

LYON COUNTY HIGHWAY DEPARTMENT  
504 FAIRGROUNDS ROAD  
MARSHALL, MN 56258

\*\*\*\*\*PROPOSAL\*\*\*\*\*

FOR HIGHWAY CONSTRUCTION  
AND MAINTENANCE PROJECTS WITH  
**BIDS RECEIVED UNTIL 2:00 O'CLOCK P.M. ON MARCH 19<sup>TH</sup>, 2013**  
Bids accepted by Lyon County Auditor/Treasurer, 607 West Main Street, Marshall, MN 56258

PROPOSAL OF \_\_\_\_\_  
(NAME OF FIRM)  
\_\_\_\_\_  
(ADDRESS)  
\_\_\_\_\_  
(AREA CODE) TELEPHONE

TO FURNISH AND DELIVER ALL MATERIALS AND TO PERFORM ALL WORK IN ACCORDANCE WITH THE CONTRACT, THE PLANS AND THE APPROVED DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", 2005 EDITION, EXCEPT AS STATED OTHERWISE IN THE SPECIAL PROVISIONS WHICH ARE PART OF THIS PROPOSAL, FOR

STATE PROJECT NO. **SP 042-610-034 and SP 042-070-003**

MINNESOTA PROJECT NO. **STPM-HSIP4213(161)**

LOCATION: CSAH 10 between US 59 and West 5<sup>th</sup> St in Cottonwood in Lyon County

TYPE OF WORK: Aggregate Surfacing, Aggregate Shouldering and Concrete Surfacing

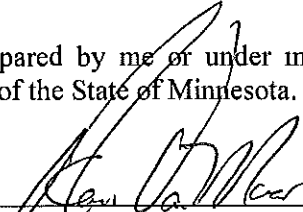
LENGTH: 6.665 miles

STARTING DATE: **May 13, 2013**

COMPLETION DATE: **August 9, 2013**

NOTICE TO BIDDERS: In submitting a bid, you must return this complete proposal. You must initial changes made in the Schedule of Prices in the Proposal and acknowledge addenda on the back cover sheet.

I certify that this Proposal was prepared by me or under my direct supervision, and that I am a licensed professional engineer under the laws of the State of Minnesota.

  
\_\_\_\_\_  
Aaron VanMoer, P.E.  
License Number 50428

Date: 2/22/13

\*\*\*\*\*

BID RIGGING IS A SERIOUS CRIME. IF YOU HAVE ANY INFORMATION CONCERNING COLLUSIVE BIDDING, EVEN A REQUEST TO SUBMIT A COMPLIMENTARY BID, PLEASE CALL THE MINNESOTA ATTORNEY GENERAL'S OFFICE AT TELE. NO. 651-296-1796.

**SP 042-610-034 and SP 042-070-003  
LYON COUNTY  
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To Lyon County Board of Commissioners:

According to the advertisement of Lyon County inviting proposals for the improvement of the section of highway hereinbefore named, and in conformity with the Contract, Plans, Specifications and Special Provisions pertaining thereto, all on file in the office of the Auditor of Lyon County:

(I)(We) hereby certify that (I am)(we are) the only person(s) interested in this proposal as principal(s); that this proposal is made and submitted without fraud or collusion with any other person, firm or corporation at all; that an examination has been made of the site of the work and the Contract form, with the Plans, Specifications and Special Provisions for the improvement.

(I)(We) understand that the quantities of work shown herein are approximate only and are subject to increase or decrease; that all quantities of work, whether increased or decreased within the limits specified in Mn/DOT 1903, are to be done at the unit prices shown on the attached schedule; that, at the time of opening bids, totals only will be read, but that comparison of bids will be based on the correct summation of item totals obtained from the unit prices bid, as provided in Mn/DOT 1301.

(I)(We) propose to furnish all necessary machinery, equipment, tools, labor and other means of construction and to furnish all materials specified, in the manner and at the time prescribed, all according to the terms of the Contract and Plans, Specifications, and the Special Provisions forming a part of this.

(I)(We) further propose to do all Extra Work that may be required to complete the contemplated improvement, at unit prices or lump sums to be agreed upon in writing before starting such work, or if such prices or sums cannot be agreed upon, to do such work on a Force Account basis, as provided in Mn/DOT 1904.

(I)(We) further propose to execute the form of Contract within 10 days after receiving written notice of award, as provided in Mn/DOT 1306.

(I)(We) further propose to furnish a payment bond equal to the Contract amount, and a performance bond equal to the Contract amount, with the aggregate liability of the bond(s) equal to twice the full amount of the Contract if the contract is less than or equal to five million dollars (\$5,000,000.00), or if the contract is in excess of five million dollars (\$5,000,000.00) the aggregate liability shall be equal to the amount of the contract, as security for the construction and completion of the improvement according to the Plans, Specifications and Special Provisions as provided in Mn/DOT 1305.

(I)(We) further propose to do all work according to the Plans, Specifications and Special Provisions, and to renew or repair any work that may be rejected due to defective materials or workmanship, before completion and acceptance of the Project by Lyon County.

(I)(We) agree to all provisions of Minnesota Statutes, Section 181.59.

(I)(We) further propose to begin work and to prosecute and complete the same according to the time schedule set forth in the Special Provisions for the improvement.

(I)(We) assign to Lyon County all claims for overcharges as to goods and materials purchased in connection with this Project resulting from antitrust violations that arise under the antitrust laws of the United States and the antitrust laws of the State of Minnesota. This clause also applies to subcontractors and first tier suppliers under this Contract.

**NOTICE:**

The Lyon County Highway Dept. will administer this Contract in accordance with the provisions set forth in Minnesota Statutes Section 177.44, subdivision 4, and the provisions and wage rates set forth in the Certified Prevailing Wages for Highway and Heavy Construction in the Proposal for this Contract.

The work required by this Contract may be in more than one County. Wage determinations for all pertinent Counties are included in the Proposal, and the following shall apply:

If a Contract for road or bridge construction commences in one County and uninterrupted ends in another, the highest wage rate shown for each labor code and class in any one County wage determination contained in the Proposal shall govern for all work on the entire Contract regardless of the County in which each type of work is performed.

or,

If a Contract such as guardrail, turn lanes, signing, lighting, bridge repair, or similar construction has work in two or more Counties, but none of the work is continuous and uninterrupted across a County line, the wage rate for each labor code and class shall be paid for the work performed in each County.

It shall be the Contractor's responsibility to determine the proper wage rates to be paid for each class of work on this Contract.

March 16, 1998

### **PREVAILING WAGE STATEMENT**

A recent unpublished decision of the Minnesota Court of Appeals, affirms the authority of the Minnesota Commissioner of Transportation to enforce the Minnesota Prevailing Wage Law on State Highway projects on a case-by-case basis. International Union of Operation Engineers, Local 49 vs. Minn. Dept. of Transportation, et al., Court of Appeals Case No. C6-97-1582, also see, Minn. Stat. §§ 177.43 and 177.44 (1996).

The Department of Transportation will enforce the Minnesota Prevailing Wage Law in a manner consistent with the Court of Appeal's decision notwithstanding any prior notices on this subject. A copy of the Court of Appeal's decision is available to anyone who is interested in reviewing it. Please call Charles Groshens, Labor Compliance Unit at (651) 297-5716 to receive a copy.

June 26, 2001

## **PREVAILING WAGE STATEMENT II**

On June 18, 2001, the Minnesota Department of Labor & Industry (MnL&I) published in the State Register a notice of modification and adoption of the rules as published in State Register, Volume 25, Number 14, Pages 772-778, October 2, 2000, (25 SR 772). The rules were promulgated under the Minnesota Administrative Procedures Act, Minn. Stat. Chap. 14, and affect all projects funded in whole or part with state monies that are advertised for bid 5 working days after the publication date. The rules give guidance on the application of the State Prevailing Wage Statute, Minn. Stat. § 177.41 to 177.44, as it applies to contractor's labors and mechanics working at off-site facilities, truck drivers performing hauling activities for state funded projects, and the calculation and application of truck rental rates. The truck rental rates, when certified by the MnL&I, will take effect on state funded projects advertised after the rates are published in the State Register. MnDOT will incorporate the truck rental rates into the appropriate contracts when published after they have been published in the State Register. Copies of the rules can be received by contacting the MnL&I, Labor Standards, Erik Oelker, at (651) 296-6452 or MnDOT, Labor Compliance Office, Charles Groshens, at (651) 297-5716.

**NOTICE TO BIDDERS**

The proposal wage rate is current as of the advertising date. It will be the Contractor's responsibility to bid estimated quantity prices with the most updated wage rate at the time of letting.

**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.

## LIMITATION ON USE OF CONTRACT FUNDS FOR LOBBYING

Appendix C to Part \_\_\_\_ - Contract Clause

### NEW RESTRICTIONS ON LOBBYING

(a) Definitions. As used in this clause,

"Agency", as defined in 5 U.S.C. 552(f), includes Federal Executive departments and agencies as well as independent regulatory commissions and Government corporations, as defined in 31 U.S.C. 9101(1).

"Covered Federal action" means any of the following Federal actions:

- (1) The awarding of any Federal contract;
- (2) The making of any Federal grant;
- (3) The making of any Federal loan;
- (4) The entering into of any cooperative agreement; and,
- (5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

Covered Federal action does not include receiving from an agency a commitment providing for the United States to insure or guarantee a loan.

"Indian tribe" and "tribal organization" have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B). Alaskan Natives are included under the definitions of Indian tribes in that Act.

"Influencing or attempting to influence" means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government" means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency" includes the following individuals who are employed by an agency:

- (1) An individual who is appointed to a position in the Government under title 5, U.S. Code, including a position under a temporary appointment;
- (2) A member of the uniformed services as defined in section 101(3), title 37, U.S. Code;
- (3) A special Government employee as defined in section 202, title 18, U.S. Code; and,
- (4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, title 5, U.S. Code appendix 2.

"Person" means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation" means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment" means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient" includes all contractors and subcontractors at any tier in connection with a Federal contract. The term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed" means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within one year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within one year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State" means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or instrumentality of a State, and a multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibition.

(1) Section 1352 of title 31, U.S. Code provides in part that no appropriated funds may be expended by the recipient of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The prohibition does not apply as follows:

(i) Agency and legislative liaison by Own Employees.

(A) The prohibition on the use of appropriated funds, in paragraph (1) of this section, does not apply in the case of a payment of reasonable

compensation made to an officer or employee of a person requesting or receiving a Federal activities not directly related to a covered Federal action.

- (B) For purposes of paragraph (A) of this section, providing any information specifically requested by an agency or Congress is allowable at any time.
- (C) For purposes of paragraph (A) of this section, the following agency and legislative liaison activities are allowable at any time only where they are not related to a specific solicitation for any covered Federal action:
  - (i) Discussing with an agency (including individual demonstrations) the qualities and characteristics of the person's products or services, conditions or terms of sale, and service capabilities; and,
  - (ii) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.
- (D) For purposes of paragraph (A) of this section, the following agency and legislative liaison activities are allowable only where they are prior to formal solicitation of any covered Federal action:
  - (i) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;
  - (ii) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and,
  - (iii) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Public Law 95-507 and other subsequent amendments.
- (E) Only those activities expressly authorized by paragraph (i) of this section are allowable under paragraph (i).

(ii) Professional and Technical Services by Own Employees.

- (A) The prohibition on the use of appropriated funds, in paragraph (1) of this section, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a Federal contract or an extension, continuation, renewal, amendment, or modification of a Federal contract if payment is for professional or technical services rendered directly in the preparation submission, or negotiation of any bid, proposal, or application for that Federal contract or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal contract.
- (B) For purposes of paragraph (A) of this section, "professional and technical services" shall be limited to advice and analysis directly

applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer), or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

- (C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation, or reasonably expected to be required by law or regulation, and any other requirements in the actual award documents.
- (D) Only those services expressly authorized by paragraph (ii) of this section are allowable under paragraph (ii).

(iii) Reporting for Own Employees.

No reporting is required with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(iv) Professional and technical services by Other than Own Employees.

- (A) The prohibition on the use of appropriated funds, in paragraph (1) of this section, does not apply in the case of any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action, if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal contract or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal contract.

- (B) For purposes of paragraph (A) of this section, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.
- (C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation, or reasonably expected to be required by law or regulation, and any other requirements in the actual award documents.
- (D) Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.
- (E) Only those services expressly authorized by paragraph (iv) of this section are allowable under paragraph (iv).

(c) Disclosure.

(1) Each person who requests or receives from an agency a Federal contract shall file with that agency a certification, set forth in \_\_\_\_\_, that the person has not made, and will not make, any payment prohibited by paragraph (b) of this clause.

(2) Each person who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, Standard Form-LLL, "Disclosure of Lobbying Activities," if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under paragraph (b) of this clause if paid for with appropriated funds.

(3) Each person shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under paragraph (2) of this section. An event that materially affects the accuracy of this information reported includes:

- (i) A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or
- (ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or,
- (iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(4) Any person who requests or receives from a person referred to in paragraph (1) of this section a subcontract exceeding \$100,000 at any tier under a Federal contract shall file a certification, and a disclosure form, if required, to the next tier above.

(5) All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the person referred to in paragraph (1) of this section. That person shall forward all disclosure forms to the agency.

(d) Agreement. In accepting any contract resulting from this solicitation, the person submitting the offer agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (b) of this clause shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 of each such expenditure.

(2) Any person who fails to file or amend the disclosure form to be filed or amended if required by this clause, shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 or each such failure.

(3) Contractors may rely without liability on the representations made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause is to be interpreted to make allowable or reasonable any costs which would be unallowable or unreasonable in accordance with Part 31 of the Federal Acquisition Regulation. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any of the provisions of Part 31 of the Federal Acquisition Regulation.

(End of Clause)

BILLING CODE 3110-01-M

## NOTICE

By signing and submitting this proposal, the prospective primary bidder is providing the certification set out below. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why he/she cannot provide the certification set out below. Certification or explanation will be considered concerning Lyon County's determination whether to enter this transaction. Failure of the prospective primary participant to furnish a certification or a written explanation why he/she cannot provide the certification shall disqualify such people from participation in this transaction.

The certification in this clause is a material representation of fact upon which reliance was placed when Lyon County decided to enter this transaction. If it is later decided that the prospective primary participant knowingly rendered an erroneous certification, beyond other remedies available to the Federal Government, Lyon County may end this transaction for cause of default. The prospective primary participant shall provide immediate written notice to Lyon County if any time the prospective primary participant learns that his/her certification was erroneous when submitted or has become erroneous due to changed circumstances.

The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded as used in this clause have the meanings set out in the Definition and Coverage sections of the rules carrying out Federal Executive Order 12549 dated February 18, 1986. Bidders may contact Mn/DOT for assistance in obtaining a copy of these regulations.

The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered, he/she shall not knowingly enter any lower tier covered transaction with a person who is debarred, suspended, declared in-eligible, or voluntarily excluded from participation in this covered transaction unless authorized by Lyon County and Mn/DOT. Nothing contained in this shall be construed to require establishment of system of records to render in good faith the certification required by this clause. The knowledge and information of a participant are not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The prospective primary participant further agrees by submitting this proposal that he/she will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction" provided by Mn/DOT without modification in all solicitations for lower tier covered transactions. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that he/she and his/her principals are not de-barred, suspended, ineligible, or voluntarily excluded, from the covered transaction by any Federal agency, unless he/she knows that the certification is erroneous. A participant may decide the method and frequency by which he/she decides the eligibility of his/her principals.

Except as authorized by Mn/DOT, if a participant in a covered transaction knowingly enters a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, beyond other remedies available to the Federal Government, Lyon County may end this transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other  
Responsibility Matters-Primary Covered Transactions

(I)(We) certify that the firm or any person associated with it in the capacity of owner, partner, director, officer, project director, manager auditor, or any position involving the administration of Federal funds:

- . are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntary excluded from covered transactions by any Federal department or agency;
- . have not within the three-year period preceding this proposal been convicted of or had a civil judgment rendered for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; or violation of Federal or State antitrust statutes; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements; or receiving stolen property;
- . are not presently indicted for or otherwise criminally or civilly charged by a governmental entity with commission of any of the above-enumerated offenses;
- . have not within a three-year period preceding this application/proposal had one or more transactions (Federal, State, or local) terminated for cause or default.

Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participants shall attach an explanation to this proposal.

(I)(We) agree that (my)(our) signatures on this proposal form certification of "status" under penalty of perjury under the laws of the United States.

**NOTICE TO BIDDERS**  
**TRAFFIC CONTROL**  
**PREVAILING WAGE COVERAGE**

The following defines the United States Department of Labor's interpretation of contract labor provision coverage for employees who work for traffic control companies and /or perform traffic control duties.

**Non-covered Supplier Designated Duties:**

Employees of bona fide "Material Persons/Suppliers" are not covered. A Material Person/Supplier is limited to supply, delivery, and routine maintenance (once a week) of barricades, cones, flashers, etc. to the job site.

The following functions, except as qualified in "6." below, do not come under the prevailing wage requirements of the contracts:

1. Supply and delivery of traffic control devices such as barricades, cones, barrels, flashers and signboards.
2. Routine and periodic maintenance service (usually once a week).
3. Removal of equipment from job site.
4. In connection with delivery, they may drop the equipment at a central stockpile location or at various locations along the project. Employees of company may set-up the equipment as long as such set-up is by dropping barrels and cones from the back of a moving truck.
5. Maintenance would consist of inspecting and cleaning the equipment, replacing broken or lost equipment, replacing barricades knocked down or out of line, and changing light bulbs and barricades.
6. If an employee spends more than 20% of their workweek performing the above duties on a Davis-Bacon (Federal-Aid) project or other Davis-Bacon (Federal-Aid) projects, prevailing wage rates would apply for the time so spent.

## NOTICE TO BIDDERS

This federally funded project is being administered by a city/county agency. As such the Department of Transportation Debarments located at:

<http://www.dot.state.mn.us/pre-letting/prov/order/suspension.pdf> apply to this project.

Since the project is financed in whole or in part with federal funds, refer to the following website for vendors debarred by federal government agencies: <https://www.epls.gov/>.

The Department of Administration Debarment list does NOT apply to this project.

**NOTICE TO BIDDERS**  
**SUSPENSIONS/DEBARMENTS**

January 30, 2013  
Page 1 of 2

**DEPARTMENT OF TRANSPORTATION**

**NOTICE OF DEBARMENT**

**NOTICE IS HEREBY GIVEN** that MnDOT has ordered that the following vendors be debarred for a period of three (3) years, effective February 24, 2010 until February 24, 2013:

- Joseph Edward Riley, Morris, MN
- John Thomas Riley, Morris, MN

**NOTICE IS HEREBY GIVEN** that MnDOT has ordered that the following vendors be debarred for a period of three (3) years, effective March 25, 2011 until March 25, 2014:

- Philip Joseph Franklin, Leesburg, VA
- Franklin Drywall, Inc. and its affiliates, Little Canada, MN
- Master Drywall, Inc. and its affiliates, Little Canada, MN

**NOTICE OF SUSPENSION**

**NOTICE IS HEREBY GIVEN** that the Department of Transportation ("MnDOT") has ordered that the following vendors be suspended for a period of sixty (60) days, effective January 30, 2013 until March 31, 2013:

- Marlon Louis Danner and his affiliates, South St. Paul, MN
- Danner, Inc. and its affiliates, South St. Paul, MN
- Bull Dog Leasing, Inc. and its affiliates, Inver Grove Heights, MN
- Danner Family Limited Partnership and its affiliates, South St. Paul, MN
- Ell-Z Trucking, Inc. and its affiliates, South St. Paul, MN
- Danner Environmental, Inc. and its affiliates, South St. Paul, MN

Minnesota Statute section 161.315 prohibits the Commissioner, counties, towns, or home rule or statutory cities from awarding or approving the award of a contract for goods or services to a person who is suspended or debarred, including:

- 1) any contract under which a debarred or suspended person will serve as a subcontractor or material supplier,
- 2) any business or affiliate which the debarred or suspended person exercises substantial influence or control, and
- 3) any business or entity, which is sold or transferred by a debarred person to a relative or any other party over whose actions the debarred person exercises substantial influence or control, remains ineligible during the duration of the seller's or transfer's debarment.

NOTICE TO BIDDERS

SUSPENSIONS/DEBARMENTS

January 30, 2013

Page 2 of 2

**DEPARTMENT OF ADMINISTRATION**

As of the date of this notice and in accordance with Minnesota Rules 1230.1150, the Minnesota Department of Administration has debarred and disqualified the following persons and businesses from entering into or receiving a State of Minnesota contract:

NAME	DATE OF DEBARMENT
Best Used Trucks of Minnesota, Inc. 635 Marin Ave. Crookston, MN 56716	Nov. 20, 2012 through Nov. 20, 2015 (eligible for reinstatement on Nov. 20, 2016)
Bull Dog Leasing, Inc. 7854 Danner Court Inver Grove Heights, MN 55076	Aug. 30, 2011 through Aug. 30, 2014 (eligible for reinstatement on Aug. 30, 2015)
Danner Family Ltd. Ptnship. 843 Hardman Ave. S. S. St. Paul, MN 55075	Aug. 30, 2011 through Aug. 30, 2014 (eligible for reinstatement on Aug. 30, 2015)
Danner, Inc. 843 Hardman Ave. S. S. St. Paul, MN 55075	Aug. 30, 2011 through Aug. 30, 2014 (eligible for reinstatement on Aug. 30, 2015)
Ell-Z Trucking, Inc. 843 Hardman Ave. S. S. St. Paul, MN 55075	Aug. 30, 2011 through Aug. 30, 2014 (eligible for reinstatement on Aug. 30, 2015)
Franklin Drywall, Inc. 43279 Fieldsview Crt. Leesburg, VA 20176	March 25, 2011 through March 25, 2014 (eligible for reinstatement on March 25, 2015)
Master Drywall, Inc. 43279 Fieldsview Crt. Leesburg, VA 20176	March 25, 2011 through March 25, 2014 (eligible for reinstatement on March 25, 2015)
Watab Hauling Co. Gary Francis Bauerly 9695 Deerwood Rd. NE Rice, MN 56367	Jan. 14, 2013 through Jan. 14, 2016 (eligible for reinstatement on Jan. 14, 2017)

Minnesota Administrative Rule part 1230.1150, subpart 6 requires the Materials Management Division to maintain a master list of all suspensions and debarments. The master list must retain all information concerning suspensions and debarments as a public record for at least three (3) years following the end of a suspension or debarment. Refer to the following website for the master list: <http://www.mmd.admin.state.mn.us/debarredreport.asp>.

If the project is financed in whole or in part with federal funds, refer to the following website for vendors debarred by federal government agencies: <http://sam.gov>.

**FEDERALLY FUNDED CONSTRUCTION CONTRACTS**  
**SPECIAL PROVISIONS DIVISION A - LABOR**  
**February 1, 2006**

**I. PREAMBLE**

It is in the public interest that public buildings and other public works projects be constructed and maintained by the best means and the highest quality of labor reasonably available and that persons working on public works projects be compensated according to the real value of the services they perform.<sup>1</sup>

Therefore, the department shall administer this contract pursuant to the Federal Davis-Bacon and Related Acts, Required Contract Provisions Federal-Aid Construction Contracts, Form-1273, U.S. Department of Labor's Field Operations Handbook, State of Minnesota Statutes and Rules, MN/DOT's Standard Specifications for Construction, MN/DOT's Contract Administration Manual and MN/DOT's State Aid Manual.

**II. DEFINITIONS<sup>2</sup>**

- A. **Contract**: The written agreement between the contracting authority and the prime contractor setting forth their obligations, including, but not limited to, the performance of the work, the furnishing of labor and materials, the basis of payment, and other requirements contained in the contract documents.
- B. **Contracting Authority**: The political subdivision, governmental body, board, department, commission, or officer making the award and execution of contract as the party of the first part.
- C. **Contractor**: The term "contractor" in these provisions shall include the prime contractor, subcontractor, agent, or other person doing or contracting to do all or part of the work under this contract.<sup>3</sup>
- D. **Department**: The Department of Transportation of the State of Minnesota, or the political subdivision, governmental body, board, commission, office, department, division, or agency constituted for administration of the contract work within its jurisdiction.
- E. **First Tier Subcontractor**: An individual, firm, corporation, or other entity to which the prime contractor sublets part of the contract.
- F. **Independent Truck Owner/Operator (ITO)**: An individual, partnership, or principal stockholder of a corporation who owns or holds a vehicle under lease and who contracts that vehicle and the owner's services to an entity that provides construction services to a public works project.<sup>4</sup>
- G. **Laborer or Mechanic**: A worker in a construction industry labor class identified in or pursuant to Minnesota Rules 5200.1100, Master Job Classifications.<sup>5</sup>
- H. **Plan**: The plan, profiles, typical cross-sections, and supplemental drawings that show the locations, character, dimensions, and details of the work to be done.
- I. **Prime Contractor**: The individual, firm, corporation, or other entity contracting for and undertaking prosecution of the prescribed work; the party of the second part to the contract, acting directly or through a duly authorized representative.

<sup>1</sup> Minnesota Statute 177.41

<sup>2</sup> MN/DOT Standard Specifications for Construction, Section 1103

<sup>3</sup> Minnesota Statute 177.44, Subdivision 1

<sup>4</sup> Minnesota Rules 5200.1106, Subpart 7(A)

<sup>5</sup> Minnesota Rules 5200.1106, Subpart 5(A)

- J. **Project:** The specific section of the highway, the location, or the type of work together with all appurtenances and construction to be performed under the contract.
- K. **Second Tier Subcontractor:** An individual, firm, corporation, or other entity to which a first tier subcontractor sublets part of the contract.
- L. **Special Provisions:** Additions and revisions to the standard and supplemental specifications covering conditions peculiar to an individual project.
- M. **Specifications:** A general term applied to all directions, provisions, and requirements pertaining to performance of the work.
- N. **Subcontractor:** An individual, firm, corporation, or other entity to which the prime contractor or subcontractor sublets part of the contract.
- O. **Substantially In Place:** Mineral aggregate is deposited on the project site directly or through spreaders where it can be spread from or compacted at the location where it was deposited.<sup>6</sup>
- P. **Trucking Broker:** An individual or business entity, the activities of which include, but are not limited to: contracting to provide trucking services in the construction industry to users of such services, contracting to obtain such services from providers of trucking services, dispatching the providers of the services to do work as required by the users of the services, receiving payment from the users in consideration of the trucking services provided and making payment to the providers for the services.<sup>7</sup>
- Q. **Trucking Firm/Multiple Truck Owner (MTO):** Any business entity that owns more than one vehicle and hires the vehicles out for services to brokers or contractors on public works projects.<sup>8</sup>
- R. **Work:** The furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the project and the carrying out of all the duties and obligations imposed by the contract upon the contractor. Also used to indicate the construction required or completed by the contractor.

### III. SCOPE – SPECIAL PROVISIONS DIVISION A & CONTRACT

- A. These provisions shall apply to this contract, which is funded in whole or in part with federal funds<sup>9</sup> and state funds.<sup>10</sup>
- B. These provisions shall apply to the prime contractor and all subcontractors contracting to do all or part of the work under this contract.<sup>11</sup>
- C. The provisions established in this document do not necessarily represent all federal, state, and local laws, ordinances, rules and regulations. It is the responsibility of the prime contractor to inform itself and all subcontractors about other regulations that may be applicable to this contract.
- D. The prime contractor is responsible to ensure that each subcontractor performing work under this contract receives copies of all required contract provisions.<sup>12</sup> These provisions shall be incorporated into written subcontracts and must be displayed on the poster board.<sup>13</sup>
- E. The department shall administer this contract in accordance with all applicable federal regulations, state statutes and rules<sup>14</sup>, along with the plans, specifications and provisions, which are incorporated into and found elsewhere in this contract.

<sup>6</sup> Minnesota Rules 5200.1106, Subpart 5(C)

<sup>7</sup> Minnesota Rules 5200.1106, Subpart 7(C)

<sup>8</sup> Minnesota Rules 5200.1106, Subpart 7(B)

<sup>9</sup> 29 CFR Part 5.5(a)

<sup>10</sup> Minnesota Statute 177.41

<sup>11</sup> Minnesota Statute 177.44, Subdivision 1

<sup>12</sup> 29 CFR Part 5.5(a)(6)

<sup>13</sup> Minnesota Statute 177.44, Subdivision 5

- F. An unpublished decision from the Minnesota Court of Appeals affirms the authority of the Minnesota Commissioner of Transportation to enforce the Minnesota Prevailing Wage Law on a case-by-case basis.<sup>15</sup> Therefore, the department shall provide enforcement in a manner consistent with the decision notwithstanding any prior notices on the subject.
- G. For additional information refer to: [www.dot.state.mn.us/const/labor/](http://www.dot.state.mn.us/const/labor/).

#### IV. PAYROLLS AND STATEMENTS

- A. Each week, in which work was performed under this contract, all contractors shall submit a payroll statement to the department.<sup>16</sup> Each statement shall be submitted within seven days after the regular payment date of the payroll period.<sup>17</sup> Each payroll submitted shall include all employees that performed work under this contract and provide at a minimum the following information:<sup>18</sup>
  - 1. Contractor's name, address, and telephone number.
  - 2. State project number.
  - 3. Payroll report number.
  - 4. Project location.
  - 5. Workweek ending date.
  - 6. Name, social security number, and home address for each employee.
  - 7. Labor classification(s) and/or three-digit code for each employee.
  - 8. Hourly straight time and overtime wage rates paid to each employee.
  - 9. Daily and weekly hours worked in each labor classification, including overtime hours for each employee.
  - 10. Authorized legal deductions for each employee.
  - 11. Project gross amount, weekly gross amount and net wages paid to each employee.
- B. Payroll records may be submitted in any form provided it includes all the information contained in Subpart A (1 - 11) of this section.<sup>19</sup> However, contractors needing a payroll form may utilize the "front side" of the U.S. Department of Labor's, WH-347 - Payroll Form. This form is available by visiting the Labor Compliance website.<sup>20</sup>
- C. All payroll records must be accompanied with a completed and signed MN/DOT, 21658 - Statement of Compliance Form.<sup>21</sup>
- D. The prime contractor is responsible for assuring that its payroll records and those of all subcontractors include all employees that performed work under this contract and accurately reflect the hours worked, regular and overtime rates of pay and classification of work performed.<sup>22</sup>
- E. The prime contractor is responsible to maintain all certified payroll records, including those of all subcontractors, throughout the course of a construction project and retain all records for a period of three years after the final contract voucher has been issued.<sup>23</sup>

<sup>14</sup> Minnesota Rules 8820.3000, Subpart 2

<sup>15</sup> Minnesota Court of Appeals Case Number: C6-97-1582

<sup>16</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section V, Subpart 2(c)

<sup>17</sup> 29 CFR Part 3.4(a)

<sup>18</sup> Minnesota Rules 5200.1106, Subpart 10

<sup>19</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section V, Subpart 2(c)

<sup>20</sup> [www.dot.state.mn.us/const/labor/](http://www.dot.state.mn.us/const/labor/)

<sup>21</sup> Minnesota Rules 5200.1106, Subpart 10

<sup>22</sup> 29 CFR Part 5.5(a)(6)

<sup>23</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section V, Subpart 2(a)

- F. At the end of each pay period, each contractor shall provide every employee, in writing, an accurate detailed earnings statement.<sup>24</sup>
- G. Upon request from the U.S. Department of Labor (U.S. DOL), Federal Highway Administration (FHWA), Minnesota Department of Labor and Industry (MN/DLI) or the Department, the prime contractor shall promptly furnish copies of payroll records for its workers and those of all subcontractors, along with other records, deemed appropriate by the requesting agency to determine compliance with these contract provisions.<sup>25</sup>
- H. At the department's discretion, the project engineer may administer the submission of payroll records according to MN/DOT's Payroll Maintenance Program. The guidelines for the implementation and administration of this program are outlined in the **MN/DOT Contract Administration Manual, Section A(4)(d)**. The program has not been approved for federal-aid contracts administered by local units of government and will not be allowed for such contracts. However, the program may be utilized for local state-aid contracts.
- I. If, after written notice, the prime contractor fails to submit its payroll reports and certification forms and those of any subcontractor, the department may implement the actions prescribed in section XVI (NON-COMPLIANCE AND ENFORCEMENT).

V. WAGE RATES

- A. The prime contractor is responsible to ensure that its workers and those of all subcontractors are compensated according to the U.S. DOL federal general decision(s) and the MN/DLI state prevailing wage determination(s) incorporated into and found elsewhere in this contract, whichever is greater. All contractors shall pay each worker the required minimum total hourly wage rate for all hours worked on the project and for the appropriate classification of labor.
  - 1. Federal building, heavy and highway general decisions are specific to the county in which the construction work is being performed; a decision does not cross county or state lines.<sup>26</sup> If a project extends into more than one county or state, the applicable wage decision for each county or state shall be incorporated into and found elsewhere in this contract.
  - 2. State highway and heavy wage determinations are specific to ten separate regions throughout the state of Minnesota. If a project extends into more than one region, the applicable wage decision for each region shall be incorporated into and found elsewhere in this contract.
    - a. If this contract contains multiple highway and heavy wage determinations, there shall be only one standard of hours of labor and wage rates.<sup>27</sup>
  - 3. State commercial wage determinations are specific to the county in which the construction work is being performed. If a project extends into more than one county, the applicable wage determination for each county shall be incorporated into and found elsewhere in this contract.
    - a. If this contract contains multiple commercial wage determinations, there shall be only one standard of hours of labor and wage rates.<sup>28</sup>
- B. Wage rates listed in the federal and/or state wage determination(s) contain two components: the hourly basic rate and the fringe rate; together they equal the total prevailing wage rate. A

<sup>24</sup> Minnesota Statute 181.032

<sup>25</sup> Minnesota Statute 177.44, Subdivision 7 and Minnesota Rules 5200.1106, Subpart 10

<sup>26</sup> 29 CFR Part 1.7(a)

<sup>27</sup> Minnesota Statute 177.44, Subdivision 4

<sup>28</sup> Minnesota Statute 177.44, Subdivision 4

contractor shall compensate a worker at a minimum, a combination of cash and fringe benefits equaling the total prevailing wage rate.<sup>29</sup>

- C. The applicable certified wage decisions incorporated into and found elsewhere in this contract remain in effect for the life of this contract. The wage decisions do not necessarily represent the workforce that can be obtained at the rates certified by the U.S. DOL or MN/DLI. It is the responsibility of the prime contractor and any subcontractor to inform themselves about local labor conditions and prospective changes or adjustments to the wage rates. No increase in this contract price shall be allowed or authorized due to wage rates that exceed those incorporated into this contract.
- D. A contractor shall not reduce a worker's private, regular rate of pay when the wage rate certified by the U.S. DOL or MN/DLI is less than the worker's normal hourly wage.<sup>30</sup>
- E. From the time a worker is required to report for duty at the project site until the worker is allowed to leave the site, no deductions shall be made from the worker's hours for any delays of less than twenty consecutive minutes.<sup>31</sup>
  - I. In situations where a delay may exceed twenty consecutive minutes and the contractor requires a worker to remain on the premises or so close to the premises that the worker cannot use the time effectively for the worker's own purposes, the worker is considered "on-call"<sup>32</sup> and shall be compensated in accordance with Subpart B of this section, unless the worker is allowed or required to leave the project site.
- F. A contractor making payment to an employee, laborer, mechanic, worker, or truck owner-operator shall not accept a rebate for the purpose of reducing or otherwise decreasing the value of the compensation paid.<sup>33</sup>
- G. Any employee who knowingly permits a contractor to pay less than the total prevailing wage or gives up any part of the compensation to which the employee is entitled may be subject to penalties.<sup>34</sup>

## VI. BONA FIDE FRINGE BENEFITS

- A. A "funded" fringe benefit plan is one that allows the contractor to make irrevocable contributions on behalf of an employee to a financially responsible trustee, third person, fund, plan or program, without prior approval from the U.S. Department of Labor. Types of "funded" fringe benefits may include, but are not limited to: pension, health and life insurance.<sup>35</sup>
- B. An "unfunded" fringe benefit plan or program is one that allows the contractor to furnish an in-house benefit on behalf of an employee. The cost to provide the benefit is funded from the contractor's general assets rather than funded by contributions made to a trustee, third person, fund, plan or program. Types of "unfunded" fringe benefits may include, but are not limited to: holiday plans, vacation plans and sick plans.<sup>36</sup>
- C. Credit toward the total prevailing wage rate shall be determined for each individual employee and is allowed for bona fide fringe benefits that:<sup>37</sup>
  - 1. include contributions irrevocably made by a contractor on behalf of an employee to a financially responsible trustee, third person, fund, plan, or program;

<sup>29</sup> Minnesota Statute 177.42, Subdivision 6

<sup>30</sup> Minnesota Statute 181.03, Subdivision 1(2)

<sup>31</sup> Minnesota Rules 5200.0120, Subpart 1

<sup>32</sup> Minnesota Rules 5200.0120, Subpart 2

<sup>33</sup> Minnesota Rules 5200.1106, Subpart 6

<sup>34</sup> Minnesota Statute 177.44, Subdivision 6

<sup>35</sup> 29 CFR Parts 5.26 and 5.27

<sup>36</sup> 29 CFR Part 5.28

<sup>37</sup> 29 CFR Part 5.23

2. are legally enforceable;
  3. have been communicated in writing to the employee; and
  4. are made available to the employee once he/she has met all eligibility requirements.
- D. No credit shall be allowed for benefits required by federal, state or local law, such as: worker's compensation, unemployment compensation, and social security contributions.<sup>38</sup>
- E. Upon request from the Minnesota Department of Labor and Industry (MN/DLI) or the Department, the prime contractor shall promptly furnish copies of fringe benefit records for its workers and those of all subcontractors, along with other records, deemed appropriate by the requesting agency to determine compliance with these contract provisions.<sup>39</sup>
- F. In addition to the requirements set forth in **Subpart C** of this section, it is the responsibility of the prime contractor and any subcontractor to inform themselves about other federal and state fringe benefit regulations that may be applicable to this contract.
- G. Contractors shall submit a completed and signed **MN/DOT, 21658 - Statement of Compliance Form**, identifying any fringe contributions made on behalf of a worker.<sup>40</sup> The form must be submitted in accordance with section **IV (PAYROLLS AND STATEMENTS)**, **Subparts A and C**.
- H. Pursuant with *Minnesota Statute 181.74, Subdivision 1*, a contractor that is obligated to deposit fringe benefit contributions on behalf of its employees into a financially responsible trustee, third person, fund, plan, or program and fails to make timely contributions may be guilty of a gross misdemeanor. A contractor found in violation of the above-mentioned statute shall compel the department to take such actions as prescribed in section **XVI, (NON-COMPLIANCE AND ENFORCEMENT)**.

## VII. OVERTIME

- A. A contractor shall not permit or require a worker to work in excess of 40 hours per week unless the worker is compensated at a rate not less than 1-1/2 times the basic hourly rate as determined by the United States Secretary of Labor.<sup>41</sup>
- B. A contractor shall not permit or require a worker to work longer than the prevailing hours of labor unless the worker is paid for all hours in excess of the prevailing hours at a rate of at least 1-1/2 times the hourly basic hourly rate of pay.<sup>42</sup> The prevailing hours of labor is defined as not more than 8 hours per day or more than 40 hours per week.<sup>43</sup>
- C. In addition to the requirements set forth in **Subparts A and B** of this section, it is the responsibility of the prime contractor and any subcontractor to inform themselves about other federal and state overtime regulations that may be applicable to this contract.

## VIII. LABOR CLASSIFICATIONS

- A. All contractors shall refer to the federal general decision or the state wage determination incorporated into and found elsewhere in this contract to obtain an applicable job classification. Workers must be classified and compensated for the actual work performed regardless of the worker's skill level.<sup>44</sup> The prime contractor shall ensure that all contractors adhere to the following requirements:

<sup>38</sup> 29 CFR Part 5.29(f)

<sup>39</sup> Minnesota Statute 177.44, Subdivision 7 and Minnesota Rules 5200.1106, Subpart 10

<sup>40</sup> Minnesota Rules 5200.1106, Subpart 10

<sup>41</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 7

<sup>42</sup> Minnesota Statute 177.44, Subdivision 1

<sup>43</sup> Minnesota Statute 177.42, Subdivision 4

<sup>44</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 1(a)

1. Prior to performing work under this contract, all contractors shall review the federal general decision and complete a U.S. DOL, SF-1444 - Request for Authorization of Additional Classification and Wage Rate Form for any labor classification missing from the decision and submit it to the MN/DOT Labor Compliance Unit for processing.<sup>45</sup>
2. If a contractor cannot determine an appropriate job classification, state law requires that the worker be assigned a job classification that is the "same or most similar".<sup>46</sup> Contractors should refer to the Master Job Classification List<sup>47</sup> to obtain an applicable labor classification. Clarification regarding labor classifications should be directed to the MN/DLI or the MN/DOT Labor Compliance Unit.

**IX. INDEPENDENT CONTRACTORS, OWNERS, SUPERVISORS AND FOREMAN**

- A. An independent contractor performing work as a laborer or mechanic is subject to the contract prevailing wage requirements<sup>48</sup> for the classification of work performed and shall adhere to the requirements established in sections IV (PAYROLLS AND STATEMENTS); V (WAGE RATES); VI (FRINGE BENEFITS); VII (OVERTIME) and VIII (LABOR CLASSIFICATIONS). In order to ensure compliance, the department may examine the subcontract agreement to determine if the bid price submitted covers the applicable prevailing wage rate for the number of hours worked, along with other records, deemed appropriate by the department.<sup>49</sup>
- B. Pursuant with state regulations, owners, supervisors and foreman performing work under the contract<sup>50</sup> shall be compensated in accordance with section V (WAGE RATES). Furthermore, the prime contractor and any subcontractor shall adhere to the requirements established in sections IV (PAYROLLS AND STATEMENTS); VI (FRINGE BENEFITS); VII (OVERTIME) and VIII (LABOR CLASSIFICATIONS).
- C. Pursuant with federal regulations, the contract labor provisions do not apply to owners, supervisors or foreman whose duties are primarily associated with bona fide administrative, executive or clerical positions. These individuals are not deemed to be laborers or mechanics.<sup>51</sup>
  1. However, working owners, supervisors and/or foreman who devote more than 20 percent of their time during a workweek to laborer or mechanic duties are considered laborers or mechanics for the time so spent and are subject to the requirements established in sections IV (PAYROLLS AND STATEMENTS); V (WAGE RATES); VI (FRINGE BENEFITS); VII (OVERTIME) and VIII (LABOR CLASSIFICATIONS).

**X. APPRENTICES, TRAINEES AND HELPERS**

- A. An apprentice is not subject to the federal and/or state wage decisions incorporated into and found elsewhere in this contract, provided the contractor can demonstrate compliance with Subparts (1 - 4) of this section:<sup>52</sup>
  1. The apprentice is performing the work of his/her trade.
  2. The apprentice is registered with the U.S. DOL Bureau of Apprenticeship and Training or MN/DLI Division of Voluntary Apprenticeship.
  3. The apprentice is compensated according to the rate specified in the program for the level of progress.

<sup>45</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 2

<sup>46</sup> Minnesota Statute 177.44, Subdivision 1

<sup>47</sup> Minnesota Rules 5200.1100

<sup>48</sup> 29 CFR Part 5.2(o) and Minnesota Statute 177.41

<sup>49</sup> Minnesota Statute 177.44, Subdivision 7 and Minnesota Rules 5200.1106, Subpart 10

<sup>50</sup> Minnesota Statute 177.44, Subdivision 1

<sup>51</sup> 29 CFR Part 5.2(m)

<sup>52</sup> Minnesota Rules 5200.1070

4. The ratio of apprentices to journeyman workers on the project is not greater than the ratio permitted for the contractor's entire work force under the registered program.<sup>53</sup>
- B. A trainee is not subject to the federal general decision incorporated into and found elsewhere in this contract, provided the contractor can demonstrate compliance with Subparts (1 - 4) of this section:<sup>54</sup>
1. The trainee is performing the work of his/her trade.
  2. The trainee is registered with the U.S. DOL Employment and Training Administration.
  3. The trainee is compensated according to the rate specified in the program for the level of progress.
  4. The ratio of trainees to journeyman workers on the project is not greater than the ratio permitted under the program.
  5. All hours worked in excess of the prescribed hours allowed under the program and/or this contract shall be paid at the journeyman wage rate incorporated into and found elsewhere in this contract.
  6. A trainee is not exempt under state law; the contractor shall assign the trainee a job classification that is the "same or most similar"<sup>55</sup> and compensate the trainee for the actual work performed regardless of the trainee's skill level, unless the trainee is:<sup>56</sup>
    - a. employed and registered in a bona-fide apprenticeship program; or
    - b. employed in the first 90 days of probationary employment as an apprentice, is not registered in the apprenticeship program, but has been certified by the proper government authorities to be eligible for probationary employment as an apprentice.
- C. A helper may perform work only if the helper classification is specified and defined in the federal general decision incorporated into and found elsewhere in this contract or is approved pursuant to the federal conformance procedure:<sup>57</sup>
1. A helper is not exempt under state law; a contractor shall assign the helper a job classification that is the "same or most similar"<sup>58</sup> and compensate the helper for the actual work performed regardless of the helper's skill level.<sup>59</sup>
- D. If a contractor fails to demonstrate compliance with the terms established in Subparts A - C of this section, the contractor shall compensate the worker not less than the applicable total prevailing wage rate for the actual work performed.<sup>60</sup>

## XI. SUBCONTRACTING PART OF THIS CONTRACT<sup>61</sup>

- A. If the prime contractor intends to sublet any portion of this contract, it shall complete and submit a MN/DOT, TP-21834, Request To Sublet Form to the project engineer 10 days prior to the first day of work for any subcontractor.
- B. The prime contractor shall not subcontract any portion of this contract without prior written consent from the project engineer.

<sup>53</sup> MN/DOLI Division of Apprenticeship - April 6, 1995 Memorandum from Jerry Briggs, Director

<sup>54</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 4(b)

<sup>55</sup> Minnesota Statute 177.44, Subdivision 1

<sup>56</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 1(a)

<sup>57</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 4(c)

<sup>58</sup> Minnesota Statute 177.44, Subdivision 1

<sup>59</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 1(a)

<sup>60</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 4(a)(b)(c)

<sup>61</sup> MN/DOT Standard Specifications for Construction, Section 1801

- C. The prime contractor's organization shall perform work amounting to not less than 40 percent of the total original contract cost. However, contracts with Disadvantaged Business Enterprise (DBE) or Targeted Group Business (TGB) established goals, or both, the contractor's organization shall perform work amounting to not less than 30 percent of the total original contract cost.
- D. A first tier subcontractor shall not subcontract any portion of its work under this contract unless approved by the prime contractor and the project engineer. In addition, a first tier subcontractor may only subcontract up to 50% of its original subcontract.
- E. A second tier subcontractor shall not subcontract any portion of its work under this contract.
- F. Written consent to subcontract any portion of this contract does not relieve the prime contractor of liabilities and obligations under the contract and bonds.
- G. Contractors shall not subcontract with or purchase materials or services from a debarred or suspended person.<sup>62</sup>

## XII. POSTER BOARDS

- A. The prime contractor shall construct and display a poster board, which contains all required posters, is legible and is accessible to all workers from the first day of work until the project is 100 percent complete.<sup>63</sup> The prime contractor is not allowed to place a poster board at an off-site location.
  - 1. The prime contractor can obtain the required posters by contacting MN/DOT at (651) 366-3091. The prime contractor will need to furnish its name, mailing address, the type of posters (federal-aid) and the quantity needed.

## XIII. EMPLOYEE INTERVIEWS

- A. At any time the prime contractor shall permit representatives from the U.S. DOL, FHWA, MN/DLI, or the Department to interview its workers and those of any subcontractor during working hours on the project.<sup>64</sup>

## XIV. TRUCKING / OFF-SITE FACILITIES

- A. The prime contractor is responsible to ensure that its workers and those of all subcontractors are compensated in accordance with the federal wage decision incorporated into and found elsewhere in this contract for the following work duties:
  - 1. The processing or manufacturing of material, including the hauling of material to and from an immediately adjacent, dedicated off-site facility.<sup>65</sup>
  - 2. The hauling of any or all stockpiled or excavated materials on the project work site to other locations on the same project.<sup>66</sup>
- B. The prime contractor is responsible to ensure that its workers and those of all subcontractors, are compensated in accordance with the state wage determination incorporated into and found elsewhere in this contract for the following work duties:
  - 1. The processing or manufacturing of material, including the hauling of material to and from a prime contractor's material operation that is not a separate commercial establishment.<sup>67</sup>

<sup>62</sup> Minnesota Statute 161.315, Subdivision 3(3)

<sup>63</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 1(a)

<sup>64</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section V, Subpart 2(g)

<sup>65</sup> 29 CFR Part 5.2(l)(2)

<sup>66</sup> 29 CFR Part 5.2(j)(1)

<sup>67</sup> ALJ Findings of Fact, Conclusions of Law, and Recommendation, Conclusions (7), Case #12-3000-11993-2

2. The processing or manufacturing of material, including the hauling of material to and from an off-site material operation that is not considered a commercial establishment.<sup>68</sup>
  3. The hauling of any or all stockpiled or excavated materials on the project work site to other locations on the same project even if the truck leaves the work site at some point.<sup>69</sup>
  4. The delivery of materials from a non-commercial establishment to the project and the return haul.<sup>70</sup>
  5. The delivery of materials from another construction project site to the public works project and the return haul, either empty or loaded. Construction projects are not considered commercial establishments.<sup>71</sup>
  6. The hauling required to remove any materials from the project to a location off the project site and the return haul, either empty or loaded from other than a commercial establishment.<sup>72</sup>
  7. The delivery of mineral aggregate materials from a commercial establishment, which is deposited "substantially in place" and the return haul, either empty or loaded.<sup>73</sup>
- C. The work duties prescribed in Subpart A (1 - 2) and Subpart B (1 - 7) of this section do not represent all possible hauling activities and/or other work duties that may be performed under this contract. It is the responsibility of the prime contractor to inform itself and all subcontractors about other applicable job duties that may be subject to this contract labor provisions.
- D. A contractor acquiring trucking services from an ITO, MTO and/or Truck Broker to perform and/or provide "covered" hauling activities shall comply with the payment of the certified state truck rental rates,<sup>74</sup> which are incorporated into and found elsewhere in this contract.
1. Each month, in which hauling activities were performed under this contract, the prime contractor and all subcontractors shall submit a **MN/DOT, TP-90550 - Month-End Trucking Report** and **MN/DOT, TP-90551 - Statement of Compliance Form**, along with each ITOs, MTOs and/or Truck Brokers reports to the department.<sup>75</sup> The specifications regarding the dates for submission can be found near the bottom of the **MN/DOT, TP-90551 - Statement of Compliance Form**.
- E. A Truck Broker contracting to provide trucking services in the construction industry may charge a reasonable broker fee to the provider of trucking services.<sup>76</sup> The prime contractor and any subcontractor contracting to receive trucking services shall not assess a broker fee.
- F. A contractor with employee truck drivers shall adhere to the requirements established in **Sections IV (PAYROLLS AND STATEMENTS); V (WAGE RATES); VI (FRINGE BENEFITS); VII (OVERTIME) and VIII (LABOR CLASSIFICATIONS)**.
- G. If after written notice, the prime contractor fails to submit its month-end trucking reports and certification forms and those of any subcontractor, MTO and/or Truck Broker, the department may take such actions as prescribed in section XVI, **(NON-COMPLIANCE AND ENFORCEMENT)**.

