



Planning & Engineering
Office of Project Development
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November 18, 2024

ADDENDUM NO. 1

RE: Item #7, November 20, 2024 Letting - NH 0012(230)171, P 0063(59)252, P 1806(19)364, P 1806(20)370, P 1806(22)359, PCN 05TY, 07CD, 06A1, 06E0, 06RC, Corson County - Full Depth Reclamation, Asphalt Concrete Surfacing, Pipe 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: Please remove the Index of Special Provisions and replace with attached Index of Special Provisions revised 11/18/24.

Please remove the "Special Provision for Contractor Staking", dated 10/22/24 and replace with the "Special Provision for Contractor Staking", dated 11/18/24.

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 009E3240 "Graded Centerline Staking"

PLANS: Please destroy sheets A4, B4, and B12 and replace with the enclosed sheets, dated 11/18/24.

Sheets A4 & B4: Bid Item 009E3240 "Graded Centerline Staking" was added.

Sheet B12: Graded Centerline Staking column was added to TABLE OF CONSTRUCTION STAKING FOR PROJECTS for PCN 05TY.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/cj

CC: Jason Humphrey, Pierre Region Engineer
John Villbrandt, Mobridge Area Engineer

REV 11/18/24

INDEX OF SPECIAL PROVISIONS

PROJECT NUMBER(S): NH 0012(230)171, P 0063(59)252, P 1806(19)364, P 1806(20)370, P 1806(22)359 PCN: 05TY, 07CD, 06A1, 06E0, 06RC

TYPE OF WORK: FULL DEPTH RECLAMATION, ASPHALT CONCRETE SURFACING, PIPE WORK

COUNTY: CORSON

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.

Ashley Glaspell is the official in charge of the Aberdeen Career Center for Corson County.

THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:

Special Provision for Prosecution and Progress, dated 1/21/21.

Special Provision Regarding Right of Entry/Work Limits, dated 10/24/24.

Special Provision for Alternate Bidding, dated 9/30/24.

Special Provision Regarding Section 404 of the Clean Water Act, dated 10/21/24.

Fact Sheet #3.

Special Provision for Indian Employment and Contracting on the Standing Rock Reservation, dated 8/27/24.

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

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

Special Provision for Contractor Staking, dated 11/18/24.

Special Provision for Steel Beam Guardrail AASHTO M 180 Designation, date 10/8/24.

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 5/1/24.

Special Provision for Liability Insurance, dated 4/21/22.

Special Provision for Responsibility for Damage Claims, dated 4/21/22.
Special Provision for Restriction of Boycott of Israel, dated 1/31/20.
Special Provision for Contractor Administered Preconstruction Meeting, dated 12/18/19.
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 for Supplemental Specifications to 2015 Standard Specifications for Roads and Bridges, dated 9/7/22.
Special Provision for Price Schedule for Miscellaneous Items, dated 12/6/23.

Special Provision Regarding Storm Water Discharge to Waters of the United States Within Indian Reservations, dated 9/7/22.
National Pollutant Discharge Elimination System General Permit for Discharges from Large and Small Construction Activities.
<https://www.epa.gov/system/files/documents/2022-01/2022-cgp-final-permit.pdf>

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
CONTRACTOR STAKING**

**PROJECT NH 0012(230)171, P 0063(59)252, P 1806(19)364, P 1806(20)370,
P 1806(22)359
PCN 05TY, 07CD, 06A1, 06E0, 06RC
CORSON COUNTY**

NOVEMBER 18, 2024

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, establishing or re-establishing the project centerline; placing an offset line to re-establish the project centerline throughout the entire project length prior to placement of asphalt surfacing; 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, 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, slope staking and slope stake referencing, grade staking (blue tops), and performing the miscellaneous staking as described in the plans and in this specification.

Horizontal and vertical control has been established 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 note books, 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 Department 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. Stakes set not meeting these requirements will be reset at the Contractor's expense. The Contractor will replace stakes 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 stakes, and grade 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:
 - a. 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. Slope Staking:** The Contractor will set slope stakes at the catch points. The slope stake reference hubs will be offset behind the slope stake. The Contractor will place slope stake reference hubs behind the slope stakes at a set distance, at the right-of-way line, or at the easement line, as approved by the Engineer.

The slope stakes will be set at 100-foot intervals on tangents and at 50-foot intervals in horizontal curves. The horizontal tolerance is ± 0.2 foot and the vertical tolerance is ± 0.1 foot. The Contractor will reference the subgrade shoulders with slope stake reference hubs set with a horizontal tolerance of ± 0.2 foot and a vertical tolerance of ± 0.05 foot.

