

INFORMATIONAL PROPOSAL

(For information only, not to be used for bidding)

NEBRASKA DEPARTMENT OF ROADS
LETTING DATE: December 15, 2016

CALL ORDER: 300
CONTROL NO. SEQ. NO.: M3003A 000

CONTRACT ID: M3003A
PROJECT NO.: M3003A

TENTATIVE START DATE: 08/21/2017

CONTRACT TIME: 40 Working Days

LOCATION: EXPANSION JOINT REPAIR SOUTH SIOUX CITY AND COLUMBUS AREA

IN COUNTIES: COLFAX, DAKOTA, THURSTON

BIDDER

GROUP 6 BRIDGE AT R.P. 182.05L
GROUP 6A BRIDGE AT R.P. 182.05R
GROUP 6B BRIDGE AT R.P. 11.22
GROUP 6C BRIDGE AT R.P. 397.31
GROUP 6D BRIDGE AT R.P. 397.69
GROUP 10 GENERAL

SEE SPECIAL PROVISIONS FOR GROUP TIES

NOTES

THE TOTAL AMOUNT OR WORK WHICH WILL BE ACCEPTED IN
THIS LETTING IS LIMITED TO \$_____.

THE NUMBER OF GROUP _____ CONTRACTS WHICH WILL BE
ACCEPTED IN THIS LETTING IS LIMITED TO _____.

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.

LETTING QUESTIONS

Prior to the letting, any questions pertaining to the Special Provisions or the Plans for this project should be submitted to NDOR in a written format through the Bid Express (BidX) website at <https://www.bidx.com/ne/lettings>. Likewise, NDOR will post answers exclusively to the BidX website. All official answers will be identified as “Authorized by NDOR.” **Questions will not be answered verbally.**

STATE OF NEBRASKA
DEPARTMENT OF ROADS

Required Provisions Supplemental to the

Standard Specifications for Highway Construction

I. Application

These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

The contractor shall insert in each of his subcontracts all of the stipulations contained in the Special Provisions and these Required Provisions.

A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

II. Equal Opportunity

1. **Selection of Labor**

During the performance of this contract, the contractor shall not discriminate against labor from any other state.

2. **Nebraska Fair Employment Practices Act**

The contractor shall not discriminate against any employee or applicant for employment, to be employed in the performance of this contract with respect to his hire, tenure, terms, conditions, or privileges of employment, because of his race, color, religion, sex or national origin. The contractor agrees to post in a conspicuous place or places a notice to be provided by the State Highway Department which sets forth excerpts of the Act.

3. **Nebraska Equal Pay Act**

The contractor shall not discriminate on the basis of sex by paying wages to employees of one sex at a lesser rate than the rate paid to employees of the opposite sex for comparable work on jobs which have comparable requirements. An abstract of the Act is included on the notice which is provided by the State Highway Department.

April 4, 1995

III. Employment of Labor

1. General

No person under the age of sixteen (16) years, and no one whose age or physical condition is such as to make his employment dangerous to his health or safety, or to the health and safety of others shall be employed on any project. This paragraph shall not be construed to deny the employment of older people or physically handicapped persons, otherwise employable, where such persons may be safely assigned to work which they can ably perform.

No person currently serving sentence to a penal or correction institution shall be employed on any project.

Except as specifically provided under this section, workers who are qualified by training or experience to be assigned to projects of this character shall not be discriminated against on any grounds whatsoever.

2. Payrolls

Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working on the site of the work.

The contractor's and subcontractor's payroll records shall be available for inspection by authorized representatives of the State Highway Department and authorized representatives of Federal Agencies.

The wages of labor shall be paid in legal tender of the United States, except that this condition will be considered satisfied if payment is made by a negotiable check, on a solvent bank, which may be cashed readily by the employee in the local community for the full amount, without discount or collection charges of any kind. Where checks are used for payment the contractor shall make all necessary arrangements for them to be cashed and shall give information regarding such arrangements.

No fee of any kind shall be asked or accepted by the contractor or any of his agents from any person as a condition of employment on the project.

No laborers shall be charged for any tools used in performing their respective duties except for reasonably avoidable loss or damage thereto.

Every employee on the work covered by this contract shall be permitted to lodge, board and trade where and with whom he elects and neither the contractor nor his agents, nor his employees shall directly or indirectly require as a condition of employment that an employee shall lodge, board or trade at a particular place or with a particular person.

No charge shall be made for any transportation furnished by the contractor or his agents to any person employed on the work.

April 4, 1995

No individual shall be employed as a laborer on this contract except on a wage basis, but this shall not be construed to prohibit the rental of teams, trucks or other equipment from individuals. No such rental agreement, or any charges for feed, gasoline, supplies, or repairs on account of such agreement, shall cause any deduction from the wages accruing to any employee except as authorized by the regulations hereinbefore cited.

IV. Safety and Accident Prevention

In the performance of this contract, the contractor shall comply with all applicable Federal, State and local laws governing safety, health and sanitation. The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions, on his own responsibility or as the contracting officer may determine, reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

V. Subletting or Assigning the Contract

The contractor shall perform with his own organization contract work amounting to not less than 30 percent of the total contract amount except that any items designated in the contract as "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed may be deducted from the total contract amount before computing the amount of work required to be performed by the contractor with his own organization.

Any items that have been selected as "Specialty Items" for the contract are listed as such in the Special Provisions found elsewhere in the contract.

No portion of the contract shall be sublet, assigned, or otherwise disposed of except with the written consent of the contracting officer or his authorized representative. Requests for permission to sublet assign or otherwise dispose of any portion of the contract shall be in writing and accompanied by a showing that the organization which will perform the work is particularly experienced and equipped for such work. The contractor shall give assurance that the minimum wage for labor as stated in his proposal shall apply to labor performed on all work sublet, assigned or otherwise disposed of in any way. Consent to sublet, assign or otherwise dispose of any portion of the contract shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract.

April 4, 1995

**SPECIAL PROVISIONS
FOR
STATE
PROJECT NO. M3003A**

GENERAL CONDITIONS

Bids for the work contemplated in this proposal form will be received at the office of the Nebraska Department of Roads in Room 104 of the Central Office Building at 1500 Highway 2 at Lincoln, Nebraska, on December 15, 2016, until 1:30 P.M.

- a. Bids submitted by mail should be addressed to the Nebraska Department of Roads, c/o Contract Lettings Section, P.O. Box 94759, Lincoln, NE 68509-4759.
- b. Bids submitted electronically over the internet, shall be submitted using www.bidx.com.

The 2007 Edition of the Standard Specifications for Highway Construction, including all amendments and additions thereto effective at the date of the contract, are made a part of these Special Provisions, through reference.

The Required Provisions dated April 4, 1995, are attached to and are a part of this proposal form.

The attention of bidders is directed to the Required Provisions covering subletting or assigning the contract.

The proposal contains a statement that the contractor is complying with, and will continue to comply with, fair labor standards in the pursuit of his business and in the execution of the work contemplated in this proposal.

Fair labor standards shall be construed to mean such a scale of wages and conditions of employment as are paid and maintained by at least fifty percent of the contractors in the same business or field of endeavor as the contractor filing this proposal.

GROUPS 6, 6A, 6B, 6C, 6D & 10 ARE TIED TOGETHER AND BIDDING PROPOSAL FORMS FOR THIS WORK WILL BE ISSUED AND A CONTRACT AWARDED TO A CONTRACTOR WHO IS QUALIFIED FOR BRIDGES.

TRAINING SPECIAL PROVISIONS

This On-the-Job Training (OJT) Program was created by the Federal Highway Administration (FHWA) and the Nebraska Department of Roads (NDOR) to fulfill the Training Special Provisions requirements of federal-aid construction contracts (23 CFR 230, Appendix B to Subpart A). The purpose of the provision is to address the under-representation of minority and female workers in the construction trades through the assignment of OJT training goals. Therefore, the training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision.

Accordingly, the Contractor shall make every effort to enroll minority and women trainees (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment.

All Contractors will be responsible for demonstrating the steps that they have taken to recruit minority and women trainees prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not. The Contractor shall provide on-the-job training aimed at developing full journey-level status in the type of trade or job classification involved. The number of training hours under this Training Special Provision will be assigned to each Contractor as set forth below.

1. Under the NDOR Contractor-Specific On-the-Job Training (OJT) Program, OJT hours will be assigned to Contractors and will not be contract or project specific, except as noted in paragraph "a." below.
 - a. Contractors who **have not** received an OJT assignment and are awarded a federally funded project let by NDOR will be required to fulfill the number of OJT hours as identified in each contract. The number of training hours to be provided under this contract shall be: 0 hours.

A Contractor who has received an OJT assignment will be allowed to provide training on any NDOR-let project on which the Contractor is working as either a Prime Contractor or a subcontractor. A Contractor will have the flexibility to transfer trainees from one project to another after providing notification of the transfer to NDOR.

- b. If this project does not have a contract-specific training requirement, or if the number of training hours is set at zero (0), NDOR will add a training pay item with a nominal 100-hour quantity, that may overrun or underrun, which will be utilized only if the Contractor elects to provide training on this contract.
2. In January each year, NDOR will allocate OJT assignments to Contractors based on the total average dollar amount of all work performed by a Contractor on NDOR-let projects during the previous three (3) calendar years. The total dollar amount will consist of:
 - a. The total dollar amount of the Contractor's prime contracts let by NDOR (both federal and state funded) minus the total dollar amount of the work subcontracted out to others, and
 - b. The total dollar amount of the subcontract work the Contractor performed for others on NDOR-let projects.

The Contractor’s average dollar amount for the previous three calendar years will be calculated, and training hours will then be assigned as follows:

<u>Three Year Average</u>	<u>Training Assignments</u>
Under \$2,500,000	0 hours
\$2,500,000 to 5,000,000	1,000 hours
Over \$5,000,000 to 7,500,000	1,500 hours
Over \$7,500,000 to 10,000,000	2,000 hours
Over \$10,000,000 to 15,000,000	3,000 hours
Over \$15,000,000 to 20,000,000	4,000 hours
Over \$20,000,000 to 25,000,000	5,000 hours
Over \$25,000,000 to 30,000,000	6,000 hours
Over \$30,000,000 to 40,000,000	8,000 hours
Over \$40,000,000 to 50,000,000	10,000 hours
Over \$50,000,000 to 60,000,000	12,000 hours
Over \$60,000,000	15,000 hours

Example: Contractor A, who averaged \$28.66 million, would be assigned 6,000 hours of OJT. Contractor B, who averaged \$10.33 million, would be assigned 3,000 hours of OJT. Contractor C, who averaged \$2.26 million, would not be assigned any OJT hours.

	2011	2012	2013	3 Year Average	2014 OJT Assignment
Contractor A	24.3	33.4	28.3	28.66	6,000 hours
Contractor B	9.3	11.9	9.8	10.33	3,000 hours
Contractor C	2.3	1.4	3.1	2.26	0 hours

3. The OJT hours assigned to a Contractor in January are to be completed during that calendar year (e.g., OJT hours assigned in January of 2014 are to be completed during the period of January 1, 2014 thru December 31, 2014).
 - a. If a Contractor exceeds the number of OJT hours assigned for a calendar year, the Contractor may request to bank up to 30 percent of the excess hours. Banked hours may then be credited toward the Contractor’s OJT assignment for the next calendar year.
4. A Contractor who has not received an annual OJT assignment and is required to provide OJT on a contract-specific basis cannot receive credit for any OJT hours provided by any other Contractor working on the project who has received a Contractor-specific OJT assignment.
5. Completion of the annual OJT assignment is the Contractor’s responsibility. The Contractor is not allowed to assign any of the OJT hours to any other Contractor. The Contractor must make a Good Faith Effort to enroll an adequate number of trainees and provide the trainees a sufficient number of hours training to achieve the Contractor’s annual OJT assignment.
6. While trainees may be assigned to NDOR-let federally or state funded projects, the Contractor should attempt to schedule and assign trainees so that at least 50 percent of a trainee’s hours are earned on federally funded projects - unless otherwise approved in advance by NDOR.

7. The Contractor must use an OJT program approved by NDOR and/or the FHWA. An OJT program shall be approved if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and qualify the average trainee for journey-level status in the job classification concerned by the end of the training period. An approved OJT program must specify the number of hours required for a trainee to achieve journey-level status in each job classification. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training, shall also be considered acceptable provided they are being administered in a manner consistent with the equal employment obligations of federal-aid highway construction contracts.
8. The Contractor shall furnish each trainee a copy of the OJT Program he/she will follow in providing the training. The Contractor shall also provide each trainee with a certification showing the type and length of training satisfactorily completed.
9. The Contractor's Equal Employment Opportunity (EEO) Officer shall be responsible for administering the Contractor's OJT and monitoring the trainees' progress. The EEO Officer shall serve as the point of contact for NDOR regarding OJT information, documentation, and conflict resolution. If necessary, the EEO Officer may designate another individual to assist with the OJT monitoring responsibilities. NDOR must be provided the name and contact information for any such designee.
10. At least seven (7) days prior to commencing training, the Contractor must submit a "Request for Trainee Approval" form to NDOR for each individual to be enrolled as a trainee and a tentative list of the projects to which the trainee will be assigned. Requests for Trainee Approval may be submitted by mail, fax, or email.
11. If the Contractor submits a "Request for Trainee Approval" form to NDOR for an individual who is not a minority or female, or cannot replace departing trainees with minorities or females, the Contractor must also produce sufficient Good Faith Efforts documentation of the type set forth below. NDOR may reject non-minority male trainees for entry into the program if it determines that a Contractor failed to make sufficient Good Faith Efforts to hire minorities or female trainees and/or the Contractor failed to document or submit evidence of its Good Faith Efforts to do so.
12. Any training hours provided to a trainee prior to the Contractor receiving approval from NDOR will not be credited toward the Contractor's annual OJT assignment.
13. When an individual is first enrolled as a trainee, the individual will be approved for the number of hours of OJT required to achieve journey-level status in the classification for which the individual is to receive training. (A Contractor will not be penalized if a trainee does not achieve the full number of hours for which the trainee is approved.)
14. If the Contractor is unable to provide a trainee the full number of training hours required to achieve journey-level status on one project, the trainee should be transferred to other NDOR-let projects on which the Contractor is working.

15. At least one (1) day before all such transfers of trainees are made, the Contractor must provide NDOR in writing the name of the trainee and current project, the project to which the trainee will be transferred, and when the transfer is to take place. Notifications of trainee transfers may be submitted by mail, fax, or email.
16. Any training hours provided to a transferred trainee prior to the Contractor having notified NDOR of the transfer will not be credited toward the Contractor's annual OJT assignment.
17. No individual may be employed as a trainee in any classification in which they have successfully completed training leading to journey-level status or in which they have been employed at journey-level. No individual may be employed as a trainee in any classification with a lower skill level than any classification in which they have successfully completed training leading to journey-level status or in which they have been employed at journey-level (e.g., an individual who has achieved journey-level status as an equipment operator may not be trained as a laborer). The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

An individual may be trained in multiple classifications that require relatively equal skill levels but different skill sets (e.g., an individual who has received training as a milling machine operator may also receive training as a roller operator, or a scraper operator, etc.). Preferably, an individual should have achieved journey-level status in a classification before beginning training in another classification.

The Contractor must request and receive approval from NDOR for an individual to receive training in a classification other than the classification for which the individual was originally approved. Any training hours provided prior to receiving approval from NDOR will not be credited toward the Contractor's annual OJT assignment.

18. Training shall be provided in construction crafts rather than clerk-typist or secretarial-type positions. Training is permissible in positions that are not assigned to a specific project such as office engineers, estimators, timekeepers, shop mechanics, etc., if the selected OJT program includes these classifications. Training in such positions will not be eligible for reimbursement, but will be eligible to be credited toward the Contractor's annual OJT assignment.
19. Some off-site training is permissible as long as the training is an integral part of an approved OJT program and does not comprise a significant part of the overall training (e.g., 16 hours training per trainee per year in areas such as jobsite safety or accident response would be permissible). A copy of a training certificate, agenda, or curriculum must be provided to verify off-site training.
20. The Contractor will be reimbursed \$2.00 per each hour of training provided in accordance with an approved OJT program and the NDOR Training Special Provisions.
21. Contractors shall be allowed to transfer trainees or utilize trainees on other NDOR-let projects which do not contain the Training Special Provisions. NDOR will utilize a Change Order / Supplemental Agreement to incorporate the Training Special Provisions and the appropriate pay item into the contracts of such projects.

22. On all federally funded NDOR-let projects, trainees must be paid at least 60 percent of the appropriate minimum journey-level rate specified in the contract for the first half of the training period, 75 percent for the third quarter, and 90 percent for the last quarter of the training period - or the appropriate rates approved by the U.S. Department of Labor or the U.S. Department of Transportation in connection with the program in which the trainee is enrolled.
23. In order to document and evaluate a trainee's progress toward journey-level status, the Contractor must provide NDOR at the end of each month a "Special Training Provision Monthly On-The-Job Training Report" listing each trainee, the number of hours trained during the month, and the total number of hours trained as of the date of the report.

NOTE: The monthly reporting requirements may change if/when on-line reporting is implemented by NDOR.

24. If a trainee's employment is terminated for any reason prior to completion of the number of OJT hours for which the individual was approved, the Contractor must make Good Faith Efforts to replace the trainee with another minority or female.
25. Contractors must submit an annual summary report to NDOR by January 15th each year giving an account of all trainee hours provided during the previous year. The report shall show a breakdown of training provided on each project and/or contract.
26. Contractors will have fulfilled their OJT responsibilities if they have provided acceptable training for the number of hours assigned, or have demonstrated that they made a Good Faith Effort to provide the number of OJT hours assigned. Where a Contractor cannot meet his or her annual training hour goal with females and minorities, the Contractor remains responsible for demonstrating the Good Faith Efforts taken in pursuance of the goal. Examples of what actions constitute Good Faith Efforts are set forth below. NDOR will make compliance determinations regarding the Training Special Provisions based upon either attainment of the annual goal or Good Faith Efforts to meet it.
27. Good Faith Efforts are those designed to achieve equal opportunity through positive, aggressive, and continuous results-oriented measures (23 CFR § 230.409(g)(4)). Good Faith Efforts should be taken as trainee hiring opportunities arise and when minorities and women are under-represented in the Contractor's workforce. NDOR will consider all Contractors' documentation of Good Faith Efforts on a case-by-case basis and take into account the following:
 - a. Availability of minorities, females, and disadvantaged persons for training;
 - b. The potential for effective training;
 - c. Duration of the contract;
 - d. Dollar value of the contract;
 - e. Total normal work force that the average Contractor could be expected to use;
 - f. Geographic location;
 - g. Type of work;
 - h. The need for journey level individuals in the area.

Good Faith Efforts may include, but are not limited to, documentation of efforts to:

- Contact minority and female employees to gain referrals on other minority and female applicants;
- Refer specific minorities and females to training programs and specifically request these trainees by name in the future;
- Upgrade minority and female unskilled workers into the skilled classifications when possible;
- Accept applications at the project site or at the Contractor's home office;
- Review and follow up on previously received applications from minorities and females when hiring opportunities arise;
- Maintain monthly evaluations that monitor efforts made to achieve diversity in the Contractor's workforce in general (i.e., significant numbers of minorities and females employed on a company-wide basis);
- Provide incentives for project management personnel or superintendents when hiring goals are met on a project (i.e., similar to performance bonuses paid when a job is completed in a timely manner and under budget).

28. Liquidated damages will be assessed the Contractor for failure to demonstrate a Good Faith Effort to achieve their full OJT assignment or for failure to demonstrate a Good Faith Effort to achieve their full OJT assignment with minority and women trainees.

Liquidated damages will be assessed at the rate of \$4.00 per hour for the number of OJT hours not achieved or, even if achieved, the number of OJT hours in which the Contractor fails to demonstrate Good Faith Efforts to hire minorities and women. (e.g., if the Contractor was assigned 3,000 hours but only achieved 2,000 hours and did not demonstrate a Good Faith Effort, the liquidated damages would be assessed at 1,000 hours x \$4.00 = \$4,000.00.)

29. NDOR will invoice a Contractor for liquidated damages assessed as a result of the Contractor's failure to demonstrate a Good Faith Effort to achieve the number of OJT hours assigned.

The Contractor's failure to promptly pay any invoice for liquidated damages may result in the Contractor being disqualified to bid work with NDOR for a time period determined by the Director/State Engineer.

30. At the end of the calendar year, if the dollar amount of work the Contractor performed on NDOR-let projects is substantially below the three-year average upon which the Contractor's OJT assignment was based, the Contractor's OJT goal for that year may be adjusted according to the table in Paragraph 2. above.

31. The established per hour unit price for the item "Training" shall be full compensation for all costs incurred, which includes but is not limited to providing the necessary supervision, labor, equipment, tools and material. Any additional costs due to payment of wages in excess of the minimum rates specified and for the payment of any fringe benefits shall not be paid for directly, but shall be considered subsidiary to the items for which direct payment is made.

AMENDMENT TO CONSTRUCTION TRAINING REPORT REQUIREMENTS

The last sentence under Paragraph C., on Page 5 of the Standard Federal Equal Employment Opportunity Construction Contract Specifications, dated November 3, 1980, is void.

FHWA Form 1409 "Federal-aid Highway Construction Contractor's Semi-Annual Training Report" is not required.

STATUS OF UTILITIES

The following information is current as of November 10, 2016.

Aerial and/or underground utilities may exist within the limits of this project. The Contractor shall determine to their satisfaction the extent of occupancy of any utility facilities located within the project construction areas and the extent of conflict with the proposed work under this contract.

At this time, no utilities have been required to relocate their facilities.

Any utility adjustments or interruption of service for the convenience of the Contractor shall be the sole responsibility of the Contractor.

To arrange for utilities to locate and flag their underground facilities, contact Diggers Hotline of Nebraska at 1-800-331-5666, or dial 811.

Any work necessary will be concurrent with construction.

STATUS OF RIGHT-OF-WAY

All work is to be performed within the existing Right of Way as located by the Engineer.

SPECIAL PROSECUTION AND PROGRESS (Phasing)

The plans depict phasing sequences that are to be used in the construction of this project. Any deviation from these phasing sequences shall require the written approval of the Engineer.

**SPECIAL PROSECUTION AND PROGRESS
(Migratory Bird Responsibility)**

The Department will be responsible for preventing migratory birds from nesting on this project until **30 calendar days after the execution of the contract** or an approved, earlier, Contractor-requested start date, whichever occurs first. At that time, the Contractor shall assume the responsibility for attempting to prevent the nesting of migratory birds throughout the duration of the project, in accordance with other provisions contained in the contract.

The Department will issue the Contractor a Notice to Proceed for this migratory bird-related work, but the work can be performed without the charge of Working/Calendar Days prior to the tentative starting date shown in the Proposal or other mutually agreed upon date for the remainder of the work to commence --- or the actual date the remainder of the work commences --- whichever occurs first.

**SPECIAL PROSECUTION AND PROGRESS
(Coordination with Others)**

The Contractor for this project shall be required to coordinate signing and construction activities with the Contractor for Project S-30-6(1046), CN 32033, Schuyler – Rogers which is tentatively scheduled to be let to contract in the September 8, 2016 letting. This project consist of 4 lane concrete pavement reconstruction.

TRIBAL EMPLOYMENT RIGHTS OFFICE (TERO) TAX

Group 6B of this project is located entirely within the Omaha Indian Reservation and requires that the Contractor pay a TERO Tax to the Omaha Tribe of Nebraska prior to any work being performed on this contract. The Notice to Proceed will not be issued until the tax has been paid.

The tax shall be 6 percent of the Group 6B awarded contract amount.

The TERO Tax shall not be considered subsidiary to any other contract items.

The Contractor will be reimbursed for the amount of the TERO Tax paid. Upon award of the contract, a contingent item will be added to the contract to provide for the reimbursement; and reimbursement will be made as soon as the Contractor furnishes proof that the tax has been paid.

ENVIRONMENTAL COMMITMENT

Control/Contract No.: M3003A

Maintenance Activity: Expansion Joint Repair

Below are the Conservation Conditions that will be required for this project. All conditions and regulations of any permit obtained for this project will be followed by the Contractor. The NDOR District Environmental Coordinator and District Maintenance Superintendent(s) will serve as an NDOR point of contact.

Wetlands

The Contractor shall not stage, store, waste or stockpile materials and equipment in known/potential wetlands and/or known/potential streams that exhibit a clear “bed and bank” channel. Potential wetland areas consist of any area that is known to pond water, swampy areas or areas supporting known wetland vegetation or areas where there is a distinct difference in vegetation (at lower elevations) from the surrounding upland areas.

Threatened & Endangered Species

District 3 is within the range of multiple State and Federally Listed Threatened & Endangered Species. Range maps and County Lists for these species can be found on the Nebraska Game and Parks Commission website (found below).

Pavement Repair & Overlays without Grade Raise as outlined below is allowed with the following General Conservation Conditions.

General Conservation Conditions

Threatened and Endangered Species. The Contractor shall reference the Nebraska Game and Parks Commission website for a reference of federal and state listed species that may occur in the project vicinity prior to starting project maintenance operations. These guidance documents can be found at:

- <http://outdoornebraska.gov/atriskspecies/>

If federal or state listed species are observed during maintenance operations, stop work and contact the NDOR District Environmental Coordinator and District Maintenance Superintendent to determine action required prior to resuming work. Coordination with NDOR Environmental Section will be required if Night-Time work is needed.

Refueling. The Contractor shall conduct refueling only within non-wetland and non-steam locations. Areas adjacent to wetlands and/or streams will be avoided. Spills shall be reported to the NDOR District Environmental Coordinator and District Maintenance Superintendent. The contractor shall be responsible for cleanup of spilled fuel or any other Hazardous Materials, such as engine oil, hydraulic fluid, antifreeze, etc. used in the contract specified maintenance activity. The Contractor is required by NDOR's Standard Specification section 107 (legal relations and responsibilities to the public) to handle and dispose of contaminated material in accordance with applicable laws.

The District Environmental Coordinator shall be responsible for recording and tracking of the spill event through NDOR's DIRK Database.