<sup>68</sup> Minnesota Rules 5200.1106, Subpart 3B(2)

<sup>69</sup> Minnesota Rules 5200.1106, Subpart 3B(1)

<sup>70</sup> Minnesota Rules 5200.1106, Subpart 3B(2)

<sup>71</sup> Minnesota Rules 5200.1106, Subpart 3B(3)

<sup>72</sup> Minnesota Rules 5200.1106, Subpart 3B(4)

<sup>73</sup> Minnesota Rules 5200.1106, Subpart 3B(5)(6)

<sup>74</sup> Minnesota Rules 5200.1106, Subpart 1

<sup>75</sup> Minnesota Rules 5200.1106, Subpart 10

<sup>76</sup> Minnesota Rules 5200.1106, Subpart 7(C)

## XV. CHILD LABOR

- A. No worker under the age of 18 is allowed to perform work on construction projects.<sup>77</sup>
- B. In accordance with state law, a worker under the age of 18, employed in a corporation totally owned by one or both parents that is supervised by the parent(s), may perform work on construction projects.<sup>78</sup> However, if this contractor is subject to the federal Fair Labor Standards Act, a worker under the age of 18 is not allowed to perform work in a hazardous occupation.<sup>79</sup>
- C. To protect the interests of the department, the project engineer may remove a worker that appears to be under the age of 18 from the construction project until the contractor or worker can demonstrate proof of age<sup>80</sup> and compliance with all applicable federal and/or state regulations.<sup>81</sup>

## XVI. NON-COMPLIANCE AND ENFORCEMENT

- A. The prime contractor shall be liable for any unpaid wages to its workers or those of any subcontractor, ITO, MTO and/or Truck Broker.<sup>82</sup>
- B. If it is determined that a contractor has violated federal and/or state prevailing wage laws, or any portion of this contract, the department may implement, after written notice, one or more of the following sanctions:
  1. Withhold or cause to be withheld from the prime contractor under this contract, or any other federally funded contract with the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay workers employed by the prime contractor or any subcontractor the full amount of wages required by this contract.<sup>83</sup>
  2. Withhold or cause to be withheld from the prime contractor such amounts in considerations or assessments against the prime contractor, whether arising from this contract or other contract with the department.<sup>84</sup>
  3. The department may reject a bid from a prime contractor that has demonstrated continued or persistent noncompliance with the prevailing wage law on previous or current contracts with the department.<sup>85</sup>
  4. The department may take the prosecution of the work out of the hands of the prime contractor, place the contractor in default and terminate this contract for failure to demonstrate compliance with these provisions.<sup>86</sup>
- C. Any contractor who violates the state prevailing wage law is guilty of a misdemeanor and may be fined not more than \$300 or imprisoned not more than 90 days or both. Each day that the violation continues is a separate offense.<sup>87</sup>
- D. All required documents and certification reports are legal documents; willful falsification of the documents may result in civil action and/or criminal prosecution<sup>88</sup> and may be grounds for debarment proceedings.<sup>89</sup>

<sup>77</sup> Minnesota Rules 5200.0910, Subpart F

<sup>78</sup> Minnesota Rules 5200.0930, Subpart 4

<sup>79</sup> 29 CFR Part 570.2(a)(ii)

<sup>80</sup> Minnesota Statute 181A.06, Subdivision 4

<sup>81</sup> MN/DOT Standard Specifications for Construction, Section 1701

<sup>82</sup> MN/DOT Standard Specifications for Construction, Section 1801

<sup>83</sup> Required Contract Provisions Federal-Aid Construction Contracts Form-1273, Section IV, Subpart 6

<sup>84</sup> MN/DOT Standard Specifications for Construction, Section 1906

<sup>85</sup> Minnesota Statute 161.32, Subdivision 1(d)

<sup>86</sup> MN/DOT Standard Specifications for Construction, Section 1808

<sup>87</sup> Minnesota Statute 177.44, Subdivision 6

<sup>88</sup> Minnesota Statutes 16B, 161.315, Subdivision 2, 177.43, Subdivision 5 177.44, Subdivision 6, 609.63

<sup>89</sup> Minnesota Statute 161.315

General Decision Number: MN130009 01/04/2013 MN9

Superseded General Decision Number: MN20120009

State: Minnesota

Construction Type: Highway

Counties: Chippewa, Kandiyohi, Lac Qui Parle, Lincoln, Lyon, McLeod, Meeker, Murray, Pipestone, Redwood, Renville and Yellow Medicine Counties in Minnesota.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number      Publication Date  
 0                              01/04/2013

\* SUMN2010-008 10/29/2012

	Rates	Fringes
CARPENTER.....	\$ 23.31	16.08
CEMENT MASON/CONCRETE FINISHER...	\$ 32.80	17.00
ELECTRICIAN		
Electrician.....	\$ 28.42	13.88
Ground Person.....	\$ 16.63	6.38
Lineman.....	\$ 24.82	8.50
IRONWORKER.....	\$ 34.15	21.20
LABORER		
Blaster.....	\$ 22.31	13.18
Common or General.....	\$ 19.31	13.18
Flag Person.....	\$ 17.50	5.85
Landscape.....	\$ 16.50	
Skilled.....	\$ 19.31	13.18
Traffic Control Person.....	\$ 16.59	9.91
Underground & Open Ditch (8 ft below grade).....	\$ 20.01	13.18
MILLWRIGHT.....	\$ 30.18	20.24
PAINTER (Including Pavement Marking).....	\$ 30.45	13.84
PILEDRIVERMAN.....	\$ 23.31	16.08
POWER EQUIPMENT OPERATOR:		
GROUP 2.....	\$ 24.50	16.70
GROUP 3.....	\$ 23.57	16.70
GROUP 4.....	\$ 23.26	16.70
GROUP 5.....	\$ 13.97	
GROUP 6.....	\$ 20.95	16.70
Speciality Equipment		
Articulated Hauler.....	\$ 23.26	16.70
Boom Truck.....	\$ 28.36	16.85
Off-Road Truck.....	\$ 28.66	16.70

## Specialty Equipment

Landscaping Equipment.....\$ 20.00

## OPERATING ENGINEER CLASSIFICATIONS

GROUP 2: Helicopter Pilot; Concrete Pump; Cranes over 135 ft boom excluding jib; Dragline, Crawler, Hydraulic Backhoe and other similar equipment with shovel-type controls including attachments 3 cu yd & over; Grader or Motor Patrol; Pile Driving

GROUP 3: Asphalt Bituminous Stabilizer Plant; Cableway; Concrete Mixer, Stationary Plant; Derrick (guy or stiff leg)(power)(skids or stationary); Dragline, Crawler, Hydraulic Backhoe and other similar equipment with shovel-type controls including attachments up to 3 cu yd; Dredge or Engineers Dredge (Power); Front end loader 5 cu yd & over including attachments; Locomotive Crane Operator; Mixer (paving) concrete paving, Road Mole including Mucking operations, Conway or similar type; Mechanic, Welder; Tractor, Boom type. Tandem Scraper; Truck Crane, Crawler Crane; Tugboat 100 H.P. & over.

GROUP 4: Air Track Rock Drill; Automatic Road Machine CMI or similar; Backfiller; Concrete Batch Plant; Bituminous Roller Rubber Tire or Steel Drum 8 tons & over; Bituminous Spreader & Finishing Machine (power), including pavers, Macro Surfacing & Micro Surfacing or similar types (Operator & Screed person); Brokk or RTC remote control or similar type with attachments; Cat Challenger Tractor or similar types pulling Rock Wagons; Bulldozer & Scraper; Chip Harvester & Tree Cutter; Concrete Distributor & Spreader Finishing Machine, Longitudinal Float, Joint Machine, Spray Machine; Concrete Mixer on jobsite; Concrete Mixer; Crusing Plant (gravel, stone) or Gravel Washing, Crushing & Screening Plant; Curb Machine; Directional Boring Machine; Drill Rigs, Heavy Rotary or Churn or Cable Drill; Dual Tractor; Elevating Grader; Fork Lift; Front End, Skid Steer 1 to 5 cu yd; GPS Remote Operating of equipment; Hoist Engineer (power); Hydraulic Tree Planter; Launcher Person; Locomotive; Milling, Grinding, Planing, Fine Grade, or Trimmer Machine; Multiple Machines such as Air Compressors, Welding Machines, Generators, Pumps; Pavement Breaker or Tamping Machine, Mighty Mite or similar type; Pickup Sweeper 1 cu yd & over hopper capacity; Horizontal Boring Machine power actuated over 6 inches; Pugmill; Pumpcrete; Rubber Tired Farm Tractor with Backhoe attachment; Scraper; Self-Propelled Soil Stabilizer; Slip Form (power driven) paving; Tractor, Bulldozer; Wheel type Tractor over 50 hp with PTO; Trenching Machine excludes walk behind Trencher; Tub Grinder, Morbark or similar type; Well Point installation or Dismantling.

GROUP 5: Air Compressor 600 cfm or over; Bituminous Roller under 8 tons; Concrete Saw multiple blade; Form Tench Digger (power); Front End Skid Steer up to 1 cu yd; Guniting Gunall; Hydraulic Log Splitter; Loader, Barber Greene or similar; Post Hole Driving Machine/Post Hole Auger; Power Actuated Auger & Boring Machine; Power Actuated Jack; Pump; Self-Propelled Chip Spreader (Flaherty or similar); Sheep Foot Compactor with blade 200 hp & over; Shouldering Machine (Power) APSCO or similar type including self-propelled Sand and Chip Spreader; Stump Chipper and Tree Chipper; Tree Farmer (Machine).

GROUP 6: Cat, Challenger or siliar tractor when pulling Disk or Roller; Conveyor; Dredge Deck Hand; Fire Person or Tank Car Heater; Gravel Screening Plant (portable, not crushing or washing); Greaser (tractor); Lever Person; Oiler (Power Shovel, Truck Crane, Dragline, Crusher and Milling Mazchine; Power Sweeper; Sheep Foot Roller & Rollers on Gravel Compaction including vibrating rollers; Wheel type Tractor over 50 hp.

TRUCK DRIVER

GROUP 1.....	\$ 21.17	13.25
GROUP 2.....	\$ 14.47	
GROUP 3.....	\$ 20.51	13.25
GROUP 4.....	\$ 20.51	13.25

TRUCK DRIVER CLASSIFICATIONS:

GROUP 1: Mechanic, Welder; Tractor Trailer; Truck hauling machinery including operation of hand and power operated winches.

GROUP 2: Four or more axle unit straight body truck.

GROUP 3: Bituminous Distributor driver; Bituminous Distributor (one person operation); Three Axle units.

GROUP 4: Bituminous Distributor Spray operator (rear and oiler); Dump Person; Greaser; Pilot Car; Rubber Tire self-propelled Packer under 8 tons; Two Axle unit; Slurry Operator; Tank Truck Tender (gas, road oil, water); Tractor under 50 hp.

Tunnel Miner.....	\$ 16.69	6.91
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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with

characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

#### Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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#### WAGE DETERMINATION APPEALS PROCESS

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

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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

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

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

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

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

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

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

=====  
END OF GENERAL DECISION

## NOTICE TO BIDDERS

Minnesota Statutes that require prompt payment to subcontractors:

471.425 Prompt payment of local government bills.

Subd. 1. Definitions. For the purposes of this section, the following terms have the meanings here given them.

(d) "Municipality" means any home rule charter or statutory city, county, town, school district, political subdivision or agency of local government. "Municipality" means the metropolitan council or any board or agency created under chapter 473.

Subd. 4a. Prompt payment to subcontractors.

Each contract of a municipality must require the prime contractor to pay any subcontractor within ten days of the prime contractor's receipt of payment from the municipality for undisputed services provided by the subcontractor. The contract must require the prime contractor to pay interest of 1-1/2 percent per month or any part of a month to the subcontractor on any undisputed amount not paid on time to the subcontractor. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the prime contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from a prime contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

HIST: 1985 c 136 s 5; 1995 c 31 s 1



Select another region | Commercial | Residential | Print version | pdf version

MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY PREVAILING WAGES FOR STATE FUNDED CONSTRUCTION PROJECTS

**THIS NOTICE MUST BE POSTED ON THE JOBSITE IN A CONSPICUOUS PLACE**

Construction Type: Highway and Heavy

Region Number: 08

Counties within region:

- CHIPPEWA-12
- KANDIYOHI-34
- LAC QUI PARLE-37
- LINCOLN-41
- LYON-42
- MCLEOD-46
- MEEKER-47
- MURRAY-51
- PIPESTONE-59
- REDWOOD-64
- RENVILLE-65
- YELLOW MEDICINE-87

Effective: 2012-10-29

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at a rate of one and one half (1 1/2) times the basic hourly rate.

Violations should be reported to:

Department of Transportation  
 Office of Construction  
 Transportation Building MS650  
 John Ireland Blvd  
 St. Paul, MN 55155  
 (651) 366-4209

Refer questions concerning the prevailing wage rates to:

Department of Labor and Industry  
 Prevailing Wage Section  
 443 Lafayette Road N  
 St Paul, MN 55155  
 (651) 284-5091  
 DLI.PrevWage@state.mn.us

<u>LABOR CODE AND CLASS</u>	<u>EFFECT DATE</u>	<u>BASIC RATE</u>	<u>FRINGE RATE</u>	<u>TOTAL RATE</u>
<b>LABORERS (101 - 112) (SPECIAL CRAFTS 701 - 730)</b>				
101 LABORER, COMMON (GENERAL LABOR WORK)	2012-10-29	19.31	13.18	32.49
	2013-05-01	19.31	13.43	32.74
102 LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)	2012-10-29	19.31	13.18	32.49
	2013-05-01	19.31	13.43	32.74

<u>LABOR CODE AND CLASS</u>	<u>EFFECT DATE</u>	<u>BASIC RATE</u>	<u>FRINGE RATE</u>	<u>TOTAL RATE</u>
103 LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)	2012-10-29	16.50	0.00	16.50
104 FLAG PERSON	2012-10-29	17.50	5.85	23.35
105 WATCH PERSON	2012-10-29	17.31	13.13	30.44
	2013-05-01	17.31	13.38	30.69
106 BLASTER	2012-10-29	22.31	13.18	35.49
	2013-05-01	22.31	13.43	35.74
107 PIPELAYER (WATER, SEWER AND GAS)	2012-10-29	21.31	13.18	34.49
	2013-05-01	21.31	13.43	34.74
108 TUNNEL MINER	2012-10-29	16.69	6.91	23.60
109 UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)	2012-10-29	20.01	13.18	33.19
	2013-05-01	20.01	13.43	33.44
110 SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND IDENTIFICATION OF MARKERS OR MONUMENTS; PERFORM AND CHECK CALCULATIONS; REVIEW AND UNDERSTAND CONSTRUCTION PLANS AND LAND SURVEY MATERIALS). THIS CLASSIFICATION DOES NOT APPLY TO THE WORK PERFORMED ON A PREVAILING WAGE PROJECT BY A LAND SURVEYOR WHO IS LICENSED PURSUANT TO MINNESOTA STATUTES, SECTIONS 326.02 TO 326.15.	2012-10-29	23.00	10.17	33.17
111 TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE)	2012-10-29	18.59	9.91	26.50
112 QUALITY CONTROL TESTER (FIELD AND COVERED OFF-SITE FACILITIES; TESTING OF AGGREGATE, ASPHALT, AND CONCRETE MATERIALS); LIMITED TO MN DOT HIGHWAY AND HEAVY CONSTRUCTION PROJECTS WHERE THE MN DOT HAS RETAINED QUALITY ASSURANCE PROFESSIONALS TO REVIEW AND INTERPRET THE RESULTS OF QUALITY CONTROL TESTERS. SERVICES PROVIDED BY THE CONTRACTOR.	2012-10-29	16.04	0.00	16.04
<b>SPECIAL EQUIPMENT (201 - 204)</b>				
201 ARTICULATED HAULER	2012-10-29	23.26	16.70	39.96
	2013-05-01	23.41	16.70	40.11
202 BOOM TRUCK	FOR RATE CALL 651-284-5091 OR EMAIL <a href="mailto:DLI.PREVVAGE@STATE.MN.US">DLI.PREVVAGE@STATE.MN.US</a>			
203 LANDSCAPING EQUIPMENT, INCLUDES HYDRO SEEDER OR MULCHER, SOO ROLLER, FARM TRACTOR WITH ATTACHMENT SPECIFICALLY SEEDING, SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER LOADERS), NO EARTHWORK OR GRADING FOR ELEVATIONS	2012-10-29	20.00	0.00	20.00
204 OFF-ROAD TRUCK	2012-10-29	28.66	16.70	45.36
	2013-05-01	28.81	16.70	45.51
205 PAVEMENT MARKING OR MARKING REMOVAL EQUIPMENT (ONE OR TWO PERSON OPERATORS); SELF-PROPELLED TRUCK OR TRAILER MOUNTED UNITS.	2012-10-29	20.00	0.00	20.00
<b>HIGHWAY/HEAVY POWER EQUIPMENT OPERATOR</b>				
<b>GROUP 2</b>	2012-10-29	24.50	16.70	41.20
	2013-05-01	24.65	16.70	41.35
302 HELICOPTER PILOT (HIGHWAY AND HEAVY ONLY)				
303 CONCRETE PUMP (HIGHWAY AND HEAVY ONLY)				
304 ALL CRANES WITH OVER 135-FOOT BOOM, EXCLUDING JIB (HIGHWAY AND HEAVY ONLY)				
305 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR OTHER SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS THREE CUBIC YARDS AND OVER MANUFACTURER.S RATED CAPACITY INCLUDING ALL ATTACHMENTS. (HIGHWAY AND HEAVY ONLY)				
306 GRADER OR MOTOR PATROL				
307 PILE DRIVING (HIGHWAY AND HEAVY ONLY)				
308 TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)				
<b>GROUP 3</b>	2012-10-29	23.57	18.70	40.27

<u>LABOR CODE AND CLASS</u>	<u>EFFECT DATE</u>	<u>BASIC RATE</u>	<u>FRINGE RATE</u>	<u>TOTAL RATE</u>
309 ASPHALT BITUMINOUS STABILIZER PLANT	2013-05-01	23.72	16.70	40.42
310 CABLEWAY				
311 CONCRETE MIXER, STATIONARY PLANT (HIGHWAY AND HEAVY ONLY)				
312 OERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY ONLY)				
313 DRAGLINE, CRAWLER, HYDRAULIC BACKHOE (TRACK OR WHEEL MOUNTED) AND/OR SIMILAR EQUIPMENT WITH SHOVEL-TYPE CONTROLS, UP TO THREE CUBIC YARDS MANUFACTURER'S RATED CAPACITY INCLUDING ALL ATTACHMENTS (HIGHWAY AND HEAVY ONLY)				
314 DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER				
315 FRONT END LOADER, FIVE CUBIC YARDS AND OVER INCLUDING ATTACHMENTS. (HIGHWAY AND HEAVY ONLY)				
316 LOCOMOTIVE CRANE OPERATOR				
317 MIXER (PAVING) CONCRETE PAVING, ROAD MOLE, INCLUDING MUCKING OPERATIONS, CONWAY OR SIMILAR TYPE				
318 MECHANIC . WELDER ON POWER EQUIPMENT (HIGHWAY AND HEAVY ONLY)				
319 TRACTOR . BOOM TYPE (HIGHWAY AND HEAVY ONLY)				
320 TANDEM SCRAPER				
321 TRUCK CRANE . CRAWLER CRANE (HIGHWAY AND HEAVY ONLY)				
322 TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)				
<b>GROUP 4</b>				
	2012-10-29	23.28	16.70	39.98
	2013-05-01	23.41	16.70	40.11
323 AIR TRACK RDCK DRILL				
324 AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)				
325 BACKFILLER OPERATOR				
326 CONCRETE BATCH PLANT OPERATOR (HIGHWAY AND HEAVY DNLY)				
327 BITUMINOUS ROLLERS, RUBBER TIERED OR STEEL DRUMMED (EIGHT TONS AND OVER)				
328 BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)				
329 BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS				
330 CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS AND SCRAPERS				
331 CHIP HARVESTER AND TREE CUTTER				
332 CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT, JOINT MACHINE, AND SPRAY MACHINE				
333 CONCRETE MIXER ON JOBSITE (HIGHWAY AND HEAVY ONLY)				
334 CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)				
335 CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING PLANT				
336 CURB MACHINE				
337 DIRECTIONAL BORING MACHINE				
338 DOPE MACHINE (PIPELINE)				
339 DRILL RIGS, HEAVY ROTARY OR CHURN OR CABLE DRILL (HIGHWAY AND HEAVY ONLY)				
340 DUAL TRACTOR				
341 ELEVATING GRADER				
342 FORK LIFT OR STRADDLE CARRIER (HIGHWAY AND HEAVY ONLY)				
343 FORK LIFT OR LUMBER STACKER (HIGHWAY AND HEAVY ONLY)				
344 FRONT END, SKID STEER OVER 1 TO 5 C YD				
345 GPS REMOTE OPERATING OF EQUIPMENT				
346 HOIST ENGINEER (POWER) (HIGHWAY AND HEAVY ONLY)				
347 HYDRAULIC TREE PLANTER				
348 LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE)				
349 LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)				
350 MILLING, GRINDING, PLANNING, FINE GRADE, OR TRIMMER MACHINE				
351 MULTIPLE MACHINES, SUCH AS AIR COMPRESSORS, WELDING MACHINES, GENERATORS, PUMPS (HIGHWAY AND HEAVY ONLY)				
352 PAVEMENT BREAKER OR TAMPING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR TYPE				
353 PICKUP SWEEPER, ONE CUBIC YARD AND OVER HOPPER CAPACITY(HIGHWAY AND HEAVY ONLY)				
354 PIPELINE WRAPPING, CLEANING OR BENDING MACHINE				
355 POWER PLANT ENGINEER, 100 KWH AND OVER (HIGHWAY AND HEAVY ONLY)				
356 POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES				
357 PUGMILL				
358 PUMPCRETE (HIGHWAY AND HEAVY ONLY)				
359 RUBBER-TIERED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)				
360 SCRAPER				
361 SELF-PROPELLED SOIL STABILIZER				
362 SLIP FORM (POWER DRIVEN) (PAVING)				
363 TIE TAMPER AND BALLAST MACHINE				
364 TRACTOR, BULLDOZER (HIGHWAY AND HEAVY ONLY)				
365 TRACTOR, WHEEL TYPE, OVER 50 H.P. WITH PTO UNRELATED TO LANDSCAPING (HIGHWAY AND HEAVY ONLY)				
366 TRENCHING MACHINE (SEWER, WATER, GAS) EXCLUDES WALK BEHIND TRENCHER (HIGHWAY AND HEAVY ONLY)				
367 TUB GRINDER, MORBARK, OR SIMILAR TYPE				

<u>LABOR CODE AND CLASS</u>	<u>EFFECT DATE</u>	<u>BASIC RATE</u>	<u>FRINGE RATE</u>	<u>TOTAL RATE</u>
368 WELL POINT DISMANTLING OR INSTALLATION (HIGHWAY AND HEAVY ONLY)				
<b>GROUP 5</b>	2012-10-29	13.97	0.00	13.97
369 AIR COMPRESSOR, 600 CFM OR OVER (HIGHWAY AND HEAVY ONLY)				
370 BITUMINOUS ROLLER (UNDER EIGHT TONS)				
371 CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED)				
372 FORM TRENCH DIGGER (POWER)				
373 FRONT END, SKID STEER UP TO 10 YD				
374 GUNITE GUNALL (HIGHWAY AND HEAVY ONLY)				
375 HYDRAULIC LOG SPLITTER				
376 LOADER (BARBER GREENE OR SIMILAR TYPE)				
377 POST HOLE DRIVING MACHINE/POST HOLE AUGER				
378 POWER ACTUATED AUGER AND BORING MACHINE				
379 POWER ACTUATED JACK				
380 PUMP (HIGHWAY AND HEAVY ONLY)				
381 SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR)				
382 SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER				
383 SHOULDERING MACHINE (POWER) APSCO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER				
384 STUMP CHIPPER AND TREE CHIPPER				
385 TREE FARMER (MACHINE)				
<b>GROUP 6</b>	2012-10-29	20.95	16.70	37.65
	2013-05-01	21.10	16.70	37.80
387 CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER				
388 CONVEYOR (HIGHWAY AND HEAVY ONLY)				
389 DREDGE DECK HAND				
390 FIRE PERSON OR TANK CAR HEATER (HIGHWAY AND HEAVY ONLY)				
391 GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING)				
392 GREASER (TRACTOR) (HIGHWAY AND HEAVY ONLY)				
393 LEVER PERSON				
394 OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS, AND MILLING MACHINES, OR OTHER SIMILAR HEAVY EQUIPMENT) (HIGHWAY AND HEAVY ONLY)				
395 POWER SWEEPER				
396 SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS				
397 TRACTOR, WHEEL TYPE, OVER 50 H.P., UNRELATED TO LANDSCAPING				
<b>TRUCK DRIVERS</b>				
<b>GROUP 1</b>	2012-10-29	21.17	13.25	34.42
	2013-05-01	21.32	13.60	34.92
601 MECHANIC . WELDER				
602 TRACTOR TRAILER DRIVER				
603 TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER OPERATED WINCHES)				
<b>GROUP 2</b>	2012-10-29	14.47	0.00	14.47
604 FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK				
<b>GROUP 3</b>	2012-10-29	20.51	13.25	33.76
	2013-05-01	20.66	13.60	34.26
605 BITUMINOUS DISTRIBUTOR DRIVER				
606 BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)				
607 THREE AXLE UNITS				
<b>GROUP 4</b>	2012-10-29	20.51	13.25	33.76
	2013-05-01	20.66	13.60	34.26
608 BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)				
609 DUMP PERSON				
610 GREASER				
611 PILOT CAR DRIVER				
612 RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS				
613 TWO AXLE UNIT				
614 SLURRY OPERATOR				
615 TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)				
616 TRACTOR OPERATOR, UNDER 50 H.P.				

<u>LABOR CODE AND CLASS</u>	<u>EFFECT DATE</u>	<u>BASIC RATE</u>	<u>FRINGE RATE</u>	<u>TOTAL RATE</u>
<b>SPECIAL CRAFTS</b>				
701 HEATING AND FROST INSULATORS	2012-10-29	20.50	4.46	24.96
702 BOILERMAKERS	2012-10-29	31.87	24.40	56.27
	2013-01-01	33.52	24.40	57.92
703 BRICKLAYERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
704 CARPENTERS	2012-10-29	23.31	16.08	39.39
	2013-05-01	23.81	16.08	39.89
705 CARPET LAYERS (LINOLEUM)	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
706 CEMENT MASONS	2012-10-29	32.80	17.00	49.80
	2013-05-01	33.05	17.00	50.05
707 ELECTRICIANS	2012-10-29	28.42	13.88	42.30
708 ELEVATOR CONSTRUCTORS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
709 GLAZIERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
710 LATHERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
711 GROUND PERSON	2012-10-29	16.63	6.38	23.01
712 IRONWORKERS	2012-10-29	34.15	21.20	55.35
713 LINEMAN	2012-10-29	24.82	8.50	33.32
714 MILLWRIGHT	2012-10-29	30.18	20.24	50.42
715 PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)	2012-10-29	30.45	13.84	44.29
716 PILEDRIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)	2012-10-29	23.31	16.08	39.39
	2013-05-01	23.81	16.08	39.89
717 PIPEFITTERS, STEAMFITTERS	2012-10-29	30.62	24.97	55.59
	2012-10-29	33.18	22.36	55.54
718 PLASTERERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
719 PLUMBERS	2012-10-29	29.90	25.57	55.47
720 ROOFER	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
721 SHEET METAL WORKERS	2012-10-29	25.41	9.69	35.10
722 SPRINKLER FITTERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
723 TERRAZZO WORKERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
724 TILE SETTERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
725 TILE FINISHERS	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
726 DRYWALL TAPER	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
727 WIRING SYSTEM TECHNICIAN	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			
728 WIRING SYSTEMS INSTALLER	FOR RATE CALL 651-284-5091 OR EMAIL DLI.PREVVAGE@STATE.MN.US			

LABOR CODE AND CLASS  
 729 ASBESTOS ABATEMENT WORKER

<u>EFFECT DATE</u>	<u>BASIC RATE</u>	<u>FRINGE RATE</u>	<u>TOTAL RATE</u>
2012-10-29	27.33	14.94	42.27
2013-01-01	27.53	15.34	42.87

730 SIGN ERECTOR

FOR RATE CALL 651-284-5091 OR EMAIL [DLI.PREWWAGE@STATE.MN.US](mailto:DLI.PREWWAGE@STATE.MN.US)

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[Prevailing wage](#) | [Notifications](#) | [Commercial](#) | [Highway and heavy](#) | [Residential](#)

**NOTICE TO BIDDERS**  
**TRAFFIC CONTROL**  
**PREVAILING WAGE COVERAGE**

The following defines the United States Department of Labor's interpretation of contract labor provision coverage for employees who work for traffic control companies and /or perform traffic control duties.

**Non-covered Supplier Designated Duties:**

Employees of bona fide "Material Persons/Suppliers" are not covered. A Material Person/Supplier is limited to supply, delivery, and routine maintenance (once a week) of barricades, cones, flashers, etc. to the job site.

The following functions, except as qualified in "6." below, do not come under the prevailing wage requirements of the contracts:

1. Supply and delivery of traffic control devices such as barricades, cones, barrels, flashers and signboards.
2. Routine and periodic maintenance service (usually once a week).
3. Removal of equipment from job site.
4. In connection with delivery, they may drop the equipment at a central stockpile location or at various locations along the project. Employees of company may set-up the equipment as long as such set-up is by dropping barrels and cones from the back of a moving truck.
5. Maintenance would consist of inspecting and cleaning the equipment, replacing broken or lost equipment, replacing barricades knocked down or out of line, and changing light bulbs and barricades.
6. If an employee spends more than 20% of their workweek performing the above duties on a Davis-Bacon (Federal-Aid) project or other Davis-Bacon (Federal-Aid) projects, prevailing wage rates would apply for the time so spent.

**Covered Contractor or Subcontractor Duties:**

The following functions are covered under the contract labor provisions. Any contractor performing these duties will need to be listed on a Request to Sublet form and their employees performing the duties will need to be listed on a Certified Payroll form and submitted following the appropriate procedures.

Related and continuing traffic control services such as, but not limited to:

1. Moving barricades and barriers as construction work progresses.
2. Moving barricades for lane closures and changes.
3. Painting traffic lines.
4. Sandblasting to remove traffic lines.
5. Applying and removing traffic tape.
6. Setting up barrels or barricades other than those dropped from the back of a moving truck.
7. Digging postholes to erect temporary warning signs (only).
8. Erection of advance temporary warning signs.
9. Placing temporary signboards.

On Federal-aid Projects (only) when there is no appropriate classification listed under either the state or federal wage determinations, a classification wage rate will be negotiated using the procedures under FHWA 1273, REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS, Part IV. PAYMENT OF PREDETERMINED MINIMUM WAGE, Subp. 2. Classifications.

# Official Notices

## Department of Labor and Industry (DLI)

### Labor Standards Unit

#### Notice of Certification of Truck Rental Rates and Effective Date Pursuant to *Minnesota Rules, Part 5200.1105*

On May 1, 2012, the Commissioner of the Department of Labor and Industry ("DLI") certified the minimum truck rental rates for highway projects in the state's ten highway and heavy construction areas for trucks and drivers operating "four or more axle units, straight body trucks," "three axle units," "tractor only" and "tractor trailers." The certification followed publication of the Notice of Determination of Truck Rental Rates in the *State Register* on March 12, 2012, and the informal conference held pursuant to Minnesota Rules, part 5200.1105 on April 4, 2012.

According to Minnesota Rules, part 5200.1105, the purpose of the informal conference is for DLI to obtain further input regarding the proposed rates before the rates are certified. Approximately 18 individuals attended the informal conference. Many of the attendees voiced strong concerns regarding the inadequacy of the proposed rates. Among the concerns raised was the fact that the proposed rates were based on 2010 costs, including the 2010 price of fuel. Speakers indicated that because of the dramatic increase in the price of diesel in recent months, the published rates were far below the operators' current costs. As stated by some attendees:

"This year, right now yesterday we were paying \$4.10...I know when fuel went up that last time, a lot of us had to eat the cost because there was no way of recouping it."

Testimony of Colleen Donovan, Transcript of Informal Conference, pp. 13, 14.

Ms. Donovan provided DLI written information that her 2010 average cost for fuel was \$2.99 per gallon.

"And, like the price of fuel, \$4.25, \$4.30. That's what it is down by my place, anyway."

Testimony of Bob Dornsbach, Transcript of Informal Conference, p. 32.

Mr. Bob Dornsbach provided DLI written information that in October 2010 his fuel cost was \$3.15 per gallon.

In response to the informal conference Jim Lloyd provided written information that his 2010 fuel cost was close to \$3.00 per gallon and "now is at \$4.00 plus and it does not look like it is going to decrease."

After the informal conference, Tom Barnes provided written information that his fuel costs in March 2010 were \$2.82 per gallon and that his fuel costs for March 2012 were \$4.07 per gallon.

Following the informal conference, DLI staff obtained data from the United States Department of Energy ("DOE") regarding the price of diesel during 2010 as compared to current costs.<sup>1</sup> That data, available at [www.eia.doe.gov](http://www.eia.doe.gov), show that the average price of diesel during 2010 was \$2.964 per gallon. The average price of diesel during January, February, and March 2012 was \$3.862 per gallon. Consequently, the average price of diesel for the first three months of this year was 30.4% higher than the average cost of diesel during 2010.

The purpose of *Minnesota Rules, part 5200.1105*, as stated in its Statement of Need and Reasonableness, is to "provide equitable compensation" to independent truck operators. The commissioner finds that in order to carry out the purpose of the rule, it is appropriate to consider the concerns expressed at the informal conference<sup>2</sup> and to use average 2012 diesel costs in computing and certifying 2012 truck rental rates. Specifically, the commissioner finds that the extreme disparity between 2010 and current fuel costs warrants this adjustment in order for truck operators to be equitably compensated.<sup>3</sup>

#### (Footnotes)

<sup>1</sup> U.S. Energy Information Administration Midwest No. 2 Retail Prices (Dollars per Gallon)

<sup>2</sup> The DLI has historically used input from the informal conferences to establish certified rates. For example, truck rental rates certified in 2009 varied from the proposed rates based on information gathered at the informal conference.

<sup>3</sup> The commissioner notes that the Minnesota Department of Transportation incorporates a fuel adjustment clause in certain of its contracts to accommodate the fluctuating price of fuel. That clause generally provides for the adjustment of contract payments when the cost of fuel increases or decreases by more than 15% from an indexed rate during the term of the contract. By using 2012 fuel costs in certifying 2012 truck rental rates, the commissioner is not intending to adopt or establish a similar fuel adjustment mechanism. Rather, he is taking this action to effectuate the purpose of Part 5200.1105 in light of the concerns raised at the informal conference and the dramatic increase in the price of diesel between 2010 and effective date of 2012 truck rental rates.

## Official Notices

Construction truck operating costs were initially determined by survey on a statewide basis and were the subject of further input by interested parties attending the informal conference pursuant to *Minnesota Rules*, part 5200.1105 on April 4, 2012 and further data on fuel prices from the DOE for 2010 and 2012. In light of the discussion above, fuel costs stated in the surveys were adjusted upward by 30.4% to determine statewide operating costs. As a result of this adjustment, the operating cost for "four axle units, straight body trucks" is determined to be \$51.58 per hour; the operating cost for "three axle units" is determined to be \$37.35 per hour; the operating cost for "tractor only" is determined to be \$41.43 per hour; and the operating cost for "tractor trailers" is determined to be \$52.89 per hour.

Adding the prevailing wage for drivers of these four types of trucks from each of the State's ten highway and heavy construction areas to the operating costs, the minimum hourly truck rental rate for the four types of trucks in each area is certified to be as follows:

3 Axle Units				
	Effective Date	607 Driver Rate	Operating Cost	Truck Rental Rate
Region 1	May 1, 2012	40.10	37.35	77.45
Region 2	May 1, 2012	33.76	37.35	71.11
Region 3	May 1, 2012	25.40	37.35	62.75
Region 4	May 1, 2012	33.76	37.35	71.11
Region 5	May 1, 2012	40.50	37.35	77.85
Region 6	May 1, 2012	38.30	37.35	75.65
Region 7	May 1, 2012	33.76	37.35	71.11
Region 8	May 1, 2012	33.76	37.35	71.11
Region 9	May 1, 2012	40.50	37.35	77.85
Region 10	May 1, 2012	13.22	37.35	50.57

4 or more Axle Units				
	Effective Date	604 Driver Rate	Operating Cost	Truck Rental Rate
Region 1	May 1, 2012	40.20	51.58	91.78
Region 2	May 1, 2012	33.91	51.58	85.49
Region 3	May 1, 2012	24.71	51.58	76.29
Region 4	May 1, 2012	33.91	51.58	85.49
Region 5	May 1, 2012	26.34	51.58	77.92
Region 6	May 1, 2012	38.40	51.58	89.98
Region 7	May 1, 2012	20.87	51.58	72.45
Region 8	May 1, 2012	20.87	51.58	72.45
Region 9	May 1, 2012	40.60	51.58	92.18
Region 10	May 1, 2012	32.91	51.58	84.49

# Official Notices

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	Effective Date	Tractor		Tractor Only	Plus Trailer	Tractor
		602 Driver Rate	Operating Cost	Truck Rental Rate	Operating Cost	Trailer Rental Rate
Region 1	May 1, 2012	40.75	41.43	82.18	11.46	93.64
Region 2	May 1, 2012	34.42	41.43	75.85	11.46	87.31
Region 3	May 1, 2012	22.37	41.43	63.80	11.46	75.26
Region 4	May 1, 2012	34.42	41.43	75.85	11.46	87.31
Region 5	May 1, 2012	21.38	41.43	62.81	11.46	74.27
Region 6	May 1, 2012	37.95	41.43	79.38	11.46	90.84
Region 7	May 1, 2012	25.85	41.43	67.28	11.46	78.74
Region 8	May 1, 2012	34.42	41.43	75.85	11.46	87.31
Region 9	May 1, 2012	41.15	41.43	82.58	11.46	94.04
Region 10	May 1, 2012	33.42	41.43	74.85	11.46	86.31

The operating costs, including the average truck broker fees paid by those survey respondents who reported paying truck broker fees, and the truck rental rates may also be reviewed by accessing DLI's website at [www.dli.mn.gov](http://www.dli.mn.gov). Questions regarding the operational costs and truck rental rates can be answered by calling (651) 284-5091.

The minimum truck rental rates certified for these four types of trucks in the state's ten highway and heavy construction areas will be effective for all highway and heavy construction projects financed in whole or part with state funds advertised for bid on, or after May 1, 2012.

Dated: 1 May 2012

Ken B. Peterson, Commissioner  
Department of Labor and Industry

**DIVISION 5****S-1 CONTACT INFORMATION**

Questions regarding this project, including any questions prior to bidding, shall be directed to Aaron VanMoer at (507) 532-8205.

**S-2 GOVERNING SPECIFICATIONS**

The Minnesota Department of Transportation "Standard Specifications for Construction", 2005 Edition shall apply on this Contract except as modified or altered in the following Special Provisions.

**S-3 COMPLIANCE WITH ZONING ORDINANCE**

All bidders shall familiarize themselves and shall comply with the County's zoning ordinance for conditional use of land pertaining to gravel and borrow pits. Copies of the ordinance may be examined at the County Zoning Office, located at 504 Fairgrounds Road, Marshall, MN or at [www.lyonco.org](http://www.lyonco.org).

**S-4 AFFIRMATIVE ACTION RESPONSIBILITIES**

All bidders shall meet with the County's Affirmative Action requirements. If a bidder does not meet the requirements, the County reserves the right not to consider the bid.

**S-5 SPECIAL PROVISIONS ENCOURAGING INDIAN EMPLOYMENT**

It is Mn/DOT policy to promote and encourage Indian employment on transportation projects on or near reservations.

S-5.1 This project is on or near the Upper Sioux and the Lower Sioux Reservation. The Contractor is advised to work with the tribal government to utilize Indian labor in performing contract work. The Contractor should contact Teresa Pederson from the Upper Sioux at 320-564-3853 or Faye Zaske from the Lower Sioux at 507-697-6185 for Indian employment opportunities under this contract.

S-5.2 This project does not contain any specific OJT requirements. The lack of a specific OJT goal does not relieve the Contractor of any other responsibilities.

S-5.3 The Contractor and all subcontractors are hereby made aware that this Special Provision is made part of the Contract and that Mn/DOT will monitor these provisions. If the Contractor or subcontractor is not living up to the spirit of the Special Provisions, the Department will address these issues with the Contractor and/or subcontractor and the Tribal Contact Person. If requested by the tribe, the Contractor will meet with the tribe's contact person to discuss Indian employment issues.

S-5.4 If the Contractor deems that an employee referred by the Tribal Contact Person is in danger of being suspended or terminated, the Contractor shall notify the Tribal Contact Person for assistance in resolving the problem. Nothing in the Special Provisions will be construed to interfere with the Contractor's ability to dismiss any employee for cause including, but not limited to, lack of adequate skills or training, inability to perform by virtue of state or federal law, or breach of the Contractor's standards of conduct.

S-5.5 This Special Provision supplement does not replace the existing equal employment opportunity requirements contained elsewhere in this Contract.

S-5.6 Questions, other than Tribal Employment questions, should be directed as indicated in the CONTACT INFORMATION section of these Special Provisions.

**S-6 (1101) ABBREVIATIONS**

All references to A.A.S.H.O. or A.A.S.H.T.O. publications as contained anywhere in the Contract documents shall be construed to mean the American Association of State Highway and Transportation Officials publications as referenced.

**S-7 (1206) PREPARATION OF PROPOSAL**

The Provisions of Mn/DOT 1206 are hereby deleted and replaced with the following:

S-7.1 The bidder shall submit a Proposal upon the **bid schedule** forms furnished by Lyon County.

The bidder shall specify a unit price in figures for each pay item for which a quantity is given, (for all items with a quantity of "Lump Sum" a numeric quantity of "1" shall be assumed) except as not required in the case of alternate bid items, and shall also show the products of the respective unit prices and quantities written in figures in the column provided for that purpose, together with the total amount of the Proposal obtained by adding the amounts of the several items. All figures shall be in ink or typed. In case of a discrepancy between a unit bid price and the extension, the unit bid price shall govern.

When an item in the Proposal contains a choice to be made by the bidder, the bidder shall indicate a choice in accordance with the Specifications for that particular item; and thereafter, no further choice will be permitted.

The bidder's Proposal shall be signed with ink by the individual, by one or more members of the partnership, by one or more members or officers of each firm representing a joint venture, or by one or more officers of a corporation. If the Proposal is made by an individual, the bidder's name and post office address shall be shown; by a partnership, the name and post office address of each partnership member shall be shown; as a joint venture, the name and post office address of each member or officer of the firms represented by the joint venture shall be shown; by a corporation, the name of the corporation, the State in which it was chartered, and the business address of its corporate officials shall be shown.

The attention of all bidders is particularly directed to Minnesota Statutes, **section 161.32, subdivision 1c** which provides among other things that a bid shall be rejected if it contains any alterations or erasures which are not corrected as follows:

- (1) The alteration or erasure must be crossed out and the correction thereof printed in ink or typewritten adjacent thereto; and
- (2) The correction must be initialed in ink by the person signing the bid Proposal.

Any alteration or erasure made by the bidder in the Proposal in accordance with a specific instruction contained in an "Addendum" will not be considered to be an "alteration or erasure" within the meaning of the Statute.

**S-8 (1207) IRREGULAR PROPOSALS**

The Provisions of Mn/DOT 1207 are hereby deleted and replaced with the following:

S-8.1 Proposals will be considered irregular and may be rejected for any of the following reasons:

- (1) If the Proposal is on a form other than that allowed in S-7.1, or if the Proposal is altered.
- (2) If there are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may tend to make the Proposal incomplete, indefinite, or ambiguous as to its meaning.
- (3) If the bidder adds any unauthorized provisions reserving the right to accept or reject an award, or to enter into a Contract pursuant to an award.
- (4) If the Proposal does not contain a unit price for each pay item listed except in the case of authorized alternate pay items.
- (5) If any unit prices are obviously unbalanced, either in excess of or below the reasonable costs analysis values.

**S-9 (1208) PROPOSAL GUARANTY**

Delete the Provisions of Mn/DOT 1208 and substitute the following:

- S-9.1 Each Proposal shall be accompanied by a separate guaranty in an amount of not less than 5 percent of the total amount of the bid. The guaranty shall be either a certified check or an acceptable bond made payable to the Contracting Authority. Bonds shall be issued by corporations authorized to contract as a surety in the State of Minnesota. Bonds shall be conditioned on execution of the Contract and Contract Bond, with the penal sum being expressed either as a lump sum or as a percentage of the total amount of the bid.

**S-10 (1210) WITHDRAWAL OR REVISION OF PROPOSALS**

The first sentence of Mn/DOT 1210 (1) is hereby deleted and replaced with the following:

- S-10.1 (1) Each Addendum will be sent by Facsimile with confirmation of receipt requested to each prospective bidder who has received a Proposal form prior to the date of the Addendum.

**S-11 (1213) DISQUALIFICATION OF BIDDERS**

The Provisions of Mn/DOT 1213 are hereby deleted and replaced with the following:

- S-11.1 Either of the following reasons may be considered sufficient cause for disqualification of a bidder and the rejection of his Proposal:
- (1) More than one Proposal for the same work from an individual, firm or corporation under the same or different name.
  - (2) Evidence of collusion among bidders. Participants in collusion will receive no recognition as bidders on future work until they have been reinstated as responsible bidders.

**S-12 (1301) CONSIDERATION OF PROPOSALS**

The first paragraph of Mn/DOT 1301 is deleted and the following substituted therefore:

- S-12.1 After the proposals are opened and read, they will be compared on the basis of the correct summation of the products of the scheduled quantities and unit prices. The County reserves the right to determine which option(s) will be accepted. In case of a discrepancy between a unit bid price and the extension, the unit bid price shall govern.

**S-13 (1302) AWARD OF CONTRACT**

The Provisions of Mn/DOT 1302 are hereby supplemented by the following:

S-13.1 As a condition precedent to the award of contract, the bidder shall furnish proof that he is in compliance with Minnesota Statutes Section 363, as amended by Laws of 1969, implementing the rules and regulation of the Minnesota Department of Human Rights.

**S-14 (1305) REQUIREMENT OF CONTRACT BOND**

The Provisions of Mn/DOT 1305 are hereby deleted and replaced with the following:

S-14.1 The successful bidder shall furnish a payment bond equal to the contract amount and a performance bond equal to the contract amount as required by Minnesota Statutes, section 574.26. The surety and form of the bonds shall be subject to the approval of the contracting authority.

S-14.2 The contracting authority shall require for all contracts less than or equal to five million dollars (\$5,000,000.00), that the aggregate liability of the payment and performance bonds shall be twice the amount of the contract. All contracts in excess of five million dollars (\$5,000,000.00) shall have an aggregate liability equal to the amount of the contract.

**S-15 (1404) MAINTENANCE OF TRAFFIC, (1707) PUBLIC SAFETY, AND (2563) TRAFFIC CONTROL**

The Provisions of Mn/DOT 1404 are supplemented as follows:

All traffic control devices shall conform and be installed in accordance to the "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD) and Part 6, "Field Manual for Temporary Traffic Control Zone Layouts", the "Guide to Establishing Speed Limits in Highway Work Zones", the Minnesota Flagging Handbook, the provisions of MnDOT 1404 and 1710, the Minnesota Standard Signs Manual, the Traffic Engineering Manual, the Traffic Control Layouts/Typical Traffic Control Layouts in the Plans, and these Special Provisions.

The Contractor shall furnish, install, maintain, and remove all traffic control devices required to provide safe movement of vehicular traffic through the Project during the life of the Contract from the start of Contract operations to the final completion thereof. The Engineer will have the right to modify the requirements for traffic control as deemed necessary due to existing field conditions. The highways shall be kept open to traffic at all times, except as modified below.

Traffic control devices include, but are not limited to, barricades, warning signs, trailers, flashers, cones, and drums, as required and sufficient barricade weights to maintain barricade stability.

**S-15.1 TRAFFIC CONTROL**

(A) The Contractor shall be responsible for the immediate repair or replacement of all traffic control devices that become damaged, moved or destroyed, of all lights that cease to function properly, and of all barricade weights that are damaged, destroyed, or otherwise fail to stabilize the barricades. The Contractor shall further provide sufficient surveillance of all traffic control devices at least once every 24 hours.

The Contractor shall furnish names, addresses, and phone numbers of at least three (3) individuals responsible for the placement and maintenance of traffic control devices. These individuals shall be "on call" 24 hours per day, seven days per week during the times any traffic control devices, furnished and installed by the Contractor, are in place. The required

information shall be submitted to the Engineer at the Pre-construction Conference. The Contractor shall also furnish the names, addresses, and phone numbers of those individuals to the following:

- |    |   |                |
|----|---|----------------|
| 1. | Lyon County Highway/Public Works Department | (507) 532-8205 |
| 2. | Lyon County Sheriff's Department            | (507) 537-7666 |
| 3. | Cottonwood Fire Department                  | (507) 423-6488 |
| 4. | Cottonwood City Clerk                       | (507) 423-6488 |

**(B) If traffic control layouts are not present in the Plan, or the Contractor modifies the layout or sequence from the Plan, the Contractor shall submit the proposed traffic control layout to the Engineer, for approval, at least fourteen (14) days prior to the start of construction. At least 24 hours prior to placement, all traffic control devices shall be available on the Project for inspection by the Engineer. The Contractor shall modify his/her proposed traffic control layout and/or devices as deemed necessary by the Engineer.**

(C) The Contractor shall notify the Engineer in writing at least 72 hours prior to the start of any construction operation that will necessitate lane closure or internal traffic control signing.

(D) The Contractor shall inspect, on a daily basis, all traffic control devices, which the Contractor has furnished and installed, and verify that the devices are placed in accordance with the **Traffic Control Layouts**, these Special Provisions, and/or the MN MUTCD. Any discrepancy between the placement and the required placement shall be immediately corrected.

The Contractor shall be required to respond immediately to any call from the Engineer or his designated representative concerning any request for improving or correcting traffic control devices. **If the Contractor is negligent in correcting the deficiency within one hour of notification the Contractor shall be subject to an hourly charge assessed at a rate of \$250.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

(E) The person performing the inspection in paragraph (D) above, shall be required to make a daily log. This log shall also include the date and time any changes in the stages, phases, or portions thereof go into effect. The log shall identify the location and verify that the devices are placed as directed or corrected in accordance with the Plan. All entries in the log shall include the date and time of the entry and be signed by the person making the inspection. The Engineer reserves the right to request copies of the logs as he deems necessary.

The Contractor shall be required to provide copies of the inspection logs, within the time frame agreed upon, when requested by the Engineer. **If the Contractor is negligent in providing the inspection logs within the time frame agreed upon, the Contractor shall be subject to an hourly charge assessed at a rate of \$500.00 per hour for each hour or any portion thereof with which the Engineer determines that the Contractor has not complied.**

(F) The third sentence of paragraph 2 in MnDOT 1404.7 (Winter Suspension) is hereby revised as follows:

"In the event that any Contractor-owned traffic control devices are damaged or destroyed making them ineffective for their intended use, the Contractor will receive payment in the amount of the value of the traffic control device as determined by the Engineer."

(G) If, at any time, the Contractor fails to, in a timely manner, properly furnish, install, maintain or remove any of the required traffic control devices, the Department reserves the right to properly correct the deficiency. **Each time the Department takes such corrective action, the costs thereof, including mobilization, plus \$5,000 will be deducted from monies due or coming due the Contractor.**

(H) Measurement and Payment:

No measurement will be made of the various Items that constitute Traffic Control but all such work will be construed to be included in the single Lump Sum payment under Item 2563.601 (Traffic Control).

S-15.2 VEHICLE WARNING LIGHT SPECIFICATION

All Contractors', subcontractors' and suppliers' mobile equipment, operating within the limits of the Project with potential exposure to passing traffic, shall be equipped with operable warning lights which meet the appropriate requirements of the SAE specifications. This would include closed roads that are open to local traffic only. This also includes any vehicle which enters the traveled roadway at any time. The SAE specification requirements are as follows:

360 Degree Rotating Lights - SAE Specification J845

Flashing Lights - SAE Specification J595

Flashing Strobe Lights - SAE Specification J1318

Lights shall be mounted so that at least one light is visible at all times from a height of 3.5 feet and from a 100 foot radius about the equipment. In order to meet the 360 degree at 18 m [60 foot] radius requirements supplemental lighting may be used in addition to the lights on the Approved Products List. All supplemental lights must be SAE Class 1 certified. This specification is to be used for both day and night time operations. All costs incurred to provide warning lights shall be at no cost to the Department. These warning lights shall also be operating and visible when a vehicle decelerates to enter a construction work zone and again when a vehicle leaves the work zone and enters the traveled traffic lane.

Contractor shall equip their vehicles with lights that are on the Approved Products List which can be found at: <http://www.dot.state.mn.us/products/vehiclelighting/index.html>.

S-15.3 FLAGGER TRAINING

Any person acting as a flagger on this Project shall have attended a training session taught by a Contractor's qualified trainer. The Contractor's qualified trainer shall have completed a "MnDOT Flagger Train the Trainer Session" in the five years previous to the start date of this Contract and shall be on file as a qualified flagger trainer with the Department. The Flagger Trainer's name and Qualification Number shall be furnished by the Contractor at the pre-construction meeting. The Contractor shall provide all flaggers with the MnDOT Flagger

Handbook and shall observe the rules and regulations contained therein. This handbook shall be in the possession of all flaggers while flagging on the Project. The Contractor shall obtain handbooks from the Department. Flaggers shall not be assigned other duties while working as authorized flaggers. The "Checklist for Flagger training" form shall be furnished to the Engineer any time a new flagger reports to work on the Project. The "Checklist for Flagger Training" form can be found at: <http://www.dot.state.mn.us/const/wzs/flagger.html>.

The Engineer will have the right to waive the above requirements.

#### S-15.4 GENERAL REQUIREMENTS

(A) All portable sign assemblies shall be perpendicular to the ground. No traffic control device (signs, channelizing devices, arrowboards, etc.) shall be weighted so they become hazardous to motorists and workers. The approved ballast system for devices mounted on temporary portable supports is sandbags, unless it is designed, crash tested, and approved for the specific device. During freezing conditions, the sand for bags shall be mixed with a de-icer to prevent the sand from freezing. The sandbags shall be placed and maintained at the base of the traffic control device to the satisfaction of the Engineer.

When signs will remain in the same location for more than 30 consecutive days the signs shall be post mounted. This would not include portable signs which are set up and taken down at the beginning and end of each work shift. The signs must be post mounted according to the Typical Temporary Sign Framing and Installation Detail Sheet found in the Plan or in these Special Provisions.

(B) When signs are installed, they shall be mounted on posts driven into the ground at the proper height and lateral offset as detailed in the MN MUTCD. **When signs are removed, the sign posts and stub posts shall also be removed from the Right of Way within two (2) weeks or the Contractor shall be subject to a daily charge assessed at a rate of \$100.00 per day for each day or portion thereof with which the Engineer determines that the Contractor has not complied.**

(C) The Contractor shall be required to cover or remove all traffic control devices which may be inconsistent with traffic patterns during all traffic switches. See Maintenance and Staging of Traffic Control.

(D) Open excavation adjacent to the existing pavement will not be permitted on opposite sides of the roadway at the same time.

(E) The Contractor shall provide protective devices necessary to protect traffic from excavations, drop-offs, falling objects, splatter or other hazards that may exist during construction. Equipment will not be allowed to suspend over traffic. This work shall be an incidental cost to the Contractor.

(F) The Contractor will not be permitted to park vehicles or construction equipment so as to obstruct any traffic control device. The parking of workers' private vehicles will not be allowed within the Project limits unless so approved by the Engineer.

