

INFORMATIONAL PROPOSAL

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

NEBRASKA DEPARTMENT OF TRANSPORTATION

LETTING DATE: July 25, 2019

LETTING TIME: 1:30 PM

CALL ORDER: 300
CONTROL NO. SEQ. NO.: 32222 002
TENTATIVE START DATE: 07/01/2020
LOCATION: JCT. US-81/N-91
IN COUNTY: PLATTE

CONTRACT ID: 3222X2
PROJECT NO.: MISC-81-3(1057)
CONTRACT TIME: 85 Working Days
DBE GOAL: N/A
PREQUALIFICATION CLASS: 3 - CONCRETE
PAVEMENT
COMBINED BID REQUIREMENTS: N/A

BIDDER

GROUP 1	GRADING
GROUP 3	CONCRETE PAVEMENT
GROUP 4	CULVERT
GROUP 5	SEEDING
GROUP 8B	ELECTRICAL
GROUP 10	GENERAL ITEMS

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 NDOT in a written format through the Bid Express (BidX) website at <https://www.bidx.com/ne/lettings>. Likewise, NDOT will post answers exclusively to the BidX website. All official answers will be identified as “Authorized by NDOT.” **Questions will not be answered verbally.**

**SPECIAL PROVISIONS
FOR
STATE
PROJECT NO. MISC-81-3(1057)**

GENERAL CONDITIONS

Bids for the work contemplated in this proposal form will be received at the office of the Nebraska Department of Transportation in Room 104 of the Central Office Building at 1500 Highway 2 at Lincoln, Nebraska, at the date and time shown on page 1 of the Proposal.

- a. Bids submitted by mail should be addressed to the Nebraska Department of Transportation, 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.

Bids will be accepted from Contractors who are prequalified for the Prequalification Class indicated on page 1 of the Bid Proposal.

The 2017 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 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.

**TRAINING SPECIAL PROVISIONS
(1-8-0618)**

This On-the-Job Training (OJT) Program was created by the Federal Highway Administration (FHWA) and the Nebraska Department of Transportation (NDOT) 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 NDOT Contractor-Specific On-the-Job Training (OJT) Program, OJT hours will be assigned to Contractors and will not be contract or project specific.
 - a. A Contractor who has received an OJT assignment will be allowed to provide training on any NDOT-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 NDOT.
 - b. This project does not have a contract-specific training requirement. NDOT has added 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, NDOT will allocate OJT assignments to Contractors based on the total average dollar amount of all work performed by a Contractor on NDOT-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 NDOT (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 NDOT-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. 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.
5. While trainees may be assigned to NDOT-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 NDOT.
6. The Contractor must use an OJT program approved by NDOT 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.
7. 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.
8. 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 NDOT regarding OJT information, documentation, and conflict resolution. If necessary, the EEO Officer may designate

another individual to assist with the OJT monitoring responsibilities. NDOT must be provided the name and contact information for any such designee.

9. At least seven (7) days prior to commencing training, the Contractor must submit a "Request for Trainee Approval" form to NDOT 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.
10. If the Contractor submits a "Request for Trainee Approval" form to NDOT 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. NDOT 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.
11. Any training hours provided to a trainee prior to the Contractor receiving approval from NDOT will not be credited toward the Contractor's annual OJT assignment.
12. 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.)
13. 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 NDOT-let projects on which the Contractor is working.
14. At least one (1) day before all such transfers of trainees are made, the Contractor must provide NDOT 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.
15. Any training hours provided to a transferred trainee prior to the Contractor having notified NDOT of the transfer will not be credited toward the Contractor's annual OJT assignment.
16. 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 NDOT 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 NDOT will not be credited toward the Contractor's annual OJT assignment.

17. 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.
18. 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.
19. The Contractor will be reimbursed \$2.00 per each hour of training provided in accordance with an approved OJT program and the NDOT Training Special Provisions.
20. Contractors shall be allowed to transfer trainees or utilize trainees on other NDOT-let projects which do not contain the Training Special Provisions. NDOT will utilize a Change Order / Supplemental Agreement to incorporate the Training Special Provisions and the appropriate pay item into the contracts of such projects.
21. On all federally funded NDOT-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.
22. In order to document and evaluate a trainee's progress toward journey-level status, the Contractor must provide NDOT 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 NDOT.
23. 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.
24. Contractors must submit an annual summary report to NDOT 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.

25. 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. NDOT will make compliance determinations regarding the Training Special Provisions based upon either attainment of the annual goal or Good Faith Efforts to meet it.
26. 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. NDOT 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).

27. 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.)

28. NDOT 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 NDOT for a time period determined by the Director/State Engineer.

29. At the end of the calendar year, if the dollar amount of work the Contractor performed on NDOT-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.

30. 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 June 28, 2019.

Aerial and/or underground utility facilities may exist within this project. The Contractor should request a utility status update at the project pre-construction conference, and/or prior to start work.

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.

The following utilities have facilities within the project area, and have been provided project plans:

Cornhusker Public Power District: Rehabilitation work to be performed prior to or concurrent with roadway construction. Conflicts are at the County Road crossings.
P.O.C. Bobby Jones 402-564-2821.

Century Link: Rehabilitation work to be performed prior to or concurrent with roadway construction. P.O.C Kim Jirovsky 402-721-9070

Great Plains Communications: Existing facilities are in the project area.
P.O.C. Mark Petersen 402-426-6203

Black Hills Energy: Rehabilitation work to be performed prior to or concurrent with roadway construction. P.O.C. Cullen Sila 402- 371-7195

City of Humphrey: Existing facilities are in the project area. P.O.C. Ms. June Went
402-923-0224.

Eagle Communications Inc.: Existing facilities are in the project area. P.O.C. Tony Carroll
308-940-1555

All utility rehabilitation will be accomplished prior to or concurrent with construction.

STATUS OF RIGHT OF WAY

The right of way for this project has been acquired and physical possession is held by the State of Nebraska and ready for the Contractor's use, except tracts listed below:

Unacquired Right-of-Way Tracts as follows:

Tract Number	Status of Tract	Hearing Date
None	None	None

Right-of-Way Tracts with Pay Items:

Tract Number	Pay Items
None	None

- No encroachments on the old right of way.
- The right of way has been acquired in accordance with the current Federal Highway Administration directives covering the acquisition of real property.
- All right of way clearance has been completed.
- All necessary rights of way, including control of access rights when pertinent, have been acquired including legal and physical possession.
- No individual or families were required to be relocated.
- Steps relative to relocation advisory assistance and payments for business and moving personal property as required by the current Federal Highway Administration directives covering the administration of the Highway Relocation Assistance Program are not required.

PROSECUTION AND PROGRESS (Winter Work)

Paragraph 3 of Subsection 108.02 in the Standard Specifications is amended to provide that the working day count on this project will be suspended from 11-24-2019 through 4-12-2020. The Contractor will be permitted to work on this project during this time period without charging of working days against the contract time allowance. In the event that the project is not completed during this period, the working day count will resume on 4-13-2020, in accordance with the Standard Specifications, unless otherwise directed by the Engineer.

**SPECIAL PROSECUTION AND PROGRESS
(Phasing)**

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

This project can be constructed in 2019 and/or 2020. If the Contractor elects to start construction in 2019, the Contractor shall construct all of Phase 1. For any grading that is performed in 2019, the Contractor shall ensure that positive drainage is maintained and that there are no drop-offs between the existing roadway and the new grading sections. Any exposed grading shall be, at a minimum, cover crop or permanent seeded in accordance with the specifications.

STATUS OF ENVIRONMENTAL COMMITMENTS

Control No. 32222
 Project No. 81-3(1057)
 Project Name: Jct. US-81/N-91

404 Permit Required Yes
 No

Comments: No 404 permit required.

Individual 401 Water Quality Certification Required Yes
 No

State Title 117 Waters (COE Non-Jurisdictional) Yes
 No

Floodplain Permit Required Yes
 No

Comments: No floodplain permit required.

Historic Clearance Yes Tier II Approved 1/11/2019
THPO (no response) 9/25/2015 *SLD*
 No

Comments: No historic properties affected.

Threatened & Endangered Species Clearance Required Yes FHWA – 11/28/2018
Approved: NGPC – NA
 No USFWS – NA

Comments: No Effect

FHWA Environmental Clearance Yes
 N/A

Comments: State Funds Only

NPDES/Stormwater Permit No.: NA

Special Provisions: See attached Environmental Commitment sheet

Special Notes on Plans:

CJ 1/18/19

I have compared environmental documentation and project correspondence with environmental commitments shown on this form and found them to be accurate and complete.

DD 10/18/18
 Dillon Dittmer (Initial) (Date) T&E PM
JS 10/22/18
 Jon Barber (Initial) (Date)
US 10/22/18
 EDU PM (Initial) (Date)
CJ 1/19/18
 Jason Jurgens (Initial) (Date)
JA 10/22/18
 Ron Pos (Initial) (Date) EPU PM
RP 10/16/18
 (Initial) (Date)
EH 10/15/18
 (Initial) (Date)

ENVIRONMENTAL COMMITMENTS

Control No.: 32222 Project No.: 81-3(1057)

Project Name: Jct. US-81/N-91

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.

(Responsible Party for the measure is found in parentheses)

Conservation Measure for Environmentally Sensitive Areas

The Contractor shall not stage, store, waste or stockpile materials and equipment in undisturbed locations, or 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.
(Contractor, NDOT District)

- Regulated Wetlands and/or Water Resources for this project have been identified and delineated by NDOT. The above condition pertains to the areas within delineated wetland boundaries (Wetlands – Do Not Disturb) and/or environmentally sensitive areas (Area of Environmental Concern – Do Not Disturb) as shown in the project plan aerial sheets and/or the erosion control plan sheets included in the plan set. If access to any of these areas is required to complete the project construction, the NDOT construction project manager shall coordinate with the Technical Resources Unit to determine need for field verification and/or permitting requirements prior to disturbance of the area.
(Contractor, District Construction)

Contact Person: Brett Harbison, Highway Environmental Biologist, (402) 479-3818

General Conservation Conditions

- A-1 Changes in Project Scope.** If there is a change in the project scope, the project limits, or environmental commitments, the NDOT Environmental Section must be contacted to evaluate potential impacts prior to implementation. Environmental commitments are not subject to change without prior written approval from the NDOT Environmental Section.
(District Construction, Contractor)
- A-2 Conservation Conditions.** Conservation conditions are to be fully implemented within the project boundaries as shown on the plans. (District Construction, Contractor)
- A-3 Early Construction Starts.** Request for early construction starts must be coordinated by the Project Construction Engineer with NDOT Environmental for approval of early start to ensure avoidance of listed species sensitive lifecycle timeframes. Work in these timeframes will could require consultation with the USFWS and NGPC. (District Construction, Contractor)
- A-4 E&T Species.** If federal or state listed species are observed during construction, contact NDOT Environmental. Contact NDOT Environmental for a reference of federal and state listed species. (NDOT Environmental, District Construction, Contractor)
- A-5 Refueling.** Refueling will be conducted outside of those sensitive areas identified on the plans, in the contract, and/or marked in the field. (Contractor)

A-6 Restricted Activities. The following project activities shall, to the extent possible, be restricted to between the beginning and ending points (stationing, reference posts, mile markers, and/or section-township-range references) of the project, within the right-of-way designated on the project plans: borrow sites, burn sites, construction debris waste disposal areas, concrete and asphalt plants, haul roads, stockpiling areas, staging areas, and material storage sites.

For activities outside the project limits, the contractor should refer to the Nebraska Game and Park Commission website to determine which species ranges occur within the off-site area. The contractor should plan accordingly for any species surveys that may be required to approve the use of a borrow site or other off-site activities. The contractor should review Chapter 11 of the Matrix (on NDOT's website), where species survey protocol can be found, to estimate the level of effort and timing requirements for surveys.