<http://www.transportation.nebraska.gov/ref-man/specbook-2007.pdf>

Restricted Activities. The following project activities shall, to the extent possible, be restricted to between the beginning and ending points of the project, within the right-of-way designated on the project plans.

- Construction debris waste disposal areas
- Asphalt plants
- Haul roads
- Stockpiling areas
- Staging areas
- Material storage sites

Waste/Debris. Construction waste/debris will be disposed of in areas or a manner which will not adversely affect state and/or federally listed species and/or designated critical habitat. (Contractor)

Encountering Unexpected Waste

If contaminated soils and/or water or hazardous materials are encountered, then all work within the immediate area of the discovered hazardous material shall stop until NDOR/FHWA is notified and a plan to dispose of the Hazardous Materials has been developed. Then NDEQ shall be consulted and a remediation plan shall be developed for this project. The potential exists to have contaminants present resulting from minor spillage during fueling and service associated with construction equipment. Should contamination be found on the project during construction, the NDEQ shall be contacted for consultation and appropriate actions to be taken. The Contractor is required by NDOR's Standard Specification section 107 (legal relations and responsibilities to the public) to handle and dispose of contaminated material in accordance with applicable laws. (Contractor)

Ground Disturbance

Any and all ground disturbance shall be limited to fill material locations only, with any fill material disturbances not to exceed the depth of the fill material. (Contractor)

Unmarked Human Burial Sites

The contractor shall comply with the Nebraska Unmarked Human Burial Sites and Skeletal Remains Protection Act, Sections 12-1201 – 12-1212. If human skeletal remains or burial goods associated with an unmarked human burial in the ground or on the ground are discovered, then all work in the immediate area of the discovery shall stop and the contractor shall contact the NDOR District Environmental Coordinator. The NDOR District Environmental Coordinator will then comply with Section 12-1205, notification of local law enforcement in the county in which the remains or burial goods are found. The NDOR District Environmental Coordinator will promptly consult with the appropriate federal, state, and tribal agencies to determine if further field investigations are required before maintenance operations may resume. Pertinent legal authorities covering such discoveries include: the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, the Archeological Resources Protection Act, the Nebraska Unmarked Burial Sites and Skeletal Remains Protection Act, and the Nebraska Archeological Resources Protection Act.

Any discovered archeological or paleontological objects or deposits are not the property of the Contractor. The NDOR Environmental Coordinator will consult with appropriate federal, state, or tribal agencies to determine the proper disposition of such remains.

**SPECIAL PROSECUTION AND PROGRESS
(Migratory Birds)
(A-42-1112)**

The Department of Roads will, to the extent practicable, schedule the letting of projects such that clearing and grubbing can occur outside of the primary nesting season in Nebraska which has been determined to generally occur between April 1 and September 1. Work on structures, such as but not limited to bridges and culverts, should occur outside the primary swallow nesting season, April 15 to September 30, unless approved methods of avoiding nesting have been taken on the bridge and/or culvert structures. The nesting dates above are a guide only, nesting can occur outside of those dates. Work outside of those dates is not exempt from compliance with the Migratory Bird Treaty Act.

The Contractor shall, to the extent possible, schedule work on structures, such as but not limited to bridges and culverts, and clearing and grubbing activities to occur outside the primary nesting season in Nebraska. However, if circumstances dictate that project construction or demolition must be done when nesting migratory birds may be present, a survey of the number of active nests and species of birds shall be conducted by qualified personnel representing the Contractor, and assisted by the Project Manager (PM), NDOR Environmental Section staff, or the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) - Wildlife Services Office. If the survey finds that nests will be impacted by the proposed construction, the Contractor may be responsible for delays.

The following guidance is provided for compliance with the Migratory Bird Treaty Act for construction of NDOR projects:

1. The Contractor shall submit a plan to the NDOR regarding how he intends to accomplish bridge demolition or clearing and grubbing of the project to avoid conflict with nesting migratory birds.
2. The Contractor must submit a temporary erosion control plan tailored to fit the plan for clearing and grubbing.
3. If construction operations result in unavoidable conflict with nesting migratory bird's eggs or young, which will result in "taking" nests and their contents, the Contractor should notify the NDOR Project Manager (PM). The PM shall notify the Environmental Section of Planning and Project Development by telephone at 402-479-4766.
4. The NDOR Environmental Section will then determine if assistance in conducting the survey will be provided by the NDOR Environmental Section (if available) or from the USDA APHIS - Wildlife Services Office and arrange for assistance with the survey of nest numbers, bird species, etc. Results of the survey shall be maintained by the NDOR until project completion.
5. If the nesting survey is required, and the project was awarded prior to the nesting season, and the Contractor did not accomplish clearing/grubbing and/or work on

bridge/culvert structures outside the nesting season, the Contractor will reimburse the Department of Roads for each survey required at \$1,000 per survey. If the project was awarded during the nesting season, and construction activities are such that clearing/grubbing and/or work on bridge/culvert structures must be accomplished prior to any other activity on the project, then there will be no charge assessed for the initial survey. The Contractor is responsible for removing all trees surveyed, that do not contain active nests, and for taking appropriate measures on bridge/culvert structures, within 3 days of the survey. Reimbursement for additional surveys may be charged if the Contractor fails to remove the trees within 3 days of the survey, and requires an additional survey. Survey reimbursement will be determined on a project specific basis, considering the project timeline and associated activities.

6. If an active nest is found during the survey, the Contractor should do everything possible to restructure his activities and leave the nest undisturbed until the young fledge. Fledging could occur within a week, or up to a month, after the survey depending on the species of bird and whether the nest contained eggs or young. Also depending on the species of bird and their sensitivity to disturbance, a buffer of up to 30 feet surrounding the tree with the active nest could be required.
7. If construction cannot be rescheduled to allow the birds to fledge, and it is determined as an unavoidable "take" circumstance, the Contractor shall stop all work within 30 feet of the active nest and coordinate with the Construction Project Manager to determine how to proceed. The Construction Project Manager will then coordinate with the NDOR Environmental Section and they will facilitate coordination with the US Fish and Wildlife Service and the Federal Highway Administration (for projects using Federal-aid) to determine the appropriate way to address the active nest. No work shall occur within 30 feet of the active nest until US Fish and Wildlife Service coordination is complete and the requirements of the Migratory Bird Treaty Act are satisfied.
8. It is the Contractor's responsibility to schedule his work to accommodate the process of conducting a survey(s) and submitting the necessary documentation if avoidance is not practicable. The Contractor shall be responsible for using any legal and practical method to prevent the nesting of birds in order to prevent the need for any survey and prevent the need for additional surveys. It is understood and agreed that the Contractor has considered in the bid all of the pertinent requirements concerning migratory birds (including endangered species) and that no additional compensation, other than time extensions if warranted, will be allowed for any delays or inconvenience resulting in these requirements.

STORM WATER DISCHARGES (A-43-0408)

In compliance with the Federal Water Pollution Control Act, authorization to discharge storm water on this project has been granted under National Pollutant Discharge Elimination System (NPDES) General NPDES Permit Number NER110000 for Storm Water Discharges from Construction Sites to Waters of the State of Nebraska. This permit became effective on January 1, 2008.

Contractors are advised that, under the Construction Storm Water General Permit, ***plant sites, camp sites, storage sites, and borrow or waste sites not shown on the plans may be subject to separate NPDES permit authorization requirements for stormwater discharges from those locations.*** Contractors shall be responsible for verifying the need for NPDES permit coverage with the Nebraska Department of Environmental Quality (NDEQ). When required for these locations, the filing of a "Notice of Intent" shall be made by the Contractor directly to the NDEQ.

Additionally, asphalt (SIC Code 2951) or concrete (SIC Code 3273) batch plants that are owned by a private contractor and are operated on a contract-for-service basis to perform work for the Contractor completing the project may be subject to NPDES General Permit Number NER000000 for Industrial Storm Water Discharges. While the plant may be required for completion of the project, it is not under the control of the Department (or other project owner); and the filing of a "Notice of Intent" shall be made by the Contractor directly to the NDEQ.

The NDEQ may be contacted at 402-471-4220 for additional information.

REQUIRED SUBCONTRACTOR/SUPPLIER QUOTATIONS LIST (A-43-0307)

All bidders must provide to the NDOR the identity of all firms who provided quotations on all projects, including both DBEs and non-DBEs. This information must be on a form provided by the NDOR Contracts Office.

If no quotations were received, the bidder must indicate this in the space provided.

Each bidder will be required to submit one list per letting to cover all projects bid.

PROPOSAL GUARANTY BID BOND (A-43-0307)

Paragraphs 1.a. and 1.b. of Subsection 102.15 in the *Standard Specifications* are void and superseded by the following:

- a. OPTION 1 - (Project Specific Paper Bid Bond). The Bid Bond shall be executed on an original Department Bid Bond Form, which may be obtained from the Department. The original Bid Bond shall be delivered to the Department with the bid. A reproduction or a copy of the original form will not be accepted and will cause the bid not to be opened and read.
- b. OPTION 2 - (Annual Bid Bond). The Department at its discretion may allow a bidder to place an "Annual Bid Bond" on file with the Department. This bond would cover all projects the bidder bids for a 12-month period shown in the bond. The bidder must indicate in the bid submittal to the Department that their "Annual Bid Bond" applies to the submitted bid. The original Annual Bid Bond shall be executed on the Department of Roads Bid Bond Form, which may be obtained from the Department. A reproduction or a copy of the original form will not be accepted.

**WORKER VISIBILITY
(A-43-0507)**

Pursuant to Part 634, Title 23, Code of Federal Regulations, the following modified rule is being implemented:

Effective on January 1, 2008, 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.

High-visibility safety apparel is defined to mean personal protective safety clothing that:

- 1 - is intended to provide conspicuity during both daytime and nighttime usage, and
- 2 - meets the Performance Class 2 or Class 3 requirements of the ANSI/ISEA 107-2004 publication titled "American National Standards for High-Visibility Safety Apparel and Headwear."

**VALUE ENGINEERING PROPOSALS (VEP)
(A-43-0807)**

Subsection 104.03 in the *Standard Specifications* is amended to include the following:

14. A VEP will not be accepted if the proposal is prepared by an Engineer or the Engineering Firm who designed the contract plans.

**LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC
(A-43-0210)**

Paragraph 4.a. of Subsection 107.01 in the *Standard Specifications* is void and superseded by the following:

4. a. Whenever the Contractor violates any governing Federal, State or Local environmental quality regulation and/or is in noncompliance with any environmental commitment, the violating activity must cease immediately until the appropriate remedy can be determined by: the Engineer, the NDOR Environmental Section, the Federal Highway Administration (for projects utilizing Federal-aid) and other agencies, as deemed appropriate. The Engineer, with assistance from the NDOR Environmental Section and the FHWA, will provide a written order confirming the appropriate corrective action to the Contractor. Work can resume to normal conditions once the Engineer determines that the violation or non-compliance has been addressed in accordance with the order for corrective action.

Subsection 107.01 in the *Standard Specifications* is amended to include the following two paragraphs:

5. Should the Contractor encounter any previously unidentified hazardous materials, the Engineer shall be promptly notified. The Contractor shall suspend operations in the area involved until such time that arrangements are made for their proper treatment or removal.
6. The Contractor shall prevent the transfer of invasive plant and animal species. The Contractor shall wash equipment at the Contractor's storage facility prior to entering the construction site. The Contractor shall inspect all construction equipment and remove all attached vegetation and animals prior to leaving the construction site.

**SPECIAL PROSECUTION AND PROGRESS
(Federal Immigration Verification System)
(A-43-1209)**

The Contractor shall register with and use a Federal Immigration Verification System to determine the work eligibility status of newly hired employees physically performing services within the State of Nebraska. The Prime Contractor shall contractually require every subcontractor to register with and use a Federal Immigration Verification System to determine the work eligibility status of newly hired employees physically performing services within the State of Nebraska.

The Federal Immigration Verification System shall be an electronic verification of the work authorization program of the Illegal Immigration Reform and Immigration Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program. The Contractor may use an equivalent Federal program designated by the United States Department of Homeland Security or other Federal agency authorized to verify the work eligibility status of a newly hired employee. The equivalent program shall comply with the Immigration Reform and Control Act of 1986.

The Prime Contractor shall furnish a letter to the NDOR Construction Division in Lincoln on company letterhead and signed by an officer of the company stating that documentation is on file certifying that the Contractor and all subcontractors have registered with and used a Federal Immigration Verification System. The Contractor shall maintain all records of registration and use for a period of three years and make records available upon request. The Contractor shall contractually require subcontractors to maintain all records for a period of three years and make records available upon request.

Payment will not be made to the Contractor for using the Federal Immigration Verification System or the maintenance of the records. This work shall be subsidiary to the work being performed.

The Contractor's Certification shall become part of the final records of the Contract. The Department considers this document to have direct bearing to the beginning interest date and may affect the amount of interest earned.

**CONTRACT TIME ALLOWANCE
(A-43-0911)**

Paragraph 5. of Subsection 108.02 of the *Standard Specifications* is void and superseded by the following:

5. Each week, the Engineer shall post on the Department's website a report of working days or calendar days charged. The Contractor then has 14 days from the day the Engineer's report is posted to provide a written explanation of why he/she does not concur with the working days or calendar days as assessed.

Paragraph 6.b. of Subsection 108.02 of the *Standard Specifications* is amended to include the following:

- (4) If the time allowance for the contract has been established on a calendar day basis, the Contractor is expected to schedule the work and assign whatever resources are necessary to complete the work in the time allowance provided regardless of the weather. Accordingly, regardless of anything to the contrary contained in these *Specifications*, the Department will not consider delays caused by inclement or unseasonable weather as justification for an extension of the contract time allowance unless:
 - i. the weather phenomena alleged to have contributed to or caused the delay is of such magnitude that it results in the Governor issuing a Disaster Declaration, **and**
 - ii. the weather phenomena alleged to have contributed to or caused the delay can clearly be shown to have directly impacted the work on the critical path identified on the Contractor's schedule.

Paragraphs 10.b. and 10.c. of Subsection 108.02 of the *Standard Specifications* are void and superseded by the following:

- b.
 - (1) If the extra work is not in the original contract, time extensions will be granted by determining the actual time necessary to accomplish the extra work.
 - (2) If the extra work is the result of the addition of additional quantities of existing contract items, time extensions will be granted by either:
 - (i) determining the actual time necessary to accomplish the extra work; or
 - (ii) determining the additional time to be granted by comparing the value of the additional quantities of work to the total amount of the original contract when measurement of the actual additional time is not possible or practical.
 - (3) In either case, only the time necessary to perform the extra work of the additional quantities of existing contract items when the extra work or the additional quantities of existing contract items are deemed to be the current controlling operation will be granted as a time extension.

- c. Increases in quantities of work associated with traffic control items measured by the day will not be considered for extending the contract time allowance. Overruns of traffic control items that are measured by methods other than time may be considered for extending the contract time allowance, but they must be deemed to be a controlling operation when the overrun of quantities occurs.

**PARTIAL PAYMENT
(A-43-1110)**

Paragraph 2. of Subsection 109.07 of the *Standard Specifications* is void and superseded by the following:

- 2. When the value of the work completed during a semi-monthly period exceeds \$10,000, the Contractor will receive semi-monthly progress estimates from which the Department shall make such retentions as may be allowed by the contract, provided that the nature and quality of the completed work are satisfactory and provided further that the progress of the work conforms to the requirements of Subsection 108.07.

Paragraph 3.b. of Subsection 109.07 of the *Standard Specifications* is void and superseded by the following:

- b. Under normal circumstances, the Department shall not retain any earnings on a progress estimate. However, the Department reserves the right to retain such amounts as are necessary for material deficiencies, anticipated liquidated damages, unpaid borrow, and for other reasons to protect the Department's interests.

**PARTIAL PAYMENT
(A-43-0611)**

Paragraph 4. of Subsection 109.07 of the *Standard Specifications* is void and superseded by the following:

- 4. a. (1) Upon presentation by the Contractor of receipted bills, billing invoices, or such other documentation sufficient to satisfy the Engineer and verify the Contractor's or subcontractor's actual costs for the materials, payments may also be allowed for acceptable nonperishable materials purchased expressly to be incorporated into the work and delivered in the vicinity of the project or stored in acceptable storage places within Nebraska.
- (2) Materials not delivered and stored in the immediate vicinity of or on the actual project site must be clearly marked to identify the project on which they are to be used, must be segregated from similar materials at the storage site, and cannot be included in a supplier's inventory of material available for sale for other purposes.
- (3) All items eligible for partial payment as stored materials must be available for verification, sampling, and measurement.

- b. The amount to be included in the payment will be determined by the Engineer, but in no case shall it exceed 100 percent of the value of the materials documented. This value may not exceed the appropriate portion of the value of the contract item or items in which such materials are to be incorporated, nor shall the quantity in any case exceed the total estimated quantity required to complete the project.
- c. Payment will not be approved when the documented value of such materials amounts to less than \$1,000.00, when the progress of the work is not in accordance with the requirements set forth in Subsection 108.07, or when the material can reasonably be expected to be incorporated into the work and eligible for payment as completed work on a progress estimate within 15 days of being placed into storage.
- d. Deductions at rates and in amounts which are equal to the payments will be made from estimates as the materials are incorporated into the work.
- e. Payment for the materials shall not in itself constitute acceptance, and any materials which do not conform to the specifications shall be rejected in accordance with Subsection 106.05.
- f. The Contractor shall be responsible for all damages and material losses until the material is incorporated into the work and the work is accepted.
- g. Partial payment will not include payment for fuels, supplies, form lumber, falsework, other materials, or temporary structures of any kind which will not become an integral part of the finished construction.
- h. No partial payments will be made on living or perishable plant materials until planted.

**BUY AMERICA
(A-43-0212)**

Subsection 106.07 in the *Standard Specifications* is void and superseded by the following:

106.07 -- Buy America

- 1. The Buy America rule requires that steel or iron materials be produced domestically, and only those products which are brought to the construction site and permanently incorporated into the completed project are covered. Construction materials, forms, etc., which remain in place at the Contractor's convenience, but are not required by the contract, are not covered.
- 2. To further define the coverage, a domestic product is a manufactured steel construction material that was produced in one of the 50 States, the District of Columbia, Puerto Rico, or in the territories and possessions of the United States.
- 3. All manufacturing processes to produce steel or iron materials (i.e., smelting, and any subsequent process which alters the steel or iron material's physical form or

shape, or changes its chemical composition) must occur within one of the 50 States, the District of Columbia, Puerto Rico, or in the territories and possessions of the United States, to be considered of domestic origin. This includes processes such as casting, rolling, extruding, machining, bending, grinding, drilling, and coating. Coating includes epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of the material. The manufacturer shall include a statement on the material test report or certification that all material described above except the coating material is a domestic product.

4. Raw materials used in the steel or iron materials may be imported. All manufacturing processes to produce steel or iron materials must occur domestically. Raw materials are materials such as iron ore, limestone, waste products, etc., which are used in the manufacturing process to produce the steel products. Waste products would include scrap; i.e., steel no longer useful in its present form from old automobiles, machinery, pipe, railroad tracks and the like. Also, steel trimmings from mills or product manufacturing are considered waste. Extracting, crushing, and handling the raw materials which is customary to prepare them for transporting are exempt from Buy America. The use of pig iron and processed, pelletized, and reduced iron ore manufactured outside of the United States may be used in the domestic manufacturing process for steel and/or iron materials.
5. Notwithstanding this requirement, a minimum of foreign steel or iron materials will be permitted if its value is less than one-tenth of one percent of the total contract cost or \$2,500, whichever is greater.
6. Upon completion of all work utilizing steel or iron products, the Prime Contractor shall furnish a letter to the State on company letterhead and signed by an officer of the company stating that documentation is on file certifying that all steel or iron materials brought to the construction site and permanently incorporated into the work complied in all respects with the Buy America requirements.

BORROW, WASTE, STOCKPILE, AND PLANT SITE APPROVAL (A-43-0512)

Subsection 107.02 in the Standard Specifications is amended to include the following:

4. Site Approval:
 - a. When borrow is obtained from a borrow site or waste excavation is placed at sites which are not shown in the contract, or the Contractor plans to use a plant or stockpile site which is not shown in the contract, the Contractor shall be solely responsible for obtaining all necessary site approvals. The Department will provide the procedures necessary to obtain approvals from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Nebraska State Historical Society, Nebraska Game and Parks Commission, and Nebraska Department of Natural Resources on the NDOR website. The Contractor shall also be responsible for obtaining a Discharge Number from the Nebraska Department of Environmental Quality (NDEQ) that allows work under the current

Construction Stormwater Permit. The Contractor shall also be responsible for obtaining any and all other permits required by local governments.

- b. It is anticipated that it may require 60 calendar days or more for the Contractor to obtain the necessary approvals. The Contractor will not be allowed to begin work at borrow or waste sites until the necessary approvals are obtained. No extension of completion time will be granted due to any delays in securing approval of a borrow or disposal site unless a review of the time frames concludes that there were conditions beyond the Contractor's control.

Paragraph 7. of Subsection 205.02 in the Standard Specifications is void and superseded by the following:

- 7. Borrow and Waste Site Approval:
 - a. Borrow and waste site approvals shall be in accordance with Section 107.02.
 - b. Material shall not be removed from borrow sites until preliminary cross sections and representative soil samples have been taken by the Engineer. The Contractor shall notify the Engineer a sufficient time in advance of the opening of any borrow site so that cross sections may be taken.
 - c. Material shall be removed in a manner that will allow accurate final cross sections to be taken for determining the quantity of excavation. The surfaces of the borrow sites shall be bladed and shaped to drain as shown in the contract or as directed by the Engineer.

**SPECIAL PROSECUTION AND PROGRESS
(Subletting or Assigning of Contract)
(A-43-0414)**

Subsection 108.01 in the Standard Specifications is void and superseded by the following:

108.01 – Subletting or Assigning of Contract

- 1. a. (1) The Contractor will not be allowed to sublet, assign, sell, transfer, or otherwise dispose of any portion of the contract or any right, title, or interest therein; or to either legally or equitably assign any of the money payable under the contract or the claims without the prior written consent of the Engineer.
- (2) With the Engineer's consent, the Contractor may sublet up to 70 percent of the work.
- (3) Any items designated in the contract as "specialty items" may be performed by subcontract.

- (4) The cost of any subcontracted “specialty items” may be deducted from the total contract cost before computing the percentage of work required to be performed by the Contractor.
 - (5) Subcontracts, or transfer of contract, will not release the Contractor of any liability under the contract and bonds.
 - b. Certain items of work may be performed without a subcontract. A list of items not requiring a subcontract is available from the Engineer.
2. The performance of any work by a subcontractor before the date of authorization by the Department shall subject both the Contractor and subcontractor to the imposition of appropriate sanctions by the Department.
3. a. The Contractor’s request to sublet work shall be made electronically to the NDR Construction Engineer using project management software identified by the Department. A signed subcontract agreement shall be on file in the Contractor’s office when the request is made. The subcontract agreement must provide that the subcontracted work will be completed according to the terms of the contract. The required and Special Provisions contained in the proposal shall be physically included in any subcontract.
 - b. On all Federal-aid projects, a scanned copy (.pdf format) of the signed subcontract agreement shall be included with the subcontracting request. (Federal-aid projects can be identified by inclusion in the Proposal of Form FHWA-1273 (REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS)).**
 - c. Scanned copies (.pdf format) of all executed subcontracts, written agreements, and/or lease agreements used to meet DBE goals shall be submitted to the NDR Construction Engineer with the subcontracting request. These copies must show labor cost, material prices, overhead and profit.
4. a. Second tier subcontracts will be allowed.
 - b. If a DBE firm subcontracts work to another firm, only work subcontracted to another DBE firm can be counted toward meeting a DBE goal.
 - c. All requests for second tier subcontracting shall be submitted to and approved by the Prime Contractor before they are forwarded to the NDR Construction Engineer for approval.
5. All subcontract documents relating to the contract shall be maintained during the course of the work and preserved for a period of three years thereafter. These documents shall be available for inspection by authorized representatives of State and Federal agencies. Scanned copies (.pdf format) of the signed subcontract agreements not specifically identified elsewhere in this Subsection shall be furnished to the Department upon request.
6. The Contractor may discuss a proposed subcontract with the Engineer before entering into a signed subcontract agreement, but final approval will not be

granted until a formal request and proper certification has been received by the Department.

7. On projects requiring submittal of certified payrolls, all subcontractor payrolls shall be checked by the Contractor before submittal to the Engineer.
8. a. The Prime Contractor, and subcontractors when subletting work to lower tier subcontractors, shall include language which can be identified as a "Prompt Payment Clause" as a part of every subcontract for work and materials.
 - b. (1) The language constituting the "Prompt Payment Clause" will require payment to all first tier subcontractors for all labor and materials --- for work completed to date --- within 20 calendar days of receipt of progress payments from the Department for said work. Similar language in a contract between a subcontractor and a lower-tier subcontractor will require payment to the lower tier subcontractor for all labor and materials --- for work completed to date --- within 10 calendar days of receipt of progress payments from the prime Contractor for said work.
 - (2) The language constituting the "Prompt Payment Clause" will also stipulate the return of retainage within 30 calendar days after the satisfactory completion of the work by the subcontractor as evidenced by inclusion of the work on a progress payment.
 - (3) Additionally, the language constituting the "Prompt Payment Clause" may stipulate the subcontractor's obligation to return to the Contractor or subcontractor, as the case may be, any overpayments which result from adjustments to measured and recorded quantities as part of the preparation of subsequent progress payments or the final records. Overpayments shall be returned to the Prime Contractor or subcontractor, as the case may be, within 20 calendar days of receiving notice of the adjusted quantities and the amount of the overpayment.
- c. The Prime Contractor of subcontractors, as the case may be, may withhold payment only for just cause and shall not withhold, delay, or postpone payment without first receiving written approval from the Department.
- d. (1) The failure by the Prime Contractor to abide by the agreements identified in the "Prompt Payment Clause" without just cause, including the timely return of retainage, is a material breach of this contract which may result in the Department withholding the amount of payment from the prime Contractor that should have been paid to the subcontractor, termination of this contract, or other such remedy as the Department deems necessary.
 - (2) Additionally, the failure of any subcontractor to abide by the agreements identified in the "Prompt Payment Clause" without just cause, including the timely return of retainage to lower tier subcontractors, or by failing to return overpayments in a timely manner when the language permitted in Paragraph 8.b.(3) above is included in the subcontract may result in the Department withholding subcontract approval for other work until the overpayments have been returned.