(G) The Contractor will not be allowed to store materials or equipment within 10 m [30 feet] of through traffic unless approved by the Engineer. If materials or equipment must be

stored within 10 m [30 feet] of through traffic, the Contractor shall provide Type B channelizers, barricades or barriers, placed near the object to warn and protect traffic.

(H) All workers within the road Right-of-Way who are exposed to either traffic or to construction equipment shall wear reflectorized high-visibility safety apparel.

High-visibility safety apparel means personal protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usage, and at a minimum meets performance Class 2 requirements of the ANSI/ISEA 107 – 2004 publication entitled “American National Standard for High-Visibility Safety Apparel and Headwear”.

Additional Requirements: ANSI/ISEA 107-2004 Class 3 Requirements (Class 2 Vest with Class E Long Pants)

- Flag Persons – In addition to an ANSI Class 2 hat, vest, shirt, or jacket, flaggers shall wear high visibility Class E long pants.
- Nighttime and Low Light Conditions – All workers working at night or in low light conditions shall wear high visibility Class E long pants in addition to an ANSI Class 2 vest, shirt, or jacket.

All high visibility apparel must be worn in the manner for which it is intended to be worn. All apparel worn on the torso must be closed in the front to provide contiguous 360 degree visibility. If a worker’s high-visibility apparel becomes faded, worn, torn, dirty, or defaced, reducing the conspicuity of the apparel, the apparel shall be removed from service and replaced with new apparel.

The Contractor will be subject to a non-compliant charge for failure to adhere to the clothing requirements as listed above. Non-compliance charges, for each incident, will **assessed at a rate of \$500.00 per incident** that the Engineer determines that the Contractor has not complied.

(I) At the beginning of the Project, the Contractor shall store at least 6 extra Type III barricades and 6 extra retroreflective drums, at a convenient location within the Project limits, to be used at the discretion of the Engineer. No direct compensation will be made to the Contractor for furnishing and erecting these traffic control devices.

If additional devices, beyond the quantity specified above, are ordered by the Engineer the Contractor will be compensated according to Section S-15.5 (ADDITIONAL TRAFFIC CONTROL DEVICES) of this Special Provision.

**No additional payment will be made for any devices that are a part of the Engineer-approved Traffic Control Plan as required by S-15.1(B).**

(J) When work will be performed between the official hours of sunset and sunrise, all appropriate practices for night work will apply.

The Contractor shall provide sufficient numbers of light plants to adequately illuminate the work area as determined by the Engineer. All costs incurred to provide such light plants shall be incidental to the lump sum traffic control.

All Contractor's personnel, except operators who will remain in their vehicles at all times, shall wear reflectively striped (approximately 10 m [**33 feet**] of striping), highly visible, short sleeved one or two piece coveralls (color and striping pattern to be determined by the District Traffic Engineer), at all times while working on the Project. These coveralls shall be considered an incidental expense for which no direct compensation will be made. Any Contractor's employee found on the Project not wearing the prescribed reflective coveralls will be immediately ordered off the Project by the Engineer.

The Contractor shall provide a sufficient amount of 50 mm [**2 inch**] wide highly reflective vehicle marking tape to be applied to Contractor vehicles and equipment, as directed by the Engineer, and as provided by the manufacturer's instructions. This tape shall be considered an incidental expense for which no direct compensation will be made and shall be on the qualified products list for conspicuity vehicle sign sheeting as found at: <http://www.dot.state.mn.us/trafficeng/qpl/Signing.pdf>. Vehicle examples to be marked with tape are Contractor rollers, paver, millers and other equipment normally found in the lane closure.

(K) Street identification signage shall be maintained at all times. Where the only existing signs are small city or county signs located at the intersection, street names and address numbers shall be maintained by temporary installations as required by the Engineer. This is necessary to maintain the 911 emergency system.

#### S-15.5 ADDITIONAL TRAFFIC CONTROL DEVICES

In addition to the traffic control devices shown on the Traffic Control Layouts, and/or Field Manual, the Engineer may require more traffic control as traffic conditions may warrant. These items are not intended for temporary lane closures.

NOTE: These provisions will apply ONLY when the Plan contains Item(s) for 2563.601 (Traffic Control) and/or if "Traffic Control Layouts" are included in the Plan or attached to this Proposal.

(A) General Requirements:

The Contractor shall furnish the additional traffic control devices as ordered by the Engineer.

The devices shall be installed and maintained in a functional and/or legible condition, at all times, to the satisfaction of the Engineer.

(B) Measurement:

Flashers, barricades, reflectorized drums, portable changeable message signs, 1220 x 1220 mm [**48 x 48 inch**] signs, and flashing arrow boards will be measured by the number of individual units of each type multiplied by the number of Calendar Days each unit is in service.

Standard signs of each type, other than 1220 x 1220 mm [**48 x 48 inch**] signs will be measured by the face area of signs furnished multiplied by the number of Calendar Days each square meter [**square foot**] of sign is in service.

Special construction signs will be measured by the face area thereof furnished and installed as specified.

Flag Persons and Police Officers will be measured by the length of time each is in service on the job. Police Officers shall be equipped with a car at all times on the job and the car shall be incidental in the payment for the Police Officer.

(C) Payment:

Payment for additional traffic control devices of each type, at the appropriate pre-determined Unit Day price set forth below, shall be compensation in full for all costs of furnishing, installing, maintaining, and subsequently removing and disposing of the device.

Payment for standard signs of each type, other than 1220 x 1220 mm [48 x 48 inch] signs, will be made at the appropriate pre-determined Square Meter/Day [Square Foot/Day] price which shall be payment in full for all costs of furnishing, installing, maintaining and subsequently removing and disposing of the signs.

The pre-determined Square Meter [Square Foot] price for "Construction Signs - Special" shall be payment in full to furnish, install, maintain and remove such signs. All materials required to furnish and install these signs will remain the property of the Contractor.

Payment for Flag Persons and Police Officers will be by the Unit Hour for each hour or portion thereof that each is in service on the Project.

Payment for all additional traffic control devices, as ordered by the Engineer, will be made in accordance with the following schedule:

ADDITIONAL TRAFFIC CONTROL DEVICES

Item No.	Item	Unit	Predetermined Price
2563.610	Flag Person	Hour	*
2563.610	Police Officer	Hour	**
2563.613	Type I Barricade w/Steady Burn Light	Unit Day	\$1.05
2563.613	Type III Barricade	Unit Day	2.75
2563.613	Direction Indicator Barricade	Unit Day	1.25
2563.613	Reflectorized Plastic Safety Drum	Unit Day	0.85
2563.613	Reflectorized Plastic Safety Drum w/Down Arrow	Unit Day	0.95
2563.613	Weighted Traffic Channelizer	Unit Day	0.40
2563.613	Flasher Type A (Low Intensity)	Unit Day	0.50
2563.613	Flasher Type B (High Intensity)	Unit Day	1.75
2563.613	Flasher Type C (Steady Burn)	Unit Day	0.90
2563.613	1220 x 1220 mm [48 x 48 inch] Standard Sign	Unit Day	1.75
2563.613	1220 x 1220 mm [48 x 48 inch] Standard Sign w/Support	Unit Day	2.20
2563.613***	Portable Changeable Message Sign	Unit Day	225.00
2563.613****	Flashing Arrow Board (one shift)	Unit Day	33.00
2563.613****	Flashing Arrow Board (24 hour day)	Unit Day	45.00
2563.617*****	Standard Signs	m <sup>2</sup> /Day	1.08
2563.617*****	Standard Signs	SQ.FT./Day	0.10
2563.617*****	Standard Signs w/support	m <sup>2</sup> /Day	1.72
2563.617*****	Standard Signs w/support	SQ.FT./Day	0.16
2563.604	Construction Signs - Special	m <sup>2</sup>	270.00
2563.618	Construction Signs - Special	SQ.FT.	25.00

\* Shall be paid at the Contract Flagger Classification Total Rate, which is the Basic Rate plus the Fringe Rate.

\*\* Shall be paid at the invoice price plus 10%

\*\*\* (PCMS) Type C Trailer Mounted Message Signs will be permitted. It is imperative that the Contractor continually operate each PCMS at maximum legibility. Many factors, such as mechanical problems, insufficient charging, incorrect intensity settings, or other factors can degrade performance. If at any time the Contractor fails to operate a Portable Changeable Message Sign at maximum legibility, as determined by the Engineer, no payment will be made for each day that the Message Sign is deemed inadequate.

\*\*\*\* It is imperative that the Contractor continually operate each Flashing Arrow Board at maximum legibility. Many factors, such as mechanical problems, insufficient charging, incorrect intensity settings, or other factors can degrade performance. If at any time the Contractor fails to operate the Flashing Arrow Board at maximum legibility, as determined by the Engineer, no payment will be made for each day that the Flashing Arrow Board is deemed inadequate.

\*\*\*\*\* Other than 1220 X 1220 mm [48 X 48 inch] Signs, with or without support.

NOTE: These predetermined unit prices apply only if not listed as separate bid items.

Barricades, drums and signs by the Unit Day shall be paid for up to 90 days per device. After 90 days, payment per Unit Day will continue at a reduced price of 40% of the Unit price.

S-15.6 In order to provide for public convenience and safety, the Contractor may have to provide for dust control on public roads or streets over which materials are being hauled. Dust Control, solely for the benefit of the public, shall be implemented by the Contractor as directed by the Engineer and shall be considered incidental to the Contract Items and no other compensation will be made therefore.

The first and second paragraphs of 1404 are hereby deleted and the following substituted therefore:

S-15.7 During construction, the road shall be closed except to local traffic until such time as indicated by the Engineer. The Contractor shall keep the road open to all local traffic at his own expense.

S-15.8 The Contractor shall keep the portions of the project being used by local traffic in such condition that traffic will be adequately accommodated at all times. The Contractor shall provide and maintain temporary approaches, crossings, and intersections with trails, roads, streets, businesses, parking lots, residences, garages, farms, and other abutting property in acceptable condition, but will not be required to remove snow.

**S-16 (1505) COOPERATION BY CONTRACTORS**

The Contractor shall coordinate his work and cooperate with all other agencies and forces as may be performing concurrent work within the limits of this project, or on sections of roadway adjacent thereto, in a manner consistent with the Provisions of Mn/DOT 1505.

**S-17 (1506) SUPERVISION BY CONTRACTOR**

The Provisions of Mn/DOT 1506 are supplemented as follows:

S-17.1 At the Preconstruction Conference the Contractor shall designate in writing who the competent superintendent and competent individual (if different) will be for this Project. These persons can only be changed throughout the duration of the Project by submission of written authorization to the Engineer by the Contractor. The submittal of these persons shall be done before any work is performed on this Project.

S-17.2 The Contractor will be subject to an hourly charge for failure to comply with the requirements of Mn/DOT 1506. Non-Compliance charges, for each incident, will be assessed at a rate of \$100 per

**hour**, for each hour or portion thereof, during which the Engineer determines that the Contractor has not complied. No charge will be made if the deficiency is corrected within one (1) hour of notification.

S-17.3 An incident of Non-Compliance will be defined as the receipt of a written work order by the Contractor with instructions to correct a deficiency.

**S-18 (1507) UTILITY PROPERTY AND SERVICE**

All work over, below, or adjacent to any public utility shall be performed in accordance with the Provisions of Mn/DOT 1507, except as modified below:

S-18.1 No compensation will be made for additional costs incurred by the Contractor for any Special work or Special construction method necessary to prosecute work over, below or adjacent to utility property whose existence was indicated in the plans or Special Provisions.

S-18.2 The Contractor will be required to work around all utility poles, whether or not they have been moved or lowered. Where poles have been moved or lowered, prior to grading operations, a mound of earth shall be left around each pole of sufficient size to ensure its stability. Where such poles are moved or lowered before all grading on the project is otherwise completed, the Contractor shall remove any mounds of earth which may have been left. No compensation in addition to the contract price for Common Excavation will be made for this work.

S-18.3 It will be the Contractor's responsibility to contact the owners of all utilities in any area prior to the construction in the area so that the Contractor can be informed of the exact locations of all the utilities in the area including any that are not shown in the plans. It will also be the Contractor's responsibility to: (1) report any existing damage or faulty condition (i.e. sand in manholes, damaged valve boxes, etc.) to the owners prior to construction, as once excavation has commenced it will be assumed that all damage to underground installations has been caused by the Contractor's operations and it will be his responsibility to make the necessary repairs; and (2) upon completion of the project, contact all utility owners and make arrangements for a field inspection trip by his representative and representatives of the utility owners to confirm that all damages caused by the Contractor's operations have been repaired to the satisfaction of the owners.

S-18.4 All utilities that relate to this Project are classified as "Level D", unless the Plans specifically state otherwise. This utility quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data".

S-18.5 The following utility owners have existing facilities that may be affected by the work under this Contract, all of which they intend were necessary to relocate or adjust in advance of or concurrently with the Contractor's operations.

- Xcel Energy
- City of Cottonwood
- Lincoln-Pipestone Rural Water
- Minnesota Valley Co-Op
- Magellan Midstream Partners, L.P.
- Charter Communications
- Minnesota Energy Resources
- Frontier Citizens Communications Company

**S-19 (1513) TRUCK LOADING REQUIREMENTS**

The maximum load for any truck or trailer combination shall be the maximum allowable loading weight limits under Minnesota Statutes.

**S-20 (1515) CONTROL OF HAUL ROADS**

Control of haul roads shall be in accordance with the Provisions of Mn/DOT 1515 except as modified below:

S-20.1 The Contractor shall make all necessary arrangements concerning the use of all roads, except Trunk Highways, and shall be fully responsible to the road authority in control for any damages caused by his hauling operations, as well as for any other conditions created or imposed.

S-20.2 The Contractor shall safely maintain all public and private accesses affected by work on the Contract.

S-20.3 The Engineer can require the Contractor to furnish any material or equipment the Engineer determines is needed for the safe use of haul roads, detours, etc., both on or off the project. This shall include the use of water for dust control at the expense of the Contractor.

S-20.4 Any water used in conjunction with the "Control of Haul Roads" will be incidental work and no direct compensation will be made therefore.

**S-21 (1517) CLAIMS FOR COMPENSATION ADJUSTMENT**

The Provisions of Mn/DOT 1517 are hereby supplemented with the following:

**S-21.1 NOTICE OF CLAIM:**

At the time the Contractor gives written notice of the claim, the Contractor and the County shall immediately begin to keep and maintain complete and specific records to the extent possible. The records shall consist of, but are not limited to, cost and schedule records concerning the details of the perceived claim.

Unless otherwise agreed to in writing, the Contractor shall continue with and carry on the work and progress during the pendency of any claim, dispute, decision or determination by the Engineer, and any arbitration proceedings.

**S-21.2 SUBMISSION OF CLAIMS**

The Contractor shall submit the claim to the Engineer no later than 60 calendar days after receiving written notice from the Engineer that direct damages (money or time due) resulting from the claim has occurred in the opinion of the Engineer. If, in the opinion of the Contractor, the direct damages have not fully occurred, the Contractor shall provide written justification detailing why the direct damages have not fully occurred. This written justification shall be submitted to the Engineer no later than 30 calendar days from receiving the notice from the Engineer. If proper justification is not given as required within the 30 calendar day requirement or the claim is not submitted to the Engineer within 60 calendar days after receiving notice from the Engineer that the direct damages have occurred, the Contractor waives all claims for additional compensation in connection with the work already performed.

The contents of the claim shall be in accordance with MN/DOT 1517 and shall also include all scheduling documentation related to the claim.

The Engineer shall have access to the Contractors records involved in the claim and, when so requested, shall furnish the Engineer copies of claim documentation.

The Contractor shall promptly furnish any clarification and additional information or data requested in writing by the Engineer.

All claims shall be submitted through the Contractor. Submission of claims directly from subcontractors shall constitute a waiver of that portion of the claim.

#### S-21.3 DECISION ON CLAIMS

The County intends to resolve claims at the lowest possible administrative level. Upon receipt of the claim, the Engineer will make a written decision in relation to any claim presented by the Contractor within the following time frames:

- (A) For an adjustment in compensation, or other contractual dispute between the parties where the amount in controversy is \$100,000.00 or less, 60 calendar days from the receipt of the Contractor's claim;
- (B) For an adjustment in compensation, or other contractual dispute between the parties where the amount in controversy is more than \$100,000.00, 90 calendar days from the receipt of the Contractor's claim.

Unless the Contractor and the Engineer otherwise stipulate in writing to a later time, if the Engineer does not make a decision or determination within these time frames, the claim shall be deemed denied.

When the Contract has established a dispute resolution process, that moves the dispute through various levels of both organizations, this process shall also be completed within the above time period.

#### S-21.4 RIGHTS OF ARBITRATION

The decision of the Engineer in relation to the Contractor's claim shall be deemed final unless the Contractor commences a legal action within the time prescribed by law or unless the Contractor invokes arbitration as prescribed hereafter in these Special Provisions. Nothing herein contained shall be so construed as to preclude the Contractor from commencing a legal action in relation to claims for a single issue in excess of \$100,000.00 but the Contractor's sole legal remedy in relation to claims of \$100,000.00 or less shall be arbitration as prescribed hereafter in these Special Provisions. If the claim amount is in excess of \$100,000.00, the Contractor and Lyon County may mutually agree to arbitration.

#### S-21.5 Arbitration of Claims and Disputes:

- (A) All arbitration of claims shall be conducted in Minneapolis, Minnesota, or another mutually agreed upon location, in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then in effect.
- (B) If the Contractor elects to invoke his/her right to arbitration the Contractor shall file a Demand for Arbitration in writing with the American Arbitration Association and serve a

copy thereof upon the Engineer. Such Demand for Arbitration shall be made by claimant within 30 Calendar Days measured from actual receipt of the Engineer's decision as provided for above. The scope of the arbitration proceeding shall be restricted and limited to the matters presented to the Engineer upon which the decision or determination was made and shall include no other matters.

When the amount of the claim for arbitration is less than \$10,000.00, the Demand for Arbitration shall be given as provided for above, but the date for the hearing may be delayed by mutual consent until a date that is convenient for all parties. In no instances will this delay exceed one year in length from the date of Demand for Arbitration.

- (C) Because many issues will combine both a question of responsibility or liability and an issue of compensation amount, when the issue to be arbitrated contains a question of responsibility or liability, as well as an issue of compensation, the arbitration shall be bifurcated (separate rulings). The arbitrator shall rule as to liability prior to receiving evidence or testimony on any damage claim. In the event that the County is found to be liable to any degree, the arbitration proceeding shall continue before the same arbitrator to resolve any and all damage issues.
- (D) Each party shall submit to the arbitrator and exchange with each other in advance of the hearing their last best offers. The arbitrator shall be limited to awarding only one of the two figures submitted.
- (E) The decision or award of the arbitrator shall be supported by substantial evidence and, in writing, contain the basis for the decision or award and the findings of fact. The decision or award by the arbitrator when made shall be final and binding on both the County and the Contractor. There shall be no right of appeal of the decision and the award shall have the same finality as is accorded awards under the Uniform Arbitration Act, Minnesota Statutes Chapter 572.
- (F) For purposes of this section, a claim for adjustment in compensation shall mean an aggregate of operative facts which give rise to the rights which the Contractor seeks to enforce. That is to say, a claim under this section is defined as the event, transaction, or set of facts that give rise to a claim for compensation costs or expenses or damages which do not exceed \$100,000.00 in amount.
- (G) Any Contractor having a claim adjustment or dispute for an amount in excess of \$100,000.00 may waive or abandon the dollar amount of any such claim in excess of \$100,000.00 so as to bring the claim, adjustment or dispute within the scope and coverage of this section provided, however, that the amount allowed to any such Contractor by the arbitration award shall not exceed \$100,000.00. Various damages claimed by the Contractor for a single claim may not be divided into separate proceedings to create claims within the \$100,000.00 limit.
- (H) The claim shall be submitted to a single arbitrator who shall be selected by the parties from a list of arbitrators furnished by the American Arbitration Association. Each party shall alternately strike names from the list until only one name remains. The parties shall advise the American Arbitration Association that the person whose name thus remained on the list of arbitrators is their first choice but that if that person is not able to serve, the two persons

whose names were last stricken are acceptable, with the one whose name was last stricken being the first alternate.

Any alternate procedure that is mutually agreed upon by all parties to the dispute for the selection of the arbitrator may be used, but in the absence of mutual agreement the above selection procedures shall be utilized.

- (I) Unless mutually agreed to otherwise, the parties shall select the arbitrator within ten Calendar Days after each has received a copy of the list of arbitrators from the American Arbitration Association. If for any reason the parties do not select the arbitrator in the manner and within the time provided herein, the arbitrator shall be selected in accordance with the procedures of the American Arbitration Association.
- (J) Each party to the arbitration shall bear its own costs and fees assessed by the American Arbitration Association which shall be divided equally between the parties to the arbitration. This payment will be accomplished by the Contractor paying in full all costs and fees assessed by the American Arbitration Association for the arbitration and then submit the bill to the Engineer for 50 percent reimbursement.
- (K) More than one separate claim may be presented at each arbitration hearing if agreed to by the County, the Contractor, and the Arbitrator.

**S-22 (1601) SOURCE OF SUPPLY AND QUALITY**

The Provisions of Mn/DOT 1601 are supplemented as follows:

S-22.1 The Contractor will furnish and use only steel and iron materials that have been melted and manufactured in the United States in executing the work under this Contract, in conformance with the provisions of the U.S. Code of Federal Regulations 23CFR635.410. Domestic products taken out of the United States for any process (e.g. change of chemical content, permanent shape or size, or final finish of product) shall be considered foreign source materials.

All bids must be based on furnishing domestic iron and steel, which includes the application of the coating, except where the cost of iron and steel materials incorporated in the work does not exceed one-tenth of one percent of the total Contract cost or \$2,500.00, whichever is greater. The state may approve the use of foreign iron and steel materials for particular Contract items, provided the bidder submits, a stipulation identifying the foreign source iron and/or steel product(s) and the estimated invoice cost of the product(s), for one or more of the Contract bid items. Each stipulation shall be made on the "Stipulation for Foreign Iron or Steel Materials" form which shall be submitted with the Contractor's proposal. **If the Contractor chooses to use ANY non-domestic iron or steel, the Contractor must submit a stipulation.** The Contractor may use one of the following means to submit their stipulation:

1. Submit the stipulation form within the proposal.
2. If the Contractor submits a "Two Way Electronic Bid" as described in MnDOT 1206, the completed chart must be submitted to MnDOT prior to the bid opening and no later than 9:30 A.M. on the day of the bid opening.
  - a) The stipulation may be faxed to Nancy Boeve at 651-366-4248.
  - b) E-Mail the form to [biddocsubmittal.dot@state.mn.us](mailto:biddocsubmittal.dot@state.mn.us), place the State Project number in the subject line

- c) The stipulation may be mailed or otherwise delivered to Nancy Boeve, 395 John Ireland Boulevard, M.S. 650, ST. Paul, MN 55155.

The "Stipulation for Foreign Iron or Steel Materials" form is attached or can be found on the MnDOT Web site: <http://www.dot.state.mn.us/bidlet/forms.html>.

Prior to completing work the Contractor shall submit to the Engineer a certification stating that all iron and steel items supplied are of domestic origin, except for non-domestic iron and steel specifically stipulated and permitted in accordance with the paragraph above.

- S-22.2 Source of Supply and Quality: MnDOT 1604 is supplemented as follows: All costs of shop inspection at plants outside the United States shall be borne by the Contractor. Such costs shall be deducted from monies due or to become due the Contractor.
- S-22.3 Partial Payment: All provisions for partial payments shall apply to domestic materials only. No payments shall be made to the Contractor for materials manufactured outside of the United States until such materials have been delivered to the job site.
- S-22.4 Alternate Bidding Process. Unless an alternate bidding process is specified, use of foreign steel and iron products in quantities in greater than provided above is not permitted. When the alternate bidding process is permitted the Contract may be awarded to the bidder who submits the lowest total bid based on furnishing domestic iron or steel unless such total bid exceeds the lowest total bid based on foreign materials by more than 25 percent.
- S-23 (1701) LAWS TO BE OBSERVED (DATA PRACTICES)**  
The Provisions of Mn/DOT 1701 are supplemented with the following:
- S-23.1 Bidders are advised that all data created, collected, received, maintained, or disseminated by the Contractor and any subcontractors in performing the work contained in this Contract are subject to the requirements of MN Statute Chapter 13, the Minnesota Government Data Practices Act (MGDPA). The Contractor shall comply with the requirements of the MGDPA in the same manner as the Department. The Contractor does not have a duty to provide access to public data to the public if the public data are available from the Department, except as required by the terms of the Contract.
- S-24 (1701) LAWS TO BE OBSERVED (WET LANDS)**  
The provisions of MnDOT 1701 are modified and/or supplemented with the following :
- S-24.1 If the Contractor operations involve the excavation and/or disposal of material off MnDOT, County, or Township Right of Way, the Contractor is advised of the following:
- MN Statutes Sections 103G.2212 and 103G.241 stipulate that an agent or employee of another may not:
- 1) drain, excavate, or fill a wetland, wholly or partially; or
  - 2) construct, reconstruct, remove, or make any change in any reservoir, dam, or the course, current, or cross-section of any public water;

unless the agent or employee has obtained a signed statement from the property owner stating that any permit or wetland replacement plan required for the work has been obtained, or that a

permit or replacement plan is not required; **AND** this statement is mailed to the appropriate office with jurisdiction over the wetland or public water prior to initiating the work.

The "Landowner Statement and Contractor Responsibility For Work in Wetlands or Public Waters" can be found at:

[http://www.bwsr.state.mn.us/wetlands/forms/Contractor\\_Responsibility.doc](http://www.bwsr.state.mn.us/wetlands/forms/Contractor_Responsibility.doc) . The Contractor shall provide the Engineer with a copy of the completed "Landowner Statement and Contractor Responsibility for Work in Wetlands or Public Waters" for the excavation and/or disposal site prior to initiating the work.

**S-25 (1706) EMPLOYEE HEALTH AND WELFARE**

The provisions of Mn/DOT 1706 are supplemented with the following:

S-25.1 All construction operations shall be conducted in compliance with applicable laws, regulations and industry standards as described in Mn/DOT 1706. The Contractor shall be considered to be **fully responsible** for the development, implementation and enforcement of all safety requirements on the Project, notwithstanding any actions Mn/DOT may take to help ensure compliance with those requirements.

S-25.2 The Contractor shall submit a written safety program to the Engineer at the pre-construction conference addressing safety issues for all Project activities. This program shall contain name(s) of person(s) responsible for all safety requirements and this Contractor's Designee(s) shall be available at all times that work is being performed. The Contractor's designee(s) shall be responsible for correcting violations on the Project as observed by the Engineer or his/her representative.

S-25.3 The Contractor shall not use any motor vehicle equipment on this Project having an obstructed view to the rear unless:  
 (A) The vehicle has a reverse signal alarm which is audible above the surrounding noise level;  
 or  
 (B) The vehicle is backed up only when an observer signals that it is safe to do so.

S-25.4 **A \$500.00 monetary deduction (per incident) will be assessed by Mn/DOT for violations of safety standards and requirements that have the potential for loss of life and/or limb of Project personnel or the public.** The areas of special concern include, but are not limited to excavation stability protection, fall protection, protection from overhead hazards, vehicle backup protection, confined space safety, blasting operations, and personal safety devices.

S-25.5 None of the monetary deductions listed above shall be considered by the Contractor as allowance of noncompliance incidents of these safety requirements on this Project.

**S-26 (1707) PUBLIC CONVENIENCE AND SAFETY**

The Provisions of Mn/DOT 1707 are hereby supplemented by the following:

S-26.1 The Contractor shall release and agrees to save harmless the County, its agents and employees, from any and all claims of any kind or character whatsoever arising from damage, injury or death to persons or property caused by or resulting from the work performed on this Contract.

S-26.2 Any traffic control devices that are within the working limits of the Contract and not previously removed by the County, shall be removed by the Contractor and temporarily stored. Stop signs,

and other regulatory traffic signs, may be removed for short periods of time only when proper temporary traffic control is provided.

- S-26.3 Highway signs removed or relocated, flagmen, or other traffic control, furnished when traffic signs are temporarily removed and/or relocated shall be incidental to the Contract and no direct payment will be made for such work.
- S-26.4 The Contractor shall apply water for dust control as necessary for the safe use by forces working on the project and the public. All cost connected with dust control on the project, or on any haul road or detour, shall be considered an incidental expense and no direct compensation will be made for such work.
- S-26.5 The Contractor shall maintain reasonable access to all abutting properties while the Contract is in effect.

**S-27 (1710) TRAFFIC CONTROL DEVICES**

Traffic control shall be provided for in accordance with the Provisions of Mn/DOT 1710 except as modified below:

- S-27.1 All traffic control devices and methods shall conform to the Minnesota Manual on Uniform Traffic Control Devices (MN MUTCD), Minnesota Standard Signs Manual, the Traffic Engineering Manual, and the following:
- S-27.2 In accordance with the MN MUTCD all sign supports shall be crashworthy. Signs installed on barricades, barricade sign combinations, and all other portable supports shall be crashworthy. This includes all new and used Category I and Category II devices.
- S-27.3 The Contractor shall provide the Project Engineer a Letter of Compliance stating that all of the Contractors Category I and II Devices are NCHRP 350 approved as of July 1, 2006. The Letter of Compliance must also include approved drawings of the different signs and devices and shall be provided to the Project Engineer at the Pre-construction meeting.

**S-28 (1712) PROTECTION AND RESTORATION OF PROPERTY**

Protection and restoration of property will be performed in accordance with the Provisions of Mn/DOT 1712, except as modified below:

- S-28.1 The County will not be held responsible for damages done by the Contractor to property located below the ground surface within the Right of Way, even though the existence of such property is not shown on the plans, indicated in the Special Provisions or otherwise brought to his attention before the damage is done.

**S-29 (1714) RESPONSIBILITY FOR DAMAGE CLAIMS**

The first paragraph of Mn/DOT 1714 is revised to read as follows:

- S-29.1 The Contractor shall indemnify and save harmless the State of Minnesota, the County of Lyon, their officers and employees from all suits, action, and claims of any character brought because of injuries or damages received or sustained by any person, persons or property on account of the operations of the said Contractor; or on account of or in consequence of any act or omission, neglect, or misconduct of said Contractor; or because of any claims arising or amounts recovered

from infringements of patent, trademark, or copyright, or because of any claims arising or amounts recovered under the Worker's Compensation Act; or under any other law, ordinance or decree.

S-29.2 The Contractor shall not commence work under the Contract until he has obtained the following insurance, and such insurance has been approved by the Lyon County Attorney.

S-29.3 The Contractor shall deposit with the County Auditor certificates of insurance from each insurance company which has issued policies for the Public Liability and Property Damage Insurance and Extended coverage, Worker's Compensation Insurance and Automobile Public Liability Insurance. All certificates shall provide that the policies shall remain in force and effect on ten days written notice to the County Auditor before cancellation. The above-noted insurance certificates shall be submitted at the same time as the Contract and Bond as provided by Mn/DOT 1306. The Contractor shall comply with the provisions of Mn/DOT Specifications 1714 and shall take out and maintain during the life of this Contract such Comprehensive Public Liability Insurance, Property Damage Insurance and Contractor's or Protective Insurance as shall protect him and any subcontractors performing work covered by this Contract from claims for damages for personal injury, including death, as well as from claims for property damages which may arise from operations under this Contract, whether such operations are by himself or by any subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall be as follows:

**a. PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE**

Coverage shall be provided in the amount of not less than \$1,500,000.00 combined single limit per occurrence.

For and in behalf of himself, the County of Lyon as joint assured, and with a cross liability endorsement protecting the County of Lyon from claims or damages for personal injuries, including accidental death, as well as for claims for property damage which may arise from operations under the Contract, whether such operations be by the Contractor or by a subcontractor or by anyone directly or indirectly employed by either of them.

Said Public Liability and Public Property Damage Insurance Policy shall provide that the insurance company waives the right to assert the immunity of the County as a defense to any claims made under said insurance.

The amount of such insurance will be as follows:

Public Liability Insurance in an amount of not less than One Million Five Hundred Thousand Dollars (\$1,500,000.00) for all damages arising out of bodily injuries to, or death of one person and subject to the same limit for each person in a total amount of not less than One Million Five Hundred Thousand Dollars (\$1,500,000.00) on account of one accident and property damage insurance in an amount not less than One Million Five Hundred Thousand Dollars (\$1,500,000.00) for all damages to or destruction of property during the policy period.

**b. AUTOMOBILE PUBLIC LIABILITY INSURANCE**

Coverage shall be provided in the amount of not less than \$1,500,000.00 combined single limit per occurrence for each and every motor vehicle engaged in operations within the terms of this Contract.

One Million Five Hundred Thousand Dollars (\$1,500,000.00) for all damages arising out of bodily injuries to , or death of one person, and subject to that limit for each person, a total of One Million Five Hundred Thousand Dollars (\$1,500,000.00) for any one accident and property damage liability insurance in an amount not less than One Million Five Hundred Thousand Dollars (\$1,500,000.00) for all damages to or destruction of property on any one accident and subject to that limit, a total of One Million Five Hundred Thousand Dollars (\$1,500,000.00) for all damages to or destruction of property during the policy period, if any motor vehicles are engaged in operations with the term of the contract on this site of work covering the use of all such motor vehicles unless such coverage is included in the insurance provided for under subsection "A" hereof.

**c. WORKER'S COMPENSATION INSURANCE**

Coverage shall be provided as required by law. In addition, insurance shall be written by a company or companies acceptable to the Department. Certificates shall be provided for all insurance coverages. Certificates shall contain provisions that coverage will not be changed or allowed to expire without at least thirty days prior written notice to the Department.

For all his employees employed at the site of the project and, in case any work is sublet, the Contractor shall require the subcontractor to provide Worker's Compensation Insurance for all his employees.

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**(1717) AIR, LAND AND WATER POLLUTION (CONCRETE GRINDING)**

The provisions of MnDOT 1717 are supplemented and/or modified with the following:

**DIAMOND SURFACING**

**Slurry discharge shall not be deposited on any unvegetated inslopes, backslopes, or ditch bottoms. As the ditches have not become vegetated at the time of this contract, any slurry resulting from concrete grinding or grooving operations shall be collected and transported to a decanting pond, processing plant, or other location approved by the Engineer. The Contractor shall submit a slurry discharge control plan to the Engineer at the pre-construction conference.**

Residue and excess water resulting from this operation shall be removed from the roadway by a continuous vacuum and collection system. Residue and water shall not be permitted to flow across adjacent traffic lanes, onto shoulders, off bridge decks, into gutters, or enter closed drainage systems. The Contractor is responsible for providing a suitable means to manage the grinding residue.

The Engineer will identify stormwater treatment facilities, wetlands, and other areas of environmental sensitivity on the Project where the slurry discharge operations are not allowed.

The Engineer and Contractor will inspect the site prior to the start of grinding operations to mark and identify acceptable slurry placement locations. The spreading start and stop locations shall be clearly marked.

The slurry generated while grinding in areas where slurry discharge is not allowed shall be picked up and hauled for uniform disposal to areas where the slurry discharge is allowed or to a containment pond (pit).

(A) Rural Areas

~~In rural areas that have vegetated slopes the slurry can be deposited on the inslope or backslope as the grinding operation progresses down the road. The slurry must be deposited at a rate that will not reach the flow line (wetted perimeter) of a ditch, or the toe of a fill slope and within the Right of Way. The slopes must be 1:3 (V:H) or flatter. Limits of slurry deposition are determined in the field by providing the following buffers.:~~

- ~~• Provide a 5 foot buffer from the toe on the inslope and backslope of a roadside ditch, or~~
- ~~• Provide a 3 foot buffer from the water edge on the inslope and backslope of a roadside ditch that has water.~~
- ~~• Provide a 100 foot buffer from wetlands, lakes, ponds, streams, rivers, and infiltration/filtration treatment facilities;~~
- ~~• Provide a 5 foot buffer from the toe on fill slopes next to upland areas.~~

~~Spreading should begin a minimum of 1 foot from the shoulder, with each pass of the grinder moving the spreading operation farther down the slope to ensure no build-up of material of no more than 0.5 inches.~~

~~The vacuumed material shall be spread evenly on the adjacent slopes by dragging a flexible hose with a spreader bar or other approved device. Additional sediment control BMP's may be required to prevent loss of the slurry into the ditch system or off the Right of Way. Acceptable BMP's are:~~

- ~~• Compost filter log, MnDOT 3897,~~
- ~~• Aeration of the soil, which may require mowing, or~~
- ~~• Other methods approved by the engineer.~~

(B) Urbanized areas

In urbanized areas with closed drainage systems, the slurry shall be collected and transported to a lined containment pond constructed by the Contractor. To ensure a spill does not occur during transport the slurry should be collected in water-tight haul units. The containment ponds may be constructed within or outside the right-of-way. The Contractor must submit a slurry management plan along with written assurance of proper handling during all phases of transport and disposal at the preconstruction conference or at least 30 days prior to diamond grinding for approval by the Engineer. Areas outside of the Right-of-Way may require a separate NPDES construction stormwater permit.

At a minimum, the slurry management plan must include the following information for any proposal that will use a containment pond (pit):

- Provide an estimate of the volume of slurry that will be produced on the project and the volume of the containment pond (pit).

- Ownership and location of the containment pond.
- The plan must address if the pond will be lined with clay (including thickness of clay layer) or if an impermeable membrane will be used (including thickness of membrane).
- Describe how the water will be managed. Examples: Will the water be allowed to evaporate or once the fines have settled will the containment pond be dewatered and the water reused in the grinding operation, slurry broadcast operation, used in a commercially useful manor (i.e. dust control, grade compaction), or sent via sanitary sewer or hauled to a water treatment facility? \*If disposing at a treatment facility, the name of the treating facility must be provided.
- Describe how the solids (fines) will be managed. Examples: Will the solids be used as a fill material, a component in recycled aggregate or any other commercially useful application, transported to a facility where they can be stored for future, or disposed of in a landfill? The Contractor shall furnish the Engineer with a document that identifies the name and location of the reuse storage facility or a MPCA permitted lined mixed municipal solid waste or industrial landfill that the solids will be deposited.
- Any proposed reuse of water or solids must be fully described in the plan. Solids reuse must include a description of the engineering need for the material.

The pond area shall be reclaimed to its original condition and vegetated as appropriate to protect against erosion.

**(C) Control of pH**

The Contractor shall monitor and control the pH of the slurry for all operations. The slurry shall be managed to maintain a pH between 6 and 12. At no time shall slurry containing a pH outside the above limits be allowed to be deposited on the ground. At the start-up of operations, the Contractor shall test the pH at least once per hour to ensure it is within the acceptable limits. The test equipment shall be calibrated daily and approved by the Engineer.

Once the pH control plan is operational and producing consistent results, the testing frequency may be reduced to 4 tests per day. The Contractor shall keep a signed and dated log of all test results and have available to the engineer upon request. The Contractor shall determine the procedure to be used to maintain the slurry within the acceptable range. No direct payment will be made for these procedures.

**S-31 (1717) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT**

Pollution of natural resources of air, land and water by operations under this Contract shall be prevented, controlled, and abated in accordance with the rules, regulations, and standards adopted and established by the Minnesota Pollution Control Agency (M.P.C.A.), and in accordance with the Provisions of Mn/DOT 1717, these Special Provisions, and the following:

- S-31.1 By signing the Proposal and completing the NPDES permit application, the Contractor is a co-permittee with the County to ensure compliance with the terms and conditions of the General Storm Water Permit (MN R100001) and is responsible for those portions of the permit where the operator is referenced. This Permit establishes conditions for discharging storm water to waters of the State from construction activities that disturb 0.4 hectares [1 acre] or more of total land area. A copy of the "General Permit Authorization to Discharge Storm Water Associated with a Construction Activity Under the National Pollutant Discharge Elimination System (NPDES)/State

Disposal System Permit Program" is available at <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html> or by calling 651-296-3890.

- S-31.2 The Contractor shall apply and pay for the NPDES Permit on this Project. Payment for the application shall be incidental to the Contract and no direct compensation will be made. Lyon County will provide the Contractor with the application form with Sections 1 thru 3 and 5 thru 14 completed, as part of the Contract document package. The Contractor shall fill out the Contractor's portion (Section 4 and Section 15) complete the application process, and post the Permit and MPCA's letter of coverage onsite.

**A NPDES Permit Declaration form is included in this proposal. A copy of the signed permit application and a signed Permit Declaration form must be returned with the Contract and Bond. Submittal of the copy of the signed permit application and Permit Declaration is mandatory for Contract approval. No work which disturbs soil and/or work in waters of the state will be allowed on this Project until the NPDES Permit is in effect and the Department has received the required documentation.**

- S-31.3 The Contractor shall be solely responsible for complying with the requirements listed in Part II.B and Part IV of the General Permit.

The Contractor shall be responsible for providing all inspections, documentation, record keeping, maintenance, remedial actions, and repairs required by the permit. All inspections, maintenance, and records required in the General Permit Paragraphs IV.E, shall be the sole responsibility of the Contractor. The word "Permitee" in these referenced paragraphs shall mean "Contractor". Standard forms for logging all required inspection and maintenance activities shall be used by the Contractor. All inspection and maintenance forms used on this Project shall be turned over to the Engineer every two weeks for retention in accordance with the permit.

The Contractor shall have all logs, documentation, inspection reports on site for the Engineer's review and shall post the permit and MPCA's letter of coverage on site. The Contractor shall immediately rectify any shortcomings noted by the Engineer. All meetings with the MPCA, Watershed District, WMO, or any local authority shall be attended by both the Engineer and the Contractor or their representatives. No work required by said entities, and for which the Contractor would request additional compensation from Lyon County, shall be started without approval from the Engineer. No work required by said entities and for which the changes will impact the design or requirements of the Contract documents or impact traffic shall be started without approval from the Engineer.

The Contractor shall immediately notify the Engineer of any site visits by Local Permitting Authorities performed in accordance with Part V.H.

- S-31.4 Emergency Best Management Practices must be enacted to help minimize turbidity of surface waters and relieve runoff from extreme weather events. It is required to notify the MPCA Regional contact person within 2 days of an uncontrolled storm water release. The names and phone numbers of the MPCA Regional Contact personnel can be found at: <http://www.pca.state.mn.us/water/stormwater/stornwater-c.html>. The Contractor is reminded that during emergency situations involving uncontrolled storm water releases that the State Duty Office must be contacted immediately at 1-800-422-0798 or 1-651-649-5451.

S-31.5 The Contractor is advised that Section 1 of the NPDES application form makes reference to a Storm Water Pollution Prevention Plan (SWPPP). This Project's SWPPP is addressed throughout Mn/DOT's Standard Specifications for Construction, as well as this Project's Plan and these Special Provisions. The following table identifies NPDES permit requirements and cross-references where this Contract addresses each requirement.

Last revision 2/1/07

**NPDES Permit Requirements Cross-Reference within this Contract**

NPDES Permit Requirements	Cross-Reference within this Contract
Obtain NPDES Permit; Permit Compliance; Submit Notice of Termination	Mn/DOT 1701, 1702 and 1717 Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Certified Personnel in Erosion / Sediment Control Site management Develop a Chain of Command	Mn/DOT 1506, 1717, and 2573; Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Project / Weekly Schedule (for Erosion/ Sediment Control) Completing Inspection / Maintenance Log/ Records	Mn/DOT 1717 and 2573; Special Provisions: 1717 (Air, Land & Water Pollution), 1717 (National Pollutant Discharge Elimination System (NPDES) Permit); and
Project Specific Construction Staging	The Plans: Mn/DOT 1717; Special Provisions: 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit) 1806 (Determination and Extension of Contract Time)
Temporary Erosion / Sediment Control	The Plans: Mn/DOT 2573 and 2575
Maintenance of Devices / Sediment removal Removal or Tracked Sediment Removal of Devices	The Plans: Mn/DOT 1717 and 2573; Special Provisions: 1514 (Maintenance During Construction) 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Dewatering	Mn/DOT 2105.3B and 2451.3 C; May also require DNR Permit
Temporary work not shown in the Plans Grading areas (unfinished acres exposed to erosion)	Mn/DOT 1717, 2573, and 2451C; Special Provisions 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)
Permanent Erosion /Sediment Control and Turf Establishment	The Plans: Mn/DOT 1717, 2573 and 2575; Special Provisions: 1717 (Air, Land & Water Pollution), and 1717 (National Pollutant Discharge Elimination System (NPDES) Permit)

S-31.7 The Contractor shall review and abide by the instructions contained in the permit package. The Contractor shall hold Lyon County harmless for any fines or sanctions caused by the Contractor's actions or inactions regarding compliance with the permit or erosion control provisions of the Contract Documents.

S-31.8 If the Contractor fails to perform the requirements as listed herein, the Engineer will issue a Work Order detailing the required action. The Contractor shall start the required action within twenty-four (24) hours of receipt of the Work Order and continue the required action until the Project is brought into compliance with the permit. Failure to perform the required action as specified, shall subject the Contractor to a \$1000/calendar day deduction.

**S-32 IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

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

- (1) That any facility to be utilized in the performance of this Contract, unless such Contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub. L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub. L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 C.F.R. Part 15), is not listed on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 C.F.R. 15.20.
- (2) That the County Highway department shall be promptly notified prior to Contract award of the receipt by the bidder of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility to be utilized for the Contract is under consideration to be listed on the EPA List of Violating Facilities.

**S-33 TEMPORARY POLLUTION CONTROL**

The Contractor shall furnish material, labor and equipment for temporary control measures as shown in the Plans or ordered by the Engineer and shall provide for the acceptable maintenance thereof during the life of the Contract, to effectively prevent water pollution through the use of berms, dikes, dams, sediment basins, filter mats, silt fences, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

S-33.1 Temporary pollution control may include construction work outside the Right of Way where such work is necessary as a result of borrow pit operations, haul road construction, equipment storage, and plant or waste disposal sites.

S-33.2 The temporary pollution control provisions contained herein shall be coordinated with the permanent erosion control features specified elsewhere in the Contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction and post construction period.

S-33.3 At the pre-construction conference, or prior to the start of the applicable construction, the Contractor shall submit for acceptance his proposed schedules for accomplishment of temporary and permanent erosion control work as are applicable for clearing and grubbing, grading, construction of bridges and other structures at watercourses, paving, and miscellaneous construction. He shall also submit for acceptance his proposed method of erosion control on haul roads and at borrow pits and his plans for disposal of waste material. No work shall be started until

the applicable erosion control schedules and methods of operations have been accepted by the Engineer.

**S-33.4 MATERIALS FOR TEMPORARY CONTROL**

(a) Mulches may be hay, straw, fiber mats, netting, wood cellulose, corn or tobacco stalks, bark, corn cobs, wood chips, or other suitable material acceptable to the Engineer and shall be reasonably free of noxious weeds and other deleterious matter.

(b) Slope drains may be constructed of pipe, fiber mats, rubble, portland cement concrete, bituminous concrete, plastic sheets, or other suitable material acceptable to the Engineer.

(c) Grass shall be quick growing species (such as rye or cereal grasses) suitable to the area, that will provide a temporary cover which will not later compete with the grasses sown for permanent cover.

(d) Fertilizers and soil conditioners shall be a standard commercial grade acceptable to the Engineer.

(e) Other materials as approved for use by the Engineer.

**S-33.5 CONSTRUCTION REQUIREMENTS**

The Engineer shall have authority to limit the surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and fill operations and to direct the Contractors to provide immediate permanent or temporary control measures to prevent contamination of adjacent streams and other water courses, lakes, ponds, and areas of water impoundment. Cut slopes shall be seeded and mulched as the excavation proceeds to the extent considered desirable and practicable.

S-33.6 The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in his accepted schedules. Temporary pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design state; that are needed prior to installation of permanent erosion that develops during normal construction practices, but are not associated with the permanent control features on the project.

S-33.7 The Engineer will limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent erosion control measures current in accordance with the accepted schedules. Should seasonal limitation make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.

S-33.8 The Contractor is required to incorporate into his erosion control activities the Best Management Practices "B.M.P.'s" described in the MPCA General Storm Water Permit for Construction Activity (#MNR100001), included in the contract award packet.

S-33.9 In the event of conflict between these requirements and any pollution control laws, rules, or regulations of other Federal and State or local agencies, the more restrictive requirements shall apply.

- S-33.10 Where erosion is likely to be a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter if the Project conditions permit; otherwise, temporary erosion control measures may be required between successive construction stages. Under no conditions shall the surface area of earth material exposed at one time by clearing and grubbing exceed 217,000 square feet without an erosion control plan which is approved by the Engineer.
- S-33.11 Under no conditions shall the amount of surface area of erodible earth material exposed at one time by excavation, borrow, or embankment operations within the Right of Way, including temporary easements, exceed 750,000 square feet without prior approval of the Engineer.
- S-33.12 The Engineer may increase or decrease the amount of surface area of erodible earth material that may be exposed at one time by clearing and grubbing, excavation, borrow, and embankment operations, as determined by his/her analysis of Project conditions.

**S-33.13 MEASUREMENT AND PAYMENT**

All temporary and permanent erosion and pollution control measures necessitated by the Contractor's operations outside the Right of Way, and all temporary erosion and pollution control measures necessitated by the Contractor's negligence, carelessness, or failure to properly coordinate the installation of permanent controls as part of the work scheduled within the Right of Way, shall be performed as ordered by the Engineer at the Contractor's own expense.

- S-33.14 In case of failure on the part of the Contractor to control erosion, pollution, and siltation as ordered, the County reserves the right to employ outside assistance or to use its own forces to provide the necessary corrective measures. All expenses so incurred by the County, including its engineering costs, that are chargeable to the Contract as his obligation and expense, will be deducted from any monies due or coming due the Contractor.
- S-33.15 All temporary and permanent erosion and pollution control measures performed as planned work within this Contract shall be paid for under the applicable bid items identified in this Contract for this purpose or as Extra Work if no bid items are provided.

**S-34 (1801) SUBLETTING OF CONTRACT**

The Provisions of Mn/DOT 1801 are hereby modified in accordance with the following:

- S-34.1 The second sentence of the first paragraph of Mn/DOT 1801 is modified to read:

In case consent is given, the Contractor will be permitted to sublet a portion thereof, but the Contractor's organization shall perform work amounting to not less than 40 percent of the total original Contract cost.

- S-34.2 The first sentence of the second paragraph of Mn/DOT 1801 is modified to read:

On Contracts with Disadvantaged Business Enterprise (DBE) or Targeted Group Business (TGB) established goals, or both, the Contractor's organization shall perform work amounting to not less than 30% of the total original Contract cost.

**S-35 (1803) PROSECUTION OF WORK**

A Bar Chart will be required at the pre-construction meeting. An updated bar chart will be required to be submitted on a bi-weekly basis to reflect any schedule changes.

**S-36 (1806) DETERMINATION AND EXTENSION OF CONTRACT TIME**

The Contract Time will be determined in accordance with the Provisions of 1806 and the following:

S-36.1 Construction Operations shall be started on or after **May 13, 2013**. At the request of the Contractor, the Engineer may approve an earlier starting date. However, work may not be started before Contract Approval. Once a start date is determined and work has commenced, all work, including turf establishment and final clean-up shall be completed by **August 9, 2013**.

S-36.2 No work which will restrict or interfere with traffic shall be performed between 12:00 noon on the day preceding and 9:00 A.M. on the day following any consecutive combination of a Saturday, Sunday, and legal holiday without written permission from the Engineer.

(A) If the Contractor chooses not to work at all on the day preceding the holiday period, no working day charges will be assessed.

(B) If the Contractor chooses to work prior to 12:00 noon on the day preceding the holiday period or if the Contractor obtains written permission to work after 12:00 noon on the day preceding the holiday period, working day charges will be assessed only for the actual hours worked.

S-36.3 The provisions of Mn/DOT 1806.1C(3) are modified to the extent that the term “(C) during the inclusive period from November 15 to April 15”; is deleted. A similar phrase set forth in the second paragraph of Mn/DOT 1807.2 is also deleted.

S-36.4 The Contractor shall notify the Engineer of all changes in the following day’s work schedule for construction by 1:00 P.M. except on Friday, which will be by 10:00 A.M.

**S-37 (1807) FAILURE TO COMPLETE THE WORK ON TIME.**

Liquidated damages for failure to complete the work on time will be assessed in accordance with the Provisions of Mn/DOT 1807.

S-37.1 Liquidated damages will be assessed based on the FULL Contract amount in accordance with Table 1807-1.

**S-38 (1809) EMERGENCY CANCELLATION OF CONTRACT**

The first paragraph of Mn/DOT 1809 is revised to read:

S-38.1 The Department may, by written notice, terminate the Contract or any portion thereof when it is deemed in the best public, County, or national interest to do so; or after finding that for reasons beyond the Contractor’s control he is prevented from proceeding with or completing the Contract work within a reasonable period of time.

**S-39 (1901) MEASUREMENT OF QUANTITIES**

The provisions of Mn/DOT 1901 are supplemented by the following:

S-39.1 The Contractor shall provide automated weighing devices when materials are paid for by mass (weight) and hauled in trucks.