The Contractor will retain the slope stakes and hub references until the final cross sections are completed and accepted by the Department.

The Department will not provide slope stake notes. The Contractor is responsible to generate the slope staking notes using the cross sections and the existing field conditions.

- 4. 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 granular material. 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 Department will not provide grade staking notes. The Contractor is responsible to generate the grade staking notes using the typical sections and the existing field conditions.

5. 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 for at the contract unit price per hour for 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.

- 6. 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.
- 7. Graded Centerline Staking:** The Contractor will take profile elevations along the existing roadway centerline and along each proposed edge of the new pavement for the entire length of the project prior to the removal of the surfacing. In addition, the Contractor will take profile elevations on the existing roadway centerline and on each proposed edge of the new pavement 500 feet off each end of the project to provide a smooth transition to the existing 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 surfacing, 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 pavement in the proposed design centerline profile must smoothly transition into the existing pavement at each end of the project, intersecting roads, and at each existing bridge beginning and ending point 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 pavement 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 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. Construction Staking:** The Department will not measure construction staking.
- 2. Slope Staking:** The Department will not measure slope staking. The Department will pay the plan quantity as the final quantity unless the Engineer orders additional slope staking in writing.

The Department will consider all combinations of roadway widths as one set of slope stakes. On projects with ramps, the Department will consider ramps as roadway and include the ramps in the slope staking quantity. All additional slope staking for intersections will be incidental to the contract unit price for slope staking.

- 3. 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/deceleration lanes and turning lanes for intersecting roads, and median crossovers as an additional roadway.

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

- 4. Miscellaneous Staking:** The Department will not measure miscellaneous staking. The Department will pay the plan quantity as the final quantity.
- 5. 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.

6. **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. **Construction Staking:** The Department will pay construction staking at the contract unit price per mile.
2. **Slope Staking:** The Department will pay slope staking at the contract unit price per mile.
3. **Grade Staking:** The Department will pay grade staking at the contract unit price per mile. All cost for additional grade staking for acceleration/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.
4. **Miscellaneous Staking:** The Department will pay miscellaneous 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 miscellaneous 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 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.

- 5. **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.
- 6. **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

Revised 11-18-24: EJW

PCN 05TY – Section B – Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	15.015	Mile
009E3240	Graded Centerline Staking	15.015	Mile
009E3250	Miscellaneous Staking	15.015	Mile
009E3280	Slope Staking	0.528	Mile
009E3301	Engineer Directed Surveying/Staking	50.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0135	Remove Delineator	7	Each
110E0500	Remove Pipe Culvert	46	Ft
110E0510	Remove Pipe End Section	19	Each
110E0595	Remove Cattle Pass End Section	6	Each
110E0600	Remove Fence	61	Ft
110E0730	Remove Beam Guardrail	1,400.0	Ft
110E7500	Remove Pipe for Reset	392	Ft
110E7510	Remove Pipe End Section for Reset	40	Each
120E0600	Contractor Furnished Borrow	16,432	CuYd
120E6100	Water for Embankment	249.2	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
450E0143	24" RCP Class 3, Furnish	8	Ft
450E0150	24" RCP, Install	8	Ft
450E0203	48" RCP Class 3, Furnish	8	Ft
450E0210	48" RCP, Install	8	Ft
450E0213	54" RCP Class 3, Furnish	8	Ft
450E0220	54" RCP, Install	8	Ft
450E2008	18" RCP Flared End, Furnish	8	Each
450E2009	18" RCP Flared End, Install	8	Each
450E2028	36" RCP Flared End, Furnish	2	Each
450E2029	36" RCP Flared End, Install	2	Each
450E2036	48" RCP Flared End, Furnish	2	Each
450E2037	48" RCP Flared End, Install	2	Each
450E2040	54" RCP Flared End, Furnish	3	Each
450E2041	54" RCP Flared End, Install	3	Each
450E2200	24" RCP Sloped End, Furnish	7	Each
450E2201	24" RCP Sloped End, Install	7	Each
450E4768	24" CMP 14 Gauge, Furnish	30	Ft
450E4770	24" CMP, Install	30	Ft
450E5310	24" CMP Sloped End, Furnish	2	Each
450E5311	24" CMP Sloped End, Install	2	Each
* 450E8900	Cleanout Pipe Culvert	16	Each
450E9000	Reset Pipe	392	Ft
450E9001	Reset Pipe End Section	40	Each
462E0250	Cellular Grout	164.4	CuYd
620E0020	Type 2 Right-of-Way Fence	61	Ft

