Department of Transportation

Pierre Region Office
104 S. Garfield
Pierre, South Dakota 57501-5405 605/773-3464
FAX: 605/773-6215

April 21, 2010

RE: 083S-351 PCN i1QC
Asphalt Surface Treatment
Lyman County

TO: INTERESTED BIDDERS

The South Dakota Department of Transportation (SDDOT), Pierre Region Office, 104 S. Garfield, Pierre, South Dakota 57501, desires to solicit bids for the above referenced project.

A copy of the plans and the proposals may be downloaded from the SDDOT web site at the following location: http://www.sddot.com/pe/projdev/bidlet_lettings_regional.asp or may be obtained in paper format by contacting the Pierre Region office at 605-773-3464. Contractors that didn't receive this invitation by mail, but downloaded the bidding documents from the website, are encouraged to let the Region Office know of their intent to bid on this project so that we can get them added to the plan holders list.

Any addenda will be posted on the Pierre regional letting site no later than 5:00 p.m. on Friday, April 30, 2010. It will be the Contractor's responsibility to verify that no addenda have been posted prior to submitting bids. Every addenda posted on the regional letting site will have a cover sheet attached to it that the contractor will be required to include with their bid. Failure to incorporate changes made through addenda and not submitting all cover sheets will result in an incomplete bid which will subsequently be rejected.

Sealed bids for the contract will be accepted until 2:00 P.M. on Thursday, May 6, 2010, and will be opened at that time in the Pierre Region Office. Bids must be received in an envelope with "**Asphalt Surface Treatment – Lyman County**" written on the outside.

A bid bond will not be required on this contract; however, at the time of execution of the contract, the successful bidder shall furnish a performance bond in a sum equal to the full amount of the contract. Note: A cashiers check, money order or other monetary instrument in the total amount of the contract, made out to and under the full control of the Department is acceptable in lieu of a performance bond. Such bond shall remain in effect for not less than one year after date of acceptance of the completed contract by the Department.

A Certificate of Insurance will be required from the successful bidder prior to beginning work on this project.

The Department of Transportation hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on grounds of race, color, sex, religion or national origin in consideration of an award.

The Department of Transportation reserves the right to reject any and all bids. No faxed bids will be accepted.

For bids in excess of $99,999.99, special bidder qualification requirements apply. Refer to the proposal for details.

THE CONTRACTORS SIGNATURE ON THE DOT-123 FORMS MUST BE NOTARIZED TO CONSITUTE A LEGAL BID.

Contractors must include with the DOT-123 form completed "Utilization of Minority Business Enterprises Clauses", "Contractor's Affidavit/Declaration" and "Fuel Adjustment Affidavit" forms when you submit your bid. Contractors bid will be considered incomplete if these forms are not executed and included with your bid.

Any person engaged in highway construction work in the State of South Dakota must obtain a motor fuel highway contractor tax license.

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

DEPARTMENT OF TRANSPORTATION

John C. Forman, P.E.
Pierre Region Engineer

cc: J. Humphrey - Operations
J. Koch – Pierre Region
D. Voorhes – Civil Rights
J. Hyde – Pierre Area
Project File

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

CONTRACT PROPOSAL

CODE	PROJECT PRE	PROJECT ROUTE	PROJECT AGR	MAINT UNIT	CONTROL REFERENCE	AFE	FUNCTION	BEGIN MRM	END MRM
		083S		351		i1QC			

CITY AND/OR COUNTY: Lyman **BUDGET SOURCE:** FY10 Contract Maintenance

FINALS ENGINEER REVIEW REQUIRED: ☑ YES ☐ NO
REGION MATERIALS CERTIFICATION REQUIRED: ☑ YES ☐ NO
CERTIFIED INSPECTORS/TESTERS REQUIRED: ☑ YES ☐ NO
TO BE INSTALLED ON CM&P: ☑ YES ☐ NO

TYPE, PURPOSE AND LOCATION OF WORK Asphalt Surface Treatment on US83 SBL from MRM 96.0 to 100.0.

ESTIMATE OF QUANTITIES AND COST

BID ITEM NUMBER	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
009E0010	Mobilization	Lump Sum	LS		
330E0520	Modified Emulsion Membrane	22.7	TON		
330E4000	Sand for Modified Emulsion Membrane	17.4	TON		
633E1300	Pavement Marking Paint, White	93.0	GAL		
633E1305	Pavement Marking Paint, Yellow	73.0	GAL		
634E0010	Flagging	20	HOUR	$22.16	$443.20
634E0100	Traffic Control	448	UNIT		
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS		
634E0420	Type C Advance Warning Arrow Panel	1	EACH		
634E0630	Temporary Pavement Marking	4.309	MILE		
				TOTAL	

CONTRACTOR'S PROPOSAL STATEMENT

The undersigned does hereby agree to furnish the labor and/or material in the quantities, at the unit price, for the purpose, in the place and in accordance with attached provisions upon approval of this Proposal by the State Transportation Commission. This document becomes the Contract when signed by the Contractor and a Department of Transportation Representative. The Contractor agrees to provide services in compliance with the Americans with Disabilities Act of 1990. The Contractor agrees to provide a certificate of insurance prior to commencing work, for liability coverage for the duration of the work as per the current edition of the SDDOT Standard Specifications for Roads and Bridges.

PROPOSED START DATE 01-Jun-10 **OVERALL COMPLETION DATE** 30-Jul-10

SUBSCRIBED AND SWORN TO BEFORE ME THE _____ **DAY OF** _____, 20__

SIGNATURE _____
COMPANY _____
ADDRESS _____

NOTARY - My Commission Expires _____ **FEDERAL TAX ID NUMBER** _____

RECOMMENDED FOR APPROVAL:

CONSTRUCTION & MAINTENANCE ENGINEER _____ **DATE** _____

REGION ENGINEER _____ **DATE** _____ **DIRECTOR OF OPERATIONS** _____ **DATE** _____

APPROVED FOR THE TRANSPORTATION COMMISSION

NAME _____ **TITLE** _____ **DATE** _____

APPROVED as per Federal Highway Stewardship Provisions this _____ **day of** _____, 20__.

PROJECT DEVELOPMENT ENGINEER

NOTICE TO ALL BIDDERS

TO REPORT BID RIGGING ACTIVITIES, CALL: 1-800-424-9071

THE U.S. DEPARTMENT OF TRANSPORTATION (DOT) OPERATES THE ABOVE TOLL-FREE “HOTLINE” MONDAY THROUGH FRIDAY, 8:00 A.M. TO 5:00 P.M., EASTERN TIME. ANYONE WITH KNOWLEDGE OF POSSIBLE BID RIGGING, BIDDER COLLUSION, OR OTHER FRAUDULENT ACTIVITIES SHOULD USE THE “HOTLINE” TO REPORT SUCH ACTIVITIES.

THE “HOTLINE” IS PART OF THE DOT’S CONTINUING EFFORT TO IDENTIFY AND INVESTIGATE HIGHWAY CONSTRUCTION CONTRACT FRAUD AND ABUSE AND IS OPERATED UNDER THE DIRECTION OF THE DOT INSPECTOR GENERAL.

ALL INFORMATION WILL BE TREATED CONFIDENTIALLY AND CALLER ANONYMITY WILL BE RESPECTED.

* * * *

BIDDER MUST EXECUTE THE FOLLOWING:
PARTICIPATION BY MINORITY CONTRACTORS

Utilization of Minority Business Enterprises Clauses

PROJECT(S): «083S-351» PCN «i1QC»

COUNTY(IES): «Lyman»

1. The Contractor agrees to use his best efforts to carry out this policy in the award of his subcontracts to the fullest extent consistent with the efficient performance of his contract. As used in this contract, 'Minority Business Enterprise' or 'MBE' means a small business concern, as defined pursuant to section 3 of the Small Business Act and implementing regulations, which is owned and controlled by one or more minorities or women. 'Owned and controlled' means a business: (a) Which is at least 51 per centum owned by one or more minorities or women or, in the case of publicly owned business, at least 51 per centum of the stock of which is owned by one or more minorities or women; and (b) Whose management and daily business operations are controlled by one or more such individuals. 'Minority' means a person who is a citizen or lawful permanent resident of the United States and who is: (a) Black (a person having origins in any of the black racial groups of Africa); (b) Hispanic (a person of Spanish or Portuguese culture with origins in Mexico, South or Central America or the Caribbean Islands, regardless of race); (c) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (d) American Indian and Alaskan Native (a person having origins in any of the original peoples of North America); (e) Members of other groups, or other individuals, found to be economically and socially disadvantaged by the Small Business Administration under section 8(a) of the Small Business Act, as amended. Contractors may rely on written representatives by subcontractors regarding their status as minority business enterprise in lieu of an independent investigation.

2. The Contractor agrees to establish and conduct a program which will enable minority business enterprise to be considered fairly as subcontractors and suppliers under this contract. In this connection the Contractor shall . . .

   (a) Designate a liaison officer who will administer the Contractor's minority business enterprises program.
   (b) Provide adequate and timely consideration of the potentialities of known minority business enterprises in all "make-or-buy" decisions.
   (c) Ensure that known minority business enterprises will have an equitable opportunity to compete for subcontracts, particularly by arranging solicitations, time for the preparation of bids, quantities, specifications and delivery schedules so as to facilitate the participation of minority business enterprises.
   (d) Maintain records showing (1) procedures which have been adopted to comply with the policies set forth in this clause, including the establishment of a source list of minority business enterprises, (2) awards to minority business enterprises on the source list, and (3) specific efforts to identify and award contracts to minority business enterprises.
   (e) Include the "Utilization of Minority Business Enterprises Clause" in subcontracts which offer substantial minority business enterprises subcontracting opportunities.
   (f) Cooperate with the State's Contracting Officer in any studies and surveys of the Contractor's minority business enterprises procedures and practices that the State's Contracting Officer may from time to time conduct.
   (g) Submit periodic reports of subcontracting to known minority business enterprises with respect to the records referred to in subparagraph (d) above, in such form and manner and at such time (not more often than quarterly) as the State's Contracting Officer may prescribe.

3. The Contractor further agrees to insert in any subcontract hereunder provisions which shall conform substantially to the language of this clause, including this paragraph 3 and to notify the State's Contracting Officer of the names of such subcontractors.

4. The bidder hereby certifies that should he at any time decide to subcontract a portion of the work, he will take affirmative action to seek out and consider minority business enterprises as potential subcontractors. He further certifies that he will maintain records showing the contacts made with potential minority business enterprises subcontractors and the results of such contacts.

_____ _____
Name of Company (print or type) Date

By _____ _____
Signature of Company Official Title

BIDDER MUST EXECUTE THE FOLLOWING:

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

CONTRACTOR'S AFFIDAVIT / DECLARATION

PROJECT(S): «083S-351» PCN « i1QC »

COUNTY(IES): « Lyman »

_____ (an individual)
(a partnership)
(a corporation)

do hereby certify that I, We or any owner or partner holding a controlling interest, director or officer of the bidder; principal investigator, project director or other position involved in management of the project for which this bid is submitted, have not directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for the project, and that within the last 3 years none of the above have been suspended, debarred, voluntarily excluded or determined ineligible by any federal or state agency, been indicted, convicted, or had a civil judgment rendered against any of the above or the business entity described herein by a court of competent jurisdiction in any matter involving fraud or official misconduct for which we are currently under suspension or debarment. Nor is a proposed suspension or debarment pending against any of the above for any of the above listed reasons.

*** * * ***

COMPLETE SIGNATURE BLOCK **A. or B.** BELOW:

A.

Signed _____ (an individual)
(a partnership)
(a corporation)

By _____

Title _____

County of _____)
):SS
State of _____)

Subscribed and sworn to before me this _____ day of _____, 20_____.

(SEAL) _____
Notary Public My Commission Expires _____.

*** * * ***

B. Under the penalty of perjury under the laws of the United States, I hereby certify that the above statement is true and correct.

Signed _____ (an individual)
(a partnership)
(a corporation)

By _____

Title _____

Attachment A

DOT-208
(09/08)

FUEL ADJUSTMENT AFFIDAVIT

Project Number _____
PCN _____
County _____

For formally let projects (projects let through the South Dakota Electronic Bid System), the Contractor is not required to notify the Department at the time of submitting bids whether he will or will not participate in the fuel cost adjustment program. The Fuel Adjustment Affidavit shall include the anticipated fuel cost of subcontractors.

Does your company elect to participate in a fuel adjustment for this contract for the fuels that do not have a fixed price? No adjustments in fuel prices will be made if "No" is checked.

☐ Yes ☐ No

If yes, provide the total dollars for each of the applicable fuels. No adjustments in fuel price will be made for the fuel types that are left blank or completed with a $0.00 value.

Diesel (x) $_____

Unleaded (y) $_____

Burner Fuel (z) $_____ Type of Burner Fuel Used: _____

Sum (x + y + z) = $_____

Note: The sum of the x, y, and z may not exceed 15% of the original contract amount.

The following must be completed regardless of whether the Contractor elects to participate in the fuel adjustment affidavit

Under the penalty of law for perjury or falsification, the undersigned, _____,
(Printed Name)

_____ of _____,
(Title) *(Contractor)*

hereby certifies that the documentation is submitted in good faith, that the information provided is accurate and complete to the best of their knowledge and belief, and that the monetary amount identified accurately reflects the cost for fuel, and that they are duly authorized to certify the above documentation on behalf of the company.

I hereby agree that the Department or its authorized representative shall have the right to examine and copy all Contractor records, documents, work sheets, bid sheets, and other data pertinent to the justification of the fuel costs shown above.

Dated _____ Signature _____

Notarization is required only when the Contractor elects to participate in the fuel adjustment affidavit

Subscribed and sworn before me this _____ day of _____ , 20___.

_____ _____
Notary Public *My Commission Expires*

REV. 3/17/10

PROJECT(S): «083S-351» PCN « i1QC »

COUNTY(IES): « Lyman »

TYPE OF WORK: «ASPHALT SURFACE TREATMENT»

THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:

Bidding on Highway Construction Projects over $99,999.99.

Excerpts from Administrative Rules Regarding Differing Site Conditions, Provided for Informational Purposes, dated June 10, 1997.
Special Provision for Fuel Cost Adjustment, dated 9/12/08.
Special Provision for Suspension of Work, dated 2/13/04
Standard Title VI Assurance, dated 7/14/08.
Special Provision For Implementation of Clean Air Act & Federal Water Pollution Control Act, dated 9/1/97.
Special Provision Regarding Minimum Wage on State Funded Projects, dated 7/24/08.
Wage and Hour Division US Department of Labor Washington DC.
- US Dept. of Labor Decision Number SD080009, dated 8/1/08.
Supplemental Specification for Errata, dated 3/3/10.
Supplemental Specification to Standard Specifications for Roads and Bridges, dated 3/3/10.
Special Provision for Price Schedule for Miscellaneous Items, dated 4/1/09.

*** * * ***

PLANS FOR PROJECT – SHEETS 1 THRU 9.

BIDDING ON HIGHWAY CONSTRUCTION PROJECTS OVER $99,999.99

Pursuant to South Dakota Administrative Rules 70:07:02, Classification and Bidding Capacity Rating for Highway Contracts, and Section 2.1 of the SDDOT Standard Specifications For Roads and Bridges, all bidders on highway construction projects over $99,999.99 shall be prequalified. Maintenance stockpile projects are excluded from this requirement. A bidder who is not pre-qualified may submit an experience questionnaire prior to or with the bid letting. Copies of the experience questionnaire may be obtained from any Region DOT office or at the following link:
http://www.sddot.com/pe/projdev/docs/ExperienceQuestionnaire.pdf .

Region personnel will determine from the questionnaire, if the low bidder is capable of performing the work intended. If it is determined that the low bidder does not have the capacity (experience or equipment) to complete this work, they will be determined to be non-responsive, and the bid awarded to the next responsive bidder.

* * * *

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

EXCERPTS FROM ADMINISTRATIVE RULES REGARDING DIFFERING SITE CONDITIONS PROVIDED FOR INFORMATIONAL PURPOSES

June 10, 1997

70:01:05.01:01. Definitions. Words used in this chapter have the following meaning.

(6) "Differing site condition," a subsurface or latent physical condition encountered on the project which differs materially from that indicated in the contract or an unknown physical condition of an unusual nature which differs materially from that ordinarily encountered and generally recognized as inherent in the work provided for in the contract.

70:01:05.01:02. Examination of plans, specifications, special provisions, and site of work. The bidder shall examine the project site, proposal, plans, specifications, supplemental specifications, special provisions, and contract form for the work contemplated. The submission of a proposal is considered conclusive evidence that the bidder has investigated the conditions to be encountered, the character, quality, and quantities of work to be performed, and the materials to be furnished, according to all contract documents.

The Department is not contractually bound by any statement or representation concerning conditions made by any of its employees or agents prior to the execution of the contract, unless they are included in the proposal form, plans, specifications, supplemental specifications, special provisions, or related contract documents.

Boring logs and other records of subsurface investigations are available for inspection by bidders. Such information was obtained for and is intended for state design and estimating purposes. The Department does not guarantee the accuracy of the information. It is made available in order that all bidders may have access to identical subsurface information available to the Department. It is not intended as a substitute for personal investigation, interpretations or judgment of the bidders.

A bidder shall request any explanation he desires regarding the meaning or interpretation of the proposal form, plans, and specifications in sufficient time to allow a reply to reach all bidders before submission of their bid proposal. The Department shall make an interpretation in the form of an addendum to the proposal form and shall furnish it to all prospective bidders by certified letter, or return receipt by FAX, before the time set for opening of proposals. Oral explanations or instructions given before the award of the contract are not binding on the Department.

70:01:05.01:02.01. Differing site conditions. If a differing site condition is encountered at the project by the Department during the progress of the work, the engineer shall immediately notify the contractor in writing of the specific differing condition before it is disturbed and before affected work is performed. If a differing site condition is encountered at the project by the contractor, the contractor shall immediately notify the engineer in writing of the specific differing condition before it is disturbed and before affected work is performed.

After discovering a differing site condition and notifying the contractor or after being notified by the contractor of a differing site condition, the engineer shall investigate the condition. If the engineer determines that the condition materially differs and causes an increase or decrease in the cost or time required for the performance of any work under the contract, the engineer shall make an adjustment, excluding loss of anticipated profits, and modify the contract in writing accordingly. The engineer shall notify the contractor of his determination whether or not an adjustment of the contract is warranted.

A contract adjustment which results in a benefit to the contractor may not be allowed unless the contractor has provided the required written notice.

A contract adjustment may not be allowed under this section for any effects caused on unchanged work.

This section does not apply to material sources shown on the plans and as defined in Section 6 of the Standard Specifications for Roads and Bridges, most recent edition.

*** * * ***

STATE OF SOUTH DAKOTA

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
FUEL COST ADJUSTMENT ON INFORMAL CONTRACTS

SEPTEMBER 12, 2008

Delete Section 9.12 of the Standard Specifications for Roads and Bridges and replace with the following:

General

Compensation adjustments for motor fuels and burner fuels consumed in prosecuting the contract shall be determined by the Engineer in accordance with the provisions set forth herein.