- S-39.2 The (P) designation referred to herein will be shown only in the "Statement of Estimated Quantities" in the Plans and in the Proposal. In the absence of such designation, quantities for those items defined in the Standard Specifications as "plan quantity" items will be recomputed. Unless otherwise directed by the Contract, the methods of measurement indicated in the specifications for these items will be used, disregarding any reference to plan quantity.
- S-39.3 **Automated Weighing Device**  
Automated weighing devices shall be integrated with a ticket printer. The ticket shall contain the date, project number, pay item number, truck or tractor and trailer identification, truck tare and net mass (weight). The Contractor shall provide the truck driver with a copy of the weigh ticket. The truck driver shall give the ticket to the inspector on the project.
- S-39.4 All quantities paid by the "ton" shall be weighed using a certified platform scale.
- S-39.5 The use of a loader scale may be used by the Contractor for items less than 500 tons. The Engineer may approve the use of the loader for quantities greater than 500 tons if requested by letter from the Contractor.
- S-40 (1903) INCREASED OR DECREASED QUANTITIES**  
Lyon County reserves the right to increase or decrease the quantities of any item without adjustments in the contract unit prices and the provisions of 1903 shall not apply.
- S-41 (1904) EXTRA AND FORCE ACCOUNT WORK**  
The provisions of MnDOT 1904 are supplemented and/or modified with the following:
- S-41.1 The Contractor is required to submit force account work itemized statements of costs in accordance with MnDOT 1904 to the Engineer on MnDOT form TP-21659 (Summary of Daily Force Account). Copies of this form can be obtained from the Engineer.
- S-41.2 The following sentence shall be added to the second paragraph of MnDOT 1904:  
  
"Under no circumstance will the negotiated unit price for Extra Work which is performed by a subcontractor include a Prime Contractor allowance which exceeds that provided for in 1904(4), Paragraph 3."
- S-42 (1905) ELIMINATION OF WORK**  
Work shall be accomplished in accordance with the Provisions of 1905, except as modified below:
- S-42.1 Lyon County reserves the right to delete any item without adjustment in the Contract price.
- S-43 (1906) PARTIAL PAYMENTS**  
Partial payments will be made in accordance with the Provisions of Mn/DOT 1906, except as modified below:
- S-43.1 From the amounts ascertained as payable on each partial estimate, five (5) percent will be retained to protect the Department's interests.
- S-43.2 Payment for materials on hand will not be made under this Contract.

S-43.3 Partial payments will be made out the first week of the month for work completed in the previous month.

**S-44 (1908) FINAL PAYMENT**

Before final payment is made for the work on this project, the Contractor must make a satisfactory showing that he has complied with the Provisions of Minnesota Statutes 290.92, requiring the withholding of State Income Tax for wages paid employees on this project. Receipt of a certificate of compliance from the Commissioner of Taxation will satisfy this requirement. The Contractor is advised that before such certificate can be issued, he must first place on file with the Commissioner of Taxation an affidavit that he has complied with the Provisions of MN 290.92. The required affidavit form will be supplied by the Commissioner of Taxation, Centennial Building, St. Paul, MN, on request.

S-44.1 Before final payment is made for work on this project, the Contractor must make a satisfactory showing that he has made a settlement with the owner or owners of the gravel, sand, binder soil, borrow soil, sod or rock deposits for which the Contractor selects the source of the material.

**S-45 (2011) CONSTRUCTION SURVEYING**

The provisions of MnDOT 1508 are hereby modified and supplemented as follows:

**S-45.1 GENERAL SURVEY SPECIFICATIONS**

This Contract provides for the Contractor to accomplish the Construction Surveying for this Project. MnDOT 1508 is herewith modified to the extent that the Contractor shall meet all the requirements of, and provide all the services listed in, MnDOT 1508 which would otherwise be provided by Lyon County. Furthermore, in accordance with MnDOT 1401, the Contractor is advised that the Contract may not fully describe every detail or make specific allowances for all probable exceptions and contingencies related to the Construction Surveying requirements for this Project. Additional best management practices (BMP's) for Construction Surveying are identified in Appendix A of the MnDOT Surveying and Mapping Manual, in addition to the requirements shown below:

**S-45.2 SURVEYING TO BE PERFORMED BY LYON COUNTY**

(A) Lyon County will set the initial horizontal and vertical control points in the field for the Project. Upon request, Lyon County will also provide electronic data on the control so established. This electronic data will be provided in the format that was used in the accomplishment of the surveys for the Construction Plan, and in Construction Plan development itself. However, due to the many different processes that the design survey data goes through and the large variety of sources of input in the final production of the Plan itself, no warrantee is made as to the value or adaptability of the electronic data to the Surveyor. No warrantee is made that the data systems used by Lyon County or any consultants employed by Lyon County for Surveying or Construction Plan preparation will be compatible with the systems used by the Contractor's Surveyor. Information shown on the printed "Plan" shall always govern over any electronic "Plan" data.

At the discretion of the Lyon County Engineer, spot checks may be performed upon the Contractor's surveying calculations, records, field procedures, and actual staking. If the Engineer determines that the work is not being performed in a manner that will assure proper

controls and accuracy, the Engineer will order the Contractor to redo such work, to the standards specified in the Contract, at no additional cost to Lyon County.

If Lyon County sustains undue costs in checking excessive amounts of Contractor Construction Surveying, or must perform survey work that is the Contractor's responsibility, the Engineer may deduct Lyon County's cost from monies due or becoming due the Contractor in accordance with the following rates:

	<u>Hourly Rates</u>
Registered Engineer or Licensed Land Surveyor	\$80.00
4-person crew and equipment	\$240.00
3-person crew and equipment	\$180.00
2-person crew and equipment	\$125.00
1-person with equipment	\$75.00

or as incurred by Lyon County should it become necessary, due to Lyon County resource commitments, to have such work performed by a consultant under contract to Lyon County.

- (B) Lyon County will measure all of the pay quantities under this contract.
- (C) Lyon County will be responsible for setting the following final monumentation:

Horizontal Control  
Vertical Control

**Lyon County will provide eight horizontal and vertical control points throughout the length of the project. Any additional control necessary for construction staking will be the responsibility of the Contractor.**

S-45.3 CONSTRUCTION SURVEYING BY THE CONTRACTOR

(A) Contractor Construction Surveying Requirements

Construction Surveying is defined as accurately providing all necessary computations, stakes and marks to establish lines, slopes, elevations, points, continuous profile grades in accordance with MnDOT 1508 and the requirements shown in the Plan for Construction Staking; so that the Contractor's forces are able to construct all required work for the Project in accordance with the Contract requirements; and so that Lyon County Engineers and Inspectors are able to complete all necessary inspection and Contract Administration duties. The staking shall include, but not be limited to, clearing and grubbing, removals, grading, culverts, embankments, borrow, aggregate base course, pavements, bridges, utilities, signs, pavement markings, erosion control and turf establishment items to complete the Project as represented in the Plans. The Surveying must be done in a way that is timely, and that is reflective of the continuing and ongoing nature of construction and inspection activities which will generally require frequent, separate Project visits by the Contractor's survey crew to the Project to accommodate the various stages of construction and inspection activities that will occur.

The Surveyor shall be prepared to make all necessary surveying checks for field verification of actual conditions and shall make the necessary minor surveying and staking adjustments to fit the construction to actual field conditions. In addition, some Plan details may be dependent upon actual field conditions at the time of construction. It may be necessary to perform some field survey or office computations in order to stake these components. All work referred to in

this paragraph is considered part of the work of Construction Surveying and no additional payment will be made for this work.

The Contractor shall retain a Professional Land Surveyor or Professional Engineer, licensed in the State of Minnesota, to directly supervise the Construction Surveying. Any determination of, or marking of, Right-of-Way must be performed under the supervision of a Licensed Land Surveyor. Additionally, for those projects let after August 31, 2007, an individual holding a NSPS - ACSM Level III certification in Construction Surveying, an LSIT, or a licensed Surveyor/Engineer, shall be on the Project site at all times to directly supervise the survey crew(s).

The Contractor shall:

1. Be responsible for the preservation of all reference points, monuments, government land corners, horizontal and vertical control points, stakes, and marks that are established by Lyon County or others within the Project limits. If the Contractor or its surveyor fails to preserve these items and if they must be reestablished by Lyon County, the Engineer will deduct a charge from monies due or becoming due the Contractor according to the Department's costs as shown elsewhere in these Special Provisions.
2. Be responsible to review, balance, adjust, correct, and investigate Lyon County provided data and to perform work on survey data and control points that may be necessary to use the survey points and data, all at no extra cost to Lyon County, unless it is determined by the Lyon County Engineer that latent errors existed in the information provided by Lyon County.
3. Start and end all level runs, traverses, or GPS control surveys, from known control. Complete all control surveys at no worse than the standards specified for supplemental control in Chapter 2, MnDOT Surveying and Mapping Manual.
4. Unless otherwise agreed to, set all stakes and marks in accordance with the **Plan and Profile Sheets** included in the Plan.
5. Furnish and install traffic control devices in accordance with the Field Manual for Temporary Traffic Control Zone Layouts, Part VI, (MN MUTCD), when crew members are exposed to traffic.
6. Perform all Construction Surveying for all Project construction as shown in MnDOT 1508, and shall install reference points as needed for the use of any public utility crews that are staking or accomplishing utility relocation or construction associated with this Contract.
  - a. From Horizontal and Vertical Control Points established by the Engineer.
  - b. According to the Plan, Proposal and Standard Specifications.
  - c. According to the MnDOT Surveying and Mapping manual.
  - d. According to actual existing field conditions.

**The Contractor shall make minor changes to the profile grades shown on the plan sheets as directed by the Lyon County Engineer or Lyon County Surveyor.**

7. Perform Bridge and Structure Construction staking which includes setting and reestablishing Working Points and Reference Points by XYZ coordinates to provide line and grade during all stages of work, and at all substructures and segments of Bridge or Structure Construction, as shown below:
    - a. Establish Working Points or Reference Points, approved by the Engineer, on the ground as shown on the Bridge Layout sheet in the Plans.
    - b. Transfer of required points from the ground to the top of footing after completion of concrete footing construction. If the structure is a curved wall or bridge edge of slab, curb, coping, median, or railing, the Contractor's Surveyor shall mark a curved line on the footings, forms, or deck slab, to the proper degree of curvature within 3 mm in 3 meters, 1:1000 (1/8 inch in 10 feet), as needed for construction and inspection activities.
    - c. Transfer required points to the top of all finished structures.
    - d. Transfer required points to the superstructure deck forming. (Lyon County personnel will complete all work associated with beam stool elevations.)
  8. Bear all costs, including but not limited to the cost of actual reconstruction of Contract work that may be incurred due to errors in Contractor's Construction Surveying.
  9. Document surveying during construction in a form acceptable to the Engineer and allow the Engineer access to surveying notes and calculations. The survey documentation includes:
    - a. Control station monumentation with reference ties.
    - b. Field notes that were used to set construction stakes, control the Project, and document monument locations. The Contractor shall use bound, hard cover field books for recording survey data and field notes; store field notes on an electronic medium; or use both methods. If an electronic medium is used, the raw field data files must be available. When using an electronic medium, the Contractor shall make all files and data available in the Standard formats used by Lyon County.
  10. Furnish survey documentation and as-built Survey Data to the Engineer within the time limits indicated in the surveying work schedule.
- (B) Contractor Construction Surveying Activities
1. The Contractor shall give the Engineer a 14 calendar day written notice before the Contractor needs Lyon County to establish any horizontal and vertical control points shown in the Plan for Construction Surveying.
  2. At the preconstruction conference, the Contractor shall submit to the Engineer for approval a written Construction Surveying Work Plan and Schedule detailing:
    - a. Pertinent information as to how the requirements in these specifications, and the requirements in Appendix A of the MnDOT Surveying and Mapping Manual, are being met by the Contractor's Surveyor.
    - b. A Project specific Construction Surveying Work Schedule for the Construction Surveying and how it relates to the time frame for construction activities and Lyon County inspection needs.

- c. A proposed method of communications between the Contractor, Surveyor, and Lyon County Project Personnel.
  - d. How and when the Contractor's Surveyor will make delivery of the as-built Survey Data to Lyon County.
3. During the course of construction, the Contractor shall give notice of commencement of any Construction Surveying activities according to MnDOT 1803.2.

S-45.4 METHOD OF MEASUREMENT

The Engineer will measure Construction Surveying on a lump sum basis.

S-45.5 BASIS OF PAYMENT

Lyon County will pay for Construction Surveying on a Lump Sum Basis at the Contract unit bid price. Payment shall be compensation in full for all surveying work including materials, surveying equipment, labor, office work, and any incidental costs required by the Contract.

(A) Payment Schedule

Lyon County will authorize partial payment for 10 percent of the Contract unit bid price for Construction Surveying after completion of the first day of Contractor Surveying in the field. When Construction Surveying is more than 10 percent complete, Lyon County will authorize partial payment in the same percentage as the percentage of Construction Surveying accomplished, as determined by the Engineer, up to 90 percent of the lump sum bid price. The Contractor will receive the final 10 percent of the lump sum bid price when the survey computations, notes, miscellaneous documents, and as-built Survey Data as specified have been received and accepted by the Engineer within the time limits specified by the Survey Work Schedule. If the Contractor fails to provide acceptable documentation and the as-built Survey Data within the time limits specified, Lyon County reserves the right to reduce the lump sum payment for Contractor Construction Surveying by a percentage of up to 10 percent of the lump sum bid price.

(B) Payment for Extra Work

When the Engineer determines that extra or additional Construction Surveying beyond the scope of the original Contract is required and orders the Contractor to accomplish this work, compensation will be made as Extra Work in accordance with MnDOT 1904 and at the same rate shown for a Lyon County survey crew above. If the Construction Surveying is accomplished by a subcontract, the prime Contractor allowance will be five (5) percent.

(C) Payment

Payment for Construction Surveying will be made on the basis of the following:

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
2011.601	Construction Surveying	Lump Sum

S-46 **(2051) MAINTENANCE AND RESTORATION OF HAUL ROADS**

The Provisions of Mn/DOT 2051 are modified with the following:

- S-46.1 The Contractor shall make all necessary arrangements concerning the use of all roads, except Trunk Highways, and shall be fully responsible to the road authority in control for any damages caused by

his hauling operations as well as for any other conditions created or imposed. The Contractor shall provide a list of all haul roads to the department prior to work commencing.

- S-46.2 The Contract shall safely maintain all public and private accesses affected by work on the Contract.
- S-46.3 Payment for Item 2051.501, Maintenance and Restoration of Haul Roads, at the Contract lump sum shall be considered to be compensation in full for all costs of maintenance and restoration of all haul roads that have been officially designated and used in conjunction with the Contract work.
- S-46.4 The Contractor will be required to water all aggregate haul roads while using them. Water used and placement of water on the haul roads will be considered incidental to 2051.501, Maintenance and Restoration of Haul Roads.
- S-46.5 The County will require the Contractor to contact and obtain approval from the proper jurisdictional agency (Township or County) for haul roads to be used for this work. This must be accomplished through documentation submitted to the Engineer prior to the use of any haul road. A standard form for this procedure may be obtained from the office of the County Engineer. The Contractor must also submit a written release of haul roads to the County Engineer before final payment.
- S-46.6 The Engineer can require the Contractor to furnish any material or equipment the Engineer determines is needed for the safe use of haul roads, detours, etc., both on or off the project. All cost for repair of the haul road including bituminous patching, gravel, etc., shall be included in the bid item 2051.501 Maintenance and Restoration of Haul Roads.
- S-47 (2104) REMOVING PAVEMENT AND MISCELLANEOUS STRUCTURES**  
Abandoned structures and other obstructions shall be removed from the Right of Way and disposed of in accordance with the Provisions of Mn/DOT 2104, except as modified below:
  - S-47.1 Measurement and payment for the removal and disposal of materials will be made only for those items of removal work specifically included for payment as such in the Proposal and as listed in the Plans. The removal of any unforeseen obstruction requiring in the opinion of the Engineer equipment or handling substantially different from that employed in excavation operations, will be paid for as Extra Work as provided in Mn/DOT 1403.
- S-48 (2105) SALVAGED AGGREGATE SHOULDERING (PLACED FROM STOCKPILE)**  
Aggregate shouldering courses shall be constructed in accordance with the provisions of Mn/DOT 2221 except as modified below:
  - S-48.1 Approximately 4000 tons of pulverized, screened, and salvaged bituminous/aggregate mixture is stockpiled near Sta 140+00 Left. The owner of the stockpile site is Mark Laleman (507) 423-6374. **The Contractor is NOT responsible for restoration of this existing stockpile site.** Restoration to be performed by others.
  - S-48.2 Salvaged Aggregate Shouldering shall be placed so that the salvaged material is topped with not less than 2 inches of virgin Aggregate Shouldering Cl 5Mod.
  - S-48.3 Compaction shall be achieved by the "Quality Compaction Method" described in Mn/DOT 2211.3C.

S-48.4 Aggregate shouldering material shall be delivered to the project at a minimum rate of 200 tons/hour. Failure to comply will result in a \$300/day penalty.

S-48.5 The following is hereby inserted after the first paragraph of Mn/COT 2221.3C Spreading and Compacting:

S-48.6 Water shall be applied to the shouldering material during the mixing and spreading operations so that at the time of compaction the moisture content is not less than 5 percent of the dry weight.

**S-49 (2211) AGGREGATE BASE**

Aggregate base courses shall be constructed in accordance with the Provisions of Mn/DOT 2211 except as modified below:

S-49.1 Cl. 5M Virgin Aggregate Base is modified so 6%-12% shall pass the 200 sieve.

S-49.2 Compaction shall be achieved by the "Quality Compaction Method" described in Mn/DOT 2211.3C.

S-49.3 The second sentence in Mn/DOT 2211.1 DESCRIPTION, is revised to read as follows:

The aggregate base shall be produced and placed under the Contractor's quality control program in accordance with the Mn/DOT Grading and Base Manual.

**Contractor Quality Control (QC) Testing**

**Test according to the Mn/DOT 2012 Schedule of Materials Control.**

Certify materials on Form G&B-104, "Certification of Aggregate and Granular Materials". Attach all required aggregate test results to Form G&B-104.

**Agency Verification (Acceptance) Field Testing**

**Test according to the SALT Schedule of Materials Control.**

S-49.4 The first sentence in Mn/DOT 2211.3F1 Gradation Control, is revised to read as follows:

The Contractor and/or aggregate producer shall be responsible for maintaining a gradation control program in accordance with the random sampling acceptance method described in the Mn/DOT Grading and Base Manual.

S-49.5 Mn/DOT 2211.3F2(d) under Acceptance Testing is hereby deleted and replaced with the following:

(d) Samples for gradation testing will be taken randomly by the Engineer prior to compaction, in accordance with the random sampling method described in the Grading and Base Manual.

S-49.6 Mn/DOT 2211.3F2(j) under Acceptance Testing, is revised to read as follows:

(j) One gradation sample will be taken from each subplot and tested. Payment will be based on the average results from the four subplot samples for each specified sieve.

S-49.7 The third paragraph after Mn/DOT 2211.3F2(k) under Acceptance Testing is revised to read as follows:

A 5% price reduction will be assessed to both individual or averaged test lots for each test result that fails to meet specified gradations for sieve sizes not listed in Tables 2211-B and 2211-C by more than 2%. These price reductions are cumulative and shall be analyzed both separately and averaged by lot when applicable.

S-49.8 Table 2211-B in Mn/DOT 2211.3F2 Acceptance Testing, is hereby deleted and replaced with the following:

Table 2211-B  
 AGGREGATE BASE PAYMENT SCHEDULE  
 (4 Sublots/4 Samples)  
 % Passing Outside Specified Limits\*

4.75 mm (#4), 2.00 mm (#10) And 425 µm (#40) Sieves	75 µm (#200) Sieve	Acceptance Schedule (Price Reduction)
1	0.1	5%
-----	0.2	6%
-----	0.3	9%
-----	0.4	11%
-----	.05	14%
2	.06	15%
>2	>0.6	Corrective Action
*Based on average of 4 tests Price reductions for more than one failing sieve size shall be Cumulative. The compensation due to the Contractor for the Quantity of material represented by the failing test results shall be Reduced by the sum of the respective percentages. The Contractor does not have the option of taking a price reduction In lieu of complying with the Specifications.		

S-49.9 The following is added to Table 2211-C in Mn/DOT 2211.3F2 Acceptance Testing:

Substantial compliance will be applied to no more than one test failure. Substantial compliance will be eliminated when two or more test failures occur and test failures meeting substantial compliance will be subject to the next higher price reduction. One sieve failure = one test failure. Test failures for each material type will be treated separately.

S-49.10 The following is added to Table 2211-D in Mn/DOT 2211.3F2 Acceptance Testing:

Substantial compliance will be applied to no more than one test failure. Substantial compliance will be eliminated when two or more test failures occur and test failures meeting substantial compliance will be subject to the next higher price reduction. Test failures for each material type will be treated separately.

S-49.11 Aggregate base shall be delivered to the project at a minimum rate of 200 tons/hour. Failure to comply will result in a \$300/day penalty.

**S-50 (2211) OPEN GRADED AGGREGATE BASE MOD (DSB)**

This work shall consist of constructing a permeable Drainable Stable Base (DSB) on a previously prepared dense graded base (filter layer) under a PCC pavement. The DSB shall be produced and placed in accordance with the provisions of MnDOT 2211, the Plan details and the following:

**S-50.1 MATERIALS**

Provide the drainable base of the type designated in the Contact.

- A Drainable Stable Base.....3136**  
See S-61 (3136) OPEN GRADED AGGREGATE BASE MOD (DSB)

**S-50.2 CONSTRUCTION REQUIREMENTS**

All forms and the Grading and Base Manual are available on the Grading and Base Website. Unless otherwise designated all test procedures are in the Grading and Base Manual.

**A General**

**Before placing the drainable stable base, scarify and shape the underlying existing salvaged aggregate base.**

Maintain a uniform gradation during placement.

**B Contractor Quality Control (QC) Testing**

Test according to the **Mn/DOT 2012 Schedule of Materials Control**.

Certify materials on Form G&B-104, "Certification of Aggregate and Granular Materials". Attach all required aggregate test results to Form G&B-104.

Retest corrected drainable aggregate base, which fails either QC or Verification Testing (VT).

**B.1 Aggregate Production**

Perform the following QC tests during production:

- (1) Gradation,
- (2) Crushing and
- (3) Aggregate quality.

**B.2 Aggregate Placement**

Perform QC gradation testing during placement.

Correct failing material before placing the next layer. Sample and test material after correction.

**C Placing and Compacting**

Provide placement equipment meeting the following requirements:

- (1) Will not rut the in-place surface,
- (2) Will not displace or damage the geotextile and
- (3) Capable of placing the required thickness without creating segregation.

Compaction shall be achieved by the "Quality Compaction Method" described in Mn/DOT 2211.3C.

**Compact aggregate base using pneumatic-tired rollers. Vibratory rollers will not be allowed.**

**Construction traffic IS allowed on the base after final placement and compaction. The Contractor is responsible for maintaining the shape and integrity of the base prior to paving operations. No additional compensation will be made for retolerancing or maintaining the aggregate base.**

Construct the aggregate layer to  $\pm 0.05$  ft [15 mm] of the profile and cross-section as required by the contract in accordance with 2112, "Subgrade Preparation." Maintain the surface, quality, integrity, and properties of the aggregate material in each lift until the next lift or layer is placed.

**D Agency Verification Testing (VT)**

**Test according to the SALT Schedule of Materials Control.**

Sample and test from the roadway after spreading but before compaction using the random sampling method in the Grading and Base Manual.

Test the entire lot or area of corrected material with new random samples. The Engineer will perform retests of gradation failures and provide results to the Contractor with 24 hours of receiving passing QC retests.

Verify compaction per Mn/DOT 2211.3C., "Quality Compaction Method."

**S-50.3 METHOD OF MEASUREMENT**

Measure the material in accordance with 1901, "Measurement of Quantities".

**S-50.4 BASIS OF PAYMENT**

The contract unit price for the accepted quantities of Drainable Aggregate Base includes the costs of production, testing, placement and compaction.

Drainable aggregate base placed before the Engineer accepts the Contractor's certification is unauthorized work in accordance with 1512, "Unacceptable and Unauthorized Work."

The Engineer may allow the Contractor to accept a monetary price adjustment, instead of correcting failing material in accordance with drainable aggregate gradation and quality monetary price adjustment tables on the Grading and Base website.

The Department will add price adjustments for each failing sieve and quality content result.

The maximum monetary price adjustment is 50%.

The Department will apply the price adjustment against the entire quantity represented by the failing test or lot.

The Department will pay for drainable base on the basis of the following schedule:

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
2211.609	OPEN GRADED AGGREGATE BASE MOD	TON

**S-51 (2221) AGGREGATE SHOULDERING CL 5M**

Aggregate shouldering courses shall be constructed in accordance with the provisions of Mn/DOT 2221 except as modified below:

- S-51.1 Cl. 5M Virgin Aggregate Shouldering is modified so 6% - 12% shall pass the 200 sieve.
- S-51.2 Compaction shall be achieved by the "Quality Compaction Method" described in Mn/DOT 2211.3C.
- S-51.3 Class 7 Aggregate Shoulder shall not be substituted for Class 5M.
- S-51.4 Aggregate shouldering material shall be delivered to the project at a minimum rate of 200 tons/hour. Failure to comply will result in a \$300/day penalty.
- S-51.5 The second sentence in Mn/DOT 2221.1 DESCRIPTION, is revised to read as follows:

The aggregate shall be produced and placed under the Contractor's quality control program in accordance with the Mn/DOT Grading and Base Manual.

**Contractor Quality Control (QC) Testing**

**Test according to the Mn/DOT 2012 Schedule of Materials Control.**

Certify materials on Form G&B-104, "Certification of Aggregate and Granular Materials". Attach all required aggregate test results to Form G&B-104.

**Agency Verification (Acceptance) Field Testing**

**Test according to the SALT Schedule of Materials Control.**

- S-51.6 The following is hereby inserted after the first paragraph of Mn/COT 2221.3C Spreading and Compacting:

Water shall be applied to the shouldering material during the mixing and spreading operations so that at the time of compaction the moisture content is not less than 5 percent of the dry weight.

**S-52 (2301) CONCRETE PAVEMENT (2013 version)**  
MnDOT 2301 shall be deleted and replaced with the following:

- S-52.1 The paving contractor shall supply all the needed equipment to the County for the Contractor's use in casting and curing beams for the duration of the project.
- S-52.2 The contractor shall also supply the County with approved containers for use in sampling the Portland cement, sealing compound and other required samples as outlined in the Schedule of Material Control.

### **2301.1 DESCRIPTION**

This work consists of constructing portland cement concrete pavement on a prepared base.

The Department defines paving concrete to include concrete mainline, ramps, loops, integrant curb, shoulders, and curb and gutter placed adjacent to the concrete mainline with the same mixture used in the paving. Integrant curb is a curb constructed monolithically with the pavement.

For the purposes of concrete pavement, the Department defines a concrete plant as the following:

- (1) A paving plant using dump or agitator trucks to haul concrete, or
- (2) A certified ready-mix plant using truck mixers to haul concrete.

For concrete pavement incentives and disincentives, the Department defines a concrete plant as the following:

- (1) A primary concrete plant providing the majority of the concrete to a paving project, and
- (2) A secondary concrete plant providing any minor work or fill-ins not provided by the primary concrete plant.

Only one primary concrete plant per project is allowed unless otherwise approved by the Engineer. The Contractor may use a paving plant or a certified ready-mix plant as the primary concrete plant.

### **2301.2 MATERIALS**

**A Concrete 2461**

**A.1 Slipform Placement Mix No. 3A21**

**A.2 Fixed Form Placement Mix No. 3A41**

**B Coarse and Fine Aggregate Requirements**

Test each aggregate fraction proposed for use in accordance with Table 2301-1:

<b>Table 2301-1 Aggregate Testing Requirements</b>	
<b>Aggregate</b>	<b>Testing Required</b>
Tested by Department in the last 3 years	No additional testing *
Not tested by the Department in the last 3 years	Preliminary aggregate testing in accordance with 2301.2.B.1, "Required Preliminary Aggregate Testing."
New source	New source concrete aggregate testing in accordance with 3126, "Fine Aggregate for Portland Cement Concrete," and 3137, "Coarse Aggregate for Portland Cement Concrete."
* Perform additional testing as required by the Engineer in conjunction with the Concrete Engineer.	

**B.1 Required Preliminary Aggregate Testing**

After the Department awards the Contract and as soon as coarse and fine aggregates are available for testing, contact the Engineer to coordinate preliminary sampling of aggregate for concrete paving. The Engineer, in conjunction with the Concrete Engineer, will sample and test the aggregate to verify specific gravity, absorption data, and aggregate quality. The Department will perform other tests as determined necessary by the Engineer, in conjunction with the Concrete Engineer.

**B.2 Aggregate Alkali Silica Reactivity (ASR) Requirements for Concrete Mixes**

The Department will test the designated fine aggregate for alkali silica reactivity (ASR) with Holcim, St. Genevieve, Type I/II portland cement and Lafarge, Davenport, Type I/II portland cement in accordance with ASTM C 1260 MnDOT Modified. If the fine aggregate contains an intermediate size aggregate such as "buckshot" or "pea rock" as determined by the Concrete Engineer, the Department will perform testing in accordance with ASTM C 1260.

The Concrete Engineer, in conjunction with the Engineer, will review the 14-day fine aggregate expansion test results to determine the acceptability of the proposed fine aggregate and cement combination in accordance with the 14-day fine aggregate expansion limits in Table 2301-2:

<b>Table 2301-2 Fine Aggregate ASR Mitigation Requirements</b>	
<b>14-day Fine Aggregate Expansion Limits</b>	<b>Mitigation Requirement</b>
$\leq 0.150$	The Department will accept the fine aggregate with or without a mitigator
$> 0.150 - 0.250$	Mitigate the fine aggregate with 35 percent slag or at least 20 percent fly ash
$> 0.250 - 0.300$	Mitigate the fine aggregate with 35 percent slag or 30 percent fly ash in accordance with 3115, "Fly Ash for Use in Portland Cement Concrete," modified with at least 66.0 percent $\text{SiO}_2 + \text{Fe}_2\text{O}_3 + \text{Al}_2\text{O}_3$ on a dry weight basis and at least 38.0 percent $\text{SiO}_2$
$> 0.300$	The Department will reject the fine aggregate

For fine aggregate and cement combinations previously tested by the Department, the Concrete Engineer will use the previous test results to determine necessary mitigation. The Contractor may contact the Department to access the list of previously tested fine aggregate sources.

If the fine aggregate and cement combination were not previously tested, the Concrete Engineer will use the higher expansion result of the two fine aggregate and cement combinations to determine necessary mitigation.

Add "buckshot" or "pea rock" as a separate aggregate in accordance with the quality requirements of 3137, "Coarse Aggregate for Portland Cement Concrete," except the Department will determine the shale content in accordance with AASHTO T 113 MnDOT Modified, "Lightweight Pieces in Aggregate," fine aggregate procedure. If this aggregate is from the same source as the  $\frac{3}{4}$  in+ [19 mm+] or  $\frac{3}{4}$  in- [19 mm-] aggregate, the Concrete Engineer will waive the requirements specified in 3137.2.D.3(b), "Carbonate in Class C Aggregate by Weight. If this aggregate is from sources other than the  $\frac{3}{4}$  in+ [19 mm+] or  $\frac{3}{4}$  in- [19 mm-] aggregate, approval is at the discretion of the Concrete Engineer.

The Concrete Engineer may reject the fine aggregate if mortar bar specimens exhibit an indication of external or internal distress not represented by the expansion results. The Concrete Engineer will make the final acceptance of the aggregate.

## **C Cementitious Materials**

Design the concrete paving mixes in accordance with the following requirements for cementitious material:

- (1) Total alkalis no greater than 0.60 percent in the portland cement ( $\text{Na}_2\text{O} + 0.658 \text{K}_2\text{O}$ )
- (2) Total alkalis no greater than 5.0 lb per cu. yd [3.0 kg per cu.m] in the combined cementitious material
- (3) At least 530 lb per cu. yd [315 kg per cu. m] minimum cementitious,

- (4) At least 400 lb per cu. yd [237 kg per cu. m] of portland cement when using fly ash or at least 385 lb per cu. yd [228 kg per cu. m] when using slag as a portland cement replacement,
- (5) Provide additional cementitious material to meet requirements in accordance with this section at no additional cost to the Department,
- (6) Total cementitious material no greater than 600 lb per cu. yd [356 kg per cu. m] except for high-early strength mixes.
- (7) Maximum of 33 percent substitution of Class C or Class F Fly Ash for concrete pavement, on a one for one basis, by weight of the designed portland cement;
- (8) Maximum of 35 percent substitution of slag, on a one for one basis, by weight of the designed portland cement; and
- (9) Ternary mixes (portland cement and two other supplementary cementitious materials) are allowed when approved by the Engineer, in conjunction with the Concrete Engineer, or required by or allowed in the Contract.

The Department defines high-early strength concrete as concrete with a cementitious content of greater than 600 lb per cu. yd [356 kg per cu. m].

The Contractor may use 100 percent portland cement for the cementitious material for high-early mixes, except if using quartzite or gneiss coarse aggregate provide high-early mixes in accordance with 2301.2.C.1, "Special Cementitious Requirements for Quartzite and Gneiss."

### **C.1 Special Cementitious Requirements for Quartzite and Gneiss**

If providing coarse aggregate from sources identified by the Department as quartzite or gneiss and if the coarse aggregate does not meet the 0.04 percent expansion limit when tested in accordance with ASTM C 1293, replace the portland cement with the following:

- (1) 30 % of a fly ash from the Approved/Qualified Products List in accordance with 3115, "Fly Ash for Use in Portland Cement Concrete," except provide fly ash in the concrete mixture with at least 66 percent  $\text{SiO}_2 + \text{Fe}_2\text{O}_3 + \text{Al}_2\text{O}_3$  on a dry weight basis for at least 12 consecutive months and at least 38 percent  $\text{SiO}_2$  content, or
- (2) 35 % of a ground granulated blast furnace slag from the Approved/Qualified Products List.

### **D Concrete Mix Design Requirements**

Design the concrete mix based on an absolute volume of 27 cu. ft  $\pm$  0.10 cu. ft [1.000 cu. m  $\pm$  0.003 cu. m] in accordance with the following:

- (1) Fine aggregates complying with the requirements of 3126, "Fine Aggregate for Portland Cement Concrete," for aggregate quality,
- (2) Coarse aggregates complying with the requirements of 3137, Coarse Aggregate for Portland Cement Concrete," for aggregate quality,
- (3) Air content of 7.0 percent  $\pm$  1.5 percent at the point of placement, and
- (4) High-early concrete placed at a water-cementitious ratio not greater than 0.38.

Submit the concrete mixes using the MnDOT Contractor Mix Design Submittal Worksheet available on the Department's website at least 21 calendar days before the initial placement of concrete using the concrete mix design. For mix design calculations, the Engineer, in conjunction with the Concrete Engineer, will provide specific gravity and absorption data.

The Concrete Engineer, in conjunction with the Engineer, will review the mix design submittal and approve the materials and mix design for compliance with the Contract.

The Contractor assumes full responsibility for the mix design and performance of the concrete.

The Engineer determines final acceptance of concrete for payment based on satisfactory field placement and performance.

#### **D.1 Concrete Pavement < 3,500 cu. yd [2,900 cu. m]**

If the estimated quantity of concrete pavement in the Contract is less than 3,500 cu. yd [2,900 cu. m], calculated by multiplying the planned pavement area by the planned pavement thickness, provide a mix design meeting the following requirements:

- (1) Grade A paving concrete placed at a water/cement ratio no greater than 0.42;
- (2) Fine aggregates with a gradation in accordance with Table 3126-3, "Fine Aggregate Gradation Requirements;"
- (3) CA-15, CA-35, or CA-50 coarse aggregates with a gradation in accordance with Table 3137-4, "Coarse Aggregate Designation for Concrete;"
- (4) Instead of item (2) and (3) of this list, provide a Job Mix Formula in accordance with 2301.2.D.3, "Job Mix Formula;" and
- (5) The incentive/disincentives for aggregate quality, well-graded aggregate, and water/cement ratio as specified in 2301.2.D.4, "Concrete Pavement Incentives and Disincentives," shall not apply.

#### **D.2 Concrete Pavement $\geq$ 3,500 cu. yd [2,900 cu. m]**

If the estimated quantity of concrete pavement in the Contract is equal to or greater than 3,500 cu. yd [2,900 cu. m], calculated by multiplying the planned pavement area by the planned pavement thickness, provide a mix design meeting the following requirements:

- (1) Grade A paving concrete placed at a water/cement ratio no greater than 0.40;
- (2) Submit a Job Mix Formula in accordance with 2301.2.D.3, "Job Mix Formula;"
- (3) For concrete produced at a secondary concrete plant or as otherwise allowed by the Engineer, the Contractor has the option to design a mix in accordance with 2301.2.D.1, "Concrete Pavement < 3,500 cu. yd [2,900 cu. m];" and
- (4) The incentive/disincentives for **aggregate quality, well-graded aggregate**, and water/cement ratio as specified in 2301.2.D.4, "Concrete Pavement Incentives and Disincentives," shall apply to the primary concrete plant only.

**THERE ARE NO INCENTIVES FOR AGGREGATE QUALITY AND WELL-GRADED AGGREGATE ON THIS JOB.**

### D.3 Job Mix Formula

Use at least two fractions of coarse aggregate that include the  $\frac{3}{4}$  in+ [19 mm+] and  $\frac{3}{4}$  in- [19 mm-] fractions.

A Job Mix Formula (JMF) contains proportions of materials and individual gradations of each material plus a composite gradation. The Engineer will base the JMF on the combination of coarse and fine aggregate in accordance with Table 2301-3. The Department will waive the gradation requirements of 3126, "Fine Aggregate for Portland Cement Concrete," and 3137, "Coarse Aggregate for Portland Cement Concrete."

<b>Sieve Sizes</b>	<b>Working Range, %*</b>
2 in [50 mm]	±5
1½ in [37.5 mm]	±5
1 in [25 mm]	±5
$\frac{3}{4}$ in [19 mm]	±5
$\frac{1}{2}$ in [12.5 mm]	±5
$\frac{3}{8}$ in [9.5 mm]	±5
No.4 [4.75 mm]	±5
No.8 [2.36 mm]	±4
No.16 [1.18 mm]	±4
No.30 [600 µm]	±4
No.50 [300 µm]	±3
No.100 [150 µm]	±2
No.200 [75 µm]	≤ 1.6
* Working range limits of the composite gradation based on a moving average of 4 tests (N=4).	

Add fill-in sieves as needed during the testing process to prevent overloading. Provide combined aggregates with 100 percent passing the 2 in [50 mm] sieve and no greater than 1.6 percent passing the No. 200 [75 µm] sieve. In addition, each coarse aggregate fraction must comply with the Material Passing the No. 200 [75 µm] sieve requirement in row (i) of Table 3137-1.

Include working ranges based on the composite gradation of the sieves specified in Table 2301-3 with the JMF submittal.

Take samples at the belt leading to the weigh hopper or other locations close to the incorporation of the work as approved by the Engineer. The Engineer will determine the sampling location by using a random number chart and multiplying the random number by the sampling rate as defined in the Schedule of Materials Control. Test, and record the individual results.

The Engineer will randomly verify Contractor combined aggregate gradation results as defined in the Schedule of Materials Control.

If the quantities of concrete produced results in no gradation testing for any given day, include the untested quantity of concrete into the next day's production and include that quantity of concrete in the

sampling rate. If the untested quantity is on the last day of production, add that quantity to the previous day's production.

**D.3.a JMF Adjustments**

If, during production, the moving average of QC aggregate gradation tests falls outside the allowable JMF working range, make adjustments within the limits specified in Table 2301-4 without submitting a new mix design as approved by the Engineer.

<b>Table 2301-4 Allowable JMF Adjustments</b>	
<b>Sieve Size</b>	<b>Allowable Adjustment, %</b>
≥ No. 4 [4.75 mm]	±5
No. 8 [2.36 mm] – No.30 [600 μm]	±4
No. 50 [300 μm]	±3
No. 100 [150 μm]	±2

The Contractor may continue paving after submitting a new JMF with working range and aggregate volume adjustments to the Engineer. Submit all JMF adjustments on the MnDOT JMF Adjustments Worksheet available from the Department's website.

If the moving average of four tests falls outside of the adjusted allowable working range, stop production and provide a new mix design including JMF as directed by the Engineer, in conjunction with the Concrete Engineer.

**D.4 Concrete Pavement Incentives and Disincentives**

The Department will apply concrete mix incentives or disincentives for contracts using at least 3,500 cu. yd [2,900 cu. m] of concrete, calculated by multiplying the planned pavement area by the planned pavement thickness, of paving concrete.

The Department will only apply incentives or disincentives for materials provided or produced by the Contractor's primary concrete plant.

The Department will not provide water/cement ratio incentive payments for high-early mixes. The Department will only apply water/cement incentives or disincentives for concrete hauled in dump trucks, agitator trucks, or both.

If the Contractor adds water to the pavement surface without approval by the Engineer, the Department will not pay water/cement or ride incentives on sections where the water is added and the Engineer may reject the pavement in accordance with 1503, "Conformity with Contract Documents," and 1512, "Unacceptable and Unauthorized Work."

**D.4.a Coarse Aggregate Quality Incentive/Disincentive**

**CLASS A COARSE AGGREGATE WILL BE REQUIRED FOR ALL CONCRETE PAVEMENT.**

**THERE ARE NO INCENTIVES/DISINCENTIVES FOR COARSE AGGREGATE QUALITY ON THIS JOB.**

**D.4.b Water/Cement (w/c) Ratio**

Provide and place concrete with a water/cement ratio not to exceed 0.40. Make any adjustments immediately when the water/cement ratio exceeds 0.40.

The Department will not make incentive payments for water/cement ratio on high-early mixes.

Do not add water to the surface of the concrete to aid in finishing without the approval of the Engineer. Supply sufficient trucks to ensure a steady forward progress of the paver.

The Department will determine the water/cement ratio for concrete hauled in dump or agitator trucks (concrete hauled in truck mixers are not eligible for w/c ratio incentives) in accordance with the following:

**D.4.b(1) Water Content Determination**

For a concrete paving batch plant, use an electronic meter approved by the Engineer to record the water, including temper water, added to the mix that is capable of printing the amount of total water on each batch ticket.

For a ready-mix plant, record the total water added to the mix, including temper water, on the computerized Certificate of Compliance.

The Engineer will determine the water content for calculating the water/cement ratio using the average water calculated from 10 batch tickets or Certificates of Compliances surrounding the randomly selected batch ticket sample (four previous tickets, ticket representing the random sample, and the five following tickets).

**D.4.b(2) Water Content Verification**

The Engineer will use plastic concrete taken at the plant site to verify the water content in the mix as determined in accordance with 2301.2.D.4.b(1), "Water Content Determination." Sample the plastic concrete as directed by the Engineer.

The Engineer will verify the water content in the plastic concrete mixture using the test procedure specified in AASHTO T 318-02, "Standard Test Method for Water Content of Freshly Mixed Concrete Using Microwave Oven Drying." The Engineer will begin the test within 45 min after the water has contacted the cement. Provide the microwave oven and the ancillary equipment as required by the Engineer to perform this test.

**D.4.b(3) Cementitious Content Determination**

The Engineer will determine the cementitious content for calculating the water/cement ratio using the average total cementitious calculated from 10 batch tickets or Certificates of Compliance surrounding the randomly selected batch ticket sample (four previous tickets, the ticket representing the random sample, and the five following tickets).

**D.4.b(4) W/C Ratio Incentive/Disincentive**

The Engineer will base the statistical analysis of acceptance for water/cement ratio in accordance with 2301.2.D.4.b(1), "Water Content Determination," and 2301.3.D.4.b(3), "Cementitious Content Determination," at a rate defined in the Schedule of Materials Control.

The Engineer will randomly choose acceptance samples. The Engineer will determine the sampling location by using a random number chart and multiplying the random number by the sampling rate as defined in the Schedule of Materials Control.

The Engineer will sample, test, and record the individual results.

If the quantities of concrete produced results in no Department moisture testing for any given day, include the untested quantity of concrete into the next day's production and include that quantity of concrete in the sampling rate. If the untested quantity is on the last day of production, add that quantity to the previous day's production.

Do not place concrete mix not meeting the 0.40 water/cement ratio requirement in the work. The Engineer may accept material not meeting the Contract requirements and the Department will pay for the work in accordance with Table 2301-8.

<b>Table 2301-8 W/C Ratio Incentive/Disincentive</b>	
<b>W/C Ratio Test Result</b>	<b>Payment incentive/disincentive per cu. yd [cu. m]</b>
≤ 0.37	+\$3.00 [\$3.90]
0.38	+\$1.75 [\$2.25]
0.39	+\$0.50 [\$0.65]
0.40	\$0.00
0.41	-\$0.50 [\$0.65]
0.42	-\$1.75 [\$2.25]
0.43	-\$3.00 [\$3.90]
≥ 0.44	Determined by the Concrete Engineer

The Contractor may remove and replace concrete represented by water/cement ratios greater than 0.40. For concrete left in place with water/cement ratios greater than 0.40, if the level of payment is not defined in the table, the Engineer, in conjunction with the Concrete Engineer, will evaluate the material based on the adequacy of the material for the use intended. Remove and replace unsatisfactory concrete as determined by the Engineer at no additional cost to the Department.

**D.4.c Well-Graded Aggregate Optional Incentive****THERE ARE NO OPTIONAL INCENTIVES FOR WELL-GRADED AGGREGATE ON THIS JOB.**

- E Reinforcement Bars 3301**
- F Dowel Bars 3302**
- G Concrete Joint Sealers**
  - G.1 Preformed Type 3721**
  - G.2 Hot-poured, Elastic Type 3725**
  - G.3 Silicone Type 3722**
- H Preformed Joint Filler 3702**
- I Curing Materials**
  - I.1 Burlap Curing Blankets 3751**
  - I.2 Poly-Alpha Methylstyrene (AMS) Membrane Curing Compound 3754**
  - I.3 Linseed Oil Membrane Curing Compound 3755**
  - I.4 Plastic Curing Blankets 3756**
- J Form Coating Material 3902**

**2301.3 CONSTRUCTION REQUIREMENTS**

Use "slipform" as the standard construction method for concrete paving, unless otherwise specified in the Contract or allowed by the Engineer.

**A.1 High-Early Strength Sections**

For early use of the pavement as required by the Engineer, construct a section of pavement of high-early strength concrete in accordance with 2301.2.D, "Concrete Mix Design Requirements," at important road crossings, intersections, driveway entrances, or other locations as shown on the plans or directed by the Engineer. Take precautions to satisfactorily finish, cure, and protect high-early strength concrete pavements.

**A.2 Operation and Supervision**

Notify the Engineer at least 24 h before placing concrete to allow for inspection. Do not place concrete until the Engineer approves preparations for concrete placement. If the Contractor fails to

notify the Engineer at least 24 h before concrete placement, the Engineer may not allow concrete placement in accordance with 1503, "Conformity with Contract Documents," and 1512, "Unacceptable and Unauthorized Work."

Provide paving operations supervision in accordance with 1506, "Supervision by Contractor." Provide an organizational chart listing names and phone numbers of individuals and alternates responsible for mix design, quality control administration, and inspection to the Engineer. Post the organizational chart in the Contractor's on-site facility.

Provide a manufacturer's manual explaining the operation and adjustments of the major pieces of power operated equipment used.

### **A.3 Plant Certification**

Provide notice 16 hrs in advance of concrete paving production and in conjunction with the Engineer, perform a thorough on-site inspection of the concrete plant and complete MnDOT Form 2164, "Concrete Paving Plant Contact Report." Sign the report to certify compliance with the paving requirements and to certify review of the continual maintenance of the plant.

Calibrate and correlate the testing equipment in accordance with 2461.3.D, "Batching Requirements."

#### **A.3.a Combination Plant Lab – Office Requirements**

The Concrete Paving Contractor QC technicians and the Department QA technicians will equally share a combination plant lab – office during concrete paving.

For concrete paving projects in accordance with 2301.2.D.2, "Concrete Pavement  $\geq 3,500$  cu. yd [2,900 cu. m]," provide a separate combination plant lab – office in accordance with 1604, "Plant Inspection – Commercial Facility," except as modified by the following characteristics and requirements:

- (1) Located at the plant site within 100 yd [91 m] from the batch plant or other location, as approved by the Engineer,
- (2) Plant lab and plant office areas separated and isolated by a wall,
- (3) Total plant lab-office floor area, based on exterior dimensions, of at least 224 sq. ft [21 sq. m],
- (4) Plant lab floor area, based on exterior dimensions, of at least 144 sq. ft [13.5 sq. m],
- (5) Plant office floor area, based on exterior dimensions, of at least 80 sq. ft [7.5 sq. m],
- (6) Heating and cooling system capable of maintaining a uniform temperature between 72° and 85° F [22° and 29° C],
- (7) Drinking water container or cooler with adequate supply of potable water,
- (8) Detached portable toilet conveniently located,
- (9) Electrical power supply that provides adequate amperage for all electrical needs,
- (10) Water supply (storage tank with a capacity of 50 gal or more, or pressurized water supply) connected to the sink faucet,
- (11) Provide a sample storage area to prevent contamination of the samples,
- (12) Plant lab furnished in accordance with the following:
  - (12.1) One sturdily-built workbench or countertop at least 30 in  $\times$  144 in [0.75 m  $\times$  3.65 m],
  - (12.2) One service sink located near one end of the workbench with a water supply, faucet and an outside drain,

- (12.3) Shelf space above workbench or countertop or at other convenient locations, totaling at least 8 linear ft [2.5 m] × 8 in [0.2 m],
- (12.4) Electronic scales of sufficient size to weigh the samples for all required materials testing, and
- (12.5) A four (4) burner 30" standard electric stove top or stove and at least two (2) additional electric burners to perform required aggregate testing per the Schedule of Materials Control.
- (12.6) Microwave oven with turntable or wave deflection fan (900 Watt), heat resistant glass pan (approx. 9"x9"x2"), plain weave fiberglass cloth (10 oz/yd<sup>2</sup> and 14 mills thick), metal scrapper and grinding pestle,
- (12.7) Metal bowls of sufficient size to perform all required material testing,
- (13) Plant office furnished in accordance with 2031.3.B.1, "Field Office Furnishings," except as modified by the following:
  - (13.1) Two desks, one for the Department and one for the Contractor, with total exterior dimensions of at least 30 in × 60 in [ $\frac{3}{4}$  m × 1.50 m],
  - (13.2) At least four (4) desk chairs,
  - (13.3) A telephone capable of providing email, and
  - (13.4) A printer with scanning and copying capabilities.

For concrete paving projects supplied by a Certified Ready-Mix Plant, the separate Combination Plant - Lab Office requirements of 2301.2.A.3.a do not apply with the exception of the following:

- (1) Electrical power supply that provides adequate amperage for all electrical needs,
- (2) Water supply (storage tank with a capacity of 50 gal or more, or pressurized water supply) connected to the sink faucet,
- (3) Electronic scales of sufficient size to weigh the samples for all required materials testing, and
- (4) At least six (6) electric burners to perform required aggregate testing per the Schedule of Materials Control.
- (5) Metal bowls of sufficient size to perform all required material testing,
- (6) If w/c incentives apply, provide a microwave oven with turntable or wave deflection fan (900 Watt), heat resistant glass pan (approx. 9"x9"x2"), plain weave fiberglass cloth (10 oz/yd<sup>2</sup> and 14 mills thick), metal scrapper and grinding pestle,

Do not begin concrete paving operations until the Engineer approves the combination plant lab-office.

#### **A.4 Sampling and Testing**

Provide a MnDOT Certified Concrete Plant Level 2 Technician to oversee testing and plant operations and to remain on-site during concrete production or have cellular phone availability.

Provide technicians with certifications at least meeting MnDOT Concrete Plant Level 1 to perform all of the duties in accordance with the Concrete Manual. The Engineer will provide technicians with certifications at least meeting MnDOT Concrete Plant Level 1 to perform all of the duties in accordance with the Concrete Manual.

Perform testing in the accordance with the Concrete Manual and determine testing rates in accordance with the requirements of the Schedule of Materials Control. The Engineer performs testing in accordance with the Concrete Manual and determines testing rates meeting the requirements of the Schedule of Materials Control.

Take samples randomly using ASTM D 3665, Section 5.

### **A.5 Contractor Charting**

Maintain and keep control charts current. Provide and display easily readable sized charts (letter-sized paper) on the testing facility wall or store in a 3-ring binder. Plot the following information on control charts using a method approved by the Engineer:

- (1) Composite gradation,
- (2) Air content (QC and QA),
- (3) Moisture content of aggregates, and
- (4) Water/cement ratio.

Also include the following information on the charts:

- (1) Date,
- (2) Time,
- (3) Lot and subplot,
- (4) Admixture dosage adjustments, and
- (5) Other data necessary to facilitate control of the process.

Provide all reports, records, and diaries developed during the progress of construction activities to the Engineer. Provide all batch tickets and test results to the Engineer on a daily basis. The Engineer may suspend plant operations if the Contractor fails to provide daily test results.

### **A.6 MIT-SCAN T2 Non-Destructive Testing Device**

The Contractor shall furnish a MIT-SCAN T2 non-destructive testing device having the ability to measure the location of concrete reinforcement, dowel bars and concrete pavement thickness in a single device. Agency and Contractor personnel shall mutually use this non-destructive testing device several times a day during concrete pavement construction.

The Contractor shall perform the following in the hardened concrete:

- (1) For transverse joints the entire paved width
  - (1.1) On first day, Scan one joint out of every five joints to verify dowel bar alignment and process.
  - (1.2) If first day is acceptable, scan one joint out of every 500 feet as well as scan one joint out of every five joints on a 500 foot random segment each day for the remainder of the project.
  - (1.3) If a joint is found to have dowel bars out of acceptable alignment tolerances, scan joints on both sides until alignments meets acceptable tolerances.
- (2) For longitudinal L1T joints
  - (2.1) On first day, scan 75 feet out of every 1000 feet, as well as scan one 500 foot random segment, to verify tie bar alignment and process.
  - (2.2) If first day is acceptable, scan 75 feet out of every 5000 feet as well as scan one 500 foot random segment each day for the remainder of the project.

- (2.3) If a panel is found to have 2 or more tie bars missing or out of acceptable alignment tolerances, scan joints on both ends until 5 consecutive panels meets acceptable alignment tolerances.

Contact the Concrete Engineer for recommendations if alignment tolerances are not met.