* - Denotes Non-Participating

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
620E0520	Type 2 Temporary Fence	140	Ft
620E1020	2 Post Panel	2	Each
630E0500	Type 1 MGS	650.0	Ft
630E1500	Type 1 Guardrail Transition	10	Each
630E2017	MGS MASH Flared End Terminal	10	Each
632E2510	Type 2 Object Marker Back to Back	97	Each
700E0210	Class B Riprap	37.3	Ton
720E1010	PVC Coated Bank and Channel Protection Gabion	54.0	CuYd
831E0110	Type B Drainage Fabric	214	SqYd

* - Denotes Non-Participating

PCN 06EO – Section B – Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	1.665	Mile
009E3250	Miscellaneous Staking	1.665	Mile
009E3301	Engineer Directed Surveying/Staking	25.0	Hour
110E0135	Remove Delineator	5	Each
110E0510	Remove Pipe End Section	1	Each
110E0600	Remove Fence	88	Ft
110E7500	Remove Pipe for Reset	40	Ft
110E7510	Remove Pipe End Section for Reset	3	Each
250E0020	Incidental Work, Grading	Lump Sum	LS
450E2028	36" RCP Flared End, Furnish	1	Each
450E2029	36" RCP Flared End, Install	1	Each
450E8300	Culvert Joint Cleaning	198.0	Ft
450E8305	Repair Culvert Joint	198.0	Ft
450E8310	Chemical Grout Void Fill	12.0	Gal
* 450E8900	Cleanout Pipe Culvert	9	Each
450E9000	Reset Pipe	40	Ft
450E9001	Reset Pipe End Section	3	Each
620E0020	Type 2 Right-of-Way Fence	88	Ft
620E0520	Type 2 Temporary Fence	312	Ft
620E1020	2 Post Panel	4	Each
632E2510	Type 2 Object Marker Back to Back	30	Each

* - Denotes Non-Participating

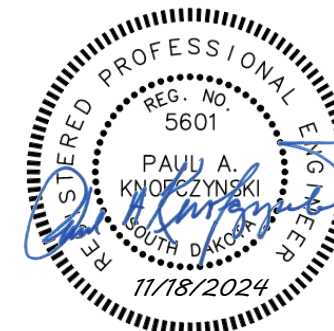
INDEX OF SHEETS

A1 to A6 Estimate of Quantities for Sections B, C, D, F, M, and S
A6 to A8 Environmental Commitments

PCN 06RC – Section B – Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	3.554	Mile
009E3230	Grade Staking	0.106	Mile
009E3250	Miscellaneous Staking	3.554	Mile
009E3280	Slope Staking	0.106	Mile
009E3301	Engineer Directed Surveying/Staking	25.0	Hour
110E0500	Remove Pipe Culvert	226	Ft
110E0510	Remove Pipe End Section	7	Each
110E0600	Remove Fence	687	Ft
120E0010	Unclassified Excavation	18,143	CuYd
120E0600	Contractor Furnished Borrow	19,054	CuYd
120E6100	Water for Embankment	308.7	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
450E0143	24" RCP Class 3, Furnish	186	Ft
450E0150	24" RCP, Install	186	Ft
450E2200	24" RCP Sloped End, Furnish	4	Each
450E2201	24" RCP Sloped End, Install	4	Each
450E4768	24" CMP 14 Gauge, Furnish	50	Ft
450E4770	24" CMP, Install	50	Ft
450E5015	24" CMP Elbow, Furnish	4	Each
450E5016	24" CMP Elbow, Install	4	Each
450E5306	18" CMP Sloped End, Furnish	1	Each
450E5307	18" CMP Sloped End, Install	1	Each
450E5310	24" CMP Sloped End, Furnish	2	Each
450E5311	24" CMP Sloped End, Install	2	Each
450E8014	24" RCP to CMP Transition, Furnish	2	Each
450E8015	24" Pipe Transition, Install	2	Each
* 450E8900	Cleanout Pipe Culvert	5	Each
620E0020	Type 2 Right-of-Way Fence	687	Ft
620E0520	Type 2 Temporary Fence	1,244	Ft
620E1020	2 Post Panel	8	Each
632E2510	Type 2 Object Marker Back to Back	18	Each
680E0224	4" PVC Outlet Pipe	100	Ft
680E0440	4" Slotted Corrugated Polyethylene Drainage Tubing	280	Ft
680E2000	Concrete Headwall for Underdrain	1	Each
680E2500	Porous Backfill	118.0	Ton
720E1010	PVC Coated Bank and Channel Protection Gabion	9.0	CuYd
831E0110	Type B Drainage Fabric	30	SqYd