Any project related activities that occur outside of the project limits must be environmentally cleared/permitted with the Nebraska Game and Parks Commission as well as any other appropriate agencies by the contractor and those clearances/permits submitted to the District Construction Project Manager prior to the start of the above listed project activities. The contractor shall submit information such as an aerial photo showing the proposed activity site, a soil survey map with the location of the site, a plan-sheet or drawing showing the location and dimensions of the activity site, a minimum of 4 different ground photos showing the existing conditions at the proposed activity site, depth to ground water and depth of pit, and the "Platte River depletion status" of the site. The District Construction Project Manager will notify NDOT Environmental which will coordinate with FHWA for acceptance if needed. The contractor must receive notice of acceptance from NDOT, prior to starting the above listed project activities. These project activities cannot adversely affect state and/or federally listed species or designated critical habitat. (NDOT Environmental, District Construction, Contractor)

A-7 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)

A-8 Post Construction Erosion Control. Erosion control activities that may take place by NDOT Maintenance or Contractors after construction is complete, but prior to project close-out, shall adhere to any standard conservation conditions for species designated for the project area during construction. (NDOT Maintenance, District Construction, Contractor)

S-2 Platte River Depletions. All efforts will be made to design the project and select borrow sites to prevent depletions to the Platte River. If there is any potential to create a depletion, NDOT (during design) and the contractor (for borrow sites) shall follow the current Platte River depletion protocols for coordination, minimization, and mitigation. In general, the following are considered de minimis depletions but may still require agency coordination; a project which: a) creates an annual depletion less than 0.1 acre feet, b) creates a detention basin that detains water for less than 72 hours, c) any diverted water will be returned to its natural basin within 30 days, or d) creates a one-time depletion of less than 10 acre feet.

S-3 Revegetation. All permanent seeding and plantings (excluding managed landscaped areas) shall use species and composition native to the project vicinity as shown in the Plan for the Roadside Environment. However, within the first 16 feet of the road shoulder and within high erosion prone locations, tall fescue or perennial ryegrass may be used at minimal rates to provide quick groundcover to prevent erosion, unless state or federally listed threatened or endangered plants were identified in the project area

during surveys. If listed **plants** were identified during survey, any seed mix requirements identified during resource agency consultations shall be used for the project. (NDOT Environmental)

S-4 Sensitive Areas. Environmentally Sensitive Areas will be marked on the plans, in the field, or in the contract by NDOT Environmental for avoidance. (NDOT Environmental, District Construction)

Contact Person: Jon Soper, Highway Environmental Biologist, (402) 479-3546

Sensitive Areas

A Sensitive Area has been identified on N-91, south side, from approximately MM 153.36 to MM 153.44. This Sensitive Area shall be indicated on project plans. No grading or project activities, including but not limited to, working, staging, borrowing, stockpiling, or storing material and/or equipment, shall occur beyond the temporary easement in this area. (Contractor)

Unexpected Waste

If contaminated soils/water or unexpected wastes are discovered, the Contractor shall stop all work within the immediate area. The Contractor shall secure the area of the discovery and notify the NDOT Construction Project Manager (CPM). The Contractor shall not re-enter the discovery area until allowed to do so by the CPM. At the time of discovery, the CPM and Contractor shall utilize the *NDOT Unexpected Waste Action Plan (UWAP)* to coordinate appropriate actions. The actions to be carried out by the NDOT CPM are (but not limited to): verification that the contractor has suspended construction activities in the area of the discovery, contact the Environmental Section Manager and make an entry into Site Manager that an unexpected waste discovery was made. The CPM shall then utilize the UWAP Site Discovery Check List to properly document the extent and type of waste. The CPM shall ensure that proper disposal of the waste and any required health and safety mitigation is implemented by the Contractor. The Contractor is required by NDOT's Standard Specification section 107 (legal relations and responsibilities to the public) to handle and dispose of regulated material in accordance with applicable laws.

Contact Person: Caroline Jezierski, Highway Environmental Biologist, (402) 479-4415

Construction Stormwater

This project does not require a Construction Stormwater Permit or a Storm Water Pollution Prevention Plan (SWPPP). Temporary water pollution prevention practices (including sediment and erosion control measures) are still required by Nebraska State Title 119. The Contractor shall exercise every reasonable precaution throughout the life of the contract to prevent sedimentation within rivers, streams, impoundments (lakes, reservoirs, etc.), the project site, and adjacent property. (Contractor)

Contact Person: Ron Poe, Highway Environmental Program Manager, (402) 479-4499

**STORM WATER DISCHARGES
(1-43-1217)**

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
(1-43-1217)**

All bidders must provide to the NDOT 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 NDOT 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.

**WORKER VISIBILITY
(1-43-0719)**

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 publication titled "American National Standards for High-Visibility Safety Apparel and Headwear."

**SPECIAL PROSECUTION AND PROGRESS
(Federal Immigration Verification System)
(1-43-1217)**

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 NDOT 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.

**PROPOSAL GUARANTY BID BOND (BID BOND)
(1-43-1217)**

Paragraph 1.b. of Subsection 102.14 in the Standard Specifications is void.

**PERMITS, LICENSES, AND TAXES
(Contractor Site Use Approval)
(1-43-1118)**

Paragraph 4. of Subsection 107.02 Paragraph 4. in the Standard Specifications is void and superseded by the following:

4. Contractor Site Use Approval:
 - a.
 - (1) When a Contractor intends to obtain borrow and/or dispose of excess excavation at a site (or sites) not shown or otherwise designated in the contract the Contractor shall submit a completed NDOT Form 119 "*Borrow Site - Waste Excavation Site Request Identification and Evaluation*" to the Lincoln Construction Office for processing and approval.
 - (2) When a Contractor intends to: (i) dispose of construction debris, (ii) stockpile materials, equipment or other tangible property for the project, and/or (iii) install and operate a mobile asphaltic concrete plant, mobile Portland cement concrete plant or other mobile production plant at a site (or sites) not shown or otherwise designated in the contract the Contractor shall submit a completed NDOT Form 56 "*Plant Site - Stockpile Site - Construction Debris Site Request Identification and Evaluation*" to the Lincoln Construction Office for processing and approval.
 - (3) The NDOT Form 56 and NDOT Form 119 (hereafter referred to as "the Contractor Site Request form(s)") can be found on the NDOT website. Each Contractor Site Request form shall represent only one site and shall be project specific.
 - (4) The time frame required to obtain site approvals varies and is dependent upon whether the project has a Corps Section 404 notifying-permit and upon the complexities of each site listed in each request.
 - b. The Contractor shall contact the Nebraska Department of Environmental Quality (NDEQ) to determine if it is necessary for the Contractor to obtain a NPDES permit. The Contractor shall also be responsible for obtaining any and all other permits required by local governments.

- c. The Contractor shall not begin work at any borrow, waste, debris, stockpile or plant site until receiving written approval for the submitted Contractor Site Request form(s) from NDOT, before obtaining a NPDES permit (if required), or any other permits required.
- d. No extension of completion time will be granted due to any delays in securing approval of a borrow, waste, debris, stockpile or plant site unless a review of the time frames concludes that there were conditions beyond the Contractor's control.

**MEASUREMENT AND PAYMENT
(Partial Payment)
(1-43-0318A)**

Paragraph 6 of Subsection 109.07 of the Standard Specifications is void and superseded by the following:

- 6. When payrolls must be submitted, the Department may withhold partial payments if the Contractor does not provide all payrolls (including Subcontractor payrolls) within seven (7) days of each payroll ending date.

**WAGES AND CONDITIONS OF EMPLOYMENT
(Employment of Labor – Payrolls)
(1-43-0119)**

Paragraph 3 of Subsection 110.03 of the Standard Specifications shall be amended to include the following:

- i. On projects requiring submittals of certified payrolls, Contractors shall submit their payrolls electronically, meeting the following requirements:
 - (1) Format – Portable Document Format (PDF)
 - (2) Size of file – Limited to 25 MB
 - (3) Signatures – A scanned copy of the original certified payroll or Adobe digitally signed.

Payrolls certified by the Prime Contractor must be emailed to the Project Manager within seven (7) days of the payment date thereof. Payrolls must be complete and accurate.

**LIABILITY INSURANCE
(1-49-0118)**

Paragraph 1.b.(5) of Subsection 107.15 in the Standard Specifications is void and superseded by the following:

- (5) Automobile liability coverage shall be obtained from an insurance carrier who is licensed in Nebraska and any other State in which the project is located.

Paragraph 1.c. of Subsection 107.15 is amended to include the following:

Limit: Statutory coverage for Nebraska and for any other State in which the project is located.

Paragraph 1.c.(3) of Subsection 107.15 is void and superseded by the following:

- (3) Workers' compensation coverage shall be obtained from an insurance carrier who is licensed in Nebraska and any other State in which the project is located.

Paragraph 1.f.(5) of Subsection 107.15 in the Standard Specifications is void and superseded by the following:

- (5) Prior to execution of the contract, Contractor shall provide the State of Nebraska, Department of Transportation evidence of such insurance coverage in effect in the form of an ACORD® (or equivalent) certificate of insurance executed by a licensed representative of the participating insurer(s). Certificates of insurance shall show the Nebraska Department of Transportation as the certificate holders.

Paragraph 1.f. of Subsection 107.15 is amended to include the following:

- (9) For so long as insurance coverage is required under this agreement, the Contractor shall have a duty to notify the State of Nebraska Department of Transportation (State) 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 State by mail (return receipt requested), hand-delivery, email, or facsimile transmission within 2 business days of receipt by Contractor of any such notice by an insurance carrier. Notice shall be sent to the State at the following address:

Nebraska Department of Transportation
Construction Division -- Insurance Section
1500 Highway 2, P.O. Box 94759
Lincoln, NE 68509-4759
Facsimile No. 402-479-4854
NDOT.ConstructionInsurance@nebraska.gov

AWARD AND EXECUTION OF CONTRACT

The first sentence of Subsection 103.06 in the Standard Specifications is void and superseded by the following:

The bidder to whom the contract is awarded shall furnish within 5 days after the award, a contract bond, in a sum equal to the full amount of the contract.

Paragraphs 2.a. and b. of Subsection 103.07 are void and superseded by the following:

- a. The contract has been signed by a person authorized to sign for the bidder as shown in the prequalification (when prequalification is required for the contract) and returned to the Department within 5 calendar days from the date of award.
- b. The Contractor has provided a satisfactory bond and certificate of insurance within 5 calendar days from the date of award.

CONSTRUCTION DETAILS

TEMPORARY WATER POLLUTION CONTROL (2-1-1217)

Section 204 in the Standard Specifications is void.

CONSTRUCTION STORMWATER MANAGEMENT CONTROL (2-1-1217)

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 (2-1-1217)

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 (2-1-1217)

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 NDOT Erosion and Sediment Control Inspector Certification is obtained by completing an Erosion and Sediment Control

Inspector Training Course provided by the Nebraska Department of Transportation 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 (2-1-1217)

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 NDOT-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)
(2-1-1217)**

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 NDOT 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 NDOT's Avian Protection Plan located at:
- <http://www.dot.nebraska.gov/media/3952/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
(2-1-1217)**

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 timeframe 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	Pay Unit
Environmental Commitments – Contractor Compliance	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.

**HAZARDOUS MATERIALS MANAGEMENT
(2-1-1217)**

Description

This work shall consist of minimizing the exposure of the environment, including waters of the state, to hazardous materials. This specification also includes the requirements for clean-up of releases of hazardous materials.