Agency observations do not relieve the Contractor of the requirement to properly place the concrete reinforcement and dowel bars as shown in the plans. In addition, the Department reserves the right to reject the pavement in accordance with 1503, "Conformity with Plans and Specifications" and 1512, "Unacceptable and Unauthorized Work."

The Engineer will not provide additional payment for furnishing the above equipment for the Department's use.

## **B Subgrade and Aggregate Base Preparations**

Prepare the subgrade and aggregate base in accordance with 2112, "Subgrade Preparation," and 2211, "Aggregate Base," and the following:

Fine grade the aggregate base to the shape and grade shown on the plans, allowing construction of the pavement to the thickness and cross section shown on the plans. Use an approved fine grading machine mounted on crawler tracks.

Shape and maintain the shoulders to allow surface water to drain away from the pavement and off the shoulders.

## **C Setting Forms**

Provide forms meeting the following requirements and characteristics:

- (1) Steel, straight edge sides,
- (2) Depth equal to the pavement thickness shown on the plans,
- (3) Smooth and free of localized indentations and deformities,
- (4) Top face with deviations no greater than  $\frac{1}{8}$  in [3 mm] in any 10 ft [3 m] section,
- (5) Faces of straight forms with deviations no greater than  $\frac{1}{4}$  in [13 mm] in any 10 ft [3 m] section,
- (6) Side forms containing no bends or damaged sides,
- (7) Forms containing no damaged joint locks or pin pockets, and
- (8) Form lengths at least 10 ft [3 m] long with horizontal joint and base width equal to the depth of the forms.

For pavements with radii no greater than 100 ft [30 m], use flexible or curved forms approved by the Engineer. Provide devices to securely set forms and withstand operation of the paving equipment without springing, settlement, or lateral displacement. Provide forms with joint locks to tightly join the ends of abutting form sections. Connect individual form sections using methods that create a continuous form.

Set the forms to the alignment and grade shown on the plans for a distance equal to at least 3 h ahead of concrete placement.

Compact the foundation before placing the forms in accordance with 2301.3.B, "Subgrade and Aggregate Base Preparations." Ensure the forms have a firm and uniform bearing over the entire base area, are tightly joined and securely staked, and are clean and free of accumulations of hardened concrete. Coat the contact faces of the forms with an approved form coating material in accordance with 3902, "Form Coating Material," before placing the concrete.

During a rain event, remove and reset the forms as necessary to allow drainage.

## **D Concrete Equipment and Paving Operations**

Provide self-propelled spreading and finishing machines capable of consolidating and finishing the concrete, and producing a dense and homogeneous finished surface meeting the requirements specified in 2301, "Concrete Pavement."

### **D.1 Slipform Construction**

Place concrete using a slipform paver or combination of pavers designed to spread, consolidate, screed, and float-finish the freshly placed concrete with minimum hand finishing. Provide a slipform paver with a non-oscillating extrusion plate with an adjustable angle of entry.

Place the concrete pavement before placing curb and gutter.

If the sequence of operations includes placing the curb and gutter before the concrete pavement, submit a jointing plan to the Engineer for approval before placing the curb and gutter.

Consolidate the full width and depth of concrete pavement placed by a single pass of a series of internal vibrators. Operate full-width vibrators from 3,600 VPM to 7,000 VPM [60 Hz to 117 Hz] in concrete, and from 4,150 VPM to 8,000 VPM [70 Hz to 133 Hz] when checked in air. Deliver the vibrator impulses directly to the concrete and operate at an intensity to consolidate the concrete uniformly throughout the entire depth and width of the concrete. The Contractor may increase the vibrator frequency as approved by the Engineer. Perform additional testing as directed by the Engineer at no additional cost to the Department. If the vibrator fails, suspend operations and remove unconsolidated concrete.

Regulate the rate of progress of the vibratory equipment and the duration of the application to fully, but not excessively, vibrate the concrete. If the forward progress of the paver stops, suspend the operation of vibrators.

Attach vibrators to spreading or finishing equipment. Do not allow vibrators to come in contact with preset dowel basket assemblies, the grade, pavement reinforcement, or side forms. Do not allow the operation of vibrators to cause separation or segregation of the mix ingredients, including the downward displacement of large aggregate or the accumulation of laitance on the concrete surface. The Contractor may reduce the vibration frequency within the specified range if reducing the forward progress of the paver to avoid segregation of the concrete mix. Connect the power to all vibrators so that they cease when the machine motion is stopped. Stop paving operations if a vibrator fails to operate within the range specified above.

Provide an electronic monitoring device meeting the following characteristics and requirements to display the operating frequency of each individual internal vibrator for concrete pavement placed by the slipform method:

- (1) Contains a readout display near the operator's controls; visible to the paver operator and to the Engineer,
- (2) Operates continuously as the paving machine operates,
- (3) Displays all the vibrator frequencies with manual and automatic sequencing for each of the individual vibrators, and
- (4) Records the following at least every 25 ft [7.62 m] of paving or at least every 5 min of time:
  - (4.1) Clock time,
  - (4.2) Station location,
  - (4.3) Paver track speed, and
  - (4.4) Operating frequency of individual vibrators.

Provide an electronic copy containing the record of data after the completion of the concrete paving operation. Provide vibration data daily as directed by the Engineer.

Operate the slipform paver with a continuous forward movement, and coordinate all operations of mixing, delivering, and spreading concrete to provide uniform progress with minimal stopping and starting of the paver.

Equip the paver with automatic grade control capable of maintaining both the elevation and longitudinal line shown on the plans at both sides of the paver by controlling the elevation of one side and controlling the crown, or by controlling the elevation of each side independently. Use an erected string line to achieve the grade reference.

Tightly stretch a wire or string line set parallel to the established grade for the pavement surface to achieve the grade reference. Set the control reference and support the line at intervals to maintain the established grade and alignment.

When constructing concrete overlays, set and use stringlines for grade control on both sides of the roadway during paving operations.

## **D.2 Fixed Form Construction**

Place concrete using one or more machines to spread, screed, and consolidate between previously-set side forms. Accomplish vibration of these areas using hand-held or machine-mounted internal vibrators.

If not using an electronic monitoring device, use a tachometer or similar device to demonstrate to the Engineer that the paving equipment vibration meets the requirements in this section.

Use hand-held vibrators to consolidate concrete adjacent to side forms and fixed structures. Operate the hand-held vibrators at a speed of at least 3,600 VPM [60 Hz]. Do not allow the vibrator head to contact the joints, load transfer devices, reinforcement, grade, or side forms. If the vibrator fails, suspend operations and remove unconsolidated concrete.

Continue vibration to achieve adequate consolidation, without segregation, for the full depth and width of the area placed.

Provide an adequate number and capacity of machines to perform the work at a rate equal to the concrete delivery rate.

Strike-off concrete with a clary screed, unless otherwise approved by the Engineer. Finish small or irregular areas that are inaccessible to finishing equipment using other methods as approved by the Engineer.

Discontinue any operation that causes displacement of the side forms from the line or grade or causes undue delay, as determined by the Engineer, due to mechanical difficulties.

## **E     Batching and Mixing**

Batch and mix the concrete in accordance with 2461, "Structural Concrete," and the following:

### **E.1    Batching Requirements**

Perform the initial spot check of the measuring equipment in accordance with the Concrete Manual for accuracy and sensitivity before starting production operations. Provide a copy of the inspection certificate to the Engineer.

Provide to the Engineer a computerized batch ticket that includes the following:

- (1)    Date,
- (2)    State project number (SP) or (SAP),
- (3)    Time concrete was batched,
- (4)    Quantity of concrete in this load,
- (5)    Running total of each type of concrete, each day for each project,
- (6)    Mix number,
- (7)    Labels identifying each material that correlates with the Contractor mix design, including cementitious and admixture abbreviations or MnDOT 5 digit pit numbers),
- (8)    Target weight of materials,
- (9)    Actual batched weights of materials,
- (10)   Temper water, and
- (11)   Total water weight.

If satisfactory finishing and curing of the pavement does not occur, as determined by the Engineer, suspend batching and mixing operations.

### **E.2    Concrete Ingredient Summaries**

If delivering bulk cementitious materials directly to the concrete batching plant in railroad cars or sealed transport trucks, submit copies of the bill of ladings to the Engineer on the same day received from the transporting company.

Advise the Engineer of the method and schedule of cementitious material unloading. Do not unload cementitious materials until the Engineer approves the operation.

Each day of concrete pavement production, provide the Engineer with a production summary in an electronic format that includes the following:

- (1)    Daily total concrete produced in cubic yards for each concrete mixture type.

- (2) Daily total ingredient quantities (aggregate, cementitious and water) including the percent overrun/underrun.

The Contractor shall provide final project total quantities for (1) and (2) to the Engineer at the end of the Project.

The Engineer will verify the following:

- (1) Individual daily cement quantity do not show an underrun in cement usage greater than 1.0 percent of the quantity specified,
- (2) The final cement quantity summary does not show an overall underrun greater than 1.0 percent, and
- (3) If either one or both of these limitations are exceeded, the Engineer will not pay for the concrete represented at the Contract unit price.

The Engineer may reject defective concrete in accordance with 1503, "Conformity with Contract Documents," and 1512, "Unacceptable and Unauthorized Work," or the Department may pay for the defective concrete at an adjusted unit price at the same ratio to the Contract unit price as the quantity of cement used to the quantity of cement required less the allowable underrun. If the cement exceeds the limitations for individual cutoff and final cutoff, the Department may apply the price adjustment to the cutoff value that produces the greatest monetary deduction.

## **F Placing Concrete**

Dump or discharge concrete without causing grade displacement or damage to the existing asphalt or bond breaker layer. Repair damage to the grade, existing asphalt or bond breaker layer as approved by the Engineer at no cost to the Department. Provide protection for turning concrete trucks.

Maintain the grade in a moist condition until placement of concrete.

Construct mainline pavement in a single layer of concrete. Place the concrete pavement in one complete pass of the paving machine to minimize the need for hand finishing.

Coordinate paving operations for mixing, delivering, spreading, and extruding the concrete to provide uniform progress of the paver. Use sufficient trucks to ensure a steady forward progress of the paver. If the forward movement of the paver stops for a period long enough to create a cold joint or honeycombing, construct a header joint in accordance with 2301.3.H.3, "Constructing Headers."

Do not add water to the surface of the concrete to aid in finishing without the approval of the Engineer.

When placing concrete on asphalt or asphalt bond breakers, comply with the following:

- (1) Do not place concrete on an asphalt surface with an asphalt surface temperature greater than 120 °F [50 °C].
- (2) Maintain the asphalt surface in a moist condition as necessary and at a surface temperature not greater than 120 °F [50 °C] before placing the concrete. The Engineer will allow the Contractor to apply water, whitewash of hydrated lime and water, or both to cool the asphalt surface, or other methods allowed by the Engineer.

- (3) Before placing concrete on a milled asphalt surface, clean the milled surface by sweeping and patch as shown on the plans in accordance with 2231, "Bituminous Surface Reconditioning," or as directed by the Engineer.

When placing concrete adjacent to in-place concrete pavement, protect the following:

- (1) All ends of transverse joints  $\frac{3}{16}$  in [5 mm] or wider to the satisfaction of the Engineer. The Engineer will allow sawing through the existing joint when sawing the newly placed concrete, and
- (2) The in-place pavement to prevent damage.

Do not allow the edges of the pavement, including longitudinal joints, to deviate from the line shown on the plans by greater than  $\frac{1}{2}$  in [13 mm] at any point.

Set manhole and catch basin frames or rings to the elevation shown on the plans during the paving operations.

### **F.1 Consistency**

For slipform concrete pavement placement, place the concrete with a slump value that optimizes placement, except ensure the concrete does not slough or slump and is adequately consolidated and meets all other requirements of 2301, "Concrete Pavement." Maintain the concrete at a uniform consistency. The Engineer will not allow an edge slump greater than  $\frac{1}{8}$  in [3 mm] or irregular edge alignment.

For fixed form placement, place the concrete with a slump no greater than the maximum allowable slump in accordance with 2461.3.G.6, "Consistency."

### **F.2 Air Content**

Maintain the air content of Type 3 paving concrete at the specified target of 7.0 percent  $\pm$  1.5 percent of the measured volume of the plastic concrete before consolidation in accordance 1503, "Conformity with Contract Documents."

Make any adjustments immediately to maintain the desired air content.

Measure the air content after placement on the grade but before consolidation.

If using the slipform paving method, establish an air-loss correction factor (ACF) to determine the air content after consolidation once per half day of paving. Apply the ACF to tests taken before consolidation to estimate the air content after consolidation. Place concrete with an air content of at least 5.0 percent after consolidation.

Take the following actions for the following air content test results with the ACF applied or a test taken after consolidation:

- (1) A single test (QC or QA) from 5.0 percent to 5.5 percent, adjust the mix design to obtain an air content greater than 5.5 percent without stopping production.
- (2) Two consecutive tests (QC or QA) from 5.0 percent to 5.5 percent, make immediate adjustments to obtain an air content greater than 5.5 percent or stop production. Test every

truck until the air content test results meet the requirements. Test at least three additional trucks after obtaining the correct air content.

- (3) Any test (QC or QA) less than 5.0 percent, make immediate adjustments to obtain an air content greater than 5.5 percent or stop production. Test every truck until the air content meets the requirements. Test at least three additional trucks to ensure the concrete remains within compliance. Perform additional testing on the hardened concrete as required by the Engineer in conjunction with the Concrete Engineer.

**F.2.a Non-Conforming Material**

Only place Type 3 concrete meeting the air content requirements in the work. If the Contractor places Type 3 concrete not meeting the air content requirements into the work, the Engineer will not accept nonconforming concrete at the Contract unit price. For concrete not meeting the required air content, the Engineer will make determinations regarding the disposition, payment, or removal. The Department will adjust the Contract unit price for the Contract pay item of the concrete in accordance with Table 2301-12. When there is not a separate structural concrete Contract unit price for a Contract item, the Department will reduce payment based on a concrete price of \$60.00 per cu. yd [\$78.00 per cu. m] or the Contractor-provided invoice amount for the concrete in question, whichever is less.

<b>Table 2301-12 Paving Concrete</b>	
<b>Air Content Before Consolidation, %</b>	<b>Adjusted Contract Unit Price</b>
>10.5	The Department will pay 75 percent of the Contract unit price for the concrete represented and placed as approved by the Engineer.
>8.5 – ≤10.5	The Department will pay 95 percent of the Contract unit price for the concrete represented and placed as approved by the Engineer
5.5 – 8.5	The Department will pay 100 percent of the Contract unit price for the concrete represented and placed as approved by the Engineer
>4.5 – <5.5	The Department will pay 75 percent of the Contract unit price for the concrete represented and placed as approved by the Engineer
>4.0 – ≤4.5	The Department will pay 25 percent of the Contract unit price for the concrete represented and placed as approved by the Engineer. If the Engineer, in conjunction with the Concrete Engineer, determines the surface is exposed to freeze-thaw cycling, coat the concrete with an epoxy penetrant sealer from the Approved/Qualified Products List.

<b>Table 2301-12 Paving Concrete</b>	
<b>Air Content Before Consolidation, %</b>	<b>Adjusted Contract Unit Price</b>
≤ 4.0	Remove and replace concrete in accordance with 1503, "Conformity with Contract Documents" and 1512, "Unacceptable and Unauthorized Work" as directed by the Engineer. If the Engineer, in conjunction with the Concrete Engineer, determines the concrete can remain place, the Engineer will not pay for the concrete and if the Engineer determines the surface is exposed to salt-brine freeze-thaw cycling, coat with an epoxy penetrant sealer from the Approved/Qualified Products List.

## **G Placing Reinforcement**

Provide and place reinforcement meeting the following requirements and characteristics:

- (1) Provide epoxy coated reinforcement in accordance with 2472, "Metal Reinforcement."
- (2) Provide and place reinforcement bars including keyway bars, tie bars, taper steel, and stopper bars.
- (3) Place keyways as shown on the plans.
- (4) Provide and place supplemental pavement reinforcement as shown on the plans.
- (5) Provide and place reinforcement bars on chairs, in stakes, utilizing tie bar basket assemblies or by appropriate equipment for depressing the bars to the specified location.
- (6) For slipform paving, stake the tie bar steel to the roadbed, or use a mechanical device attached to the spreader or paver to place tie bar steel required for LIT joints as shown on the plans. Space and depress the tie bar steel to the depth and location shown on the plans. Do not place tie bars over a dowel bar assembly.

## **H Joint Construction**

Unless otherwise shown on the plans, construct all joints perpendicular to the grade. Place dowel bars parallel to the grade and parallel to the centerline of the pavement.

### **H.1 Dowel Bar Placement**

## **THE USE OF A MECHANICAL DOWEL BAR INSERTER (DBI) IS PROHIBITED ON THIS JOB.**

Provide dowel bar assemblies manufactured in single units for the lane widths shown on the plans, unless otherwise approved by the Engineer. Do not use more than two assembled sections in any one joint for ramps, loops, and tapered sections.

Secure the dowel bar assemblies to prevent movement during concrete placement in accordance with Standard Plate 1103 and the following:

- (1) If placing dowel bar assemblies on asphalt or asphalt bond breaker layers, secure the assemblies with at least seven anchorage points. Place four of the anchorage points on the assembly side facing the front of the paver. Fasten the assemblies in accordance with the following:
  - (1.1) Place pins or fasteners of sufficient length and shank diameter of at least 0.177 in [0.45 cm] to penetrate through the asphalt bond breaker layer and into the concrete at least 1 in [25 mm] or at least 2 in [50 mm] into the in-place asphalt layer.
  - (1.2) Before paving, demonstrate the fastening method to the Engineer for approval.

Within 1 h before covering with concrete, coat the dowel bars with a thin uniform coating of a form coating material in accordance with 3902, "Form Coating Material."

Before placing the concrete, mark the location on both sides of each transverse joint as approved by the Engineer. Transfer the markings to the fresh concrete immediately after completing the final finishing operations.

~~The Contractor may use a mechanical dowel bar inserter to place dowel bars in the pavement as approved by the Engineer, in conjunction with the Concrete Engineer. Immediately before inserting the dowels, coat the dowels with a thin uniform coating of a form coating material in accordance with 3902, "Form Coating Material." If using a dowel bar inserter, initially and on each production day, demonstrate to the Engineer that the inserted dowel bars in the completed concrete pavement are parallel to the surface and centerline slab and are located at mid-depth of the slab thickness.~~

### **H.1.a Quality Control Plan for Dowel Basket Assemblies**

Provide a Quality Control Plan in writing to the Engineer for acceptance that provides a method for keeping the dowel basket assemblies anchored to the existing asphalt or bond breaker layer and into the underlying concrete. The Quality Control Plan shall include the following at a minimum:

- (1) Proposed type and number of fasteners
- (2) Dowel basket assembly anchoring plan (ie. Anchored all basket assemblies prior to concrete placement, one lane at a time, anchor all basket assemblies during the concrete placement operation, etc.)
- (3) Procedure if assemblies do not hold with the proposed method
- (4) Sampling rate for locating basket assemblies with the MIT-SCAN T2

### **H.2 Joint Establishment**

Space contraction joints at the intervals shown on the plans, except shorten the spacing at the following to provide panel lengths at least 5 ft [1.5 m]:

- (1) Adjacent to header joints,
- (2) Reinforced panels,
- (3) Railroad grade crossings, and
- (4) Free ends of pavement.

Provide either wet-cut saws referred to as “conventional concrete saws” or lighter weight dry-cut saws referred to as “early-entry concrete saws” capable of establishing joints sooner than the conventional saws.

Provide initial joint sawing as shown on the plans. Perform the initial sawing as soon as the concrete will support the joint sawing operation without raveling and before random cracking occurs.

Immediately after completing the joint sawing, use water under nozzle pressure to remove the sawing residue from each joint and the pavement surface.

If widening is necessary, do not widen the joints to full width until the concrete is at least 24 h old, or longer if the sawing causes raveling of the concrete.

Stake preformed joint filler material for expansion joints in place to maintain the position shown on the plans during concrete placement.

Extend transverse joints constructed in the pavement through the integrant curb.

### **H.3 Constructing Headers**

Construct construction headers, temporary headers, and permanent headers as shown on the plans.

The Engineer will not allow incorporating any concrete accumulated in the grout box of the paver into the pavement. Construct all headers such that the concrete contained in the grout box is removed from the project. Use any approved construction header method as shown in the Standard Details.

Use internal vibration to consolidate the concrete along header joints before final finishing.

## **I Surface Finishing**

Use a  $\frac{3}{8}$  in [10 mm] radius edging tool to finish edges of the pavement.

After consolidating, screeding, and floating the concrete, give the pavement surface a final finish texture in accordance with 2301.3.I.1, “Pavement Texture.”

### **I.1 Pavement Texture**

Pull a carpet drag or broom drag longitudinally along the pavement before the concrete attains its initial set to obtain the final finish. Mount the drag on a bridge. Provide a drag with the following dimensions:

- (1) As wide as the concrete placed, and
- (2) Longitudinal length with sufficient surface contact to produce a texture approved by the Engineer.

When using a carpet drag method, provide an artificial grass type carpeting for the carpet drag meeting the following characteristics and requirements:

- (1) Molded polyethylene pile face,
- (2) Blade length from  $\frac{5}{8}$  in to 1 in [15 mm to 25 mm], and

- (3) Total weight of at least 70 oz per sq. yd [2.35 kg per sq. m].

The Contractor may use manual methods to achieve similar results on ramps and other locations as approved by the Engineer. The Contractor may use other texturing equipment to obtain an equivalent texture as approved by the Engineer.

Test the adequacy of the pavement skid resistance meeting the requirements of ASTM E 965-87, "Test Method for Measuring Surface Macrottexture Depth Using a Sand Volumetric Technique." Provide a texture depth of at least  $1/25$  in [1.00 mm].

The Department defines a lot as pavement of a single lane. Establish a separate lot for each lane on the project.

The Department defines a subplot as the rate at which an individual measurement is taken over a given length. The Department considers a subplot as one lane wide, measured in accordance with the following:

- (1) From the pavement edge to the adjacent longitudinal joint,
- (2) From one longitudinal joint to the next, or
- (3) In the absence of a longitudinal joint, between pavement edges.
- (4) Each ramp and loop 18 ft [5.5 m] wide or less is considered a single lane.

The Engineer will break lots into sublots representing 1,000 linear ft [300 m] of pavement. Test the pavement surface at a point located transversely in the outside wheel path as determined by the Engineer. Test adjoining driving lanes at the same location. The Engineer will provide the Contractor with the locations using a random number multiplied by length of the subplot within 24 hours of pavement placement. If the project or individual lane results in less than three sublots, the Engineer will divide the project or individual lane lot into three sublots of equal length.

Complete surface texture testing no later than 48 h after pavement placement unless otherwise approved by the Engineer. Refer to Table 2301-13 for the acceptance criteria of texture depths below the specification limits. If the Engineer determines by visual inspection, that areas not represented by random testing appear to not meet the minimum requirements of Table 2301-13, the Engineer reserves the right to require additional testing in those specific areas to determine compliance.

<b>Table 2301-13 Pavement Texture Depth</b>	
<b>Texture Depth Test Results for Individual Tests</b>	<b>Acceptance Criteria</b>
< <sup>1</sup> / <sub>25</sub> in to ≥ <sup>1</sup> / <sub>32</sub> in [ $<1.00$ mm to $\geq 0.80$ mm]	The Engineer will accept the work if the Contractor amends the operation to achieve the required depth of at least <sup>1</sup> / <sub>25</sub> in [1.00 mm] as approved by the Engineer. If the Contractor fails to correct the operation, the Engineer will suspend the paving operation until corrections produce the required results.
< <sup>1</sup> / <sub>32</sub> in [ $< 0.80$ mm]	Perform concrete grinding of the pavement represented by this test to attain the necessary texture of <sup>1</sup> / <sub>25</sub> in [1.00 mm] as required by the Engineer.

Run additional tests at 100 ft [30 m] intervals before and after the failing test location to determine the limits of any individual failing test.

**J Concrete Curing and Protection**

After completing final finishing operations, cure all exposed concrete surfaces. Use one of the following curing methods:

- (1) Place the membrane curing compound conforming to 3754, "Poly-Alpha Methylstyrene (AMS) Membrane Curing Compound," or 3755, "Linseed Oil Membrane Curing Compound," within 30 minutes of concrete placement or once the bleed water has dissipated, unless the Engineer directs otherwise in accordance with 2301.3.J.1.a, "Membrane Curing Method." Place the membrane curing compound on the edges within 30 minutes after permanent removal of the forms or curing blankets, unless the Contract requires otherwise.
- (2) Place plastic curing blankets or completely saturated burlap curing blankets in accordance with 2301.3.J.1.b, "Curing Blanket Method," as soon as practical without marring the surface.

Whenever weather conditions are such as to cause unusual or adverse placing and finishing conditions or equipment failures occur, expedite the application of a curing method or temporarily suspend the mixing and placing operations, as the conditions require.

If necessary to remove the coverings to saw joints or perform other required work, and if the Engineer approves, remove the covering for the minimum time required to complete that work.

Failure to comply with the above provisions will result in the Engineer, in conjunction with the Concrete Engineer, applying a monetary deduction in accordance with 1503, "Conformity with Contract Documents." When there is not a separate Contract unit price for Structural Concrete, the

Department will apply a monetary deduction of \$30.00 per cu. yd [\$39.00 per cu. m] or 50 percent of the Contractor-provided invoice amount for the concrete in question, whichever is less.

## **J.1 Curing Methods**

### **J.1.a Membrane Curing Method**

Before application, agitate the curing compound as received in the shipping container to obtain a homogenous mixture. Protect membrane curing compounds from freezing before application. Handle and apply the membrane curing compound in accordance with the manufacturer's recommendations.

Apply the curing compound in accordance with the following:

- (1) At a rate of 1 gal per 150 sq. ft (1 L per 4 m<sup>2</sup>) of surface curing area.
- (2) Apply curing compound homogeneously to provide a uniform, solid, white opaque coverage on all exposed concrete surfaces (equal to a white sheet of typing paper). If using a Department approved curing compound with a non white base color, apply the compound to provide a uniform, solid, opaque consistency meeting the intent of the requirement in this section.
- (3) If the curing compound is damaged during the curing period, immediately repair the damaged area by re-spraying.
- (4) If the Engineer determines that the initial or corrective spraying result in unsatisfactory curing, the Engineer may require the Contractor to use the blanket curing method, at no additional cost to the Department.

Use the fully-automatic, self-propelled mechanical power sprayer approved by the Engineer to apply the curing compound in accordance with the following:

- (1) Operate the equipment to direct the curing compound to the surface from two different lateral directions,
- (2) Do not allow the sprayer to ride on the pavement surface,
- (3) Ensure the sprayer covers the entire lane width and atomizes the curing compound, and
- (4) If puddling, dripping, or non-uniform application occurs, suspend the operation to perform corrections as approved by the Engineer.

Use a fully automatic, self-propelled mechanical power sprayer equipped with the following to apply curing compound as approved by the Engineer:

- (1) A re-circulating bypass system that provides for continuous agitation of the reservoir material,
- (2) Separate filters for the hose and nozzle,
- (3) Check valve nozzles,
- (4) Multiple or adjustable nozzle system that provides for variable spray patterns,
- (5) A shield to control loss of material by wind action, and
- (6) A spray-bar drive system that operates independently of the wheels or track drive system.

For applying the curing compound on pavements that are 10 ft [3 m] wide or less and irregular shaped surfaces, the Engineer will allow an airless spraying machine that complies with the following:

- (1) A re-circulating bypass system that provides for continuous agitation of the reservoir material,
- (2) Separate filters for the hose and nozzle, and
- (3) Multiple or adjustable nozzle system that provides for variable spray patterns.

### **J.1.b Curing Blanket Method**

After completion of the finishing operations and without marring the concrete, cover the concrete with curing blankets. Install in a manner that envelops the exposed concrete and prevents loss of water vapor. After the concrete has cured, apply membrane curing compound to the concrete surfaces that will remain exposed in the completed work.

### **J.2 Protection Against Rain**

Protect the concrete from damage due to rain. Have available, near the site of the work, materials for protection of the edges and surface of the concrete. Should any damage result, the Engineer will suspend operations until corrective action is taken and may subject the rain-damaged concrete to 1503, "Conformity with Contract Documents," and 1512, "Unacceptable and Unauthorized Work."

**At the discretion of the Engineer, any concrete that has lost its surface integrity or fails to meet minimum surface texture requirements due to rain damage will be required to be diamond ground across the full width of the pavement. No compensation will be made for such corrective action.**

### **J.3 Protection Against Cold Weather**

If the national weather service forecast for the construction area predicts air temperatures of 36 °F [1 °C] or less within the next 24 h and the Contractor wishes to place concrete, the Contractor shall submit a cold weather protection plan.

Protect the concrete from damage, including freezing due to cold weather. Should any damage result, the Engineer will suspend operations until corrective action is taken and may subject the damaged concrete to 1503, "Conformity with Contract Documents," and 1512, "Unacceptable and Unauthorized Work."

#### **J.3.a Cold Weather Protection Plan**

Submit a proposed time schedule and plans for cold weather protection of concrete in writing to the Engineer for acceptance that provides provisions for adequately protecting the concrete during placement and curing. Do not place concrete until the Engineer accepts the cold weather protection plans.

### **J.4 Vibratory and Backfilling Protection**

Protect newly placed concrete from damage by adjacent vibratory or backfilling operations for a minimum of 24 h. Resume vibratory and backfilling operations after the concrete has reached a minimum compressive strength of 2,000 psi [13.7 MPa] or a flexural strength of 250 psi [1.7 MPa]. Cast concrete control specimens in accordance with 2461.3.G.5, "Test Methods and Specimens." The Engineer will test the control specimens. If the Engineer discovers evidence of damaged concrete, the Engineer will suspend work until the Contractor corrects the work. The Engineer may reject damaged concrete in accordance with 1503, "Conformity with Contract Documents," and 1512, "Unacceptable and Unauthorized Work."

The Contractor may use hand-operated concrete consolidation equipment, walk-behind vibratory-plate compactors, rollers in "static" mode, and fine grading machines 24 h after placing the concrete, and other equipment as approved by the Engineer, in conjunction with the Concrete Engineer.

## **K Removal of Forms**

Do not remove side forms of pavement and back forms on integrant curb earlier than 12 h after placing the concrete, unless otherwise approved by the Engineer. Remove forms without exerting shock or strain, including temperature variations, on the pavement or curb. Cure concrete in accordance with 2301.3.J.1.a, "Membrane Curing Method."

## **L Joint Sealing**

Provide a joint sealant in accordance with 3725, "Hot-Poured, Extra-Low Modulus, Elastic-Type Joint and Crack Sealer," unless the type of sealant for contraction joints is otherwise specified in the Contract.

If the concrete mixture contains Class B coarse aggregate as defined in 3137, "Coarse Aggregate for Portland Cement Concrete," do not seal joints with silicone.

Perform joint sealing as shown on the plans and in accordance with the following:

- (1) Seal joints after the Engineer inspects and approves the joints;
- (2) Perform joint sealing on surface dry concrete after cleaning the joints of debris, dirt, dust, and other foreign matter, including accumulations of concrete;
- (3) Lightly sandblast the joint walls before final compressed air cleaning;
- (4) Immediately before sealing the joints, clean the joints with a jet of compressed air under pressure of at least 85 psi [580 kPa];
- (5) Seal transverse integrant curb joints with the same joint sealer used to seal the pavement joints;
- (6) Seal joints in accordance with the tolerances shown on the plans;
- (7) Provide backer rod material compatible with the sealer as shown on the plans; and
- (8) Remove and replace sealer at joints filled above the permissible level shown on the plans at no additional cost to the Department.

Handle and place joint sealer material as recommended by the manufacturer and in accordance with the following requirements:

### **L.1 Hot-Poured Sealers**

Heat hot-poured sealers in a double-boiler type kettle or melter. Fill the space between inner and outer shells with oil or other material as allowed by the manufacturer. Provide heating equipment with automatic temperature control, mechanical agitation, and recirculating pump. Use heating equipment as recommended by the manufacturer of the sealer material. Do not melt quantities of sealer material greater than the quantity used within the same day. After heating the sealer material to the application temperature, maintain the material temperature until placement. Place the sealer material within 4 h after the initial heating to the application temperature.

Apply sealant to the pavement at ambient pavement temperatures greater than 39 °F [4 °C].

### **L.2 Silicone Sealers**

Install silicone sealers as recommended by the manufacturer.

### **L.3 Preformed Sealers**

Provide preformed seals in one continuous length for each joint, except the Contractor may use butt splices in transverse joints at longitudinal joints.

Do not stretch the preformed sealer material in the installation process by greater than 5 percent of the joint length.

## **M Workmanship and Quality**

### **M.1 Defective Pavement**

The Department will pay for concrete pavement meeting the requirements and tolerances in accordance with this section at the Contract unit price. Pavement that fails to meet the minimum requirements when tested in the prescribed manner is considered defective. The Department may reject or adjust the payment for defective concrete pavement in accordance with 1503, "Conformity with Contract Documents," and 1512, "Unacceptable and Unauthorized Work."

The Engineer will determine the limits of each individual defective pavement area. If adjusting the price for defective payment, the Engineer will measure the area to the nearest whole square yard [square meter], except the Engineer will consider areas less than 1 sq. yd [1 sq. m] as 1 sq. yd [1 sq. m]. The Engineer will determine the condition of each individual defective area of pavement based on the calculation of greatest deficiency within the area.

### **M.2 Random or Uncontrolled Cracking**

Repair or replace pavement with random or uncontrolled cracks as directed by the Engineer. If repairing the pavement as directed by the Engineer, use a dowel bar load transfer technique in accordance with the MnDOT Concrete Pavement Rehabilitation Details. Submit the intended repair technique to the Engineer for approval. Perform pavement repairs at no additional cost to the Department. If the repair fails, replace the pavement at no additional cost to the Department. The Engineer will accept repairs in accordance with 1516, "Acceptance."

### **M.3 Pavement Smoothness – IRI (International Roughness Index)**

Provide concrete pavement smoothness in accordance with 2399, "Pavement Surface Smoothness."

**Smoothness (IRI) pay adjustment and corrective work will be assessed according to Table 2399-5 Equation PCC-A on all mainline pavement less those exclusions detailed in 2399.3B, "Exclusions."**

**Areas of Localized Roughness (ALR) monetary deductions and corrective work will be assessed according to Table 2399-7 Equation PCC-A on all mainline pavement less those exclusions detailed in 2399.3B, "Exclusions."**

No smoothness incentive payments shall be made. However, the incentive accumulated on each individual project's smoothness worksheets (Excel spreadsheet provided by Mn/DOT) will be used to offset any disincentive earned on said worksheets (sum of smoothness and ALR). If the net total (incentive/disincentive) is greater than zero on the project, no incentive payment shall be made. If the net total (incentive/disincentive) is less than zero on the project, the disincentive will be assessed on the project.

## N Thickness Requirements

Provide pavement with a finished pavement thickness as shown on the plans or as modified, in writing, by the Engineer.

### N.1 Procedure

Construct pavement to the thickness shown on the plans. On each project and on each roadbed of a divided highway, evaluate pavement thickness in accordance with the following:

- (1) Contractor Quality Control Probing (QCP),
- (2) Probe Verification Core (PVC), and
- (3) Quality Acceptance Core (QAC).

The Department defines plan thickness lot (PTL) as concrete pavement of the same thickness added together lineally. Establish a separate PTL for each concrete plan thickness on the project.

The Department defines a subplot as the rate at which an individual measurement is taken over a given length. The Department considers a subplot as one lane wide, measured in accordance with the following:

- (1) From the pavement edge to the adjacent longitudinal joint;
- (2) From one longitudinal joint to the next;
- (3) In the absence of a longitudinal joint, between pavement edges; or
- (4) The Department considers a single lane to be each ramp and loop 18 ft [5.5 m] wide or less.

The Engineer will divide the PTL into sublots of 4,000 lineal lane ft [3,300 lineal lane m] to determine the QCP, PVC, and QAC locations. The Engineer will add partial sublots less than 2,000 ft [1,650 m] to the previous lot. The Engineer will consider partial sublots equal to or greater than 2,000 lineal lane ft [1,650 lineal lane m] as individual sublots. If the PTL for the entire project is less than 4,000 lineal lane ft [3,300 lineal lane m] the Engineer will consider the PTL as an individual subplot.

The Engineer will identify the QCP, PVC, and QAC thickness measurement locations in accordance with the following:

- (1) Determine the longitudinal locations using random numbers multiplied by length of the subplot;
- (2) Determine the transverse offset locations using a random number multiplied by the width of the traffic lane, ramp, or loop at the determined longitudinal location; and
- (3) Adjust the location to ensure the Contractor takes no measurements within 1 ft [0.3 m] of the pavement edge and takes no measurements within 2 ft [0.60 m] of any transverse or longitudinal joint or other obstructions.

**N.2 Contractor Quality Control Probing (QCP)**

Measure the pavement thickness of freshly finished concrete pavement at a rate of at least four QCP measurements per subplot. Notify the Engineer before performing probing thickness measurements in the plastic concrete so they may inspect or observe the Contractor's QCP tests during the paving operations.

Provide daily summary reports listing the results of the day's QCP thickness measurements and additional probing results to the Engineer.

**N.3 Contractor QCP Probing Equipment and Probing Method**

Provide the following equipment as approved by the Engineer to perform QCP probing:

- (1) Probing rod meeting the following characteristics and requirements:
  - (1.1) Non-flexing,
  - (1.2) Length capable of completely penetrating the pavement for measuring,
  - (1.3) Utilizes a circular or square top plate,
  - (1.4) Contains a centrally located hole in the top plate with a diameter allowing for easy maneuvering along the length of the probing rod, and
  - (1.5) Fitted with a locking device fixing the angle between the top plate and the probing rod at 90 degrees when locked.
- (2) Base plate meeting the following characteristics and requirements:
  - (2.1) 10.5 in [267 mm] square 26 gage galvanized steel plates or 11.8 in [295 mm] diameter 28 gage high-strength steel circular plates, and
  - (2.2) Rigid when in place, allowing the probing rod to be pushed against it without flexing.
- (3) Work bridge meeting the following characteristics and requirements:
  - (3.1) Spans the full width of the freshly laid concrete,
  - (3.2) Supports a person, and
  - (3.3) Height above the concrete allows for the use of the probing device.
- (4) Tape measure accurate to nearest  $\frac{1}{8}$  in [even mm] and with a length capable of measuring the depth of penetration of the probing device into the plastic concrete pavement.

Perform probing in accordance with the following:

- (1) Place the base plates at the randomly selected locations and anchor the plates to prevent movement during concrete placement. Mark the locations of the base plates to ensure ease of locating the plates after the paver has passed.
- (2) Position the bridge at the selected locations to reach and locate each point.
- (3) Assemble the probing device. Keeping the probing rod perpendicular to the pavement surface, insert the rod into the plastic concrete until the rod strikes the base plate.
- (4) Slide the top plate down the probing rod until it contacts the pavement surface then lock to the probing rod.
- (5) Withdraw the probing device.
- (6) Measure the length of the probing rod inserted into the plastic concrete from the underside of the top plate to the end of the probing rod. Record this measurement to the nearest  $\frac{1}{8}$  in [even mm].

#### N.4 Quality Acceptance Testing – Coring

The Engineer will measure the pavement thickness of concrete for each subplot in accordance with the following:

- (1) Probe Verification Core (PVC), and
- (2) Quality Acceptance Core (QAC).

The Engineer will mark one of every four QCP measurement locations per subplot for a PVC. The Engineer will mark one QAC per subplot.

The Contractor will core the designated PVC and QAC locations.

#### N.5 PVC and QAC Coring Method

- (1) Begin coring on concrete older than 7 days, when the control beams attain a flexural strength in accordance with Table 2301-1, or when the control cylinders attain a compressive strength of 3,000 psi [20.6 MPa]. Use 3U18 concrete or another concrete mix approved by the Engineer to fill the core holes within 72 h of coring at no additional cost to the Department. Provide traffic control for coring;
- (2) Cut 4 in [100 mm] nominal diameter cores at marked locations. Lay the cores next to the holes in a curing condition. Protect the cores. Do not submit cores out of round, not perpendicular, or containing ridges;
- (3) The Engineer will field measure the core thickness to the nearest  $\frac{1}{8}$  in [even mm], verify (Field ID Number) the cores, and record the field measurement on MnDOT Form 24327, "Field Core Report," or a computerized spreadsheet available on the MnDOT Concrete Engineering website;
- (4) Pick up the cores, accompanied by the Engineer. Store the cores in a water tank heated from 60 °F to 80 °F [15 °C to 25 °C] at the Department field office. The Engineer will not require the storage of cores in a curing condition for concrete older than 28 days;
- (5) The Engineer will transport the cores in a curing condition, unless older than 28 days, to the MnDOT Office of Materials and Road Research; and
- (6) The MnDOT Office of Materials and Road Research will determine the pavement thickness by measuring the length of the PVC and QAC cores in accordance with the procedure on file at the MnDOT Office of Materials and Road Research. Following this procedure, the MnDOT Office of Materials and Road Research will use nine probes interconnected in a hydraulic linkage to obtain the average length of the core in one operation. The MnDOT Office of Materials and Road Research will record the core length to the nearest 0.05 in [1 mm].

#### N.6 Non-conforming thickness

The Department will base acceptance of the pavement thickness and price adjustment for deficient thickness on the combination of both lab measured PVC and QAC coring.

The Department defines the tolerance limit for pavement thickness as the plan thickness lot (PTL) minus  $\frac{1}{2}$  in [13 mm]. If the QCP measurement shows a thickness deficiency greater than PTL minus  $\frac{1}{2}$  in [13 mm], take a core at the location of the deficient QCP. If any core thickness measurement (PVC or QAC) shows a thickness deficiency greater than PTL minus  $\frac{1}{2}$  in [13 mm], consider the pavement defective and take exploratory cores as directed by the Engineer.

The Department defines the defective pavement area as the entire area surrounding the deficient core within a traffic lane and between acceptable cores. The Department considers the pavement acceptable in the remaining areas as the increment where the cores show a thickness deficiency no greater than PTL minus  $\frac{1}{2}$  in [13 mm].

Take the first exploratory cores at any location within 10 ft [5 m] on each side of the deficient thickness location and at the same distance from the pavement centerline. Take an additional exploratory core in the adjacent traffic lane if the concrete was placed in the same operation. If the length of each of the first exploratory cores is at least equal to the PTL minus  $\frac{1}{2}$  in [13 mm], the Engineer will not require additional cores from this location. If any cores do not fall within the PTL minus  $\frac{1}{2}$  in [13 mm], take additional exploratory cores at 25 ft [10 m] intervals and at the same distance from the pavement centerline in the same lane as the original thickness measurement, as directed by the Engineer. Perform coring in the direction of the deficiency until obtaining a core with a length at least equal to the PTL minus  $\frac{1}{2}$  in [13 mm]. The Engineer will use exploratory cores to determine the extent of deficient pavement thickness for adjusting the Contract unit price or requiring pavement removal and replacement.

For cores showing a pavement thickness greater than the PTL minus  $\frac{1}{2}$  in to 1 in [13 mm to 25 mm], the Contractor may choose one of the following:

- (1) Remove and replace the defective pavement area at no additional cost to the Department, or
- (2) Leave the pavement in place with a monetary deduction of \$20 per sq. yd [\$25 per sq. m] for the defective pavement area, as approved by the Engineer.

For cores showing a pavement thickness greater than PTL minus 1 in [25 mm], the Engineer, in conjunction with the Concrete Engineer, will determine whether the Contractor will remove and replace concrete pavement or leave the pavement in place at no cost to the Department and apply a monetary deduction of \$20 per sq. yd [\$25 per sq. m] for the defective pavement area in accordance with 1503, "Conformity with Contract Documents."

The Engineer will use the PVC and QAC cores to determine the final average plan thickness lot (PTL), except for the following:

- (1) If exploratory cores are taken to identify the defective pavement area, substitute the two outside exploratory cores that are within PTL minus  $\frac{1}{2}$  in [13 mm] for the deficient PVC or QAC.
- (2) If the length of a PVC or QAC exceeds the PTL plus 0.30 in [8 mm], the Engineer will limit the core length to the PTL plus 0.30 in [8 mm].

The Engineer will consider the pavement thickness as conforming provided the deficiency of the final average PTL does not exceed PTL minus 0.10 in [3 mm].

If the final average PTL is deficient by more than the PTL minus 0.10 in [3 mm], the Department will pay for the pavement in the PTL at the Contract unit price less the monetary deductions in Table 2301-14, excluding areas of defective pavement:

<b>Table 2301-14 Deductions for Thickness Deficiencies</b>	
<b>Thickness Deficiency Exceeding Permissible Deviations, in [mm]</b>	<b>Adjusted Contract unit price per sq. yd [sq. m] of Payment</b>
0.00 – ≤ 0.10 [≤ 3]	None (tolerance)
0.10 – ≤ 0.20 [3 – ≤ 5]	\$0.20 [\$0.25]
0.20 – ≤ 0.30 [5 – ≤ 8]	\$0.40 [\$0.50]
0.30 – ≤ 0.40 [8 – ≤ 10]	\$0.70 [\$0.90]
0.40 – ≤ 0.50 [10 – ≤ 13]	\$1.00 [\$1.25]
0.50 – ≤ 1.00 [13 – ≤ 25]*	\$20.00 [\$25.00]
* Perform exploratory coring as required by the Engineer.	

After Department thickness verification, the Department will test all of the cores for compressive strength at 60 days of age. The Department will test three of the cores from the entire project for rapid chloride permeability (RCP) in lieu of compressive strength testing for information only.

### **O Opening Pavement to Traffic**

Do not open a new pavement slab to general public traffic or operate paving or other heavy equipment on it for 7 days, or until the concrete has reached a minimum flexural strength meeting the requirements of Table 2301-15, or minimum compressive strength of 3,000 psi [20.6 MPa]; whichever occurs first.

If the pavement joints are widened, seal the joints before operating paving or other heavy equipment and general public traffic on the pavement.

Cast the control specimens in accordance with 2461.3.G.5, "Test Methods and Specimens." Cure the control specimens in the same manner and under the same conditions as the pavement represented. The Engineer will test the control specimens in accordance with 2461.3.G.5, "Test Methods and Specimens."

<b>Table 2301-15 Minimum Strength Requirements for Opening Pavements to Construction and to General Public Traffic</b>	
<b>Slab Thickness, in [mm]</b>	<b>Flexural Strength, psi [MPa]</b>
≤7.0 [175]	500 [3.4]
7.5 [190]	480 [3.3]
8.0 [200]	460 [3.2]
8.5 [215]	440 [3.0]
9.0 [225]	390 [2.7]
≥ 9.5 [240]	350 [2.4]

Perform operations on new pavement as approved by the Engineer and in accordance with the following:

- (1) When moving on and off the pavement, construct a ramp to prevent damage to the pavement slab.

- (2) Operate the paving equipment on protective mats to prevent damage to the pavement surface and joints. Before placing the protective mats, sweep the pavement surface free of debris.
- (3) Operate equipment on a slab without causing damage. If damage results, suspend operations and take corrective action as approved by the Engineer. Do not operate the equipment wheels or tracks within 4 in [100 mm] of the slab edge.

### 2301.4 METHOD OF MEASUREMENT

#### A Concrete Pavement

If the Contract includes the Contract item *Concrete Pavement* or *Concrete Pavement High Early*, the Engineer will measure in accordance with the following:

- (1) Measure the concrete pavement placed to a uniform cross-section thickness by the surface area of the pavement as constructed, including integrant curb;
- (2) Verify the pavement thickness based on the final measurement of cores;
- (3) Include measurements for concrete pavement without regard to grade, strength, or type of concrete, width, or thickness of the pavement in a single measurement, except if the plans include a Contract item for high-early strength concrete; and
- (4) Apply incentive or disincentive for *Concrete Pavement* based on the theoretical volume of concrete used by multiplying the measured square yard [square meter] of concrete by the thickness shown on the plans.

#### ~~B Place Concrete Pavement~~

~~If the Contract includes the Contract item *Place Concrete Pavement*, the Engineer will measure in accordance with the following:~~

- ~~(1) Measure concrete pavement placed to a variable cross-section thickness by area based on specified dimensions, including integrant curb. This measurement will represent the surface area of the pavement as constructed.~~
- ~~(2) Verify the pavement thickness based on the lab measured cores.~~

#### ~~B.1 Structural Concrete~~

~~If the Contract includes the Contract item *Structural Concrete* or *Structural Concrete High Early*, the Engineer will measure in accordance with the following:~~

- ~~(1) Measure structural concrete placed to a variable cross-section thickness by volume.~~
- ~~(2) Verify the volume measurements from the computerized batch ticket printouts from the plant, as verified by cement cutoffs and the consideration of any waste.~~
- ~~(3) Include the volume of all specified concrete pavements into a single item without regard to grade, strength, width, or thickness of the concrete pavement, except if the plans include a Contract item for high-early strength concrete.~~
- ~~(4) Apply incentives or disincentives for *Structural Concrete* based on the cubic yard [cubic meter].~~

**C Supplemental Pavement Reinforcement**

The Engineer will measure supplemental pavement reinforcement over culverts, storm sewers, and water mains, by weight.

**D Expansion Joints**

The Engineer will separately measure dowelled expansion joints of each design designation as shown on the plans by length along the joint line.

**E Reinforcement Bars**

The Engineer will not separately measure keyway bars, tie bars, taper steel, stopper bars, and other reinforcement bars.

**F Integrant Curb**

The Engineer will separately measure integrant curb of each design by length.

**G Dowel Bars**

The Engineer will measure dowel bars by the actual number of individual dowels placed. The Engineer will not measure dowels included in the Contract linear foot [meter] price for *Dowelled Expansion Joints, Design \_\_\_\_*.

**H Concrete Coring**

The Engineer will not separately measure the number of cores taken, identified, and delivered as required by the Contract or directed by the Engineer.

**2301.5 BASIS OF PAYMENT****A Concrete Pavement**

Unless the plans include a separate Contract item for work incidental to *Concrete Pavement*, the Contract square yard [square meter] price for *Concrete Pavement* includes the cost of constructing the pavement, including the cost of batch materials and mixing operations; plant-lab office; producing the concrete; fine grading; forming, including all headers; providing and installing keyway and keyway bars, tie bars, taper steel, stopper bars, and other reinforcement bars; delivering; depositing; placing; spreading; screeding; vibration monitoring; finishing; curing; protecting; sawing; and sealing the concrete.

If the plans include a separate Contract item for *Concrete Pavement High-Early* or if the Contractor requests high-early and the Engineer approves, the Department will not provide extra compensation for the production of high-early strength concrete. The Contract square yard [square meter] price for *Concrete Pavement High-Early* includes the cost of constructing the pavement, including the cost of batch materials and mixing operations; plant-lab office; producing the concrete; fine grading; forming, including all headers; providing and installing keyway bars, tie bars, taper steel, stopper bars, and other reinforcement bars; delivering; depositing; placing; spreading; screeding; vibration monitoring; finishing; curing; and protecting the concrete.

If the plans do not include a separate Contract item for *Concrete Pavement High-Early* and the Engineer orders high-early concrete, the Department will pay for the additional cement at a rate of the invoice cost plus 15 percent.

## **B — Place Concrete Pavement**

~~Unless the plans include a separate Contract item for work incidental to *Place Concrete Pavement*, the Contract square yard [square meter] price for *Place Concrete Pavement* includes the cost of constructing the pavement, including fine grading; forming, including all headers; providing and installing keyway and keyway bars, tie bars, taper steel, stopper bars, and other reinforcement bars; placing; spreading; screeding; vibration monitoring; finishing; curing; protecting; sawing; and sealing the concrete.~~

### **B.1 — Structural Concrete**

~~The Engineer will field calculate the volume of *Structural Concrete* and *Structural Concrete High Early* placed. Due to variations in the asphalt or asphalt bond breaker layer, the Contractor may request additional volume up to 102 percent of the Engineer's field-calculated final volume of *Structural Concrete*, *Structural Concrete High Early*, or both for the entire project. The Engineer will verify additional volume of concrete from the computerized batch ticket printouts from the plant, with consideration of any waste. If the Engineer finds the Contractor's request for the additional final volume valid, the Engineer will pay for the additional volume up to 102 percent of the calculated quantity for the entire project. The Contract cubic yard [cubic meter] price for *Structural Concrete* and *Structural Concrete High Early* includes the cost of producing, delivering, and depositing the concrete, including the cost of the batch materials, mixing operations, and the plant lab office. If the plans include a separate Contract item for *Structural Concrete High Early* or if the Contractor requests high-early and the Engineer approves, the Department will not provide extra compensation for the production of high-early strength concrete.~~

~~If the plans do not include a separate Contract item for *Structural Concrete High Early* and the Engineer orders high-early concrete, the Department will pay for additional cement at a rate of the invoice cost plus 15 percent.~~

## **C Other Concrete Items**

The Contract pound [kilogram] price for *Supplemental Pavement Reinforcement* includes the cost of providing and placing the metal reinforcement, including tie wires, supporting devices, and splicing.

The Contract linear foot [meter] price for *Dowelled Expansion Joints, Design \_\_\_\_* includes the cost of constructing the joints complete in place as shown on the plans, including the costs of providing and placing dowel bar assemblies, filler, and sealer materials.

The Contract linear foot [meter] price for *Integrant Curb, Design \_\_\_\_* includes the cost of forming and finishing the curb and protecting and curing the concrete.

The relevant Contract unit price for *Concrete Pavement* or *Place Concrete Pavement* includes the cost of coring, including the cost of material, labor, equipment, delivery, core hole filling, and traffic control.