Compensation adjustments will be assessed for the cost of the motor fuels and burner fuels whenever the Current Fuel Index (CFI) is outside the range of 85 percent to 115 percent of the Base Fuel Index (BFI). Compensation adjustments for burner fuel will only be made when asphalt concrete bid items are paid for on the estimate.

Bidders are required to notify the Department at the time of submitting bids whether he will or will not participate in the fuel cost adjustment program. The Bidder shall submit the Fuel Adjustment Affidavit - Form DOT-208 to the Department when he submits a bid.

Determination of whether to participate in the Fuel Adjustment program is the decision of the Prime Contractor. If the Prime Contractor decides not to participate, or if he has a fixed fuel cost for any of the fuel types, no compensation adjustments will be made for the subcontractors by the Department. The Fuel Adjustment Affidavit shall include the anticipated fuel cost of subcontractors, if the Prime Contractor chooses to participate in the fuel cost adjustment program. If compensation adjustments are made, the prime contractor shall ensure that all subcontractors including second and lower tier, are included in the adjustments in proportion to the percentage of work and anticipated fuel cost by that subcontractor.

Each week the Department will record the average wholesale price for No. 2 fuel oil (diesel), regular unleaded gasoline, and propane (LPG), Freight On Board (FOB) South Dakota terminals, as listed in the “Oil Price Information Service” (OPIS) publication.

The BFI price for motor fuels and burner fuel to be used in the contract will be the average of the recorded wholesale fuel prices for the four most recent weekly reporting periods prior to the week of the bid letting.

The CFI price for motor fuels and burner fuel to be used for each progress payment will be the average for the recorded wholesale fuel prices for the four most recent weekly reporting periods available at the time when the progress payment is prepared.

Burner fuel adjustment will use the BFI and CFI as determined for No. 2 fuel oil (diesel), except when the contractor lists the burner fuel as propane (LPG) on Form DOT-208, Fuel Adjustment Affidavit. In that case, the BFI and CFI will be as determined for propane (LPG).

Compensation adjustments will not be assessed for fuel items which the contractor has obtained a fixed fuel cost, or if the contractor elects not to participate in fuel adjustments on Form DOT-208, Fuel Adjustment Affidavit. Fixed fuel costs are defined as a fuel cost that has been set and will remain the same for the entire length of the contract.

Compensation adjustments made in accordance with these provisions may be made on progress payments without a prior approved Construction Change Order.

Fuel Cost Percentage Change

The biweekly change in fuel cost percentage will be determined by Equation 1 as follows:

<u>Equation 1</u>

$$Change_{(x,\,y,\,z)} = \left(\frac{CFI_{(x,\,y,\,z)} - BFI_{(x,\,y,\,z)}}{BFI_{(x,\,y,\,z)}} \right)$$

(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
$Change_{(x,\,y,\,z)}$	=	Percent change in the respective fuel price compared to the Base Fuel Index Price set for the contract.
$CFI_{(x,\,y,\,z)}$	=	Current Fuel Index Price for the respective fuel type ($$).
$BFI_{(x,\,y,\,z)}$	=	Base Fuel Index Price for the respective fuel type ($$).

Contract Fuel Percentage

For the purpose of determining fuel cost adjustment, a percent of contract will be determined for Motor Fuel (Diesel), and Motor Fuel (Unleaded) based on the original

contract prices. Burner Fuel will be adjusted based on the original contract prices of the plant mix asphalt concrete pavement bid items.

The percent of the contract will remain the same throughout the length of the contract. No changes to this percentage will be allowed for any reason. The sum of the individual fuel costs shall not exceed 15% of the Original Contract Cost. The percent of the contract will be determined by Equation 2 as follows:

Equation 2

$$\%\ Contract_{(x,\,y,\,z)} = \left(\frac{Affidavit\ Cost_{(x,\,y,\,z)}}{Original\ Contract\ Cost_{(x,\,y,\,z)}} \right) x\,100$$

(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
% $Contract_{(x,y,z)}$	=	Percent of contract for each respective fuel item.
Affidavit $Cost_{(x,y,z)}$	=	Cost from Fuel Adjustment Affidavit (Form DOT-208)
Original Contract $Cost_{(x,y)}$	=	Total of the original contract bid cost excluding lane rental, and Part B of the bid (when A+B bidding is used), if applicable ($$).
Original Contract $Cost_{(z)}$	=	Total original contract cost for all plant mix asphalt concrete pavement bid items combined, excluding bid items for asphalt binder, hydrated lime, sawing and sealing joints, compaction samples, etc. Only bid items measured by the Ton will be included in the calculation.

Compensation Adjustment

The compensation adjustments will be determined for Motor Fuel (diesel), Motor Fuel (Unleaded), and Burner Fuel separately. The calculation will be based on the current Engineer's pay estimate, the percent of the contract for each of the respective fuel items, and the portion of the Current Fuel Index price that falls outside the 85 to 115 percent range of the Base Fuel Index price.

When the "$Change_{(x,\,y,\,z)}$" from Equation 1 is greater than 15%, Equation 3 will be used to determine the compensation adjustment for each item as follows:

Equation 3

$$FCA_{(x,\,y.z)} = \frac{\%\ Contract_{(x,\,y,\,z)}}{100}\ x\ Estimate\ Cost_{(x,\,y,\,z)}\ x\ \left(Change_{(x,\,y,\,z)} - 0.15\right)$$

(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
$FCA_{(x,y,z)}$	=	Fuel Cost Adjustment for the respective fuel item for the current Engineer's estimate ($$).
% $Contract_{(x,y,z)}$	=	Percent of contract for each respective fuel item (from Equation 2).
Estimate $Cost_{(x,y)}$	=	Amount to be paid on the biweekly pay estimate excluding all pay adjustments made for incentive, disincentive, price adjustments, pay factor adjustments, liquidated damages, and royalties.
Estimate $Cost_{(z)}$	=	Amount to be paid on the biweekly pay estimate for all plant mix asphalt concrete pavement bid items combined, excluding bid items for asphalt binder, hydrated lime, sawing and sealing joints, compaction samples, all pay adjustments made for incentive, disincentive, price adjustments, pay factor adjustments, liquidated damages, and royalties. Only asphalt concrete bid items measured by the Ton will be included in the calculation.
$Change_{(x,y,z)}$	=	Change in the respective fuel price compared to the Base Fuel Index price (from Equation1).

When the "$Change_{(x,y,z)}$" from Equation 1 is less than -15%, the Equation 4 will be used to determine the compensation adjustment for each item.

Equation 4

$$FCA_{(x,\,y.z)} = \frac{\%\ Contract_{(x,\,y,\,z)}}{100}\ x\ Estimate\ Cost_{(x,\,y,\,z)}\ x\ \left(Change_{(x,\,y,\,z)} + 0.15\right)$$

(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel

$FCA_{(x,y,z)}$	=	Fuel Cost Adjustment for the respective fuel item for the current Engineer's estimate ($$).
% $Contract_{(x,y,z)}$	=	Percent of contract for each respective fuel item (from Equation 2).
Estimate $Cost_{(x,y)}$	=	Amount to be paid on the biweekly pay estimate excluding all pay adjustments made for incentive, disincentive, price adjustments, pay factor adjustments, liquidated damages, and royalties.
Estimate $Cost_{(z)}$	=	Amount to be paid on the biweekly pay estimate for all plant mix asphalt concrete pavement bid items combined, excluding bid items for asphalt binder, hydrated lime, sawing and sealing joints, compaction samples, all pay adjustments made for incentive, disincentive, price adjustments, pay factor adjustments, liquidated damages and royalties. Only asphalt concrete bid items measured by the Ton will be included in the calculation.
$Change_{(x,y,z)}$	=	Change in the respective fuel price compared to the Base Fuel Index price (from Equation1).

Payment

Adjustments will be determined by the Engineer on biweekly progress payments based on when the completed work is paid for, not when the work is completed. Adjustments will be made by utilizing the following lump sum line items: Motor Fuel Cost Adjustment, Diesel; Motor Fuel Cost Adjustment, Unleaded; Burner Fuel Cost Adjustment, Propane; and Burner Fuel Cost Adjustment, Diesel.

* * * * *

For informational purposes, Form DOT-208 follows in Attachment A.

Attachment A

DOT-208
(09/08)

FUEL ADJUSTMENT AFFIDAVIT

Project Number _____
PCN _____
County _____

For formally let projects (projects let through the South Dakota Electronic Bid System), the Contractor is not required to notify the Department at the time of submitting bids whether he will or will not participate in the fuel cost adjustment program. The Fuel Adjustment Affidavit shall include the anticipated fuel cost of subcontractors.

Does your company elect to participate in a fuel adjustment for this contract for the fuels that do not have a fixed price? No adjustments in fuel prices will be made if "No" is checked.

☐ Yes ☐ No

If yes, provide the total dollars for each of the applicable fuels. No adjustments in fuel price will be made for the fuel types that are left blank or completed with a $0.00 value.

Diesel (x) $_____

Unleaded (y) $_____

Burner Fuel (z) $_____ Type of Burner Fuel Used: _____

Sum (x + y + z) = $_____

Note: The sum of the x, y, and z may not exceed 15% of the original contract amount.

The following must be completed regardless of whether the Contractor elects to participate in the fuel adjustment affidavit

Under the penalty of law for perjury or falsification, the undersigned, _____,
(Printed Name)

_____ of _____,
(Title) *(Contractor)*

hereby certifies that the documentation is submitted in good faith, that the information provided is accurate and complete to the best of their knowledge and belief, and that the monetary amount identified accurately reflects the cost for fuel, and that they are duly authorized to certify the above documentation on behalf of the company.

I hereby agree that the Department or its authorized representative shall have the right to examine and copy all Contractor records, documents, work sheets, bid sheets, and other data pertinent to the justification of the fuel costs shown above.

Dated _____ Signature _____

Notarization is required only when the Contractor elects to participate in the fuel adjustment affidavit

Subscribed and sworn before me this _____ day of _____ , 20___.

_____ _____
Notary Public *My Commission Expires*

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISON
FOR
SUSPENSION OF WORK

FEBRUARY 13, 2004

The following shall apply when suspension of the work is ordered by the Engineer.

If the performance of all or any portion of the work is suspended or delayed by the Engineer in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the Contractor believes that additional compensation and/ or contract time is due as a result of such suspension or delay, the Contractor shall submit to the Engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

Upon receipt, the Engineer will evaluate the contractor's request in accordance with Section 5.17 and/or Section 8.6 of the Standard Specifications. If the Engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the Contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the Engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The Contractor will be notified of the Engineer's determination whether or not an adjustment of the contract is warranted.

No contract adjustment will be allowed unless the Contractor has submitted the request for adjustment within the time prescribed.

No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

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STATE OF SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
TITLE VI AND NONDISCRIMINATION ASSURANCE
JULY 14, 2008

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(1) Compliance with Regulations: The contractor shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended (hereinafter referred to as the "Regulations"), incorporated by reference and made a part of this contract.

(2) Nondiscrimination: The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, religion, national origin, sex, age or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

(3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, religion, national original, sex, age or disability.

(4) Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the South Dakota Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the South Dakota Department of Transportation, or the Federal Highway Administration as appropriate, and shall set forth what efforts it has made to obtain this information.

(5) Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the South Dakota Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including but not limited to:

(a) withholding of payments to the contractor under the contract until the contractor complies, and/or
(b) cancellation, termination or suspension of the contract, in whole or in part.

(6) Incorporation of Provisions: The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives pursuant thereto.

The contractor shall take such action with respect to any subcontract or procurement as the South Dakota Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for non-compliance. Provided, however, that, in the event of a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the South Dakota Department of Transportation to enter into such litigation to protect the interest of the State, and, in addition, the contractor may request the United States to enter such litigation to protect the interests of the United States.

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STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION FOR IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

SEPTEMBER 1, 1997

By signing this bid, the bidder will be deemed to have stipulated as follows:

a) That any facility to be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub. L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub. L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR, Part 15), is not listed on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.

b) That the State Transportation Department shall be promptly notified prior to contract award of the receipt by the bidder of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

*** * * ***

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION REGARDING
MINIMUM WAGE ON STATE FUNDED PROJECTS

JULY 24, 2008

This proposal contains the most recent Davis-Bacon Prevailing Wage Rates established by the U.S. Department of Labor (US DOL) and adopted by the South Dakota Transportation Commission.

If the amount of this contract, as awarded, is $100,000.00 or more, the following wage provisions shall become applicable:

1. The Contractor and each subcontractor shall pay their employees not less than the U.S. DOL minimum wage for the county the work is performed, for each job classification grouping such employees actually perform at the site of work.

2. Each week that any contract work is performed, the Contractor and each subcontractor shall furnish the South Dakota Department of Transportation Labor Compliance Officer (LCO) a certified payroll of wages paid to each of its employees to the address below. The submitted payrolls shall set out accurately and completely all information required by, and in a form acceptable to, the LCO as described in the Instructions for SDDOT Statement of Compliance & Certified Payroll Report. A link to the website for the instructions will be provided at the preconstruction meeting.

   Department of Transportation
   Labor Compliance Program
   700 E. Broadway Avenue.
   Pierre, SD 57501-2586

3. Payrolls and basic records relating thereto shall be maintained by the Contractor and each subcontractor during the course of the work and be preserved for a period of three (3) years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, and guards working at the site of the work. The Contractor or subcontractor shall make such records available for inspection, copying, or transcription by the LCO and shall permit his or her representatives to interview employees during working hours on the job.

4. In the event the Contractor fails to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the LCO may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

* * * * *

Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Davis-Bacon Act Wage Decisions
State: South Dakota
Construction Types: Heavy and Highway

CONTRACTORS MUST PAY AT LEAST THE **HIGHEST WAGE** FOR THE JOB CLASS ATTENDING THE COUNTY IN WHICH THE WORK IS PERFORMED.

	* SUSD2008-001			
Agency:	U.S. DOL		U.S. DOL	
Decision Number:	**SD080009**		**SD080009**	
Counties:	All except: Minn, Penn. & Lincoln Co's		Minnehaha Pennington Lincoln Co's	
Date:	**08/01/2008**		**08/01/2008**	
	Rates	**Fringes**	**Rates**	**Fringes**
LABORERS				
GROUP GL1				
Air Tool Operator; Common Laborer; Landscape Worker; Flagger; Pilot Car Driver; Trucks under 26,000 GVW; Blue-top Checker; Materials Checker	14.12	0.00	14.19	0.00
GROUP GL2				
Mechanic Tender (Helper); Pipe Layer (except culvert); Form Builder Tender; Special Surface Finish Applicator; Striping	15.75	0.00	15.79	0.00
GROUP GL3				
Asphalt Plant Tender; Pile Driver Leadsman; Form Setter; Oiler/Greaser	17.50	0.00	17.47	0.00
GROUP GL5				
Carpenter; Form Builder	20.53	0.00	20.44	0.00
GROUP GL6				
Concrete Finisher; Painter; Grade Checker	19.58	0.00	19.41	0.00
POWER EQUIPMENT OPERATORS				
GROUP G01				
Concrete Paving Cure Machine; Concrete Paving Joint Sealer; Conveyor; Tractor (farm type with attachments); Self Propelled Broom; Concrete Routing Machine; Paver Feeder; Pugmill	14.98	0.00	15.19	0.00
GROUP G02				
Bull Dozer 80 HP or less; Front End Loader 1.25 CY or less; Self Propelled Roller (except Hot Mix); Sheepsfoot/50Ton Pneumatic Roller; Pneumatic Tired Tractor or Crawler (includes Water Wagon and Power Spray units); Wagon Drill; Air Trac; Truck Type Auger; Concrete Paving Saw	16.57	0.00	16.58	0.00
GROUP G03				
Asphalt Distributor; Bull Dozer over 80 HP; Concrete Paving Finishing Machine; Backhoes/ Excavators 20 tons or less; Crusher (may include internal screening plant); Front End Loader over 1.25 CY; Rough Motor Grader; Self Propelled Hot Mix Roller; Push Tractor; Euclid or Dumpster; Material Spreader	18.18	0.00	18.09	0.00
GROUP G04				
Asphalt Paving Machine Screed; Asphalt Paving Machine; Cranes/Derricks/Draglines/Pile Drivers/Shovels 30 to 50 tons; Backhoes/Excavators 21 to 40 tons; Maintenance Mechanic; Scrapers	18.63	0.00	18.62	0.00
GROUP G05				
Asphalt Plant; Concrete Batch Plant; Backhoes/Excavators over 40 Tons; Cranes/ Derricks/Draglines/Pile Drivers/Shovels over 50 tons; Heavy Duty Mechanic; Finish Motor Grader; Automatic Fine Grader; Milling Machine; Certified Welder	20.92	0.00	20.88	0.00
TRUCK DRIVERS				
GROUP GT1				
Tandem Truck without trailer or pup; Single Axle Truck over 26,000 GVW with Trailer	14.57	0.00	14.75	0.00
GROUP GT2				
Semi-Tractor and Trailer; Tandem Truck with Pup	17.15	0.00	17.22	0.00
ELECTRICIANS				
GROUP E01				
Electrician	20.25	0.00	20.29	0.00

*** In the listing above, the "SU" means that rates listed do not reflect collectively bargained wage and fringe benefit rates.**

A COPY OF THIS DOCUMENT, COLORED NEON GREEN, MUST BE CONSPICUOUSLY POSTED AT THE PROJECT SITE

Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Davis-Bacon Act Wage Decisions
State: South Dakota
Construction Types: Heavy and Highway

WELDERS – Receive rate prescribed for craft performing operation to which welding is incidental.
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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award, pursuant to 29 CFR 5.5(a)(1)(ii); contractors are responsible for requesting SDDOT to secure necessary additional classifications.

For SDDOT Defined Work Classifications, please visit: http://www.sddot.com/labor_dwc.asp

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- an existing published wage determination
- a survey underlying a wage determination
- a Wage and Hour Division letter setting forth a position on a wage determination matter
- a conformance (additional classification and rate)
- ruling on survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and our Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, Project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION FOR
ERRATA

MARCH 3, 2010

MAKE THE INDICATED CORRECTIONS TO THE FOLLOWING SPECIFIED SECTIONS:

Section 491.5 A, B, C, D, E – Page 290 – Add the following to the end of the first sentence of each of these sections:

(square meter).

Section 629.4 C – Page 351 – Replace the first sentence with the following:

Remove Three Cable Guardrail will be measured to the nearest foot (0.1 meter) along the centerline of the cable.

Section 629.4 D – Page 351 – Replace the first sentence with the following:

Removal of Anchor Assembly will be measured by the each.

Section 630.3 D – Page 354 – Replace the fourth sentence with the following:

The drawings shall contain all components of the W beam end terminal.

Section 634.2 – Page 371 – Replace the second paragraph with the following:

Traffic control devices shall meet the crashworthy requirements of the National Cooperative Highway Research Program Report 350 (NCHRP 350) for Category I, II and III devices.

Section 635.3 L – Page 383 – Delete and replace with the following:

L. Luminaires: Luminaires shall be adjusted on the support so the laminar sets level as indicated by a small bubble level. Bolts shall be firmly tightened.

Section 635.4 K – Page 385 – Delete and replace with the following:

K. Luminaires: Measurement will be by the actual count of the various types and sizes of luminaires furnished and installed.