Material Requirements

1. Prior to beginning work on the project, the Contractor shall prepare a Spill Prevention and Control Plan (SPCP) that clearly states measures to prevent a spill, contain a spill, clean up a spill, dispose of contaminated materials and train personnel to prevent and control spills. The plan shall include the notification contacts, as well as the processes and timeframes to address the situation in the event that a spill occurs. The following shall be included in the plan:
 - a. A site plan showing locations for loading of equipment and materials, storage of equipment and materials, equipment fueling and wash areas, portable toilet locations and waste disposal areas.
 - b. Descriptions of the following that may be used on projects:
 - i. Best Management Practices (BMPs) for secondary containment.
 - ii. Description of spill response equipment and materials, including safety and clean up equipment.
 - iii. Preventative inspection and maintenance techniques for equipment to minimize leaks.
 - iv. Procedures for filling tanks and equipment to prevent spills.
 - v. Procedures for containing, diverting, isolating and cleaning up a spill.
 - vi. Procedures and BMPs to be administered at bridge and culvert sites to ensure that hazardous materials do not runoff.
 - (1) When water is present, immediate action to contain and remediate a spill is required.
 - (2) The Contractor shall notify the NDOT Project Manager and NDEQ upon release of any quantity of material to waters of the state. The NDOT Project Manager will notify the NDOT Environmental Section upon notification of a release.
 - vii. Spill training agenda and materials for the Contractor's staff and subcontractors.
 - c. Identify individuals responsible for implementing the plan.
 - d. Specify how and when to notify appropriate authorities such as Nebraska Department of Environmental Quality and Nebraska State Patrol.
2. The Contractor shall provide and maintain a spill kit with appropriate materials to clean up minor spills on site as described in the Spill Prevention and Control Plan. A minor spill is defined as a release that is less than the reportable quantity for a given material and not entering waters of the state.

3. Material Safety Data Sheets (MSDS) shall be maintained on site for all hazardous materials being used or stored for the project. The MSDS Sheets shall contain reportable quantities and spill response information.

Construction Methods

1. The Contractor shall store paints, solvents, pesticides, petroleum products, and other hazardous materials in areas with secondary containment.
2. Hazardous materials storage, including portable toilets, shall be restricted to specific areas away from:
 - a. vehicular traffic
 - b. restricted areas shown on the plans
 - c. waters of the state, including wetlands (50 feet minimum distance)
 - d. Wellhead Protection Areas, unless designated in a Wellhead Protection Plan that has been approved by the local authority.
3. The Contractor shall inspect hazardous material containers weekly to ensure that all containers are clearly identified and that no leaks are present.
4. The Contractor shall inspect the site weekly to ensure that cleanup procedures are posted and that a spill kit is adequately stocked and readily available.
5. The Contractor shall verify and update the SPCP site maps as necessary during inspections to accommodate changes in the site.
6. A spill kit shall be readily available, in close proximity and appropriately stocked when applying petroleum based or other hazardous materials to bridge and culvert sites.
7. The Contractor shall develop, implement and maintain a training program regarding hazardous materials management. Training of the Contractor's staff and subcontractors shall be conducted to ensure that workers are knowledgeable of the procedures, materials and equipment outlined in the SPCP. The Contractor shall maintain a database of individuals that have been trained.
 - a. Specific hazardous materials and their handling procedures shall be discussed during safety briefings.

8. The Contractor shall maintain and provide to the Project Manager, upon request, a record of all spills occurring on site. This record shall include:
 - a. The circumstances leading to the spill
 - b. The date of the release
 - c. Measures taken to resolve the incident
 - d. Measures taken to prevent a reoccurrence
9. The Contractor shall follow NDEQ notification procedures for all spills in excess of a reportable quantity as defined by NDEQ Title 126 or the products MSDS Sheets. The NDOT Project Manager will notify the NDOT Environmental Section.
10. The Contractor shall follow all local, state and federal regulations associated with the release and/or cleanup, including disposal of the hazardous material.

Method of Measurement and Basis of Payment

1. Direct payment will not be made for work associated with Hazardous Materials Management, but is considered subsidiary to the items for which direct payment.
2. The Contractor shall solely bear all penalties and costs associate with the containment, cleanup, remediation and disposal of material associated with a spill.

**ACCEPTANCE TESTING OF SOILS BY USE OF THE LIGHT WEIGHT
DEFLECTOMETER (LWD) SCOPE
(2-2-1217)**

This test method covers the in-place measurement of deflection and moisture content of Class III embankments, subgrade preparation, granular fill and backfill for acceptance testing on Nebraska Department of Transportation Projects. Refer to Subsection 205.03 of the NDOT Standard Specifications for Highway Construction for a definition of Class III embankments. Refer to NDOT Test Method T 2835 for the proper operation of the LWD.

The deflection test measurement shall be the average measured deflection of the fourth, fifth, and sixth drops of the falling weight of the LWD. The first three drops are to be used to seat the LWD.

The Deflection Target Value (DTV) is the deflection value of each soil determined by using a test strip or from correlation with the Nebraska Group Index for an individual Soil.

Option 1

A. Determination of DTV using a Test Strip

1. A test strip shall be constructed for each soil type to determine the deflection target value.

2. A new test strip shall be constructed when there is an observed change in material or as determined by the Engineer.
3. The test strip dimensions for roadway embankment and subgrades shall have a minimum length of 200 feet and a width equal to the embankment or roadway. The total thickness shall be no less than 6 inches for roadway subgrade and no less than 1 foot and no more than 3 feet for roadway embankment.
4. The test strip dimensions for trenches, culverts, and structures shall have a minimum length of 10 feet and a width equal to that of the excavation. The total thickness shall be no less than 1 foot and no more than 3 feet.
5. The optimum moisture of fine-grained soils shall either be determined in the NDOT Branch Lab or Central Lab, and shall be based on a correlation with the Plastic Limit or determined from AASHTO T-99. A 10-lb sample of proposed material shall be submitted to the NDOT Branch Lab or Central Lab a minimum of 14 days prior to grading operations.
6. The moisture content for granular soils shall be "as necessary" to achieve proper compaction.
7. The moisture content limits of the soil shall follow the requirements provided in Table 1.
8. The test strip area construction shall be incidental to the embankment construction.
9. The testing rate during the test strip construction is provided in Table 2.

Table 1 - Moisture Requirements

Location	Soil Type	Depth Below Finished Subgrade	Minimum %	Maximum %
Soil materials receiving concrete pavement	Silt – Clay Silt- Clay Granular	Upper 3 feet Greater than 3 feet All Depths	Opt. -3 Opt. -3 **	Opt. +2 Opt. +2 **
Soil materials receiving flexible pavement	Silt – Clay Silt- Clay Granular	Upper 3 feet Greater than 3 feet All Depths	Opt. -2 Opt. -3 **	Opt. +1 Opt. +2 **
Soil materials receiving gravel surfacing	All materials	All Depths	**	**
Subgrade prep. Shoulder subgrade prep (concrete pavement)	Silt – Clay Granular	The upper 6 inches of subgrade soil	Opt. -3 **	Opt +2 **
Subgrade prep. Shoulder subgrade prep (flexible pavement)	Silt – Clay Granular	The upper 6 inches of subgrade soil	Opt. -2 **	Opt +1 **
Stabilized Subgrade	-	-	See Specifications	
Granular Structural Fill (MSE Walls, bridges, culverts, et.)	Granular	All Depths	**	**

** Moisture as necessary to obtain proper compaction. The moisture target value for granular materials shall be established in the field by the Contractor during the compaction process. Once established the target moisture shall not vary by more than $\pm 2\%$.

Table 2 - Test Strip Testing Rate

Material Location	Minimum Testing Rate
Roadway embankment and subgrade	3 tests/ pass*
Trenches, culverts, and miscellaneous structures	1 test / pass*

* Number of passes with compaction equipment as described in paragraph 13c of Subsection 205.03 of the NDOT Standard Specifications for Highway Construction.

B. Test Strip Construction and Testing

1. Prior to placing the fill material for the test strip, the subgrade shall be scarified and re-compacted.
2. The fill material shall be placed with a lift thickness no greater than 8 inches uncompacted.
3. The test strip shall be constructed with uniform material and moisture content, and compaction; until it meets the requirements of numbers 3 or 4 of Section A of this provision.
4. The deflection target value is obtained when:
 - i. The moisture content is within the acceptable range.

- ii. The average of the deflection test measurements for three consecutive passes of compaction equipment does not change by more than 10% with additional compaction. The DTV shall be based on the lowest average deflection test measurement from these passes.
- 5. A 10-lb sample of the test strip material shall be submitted to the NDOT Branch Lab or Materials and Research Soil Lab for index testing.
- 6. The DTV shall be re-evaluated when:
 - i. Deflection test measurements are consistently less than the DTV. (3 out of 5 consecutive deflection test measurements are less than 0.80 of the DTV).
 - ii. Failing test results are consistently occurring and adequate compaction is observed.

Option 2

C. Determination of Deflection Target Values based on the Nebraska Group Index (NGI)

- 1. Prior to construction a 10-lb bag of representative material shall be submitted to the nearest NDOT Branch Lab or Materials and Research Soil Lab for each different soil type no less than 21 days prior to grading operations.
- 2. From the laboratory testing NDOT will determine the Nebraska Group Index (NGI) for each soil type submitted and provide a correlated minimum DTV and optimum moisture content.
- 3. If no correlation data is available for an individual NGI, a test strip shall be used to determine the DTV as discussed in parts A and B in this provision.
- 4. The DTV shall be re-evaluated when:
 - i. Deflection test measurements are consistently less than the DTV. (More than 20% of the deflection test measurements are less than 0.80 of the DTV).
 - ii. Failing test results are consistently occurring and adequate compaction is observed.

Acceptance Testing

- 1. The Deflection Target Value for use as acceptance testing shall be:
 - DTV \leq 1.10 x average deflection value determined from Option 1, Part B, of this provision
 - DTV \leq Correlated DTV determined from the NGI correlation, Option 2, Part C

2. The testing frequency for moisture and deflection shall follow the NDOT Materials Sampling Guide.
3. The moisture content of soil shall be performed using NDOT's approved equipment and methods. Approved equipment includes: 1) hot plates, stove, or microwave, 2) Speedy Moisture Method, or 3) Laboratory oven method.
4. Moisture content results shall be reported to the nearest tenth of a percent.

REMOVE ASPHALT SURFACE

The Contractor shall be required to saw cut or mill the asphaltic concrete full depth to expose a vertical face at locations where removed asphalt surface will abut new pavement or surfacing, as shown in the plans, or using other methods approved by the Engineer. The work of cutting, removing and disposing of the existing bituminous material will not be measured for payment directly but shall be considered subsidiary to the item "Remove Asphalt Surface".

SAWING PAVEMENT

Paragraph 5. of Subsection 203.04 in the Standard Specifications is void.

FOUNDATION COURSE (3-1-0319)

Paragraph 8. of Subsection 1033.02 in the Standard Specifications is void.

Section 307 in the Standard Specifications is void and superseded by the following:

307.01 – Description

1. The foundation course is a layer of compacted material conforming to the lines, grades, and dimensions shown in the contract. The foundation course shall be built on a finished subgrade. The Contractor shall complete the following requirements under the foundation course bid items including but not limited to:
 - a. Adjust grade lines to meet intersections, pavements, bridge ends, railroad crossings, or any other physical features designated by the Engineer.
 - b. Process the source material.
 - c. Place the foundation course.
 - d. Compact the foundation course.

- e. Profile the foundation course.
 - f. Dispose of excess material after profiling is completed.
2. The types of foundation course are:
- a. Bituminous.
 - b. Crushed concrete.
 - c. Aggregate Foundation Course – D.

307.02 – Material Requirements

- 1.
 - a. All samples, including field samples, will be washed according to AASHTO T 11 prior to performing sieve analysis. All samples will be taken from the project grade prior to the spreading and profiling operations.
 - b. The Contractor shall handle all material in such a manner that prevents contamination.
- 2. Bituminous Foundation Course:
 - a. Material used in constructing bituminous foundation course shall consist of salvaged bituminous material. The source of the salvaged bituminous material will be described in the contract.
 - b. All salvaged bituminous material must be less than 3 inches (75 mm) in maximum dimension and shall not contain more than 5% by weight of material retained on a 2 inch (50 mm) sieve just prior to its use.
 - c. Contractor Production
 - (1) All salvaged bituminous material produced by the Contractor from pavement removal or by cold milling material from existing pavement structures on the project, whether hauled directly to the site of use or temporarily stockpiled, shall be screened to meet the requirements of Paragraph 2.b.
 - (2) If, after screening, there is insufficient material to produce the plan quantity, the Engineer may order the oversized salvaged bituminous material to be further processed at no cost to the State prior to delivery to the roadway. Processing shall mean crushing, pulverizing, re-screening, or a combination of these methods.
 - (3) On projects that allow multiple foundation course materials to be used, the Engineer may direct that salvaged bituminous material continue to be placed as bituminous foundation course to the extent this material is available and can be utilized on the project.