9. a. (1) For Davis Bacon (DBRA)-covered projects and Non-DBRA-covered projects, a Contractor or subcontractor may wish to use another individual owner-operator or trucking company to supplement his or her hauling fleet. (The Department will not recognize multiple individuals claiming to be collectively identified as a single "owner operator.")
- (2) This supplemental individual or company must either become a subcontractor (first tier or lower tier, as the case may be) or be otherwise documented by the utilizing Contractor or subcontractor by entering into a lease agreement for the trucks and showing the driver (or drivers) from the supplemental company on the Prime Contractor's or subcontractor's payrolls in the manner described below.
- (3) Payrolls will only be accepted from the Prime Contractor or approved subcontractors.
- b. (1) If the decision is made to subcontract the hauling, the Prime Contractor must first notify the NDOR Construction Office to request subcontract approval. As part of the subcontract approval process --- at any tier --- the proper certificates of insurance must be provided before approval will be granted.
- (2) Additionally, on DBRA-covered projects, the Prime Contractor must submit payrolls for all subcontractors --- at any tier.
- c. (1) Owner/Operators of trucks hired by a Contractor or subcontractor to supplement his or her hauling fleet are not subject to Davis Bacon wage requirements. However, they must still be shown on a payroll prepared by the Contractor or subcontractor for whom they are working with the notation "owner/operator."
- (2) Any other employees of the "owner/operator" must appear on the certified payroll in complete detail and must be compensated according to the wage rates established for the project.
- d. In the event a Prime Contractor or subcontractor elects to not subcontract the supplemental driver or drivers but instead chooses to "carry the workers/truckers on their payroll," the following requirements must be met:
 - (1) The Prime Contractor's or subcontractor's certified payroll must contain the names of all workers/truck drivers, and the payroll should identify their supervisors (including "owner-operators").
 - (2) Pay checks for the workers/truckers in question must be drawn against the Prime Contractor's or subcontractor's payroll or other account.
 - (3) Owner/Operators need only be identified as such on the payroll. Additional drivers, if any, from the "owner-operator's" company must appear on a payroll in complete detail and be compensated according to the wage rates established for the project.
 - (4) The Prime Contractor or subcontractor must enter into a lease agreement for the trucks driven by such drivers, and the lease agreement must show

that the compensation for the leased equipment is on a time basis and not based on the amount of work accomplished. The lease agreements must be available for inspection by NDOR personnel.

- (5) Any supplemental truckers employed under this arrangement must still carry the minimum automobile liability coverage specified in the contract. It shall be the duty of the Prime Contractor to ensure that the supplemental truckers have such coverage in effect. Evidence of proper insurance must be presented for verification on demand.

ELECTRONIC SHOP DRAWINGS (A-43-0215)

Paragraphs 5, 6, and 7 of Subsection 105.02 of the Standard Specifications are void and superseded by the following:

5. a. The Contractor shall provide electronic working drawings in a Portable Document Format (PDF). The PDFs shall be sized to print on an 11x17 inch sheet of paper and have a minimum resolution of 300 dpi. Each sheet of the shop drawings shall have a space provided for an electronic stamp that measures 2.5 inches x 3.5 inches when printed.
- b. Electronic working drawing files shall be named with the following file naming format:

Control Number_Brief Description_Date.pdf

For example: 12345_FloorDrains_05Feb2015
 12345_FloorDrainCoverLetter_05Feb2015
- c. The project number, control number, and project location as it appears on the plans shall be shown on the front sheet of each Shop Drawing file. Structure numbers shall be included, if applicable.
6. No electronic working drawings shall be submitted to the Engineer unless they have been checked by the Contractor. The electronic submittal shall be accompanied by a Contractor's letter of approval in a PDF format. This letter shall also be named with the format shown in the example above. The letter of approval shall clearly indicate that the Contractor is responsible for any errors on the working drawings.
7. a. Electronic submittals shall be submitted by email to the following address:

DOR.ShopDrawings@nebraska.gov
- b. Attachments shall be limited to 25 MB of data per email. Larger files shall be separated and sent in multiple emails.
- c. Electronic working drawings will only be accepted from the Prime Contractor.
8. Any reference to hard copy shop drawings in the contract shall be considered void.

BNSF RAILWAY COMPANY
BNSF RAILWAY SPECIAL PROVISIONS
FOR PROJECTS FOR HIGHWAY IMPROVEMENTS

1. CONTRACTOR REQUIREMENTS

1.1 General

1.1.1 The Contractor must cooperate with **BNSF RAILWAY COMPANY**, hereinafter referred to as "Railway" where work is over or under on or adjacent to Railway property and/or right-of-way, hereafter referred to as "Railway Property", during the construction of Expansion Joint Repair, South Sioux City.

1.1.2 Contractor shall have a background investigation performed on all of its employees, subcontractors and agents who will be performing any services for Railroad under this Agreement which are determined by Railroad in its sole discretion a) to be on Railroad's property, or b) that require access to Railroad Critical Infrastructure, Railroad Critical Information Systems, Railroad's Employees, Hazardous Materials on Railroad's property or is being transported by or otherwise in the custody of Railroad, or Freight in Transit involving Railroad.

The required background screening shall at a minimum meet the rail industry background screening criteria defined by the e-RAILSAFE Program as outlined at <http://www.e-railsafe.com>, in addition to any other applicable regulatory requirements.

Contractor shall obtain written consent from all its employees, subcontractors or agents screened in compliance with the e-RAILSAFE Program to participate in the Program on their behalf and to release completed background information to Railroad's designee. Contractor shall be subject to periodic audit to ensure compliance.

Contractor subject to the e-RAILSAFE Program hereunder shall not permit any of its employees, subcontractors or agents to perform services hereunder who are not first approved under e-RAILSAFE Program standards. Railroad shall have the right to deny entry onto its premises or access as described in this section above to any of Contractor's employees, subcontractors or agents who do not display the authorized identification badge issued by a background screening service meeting the standards set forth in the e-RAILSAFE Program, or who in Railroad's opinion, which may not be unreasonable, may pose a threat to the safety or security of Railroad's operations, assets or personnel.

Contractors shall be responsible for ensuring that its employees, subcontractors and agents are United States citizens or legally working in the United States under a lawful and appropriate work VISA or other work authorization.

1.1.3 The Contractor is responsible for determining and complying with all Federal, State and Local Governmental laws and regulations, including, but not limited to environmental laws and regulations (including but not limited to the Resource Conservation and Recovery Act, as amended; the Clean Water Act, the Oil Pollution Act, the Hazardous Materials Transportation Act, CERCLA), and health and safety laws and regulations. The Contractor hereby indemnifies, defends and holds harmless Railway for, from and against all fines or penalties imposed or assessed by Federal, State and Local Governmental Agencies against the Company which arise out of Contractor's work under this Agreement.

1.1.4 Except as otherwise agreed to between Railway and State, the Contractor must notify the (State) at (402) 370-3470 and Railway's Manager of Public Projects; telephone number (913) 551-4964 at least thirty (30) calendar days before commencing any work on Railway Property. Contractor's notification to Railway must refer to Railroad's file DOT #073092R, RRMP 100.929.

1.1.5 For any false work above any tracks, any excavations located within twenty-five (25) feet of the nearest track, and any intersecting slope from the plane of the top of rail on a 1½ horizontal to 1 vertical slope beginning at eleven (11) feet from centerline of the nearest track, both measured perpendicular to centerline of track, the Contractor must furnish the Railway five sets of working drawings showing details of construction affecting Railway Property and tracks. The working drawing must include the proposed method of installation and removal of false work, shoring or cribbing, not included in the contract plans and two sets of structural calculations of any false work, shoring or cribbing. All calculations must take into consideration Railway surcharge loading and must be designed to meet American Railway Engineering and Maintenance-of-Way Association (previously known as American Railway Engineering Association) Coopers E-80 live loading standard. All drawings and calculations must be stamped by a registered professional Engineer licensed to practice in the state the project is located. The Contractor must not begin work until notified by the Railway that plans have been approved. The Contractor will be required to use lifting devices such as, cranes and/or winches to place or to remove any false work over Railway's tracks. In no case will the Contractors be relieved of responsibility for results obtained by the implementation of said approved plans.

1.1.6 Subject to the movement of Railway's trains, Railway will cooperate and make reasonable effort to assist the Contractor so that the work may be handled and performed in an efficient manner. The Contractor will have no claim whatsoever for any type of damages or for extra or additional compensation in the event his work is delayed by necessary Railway operations.

1.2 Contractor Safety

1.2.1 No employee of the Contractor, its subcontractors, agents or invitees may enter Railway Property without first having completed Railway's Engineering Contractor Safety Orientation, found on the web site www.contractororientation.com. The Contractor must ensure that each of its employees, subcontractors, agents or invitees completes Railway's Engineering Contractor Safety Orientation through Internet sessions before any work is performed on the Project. Additionally, the Contractor must ensure that each and every one of its employees, subcontractors, agents or invitees possesses a card certifying completion of the Railway Contractor Safety Orientation before entering Railway Property. The Contractor is responsible for the cost of the Railway Contractor Safety Orientation. The Contractor must renew the Railway Contractor Safety Orientation annually. Further clarification can be found on the web site or from the Railway's Representative.

1.2.2 Each Contractor that will perform work within 25 feet of the centerline of a track must develop and implement a Roadway Worker Protection/On Track Safety Program and work with Railway Project Representative to develop an on-track safety strategy as described in the guidelines listed in the on track safety portion of the Safety Orientation. This Program must provide Roadway Worker protection/on-track training for all employees of the Contractor, its subcontractors, agents or invitees. This training is reinforced at the job site through job safety briefings. Additionally, each Contractor must develop and implement the Safety Action Plan, as provided for on the web site www.contractororientation.com, which will be made available to

Railway prior to commencement of any work on Railway Property. During the performance of work, the Contractor must audit its work activities. The Contractor must designate an on-site project Supervisor who will serve as the contact person for the Railway and who will maintain a copy of the Safety Action Plan, safety audits, and Material Safety Datasheets (MSDS), at the job site.

1.3 Railway Requirements

1.3.1 The Contractor must take protective measures as are necessary to keep Railway facilities, including track ballast, free of sand, debris and other foreign objects and materials resulting from his operations. The Railway shall notify the Contractor of any damage to the Railway facilities resulting from Contractor's operations. The Railway will repair such damages and the cost of such repairs or replacement must be paid for by the Contractor.

1.3.2 The Contractor must notify the Railway's Division Superintendent and provide blasting plans to the Railway for review seven (7) calendar days prior to conducting any blasting operations adjacent to or on Railway's Property.

1.3.3 The Contractor must abide by the following clearances during construction:

- ◆ 25'-0" Horizontally from centerline of nearest track
- ◆ 23'-31/2" Vertically above top of rail (Temporary False work Clearance may be reduced to 21'-6" subject to Railway approval)
- ◆ 27'-0" Vertically above top of rail for electric wires carrying less than 750 volts
- ◆ 28'-0" Vertically above top of rail for electric wires carrying 750 volts to 15,000 volts
- ◆ 30'-0" Vertically above top of rail for electric wires carrying 15,000 volts to 20,000 volts
- ◆ 34'-0" Vertically above top of rail for electric wires carrying more than 20,000 volts

1.3.4 Any infringement within the clearances provided above due to the Contractor's operations must be submitted to Railway and must not be undertaken until approved in writing by the Railway. No extra compensation will be allowed in the event the Contractor's work is delayed pending Railway approval.

1.3.5 The details of construction affecting the Railway's property and tracks not included in the contract plans must be submitted to the Railway by the Contractor for approval before work is undertaken and this work must not be undertaken until approved by the Railway.

1.3.6 At other than public road crossings, the Contractor must not move any equipment or materials across Railway's tracks until permission has been obtained from the Railway. The Contractor must obtain a "Temporary Private Crossing Agreement" (substantially in the form of Exhibit "F" of this agreement and in the form hereof) from the Railway prior to moving his equipment or materials across the Railway's tracks. The temporary crossing must be gated and locked at all times when not required for use by the Contractor. The temporary crossing for use of the Contractor will be at the expense of the Contractor.

1.3.7 Discharge, release or spill on the Railway Property of any hazardous substances, oil, petroleum, constituents, pollutants, contaminants or any hazardous waste is prohibited and Contractor must immediately notify the Railway's Resource Operations Center at 1-(800) 832-5452, of any discharge, release or spills in excess of a reportable quantity.

Contractor must not allow Railway Property to become a treatment, storage or transfer facility as those terms are defined in the Resource Conservation and Recovery Act or any similar State law.

1.3.8 In the event the Contractor shall in any manner move or disturb other property of the Railway, in connection with the use of the said property, then, and in that event, the Contractor shall, as soon as possible and at its sole expense, restore such property to the same condition as it was in before such property was moved or disturbed.

1.3.9 In addition to Subsection 104.08 of the Standard Specification, the Contractor upon completion of the work covered by this contract, must promptly remove from the Railway's Property all of Contractor's tools, equipment, implements and other materials whether brought upon said property by said Contractor or any Subcontractor, employee or agent of Contractor or of any Subcontractor, and must cause Railway's Property to be left in a condition acceptable to the Railway's representative.

1.4 Protection of Railway Facilities and Railway Flagger Services:

1.4.1 The Contractor must give Railway's Roadmaster George Biro (402) 753-2101 a minimum of thirty (30) calendar days advance notice when flagging services will be required so that the Roadmaster can make appropriate arrangements (i.e., bulletin the flagger's position). If flagging services are scheduled in advance by the Contractor and it is subsequently determined by the parties hereto that such services are no longer necessary, the Contractor must give the Roadmaster five (5) working days advance notice so that appropriate arrangements can be made to abolish the position pursuant to Union requirements.

1.4.2 Unless determined otherwise by Railway's Project Representative, Railway flagger and protective services and devices will be required and furnished when Contractor's work activities are located over, under and/or within twenty-five (25) feet measured horizontally from centerline of the nearest track and when cranes or similar equipment positioned beyond 25-feet from the track centerline could foul the track in the event of tip over or other catastrophic occurrence, but not limited thereto for the following conditions:

- a-** When in the opinion of the Railway's Representative it is necessary to safeguard Railway's Property, employees, trains, engines and facilities.
- b-** When any excavation is performed below the bottom of tie elevation, if, in the opinion of Railway's representative, track or other Railway facilities may be subject to movement or settlement.
- c-** When work in any way interferes with the safe operation of trains at timetable speeds.
- d-** When any hazard is presented to Railway track, communications, signal, electrical or other facilities either due to persons, material, equipment or blasting in the vicinity.
- e-** Special permission must be obtained from the Railway before moving heavy or cumbersome objects or equipment which might result in making the track impassable.
- f-** Flagging services will be performed by qualified Railway flaggers.

- g-** A flagging crew generally consists of one employee. However, additional personnel may be required to protect Railway Property and operations, if deemed necessary by the Railway Representative.
- h-** Each time a flagger is called, the minimum period for billing will be the eight (8) hour basic day.

1.4.3 The cost of flagger services provided by the Railway, when deemed necessary by the Railway's representative, will be borne by the Contractor. The estimated cost for one (1) flagger is \$1,600/10 hr/day for an eight (8) hour basic day with time and one-half or double time for overtime, rest days and holidays. The estimated cost for each flagger includes vacation allowance, paid holidays, Railway and unemployment insurance, public liability and property damage insurance, health and welfare benefits, transportation, meals, lodging and supervision. Negotiations for Railway labor or collective bargaining agreements and rate changes authorized by appropriate Federal authorities may increase actual or estimated flagging rates. The flagging rate in effect at the time of performance by the Contractor hereunder will be used to calculate the actual costs of flagging pursuant to this paragraph.

1.4.4 The average train traffic on this route is 1 freight trains per 24-hour period at a timetable speed 25 MPH and 0 passenger trains at a timetable speed of N/A MPH.

1.5 Contractor General Safety Requirements

1.5.1 Work in the proximity of Railway track(s) is potentially hazardous where movement of trains and equipment can occur at any time and in any direction. All work performed by Contractors within 25 feet of any track must be in compliance with FRA Roadway Worker Protection Regulations.

1.5.2 Before beginning any task on Railway Property, a thorough job safety briefing must be conducted with all personnel involved with the task and repeated when the personnel or task changes. If the task is within 25 feet of any track, the job briefing must include the Railway's flagger, as applicable, and include the procedures the Contractor will use to protect its employees, subcontractors, agents or invitees from moving any equipment adjacent to or across any Railway track(s).

1.5.3 Workers must not work within 25 feet of the centerline of any track without an on-track safety strategy approved by the Railway's Project Representative. When authority is provided, every Contractor employee must know: (1) who the Railway flagger is, and how to contact the flagger, (2) limits of the authority, (3) the method of communication to stop and resume work, and (4) location of the designated places of safety. Persons or equipment entering flag/work limits that were not previously job briefed, must notify the flagger immediately, and be given a job briefing when working within 25 feet of the centerline of track.

1.5.4 When Contractor employees are required to work on the Railway Property after normal working hours or on weekends, the Railroad's representative in charge of the project must be notified. A minimum of two employees must be present at all times.

1.5.5 Any employees, agents or invitees of Contractor or its subcontractors under suspicion of being under the influence of drugs or alcohol, or in the possession of same, will be removed from the Company's Property by Contractor and subsequently released to the custody of a

representative of Contractor management. Future access to the Railway's Property by that employee will be denied.

1.5.6 Any damage to Railway Property, or any hazard noticed on passing trains must be reported immediately to the Railway's representative in charge of the project. Any vehicle or machine which may come in contact with track, signal equipment, or structure (bridge) and could result in a train derailment must be reported immediately to the Railway representative in charge of the project and to the Railway's Resource Operations Center at 1(800) 832-5452. Local emergency numbers are to be obtained from the Railway representative in charge of the project prior to the start of any work and must be posted at the job site.

1.5.7 For safety reasons, all persons are prohibited from having pocket knives, firearms or other deadly weapons in their possession while working on Railway's Property.

1.5.8 All personnel protective equipment (PPE) used on Railway Property must meet applicable OSHA and ANSI specifications. Current Railway personnel protective equipment requirements are listed on the web site, www.contractororientation.com, however, a partial list of the requirements include: a) safety glasses with permanently affixed side shields (no yellow lenses); b) hard hats c) safety shoe with: hardened toes, above-the ankle lace-up and a defined heel; and d) high visibility retro-reflective work wear. The Railroad's representative in charge of the project is to be contacted regarding local specifications for meeting requirements relating hi-visibility work wear. Hearing protection, fall protection, gloves and respirators must be worn as required by State and Federal regulations. **(NOTE – Should there be a discrepancy between the information contained on the web site and the information in this paragraph, the web site will govern.)**

1.5.9 The Contractor must not pile or store any materials, machinery or equipment closer than 25'-0" to the centerline of the nearest Railway track. Materials, machinery or equipment must not be stored or left within 250 feet of any highway/rail at-grade crossings, where storage of the same will interfere with the sight distances of motorists approaching the crossing. Prior to beginning work, the Contractor must designate any proposed areas with concurrence of the Railroad's representative.

1.5.10 Machines or vehicles must not be left unattended with the engine running. Parked machines or equipment must be in gear with brakes set and if equipped with blade, pan or bucket, they must be lowered to the ground. All machinery and equipment left unattended on Railway's Property must be left inoperable and secured against movement. (See Internet Engineering Contractor Safety Orientation program for more detailed specifications)

1.5.11 Workers must not create and leave any conditions at the work site that would interfere with water drainage. Any work performed over water must meet all Federal, State and Local regulations.

1.5.12 All power line wires must be considered dangerous and of high voltage unless informed to the contrary by proper authority. For all power lines the minimum clearance between the lines and any part of the equipment or load must be; 200KV or below – 15 feet; 200 to 350 KV – 20 feet; 350 to 500 KV – 25 feet; 500 to 750 KV – 35 feet; and 750 to 1000 KV – 45 feet. If capacity of the line is not known, a minimum clearance of 45 feet must be maintained. A person must be designated to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

1.6 Excavation

1.6.1 Before excavating, the Contractor must investigate to determine whether any underground pipe lines, electric wires, or cables, including fiber optic cable systems are present and located within the Project work area. The Contractor must determine whether excavation on Railway's Property could cause damage to buried cables resulting in delay to Railway traffic and disruption of service to users. Delays and disruptions to service may cause business interruptions involving loss of revenue and profits. Before commencing excavation, the Contractor must contact Railway's Field Engineering Representative John Caldwell; (913) 551-4564. All underground and overhead wires will be considered HIGH VOLTAGE and dangerous until verified with the company having ownership of the line. It is the Contractor's responsibility to notify any other companies that have underground utilities in the area and arrange for the location of all underground utilities before excavating.

1.6.2 The Contractor must cease all work and notify the Railway immediately before continuing excavation in the area if obstructions are encountered which do not appear on drawings. If the obstruction is a utility and the owner of the utility can be identified, then the Contractor must also notify the owner immediately. If there is any doubt about the location of underground cables or lines of any kind, no work must be performed until the exact location has been determined. The Railway will grant no exceptions to the requirements of this section.

1.6.3 All excavations must be conducted in compliance with applicable OSHA regulations and, regardless of depth, must be shored where there is any danger to tracks, structures or personnel.

1.6.4 Any excavations, holes or trenches on the Railway's Property must be covered, guarded and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas must be secured and left in a condition that will ensure that Railway employees and other personnel who may be working or passing through the area are protected from all hazards. All excavations must be back filled as soon as possible.

1.7 Hazardous Waste, Substances and Material Reporting

1.7.1 If Contractor discovers any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, on or adjacent to Railway's Property, in or near any surface water, swamp, wetlands or waterways, while performing any work under this Agreement, Contractor must immediately:

- (a) notify the Railway's Resource Operations Center at 1(800) 832-5452, of such discovery:
- (b) take safeguards necessary to protect its employees, subcontractors, agents and/or third parties: and
- (c) exercise due care with respect to the release, including the taking of any appropriate measure to minimize the impact of such release.

1.8 Personal Injury Reporting

1.8.1 The Railway is required to report certain injuries as a part of compliance with Federal Railroad Administration (FRA) reporting requirements. Any personal injury sustained by an employee of the Contractor, subcontractor or Contractor's invitees while on the Railway's Property must be reported immediately (by phone mail if unable to contact in person) to the Railway's representative in charge of the project. The Non-Employee Personal Injury Data Collection Form contained herein is to be completed and sent by fax to the Railway at 1-(817) 352-7595 and to the Railway's Project Representative no later than the close of shift on the date of the injury.

NON-EMPLOYEE PERSONAL INJURY DATA COLLECTION

INFORMATION REQUIRED TO BE COLLECTED PURSUANT TO FEDERAL REGULATION. IT SHOULD BE USED FOR COMPLIANCE WITH FEDERAL REGULATIONS ONLY AND IS NOT INTENDED TO PRESUME ACCEPTANCE OF RESPONSIBILITY OR LIABILITY.

1. Accident City/St _____
County: _____
(if non-Railway location)
2. Date: _____ Time: _____
3. Temperature: _____
4. Weather _____
5. Social Security # _____
6. Name (last, first, mi) _____
7. Address: Street: _____ City: _____ St. _____ Zip: _____
8. Date of Birth: _____ and/or Age _____ Gender: _____
(if available)
9. (a) Injury: _____ (b) Body Part: _____
(i.e. (a) Laceration (b) Hand)
10. Description of Accident (To include location, action, result, etc.): _____

11. Treatment:
? First Aid Only
? Required Medical Treatment
? Other Medical Treatment
12. Dr. Name _____ 30. Date: _____
13. Dr. Address:
Street: _____ City: _____ St: _____ Zip: _____
14. Hospital Name: _____
15. Hospital Address:
Street: _____ City: _____ St: _____ Zip: _____
16. Diagnosis: _____

**FAX TO
RAILWAY AT (817) 352-7595
AND COPY TO
RAILWAY ROADMASTER FAX**

2. INSURANCE

The Contractor shall carry the following insurance coverage:

- A. **Commercial General Liability** insurance. This insurance shall contain broad form contractual liability with a single limit of **at least \$3,000,000** each occurrence or claim and an aggregate limit of **at least \$4,000,000**. Coverage must be purchased on a post 1998 ISO or equivalent form, including but not limited to coverage for the following:

Bodily injury including death and personal injury.

Property damage.

Fire legal liability.

Products and completed operations.

The policy shall also contain the following endorsements **which shall be indicated on the certificate of insurance**:

The employee and workers compensation related exclusions in the above policy apply only to Contractor's employees.

The exclusions for railroads (except where the Job Site is more than fifty feet (50') from any railroad including but not limited to tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings), and explosion, collapse and underground hazard shall be removed.

Waiver of subrogation.

- B. **Business Automobile Coverage** insurance. This insurance shall contain a combined single limit of **at least \$3,000,000** per occurrence or claim, including but not limited to coverage for the following:

Bodily injury and property damage.

Any and all motor vehicles including owned, hired and non-owned.

The policy shall also contain the following endorsements **which shall be indicated on the certificate of insurance**:

The employee and workers compensation related exclusions in the above policy apply only to Contractor's employees.

The exclusions for railroads (except where the Job Site is more than fifty feet (50') from any railroad including but not limited to tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings), and explosion, collapse and underground hazard shall be removed.

Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) **if required by law.**

- C. **Workers Compensation and Employers Liability** insurance including but not limited to:

Contractor's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement.

Employers' Liability (Part B) with limits of at least

\$500,000 each accident, \$500,000 disease policy limit

\$500,000 each employee

If Workers Compensation Insurance will not cover the liability of Contractor in states that require participation in State Workers' Compensation Fund, Contractor shall comply with the laws of such states. If Contractor is self-insured, evidence of State approval must be provided along with evidence of excess workers compensation coverage. Coverage shall include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

- D. **Umbrella or Excess Policies** in the event Contractor utilizes Umbrella or Excess Policies, these policies shall "follow form" and afford no less coverage than the primary policy.