The Department will pay for concrete pavement on the basis of the following schedule:

Item No.:	Item:	Unit:
2301.604	Concrete Pavement 7 in (Plan Quantity)	square yard
2301.608	Supplemental Pavement Reinforcement	pound
2301.538	1" Dowel Bar (Epoxy Coated)	each

**S-53**      **(2360) PLANT MIXED ASPHALT PAVEMENT (LOCAL AGENCY) (2013 version)**  
MnDOT 2360 is hereby deleted from the MnDOT Standard Specifications and replaced with the attached **2360 (Plant Mixed Asphalt Pavement) Specification**.

S-53.1      Mix Designation Numbers for the bituminous mixtures on this Project are as follows:

Type SP 12.5 Wearing Course      SPWEB230B (15% RAP)

S-53.2      All RAP must be crushed or screened to 100% passing 1.5" before being used in the bituminous mixture.

S-53.3      The sentence "In addition to the list the above pavement surface must meet requirements of 2399 (Pavement Surface Smoothness) requirements." is deleted from **2360.3.E Surface Requirements** of the attached **2360 (Plant Mixed Asphalt Pavement) Specification**. The requirements of 2360.3.E Surface Requirements **will apply for bituminous driveways and crossroads only**.

S-53.4      Compaction shall be achieved by the "Ordinary Compaction Method" described in Mn/DOT 2360.3.D.2, "Ordinary Compaction."

**There will be no coring or density incentive/disincentives on this job.**

S-53.5      BASIS OF PAYMENT

Payment for the accepted quantities of asphalt mixture used in each course at the Contract prices per unit of material shall be compensation in full for all costs of constructing the asphalt surfacing as specified, including the costs of furnishing and incorporating any asphalt binder, mineral filler, hydrated lime, or anti-stripping additives that may be permitted or required.

In the absence of Contract items covering shoulder surfacing and other special construction, the accepted quantities of material used for these purposes will be included for payment with the wearing course materials.

The Contractor is responsible to complete yield checks and monitor thickness determinations so that the constructed dimensions correspond with the required Plan dimensions throughout the entire length of the Project. The tolerances for lift thickness shown in 2360.7A and B, Thickness and Surface Smoothness Requirement is for occasional variations and not for continuous over-running or under-running, unless ordered or authorized by the Engineer.

**S-54 (2399) PAVEMENT SURFACE SMOOTHNESS (2013 version)**

The following is hereby added to the MnDOT Standard Specifications:

**S-54.1 No smoothness incentive payments shall be made. However, the incentive accumulated on each individual project’s smoothness worksheets (Excel spreadsheet provided by Mn/DOT) will be used to offset any disincentive earned on said worksheets (sum of smoothness and ALR). If the net total (incentive/disincentive) is greater than zero on the project, no incentive payment shall be made. If the net total (incentive/disincentive) is less than zero on the project, the disincentive will be assessed on the project.**

**2399.1 DESCRIPTION**

This work consists of measuring the smoothness of the final concrete or bituminous surface.

**A Definitions**

The Department defines “Smoothness” as the Mean Roughness Index (MRI) value per 0.1 mi [0.16 km] segment. The Department defines “Areas of Localized Roughness” (ALR) as areas greater than or equal to the limiting criteria for a continuous MRI calculation with a 25 ft [7.62 m] interval, as calculated using the FHWA’s Profile Viewing and Analysis (ProVAL) software.

**2399.2 MATERIAL REQUIREMENTS**

**A Inertial Profiler (IP)**

Provide a Department certified, calibrated, and documented IP meeting the requirements of ASTM E 950, Class 1 and procedures maintained by the MnDOT Pavement Engineering Section. Refer to the procedures maintained by the MnDOT Pavement Engineering Section or to the MnDOT Smoothness website for the required settings for individual certified profilers.

Provide an IP capable of producing a profilogram and exporting raw profile data in an unfiltered electronic Engineering Research Division (ERD) file format. Produce ERD filenames in the YYMMDD-T-N-D-L-B-E.ERD standardized format in accordance with Table 2399-1:

<b>Table 2399-1 Standardized Naming Convention for ERD Files</b>	
<b>Abbreviation</b>	<b>Definition</b>
YY	Two-digit year
MM	Month (include leading zeros)
DD	Day of month (include leading zeros)
T	Route type (I, MN, US, CSAH, etc.)
N	Route number (no leading zeros) and auxiliary ID (if applicable, for example E, W, etc.)
D	Primary route direction (I or D)
L	Lane number (1 for driving lane, increasing by one for each lane to the left)
B	Beginning station
E	End station

**B Profile Analysis Software**

Use ProVAL software to conduct a profile analysis to determine Smoothness and ALR. Report IRI values in units of in per mi to one digit right of the decimal [m per km to two digits right of the decimal] in accordance with conventional rounding procedures.

**C Operator Certification**

Provide an operator, trained in the operation of the particular IP in accordance with 2399.2.A, "Inertial Profiler," and knowledgeable in the use of the required profile analysis software in accordance with 2399.2.B, "Profile Analysis Software." Ensure profiler operators pass a proficiency test and possess a current certification issued by the Department. The Contractor may access a list of certified operators on the MnDOT Smoothness website. Provide documentation of operator certification to the Engineer.

**D Submittals****D.1 Before Profiling**

Provide the Engineer with current, valid documentation, issued by the Department, indicating both IP and the operator certification.

**D.2 Day of Profiling**

Submit a printout containing the IP's settings, each segment's left and right International Roughness Index (IRI) values, and the signature of the operator to the Engineer on the same day of the profiling.

Submit electronic files in ERD format representing the raw data from each pass on the same day of the profiling.

If the Contractor fails to submit actual data to the Engineer on the day of profiling, the Department will require the Contractor to reprofile the measured segments.

**D.3 Upon Completion of Pavement Placement**

Within 5 calendar days after all pavement placement and before beginning corrective work, submit a paper ProVAL summary report for each lane, indicating the results of the "Smoothness Assurance" analyses. Use the ERD filenames in accordance with 2399.2.A, "Inertial Profiler" to create ProVAL summary reports.

If the summary reports indicate no ALR, submit a final spreadsheet summary in accordance with 2399.2.D.5, "After Corrective Work."

**D.4 Before Corrective Work**

If the summary reports indicate any ALR, submit a written corrective work plan to the Engineer in accordance with 2399.3.E, "Corrective Work." Include the beginning and ending

points of locations planned for correction in the corrective work plan. Do not begin corrective work before the Engineer approves the plan.

If the Engineer elects to assess a monetary deduction for ALR in accordance with Table 2399-7 instead of requiring corrective work, submit a final spreadsheet summary in accordance with 2399.2.D.5, "After Corrective Work."

#### **D.5 After Corrective Work**

After reprofiling, submit a paper summary ProVAL report for each lane, indicating the results of updated "Smoothness Assurance" analyses to the Engineer. Submit a spreadsheet summary in tabular form, with each 0.1 mi [0.16 km] segment occupying a row to the Engineer. The Contractor may access an acceptable spreadsheet summary template in electronic form on the MnDOT Smoothness website.

### **2399.3 CONSTRUCTION REQUIREMENTS**

Using an IP, measure the final pavement surface for MRI unless otherwise excluded in Table 2399-3.

Unless otherwise approved by the Engineer, perform all profiling in the presence of the Engineer. Schedule profiling with the Engineer. Reprofile any pavement profiled in the absence of the Engineer as directed by the Engineer at no additional cost to the Department.

The Engineer will use a 10 ft [3.05 m] straightedge to evaluate areas excluded from surface testing with the IP in accordance with Table 2399-3.

#### **A Pavement Surface Testing**

Remove objects and foreign material from the pavement surface before performing the pavement surface evaluation. Provide traffic control required for testing and performing corrective work on the final pavement surface.

Run the IP in the direction of traffic. Measure profiles in the left and right wheel paths of each lane.

Test and evaluate each lane separately. The Engineer will determine the length in miles [kilometers] of each mainline traffic lane. Operate the IP at the optimum speed as recommended by the manufacturer.

Separate each lane into segments 0.1 mi [0.16 km] in length. Evaluate the remainder segment less than 0.1 mi [0.16 km] in each lane as an independent segment. The Engineer will prorate pay adjustments for length.

Make each pass continuously, regardless of length, and end passes before exclusions in accordance with Table 2399-3, "Areas Excluded from Smoothness and ALR Evaluation." Begin each subsequent pass 50 ft [15.24 m] before, and including, construction headers and end-of-day work joints. In concrete pavements, evaluate terminal headers tying into existing portland cement concrete pavement.

For percent improvement projects, measure Smoothness before the beginning of construction and after the completion of construction. Use the same stationing for the final profiling as the stationing used for the initial profiling to allow for a direct comparison of Smoothness when calculating the percent improvement. Measure the Smoothness Before Paving and the Smoothness After Paving values with the same IP.

The Engineer will use a 10 ft [3.05 m] straightedge to measure for surface deviations greater than ¼ in [6.35 mm] in 10 ft [3.05 m]. The Engineer will evaluate transverse joints by centering the straightedge longitudinally across the transverse joint.

**B Exclusions**

Table 2399-2 indicates areas that are excluded from Smoothness evaluation, but still require measurement with an IP, and are subject to evaluation for ALR and the 10 ft [3.05 m] straightedge. Table 2399-3 indicates areas that are excluded from surface testing with the IP, but are subject to evaluation with the 10 ft [3.05 m] straightedge.

<b>Table 2399-2 Areas Excluded from Smoothness Evaluation</b>	
<b>For All Pavements</b>	
Paving in areas with a posted vehicle speed less than or equal to 45 mph [73 km/hr]	
Ramps and loops	
Acceleration and deceleration lanes less than or equal to 1,000 ft [304.80 m] in length	
Projects less than 1,000 ft [304.80 m] in length	
Bridge decks and approach – the occurrence of bridges shall not interrupt the continuity determination	
<b>For Bituminous Pavements</b>	
Single lift overlays over concrete	
<b>For Concrete Pavements</b>	
Intersections constructed under traffic – begin and end exclusion 100 ft [30.48 m] from the intersection radius	

<b>Table 2399-3</b>	
<b>Areas Excluded from Smoothness and ALR Evaluation</b>	
<b>For All Pavements</b>	
Paving in areas with a posted vehicle speed less than 30 mph [48 km/hr]	
Turn lanes, crossovers	
10 ft [3.05 m] on either side of obstructions in lane that obstruction is located	
Side streets, side connections	
150 ft [45.72 m] before intersections that end at a stop sign or yield signs at a roundabout	
<b>For Bituminous Pavements</b>	
Paved shoulders	
Intersections where mainline profiles are merged or blended into the cross street profile – begin and end exclusion 100 ft [30.48 m] from the intersection radius	
<b>For Concrete Pavements</b>	
Undoweled shoulders less than or equal to 10 ft [3.05 m] in width	
Headers adjacent to colored concrete	

## **C Calculations**

### **C.1 Smoothness**

Obtain the Smoothness values in an individual lane using the ProVAL “Smoothness Assurance” analysis with the 250 mm filter.

For percent improvement projects, use the Smoothness Before Paving and Smoothness After Paving values to calculate the percent ride improvement.

### **C.2 Areas of Localized Roughness**

Identify ALR using the ProVAL “Smoothness Assurance” analysis, calculating MRI with a continuous short interval of 25 ft [7.62 m] with the 250 mm filter.

## **D Pay Adjustments**

### **D.1 Smoothness**

Evaluate Smoothness requirements using the equations and criteria in accordance with the following tables:

- (1) Table 2399-4 for bituminous pavements,
- (2) Table 2399-5 for concrete pavements, and
- (3) Table 2399-6 for percent improvement projects.

The Engineer will base pay adjustments on the segment Smoothness value (or percent improvement value, for percent improvement projects) measured at the completion of surface pavement, unless corrective work is required by the summary report results. If a segment is

less than 100 ft [30.48 m] in length and Table 2399-4, Table 2399-5, or Table 2399-6 requires corrective work, the Engineer will waive the corrective work requirement for the segment and instead assess a prorated disincentive. The Department will still subject the segment to ALR analysis in accordance with Table 2399-7

For segments requiring corrective work, reprofile the entire 0.1 mi [0.16 km] segment after performing corrective work as directed by the Engineer and enter the reprofiled Smoothness values into the final spreadsheet summary.

**D.1.a Bituminous Pavements**

Table 2399-4 contains pay adjustments for bituminous pavements. See Section 2360, “Plant Mixed Asphalt Pavement” of the Special Provisions for the ride equation requirement.

<b>Table 2399-4 Smoothness Pay Adjustments and Corrective Work for Bituminous Pavements</b>		
<b>Equation</b>	<b>Smoothness in/mi [m/km]</b>	<b>Pay Adjustment \$/0.1 mi [0.16 km]</b>
HMA-A	< 30.0 [0.47]	400.00
	30.0 – 75.0 [0.47 – 1.18]	850.00 – 15.000 × Smoothness [850.00 – 957.450 × Smoothness]
	> 75.0 [1.18]	Corrective Work to ≤ 56.7 in/mi [0.89 m/km]
HMA-B	< 33.0 [0.52]	270.00
	33.0 – 85.0 [0.52 – 1.34]	600.00 – 10.000 × Smoothness [600.00 – 638.950 × Smoothness]
	> 85.0 [1.34]	Corrective Work to ≤ 60.0 in/mi [0.94 m/km]
HMA-C	< 36.0 [0.57]	180.00
	36.0 – 95.0 [0.57 – 1.50]	414.00 – 6.500 × Smoothness [414.00 – 410.500 × Smoothness]
	> 95.0 [1.50]	Corrective Work to ≤ 63.7 in/mi [1.01 m/km]

For bituminous projects, the Engineer will not pay any positive Total Pay Adjustments if greater than 25 percent of all mainline density lots for the project fail to meet the minimum density requirements in accordance with 2360, “Plant Mixed Asphalt Pavement.”

**D.1.b Concrete Pavements**

For concrete pavements, the Engineer will use equation PCC-A. For concrete pavement rehabilitation projects or concrete grinding, the Engineer will use equation PCC-B if the Contract requires pay adjustments for concrete grinding.

Table 2399-5 Smoothness Pay Adjustments and Corrective Work for Concrete Pavements		
Equation	Smoothness in/mi [m/km]	Pay Adjustment \$/0.1 mi [0.16 km]
PCC-A	< 50.0 [0.79]	890.00
	50.0 – 90.0 [0.79 – 1.42]	2940.00 – 41,000 × Smoothness [2940.00 – 2597.800 × Smoothness]
	> 90.0 [1.42]	Corrective Work to ≤ 71.7 in/mi [1.13 m/km]
PCC-B	< 50.0 [0.79]	450.00
	50.0 – 71.2 [0.79 – 1.12]	1511.30 – 21,226 × Smoothness [1511.30 – 1344.900 × Smoothness]
	71.3 – 90.0 [1.13 – 1.42]	0.00
	> 90.0 [1.42]	Corrective Work to ≤ 71.3 in/mi [1.13 m/km]

### D.1.c Percent Improvement Projects

The Engineer will base pay adjustments on the segment percent improvement values. The Engineer will not require corrective work and will not assess a negative pay adjustment if the Smoothness Before Paving value is less than 60.0 in per mi [0.95 m per km] and the percent improvement is greater than zero. The Engineer will calculate the percent improvement in accordance with the following equation:

$$\%I = \frac{\text{SmoothnessBeforePaving} - \text{SmoothnessAfterPaving}}{\text{SmoothnessBeforePaving}} \times 100$$

Determine the Smoothness Before Paving value before patching or other repair.  
Determine the Smoothness After Paving value after the completion of paving and any corrective work.

<b>Table 2399-6</b> <b>Smoothness Pay Adjustments and Corrective Work for</b> <b>Percent Improvement Projects</b>		
<b>Equation</b>	<b>Percent Improvement (%I)</b>	<b>Pay Adjustment, per \$/0.1 mi [\$/0.1609 km] segment</b>
PI	> 64.0	180.00
	33.0 to 64.0	$-295.00 + 7.420 \times (\%I)$
	< 33.0	Corrective work to %I of at least 39.8

For bituminous percent improvement projects, the Engineer will not pay any positive Total Pay Adjustments if greater than 25.0 percent of all mainline density lots for the project fail to meet minimum density requirements in accordance with 2360, "Plant Mixed Asphalt Pavement."

Correct segments with a percentage improvement of less than 33.0 percent at no additional cost to the Department as required by the Engineer.

**D.2 Areas of Localized Roughness**

The Engineer will evaluate ALR in accordance with Table 2399-7, "ALR Monetary Deductions and Corrective Work Requirements."

<b>Table 2399-7 ALR Monetary Deductions and Corrective Work Requirements</b>		
<b>Equation</b>	<b>25 ft [7.62 m] Continuous MRI, in/mi [m/km]</b>	<b>Corrective Work or Monetary Deduction, per linear 1.0 ft [0.30 m]</b>
HMA-A or HMA-B, and a posted vehicle speed > 45 mph [73 km/hr]	< 125.0 [1.97]	Acceptable
	≥ 125.0 [1.97] to < 175.0 [2.76]	Corrective Work or \$10.00, as directed by the Engineer
	≥ 175.0 [2.76] to < 250.0 [3.94]	Corrective Work or \$25.00, as directed by the Engineer
	≥ 250.0 [3.94]	Corrective Work or \$100.00, as directed by the Engineer
PCC-A or PCC-B, and a posted vehicle speed > 45 mph [73 km/hr]	< 125.0 [1.97]	Acceptable
	≥ 125.0 [1.97] to < 175.0 [2.76]	Corrective Work or \$10.00, as directed by the Engineer
	≥ 175.0 [2.76] to < 250.0 [3.94]	Corrective Work or \$25.00, as directed by the Engineer
	≥ 250.0 [3.94]	Corrective Work as directed by Engineer
HMA-C, PI, ramps, loops, concrete intersections constructed under traffic, or any paving with a posted vehicle speed ≤ 45 mph [73 km/hr]	< 175.0 [2.76]	Acceptable
	≥ 175.0 [2.76] to < 250.0 [3.94]	\$10.00
	≥ 250.0 [3.94]	\$25.00

The Engineer will consider ALR acceptable if the retested segment contains no ALR. The Department will reduce payment for ALR remaining after retesting as determined by the Engineer and in accordance with Table 2399-7, "ALR Monetary Deductions and Corrective Work Requirements."

### **D.3 Straightedge Evaluation**

The Engineer will allow variations less than or equal to  $\frac{1}{4}$  in [6.35 mm] within the span of the straightedge in the longitudinal or transverse direction to remain in place without correction or penalty.

The Engineer will require corrective work on surface deviations greater than  $\frac{1}{4}$  in [6.35 mm] within the span of the straightedge in any direction. For corrected variations, the Engineer will accept deviations less than or equal to  $\frac{1}{4}$  in [6.35 mm] within the span of a 10 ft [3.05 m] straightedge in any direction.

### **E Corrective Work**

Notify the Engineer at least 24 hr before beginning corrective work. Do not begin corrective work before the Engineer approves the methods and procedures in writing.

Perform corrective work using a surface diamond grinding device consisting of multiple diamond blades, unless otherwise approved by the Engineer. Fog-seal diamond ground bituminous surfaces as required by the Engineer and at no additional cost to the Department. Repair and replace joint sealant damaged by diamond grinding on concrete pavement as directed by the Engineer and at no additional cost to the Department.

The Contractor may correct bituminous pavements by overlaying the area or replacing the area by milling and inlaying as approved by the Engineer. If milling and inlaying or overlaying, perform work in accordance with 2399, "Pavement Surface Smoothness," over the entire length of the correction. If milling and inlaying or overlaying, use a transverse saw cut to begin and end the surface correction.

Perform corrective work across the entire lane width. Maintain the pavement cross slope through corrective areas.

Perform coring to determine if diamond grinding corrective work results in thin pavements, as directed by the Engineer. Provide additional coring for thickness verification at no additional cost to the Department. The Department may reduce the payment for thin pavement sections after diamond grinding. Handle residue and excess water resulting from diamond grinding in accordance with 1717, "Air, Land, and Water Pollution."

Perform surface corrections before placing permanent pavement markings. Replace permanent pavement marking damaged or destroyed by corrective work at no additional cost to the Department.

Reprofile segments containing corrected areas with the same certified IP in accordance with 2399.2.A, "Inertial Profiler" within 5 calendar days after the completion of corrective work required by the Engineer.

### **F Retesting**

Perform retesting as directed by the Engineer and within 30 days of the original profiling.

If the retested Smoothness values differ from the original Smoothness values by greater than 10 percent, the Engineer will use the retested values as the basis for acceptance and pay adjustments. If the retested values differ from the original values by greater than 10 percent, the Department will not pay for the cost of retesting.

If the retested Smoothness values differ by less than or equal to 10 percent of the original Smoothness values, the Engineer will use the original values. If the Engineer verifies the accuracy of the original results, the Department will pay for retesting as directed by the Engineer, except for retesting required after corrective work, at \$100.00 per lane mi [\$62.14 per lane km] retested or \$500.00, whichever provides the greater amount.

**2399.4 METHOD OF MEASUREMENT — (BLANK)**

**2399.5 BASIS OF PAYMENT**

The Department will include the cost of the IP, testing, and traffic control in the relevant Contract unit price for wearing course mixture for bituminous pavements, concrete pavement for concrete pavements, or for concrete grinding.

**S-55 (2461) STRUCTURAL CONCRETE (2012 Version)**

The provisions of MnDOT 2461 are modified in accordance with the following:

S-55.1 MnDOT 2461.3B shall be deleted and replaced with the following:

**B Classification of Concrete**

The Department will classify concrete by type, grade, consistency, and aggregate size. Refer to the mix number and Table 2461-2 to determine the mix requirements for each item of work.

<b>Table 2461-2 Mix Number Identification</b>				
<b>First Digit</b>	<b>Second Digit</b>	<b>Third Digit</b>	<b>Fourth Digit</b>	<b>Additional Digits</b>
Type	Grade	Slump range	Coarse aggregate gradation range	Class A coarse aggregate when required, modified mix designation, or both

Refer to individual Contract items in the Standard Specification for Mix Numbers. Deviations from the specified Mix Numbers require coordination with the Concrete Engineer.

If the Contract does not show a concrete mix number, provide Type 3, Grade Y concrete with a slump and aggregate gradation determined by the Engineer.

The Department will designate grout by type and grade followed by the word "GROUT." Do not provide grout containing coarse aggregate. If the Plans do not show a type or grade for grout, provide 3A GROUT.

**B1 Type Designation**

Provide Type 1 or Type 3 concrete in accordance with Table 2461-3:

Table 2461-3 Concrete Type Designation		
Concrete Type	Target Air Content*, %	Maximum Water/Cement Ratio
1	2.0	≤ 0.53 for 1A43 ≤ 0.68 for 1C62 ≤ 0.64 for 1C Grout
3	6.5 †	≤ 0.45 †#
* For concrete mix design purposes only    The water/cement ratio is defined as the ratio of the total water weight to the total cementitious weight. † Unless otherwise required by 2301 or elsewhere in the Contract. #The maximum water/cement ratio for machine placed concrete is 0.42.		

**B2 Grade Designation**

The Department will designate concrete grade using a letter to represent the anticipated compressive strength and the minimum cementitious content in accordance with 2461.3C, "Cementitious Content," and Table 2461-4:

Table 2461-4 Concrete Grade Designation		
Concrete Grade	Type 1 Anticipated Compressive Strength, <i>psi [MPa]</i> *	Type 3 Anticipated Compressive Strength, <i>psi [MPa]</i> *
U	6,300 [43]	5,600 [39]
V	6,000 [41]	5,300 [37]
W	5,700 [39]	5,000 [34]
X	5,400 [37]	4,700 [32]
Y	5,000 [34]	4,300 [30]
A	4,500 [31]	3,900 [27]
B	4,100 [28]	3,400 [23]
C	3,200 [22]	2,700 [19]
* Anticipated minimum strength produced in accordance with the Department specifications and cured for 28 days under laboratory conditions.		

The Concrete Engineer, in coordination with the Engineer, may increase the cement content for concrete with test cylinder results less than the anticipated compressive strength in

accordance with Table 2461-4, "Concrete Grade Designation." The Contractor may request an increase in the cement content as approved by the Engineer, in conjunction with the Concrete Engineer.

**B3 Slump Designation**

Refer to the slump designation for the upper limit of the slump range without a water reducer in accordance with Table 2461-5:

<b>Table 2461-5 Slump Designation</b>	
<b>Slump Designation</b>	<b>Slump Range without Water Reducer, in [mm]</b>
1	½ – 1 [12 – 25]
2	1 – 2 [25 – 50]
3	1 – 3 [25 – 75]
4	2 – 4 [50 – 100]
5	2 – 5 [50 – 125]
6	3 – 6 [75 – 150]

**B4 Coarse Aggregate (CA) Designation**

Refer to the coarse aggregate designation for the range of optional coarse aggregates gradations allowed in the mix in accordance with Table 3137-4, "Coarse Aggregate Designation for Concrete," and Table 2461-6:

<b>Table 2461-6 Coarse Aggregate Designation for Concrete</b>	
<b>Range</b>	<b>Optional Coarse Aggregate Designation</b>
0	CA-00 only
1	CA-15 to CA-50, inclusive
2	CA-15 to CA-60, inclusive
3	CA-35 to CA-60, inclusive
4	CA-35 to CA-60, inclusive
5	CA-45 to CA-60, inclusive
6	CA-50 to CA-70, inclusive
7	CA-70 only
8	CA-80 only

**B5 Additional Designations**

For mix designs that require a specified class of coarse aggregate as defined in 3137.2.B, an additional letter will follow the fourth digit of the Mix Number such as "A" (Class A Aggregate Requirement).

The Engineer may identify special concrete mix designations with additional letters following the last digit such as "HE" (High Early), "WC" (Water-Cement Ratio), "HPC" (High Performance Concrete), "MS" (Microsilica), or others.

S-55.2 MnDOT 2461.3E shall be deleted and replaced with the following:

**E Concrete Admixtures.....3113**

The Contractor may use the following approved admixtures at their discretion as listed on the Approved Products list:

- (1) Type A, "Water Reducing and Mid Range Water Reducing Admixtures"
- (2) Type B, "Retarding/Hydration Stabilizer Admixtures"
- (3) Type D, "Water Reducing and Retarding Admixtures"
- (4) Type S, "Viscosity Modifying Admixtures"

Use of any other admixtures in the concrete requires approval of the Concrete Engineer unless otherwise required by or allowed in the Contract.

When incorporating admixtures into the concrete:

- (1) Use admixture dosage rates recommended by the manufacturer.
- (2) Add all admixtures at the plant.
- (3) Provide admixture additions at the job site that are the same products as originally incorporated into the mix.
- (4) Use calcium chloride in concrete as approved by the Engineer, in conjunction with the Concrete Engineer. Do not use calcium chloride in units containing prestressing steel or in bridge superstructure concrete.

**E1 Use of Additional Admixtures**

On a case by case basis, the Engineer, in conjunction with the Concrete Engineer, will consider the use of the following admixtures, added either at the plant or at the job site, as listed on the Approved Products list:

- (1) Type C, "Accelerating Admixtures"
- (2) Type E, "Water Reducing and Accelerating Admixtures"
- (3) Type F, "Water Reducing, High Range Admixtures"
- (4) Type G, "Water Reducing, High Range and Retarding Admixtures"

**E1a Delivery Time Beyond 90 Minutes**

If the haul time does not facilitate mixing and placing the concrete within 90 minutes, perform the following procedures for pre-qualifying a concrete mix to extend the delivery time to 120 minutes. Extending the delivery time beyond 120 minutes will require additional testing at 30 minute intervals up to the maximum desired delivery time as directed by the Concrete Engineer.

- (1) Provide a contractor mix design in accordance with 2461.3G2 for each combination of materials.
- (2) Specification 2461.3D is modified to allow up to 25% fly ash replacement for cement. All other requirements of 2461 apply.
- (3) Laboratory trial batching on the proposed mix includes the following testing requirements:

- (a) Perform all laboratory trial batching at an AMRL accredited laboratory.
  - (b) Perform all plastic concrete testing after adding all admixtures to the concrete mixture.
  - (c) Perform slump, air content, unit weight and temperature testing immediately after batching and at 90 and 120 minutes.
  - (d) Fabricate concrete cylinders for compressive strength at 90 and 120 minutes (sets of 3) and cylinders for hardened air content testing at 90 and 120 minutes (sets of 5).
  - (e) Test the cylinders for compressive strength at 28 days.
  - (f) Determine the hardened air content (ASTM C457) at a minimum of 7 days. The Contractor is required to test at 2 samples representing 90 minutes and 2 samples representing 120 minutes and provide MnDOT with the other 6 samples for testing at their discretion. Retain any hardened concrete test specimens for a minimum of 90 days for MnDOT to examine at their discretion.
  - (g) Ensure the admixture manufacturer's technical representative is present during the trial batching.
  - (h) Contact the MnDOT Concrete Engineering Unit a minimum of 2 days prior to mixing. This same 2 day notification is required prior to any physical testing on hardened concrete samples.
  - (i) Once accepted by the Concrete Engineer, the laboratory trial batching is considered acceptable for use for 5 years, unless it is determined the material sources have changed significantly since the initial laboratory testing and acceptance. In all cases, the Engineer will require field trial batching on a project specific basis.
- (4) Field trial batching on the proposed mix for each specific project shall include batching in the presence of the Engineer and the following:
- (a) Provide a QC Plan for extending the delivery time beyond 90 minutes.
  - (b) Mix and transport the concrete using the same materials as were utilized in the laboratory trial batching.
  - (c) Batch a minimum 5 cu. yd (4 cu. m) of concrete utilizing the same methods intended for use when supplying concrete placed into the permanent work.
  - (d) Maintain the ready mix truck in transit; by either driving around the yard or on the roadway; and maintain the drum speed at 5 to 7 revolutions per minute for the entire 120 minutes.
  - (e) Perform all plastic concrete testing after adding admixtures to the concrete mixture.
  - (f) Perform slump, air content, unit weight and temperature testing at 90 and 120 minutes.
  - (g) Fabricate concrete cylinders for compressive strength at 90 and 120 minutes (sets of 3) and cylinders for hardened air content testing at 90 and 120 minutes (sets of 2).
  - (h) Test the cylinders for compressive strength at a minimum of 7 days.
  - (i) Determine the hardened air content (ASTM C457) at a minimum of 7 days. The Contractor is required to test 1 sample representing 90 minutes and 1 sample representing 120 minutes and provide MnDOT with the other 2 samples for testing at their discretion. Retain any hardened concrete test specimens for a minimum of 90 days for MnDOT to examine at their discretion.

- (j) Incorporate the trial batch concrete into other work with the approval of the Engineer.
- (k) The Contractor must demonstrate to the Engineer the ability to properly mix, control and place the concrete.
- (5) The Concrete Engineer, in coordination with the Engineer, will review the trial batch results and all related concrete testing for compliance with the QC Plan and the Contract. Final approval of the mixture is based on satisfactory field placement and performance.

S-55.3 MnDOT 2461.3F shall be deleted.

S-55.4 MnDOT 2461.3G, 2461.3H, and 2461.3J shall be deleted and replaced with the following:

**G Job Mix Proportions**

**G1 Department Designed**

The Department will provide the estimated composition of concrete mixes unless otherwise required by the Contract.

The Department may adjust the mix composition of the concrete without adjusting the Contract unit price for any items of work.

**G1a Concrete Yield**

The Department defines concrete yield as the ratio of the volume of mixed concrete, less accountable waste, to the planned volume of the work constructed. The Department will not assume responsibility for the yield from a given volume of mixed concrete.

**G1b High-Early Strength Concrete**

When the Engineer requires high-early strength concrete, the concrete is designed in accordance with the following:

- Increasing the cement content of the concrete up to 30 percent and/or using an approved accelerator as allowed by the Engineer, in conjunction with the Concrete Engineer
- Using 100 percent portland cement unless allowed by the Contract or the Engineer
- A maximum cement content for a cubic yard [cubic meter] of concrete not to exceed 900 lb [535 kg].
- A w/c ratio not to exceed 0.38 for Type 3 Concrete unless specified elsewhere in the Contract.

**G2 Contractor Designed**

Design the concrete mix based on an absolute volume of 27.00 cu. ft ± 0.10 cu. ft [1.000 cu. m ± 0.003 cu. m] for the following:

- (1) Concrete paving mixes in accordance with 2301,
- (2) Concrete mixes with an anticipated or required 28-day compressive strengths of at least 5,000 psi [34 Mpa],
- (3) Precast concrete in accordance with 2405, 2412, 3236, 3238, 3621, 3622, 3630, 3661, and 3667
- (4) Colored concrete
- (5) Stamped concrete
- (6) Cellular Concrete Grout – Controlled Low Strength Material (CLSM)
- (7) Extended Delivery Times Beyond 90 minutes
- (8) Concrete as otherwise required by the Contract.

Submit the concrete mixes utilizing the MnDOT Contractor Mix Design Submittal Package available on the Department's website at least 21 calendar days before initial placement of the concrete mix. The Concrete Engineer will provide specific gravity and absorption data for mix design calculations.

The Concrete Engineer will review the mix design submittal and approve the materials and mix design for compliance with the Contract.

The Contractor assumes full responsibility for the mix design and performance of the concrete.

The Engineer determines final acceptance of concrete for payment based on satisfactory field placement and performance.

S-55.5 MnDOT 2461.4A2(c) shall be deleted and replaced with the following:

Do not place concrete when the air temperature at the point of placement is below 36 °F [2 °C] or is expected to fall below 36 °F [2 °C] within the following 24 h period unless approved cold-weather provisions are in-place. Discontinue concrete placement if the air temperature falls below 36 °F [2 °C].

S-55.6 MnDOT 2461.4A4a shall be deleted and replaced with the following:

#### A4a Consistency

The Engineer will test the concrete for consistency using the slump test during the progress of the work. The Department may reject concrete batches with consistencies outside of the slump range in accordance with Table 2461-10. If any test shows the slump in excess of the upper limit of the slump range, the Engineer will reject the concrete represented by that test unless the Contractor makes adjustments to the concrete before use.

Adjust the slump within the allowable range to optimize both placement and finishing.

If not using a Department approved Type A water reducer at the manufacturer's recommended dosage rates listed on the Approved Products list, meet the slump values for the slump range without water reducer in accordance with Table 2461-10.

If using a Department approved Type A water reducer at the manufacturer's recommended dosage rates listed on the Approved Products list, meet the slump values for the slump range with water reducer in accordance with Table 2461-10.

<b>Table 2461-10 Slump Range Designation</b>		
<b>Slump Designation</b>	<b>Slump Range without Water Reducer, in [mm]</b>	<b>Slump Range with Water Reducer, in [mm]</b>
1	$\frac{1}{2}$ - 1 [12 - 25]	$\frac{1}{2}$ - 1 [12 - 25]
2	1 - 2 [25 - 50]	1 - 3 [25 - 75]
3	1 - 3 [25 - 75]	1 - 4 [25 - 100]
4	2 - 4 [50 - 100]	2 - 5 [50 - 125]
5	2 - 5 [50 - 125]	2 - 6 [50 - 150]
6	3 - 6 [75 - 150]	3 - 7 [75 - 175]

Contact the Engineer if encountering unusual placement conditions that render the specified slump range unsuitable. The Department will provide mix composition modifications to provide the desired change in consistency while maintaining the other specified properties of the concrete mix. Do not add water solely to temporarily facilitate the placement of concrete.

#### A4a(1) Concrete Placed by the Slip-Form Method

Place concrete that does not slough and is adequately consolidated at a slump value that optimizes placement for the designated mixture.

#### A4a(2) Non-Conforming Material

Only place concrete meeting the slump requirements in the work. If the Contractor places concrete not meeting the slump requirements into the work, the Engineer will not accept nonconforming concrete at the Contract unit price.

For concrete not meeting the required slump, the Engineer will make determinations regarding the disposition, payment, or removal. The Department will adjust the Contract unit price for the Contract pay item of the concrete in accordance with Table 2461-11A, 2461-11B, 2461-11C and 2461-11D. When there is not a separate Structural Concrete bid price for an item of work or the concrete is a minor component of the unit bid price, the Department will reduce payment based on a concrete price of \$100.00 per cu. yd [\$130.00 per cu. m] or Contractor-provided invoice amount for the concrete in question, whichever is less.

<b>Table 2461-11A General Concrete*</b>	
<b>Outside of Slump Range</b>	<b>Adjusted Contract Unit Price</b>
Below slump range*	The Department will pay 95 percent of the relevant Contract unit price for materials placed as approved by the Engineer.
≤ 1½ in [40 mm] above slump range	The Department will pay 75 percent of the relevant Contract unit price for materials placed as approved by the Engineer.
1¾ in [45 mm] – 2¼ in [55 mm] above slump range	The Department will pay 50 percent of the relevant Contract unit price for materials placed as approved by the Engineer.
> 2¼ in [55 mm] above slump range	The Department will pay 25 percent of the relevant Contract unit price for materials placed as approved by the Engineer.
* If the Contractor places piling or footing concrete below the slump range, the Department will deduct \$100 per cu. yd [ <b>\$130 per cu. m</b> ] or a Contractor-provided invoice amount to the relevant Contract unit price of the concrete represented by the slump test, whichever is less. The Department will not reduce Contract unit price for low slump concrete placed with the slip-form method as approved by the Engineer.	

<b>Table 2461-11B Bridge Deck Concrete</b>	
<b>Outside of Slump Range</b>	<b>Adjusted Contract Unit Price</b>
Below slump range	The Department will pay 95 percent of the relevant Contract unit price for materials placed as approved by the Engineer.
≤ 1½ in [40 mm] above slump range	The Department will pay 75 percent of the relevant Contract unit price for materials placed as approved by the Engineer.
> 1½ in [40 mm] above slump range	The Department will pay 25 percent of the relevant Contract unit price for materials placed as approved by the Engineer.

<b>Table 2461-11C</b> <b>Low Slump Bridge Deck Concrete</b> <b>From ½ in [12 mm] to 1 in [25 mm]</b>	
<b>Outside of Slump Range</b>	<b>Adjusted Contract Unit Price</b>
Below slump range	No deduction for materials placed as approved by the Engineer
≤ ½ in [12 mm] above slump range	The Department will pay 50 percent of the relevant Contract unit price for materials placed as approved by the Engineer.
> ½ in [12 mm] – ¾ in [20 mm] above slump range	The Department will not pay for concrete placed but will allow the concrete to remain in place as approved by the Engineer.
> ¾ in [20 mm] above slump range	The Department will not pay for concrete. Provide additional testing as directed by the Engineer to determine if the concrete can remain or place or is subject to removal and replacement.

<b>Table 2461-11D</b> <b>Low Slump Concrete — Patching</b> <b>From ½ in [12 mm] to 1 in [25 mm]</b>	
<b>Outside of Slump Range</b>	<b>Adjusted Contract Unit Price</b>
Below slump range	No deduction for materials placed as approved by the Engineer
≤ ½ in [12 mm] above slump range	The Department will pay 75 percent of the relevant Contract unit price for materials placed as approved by the Engineer.
≥ ¾ in [20 mm] above slump range	The Department will pay 25 percent of the relevant Contract unit price for materials placed as approved by the Engineer.

S-55.7 MnDOT 2461.4A4b shall be deleted and replaced with the following:

**A4b Air Content**

Maintain the air content of Type 3 general concrete at the specified target of 6.5 percent ±1.5 percent of the measured volume of the plastic concrete in accordance 1503.

Make any adjustments immediately to maintain the desired air content.

Measure the air content at the point of placement but before consolidation.

**A4b(1) Non-Conforming Material**

Only place Type 3 concrete meeting the air content requirements in the work. If the Contractor places Type 3 concrete not meeting the air content requirements into the work, the Engineer will not accept nonconforming concrete at the Contract unit price.

For concrete not meeting the required air content, the Engineer will make determinations regarding the disposition, payment, or removal. The Department will adjust the Contract unit price for the Contract pay item of the concrete in accordance with Table 2461-17. When there is not a separate Structural Concrete bid price for an item of work or the concrete is a minor component of the unit bid price, the Department will reduce payment based on a concrete price of \$100.00 per cu. yd [**\$130.00 per cu. m**] or the Contractor-provided invoice amount for the concrete in question, whichever is less.

<b>General Concrete (Target Air Content 6.5%)</b>	
<b>Air Content, %</b>	<b>Adjusted Contract Unit Price</b>
> 10.0	The Department will pay 75 percent of the relevant Contract unit price for the concrete represented for material placed as approved by the Engineer.
>8.0 – 10.0	The Department will pay 95 percent of the relevant Contract unit price for the concrete represented for material placed as approved by the Engineer.
5.0 – 8.0	The Department will pay 100 percent of the relevant Contract unit price for the concrete represented, for material placed as approved by the Engineer.
>4.0 – <5.0	The Department will pay 75 percent of the relevant Contract unit price for the concrete represented for material placed as approved by the Engineer.
>3.5 – 4.0	The Department will pay 25 percent of the relevant Contract unit price for the concrete represented and placed as approved by the Engineer. If the Engineer, in conjunction with the Concrete Engineer, determines the surface is exposed to freeze-thaw cycling, coat the concrete with an approved epoxy penetrant sealer from the MnDOT Approved Products list.
≤ 3.5	Remove and replace concrete in accordance with 1503, “Conformity with Plans and Specifications” and 1512, “Unacceptable and Unauthorized Work” as directed by the Engineer. If the Engineer, in conjunction with the Concrete Engineer, determines the concrete can remain place, the Engineer will not pay for the concrete and if the Engineer determines the surface is exposed to salt-brine freeze-thaw cycling, coat with an approved epoxy penetrant sealer from the MnDOT Approved Products list.

S-55.8 MnDOT 2461.4A5 shall be deleted and replaced with the following:

A5 Test Methods and Specimens

The Engineer will furnish molds for the test specimens in accordance with the following based on the maximum aggregate size:

- (1) 4 in × 8 in [100 mm × 200 mm] cylinder molds,
- (2) 6 in × 12 in [150 in × 300 mm] cylinder molds for maximum aggregate sizes greater than 1¼ in [31.5 mm],

- (3) 6 in × 6 in × 20 in [150 in × 150 in × 500 mm] beam molds, use other beam mold sizes as approved by the Engineer.

Provide curing tanks of adequate size and number for curing all of the concrete test specimens in accordance with 2031.3.C. Supply the curing tanks with heaters to maintain a water temperature of 73° F ± 3° F [23° C ± 2° C].

If Contractor testing is required in the Contract, perform the following:

- (1) Provide a MnDOT Certified Concrete Field 1 Technician to perform all Contractor Testing.
- (2) Determine the required testing rates in accordance with the Schedule of Materials Control,
- (3) Take samples after the first ¼ cu yd [cu. m] and before discharging the last ¼ cu. yd [cu. m] of the batch,
- (4) Perform concrete sampling and testing meeting the requirements of the MnDOT Concrete Manual,
- (5) Measure slump and air content, and make strength specimens when placing the concrete,
- (6) Record field measurements, including strength specimen identifications on MnDOT Form 2448, *Weekly Concrete Report*, to provide to the Concrete Engineer.

The Engineer will transport the cylinders to the Agency laboratory for testing.

#### A5a Standard Strength Cylinders

The Department will perform the following for standard strength cylinders:

- (1) Cast cylinders for testing at 28 days,
- (2) Mark cylinders for identification of the represented unit or section of concrete,
- (3) Cure the cylinders meeting the requirements of the MnDOT Concrete Manual, and
- (4) Submit cylinders and a completed cylinder identification card to the Agency laboratory.

The Producer of precast units is responsible for casting standard strength cylinders.

#### A5b Control Strength Cylinders

The Engineer will use control cylinders to determine when the sequence of construction operations is dependent upon the rate of concrete strength development. The Engineer will cast enough control cylinders to determine when the concrete attains the required strength for all desired control limitations.

The Department will perform the following for control strength cylinders:

- (1) Cast up to three (3) control cylinders. Any additional control cylinders are the responsibility of the Contractor,

- (2) Cure the cylinders in the same location and under the same conditions as the concrete structure or unit involved meeting the requirements of the Concrete Manual,
- (3) Mark control cylinders for identification of the represented unit or section of concrete, and
- (4) Submit cylinders and a completed cylinder identification card to the Agency laboratory.

If the Agency is unavailable to test the control cylinders, the Contractor shall submit the control cylinders to an independent testing facility for testing or the Contractor may perform the testing on the control cylinders on a portable mechanical or hydraulic testing machine checked and calibrated with a standard proving ring as approved by the Engineer and in the presence of the Engineer.

The Producer of precast units is responsible for casting control strength cylinders.

**A5c Strength Specimens for Concrete Paving**

Use flexural beams to determine strength or provide cylinders as allowed by the Contract or approved by the Engineer.

Cast standard beams or cylinders for testing at 28 days.

Cast a sufficient number of control beams or cylinders to determine when the concrete attains the required strength for all desired control limitations.

Cure the standard beams or cylinders meeting the requirements of the MnDOT Concrete Manual.

Cure the control beams or cylinders in the same location and under the same conditions as the concrete structure or unit involved meeting the requirements of the MnDOT Concrete Manual.

The Engineer will test the flexural beams and record the results on MnDOT Form 2162, "*Concrete Test Beam Data.*"

If using cylinders, the Engineer will submit cylinders and a completed identification card to the Agency laboratory.

S-55.9 MnDOT 2461.4D1 shall be deleted and replaced with the following:

**D Certified Ready-Mix Concrete**

**D1 Definition**

The Department defines ready-mix concrete as one of the following:

- (1) Central-mixed concrete proportioned and mixed in a stationary plant and hauled to the point of placement in revolving drum agitator trucks or a truck mixer, or

- (2) Truck-mixed concrete proportioned in a stationary plant and fully mixed in truck mixers.

Commonly used certified ready-mix terms are defined in the following:

<b>Certified Ready-Mix Terminology</b>	
Term	Definition
Mix design water	The maximum allowable water content for 1 cu. yd [1 cu. m] of concrete in accordance with MnDOT Form TP 02406, <i>Estimated Composition of Concrete Mixes</i> .
Total moisture factor	Factor used to determine total amount of water carried by a given wet aggregate.
Absorption factor	Factor used to determine the water contained within the pores of the aggregate and is held within the particles by capillary force.
Free moisture	The water that is carried on the surface of the aggregate that becomes part of the total water.
Batch water	Water actually batched into the truck by the batcher.
Total water	Batch water added to free moisture. Total water may also include the water used in diluting admixture solutions.
Temper water	Water added in mixer to adjust slump.
Total actual water	The water in the concrete mixture at the time of placement from any source other than the amount absorbed by the aggregate. It includes all batch water placed in the mixer, free moisture on the aggregate and any water added to the ready mix truck prior to placement.
Ready-Mix Producer or "Producer"	Party that is producing the concrete for the Contract. It is understood that the Ready-Mix Producer is the agent of the Contractor.

S-55.10 MnDOT 2461.4D2 shall be deleted and replaced with the following:

D2 General Requirements

Supply all ready-mix concrete from MnDOT Certified Concrete Plants in accordance with 2461.4D7.

The Engineer will reject ready-mix concrete delivered to the work site not meeting the specified requirements for delivery time, consistency, quality, air content, or other properties as unacceptable work in accordance with 1512, "Unacceptable and Unauthorized Work."

Provide batches for a delivered load of concrete in sizes of at least 1 cu. yd [1 cu. m].

Handle washout water in accordance with 1717.

S-55.11 MnDOT 2461.4D3 shall be deleted and replaced with the following:

D2 Notice of Inspection

Notify the Engineer at least 24 h before beginning concrete production to allow the Engineer time to provide inspection forces needed for the work and to approve preparations for concrete placement. If the Contractor fails to provide 24 h notice, the Engineer may delay concrete placement in accordance with 1503, "Conformity with Plans and Specifications" and 1512, "Unacceptable and Unauthorized Work."

If the producer needs to change plants during placement, notify the Engineer and obtain approval before changing the plant.

The first two paragraphs of MnDOT 2461.4D5c shall be deleted and replaced with the following:

D5c Mixing In Truck Mixer

Charge the materials into the truck mixer drum by introducing sufficient water before adding solid materials. Perform charging operations without losing materials.

Leave the truck mixer at the plant site for a minimum of 5 minutes or 50 revolutions during the mixing period. Transport the concrete at agitating speed to the point of placement.

S-55.12 MnDOT 2461.4D6 shall be deleted and replaced with the following:

If using a Department approved Type A, "Water reducing or Mid Range Water Reducing Admixture" at the manufacturer's recommended dosage rates listed on the Approved Products list, meet the slump values for the slump range with water reducer in accordance with Table 2461-10.

D6 Delivery Requirements

Place concrete into the work in accordance with the following:

- (1) Type 1 Concrete – within 90 minutes of batching, and
- (2) Type 3 Concrete – within 90 minutes of batching when all admixtures are added at the plant at the manufacturer's recommended dosage rates listed on the Approved Products list. If the haul time does not facilitate mixing and placing the concrete within 90 minutes, test the concrete in accordance with 2461.3E1a.

In any case, do not add additional mixing water once the concrete is 60 minutes old.

Mix the load a minimum of 5 minutes or 50 revolutions at mixing speed after addition of any admixture.

The Contractor may transport Type 3 concrete in non-agitating equipment if the concrete is discharged within 45 minutes of batching.

Batch time starts when the batch plant or the transit mix truck adds the cement to the other batch materials.

## D6a Field Adjustments

The Engineer will test the concrete for compliance with 2461.4A4a and 2461.4A4b according to the following:

- (1) If the first test taken by the Engineer passes, the Engineer will resume verification testing according to the Schedule of Materials Control.
- (2) If the first test taken by the Engineer fails, make adjustments and perform any quality control testing prior to the Engineer performing a final test. Acceptance or rejection of the truck is based on the Engineer's final test result.
- (3) The Engineer will test up to 2 additional trucks according to 2461.4D6a(1) and 2461.4D6a(2).
- (4) If the concrete is not within specification after the first 3 trucks, the Engineer will reduce their verification testing rate to once per truck for acceptance.
- (5) Once the Engineer returns to normal verification testing according to the Schedule of Materials Control and a failing test occurs, the Engineer will repeat 2461.4D6a(2), 2461.4D6a(3) and 2461.4D6a(4).

S-55.13 MnDOT 2461.4D7 shall be deleted and replaced with the following:

## D7 Certified Ready-Mix Plant Program

Provide ready-mix concrete produced by a certified ready-mix plant. Perform quality control of concrete production under a certification program for ready-mix concrete plants.

Complete all concrete plant documentation utilizing the Concrete Ready-mix Plant QC Workbook available from the MnDOT Concrete Engineering website. Electronically submit the QC Workbook to the Engineer by the Tuesday immediately following the previous week's production.

## D7a Plant Certification

Before concrete production each season, ensure the producer performs the following:

- (1) Performs an on-site inspection at the concrete plant with the Engineer who completes a MnDOT Form 2163, *Concrete Plant Contact Report*.
- (2) Signs the report certifying compliance with the Certified Ready-Mix requirements and continual maintenance of the plant. The Engineer will also sign MnDOT Form 2163, *Concrete Plant Contact Report*.
- (3) Provides a copy of the current MnDOT Concrete Manual and retain on-site.
- (4) Equips the Certified Ready-Mix Plant with a working facsimile machine or an email address.
- (5) Keeps plant reports, charts, and supporting documentation on file at the plant site for 5 calendar years.
- (6) Provides electronic scales for weighing all materials.

## D7b Sampling and Testing

Provide a MnDOT Certified Concrete Plant Level 2 Technician to oversee testing and plant operations and to remain on-site during concrete production or have cellular phone capability.

Provide facilities in accordance with 1604 for the use of the plant technician in performing tests.

Ensure the producer provides technicians with certification at least meeting MnDOT Concrete Plant Level 1 to perform all of the duties in accordance with the MnDOT Concrete Manual. The Engineer will provide technicians with certification at least meeting MnDOT Concrete Plant Level 1 to perform all of the duties in accordance with the MnDOT Concrete Manual.

Ensure the producer performs testing in accordance with the MnDOT Concrete Manual and determines testing rates meeting the requirements of the Schedule of Materials Control. The Engineer performs testing in accordance with the MnDOT Concrete Manual and determines testing rates meeting the requirements of the Schedule of Materials Control.

Take samples randomly using ASTM D 3665, Section 5.

Perform testing at the certified ready-mix plant site. Perform additional testing as directed by the Engineer. The Engineer may oversee the quality control sampling process.

Provide equipment and perform calibrations meeting the requirements of the following:

- (1) AASHTO T 27, "Sieve Analysis of Fine and Coarse Aggregates,"
- (2) AASHTO T 255, "Total Moisture Content of Aggregate by Drying,"
- (3) AASHTO M 92, "Wire-cloth Sieves for Testing Purpose," and
- (4) AASHTO M 231, "Weighing Devices Used in the Testing of Materials."

#### D7c Gradations and Aggregate Quality

Determine the gradation of the fine aggregates and the coarse aggregates as required by the Contract. Use mechanical shakers for sieve analysis of fine and coarse aggregates.

Identify quality control companion samples with the following information:

- (1) Date,
- (2) Test number,
- (3) Time,
- (4) Type of material,
- (5) Plant, and
- (6) Sampling location.

Document gradation results on MnDOT Form 2449, *Weekly Concrete Aggregate Report*.

Chart the results of all producer and Department gradation results of the coarse aggregate and the No. 8 [2.36 mm], No. 30 [600 µm], and No. 50 [300 µm] sieves of the fine aggregate.

The producer may request a reduction in testing rates as approved by the Engineer, in conjunction with the Concrete Engineer.

If the gradation tests on split samples from quality control or verification samples result in a variation between the producer and the Department greater than that set forth in the table below, the parties shall follow the procedures for test result dispute resolution available from the MnDOT Concrete Engineering website.