* - Denotes Non-Participating



Revised 11-18-24: EJW

SECTION B ESTIMATE OF QUANTITIES

05TY-Section B

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	15.015	Mile
009E3240	Graded Centerline Staking	15.015	Mile
009E3250	Miscellaneous Staking	15.015	Mile
009E3280	Slope Staking	0.528	Mile
009E3301	Engineer Directed Surveying/Staking	50.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0135	Remove Delineator	7	Each
110E0500	Remove Pipe Culvert	46	Ft
110E0510	Remove Pipe End Section	19	Each
110E0595	Remove Cattle Pass End Section	6	Each
110E0600	Remove Fence	61	Ft
110E0730	Remove Beam Guardrail	1,400.0	Ft
110E7500	Remove Pipe for Reset	392	Ft
110E7510	Remove Pipe End Section for Reset	40	Each
120E0600	Contractor Furnished Borrow	16,432	CuYd
120E6100	Water for Embankment	249.2	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
450E0143	24" RCP Class 3, Furnish	8	Ft
450E0150	24" RCP, Install	8	Ft
450E0203	48" RCP Class 3, Furnish	8	Ft
450E0210	48" RCP, Install	8	Ft
450E0213	54" RCP Class 3, Furnish	8	Ft
450E0220	54" RCP, Install	8	Ft
450E2008	18" RCP Flared End, Furnish	8	Each
450E2009	18" RCP Flared End, Install	8	Each
450E2028	36" RCP Flared End, Furnish	2	Each
450E2029	36" RCP Flared End, Install	2	Each
450E2036	48" RCP Flared End, Furnish	2	Each
450E2037	48" RCP Flared End, Install	2	Each
450E2040	54" RCP Flared End, Furnish	3	Each
450E2041	54" RCP Flared End, Install	3	Each
450E2200	24" RCP Sloped End, Furnish	7	Each
450E2201	24" RCP Sloped End, Install	7	Each
450E4768	24" CMP 14 Gauge, Furnish	30	Ft
450E4770	24" CMP, Install	30	Ft
450E5310	24" CMP Sloped End, Furnish	2	Each
450E5311	24" CMP Sloped End, Install	2	Each
* 450E8900	Cleanout Pipe Culvert	16	Each
450E9000	Reset Pipe	392	Ft
450E9001	Reset Pipe End Section	40	Each
462E0250	Cellular Grout	164.4	CuYd
620E0020	Type 2 Right-of-Way Fence	61	Ft

* - Denotes Non-Participating

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
620E0520	Type 2 Temporary Fence	140	Ft
620E1020	2 Post Panel	2	Each
630E0500	Type 1 MGS	650.0	Ft
630E1500	Type 1 Guardrail Transition	10	Each
630E2017	MGS MASH Flared End Terminal	10	Each
632E2510	Type 2 Object Marker Back to Back	97	Each
700E0210	Class B Riprap	37.3	Ton
720E1010	PVC Coated Bank and Channel Protection Gabion	54.0	CuYd
831E0110	Type B Drainage Fabric	214	SqYd