- E. **Railroad Protective Liability** insurance naming only the Railway as the insured with a combined single limit of \$2,000,000 per occurrence with a \$6,000,000 aggregate. The policy shall be broad form coverage for "Physical Damage to Property" (ISO Form CG 00 35 07 98 or equivalent). A binder stating the policy is in place must be submitted to the Railroad until the original policy is forwarded to the Railroad.

Other Requirements

- F. Punitive damage exclusion must be **deleted, which deletion shall be indicated on the certificate of insurance.**
- G. Contractor agrees to waive its right of recovery, and its insurers, through policy endorsement, agree to waive their right of subrogation against Railway. Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against Railway for loss of its owned or leased property or property under its care, custody and control. With the exception of the umbrella or excess policies, Contractor's insurance shall be primary with respect to any insurance carried by the Railroad, other than a Railway Protective Policy. All waivers of subrogation **shall be indicated on the certificate of insurance.**
- H. All policy(ies) required above (excluding Workers Compensation) shall provide severability of interests and shall name Railway as an additional insured. **Severability of interest and naming Railway as an additional insured shall be indicated on the certificate of insurance.**
- I. Prior to commencing the work, Contractor shall furnish to Railway original certificate(s) of insurance evidencing the required coverage, endorsements and amendments. The certificate(s) shall contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify Railway in writing of any cancellation or material alteration.

Upon request from Railway, a certified duplicate original of any required policy shall be furnished.

- J.** Any insurance policy shall be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provided.
- K.** Contractor **WARRANTS** that this Agreement has been thoroughly reviewed by Contractor's insurance agent(s)/broker(s), who have been instructed by Contractor to procure the insurance coverage required by this Agreement and acknowledges, with the exception of the umbrella or excess policies, that Contractor's insurance shall be primary with respect to any insurance carried by the Railroad, other than a Railroad Protective Policy.
- L.** If Contractor fails to procure and maintain insurance as required, Railway may elect to do so at the cost of Contractor plus 25% administration fee.
- M.** The fact that insurance is obtained by Contractor or Railway on behalf of Contractor shall not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railway shall not be limited by the amount of the required insurance coverage.

3. ADDITIONAL RIGHT OF WAY

3.1 The Department right-of-way plans show the permanent and temporary easements acquired, or to be acquired by the Department for this project. Any additional land or easements that the Contractor may desire for the construction of the project shall be provided by the Contractor at its own expense.

BNSF INDEMNITY PROVISION

The State agrees to insert the following provision in any contract in which State's Contractor will have access to The Railway property:

To the extent allowed by law, Contractor hereby releases and shall indemnify, defend and hold harmless The Railway, its affiliated companies, partners, successors, assigns, legal representatives, officers, directors, shareholders, employees and agents for, from and against any and all claims, liabilities, fines, penalties, costs, damages, losses, liens, causes of action, suits, demands, judgments and expenses (including, without limitation, court costs and reasonable attorneys' fees) of any nature, kind or description of any person (including, without limitation, the employees of the parties hereto and the employees of The Railway) or entity directly or indirectly arising out of, resulting from, or related to (in whole or in part) (i) the use, occupancy or presence of State, its Contractors, subcontractors, employees or agents, in, on, or about the construction site; (ii) the performance or failure to perform by the Contractor, its subcontractors, employees, or agents, its work or any obligation under this Agreement; or (iii) the sole or contributing acts or omissions of Contractor, its subcontractors, employees, or agents, in, on, or about the construction site. Contractor further agrees to appear and defend in the name of The Railway, any suits or actions brought against The Railway, on account of any personal injury or death, and loss or damage to or destruction of Property, and to pay and satisfy any final judgment that may be rendered against The Railway and any such suit or action, to the extent such suits, actions, or judgments were not solely caused by, or arising out of, the acts or omissions of Railway, its employees, agents, servants, successors or assigns. THE LIABILITY ASSUMED BY CONTRACTOR WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY OR DEATH WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF THE RAILWAY, ITS AGENTS, SERVANTS, EMPLOYEES, OR OTHERWISE, EXCEPT (I) TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE ACTIVE GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT OF THE RAILWAY, OR (II) FOR CLAIMS ARISING SOLELY OUT OF THE NEGLIGENT ACTIONS OF THE RAILWAY EMPLOYEES, SERVANTS OR AGENTS.

PERCENTAGE OF COST OF WORK WITHIN RAILROAD RIGHT-OF-WAY

The following information is furnished to aid in the determination of a proper premium for the Railroad Protective Liability Insurance required elsewhere in these special provisions.

RAILROAD PROTECTIVE POLICY DATA SHEET

Railroad: BNSF Railway Company

Railroad Contact: Bentley Tomlin

Title: Manager Public Projects

Address: 4545 Kansas Avenue
Kansas City, KS 66106

Telephone Number: (913) 551-4964

Project Number: M3003A

Project Location: Expansion Joint Repair, South Sioux City

Type of Project: Repair

No. of trains/day: Total: 1

Freight or Coal: 1 Speed: 25 mph Passenger: 0 Speed: N/A mph

No. of Tracks: Mainline: 1 Branchline: 0

Project Over RR: No Yes Project Under Railroad: No Yes

Railroad Shoo-fly Required: No Yes

Project Parallel to RR: No Yes If Yes, Number of Miles: N/A

Crossings on State Highway or City Street System: No Yes

If Yes, Number of Crossings: 1 @ DOT #073092R, RRMP 100.929

Pavement or Overlay up to Crossing on County or City Road: No Yes

If Yes, Number of Crossings: N/A

Work to be done by Railroad: Flagging

It shall be the Contractor's responsibility to contact the railroad for additional information needed to purchase the Railroad Protective Policy.

The percentage of work within railroad right of way that is within 50 feet (15.25 meters) of any railroad track shall be covered by Railroad Protective Insurance. The railroad's ownership of right of way that extends beyond 50 feet (15.25 meters) from the closest track shall be covered under regular Contractor's Public Liability and Property Damage Insurance in the amounts specified in this contract.

<u>Group</u>	<u>Approximate Percent of Work Within 50 feet (15.25 meters) of Nearest Track</u>	<u>Approximate Percent of Work on RR/ROW Not Within 50 feet (15.25 meters) of Nearest Track</u>	<u>Description of Work</u>
<u>All</u>	<u>---%</u>	<u>40%</u>	<u>---</u>

**LIABILITY INSURANCE
(A-55-0414)**

Subsection 107.13 in the Standard Specifications is void and superseded by the following:

107.13 – Liability Insurance

Prior to execution of the contract, the Contractor shall obtain insurance coverage to fully protect it from loss associated with the work, and have at a minimum the insurance described below:

1. General Liability:
Limits of at least:
 - \$ 1,000,000 per Occurrence
 - \$ 2,000,000 General Aggregate
 - \$ 2,000,000 Completed Operations Aggregate
 - \$ 1,000,000 Personal and Advertising Injury
 - a. Contractor shall be responsible for the payment of any deductibles.
 - b. Coverage shall be provided by a standard form Commercial General Liability Policy (CG0001 or equivalent) covering bodily injury, property damage including loss of use, and personal injury.
 - c. The General Aggregate shall apply on a Per Project Basis.
 - d. The State of Nebraska, Department of Roads, shall be named as an Additional Insured on a primary and non-contributory basis including completed operations for three (3) years after final acceptance and payment.
 - e. Contractor agrees to waive its rights of recovery against the State of Nebraska, Department of Roads. Waiver of Subrogation in favor of the State of Nebraska, Department of Roads shall be added to the policy.

- f. Contractual liability coverage shall be on a broad form basis and shall not be amended by any limiting endorsements.
 - g. If work is being performed near a railroad track, the 50' railroad right-of-way exclusion must be deleted.
 - h. Products and completed operations coverage in the amount provided above shall be maintained for the duration of the work, and shall be further maintained for a minimum period of three years after final acceptance and payment.
 - i. Coverage shall be included for demolition of any building or structure, collapse, explosion, blasting, excavation and damage to property below surface of ground (XCU coverage).
 - j. Policy shall not contain a total or absolute pollution exclusion. Coverage shall be provided for pollution exposures arising from products and completed operations as per standard CG0001 Pollution Exclusion or equivalent. If the standard pollution exclusion as provided by CG0001 has been amended, coverage must be substituted with a separate Pollution Liability policy of \$1.0 million per occurrence and \$2.0 million aggregate. If coverage is provided by a "claims made" form, coverage will be maintained for three years after project completion. Any applicable deductible is the responsibility of the Contractor.
2. Automobile Liability:
Limits of at least:
\$ 1,000,000 CSL per Accident
- a. Coverage shall apply to all Owned, Hired, and Non-Owned Autos.
 - b. If work is being performed near a railroad track, the 50-foot railroad right-of-way exclusion must be deleted.
 - c. Contractor agrees to waive its rights of recovery against the State of Nebraska, Department of Roads. Waiver of Subrogation in favor of the State of Nebraska, Department of Roads, shall be added to the policy.
 - d. Automobile liability coverage shall be obtained from an insurance carrier who is licensed with the Nebraska Department of Insurance.
3. Workers' Compensation:
Limit: Statutory coverage for the State where the project is located.
Employer's Liability limits: \$500,000 Each Accident
\$500,000 Disease – Per Person
\$500,000 Disease – Policy Limit
- a. Contractor agrees to waive its rights of recovery against the State of Nebraska, Department of Roads. Waiver of Subrogation in favor of the State of Nebraska, Department of Roads shall be added to the policy.

- b. Workers' compensation coverage shall be obtained from an insurance carrier who is licensed with the Nebraska Department of Insurance.
 - c. Where applicable, the Longshore and Harborworkers Compensation Act endorsement shall be attached to the policy.
4. Umbrella/Excess:
Limits of at least:
\$1,000,000 per Occurrence
- a. Policy shall provide liability coverage in excess of the specified Employers Liability, Commercial General Liability and Automobile Liability.
 - b. The State of Nebraska, Department of Roads, shall be an "Additional Insured."
 - c. Contractor agrees to waive its rights of recovery against the State of Nebraska, Department of Roads. Waiver of subrogation in favor of the State of Nebraska, Department of Roads shall be provided.
5. Pollution Liability:
- a. When "hazardous wastes" or contaminated or polluted materials must be handled and/or moved, the Contractor shall obtain Pollution Liability Coverage with minimum limits of \$1,000,000 per occurrence and \$2,000,000 aggregate.
 - b. If, during the course of construction, hazardous wastes, contaminated or polluted material are discovered on the project, the Contractor shall immediately cease any operation that may disturb these materials, and shall immediately notify the Engineer of all facts related to the discovery of these materials.
 - c. Unforeseen work related to the discovery of hazardous, contaminated or polluted materials on the project, and the extra cost, if any, of pollution liability coverage will be handled as "extra work."
6. Additional Requirements:
- a. The Contractor shall provide and carry any additional insurance required by the Special Provisions.
 - b. Except as otherwise provided herein, all insurance shall be kept in full force and effect until after the State releases the Contractor from all obligations under the contract.
 - c. (1) If any of the work is sublet, equivalent insurance shall be provided by or on behalf of the subcontractor or subcontractors (at any tier) to cover all operations.

- (2) Approved trucking subcontractors (at any tier) who are being utilized only for the purpose of hauling materials shall be exempt from the requirements of Paragraphs 1, 4, and 5.
- (3) (i) When a Contractor or subcontractor chooses to employ a trucker by carrying the driver on his or her payroll and entering into a lease agreement for the truck, the owner-operator of the truck shall be required to comply with the Automobile Liability provisions of Paragraph 2.
 - (ii) Furthermore, it shall be the duty of the Prime Contractor to ensure that the owner-operator of the truck has such insurance in effect. The Prime Contractor shall maintain evidence that any truckers so utilized (at any tier) are insured to the minimum limits specified and be able to furnish documentation of the same on demand.
 - (iii) Failure to ensure that insurance coverage exists and failure to maintain evidence thereof shall be considered a breach of the contract.
- d. Any insurance policy shall be written by an insurance company with a Best's Insurance Guide Rating of A – VII or better.
- e. Prior to execution of the contract, Contractor shall provide the State of Nebraska, Department of Roads, evidence of such insurance coverage in effect in the form of an Accord (or equivalent) certificate of insurance executed by a licensed representative of the participating insurer(s). Certificates of insurance shall show the Nebraska Department of Roads as the certificate holders.
- f. For so long as insurance coverage is required under this agreement, the Contractor shall have a duty to notify the Department when the Contractor knows, or has reason to believe, that any insurance coverage required under this agreement will lapse, or may be cancelled or terminated. The Contractor must forward any pertinent notice of cancellation or termination to the Department at the address listed below by mail (return receipt requested), hand-delivery, or facsimile transmission within 2 business days of receipt by Contractor of any such notice from an insurance carrier. Notice shall be sent to:
 - Nebraska Department of Roads
 - Construction Division --- Insurance Section
 - 1500 Highway 2, P.O. Box 94759
 - Lincoln, NE 68509-4759
 - Facsimile No. 402-479-4854
- g. Failure of the owner or any other party to review, approve, and/or reject a certificate of insurance in whole or in part does not waive the requirements of this agreement.
- h. The limits of coverage set forth in this document are suggested minimum limits of coverage. The suggested limits of coverage shall not be

construed to be a limitation of the liability on the part of the Contractor or any of its subcontractors/tier subcontractors. The carrying of insurance described shall in no way be interpreted as relieving the Contractor, subcontractor, or tier subcontractors of any responsibility or liability under the contract.

- i. If there is a discrepancy of coverage between this document and any other insurance specification for this project, the greater limit or coverage requirement shall prevail.

CONSTRUCTION DETAILS

TEMPORARY WATER POLLUTION CONTROL (B-3-1014)

Section 204 in the Standard Specifications is void.

CONSTRUCTION STORMWATER MANAGEMENT CONTROL (B-3-1014)

A. General

1. This Section defines some best management practices (BMPs) for erosion and sediment control measures and construction practices the Contractor shall use to prevent soil erosion and avoid water pollution.
2.
 - a. The Department and the Contractor are co-permittees of the NPDES Construction Storm Water General Permit.
 - b. The Contractor shall comply with all conditions required by the current NPDES Construction Storm Water General Permit.
3. The Contractor shall exercise every reasonable precaution throughout the life of the contract to prevent silting of the waters of the state, the project site, and adjacent property. Construction of drainage facilities, as well as performance of other contract work which will contribute to the control of siltation, shall be carried out in conjunction with earthwork operations or as soon thereafter as is practicable.
4.
 - a. The Contractor shall take sufficient precautions to prevent pollution of the waters of the state, the project site, and adjacent property from construction debris, petroleum products, chemicals, or other harmful materials.

The Contractor shall conduct and schedule the operations to avoid interference with any protected species.

- b. The Contractor shall comply with all applicable statutes relating to pollution of the waters of the state and fish and game regulations.

5. All construction debris shall be disposed in a manner that it cannot enter any waterway. Excavation shall be deposited as to protect the waters of the state from siltation.
6. All erosion and sediment control measures shall be properly installed and maintained by the Contractor until all permanent drainage facilities have been constructed, and all slopes are sufficiently vegetated to be an effective erosion deterrent; or until tentative acceptance of the work.
7. All erosion and sedimentation resulting from the Contractor's operations and the weather conditions must be corrected by the Contractor.

LIMITATION OF OPERATIONS (B-3-1014)

A. General

1. The maximum exposed surface area for the Contractor's operations in excavation, borrow, and embankment is 18 acres (72,800 m²) plus an equal area of clearing and grubbing/large tree removal. A written request for an increase in the maximum exposed surface area may be approved by the Engineer. This approval will be based on the soil, moisture, seasonal conditions, the Contractor's operation, or other conditions.
2. The Engineer shall have the authority to reduce the maximum exposed surface area when any of the following conditions warrant:
 - a. Soil and moisture conditions are such that erosion is probable.
 - b. Seasonal conditions may force extended delays.
 - c. Proximity to the waters of the state requires more stringent controls.
 - d. Equipment and personnel available on the job is not sufficient to properly maintain erosion and dust control measures.
 - e. Any other environmental condition in the area that may exist which would be affected by erosion from the project.
3. Construction operations in rivers, streams, wetlands, and impoundments shall be restricted to those areas specifically shown in the contract. Rivers, streams, wetlands, and impoundments shall be promptly cleared of all false work, piling, debris, or other obstructions placed therein or caused by the construction operations.
4. Fording and operation of construction equipment within streams and wetlands will not be allowed, unless explicitly allowed in the contract. Streams are defined as any area between the high banks, regardless of the flow conditions.

CONSTRUCTION METHODS (B-3-1014)

A. General

1. The Contractor shall conduct all construction activities and install temporary erosion control measures, as necessary, to control sediment and avoid soil erosion during construction.
2. The Contractor shall incorporate all permanent erosion control features into the project at the earliest practicable time.
3. Construction stormwater management control measures for Contractor obtained work areas located outside the right-of-way, such as borrow site operations, haul roads, plant sites, staging sites, waste sites, equipment storage sites, etc. are the sole responsibility of the Contractor. All construction stormwater management control measures for these areas are at the Contractor's expense. The Contractor is responsible for securing all required permits for use of these sites.
4. The construction stormwater management procedures contained herein shall be coordinated with any permanent erosion control measures specified elsewhere in the contract to the extent practical to assure economical, effective, and continuous erosion and sediment control throughout the construction period.
5. The Contractor shall be responsible to limit erosion and prevent siltation into the waters of the state during the construction period, as well as during the times that work may be suspended.
6.
 - a. All erosion and sediment control items shall be installed by personnel who are knowledgeable in the principles and practice of various BMP installations.
 - b. The installation of all erosion and sediment control items shall be done under the direct supervision of the Contractor's employee who has successfully completed training provided by the Department and has been certified as an Erosion and Sediment Control Inspector (Inspector). The Contractor's Inspector shall be present at each site during installation to direct and inspect all erosion and sediment control BMP installations.
 - i. The NDOR Erosion and Sediment Control Inspector Certification is obtained by completing an Erosion and Sediment Control Inspector Training Course provided by the Nebraska Department of Roads and passing the examination that accompanies the training.
 - c. The Contractor shall notify the Engineer of all employees, who have been certified as Inspectors, who will be on the project to direct and inspect all erosion and sediment control BMP installations.
 - d. No payment will be made for any erosion and sediment control item unless a Contractor's Inspector was present to directly supervise and inspect the work.

- e. No payment will be made for any erosion and sediment control item that is not properly installed. All erosion and sediment control items shall be installed as per the contract.

**ENVIRONMENTAL COMMITMENT DOCUMENT
(B-3-1014)**

A. Environmental Commitment Document

- 1. a. An Environmental Commitment Document will be created by the Department to identify all project specific environmental commitments and will be included in the Contract.
- b. The Department will provide information for the following, when applicable:
 - i. Storm Water Pollution Prevention Plan (SWPPP)
 - ii. U.S. Army Corps of Engineers (USACE) Section 404 Permit
 - iii. Nebraska Department of Environmental Quality 401 Water Quality Certification
 - iv. State Title 117 Waters (USACE Non-Jurisdictional)
 - v. Floodplain Permit
 - vi. Historic Clearance
 - vii. Endangered Species Act Clearance
 - viii. Nebraska Nongame and Endangered Species Conservation Act Clearance
 - ix. National Environmental Policy Act Compliance
 - x. NPDES Construction Stormwater Permit (within Right-of-Way limits, only)
 - xi. Conservation Measures
 - xii. Migratory Bird Treaty Act
 - xiii. Bald and Golden Eagle Protection Act Compliance
 - xiv. Other pertinent issues
- c. The Contractor shall provide information for the following, when applicable:
 - i. Temporary Erosion Control Plan
 - ii. Spill Prevention and Control Plan
 - iii. Migratory Bird Treaty Act Compliance Plan
 - iv. Name and telephone number of the Contractor's representative responsible for the Environmental Commitments

- v. Name and telephone number of the employees that are NDOR-Certified Erosion and Sediment Control Inspectors
- vi. Critical Path Construction Schedule
- vii. Other items as defined elsewhere in the contract

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
(B-3-1014)**

A. General

- 1. A SWPPP is required for projects that construction activities will cause a land disturbance of one (1) acre or more. The Department will prepare the SWPPP for the areas within the Right-of-Way, temporary easements and permanent easements.
- 2. For projects not requiring a SWPPP, the Contractor shall comply with the requirements of Environmental Commitment Document, Paragraph 1.b. of this Special Provision, as applicable.
- 3. Contractor obtained work areas, located on private property, are not included in the NDOR Project SWPPP.

B. Temporary Erosion Control Plan

- 1. The Contractor shall prepare and submit the Temporary Erosion Control Plan prior to the start of any work. The Contractor shall not begin work until the Temporary Erosion Control Plan has been submitted to the Engineer and appropriate erosion control measures are in place. Payment for any work on the contract will be withheld if erosion control measures are not in place or properly maintained.
- 2. The Temporary Erosion Control Plan will be reviewed at project progress meetings. All active Contractors shall have their Inspectors present and work in cooperation to determine any necessary changes. Necessary changes will be documented on the Temporary Erosion Control Plan by the Engineer.
- 3. Payment for preparing the Temporary Erosion Control Plan, inspections and meeting reviews are subsidiary to items that direct payment is made.

C. Spill Prevention and Control Plan

- 1. All project activities shall be addressed in the Spill Prevention and Control Plan. The Contractor shall prepare and submit the plan to the Engineer and install all appropriate spill prevention and control measures prior to the start of any work.
- 2. The Spill Prevention and Control Plan shall clearly state measures to prevent, contain, document and clean up a spill. It shall state measures for disposal of the contaminated material, disposal documentation and incident review to train personnel to prevent spills from reoccurring.

3. Spill Prevention and Control Plans are applicable to construction sites where hazardous materials are stored, used and/or generated onsite. Hazardous materials include, but not limited to: hazardous wastes, pesticides, paints, cleaners, petroleum products, fertilizers, solvents and porta-potty wastes.
4. Direct payment will not be made for the Spill Prevention and Control Plan.

D. Migratory Bird Treaty Act Compliance Plan

1. The Contractor shall not begin work until a Migratory Bird Treaty Act Compliance Plan has been submitted to the Engineer and appropriate nesting migratory bird avoidance measures are in place.
2. a. The Contractor shall clearly state the necessary measures they intend to use to avoid a "Take" of nesting migratory birds in the Migratory Bird Treaty Act Compliance Plan. Measures may include but are not limited to:
 - i. Clearing and grubbing prior to April 1st or after September 1st
 - ii. Tree removal prior to April 1st or after September 1st
 - iii. Clearing empty nests on structures prior to April 1st
 - iv. Maintaining clear structures until commencement and throughout the duration of work on structures
 - v. Netting structures to prevent nesting
 - vi. Commitment to perform surveys according to protocol
 - vii. Hire a biologist to survey areas to be disturbed prior to commencement of work during the nesting season
 - viii. Submittal of required bird survey reports
 - ix. Training of Contractor Personnel to insure compliance
3. a. The Migratory Bird Treaty Act Compliance Plan is applicable to the entire project site to avoid the "Take" of migratory birds protected under the Migratory Bird Treaty Act.
b. "Take" is defined as: pursuit, hunt, shoot, wound, kill, trap, capture, collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.
4. The Migratory Bird Treaty Act Compliance Plan shall adhere to the NDOR's Avian Protection Plan located at:

<http://www.transportation.nebraska.gov/environment/guides/avian-protection-plan.pdf>

Direct payment will not be made for the Migratory Bird Treaty Act Compliance Plan.

E. SWPPP Inspection

1. The Contractor shall accompany the Engineer on inspections in accordance with the NPDES Construction Storm Water General Permit.
2. The SWPPP will be maintained and updated by the Engineer as work progresses and site conditions change to accurately describe the BMPs that are currently in place.
3. The Contractor's participation in SWPPP inspections, maintenance and updates shall begin on the first day construction activities cause land disturbance and end on the date of project completion as evidenced as the completion date in the District Engineer's Letter of Tentative Acceptance.
4.
 - a. The Contractor's Inspector shall be responsible for ensuring that all BMPs are installed in accordance with the contract or the manufacturers' recommendations. The Contractor's Inspector shall be capable of reading and interpreting these documents.
 - b. The Contractor's Inspector shall be familiar with product and structural BMPs. The Contractor's Inspector shall inspect, assess, and supervise the maintenance of erosion and sediment control BMPs to ensure compliance with the NPDES Construction Storm Water General Permit while preserving BMP functionality.
5. Payment for project inspection is subsidiary to items that direct payment is made.

**ENVIRONMENTAL COMMITMENT ENFORCEMENT
(B-3-1215)**

A. General

1. This specification establishes payment and disincentive assessment for the Contractor's performance in complying with Contract Environmental Commitments.
2. Deficiencies are described but not limited to:
 - a. Failure to install pollution prevention control BMPs as work progresses or as described in the SWPPP.
 - b. Failure to maintain existing pollution prevention control BMPs.
 - c. Failure to remove non-functioning pollution prevention control BMPs.
 - d. Failure to comply with USACE Section 404 Permit requirements.
 - e. Failure to comply with NPDES Construction Storm Water General Permit requirements.

- f. Failure to comply with all applicable statutes relating to pollution of the waters of the state.
- g. Exceeding the maximum exposed surface area for excavation of 18 Acres without written request for permission and written approval.
- h. Failure to comply with wildlife species specific conservation conditions.
- i. Failure to comply with the Contract.
- j. Failure to comply with the Engineers directives.