<b>Allowable Variations on Percent Passing Sieves</b>	
<b>Sieve Size</b>	<b>Allowed Percentage</b>
2 in [50 mm] – 3/8 in [9.5 mm]	± 6
No. 4 [4.75 mm] – No. 30 [600 µm]	± 4
No. 50 [300 µm]	± 3
No. 100 [150 µm]	± 2
No. 200 [75 µm]	± 0.6

D7c(1) Non-conforming Material

Only place concrete meeting the gradation requirements in the work. If the Contractor places concrete not meeting the gradation requirements into the work, the Engineer will not accept nonconforming concrete at the Contract unit price.

For concrete not meeting the required gradation, the Engineer will make determinations regarding the disposition, payment, or removal. The Department will adjust the Contract unit price for the Contract pay item of the concrete in accordance with Table 2461-9 and 2461-10. When there is not a separate Structural Concrete bid price for an item of work or the concrete is a minor component of the unit bid price, the Department will reduce payment based on a concrete price of \$100.00 per cu. yd [**\$130.00 per cu. m**] unless an invoice amount for the concrete in question is provided, whichever is greater.

<b>Table 2461-7A General Concrete for Individual Aggregate Fractions Fine and Coarse Aggregate Specification Sieves other than Fine Aggregate No. 200 [75 µm]</b>	
<b>Outside of Specification, %</b>	<b>Adjusted Contract Unit Price</b>
≤ 3	The Department will pay 98 percent of the relevant Contract unit price for concrete placed as approved by the Engineer.
4 to 6	The Department will pay 95 percent of the relevant Contract unit price for concrete placed as approved by the Engineer.
7 to 10	The Department will pay 90 percent of the relevant Contract unit price for concrete placed as approved by the Engineer.
> 10	The Department will pay 75 percent of the relevant Contract unit price for concrete placed as approved by the Engineer.

<b>Table 2461-7B</b>	
<b>General Concrete for No. 200 [75 <math>\mu</math>m] Sieve of Fine Aggregate</b>	
<b>Outside of Specification, %</b>	<b>Adjusted Contract Unit Price</b>
$\leq 0.3$	The Department will pay 98 percent of the relevant Contract unit price for concrete placed as approved by the Engineer.
0.4 to 0.6	The Department will pay 95 percent of the relevant Contract unit price for concrete placed as approved by the Engineer.
0.7 to 1.0	The Department will pay 90 percent of the relevant Contract unit price for concrete placed as approved by the Engineer.
$> 1.0$	The Department will pay for 75 percent of the relevant Contract unit price for concrete placed as approved by the Engineer.

If a failure occurs on the fine aggregate No. 200 [75  $\mu$ m] sieve and on other sieves concurrently, the Department will only reduce the price based on the larger percentage deduction.

The Engineer, in conjunction with the Concrete Engineer, will determine adjusted Contract unit prices for coarse aggregate quality failures in accordance with 1503.

#### D7d Moisture Content

Ensure the producer performs the following:

- (1) Determine the moisture content using the oven dry method in all fractions of the aggregate.
- (2) Document moisture tests on MnDOT Form 2152, *Concrete Batching Report*.
- (3) Chart the moisture content of each aggregate.

In addition to the oven dry moisture test, the producer may obtain the moisture content in the fine aggregate using a moisture probe.

To obtain approval for the use of a moisture probe, calibrate the moisture probe before each construction season meeting the requirements of the MnDOT Concrete Manual. Verify and chart both the probe moisture content and the oven-dry verification moisture test each week.

#### D7e Plant Diaries

Provide daily plant diaries in accordance with the MnDOT Concrete Manual using an approved form from the Department's website.

#### D7f Batch Weight Verification

The Engineer will observe the batching process to verify weights shown on the Certificate of Compliance.

The Engineer will observe the actual water batched during each collection of verification gradations in accordance with the following:

- (1) Watching the ready-mix truck reverse the drum after washing,
- (2) Verifying use of the current moisture test,
- (3) Verifying that any additional water added to adjust the slump is recorded, and
- (4) Validating water weights on the load batched and comparing the total water with the design water

The Engineer will document the actual water batched on MnDOT Form 24143, *Weekly Certified Ready-Mix Plant Report* and submit a copy to the Engineer to provide to the Concrete Engineer.

The Engineer will provide plant diaries in accordance with the MnDOT Concrete Manual.

#### D7g Certificate of Compliance

Provide a computerized Certificate of Compliance with each truckload of ready-mixed concrete at the time of delivery. The Department defines computerized to mean a document that records mix design quantities from load cells and meters.

If the computer that generates the Certificate of Compliance malfunctions, the Engineer may allow the Contractor to finish any pours in progress if the producer issues a handwritten MnDOT Form 0042, *Certificate of Compliance* with each load. Do not allow the producer to begin new pours without a working computerized Certificate of Compliance.

Provide a computerized Certificate of Compliance from the producer for each item of information, including the following:

- (1) Name of the ready-mix concrete plant,
- (2) Name of the Contractor,
- (3) Date,
- (4) State Project Number (SP) or (SAP),
- (5) Bridge Number (when applicable),
- (6) Time concrete was batched,
- (7) Truck number,
- (8) Quantity of concrete in this load,
- (9) Running total of each type of concrete, each day for each project,
- (10) Type of concrete (MnDOT Mix Designation Number),
- (11) Cementitious materials using MnDOT Standard Abbreviations,
- (12) Admixtures using MnDOT Standard Abbreviations
- (13) Aggregate sources using 5 digit State Pit Numbers, and
- (14) Admixture quantity fl. oz. per 100 pounds of cementitious [**mL per kg**] or oz per cu. yd [**mL per cu. m**]
- (15) Batch information for materials using MnDOT standardized labels to represent each column shown in Table 2461-7C. Present the information in the order

listed across the page (a through k) or print the information using two lines provided that the materials are identified in each line of information.

<b>Table 2461-7C</b>			
<b>Standardized Certificate of Compliance Labels</b>			
<b>Category</b>		<b>Formul a</b>	<b>Standard Label</b>
a)	Ingredients (aggregate, cementitious, water, admixtures)	—	Ingredient
b)	Product Source (MnDOT Standard Abbreviation)	—	Source
c)	Total Moisture Factor (in decimals to 3 places)	—	MCFac
d)	Absorption Factor (in decimals to 3 places)	—	AbsFac
e)	MnDOT mix design oven dry (OD) weights, <i>lb/cu. yd [kg/cu. m]</i>	—	OD
f)	Absorbed moisture in the aggregates, <i>lb/cu. yd [kg/cu. m]</i>	$(e \times d)$	Abs
g)	Saturated surface dry (SSD) weights for aggregates, <i>lb/cu. yd [kg/cu. m]</i>	$(e + f)$	SSD
h)	Free moisture, <i>lb/cu. yd [kg/cu. m]</i>	$(c - d) \times e$	Free Mst
i)	Target weights for one cubic yard [cubic meter] of concrete, <i>lb/cu. yd [kg/cu. m]</i>	$(g + h)$	CY Targ [CM Targ]
j)	Target batch weights, <i>lb [kg]</i>	$(cu. yd \times i)$ [cu. m x i]	Target
k)	Actual batch weights, <i>lb [kg]</i>	—	Actual

NOTE: Actual cubic yards [cubic meters] batched may vary due to differences in air content, weight tolerances, specific gravities of aggregates, and other variables.

- (16) Total Water (Batch Water + Free Moisture) in pounds [kilograms]
- (17) Water available to add [(Mix Design Water) × (Target CY (CM)) – Total water] in gallons [liters]
- (18) Space to note the water adjustment information, including:
  - (18.1) Water in gallons [liters] added to truck at plant filled in by producer, enter zero (0) if no water is added.
  - (18.2) Water in gallons [liters] added to truck at the jobsite filled in by producer or Engineer, enter zero (0) if no water is added.
  - (18.3) Total actual water in pounds [kilogram] (Total Water from Certificate of Compliance plus any additions).
- (19) The following information printed with enough room beside each item to allow the Engineer to record the test results:
  - (19.1) Air content,
  - (19.2) Air temperature,
  - (19.3) Concrete temperature,
  - (19.4) Slump,
  - (19.5) Cylinder number,
  - (19.6) Location or part of structure,
  - (19.7) Time discharged, and
  - (19.8) Signature of Inspector.

- (20) Location for the signature of the MnDOT Certified Plant 1 Technician representing the Producer. The technician will review the first Certificate of Compliance for each mix type, each day, for accuracy and hand sign the Certificate of Compliance at a location designated for signature signifying agreement to the terms of this policy and to certify that the materials itemized in the shipment comply with the specifications and plans.

#### D7h Decertification

If the Contractor provides concrete from a plant that cannot produce concrete that fails to perform testing, report accurate results, or complete required documentation, the Engineer may reject the concrete as unacceptable in accordance with 1503, "Conformity with Plans and Specifications" and 1512, "Unacceptable and Unauthorized Work."

The Concrete Engineer, with coordination from the Engineer, may decertify the plant and halt production of concrete if the producer performs the following:

- (1) Procedural changes made after the completion of the Concrete Plant Contact Report and after starting the work that cause non-compliance with the program,
- (2) Continually produces concrete in non-compliance with this section,
- (3) Completely disregards the requirements of this section, and
- (4) Submits fraudulent test reports

If decertifying the plant, the Concrete Engineer may perform the following:

- (1) Revoke plant certification.
- (2) Revoke technician certification for individuals involved,
- (3) Revoke bidding privileges as determined by the Construction Engineer, and
- (4) Criminal prosecution for fraud as determined by the Attorney General.

#### S-56 (2573) STORM WATER MANAGEMENT

The Provisions of Mn/DOT 2573 are supplemented and/or modified with the following:

##### S-56.1 Erosion Control Supervisor

The second paragraph of Mn/DOT 2573.3A1 Erosion Control Supervisor, is revised to read as follows:

The Erosion Control Supervisor shall be a responsible employee of the prime Contractor and/or duly authorized by the prime Contractor to represent the prime Contractor on all matters pertaining to the NPDES construction stormwater permit compliance. The Erosion Control Supervisor shall have authority over all Contractor operations which influence NPDES permit compliance including grading, excavation, bridge construction, culvert installation, utility work, clearing/grubbing, and any other operation that increases the erosion potential on the project. In addition, the Erosion Control Supervisor shall be available to be on the Project within 24 hours at all times from initial disturbance to final stabilization.

No measurement will be made of the various duties that the Erosion Control Supervisor performs or of the number of hours required, but all such work will be construed to be included in the single Lump Sum Payment under Item 2573.601 (Erosion Control Supervisor). Upon satisfactory completion of at least half of the anticipated project duration time, the Engineer

may authorize partial payment not exceeding 50 percent of the Contract bid price. Project duration time is estimated as the time between the actual project start date and the project completion date. The remaining percentage will be paid upon completion of the project.

- S-56.2 **The second paragraph of MnDOT 2573.3 A5, Vehicle Tracking Onto Paved Surfaces, is revised to read as follows:**

**The Contractor is responsible for insuring paved streets are clean at the end of each working day or more often as necessary to provide safety to the traveling public. Tracked sediment on paved surfaces must be removed by the Contractor within 24 hours of discovery, in accordance with 1717.2. Payment for street sweeping to provide safe conditions for the traveling public, environmental reasons or regulatory requirements shall be as provided in accordance with 1514.**

- S-56.3 The first sentence of Mn/DOT 2573.3E2 is revised to read as follows:

The bioroll shall be installed and anchored with wood stakes. The stakes shall be at a minimum nominally 25 mm x 50 mm (**1 inch x 2 inch**) and a minimum of 400 mm (**16 inches**) long with a pointed end.

- S-56.4 The first paragraph of Mn/DOT 2573.3J Filter Log Installation, is revised to read as follows:

**J Filter Log Installation**

Filter logs shall be placed in accordance with the Plan. Straw and wood fiber filter logs shall be staked in place with wood stakes. Wood stakes shall be at a minimum 25 x 51 mm (**1 x 2 inch**) nominal size by 400 mm (**16 inches**) long. The stakes shall be driven through the back half of the log at an angle of approximately 45 degrees with the top of the stake pointing upstream. When more than one log is needed for length, the ends shall be overlapped 150 mm (**6 inches**) with both ends staked. Staking shall be every 0.3 m (**1 foot**) along the log unless precluded by paved surface or rock.

- S-56.5 Mn/DOT 2573.5 Basis of Payment, is revised to read as follows:

Payment for storm water management and sediment control items will be compensation in full for all labor, materials, equipment, and other incidentals necessary to complete the work as specified, including the costs of maintenance and removal as required by the Contract. The Contractor will receive compensation at the appropriate Contract prices, or in the absence of a Contract bid price, according to the following unit prices, or in the absence of a Contract price and unit price, as Extra Work. In the absence of a Contract item for Erosion Control Supervisor, this work shall be considered incidental. The provisions of 1903 are modified to the extent that the Department will not make a price adjustment in the event of increased or decreased quantities of temporary erosion control items.

**S-57 (2575) TURF ESTABLISHMENT**

Turf establishment shall be performed in accordance with the Provisions of Mn/DOT 2575, except as modified below:

- S-57.1 The following is added to Mn/DOT 2575.2:

M Hydraulic Soil Stabilizer.....3884

S-57.2 Mn/DOT 2575.3F4 is deleted and the following substituted therefore:

When Type 1 mulch is to be oversprayed with Type 5 hydraulic soil stabilizer, the target application rate for the Type 1 mulch shall be 3.4 metric tons per hectare (1.5 tons per acre) and the target application rate for the Type 5 hydraulic soil stabilizer shall be 840 kilograms per hectare (750 pounds per acre). Seeding and fertilizing shall be done prior to mulching, not in conjunction with Type 5 hydraulic soil stabilizer placement. Disk anchoring will not be required.

S-57.3 The Contractor shall furnish the seed.

S-57.4 Seed mixtures 250 and 270 are approved for use in this Contract, and shall be sown in accordance with the requirements of Specifications 2575.502.

S-57.5 Until final inspection and acceptance of all permanent erosion control and turf establishment items are made, all necessary maintenance, replacement and repair work shall be performed by and at the expense of the Contractor. These items will generally be accepted in area increments conforming to sub-watershed boundaries as defined by the Engineer. Acceptance of these items by the Engineer will relieve the Contractor of his responsibility for any further maintenance and repair.

S-57.6 This work shall be performed in accordance with the plans and provisions of 2575 and supplemented by the following:

S-57.7 Mulch Type I shall be grain straw only.

S-57.8 All disturbed areas for temporary by-passes and stockpiling of excavated material for the convenience of the Contractor, will be seeded and will be considered incidental to the Contract. All CRP acres shall be seeded.

S-57.9 Straw Blanket 2S Category 3 shall be placed as directed by the Engineer in accordance with the plans. The unit price shall be all costs for placement and furnishing of the straw blanket.

S-57.10 Silt fence for protection around tile intakes shall be considered incidental to the placement of the tile intake.

S-57.11 Until final inspection and acceptance of all permanent erosion control and turf establishment items are made, all necessary maintenance, replacement and repair work shall be performed by and at the expense of the Contractor. These items will generally be accepted in area increments conforming to sub-watershed boundaries as defined by the Engineer. Acceptance of these items by the Engineer will relieve the Contractor of his responsibility for any further maintenance and repair. Turf establishment shall be performed in accordance with the Provisions of Mn/DOT 2575, except as modified below:

S-57.12 The following is added to Mn/DOT 2575.2:

M Hydraulic Soil Stabilizer.....3884

S-57.13 Mn/DOT 2575.3F4 is deleted and the following substituted therefore:

When Type 1 mulch is to be oversprayed with Type 5 hydraulic soil stabilizer, the target application rate for the Type 1 mulch shall be 3.4 metric tons per hectare (1.5 tons per acre) and the target application rate for the Type 5 hydraulic soil stabilizer shall be 840 kilograms per hectare (750 pounds per acre). Seeding and fertilizing shall be done prior to mulching, not in conjunction with Type 5 hydraulic soil stabilizer placement. Disk anchoring will not be required.

- S-57.14 The Contractor shall furnish the seed.
- S-57.15 Seed mixture 250 Modified is approved for use in this Contract, and shall be sown in accordance with the requirements of Specifications 2575.502.
- S-57.16 Until final inspection and acceptance of all permanent erosion control and turf establishment items are made, all necessary maintenance, replacement and repair work shall be performed by and at the expense of the Contractor. These items will generally be accepted in area increments conforming to sub-watershed boundaries as defined by the Engineer. Acceptance of these items by the Engineer will relieve the Contractor of his responsibility for any further maintenance and repair.
- S-57.17 This work shall be performed in accordance with the plans and provisions of 2575 and supplemented by the following:
- S-57.18 Mulch Type I shall be grain straw only.
- S-57.19 All disturbed areas for temporary by-passes and stockpiling of excavated material for the convenience of the Contractor, will be seeded and will be considered incidental to the Contract. All CRP acres shall be seeded.
- S-57.20 Straw Blanket 2S Category 3 shall be placed as directed by the Engineer in accordance with the plans. The unit price shall be all costs for placement and furnishing of the straw blanket.
- S-57.21 Silt fence for protection around tile intakes shall be considered incidental to the placement of the tile intake.
- S-57.22 Until final inspection and acceptance of all permanent erosion control and turf establishment items are made, all necessary maintenance, replacement and repair work shall be performed by and at the expense of the Contractor. These items will generally be accepted in area increments conforming to sub-watershed boundaries as defined by the Engineer. Acceptance of these items by the Engineer will relieve the Contractor of his responsibility for any further maintenance and repair.
- S-58 (2582) PERMANENT PAVEMENT MARKINGS (EPOXY WR)**  
The provisions of MnDOT 2582 are hereby modified and/or supplemented with the following:
- S-58.1 The language below applies to the permanent pavement markings for this Project that are to be Wet Reflective/Recoverable pavement markings, utilizing Epoxy Paint (WR). These markings are to be recessed in accordance with MnDOT Technical Memorandum No. 08-10-T-02.
- S-58.2 The wet reflective/recoverable pavement marking material utilized for this Project must be listed within **Epoxy Paint – Recoverable** category on the MnDOT Approved/Qualified Products Lists.
- S-58.3 The provisions of MnDOT 2582.2 are hereby deleted and replaced with the following:

**A Epoxy Resin Pavement Markings (Free of Toxic Heavy Metals).....3590**  
**B Drop-On Glass Beads .....3592**

Qualified materials can be found on MnDOT's Qualified Products List (QPL) on the Office of Traffic, Safety and Technology website. The Wet Reflective Pavement Marking Materials QPL can be found at <http://www.dot.state.mn.us/products/pavementmarkings/index.html>. Other materials may be used on a provisional basis as detailed in the QPL process and as approved by the Engineer. Type of material used will be as specified by Contract Documents.

S-58.4 MnDOT 2582.3A2 is hereby deleted.

S-58.5 **GROOVING BITUMINOUS and/or CONCRETE PAVEMENT SURFACES FOR WET REFLECTIVE/RECOVERABLE PAVEMENT MARKINGS**

The wet reflective/recoverable pavement markings are to be grooved into the pavement surfaces. **GRINDER-TYPE CUTTING HEADS CANNOT BE USED.** The goal of the grooving process is to protect the pavement marking from snowplow damage and ultimately extend the service life of the pavement markings. Grooving operations are incidental to permanent pavement marking operations.

S-58.6 The following is hereby added to MnDOT 2582.3B, Application:

The Contractor has the option to dry or wet groove the pavement while the roadway is open or closed to traffic. The groove must be cleaned completely prior to pavement marking application, using an air compressor with at least 185 CFM air flow and 120 PSI air pressure. The compressor must be equipped with a moisture and oil trap, and cannot have more than 50 feet of 3/4 inch ID hose between the compressor and the air nozzle. The air nozzle must have an inside diameter of 1/2 inch or greater.

(A) Grooving Equipment

The grooving shall be performed by a self-propelled machine equipped with gang stacked diamond cutting blades mounted on a floating head with controls capable of providing uniform depth and alignment.

The cutting heads shall consist of stacked 3 mm to 9 mm [1/8 inch to 3/8 inch] wide diamond tipped cutting blades. The spacers between each blade must be such that the raise in the bottom of the finished groove between the blades is less than 25% of the groove depth. The resulting bottom of the groove shall have a fine corduroy finish. If a coarse tooth pattern is present, the Contractor shall increase the number of blades and/or decrease the thickness of the spacers on the cutting head.

The equipment shall be capable of grooving the total width of the groove in one pass or be capable of grooving uniform depths with multiple passes. The maximum number of passes is detailed below. If multiple passes are used, the ridge between passes shall be mechanically removed prior to groove cleaning and pavement marking application.

The equipment shall be capable of grooving double lines simultaneously or parallel lines to a uniform depth with two passes.

The equipment shall be self-vacuuming and leave the cut groove ready for pavement marking installation. Dry cut grooving without a vacuum will only be allowed if markings run perpendicular to the roadway, such as Stop Bars. The pavement marking manufacturer shall approve the equipment and method used.

**(B) Grooves**

The grooving shall be performed within the following tolerances. Failure to meet these tolerances will result in the suspension of work until the Contractor can demonstrate that these tolerances can be met to the satisfaction of the Engineer. **The pavement marking system shall be applied so that it is centered within the groove.**

GROOVE WIDTH AND MAXIMUM NUMBER OF PASSES		
MARKING WIDTH	GROOVE WIDTH	MAX NUMBER OF PASSES
100 mm [4 inches]	130 mm ± 3 mm [5" ± 1/8"]	1
150 mm [6 inches]	180 mm ± 3 mm [7" ± 1/8"]	1
200 mm [8 inches]	230 mm ± 3 mm [9" ± 1/8"]	1
300 mm [12 inches]	330 mm ± 3 mm [13" ± 1/8"]	2
600 mm [24 inches]	635 mm ± 3 mm [25" ± 1/8"]	3

**The groove depth shall be 70 mil ± 10 mil.**

Since pavements are irregular, the depth of groove across the width may vary. To compensate for this, the depth of the groove shall be measured from the bottom of the groove to a straight edge extended over the groove from the pavement surface opposite the pavement joint.

FULL DEPTH GROOVE LENGTHS	
Full Depth Groove Length (Broken Line)	3 m ± 75 mm [10 feet ± 3 inches]
Tapers At End of Each Line	150 mm ± 230 mm [6 inches to 9 inches]
Space Between Double lines	100 mm ± 6 mm [4 inches ± 1/4 inch]

The groove shall be placed 50 mm ± 25 mm [2 inches ± 1 inch] from the edge of joints or seams along edge or centerline, unless otherwise indicated in the Plan.

Grooving alignment deviations from the control guide or existing lines specified by the Engineer shall not exceed 50 mm [2 inches].

Any pavement markings to be grooved in shall be placed in accordance with pavement marking or wet reflective or recoverable element manufacturer's instructions.

If the Epoxy (WR) markings are to be installed in the same location where there are existing pavement markings, including interim or temporary, the removal of the existing pavement

markings shall be incidental to and included within the Epoxy (WR) pay item. The Contractor may cut the groove and remove the existing marking in a simultaneous operation.

S-58.7 The provisions of MnDOT 2582.5 are hereby deleted and replaced with the following:

**2582.5 BASIS OF PAYMENT**

Payment for pavement markings installed at Contract prices per unit of material shall be compensation in full for all costs incurred in materials, traffic control, installation, surface preparation, use of primers, in accordance to Contract documents or as approved by the Engineer.

<u>ITEM NO.</u>	<u>ITEM</u>	<u>UNIT</u>
2582.502	24" STOP LINE WHITE -- EPOXY	LIN FT
2582.603	6" SOLID LINE WHITE -- EPOXY (WR)	LIN FT
2582.603	4" SOLID LINE YELLOW -- EPOXY (WR)	LIN FT

**S-59 (3136) DRAINABLE STABLE BASE**

This specification lists the quality requirements for Drainable Stable Base (DSB) used for 2211, "OPEN GRADED AGGREGATE BASE MOD (DSB)".

**S-59.1 REQUIREMENTS**

**A Aggregate Composition**

Provide certified aggregate along with Form G&B – 104.

**Perform Contractor Quality Control (QC) Testing in accordance with Mn/DOT 2012 Schedule of Materials Control.** Production and placement gradations will be required as detailed under **I. Grading and Base Construction Items 2005 and 2012 Spec Book** for Pay Item Number **2212 Drainable Aggregate Base (OGAB & DSB)**.

**A.1 Virgin Aggregates**

Provide virgin aggregates meeting the following requirements:

- (1) Comprised of naturally occurring mineral materials and
- (2) Does not contain topsoil, organics or disintegrating rock as defined in Laboratory Manual section 1209.

**B Quality and Gradation Requirements**

Meet the requirements of Table 3136-1.

**Table 3136-1  
Drainable Base Requirements**

Total Percent Passing Requirement	Type	
		DSB
1½ in [37.5 mm] Sieve		100
1 in [25.0 mm] Sieve		-
¾ in [19.0 mm] Sieve		75 – 100
⅜ in [9.5 mm] Sieve		45 – 75
No. 4 [4.75 mm] Sieve		30 – 60
No. 10 [2.00 mm] Sieve		10 – 35
No. 40 [425 µm] Sieve		5 – 20
No. 200 [75 µm] Sieve		0 – 5.0, for class B or C. 0 – 6.5, for class A. Classes per specification 3137.
<b>Other Requirements</b>		<b>DSB</b>
$D_{60}/D_{10}$ *		≥ 8.0
Minimum Crushing (Two face)		60%
Maximum Los Angeles Rattler Loss (LAR)		40%
Maximum Acid Insoluble Residue (IR) Minus No. 200 [75 µm] sieve †		10%
Maximum Spall – Total Sample		5.0%
<p>* <math>D_{60}</math> is the diameter of the soil particle of which 60 percent is smaller, by weight. <math>D_{10}</math> is the diameter of the soil particle of which 10 percent is smaller, by weight.</p> <p>   Material crushed from quarries is considered crushed material.</p>		

† For drainable base composed of crushed carbonate quarry rock.

**S-59.2 SAMPLING AND TESTING**

Test in accordance with the following procedures:

- A Sieve Analysis ..... Laboratory Manual Method 1202 & 1203
- B Coarse Aggregate Angularity ..... Laboratory Manual Method 1214
- C Los Angeles Rattler Loss..... Laboratory Manual Method 1210
- D Insoluble Residue..... Laboratory Manual Method 1221
- E Spall ..... Laboratory Manual Method 1209

**S-60 (3139) GRADED AGGREGATE FOR BITUMINOUS MIXTURES**

Mn/DOT 3139 is hereby deleted and replaced with the following:

**3139 Graded Aggregate for Bituminous Mixtures**

**3139.1 Scope**

Provide graded aggregate for use in bituminous mixtures.

**3139.2 PLANT MIXED ASPHALT Requirements**

**A Composition**

Provide graded aggregate composed of any combination of the following sound durable particles as described in 3139.2B.

Do not use graded aggregate containing objectionable materials including:

- (1) Metal,
- (2) Glass,
- (3) Wood,
- (4) Plastic,
- (5) Brick, or
- (6) Rubber.

Provide coarse aggregate free of coatings of clay and silt.

Do not add soil materials such as clay, loam, or silt to compensate for a lack of fines in the aggregate.

Do not blend overburden soil into the aggregate.

Feed each material or size of material from an individual storage unit at a uniform rate.

Do not place blended materials from different sources, or for different classes, types, or sizes together in one stockpile unless approved by the Engineer as a Class E aggregate.

**B Classification**

**B.1 Class A**

Provide crushed igneous bedrock consisting of basalt, gabbro, granite, gneiss, rhyolite, diorite, and andosite. Rock from the Sioux Quartzite Formation may contain no greater than 4.0 percent non-Class A aggregate. Do not blend or add non-Class A aggregate to Class A aggregate.

**B.2 Class B**

Provide crushed rock from other bedrock sources such as carbonate and metamorphic rocks (Schist).

**B.3 Class C**

Provide natural or partly crushed natural gravel obtained from a natural gravel deposit.

**B.4 Class D**

Provide 100 percent crushed natural gravel produced from material retained on a square mesh sieve with an opening at least twice as large as Table 3139-2 allows for the maximum size of the aggregate in the composite asphalt mixture. Ensure the amount of carryover, material finer than the selected sieve, no greater than 10 percent of the Class D aggregate by weight.

**B.5 Class E**

Provide a mixture consisting of at least two of the following classes of approved aggregate:

- (1) Class A,
- (2) Class B, and
- (3) Class D.

**B.6 Steel Slag**

Steel slag cannot exceed 25% of the total mixture aggregate and be free from metallic and other mill waste. The Engineer will accept stockpiles if the total expansion is no greater than 0.5 percent as determined by ASTM D 4792

**B.7 Taconite Tailings**

Obtain taconite tailings from ore mined westerly of a north-south line located east of Biwabik, Minnesota (R15W-R16W) or from ore mined in southwestern Wisconsin.

**B.8 Recycled Asphalt Shingles (RAS)**

Provide recycled asphalt shingles manufactured from waste scrap asphalt shingles (MWSS) or from tear-off scrap asphalt shingles (TOSS). Consider the percentage of RAS used as part of the maximum allowable Recycled Asphalt Pavement (RAP) percentage. See Table 3139-3.

**B.8.A RAS Gradation ..... Mn/DOT Laboratory Procedure 1801**

Provide RAS in accordance with the following gradation requirements:

Table 3139-1 RAS Gradation	
Sieve size	Percent passing
½ in [12.5 mm]	100
No. 4 [4.75 mm]	90

**B.8.B Binder Content**

Determine the binder content using chemical extraction meeting the requirements of Mn/DOT Lab Procedure 1851 or 1852.

**B.8.C Bulk Specific Gravity**

The Contractor may use an aggregate bulk specific gravity (Gsb) of 2.650 in lieu of determining the shingle aggregate Gsb in accordance with Mn/DOT Lab Procedure 1205.

**B.8.D Waste Materials**

Do not allow extraneous materials including metals, glass, rubber, nails, soil, brick, tars, paper, wood, and plastics greater than 0.5 percent by weight of the graded aggregate as determined by material retained on the No. 4 [4.75 mm] sieve as specified in Mn/DOT Laboratory Procedure 1801.

**B.8.E Stockpile**

Do not blend an RAS stockpile with other salvage material. Do not blend MWSS and TOSS. The Contractor may blend virgin sand material with RAS to minimize agglomeration if the Contractor accounts for the blended sand in the final mixture gradation.

**B.8.F Certification**

Ensure the processor provides RAS certification on the following Department form “Scrap Asphalt Shingles from Manufacture Waste” or “Tear-Off Scrap Asphalt Shingles” at [www.dot.state.mn.us/materials/bituminous.html](http://www.dot.state.mn.us/materials/bituminous.html)

**B.9 Crushed Concrete and Salvaged Aggregate**

The Contractor may incorporate no greater than 50 percent of crushed concrete and salvaged aggregate in non-wear mixtures. Do not use crushed concrete in wearing courses.

**B.10 Ash**

Sewage sludge ash and waste incinerator ash are allowed as an aggregate source at a maximum of 5% of the total weight of the mixture. Only use sewage sludge ash meeting the requirements of the Tier II hazard evaluation criteria as approved by the Engineer with concurrence with Mn/DOT's Environmental Assessment Engineer in the mixture. Only use waste incinerator ash sources approved by the Engineer with concurrence with Mn/DOT's Environmental Assessment Engineer.

**B.11 Recycled Asphalt Pavement (RAP)**

**B.11.A Aggregate Angularity**

Provide combined RAP and virgin aggregates that meet the composite coarse and fine aggregate angularity for the mixture being produced.

**B.11.B Objectionable Material**

Do not use RAP containing objectionable materials including metal, glass, wood, plastic, brick, or rubber.

**B.11.C Asphalt Binder Content**

Determine the asphalt binder content using the Mn/DOT Lab Manual Method 1851 and 1852.

**B.11.D Bulk Specific Gravity**

Determine the bulk specific gravity in accordance with Mn/DOT Laboratory Procedure 1205 or 1815.

**C Quality**

**C.1 Los Angeles Rattler Test ..... Mn/DOT Laboratory Procedure 1210**

Ensure a coarse aggregate loss no greater than 40 percent.

**C.2 Soundness (Magnesium Sulfate)..... Mn/DOT Laboratory Procedure 1219**

Maximum loss after 5 cycles on the coarse aggregate fraction (material retained on No. 4 [4.75 mm] sieve for any individual source within the mix) as follows:

- (1) Percent passing the ¾ in [19 mm] sieve to percent retained on the ½ in [12.5 mm] sieve, ≤ 14%,
- (2) Percent passing the ½ in [12.5 mm] sieve to percent retained on the ¾ in [9.5 mm] sieve, ≤ 18%,
- (3) Percent passing the ¾ in [9.5 mm] sieve to percent retained on the No. 4 [4.75 mm] sieve, ≤ 23%,
- (4) For the composite if all three size fractions are tested, the composite loss ≤ 18%, and acceptance will be granted if:

- (4.1) If the Contractor meets the composite requirement, but fails to meet at least one of the individual components, the Engineer may accept the source if each individual component is no greater than 110 percent of the requirement for that component.
- (4.2) If the Contractor meets each individual component requirement, but fails to meet the composite, the Engineer may accept the source if the composite is no greater than 110 percent of the requirement for the composite.

Coarse aggregate that exceeds the requirements in this section for material passing the No. 4 [4.75 mm] sieve cannot be used.

**C.3 Spall Materials and Lumps..... Mn/DOT Laboratory Procedure 1219**

Stop asphalt production if the percent of spall or lumps measured in the stockpile or cold feed exceeds the values listed in Table 3139-3. Determine lump compliance by dry batching.

**C.4 Insoluble Residue Test..... Mn/DOT Laboratory Procedure 1221**

If using Class B carbonate materials ensure the portion of the insoluble residue passing the No. 200 [75  $\mu$ m] sieve is no greater than 10 percent.

Blending of sources and/or beds with an insoluble residue up to 15% is allowed to meet the 10% insoluble residue requirement. Individual beds thinner than 150 mm [6 inches] up to 5% of the total face height, are exempt from the 15% maximum insoluble residue requirement. However, the aggregate producer shall practice good quality control at all times and exclude poor quality stone to the extent practical, regardless of the bed thickness and/or pocket size and location.

No carbonate quarry rock from the Platteville Geological Formation is allowed.

**D Gradation**

Ensure the aggregate gradation broad bands meet the following requirements in accordance with AASHTO T-11 (passing the No. 200 [75  $\mu$ m] wash) and AASHTO T-27.

<b>Table 3139-2</b>				
<b>Aggregate Gradation Broad Bands (percent passing of total washed gradation)</b>				
<b>Sieve size</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
1 in [25.0 mm]	—	—	100	—
$\frac{3}{4}$ in [19.0 mm]	—	100*	85 – 100	—
$\frac{1}{2}$ in [12.5 mm]	100*	85 – 100	45 – 90	—
$\frac{3}{8}$ in [9.5 mm]	85 – 100	35 – 90	—	100
No. 4 [4.75 mm]	25 – 90	30 – 80	30 – 75	65 – 95
No. 8 [2.36 mm]	20 – 70	25 – 65	25 – 60	45 – 80
No. 200 [0.075 mm]	2.0 – 7.0	2.0 – 7.0	2.0 – 7.0	3.0 – 8.0
* The Contractor may reduce the gradation broadband for the maximum aggregate size to 97 percent passing for mixtures containing RAP, if the oversize material originates from the RAP source. Ensure the virgin material meets the requirement of 100 percent passing the maximum aggregate sieve size.				

<b>Table 3139-3 Mixture Aggregate Requirements</b>				
<b>Aggregate Blend Property</b>	<b>Traffic Level 2</b>	<b>Traffic Level 3</b>	<b>Traffic Level 4</b>	<b>Traffic Level 5</b>
20 year Design ESAL's	<1 million	1 - 3 million	3 - 10 million	10 - 30 million
Min. Coarse Aggregate Angularity (ASTM D5821) (one face / two face), %- Wear (one face / two face), %- Non- Wear	30/- 30/-	55 / - 55 / -	85 / 80 60 / -	95 / 90 80 / 75
Min. Fine Aggregate Angularity (FAA) (AASHTO T304, Method A) %- Wear %-Non-Wear	40 40	42 40	44 40	45 40
Flat and Elongated Particles, max % by weight, (ASTM D 4791)	-	10 (5:1 ratio)	10 (5:1 ratio)	10 (5:1 ratio)
Min. Sand Equivalent (AASHTO T 176)	-	-	45	45
Max. Total Spall in fraction retained on the #4 [4.75mm] sieve - Wear Non-Wear	5.0 5.0	2.5 5.0	1.0 2.5	1.0 2.5
Maximum Spall Content in Total Sample - Wear Non-Wear	5.0 5.0	5.0 5.0	1.0 2.5	1.0 2.5
Maximum Percent Lumps in fraction retained on the #4 [4.75mm] sieve	0.5	0.5	0.5	0.5
Class B Carbonate Restrictions				
Maximum% -#4 [-4.75mm] Final Lift/All other Lifts	100/100	100/100	80/80	50/80
Maximum% +#4 [+4.75mm] Final Lift/All other Lifts	100/100	100/100	50/100	0/100
Max. allowable scrap shingles- MWSS <sup>(1)</sup> Wear/Non Wear	5/5	5/5	5/5	5/5
Max. allowable scrap shingles - TOSS <sup>(1)</sup> Final Lift/All other Lifts	5/5	5/5	0/5	0/0

- (1) MWSS is manufactured waste scrap shingle and TOSS is tear-off scrap shingle.

**3139.3 Permeable Asphalt Stabilized Stress Relief Course (PASSRC) and Permeable Asphalt Stabilized Base (PASB) Requirements**

**A Restrictions**

Do not use recycled materials including glass, concrete, bituminous, shingles, ash, and steel slag.

**B Gradation**

The Gradation limits are also considered the Job Mix Formula (JMF) limits.

**B.1 PASB**

<b>Table 3139-4 PASB Aggregate Gradation</b>	
Sieve Size	Percent Passing
1 ½ inch [37.5 mm]	100
1 inch [25.0 mm]	95 - 100
¾ inch [19.0 mm]	85 - 95
3/8 inch [9.5 mm]	30 - 60
No. 4 [4.75 mm]	10 - 30
No. 8 [2.36 mm]	0 - 10
No. 30 [600 µm]	0 - 5
No. 200 [75 µm]	0 - 3

**B.2 PASSRC**

<b>Table 3139-5 PASSRC Aggregate Gradation</b>	
Sieve Size	Percent Passing
5/8 inch [16.0 mm]	100
1/2 inch [12.5 mm]	85 - 100
3/8 inch [9.5 mm]	50 - 100
No. 4 [4.75 mm]	0 - 25
No. 8 [2.36 mm]	0 - 5

**C Quality**

Requirements will meet all of 3139.2.C.

**D Mixture Quality Requirements**

<b>Table 3139-6 Mixture Aggregate Requirements for PASSRC &amp; PASB</b>	
Aggregate Blend Property	
Coarse Aggregate Angularity (ASTM D5821) (one face/two face) % PASSRC <sup>(1)</sup> PASB <sup>(1)</sup>	95/- -/65
Fine Aggregate Angularity (FAA) (AASHTO T304, Method A) %	NA
Flat and Elongated Particles, max(2) % by weight, (ASTM D 4791)	NA
Clay Content (2) (AASHTO T 176)	NA
Total Spall in fraction retained on the 4.75mm [#4] sieve	3.0
Maximum Spall Content in Total Sample	5.0
Maximum Percent Lumps in fraction retained on the 4.75mm [#4] sieve	0.5

- (1) Carbonate Restrictions: If Class B (as defined in 3139.2.B.2), crushed carbonate quarry rock (limestone or dolostone), is used in the mixture, or if carbonate particles in the material retained on the 4.75 mm [No. 4] sieve exceeds 55 percent, by weight, the minus 0.075 mm [# 200] sieve size portion of the insoluble residue shall not exceed 10 percent.

**3139.4 Ultra Thin Bonded Wearing Course (UTBWC) Requirements.**

**A. Restrictions**

Do not use recycled materials including glass, concrete, bituminous, shingles, ash, and steel slag.

**B. Coarse Aggregate**

Provide a Class A aggregate, as defined in 3139.2.B.1, in accordance with the following requirements:

<b>Table 3139-7 UTBWC Coarse Aggregate Requirements</b>		
Tests	Mn/DOT Laboratory Manual Method	Limit, %
Flat and elongated ratio at 3:1	1208	≤ 25
Los Angeles Rattler Test (LAR)	1210	≤ 40
Bulk Specific Gravity	1204	

**C. Fine Aggregate**

Provide fine aggregate, passing the No. 4 [4.75 mm] sieve in accordance with the following requirements:

<b>Table 3139-8 Fine Aggregate Requirements</b>		
<b>Tests</b>	<b>Method</b>	<b>Limit, %</b>
Sand equivalent*	AASHTO T 176	≥ 45
Uncompacted void content	Mn/DOT Laboratory Manual 1206	≥ 40
Bulk Specific Gravity	Mn/DOT Laboratory Manual 1205	

**3139.5 SAMPLING AND TESTING**

Perform sampling, sieve analysis, lumps, crushing, and shale testing meeting the requirements of the Mn/DOT Laboratory Manual.

**S-61 (3590)EPOXY RESIN PAVEMENT MARKINGS (FREE OF TOXIC HEAVY METALS)**

The provisions of MnDOT 3590.3 are hereby deleted and replaced with the following:

**3590.3 SPECIFIC REQUIREMENTS****A Epoxy Resin Material**

The material shall be composed of epoxy resins and pigments only. No solvents are to be given off to the environment upon application to a pavement surface.

The composition shall be within the tolerance permitted for the product tested and approved by MnDOT. Type II material shall be completely free of TMPTA (Tri-Methylol Propane Tri-Acrylate) and other multi-functional monomers.

All materials shall be free of lead, cadmium, mercury, hexavalent chromium and other toxic heavy metals as defined by the United States Environmental Protection Agency.

**Color:**

The color of the white epoxy shall be a pure flat white, free of tints. The color of the yellow epoxy shall closely match Color Number 33538 of Federal Standard 595 and shall conform to the following CIE Chromaticity limits using illuminant "C":

x | 0.470 | 0.485 | 0.520 | 0.480  
y | 0.440 | 0.460 | 0.450 | 0.420

Daylight Directional Reflectance (Y), white, minimum 83  
Daylight Directional Reflectance (Y), yellow, minimum 50

Testing will be according to:

Daylight Directional Reflectance .....ASTM D 2805  
 Color .....ASTM D 2805

**Adhesion Capabilities:**

When the adhesion of the material to portland cement concrete (the concrete shall have a minimum of 2 070 kPa [**300 psi.**] tensile strength) is tested according to American Concrete Institute Committee 403 testing procedure, the failure of the system must take place in the concrete. The concrete shall be 32°C [0°F] when the material is applied, after which the material shall be allowed to cure for 72 hours at 23 ± 2°C [**73 ± 36° F**].

**Abrasion Resistance:**

When the abrasion resistance of the material is tested according to ASTM C 501 with a CS-17 wheel under a load of 1000 grams for 1000 cycles, the wear index shall be no greater than 82. (The wear index is the weight in milligrams that is abraded from the sample under the test conditions).

**Hardness:**

The Type D durometer hardness of the material shall be not less than 75 nor more than 90 when tested according to ASTM D2240 after the material has cured for 72 hours at 23 ± 2°C [**73 ± 36° F**].

**Tensile Strength:**

The tensile strength of the material, when tested according to ASTM D 638, shall not be less than 41 370 kPa [**6,000 psi.**] after 72 hours cure at 23 ± 2°C [**73 ± 36° F**].

**Compressive Strength:**

The compressive strength of the material, when tested according to ASTM D 695, shall not be less than 82,700 kPa [**12,000 psi.**] after 72 hours cure at 23±2°C [**73 ± 36° F**].

**Thickness:**

The epoxy pavement marking wet film thicknesses shall be a minimum of 380 µm [**15 mil**] on all pavement surfaces. For the Spec 2360 SUPERPAVE wearing courses the epoxy pavement marking wet film thicknesses shall be increase from a minimum of 380 µm [**15 mil**] to a minimum thickness of 508 µm [**20 mil**] wet film.

**B Glass Beads**

Glass beads shall meet the requirements of AASHTO M247, Type I, and:

- a. Coatings -- the beads shall be treated according to the manufacturers recommendations and meet the requirements of Section 4.4.2 of M247, and
- b. Roundness-- the beads shall have a roundness of at least 80%.

For 380 µm [**15 mil**] applications, glass beads shall be applied at a rate of at least 3.0 kg/L [**25 pounds per gallon**]. A greater bead application rate may be necessary for meeting the performance criteria (minimum levels of retroreflectivity). This will require contractors to consult with all the material manufacturers.

**Time to No-Track:**

Type I material shall be in "no-tracking" condition in 15 minutes or less and within 45 minutes for Type II material. The "no-tracking" condition shall be determined on an application of specified thickness to the pavement and covered with glass beads at the rate of at least 3.0 kg/L [**25 pounds per gallon**]. The lines for this test shall be applied with striping equipment operated so as to have the material at manufacturer's recommended application temperature. This maximum "no-tracking" time shall not be exceeded when the pavement temperature varies from 10 to 49° C [**50 to 120° F**] and under all humidity conditions, providing the pavement is dry. The no-tracking time shall be determined by passing over the line with a passenger car or pickup truck at a speed of 40 to 55 km/hr [**25 to 35 mph**] in a simulated passing maneuver. A line showing no visual deposition of the material to the pavement surface when viewed from a distance of 15 m [**50 feet**] shall be considered as showing "no-tracking" and conforming to this requirement for time to "no-track."

**S-62 (3592) DROP-ON GLASS BEADS**

The provisions of Mn/DOT 3592.3 are hereby deleted and replaced with the following:

**S-62.1 SPECIFIC REQUIREMENTS**

Glass beads shall meet the requirements of AASHTO M247, Type I, "standard gradation" except the beads will have a minimum of 80 percent true spheres. The dual treated beads will meet the moisture resistant requirements of AASHTO M 247 Section 4.4.2 and pass the adherence treatment Dansyl Chloride Test. The moisture resistant silicone treated beads will meet AASHTO M 247 Section 4.2.2.

**S-63 FINAL CLEANUP**

All disturbed areas shall be worked to a reasonably smooth surface. All rocks and debris shall be disposed of in accordance with governing specifications. All final cleanup shall be completed by August 9, 2013.

**S-64 FINAL ESTIMATE AND FINAL PAYMENT**

The following provisions shall apply to preparation of the Final Estimate and execution of Final Payment under this Contract:

**S-64.1 FINAL ESTIMATE**

State Law provides that the final estimate will be made within 90 days after completion of all work required under this Contract. If, however, the total value of the Contract exceeds \$2,000,000.00, the 90 day requirement will not apply and the time allowed for making such final estimate shall be 180 days after the work under this Contract has been, in all things, completed to the satisfaction of the Commissioner.

**S-64.2 FINAL PAYMENT**

If this Contract contains a "Disadvantage Business Enterprise or Targeted Group Business" goal, the following requirement shall apply:

"Before final payment is made, the Contractor shall also complete an affidavit showing the total dollar amounts of work performed by disadvantaged business enterprise (DBE) and targeted group business (TGB) and/or veteran-owned small business."

## STIPULATION FOR FOREIGN IRON OR STEEL MATERIALS

The attached form is for use when the Contractor plans on using and/or supplying ANY foreign iron or steel materials on a Federal Aid Project. The Contractor is directed to the Proposal to determine if this Stipulation is required for a specific project.

**(1910) FUEL ESCALATION CLAUSE**

The provisions set forth in Mn/DOT 1910 are hereby deleted, and the following is substituted therefore:

These provisions provide for compensation adjustments in the cost of motor fuels (diesel and gasoline) consumed in prosecuting the Contract work. The Engineer will calculate the Fuel Cost Adjustments. Payments or credits will be applied to partial and final payments for work items set forth herein.

For this purpose, the Department will establish a Base Fuel Index (BFI) for fuel to be used on the Project. The Base Fuel Index will be the average of the high and low rack prices shown for No. 2 ultra low sulfur fuel oil in the "OPIS Energy Group" tabulation titled "RackFax, Minneapolis, MN, OPIS Direct Gross No. 2 Distillate Fuels" *for the day of the Contract letting*.

A Current Fuel Index (CFI) in cents per gallon will be established for each month. The CFI will be the average of the high and low rack prices shown for No. 2 ultra low sulfur fuel oil in the "OPIS Energy Group" tabulation titled "RackFax, Minneapolis, MN, OPIS Direct Gross No. 2 Distillate Fuels" averaged for the beginning and ending dates of the monthly period being adjusted.

The Engineer will compute the ratio of the Current Fuel Index to the Base Fuel Index (CFI/BFI) each month. If that ratio falls between 0.85 and 1.15, no fuel adjustment will be made that month. If the ratio is less than 0.85, a credit to the Department will be computed. If the ratio is greater than 1.15, additional payment to the Contractor will be computed.

Credit or additional payment will be computed as follows:

- (1) The Engineer will estimate the quantity of work done in that month under each of the Contract items listed below.
- (2) The Engineer will compute the gallons of fuel used in that month for each of the Contract items listed below by applying the unit fuel usage factors shown.
- (3) The Engineer will summarize the total gallons (Q) of fuel used in that month for the applicable items.
- (4) The Engineer will determine the Fuel Cost Adjustment (FCA) from the following formulas:

If the Current Fuel Index (CFI) is greater than the Base Fuel Index (BFI), the following formula shall be used to determine the amount of Fuel Cost Adjustment to be paid to the Contractor.

$$FCA = [(CFI/BFI) - 1.15] \times Q \times BFI$$

If the Current Fuel Index (CFI) is less than the Base Fuel Index (BFI), the following formula shall be used to determine the amount of Fuel Cost Adjustment to be credited to the Department.

$$FCA = [(CFI/BFI) - 0.85] \times Q \times BFI$$

Where FCA = Fuel Cost Adjustment (cents)  
 CFI = Current Fuel Index (cents per gallon)  
 BFI = Base Fuel Index (cents per gallon)  
 Q = Monthly total gallons of fuel

Basis of Payment

A Fuel Cost Adjustment payment to the Contractor will be made as a lump sum each payment period based on the last published CFI. A Fuel Cost Adjustment credit to the Department will be deducted as a lump sum each payment period from any monies due the Contractor. Upon completion of the work under the Contract, any difference between the estimated quantities previously paid and the final quantities will be determined. The CFI in effect on the day of completion of the Contract will be applied to the quantity differences in accordance with the procedures set forth above.

Schedule of Work Items

(Only items shown will be considered for compensation adjustments.)

	Item	Unit	Gallons of Fuel per Unit	Unit	Gallons of Fuel per Unit
<b>(1) Earthwork:</b>					
2105.501	Common Excavation	Cu. Yd	0.17	m <sup>3</sup>	0.22
2105.503	Rock Excavation	Cu. Yd	0.27	m <sup>3</sup>	0.35
2105.505	Muck Excavation	Cu. Yd	0.17	m <sup>3</sup>	0.22
2105.507	Subgrade Excavation	Cu. Yd	0.17	m <sup>3</sup>	0.22
2105.515	Unclassified Excavation	Cu. Yd	0.23	m <sup>3</sup>	0.30
2105.521	Granular Borrow (EV)	Cu. Yd	0.17	m <sup>3</sup>	0.22
	Granular Borrow (CV)	Cu. Yd	0.19	m <sup>3</sup>	0.25
	Granular Borrow (LV)	Cu. Yd	0.14	m <sup>3</sup>	0.18
2105.522	Select Granular Borrow (EV)	Cu. Yd	0.17	m <sup>3</sup>	0.22
	Select Granular Borrow (CV)	Cu. Yd	0.19	m <sup>3</sup>	0.25
	Select Granular Borrow (LV)	Cu. Yd	0.14	m <sup>3</sup>	0.18
2105.523	Common Borrow (EV)	Cu. Yd	0.17	m <sup>3</sup>	0.22
	Common Borrow (CV)	Cu. Yd	0.19	m <sup>3</sup>	0.25
	Common Borrow (LV)	Cu. Yd	0.14	m <sup>3</sup>	0.18
2105.535	Topsoil Borrow (EV)	Cu. Yd	0.17	m <sup>3</sup>	0.22
	Topsoil Borrow (CV)	Cu. Yd	0.19	m <sup>3</sup>	0.25
	Topsoil Borrow (LV)	Cu. Yd	0.14	m <sup>3</sup>	0.18
2106.607	Common Embankment (CV)	Cu. Yd	0.19	m <sup>3</sup>	0.25
2106.607	Granular Embankment (CV)	Cu. Yd	0.19	m <sup>3</sup>	0.25
2106.607	Select Granular Embankment(CV)	Cu. Yd	0.19	m <sup>3</sup>	0.25
2106.607	Select Granular Embankment Modified (___ %) (CV)	Cu. Yd	0.19	m <sup>3</sup>	0.25
2106.607	Excavation – Rock	Cu. Yd	0.27	m <sup>3</sup>	0.35
2106.607	Excavation – Muck	Cu. Yd	0.17	m <sup>3</sup>	0.22

Item		Unit	Gallons of Fuel per Unit	Unit	Gallons of Fuel per Unit
<b>(2) Aggregate Base:</b>					
2211.501	Aggregate Base	Ton	0.55	t	0.61
2211.502	Aggregate Base (LV)	Cu. Yd	0.77	m <sup>3</sup>	1.01
2211.503	Aggregate Base (CV)	Cu. Yd	0.99	m <sup>3</sup>	1.29
2211.607	Open Graded Aggregate Base (CV)	Cu. Yd	0.99	m <sup>3</sup>	1.29
<b>(3) Aggregate Shouldering:</b>					
2221.501	Aggregate Shouldering	Ton	0.55	t	0.61
2221.502	Aggregate Shouldering (LV)	Cu. Yd	0.77	m <sup>3</sup>	1.01
2221.503	Aggregate Shouldering (CV)	Cu. Yd	0.99	m <sup>3</sup>	1.29
<b>(4) Concrete Pavements:</b>					
2301.511	Structural Concrete	Cu. Yd	0.98	m <sup>3</sup>	1.28
2301.513	Structural Concrete HE	Cu. Yd	0.98	m <sup>3</sup>	1.28
2301.604	Structural Concrete	Sq. Yd.	0.027*t	m <sup>2</sup>	0.00128*t
<b>(5) Bituminous Pavements:</b>					
2350.501	Type ( ) Wearing Course Mixture ( )	Ton	0.90	t	0.99
2350.502	Type ( ) Non-Wearing Course Mixture ( )	Ton	0.90	t	0.99
2350.503	Type ( ) ( ) Course ( , ) (t)" Thick	Sq. Yd	0.051*t		
2350.503	Type ( ) ( ) Course ( , ) (t) mm Thick			m <sup>2</sup>	0.0024*t
2360.501	Type SP ( ) Wearing Course Mixture ( )	Ton	0.90	t	0.99
2360.502	Type SP ( ) Non-Wearing Course Mixture ( , )	Ton	0.90	t	0.99
2360.503	Type SP ( ) ( ) Course ( , ) (t)" thick	Sq. Yd	0.051*t		
2360.503	Type SP ( ) ( ) Course ( , ) (t) mm thick			m <sup>2</sup>	0.0024*t
<b>(6) Pipe: ***</b>					
2501.511	___ ___ Pipe Culvert ___	Lin. Ft.	0.70	in	2.30
2501.521	___ ___ Pipe Arch Culvert ___	Lin. Ft.	0.70	m	2.30
2501.561	___ ___ Pipe Culvert Des 3006 ___	Lin. Ft.	0.70	m	2.30
2501.603	___ Pipe Culvert	Lin. Ft.	0.70	m	2.30
2503.511	___ ___ Pipe Sewer ___	Lin. Ft.	0.70	m	2.30
2503.521	___ ___ Pipe Arch Sewer ___	Lin. Ft.	0.70	m	2.30
2503.541	___ ___ Pipe Sewer Des 3006 ___	Lin. Ft.	0.70	m	2.30
2503.603	___ ___ Pipe Sewer	Lin. Ft.	0.70	in	2.30

t = thickness (in inches or mm)

**NOTE:** No price adjustments will be made on fuel used for drying and heating aggregates.

\*\*\* No price adjustment will be made for pipes less than 12" in diameter or jacked pipes.