Section 635.5 K – Page 387 – Delete and replace with the following:

K. Luminaires: Payment for luminaires of the various types and sizes will be at their respective contract unit prices per each. Payment will be full compensation for furnishing and installing luminaires.

Section 984.3 H – Page 504 – Replace the first paragraph with the following:

Temporary road markers shall consist of a yellow or white plastic body providing a horizontal width and length of approximately 3 ½ inches (90 mm) in both dimensions and approximately ¾ inches (20

mm) high. If flexible vertical markers are used they shall be approximately 4 inches (100 mm) wide and approximately 2 inches (50 mm) high.

Index – Page 532 – Under Portland Cement Concrete Pavement – Delete "Dowel and Tie Bars…517" and replace with the following:

Dowel and Tie Bars…….. 519

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STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION TO
STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES

MARCH 3, 2010

All items included in this supplemental specification will govern over the Errata.

MAKE THE INDICATED CHANGES TO THE FOLLOWING SPECIFIED SECTIONS:

Section 2.6 D – Page 11 – Delete and replace with the following:

D. PCN

Section 3.6 – Page 15 – Delete and replace with the following:

3.6 EXECUTION AND APPROVAL OF CONTRACT - The contract shall be signed and returned by the successful bidder, together with the contract bond, within 20 calendar days after the receipt of the Notice of Award. If the contract is not executed by the Department within 15 calendar days following the receipt from the bidder of the signed contract and related documents, the bidder shall have the right to withdraw the bid without penalty. A contract will not be considered in effect until it has been executed by all parties to the contract.

Section 3.7 – Page 15 – Delete the first sentence and replace with the following:

Failure to execute the contract and file acceptable bonds within 20 calendar days after bidder's receipt of the Notice of Award shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the Department, for liquidation of damages sustained.

Section 4.6 – Page 19 – Delete and replace with the following:

4.6 FINAL CLEANING UP - Before Acceptance of Field Work is made by the Area Office, the highway and areas occupied by the Contractor in connection with the work shall be cleaned of rubbish, excess materials, temporary structures, and equipment; and the work left in an acceptable condition, unless otherwise approved by the Engineer.

Section 5.6 – Page 24 – Delete the last sentence of the seventh paragraph and replace with the following:

The depth applies to the existing grade or ditch flowline within the right-of-way.

Section 5.6 – Page 24 – Delete the last two sentences of the eighth paragraph and replace with the following:

Contractors shall give at least 48 hour notice prior to commencement of excavation, excluding Saturdays, Sundays, and legal holidays of the state. South Dakota One Call phone number is **1-800-781-7474** or **811** within the State of South Dakota.

Section 5.6 – Page 24 – Add the following to the list of items on page 25:

Tunneling or Boring
Duration of Excavation
Nearest Cross Street

Section 5.6 – Page 24 – Delete the third sentence of the last paragraph on page 25 and replace with the following:

The utility shall as soon as possible but not longer than two hours from the notification time during the business day and not longer than four hours from the notification time outside of the business day or by the start time on the ticket, whichever is later provide all reasonably available practical information to the Contractor.

Section 5.10 – Page 27 – Add the following sentence to this section:

Neither the Department's authority to inspect all work nor any actual inspections performed by the Department during the course of construction shall constitute an acceptance of work performed, or operate to relieve the Contractor of its obligation to construct the project in compliance with the plans and specifications.

Section 5.14 – Page 28 – Delete the first sentence of the first paragraph and replace with the following:

The Contractor shall maintain the work during construction and until the Area Office issues the Acceptance of Field Work.

Section 5.14 – Page 28 – Delete the last paragraph and replace with the following:

Cost of maintenance work during construction and before the Area Office issues the Acceptance of Field Work shall be included in the unit price bid on the various pay items and the Contractor will not be paid an additional amount for such work.

Section 5.16 – Page 29 – Delete and replace with the following:

5.16 ACCEPTANCE OF FIELD WORK - When the contract work, including authorized modifications and final cleanup has been completed, the Area Engineer or his designee will, within fourteen days, make a final inspection of the work. When provided in the Contract, the Area Engineer or his designee may make inspections following completion of portions of the contract. If the work is found to conform with the requirements of the Contract, the Area Engineer or his designee will issue written notification to the Contractor of Acceptance of Field Work. Such notice is not to be construed as an acceptance by the Area Engineer or his designee of previously noted defective or unauthorized work, or of unauthorized work subsequently determined during the final computations of field measurements. Should the work fail to conform with requirements of the Contract, a written statement of the features to be remedied will be given the Contractor. Final Acceptance will not be made until the Contractor advises the Engineer that the corrections have been made and the requirements have been met.

Section 5.17 – Page 29 – Delete the first paragraph and replace with the following:

5.17 CLAIMS FOR ADJUSTMENT AND DISPUTES - If the Contractor deems that additional compensation is warranted for work or materials not covered in the Contract and not ordered as extra work as defined herein, the Contractor shall give the Area Engineer written notice of the claim for additional compensation.

Section 5.17 – Page 29 – Delete the fourth paragraph and replace with the following:

Under no circumstances will a claim be considered if written notification is made more than 30 days after the final payment is made.

Section 5.17 – Page 30 – Delete the sixth and seventh paragraphs and replace with the following two paragraphs:

The Contractor hereby agrees to waive any claim for additional compensation if timely written notification is not furnished and the Area Engineer is not provided the opportunity to keep account of or determine costs, to incorporate alternate methods of accomplishing the disputed work or to otherwise resolve the claim.

A Claims Documentation Form, furnished by the Department, shall be completed by the Contractor and submitted to the Area Engineer after completion of the work on which the claim is based. The Claims Documentation Form shall be completed within 120 calendar days after completion of the work unless an extension is granted, in writing, by the Area Engineer.

Section 5.17 – Page 30 – Delete the last three paragraphs of this section and replace with the following five paragraphs:

Claims which are properly submitted, but which are not approved, will be automatically escalated to the next higher authority level within the Department for review. The Secretary of Transportation has final resolution authority on all submitted claims.

Claims may be submitted by the Department to a third-party claim investigator for further review and investigation. The report prepared by the claim investigator shall not be shared with the Contractor, nor shall the report be used in subsequent administrative or legal proceedings. Failure to fully cooperate with the third-party investigator may result in

denial of the claim. After the Secretary of Transportation receives the report, the parties, by mutual agreement, may initiate a non-binding mediation to attempt to resolve the claim.

If the claim is determined completely or partially valid, those portions determined valid, plus interest computed at the rate of 4.25% per annum for the time period between the date shown on the Region Engineer's letter of Final Acceptance and the date the claim was resolved, will be paid.

If a claim is determined completely or partially valid in a subsequent proceeding in circuit court and pre-judgment interest is awarded by the court on all or a portion of the judgment, that interest shall be computed at the rate of 4.25% per annum.

Nothing in this section shall be construed as establishing any claim contrary to the terms of Section 4.2.

Section 7.6 – Page 37 – Add the following paragraph to this section:

All workers within the right of way who are exposed either to traffic (vehicles using the highway for purposes of travel) or to construction equipment within the work area shall wear high-visibility safety apparel intended to provide conspicuity during both daytime and nighttime usage, and meeting the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled "American National Standard for High-Visibility Safety Apparel and Headwear".

Section 7.12 – Page 39 – Delete the last sentence of the second paragraph and replace with the following:

The Contractor's responsibility will not be released until completion of the project and Final Acceptance is made, as noted by the date shown on the Region Engineer's letter of Final Acceptance.

Section 7.14 – Page 39 – Delete this section and replace with the following:

7.14 RESPONSIBILITY FOR DAMAGE CLAIMS - The Contractor shall hold harmless and indemnify the Department, its officers and employees, from all suits, actions, or claims of any character brought because of any injuries or damages received or sustained by any person, persons or property arising from the operations of the said Contractor; or on account of or in consequence of any neglect in safeguarding the work; or through use of unacceptable materials in constructing the work; or because of any act or omission, neglect, or misconduct of said Contractor; or because of any claims or amounts recovered from any infringements of patent, trademark, or copyright; or from any claims or amounts arising or recovered under the "Workmen's Compensation Act", or any other law, ordinance, order, or decree; and so much of the money due the said Contractor under and by virtue of his contract as may be considered necessary by the Department for such purpose may be retained for the use of the State; or in case no money is due, his surety may be held until such suit or suits, action or actions, claim or claims for injuries or damages as aforesaid shall have been settled and suitable evidence to that effect furnished to the Department; money due the Contractor will not be withheld when the Contractor produces satisfactory written confirmation from its insurer that adequate public liability insurance and property damage insurance providing coverage for such particular clams as may be made is in force; a copy of a certificate of insurance, without further confirmation of coverage for the particular claim being made, will not be sufficient to satisfy the requirement of written confirmation.

Section 7.15 – Page 40 – Delete the first sentence and replace with the following:

7.15 LIABILITY INSURANCE - The Contractor shall procure and maintain at the Contractor's expense, during duration of the Contract, liability insurance with an insurance company authorized to do business in the state of South Dakota, for damages imposed by law.

Section 7.16 – Page 40 – Delete the second sentence of the last paragraph and replace with the following:

In such event, the Contractor shall not be relieved of liability or responsibility during the period the work is so opened and prior to Acceptance of Field Work.

Section 7.17 – Page 40 – Delete the first paragraph and replace with the following two paragraphs:

CONTRACTOR'S RESPONSIBILITY FOR WORK - The Contractor is responsible for the work until the Acceptance of Field Work is made by the Area Office, except as set forth in Section 4.4 B.1. The Contractor shall protect the work against injury or damage from all causes, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore, and replace all work that is injured or damaged prior to the Acceptance of Field Work, at no additional cost to the Department. Damage to work due to unforeseeable

causes beyond the control of and without the fault or negligence of the Contractor, including but not restricted to acts of God, acts of the public enemy, or acts of governmental authorities shall be restored by the Contractor at the Department's expense according to subsection 4.2 or 4.3, as applicable.

Following the Acceptance of Field Work, but prior to Final Acceptance as described in Section 9.9, the Contractor shall be responsible for damage to work resulting from an act, omission, neglect, or misconduct in the Contractor's manner or method of executing the work, or due to defective work or materials at no additional cost to the Department.

Section 8.1 – Page 45 – Delete and replace with the following:

8.1 SUBLETTING OF CONTRACT - The Contractor shall not sublet, sell, transfer, assign, or dispose of the contract or contracts or any portion of them, without written consent of the Engineer. Each request to sublet shall be submitted on the form provided by the Engineer. The Contractor shall submit a request to sublet for any contracting firms a subcontractor proposes to use as a lower tier subcontractor. The Contractor shall obtain approval of each subcontractor before the start of the work performed by the subcontractor.

The Contractor will be permitted to sublet up to 50 percent of the contract amount, based on the contract unit prices, but shall perform work amounting to not less than 50 percent of the total contract amount with his own organization.

The Department will consider the Contractor's own organization to include only workers employed and paid directly by the Contractor, equipment owned or rented by the Contractor, and materials purchased by the Contractor for its use in performing Contract work. This does not include employees, equipment, or materials purchased by or incorporated into work of any subcontractor, assignee, or agent of the Contractor.

The Department will not consider as subcontracting the following; 1) any material produced outside the project limits including but not limited to the production of sand, gravel, crushed stone, batched concrete aggregates, ready mix concrete, off-site fabricated structural steel, other off-site fabricated items, and any materials delivered by established and recognized commercial plants; or 2) delivery of these materials to the work site from an off-site location in vehicles owned or operated by such plants or by recognized independent or commercial hauling companies. Project limits is defined as being within a 1/2 mile radius of the project proper.

Any items designated in the contract as "specialty items" may be performed by subcontract and the cost of designated specialty items performed by subcontract will be deducted from the total contract amount before computing the amount of work required to be performed by the Contractor's own organization.

The Contractor shall give assurance to the Engineer that all pertinent provisions of the prime contract including minimum wage for labor shall apply to the work sublet. Subcontract, or transfer of contract, shall not relieve the Contractor of his responsibilities and liability under the contract and bonds.

Section 8.2 – Page 45 – Delete and replace with the following:

8.2 NOTICE TO PROCEED - The Notice to Proceed shall consist of written notification to the Contractor to proceed with the work. Such notification will be issued within 15 calendar days following the receipt from the bidder of the signed contract and related documents. The contract time will start on the date the Contractor actually starts construction work or 30 calendar days after the date of the Notice to Proceed, whichever date is earlier. The Contractor shall not begin work prior to the date of the Notice to Proceed.

Section 8.6 A – Page 48 – Delete the first paragraph on page 48 and replace with the following:

If for reasons beyond the Contractor's control the work cannot be completed within the contract time as specified or as extended according to the provisions of this section, the Contractor may make a written request for an extension of contract time. The written request shall be made at any time prior to the expiration of the contract time as extended. The Contractor's time extension request shall set forth the reasons which will justify an extension of time.

A Time Extension Request Form, furnished by the Department, shall be completed by the Contractor and submitted to the Area Engineer. If the written request was properly filed in accordance with the requirements of this section, the time extension request will be forwarded through the proper channels, to the Secretary of Transportation for final resolution.

The Time Extension Request Form shall be fully completed and will contain the following:

1. A narrative justification citing the basis for the time extension.

2. A statement of the amount of extra compensation, including liquidated damages, incentive, or disincentive associated with the time extension.

3. A signed and notarized statement that the information furnished is true and fully documented.

4. Permission for the Department or its authorized representative to examine all Contractor records concerning this time extension request.

The Secretary of Transportation may submit the time extension request to a third-party investigator for further review and investigation. The report prepared by the investigator shall not be shared with the Contractor, nor shall the report be used in subsequent administrative or legal proceedings. Failure to fully cooperate with the third-party investigator may result in denial of the time extension request. After the Secretary of Transportation receives the report, the parties, by mutual agreement, may initiate a non-binding mediation to attempt to resolve the time extension request.

Section 8.6 A – Page 48 – Delete the first sentence of the second to last paragraph and replace with the following:

If the Secretary of Transportation finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Secretary may extend the time for completion in such amount as the conditions justify.

Section 8.6 A – Page 48 – Delete the last paragraph and replace with the following:

When Acceptance of Field Work has been duly made as prescribed in Section 5.16, the daily time count/assessment will cease. The daily time count/assessment may resume if the Contractor fails to provide, in a timely manner, required project documentation as ordered by the Area Engineer. The daily time count/assessment may also resume when in accordance with Section 7.17, repairs, rework, or other activities are ordered for work that the Contractor is responsible for.

Section 8.6 B – Page 50 – Delete the second paragraph on page 50 and replace with the following:

If for reasons beyond the Contractor's control the work cannot be completed within the contract time as specified or as extended according to the provisions of this section, the Contractor may make a written request for an extension of contract time. The written request shall be made at any time prior to the expiration of the contract time as extended. The Contractor’s time extension request shall set forth the reasons which will justify an extension of time.

A Time Extension Request Form, furnished by the Department, shall be completed by the Contractor and submitted to the Area Engineer. If the written request was properly filed in accordance with the requirements of this section, the time extension request will be forwarded through the proper channels, to the Secretary of Transportation for final resolution.

The Time Extension Request Form shall be fully completed and will contain the following:

1. A narrative justification citing the basis for the time extension.

2. A statement of the amount of extra compensation, including liquidated damages, incentive, or disincentive associated with the time extension.

3. A signed and notarized statement that the information furnished is true and fully documented.

4. Permission for the Department or its authorized representative to examine all Contractor records concerning this time extension request.

The Secretary of Transportation may submit the time extension request to a third-party investigator for further review and investigation. The report prepared by the investigator shall not be shared with the Contractor, nor shall the report be used in subsequent administrative or legal proceedings. Failure to fully cooperate with the third-party investigator may result in denial of the time extension request. After the Secretary of Transportation receives the report, the parties, by mutual agreement, may initiate a non-binding mediation to attempt to resolve the time extension request.

Section 8.6 B – Page 51 – Delete the last sentence of the second to last paragraph and replace with the following:

If the Secretary of Transportation finds that the work was delayed because of conditions beyond the control and without the fault of the Contractor, the Secretary may extend the time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect the same as though it were the original time for completion.

Section 8.6 B – Page 51 – Delete the last paragraph and replace with the following:

When Acceptance of Field Work has been duly made as prescribed in Section 5.16, the daily time count/assessment will cease. The daily time count/assessment may resume if the Contractor fails to provide, in a timely manner, required project documentation as ordered by the Area Engineer. The daily time count/assessment may also resume when in accordance with Section 7.17, repairs, rework, or other activities are ordered for work that the Contractor is responsible for.

Section 8.7 – Page 51 – Delete the last sentence of the second paragraph and replace with the following:

This sum shall be considered and treated not as a penalty but as liquidated damages due the Department from the Contractor by reason of added cost of engineering and supervision resulting from failure to complete the work within the time specified in the contract.

Section 9.1 B – Page 56 – Delete the fourth paragraph on page 57 and replace with the following:

Loader Scales - Loader scales will be allowed to be used on contracts when the quantity per line item of granular material to be weighed for payment is less than 10,000 tons (10,000 metric tons).

Section 9.1 B – Page 56 – Add the following sentence to the end of the sixth paragraph on page 57:

The accuracy check shall be performed prior to weighing the material for payment and then once per week thereafter.

Section 9.4 – Page 61 – Delete and replace with the following:

9.4 COMPENSATION FOR ALTERED QUANTITIES - When the accepted quantities of work vary from the estimated quantities in the Contract, the Contractor shall accept as payment in full, payment at the original contract unit prices for the accepted quantities of work. Allowance will not be made for increased expense, except as provided in Section 4.2. Allowance will also not be made for loss of expected reimbursement or loss of anticipated profits.

Section 9.5 D – Page 62 – Delete the first paragraph of this section and replace with the following:

D. Equipment: For machinery or special equipment including fuel and lubricants, plus transportation costs, authorized by the Engineer, the Contractor shall be paid in accordance with the provisions and rates set forth in the South Dakota Equipment Rental Rates Book which is currently established as the "Rental Rate Blue Book" published by EquipmentWatch, a division of Penton Media, Inc. For purposes of determining an hourly rate, the monthly rate divided by 176 shall be used. This rate will be adjusted for regional factors, age and operating expenses as set forth in the "Rental Rate Blue Book".

Section 9.7 – Page 64 – Add the following sentence to the end of the second to last paragraph:

Progress payments shall not constitute acceptance of the work.

Section 9.9 - Page 65 - Delete this section and replace with the following:

9.9 FINAL ACCEPTANCE AND FINAL PAYMENT - When Acceptance of Field Work has been made as prescribed in Section 5.16, and all project documentation has been provided, the Engineer will prepare the final estimate of the quantities of the various classes of work performed. After the Engineer determines the final estimate, the Contractor will be paid the entire sum found to be due after deducting previous payments and amounts to be retained or deducted under the provisions of the contract.

Prior partial estimates and payments shall be subject to correction in the final estimate of payment. Final payment will be due 120 days after the date shown on the Region Engineer's letter of Final Acceptance.