B. SWPPP Deficiency Notification

- 1. The Engineer will document and direct the Contractor to correct deficiencies.
- 2.
 - a. The Contractor shall commence correcting deficiencies, provide adequate equipment and personnel, and diligently pursue correcting deficiencies without cessation until all deficiencies have been corrected.
 - b. The count of Working Days and/or Calendar Days will continue during the time period that corrective work is being performed.
 - c. Delays to the project as a result of the Contractor conducting corrective actions for the Contract Environmental Commitments will not constitute a valid reason for an extension of the contract time allowance.
- 3. Deficiencies shall be corrected within seven (7) calendar days of notification or within an approved extension. When deficiencies are not corrected within seven (7) calendar days or within an approved extension, the Engineer will make a disincentive assessment to the contract as stated herein.
- 4.
 - a. If soil, weather, or other conditions prevent the Contractor from completing the corrective actions within seven (7) calendar days, the Contractor shall notify the Engineer in writing. The Contractor's letter shall state the reasons preventing corrective action within the time allowed. The Contractor shall propose a written Corrective Action Plan within 48 hours. Corrective work shall continue while the Corrective Action Plan is developed. The Contractor's Corrective Action Plan must contain a course of action and a time frame for completion. If the reasons and the Corrective Action Plan are acceptable, the Engineer may extend the time in which to complete the corrective work.
 - b. The Contractor will be allowed to proceed with the plan as proposed without incurring a disincentive assessment. If all corrective work is completed within the time allowance shown in the Notification or within an approved extension, a disincentive assessment will not be imposed upon the Contractor.
 - c. Storm events or soil and weather conditions occurring on other projects, which interfere with a Contractor completing corrective actions on the

project within seven (7) calendar days, will not be justification for a time extension to complete the corrective work.

5. If all corrective work identified in the Notification has not been completed at the end of the seventh (7th) calendar day after the Initial Notice Date or within an approved extension, a Shut-Down Notice will be issued on the eighth (8th) calendar day after the Initial Notice Date or on the calendar day following the last day of an approved extension.
6. All operations shall cease as of the date and time cited in the Shut-Down Notice. The Contractor shall work, exclusively, on the deficiencies until all have been corrected or as directed by the Engineer. Upon issuance of the Shut-Down Notice, a disincentive of \$500.00 per deficiency per calendar day will be assessed thru the day the corrective work is completed, inclusive.
7. The Engineer may require the Contractor to provide a written Procedures Plan that describes the process to prevent reoccurrence of deficiencies. The written Procedures Plan shall be provided within two (2) calendar days of the request. Failure to correct all deficiencies and provide a Procedures Plan may result in payments being withheld until such time that procedures are outlined.
 - a. Payment for preparing a written Procedures Plan is subsidiary to items that direct payment is made.

C. Storm Event Restoration – Incentive and Disincentive

1. The Department will pay “Storm Event Restoration - Incentive” when the Contractor completes the restoration work to eliminate the pollution prevention control deficiencies within seven (7) calendar days of Notification or within an approved extension. Multiple deficiencies may be included in one notification. If the restoration work has not been completed within seven (7) calendar days after the Initial Notice or within an approved extension, payment for the item of “Storm Event Restoration - Incentive” will not be made.
2. A storm event is defined as a storm exceeding 0.50 inch of rain in a 24 hour period.
3. The Department will notify the Contractor of pollution prevention control deficiencies.
4.
 - a. Payment for the item of “Storm Event Restoration - Incentive” may not be made when the Contractor is notified to correct pollution prevention devices not installed in accordance with the contract or the manufacturer’s recommended installation instructions.
5. If the restoration work is not completed within seven (7) calendar days or within an approved extension, a disincentive assessment of \$500.00 per deficiency per calendar day will be assessed. The disincentive assessment will begin on the eighth (8th) calendar day after the issuance of the Initial Notice Date or on the calendar day following the last day of an approved extension(s) and continue through the day that the restoration work is completed, inclusive.

D. Method of Measurement

1.
 - a. “Storm Event Restoration – Incentive” will be measured by the each upon completion of restoration of all deficiencies included in a notification within the allowed time and only one payment per notification is allowed when multiple deficiencies are included on the notification.
 - b. If deficiencies from multiple notifications are restored during the same restoration operation, only one (1) incentive is eligible for payment.
 - c. If multiple notifications are the result of successive storm events and deficiencies are transferred to ensuing notifications, incentive payment is only eligible for the latest notification.
2. “Storm Event Restoration – Disincentive” will be measured by the calendar day in accordance with Paragraph C.5. above.

E. Basis of Payment

- | | | |
|----|--|---|
| 1. | Pay Item
Storm Event Restoration – Incentive
Storm Event Restoration – Disincentive | Pay Unit
Each
Calendar Day |
|----|--|---|
2. All equipment, materials, etc. used in the restoration work will be paid for in accordance with Division 800 of the Standard Specifications.
 3. Payment is full compensation for all other incidentals required to complete the restoration work included in the notification within the allowed time.

F. Environmental Commitments – Contractor Compliance

1. To provide payment for all plans, inspections, surveys, reports, travel, qualified inspection person’s, carrion removal, and any other subsidiary activities for the work of implementing threatened and endangered species commitments, temporary erosion control or any other environmental commitments prescribed in the contract.
2. Multiple visits to the project may be required to comply with environmental commitments prescribed in the contract.

G. Method of Measurement

1. No measurement is required.

H. Basis of Payment

- | | | |
|----|--|-----------------------------|
| 1. | Pay Item
Environmental Commitments – Contractor Compliance | Pay Unit
Lump Sum |
|----|--|-----------------------------|

2. Partial payments will be made as follows:
 - a. The Department will pay 50 percent of the total amount bid for the item Environmental Commitments – Contractor Compliance within seven (7) calendar days after the Notice to Proceed Date.
 - b. Upon completion of 50 percent of the Original Contract Amount, the Department will pay 30 percent of the amount bid for the item Environmental Commitments – Contractor Compliance.
 - c. Upon completion of 75 percent of the Original Contract Amount, the Department will pay the remaining 20 percent of the amount bid for the item Environmental Commitments – Contractor Compliance.
 - d. Failure to comply with any or all of the contract requirements, included for payment under the item of Environmental Commitments – Contractor Compliance, will preclude all payment for the item, including any previous payment.
3. Payment is full compensation for all work prescribed in the contract.

I. Immediate Action Deficiencies

1. Deficiencies that pose an imminent threat to the environment are considered an emergency situation. These deficiencies will be identified in the Immediate Action Deficiencies Section of the Environmental Commitment Deficiency Notification Form. The corrective work for Immediate Action Deficiencies shall begin immediately and continue without cessation until completed.
2. The Engineer will issue a shut-down notice. All work on the contract shall cease until the corrective work has been completed. The Engineer may allow the Contractor to continue working in areas unaffected by the Immediate Action Deficiency, provided corrective actions are being actively performed on the deficiency.
3. Immediate Action Deficiencies are not eligible for an incentive payment.
4. The Contractor will be assessed a disincentive assessment of \$1,000.00 per deficiency per calendar day for failure to begin corrective actions or failing to continue to completion as directed by the Engineer or by the regulatory agency with jurisdiction.
5. Examples of Immediate Action Deficiencies include but are not limited to:
 - a. Threatened & Endangered Species habitat protection deficiencies
 - b. USACE Section 404 Permit Noncompliance
 - c. Petroleum Spills/Tank Leakage
 - d. Hazardous Material Spills

J. Rights Reserved

1. The Department reserves the right to initiate and perform corrective action on any deficiencies which result from the Contractors' actions, inactions, or for failure to comply with the NPDES Construction Stormwater General Permit, USACE Section 404 Permit, or any other applicable permit.
2. The Contractor shall be liable to the Department for any and all costs incurred by the Department for corrective actions taken by the Department.
3. It is expressly understood that the provisions of this specification shall not relieve the Contractor of their responsibilities nor shall it relieve the Surety of its obligation for and concerning any just claim.
4. The Contractor shall indemnify and save harmless the Department and all of its representatives from any and all actions or claims brought because of the Contractor's actions, inactions, or for failure to comply with the NPDES Construction Storm Water General Permit, USACE Section 404 Permit, or any other applicable permit.

**TYPE B HIGH INTENSITY WARNING LIGHTS
(D-6-0307)**

All references in the plans to Type B High Intensity Warning Lights shall be considered void. The plans will not be revised to reflect this change.

**TEMPORARY TRAFFIC CONTROL DEVICES
(Type II Barricades, Reflectorized Drums, 42" (1070 mm) Reflective Cones, and
Vertical Panels)
(D-6-1112)**

Paragraph 2.d. of Subsection 422.03 in the Standard Specifications is void and superseded by the following:

- d. (1) Reflectorized drums used for traffic warning or channelization shall be constructed of lightweight, flexible, and deformable materials, be a minimum of 36 inches (900 mm) in height, and have a minimum width of 18 inches (450 mm), regardless of orientation. The predominant color of the drum shall be orange.
- (2) Steel drums shall not be used.

- (3) The markings on drums shall be horizontal, shall be circumferential, and shall display four 6-inch (150 mm) wide bands of retroreflective sheeting, alternating fluorescent orange - white – fluorescent orange - white. The fluorescent orange sheeting shall meet the luminance requirements of the following table.

FHWA Luminance Factor

Sheeting Type	Luminance Factor Y_T		
	Min	Max	Fluorescence Luminance Factor Limit, Y_F
Fluorescent Orange	25	None	15

- e. When approved by the Engineer or shown in the plans, 42" (1070 mm) reflective cones may be used in lieu of Type II Barricades or Reflectorized Drums. 42" (1070 mm) reflective cones shall include a 30-pound (14 kg) rubber base and display four 6-inch (150 mm) wide bands of retroreflective sheeting, alternating fluorescent orange - white - fluorescent orange - white. 42" (1070 mm) reflective cones shall not be used for lane-closure tapers or shifts.
- f. Rubber base-mounted 36-inch vertical panels shall not be used for channelization when the speed limit exceeds 40 miles per hour.

Paragraph 2.b. of Subsection 422.04 of the Standard Specifications is void and superseded by the following:

- b. (i) Type II Barricades, Reflectorized Drums, and 42" (1070 mm) Reflective Cones shall be counted as "Barricades, Type II" and measured for payment by the number of calendar days each is in place and positioned as shown in the plans or as directed by the Engineer.
- (ii) Vertical Panels shall be measured for payment as permanent "Sign Days" (by the each) by the number of calendar days each vertical panel unit is in place and positioned as shown in the plans or as directed by the Engineer.

Paragraph 2.c. of Subsection 422.04 of the Standard Specifications is amended to include Reflectorized Drums.

Paragraphs 3. and 4. of Subsection 422.05 of the Standard Specifications are void and superseded by the following:

3. a. The pay item "Barricade, Type II" is used to pay for three items ("Barricades, Type II", "42" (1070 mm) Reflectorized Cones", and "Reflectorized Drums").
- b. "Barricades, Type II", which includes "42" (1070 mm) Reflectorized Cones", and "Reflectorized Drums", is paid for as an "established" contract unit price item. The established unit price is identified on the "Schedule of Items" shown in the Proposal.
4. Payment for vertical panels includes all posts, brackets, or hardware necessary to install and maintain the vertical panel units.

WORK ZONE TRAFFIC CONTROL SIGNS (D-6-1212)

The Department has adopted the FHWA 2009 Manual of Uniform Traffic Control (MUTCD) and the 2011 Nebraska Supplement to the MUTCD as the official guidance for work zone traffic control signs. Many work zone traffic control signs have been revised, redesigned, or replaced in the 2009 MUTCD (and 2011 Nebraska Supplement). Accordingly, all work zone signs shall comply with the following:

- 1 - All signs, regardless of age, shall meet the design standards of the 2009 MUTCD (and 2011 Nebraska Supplement).

TEMPORARY PAVEMENT MARKING (D-10-0811)

Paragraph 4.f. of Subsection 422.01 in the Standard Specifications is void.

Paragraph 6.a.(2) of Subsection 422.03 is void and superseded by the following:

- (2) When the markings are no longer needed, the Contractor shall remove them. If removing markings from the final wearing surface, the removal process shall not mar or damage the surface. Removed markings shall no longer be visible on the final wearing surface.

Paragraph 6. of Subsection 422.03 in the Standard Specifications is amended to include the following:

This work shall consist of installing and removing reflectorized temporary pavement lines of the color, width and line configuration shown in the plans or as designated by the Engineer.

Temporary paint markings will be used on this project. The use of Type I tape will not be permitted and Type II tape may be used for short durations only, as directed by the Engineer. Temporary paint stripes shall be a minimum 4" (100 mm) wide, 10' (3 m) long with a 30-foot (9 m) gap or a minimum 4" (100 mm) wide solid line as shown on the plans.

Temporary pavement marking which is no longer applicable shall be removed as directed by the Engineer.

Paragraph 12.a. of Subsection 422.04 is void and superseded by the following:

- a. "Pavement Marking Removal" and "Temporary Pavement Marking Removal" shall be measured by the linear foot (meter) along the centerline of the traveled roadway for each line removed.

Subsection 422.04 is amended to include the following:

21. The use of paint for Temporary Pavement Marking shall be measured per linear foot (meter) for the item "Temporary Pavement Marking, Type Paint".
22. Temporary pavement marking tape Type II shall be measured per linear foot (meter) for the item "Temporary Pavement Marking, Type II".
23. Initial surface preparation requiring sand or shot blasting shall be measured per linear foot (meter) for the item "Temporary Pavement Marking, Surface Preparation". Surface preparation for repainting, consisting of air blasting and brushing, shall be subsidiary to other items for which payment is made.

Paragraph 1. of Subsection 422.05 is amended to include the following:

Pay Item	Pay Unit
Temporary Pavement Marking Removal	Linear Foot (LF)
Temporary Pavement Marking, Type Paint	Linear Foot (LF)
Temporary Pavement Marking, Type II	Linear Foot (LF)
Temporary Pavement Marking, Surface Preparation	Linear Foot (LF)

Paragraph 9.c. of Subsection 422.05 is void.

Paragraph 13. of Subsection 422.05 is void and superseded by the following:

13. Removal of temporary pavement markings including overlay broken/solid lines will be paid for except:
 - a. When the temporary markings are intended to be covered up by permanent markings.
 - b. When surface preparation removes the temporary markings.

Section 1069 in the Standard Specifications is amended to include the following:

1. Prior to the initial placement of the markings, temporary paint, or Type II tape the pavement upon which the markings are to be placed shall be dry, cleaned and properly prepared by sand or shot blasting, as a minimum, and to the extent recommended by the manufacturer so that all contaminants, loose debris, and other foreign material are completely removed. Surface preparation for any subsequent application shall consist of air blasting and brushing the roadway surface to remove all loose dirt, mud or other debris and to dry the surface. Each additional application of paint shall be applied over the previously painted stripes.

Prior to placing the temporary pavement markings on the prepared surface, the Contractor shall layout, spot or string line the proposed temporary marking location. The temporary markings shall be aligned in such a way as to provide a smooth and gradual transition to and from the existing markings, and throughout both straight and horizontally curved sections of the project.

2. The material used for temporary paint marking shall be a commercially available acrylic resin Type II traffic paint that dries to no pickup in 4 minutes and shall be applied with a minimum of 6 pounds (0.7 kg) of glass beads per gallon (liter). The paint shall be applied at a minimum width of 4 inches (100 mm) and a wet thickness of approximately 15 mils (380 μ m) {approximately 16.5 gallons (39 liters) of paint per mile (kilometer) of solid line}. The equipment used to paint the line shall be a machine designed for the purpose of applying long line traffic lane markings of the type, width and thickness required, and shall be self-propelled or truck mounted and be equipped with an adjustable guide-on to assure proper placement of the line. Hand application, walk behind equipment or towing of the equipment will not be allowed.

Temporary paint lines shall be used on new or existing concrete pavement and asphaltic concrete pavement.

Any temporary painted line or segment of line, placed before December 1, which fails to adhere to the roadway surface for a minimum of 60 days under normal vehicular traffic or which appears wavy, nonuniform, thin, poorly applied, misaligned, beadless or nonreflective, shall be replaced as directed by the Engineer. For temporary painted pavement markings placed between December 1 and March 15, the minimum time requirement shall be 15 days with the same conditions applicable. No direct payment will be made for replacement within the 60 day or 15 day warranty periods.

After the minimum 60 day or 15 day warranty periods, the Contractor may be required to repaint the temporary traffic markings, as directed by the Engineer. Direct payment will be made for each additional application. However, should the additional application fail within the 60 day or 15 day warranty periods, the provisions as stated in the previous paragraph shall apply.

The Contractor must begin each additional repainting application within 72 hours after notification by the Engineer. Should the Contractor fail to begin repainting within this 72 hour period, the Engineer may use State forces or hire a private contractor to repaint the temporary traffic markings. The Contractor will be assessed any costs above the contract unit price "Temporary Pavement Marking, Type Paint" incurred by the State as a result of performing the corrective action by others, and the project will be shut down until the painting is completed.

When painting is required with air temperatures between 38° F (3° C) and 50° F (10° C), the paint shall be heated according to the manufacturer's recommendation prior to application on the dry, clean and properly prepared pavement. Any paint application made when the air temperature is below 38° F (3° C) will be paid for by the State, even if the application falls within either the 60 day or 15 day warranty periods previously described.

3. Temporary pavement marking tape Type II shall be a mixture of high quality polymeric materials and pigments, with glass beads throughout the pigmented portion of the film, and a reflective layer of high index of refraction glass beads bonded to the top surface. The film shall be precoated with a pressure-sensitive adhesive. Unless otherwise specified, the temporary pavement marking shall be 4 inches (100 mm) wide and the reflectorizing glass beads shall be incorporated to facilitate removal of the tape easily from asphalt and Portland cement concrete

surfaces intact or in large pieces, at temperatures above 40° F (4° C), either manually or with a recommended roll up device. Removal shall be accomplished without the use of heat, solvents, grinding or sandblasting.

**TEMPORARY TRAFFIC CONTROL FOR PERMANENT PAVEMENT MARKING
(D-13-1007)**

Paragraph 4. of Subsection 423.04 in the Standard Specifications is void.

**CONCRETE PROTECTION BARRIERS
(D-20-0916)**

Guidance for concrete protection barriers:

1. Type A: 4-loop barriers with a large opening at the bottom.
Type B: 6-loop barriers with 4 lifting slots and no slots for tie-down rods.
Type C: 6-loop barriers with 4 lifting slots and 6 slots for tie-down rods.
2. Type A barriers will not be allowed for use on NDOR projects whose contract start date is January 1, 2018 or later, regardless of requested or granted early starts that begin projects prior to that date. Type A barriers will not be allowed on interstate or freeway roadways.
3. Barriers Type B and C may be used on this project and may directly be pinned to each other in the same installation arrangement.
4. Other existing barriers meeting NCHRP 350 or MASH (Test Level 3) testing guidelines and FHWA approval may only be used with written permission (containing this project name and/or control number) from the District and Roadway Design Division.
5. If new barriers are to be fabricated for use on this project, only Type C barriers shall be fabricated.

Paragraph 5 of Subsection 422.03 in the Standard Specifications is amended to include the following:

- f. (1) Concrete protection barriers that become dislodged or moved out of alignment shall be placed back in alignment as soon as practical. If the dislodged barriers are considered to be a hazard to the traveling public by the Engineer, or the barriers encroach into the traveled lane, the barriers shall be realigned within four (4) hours of the time the Contractor is notified. For each occurrence, failure to realign the barriers within the four (4) hour time period will result in the assessment of a lump sum \$1,000 liquidated damage assessment and the Engineer may proceed to correct the adverse condition(s) in a manner that is deemed appropriate. The Contractor will also be assessed the cost incurred when the action is performed by others. This assessment has not been provided for elsewhere in the contract and shall be considered in addition to other liquidated damage assessments which are a part of the contract.

STRIP SEAL SYSTEMS – EXTRUSION RAILS COMPOSIT WITH ELASTOMERIC CONCRETE

Description

This work shall include sawing, breaking back concrete or structure, removals (including existing angle irons), forming, and placing of the elastomeric concrete materials required at the expansion joint locations, specified in the plans. Strip seal rails shall be anchored to surfaces of concrete block-outs at joint gaps with nosing material, as shown in the plans. The terms “elastomeric concrete” and “nosing” shall be used interchangeably in this provision.

Material Requirements

The systems shall be comprised of an elastomeric concrete binding material used together with rails and extrusions. This configuration is shown in the plans. The rails shall be affixed mechanically via embedment of anchors into elastomeric concrete. The elastomeric concrete shall, in turn, adhere the entire strip seal assembly to the surfaces of the concrete block-outs surrounding the joint gap. Commercially available examples are:

Type	Model	Manufacturer
WaboCrete	SE-400	Watson Bowman Acme
Steelflex	E2M-Seal, SSE2M-Rail	D.S. Brown

Equipment

The Contractor shall provide appropriate equipment, in good working order, to ensure proper mixing and timely application of nosing materials or concrete. Concrete saws, sand blasting equipment, chipping hammers, grinders, air compressors, vacuums and other equipment, as required to produce a high quality expansion joint installation, shall be available on the site.

Construction Methods

Construction of expansion joint seats shall be done as shown in the plans and compliant with all applicable special provisions.

Edges of rails shall run, within 3/16 inch tolerance, along a straight line in the horizontal plane. Gap widths shall remain consistent for the length of the gap. Tops of rails shall be at a the driving surface, placed within a 3/16 inch tolerance.

All waste materials shall be removed from the proximity of the joint gap area. The preparation of surfaces and application of elastomeric concrete materials shall be as prescribed by the manufacturer. Materials used shall be only those prescribed by the manufacturer. Concrete, against which nosing materials are applied, shall have been cured for a period as specified by the nosing manufacturer.

Method of Measurement

The quantity of nosing for which payment will be made shall be computed by the Department in CUBIC FOOT (CF), from dimensions shown in the plans. No deduction shall be made for the amount of material displaced by reinforcement or anchors.

The quantity of strip seal paid for shall be that shown on the plans measured in linear feet (LF).

Basis of Payment

The pay item "BRIDGE JOINT NOSING" shall be paid at the contract unit price by the CUBIC FOOT (CF). The pay item "STRIP SEAL" shall be paid at the contract unit price by the LINEAR FOOT (LF). Preparation of the joint gap, including sawing, breaking back and removing concrete, sandblasting, and placing and forming for elastomeric concrete, will not be paid for directly but shall be considered subsidiary to the pay item "Bridge Joint Nosing."

Pay Item	Pay Unit
Bridge Joint Nosing	Cubic Feet (CF)
Strip Seal	Linear Foot (LF)

CONCRETE CONSTRUCTION (G-5-1015)

Section 704 in the Standard Specifications is amended to include the following:

All concrete rails on bridges and approach slabs shall be cast-in-place. Slip-forming will not be permitted for concrete rails on bridges and approach slabs.

Paragraph 8. of Subsection 704.03 is amended to provide that forms for 42 inch bridge rails shall be made of steel. Wood forms that are commercially manufactured to the specific shape of the 42 inch rail shall be permitted. Forms shall be capable of producing a uniform surface, texture and appearance equal to that obtained by using steel panels in good condition.

The fourth subparagraph of Paragraph 8.j. of Subsection 704.03 is void and superseded by the following:

Steel stay-in-place form material shall conform to the requirements of ASTM A 653/A 653M Coating Designation G165/Z500.

Paragraphs 8.a., b. and c. of Subsection 704.05 are void and superseded by the following:

8. Payment Deductions:
 - a. The 28-day compressive strength is determined by the average strength of all cylinders made on a specific day to determine the 28-day compressive strength of all of a group's class of concrete poured that day. Concrete with a 28-day compressive strength not meeting the design compressive strength is subject to removal.
 - b. If the 28-day compressive strength is less than the design compressive strength, cores may be taken, at the discretion of the Engineer, within 45 days after the concrete was poured. The average of the cores will be used to determine the compressive strength.

- c. If either the 28-day compressive strength or the average core strength is less than the design strength and the Engineer determines that the concrete is acceptable for use, the concrete is subject to a payment deduction. The pay deduction is shown below:

$$\frac{2 \times (\text{Design Compressive Strength} - 28\text{-day Compressive Strength})}{\text{Design Compressive Strength}} = \text{Percent Reduction}$$

Or

$$\frac{2 \times (\text{Design Compressive Strength} - \text{Average Core Compressive Strength})}{\text{Design Compressive Strength}} = \text{Percent Reduction}$$

CONCRETE BRIDGE FLOORS (10-DAY WET CURE) (G-5-0916)

The following Special Provision applies to concrete decks and approaches on girder and slab bridges for new bridges and complete deck replacements. Bridge deck widenings, partial deck replacements, and deck and joint repairs shall be cured in accordance with Section 706 of the specifications. Approaches that are not part of a new bridge or complete deck replacement shall be cured in accordance with Section 706 of the specifications.

Paragraph 8.i of Subsection 704.03 in the Standard Specifications is amended to include the following:

- 8.i.(4) Reinforcing steel and form work for bridge curbs and bridge rails shall not be placed until after the 10-day wet curing.

Paragraph 14 of Subsection 704.03 in the Standard Specifications is void and superseded by the following:

14. Bridge Deck Curing in Cold Weather

- a. The following requirements shall govern the placement of bridge deck concrete when the temperature will be less than 40°F during the 10-day wet curing period.
- (1) The temperature of the concrete shall not be less than 50°F immediately after being placed.
 - (2) The Contractor shall furnish heating equipment and/or enclose and protect the structure in such a way that the concrete shall be maintained at a temperature between 50°F and 100°F for the first 72 hours after the concrete has been placed, and at a temperature of between 40°F and 100°F for the next 168 hours.
 - (3) After 240 hours of curing is complete, the concrete temperature shall not decrease at a rate faster than 5°F/hour.

- b. The Contractor shall assume all risk connected with the placing of concrete during freezing weather, and permission given by the Engineer to place concrete during such time will not relieve the Contractor of the responsibility for satisfactory results. Any concrete showing damage from freezing shall be rejected.

Paragraph 5 of Subsection 706.03 in the Standard Specifications is void and superseded by the following:

- 5. No work shall be performed on the bridge deck, including forming and placing reinforcement for concrete curbs or railing until the concrete deck has cured for 10 days. Only equipment necessary for forming and pouring the bridge rail shall be allowed on the deck during the 7 days of white pigment curing.