* - Denotes Non-Participating

06RC-Section B

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	3.554	Mile
009E3230	Grade Staking	0.106	Mile
009E3250	Miscellaneous Staking	3.554	Mile
009E3280	Slope Staking	0.106	Mile
009E3301	Engineer Directed Surveying/Staking	25.0	Hour
110E0500	Remove Pipe Culvert	226	Ft
110E0510	Remove Pipe End Section	7	Each
110E0600	Remove Fence	687	Ft
120E0010	Unclassified Excavation	18,143	CuYd
120E0600	Contractor Furnished Borrow	19,054	CuYd
120E6100	Water for Embankment	308.7	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
450E0143	24" RCP Class 3, Furnish	186	Ft
450E0150	24" RCP, Install	186	Ft
450E2200	24" RCP Sloped End, Furnish	4	Each
450E2201	24" RCP Sloped End, Install	4	Each
450E4768	24" CMP 14 Gauge, Furnish	50	Ft
450E4770	24" CMP, Install	50	Ft
450E5015	24" CMP Elbow, Furnish	4	Each
450E5016	24" CMP Elbow, Install	4	Each
450E5306	18" CMP Sloped End, Furnish	1	Each
450E5307	18" CMP Sloped End, Install	1	Each
450E5310	24" CMP Sloped End, Furnish	2	Each
450E5311	24" CMP Sloped End, Install	2	Each
450E8014	24" RCP to CMP Transition, Furnish	2	Each
450E8015	24" Pipe Transition, Install	2	Each
* 450E8900	Cleanout Pipe Culvert	5	Each
620E0020	Type 2 Right-of-Way Fence	687	Ft
620E0520	Type 2 Temporary Fence	1,244	Ft
620E1020	2 Post Panel	8	Each
632E2510	Type 2 Object Marker Back to Back	18	Each
680E0224	4" PVC Outlet Pipe	100	Ft
680E0440	4" Slotted Corrugated Polyethylene Drainage Tubing	280	Ft
680E2000	Concrete Headwall for Underdrain	1	Each
680E2500	Porous Backfill	118.0	Ton
720E1010	PVC Coated Bank and Channel Protection Gabion	9.0	CuYd
831E0110	Type B Drainage Fabric	30	SqYd

* - Denotes Non-Participating

06E0-Section B

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	1.665	Mile
009E3250	Miscellaneous Staking	1.665	Mile
009E3301	Engineer Directed Surveying/Staking	25.0	Hour
110E0135	Remove Delineator	5	Each
110E0510	Remove Pipe End Section	1	Each
110E0600	Remove Fence	88	Ft
110E7500	Remove Pipe for Reset	40	Ft
110E7510	Remove Pipe End Section for Reset	3	Each
250E0020	Incidental Work, Grading	Lump Sum	LS
450E2028	36" RCP Flared End, Furnish	1	Each
450E2029	36" RCP Flared End, Install	1	Each
450E8300	Culvert Joint Cleaning	198.0	Ft
450E8305	Repair Culvert Joint	198.0	Ft
450E8310	Chemical Grout Void Fill	12.0	Gal
* 450E8900	Cleanout Pipe Culvert	9	Each
450E9000	Reset Pipe	40	Ft
450E9001	Reset Pipe End Section	3	Each
620E0020	Type 2 Right-of-Way Fence	88	Ft
620E0520	Type 2 Temporary Fence	312	Ft
620E1020	2 Post Panel	4	Each
632E2510	Type 2 Object Marker Back to Back	30	Each

* - Denotes Non-Participating

07CD-Section B

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	3.731	Mile
009E3250	Miscellaneous Staking	0.100	Mile
009E3301	Engineer Directed Surveying/Staking	25.0	Hour
110E0730	Remove Beam Guardrail	910.0	Ft
120E0600	Contractor Furnished Borrow	140	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
* 450E8900	Cleanout Pipe Culvert	8	Each
630E0500	Type 1 MGS	362.5	Ft
630E1500	Type 1 Guardrail Transition	8	Each
630E2017	MGS MASH Flared End Terminal	8	Each
632E2510	Type 2 Object Marker Back to Back	12	Each