Interest will be added to payments in excess of $2000 which are due the Contractor and remain unpaid 120 days after the date shown on the Region Engineer's letter of Final Acceptance. Interest will accrue at a rate of 4.25% per annum for the time period after the noted 120 days until final payment is made.

Section 9.12 – Page 66 – Delete and replace with the following:

9.12 THIS SECTION INTENTIONALLY LEFT BLANK

Section 120.2 A – Page 73 – Delete and replace with the following:

A. Unclassified Excavation: All materials except those classified as rock excavation, unclassified/rock excavation, muck excavation, option borrow excavation, contractor furnished borrow, or borrow unclassified excavation encountered during the construction of the work, regardless of their nature or manner in which they are removed, will be considered unclassified excavation.

Section 120.2 – Page 73 – Add the following to the end of this Section:

I. Option Borrow Excavation: Material, furnished by the State, from a pit or other source. The Contractor may use this material at his option.

J. Contractor Furnished Borrow: Material, furnished by the Contractor, from a pit or other source.

K. Borrow Unclassified Excavation: Material, furnished by the State, from a pit or other source. The Contractor must use this material.

Section 120.3 – Page 74 – Delete the fifth paragraph and replace with the following:

The subgrade shall be finished to within minus 0.04 feet (13 mm) to plus 0.08 feet (25 mm) from the design grade and typical section shown in the plans and to within ±0.5 percent of the typical section cross slope. The quarter crown within any 12 foot (3.6 m) transverse length shall not exceed 0.04 feet (13 mm) when measured with a straight edge, stringline, or by other suitable equipment.

Section 120.3 B.3.a – Page 77 – Delete the fifth paragraph and replace with the following:

Density shall be determined in accordance with SD 105 (AASHTO T 191), SD 106, or SD 114 (AASHTO T 310).

Section 120.3 B.3.a – Page 78 – Add the following sentence to the end of the second to last paragraph:

If the material does not contain enough fines to allow for conventional density testing (SD 105 or SD 106), the material shall be compacted as specified for A-2-4(0) and A-3 soils.

Section 120.4 – Page 79 – Add the following to the end of this Section:

I. Borrow Unclassified Excavation: Borrow unclassified excavation will be measured in its original position by cross sectioning. Volumes will be computed in cubic yards (cubic meters) by the average end area method.

Original cross sections will be taken prior to removal of any material and final sections will be taken following replacement of topsoil. Salvaged topsoil which is stockpiled from the borrow sources will be included as borrow unclassified excavation.

The quantity of topsoil stockpiled and respread on borrow sources will be determined by measuring the stockpiles prior to removal of the material from the stockpiles.

Section 120.5 – Page 81 – Add the following to the end of this Section:

I. Borrow Unclassified Excavation: Borrow unclassified excavation will be paid for at the contract unit price per cubic yard (cubic meter). Payment will be full compensation for excavation and furnishing the material on the project, construction and compaction of embankments, shaping of slopes, finishing of surface, completion of subgrade, shoulders, and roadway, and maintenance, and for furnishing materials (except topsoil), labor, and incidentals required for restoration of the pit.

Topsoil which is stockpiled from the borrow source will be respread and paid for at the contract unit price per cubic yard (cubic meter) of borrow unclassified excavation and placing topsoil.

Section 120.5 F – Page 82 – Delete the last sentence and replace with the following:

Topsoil, seed, fertilizer and mulch for the restoration of the pit shall be incidental to the unit price per cubic yard (cubic meter) of contractor furnished borrow.

Section 210.3 – Page 85 – Delete the second to last paragraph and replace with the following:

The subgrade shall be finished to within minus 0.04 feet (13 mm) to plus 0.08 feet (25 mm) from the design grade and typical section shown in the plans and to within ±0.5 percent of the typical section cross slope. The quarter crown within any 12 foot (3.6 m) transverse length shall not exceed 0.04 feet (13 mm) when measured with a straight edge, stringline, or by other suitable equipment.

Section 260.3 A – Page 93 - Delete the first paragraph and replace with the following:

A. Subbase and Base Course: Roadway shaping shall be performed in accordance with Section 210.3 B prior to placement of the material.

Section 260.3 A – Page 94 - Delete the last paragraph and replace with the following:

Recycled Portland cement concrete pavement used as a granular base material shall not be used for Base Course, Salvaged Base Course, or in areas where drainage fabric, edge drains, or other similar drainage systems are present.

Section 270.1 – Page 97 – Delete and replace with the following:

270.1 DESCRIPTION

This work consists of salvaging, processing or crushing, and stockpiling salvaged material from the existing roadway. Salvaged material shall consist of granular material, asphalt concrete mix material, or asphalt mix and granular base material.

Section 270.2 – Page 97 – Delete this section and replace with the following:

270.2 MATERIALS

The salvaged material shall be processed or crushed to provide material meeting the following gradation.

Sieve Size	% Passing
1 ½ inch (37.5 mm)	100
1 inch (25.0 mm)	95-100

Section 270.3 – Page 97 – Delete and replace with the following:

270.3 CONSTRUCTION REQUIREMENTS

A. Salvage and Stockpile Granular Material or Asphalt Mix and Granular Base Material:

1. **Salvaging:** The salvaged material shall be moved and loaded in a manner that minimizes waste and avoids contamination of the salvage material with underlying subgrade soil. Scrapers shall not be used for the removing or loading operations, but may be used to haul the material. Salvaging of material shall not exceed two miles (3.2 kilometers) in advance of the grading operation, unless otherwise directed. The material shall be moved toward the center of the road, to the extent necessary to ensure that salvage material is not lost down inslopes.

2. **Processing:** Processing and blending may be accomplished in place, provided the Contractor's method meets the blending and gradation requirements and has positive depth control.

3. **Stockpiling:** Asphalt concrete mix and granular material shall be processed or crushed and stockpiled together so that a uniform blend is obtained. The salvaged material may be stockpiled at contractor provided sites. Prior to stockpiling, the stockpile site shall be prepared by removal of the top six inches (150 mm) of topsoil and the area bladed smooth.

B. Salvage and Stockpile Asphalt Mix Material:

1. **Salvaging:** The salvaged material shall be moved and loaded in a manner that minimizes waste and avoids contamination of the salvage material. Scrapers shall not be used for the removing or loading operations, but may be used to haul the material. Salvaging of material shall not exceed two miles (3.2 kilometers) in advance of the grading operation, unless otherwise directed. The material shall be moved toward the center of the road, to the extent necessary to ensure that salvage material is not lost down inslopes.

2. **Stockpiling:** Salvaged asphalt mix material shall be processed or crushed and stockpiled so that a uniform blend is obtained. Prior to stockpiling, the stockpile site shall be prepared by removal of the top six inches (150 mm) of topsoil and the area bladed smooth. Stockpiles shall be constructed in accordance with Section 320. The stockpiles shall not contain dirt, grease, oil, brick, paving fabric, clay balls, organic debris, and other foreign material.

Section 270.4 – Page 97 – Delete and replace with the following:

270.4 METHOD OF MEASUREMENT

Salvage and stockpile granular material, salvage and stockpile asphalt mix and granular base material, and salvage and stockpile asphalt mix material will be measured to the nearest 0.1 ton (0.1 metric ton) or 0.1 cubic yard (0.1 cubic meter) at the time it is hauled to the road.

When less than 5000 tons (4500 metric tons) of salvaged material is generated on a project, the material may be measured in a stockpile and converted to tons (metric tons) using a factor of 1.5 tons per Cu. Yd. (1.78 metric tons per cubic meter), in lieu of weighing the material.

Alternate measurement techniques may be allowed if agreed upon by the Contractor and Engineer prior to salvaging operations commencing.

Material stockpiled for future use will be measured in the stockpile and converted to tons (metric tons) using a factor of 1.50 tons per Cu. Yd. (1.78 metric tons per cubic meter).

The unclassified excavation quantities will not be increased or decreased to reflect whether salvaged material was taken from cut or fill sections.

Section 270.5 – Page 97 – Delete and replace with the following:

270.5 BASIS OF PAYMENT

Salvage and stockpile granular material, salvage and stockpile asphalt mix and granular base material, and salvage and stockpile asphalt mix material will be paid for at the contract unit price per ton (metric ton) or cubic yard (cubic meter). Payment will be full compensation for work required to salvage, haul, process or crush, and stockpile the material.

Removal of this material is included in and paid for under the item of unclassified excavation.

Section 280.2 – Page 99 – Delete this section and replace with the following:

280.2 MATERIALS

The asphalt mix and granular material shall be processed to provide material meeting the following gradation.

Sieve Size	% Passing
1 ½ inch (37.5 mm)	100
1 inch (25.0 mm)	95-100

Section 320.3 B.1 – Page 103 – Delete the first sentence of the fourth paragraph and replace with the following:

Burner fuel used for production of asphalt concrete shall be propane, butane, natural gas, Grade 1 fuel oil, Grade 2 fuel oil, Grade 4 fuel oil, Grade 4 (light) fuel oil, Grade 5 (light or heavy) fuel oil, or Grade 6 fuel oil.

Section 320.3 B.1 – Page 103 – Add the following to the end of the seventh paragraph:

An accurate thermometer must be installed in the tank so the temperature can be monitored.

Section 320.3 B.4 – Page 104 – Delete the third sentence of the first paragraph.

Section 320.3 B.4 – Page 105 – Delete the last sentence of the third paragraph and replace with the following:

The system shall be capable of manually controlling the transverse slope and the screed height.

Section 320.3 B.5 – Page 105 – Delete the last sentence of the first paragraph and replace with the following:

The rollers shall be capable of being reversed smoothly, without shoving or tearing the asphalt concrete.

Section 320.3 C.3.d – Page 106 – Delete and replace with the following:

d. A one-gallon (four liter) sample of asphalt binder intended for use shall be obtained from the designated supplier for the project.

Section 320.3 D – Page 107 – Delete the last sentence of the fifth paragraph and replace with the following:

A water spray system must be installed at the discharge end of the pug mill. This water system must be used when directed by the Engineer to prevent fugitive lime dust from being released into the air.

Section 320.3 E – Page 107 – Add the following after the fourth sentence in the first paragraph:

No material shall be used which could adversely affect the asphalt concrete.

Section 320.3 F – Page 107 – Add the following new paragraph after the first paragraph:

Surfaces which have been primed with cutback asphalt shall be allowed to cure for a minimum of 72 hours prior to being covered.

Section 320.3 F – Page 107 – Add the following to the end of the third paragraph:

In lieu of a self-propelled paver, asphalt concrete may be placed by a shouldering machine on shoulders less than 6 feet (2 m) in width.

Section 320.3 F – Page 110 – Delete the first paragraph at the top of Page 110 and replace with the following:

Irregularities shall be corrected before the temperature of the asphalt mix drops below 175º F (80º C). The longitudinal profile can only be improved by using a grinder with diamond blades mounted on a horizontal shaft and when approved by the Engineer. Areas that have been ground shall not be left smooth or polished, but shall have a uniform texture equal in roughness to the surrounding unground asphalt concrete. Grinding shall be day lighted to the outside edge of the pavement. Ground surfaces shall be flushed sealed. Under no circumstances shall operations continue when it becomes evident final rolling is not producing a smooth, uniform, compacted surface free from roller marks and other irregularities.

Section 320.4 A – Page 111 – Add the following after the first sentence:

Quantities of asphalt binder in excess of the asphalt content listed on the job mix formula plus 0.3% tolerance will not be accepted for payment.

Section 320.4 B – Page 111 – Delete the last two sentences of the first paragraph and replace with the following:

The mixture of mineral aggregate, asphalt binder, and hydrated lime, when required, will be weighed after mixing. No deduction will be made for the weight of the asphalt binder or hydrated lime, when required, included in the mixture.

Section 320.4 E – Page 112 – Add the following after the first sentence:

Quantities of hydrated lime in excess of the lime content listed on the job mix formula plus 0.1% tolerance will not be accepted for payment.

Section 320.5 C – Page 112 – Add the following sentence to the end of the paragraph:

Payment will be full compensation for all labor, equipment, materials, and all other items incidental to sampling and repair of the sample locations to the satisfaction of the Engineer.

Section 321.3 B – Page 113 – Delete and replace with the following:

B. Density: The minimum density requirement shall be 92 percent of the maximum specific gravity of the test specimens prepared in the field in accordance with SD 312. The compacted density of asphalt concrete shall be determined according to SD 311.

Section 324.5 – Page 115 and 116 – Delete the last sentence and replace with the following:

When required, the following shall also be included in the contract unit price per ton (metric ton) for Asphalt Concrete Composite: Asphalt for Prime MC-70, Blotting Sand for Prime, Asphalt for Flush Seal SS-1h or CSS-1h, Sand for Flush seal, Hydrated Lime, equipment, labor and incidentals necessary.

Section 330.2 – Page 121 – Add the following to the end of this section:

D. Sand for Fog Seal: Section 879

Section 330.3 A.2.b – Page 121 – Add the following paragraph after the second paragraph:

Surfaces primed with cutback asphalt shall be allowed to cure for a minimum of 72 hours prior to being overlaid with asphalt concrete.

Section 330.3 F – Page 123 – Delete the first sentence of the fourth paragraph and replace with the following:

When applying fog seal coats, a light application of sand may be ordered by the Engineer to prevent material pickup.

Section 330.4 – Page 124 – Add the following to the end of this section:

D. Sand for Fog Seal: Sand for fog seal will be measured to the nearest 0.1 ton (0.1 metric ton).

Section 330.5 – Page 124 – Add the following to the end of this section:

D. Sand for Fog Seal: Sand for fog seal will be paid for at the contract unit price per ton (metric ton) complete in place. Payment will be full compensation for furnishing, installing, and all incidentals required to complete the work.

Section 332.2 – Page 125 – Delete this section and replace with the following:

332.2 MATERIALS

The material produced by cold milling shall be processed or crushed to provide material meeting the following requirements.

Sieve Size	% Passing
1 ½ inch (37.5 mm)	100
1 inch (25.0 mm)	95-100

Cold milled asphalt concrete material used in hot mixed asphalt as recycled asphalt pavement (RAP) shall have the 1 inch sieve size requirement waived.

Section 332.3 B – Page 125 – Delete the first paragraph and replace with the following:

B. Equipment: The equipment for cold milling shall consist of a rotating drum equipped with teeth capable of removing material to a depth of up to three inches (75 mm) in one pass, producing a uniform surface finish.

Section 332.3 C – Page 125 – Delete the last paragraph of this section on page 126 and replace with the following:

When traffic will be exposed to the milled surface, all cold milling asphalt concrete shall be accomplished on one-half of the roadway at a time. The Contractor shall schedule the cold milling asphalt concrete operations so that there are no drop offs, uneven lanes, or windrows of milled material remaining on the roadway overnight. At the end of the day the Contractor shall place cold milled asphalt concrete material to provide temporary ramps as a transition onto or off of the milled surface and the project limits, bridge approaches, and intersecting roads. The resultant transition shall be of sufficient length to provide a slope no steeper than 20:1.

1. **Cold Milling Asphalt Concrete and Placing Cold Milled Material:** Some areas of the shoulder may require the movement of cold milled asphalt concrete material either ahead or back to achieve the required cross section. No separate payment will be made for the movement of this material.

   Material placed on the shoulders shall be compacted according to Section 260.3 B of the Standard Specifications except that a pneumatic tired roller with an effective roller weight of at least 250 pounds per inch (4.5 kilograms per mm) of roller width will be required.

2. **Cold Milling Asphalt Concrete:** Loose material resulting from the milling shall be immediately picked up, hauled to the stockpile site(s), and stockpiled. Prior to allowing traffic on the milled surface, the surface shall be thoroughly broomed free of remaining loose material.

   Cold milled asphalt concrete material shall be processed or crushed and stockpiled so that a uniform blend is obtained. Prior to stockpiling, the stockpile site shall be prepared by removal of the top six inches (150 mm) of topsoil and the area bladed smooth. Stockpiles shall be constructed in accordance with Section 320. The stockpiles shall not contain dirt, grease, oil, brick, paving fabric, clay balls, organic debris, and other foreign material

Section 332.4 – Page 126 – Delete and replace with the following:

332.4 METHOD OF MEASUREMENT

A. Cold Milling Asphalt Concrete and Placing Cold Milled Material: Cold Milling Asphalt Concrete and Placing Cold Milled Material will not be measured. Plans quantity will be used. If changes from the plans quantity are ordered these areas will be measured and the plans quantity will be appropriately adjusted.

B. Cold Milling Asphalt Concrete: Cold milling Asphalt Concrete will not be measured. Plans quantity will be used. If changes from the plans quantity are ordered these areas will be measured and the plans quantity will be appropriately adjusted.

Section 332.5 – Page 126 – Delete and replace with the following:

332.5 BASIS OF PAYMENT

A. Cold Milling Asphalt Concrete and Placing Cold Milled Material: Cold Milling Asphalt Concrete and Placing Cold Milled Material will be paid for at the contract unit price per square yard (square meter) or as indicated in the plans. Payment will be full compensation for the removal of grass, weeds, topsoil, etc. from the placement location, milling, removing, placing, and compaction of the cold milled material and the brooming, equipment, labor, and all incidentals required.

B. Cold Milling Asphalt Concrete: Cold Milling Asphalt Concrete will be paid for at the contract unit price per square yard (square meter) or as indicated in the plans. Payment will be full compensation for milling, removing, hauling, stockpiling, processing or crushing the cold milled material, brooming, equipment, labor, and all incidentals required.

Section 350.2 – Page 127 – Delete this section and replace with the following:

The sealant shall conform to the requirements of ASTM D-6690 Type IV.

The sealant material shall have a unit weight no greater than 9.35 lbs./gal (1124 kilograms per cubic meter).

Only products that meet the above requirements and have performed satisfactorily based on Department analysis may be used. A listing of acceptable products meeting ASTM D-6690 Type IV requirements may be obtained from the Department's Approved Products List. Products on the Approved Products list for Joint Sealant for Asphalt Over Long Jointed Concrete Pavement may also be used.

The blocking medium shall be an inert, compressible material, which is compatible with the sealant.

Section 350.4 – Page 129 – Add the following sentence to this section:

Quantities of asphalt concrete crack sealing with a manufacturer's unit weight in excess of the specified unit weight will be reduced to the specified maximum unit weight prior to measurement for payment.

Section 360.3 A – Page 131 – Delete the minimum temperature and seasonal limitations table and replace with the following:

Minimum temperatures and seasonal limitations are as follows:

Cover Aggregates	Air and Surface Temp. (In the Shade and Rising)	Seasonal Limitations (Dates are Inclusive)
Type 1	70° F (21° C)	May 15 - Aug. 31
Type 2	70° F (21° C)	May 15 - Aug. 31
Type 3	70° F (21° C)	May 15 - Sept. 15

Section 360.3 B.3 – Page 131 – Delete the last sentence of this section:

Section 370.2 – Page 135 – Delete the first paragraph of this section and replace with the following:

The RAP material, after processing, shall meet the following gradation.

Sieve Size	% Passing
1 ¼ inch (31.5 mm)	100
1 inch (25.0 mm)	95-100

Section 380.2 – Page 139 – Add the following to the end of this section:

L. Epoxy Resin Adhesive: Epoxy resin adhesive shall be of the type intended for horizontal applications, and shall conform to the requirements of ASTM C 881, Type IV, Grade 3 (equivalent to AASHTO M235, Type IV, Grade 3).