Paragraphs 8, 9, and 10 of Subsection 706.03 in the Standard Specifications are void and superseded by the following:

8. a. Finishing

- (1) Immediately following the finishing machine, the Contractor shall give the bridge floor surface a drag finish with wet burlap, carpet or a soft bristled broom. The drag finish shall create a uniform, fine-grained finish on the sealed concrete surface.

b. Grooving

- (1) Transverse tining in plastic concrete of bridge decks (and approaches on new bridges and bridge deck replacements) will not be allowed unless otherwise stated in the contract documents.
- (2) The Contractor shall cut longitudinal grooves into hardened concrete surfaces using a mechanical cutting device. The Contractor shall perform longitudinal grooving after surface correction grinding.
- (3) The longitudinal grooves shall be:
 - (i) 1/8 inch \pm 1/64 inch wide,
 - (ii) 1/8 inch to 1/4 inch (3 mm to 6 mm) deep, and
 - (iii) Uniformly spaced at 3/4 inch intervals measured center to center of groove.
- (4) Longitudinal grooving shall include both bridge and paving approaches. Grooving shall terminate approximately 6 inches (150 mm) from bridge expansion joints.
- (5) Longitudinal grooving on the bridge deck and approach sections shall be discontinued 3 feet from the bridge curb, rail, raised medians, or barriers unless otherwise indicated on the plans.

- (6) For phased bridge and bridge approach construction:
- (i) The Contractor may cut longitudinal grooves in the hardened concrete at the end of each phase of construction or wait until all phases have been completed. If the Contractor elects to delay cutting of the longitudinal grooves until completion of all phases, apply an interim broom finish on the concrete deck and bridge approach during placement for all phases opened to traffic.
 - (ii) The Contractor shall finish all longitudinal grooving for all phases within 30 calendar days following completion of the last phase of the bridge.
 - (iii) The interim broom finish will not be allowed as a surface texture when opened to traffic over a winter season. If the interim broom texture is present and the Contractor is not in a position to finish all phases of the bridge, the Contractor shall cut longitudinal grooving into the hardened concrete in order to establish an acceptable driving surface texture for the winter season.
- (7) Grooves shall be constructed using multi-blade saw cutting equipment, fitted with diamond-tipped circular saw blades.
- Before grooving operations, two approved gauges to verify groove depth shall be supplied. The gauges shall be accompanied by the manufacturer's instructions for their use.
- During grooving operations, the groove dimensions will be checked at random. If the minimum groove depth has not been achieved, grooving operations shall stop and the necessary adjustments shall be made.
- (8) Sidewalks and top of curbs shall not be grooved and shall receive a final finish with a fine – bristle broom.

9. Curing

- a. For this Specification, the bridge deck is defined as the concrete deck and pavement cast between the bridge grade beams. Approaches outside the grade beams are excluded.
- b. The Contractor shall cure the concrete deck with wet burlap for at least 240 hours. Burlap with Polyethylene backing will not be allowed on decks unless allowed by the Engineer.
 - (1) The Contractor shall place uniformly saturated wet burlap on the concrete no later than 20 minutes after the finishing machine passes.
 - (2) The burlap shall be thoroughly wetted prior to placing it on the concrete. The burlap shall be kept continuously wet by means of a sprinkling or wetting system for the 10 days.

- (3) The wet burlap shall be secured or weighed down so that it remains in contact with the concrete surface.
 - (4) After 96 hours, the Contractor may place white opaque polyethylene film over the wet burlap to reduce the amount of water needed.
 - c. After the 10 day wet cure, the Contractor shall apply an approved white pigment curing compound within 45 minutes of removing the wet burlap.
 - (1) The total rate of combined applications shall be a minimum of 1 Gal/150 SF of surface area.
 - (2) The Contractor shall cure the deck with the white pigment curing membrane for an additional 7 days. The Contractor may work on the bridge concrete rail during the 7 days provided caution is used to limit damage to the membrane.
 - (3) Curing compound shall not be applied to construction joints or reinforcing steel.
 - d. The Contractor must provide a list of equipment, equipment certification, and the number of personnel that will be dedicated to the curing operation at least 24 hours before the actual casting date.
 - e. The Contractor shall be responsible for the repair of all visible cracks more than 3 inches (75 mm) in length that develop on the bridge deck up to the time the project is accepted at no additional cost to the Department.
 - f. Cracks shall be repaired with an approved bridge deck crack sealant (methacrylate). Crack sealants shall be installed in accordance with the manufacturer's recommendations.
 - g. Concrete Bridge curbs and rails shall be cured in accordance with Subsection 704.03.
- 10. Grinding
 - a. The grinding and grooving shall not be done until after the 17 days of curing is complete.
 - b. Bridge decks shall be ground for smoothness in accordance with Section 733.
 - (1) For bridge decks and approaches that are not covered by Section 733:
 - i. The Contractor shall test the cured concrete for surface irregularities with either a 10 foot straightedge placed or operated parallel to the centerline of the roadway or some other device for measuring deviations from a plane. Variations greater than 1/8th inch shall be plainly marked

for removal, except that for decks which are to receive a subsequent overlay course greater than 1 inch thick, where ¼ inch variations are allowed.

- ii. The Contractor shall grind or cut irregularities that exceed the above limits. Bush hammering or other impact methods are not allowed.

Paragraph 15 of Subsection 706.03 in the Standard Specifications is void and superseded by the following:

- 15. Time for Opening Bridge Floor to Traffic
 - a. The Contractor shall not open the bridge floor to traffic until approval has been given by the Engineer. The Engineer may open the bridge when the concrete has reached a minimum age of 17 days and has developed a compressive strength of at least 3500 psi.
 - b. Construction equipment will not be allowed on the deck until after the 10 day wet curing period. Vehicles needed for construction activities and weighing less than 4.0 kips, and comparable materials and equipment loads, shall be allowed on any span only after the last placed deck concrete has attained a compressive strength of at least 2.4 ksi. Loads in excess of the above shall not be carried on bridge decks until the deck concrete has reached 80% of the minimum compressive strength prescribed elsewhere in these Special Provisions and after the 10 days wet curing period.

Paragraph 1 of Subsection 706.05 in the Standard Specifications is amended to include the following:

1.	Pay Item Bridge Deck Grooving	Pay Unit Square Yards (SY)
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**PREFORMED EXPANSION JOINT
(G-11-1212)**

Section 734 of the Standard Specifications is void and superseded by the following:

Description

- 1. This work shall consist of furnishing and installing a Preformed Expansion Joint in a preformed gap at the locations and limits shown on the plans.
- 2. The Preformed Expansion Joint shall be either a Precompressed Polyurethane Foam Joint or a Preformed Silicone Joint, as indicated in the plans.
 - a. When the item is “Precompressed Polyurethane Foam Joint, Type ____” the joint shall be a Precompressed Polyurethane Foam Joint of the type indicated in the plans.

- b. When the item is “Preformed Silicone Joint, Type ____”, the joint shall be a Preformed Silicone Joint of the type indicated in the plans.
- c. When the item is “Preformed Expansion Joint, Type ____”, the joint may be either a Precompressed Polyurethane Foam Joint or a Preformed Silicone Joint of the type indicated in the plans.

Material Requirements

1. Precompressed Polyurethane Foam Joints:
 - a. PPF Joint shall be precompressed self-expanding polyurethane foam with factory applied silicone facing on top of the foam.
 - b. PPF joints shall be ordered for the joint material dimension shown in the plans.
 - c. Approved PPF Joint systems are shown on the NDOR Approved Products List under Precompressed Polyurethane Foam Joint, Type A or B.
2. The approved Preformed Silicone Joint systems are shown on the NDOR Approved Products List under Preformed Silicone Joint, Type A or B.
3. Primers, epoxy adhesives, and silicone sealants shall comply with the manufacturer’s recommendations.
4. Materials shall be resistant to ozone, ultraviolet rays, petroleum products, solvents, industrial cleaners, corrosive vapors and acids.
5. Joint material shall be delivered to the Contractor’s storage area and to the job site in the Manufacturer’s original undamaged containers with wrapping intact. Storage of joint material shall be in a dry, enclosed area, off the ground, between 60°F (16°C) and 75° F (24°C) and out of direct sunlight until immediately prior to installation.

Construction Methods

1. The installation of the Preformed Expansion Joint and the adhesives shall be completed according to the manufacturer's specifications. Additional field applied silicone is required on both sides of the top of the joint. Any installation that fails to meet the manufacturer's specifications shall be removed and replaced at no cost to the Department.
2. The installation instructions and specifications shall be given to the Engineer 7 days prior to the installation.
3. The Preformed Expansion Joint shall be installed in the presence of the Engineer.
4. The joint opening in the concrete shall be cleaned by sandblasting and shall be dry and free of oil and other deleterious materials before the installation of the Preformed Expansion Joint.
5. The installation of the Preformed Expansion Joint shall be completed between 45°F (7°C) and 90°F (32°C).

6. Any joint material damaged during corrective grinding shall be replaced at no cost to the Department.

Method of Measurement

1. The Prefomed Expansion Joint shall be measured for payment by the linear foot (meter) of the joint properly installed and accepted by the Engineer.
2. Pay limits for the Prefomed Expansion Joints shall be the horizontal distance from end to end along the centerline of the joint assembly at the locations shown in the plans and 1 foot (0.3 m) upward at the gutter line if shown.

Basis of Payment

- | | | |
|----|--|------------------------------|
| 1. | Pay Item | Pay Unit |
| | Prefomed Expansion Joint, Type ____ | Linear Foot (LF) [Meter (m)] |
| | Precompressed Polyurethane Foam Joint, Type ____ | Linear Foot (LF) [Meter (m)] |
| | Prefomed Silicone Joint, Type ____ | Linear Foot (LF) [Meter (m)] |
2. Payment is full compensation for furnishing and installing the Prefomed Expansion Joint and for all labor, equipment, tools and incidentals necessary to complete the work.

**BRIDGE JOINT NOSING
(G-17-1113)**

Description

This work shall include sawing, removals (including existing angle irons), forming, and placing of the bridge joint nosing materials required at the expansion joint locations, as specified in the plans. This provision applies to:

- New construction, such as when a new approach slab is being constructed
- Breaking out concrete bridge deck or approaches and building new expansion joint seat
- Saw cutting existing concrete to allow installation of a new expansion joint
- Repairing broken edges of expansion joint gaps such as with nosing material
- Asphalt overlays on bridge decks and approaches

Material Requirements

Products for repair of expansion joint seats or gap edges or used to enhance the durability of gap edges are known as nosing materials. Such materials are given on the Approved Products List as "Bridge Joint Nosing Materials". Products not shown on the Approved Products List may be used as allowed by Materials and Research Division.

Equipment

Appropriate equipment, in good working order shall be employed to ensure proper mixing and timely application of nosing materials.

Construction Methods

Construction of expansion joint seats shall be done as shown in the plans and compliant with all applicable Special Provisions.

All faces of the joint gap or seat shall be laid out in a straight line (shall not deviate from a straight line by more than ¼ inch at any point). This rule is applicable to whatever method is used to construct the gap, whether it is saw cutting, concrete forming, placing nosing material, etc.

Nosing materials shall be used as prescribed by the manufacturer. In addition, or to augment the manufacturer’s instructions as to preparation, all concrete surfaces against which repair or reconstruction material is to be placed, shall be thoroughly cleaned and free of all dust, laitance, moisture or any substances that may interfere with proper adhesion of the material to the concrete. Concrete against which nosing materials are applied shall have been cured for a period as specified by the nosing manufacturer.

Method of Measurement

The quantity of nosing for which payment will be made shall be computed by the Department in cubic feet from dimensions shown in the plans. No field measurement is required unless actual geometry deviates substantially from what is shown in the plans. No deduction shall be made for the amount of material displaced by reinforcement.

Basis of Payment

The Bridge Joint Nosing shall be paid by the cubic foot of the nosing installed and accepted by the Engineer. Preparation of the joint, including sawing, removals, sandblasting and forming will not be paid for directly but shall be considered subsidiary to the Bridge Joint Nosing.

Pay Item	Pay Unit
Bridge Joint Nosing	Cubic Feet (CF)

**CONCRETE REPAIR
(G-20-1015)**

Description

This provision entails the repair of deteriorated or damaged concrete manifested as spalling, delamination, cracking, crushing or breakage. This type of repair shall consist of patching defective concrete with suitable materials. Concrete repair shall be performed at locations indicated on the plans and/or as authorized by the Engineer.

Material Requirements

Products appearing on the Approved Products List under “Pavement and Structural Patching Materials” may be used without further qualification. Products suitable for vertical and overhead placement are shown on a continuation of this list. Products used shall be prescribed by the manufacturer for the purpose for which they are to be used.

Equipment

Sand blasting equipment for cleaning of reinforcing steel and adequate tools for placement of repair material shall be used as needed. Effective mixing equipment shall be used for mixing concrete repair materials.

Construction Methods

The Contractor shall sandblast and clean all exposed reinforcing bars and all prepared concrete surfaces. All concrete surfaces that contact new material shall be clean and free of all contaminants, dust and laitance so as to ensure proper adhesion of the material to the concrete. The instructions of the repair product manufacturer shall be followed regarding preparation, installation and any precautions that pertain to safety or performance of the product.

Method of Measurement

All work done under the pay item "CONCRETE REPAIR" shall be paid for by the SQUARE FOOT (SF) of area, as determined by field measurement.

Basis of Payment

Payment for work done under the pay item "CONCRETE REPAIR" shall be paid at the contract unit price per SQUARE FOOT (SF). Payment shall be full compensation for all labor, equipment, tools, materials and incidentals necessary to do the work.

DOWELING INTO CONCRETE STRUCTURES - POST INSTALLED ADHESIVE ANCHORS (G-28-1015)

Materials

1. This provision is concerned with reinforcing bars adhered to hardened concrete. The adhesive anchor system used for post-installed anchorage of reinforcing steel to concrete shall conform to requirements of the most recently published ACI 355.4, *Acceptance criteria for Qualification of Post-Installed Anchors in Concrete and Commentary*.
2. With regard to epoxy resin adhesives for the anchor system, one of the following requirements shall be met:
 - a. Adhesives for post-installed anchors are acceptable for use if they are given on the Approved Products List and they also comply with minimum requirements as stated in this provision.
 - b. Adhesives for post-installed anchors shall meet ACI 355.4 and also comply with minimum requirements as stated in this provision. Bulk mixed adhesives are not permitted.
3. The adhesive anchors, shall be supplied as an entire system. The system shall include, but not be limited to, the new adhesive cartridge, a clean mixing nozzle, extension tube,

a dispensing gun and all manufacturer recommended supplies for properly cleaning the drilled hole.

4. Anchorage design is in accordance with Appendix D of ACI 318-11. For adhesive anchors, the following minimum values for bond stress were assumed for design using the above adhesive anchor assemblies:

$$T = 2050 \text{ psi}$$

5. Epoxy resin adhesives used for doweling reinforcing bars into hardened concrete shall be capable of providing the full tensile resistance of the reinforcement at the embedment depths specified in the plans. The ultimate tensile force for 60 ksi reinforcement is given in the table below for various bar sizes. If the particular product used requires a greater embedment depth to achieve the required pull-out capacity than that shown in the plans, the Engineer shall be informed.

#3	7,425 lb.
#4	13,500 lb.
#5	20,925 lb.
#6	29,700 lb.

General Installation Guidelines

1. Concrete shall have a minimum compressive strength (f'_c) of 2500 psi at the time of adhesive anchor installation.
2. Concrete at time of anchor installation shall have a minimum age of 21 days.
3. Concrete temperature at the time of anchor installation shall be 50°F (10°C) or warmer.
4. Anchor embedment depth and projection (length protruding) from the concrete surface are shown on the drawing or detail for the particular anchor being installed. The Engineer shall be consulted in cases where this information is unclear or absent from the plans.
5. Adhesives shall be stored and installed within the service temperature ranges recommended by the manufacturer.

Installation Techniques

1. Post-installed adhesive anchors shall be installed in accordance with the Manufacturer's Printed Installation Instructions (MPII) with the exception, as follows. When the instructions of this provision are more stringent than the MPII, adhesive anchors shall be installed in accordance with these provisions, as a minimum requirement.
2. Installation of adhesive anchors, horizontally or upwardly inclined or those used to support sustained tension loads, shall be performed by personnel certified by the ACI/CRSI Adhesive Anchor Installer Certification Program. It is recommended that all adhesive anchors are installed under the supervision of a certified installer.
3. The installer's qualifications, when required, shall be submitted to the Engineer, prior to any work being done on the project.

4. The Contractor shall provide all equipment required to install the adhesive anchor, including but not limited to drills, setting tools, clean-out brushes, blow-out bulbs, oil-free compressed air, shop vacuums, wrenches, etc.
5. Anchors shall be installed in holes drilled with a rotary impact hammer drill or rock drill.
6. Anchor holes shall be thoroughly cleaned prior to adhesive injection, as required by the MPII. At a minimum, this consists of cleaning with compressed air free of oil and moisture using a nozzle extended to the bottom of the hole. This shall be supplemented with brush or other tool cleaning to remove all concrete dust and loose material followed by a second compressed air cleaning. This is commonly known as “blow-brush-blow” (BBB).
7. Drilled and cleaned anchor holes shall be protected from contamination until the adhesive is installed.
8. A drilled hole shall be re-cleaned if, in the opinion of the Engineer, the hole has become contaminated after cleaning.
9. Unless otherwise indicated on the MPII, adhesive shall be dispensed through a tube or cartridge extension, beginning at the maximum depth of the hole that is withdrawn as adhesive is injected until the hole is entirely filled. This shall be followed by insertion and rotation of the anchor to the specified depth. Where necessary, spaces around anchors, at the surface, shall be sealed to prevent loss of the adhesive during curing where holes are drilled in a range from horizontally to upward.
10. Anchors to be installed in the adhesive shall be clean and free of any surface contaminants or imperfections; e.g., oil, loose rust, paint or other coatings.
11. Installed adhesive anchors shall be securely fixed in place to prevent displacement during curing of the adhesive. Unless shown otherwise on the drawings, anchors shall be installed perpendicular to the concrete surface. Anchors displaced before full adhesive cure shall be considered damaged and replaced at the Contractor’s expense.
12. Reinforcing bars shall not be bent after being adhered to the concrete unless permitted by the Engineer.

Basis of Payment

1. Pay shall be made subsidiary to other items for which payment is made.

PREPARATION OF BRIDGE AT R.P. 11.22, R.P. 397.31 & R.P. 397.69

Description

Preparation of the existing bridge structure(s) shall be in accordance with the pertinent provisions of Section 704 of the Standard Specifications.

Removal Items

The work shall include all work prescribed in the plans necessary to prepare the existing bridge for repair including but not limited to any of the following that apply:

- a. The removal of existing concrete bridge components as shown in the plans
- b. The saw-cutting and breaking back of existing concrete structures to the limits shown in the plans
- c. The removal of the existing steel structures as indicated in the plans
- d. The removal of the existing bearing devices as indicated in the plans
- e. The cleaning and roughening of the existing concrete that comes into contact with the new work
- f. The cleaning, straightening and extending of the existing reinforcing steel into the new work
- g. The cleaning and removal of loose rusted areas of piling to be incorporated into the new work
- h. The removal of expansion devices and/or expansion joint material, if removal is not covered elsewhere in the contract documents or manufacturer's instructions
- i. Cutting down of bearing piles and sheet piles to 2'-0" below the finished grade, if applicable

Jackhammer Requirements

This paragraph shall apply to concrete removals for which specifications have not been provided elsewhere in the contract documents: When breaking existing concrete, the use of a 15 lb. maximum hammer applied at a 45° angle is required to chip along the edges of removal, and a 30 lb. maximum hammer applied at a 45° angle is required for all other concrete removal.

Exclusions

This provision shall not pertain to removals or preparation for some items of work that may be covered in other contract documents or manufacturer's installation instructions for those specific items.

Phasing

The existing structure may be used to maintain traffic during the phased construction. In such case, the work shall be done in phases according to the details shown on the plans.

Handling and Disposal of Materials

If there are lead plates under the existing steel rail posts, the lead plates shall be recycled in accordance with Subsection 203.01 Paragraph 3 (Environmental Requirements) of the Standard Specifications for Highway Construction, as prescribed for lead plates under existing bearings.

All other material resulting from the removal of specified bridge components; e.g., structural steel (painted or unpainted) shall become the property of the Contractor and shall be promptly removed from the right-of-way. It is the responsibility of the Contractor to handle materials that may contain toxic substances in accordance with federal, state and local regulations.

Extreme caution shall be exercised in removing the existing bridge components so that no material or debris falls or upon the roadway or into the channel (if so located) below the bridge. The Contractor shall take adequate precautions to protect all traffic and roadways.

Existing Reinforcing Encountered During Concrete Removal

When existing reinforcing steel is broken or has a section loss greater than 20%, the Contractor shall lap splice the existing bar with a bar of matching size. Lap splices shall be as given in the following table:

Bar #	Non-epoxy Length (in.)	Epoxy Length (in.)
4	15	18
5	20	24
6	26	31
7	33	39
8	45	54
9	59	71
10	74	89
11	95	139

The bar used to splice, shall lap, by the length given above, with a portion of the existing bar of which 80% or more of the full section is present, on either side of a break or deteriorated or damaged segment.

All existing reinforcing steel exposed during removal of defective concrete shall be incorporated into the new work. Such bars shall be blast cleaned to remove all rust and corrosion. The bars shall be either reformed, as required, to assume their original (intended) shape or bent to allow placement into the new work. Bars that are required to be cut shall be left as long as possible, reformed if necessary and incorporated into the new work. Deviations from these instructions shall be allowed only when clearly indicated in the plans.

For any reinforcing bar that has more than 2/3 of its diameter exposed, the existing concrete shall be removed so that a minimum clearance of 3/4" is provided all around the bar for the placement of new concrete.

PORTLAND CEMENT CONCRETE (J-15-0216)

Paragraph 1. of Subsection 1002.02 in the Standard Specifications is amended to include the following:

Concrete mixes will be in accordance of Table 1002.02.

Paragraph 3. of Subsection 1002.02 is void and superseded by the following:

3. Type IP, IS and IT Interground/Blended cement shall be used for all classes of concrete except for pavement repair. Type IP, IS and IT Interground/Blended cement shall meet all requirements of ASTM C 595. Pavement repair shall include Type I/II Portland Cement for Class PR1 Concrete and Type III Portland Cement shall be used in Class PR3 Concrete.

Tables 1002.02 and 1002.03 in Subsection 1002.02 are void and superseded by the following:

**ENGLISH
TABLE 1002.02**

Class of Concrete (1)	Base Cement Type	Total Cementitious Materials Min. lb/cy	Total Aggregate		Air Content % Min.-Max. (2)	Coarse Aggregate (%)	Water/Cement Ratio Max. (3)	Required Strength Min. psi
			Min. lb/cy	Max. lb/cy				
47B**	IP/IS/IT*	564	2850	3150	6.5 - 9.0	-	0.45	3500
47B***		564	2850	3150	6.0 - 8.5	-	0.45	3500
47BD		658	2500	3000	6.0 - 8.5	30+3	0.42	4000
47B-HE		752	2500	3000	6.0 - 8.5	30±3	0.40	3500
BX(4)		564	2850	3150	6.0 - 8.5	-	0.45	3500
47B-OL****		564	2850	3200	5.0 - 7.0	30±3	0.36	4000
PR1	I/II	752	2500	2950	6.0 - 8.5	30±3	0.36	3500
PR3	III	799	2500	2950	6.0 - 8.5	30±3	0.45	3500
SF(5)	I/II	589	2850	3200	6.0 - 8.5	50±3	0.36	4000

- (1) Each class of concrete shall identify the minimum strength requirement, per plans and specifications. All classes of concrete shall be air-entrained and a water-reducing admixture shall be used per manufacture’s recommendations.
- Class R Combined Aggregate shall use a mid-range water reducer admixture. The dosage shall be at the manufacture’s recommendation and the Engineer may approve a low-range water reducer admixture.
- (2) As determined by ASTM C 138 or ASTM C 231.
FOR INFORMATION ONLY. The Contractor may develop a Quality Control Program to check the quantity of air content on any given project; such as, checking the air content behind the paver.
- (3) The Contractor is responsible to adjust the water/cement ratio so that the concrete supplied achieves the required compressive strength without exceeding the maximum water/cement ratio. The minimum water/cement ratio for any slip form concrete pavement is 0.38, unless the Contractor requests approval from the Engineer in writing to change the minimum water/cement ratio to 0.36.
- (4) For temporary surfacing, Type I/II cement is allowed.
- (5) Minimum Portland Cement shall be 564 lbs/cyds and the total Silica Fume added shall be 25 lbs/cyds.
- (*) Refer to Subsection 1004.02 for material characteristics.
Lithium Nitrate may be used in place of Supplemental Cementitious Materials (SCMs), see Section 1007 of the Standard Specifications as modified in these Special Provisions.
- (**) For slip form applications.
- (***) For hand-pours and substructures applications.
- (****) When IP using Class N pozzolan, the maximum water/cement ratio is 0.41.

Table 1002.03	
Table of Acceptable Concrete Class Substitutions	
Class Specified	Acceptable Class for Substitution
BX	47B, 47BD or 47B-HE
47B	47BD or 47B-HE

Paragraphs 5., 6., 7., 8., 9. and 10. of Subsection 1002.02 are void and superseded by the following:

5. Class PR1 and PR3 Concrete:
 - a. The calcium chloride for use in PR concrete shall be either:
 - (1) A commercially prepared solution with a concentration of approximately 32 percent by weight.
 - (2) A Contractor prepared solution made by dissolving 4.5 pounds of Grade 2 or 6.2 pounds of Grade 1 calcium chloride per gallon of water to provide a solution of approximately 32 percent by weight.
 - b. The 7.4 pounds of water in each gallon of solution shall be considered part of the total water per batch of concrete.
 - c. The calcium chloride solution shall be added, just prior to placement, at a rate of 0.375 gallons/100 pounds of cement (1.4 lb. calcium chloride per 100 lb. cement).
 - d. Class A, Flaked or Pellet Calcium Chloride shall be added at a rate not to exceed 2.0 percent of the weight of the cement for Grade 1, or 1.6 percent of the weight of the cement for Grade 2. Grade 1 Calcium Chloride purity is between 70 and 90 percent and Grade 2 Calcium Chloride is between 91 and 100 percent.
 - e. Where mixing trucks are used:
 - (1) For Class PR3 Concrete, calcium chloride shall be thoroughly mixed into the concrete before placement. The minimum mixing time is 2 minutes.
 - (2) For Class PR1 Concrete, calcium chloride shall be added first and then the concrete mixed at least 2 minutes or as required by manufacturer. Next, the Type F high range water-reducer admixture is added and the concrete is mixed an additional 5 minutes.
6. Class High Early (47B-HE) Concrete
 - a. High Early (47B-HE) concrete shall be cured as prescribed in Subsection 603.03, Paragraph 7. The Contractor shall take necessary curing measures so the required strength is achieved.
 - b. High Early concrete shall achieve a compressive strength of 3,500 psi at 48 hours after placement.