- (4) Unless otherwise shown in the contract, all Contractor produced salvaged bituminous material, including oversized material, remaining at the end of the bituminous foundation course operation shall become the property of the Contractor and removed from the project.
- (5) The salvaged bituminous material shall be free of deleterious matter as determined by the Engineer.

d. Department Provided Stockpiles

- (1) If the salvaged bituminous material is to be obtained from existing stockpiles described in the contract, the salvaged bituminous material shall be screened to meet the requirements of Paragraph 2.b. prior to delivery to the roadway. Any oversized bituminous material remaining from the screening operation shall remain the property of the Department.
- (2) If, after screening, there is insufficient material to produce the plan quantity, the Engineer may order the oversized salvaged bituminous material to be further processed for use as Bituminous Foundation Course. Processing shall mean crushing, pulverizing, re-screening, or a combination of these methods. This will be paid for as Extra Work as described in Paragraph 5. of Subsection 104.02.

3. Crushed Concrete Foundation Course:

- a. Material used in constructing crushed concrete foundation course shall consist of processed and stockpiled concrete pavement. The source of the materials for the crushed concrete will be described in the contract. Crushed Concrete shall be free of deleterious matter as determined by the Engineer.
- b. All samples will be taken from the project grade prior to spreading and profiling. The crushed concrete gradation shall be determined as described in NDOT T 27 (washed test). The gradation requirement for the crushed concrete foundation course is shown in Table 307.01. Material represented by samples with 15% or more passing the No. 200 (75 µm) sieve will be subject to removal.
- c. Material gradation will be accepted by the table below on a lot basis of 2,500 cubic yards on the average of 5 consecutive tests, one for each 500 cubic yard subplot. If at the end of the project, the final lot consists of less than 2,500 cubic yards, a minimum of 3 samples, or 1 sample for each 500 cubic yards or fraction thereof, whichever is greater shall be taken and tested and acceptance based on the average of those tests.
- d. Moisture content shall be no higher than necessary to facilitate compaction to the required stiffness.

Table 307.01

Crushed Concrete Foundation Course Gradation Requirements	
Sieve Size	(Percent Passing)
1½ inch (37.5 mm)	100 minimum
¾ inch (19.0 mm)	85 maximum
No. 4 (4.75 µm)	20 to 50
No. 200 (75 µm)	0 to 8

4. Aggregate Foundation Course-D
- a. Aggregate Foundation Course-D shall be a non-recycled virgin material.
 - b. Aggregate shall conform to the quality requirements of Paragraphs 1. and 2. of Subsection 1033.02.
 - c. Mineral aggregates shall have a Los Angeles Abrasion loss percentage of no more than 40% by weight.
 - d. Mineral aggregates shall have a soundness loss of no more than 12% by weight at the end of 5 cycles using the Sodium Sulfate Soundness test.
 - e. At least 14 days before beginning foundation course production, the Contractor shall submit a proposed mix design along with a 50 pound (23 kg) sample of each aggregate to the Engineer for approval. The mix design will:
 - (1) Result in an aggregate mix that meets the gradation requirements of Table 307.02
 - (2) Propose single defined values for the percentage passing each sieve on the gradations of Table 307.02.
 - (3) Include the average aggregate gradations used to calculate the mix design.
 - (4) Create a fine aggregate angularity value of 43.0 or greater. The specific gravity for calculation of the Fine Aggregate Angularity (FAA) shall be determined on a combined aggregate sample of the material passing the No. 8 (2.36 mm) sieve and retained on the No. 100 (150 µm) sieve as defined in AASHTO T 304 Method A, except the specific gravity material shall be washed over the No. 100 (150 µm) sieve.
 - f. The Engineer will determine the optimum moisture content for the proposed foundation course design in accordance with the compaction requirements.

Table 307.02

Aggregate Foundation Course-D Gradation Requirements		
Sieve Size	Target Value (Percent Passing)	Tolerance
1/2 in (12.5 mm)	100	0
3/8 in (9.5 mm)	100	-4
No. 4 (4.75 mm)	93	±4
No. 10 (2.0 mm)	55	±10
No. 30 (600 µm)	25	±5
No. 40 (425 µm)	20	±4
No. 200 (75 µm)	3	±3

307.03 – Construction Methods

1. The Contractor shall process, load, haul, uniformly distribute, place, compact and profile the foundation course as shown in the contract.
2. Rolling pattern and deflection target value:
 - a. The Department will establish a rolling pattern and set a deflection target value.
 - b. The Department will monitor the rolling pattern with a lightweight deflectometer. If conditions change, the Engineer may require the rolling pattern be adjusted to attain optimal stiffness. Additional testing of separately placed irregular areas will be performed, as directed by the Engineer, to determine the necessary rolling pattern (or other type of compaction work) needed to attain optimum stiffness.
 - c. The Contractor shall roll the foundation course until no further compaction can be obtained, and roller marks are eliminated.
 - d. The Contractor shall take immediate action to adjust the rolling pattern whenever the Engineer determines that the foundation course stiffness variance is outside the tolerance of the deflection target value.
3. Profiling:
 - a. After the foundation course has been compacted and before the surface is profiled, the thickness shall be measured.
 - b. If the thickness of the compacted material is insufficient to permit profiling, the deficiency shall be corrected by the placement and compaction of additional material.
 - c. The profiling operation may be accomplished by milling, if necessary.
 - d. During the profiling operation, the control of grade and cross slope shall be maintained by the Contractor.
 - e. The accuracy of the preparation of the subgrade and the profiling of the foundation course will be such that the profile grade will not vary from the contract by more than ½ inch.

- f. The grade stakes placed for controlling the profiling operation shall be protected so that they are available for controlling the pavement operation.
- 4. Surface Protection:
 - a. The Contractor shall only allow necessary local traffic and essential construction equipment on the foundation course.
 - b. The Contractor shall repair or replace marred, distorted, or otherwise damaged foundation course at no additional cost to the Department.
- 5. Material from the profiling operation may be reused if it meets the material requirements. Material not meeting the material requirements shall be wasted and removed from the project.

307.04 – Method of Measurement

- 1. Foundation course will be paid for by the square yard (square meter). Foundation course will not be measured directly. The measured pavement quantity of the overlying pavement is to be used as the foundation course quantity.
 - a. Any thickness in excess of the specified thickness of foundation course will not be measured for payment, but will be considered subsidiary to the respective foundation course pay item.
- 2.
 - a. Screening of salvaged bituminous material will not be measured for payment.
 - b. Processing of Contractor produced salvaged bituminous material, ordered by the Engineer, which contains excessive oversized material due to the Contractors production methods, will not be measured for payment.

307.05 – Basis of Payment

- | 1. | Pay Item | Pay Unit |
|----|---|--|
| | Aggregate Foundation Course ____ | Square Yard (SY)
[Square Meter (m ²)] |
| | Bituminous Foundation Course ____ | Square Yard (SY)
[Square Meter (m ²)] |
| | Crushed Concrete Foundation
Course ____ | Square Yard (SY)
[Square Meter (m ²)] |
| | Foundation Course ____ | Square Yard (SY)
[Square Meter (m ²)] |
| 2. | <ul style="list-style-type: none"> a. If a foundation course is ½ to 1 inch (12mm to 25mm) less than the specified thickness, it shall be removed and replaced; or, at the Engineer’s option, the material may be left in place and paid for at 40% of the bid price for the deficient areas. The area of the deficient section shall be determined by the Engineer. | |

- b. Foundation course more than 1 inch (25mm) less than the specified thickness shall be removed and replaced at no additional cost to the Department. The extent of the area to be corrected will be determined by the Engineer.
3. All water applied to foundation course will not be measured for payment, but will be considered subsidiary to the relevant foundation course bid item.
4. Screening of salvaged bituminous material shall be considered subsidiary to the bituminous foundation course item.
5. Processing of salvaged bituminous material, ordered by the Engineer, which contains excessive oversized material due to the Contractors production methods, shall be considered subsidiary to the bituminous foundation course item.
6. If the Contractor is required to reprocess the oversized bituminous material from State stockpiles, the work of reprocessing will be paid for as Extra Work as described in Paragraph 5. of Subsection 104.02.
7. Payment is full compensation for all work described in this Section.

WORK ZONE TRAFFIC CONTROL SIGNS (4-3-1217)

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 TRAFFIC CONTROL SIGNS AND DEVICES (4-3-1018)

Paragraph 19. of Subsection 422.04 in the Standard Specifications is void.

**WET REFLECTIVE POLYUREA PAVEMENT MARKING, GROOVED
(4-8-1217)**

I. Description

This work shall consist of furnishing and installing wet night retroreflective polyurea pavement markings in accordance with this provision and in conformance to the dimensions and lines shown on the plans or established by the Engineer.

The wet reflective polyurea marking material shall be applied by spray method onto asphaltic cement concrete and Portland cement concrete surfaces. Following an application of glass beads or black aggregate, and upon curing, the resulting marking shall be an adherent reflectorized stripe of the specified thickness and width that is capable of resisting deformation by traffic.

The Contractor shall field verify the pavement marking quantities required for the project prior to purchasing materials. The Department will not be held responsible for the Contractor's shortage or surplus of material. The Contractor's verification of quantities and purchasing material shall not delay the project or the installation of pavement marking when required.

The polyurea pavement marking shall be applied in grooves cut into the surfacing. The grooves shall be made in a single pass dry cut; the equipment used shall be self-vacuuming and leave the cut groove ready for polyurea pavement marking application. The equipment and method used shall be approved by the polyurea pavement marking manufacturer. The polyurea pavement marking shall be applied in the grooves the same day as the cut. Grooves shall be clean and dry prior to polyurea pavement marking application. All conflicting pavement markings which remain after application of the polyurea pavement markings shall be removed. The removal of conflicting, pre-existing temporary or permanent pavement marking shall be paid for with the appropriate removal pay item. The removal of conflicting temporary or permanent pavement marking placed as part of this work shall be at no cost to the Department.

Groove width: pavement marking width + 1 inch to 2 inch maximum
Groove depth: per manufacturer's recommendations to a minimum of 60 mils
Groove length: full length of marking + required grooving transition
Groove position: 2 inches off of joint line (per plan)

Grooving of the surfacing shall be performed in accordance with the polyurea manufacturer's recommendations. Grooving the surfacing shall not be measured and paid for but shall be considered subsidiary to "____ Polyurea Pavement Marking, Grooved".

II. Materials

A. Polyurea

Composition Requirements:

Composition requirements are per manufacturer's specifications. The Polyurea Pavement Markings approved for use are shown on the NDOT Approved Products List. Markings which have not been previously approved by the Department will not be permitted on the project until approved by the Traffic Engineer.

Properties:

1. **Color and Weathering Resistance:** The mixed polyurea compound, white, yellow and black, when applied to a 3" x 6" aluminum panels at 15±1 mil in thickness with no glass beads or elements and exposed for 500 hours in a Q.U.V. Environmental Testing Chamber, as described in ASTM-G154, Cycle #1, shall conform to the following minimum requirements. The color of the white polyurea system shall not be darker than Federal Standard No. 595A-17778. The color of the yellow polyurea system shall conform to Federal Standard No. 595A-13538. The color of the black polyurea system shall conform to Federal Standard No. 595A-17038.
2. **Track-Free Time (Laboratory):** When tested in accordance with ASTM D 711, the polyurea marking material shall reach a track-free condition in 10 minutes or less for a 15 mil thickness. This test shall be performed with AASHTO Type 1 beads coated at a rate of 0.099 pounds per square foot. The track-free time shall not increase substantially with decreasing temperature.
3. **Adhesion to Concrete:** The polyurea coating, when tested according to ACI Method 503, shall have such a high degree of adhesion to the specified concrete surface that there shall be a 100% concrete failure in the performance of this test. The prepared specimens shall be conditioned at room temperature (75°± 2° F) for a minimum of 24 hours and maximum of 72 hours prior to the performance of the tests indicated.
4. **Adhesion to Asphalt:** The polyurea coating, when tested according to ACI Method 503, shall have such a high degree of adhesion to the specified asphalt surface that there shall be a 100% asphalt failure in the performance of this test. The prepared specimens shall be conditioned at room temperature (75°± 2° F) for a minimum of 24 hours and maximum of 72 hours prior to the performance of the tests indicated.