Section 380.3 B.1 – Page 140 – Delete the first paragraph on page 141 and replace with the following:

When automatic moisture sensing equipment is used for an aggregate component, the batch ticket shall show the percent of moisture for the aggregate component with moisture sensing equipment. The results of the most recent two hour moisture test shall be shown for aggregate components without moisture sensing equipment.

The W/C ratio shall be calculated using the following formula and rounded to the nearest 0.01:

$$\text{W / C ratio} = \left[\frac{\text{weight of free water} + \text{weight of batch water}}{\text{weight of cement} + \text{weight of supplementary cementitious material}} \right]$$

weight of free water = (% total moisture in aggregate - % absorption of aggregate) x weight of aggregate
weight of batch water = total weight of water added to the batch of concrete either at the plant or in the truck

The weight of free water shall be calculated for both the fine aggregate and the coarse aggregate.

Section 380.3 D – Page 146 – Add the following paragraph to the end of this section:

The amount of batch water and aggregates added to the mix shall be adjusted accordingly using the results of the most recent two hour moisture tests. If automatic moisture sensing equipment is used, the Engineer may allow the use of the automatic moisture sensing results to make adjustments.

Section 380.3 E – Page 146 – Delete the second sentence and replace with the following:

Truck mixing will be permitted only when approved by the Engineer.

Section 380.3 E – Page 146 – Delete the fifth paragraph and replace with the following:

When a concrete batch is transported in a truck mixer or agitator and the batch is smaller than 60 percent of the rated capacity of the truck mixer or agitator, the following percentage of additional cementitious material at the same proportions as listed on the mix design shall be added to the batch:

Section 380.3 E – Page 146 – Delete the paragraph below the table at the top of page 147 and replace with the following:

The above provisions regarding additional cementitious material shall also apply to the mixing of small batches in central plants. Additional cementitious material will not be required when the small batch is mixed in a drum that is sufficiently coated with mortar to withstand the loss of cementitious material. Sufficient mortar coating, as determined by the Engineer, may include mortar coating the drum from a previously mixed batch during continuous mixing operations. Additional cementitious material will be required if more than 30 minutes has passed from the mixing of the previous batch, if the drum has been cleaned following the previous batch, or if the mortar coating the drum has been disturbed following the previous batch.

Section 380.3 E.2 – Page 147 – Delete the second sentence of the second paragraph and replace with the following:

When approved by the Engineer, additional water or cement may be added to the batch after completion of the original mixing, in which case the batch shall be mixed an additional 30 revolutions at mixing speed.

Section 380.3 L – Page 149 – Add the following sentence to the end of this section:

Epoxy coated dowel bars and tie bars shall meet the requirements of Section 480.3 A.

Section 380.3 M.2 – Page 151 – Delete the first sentence of the last paragraph and replace with the following:

The Contractor shall load test five percent of the first 500 tie bars that are drilled and epoxied in place.

Section 380.3 M.3 – Page 151 – Add the following paragraph to this section:

If a soft cut style saw is used, the soft cut shall remain approximately 1" (25mm) from the edges of the concrete slab to control spalling at the edge. Additionally if a soft cut is used, the Contractor shall complete the initial saw cut for the entire width and to the required depth before the end of the 72 hour curing period.

Section 380.3 M.4 – Page 151 – Delete the first sentence of the fourth paragraph and replace with the following:

If an uncontrolled crack develops within six feet (1.8 m) of the contraction joint, a minimum of six feet (1.8 m) of pavement removal and replacement will be required.

Section 380.3 N.6 – Page 153 – Delete this section and replace with the following:

6. **Final Finish**: Before the concrete has attained its initial set, the surface shall be given a final finish with a carpet drag drawn over the surface in a longitudinal direction. The drag shall be mounted on a bridge and shall be sized so that a strip of the carpet approximately two feet (600 mm) wide is in contact with the pavement surface while the drag is operated.

The condition of the drag shall be maintained so the resultant surface is of uniform appearance with corrugations approximately 1/16 inch (2 mm) in depth. Drags shall be maintained clean and free of encrusted mortar. Drags that cannot be cleaned shall be discarded and replaced.

The carpet shall meet the following requirements:

Facing Material	- Molded polyethylene pile face
Blade Length	- 7/8", ±1/8" (22 mm, ±3 mm)
Total Fabric Weight	- 70 oz. per square yard min. (2.37 kg per square meter min.)

The backing shall be of a strong, durable material, not subject to rot, which is adequately bonded to the facing.

Plain Jointed concrete pavement shall be either longitudinally or transversely tined as specified in the plans.

Continuously reinforced concrete pavement shall be longitudinally tined.

Tining depth and spacing shall be determined according to SD 418.

a. Transverse Tining: Immediately following the carpet drag, the surface of the concrete pavement shall be given a transverse metal-tine finish with a separate self-propelled mechanical device. The metal-tine finish shall provide a groove width of 1/8" and a groove depth of 6/32 inch (5 mm) ± 2/32 inch (2 mm). The spacing between the individual tines shall meet the following:
Inches (ten foot tining rake)

2-5/16, 2-15/16, 1-1/4, 2-7/16, 2-1/16, 1-1/4, 13/16, 1, 1-5/16, 1-1/8, 2-5/16
2-1/2, 2-7/8, 2-3/4, 1-1/8, 2-3/4, 2-1/8, 1-15/16, 13/16, 7/8, 2-5/8, 3-1/16
3-1/16, 7/8, 9/16, 9/16, 1-5/8, 2-3/8, 1, 1-1/4, 1-9/16, 2-15/16, 1-1/8
1-15/16, 2-3/16, 2, 2-13/16, 1, 2-11/16, 13/16, 1-7/8, 9/16, 2-5/16, 1-7/8
2-1/2, 1-5/16, 3-3/16, 1-3/8, 15/16, 7/8, 1-5/8, 9/16, 1-3/4, 2-7/8, 3
1-5/8, 1-5/8, 7/8, 9/16, 5/8, 2-13/16, 1-5/8, 2-7/16, 13/16, 1-1/4, 11/16
2-3/4, 2-5/16, 1-1/8

Millimeters (3 meter tining rake)

58, 74, 31, 62, 53, 32, 21, 26, 33, 28, 59
64, 73, 70, 29, 70, 54, 49, 20, 22, 67, 78
77, 23, 15, 15, 41, 60, 25, 32, 39, 75, 28
50, 55, 51, 72, 25, 69, 21, 47, 15, 59, 47
64, 34, 55, 35, 24, 22, 42, 14, 45, 73, 76
41, 41, 22, 15, 16, 71, 41, 62, 21, 31, 17
70, 58, 29

Successive passes of the tining shall not overlap.

Each location, where transverse joint saw cuts are to be made, shall be protected from tining by covering with a metal strip from four inches (100 mm) to six inches (150 mm) or by other methods that produce acceptable results.

Brooming may be used on irregular areas in lieu of the carpet drag and tine finish. The broom shall be drawn transversely across the pavement with adjacent strokes slightly overlapping.

Brooming shall be uniform in appearance and shall produce grooves 1/16 inch (2 mm) deep. Texturing shall be completed while the concrete surface can be broomed without being torn or unduly roughened by the operation.

The finished surface shall be free from rough and porous areas, irregularities, and depressions resulting from improper handling of the broom.

b. Longitudinal Tining: Immediately following the carpet drag, the surface of the concrete pavement shall be given a longitudinal metal-tine finish with a wire broom or comb attached to a separate self-propelled mechanical device.

Transverse joints shall not be protected from longitudinal tining, the tining shall be continuous across the joints.

The slab shall not be tined within 3 inches of the edge of the slab, centerline, or rumblestrip.

The longitudinal tining equipment shall have the ability to be raised and lowered, and shall have vertical and horizontal string line controls to ensure straight grooves that are parallel to the longitudinal joint.

The curing unit shall be separate from the tining unit when longitudinal tining is used unless the tining and curing can be accomplished simultaneously with the same piece of equipment at the specified rate to the satisfaction of the Engineer.

The tine bar shall have a single row of tines and shall provide a groove width of 1/8 inch (3 mm) $\pm$1/64 inch (0.4 mm) and a groove depth of 6/32 inch (5 mm) $\pm$ 2/32 inch (2 mm). The spacing between the individual tines shall be uniformly spaced at 3/4 inch (20 mm) intervals.

Section 380.3 N.7 – Page 155 – Delete the first sentence of the first paragraph and replace with the following:

After the final finish, and while the concrete is still plastic, the edges of the pavement along each side of the slab, and on each side of transverse construction joints, shall be worked with an approved tool and rounded to the specified radius.

Section 380.3 O – Page 155 – Add the following two sentences to the beginning of this section:

The pavement surface shall be checked for deviations using either a ten foot (3 meter) straightedge or a profilograph (when specified). When the use of a profilograph is specified, the ten foot (3 meter) straightedge check may also be required in locations determined by the Engineer.

Section 380.3 O.2.c.2 – Page 157 – Delete the first paragraph and replace with the following:

Areas excluded from profilograph testing shall be shoulders, transitions, area within 50 feet (15 m) of existing pavement and bridges, existing curb and gutter sections, ramps, pavements on horizontal curves having a centerline radius less than 1,000 feet (300 m) and the superelevation transitions. Pavement sections not subject to profilograph testing shall meet the 10 foot (3 m) straight edge test requirements in Section 380.3 O.1.

Section 380.3 O.2.c.2 – Page 157 – Add the following to the end of the last paragraph:

Grinding shall be day lighted to the outside edge of the pavement.

Section 380.3 O.2.f.1 – Page 158 – Delete this section and replace with the following:

1) Satisfactorily correct deficient area by grinding with equipment meeting the requirements of Section 380.3 O.2.c.2.

Section 380.3 O.2.h – Page 158 – Delete the last paragraph of this section.

Section 380.3 R.2 – Page 161 – Delete the first sentence of the third paragraph and replace with the following:

The sealant surface shall be tooled to produce a slightly concave surface below the pavement surface.

Section 380.3 T – Page 162 – Add the following sentence after the first sentence in the second paragraph:

Equipment operated on a previously constructed pavement that has attained a compressive strength of at least 3000 psi (21 Mpa) but less than 4000 psi (28 Mpa) shall be tracked type equipment.

Section 390.2 B – Page 167 – Delete and replace with the following:

B. Concrete Patches: Concrete patching material shall be one of the following:

1. A packaged, dry, rapid-hardening cementitious mortar conforming to the requirements of ASTM C 928, Type R-3 containing no chloride ions.

2. A packaged, dry, rapid-hardening concrete materials conforming to the requirements of ASTM C 928, Type R-3 containing no chloride ions.

3. A patching material meeting the following requirements:

   a. **Cement:** Cement shall be Type III conforming to Section 750.

   b. **Air Entraining Admixtures:** Air entraining admixtures shall conform to Section 751.

   c. **Water:** Water shall conform to Section 790.

   d. **Fine Aggregate:** Fine aggregate shall conform to Section 800.

   e. **Coarse Aggregate:** Coarse aggregate shall be crushed quarry stone, size five, conforming to Section 820.

   f. **Curing Compound:** Curing compound shall conform to Section 821.

   g. **Proportioning:** Materials for concrete patches shall be mixed at the following proportions:

      Fine Aggregate..……..165 lbs./bag (75 kg/bag) cement
      Coarse Aggregate……165 lbs./bag (75 kg/bag) cement
      Cement (min)……. 8.0 bags/c. y.(10.5 bags/cubic meter) concrete
      Water (maximum)……..5.0 gallon/bag (19 L/bag) cement

   h. **Air and Slump:** The slump and air shall conform to the following:

      Air……7% $\pm$ 2%
      Slump……...1-1/2" (40 mm) maximum

Section 391.2 A – Page 171 – Add the following paragraph to the end of this Section:

Alternate design mixes for the grout may be submitted to the Engineer for approval.

Section 392.2 A – Page 177 – Add the following paragraph to the end of this section:

Alternate jacking slurry design mixes may be submitted to the Engineer for approval.

Section 410.3 G.6 – Page 195 – Add the following section to the end of this section:

g. The turn-of-nut method for bolt tightening may be used when specified in the plans. When the turn-of-nut installation method is specified, hardened washers are not required except as specified in Section 410.3 G.6.d.

A sufficient number of bolts shall first be placed in the joint and snugged to insure that all faying surfaces are in firm contact, prior to tightening. Snug tight is defined as the tightness attained by a few impacts of an impact wrench or the full effort of a man using an ordinary wrench. Bolts shall be placed in any remaining holes and snugged tight as erection bolts or pins are removed. All bolts in the joint shall then be tightened the amount shown in Table 2 progressing systematically from the center most rigid part of the joint to its free edges. When tightening, the element not turned shall be held with a hand wrench to prevent rotation.

Table 2 Nut Rotation from Snugged Condition[a,b]			
	Geometry of Outer Faces of Bolted Parts		
Bolt Length Measured From Underside of Head to End of Bolt	Both Faces Normal to Bolt Axis	One Face Normal to Bolt Axis and Other Face Sloped Not More Than 1:20, Bevel	Both Faces Sloped Not More Than 1:20 From Normal to Bolt Axis, Bevel Washers Not

		Washer Not Used	Used
Up to and including 4 diameters	1/3 turn	1/2 turn	2/3 turn
Over 4 diameters but not exceeding 8 diameters	1/2 turn	2/3 turn	5/6 turn
Over 8 diameters but not exceeding 12 diameters[c]	2/3 turn	5/6 turn	1 turn

[a] Nut rotation is relative to bolt, regardless of the element (nut or bolt) being turned. For bolts installed by 1/2 turn and less, the tolerance should be plus or minus 30 degrees; for bolts installed by 2/3 turn and more, the tolerance should be plus or minus 45 degrees.

[b] Applicable only to connections in which all material within grip of the bolt is steel.

[c] No research work has been performed by the Research Council Riveted and Bolted Structural Joints to establish the turn-of-nut procedure when bolt lengths exceed 12 diameters. Therefore, the required rotation must be determined by actual tests in a suitable tension device simulating the actual conditions.

Section 421.3 A – Page 213 – Delete the second sentence of the second paragraph and replace with the following:

Backfill shall be compacted to 95% or greater of Maximum Dry Density in horizontal layers not to exceed six inches (150 mm) loose depth.

Section 423.1 – Page 219 – Delete this section and replace with the following:

423.1 DESCRIPTION

This work consists of the design, construction, and subsequent removal of all temporary works including, but not limited to; falsework, formwork, cofferdams, work berms and platforms, temporary traffic and stream diversions, and temporary retaining structures.

Section 421.2 A – Page 213 – Delete the sieve analysis specification for the No. 200 (75 μm) sieve and replace with the following:

No. 200 (75 μm) 0 - 18.0

Section 421.2 B – Page 213 – Delete the sieve analysis specification for the No. 200 (75 μm) sieve and replace with the following:

No. 200 (75 μm) 0 - 10.0

Section 421.3 – Page 213 – Add the following to this section:

D. Extruded Insulation Board (Polystyrene): No equipment will be allowed on the uncovered insulation board. The backfill covering the insulation board shall be spread and compacted in such a manner that the equipment used shall be operated on a minimum of 6 inches (150 mm) of backfill material at all times.

Section 421.4 – Page 214 – Add the following to this section:

C. Extruded Insulation Board (Polystyrene): Extruded insulation board (polystyrene) will be measured to the nearest square yard (square meter).

Section 421.5 – Page 214 – Add the following to this section:

C. Extruded Insulation Board (Polystyrene): Extruded insulation board (polystyrene) will be paid for at the contract unit price per square yard (square meter). Payment shall be full compensation for labor, equipment, and incidentals to furnish and install the extruded insulation board (polystyrene).

Section 423.3 A – Page 219 – Add the following to the end of this section:

All temporary works in streams or wetlands are required to be covered in the Corp of Engineers 404 Permit. At the time of the preconstruction meeting, the Contractor shall submit documentation for all temporary works for the purpose of complying with the 404 Permit requirements. The documentation shall include at a minimum:

1. A written description of the proposed temporary works including types of materials to be used, how the temporary works will be installed, removed, and what portion, if any, will remain in place after construction.

2. Details showing approximate size and location of the temporary works. Details shall include at a minimum, a Plan View and a Cross-Section View of the temporary works. Details shall provide sufficient dimensions such that the approximate size of the temporary works and location of the temporary works from a known point is shown.

3. Estimated quantities of all temporary fill material below the ordinary high water elevation. If the temporary fill is to be placed in a wetland, the estimated quantity shall be the amount of wetland loss, (in acres).

If during the course of construction there is a need for additional temporary works, the documentation shall be submitted to the Engineer at that time.

The Engineer will submit the documentation to the Corp of Engineers for approval. No construction of temporary works below the ordinary high water mark or in wetlands may begin until Corp of Engineer approval is attained by the Engineer.

Section 423.3 B – Page 219 – Delete the first sentence and replace with the following two sentences:

Falsework plans and design calculations for bridges shall be prepared by an Engineer registered in the State of South Dakota. Three (3) copies of the falsework plans and design calculations shall be submitted to the Bridge Construction Engineer for review at least 30 days prior to construction of falsework.

Section 423.5 – Page 221 – Delete this section and replace with the following:

423.5 BASIS OF PAYMENT

No payment will be made for temporary works. All costs involved in designing, constructing, and removing temporary works shall be incidental to the other contract items.

Section 430.2 A. – Page 223 – Delete the last sentence of the second paragraph and replace with the following:

The percentage of material passing a No. 200 (75μm) sieve shall not exceed 2.0 percent.

Section 430.2 B – Page 223 – Delete this section and replace with the following:

B. Granular Bridge End Backfill: The granular bridge end backfill material shall conform to Section 882.

Section 430.3 C – Page 225 – Delete the second and third paragraphs and replace with the following:

Granular bridge end backfill shall not be placed until at least 24 hours after completion of the deck pour. In addition, granular bridge end backfill shall not be placed until the abutments and sills, including wingwalls, have attained full design strength.

Granular bridge end backfill shall be placed in loose lifts not to exceed eight inches (200 mm) and compacted to 97% of maximum dry density. The moisture at the time of compaction shall be within ± 4% of optimum moisture. Maximum dry density and optimum moisture will be determined in accordance with SD 104.

Section 430.3 C.1 through 6 – Page 225 and 226 – Delete and replace with the following:

1. Each layer of granular bridge end backfill shall be placed in loose lifts not to exceed eight inches (200 mm). The placement and compaction of each layer must be inspected and approved by the Engineer prior to placement of the next layer.

2. Any equipment used to install the bridge end backfill over the geotextile fabric shall be operated in such a manner that the geotextile fabric is not damaged. To avoid damage to the geotextile fabric, the equipment used to place, spread, and compact the granular bridge end backfill over the geotextile fabric shall not be operated on less than six inches (150 mm) of material.

3. The geotextile fabric may be oriented in any direction. To minimize the horizontal deflection of the mechanically stabilized vertical face, it is extremely important to make sure that the geotextile fabric is taut and free of wrinkles during placement of the granular bridge end backfill.