- c. The 48-hour compressive strengths shall be used to determine pay factor deductions for high early concrete in accordance with Table 603.03.
 - d. A non-calcium chloride accelerator shall be used when the ambient temperature at the time of the placement of concrete is 70°F or less.
 - e. When requested by the Contractor, the maturity method, as provided in NDR C 1074, may be used in lieu of the requirements of Subsection 603.03, Paragraphs 11.c. and d. to determine the strength of concrete pavement for the purpose of early opening to traffic and acceptance. Requests by the Contractor for use of the maturity method shall be on a project basis and shall be made in writing to the Engineer.
- 7. The yield of the concrete proportions shall be determined and adjusted by the Producer.
 - 8. All Classes of Concrete with the exception of PR1 and PR3 shall have a Durability Factor not less than 70 and a mass loss not greater than five percent after 300 freeze/thaw cycles when tested in accordance with ASTM C 666. The freeze/thaw testing shall be conducted according to Procedure A.

Paragraphs 1. & 2. of Subsection 1002.03 are void and superseded by the following:

- 1. The Contractor shall identify the plant that will supply the concrete 14 days before use and be entirely responsible for its calibration, batching of concrete, aggregate and sampling of cement per NDR Sampling Guide.
 - a. The Contractor shall be responsible for the following:
 - 1) Batching concrete.
 - 2) Contractor shall sample aggregate from the conveyor belt or stockpile. Gradations from a split sample shall be tested in accordance to Section 1033 and reported to the Engineer at the frequency required by the Materials Sampling Guide.
 - i. Contractor shall retain possession of the split samples on-site at the Contractor's facility until such a time as determined by the Engineer.
 - a. At the pre-construction meeting:
 - 1) Contractor shall determine the location of testing and report the names of the technician performing the sampling and testing.
 - 2) Engineer will notify the Contractor of the retrieval of the split samples.

- ii. The Contractor shall split the sample, place the Department's split sample into a cloth bag and immediately seal the split sample with the provided security seal. The cloth sample bag shall be supplied by the Department.
 - iii. The sampling splitting and placement of the security seal of aggregate samples shall be witnessed by certified Department personnel.
 - iv. Contractor shall secure the split sample using a consecutively numbered security seal of 75 pounds breaking strength provided by the Department. The Contractor shall use the consecutively numbered security seals to identify and track each Aggregate Class. Samples that are not consecutively numbered will be investigated for custody of the sample and the Engineer may cease production until it is determined what action will be required.
 - a. The Contractor shall report the security seal tracking number with the split sample gradation.
 - b. The following training shall be required for personnel who oversee the batching of the concrete:
 - 1) Concrete Technician Personnel
 - i. Concrete Plant Technician
 - 2) Portland Cement Sampler
 - i. NDR Portland Cement Sampler
2. Portland Cement Concrete shall be supplied by certified Ready Mix Plants that are in compliance with the requirements in the *Quality Control Manual*, Section 3, -- Certification of Ready Mixed Concrete Production Facilities published by the National Ready Mixed Concrete Association. Refer to NDR Material Sampling Guide for the policy on stationary and portable plants.

Paragraph 4. of Subsection 1002.03 is void and superseded by the following:

- 4. a. Mix times shall meet the requirements of ASTM C 94. Mixing time tests shall be repeated whenever the concrete appearance indicates that mixing was inadequate.
- b. Batch plants that are transporting the concrete in non-agitating trucks, the mixing time will not be less than 60 seconds, and for agitating trucks, the mixing time will not be less than 45 seconds.
- c. The Certification of stationary and portable ready mix plants will conform to the tests that are required in the NDR Materials Sampling Guide.

Paragraph 6. of Subsection 1002.03 is void and superseded by the following:

6. Batch tickets shall be prepared as prescribed in the National Ready Mixed Concrete Association's *Quality Control Manual*. The Contractor shall keep all gradations and batch tickets until final acceptance by the Department. Projects that have less than 200 cubic yards of concrete placed will be allowed to have hand written tickets. For projects greater than 200 cubic yards, hand written tickets will be at the Engineer's discretion. The concrete batch tickets shall show batch weights, aggregate moisture (shall be tested daily and moisture probes are allowed), admixtures used, water, and mix design calculations. A copy of the batch ticket shall be given to the Engineer upon delivery of concrete.

Paragraph 8. of Subsection 1002.03 is void and superseded by the following:

8. Coarse aggregate from a dry pit shall be uniformly saturated with water before it is used. The wetting shall begin 24 hours prior to the concrete mixing to allow complete saturation.

Paragraph 13.a. of Subsection 1002.03 is void and superseded by the following:

13. a. The quantity of water shall be determined by the Contractor. The minimum quantity of water should be used which will produce required workability. Any additional water used to rinse the charging hopper and fins after the batching of concrete is allowed. This water must be estimated and recorded on the batch ticket.

Subsection 1002.04 is void and superseded by the following:

1. Class 47B Concrete Mix Design Submittal:
 - a. The Contractor shall submit the Concrete Mix Design Worksheet consisting of design mix proportions, testing of mix design from a minimum of 4 cubic yards and aggregate data for 47B class of concrete being placed on the project.
 - (1) All testing must be performed by a qualified laboratory found on the NDR's Material and Research website, under the *Nebraska Qualified Consultant & LPA Laboratories* and submitted to the Engineer.
 - (2) The Concrete Mix Design shall be submitted to the Engineer 4 weeks prior to any concrete being placed on the project.
 - (3) The Concrete Mix Design shall not be paid for directly by the Department and shall be subsidiary to items which direct payment is made.
 - (4) Concrete shall not be placed on the project before the Concrete Mix Design Worksheet has been reviewed and approved by the Engineer.

b. The Contractor shall submit the Concrete Mix Design Worksheet to the Engineer. Email submissions are preferred but will be accepted by fax or postal mail.

(1) Contractor's Mix Design Worksheet can be found on the Materials and Research website. The submitted Mix Design Worksheet shall include the following:

- Contractor Name
- Project Number
- Date
- Location of ready mix or central mix plant
- Date submitted
- Signature of Contractor representative

(2) Material Source Information.

- Cement Manufacturer
- Type of Interground/Blended Cement
- Type of Admixtures
- Aggregate Pit and Quarry location

(3) Specific Gravity of each individual aggregate source.

(4) Sand Equivalent for dry pit sand-gravel aggregate.

(5) Combined Aggregate percent passing as described on Table 1033.03C.

(6) Contractor's Target combined aggregate gradation percent passing.

(i) The Contractor's required worksheet can be found on the Materials and Research website.

(7) Testing of Mix Design:

The mix design shall show the weights of all ingredients including Interground/Blended cements, aggregates, water, admixtures types and water cement ratio.

- Temperature of concrete at time of sampling, ASTM C 1064.
- The air content of plastic concrete, ASTM C 231.
- Weight per cubic foot, Yield, ASTM C 138. The relative Yield shall be a minimum of 97%.

- Compressive strength shall be performed with a minimum of three averaged specimens at 7-day and 28-day, ASTM C 39. The minimum 28-day compressive strength shall be 3500 psi.
- (8) Traditional 47B Mix Design is defined as a 70 percent Class B Aggregate and 30 percent Class E Aggregate may be exempt from the concrete testing described in Paragraph 1.(b)(7). All other requirements shall be included in the Concrete Mix Design Report.
- c. The PCC Engineer will notify the Contractor of the mix design approval for Class 47B Concrete. Approval of the mix design does not alleviate the Contractor of the responsibility of the in-place concrete. The Contractor may adjust admixtures, water cement ratio, vibrator frequency, etc., as needed in accordance to the specifications.
- d. The Contractor shall submit a new concrete mix design worksheet meeting the above requirements when a change occurs in the source, type, or proportions of cements or aggregates; unless otherwise approved by the Engineer.
2. The quantity of water to be used shall be determined by the Contractor. It shall not be varied without the Engineer's consent.
3. If the concrete mixture is excessively wet causing segregation, excessive bleeding, excessively dry or any other undesirable condition, the concrete shall be rejected. At the option of the Engineer, slump tests may be performed to determine the consistency.
4. Concrete which has developed initial set before it is consolidated and finished shall be rejected.
5. a. If false set is encountered, the batching operation shall be stopped until the problem is resolved.
- b. Each batch must be mixed or agitated for at least 3 additional minutes after observing the false set and the concrete must be of satisfactory consistency.
6. Compressive strength tests shall be made in accordance with ASTM C 39.
7. Concrete shall be sampled as prescribed in the NDR *Materials Sampling Guide*. Samples shall be taken at the point of placement, never before the discharge from the last conveyance.
8. Aggregate Acceptance, Verification, Sampling and Testing:
- a. The aggregate will be accepted based on the Contractor's testing results except as noted below.

- b. The aggregate verification sampling and testing by the Department will be randomly selected and tested according to subplot sizes in Table 1002.05.

Table 1002.05

Aggregate Class	Lot	Sublot
E and F	3000 tons	1000 tons
A,B and C	6000 tons	2000 tons
R	6000 tons	2000 tons

- c. The results of Contractor split sample will be verified by the Department's verification tests. Any samples outside of the tolerances as specified according to the Materials Sampling Guide, Section 28 under the *Acceptable Tolerance Limits for Independent Assurance* will result in an Independent Assurance (IA) review of testing and may result in the Department test results being applied.
- d. On any given Lot, if the results of the gradation from the verification test are within Department's specification, the Contractor's results will be used for the entire lot. On any given Lot, if the gradations results from the verification test are outside Department's specification, further investigation will be initiated by the Engineer for that subplot. Any or all of the remaining Department subplot samples may be tested and the Department subplot test results may be applied to the respective subplot and the acceptance will apply.
- e. When verification tests are within testing tolerance but results show a consistent pattern of deviation from the split sample results, the Engineer will exercise one or more of the following:
- Cease production.
 - Request additional verification testing.
 - Initiate a complete IA review.
- f. Independent Assurance (IA) Review of Testing:
- 1) The Contractor shall allow the Department personnel access to the Contractors' laboratory to conduct IA review of the technician testing procedures and apparatus. Any deficiencies discovered in the Contractor's testing procedures will be reported to the Contractor and corrected by the Contractor.
 - 2) During the IA review, the Department personnel and the Contractor shall split a sample for the purpose of IA testing. The samples selected will be tested in the Department's Branch Laboratory. Any IA test results found to be outside of defined testing tolerances as stated in Paragraph 8.c. of Subsection 1002.04 will be reported to the Contractor. The Contractor shall immediately correct any deficiencies found during the IA review.

- 3) If the project personnel and the Contractor cannot reach agreement on the accuracy of the test results, the Department Central Laboratory will be asked to resolve the dispute, which will be final. All dispute resolutions will be in accordance with the Quality Assurance Program requirements in the NDR's Materials Sampling Guide.

PORTLAND AND INTERGROUND/BLENDED CEMENT (J-15-0216)

Section 1004 in the Standard Specifications is void and superseded by the following:

1004.01 – Description

1. Portland cement is the binder in concrete, locking the aggregate into a solid structure. It is manufactured from Lime, Silica, and Alumina (with a small amount of plaster of Gypsum).
2. Equivalent alkali referred to herein is hereby defined as the sum of the Sodium Oxide (Na_2O) and the Potassium Oxide (K_2O) calculated as Equivalent Alkali $\text{Na}_2\text{O}_e = \text{Na}_2\text{O} + 0.658 \text{K}_2\text{O}$.
3. Interground and Blended cements consist of intimate and uniform intergrinding or blending of Portland cement clinker, Slag cement, Pozzolan and/or Limestone.

1004.02 – Material Characteristics

1. Type I, Type II, Type I/II and Type III Portland cement shall conform to the requirements in ASTM C 150 with the following additional requirements:
 - a. Portland cement shall not contain more than 0.60 percent equivalent alkali.
2. Interground and Blended Cement shall conform to the requirements in ASTM C 595 with the following additional requirements:
 - a. Interground/Blended cement (Type IP)
 - (1) For Type IP(25) shall be composed of Class F fly ash or Class N pozzolan replacement shall be $25\% \pm 2\%$.
 - (2) For Type IP(20) shall be composed of Class F fly ash or Class N pozzolan replacement shall be $20\% + 2\%$.
 - b. Interground/Blended cement (Type IS)
 - (1) For Slag Cement, the maximum replacement shall be $35\% +5$ when incorporated into the final Interground/Blended cement.

- c. Interground/Blended cement (Type IT)
 - (1) For SCMs, Slag cement and Limestone, the maximum replacement by weight shall be 40%. The manufacturer has a production tolerance of $\pm 2\%$ from the proposed replacement.
 - (2) For Limestone cement, the replacement range shall be from 5.1% to 10.0% when incorporated into the final Interground/Blended cement.
- d. No additional SCMs, Slag cement and Limestone will be added at the batch plant.

1004.03 – Procedures

1. The Contractor shall provide adequate protection for the Portland and Interground/Blended cement against dampness.
 - a. Portland and Interground/Blended cement shall be hauled or stored in railroad cars, dry bulk trailers or in suitable moisture-proof buildings.
 - b. The use of tarpaulins for the protection of the Portland and Interground/Blended cement against moisture will not be allowed.
2. No Portland and Interground/Blended cement which has become caked or lumpy shall be used.
3. Portland and Interground/Blended cement which has been spilled shall not be used.
4. Accepted Portland and Interground/Blended cement which has been held in storage at the concrete mix plant more than 90 days shall be retested.
5. Portland and Interground/Blended cement coming directly from the manufacturer shall not be used until the temperature is 150°F or less.
6. Portland cement having false set when tested in accordance with in ASTM C 150 will not be used.

1004.04 – Acceptance Requirements

1. For Department projects, Portland and Interground/Blended cements must be on the NDR Approved Product List (APL).
2. The Contractor shall submit any new Portland and Interground/Blended cements to the Engineer to be approved for the APL with the following:
 - a. Material source information:
 - 1) Mill Location
 - 2) Type of Portland and Interground/Blended cements
 - 3) Grinding Period

- 4) Associated Manufacture Product Name
 - 5) Provide source and type of each SCMs and/or Slag Cement used for final product.
 - (i) The Department will allow the use of ASTM C 1697.
 - a. When two or more SCMs and/or Slag Cement are pre-blended, the Contractor shall report chemical composition analysis of the final blend.
 - b. The final blend shall be reported as per ASTM C 1697, Paragraph 4.
 - 6) Portland cement shall conform to ASTM C 150.
 - 7) Interground/blended cements shall conform to ASTM C 595.
 - 8) Provide total cementitious materials replacement per ASTM C 595.
 - 9) Report test results per ASTM C 1567 at 28-days.
3. Alkali Silica Reaction Requirements and Testing:
- a. Interground/Blended cement shall be tested according to the provisions of ASTM C 1567.
 - (1) The mortar bars shall be composed of Type IP, IS or IT Interground/blended cement and sand and gravel from an approved Platte River Valley-Saunders County source.
 - i. When Elkhorn River-Madison County source or an out of state aggregate source is being used on a project, the Elkhorn River or an out of state aggregate source shall be used in lieu of the Platte River Valley-Saunders County source.
 - ii. When Contractor proposes a change of aggregate source, then the new aggregate source shall be tested by ASTM C 1567.
 - (2) The mortar bars for the ASTM C 1567 shall not exceed 0.10% expansion at 28 days.
4. Portland and Interground/Blended cements will be placed on NDR's APL based on the conformance with the NDR's Acceptance Policy Portland and Interground/Blended Cements.

1004.05 - Sampling and Testing Requirements

1. All Portland and Interground/Blended cements shall be sampled and tested at the rate as described in the NDR's Materials Sampling Guide.
 - a. The Department will inform the Contractor when a sample is required.

- b. A sample shall be taken by a Contractor's Certified Portland Cement Sampler and must be under the supervision of Department certified personnel.
 - c. The sample shall be taken at the plant from a bulk shipment of a rail car, dry bulk trailer, batch plant silo or from the line between the bulk truck and the silo. Upon sampling, the Department will take immediate custody of the sample.
2. Noncompliant material shall be tested in accordance with ASTM C 1567 and in accordance with Section 1004.04, Paragraph 3.a. (1).
 - i. The mortar bars for the ASTM C 1567 shall not exceed 0.10% expansion at 28 days.
 - ii. If the expansion is greater than 0.10% at 28 days, then the Interground/Blended cement shall be subject to removal, 40% pay and/or removal from NDR's APL in accordance with NDR's Acceptance Policy on Portland and Interground/Blended Cements.
 3. Noncompliant material from the mill, terminal or project will be temporarily removed from the Approved Products List pending further investigation.
 4. If the noncompliant Portland or Interground/Blended cement is removed from the Approval Products List, all shipments from the supplier will be held until the investigation of the failing samples have been completed by the NDR Materials and Research Division.

WATER FOR CONCRETE (J-15-0214)

Section 1005 in the Standard Specifications is void and superseded by the following:

1005.01 – Description

1. Water shall be free from objectionable quantities of oil, acid, alkali, salt, organic matter, or other deleterious materials and shall not be used until the source of supply has been approved.
2. Wash water from the mixer washout may be used only with the Engineer's approval. Use of wash water will be discontinued if undesirable reaction with admixtures or aggregates occurs.

1005.02 – Material Characteristics

1. Water which contains more than 0.25 percent total solids by weight shall not be used.
2. When required by the Engineer, the quality of mixing water shall be determined by NDR C 114, NDR T 290, NDR D 512, NDR C 1602, ASTM C 31, ASTM C 109, ASTM C 191, and ASTM C 1603.

3. Upon written request by the concrete producer and approval by Materials and Research, the concrete producer may utilize up to 10% wash water for batching all classes of concrete with the following conditions:
 - a. Wash water shall conform to the requirements in NDR's Material Sampling Guide under Policy for Certification of Ready Mix Plants.
 - b. Wash water must be clarified wash water that has been passed through a settling pond system.
 - c. Wash water must be scalped off of a settling basin that has been undisturbed for a minimum of 12 hours.
 - d. Wash water must be metered into each load.
 - e. Wash water quantities shall be shown on the batch ticket.

CALCIUM CHLORIDE (J-15-0214)

Section 1006 of the Standard Specifications is void and superseded by the following:

1006.01 – Description

Calcium Chloride shall be Type S (Solid) or Type L (Liquid). Calcium Chloride can be used for; but not limited to, dust control and acceleration of the set of concrete.

1006.02 – Material Characteristics

The requirements for calcium chloride shall be tested in accordance with ASTM D 98.

1006.03 – Acceptance Requirements

Acceptance shall be based on requirements contained in the NDR Materials Sampling Guide.

SECTION 1007 -- CHEMICAL ADMIXTURES (J-15-0214)

Section 1007 in the Standard Specifications is void and superseded by the following:

1007.01 -- Description

1. Admixtures are materials added to Portland cement concrete to change characteristics such as workability, strength, permeability, freezing point, and curing.
2. The Department's concrete admixture types are:
 - a. Type A - Water-Reducing Admixture - An admixture that reduces the quantity of mixing water required to produce concrete of a given slump.

- b. Type B - Retarding Admixture - An admixture that slows the setting of concrete.
- c. Type C - Accelerating Admixture - An admixture that speeds the setting and early strength development of concrete.
- d. Type D - Water-Reducing and Retarding Admixture - An admixture that reduces the quantity of mixing water required to produce concrete of a given slump and slows the setting of concrete.
- e. Type E - Water-Reducing and Accelerating Admixture - An admixture that reduces the quantity of mixing water required to produce concrete of a given slump and speeds the setting and early strength development of concrete.
- f. Type F - Water-Reducing, High Range Admixture - An admixture that reduces the quantity of mixing water required to produce concrete of a given slump by 12 percent or greater.
- g. Type G - Water-Reducing, High Range and Retarding Admixture - An admixture that reduces the quantity of mixing water required to produce concrete of a given slump by 12 percent or greater and slows the setting of concrete.
- h. Air-Entraining - An admixture that encapsulates air in the concrete.
- i. Lithium Nitrate – An admixture used to control the Akali Silica Reaction (ASR) in concrete.

1007.02 -- Material Characteristics

- 1. Type A through G admixtures shall meet the requirements in ASTM C 494.
- 2. Air-entraining admixtures shall meet the requirements in ASTM C 260.
- 3. Use of admixtures other than those cited may be requested by the Contractor.
- 4. Admixtures shall not contain more than 1 percent of chlorides calculated as calcium chloride unless specified otherwise in the Specification.
- 5. Admixtures shall be used at the manufacturer's recommended dosage rates.
- 6. The air-entraining admixture characteristics shall produce concrete with satisfactory workability and total air content as prescribed in Table 1002.02.
- 7. a. When using the Lithium Nitrate admixture, the Contractor shall submit to the Engineer:
 - (i) A five pound sample of Portland cement that will be used on the project.
 - (ii) The Manufacturer's method for determining the recommendation for the required dose rate based on the equivalent alkali content.
 - (iii) Water content of the Lithium Nitrate admixture solution.

- b. The Engineer will report the equivalent alkali content to the Contractor. The Contractor shall use the reported equivalent alkali content to determine the required dose rate based on the manufacturer's recommendation.

1007.03 -- Procedures

- 1. The process for adding admixtures to a ready mix truck on the project site involves positioning the load of concrete up to the truck chute, stopping short of discharge.
 - a. The admixture is then poured over the surface of the concrete and mixed for at least 5 minutes.
 - b. No more than 1.3 gallons of water shall be used to rinse the admixture from the fins and top chute. This water must be shown on the proportioning report and shall not exceed the water cement ratio.
 - c. When Lithium Nitrate is used, the portion of the admixture that is water will be shown on the proportioning report and shall not exceed the water cement ratio.
 - d. The Contractor is responsible for the addition of the admixture.
- 2.
 - a. If the air content is less than the minimum specified, addition of air-entraining admixtures is allowed.
 - b. The Contractor shall take measures based on manufacturer's recommendations that are within compliance of NDR Specifications, to bring the load of concrete into NDR prescribed limits according to Table 1002.02.
 - c. If the air content is then outside the limits in Table 1002.02, the load of concrete shall be rejected.

1007.04 -- Acceptance Requirements

- 1.
 - a. Approved chemical admixtures are shown on the NDR Approved Products List.
 - b. Admixture approval shall be based upon annual certifications and certified test results submitted to the NDR Materials and Research Division.
- 2. The admixture must be essentially identical in concentration, composition, and performance to the admixture tested for certification.
- 3. Admixtures not identified on the NDR Approved Products List may be used under the following conditions:
 - a. A certificate of compliance and certified test results must be submitted to the NDR Materials and Research Division and approval for use must be given by the NDR Materials and Research Division.

**SILICA FUME
(J-15-0307)**

Paragraph 2 of Subsection 1009.03 in the Standard Specifications is void and superseded by the following:

2. Silica fume shall be protected from temperatures in excess of 90°F (32°C).

**LIQUID MEMBRANE-FORMING COMPOUNDS FOR CURING CONCRETE
(J-15-0307)**

Subsection 1012.03 in the Standard Specifications is void and superseded by the following:

1012.03 – Acceptance Requirements

1. All curing compounds to be approved must be from the current calendar year with no carry-over from the previous years.
2. Approved compounds are on the NDR Approved Products List.
3. Products not on the NDR Approved Products List shall be sampled and tested in accordance with requirements of the NDR Materials Sampling Guide.

**BITUMINOUS LIQUID COMPOUNDS FOR CURING CONCRETE
(J-15-0515)**

Section 1013 in the Standard Specifications is void and superseded by the following:

1013.01 – Description

The compound shall consist essentially of an asphaltic base and shall be of a consistency suitable for spraying at temperatures existing at the time of construction operations. It shall form a continuous, uniform film. It shall be free of precipitated matter caused by conditions of storage or temperature. The compounds shall be relatively nontoxic.

1013.02 – Material Characteristics

- a. When tested in accordance with AASHTO T 155, the loss of water shall not be more than 0.11 lb/ft² (0.55 kg/m²) of surface area at 3 days, unless otherwise specified by the Engineer.
- b. The Contractor has the option of using bituminous tack coat. The tack coat shall conform to all requirements of Section 504.
- c. The base material shall conform to Sections 1030, 1031 and 1032.

1013.03 – Acceptance Requirements

Products shall be sampled and tested in accordance with requirements of the NDR Materials Sampling Guide.

JOINT AND CRACK SEALING FILLER (J-15-0813)

Section 1014 in the Standard Specifications is void and superseded by the following:

1014.01 – Description

Joint sealing filler shall be either a cold applied silicone product or an asphalt product (hot pour) conforming to the requirements of this Section. The type of joint filler to be used shall be as specified in the plans or special provisions. If not specified, any of the joint sealing fillers in this Section may be used.

Crack sealing filler shall be a hot pour sealer conforming to the requirements of this Section.

