Excavation, Digouts	248	CuYd
120E0600	Contractor Furnished Borrow Excavation	281	CuYd
120E4100	Reprofiling Ditch	2.4	Sta
120E6100	Water for Embankment	3.7	MGal
120E6200	Water for Granular Material	25.0	MGal
210E0100	Shoulder Clearing	7.9	Mile
260E1010	Base Course	1,229.2	Ton
260E1030	Base Course, Salvaged	856.9	Ton
260E6000	Granular Material, Furnish	3,151.6	Ton
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	296.7	Ton
270E0220	Blend and Stockpile Granular Material	6,545.0	Ton
320E0005	PG 58-34 Asphalt Binder	607.2	Ton
320E1200	Asphalt Concrete Composite	124.2	Ton
320E1202	Class Q2R Hot Mixed Asphalt Concrete	13,926.2	Ton
320E1800	Asphalt Concrete Blade Laid	745.2	Ton
320E4000	Hydrated Lime	146.1	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	7.8	Mile
330E0010	MC-70 Asphalt for Prime	1.1	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	62.0	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	3.8	Ton
330E2000	Sand for Flush Seal	7.0	Ton
332E0010	Cold Milling Asphalt Concrete	114,891	SqYd
380E7035	Grind Sinusoidal Transverse Rumble Strip in PCC Pavement	392.0	SqFt
450E9000	Reset Pipe	14	Ft
450E9001	Reset Pipe End Section	4	Each
600E0300	Type III Field Laboratory	1	Each
630E0500	Type 1 MGS	150.0	Ft
630E1501	Type 1 Retrofit Guardrail Transition	4	Each
630E2016	MGS Flared End Terminal	4	Each
632E2220	Guardrail Delineator	16	Each
700E0210	Class B Riprap	297.0	Ton
831E0110	Type B Drainage Fabric	512	SqYd
831E0300	Reinforcement Fabric (MSE)	508	SqYd
900E0010	Refurbish Single Mailbox	2	Each
900E0012	Refurbish Double Mailbox	1	Each
900E1980	Storage Unit	1	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

ESTIMATE OF QUANTITIES FOR PCN 05J5

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0235	Preformed Thermoplastic Pavement Marking, Arrow	22	Each
633E0250	Preformed Thermoplastic Pavement Marking, Railroad Crossing	2	Each
633E3000	Durable Pavement Marking, 4" White	166,918	Ft
633E3005	Durable Pavement Marking, 4" Yellow	59,587	Ft
633E3010	Durable Pavement Marking, 8" White	450	Ft
633E3015	Durable Pavement Marking, 8" Yellow	150	Ft
633E3030	Durable Pavement Marking, 24" White	72	Ft
633E3035	Durable Pavement Marking, 24" Yellow	1,080	Ft
633E3040	Durable Pavement Marking, Area	50	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	22	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each
633E5100	Grooving for Durable Pavement Marking, 4"	226,505	Ft
633E5105	Grooving for Durable Pavement Marking, 8"	600	Ft
633E5115	Grooving for Durable Pavement Marking, 24"	1,152	Ft
633E5120	Grooving for Durable Pavement Marking, Area	50	SqFt

ESTIMATE OF QUANTITIES FOR PCN 06QY

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0225	Preformed Thermoplastic Pavement Marking, 24"	184	Ft
633E0250	Preformed Thermoplastic Pavement Marking, Railroad Crossing	2	Each
633E1200	High Build Waterborne Pavement Marking Paint, White	225	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	101	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	184	Ft
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each

Section S – Permanent Signing

ESTIMATE OF QUANTITIES FOR PCN 05J5

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E7150	Remove Sign for Reset	87	Each
110E7152	Remove Delineator for Reset	357	Each
632E2100	Reset Delineator	357	Each
632E3500	Reset Sign	87	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>.