* - Denotes Non-Participating

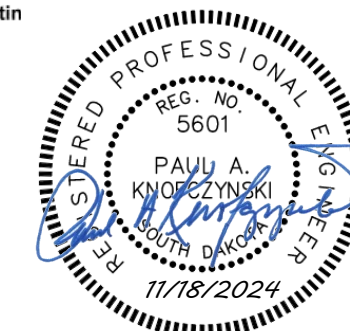


TABLE OF CONSTRUCTION STAKING FOR PROJECTS NH 0012(230)171, P 1806(19)364, P 1806(20)370, P 1806(22)359, & P 0063(59)252
(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Length (Mile)	Lane Factor	*Sets of Stakes	Construction Staking Quantity (Mile)	** Slope Staking Quantity (Mile)	Grade Staking Quantity (Mile)	Misc. Staking Quantity (Mile)	Graded Centerline Staking (Mile)
05TY												
US 12 (2 Lanes AC Pavement)	176+72	249+37	2	7265	1.376	1	0	1.376			1.376	1.376
US 12 (2 Lanes AC Pavement)	254+93	278+05	2	2313	0.438	1	0	0.438			0.438	0.438
US 12 (3 Lanes AC Pavement)	a 0+00	a 17+00	3	1700	0.322	1.5	0	0.483			0.483	0.483
US 12 (4 Lanes AC Pavement)	a 17+00	a 30+00	4	1300	0.246	2	0	0.492			0.492	0.492
US 12 (3 Lanes AC Pavement)	a 30+00	a 47+00	3	1,700	0.322	1.5	0	0.483			0.483	0.483
US 12 (2 Lanes AC Pavement)	a 47+00	a 55+28	2	828	0.157	1	0	0.157			0.157	0.157
US 12 (2 Lanes AC Pavement)	a 57+12	a 64+00	2	688	0.130	1	0	0.130			0.130	0.130
US 12 (3 Lanes AC Pavement)	a 64+00	a 79+00	3	1,500	0.284	1.5	0	0.426			0.426	0.426
US 12 (4 Lanes AC Pavement)	a 79+00	a 97+00	4	1800	0.341	2	0	0.682			0.682	0.682
US 12 (3 Lanes AC Pavement)	a 97+00	a 119+00	3	2200	0.417	1.5	0	0.625			0.625	0.625
US 12 (2 Lanes AC Pavement)	a 119+00	a 218+00	2	9900	1.875	1	0	1.875			1.875	1.875
US 12 (3 Lanes AC Pavement)	a 218+00	a 242+00	3	2400	0.455	1.5	0	0.682			0.682	0.682
US 12 (2 Lanes AC Pavement)	a 242+00	a 262+00	2	2000	0.379	1	0	0.379			0.379	0.379
US 12 (3 Lanes AC Pavement)	a 262+00	a 299+50	3	3750	0.710	1.5	0	1.065			1.065	1.065
US 12 (2 Lanes AC Pavement)	a 299+50	a 327+17	2	2767	0.524	1	0	0.524			0.524	0.524
US 12 (2 Lanes AC Pavement)	a 328+63	a 339+00	2	37	0.007	1	0	0.007			0.007	0.007
US 12 (3 Lanes AC Pavement)	a 339+00	a 404+48.8	3	6548.8	1.240	1.5	0	1.860			1.860	1.860
US 12 (4 Lanes AC Pavement)	b 20+40	b 23+71	4	331	0.063	2	0	0.125			0.125	0.125
US 12 (2 Lanes AC Pavement)	b 23+71	b 82+00	2	5829	1.104	1	0	1.104			1.104	1.104
US 12 (3 Lanes AC Pavement)	b 82+00	b 115+78	3	3378	0.640	1.5	0	0.960			0.960	0.960
US 12 (2 Lanes AC Pavement)	b 208+31	b 240+05	2	3174	0.601	1	0	0.601			0.601	0.601
US 12 (3 Lanes AC Pavement)	b 240+05	b 253+09	3	1304	0.247	1.5	0	0.370			0.370	0.370
US 12 (2 Lanes AC Pavement)	b 253+09	b 262+02	2	893	0.169	1	0	0.169			0.169	0.169
US 12/SD 20 Intersection Widening	a 397+86	b 34+65		2088			1		0.395			
US 12/SD 1806 Intersection Widening	b 238+00	b 245+00		700			1		0.133			
							05TY Subtotals:	15.015	0.528		15.015	15.015
06A1												
SD1806 (2 Lanes AC Pavement)	749+64.10	c 0+00	2	36217.95	6.859	1		6.859			6.859	
Heave Repair	1018+13	1031+33		1320		1	1		0.250	0.500		
Base Course Reinforcement	885+25	881+76		349		1	1		0.066	0.132		
							06A1 Subtotals:	6.859	0.316	0.632	6.859	
06RC												
SD1806 (2 Lanes AC Pavement)	67+11.74	b 229+74.50	2	18763.44	3.554	1		3.554			3.554	
Landslide Repair	b 24+40	b 30+00		560		1	1		0.106	0.106		
							06RC Subtotals:	3.554	0.106	0.106	3.554	
06E0												
SD1806P (2 Lanes AC Pavement)	0+00	87+91.22	2	8791.22	1.665	1		1.665			1.665	
							06E0 Subtotals:	1.665			1.665	
07CD												
SD63 (2 Lanes AC Pavement)	288+47	390+50	2	9850.89	1.866	1		1.866			1.866	
							07CD Subtotals:	1.866			1.866	
							Total:	28.958	0.950	0.738	28.958	15.015

* 1 = Top of Granular Material Blue Top Stakes Only (Asphalt Concrete Pavement)
 2 = Blue Top and Paving Hub Stakes (PCC Pavement)

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