1014.02 -- Material Characteristics

1. NE-3405 and NE-3405LM (hot pour)
 - a. NE-3405 joint and crack sealer shall conform to the requirements of ASTM D6690, Type II. The material shall conform to the requirements of Table 1 with the following exception:
 - (i) The test of Bond, non-immersed, ASTM D5329, 3 specimens through 3 cycles shall be run at 0°F (-18°C), 100% extension.
 - b. NE-3405LM (Low Modulus) joint and crack sealer shall conform to the requirements of ASTM D6690, Type IV. The material shall conform to the requirements of Table 1.
 - c. The test of Bond, non-immersed, ASTM-D5329, will be tested on concrete blocks that will be constructed by the NDR Concrete Laboratory. The concrete blocks will be made of a 47B concrete mixture as prescribed in Section 1002 in the NDR Standard Specifications. The design is amended so that no fly ash is used in the mixture. All other specifications for Portland Cement Concrete apply.
 - d. Sample conditioning, preparation and heating shall be in accordance with ASTM D 5167 with the following exceptions:
 - (i) The following sentence of Section 8.1.2, “Also, if present, remove container liner by cutting it away”, is void and superseded by the following:

“Also, if present, as much of the polyethylene bag as possible, shall be removed by cutting it away. Wholly-meltable type container in contact with the sample section shall be left in place.”

- (ii) The last sentence of Section 8.1.2 “Solid Materials” is void and superseded by the following:

The entire vertical section which has been cut, shall be placed into the pot for melting.

- (iii) The Section of 8.2.2.1 “Solid Materials” is void.

- (iv) The Section of 8.2.3 is void and superseded by the following:

After the solid segment is added to the melter, the material shall be allowed to minimally melt to a uniform viscous state suitable for the installation of the stirrer or paddle. The sample shall then be stirred for one full hour. The oil bath temperature shall be regulated to bring the material to the maximum heating temperature within the one hour of stirring.

- (v) The Section of 8.2.4.1 is void and superseded by the following:

During the one full hour of stirring, check the temperature of the material at maximum 15 minute intervals using a Type K thermocouple with the calibration verified in accordance with Section 6.1.7 to ensure conformance with specified temperature requirements. Stop the mechanical stirrer when measuring temperatures. If material temperatures ever exceed the maximum heating temperature, or ever drop below the minimum application temperature after the maximum heating temperature was reached, discard the sample and re-do the heating. Maintain appropriate records of times and temperatures to verify conformance with specification requirements.

- (vi) The Section of 8.2.4.2 is void.

- e. ASTM D 5329 shall include the following changes:

- (i) Sections 6.4 and 12.4 “Specimen Preparation” shall have the reference of “177 ml (6 oz.)” replaced with “3 oz.”

- (ii) Section 6 “Cone Penetration, Non-Immersed” shall be superseded with the following exceptions:

- 1. Section 6.5 “Procedure” is void and superseded by the following:

Place the specimen in a water bath maintained at 77 +/- 0.2°F (25 +/- 0.1°C) for two hours immediately before testing. Remove the specimen from the bath and dry the surface by shaking gently to remove free water from the surface of the specimen. Using the apparatus described in Section 6.3, make one determination at or near the center of the specimen. Take care to ensure the cone point is placed on a point in the specimen that is representative of

the material itself, and is free of dust, water, bubbles, or other foreign material.

2. Section 6.6 "Report" is void and superseded by the following:

Record the value as penetration of the specimen in dmm units.

- (iii) Section 12 "Resilience" shall be superseded with the following exceptions:

1. Section 12.5 "Procedure", void the sentence "Make determinations at three points equally spaced from each other and less than 13mm (½ inch) from the container rim" and supersede with the sentence "Make one determination at or near the center of the tin."
2. Section 12.6 "Report" is void.

2. Silicone Joint Sealer (cold applied)

- a. Silicone joint sealers may be either self-leveling or non-sag and shall meet the requirements in Table 1014.01.

Table 1014.01

Silicone Joint Sealer Requirement		
Property	Requirement	Test
As supplied:		
Specific Gravity	1.010-1.515	ASTM D792
Work Time, minimum	10 minutes	
Tack-Free, at 25°C	20-360 minutes	
Cure Time, at 25°C, maximum	14 days	
Full Adhesion, maximum	21 days	
As cured, at 25°C + 1.5		
Elongation, minimum	800%	ASTM D412
Durometer		
Non-Sag, Shore A	10-25	ASTM D2240
Self-Leveling, Shore 00, minimum	40	ASTM D2240
Joint Movement Capacity	+100% to -50%	ASTM C719
Tensile Stress, at 150% Elongation	45 psi	ASTM D412

1014.03 -- Packaging

1. NE-3405 and NE-3405LM

- a. The joint and crack sealer can be packaged in either cardboard box of wholly-meltable type containers.
 - (i) Cardboard box containers shall be manufactured from double wall kraft board producing a minimum bursting test certification of 350 PSI (241 N/cm²) and using water-resistant adhesives. The use of metal staples or fasteners of any kind will be prohibited for closing the lids of the boxes. Tape or other like material is acceptable.
 - a. The joint and crack sealer shall be in meltable [300°F (149°C)] polyethylene bag(s).

- (ii) Wholly-meltable type containers, and any of their components, shall be fully meltable and integrational with the joint and crack sealer by the time the manufacturer's minimum application temperature is reached.
 - a. The wholly-melted and integrated container must not adversely affect the test specifications of the joint and crack sealer.

2. Silicone Joint Sealer

- a. Each container shall include information regarding manufacturer and product name.

1014.04 -- Acceptance Requirements

1. NE-3405 and NE-3405LM

- a. Acceptance of the manufactured material is based on pre-approval by either on or off-site sampling. Acceptable hot pour sealant lots are listed on the NDR Approved Products List.
 - (i) NDR on-site field sampling shall be in accordance with the NDR Materials Sampling Guide.
 - (ii) Off-site (Proxy) sampling shall be in accordance with ASTM D 6690.
 - 1. Proxy sampling shall be overseen by an outside party approved by the NDR, preferably another DOT Agency. Proxy samples shall include a manufacturer's Certificate of Compliance. Proxy samples shall also include a dated signature of origin by the Representative that is not affiliated with the manufacturer, and can either be on the Certificate of Compliance, or separate letter.
 - 2. For convenience in both sampling and shipping samples, sample containers smaller than a manufacturer's usual production containers are allowed, as long as the sample is 1500 grams min.
 - 3. Samples shall be sent to the NDR Bituminous Laboratory, or alternatively, sent to an NDR-approved independent laboratory for testing which will be at no cost to the Department. If a NDR-approved independent laboratory will be used for testing purposes, the NDR Bituminous Laboratory must be notified so that NDR concrete blocks for Bond testing can be sent to it.

2. Silicone Joint Sealer

- a. Acceptance of applied silicone joint sealers shall be in accordance with the NDR *Materials Sampling Guide*.
- b. Acceptable silicone joint sealer manufacturer products are listed on the NDR Approved Products List.
 - (i) For products that are not listed, approval may be based upon test results from an independent laboratory submitted to the NDR Concrete Materials

Section by the manufacturer, and testing by the NDR. Approval must be made prior to product use.

EPOXY COMPOUNDS AND ADHESIVES (J-15-0308)

Section 1018 in the Standard Specifications is void and superseded by the following:

1018.01 – Description

This specification provides requirements for two-component, epoxy-resin bonding systems for use in non-load bearing applications and resin adhesives for application to Portland cement concrete.

1018.02 – Material Characteristics

1. Epoxy-resin bonding systems shall conform to the requirements of ASTM C 881. Approved systems are shown on the NDR Approved Products List.
2. The classification of Epoxy-Resin Bonding Systems is as follows:
 - a. Type I For use in non-load bearing applications for bonding hardened concrete and other material to hardened concrete.
 - Type II For use in non-load bearing applications for bonding freshly mixed concrete to hardened concrete.
 - Type III For use in bonding skid resistant materials to hardened concrete, and as a binder in epoxy mortars or epoxy concretes.
 - b. Grade 1 Low viscosity.
 - Grade 2 Medium viscosity.
 - Grade 3 Non-sagging consistency.
 - c. Class A For use below 40°F (4°C); the lowest allowable temperature to be defined by the manufacturer of the product.
 - Class B For use between 40°F and 60°F (4°C and 15°C).
 - Class C For use above 60°F (15°C); the highest allowable temperature to be defined by the manufacturer of the product.
 - Class D For use between 40°F and 65°F (4°C and 18° C).
 - Class E For use between 60°F and 80°F (15°C and 26°C).
 - Class F For use between 75°F and 90°F (24°C and 32°C).

1018.03 – Procedures

1. The compounds shall be of the type and grade specified in the plans or as directed by the Engineer.
2. The class of the compounds shall be selected for use according to climatic conditions at the time of application.
3. All bonding surfaces shall be clean and free of all oil, dirt, grease, or any other materials which would prevent bonding.
4. Mixing and application shall be in strict accordance with the manufacturer's instructions.

1018.04 – Acceptance Requirements

1. Epoxy-resin bonding systems and resin adhesives approved for use are shown on the NDR Approved Products List.
2. Epoxy-resin bonding systems that are not on the NDR Approved Products List may be accepted based on a manufacturer's certificate of compliance.

**DEFORMED METAL CENTER JOINT AND METAL KEYWAY
(J-15-0307)**

Paragraph 1 a. of Subsection 1027.01 in the Standard Specifications is void and superseded by the following:

- a. Metal Center Joint:

Metal center joint sections shall be manufactured from sheets no less than 18 gauge [0.05 inch (1.3 mm)] thick and shall be of the size and trapezoidal shape shown in the plans. The sections shall be punched along the centerline of the narrow face of the trapezoid to admit the tie bars required by the plans and also at intervals of not greater than 2 feet (600 mm) to receive pins that are driven vertically into the subgrade to support the metal center joint.

**AGGREGATES
(J-15-0616)**

Subsection 1033.01 is amended to include the following paragraphs and Subsection 1033.02, Paragraphs 1., 2. and 3. of the Standard Specifications are void and superseded by the following:

1033.01 – Description

This combined aggregate gradation using Class R aggregate is to optimize aggregate blends utilizing more locally available materials.

Achieving a uniform gradation for Class R may require the use of two or more different aggregates. It is the responsibility of the contractor to consider additional material

characteristics; such as, but not limited to particle shape, cubicity, angularity, etc., when designing a mix.

1033.02 -- Material Characteristics

1. Sampling and Testing Procedures:

All materials shall be sampled and tested in accordance with Table 1033.01. All material source locations and quarries must be approved by the Department for prior to use.

Table 1033.01

Sampling and Testing Procedures	
Procedure	Method
Sampling	NDR T 2
Sieve Analysis	NDR T 27
Clay Lumps, Shale, and Soft Particles	NDR T 504
Abrasion	AASHTO T 96
Freeze and Thaw Soundness	NDR T 103
Specific Gravity and Absorption (course aggregate)	AASHTO T 85
Specific Gravity and Absorption (fine aggregate)	AASHTO T 84
Total Evaporable Moisture Content of Aggregates by Drying	AASHTO T 255
Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test	AASHTO T 176
Sodium Sulfate Soundness	AASHTO T 104
Calcium Carbonate	NDR C 25
Organic Impurities	AASHTO T 21
Mortar-Making Properties	AASHTO T 71
Reducing Field Samples of Aggregate to Testing Size	AASHTO T 248
Lightweight Pieces in Aggregates	NDR T 113

2. General Aggregate Properties:

- a. Aggregates shall be free from injurious quantities of dust, soft or flaky particles, loams, alkali, organic matter, paper, wood or other deleterious matter as determined by the Engineer.
- b. Dolomite as herein defined is a magnesium limestone containing calcium carbonate and magnesium carbonate in approximately a 4 to 3 ratio.
- c. The calcium carbonate content of limestone shall be at least 80 percent (computed as CaCO_3 from the value determined for CaO).
- d. Fine Sand shall have at least 95 percent of its particles pass the No. 10 (2.0 mm) sieve and no more than 25 percent pass the No. 200 (75 μm) sieve. This definition applies to sodium sulfate soundness test.
- e. Once an aggregate's soundness and abrasion quality has been determined, additional quality testing for soundness and abrasion loss will be at the Engineer's discretion.
- f. All aggregates or combine aggregates that have been washed or coming from a wet pit shall be stockpiled for a minimum of 48 hours before being introduced into concrete.

3. Portland Cement Concrete Aggregates:**a. Fine Aggregate:**

- (1) Aggregate shall be washed and composed of clean, hard, durable and uncoated particles.
- (2) Aggregates produced from wet pits by pumping must be adequately washed by means approved by the Department.
- (3) Aggregates from dry pits shall be adequately washed by means approved by the Department and have a Sand Equivalent value not less than 90 in accordance with AASTHO T 176.
 - (i) If the Sand Equivalent is less than 90, the Engineer may elect to stop aggregate production until such a time ASTM C 109 has been completed. The aggregate, when subjected to the test for mortar-making properties, shall produce a mortar having a compressive strength at the age of 7 days equal to or greater than that developed by mortar of the same proportions and consistency made of the same cement and aggregate after the aggregate has been washed to a sand equivalent greater than 90. Materials failing to produce equal or greater strength shall be unacceptable.
- (4) Aggregate for concrete shall have a soundness loss of not more than 10% by weight at the end of 5 cycles using Sodium Sulfate Soundness test AASHTO T 104.
- (5) The weight of the aggregate shall not contain more than 0.5% clay lumps.
- (6) Aggregate subjected to the colorimetric test for organic impurities which produces a color darker than the standard shall be further tested for its mortar-making properties in accordance with AASHTO T 71. The Engineer may elect to stop aggregate production until such a time AASHTO T 71 testing has been completed.
 - (i) Aggregate, when subjected to the test for mortar-making properties, shall produce a mortar having a compressive strength at the age of 7 days equal to or greater than that developed by mortar of the same proportions and consistency made of the same cement and aggregate after the aggregate has been treated in a 3% solution of sodium hydroxide. Materials failing to produce equal or greater strength shall be unacceptable, except when determined to be acceptable under the provisions of Subsection 105.03.
- (7) Aggregate shall meet the requirement in Tables 1033.02A, 1033.02B and 1033.03C.
- (8) Lightweight pieces (measured by percent by volume values) shall not exceed 3.5%. For Class R aggregate, fine aggregate is defined as any material passing a No. 4 sieve.

Table 1033.02A

		Percentage	Percent Passing									
			1½"	1"	¾"	½"	3/8	No.4	No.10	No.20	No.30	No.200
AGGREGATE SPECIFICATION RANGE	Class A	Max	--	--	--	--	100	100	90	--	40	3
		Min	--	--	--	--	100	92	64	--	10	0
	Class B	Max	--	100	--	--	--	97	70	--	40	3
		Min	--	100	--	--	--	77	50	--	16	0
	Class C	Max	--	100	--	--	--	88	50	--	20	3
		Min	--	100	--	--	--	44	24	--	4	0

Table 1033.02B

Aggregate Classes and Uses	
Aggregate Class	Concrete Description
A	Overlay Concrete SF
B	47BD, 47B-HE, 47B-OL, PR 1 and PR 3
C	BX

b. Coarse Aggregate:

- (1) Aggregate shall consist of Limestone, Quartzite, Dolomite, Gravel and Granite composed of clean, hard, durable, and uncoated particles.
- (2) The percent of clay lumps, shale, soft particles or lightweight pieces shall not exceed the following amounts:

Clay Lumps	0.5%
Shale	1.0%
Soft Particles	3.5%
Lightweight Pieces	3.5%

- (3) Any combination of clay lumps, shale and soft particles (all percent by weight values), plus the lightweight pieces (a percent by volume value) shall not exceed 3.5%. For Class R aggregate, coarse aggregate is defined as any materials retained on a No. 4 sieve.
- (4) Aggregate for concrete shall be free of coatings that will inhibit bond and free of injurious quantities of loam, alkali, organic matter, thin or laminated pieces, chert, or other deleterious substances as determined by the Engineer.
- (5) Aggregate for concrete shall not have a soundness loss greater than 8.0% by weight at the completion of 16 cycles of alternate freezing and thawing.
- (6) Aggregates for concrete shall have a Los Angeles Abrasion loss percentage of not more than 40.
- (7) All fractions passing the No.4 sieve shall meet quality requirement of soundness loss of not more than 10% by weight at the end of 5 cycles using sodium sulfate solution.
- (8) The coarse aggregate shall be tested according to ASTM C 1260.
 - (a) The mortar bars for the ASTM C 1260 shall not exceed 0.10% expansion at 28 days.

- (i) If the proposed coarse aggregate exceeds 0.10% expansion at 28 days, the aggregate proportions used on the project shall be tested in accordance to ASTM C 1567.
 - a. The ASTM C 1567 mortar bars shall be composed of Interground/blended cement being used on the project.
 - b. If the expansion is greater than 0.10%, the coarse aggregate shall not be used.

(9) Aggregate shall meet the requirements in Tables 1033.03A, B, and C.

Table 1033.03A

		Percent	Percent Passing									
			1 1/2"	1"	3/4"	1/2"	3/8"	No.4	No.10	No.20	No.30	No.200
AGGREGATE SPECIFICATION RANGE	Class E	Max	100	100	90	--	45	12	--	*4	--	3
		Min		92	66		15	0		0		0
	Class F	Max	--	--	100	100	90	30	8	--	--	3
		Min			96	40	4	0				0

*If the No. 200 sieve is less than 1.5% passing the No.20 sieve could be increased to maximum of 6% passing.

Table 1033.03B

Aggregate Classes and Uses	
Aggregate Class	Concrete Description
E	47BD, 47B-HE, PR 1 and PR 3
F	47B-OL, Overlay Concrete SF

c. Combined Aggregates:

- (1) The Contractor shall design and meet the specification requirements. It is the Contractor's responsibility to provide desirable mix properties; such as, but not limited to, workability, resistance to segregation, stable air void system, good finishing properties and good consolidation properties.
- (2) The combined blended aggregate shall meet the requirement in Table 1033.03C and 1033.03D.

Table 1033.03C

*Class R - Combined Aggregate Gradation Limits (Percent Passing)								
Sieve Size	1 1/2 inch	1 inch	3/4 inch	No.4	No.10	No.30	No. 50	No.200
Max	100	100	98.0	70.0	50.0	30.0	12.0	3.0
Min	-	92.0	85.0	45.0	31.0	8.0	2.0	0

* Refer to Subsection 1002.04, Paragraph 1.b.(8) for the traditional 47B Mix Design

Table 1033.03D

Aggregate Classes and Uses	
Aggregate Class	Concrete Description
R	47B

d. Aggregate Production and Testing:

- (1) Any change greater than 3% in the original verified constituent percentage of the combined aggregates gradation will be considered non-compliant. Any change of the combined gradation targets must remain within the Combined Aggregate Gradation Limits in Table 1033.03C. The Contractor shall resubmit a new mix design if the material is deemed non-compliant in accordance with Subsection 1002.04, Paragraph 1.
- (2) The blended gradation tolerance ranges from the approved mix design are established in Table 1033.03E.
 - (i) The Contractor shall assume the responsibility to cease operations when the specifications are not met. Production shall not be started again without the approval of the Engineer.

Table 1033.03E Blended Aggregate Production Tolerances

Sieve Size	Tolerances
No. 4 or greater	+ 5%
No. 10 to No. 30	+ 4%
No. 50	+ 3%
Minus No. 200	+ 1%

- (3) Coarse aggregate from a dry pit shall be uniformly saturated with water before it is used. The wetting shall begin 24 hours before concrete mixing to allow complete saturation.

**DOWEL BARS
(J-15-0812)**

Paragraph 1.c. of Subsection 1022.01 in the Standard Specifications is void and superseded by the following:

- 1. c. Both Type A and Type B coated dowel bars shall be coated with a bond breaker shown on the NDR Approved Products List, dipped in asphalt or paraffin, or greased in accordance with the specified requirements as shown in the Standard Plans.

**EPOXY COATED REINFORCING STEEL
(J-15-0509)**

Paragraph 5. of Subsection 1021.03 in the Standard Specifications is void and superseded by the following:

- 5. In order to protect the coated reinforcement from damage, the Contractor shall use padded or nonmetallic slings and padded straps. Bundled bars shall be handled in a manner which will prevent excessive sagging of bars which will damage the coating. If circumstances require storing coated steel reinforcing bars outdoors for more than two months, protective storage measures shall be implemented to protect the material from sunlight, salt spray and weather

exposure. Coated steel reinforcing bars, whether individual bars or bundles of bars, or both, shall be covered with opaque polyethylene sheeting or other suitable opaque protective material. For stacked bundles, the protective covering shall be draped around the perimeter of the stack. The covering shall be secured adequately, and allow for air circulation around the bars to minimize condensation under the covering. Coated steel reinforcing bars, whether individual bars or bundles of bars, or both, shall be stored off the ground on protective cribbing. The bundled bars shall not be dropped or dragged. If, in the opinion of the Engineer, the coated bars have been extensively damaged, the material will be rejected. The Contractor may propose, for the approval of the Engineer, alternate precautionary measures.

**PROPOSAL GUARANTY
(A-40-0307)**

As an evidence of good faith in submitting a bid for this work, the bidder shall indicate the type of bid bond applied to this project in accordance with the Proposal Guaranty Bid Bond Section of these Special Provisions.

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300INFDEC16

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CONTRACT ID: M3003A

PROJECT(S): M3003A

CALL ORDER NO.: 300

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS

SECTION 1 GROUP 6 BRIDGE AT R.P. 182.05L FOUR-SPAN WELDED PLATE STEEL GIRDER BRIDGE

0001	0030.60	MOBILIZATION	LUMP		LUMP	.	
0002	6004.48	BRIDGE JOINT NOSING	CF	68.400	.		.
0003	6610.45	STRIP SEALS	LF	147.100	.		.
SECTION 1 TOTAL						.	

SECTION 2 GROUP 6A BRIDGE AT R.P. 182.05R FOUR-SPAN WELDED PLATE STEEL GIRDER BRIDGE

0004	0030.60	MOBILIZATION	LUMP		LUMP	.	
0005	6004.48	BRIDGE JOINT NOSING	CF	68.400	.		.
0006	6610.45	STRIP SEALS	LF	147.100	.		.
SECTION 2 TOTAL						.	

SECTION 3 GROUP 6B BRIDGE AT R.P. 11.22 THREE-SPAN ROLLED BEAM STEEL GIRDER BRIDGE

0007	0030.60	MOBILIZATION	LUMP		LUMP	.	
0008	6005.32	PREFORMED EXPANSION JOINT, TYPE A	LF	36.000	.		.
0009	6005.33	PREFORMED EXPANSION JOINT, TYPE B	LF	36.000	.		.
0010	6010.26	CLASS 47BD-4000 CONCRETE FOR BRIDGE	CY	12.100	.		.
0011	6030.05	PREPARATION OF BRIDGE AT RP 11.22	EACH	1.000	.		.

CONTRACT ID: M3003A

PROJECT(S): M3003A

CALL ORDER NO.: 300

LINE NO	ITEM DESCRIPTION		APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
				DOLLARS	CTS	DOLLARS	CTS
0012	6081.00	STRUCTURAL STEEL FOR SUPERSTRUCTURE	1600.000 LB	.		.	
0013	6131.50	EPOXY COATED REINFORCING STEEL	2075.000 LB	.		.	
SECTION 3 TOTAL						.	

SECTION 4 GROUP 6C BRIDGE AT R.P. 397.31 THREE-SPAN INVERTED TEE PRESTRESSED CONCRETE BRIDGE

0014	0030.60	MOBILIZATION	LUMP	LUMP		.	
0015	6005.32	PREFORMED EXPANSION JOINT, TYPE A	206.400 LF	.		.	
0016	6030.06	PREPARATION OF BRIDGE AT RP 397.31	1.000 EACH	.		.	
SECTION 4 TOTAL						.	

SECTION 5 GROUP 6D BRIDGE AT R.P. 397.69 THREE-SPAN INVERTED TEE PRESTRESSED CONCRETE BRIDGE

0017	0030.60	MOBILIZATION	LUMP	LUMP		.	
0018	6005.32	PREFORMED EXPANSION JOINT, TYPE A	158.100 LF	.		.	
0019	6030.07	PREPARATION OF BRIDGE AT RP 397.69	1.000 EACH	.		.	
0020	6617.25	CONCRETE REPAIR	39.000 SF	.		.	
SECTION 5 TOTAL						.	

SECTION 6 GROUP 10 GENERAL

0021	0001.08	BARRICADE, TYPE II	822.000 BDAY	0.50000		411.00	
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CONTRACT ID: M3003A

PROJECT(S): M3003A

CALL ORDER NO.: 300

LINE NO	ITEM DESCRIPTION		APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
				DOLLARS	CTS	DOLLARS	CTS
0022	0001.10	BARRICADE, TYPE III	354.000 BDAY	.		.	
0023	0001.75	TEMPORARY SIGN DAY	264.000 EACH	.		.	
0024	0001.90	SIGN DAY	2604.000 EACH	.		.	
0025	0002.28	TEMPORARY PAVEMENT MARKING REMOVAL	4500.000 LF	.		.	
0026	0002.30	PAVEMENT MARKING REMOVAL	2000.000 LF	.		.	
0027	0002.44	TEMPORARY PAVEMENT MARKING, TYPE PAINT	4500.000 LF	.		.	
0028	0002.47	TEMPORARY PAVEMENT MARKING SURFACE PREPARATION	4500.000 LF	.		.	
0029	0002.76	PERMANENT PAVEMENT MARKING, PAINT	2000.000 LF	.		.	
0030	0002.97	FLASHING ARROW PANEL	22.000 DAY	.		.	
0031	0003.10	FLAGGING	4.000 DAY	.		.	
0032	0003.50	CONCRETE PROTECTION BARRIER	500.000 LF	.		.	
0033	0003.56	RELOCATE CONCRETE PROTECTION BARRIER	500.000 LF	.		.	
0034	0003.70	TEMPORARY RUMBLE STRIP	4.000 EACH	.		.	
0035	0003.74	TEMPORARY TRAFFIC SIGNAL	1.000 EACH	.		.	
0036	0020.00	TRAINING	100.000 HOUR	2.00000		200.00	

CONTRACT ID: M3003A

PROJECT(S): M3003A

CALL ORDER NO.: 300

LINE NO	ITEM DESCRIPTION		APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
				DOLLARS	CTS	DOLLARS	CTS
0037	0030.00	MOBILIZATION	LUMP	LUMP		.	
0038	L860.50	ENVIRONMENTAL COMMITMENTS - CONTRACTOR COMPLIANCE	LUMP	LUMP		.	
	SECTION 6 TOTAL					.	
TOTAL BID						.	