INDEX OF SHEETS

A1 and A2 Estimate of Quantities for Sections C, D, F, M, and S
A3 to A5 Environmental Commitments

ESTIMATE OF QUANTITIES FOR PCN 05J5

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
004E0050	Remove Traffic Diversion(s)	Lump Sum	LS
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	17.160	Mile
009E3240	Graded Centerline Staking	0.385	Mile
009E3250	Miscellaneous Staking	15.692	Mile
009E3301	Engineer Directed Surveying/Staking	80.0	Hour
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0500	Remove Pipe Culvert	56	Ft
110E7510	Remove Pipe End Section for Reset	26	Each
120E0010	Unclassified Excavation	9,289	CuYd
120E0100	Unclassified Excavation, Digouts	784	CuYd
120E0600	Contractor Furnished Borrow Excavation	11,679	CuYd
120E6100	Water for Embankment	504.2	MGal
120E6200	Water for Granular Material	2,789.6	MGal
210E1005	Surface Preparation	15.684	Mile
210E2000	Shoulder Shaping	31.367	Mile
210E3000	Ordinary Roadway Shaping	2.000	Mile
210E3500	Heavy Roadway Shaping	2.000	Mile
260E1010	Base Course	14,820.3	Ton
260E1030	Base Course, Salvaged	23,381.3	Ton
260E2010	Gravel Cushion	29,019.9	Ton
260E2030	Gravel Cushion, Salvaged	786.3	Ton
260E6000	Granular Material, Furnish	923.2	Ton
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	4,513.4	Ton
270E0110	Salvage and Stockpile Granular Material	13,042.9	Ton
270E0220	Blend and Stockpile Granular Material	5,436.6	Ton
320E0005	PG 58-34 Asphalt Binder	862.7	Ton
320E1070	Class HR Asphalt Concrete	24,590.9	Ton
320E3000	Compaction Sample	6	Each
320E5010	Saw and Seal Shoulder Joint	164,956	Ft
330E0010	MC-70 Asphalt for Prime	215.6	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	46.7	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	34.5	Ton
330E1000	Blotting Sand for Prime	10.0	Ton
330E2000	Sand for Flush Seal	58.2	Ton
380E0050	8" Nonreinforced PCC Pavement	272,464.8	SqYd
380E6000	Dowel Bar	162,714	Each
380E6110	Insert Steel Bar in PCC Pavement	162	Each
380E6548	Grind Sinusoidal Centerline Rumble Stripe in PCC Pavement	15.7	Mile
450E0142	24" RCP Class 2, Furnish	20	Ft
450E0150	24" RCP, Install	20	Ft
450E0162	30" RCP Class 2, Furnish	36	Ft
450E0170	30" RCP, Install	36	Ft
450E9001	Reset Pipe End Section	26	Each
600E0300	Type III Field Laboratory	1	Each
900E0022	Remove and Reset Mailbox	30	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