B. Reflective Media

The reflective media application shall incorporate a double drop technique to maximize wet night reflectivity and color. The reflective media used shall ensure the wet reflective polyurea pavement markings meet the retroreflectance performance requirements in Section II.D.3. The glass beads for drop-on

application shall conform to the following requirements *or be an approved equivalent*.

1. Glass Beads

The required glass beads shall be a 60/40 blend (60% sinkers and 40% floaters) of AASHTO M 247-81 Type I gradation 1.5 index glass beads. The glass beads shall have a minimum of 70% Rounds as measured according to ASTM D1155. Crush Resistance shall be measured according to the procedures of ASTM D1213 and shall be a minimum of 30 pounds retained on US #40 Mesh.

Acid Resistance: A sample of glass beads supplied by the manufacturer shall show resistance to corrosion of their surface after exposure to a 1% solution (by weight) of sulfuric acid. The 1% acid solution shall be made by adding 5.7 cc of concentrated acid into 1000 cc of distilled water. CAUTION: Always add the concentrated acid into the water, not the reverse. The test shall be performed as follows:

Take a 1" x 2" sample, adhere it to the bottom of a glass tray and place just enough acid solution to completely immerse the sample. Cover the tray with a piece of glass to prevent evaporation and allow the sample to be exposed for 24 hours under these conditions. Then decant the acid solution (do not rinse, touch, or otherwise disturb the bead surfaces) and dry the sample while adhered to the glass tray in a 150° F (66° C) oven for approximately 15 minutes. Microscopic examination (20X) shall show not more than 15% of the beads having a formation of very distinct opaque white (corroded) layer on their entire surface.

2. Wet Reflective Media

Wet Reflective Media shall be approved for use by the polyurea manufacturer. The Wet Reflective Media approved for use are shown in the NDOT Approved Products List.

C. Non-Reflective Media

Black aggregate shall be broadcast to saturation on all black lines to provide a matte, non-reflective finish. The black aggregate shall be either a fine or medium gradation.

D. Finished Markings

Because of normal variances in road surfaces, application processes and measurement, the properties of markings made from the materials specified herein will vary from one installation to the next. When the materials are applied according to the specifications in Section III, they shall be capable of forming markings with the following reproducibility of properties:

1. On-the-road Track-Free Time: When installed at 77° F and at a wet film thickness of 15±1 mils, the markings shall reach a no-track condition in less than 10 minutes. Track-free shall be considered as the condition

where no visual deposition of the polyurea marking to the pavement surface is observed when viewed from a distance of 50 feet, after a free-rolling traveling vehicle's tires have passed over the line. The track-free time shall not increase substantially with decreasing temperature.

2. Skid Resistance: The average initial skid resistance shall be 45 BPN or greater when tested according to ASTM E303.
3. Retroreflectance – Required initial retroreflectance values are shown in the table below. Typical retroreflectivity is determined as the average of many readings ($\text{mcd}(\text{ft}^2)(\text{fc}^{-1})$) metric equivalent ($\text{mcd}(\text{m}^2)(\text{lux}^{-1})$) as described below.

Average Minimum Initial Retroreflectance		
	White	Yellow
Dry (ASTM E1710)	500	350
Wet Recovery (ASTM E2177)	350	275
Wet Continuous (ASTM E2832)	100	75

- 3.1.1 Some reasonable variance should be expected (for example, application on very rough road surfaces or differences in glass beads).
- 3.1.2 The initial retroreflectance value of a single installation or unit of work shall be the average value determined according to the measurement and sampling procedures outlined in ASTM D7585, using a 30-meter (98.4 feet) retroreflectometer, except as modified below. The 30-meter retroreflectometer shall measure the coefficient of retroreflected luminance, R_L at an observation angle of 1.05 degrees and an entrance angle of 88.76 degrees. R_L shall be expressed in units of millicandelas per square foot per foot-candle [$\text{mcd}(\text{ft}^2)(\text{fc}^{-1})$]. The metric equivalent shall be expressed in units of millicandelas per square meter per lux [$\text{mcd}(\text{m}^2)(\text{lux}^{-1})$].
- 3.1.3 The initial retroreflectance values of the pavement marking shall be measured no sooner than 48 hours after application, but not later than 30 days after application. The Contractor shall provide an acceptable 30-meter retroreflectometer to use on the project (the retroreflectometer will remain the property of the Contractor). The contractor will take measurements in the presence of the Engineer. Prior to taking measurements, the Contractor shall calibrate the retroreflectometer according to the manufacturer's requirements.

Measurements will be taken at equally spaced (or nearly so) test areas located by the Engineer in each evaluation section. An evaluation section is defined as a 3-mile (or major fraction) portion of a segment. If the last evaluation section is less than 1.5 miles in length, it shall be combined with the preceding section.

The test areas shall be at least 400 ft. in length and a minimum of 10 readings shall be taken over the length of each test area.

All measurements shall be made in the direction of travel. On centerlines of undivided highways, measurements shall be taken in both directions in each test area and averaged to determine the value of that color line in that test area.

Measurements shall be taken for each type and color of line in the evaluation section.

Individual symbols and legends will be treated as separate evaluation sections. Three (3) readings shall be taken on each symbol to determine the average retroreflectance value for the symbol.

The Department will do verification testing. When the average of the readings for an evaluation section fall below the minimum, the entire section represented by those readings will be further evaluated by the Engineer and may be subject to removal and replacement.

- 3.1.4 The Department may elect to determine wet retroreflectance values measured under a "condition of continuous wetting" (simulated rain) in accordance with ASTM E2832. To reduce variability between measurements, the test method shall be performed in a controlled laboratory environment while the marking is positioned with a 3 to 5 degree lateral slope. Measurements shall be reported as the average of the minimum of three locations. Samples of the completed finished product shall be applied to flat panels during application and brought back to the lab for testing. When such samples are taken, the Department will furnish the panels.

III. Application

The Contractor shall furnish equipment and apply the materials according to the following specifications:

A. Equipment:

Application equipment shall be capable of producing markings that meet the specifications of the manufacturers listed on the NDOT Approved Products List for Polyurea Pavement Marking.

At any time throughout the duration of the project, the Contractor shall provide free access to his application equipment for inspection by the Engineer, his authorized representative or a materials representative.

When black and white polyurea are applied together to create a contrast pattern, they shall be applied from one truck in a single pass operation.

B. Application Conditions:

1. **Moisture:** The markings shall only be applied during conditions of dry weather and when the pavement surface is dry and free of moisture.
2. **Air Temperature:** The markings shall only be applied when road and air temperatures are above 40 degrees F, unless manufacturer's guidelines state otherwise.
3. **Surface Preparation:** Marking operations shall not begin until applicable surface preparation work is completed and approved by the Engineer.
 - 3.1 Prior to applying the markings, the Contractor shall remove any remaining existing markings to expose a minimum of 80% of the pavement surface.
 - 3.2 Prior to applying the markings, the Contractor shall remove all curing compounds on new Portland cement concrete surfaces.
 - 3.3 Prior to applying the markings, the Contractor shall remove all dirt, sand, dust, oil, grease and any other contaminants from the road surface.
 - 3.4 Application over temporary paint is not acceptable.
4. **Dimensions:** The pavement markings shall be placed only on properly prepared surfaces and at the widths and patterns as designated in the contract. The markings shall be applied in accordance with the "Manual on Uniform Traffic Control Devices" and in accordance with the Engineer's plans.

Any markings that are found to be 0.5 inches less than the width shown in the plans shall be removed and replaced by the Contractor.
5. **Other Restrictions:** The Engineer and/or Contractor shall determine further restrictions and requirements of weather and pavement conditions necessary to meet the all other application specifications and produce markings that perform to the satisfaction of the Engineer.

6. **Binder Thickness:** The polyurea binder (mixed Part A and Part B) coating shall be applied at rates to achieve minimum uniform wet thicknesses as follows:

Surface Type	Recommended Polyurea Pavement Marking Thickness (1 inch=1000 mils)
Existing Smooth Asphalt or Concrete Surface	20±2 mils
New Concrete Surface ¹	20±2 mils
New Asphalt Surface (Standard Asphalt Mix)	20±2 mils
Open Grade Friction Course (OGFC) or Stone Matrix Asphalt (SMA) ²	25±2 mils
Rough Concrete or Asphalt	22±2 mils
Concrete or Asphalt after Grinding Off Pavement Markings ³	22±2 mils

- ¹ Use thicker binder (20 mils) on new concrete surfaces with heavy tines.
² Very large aggregate sizes for open grade friction course or stone matrix asphalt mixes may require a thickness of 25 mils for proper coverage.
³ Pavement marking thickness determined by the type of surface and roughness/texture created from grinding operation.

7. **Reflective Media Application:** The Contractor shall ensure that the reflective media are properly set in the polyurea coating so that their exposed portions are free of polyurea coating material. The specified reflective media shall be dropped per the manufacturer's specified rates to achieve their recommended coating weights.
8. **Volumetric Proportioning:** The Contractor shall ensure proper proportioning as required by manufacturer's specifications and mixing of the polyurea components so that the markings are adequately hardened throughout and are free of soft or uncured material. Typically, such areas will darken over time from dirt and tire residue.
9. **Overspray:** The Contractor shall ensure the polyurea coating does not exhibit excessive overspray.
10. **Adhesion:** The Contractor shall ensure that the polyurea coating is well adhered to the road surface, and that the reflective media are well adhered to the binder.

IV. Observation Period

Following initial completion of all pavement marking, there will be a 180-day observation period before final acceptance. During the observation period, the Contractor, at no expense to the Department of Transportation, shall replace any marking that the Engineer determines are not performing satisfactorily due to defective materials and/or workmanship in manufacture and/or application. At the end of the observation period the minimum required retention percentage for marking installed shall be 90%.

Determination of Percentage Retained - The percentage retained shall be calculated as the nominal area of the strip less the area of loss divided by the nominal area and expressed as a percentage of the nominal area. A claim, made by the State against the Contractor, shall be submitted to the Contractor in writing within 30 days after the 180-day observation period. When such a claim is made prior to August 1, the replacement material shall be installed during that same construction season. Replacement material for any claim after August 1, shall be installed prior to June 1, of the following year. Marking replacement shall be performed in accordance with requirement specified herein for the initial application, including but not limited to surface cleaning, sealer application, etc.

Final acceptance of all marking will include an inspection of the appearance of the markings during daylight and darkness. Any markings that fail to have a satisfactory appearance during either period, as determined by the Engineer, shall be reapplied at no expense to the Department of Transportation.

Final acceptance of the pavement marking will be: (1) 180 days after the initial completion of all work, or (2) upon completion of all corrective work, whichever occurs last.

V. Contract Units and Basis for Payment

- A. Linear pavement markings will be measured in linear feet complete-in-place for the width specified.
- B. Arrows and Legends are measured by the each.

Subsection 423.05 of the Standard Specifications is amended to include the item: "___ Polyurea Pavement Marking, Grooved". Payment shall be full compensation for grooving the pavement surface, furnishing and applying all markings, and for all materials, labor, tools, equipment and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
___ Polyurea Pavement Marking, Grooved	Linear Feet
___ Polyurea Pavement Marking, Grooved	Each

Payment is full compensation for all work prescribed in this Section.

LED ROADWAY LUMINAIRES (4-10-0218)

Only LED roadway luminaires listed on the NDOT “Nebraska Qualified Material Vendors List” (NQMVL) will be considered for use on Nebraska highway lighting projects. The Nebraska Qualified Material Vendors List” can be found on the NDOT website. Each of the LED luminaires on this list represents an “Approved LED Roadway Luminaire Family”. An “Approved LED Roadway Luminaire Family” shall be taken to mean a group of LED luminaires of the same type, design and manufacture and meeting the Nebraska Department of Transportation (NDOT) Specifications for LED Roadway Luminaires. The NDOT Lighting Unit will inspect and evaluate for compliance with these specifications for each LED luminaire submitted for acceptance to the “NQMVL”. The Materials and Research Division will place the names of accepted LED roadway luminaires on the Nebraska Qualified Material Vendors List.