4. Any geotextile fabric that is torn or punctured shall be repaired or replaced by the Contractor at no additional cost to the Department. The repair shall consist of a patch of the same type of geotextile fabric being placed over the ruptured area such that it overlaps the damaged area a minimum of 3 ft. (1 m) from any damaged edge. A sewn patch meeting the same requirements for seam strength as that of the fabric being repaired is allowed.

5. Seams that are perpendicular to face of the mechanically stabilized backfill may be constructed by overlapping the fabric a minimum of two feet (0.6 m). All other seams, as well as those in which the two foot (0.6 m) minimum overlap cannot be accomplished, shall be sewn. All seams shall be inspected by the Engineer and any deficient seams repaired by the Contractor prior to placement of the next layer of granular bridge end backfill. Geotextile fabric that is joined by sewn seams shall have strength properties at the seam equal to the specified strength requirements of the geotextile fabric. High strength polyester, polypropylene, or kevlar thread shall be used for sewn seams. Nylon threads shall not be used. The edges of the fabric shall be even and shall be completely penetrated by the stitch.

6. During periods of shipment and storage, the geotextile fabric shall be enclosed in a heavy duty opaque wrapping such that the fabric is protected from direct sunlight, ultraviolet rays, dirt or debris. The fabric shall not be subjected to temperatures greater than 140°F (60°C).

Section 430.5 B – Page 227 – Delete the second sentence and replace with the following:

Payment will be full compensation for all labor, equipment, materials, water, and all other items incidental to scarifying, reshaping and recompacting the area to be backfilled, furnishing and installing the polyethylene sheeting, drainage fabric, geotextile fabric, and furnishing, placing, and compacting the porous backfill and granular bridge end backfill to the limits shown on the plans.

Section 450.2 – Page 231 – Add the following to this section:

F. **High Density Polyethylene Pipe:** Section 990.

Section 450.3 C – Page 231 – Delete and replace with the following:

C. **Polyethylene Pipe Culverts:** Corrugated polyethylene pipe culverts and high density polyethylene pipe culverts shall be installed according to manufacturer instructions.

Section 450.3 G – Page 232 – Delete and replace with the following:

G. **Backfill Above Bedding Grade:** Moisture and density requirements for backfill shall be as specified in the plans and shall meet the requirements of Section 120. The backfill material shall be pre-moistened if necessary to obtain uniform moisture.

Selected embankment material shall be placed along the pipe in layers not exceeding six inches (150 mm) in depth and thoroughly compacted by mechanical compactors to the specified density before successive layers are placed. The width of the berms on each side of the pipe shall be twice as wide as the external diameter of the pipe or 12 feet (four meters), whichever is less. This method of backfilling shall be continued until the embankment is at least two feet (600 mm) over the top of the pipe.

In trench installations, backfill width shall be equal to trench width. The backfill shall be brought up evenly on both sides of the pipe for its full length. This method of backfilling shall be continued until the embankment is at least two feet (600 mm) over the top of the pipe.

Section 460.3 A – Page 235 – Delete the first paragraph of this section and replace with the following:

Concrete Quality and Proportion: The Contractor shall design and be responsible for the performance of all concrete mixes used in structures.

All mix designs and any modifications thereto, including changes in admixtures, shall be approved by the Concrete Engineer prior to use. Mix design data and test results shall be recorded on a DOT-24 and submitted to the Engineer.

The mix proportioning selected shall conform to the following requirements:

Section 460.3 A – Page 236 – Delete the second sentence in Note 1 under Table 1.

Section 460.3 A – Page 235 – Delete the second sentence of the first paragraph on page 236 and replace with the following:

The mix design shall be based upon obtaining an average concrete compressive strength 1200 psi above the specified minimum 28 day compressive strength.

Section 460.3 A – Page 235 – Delete the last sentence of the second paragraph on page 236 and replace with the following:

Trial batches shall be conducted in accordance with the American Concrete Institute Publication ACI 211.1, ACI 318, ASTM C192 and the following:

Section 460.3 A – Page 235 – Delete the first paragraph on page 237 and replace with the following:

Concrete mix designs previously used will be considered in compliance with the mix design requirements provided all of the following conditions are met:

Section 460.3 A – Page 235 – Delete the second sentence of item 3 on page 237 and replace with the following:

These test results and associated batch tickets shall be submitted to the Engineer.

Section 460.3 A – Page 235 – Add the following to the list of items on page 237:

4. All supporting information for the mix design including but not limited to, fresh concrete tests and material properties.

Section 460.3 A – Page 235 – Delete the last two paragraphs of this section on page 237:

Section 460.3 B.2 – Page 237 – Delete the last paragraph of this section on page 238 and replace with the following:

If the average compressive strength of the 28 day and the backup cylinder compressive strength is more than 500 psi (3.5 Mpa) below the specified 28 day compressive strength, the concrete represented by the cylinders shall be removed and replaced.

Section 460.3 B.3 – Page 238 – Delete the last paragraph of this section and replace with the following:

If the average core compressive strength is more than 500 psi (3.5 Mpa) below the specified 28 day compressive strength, the concrete represented by the cylinders shall be removed and replaced.

Section 460.3 B.4 – Page 238 – Delete the last paragraph of this section on page 239 and replace with the following:

If the average core compressive strength is more than 500 psi (3.5 Mpa) below the specified 28 day compressive strength, the concrete represented by the cylinders shall be removed and replaced.

Section 460.3 B.5 – Page 239 – Delete the first sentence and replace with the following:

If the Contractor utilizes the option to core as specified in Section 460.3 B.4, the Contractor shall arrange for an independent testing laboratory to perform the coring and compressive testing within 14 calendar days of notification of the failing compressive strength of the backup cylinder.

Section 460.3 B.5 – Page 239 – Delete the last sentence of the second paragraph.

Section 460.3 B.5.a – Page 239 – Delete this section and replace with the following.

a. Include DOT project number, county, & PCN.

Section 460.3 C.1 – Page 240 – Add the following to the list of items to be included on the printed ticket on page 241:

W/C ratio

Aggregate Moistures (total moisture & absorption)

Section 460.3 C.1 – Page 240 – Add the following after the last paragraph of this section on page 241:

The W/C ratio shall be calculated using the following formula and rounded to the nearest 0.01:

$$\text{W / C ratio} = \left[\frac{\text{weight of free water} + \text{weight of batch water}}{\text{weight of cement} + \text{weight of supplimentary cementitious material}} \right]$$

weight of free water = (% total moisture in aggregate - % absorption of aggregate) x weight of aggregate
weight of batch water = total weight of water added to the batch of concrete either at the plant or in the truck

The weight of free water shall be calculated for both the fine aggregate and the coarse aggregate.

Section 460.3 D – Page 242 – Add the following to this section:

6. The amount of batch water and aggregates added to the mix shall be adjusted accordingly using the results of the most recent two hour moisture tests. If automatic moisture sensing equipment is used, the Engineer may allow the use of the automatic moisture sensing results to make adjustments.

Section 460.3 E – Page 243 – Delete the third paragraph and replace with the following:

When a concrete batch is transported in a truck mixer or agitator and the batch is smaller than 60 percent of the rated capacity of the truck mixer or agitator, the following percentage of additional cementitious material at the same proportions as listed on the mix design shall be added to the batch:

Section 460.3 E – Page 243 – Delete the paragraph below the table on the middle of page 243 and replace with the following:

The above provisions regarding additional cementitious material shall also apply to the mixing of small batches in central plants. Additional cementitious material will not be required when the small batch is mixed in a drum that is sufficiently coated with mortar to withstand the loss of cementitious material. Sufficient mortar coating, as determined by the Engineer, may include mortar coating the drum from a previously mixed batch during continuous mixing operations. Additional cementitious material will be required if more than 30 minutes has passed from the mixing of the previous batch, if the drum has been cleaned following the previous batch, or if the mortar coating the drum has been disturbed following the previous batch.

Section 460.3 K.1 – Page 247 – Delete and replace with the following:

1. The coarse aggregate piles must be flushed with water for a minimum of 24 hours.

Section 460.3 K – Page 248 – Delete the twelfth paragraph and replace with the following:

Barrier curbs will not be allowed to be placed with slipform paving equipment.

Section 460.3 M.4.c – Page 251 – Delete the second sentence of the first paragraph and replace with the following:

Tining depth and spacing shall be measured according to SD 418. The metal-tine finish shall provide a groove width of 1/8" and a groove depth of 6/32 inch (5 mm) ±2/32 inch (3 mm).

Section 465.2 A.3 – Page 265 – Add the following sentence to the end of the paragraph:

Slump loss shall be tested in accordance with SD 423.

Section 465.2 A.6 – Page 265 – Delete this section and replace with the following:

6. The mix design shall establish a maximum water cementitious material ratio for the concrete mix (never to exceed 0.44)

The use of a water reducer will be required to achieve the above properties. Water reducers conforming to AASHTO M194 Type C (Accelerating) and Type E (Water-Reducing and Accelerating) will not be permitted.

Section 480.3 C.1 – Page 280 – Delete the fifth paragraph and replace with the following:

Welding of reinforcing steel shall not be allowed without written approval of the Bridge Construction Engineer. The request for approval shall list the bars to be welded, welding procedure, type of electrode, joint detail, and mill certificate of the reinforcing steel to be welded.

Section 480.4 – Page 281 and 282 – Delete the English and Metric Bar Designation tables and replace with the following:

Bar Designation

Size (English)	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10	No. 11	No. 14	No. 18
Weight (lb/ft)	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.303	5.313	7.65	13.60
Size (Metric)	10	13	16	19	22	25	29	32	36	43	57
Weight (kg/m)	0.560	0.994	1.552	2.235	3.042	3.973	5.060	6.404	7.907	11.38	20.24

Section 550.3 A.2 – Page 303 – Delete the second sentence of the last paragraph and replace with the following:

When backfilling extra depth holes in accordance with Section 550.3 C.1.f.2, a grout admixture shall be added to the grout mixture in accordance with the manufacturer's recommendations.

Section 550.3 C.1.b – Page 305 – Delete the third sentence of the first paragraph and replace with the following:

After completion of the Type 1A removal, the Engineer will inspect the deck and mark remaining areas of unsound existing overlay.

Section 550.3 C.1.c – Page 306 – Delete and replace with the following:

c. Type 1B Removal areas will be determined after Type 1A Removal (or Type 2A Removal if specified) has been accomplished. Type 1B Removal shall consist of removing delaminated or unsound concrete by chipping below the Type 1A Removal (or Type 2A Removal if specified) and extending down to the top of the top bar in the top mat of reinforcing steel. Concrete removed below the top of the top bar incidental to Type 1B Removal will be considered a part of the Type 1B Removal.

Section 550.3 C.1.f.2 – Page 306 – Delete the first sentence and replace with the following:

Backfill of Extra Depth Holes: When Type 1D removal is necessary, or when holes deeper than 4" (100mm) below the top of the scarified surface are encountered, they shall be backfilled as follows:

Section 550.3 D.2 – Page 309 – Delete the fourth paragraph and replace with the following:

Concrete placement will not be permitted after October 1 or before May 1 or when the air temperature is above 85°F (29°C) in the shade. It may be necessary to place concrete during evening or early morning hours and not during periods of low humidity and high wind to comply with this requirement.

Section 550.3 E – Page 310 – Delete and replace with the following:

E. Proportioning and Mixing Concrete Materials: Proportioning and mixing shall conform to Section 460.3 F.

Section 560.2 A – Page 317 – Add the following:

6. Cement: Section 750. Type II cement shall be used, unless otherwise specified.

Section 560.3 A – Page 317 – Add the following paragraph after the first paragraph:

Precast concrete drop inlets shall conform to the requirements of Section 670.

Section 560.3 A.1 – Page 317 – Delete and replace with the following:

1. **Fabrication:** The Fabricator shall notify the Area Engineer prior to the fabrication of precast and prestressed concrete items.

Section 560.3 A.2 – Page 317 – Delete the last sentence of the first paragraph and replace with the following:

When a plant has been in operation and satisfactorily producing material, the Contractor will not be required to submit a concrete mix design for precast concrete, unless changes have been made to the pre-approved mix design or the material used in the mix design. Concrete mix designs shall be submitted for each project on all prestressed concrete products.

Section 560.3 B.1 – Page 319 – Delete the second sentence of the fifth paragraph and replace with the following:

A checked design includes the design calculations and check design calculations performed by an independent Engineer registered in the State of South Dakota.

Section 560.3 B.2.b – Page 321 – Delete the second paragraph and replace with the following:

Acceptance of the precast units shall be in accordance with Section 460.3 B except that the fabricator shall be responsible for the sampling, preparing, and properly curing of all concrete cylinders for concrete compressive strength in accordance with the Materials Manual. The precast units will be accepted when the minimum design concrete compressive strength requirements have been met. Accepted precast units represented by that test group of cylinders may be delivered to the project and will not require the 28 day cylinder test.

Section 600.2 A.17 – Page 333 – Add the following sentence at the end of the paragraph:

The concrete pad must be securely mounted and solidly supported under the laboratory to minimize vibration while operating the Marshall compactor.

Section 600.3 – Page 336 – Delete the fourth and fifth sentence and replace with the following:

On projects that a Type III lab is required, the Engineer may allow a Type I or II lab to be supplied until such a time the Engineer determines the Type III lab is required. If the Engineer allows a temporary Type I or II lab to be furnished, no additional payment for that lab will be made.

Section 605.3 C – Page 339 – Delete the third sentence of the first paragraph and replace with the following:

If fly ash is used, the minimum amount of cement to be replaced is 15 percent and the maximum amount is 20 percent at a 1:1 ratio by weight.

Section 630.4 A – Page 355 – Delete this section and replace with the following:

A. **Beam Guardrail:** Each class and type will be measured to the nearest 0.1 foot (0.1 meter) along the centerline of the rail. The length in feet (meters) shall be the overall length center to center of end posts or to connections with bridges.

Section 630.4 C – Page 355 – Delete this section and replace with the following:

C. **Remove Beam Guardrail:** Remove Beam Guardrail will be measured to the nearest 0.1 foot (0.1 meter) along the centerline of the rail.

Section 630.5 A – Page 355 – Delete this section and replace with the following:

A. **Beam Guardrail:** Beam guardrail will be paid for at the contract unit price per 0.1 foot (0.1 meter) for each class and type installed. Payment will be full compensation for labor, materials, equipment, and incidentals required.

Section 630.5 C – Page 356 – Delete this section and replace with the following:

C. **Remove Beam Guardrail:** Remove Beam Guardrail will be paid for at the contract unit price per 0.1 foot (0.1 meter). Payment will be full compensation for the backfill of holes and the removal of the guardrail including end terminals, beam guardrail, posts, blocks, and hardware from the project limits.

Section 632.3 H.2.c – Page 361 – Delete and replace with the following:

c. Anchor bolts shall be provided with leveling nuts, top nuts, and jam nuts. Anchor bolts shall be tightened in accordance with Section 635.3 F.

Section 633.3 D – Page 368 – In the grooving tolerance tables, replace "Depth of Groove" with the following:

	(English)	
Depth of Groove	80 mils	+ 10 mils
	(Metric)	
Depth of Groove	2.032 mm	+ 0.25 mm

Section 634.3 A – Page 372 – Delete the first sentence of the fourth paragraph and replace with the following:

All workers within the right of way who are exposed either to traffic (vehicles using the highway for purposes of travel) or to construction equipment within the work area shall wear high-visibility safety apparel intended to provide conspicuity during both daytime and nighttime usage, and meeting the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled "American National Standard for High-Visibility Safety Apparel and Headwear".

Section 634.3 A – Page 372 – Delete the first sentence of the fifth paragraph.

Section 634.3 C – Page 374 – Add the following paragraph after the first paragraph:

For 2 lane roadways with average daily traffic volumes of 2500 or less, no passing zones may be identified using DO NOT PASS, PASS WITH CARE, and NO PASSING ZONE signs rather than pavement markings. The DO NOT PASS and NO PASSING ZONE signs shall be used to mark the beginning of each no passing zone, and the PASS WITH CARE signs to mark the end of each zone. These may be utilized in place of the pavement markings normally used to identify no passing zones for no longer than 2 weeks. The placement of the dashed centerline marking and these signs shall be required prior to nightfall.

Section 635.3 C.3 – Page 380 – Add the following sentence at the end of the first paragraph:

The contractor shall not use a machine requiring flowing water for installation of conduit under streets or roadways unless approved by the Engineer.

Section 635.3 F – Page 381 – Delete and replace with the following:

F. Anchor Bolts: Anchor bolts shall be installed in accordance with the following requirements.

1. General: Anchor bolts shall be provided with leveling nuts and top nuts. Anchor bolts for light towers shall be provided with leveling nuts, top nuts, and jam nuts.

2. Anchor Bolt Installation: A steel template shall be used to accurately locate and hold the anchor bolts plumb and in proper alignment. This template shall be in place during placement of the concrete base and shall remain in place a minimum of 24 hours after the concrete placement has been completed. Out of position anchor bolts and anchor bolts greater than 1:40 out-of-plumb are cause for rejection of the base. Bending of the anchor bolts to straighten or move into position, or alterations of the pole base plate will not be permitted.

3. Anchor Bolt Tightening:

a. All leveling nuts (bottom nuts) shall be brought to full bearing on the bottom of the base plate. The bottom of the leveling nuts must be kept as close to the concrete base as practical, and shall not be more than one inch above the top of the concrete base. Leveling nuts must be threaded onto the anchor bolt to provide at least ¼ inch (6 mm) projection of the bolt above the top nut or jam nut if required when in its tightened position.

b. A softened beeswax or equivalent shall be applied to the top nut bearing face and top nut internal threads prior to placement on the anchor bolt. All top nuts shall be tightened to a snug tight condition. Snug tight

is defined as the tightness attained by the full effort of a person using a wrench with a length equal to 14 times the diameter of the anchor bolt, except the minimum length shall be 18 inches. The use of adjustable wrenches will not be allowed. The full effort required to achieve a snug tight condition, shall be applied as close to the end of the wrench as possible. Pull firmly by leaning back and using full body weight (brace feet to prevent slipping) on the end of the wrench until the nut stops rotating. This snug tightening shall be accomplished in a minimum of two separate passes of tightening. The sequence of tightening in each pass shall be such that the opposite side nut, to the extent possible, shall be subsequently tightened until all the nuts in that pass have been snugged.

Snug tightness of both the top and leveling nuts shall be checked in the presence of Department personnel after the Contractor has completed nut snugging as described above, but prior to final tightening. Snug tightness of the nuts (top and leveling) shall be checked by applying a torque in a range from 20% to 30% of the verification torque. See Table 1 for verification and snug tight torque values.