ESTIMATE OF QUANTITIES FOR PCN 06QY

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	4.981	Mile
009E3250	Miscellaneous Staking	4.981	Mile
009E3320	Checker	Lump Sum	LS
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0730	Remove Beam Guardrail	325.0	Ft
110E1010	Remove Asphalt Concrete Pavement	372.6	SqYd
110E7500	Remove Pipe for Reset	14	Ft
110E7510	Remove Pipe End Section for Reset	4	Each
120E0010	Unclassified Excavation	549	CuYd
120E0100	Unclassified Excavation, Digouts	248	CuYd
120E0600	Contractor Furnished Borrow Excavation	281	CuYd
120E4100	Reprofiling Ditch	2.4	Sta
120E6100	Water for Embankment	3.7	MGal
120E6200	Water for Granular Material	25.0	MGal
210E0100	Shoulder Clearing	7.9	Mile
260E1010	Base Course	1,229.2	Ton
260E1030	Base Course, Salvaged	856.9	Ton
260E6000	Granular Material, Furnish	3,151.6	Ton
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	296.7	Ton
270E0220	Blend and Stockpile Granular Material	6,545.0	Ton
320E0005	PG 58-34 Asphalt Binder	607.2	Ton
320E1200	Asphalt Concrete Composite	124.2	Ton
320E1202	Class Q2R Hot Mixed Asphalt Concrete	13,926.2	Ton
320E1800	Asphalt Concrete Blade Laid	745.2	Ton
320E4000	Hydrated Lime	146.1	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	7.8	Mile
330E0010	MC-70 Asphalt for Prime	1.1	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	62.0	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	3.8	Ton
330E2000	Sand for Flush Seal	7.0	Ton
332E0010	Cold Milling Asphalt Concrete	114,891	SqYd
380E7035	Grind Sinusoidal Transverse Rumble Strip in PCC Pavement	392.0	SqFt
450E9000	Reset Pipe	14	Ft
450E9001	Reset Pipe End Section	4	Each
600E0300	Type III Field Laboratory	1	Each
630E0500	Type 1 MGS	150.0	Ft
630E1501	Type 1 Retrofit Guardrail Transition	4	Each
630E2016	MGS Flared End Terminal	4	Each
632E2220	Guardrail Delineator	16	Each
700E0210	Class B Riprap	297.0	Ton
831E0110	Type B Drainage Fabric	512	SqYd
831E0300	Reinforcement Fabric (MSE)	508	SqYd
900E0010	Refurbish Single Mailbox	2	Each
900E0012	Refurbish Double Mailbox	1	Each
900E1980	Storage Unit	1	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P-CR 0046(73)366 & P-CR 0011(152)34	F2	F82

Revised: 25Sept25, JPC

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.

SURFACING/SUBGRADE INVESTIGATION FOR SD11

A copy of the surfacing/subgrade investigation for this project is available from the Mitchell Region and Yankton Area offices.

UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

TYPE III FIELD LABORATORY

The lab will be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection will be provided with a multi-port wireless router. The internet connection will be a minimum speed of 5 Mbps unless limited by job location and approved by the DOT. Prior to installing the wireless router, the Contractor will submit the wireless router's technical data to the Area Office to check for compatibility with the state's computer equipment. The internet connection is intended for state personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer. These items will be incidental to the contract unit price per each for "Type III Field Laboratory".

STORAGE UNIT (SD11)

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

TABLE OF CONSTRUCTION STAKING (SD46)

(See Special Provision for Contractor Staking)

Revised 25Sept25, JPC

The staking data from the grading project (P-PH 0046(61)366, PCN 04JF) can be obtained from the Area office.

Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Grade Staking				Graded Centerline Staking (Mile)	Miscellaneous Staking (Mile)
					Length (Mile)	Lane Factor	Sets of Stakes	* Grade Staking (Mile)		
SD46 (2 lane roadway)	0+20.0	147+40.0	2	14,720.0	2.788	1	1	2.788		2.788
SD46 (Transition from 2 lane to 3 lane roadway)	147+40.0	151+60.0	3	420.0	0.080	1.5	1	0.120		0.080
SD46 (3 lane roadway)	151+60.0	166+36.6	3	1,476.6	0.280	1.5	1	0.420		0.280
SD46 (Transition from 3 lane to 2 lane roadway)	166+36.6	170+56.6	3	420.0	0.080	1.5	1	0.120		0.080
SD46 (2 lane roadway)	170+56.6	353+43.0	2	18,286.4	3.463	1	1	3.463		3.463
SD46 (2 lane roadway)	353+43.0	362+70.0	2	927.0	0.176	1	2	0.352	0.176	0.176
SD46 (Transition from 2 lane to 3 lane roadway)	362+70.0	366+90.2	3	420.0	0.080	1.5	2	0.240	0.080	0.080
SD46 (3 lane roadway)	366+90.2	373+73.3	3	683.1	0.129	1.5	2	0.387	0.129	0.129
SD46 (Transition from 3 lane to 2 lane roadway)	373+73.3	377+90.7	3	417.4	0.079	1.5	1	0.119		0.079
SD46 (2 lane roadway)	377+90.7	686+50.0	2	30,859.3	5.845	1	1	5.845		5.845
SD46 (Transition from 2 lane to 3 lane roadway)	686+50.0	692+50.0	3	600.0	0.114	1.5	1	0.171		0.114
SD46 (3 lane roadway)	692+50.0	724+86.0	3	3,236.0	0.613	1.5	1	0.920		0.613
SD46 (Transition from 3 lane to 4 lane roadway)	724+86.0	729+06.0	4	420.0	0.080	2	1	0.160		0.080
SD46 (4 lane roadway)	729+06.0	735+86.5	4	680.5	0.129	2	1	0.258		0.129
SD46 (Transition from 3 lane to 2 lane roadway)	735+86.5	740+20.0	3	433.5	0.082	1.5	1	0.123		0.082
SD46 (2 lane roadway)	740+20.0	828+60.0	2	8,840	1.674	1	1	1.674		1.674
							Totals:	17.160	0.385	15.692