Within an “Approved LED Luminaire Family” there may also exist a number of “LED Performance Packages”. (A change in drive current and/or number of LED’s constitutes a new LED performance package.) Being part of an “Approved LED Luminaire Family”, a “LED Performance Package” is also considered as meeting NDOT specification requirements. In addition to being part of an “Approved LED Luminaire Family” and thereby meeting NDOT specification requirements, each “LED Performance Package” proposed for use on a highway lighting project must also meet the photometric requirements of the project on which it is to be used. The NDOT Lighting Unit will use lighting software, the luminaire’s .ies photometric data as provided by the luminaire manufacturer and the project parameters as listed in Appendix “A” of this specification to determine if the luminaire complies with the project’s photometric requirements.

The contractor shall submit, for review, the Appendix “B” form that was completed by the LED luminaire manufacturer along with any necessary supporting documentation to: NDOT.shopdrawings@nebraska.gov. The NDOT Lighting unit will verify, via computer simulation, that the LED luminaire meets the contract requirements.

Appendix “A” and Appendix “B” have been made a part of the project in an effort to help the lighting contractor obtain LED luminaires that meet project photometric performance requirements.

All LED luminaires furnished to a State of Nebraska project must be of one manufacture and must achieve the illumination levels and uniformity ratios as required by the project plans and/or special provisions.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

A new LED roadway luminaire, installed together with a pole, mast arm, break-a-way device and foundation as a complete new lighting unit, will not be paid for as individual items, but will be considered subsidiary to the item “Street Lighting Unit, Type_____” for which payment is being made.

A new LED roadway luminaire, installed and accepted as a replacement for an existing HID roadway luminaire, will be paid for at the contract unit price, per each, for the item “Replacement Luminaire, Type_____”.

A new LED roadway luminaire, furnished and installed as part of a street lighting unit relocation, will not be paid for as an individual unit but will be considered subsidiary to the item "Relocate Street Lighting Unit, Type ____" for which payment is being made.

APPENDIX "A"
NEBRASKA DEPARTMENT OF TRANSPORTATION
LED ROADWAY LUMINAIRE SPECIFICATION SUBMITTAL FORM
(TO BE COMPLETED BY LIGHTING DESIGNER)

PROJECT SITE PARAMETERS		
ROADWAY DATA	Median width (including curbs, gutters, and shoulders) (ft.)	18'
	Total number of vehicular lanes (both sides of median)	2
	Width of one vehicular lane (ft.)	12'
	Shoulder width (including gutter and curb) (ft.)	N/A
	IES Pavement class <input checked="" type="checkbox"/> R1 <input type="checkbox"/> R2 <input type="checkbox"/> R3 <input type="checkbox"/> R4	
LIGHT POLE DATA	Luminaire mounting height (ft.)	45'
	Arm length (horizontal) (ft.)	12'
	Luminaires per pole	1
	Pole set-back from curb (ft.)	N/A
	Pole set-back from edge of travelled way (ft.)	15'
	Pole spacing in ft. (same side of roadway)	400'
	Pole layout <input type="checkbox"/> One side <input type="checkbox"/> Opposite <input checked="" type="checkbox"/> Staggered <input type="checkbox"/> Median	
LED 40 LUMINAIRE CRITERIA		
FOR USE ON LIGHTING UNITS	Pole 1 thru Pole 18	
VOLTAGE	Nominal luminaire input voltage (or range as applicable)	240
CRI	Min. Color Rendering Index	70
EFFICACY	Min. No. lumens per watt	100
NOMINAL CCT	Rated correlated color temperature	4000 ± 300 K
BUG RATINGS	Maximum nominal (backlight) (uplight) (glare) ratings	B3 -U0 -G3
WEIGHT	Maximum luminaire weight	35 lbs.
EPA	Maximum effective projected area	1.2 ft ²
FINISH	Luminaire housing finish color	Gray
MOUNTING	Type: <input type="checkbox"/> Post-top <input checked="" type="checkbox"/> Side-arm <input type="checkbox"/> Trun./yoke Tenon <input type="checkbox"/> Swivel-Tenon	
	Tenon nominal pipe size (NPS)	2 inches
VIBRATION RATING	ANSI C136.31 3G (Level 2 Bridge/Overpass)	
ELECTRICAL IMMUNITY	ANSI C136.2 Enhanced Level	10 Kv/5Ka
CONTROL INTERFACE	ANSI C136.41 7 Pin receptacle with <input checked="" type="checkbox"/> Shorting Cap <input type="checkbox"/> Photo Control	
LED DRIVER	<input type="checkbox"/> Not dimmable <input checked="" type="checkbox"/> Dimmable, 0-10V <input type="checkbox"/> Dimmable, DALI	
LIGHT LOSS FACTOR	Use 0.83 as multiplier	
REQUIRED PHOTOMETRIC PERFORMANCE CRITERIA		
PHOTOPIC ILLUMINANCE	Average Maintained illumination level, Fc (min.)	0.8
	Avg./min. uniformity ratio (max.)	3.5:1
	Max./min. uniformity ratio (max.)	7.0:1

This Appendix "A" form, as completed by the lighting designer, is being made available to the roadway lighting contractor to copy and submit to various LED luminaire manufactures for help in acquiring a LED luminaire suitable for the lighting parameters shown. This Appendix "A" form, when properly completed, contains all the information necessary for a manufacture to recommend a specific LED roadway luminaire from his/her product line that will meet project specifications. Each Appendix "A" form represents a new set of lighting parameters. The lighting designer shall determine the number of Appendix "A" forms required for a project. Each Appendix "A" form provided the LED luminaire manufacturer shall be accompanied by an Appendix "B" form.

APPENDIX "A"
NEBRASKA DEPARTMENT OF TRANSPORTATION
LED ROADWAY LUMINAIRE SPECIFICATION SUBMITTAL FORM
(TO BE COMPLETED BY LIGHTING DESIGNER)

PROJECT SITE PARAMETERS		
ROADWAY DATA	Median width (including curbs, gutters, and shoulders) (ft.)	N/A
	Total number of vehicular lanes (both sides of median)	2
	Width of one vehicular lane (ft.)	12'
	Shoulder width (including gutter and curb) (ft.)	N/A
	IES Pavement class <input checked="" type="checkbox"/> R1 <input type="checkbox"/> R2 <input type="checkbox"/> R3 <input type="checkbox"/> R4	
LIGHT POLE DATA	Luminaire mounting height (ft.)	40'
	Arm length (horizontal) (ft.)	12'
	Luminaires per pole	1
	Pole set-back from curb (ft.)	N/A
	Pole set-back from edge of travelled way (ft.)	15'
	Pole spacing in ft. (same side of roadway)	410'
	Pole layout <input type="checkbox"/> One side <input type="checkbox"/> Opposite <input checked="" type="checkbox"/> Staggered <input type="checkbox"/> Median	
LED 25 LUMINAIRE CRITERIA		
FOR USE ON LIGHTING UNITS	RP-1 thru RP-4	
VOLTAGE	Nominal luminaire input voltage (or range as applicable)	240
CRI	Min. Color Rendering Index	70
EFFICACY	Min. No. lumens per watt	100
NOMINAL CCT	Rated correlated color temperature	4000 ± 300 K
BUG RATINGS	Maximum nominal (backlight) (uplight) (glare) ratings	B3 -U0 -G3
WEIGHT	Maximum luminaire weight	35 lbs.
EPA	Maximum effective projected area	1.2 ft ²
FINISH	Luminaire housing finish color	Gray
MOUNTING	Type: <input type="checkbox"/> Post-top <input checked="" type="checkbox"/> Side-arm <input type="checkbox"/> Trun./yoke Tenon <input type="checkbox"/> Swivel-Tenon	
	Tenon nominal pipe size (NPS)	2 inches
VIBRATION RATING	ANSI C136.31 3G (Level 2 Bridge/Overpass)	
ELECTRICAL IMMUNITY	ANSI C136.2 Enhanced Level	10 Kv/5Ka
CONTROL INTERFACE	ANSI C136.41 7 Pin receptacle with <input checked="" type="checkbox"/> Shorting Cap <input type="checkbox"/> Photo Control	
LED DRIVER	<input type="checkbox"/> Not dimmable <input checked="" type="checkbox"/> Dimmable, 0-10V <input type="checkbox"/> Dimmable, DALI	
LIGHT LOSS FACTOR	Use 0.83 as multiplier	
REQUIRED PHOTOMETRIC PERFORMANCE CRITERIA		
PHOTOPIC ILLUMINANCE	Average Maintained illumination level, Fc (min.)	0.7
	Avg./min. uniformity ratio (max.)	3.5:1
	Max./min. uniformity ratio (max.)	7.0:1

This Appendix "A" form, as completed by the lighting designer, is being made available to the roadway lighting contractor to copy and submit to various LED luminaire manufactures for help in acquiring a LED luminaire suitable for the lighting parameters shown. This Appendix "A" form, when properly completed, contains all the information necessary for a manufacture to recommend a specific LED roadway luminaire from his/her product line that will meet project specifications. Each Appendix "A" form represents a new set of lighting parameters. The lighting designer shall determine the number of Appendix "A" forms required for a project. Each Appendix "A" form provided the LED luminaire manufacturer shall be accompanied by an Appendix "B" form.

APPENDIX "B"
 NEBRASKA DEPARTMENT OF TRANSPORTATION
 PROPOSED LED ROADWAY LUMINAIRE SUBMITTAL FORM
 (TO BE COMPLETED BY LUMINAIRE MANUFACTURER)

For Use on Lighting Units			
Luminaire manufacturer			
Proposed Luminaire designation			
Proposed Luminaire model number			
Housing finish color			
Tenon nominal pipe size (inches)			
Nominal Luminaire weight (lb)			
Nominal Luminaire EPA (ft ²)			
Nominal input voltage (volts)			
ANSI vibration test level	<input type="checkbox"/> Level 1 (Normal)	<input type="checkbox"/> Level 2 (bridge/overpass)	
Nominal IES TM-15 BUG ratings	B =	U =	G =
Make/model of LED light source(s)			
Make/model of LED driver(s)			
Dimmability	<input type="checkbox"/> Dimmable	<input type="checkbox"/> Not Dimmable	
Control signal interface			
Lumen maintenance life (hours) *			
Warranty period (years)			
	Nominal Value	Tolerance (%)	
Initial photopic output (lumens)			
Maintained light output (lumens)			
Initial input power (watts)			
Maintained input power (watts)			
Initial LED drive current (mA)			
Maintained LED drive current (mA)			
Drive current used			
CCT (°K)			
In-situ LED T _c (°C)			
Additional product description			

This Appendix "B" form is being made available to the roadway lighting contractor to copy and submit to various LED luminaire manufactures along with the Appendix "A" LED roadway luminaire specification submittal form. Provide an Appendix "B" form for each Appendix "A" form submitted to the luminaire manufacturer.

The LED luminaire proposed by the manufacturer shall meet the requirements listed in the accompanying Appendix "A" form. Attach supporting documentation as required.

* The LED luminaire shall maintain a minimum of 70% of its initial lumen output (L₇₀) after 100,000 hours of operation at 25° C (77° F).

RELOCATE EXISTING LIGHTING UNIT

Four existing lighting units EP-1 and EP-3 thru EP-5 are scheduled to be relocated and each provided with a new LED25 luminaire meeting project plan and special provision requirements. The four existing units each carry a HPS luminaire attached to a 12 foot mast arm, 40 feet above the roadway. The poles are mounted to a concrete foundation by means of a break-a-way transformer base.

With the exception of the HPS luminaire, the existing lighting units to be relocated shall be carefully dismantled, stored and protected from damage until installed at their new locations. The Engineer may designate specific areas for the temporary storage of the salvaged material. It will be the contractor's responsibility to protect all material being salvaged from damage during removal and storage and reinstallation.