Table 1

Anchor Bolt Tightening

Anchor Bolt Diameter (in)	Anchor Bolt Stress Area (sq in)	Yield Strength (ksi)	Minimum Tensile Strength (ksi)	Verification Torque (ft-lbs)	30% Snug Tight Torque (ft-lbs)	20% Snug Tight Torque (ft-lbs)
1.00	0.61	36.0	58.0	177	53	35
1.25	0.97	36.0	58.0	351	105	70
1.50	1.41	36.0	58.0	613	184	123
1.75	1.90	36.0	58.0	964	289	193
2.00	2.50	36.0	58.0	1449	435	290
2.25	3.25	36.0	58.0	2120	636	424
2.50	4.00	36.0	58.0	2899	870	580
2.75	4.93	36.0	58.0	3930	1179	786
3.00	5.97	36.0	58.0	5192	1558	1038
1.00	0.61	55.0	75.0	274	82	55
1.25	0.97	55.0	75.0	545	163	109
1.50	1.41	55.0	75.0	951	285	190
1.75	1.90	55.0	75.0	1496	449	299
2.00	2.50	55.0	75.0	2249	675	450
2.25	3.25	55.0	75.0	3289	987	658
2.50	4.00	55.0	75.0	4498	1349	900
2.75	4.93	55.0	75.0	6098	1830	1220
3.00	5.97	55.0	75.0	8056	2417	1611
1.00	0.61	75.0	100.0	366	110	73
1.25	0.97	75.0	100.0	726	218	145
1.50	1.41	75.0	100.0	1268	381	254
1.75	1.90	75.0	100.0	1994	598	399
2.00	2.50	75.0	100.0	2999	900	600
2.25	3.25	75.0	100.0	4386	1316	877
2.50	4.00	75.0	100.0	5998	1799	1200
2.75	4.93	75.0	100.0	8131	2439	1626
3.00	5.97	75.0	100.0	10742	3223	2148
1.00	0.61	105.0	125.0	457	137	91
1.25	0.97	105.0	125.0	908	272	182
1.50	1.41	105.0	125.0	1586	476	317
1.75	1.90	105.0	125.0	2493	748	499
2.00	2.50	105.0	125.0	3749	1125	750
2.25	3.25	105.0	125.0	5482	1645	1096
2.50	4.00	105.0	125.0	7497	2249	1499
2.75	4.93	105.0	125.0	10164	3049	2033

3.00	5.97	105.0	125.0	13427	4028	2685

c. At this point, the top nut and leveling nut must be in full bearing on the base plate. If any gap exists between either nut (top or leveling) and the base plate, a beveled washer shall be added between the nut washer and the base plate to eliminate the gap. The beveled washer shall be stainless steel Type 304, the same diameter as the hardened washer, and beveled as required to eliminate the gap between the nut and the base plate. All nuts shall be retightened according to steps (a) and (b) above if beveled washers are added. All costs required to remove and re-erect the structure to install beveled stainless steel washers shall be at the Contractor's expense.

d. Using a hydraulic wrench rotate all top nuts as indicated in Table 2. The additional turn of the nuts shall be accomplished by tightening all the nuts in two separate passes of equal incremental turns (i.e., for 1/3 turn use 1/6 turn each pass). The sequence of nut tightening in each pass shall be such that the opposite side nut, to the extent possible, shall be subsequently tightened until all the nuts in that pass have been turned. There shall be no rotation of the leveling nut during top nut tightening.

In lieu of a hydraulic wrench, torque wrenches and multipliers may be used to achieve the desired nut rotations and tightness.

e. Tightness of the nuts shall be checked in the presence of Department personnel. Tightness of the nuts shall be checked within a minimum of 48 hours and a maximum of 96 hours after the nuts have been rotated as indicated in Section 635.3 F.3.d above. Tightness of the top nuts shall be checked by applying the verification torque to the nut. See Table 1 for verification torque.

Table 2

Nut Rotation for Turn-Of-Nut Pretensioning

Anchor Rod Diameter (in)*	Nut Rotation from Snug-Tight Condition a, b	
	F1554 Grade 36, A307	F1554 Grade 55 and 105, A449
< 1 ½	1/6 Turn	1/3 Turn
≥ 1 ½	1/12 Turn	1/6 Turn
a. Nut rotation is relative to anchor rod. The tolerance is plus 20 degrees b. Applicable only to double-nut-movement joints.		

Bottom leveling nuts shall be in contact with the base prior to applying the torque. An inability to achieve the verification torque indicates that the threads have stripped and the anchor bolt must be replaced. All costs for replacing anchor bolts shall be at the Contractor's expense.

f. Install jam nut after verification torque has been applied to top nut. Lubricate threads of jam nut with beeswax or equivalent and tighten to a torque of 100 ft-lb (approximated without the use of a torque wrench).

Section 635.3 H – Page 382 – Delete the first paragraph and replace with the following:

Traffic signal conductors shall be continuous from the controller cabinets to the pole bases. Splicing of conductors will not be allowed in the junction boxes.

Section 635.3 Q.3 – Page 384 – Delete and replace with the following:

3. Preformed Loops: Each set of loop wires shall be tagged to identify loop. If installation of the loop is for future use the loop wires in the same lane shall be taped together. If installation is on a signal project, tagging shall be done and wires connected in series.

In new roadways, the preformed loops and lead-in conduits shall be placed in the base course, with the top of the conduit flush with the top of the base, and then covered with hot mix asphalt or Portland cement concrete pavement. Preformed loops and lead-in conduits shall be protected from damage prior to and during pavement placement.

In new reinforced concrete structure decks, the preformed loops shall be secured to the top of the uppermost layer of reinforcing steel using nylon wire ties. The loop shall be held parallel to the structure deck by using PVC or polypropylene spacers where necessary. Conduit for lead-in conductors shall be placed below the upper mat of reinforcing steel.

In existing pavement, the preformed loops shall be placed in a saw slot, 1-1/4 inches minimum width, cut into the existing pavement. The top of the conduit shall be 2 inches, minimum, below the top of existing surface. Sawed Slots shall be filled with an approved loop sealant.

On asphalt or concrete resurfacing projects, the preformed loops shall be placed in a saw slot, 1-1/4 inches minimum width, cut into the existing pavement. The top of the conduit shall be 2 inches, minimum, below the top of existing surface after any required surface removal is completed and prior to the placing of the new surface. Sawed Slots shall be filled with an approved loop sealant.

Section 635.3 R.3 – Page 384 – Delete the first sentence in the first paragraph and replace with the following:

All circular red, red arrow, circular yellow, yellow arrow, circular green, green arrow, and pedestrian indications shall be light emitting diode (LED) signal modules.

Section 635.5 E – Page 386 – Delete and replace with the following:

D. Anchor Bolts: Cost for anchor bolts shall be included in the contract unit price for the concrete for which they are incorporated with.

Section 651.2 C – Page 391 – Delete the last sentence of this section and replace with the following:

Not more than 25.0 percent by weight shall pass a No. 200 (75µm) sieve.

Section 670.3 – Page 393 – Delete and replace with the following:

A. General Requirements: Concrete for drop inlets shall be proportioned, mixed, hauled, and placed in accordance with Section 462.

When the foundation for a drop inlet is in new embankment, the embankment shall be constructed to an elevation at least one foot (300 mm) above the footing before the foundation for the drop inlet is prepared. The foundation shall be compacted as specified for the adjacent embankment.

Castings shall be set in full mortar beds or secured as specified. Castings shall be set accurately to the correct elevation so subsequent adjustment will not be necessary.

Inlet and outlet pipe connections shall be of the same size and kind and shall meet the same requirements as the pipe they connect. Pipe sections shall be flush on the inside of the structure wall and project outside sufficiently for proper connection with the next pipe section. Masonry shall fit neatly and tightly around the pipe. Grouting of the pipe connection may be required as directed by the Engineer if voids exist after form removal.

Drop inlets shall be either cast in place or precast. Precast drop inlets shall be defined as those drop inlets cast outside of the project limits. Drop inlets cast within the project limits will be considered cast in place.

B. Cast in Place Drop Inlets: The foundation excavated for drop inlets shall be thoroughly moistened immediately prior to placing concrete.

Steel reinforcement shall be placed in accordance with Section 480.

The finished surface of the concrete shall present a neat and smooth appearance. Concrete shall be protected and cured in accordance with Section 460.3, except the minimum curing time shall be 72 hours.

Upon completion and curing of the unit, the sheeting, bracing, forms, and falsework shall be removed and the excavation backfilled. The unit shall not be backfilled until the completion of the 72 hour curing period, or until the concrete reaches a minimum compressive strength of 3000 psi (21 MPa). Backfill shall be placed in layers not

exceeding six inches (150 mm) thick and compacted to the same degree as specified for the adjacent embankment. Installations shall be finished completed and left in a neat appearing condition.

C. Precast Drop Inlets: Precast drop inlets shall conform to the following requirements:

1. **Notification:** The Contractor shall notify the Engineer 24 hours in advance of all concrete pours for inspection and observation of Contractor testing:

2. **Design:** Precast drop inlets shall conform to the configurations of the standard plates. Variations from the standard plates may be accepted provided the AASHTO materials, design, fabrication specifications, and the requirements of this section are complied with.

   Precast drop inlets shall be designed to specified load conditions. The Design Engineer of the drop inlets must be registered in the State of South Dakota. The design shall conform to the AASHTO design requirements for the depth of fill, including surfacing, etc., as well as live load or specified loading.

   The Contractor shall furnish a checked design with the shop drawings. A checked design shall include the design calculations, and check design calculations performed by an independent Engineer registered in the State of South Dakota.

3. **Shop Drawings:** Fifteen days prior to fabrication, the Contractor shall furnish shop drawings for Department review. The shop drawings shall consist of fabrication details including reinforcing steel and spacer placement and configurations, total quantities for the complete item, and all information for fabrication and erection.

4. **Forms:** The forms shall be designed to withstand the fluid pressure of the concrete and the added forces due to vibration and impact without distortion. The forms shall be mortar tight and free from warp.

   The form surface area in contact with the concrete shall be treated with an approved form oil or wax before the form is set in position. The forms shall be thoroughly cleaned of all other substances.

5. **Concrete Cure:** The concrete shall be cured by low pressure steam, radiant heat, or as specified in Section 460.3 N. When curing in accordance with Section 460.3 N., the concrete temperature requirements of Section 460.3 O. shall apply.

   Low pressure steam or radiant heat curing shall be done under an enclosure to contain the live steam or the heat and prevent heat and moisture loss. The concrete shall be allowed to attain initial set before application of the steam or heat. The initial application of the steam or heat shall be three hours after the final placement of concrete to allow the initial set to occur. When retarders are used, the waiting period before application of the steam or radiant heat shall be five hours. When the time of initial set is determined by ASTM C 403, the time limits described above may be waived.

   During the waiting period, the minimum temperature within the curing chamber shall not be less than 50° F (10° C) and live steam or radiant heat may be used to maintain the curing chamber between 50° F (10° C) and 80° F (27° C). During the waiting period the concrete shall be kept moist.

   Application of live steam shall not be directed on the concrete forms causing localized high temperatures. Radiant heat may be applied by pipes circulating steam, hot oil, hot water, or by electric heating elements. Moisture loss shall be minimized by covering exposed concrete surfaces with a plastic sheeting or by applying an approved liquid membrane curing compound to exposed concrete surfaces. The top surface of concrete members for use in composite construction shall be free of membrane curing compound residue unless suitable mechanical means for full bond development are provided.

   During the initial application of live steam or radiant heat, the concrete temperature shall increase at an average rate not exceeding 40° F (22° C) per hour until the curing temperature is reached. The maximum concrete temperature shall not exceed 160° F (71° C). The maximum temperature shall be held until the concrete has reached the desired strength. After discontinuing the steam or radiant heat application, the temperature of the concrete shall decrease at a rate not to exceed 40° F (22° C) per hour until the concrete temperature is within 20° F (11° C) of the ambient air temperature. The Contractor will not be required to monitor this cool down temperature when the ambient air temperature is 20° F (11° C) or above.

The test cylinders shall be cured with the unit, or in a similar manner (similar curing method and concrete curing temperature, as approved by the Concrete Engineer) as the unit, until minimum compressive strength has been obtained.

6. **Surface Finish and Patching:** If a precast or prestressed item shows stone pockets, honeycomb, delamination or other defects which may be detrimental to the structural capacity of the item, it will be subject to rejection at the discretion of the Engineer. Minor surface irregularities or cavities, which do not impair the service of the item, and which are satisfactorily repaired will not constitute cause for rejection. Repairs shall not be made until the Engineer has inspected the extent of the irregularities and has determined whether the item can be satisfactorily repaired. If the item is deemed to be repairable, the repair method and procedures shall be agreed upon by the Department and fabricator prior to the work commencing.

   Depressions resulting from the removal of metal ties or other causes shall be carefully poainted with a mortar of sand and cement in the proportions, which are similar to the specific class of concrete in the unit. A sack rub finish is required on prestressed beams except for the bottom of the bottom flange and the top of the top flange. A sack rub finish is also required on sloped surfaces of box culvert end sections.

7. **Fresh Concrete Testing:** The Contractor shall be responsible for performing all fresh concrete testing in accordance with the materials manualMaterials Manual. Tests shall be documented on a DOT-54 form and submitted to the Engineer.

8. **Concrete Compressive Strength:** The Contractor shall make a minimum of one group of test cylinders for each class of concrete for each day's production, not to exceed 150 cubic yard (125 cubic meters) per group of cylinders.

   At a minimum, a group of test cylinders shall consist of the following:

   a. Two test cylinders are required for the 28 day compression test.

   b. Two additional cylinders will be required for determining concrete strength, when the Contractor desires to make delivery and obtain acceptance by the Department prior to the 28 day compression test.

   Acceptance of the precast units shall be in accordance with Section 460.3 B. The precast units will be accepted when the minimum design concrete compressive strength requirements have been met. Accepted precast units represented by that test group of cylinders may be delivered to the project and will not require the 28 day cylinder test.

   The Engineer will be responsible for breaking of all concrete cylinders for concrete compressive strength in accordance with the Materials Manual.

Section 670.5 – Page 394 – Add the following paragraph after the first paragraph:

Unless otherwise specified in the plans the cost for removal of existing pipe, if necessary, to facilitate the installation of new drop inlets shall be incidental to the associated drop inlet contract unit prices.

Section 671.5 – Page 397 – Add the following paragraph to this section:

Unless otherwise specified in the plans the cost for removal of existing pipe, if necessary, to facilitate the installation of new manholes shall be incidental to the associated manhole contract unit prices.

Section 680.2 A – Page 399 – Delete the last sentence of the second paragraph and replace with the following:

The percentage of material passing a No. 200 (75μm) sieve shall not exceed 2.0 percent.

Section 720.4 – Page 405 – Delete this section and replace with the following:

A. Bank and Channel Protection Gabions: Bank and channel protection gabions will be measured to the nearest 0.1 cubic yard (0.1 cubic meter). If a substitution is made, the dimensions of the bank and channel protection installed shall be equal to or greater than the dimensions specified. Payment will be based on plans quantity, unless changes are ordered in writing by the Engineer.

B. Drainage Fabric: Drainage fabric will be measured to the nearest square yard (square meter). The lap at joints will not be included in the measurement.

Section 720.5 – Page 405 – Delete this section and replace with the following:

A. Bank and Channel Protection Gabions: Bank and channel protection gabions will be paid for at the contract unit price per cubic yard (cubic meter). Payment will be full compensation for materials, equipment, labor, excavating, shaping and incidentals required.

B. Drainage Fabric: Drainage fabric will be paid for at the contract unit price per square yard (square meter). Payment will be full compensation for furnishing and installing the drainage fabric as specified. Payment will be for plan quantity unless changes are ordered in writing.

Section 730.2 C – Page 407 – Delete the fourth sentence and replace with the following:

If the seed is not planted within the 9 month period, the Contractor shall have the seed retested for germination, as described above, and a new certified test report shall be furnished prior to starting seeding operations.

Section 734.3 – Page 423 – Add the following paragraph before the first paragraph:

The Contractor shall designate an employee as Erosion Control Supervisor whose responsibility is the construction and maintenance of erosion and sediment control. This person shall be available to be reached by phone 24 hours a day, 7 days a week, and must be able to respond to emergency situations at the job site within 12 hours. The person so designated must have training and be certified by the South Dakota Department of Transportation in the area of erosion and sediment control. The name, phone number, and location of the person shall be provided to the Department at the preconstruction meeting.

Section 734.3 B.2 – Page 424 – Delete the second sentence and replace with the following:

The muck will be removed when the surface of the muck is at approximately one-third the height of the silt fence.

Section 750 – Page 431 – Add the following after the second paragraph:

In addition to the certification requirement specified in SD 416, when limestone is used, the manufacturer shall state in writing the amount thereof, the percentage of Calcium Carbonate in the limestone, and shall supply comparative test data on chemical and physical properties of the cement with and without the limestone. The comparative tests do not supersede the normal testing to confirm that the cement meets chemical and physical requirements.

Section 800.2 D – Page 436 – Add the following sentence to the end of the fourth paragraph:

Fine aggregate with a 14 day expansion value of 0.400 or greater shall not be used.

Section 800.2 D – Page 436 – Add the following sentence to the end of the last paragraph:

The expansion value of the blended sources will be used to determine the type of cement required.

Section 800.2 F – Page 437 – Delete the last three sentences of the first paragraph and replace with the following:

If the fineness modulus falls outside this limit the Concrete Engineer shall be notified. A new or adjusted mix design may be provided or approved. The uniformity of grading requirements do not apply to fine aggregate for Low slump Dense Concrete and Class M (I) concrete.

Section 800.2 F – Page 437 – Delete the first sentence of the second paragraph and replace with the following:

For determining the FM deviation from the design mix FM, the average of the five most recent FM test shall be used.

Section 800.2 F – Page 437 – Delete the first sentence of the last paragraph and replace with the following:

Additionally for Portland Cement Concrete Paving conforming to Section 380; the FM of the fine aggregate, as established by the mix design, will be from 2.40 to 3.10 (wide band).

Section 810.1 B – Page 439 – Delete the sieve analysis specification for the No. 200 (75 µm) sieve and replace with the following:

No. 200 (75 µm)	- - -	0 to 25.0

Section 820.2 E – Page 443 – Delete SD 218 from the list and replace with the following:

SD 218 *

Section 820.2 E – Page 443 – Delete SD 216 from the list and replace with the following:

SD 216 *

Section 820.2 E – Page 443 – Add the following to the end of this section:

* Not required for crushed ledge rock (Quarry Stone).

Section 821.1 A – Page 444 – Delete and replace with the following:

A. Burlap Cloth made from Jute or Kenaf……AASHTO M 182

White non-woven polypropylene geotextile conforming to the following requirements may be used in lieu of burlap for horizontal applications only. This material is not to be used for curing vertical surfaces.

Property	Test Method	Unit	Min. Ave. Roll Value
Weight	ASTM D 5261	Oz/Sq. Yd.	8.0

Section 821.1 B – Page 444 – Add the following sentence to this Section:

The compound shall be stored at temperatures above 35º F (2º C). Compound stored for a period in excess of six months will require resampling and testing for compliance prior to use.

Section 821.1 D.2 – Page 444 – Delete the second sentence and replace with the following:

Compound stored for a period in excess of six months will require resampling and testing for compliance prior to use.

Section 870.1 A – Page 452 – Delete this section and replace with the following:

A. Hot Poured Elastic Joint Sealer: The sealant shall conform to the requirements of ASTM D 6690 Type II or Type IV or be on the Departments approved products list for Joint Sealants for Asphalt Over Long Jointed Concrete Pavement.