* 1 = Paving Hub Stakes (PCC Pavement)

** Grade Staking Quantity = (Length) x (Lane Factor) x (Sets of Stakes)

TABLE OF CONSTRUCTION STAKING (SD11)

(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Length (Mile)	Lane Factor	Sets of Stakes	Construction Staking (Mile)	Miscellaneous Staking (Mile)
SD11 (2 lane roadway)	0+102.5	26+13.35	2	2715.9	0.514	1	1	0.514	0.514
Bridge Exception	26+13.35	27+06.65		93.3					
SD11 (2 lane roadway)	27+06.65	86+33.98	2	5927.3	1.123	1	1	1.123	1.123
SD11 (2 lane roadway) (Equation)	86+33.98	a 86+33.27							
SD11 (2 lane roadway)	a 86+33.27	240+06.92	2	15373.7	2.912	1	1	2.912	2.912
Box Culvert Exception	240+06.92	240+33.08		26.2					
SD11 (2 lane roadway)	240+33.08	263+14.5	2	2281.4	0.432	1	1	0.432	0.432
							Totals:	4.981	4.981

Section M - Pavement Marking

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0235	Preformed Thermoplastic Pavement Marking, Arrow	22	Each
633E0250	Preformed Thermoplastic Pavement Marking, Railroad Crossing	2	Each
633E3000	Durable Pavement Marking, 4" White	166,918	Ft
633E3005	Durable Pavement Marking, 4" Yellow	59,587	Ft
633E3010	Durable Pavement Marking, 8" White	450	Ft
633E3015	Durable Pavement Marking, 8" Yellow	150	Ft
633E3030	Durable Pavement Marking, 24" White	72	Ft
633E3035	Durable Pavement Marking, 24" Yellow	1,080	Ft
633E3040	Durable Pavement Marking, Area	50	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	22	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each
633E5100	Grooving for Durable Pavement Marking, 4"	226,505	Ft
633E5105	Grooving for Durable Pavement Marking, 8"	600	Ft
633E5115	Grooving for Durable Pavement Marking, 24"	1,152	Ft
633E5120	Grooving for Durable Pavement Marking, Area	50	SqFt

Section M - Pavement Marking

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0225	Preformed Thermoplastic Pavement Marking, 24"	184	Ft
633E0250	Preformed Thermoplastic Pavement Marking, Railroad Crossing	2	Each
633E1200	High Build Waterborne Pavement Marking Paint, White	225	Gal
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	101	Gal
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	184	Ft
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each

PAVEMENT MARKING PAINT

The Contractor will advise the Engineer a minimum of 3 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones.

The application of permanent pavement marking will begin no sooner than 7 calendar days following completion of the fog or flush seal. Application of permanent pavement marking will be completed within 14 calendar days following completion of the final surfacing.

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials will be applied as per the manufacturer’s recommendations.

Cold Applied Plastic Pavement Markings will be 3M Series 380 AW or an approved equal.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer’s recommendations. High build waterborne pavement marking paint will conform to the supplemental specifications for Section 980.1 B.