The Contractor shall remove the concrete foundations, including the steel and anchor bolts to a minimum of two feet below finished grade, backfill the excavation with clean soil and compact the soil to the density requirements of the project. Any debris resulting from the removal operation shall be taken from the project. Abandon existing unused conduit and cable in place

The salvaged poles, mast arms, new LED luminaires, transformer bases and new foundations shall be installed at their relocated locations and connected electrically as shown. The four salvaged HPS luminaires shall become the property of the contractor and must be taken from the project site.

Method of Measurement and Basis of Payment

Lighting units, relocated as indicated in the plans and these special provisions, in place and accepted by the Engineer, shall be measured and paid for at the contract unit price, per each, for the item "Relocate Street Lighting Unit, Type ____". This price and payment shall be full compensation for the removal, salvage, storage, transportation, preparation and installation of the salvaged material; for a new foundation; for the disposal of all surplus material; for the abandonment of existing underground feeders; for the furnishing and installation of new LED25 luminaires and for all materials, labor, equipment, tools and incidentals necessary to complete the work.

REMOVE LIGHTING UNIT

There are two existing lighting units EP-2 and EP-6 to be removed on this project. The Contractor is to remove both units when they are no longer needed as determined by the Engineer. The lighting units will be removed by disassembling the luminaire from its mast arm, the mastarm from the pole, and the pole from its transformer base and its transformer base from its concrete foundation.

The Contractor will remove the concrete pole foundation, including reinforced steel and anchor bolts, to a minimum of two feet below finished grade; backfill the excavation with clean soil and compact the soil to the density requirements of the project. The Contractor may, at his option, remove the foundation as an entire unit. Abandon existing unused conduit and cable in place.

All components of the removed lighting units will become the property of the contractor and must be taken from the project site.

Method of Measurement and Basis of Payment

The item "Remove Lighting Unit" will be measured and paid for as a complete unit for each lighting unit removed and accepted by the Engineer. This work shall include, but not be limited to the following: Removing and transporting the existing lighting units from the project; removing existing concrete foundations; all necessary excavation, backfilling and compaction; for the disposal of surplus materials; for the termination and abandonment of existing underground feeders and for all materials, labor, equipment, tools and incidentals necessary to complete the work.

REMOVE PULL BOX

Remove the existing pull box as indicated in the plans. The contractor shall backfill the excavation with clean soil and compact the soil to the density requirements of the project. The removed pull box shall become the property of the contractor and shall be taken from the project site.

Method of Measurement and Basis of Payment

The item "Remove Pull Box" will be measured and paid for as a complete unit for each pull box removed and accepted by the Engineer. This work shall include, but not be limited to the following: the removal; all necessary excavation; backfilling and disposal of surplus material; for the termination and abandonment of existing underground feeders and for all materials, labor, equipment, tools and incidentals necessary to complete this work.

UTILITY CONTACT

Paragraph 1. of Subsection 413.03 in the Standard Specifications is amended to include the following:

The utility contact for this project is Cornhusker Public Power District (402) 564-2821

PERMANENT PAVEMENT MARKING

Section 423 in the Standard Specifications is amended to provide that for the items "___ Permanent Pavement Marking" the following materials may be used.

I. Concrete Roadways

For pavement markings being placed on concrete surfaces, "Preformed Pavement Marking, Type 4, Grooved", "Preformed Pavement Marking, Thermoplastic", or "Polyurea, Grooved" may be used. Approved preformed pavement markings are shown on the NDOT Approved Products List. The material used shall be installed in accordance with the manufacturer's specifications.

II. Asphalt Roadways

For pavement markings being placed on asphalt surfaces, “Preformed Pavement Type 4, Grooved”, “Preformed Pavement Marking, Thermoplastic”, “Thermoplastic, Grooved”, or “Polyurea, Grooved” may be used. Approved preformed pavement markings are shown on the NDOT Approved Products List. The material used shall be installed in accordance with the manufacturer’s specifications.

Paragraph 1. of Subsection 423.05 is amended to include the following:

Pay Item	Pay Unit
___ Permanent Pavement Marking	Linear Foot (LF)
___ Permanent Pavement Marking	Each (ea)

Regardless of the material used it shall be measured and paid for as “ ___ Permanent Pavement Marking”.

FLEXIBLE POST DELINEATOR, SURFACE MOUNT

Section 420 in the Standard Specifications is amended to include Flexible Post Delineator, Surface Mount. The surface mounted flexible delineator posts are shown on the Departments Approved Products List under Flexible Delineator Posts.

Paragraph 1. of Subsection 420.05 is amended to include the following:

Pay Item	Pay Unit
Flexible Post Delineator, Surface Mount	Each (ea)

**ASPHALTIC CONCRETE
(Cold Weather Asphaltic Concrete Placement)
(5-8-1118)**

Table 503.03 in Subsection 503.04 in the Standard Specifications is void and superseded by the following:

Table 503.03

Cold Weather Asphaltic Concrete Placement	
Lift Thickness	Minimum Surface Temperature
1 inch (25 mm) or less	50° F (10° C)
Greater than 1 inch (25 mm) and Less than 2 inches (50 mm)	45° F (7° C)*
2 to 3 inches (50 to 75 mm)	37° F (3° C)*
Greater than 3 inches (75mm)	35° F(2° C)*

* 32° F (0° C) when a warm mix additive is used in accordance with the contract.

TEMPORARY SURFACING 10”

The work shall consist of the construction of the Temporary Surfacing on this project in accordance with plans, Standard Specifications and these Special Provisions.

The finished surface shall not vary more than 1/8” as determined by using a ten-foot straightedge, or other devices approved by the Engineer. The Contractor shall correct any depressions or high areas in excess of 1/8”.

Prior to placing the Temporary Surfacing, prepare the underlying subgrade in accordance with the requirements of Section 302 of the Standard Specifications.

At the Contractor's option, the Temporary Surfacing 10” may be constructed using Class 47B-3500 Concrete, Class BX-3500 Concrete or Asphaltic Concrete Type SPR, SPH, or SLX. These materials may be used interchangeably during the course of the work except that surfacing at any individual location must be completed with the same material with which the work was begun.

Asphaltic Concrete used for surfacing shall meet all specifications and be sampled and tested as shown in the Standard Specifications or Special Provisions. Any concrete or asphaltic concrete not meeting the specifications will be subject to removal.

Subsection 302.04 is amended to provide that the work of Subgrade Preparation, as well as all water applied as directed by the Engineer, will not be measured for payment, but shall be considered subsidiary to the item “Temporary Surfacing ___”.

Subsection 304.04 is amended to provide that the work of Shoulder Construction, as well as all water applied as directed by the Engineer, will not be measured for payment, but shall be considered subsidiary to the item “Temporary Surfacing ___”.

Subsection 503.05 is amended to provide that Asphaltic Concrete and PG Binder used in the asphaltic concrete will not be measured for payment, but shall be considered subsidiary to the item “Temporary Surfacing ___”. Performance Graded Binder 58V-34 or 58E-34 shall be used if Asphaltic Concrete is chosen as the Temporary Surfacing 10”.

Subsection 504.04 is amended to provide that the application of a tack coat, including furnishing emulsified asphalt, will not be measured for payment, but shall be considered subsidiary to the item “Temporary Surfacing ___”.

Paragraph 15 of Subsection 603.03 is amended to provide that concrete used in the temporary surfacing, reach a minimum strength of 3000 psi before opening to traffic.

Subsection 603.04 is amended to provide that concrete pavement will not be measured for payment, but shall be considered subsidiary to the item “Temporary Surfacing ___”.

When the need for the temporary surfacing is no longer required, the Contractor shall remove the temporary surfacing and it shall become the property of the Contractor and removed from the project. All the work necessary to accomplish this requirement is considered subsidiary to the item “Temporary Surfacing ___”.

Measure temporary surfacing by the square yard of completed and accepted work.

The work and materials required for temporary surfacing will be paid for at the contract unit price per square yard for the item "Temporary Surfacing ___". Payment will be full compensation for the work prescribed in these Special Provisions and the Standard Specifications.

Temporary Surfacing Thickness Cores

The Contractor will be required to core the Temporary Surfacing for final thickness determination. The cores will be cut prior to opening the temporary surfacing to traffic. One core shall be taken for each 3500 square yards, or fraction thereof, of temporary surfacing placed with a minimum of 1 core taken per project. The Engineer shall select the site where the core shall be taken. All work, materials and incidentals necessary to complete the work shall be considered subsidiary to the item "Temporary Surfacing ___".

ELECTRONIC VIBRATOR MONITORING (6-10-0718-A)

Paragraph 9. of Subsection 601.02 is amended to include the following:

- e. For slip-form construction, an electronic monitoring device displaying the operating frequency of each individual internal vibrator shall be required for the construction of mainline pavement exceeding 600 feet in length.
 - (1) The monitoring device shall have a readout display near the operator's controls visible to the paver operator and to the Engineer.
 - (2) It shall operate continuously while paving, and shall display all vibrator frequencies with manual or automatic sequencing among all individual vibrators.
- f.
 - (1) Each vibrator monitor shall be routinely checked for functionality and adequate frequency no less than once an hour or 300 feet of paving, whichever is more frequent.
 - (2) If a vibrator monitor fails to function properly, a hand held device may be used until the monitor is repaired. The Contractor shall measure and record the vibrations of each vibrator at least once an hour.
- g.
 - (1) For projects having 50,000 or more square yards of mainline pavement, the electronic monitoring device shall record the following information:
 - i. the clock time
 - ii. station location
 - iii. paver track speed
 - iv. operating frequency of individual vibrators

- (2) These recorded values shall be made after each 25 feet of paving or after each 5 minutes of time, whichever is more frequent.
- (3) These recorded values shall be provided to the Engineer at the end of each day's placement on paper or in an electronic format suitable to the Engineer.

**CONCRETE PAVEMENT
(Compressive Strength of Cores)
(6-10-1018)**

Paragraph 4.a.(3) of Subsection 603.05 in the Standard Specifications is void and superseded by the following:

- (3) The results of the additional two cores taken by the Contractor will be averaged for the final compressive strength calculation and pay factor.

SEALING JOINTS

Paragraph 1. of Subsection 612.02 is void and superseded by the following:

1. The joints shall be sealed with joint sealing filler which conforms to the requirements of Section 1014.

Paragraphs 2.a. and b. of Subsection 612.03 are void and superseded by the following:

- a. The Contractor shall furnish the Engineer, the manufacturer's recommendations for mixing, application, and temperature restrictions of the sealer 7 days prior to work beginning. These recommendations shall be strictly followed. If hot pour sealer is used, in no case shall the temperature exceed the maximum heating temperature recommended by the manufacturer, nor shall the temperature fall below the minimum application temperature recommended by the manufacturer, during the application process.
- b. The joints shall be filled full depth as shown in the contract to ¼ inch to 5/8 inch (3 mm to 6 mm) below the pavement surface. If hot pour type sealer is used, the application can begin when the minimum application temperature is attained. The joints shall be filled as shown in the contract through the use of a pressure type applicator equipped with a nozzle which will fit into the joints.

Paragraphs 2.a., b., and c. of Subsection 612.05 are void and superseded by the following:

- a. When test results of on-site sealant materials are outside of the specified property ranges, joint sealing shall be paid for at the contract unit price multiplied by the Pay Factors in Table 612.01.

Table 612.01

Pay Factor	Specified Property
1.00	Deviation of up to (+/-) 5.0%
0.95	Deviation of (+/-) 5.1% to 10.0%
0.90	Deviation of (+/-) 10.1% to 15.0%
0.80	Deviation of (+/-) 15.1% to 20.0%
0.70	Deviation of (+/-) 20.1% to 25.0%
0.40 or Reject	Deviation of 25.1% or greater

- (1) When the specification requirement is stated as a percentage, the test result deviation from the specification will be divided by the specification value. The resulting deviation percentage is then applied to the above Table.
 - (2) When more than one specified property exceeds specification tolerances, the single largest Pay Factor reduction will be the one applied.
 - (3) Material not meeting a Pass/Fail requirement falls under the Pay Factor of 0.40 or Reject.
- b. If the material is found to be out of specification, the material shall be rejected if not already used. All material out of specification, regardless of Pay Factor, not in place, will be rejected and shall be removed from the site.
 - c. If the Pay Factor is less than 1.00, and the material has been incorporated in work which is allowed to remain in place, the Pay Factor for the material is determined by Table 612.01.