Hot poured elastic joint sealer meeting the requirements of ASTM D 6690 Type IV shall not weigh more than 9.35 lbs/gal (1.12 kg/L).

Test methods shall conform to ASTM D 5329, except the fine aggregate used in preparing the concrete test blocks shall conform to Section 800. The Contractor shall furnish a certificate of compliance for hot poured elastic joint sealer not listed on the approved products list.

Section 880.2 A – Page 455 – Delete this section and replace with the following:

A. Mineral Aggregate: The mineral aggregate job mix formula, without the addition of hydrated lime, shall conform to the requirements shown in Table 1. The single percentage aggregate gradation established in the job mix formula for Class D, E, and G asphalt concrete mixes shall be within the limits in Table 1. The single percentage aggregate gradation established in the job mix formula for Class S asphalt concrete mixes will be the center of the gradation band in Table 1. The Class S gradation will include mineral fillers or other approved additives.

TABLE 1

REQUIREMENTS	CLASS D		CLASS E		CLASS G		CLASS S	
	TYPE 1	TYPE 2	TYPE 1	TYPE 2	TYPE 1	TYPE 2	TYPE 1	TYPE 2
SIEVE	PERCENT PASSING							
1" (25.0 mm)	100		100		100			
3/4" (19.0 mm)	97-100	100	97-100	100	97-100	100		
½" (12.5 mm)	75-95	97-100	75-95	97-100	75-95	97-100	86-100	100
3/8" (9.50 mm)							66-80	80-100
No. 4 (4.75 mm)	45-75	60-80	45-75	60-80	45-75	60-80	24-34	24-45
No. 8 (2.36 mm)	30-55	40-60	30-55	40-60	30-55	40-60	10-20	10-22
No. 16 (1.18 mm)	20-45	25-50	20-45	25-50	20-45	25-50		
No. 40 (425 µm)	10-30	15-35	10-30	15-35	10-30	15-35		
No. 200 (75 µm)	3.0-7.0	4.0-8.0	3.0-7.0	4.0-8.0	3.0-7.0	4.0-8.0	4.0-8.0	2.0-5.0
Processing Required	Crushed		Crushed		Crushed		Crushed	
Liquid Limit (max)	25		25		25		25	
Plasticity Index, (max)	3		Non-Plastic		Non-Plastic		Non-Plastic	
L.A. Abra. Loss, (max)	45%		40%		35%		40%	
Sodium Sulfate (Soundness) (Max.)								
+4 (4.75 mm) sieve	15%		15%		12%		12%	
-4 (4.75 mm) sieve	15%		15%		12%		12%	
Lightweight Particles (Max.)								
+4 (4.75 mm) sieve	4.5%		3.0%		1.0%		1.0%	
-4 (4.75 mm) sieve	4.5%		3.0%		1.0%		1.0%	
Crushed Particles (Min.)								
+4 (4.75 mm) sieve	50% 1-FF		70% 2-FF		90% 2-FF		90% 2-FF	
* - 4 Manufactured Fines	NA		20% Min.		70% Min.		95% Min.	

* - Manufactured fines shall be manufactured solely from material retained on the ¾ inch (19mm) sieve, unless the aggregate material is produced from a ledge rock source.

Section 880.2 B.1 – Page 456 – Delete the second sentence and replace with the following:

The material shall be fine enough that when pulverized for testing, 90 percent by dry weight will pass a No. 40 (425 µm) sieve and 60.0 percent by dry weight will pass a No. 200 (75µm) sieve.

Section 880.2 B.2 – Page 456 – Delete the sieve analysis specification for the No. 200 (75 µm) sieve and replace with the following:

Passing a No. 200 (75 µm) sieve 65.0-100%

Section 882.2 – Page 459 – Delete Table 1 and replace with the following:

Table 1

REQUIREMENT	Subbase	Gravel Cushion	Granular Bridge End Backfill	Aggregate Base Course	Limestone Ledge Rock		Gravel Surfacing
					Base Course	Gravel Cushion	
SIEVE	PERCENT PASSING						
2" (50 mm)	100						
1" (25.0 mm)	70-100		100	100	100		
3/4" (19.0 mm)		100	80-100	80-100	80-100	100	100
½" (12.5 mm)			68-91	68-91	68-90		
No. 4 (4.75 mm)	30-70	50-75	42-70	46-70	42-70	46-70	50-78
No. 8 (2.36 mm)	22-62	38-64	29-58	34-58	29-53	29-53	37-67
No. 40 (425 µm)	10-35	15-35	10-35	13-35	10-28	10-28	13-35
No. 200 (75 µm)	0.0-15.0	3.0-12.0	0.0-5.0	3.0-12.0	3.0-12.0	3.0-12.0	4.0-15.0
Liquid Limit Max		25	25	25	25	25	
Plasticity Index	0-6	0-6	0-6	0-6	0-3	0-3	4-12
L.A. Abra. Loss, max.	50	40	40	40	40	40	40
Foot Notes		2	1,2	1,2			
Processing Required	crushed	crushed	crushed	crushed	crushed	crushed	crushed

Section 890.2 G – Page 465 – In the table, under TESTS ON RESIDUE FROM DISTILLATION TESTS, add the following after Elastic Recovery @ 50ºF (10ºC):

(see Note 4)

Section 890.2 G – Page 465 – Add the following after Note 3:

Note 4: The Elastic Recovery test shall be in accordance with AASHTO T301, except that the residue will be obtained by distillation, not oven evaporation. The distillation temperature shall be as recommended by the emulsion manufacturer.

Section 972.2 B – Page 479 – Delete the second paragraph and replace with the following:

For bolts that are 1" (M24) (incl.) in diameter and less, the maximum hardness for AASHTO M164 (ASTM A325) bolts shall be 33 Rc.

Section 972.2 C – Page 483 – Add the following paragraph before the second to last paragraph:

Jam nuts shall conform to ASTM A563 Grade A.

Section 972.2 C – Page 483 – Delete the first sentence of the last paragraph and replace with the following:

Bolts and nuts shall be hot dipped galvanized in accordance with ASTM F2329 or mechanically galvanized in accordance with ASTM B695. Washers shall be hot dipped galvanized in accordance with ASTM F2329 or mechanically galvanized in accordance with ASTM B695.

Section 972.2 D – Page 484 – Delete the fourth note under the table as denoted by "**" and replace with the following:**

******** Anchor bolts conforming to ASTM F1554 Grade 55 (380) shall satisfy Supplemental Requirement S4. Anchor bolts conforming to ASTM F1554 Grade 105 (725) shall satisfy Supplemental Requirement S5.

Section 980.1 A.1 – Page 485 – Delete this section and replace with the following:

1. **Quantitative Requirements:** The finished paint shall meet the following quantitative requirements:

	WHITE	YELLOW
Lead, parts per million max. ASTM D 3335 or X-ray fluorescence	100	100
Pigment, percent by weight	60.0 - 62.5	58.5 – 61.0
Pigment, percent by weight; when tested in accordance with ASTM D 3723 (See Note 1)	60.0 - 62.5	56.1 - 58.6

Note 1: The residual extracted pigment upon analysis shall conform to the following quantitative compositional requirements when tested in accordance with ASTM D 1394 or ASTM D 4764.

Titanium Dioxide ASTM D 476 Type II Rutile 92% min. $Ti0_2$ tested in accordance with ASTM D 1394 or ASTM D 4764	1.00 lb/gal min.	0.20 lb/gal min.
Total Solids, percent by weight; min. when tested in accordance with ASTM D 3723	77.0	76.1
Non-volatile Vehicle, percent by weight vehicle; min. when tested in accordance with FTMS 141c (Method 4051.1)	42.5	42.5
Consistency. Krebs-Stormer Shearing rate 200 r.p.m. Grams	190 to 300	190 to 300
Equivalent K.U. when tested in accordance with ASTM D 562 (See Note 2)	80 to 95	80 to 95

Note 2: The consistency of the paint shall be within the stated specification when determined a minimum 48 hours after packaging the material.

Weight per Gallon, pounds minimum when tested in accordance with ASTM D 1475 (See Note 3)	Rohm & Haas Dow DT 250NA	13.85 13.75	13.30 13.20

Note 3: In addition to compliance with the minimum, the weight per gallon shall not vary more than ± 0.3 lbs / gal. between batches.

Fineness of Dispersion Hegman Scale, min. when tested in accordance with ASTM D 1210	2 min. "B" Cleanliness"	2 min B" Cleanliness
Drying Time, No Pick-Up, Minutes, max. when tested in accordance with ASTM D711, except the wet film thickness shall be 12.5 ± 0.5 mils. The applied film shall be immediately placed in a laboratory drying chamber maintaining the relative humidity of 65 ± 3%, the temperature 73.5 ± 3.5°F (23 ± 2°C), and air flow less than one foot (1') per minute.	12max.	12max.
Drying Time, Dry-through, Minutes	120max.	120max.

max. when tested in accordance with ASTM 1640, except the wet film thickness shall be 12.5 ± 0.5 mils. The applied film shall be immediately placed in a laboratory drying chamber maintaining the relative humidity at 90 ± 3%, and the temperature 23 ± 2°C. The pressure exerted will be the minimum needed to maintain contact between the thumb and film. A reference-control paint will be run in conjunction with the candidate paint. Rohm and Haas formulation will be referenced-control paint.

Note 4: If either the candidate or reference-control paint exceeds the 120 minute maximum, then the candidate paint shall not exceed the dry time of the reference-control paint by more than 15 minutes.

Field Drying Time, Track-Free, minutes max. 2 2
When applied under the following conditions, the line shall show no visual tracking when viewed from 50 feet after driving a passenger vehicle over the line at a speed of 25-35 mph:
Fifteen mils wet film thickness
Six lbs. of glass beads per gal. of paint
Paint temperature at nozzle between 70 to 120°F
Pavement dry, pavement temperature 50 to 120°F
Relative humidity of 85% maximum

Directional Reflectance, minimum. 85 50
when applied at a wet film thickness of 15 mils and when tested in accordance with ASTM E 1347 (Illuminate C 2°)

pH, minimum. 9.80 9.80
when tested in accordance with ASTM E70

Dry Opacity, Contrast ratio, min. 0.955 0.880
when applied at a wet film thickness of 6 to 7 mils and when tested in accordance with FTMS 141c (Method 4121 Illuminate C 2°)

Volatile Organic Content (VOC), max. 115 g/liter 115 g/liter
in accordance with ASTM D 3960

Flash Point, closed cup, min. 115°F 115°F

Color: The paint shall meet the color specification limits and luminance factors listed in Tables 1 & 2 when tested in accordance with ASTM E1347 or ASTM E1349. The paint shall not discolor in sunlight and shall maintain the colors and luminance factors throughout the life of the paint. No Bayferrox 3950, iron oxides or other color enhancers will be permitted to achieve the color chromaticity coordinates.

Table 1*

Color	Chromaticity Coordinates (corner points)								Min. Luminance Factor (Y %)
	X	Y	X	Y	X	Y	X	Y	
White	0.355	0.355	0.305	0.305	0.285	0.325	0.335	0.375	35
Yellow	0.560	0.440	0.490	0.510	0.420	0.440	0.460	0.400	25

* Daytime Color Specification Limits and Luminance Factors for Pavement Markings Material with CIE 2° Standard Observer and 45/0 (0/45) Geometry and CIE Standard Illuminant D65

Table 2**

Color	Chromaticity Coordinates (corner points)							
	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
White	0.480	0.410	0.430	0.380	0.405	0.405	0.455	0.435
Yellow	0.575	0.425	0.508	0.415	0.473	0.453	0.510	0.490

** Nighttime Color Specification Limits for Pavement Marking Retroreflective Material With CIE 2° Standard Observer, Observation Angle = 1.05°, Entrance Angle + 88.76° and CIE Standard Illuminant A.

Section 981.1 – Page 489 – Delete this section and replace with the following:

Glass beads for use with pavement marking paint shall be moisture resistant and shall meet the requirements of AASHTO M 247, Type I. The glass beads shall be without floatation properties. The glass beads shall have dual surface treatment consisting of a moisture resistant silicone treatment, and silane adherence surface treatment. The glass beads shall have a minimum of 80% true spheres. Roundness shall be tested in accordance with SD 510.

Section 983.1 – Page 499 – Delete the third sentence of the first paragraph:

Section 983.1 B – Page 499 – Delete this section in it's entirety.

Section 983.2 B – Page 500 – Delete this section in it's entirety.

Section 985.1 D – Page 506 – Delete the last two sentences of the first paragraph and replace with the following:

Vertical reinforcement shall be deformed unless otherwise noted and shall conform to the requirements of ASTM A 615/AASHTO M 31 Grade 60 (400). Circular ties, stirrups, and spiral reinforcing may be fabricated from deformed bars conforming to the requirements of ASTM A 615/AASHTO M31 Grade 60 (400). Spiral reinforcing may also be fabricated from cold drawn wire conforming to ASTM A 82 or hot rolled plain bars conforming to ASTM A 615/AASHTO M 31 Grade 60 (400).

Section 985.1 G.4 – Page 508 – Delete the first sentence and replace with the following:

Conductor insulation shall be colored in accordance with ICEA S-95-658, Method 1, Table K-2.

Section 985.1 G.5 – Page 508 – Delete the first sentence and replace with the following:

Jackets shall be polyvinyl chloride meeting UL requirements for Class 12 jackets and ICEA S-95-658, Section 4.

Section 985.1 I.1.b – Page 508-509 – Delete the last sentence in the paragraph:

Section 985.1 N – Page 514 – Delete the second sentence in the fifth paragraph and replace with the following:

The flash control circuit shall ensure that remote transfer to flashing from normal stop and go operations occurs during the end of the mainline green interval in the cycle.

Section 985.1 N.1 and 2 – Page 515 – Delete these two sections and replace with the following sentence:

The controller furnished shall meet current NEMA TS2 standards for controllers.

Section 985.1 Q.7 – Page 516 – Delete and replace with the following:

7. Backplates for Signal Heads: Unless otherwise stated on the plans, backplates may be either 0.050 inch (1.27 mm) thick aluminum or 0.125 inch (3.18 mm) thick polycarbonate. The polycarbonate backplates must be made up from no more than two pieces.

Section 990.1 – Page 517 – Add the following to this section:

G. High Density Polyethylene Pipe: High Density Polyethylene pipe, couplings, and fittings shall conform to the requirements of AASHTO M 294.

Section 990.1 A.2.a – Page 517 – Delete and replace with the following:

a. Portland cement shall conform to Section 750.

Section 990.1 A.2.h – Page 517 – Delete and replace with the following:

h. Flexible watertight gaskets shall conform to AASHTO M 198.

Section 990.1 A.3 – Page 517 – Delete and replace with the following:

3. **Concrete:** The concrete in special sections shall have a minimum compressive strength of 4000 psi (28 MPa). Special sections are those sections of concrete pipe not covered by the class requirement of AASHTO M 170, M 206, or M 207. The strength shall be determined by test cylinders or by cores.

Section 1010.1 A – Page 519 – Add the following to the end of the first paragraph:

Bar reinforcement shall be deformed, unless otherwise noted.

Section 1010.1 C – Page 519 – Delete the second paragraph and replace with the following:

Dowel bars for concrete pavements shall be epoxy coated and shall conform to AASHTO M 254 Type B except the film thickness shall be from 5 to 12 mils (0.13 to 0.30 mm) after cure. The steel cores shall be plain round bars conforming to AASHTO M 31 Grade 40 or 60, M 227 Grade 70 minimum, or M 255 Grade 75 minimum. The bars shall be the diameter shown in the plans, free from burring or other deformation restricting slippage in the concrete.

Section 1010.1 C – Page 519 – Add the following sentence after the first sentence of the third paragraph:

The cut ends do not have to be coated.

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STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
PRICE SCHEDULE FOR MISCELLANEOUS ITEMS

APRIL 1, 2009

The following unit bid prices have been established by the Transportation Commission. These prices will be pre-entered on the Bid Schedule sheets for each project or will establish a standard price to be used whenever no project contract unit price exists for that item.

Each unit price listed is considered full compensation for the cost of labor, material, and equipment to provide the item of work and/or material, complete in place, including (but not limited to) royalty, waste of unsuitable materials, equipment rental, overhead, profit, and incidentals.

Items specified in this document may be paid for on progressive estimates without the benefit of a prior approved Construction Change Order.

Use the equivalent metric unit prices that are listed in parenthesis below the item prices on metric projects.

Specification Section Number	Specification Section Name	Item Name	Price Per Item
5.8	Construction Stakes, Lines and Grades	Three-Man Survey Crew	$160.00/hour
7.7	Public Convenience and Safety	Water	$15.00/M.Gal ($3.96/cubic meter)
9.3	Payment for extra haul of Materials	Extra Haul	$0.15/ton mile ($0.10/mton kilometer)
120.5 A.4.	Roadway and Drainage Exc. & Emb.	Unclassified Excavation Digouts	$8.00/cu.yd. ($10.46/cubic meter)
120.5 G.	Roadway and Drainage Exc. & Emb.	Extra Haul	$0.05/cu.yd. station ($ 2.14/cubic meter station)

120.5 H	Roadway and Drainage Exc. & Emb.	Water for Embankment	$15.00/M.Gal ($3.96/cubic meter)
421.5	Undercutting Pipe & Plate Pipe	Undercutting Culverts	$12.00/cu. yd. ($15.69/cubic meter)
510.5 D.	Timber, Prestressed, and Steel Piles	Timber Pile Splice	$550.00/each
		Steel Pile Splices (* All Weights)	Splice made after one of the pieces has been driven.
		8 HP* (HP 200)	$220.00/each
		10 HP* (HP 250)	$300.00/each
		12 HP* (HP 300)	$360.00/each
		14 HP* (HP 350)	$420.00/each
			Splice made before either of the pieces has been driven.
		8 HP* (HP 200)	$105.00/each
		10 HP* (HP 250)	$125.00/each
		12 HP* (HP 300)	$140.00/each
		14 HP* (HP 350)	$160.00/each
510.5 E	Timber, Prestressed, and Steel Piles	Pile Shoes (Timber Pile)	$110.00/each
510.5.H	Timber, Prestressed, and Steel Piles	Pile Tip Reinforcement (Steel Pile)	
		10” (250mm) HP Tip Reinforced	$120.00/each
		12” (300 mm) HP Tip Reinforced	$140.00/each
		14” (350 mm) HP Tip Reinforced	$170.00/each
601.5	Haul Roads	Granular Material	$12.00/ton ($13.22/mton)

601.5	Haul Roads	Asphalt Concrete (including asphalt)	$80.00/ton ($88.18/mton)
601.5	Haul Roads	Cover Aggregate	$25.00/ton ($27.56/mton)
601.5	Haul Roads	Asphalt for Prime	$700.00/ton ($771.00/mton)
601.5	Haul Roads	Asphalt (Tack, Flush & Surface Treatment)	$450.00/ton ($496.00/mton)
601.5	Haul Roads	Water	$15.00/M.Gal ($3.96/cubic meter)
601.5	Haul Roads	Dust Control Chlorides	$0.35/lb ($.77/kg)
634.5	Traffic Control	Flagging	$22.16/hour
634.5	Traffic Control	Pilot Car	$37.77/hour

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