Reflective media will consist of glass beads. Reflective media will require a Certificate of Compliance for Certification for each source and lot. Acceptance sampling will not be required.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4” line = 22.5 Gals/Mile
Dashed 4” line = 6.2 Gal/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor, and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot, square foot, each, or word for “Grooving for Cold Applied Plastic Pavement Marking” contract items.

PREFORMED THERMOPLASTIC PAVEMENT MARKING

General

- Made of prefabricated retroreflective, resilient thermoplastic material;
- Contains glass beads uniformly distributed through the entire cross-sectional area;
- Capable of being affixed to bituminous or concrete pavement by heating;
- Resistant to deterioration due to exposure to sunlight, water, salt, and adverse weather conditions;
- Under traffic wear, shows no appreciable fading in accordance with the color requirements, lifting, or shrinkage throughout the life of the marking;
- Capable of conforming to pavement contours, breaks, and faults through the action of traffic at normal pavement temperatures;
- Possesses resealing characteristics, such that it is capable of fusing with itself and previous thermoplastic markings when heated; and
- Protected during shipment and in storage.

Apply the preformed thermoplastic pavement marking as recommended by the manufacturer to provide a neat, durable marking that will not flow, distort, or crack due to temperature if the pavement surface remains stable. Use equipment and application methods specified by the manufacturer. Primer as required by the manufacturer will be provided with the material.

Application of the markings will include the use of any manufacturer recommended sealers. Sealers may be required on concrete pavements, inside grooves, or on older asphalt pavements. Prior to placing any markings on new concrete, the Contractor will remove any curing compounds. Removal will be by sandblasting or other standard industry methods.

PREFORMED THERMOPLASTIC PAVEMENT MARKING (CONTINUED)

Any required primers or sealers will be included in the contract unit price for the various preformed thermoplastic pavement marking items.

Provide precut messages and symbols meeting the requirements of the MUTCD and the Standard Signs Manual in custom kits. Use separate pieces or segments to form individual letters or symbols only to the extent supplied by the manufacturer. Provide shapes, sizes, and colors as required by the contract.

Color

- Will meet the color specification limits and luminance factors for Cold Applied Plastic Pavement Marking and Legends (Section 983.2 D, Tables 1 and 2).

Glass Beads

- Ensure the preformed thermoplastic pavement marking contains a minimum 30% intermixed glass beads by weight and a minimum 80% true spheres.
- Ensure preformed thermoplastic pavement markings contain only clear beads.

Skid Resistance

- Ensure the surface of the preformed thermoplastic pavement marking provides a skid resistance value of at least 45 British Pendulum Number (BPN) when tested in accordance with ASTM E303.

Retroreflectivity

- Provide preformed thermoplastic pavement marking meeting the minimum initial pavement marking retroreflectivity values using 30 m geometry and meeting the testing procedures of ASTM E1710:

Minimum Initial Pavement Marking Retroreflectivity		
	White	Yellow
Thermoplastic	400 mcd/sq. ft./ft.	250 mcd/sq. ft./ft.
Thermoplastic, enhanced skid resistance (ESR)	250 d/sq. ft./ft.	150 d/sq. ft./ft.

Thickness

- A longitudinal marking is a minimum 90 mils thick at the edges, and a maximum 125 mils thick at the center of the stripe.
- Transverse markings and symbols are a minimum 125 mils thick at the edges, and a maximum 160 mils thick at the center.

Sample

- Prior to application, the Contractor will provide a sample of the preformed thermoplastic pavement marking to be used on the project to the Region Traffic Engineer for inspection and approval.
- Do not begin application of the preformed thermoplastic pavement marking prior to obtaining the Region Traffic Engineer’s approval of the preformed thermoplastic pavement marking material. The Region Traffic Engineer’s approval of the preformed thermoplastic pavement marking does not void other preformed thermoplastic pavement marking requirements specified.