Paragraph 3.a. of Subsection 612.05 is void and superseded by the following:

- a. Only the Contractor can initiate dispute resolution, and request referee testing. Should the Contractor request referee testing, it shall be submitted in writing to the Department within 30 days of receiving the notification of deficiency.

**BACKFILLING CULVERTS
(7-28-2017)**

Paragraph 10. of Subsection 107.07 in the Standard Specifications is void.

Paragraph 3.a. of Subsection 702.03 is amended to include the following:

- (13) Backfill for culverts shall not be placed on frozen soil.

SEEDING

Subsection 801.02 in the Standard Specifications is amended to include the following:

Type "B"	Minimum Purity (%)	Broadcast Application Rate in lb. of Pure Live Seed/Acre	Approved Mech. Drill Application Rate in lb. of Pure Live Seed/Acre
Perennial ryegrass – Linn, Norlea, Amazon	85		18
Western wheatgrass – Flintlock, Barton	85		4
Slender wheatgrass	85		15
Kentucky fescue	85		18
Red fescue (Festuca rubra)	85		6
Inland saltgrass (Distichlis spicata)	70		0.75
Blue grama – NE, KS, CO, MN, SD	30		3
Buffalograss – Bison, Cody, Sundancer, Texoka	80		4.5
Sideoats grama – Butte, El Reno, Trailway	75		4
Sand dropseed (Sporobolus cryptandrus)	90		0.5
Oats/Wheat (wheat in the fall)	90		22

All seed shall be origin Nebraska, adjoining states, or as specified. A Contractor proposing to use a substitute variety, or origin shall submit for the Engineer's consideration a seed tag representing the seed which shows the variety, origin and analysis of the seed.

Rates of application of commercial inorganic fertilizer shall be:

	Rate of Application Per Acre (Minimum)
Available Nitrogen (N2) -----	32 or 36 lb.
Available Phosphoric Acid (P2O5) -----	92 or 96 lb.

Rate of application of granular sulphur coated urea fertilizer shall be:

Nitrogen (total available) -----	0 lb.
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The Contractor may, at his option, apply granular urea formaldehyde in lieu of the sulphur coated urea fertilizer at the following rate:

Nitrogen (total available) -----	0 lb.
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Paragraph 4.a. of Subsection 801.03 is void and superseded by the following:

- a. Seeding operations shall be performed only during the periods March 1 to July 1 and August 1 to December 1.

**COVERCROP SEEDING
(8-6-1217)**

Paragraph 3. of Subsection 802.02 in the Standard Specifications is void and superseded by the following:

Fertilizer is not required for covercrop seeding.

Paragraph 6. of Subsection 802.03 is void.

GRANULAR SUBDRAINS

Subsection 915.02 of the Standard Specifications is void and superseded by the following:

Aggregate that is used in granular subdrains shall consist of crushed gravel or crushed rock and shall conform to the requirements of Paragraphs 1. and 2. of Subsection 1033.02.

Crushed gravel shall have a fine aggregate angularity value of 43.0 or greater. The specific gravity for calculation of the Fine Aggregate Angularity (FAA) shall be determined on a combined aggregate sample of the material passing the No. 8 (2.36 mm) sieve and retained on the No. 100 (150 µm) sieve as defined in AASHTO T 304 Method A, except the specific gravity material shall be washed over the No. 100 (150 µm) sieve. Gravel aggregate shall have a soundness loss of not more than 12 percent by weight at the end of 5 cycles using sodium sulfate solution.

Crushed rock shall consist of clean, hard particles of crushed limestone, quartzite, or dolomite. Crushed rock shall have a percent loss of not more than 14 at the end of 16 cycles of the freezing and thawing test.

The crushed gravel or crushed rock shall meet the following gradation requirements.

Granular Subdrains Gradation Requirements		
Sieve Size	Target Value (Percent Passing)	Tolerance
1 inch	100	0
No. 4	40	±20
No. 10	15	±15
No. 200	4	±4

Paragraph 5. of Subsection 915.03 is void and superseded by the following:

Excavated material shall become the property of the Contractor and removed from the project or used for shoulder construction on the project. Excess material shall become the property of the Contractor and removed from the project.

Traffic will not be permitted to travel next to these trenched areas until the trench has been filled to top of the existing adjacent surfacing.

Earth Shoulder Construction shall be completed prior to granular subdrain installation.

**PORTLAND CEMENT
(10-8-1118)**

Paragraph 1. of Subsection 1004.04 is void and superseded by the following:

1. Portland and Interground/Blended cements shall be on the Nebraska Qualified Material Vendors List (NQMVL).

The reference to “the APL” in Paragraph 2. of Subsection 1004.04 is revised to “the NQMVL”.

Paragraph 2.a.(9) of Subsection 1004.04 is void and superseded by the following:

- (9) Report test results per ASTM C 1567 at 28 days and/or AASHTO T 380 at 56 days.

Paragraph 3. of Subsection 1004.04 is void and superseded by the following:

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/gravel from an approved Platte River Valley (Saunders County) and/or Elkhorn River (Madison County) aggregate source.
 - (2) The mortar bars for the ASTM C 1567 shall not exceed 0.10% expansion at 28 days.
 - i. If the expansion is greater than 0.10% at 28 days, then the Interground/Blended cement shall be tested in accordance with AASHTO T 380 using sand/gravel from an approved Platte River Valley (Saunders County) and/or Elkhorn River (Madison County) aggregate source with an expansion not greater than 0.03% at 56 days.

Paragraph 2. of Subsection 1004.05 is void and superseded by the following:

2. Noncompliant material shall be tested in accordance with ASTM C 1567 and in accordance with Subsection 1004.04, Paragraph 3.a.(1).
 - a. The mortar bars for the ASTM C 1567 shall not exceed 0.10% expansion at 28 days.
 - b. If the expansion for ASTM C 1567 is greater than 0.10% at 28 days, then the Interground/Blended cement shall be tested in accordance with AASHTO T 380 using the most reactive aggregate from the project with an expansion not greater than 0.03% at 56 days.

- c. If the expansion for ASTM C 1567 is greater than 0.10% at 28 days or if the expansion for the AASHTO T 380 is greater than 0.03% at 56 days, then the Interground/Blended cement shall be subject to removal, 40% pay, and/or removal from NDOT's NQMVL in accordance with NDOT's Acceptance Policy on Portland and Interground/Blended Cements.

**BITUMINOUS LIQUID COMPOUNDS FOR CURING CONCRETE
(10-8-1217)**

Subsection 1013.02 in the Standard Specifications is amended to include the following:

- 2. The Contractor has the option of using bituminous tack coat. The tack coat shall conform to all requirements of Section 504.

**AGGREGATES
(10-8-1118)**

Paragraph 2. of Subsection 1033.02 in the Standard Specifications is amended to include the following:

- g. All Portland cement concrete aggregates - regardless of their source - will be sampled and tested by the Engineer for their potential alkali reactivity in accordance to ASTM C 1260. This testing is a part of the materials source and quarries approval process.
 - (1) The expansion shall not be greater than 0.57% at 28 days.
 - (2) If the expansion is greater than 0.57%, the aggregate shall not be used.

Paragraph 3.a.(8) of Subsection 1033.02 is void and superseded by the following:

- (8) Lightweight pieces (measured by percent volume values) shall not exceed 0.5%. For Class R aggregate, fine aggregate is defined as any material passing a No. 4 sieve.

Paragraph 3.b.(2) of Subsection 1033.02 is void and superseded by the following:

- (2) The percent of clay lumps, shale, or soft particles shall not exceed the following amounts:

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

Paragraph 3.b.(8) of Subsection 1033.02 is void.

**SUPERPAVE ASPHALTIC CONCRETE
(10-11-0218)**

Paragraph 8.d. of Subsection 1028.03 in the Standard Specifications is void and superseded by the following:

- d. Normally, 1 (one) sample for determination of density will be taken from each subplot at locations determined by the Engineer.

Table 1028.18 (SLX) of Subsection 1028.03 is void and superseded by the following:

**Table 1028.18 (SLX)
Acceptance Schedule
Air Voids – N_{des}**

Air voids test results for Asphaltic Concrete Type SLX	Pay Factor	
	Moving average of four	Single test
Less than 0.5%	50% or Reject	50% or Reject
0.5% to 0.9%	50% or Reject	50%
1.0% to 1.4%	50% or Reject	95%
1.5% to 1.9%	90%	95%
2.0% to 2.4%	100%	100%
2.5% to 3.5%	102%	104%
3.6% to 4.0%	100%	100%
4.1% to 4.5%	95%	95%
4.6% to 5.0%	90%	95%
5.1% to 5.5%	50% or Reject	90%
5.6% to 6.0%	50% or Reject	50%
6.1% and over	50% or Reject	50% or Reject

**PREFORMED JOINT FILLER
(10-13-0818)**

Section 1015 in the Standard Specifications is void and superseded by the following:

1015.01 – Description

1. Preformed expansion joint filler shall be furnished in strips of the dimensions specified in the contract.

1015.02 – Material Characteristics

1. Nonextruding and Resilient Bituminous Type (Fiber Type) performed joint filler shall conform to the requirements of AASHTO M 213.

2. Bituminous Type (Asphalt Type) preformed joint filler shall conform to the requirements of AASHTO M 33 except it will not be subject to a requirement for brittleness.
3. Preformed joint filler (Sponge Rubber Type) shall be a flexible cellular rubber product meeting the classification requirements of the latest edition of ASTM D1056 for Type 2, Class A or B, Grade 2 or 3, except that reclaimed rubber shall not be used in the manufacture of the material. The color shall be gray.
4. Semi-Rigid, Closed-Cell Polypropylene Foam Type (Polypropylene Type) preformed expansion joint filler shall conform to the requirements of ASTM D8139.

1015.03 – Procedures

1. For structures, the Bituminous Type (Asphalt Type) or Preformed Joint filler (Sponge Rubber Type) shall be used, unless otherwise shown in the contract.
2. Except for structures, the Non-extruding and Resilient Bituminous Type (Fiber Type) or the Semi-Rigid Closed-Cell Polypropylene Foam Type (Polypropylene Type) shall be used, unless otherwise shown in the contract.

1015.04 – Acceptance Requirements

1. Preformed joint fillers that are on the Department's Approved Products List are acceptable.
2. The preformed joint fillers may be accepted based on manufacturer's certification of compliance letters when they are not on the Department's Approved Products List.

JOINT AND CRACK SEALING FILLER

Paragraph 1.a. of Subsection 1014.02 is void and superseded by the following:

- 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 exceptions:

Table 1014.01 of Subsection 1014.02 is void and superseded by the following:

Table 1014.01

Silicone Joint Sealer Requirements		
Property	Requirement	Test
As supplied:		
Specific Gravity	1.010 - 1.515	ASTM D792
Work Time, minimum	10 minutes	
Tack-Free Time, at 77°F (25°C)	20 - 310 minutes	ASTM C679
Full Adhesion, maximum	21 days, 4 hours	
Cyclic Joint Movement Capacity	+100% to -50%	ASTM C719
Durometer Hardness:		
Non-Sag, Shore A	10 - 25	ASTM D2240
Self-Leveling, Shore 00, minimum	40	ASTM D2240
As cured, by standard laboratory conditions:		ASTM D5893
Ultimate Elongation, Method A, Die C, min.	600%	ASTM D412
Cure Evaluation, full cure, maximum	21 days, 4 hours	ASTM D5893
Non-immersed Bond	Pass 5 cycles	ASTM D5893
Water-immersed Bond	Pass 5 cycles	ASTM D5893
Tensile Stress, at 150% Elongation, max.	45 psi	ASTM D412

Paragraph 1.a.(2). of Subsection 1014.04 is void and superseded by the following:

- (2) Off-site (Proxy) sampling shall be in accordance with ASTM D5078.

**PROPOSAL GUARANTY
(1-37-1217)**

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 Subsection 102.14 of the Standard Specifications.

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