## **SALT Schedule of Materials Control - Local Government Agency**

This Schedule of Materials Control (SMC) outlines the minimum testing requirements for State Aid Funded and/or Federal Aid Projects off the National Highway and Trunk Highway System. Optional to this SMC is the MnDOT Materials Control Schedule. Usage of either schedule must be defined in the project proposal.

### **1603.2 SAMPLING AND TESTING - INSERT INTO SPECIAL PROVISIONS**

The first paragraph is hereby deleted and replaced with the following:

**Sampling and testing of materials for this project will be in accordance with the State Aid for Local Transportation (SALT) "Schedule of Materials Control – Local Government Agency" (SMC-LGA). This schedule establishes the size of samples and the minimum rate of testing, but in no way affects Specification requirements for the material.**

The SMC - LGA serves as a guide for material testing with allowable acceptance "as directed by the Engineer" detailed in Specification 1501.1a - Authority of the Engineer. These testing rates are a minimum and additional tests may be taken at the Engineer's discretion. A minimal testing rate does not always ensure a quality product; field observations and attention to detail is crucial. Materials not listed on an approved products list may be sampled and tested as directed by the Engineer. Materials listed on a Qualified Products list may be accepted or tested at the discretion of the Engineer.

Federal Aid projects require Independent Assurance Inspection. Contact the MnDOT District IA Inspector when the job starts to provide the proper servicing of your project.

#### **Definitions**

##### **SALT**

MnDOT Office of State Aid for Local Transportation. The SMC - LGA is located at the construction page under "Construction Tools".

##### **MnDOT Materials Control Schedule**

Materials Control Schedules are inserted into project proposals to direct how materials are to be sampled. The Materials Control Schedule is updated yearly. Each Materials Control Schedule is project specific. Therefore, one needs to refer to their specific proposal.

##### **Approved**

Products are 'approved' when they have been found to routinely meet all applicable standards and specifications. The product is placed on the list based upon established successful manufacturer's quality control and warranties, but the listing may expire or require periodic renewal to verify the product has not changed over time. The approval process for the individual product should specify any expiration requirement.

##### **Qualified**

Products are predicted to meet all applicable standards and specifications, but random sample testing is required to verify specific product lots meet specifications prior to usage. These products are generally considered to be "qualified" but not approved until tested for compliance. Successfully tested products lots are considered to be "approved". The approval process for the individual product should specify any further testing requirements for the product.

##### **Certified Sources**

Certified Sources must comply with each individual product's defined "certification procedure". Acceptance of products from certified sources follows the same sampling and testing as "qualified" products.



# SALT Schedule of Materials Control - Local Government Agency

## BITUMINOUS QUALITY MANAGEMENT

The Contractor shall provide and maintain a quality control program as detailed in Specification 2360.2.G. The Engineer shall review the quality control program for compliance.

	Type of Test	Spec Section *	Contractor - QC Testing Rates	Agency - QA Testing Rates	
Start-Up Testing Rates for the 1st 2000 tons **	Bulk Specific Gravity	2360.2.G.7.b	1 per 500 tons 55 lb. sample 3 full cylinder molds	1 Verification Mixture Sample per day, all QA samples are from a split (QC/QA) sample.	
	Maximum Specific Gravity	2360.2.G.7.c			
	Air Voids (calculated)	2360.2.G.7.d			
	Asphalt Content	2360.2.G.7.a			
	Adj. Asphalt Film Thickness (AFT)	2360.2.E.7.e			
	Gradation	2360.2.G.7.f			
	Fines to Effective Asphalt Ratio calc'd	2360.2.G.7.a/f			
	Coarse Aggregate Angularity (CAA)	2360.2.G.7.g	1 per 1000 tons		
	Fine Aggregate Angularity (FAA)	2360.2.G.7.h			
	Added AC/Total AC Ratio (calc'd)	2360.2.G.7.a			
Production Testing Rates	Bulk Specific Gravity	2360.2.G.7.b	1 per 1000 tons 55 lb. sample 3 full cylinder molds	1 Verification Mixture Sample per day/ mix type, submit companion to the QC - CAA & FAA test results.	
	Maximum Specific Gravity	2360.2.G.7.c			
	Air Voids (calculated)	2360.2.G.7.d			
	Asphalt Content	2360.2.G.7.a			
	Adj. Asphalt Film Thickness (AFT)	2360.2.E.7.e			
	Gradation (minimum of 1 per day)	2360.2.G.7.f			
	Added AC/Total AC Ratio (calculated)	2360.2.G.7.a			
	Coarse Aggregate Angularity (CAA)	2360.2.G.7.g			NOTE 1
	Fine Aggregate Angularity (FAA)	2360.2.G.7.h			NOTE 2
	TSR	2360.2.G.7.i	When directed by the Materials Engineer		
	Aggregate Specific Gravity	2360.2.G.7.j			
	Mixture Moisture Content	2360.2.G.7.k	As directed by the Engineer		
	Asphalt Binder Certified Supplier List	2360.2.G.7.l	NOTE 3		
	Asphalt Emulsion Certified Supplier List	2357			
Compaction / Density Requirements	2360.3.D	Review special provisions			
Small Quantity Requirements	See 2360.2G.5 & 2360.3G				

Testing rates are minimums, additional testing is encouraged to insure a quality product.

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

\* Review Special Provisions & 2360.2.G Mixture Quality Management.

\*\* The testing rates apply only to mixtures that have not been tested on previous projects. Mixtures from previous years should use the start-up testing rates.

NOTE 1: 2 tests/day for a minimum of 2 days, then 1 per day if CAA is met. If CAA > 8% of requirement, 1 sample/day but test 1/week. No testing required for Class A and or B Aggregates.

NOTE 2 2 tests/day for a minimum of 2 days, then 1 per day if FAA is met. If FAA > 5% of requirement, 1 sample/day but test 1/week.

NOTE 3 Shall be a Certified Supplier - No Samples Required unless otherwise directed by the Engineer.

SALT Schedule of Materials Control - Local Government Agency

**BITUMINOUS SPECIALTY ITEMS**

Type of Test	Spec	Contractor - QC Testing Rates	Agency - QA Testing Rates
<b>Gradation</b>	2350	1 per 1,000 Ton with a minimum 1 per day.	1 per day. 35 lbs.
PASSRC & PASB	2360		
Micro-Surfacing	2354	Stockpile: 1/1,500 Tons (min 1/day) Machine Hopper: 1/500 Ton (min 1/day)	Stockpile & Machine Hopper: 1/day 60 lbs.
Seal Coat & Otto Seal	2356	Stockpile: 1/1,500 Tons (min 1/day) Chip Spreader Hopper: 1/day	1/day from Hopper. 60 lbs.
<b>% Crushing - CAA</b>	2350	1 per 1,000 Ton with a minimum 1 per day.	1 per day from gradation test. 35 lbs.
PASSRC & PASB	2360		
<b>Moisture - In Aggregate</b>	2354	Machine Hopper: 1/500 Tons (min 3/day)	1/day 2lbs
Micro-Surfacing			
<b>Sand Equivalence</b>	2354	Stockpile or Machine Hopper: 1/500 Tons (min 1/day)	1/day, test at Engineer discretion, 25 lbs.
Micro-Surfacing			
<b>Bituminous Mixture</b>	2356	1/300 Tons, min 1/day. %AC, Gradation, Max SpG, Adj.AFT	1/day, 20 lbs. cylinder
UTBWC	3151		
PASSRC & PASB	3151 2350		
<b>Asphalt Binder Tests</b>	3151	Dilution rate: 1/project	<u>Asphalt Binder List</u>
Fog Seal	2355		<u>Asphalt Emulsion List</u>
UTBWC	2356 3151	Agency Testing rate unless otherwise directed by Engineer: <b>Asphalt Binder:</b> First load, then 1/250,000 gallons. Sample size of 1 quart metal container. <b>Emulsified Asphalt:</b> First load, then 1/50,000 gallons. Sample size of 1/2 gallon plastic containers.	
Micro-Surfacing	2354		
Seal Coat & Otto Seal	2356		
Tack Coat	2357		
<b>Asphalt Binder Rate</b>	2354		
Micro-Surfacing			
Fog Seal	2355	Verify Application Rate 1/day	Verify Application Rate 1/day
Seal Coat & Otto Seal	2356		
Tack Coat	2357		

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

## SALT Schedule of Materials Control - Local Government Agency

### CERTIFIED READY - MIX CONCRETE 1 of 2

The Prime Contractor is responsible to assure that all ready-mix concrete used is produced by a annually certified ready-mix plant. The Certified Ready Mix Program requirements are detailed in Specification 2461.4D7. The Engineer shall review the suppliers ready-mix certification program for compliance.

Test Type	Spec.	Minimum Required Agency Acceptance Testing	Form
Gradation	3126 3137	Coarse and Fine: 1 per 200 yd <sup>3</sup> unless directed by the Engineer.	21763 2449 24143
Quality & Coarse Gag. Minus 200 sieve	3126 3137	1 / Source unless directed by the Engineer.	
Air Content *	2461	Test first load each day per mix, then 1 test per 100 yd <sup>3</sup>	2448 Weekly Concrete Report
Slump *		Test first load each day per mix, then 1 test per 100 yd <sup>3</sup> <b>slump test not required for slip form placement.</b>	
Temperature		Record temperature each time air content, slump or strength test specimen is performed/fabricated.	
Compressive Strength		2519	Test first load each day per mix, then 1 test per 100 yd <sup>3</sup> , Minimum of 1 per day if production is more than 50 yd <sup>3</sup> .
	Cellular Concrete: 1 set of 4 cylinders (28 day) per day, fill in 2 equal lifts, do not rod, lightly tap the sides, cover and move to area with no vibration. Do not disturb for 24 hours.		

\* The first load of concrete must have passing air content and slump prior to placement.  
Small quantity is 20 yd<sup>3</sup> or less/day with no gradation testing or plant monitoring required.

The testing rates shown in the SMC - LGA are minimums. Take as many tests as necessary to ensure quality concrete. It is recommended that the Agency Plant Monitor be present during critical pours, such as superstructure or paving concrete (i.e.. 3Y33, 3Y36, 3Y46, 3A21). If any field test fails, reject the concrete or if the Producer makes adjustments to the load to meet requirements, record the adjustments on the Certificate of Compliance and Weekly Concrete Report. Retest the load and record the adjusted test results. Make sure the next load is tested, before it gets into the work. If batching adjustments are made at the plant, test the adjusted load, before it gets into the work. Continue to test the concrete when test results are inconsistent or marginal. Material not meeting requirements shall not knowingly be placed in the work. If failing concrete inadvertently gets placed in the work, use either the MN/DOT Standard Specifications for Construction or the Schedule of Price Reductions for Concrete to address penalties. It is recommended that the Agency representative continually monitor the progress of all concrete pours. (It is not a recommended practice to only perform minimum testing requirements and leave the project.)

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

SALT Schedule of Materials Control - Local Government Agency

**CERTIFIED READY - MIX CONCRETE 2 of 2**

Only materials on the Approved Products List, Qualified Products List, or from a Certified Source are allowed for the following items unless otherwise directed by the Engineer.

- |   |  |
|---|--|
| <u>Air-Entraining Admixtures</u>                            | <u>Concrete Pipe Tie Coatings</u>            |
| <u>Certified Sources of Fly Ash</u>                         | <u>Epoxies</u>                               |
| <u>Certified Sources of Slag</u>                            | <u>Form Release Agents</u>                   |
| <u>Concrete Admixtures A-S</u>                              | <u>Non-Shrink Grouts</u>                     |
| <u>Concrete Anchorages</u>                                  | <u>Concrete Hot-Poured Certified Sources</u> |
| <u>Concrete Curing Compounds</u>                            | <u>Rapid Hardening Materials for Repairs</u> |
| <u>Non-Shrink Rapid Set Concrete for Dowel Bar Retrofit</u> | <u>Special Surface Finish System</u>         |

See Metals worksheet for steel reinforcement sampling requirements.

Test	Sample Size	
Gradation	25 lb. 3/4" Plus Coarse Aggregate.	10 lb. CA-70 CA-80 & Sand
	15 lb. 3/4" Minus Coarse Aggregate	
Quality	50 lb. 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. 3/4" minus Coarse Aggregate	
Moisture	1 lb. Fine Aggregate	4 lb. Coarse Aggregate

Additional Resources

MnDOT Concrete Manual

MnDOT Certified Ready-Mix Program



SALT Schedule of Materials Control - Local Government Agency

**CONCRETE PAVEMENT REPAIR - CPR**

Test Type	Spec.	Contractor Testing	Agency Testing	Form
Gradation, Quality, Coarse Agg -200	3126 3137	Prior to production, the Contractor shall provide the Agency with: Aggregate pit numbers, 1 passing gradation result per fraction per source. No quality test results are required. Test companion samples at Contractor's discretion.	1 per fraction prior to production and each time aggregate is delivered to the site.	2410 Sample ID Card
Air Content	2461	None	1 per 15 yd <sup>3</sup> , Test at beginning of pour each day.	2448 Weekly Concrete Report
Slump		None	1 per 15 yd <sup>3</sup> , Test at beginning of pour each day. Allow mix to hydrate 5 minutes before slump test to assure all cement is saturated.	
Compressive Strength		None	1 cylinder (28 day) per 30 yd <sup>3</sup>	2409 Cyl. ID Card

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

Only materials on the Approved Products List, Qualified Products List, or from a Certified Source are allowed for the following items unless otherwise directed by the Engineer.

Air-Entraining Admixtures

Certified Sources of Fly Ash

Certified Sources of Slag

Concrete Admixtures A-S

Concrete Anchorages

Concrete Curing Compounds

Non-Shrink Rapid Set Concrete for Dowel Bar Retrofit

See Metals worksheet for steel reinforcement sampling requirements.

Concrete Pipe Tie Coatings

Epoxies

Form Release Agents

Non-Shrink Grouts

Concrete Hot-Poured Certified Sources

Rapid Hardening Materials for Repairs

Special Surface Finish System

Test	Sample Size	
Gradation	25 lb. 3/4" Plus Coarse Aggregate	10 lb. for CA-70 CA-80 & Sand
	15 lb. 3/4" Minus Coarse Aggregate	
Quality	50 lb. 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. 3/4" minus Coarse Aggregate	
Moisture	1 lb. Fine Aggregate	4 lb. Coarse Aggregate

Additional Resources

MnDOT Concrete Manual

MnDOT Certified Ready-Mix Program

SALT Schedule of Materials Control - Local Government Agency

**CONCRETE PAVEMENT - PRODUCER / CONTRACTOR 1 of 2**

Test Type	Spec.	Concrete Paving Batch Plant	Certified Ready-Mix Plant
Gradation (1)	3126 3137	> 250 yd <sup>3</sup> /DAY = 1 per 1500 yd <sup>3</sup> or completed 1/1/2 day whichever is the higher sampling rate.	> 20 yd <sup>3</sup> /DAY = 1 per 400 yd <sup>3</sup> or completed every 4 hours whichever is the higher sampling rate.
Coarse Aggregate, -200 sieve (2)	3137	1 per day at the plant.	1 per day at the plant.
Aggregate Moisture - QC Verification (3)	3126 3137	If w/c incentives do not apply: 1/1000 yd <sup>3</sup> or completed every 4 hours whichever is the higher sampling rate.	If w/c incentives do not apply: 1/200 yd <sup>3</sup> or completed every 4 hours whichever is the higher sampling rate.
Water Content, Microwave Oven Verification	2301	Obtain the plastic concrete sample at the plant.	
Unit Weight QC		Test one load of concrete per day at the plant.	
Air Content QC	2461	Test the first load of concrete at the plant	
Coarse and Fine Aggregate Quality	3126 3137	Prior to concrete production: Test the Agency's pre-production sample at the Contractor's discretion. During concrete production: Test the -200 on the quality companion sample the day it was sampled. All other testing is at the Contractor's discretion.	
Coarse Aggregate Quality Testing for Incentive / Disincentive	3137	Test at the Contractor's discretion.	

NOTE (1): Performing testing on representative material at the end of the most recent day of production is allowed. If well-graded aggregate incentives apply: Use the Contractor's gradation results for well-graded aggregate incentive calculations as verified by Agency testing.

NOTE (2): Test the first sample and then at least 1 of the next 3 samples on the first day of production and each time the Contractor mobilizes the plant, changes the aggregate sources, or the cleanliness of the coarse aggregate is in question.

NOTE (3): Complete the initial moisture content and adjust the batch water prior to the start of concrete production each day. If weather conditions allow, performing moisture testing on representative material at the end of production the prior evening is allowed.

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

SALT Schedule of Materials Control - Local Government Agency

**CONCRETE PAVEMENT - PRODUCER / CONTRACTOR 2 of 2**

Test Type	Spec.	Concrete Field Testing - Contractor
Air Content before consolidation	2461	1 per 300 yd <sup>3</sup> or 1 per hour, whichever is less. Test first load each day per mix.
Air Content after consolidation		Test 1 air content per 1/2 day of slip form paving to establish an air loss correction factor (ACF). See Special Provisions for additional information.
Slump		<b>For fixed form placement:</b> 1 per 300 yd <sup>3</sup> and as directed by the Engineer. Test first load each day per mix. <b>For slip form placement:</b> No slump testing required.
Concrete Temperature		Record temperature each time air content, slump or strength test specimen is performed/fabricated by the Contractor.
Flexural Strength	2301	1 beam (28 day) per day. Make additional control beams as necessary. Control beams shall be made within the last hour of concrete poured each day. Fabricate beams, deliver beams to curing site, and clean beam boxes. Cylinders may be substituted for beams at the discretion of the Engineer.
Concrete Pavement Texture		1 per 1000 linear feet per lane of concrete pavement at locations determined by the Agency. All adjoining lanes shall be tested at the same location if paved at the same time. The Contractor supplies all materials necessary to perform the required testing.
Thickness		The Contractor drills concrete cores at locations determined by the Agency.
Surface Smoothness		Contractor provides MnDOT certified inertial profiler results for the entire project as required by the contract. Check for current certification.

Only materials on the Approved Products List, Qualified Products List, or from a Certified Source are allowed for the following items unless otherwise directed by the Engineer.

<u>Air-Entraining Admixtures</u>	<u>Concrete Pipe Tie Coatings</u>
<u>Certified Sources of Fly Ash</u>	<u>Epoxies</u>
<u>Certified Sources of Slag</u>	<u>Form Release Agents</u>
<u>Concrete Hot-Poured Certified Sources</u>	<u>Non-Shrink Grouts</u>
<u>Rapid Hardening Materials for Repairs</u>	<u>Concrete Admixtures A-S</u>
<u>Concrete Curing Compounds</u>	<u>Concrete Anchorages</u>
<u>Non-Shrink Rapid Set Concrete for Dowel Bar Retrofit</u>	<u>Special Surface Finish System</u>

See Metals worksheet for steel reinforcement sampling requirements.

Test	Sample Size	
Gradation	25 lb. 3/4" Plus Coarse Aggregate	10 lb. for CA-70 CA-80 & Sand
	15 lb. 3/4" Minus Coarse Aggregate	
Quality	50 lb. 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. 3/4" minus Coarse Aggregate	
Moisture	1 lb. Fine Aggregate	4 lb. Coarse Aggregate

Additional Resources

MnDOT Concrete Manual

MnDOT Certified Ready-Mix Program

SALT Schedule of Materials Control - Local Government Agency

**CONCRETE PAVEMENT - AGENCY 1 of 3**

Test Type	Spec.	Concrete Paving Batch Plant	Certified Ready-Mix Plant	Form
Gradation (1)	3126 3137	1 per day randomly thereafter.	1 per 1000 yd <sup>3</sup> or 1 per week whichever is higher, randomly.	21764 Agg Worksheet
Coarse Aggregate, -200 sieve (2)	3137	1 per week randomly thereafter.	1 per 1000 yd <sup>3</sup> or 1 per week whichever is higher, randomly.	
Aggregate Moisture - QC Verification (3)	3126 3137	Take initial sample within the first 250 yd <sup>3</sup> .	Take initial sample within the first 100 yd <sup>3</sup> .	Concrete W/C Ratio Calculation Worksheet
Water Content, Microwave Oven Verification (4)	2301	Take initial sample within the first 250 yd <sup>3</sup> . At least one additional verification test should be taken if more than 1000 yd <sup>3</sup> is produced in a day.	Take initial sample within the first 100 yd <sup>3</sup> . At least one additional verification test should be taken if more than 400 yd <sup>3</sup> is produced in a day.	
Coarse and Fine Aggregate Quality	3126 3137	During concrete production: 1 randomly selected test each fraction every 20,000 yd <sup>3</sup> of production. Split the Quality sample 4 ways: 1) Provide 2 quarters of the sample to the producer/contractor. 2) Test the -200 on the coarse aggregate at the plant the day it was sampled. 3) Submit the remaining sample to the lab for quality testing including testing the -200 sieve on the coarse aggregate.		2410 Sample ID Card
Coarse Aggregate Quality Testing of Incentive / Disincentive	3137	If coarse aggregate quality incentives apply: Test the Class B aggregates for % absorption and Class C aggregates for % carbonate including any other test necessary to make those determinations. Sample the 2 largest fractions in accordance with the following table and 2301:		Coarse Agg Quality Incentive / Disincentive Worksheet
		Coarse Aggregate Quality Incentive/Disincentive Sampling Rates		
		Plan Concrete Cubic Yards	Samples per fraction	
		3,500 - 7,500	3	
		7,501 - 10,000	5	
		10,001 - 25,000	10	
		25,001 - 50,000	15	
50,001 +	20			

NOTE (1): Test the first 4 QA samples of production each time the Contractor mobilizes the plant or changes aggregate sources. If Coarse Aggregate Quality Incentive / Disincentives apply: The Agency may also use the QA samples for incentive / disincentive testing. Notify the producer to double the QC/QA sample size.

If well-graded aggregate incentives apply: Use the Contractor's gradation results for well-graded aggregate incentive calculations as verified by Agency testing. Use the Well-graded Concrete Agg Worksheet.

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

## SALT Schedule of Materials Control - Local Government Agency

### CONCRETE PAVEMENT - AGENCY 2 of 3

NOTE (2): 1 randomly select sample on the first day of production and each time the Contractor mobilizes the plant, changes the aggregate sources, or the cleanliness of the coarse aggregate is in question. unless otherwise directed by the Engineer.

NOTE (3): If w/c incentives apply: Test all QC moisture test companions. Use aggregate moisture results for determining the water content to calculate the w/c incentive / disincentive. Use the Concrete W/C Ratio Calculation Worksheet and do not leave sample unattended.

NOTE(4): If w/c incentives apply: Microwave oven verification testing to verify the w/c ration is completed in conjunction with Agency aggregate moisture testing. Do not leave samples unattended.

NOTE (5): Prior to concrete production: Obtain pre-production samples for quality testing at least 16 hours prior to concrete production. Samples may be taken from the stockpile and -200 test may be performed at the lab instead at the plant at the discretion of the Engineer.

Test Type	Spec.	Concrete Field Testing - Agency	Form
Air Content before consolidation	2461	1 correlation air test per day	2448 Weekly Concrete Report
Air Content after consolidation		1 air test per day	
Slump		For fixed form placement: 1 slump test per day. For slip form placement: No slump testing required.	
Concrete Temperature		Record temperature each time air content, slump or strength test specimen is performed/fabricated by the Agency.	
Flexural Strength	2301	Supply beam boxes, cure, and test beams. MnDOT standard beam box size is 6" x 6" x 20" unless other sizes or types are approved by the Concrete Engineer.	2162 Test Beam Data
Concrete Pavement Texture		Determine texture testing locations using random numbers.	Texture Worksheet
Thickness		Determine probing and coring locations using random numbers. Initial pavement at core locations and re-initial the sides of specimens after coring to clearly verify their authenticity.	24327 Core Report
Surface Smoothness		None	Profile Sheet

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

SALT Schedule of Materials Control - Local Government Agency

**CONCRETE PAVEMENT - AGENCY 3 of 3**

Only materials on the Approved Products List, Qualified Products List, or from a Certified Source are allowed for the following items unless otherwise directed by the Engineer.

- |   |  |
|---|--|
| <u>Air-Entraining Admixtures</u>                            | <u>Concrete Pipe Tie Coatings</u>            |
| <u>Certified Sources of Fly Ash</u>                         | <u>Epoxies</u>                               |
| <u>Certified Sources of Slag</u>                            | <u>Form Release Agents</u>                   |
| <u>Concrete Admixtures A-S</u>                              | <u>Non-Shrink Grouts</u>                     |
| <u>Concrete Anchorages</u>                                  | <u>Concrete Hot-Poured Certified Sources</u> |
| <u>Concrete Curing Compounds</u>                            | <u>Rapid Hardening Materials for Repairs</u> |
| <u>Non-Shrink Rapid Set Concrete for Dowel Bar Retrofit</u> | <u>Special Surface Finish System</u>         |

See Metals worksheet for steel reinforcement sampling requirements.

Test	Sample Size	
Gradation	25 lb. 3/4" Plus Coarse Aggregate	10 lb. for CA-70 CA-80 & Sand
	15 lb. 3/4" Minus Coarse Aggregate	
Quality	50 lb. 3/4" plus Coarse Aggregate	30 lb. Fine Aggregate
	30 lb. 3/4" minus Coarse Aggregate	
Moisture	1 lb. Fine Aggregate	4 lb. Coarse Aggregate

Additional Resources

MnDOT Concrete Manual

MnDOT Certified Ready-Mix Program

SALT Schedule of Materials Control - Local Government Agency

**DOWEL BAR RETROFIT - DBR**

Test Type	Spec.	Contractor Testing	Agency Testing	Form
Gradation, Quality, Coarse Agg -200	3126 3137	Prior to production, the Contractor shall provide the Agency with: Aggregate pit numbers, 1 passing gradation result per fraction per source. No quality test results are required. Test companion samples are Contractor's discretion.	1 per fraction prior to production and each time aggregate is delivered to the site.	2410 Sample ID Card
DBR Material Compressive Strength	2301 2302	<b>Contractor Testing: None</b>	<b>Agency Testing:</b> During the pre-production test operations: 1 set of 3 cylinders tested at a rate as direct by the Engineer. Testing may need to be repeated if any problems with the dowel bar retrofit material are encountered. <b>First day of production:</b> 1 set of 3 cylinders at a rate directed by the Concrete Engineer. <b>After the first day of production:</b> 1 cylinder per day during production tested at a rate determined by the Engineer to determine traffic strength.	2409 Cylinder ID Card

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

<p>Only materials on the Approved Products List, Qualified Products List, or from a Certified Source are allowed for the following items unless otherwise directed by the Engineer.</p> <table border="0"> <tr> <td><u>Air-Entraining Admixtures</u></td> <td><u>Concrete Pipe Tie Coatings</u></td> </tr> <tr> <td><u>Certified Sources of Fly Ash</u></td> <td><u>Epoxies</u></td> </tr> <tr> <td><u>Certified Sources of Slag</u></td> <td><u>Form Release Agents</u></td> </tr> <tr> <td><u>Concrete Admixtures A-S</u></td> <td><u>Non-Shrink Grouts</u></td> </tr> <tr> <td><u>Concrete Anchorages</u></td> <td><u>Concrete Hot-Poured Certified Sources</u></td> </tr> <tr> <td><u>Concrete Curing Compounds</u></td> <td><u>Rapid Hardening Materials for Repairs</u></td> </tr> <tr> <td><u>Non-Shrink Rapid Set Concrete for Dowel Bar Retrofit</u></td> <td><u>Special Surface Finish System</u></td> </tr> </table> <p><u>See Metals</u> worksheet for steel reinforcement sampling requirements.</p>		<u>Air-Entraining Admixtures</u>	<u>Concrete Pipe Tie Coatings</u>	<u>Certified Sources of Fly Ash</u>	<u>Epoxies</u>	<u>Certified Sources of Slag</u>	<u>Form Release Agents</u>	<u>Concrete Admixtures A-S</u>	<u>Non-Shrink Grouts</u>	<u>Concrete Anchorages</u>	<u>Concrete Hot-Poured Certified Sources</u>	<u>Concrete Curing Compounds</u>	<u>Rapid Hardening Materials for Repairs</u>	<u>Non-Shrink Rapid Set Concrete for Dowel Bar Retrofit</u>	<u>Special Surface Finish System</u>
<u>Air-Entraining Admixtures</u>	<u>Concrete Pipe Tie Coatings</u>														
<u>Certified Sources of Fly Ash</u>	<u>Epoxies</u>														
<u>Certified Sources of Slag</u>	<u>Form Release Agents</u>														
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<u>Concrete Anchorages</u>	<u>Concrete Hot-Poured Certified Sources</u>														
<u>Concrete Curing Compounds</u>	<u>Rapid Hardening Materials for Repairs</u>														
<u>Non-Shrink Rapid Set Concrete for Dowel Bar Retrofit</u>	<u>Special Surface Finish System</u>														
Test	Sample Size														
Gradation	25 lb. 3/4" Plus Coarse Aggregate														
	15 lb. 3/4" Minus Coarse Aggregate														
Quality	50 lb. 3/4" plus Coarse Aggregate														
	30 lb. 3/4" minus Coarse Aggregate														
Moisture	1 lb. Fine Aggregate														
	4 lb. Coarse Aggregate														

Additional Resources

MnDOT Concrete Manual

MnDOT Certified Ready-Mix Program

SALT Schedule of Materials Control - Local Government Agency

**GRADING AND BASE CONSTRUCTION ITEMS 1 of 2**

The Contractor is responsible for maintaining a gradation control program as detailed in Spec. 2211.

	Material Type	Const. Spec.*	Mat'l Spec.*	Minimum Req'd Agency Acceptance Testing	Lab Sample
Gradation Testing ( See Notes 2 & 3 )	Aggregate Surfacing	2118	3138	500 Tons to < 4000 Tons = 1/1000 Tons 4000 Tons to < 10,000 Tons = 4 tests/Lot	1/source 30 lb.
	Aggregate Base	2211			
	Aggregate Shoulders	2221			
	Open Graded Aggregate Base (OGAB)	2211	*	1/1000 Tons	1/source 30 lb.
	Granular Borrow	2105	3149	1/36,000 Tons	1/source 30 lb.
	Select Gran. Borrow				
	Stabilizing Agg.				
	Full Depth Reclamation	2331	*	1/12,000 yd <sup>2</sup> unless directed by Engineer	None
	Granular Filter	2511	3601	1/ source unless directed by Engineer	1/source 30 lb.
	Granular Backfill	2451	3149		
	Aggregate Backfill				
	Granular Bedding				
	Aggregate Bedding				
Coarse Filter					
Fine Filter	2502				
Proctor Test	<i>(Req'd for Specified Density)</i>		3138	1/source	1 sample minimum 25 lb.
	Aggregate Base	2211			
	Aggregate Shoulders	2221			
	Embankment Soil; Excavation & Borrow	2105	3149	1 per major soil	1 sample minimum 25 lb.
Specified Density Test (Sand Cone)	<i>(Req'd for Specified Density)</i>		3138	1/1,800 Tons	None
	Aggregate Base	2211			
	Aggregate Shoulders	2221			
	Embankment Soil; Excavation & Borrow	2105	3149	1/7,000 Tons	
Dynamic Cone Penetration (DCP) Index Method	Aggregate Base	2211	3138	1 DCP tests/500 yd <sup>3</sup> (CV) or 1/900 Tons	None
	Aggregate Shoulders	2221			
	Full Depth Reclamation	2331	2331	1 DCP tests/3,000 yd <sup>2</sup>	
	Fine Filter Aggregate (Edge Drains)	2502		Special Provisions	
Penetration Index (Mod. DCP)	Aggregate Base	2211	3138	1 DCP tests/900 Tons	None
	Aggregate Shoulders	2221			
	Granular Borrow	2105	3149	1 DCP tests/3,600 Tons	
	Select Granular Borrow				

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

SALT Schedule of Materials Control - Local Government Agency

**GRADING AND BASE CONSTRUCTION ITEMS 2 of 2**

	Material Type	Const. Spec.*	Mat'l Spec.*	Minimum Req'd Agency Acceptance Testing	Lab Sample
Moisture Content Test	<i>(Required for Quality Compaction or DCP Method)</i>				
	Aggregate Base	2211	3138	1/1,800 Tons or 10 tests whichever is less unless directed by the Engineer	None
	Aggregate Shoulders	2221			
	Full Depth Reclamation	2215	*	1/6000 yd <sup>2</sup> unless directed by Engineer	
Embankment Soil; Excavation & Borrow	2105	3149	1/18,000 Tons <i>Required for Specified Density</i>	None	
Percent Crushing	Particle Count (note 1)	2105	3138 3149	1/ source unless directed by Engineer, (req'd for class 5, class 6, stabilizing aggregate & aggregate bedding).	1/source 30lb
		2118			
		2211			
		2221			
Quality	Aggregate Quality Tests	2105	3138 3149	1/ source unless directed by Engineer	1/source 30lb
		2118			
		2206			
		2211			
		2221			
		2451			
		2502			

Contact the MnDOT District IA Inspector to provide servicing of your Federal Aid Project.

\* Always review the project Special Provisions for modifications.

Laboratory Companion Samples:

1. Samples are not required for 1,000 tons or less.
2. Include the laboratory companion with the first field sample.
3. Include the field sample results with the laboratory sample.
4. Laboratories with AMRL Accreditation are not required to submit laboratory companion samples.
5. Carbonate aggregate materials require 50 lb. samples for the laboratory testing.

NOTE 1: Percent crushing test is not required when the material is crushed from a quarry or contains 25% or greater recycled materials.

NOTE 2: Submit a laboratory companion to the first Acceptance Gradation sample for a bituminous extraction, see 3138.2A2a(a). Full Depth Reclamation samples are not required.

NOTE 3: The Certification of Aggregates and Granular Materials procedure and documentation of testing locations is at the discretion of the Engineer.

Samples are not required for less than 500 tons (275 yd<sup>3</sup>).

Conversions: 1 ton = 0.55 yd<sup>3</sup> (CV), 1 ton = 0.7 yd<sup>3</sup> (LV)

[Click here for testing procedures in the Grading & Base Manual.](#)

[Forms and worksheets at the Grading & Base Website.](#)

[Gradation worksheets at the SALT Construction Website](#)

SALT Schedule of Materials Control - Local Government Agency

**LANDSCAPING AND EROSION CONTROL ITEMS**

Kind of Material	Spec. #	Min. Required Acceptance Testing (Field Testing Rate)
Manufactured Topsoil Borrow, Salvaged Topsoil (stockpiled)	3877.2	As directed by the Engineer
<u>Plant Stock &amp; Landscape Materials</u>	3861 and 2571.2A1	Certificate of Compliance, Nursery stock certificate registered with Mn Dept. of Agriculture. Out of state products subject to pest quarantines must accompanied by documentation certifying all products are free of regulated pests.
<u>Erosion Control Blanket</u>	3885	Visual Inspection and Check approved products or approved vendors list - As directed by the Engineer.
<u>Erosion Control Netting</u>	3883	
<u>Silt Fence</u>	3886	
<u>Erosion Stabilization Mat</u>	3885	
Flotation Silt Curtain	3887	Accepted, based on manufacturers certification of compliance. Check weight of fabric.
Filter Logs	3897	None
Flocculants	3898	Obtain copy of Certificate of Compliance and MSDS
Fertilizer	3881	Obtain copy of invoice of blended material stating analysis.
Agricultural Lime	3879	Contractor must supply amount of ENP (Equivalent Neutralizing Power) for each shipment.
<u>Mulch - Type 3</u>	3882	Certified Weed Free (Certified sources only) Check for Certified Vendor tag from Minnesota Crop Improvement Association (MCIA).
Mulch - Type 6 - Woodchips		All wood chips supplied by a supplier outside the Emerald Ash Borer quarantine area or have an Emerald Ash Borer Compliance Agreement with the MDA
Seeds	3876	(Certified Vendors Only) (Mixes 100-299) Check for Certified Vendor tag from Minnesota Crop Improvement Association (MCIA).
Native Seed		(Mixes 300-399) certified seed only. Check for Certified Vendor tag from Minnesota Crop Improvement Association (MCIA).
<u>Sod</u>	3878	Visual Inspection - Check approved products list - As directed by the Engineer. Check for Certified Vendor tag from Minnesota Crop Improvement Association (MCIA) for salt tolerant sod.
<u>Compost (from Certified Source)</u>	3890	
Compost (from Non- Certified Source)		Visual Inspection - As directed by the Engineer.
<u>Hydraulic Soil Stabilizer</u>	3884	Check Approved/Qualified Products List - As directed by the Engineer.

SALT Schedule of Materials Control - Local Government Agency

**CHEMICAL ITEMS**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
Asphalt Plank	3204	Visual Inspection - As directed by the Engineer.
Calcium Chloride	3911	Review the percentage required as per specification.
Magnesium Chloride	3912	
Hot-Pour Crack Sealant (for Crack Sealing/Filling)	3719 3723 3725	Retain Certification of Compliance
<b>Waterproofing Materials</b>		
<u>Membrane Waterproofing System</u>	3757	Visual Inspection - Check qualified products list.
<b>Waterproofing Materials - Three Ply System</b>		
Asphalt Primer	3165	Visual Inspection - As directed by the Engineer.
Waterproofing Asphalt	3166	
Fabric	3201	
<b>Paints</b>		
<u>Waterborne Latex - Traffic Paint</u>	3591	Visual Inspection - Check qualified products list - retain Certificate of Compliance.
<u>Epoxy Traffic Paint</u>	3590	
<u>Traffic Marking Paint</u>	Special Provisions	
<i>Only approved paints are allowed for use. For bridge coatings, see <a href="http://www.dot.state.mn.us/products">www.dot.state.mn.us/products</a> for the approved products list. For all others, see the Special Provisions. Send color sample to Chemical Laboratory for color matching.</i>		
<u>Non-Traffic Striping Paints</u>	3500 Series	Retain Certification of Compliance
<u>Bridge Structural Steel Paint</u>	3520	Visual Inspection - Check approved products list - retain Certificate of Compliance.
<u>Exterior Masonry Paint</u>	3584	
<u>Noise Wall Stain</u>	Special Provisions	
<u>Drop-on Glass Beads</u>	3592	Visual Inspection - Check qualified products list. Retain Certificate of Compliance.
<u>Pavement Marking Tape</u>	3354	Visual Inspection - Check qualified products list. Retain Certificate of Compliance.
	3355	
	Special Provisions	
<u>Signs and Markers</u>	3352	Visual Inspection - Check qualified products list.

SALT Schedule of Materials Control - Local Government Agency

**Metals 1 of 2**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)*
<b>Guard Rail</b>		
Fittings - Splicers, Bolts, etc.	3381	Visual Inspection - Materials shall be approved before use. Call MnDOT inspector at 218-846-3613 to see if material has been approved.
Structural Plate Beam	3382	
Non-High Tension Guard Rail Cable	3381	
High Tension Guard Rail Cable	Special Provisions	
<b>Steel Posts</b>		
Steel Sign Posts	3401	Visual Inspection - As directed by the Engineer. Retain Certificate of Compliance in Project file.
Fence Posts, Brace Bars, Rails and others	3403	Visual Inspection - As directed by the Engineer. Retain Certificate of Compliance and certified mill analysis in project file.
	3406	
	3379	
<b>Fence</b>		
Barbed Wire	3376	Visual Inspection Retain Certification of Compliance, As directed by the Engineer.
Woven Wire		
Chain Link Fabric		
Components: cup, cap, nut, bolt, end clamp, tension band, truss rod tightener, hog ring, tie wire, tension stretcher bar, truss rod, clamp & tension wire		
Gates		
<b>Pipe</b>		
Water Pipe and other Piping Materials	3364, 3365, 3366 & Special Provisions	Visual Inspection - As directed by the Engineer.
<b>Reinforcing Steel - Inspected by MnDOT &amp; will be charged back to the Local Agency.</b>		
Uncoated Bars	3301	Retain Certificate of Compliance & Certified Mill Analysis
Epoxy Coated Bars	3301	For Epoxy-Coated bars, steel will be tagged "Inspected" when it has been sampled and tested by Mn/DOT prior to shipment, & it will be tagged "Sampled" when testing has not been completed prior to shipment. If the Epoxy-Coated bars are not tagged "Sampled" or "Inspected", submit samples, Certificate of Compliance, & Certified Mill Analysis for testing. Maintain original Cert. of Compliance & Certified Mill Analysis in project file.
Spirals	3305	
Stainless Steel Bars	Special Provisions	Visual Inspection Testing as directed by the Engineer. Certified Mill Test Reports to be kept in file.

SALT Schedule of Materials Control - Local Government Agency

**Metals 2 of 2**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)*
<b>Reinforcing Steel - Inspected by MnDOT &amp; will be charged back to the Local Agency.</b>		
Steel Fabric	3303	Visual Inspection - Retain Certificate of Compliance.
Dowel Bars	3302	
<b>Castings</b>		
<u>Drainage Castings</u>	3321	Visual Inspection - Check approved foundries list.
	2471	
<u>Electrical</u>	2565	
Anchor Rods (Cast in Place) and Structural Fasteners	3385 3391	Visual Inspection - Testing as directed by the Engineer, (see Notes below)
Notes: Manufacturer must have one yearly passing test from the Department for each anchor rod or bolt type. Prior to installation, obtain copy of Mn/DOT passing test report from supplier. Specs 3385.2 A, B, & C require anchor rod markings per ASTM F 1554 S3. The end of each anchor bolt intended to project from the concrete must be die stamped with the grade identification as follows: Grade 36 = AB36, Grade 55 = AB55, Grade 105 = AB105.		
<u>Anchorage (Drilled In)</u>	Special Provisions	Visual Inspection - Check qualified products list.
<u>Structural Steel</u>	<b>Inspected by MnDOT &amp; will be charged back to the Local Agency.</b>	
Steel Bridge - Beams, Girders, Diaphragms, etc.	2471	Structural Metals Inspection Tag and field inspection for damage/defects, check dimensions for contract compliance. Review approved products list as directed by the Engineer.  Note: Structural metals products will be inspected at the plant and will be shipped with a Structural Metals Inspection Tag. An inspection confirmation report will be completed by Structural Metals Inspection staff and sent to the field personnel. Only approved suppliers are allowed to supply Structural Metals products. A list of approved suppliers can be found on the Bridge Office web site: <a href="http://www.dot.state.mn.us/bridge/">http://www.dot.state.mn.us/bridge/</a>
Concrete Girders- Diaphragms and sole plates		
Expansion Joints		
Steel Bearings		
Railing-Structural tube and ornamental		
Drainage Systems		
Protection Angles		
Overhead Sign structures		
High Mast Lighting Structures	2545 2471	
Monotube Signal Structures	2565 2471	

\* Check domestic steel requirement under 1601 Special Provision.

SALT Schedule of Materials Control - Local Government Agency

**Geosynthetics, Pipe, Tile, Precast/Prestressed Concrete 1 of 2**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
<b>Corrugated Metal Products</b>		
Culvert Pipe Under drains Erosion control Structures	3225 thru 3229, 3351, 3399	Visual Inspection: Check for good construction, workmanship, finish requirements and shipping
Structural Plate	3231	Visual Inspection: Invoice shall include notation that material described is in accordance with fabricator's Certificate and Guarantee
Aluminum Structural Plate	3233	
REMARKS: Retain the Certificate of Compliance and certified mill analysis in project file.		
<b>Pipe</b>		
Clay Pipe	3251	Visual Inspection
Reinforced Concrete Pipe and Arches, Precast Cattle Pass Units, Sectional Manhole Units	3236	Field Inspection: Check for damage and defects. Check dimensions and class as required.
Non-Reinforced Concrete Pipe	3253	
Drain Tile (Clay or Concrete)	3276	Visual Inspection - Acceptance as directed by the Engineer.
Thermoplastic (TP) Pipe ABS and PVC	3245	Obtain Certificate of compliance. Check for approved marking printed on pipe. Field Inspect for damage or defects.
Corrugated Polyethylene Pipe	3278	Check for markings (AASHTO M 252) Certificate of Compliance. Field Inspect for damage or defects.
<u>Corrugated Polyethylene Pipe - Dual Wall 12"-48"</u>	3247	Visual Inspection - Check approved products list. Obtain Certificate of Compliance.
<b>Precast/Prestressed Concrete Structures - Inspected by MnDOT &amp; will be charged back to the Local Agency.</b>		
Reinforced Precast Box Culvert	3238	Field Inspection: Check for damage and defects. Check dimensions as required. Check for the "MnDOT" stamp and signature on the certification document.
Precast/Prestressed Concrete Structure (beams, posts, etc.)	2405	
Manholes and Catch Basins (Construction)	2506 3622	
<b>Pipe Joint Sealer</b>		
Sewer Joint Sealing Compound	3724	Visual Inspection - Acceptance as directed by the Engineer.

SALT Schedule of Materials Control - Local Government Agency

**Geosynthetics, Pipe, Tile, Precast/Prestressed Concrete 2 of 2**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
Preformed Plastic Sealer for Pipe	3726 Type b	Visual Inspection - Acceptance as directed by the Engineer.
Bituminous Mastic Joint Sealer for Pipe	3728	
EPS Geofoam	Special Provisions	Visual Inspection - Acceptance as directed by the Engineer. Check for yellow aged material, uniformity and dimensions.
Geotextile Fabric and Geogrid Reinforcement	3733 and Special Provisions	Geotextile Materials are tested on a on-going basis. <b>Call the Maplewood lab regarding material acceptance, 651-366-5451.</b>
<u>Silt Fence</u>	3886	Visual Inspection - Check approved products list.

SALT Schedule of Materials Control - Local Government Agency

**ELECTRICAL AND SIGNAL EQUIPMENT ITEMS 1 of 2**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
Lighting Standards (Aluminum or Steel)	3811	Visual Inspection - Obtain Certificate of Compliance. The Fabricator will submit "Certificate of Compliance", on a per project basis, to the Project Engineer.
<u>Hand Holes</u> (Precast, PVC, and LLDPE)	2545	Visual Inspection - Check approved/qualified products list. Traffic signal and street lighting projects require hand holes to be listed on the Mn/DOT Signals Approved Products List (APL). For cast iron frame and cover: see Metals - Drainage and Electrical Castings
	2550	
	2565	
Foundation	2545	Check Contract Documents and Special Provisions.
<b>Conduit and Fittings</b>		
Metallic	3801	Visual Inspection - Conduit shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL). For traffic signal and street lighting projects, specific requirements are contained in the Special Provisions for each project.
	3802	
Non-Metallic (Rigid and HDPE)	3803	
	Special Provisions	
Anchor Rods and Bolts (Cast in Place)	3385	Visual Inspection - Manufacturer must have one yearly passing test from the Department for each anchor rod or bolt type. Prior to installation, obtain copy of Mn/DOT passing test report from supplier. Specs 3385.2 A, B, & C require anchor rod markings per ASTM F 1554 S3. The end of each anchor bolt intended to project from the concrete must be die stamped with the grade identification as follows: Grade 36 = AB36, Grade 55 = AB55, Grade 105 = AB105.
<u>Anchorage (Drilled In)</u>	Special Provision	Visual Inspection - Check qualified products list.
<u>Miscellaneous Hardware</u>	2545 2565	Visual Inspection - Check approved products list. Will carry "Inspected" tag if sampled and tested prior to shipment. No sample necessary if "Inspected". Do not use if not tested. Field sample at sampling rate for laboratory testing. For traffic signal and street light lighting projects, various miscellaneous hardware is required to be listed on the Mn/DOT Signals and Lighting Approved Products Lists (APL). The Contract documents indicate, which items must be on the Signals and/or Lighting APL.

SALT Schedule of Materials Control - Local Government Agency

**ELECTRICAL AND SIGNAL EQUIPMENT ITEMS 2 of 2**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
<b>Cable and Conductors</b>		
Power Conductors	3815.2B1	Visual Inspection - Make certain the conductors are the type specified. Submit Field Inspection report showing type and quantities used. Shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL) and type where applicable.
Loop Detector Conductors (No Tubing)	3815.2B2 (a)	
Electrical Cables and Single Conductors with Jacket	3815.2B2(b) 3815.2B3	Visual Inspection - Usually inspected at the distributor. Documentation showing project number, reel number(s), & Mn/DOT test number(s) will be included with each project shipment. If such documentation is not received from Contractor, submit sample for testing along with material certification from manufacturer. Do not use if not tested. Pre-inspected materials will not be tagged; an inspection report will be sent by the Mn/DOT inspector for each shipment. Project inspectors should verify that the shipping documents agree with this inspection report. Call Steve Grover at 651-366-5540 or Cindy Schellack at 651-366-5543 with questions. For traffic signal and street lighting projects, the Special Provisions for each project contain electrical cable and conductor specifications.
	3815.2B5	
	3815.2C1 thru .2C8	
	3815.2C14	
Special Provisions		
Fiber Optic Cables	3815.2C13	Visual Inspection - Check approved products list for Traffic Management Systems.
Ground Rods	2545	Visual Inspection - Check approved products list. Shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL). Detail materials on Materials Acceptance Summary.
	2565	
Luminaires and Lamps	3810	Visual Inspection - Check approved products list. Traffic signal and street lighting projects require luminaires and lamps to be listed on the Mn/DOT Lighting Approved/Qualified Products List (APL). The conductors shall be labeled as being listed by a National Recognized Testing Laboratory (NRTL) and type, where applicable.
Electrical Systems		Electrical Systems are to be reported as a "System" using the LIGHTING, SIGNAL AND TRAFFIC RECORDER INSPECTION REPORT. To be certified by the Project Engineer.
Traffic Signal Systems	2565	Traffic Signal Systems are to be reported as a "System" using the LIGHTING, SIGNAL AND TRAFFIC RECORDER INSPECTION REPORT. To be certified by the Project Engineer.

SALT Schedule of Materials Control - Local Government Agency

**Brick, Stone and Masonry Units**

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
<b>Brick</b>		
Sewer (clay) and Building	3612 to 3615	Visual Inspection - Acceptance as directed by the Engineer.
Sewer (Concrete)	3616	Visual Inspection - Acceptance as directed by the Engineer. Air entrainment required. Obtain air content statement from supplier.
<b>Concrete Masonry Units</b>		
Sewer Construction	3621	Visual Inspection - Acceptance as directed by the Engineer. Air entrainment required. Obtain air content statement from supplier.
<u>Modular Block Retaining Walls</u>	Review Current Special Provisions	Visual Inspection - Note: All lots of block upon delivery shall have Manufacturer or Independent laboratory test results to verify passing both compression and freeze-thaw requirements. * Wall units and cap units are considered separate block types.
Reinforced Concrete Cribbing	3661	Visual Inspection - Acceptance as directed by the Engineer. Will be stamped when inspected prior to shipment.
Stone for Masonry or Rip-Rap	3601 and Special Provisions	Visual Inspection - Acceptance as directed by the Engineer.
REMARKS: Each source shall be approved by Project Engineer or Supervisor for quality, prior to use. For questions on quality, contact District Materials or Geology Unit.		

## SALT Schedule of Materials Control - Local Government Agency

### Miscellaneous Materials

Kind of Material	Spec. No.	Min. Required Acceptance Testing (Field Testing Rate)
Timber, Lumber Piling & Posts	3412 to 3471 & 3491	Visual Inspection - Acceptance as directed by the Engineer. Untreated materials shall be inspected in the field. Treated materials shall be Certified on the Invoice or Shipping Ticket. Material is inspected and stamped by an Independent Agency as per Specification 3491. Contact Laboratory for additional information.
Miscellaneous pieces and Hardware (Galvanized)	3392 3394	Visual Inspection - Acceptance as directed by the Engineer.
Insulation Board	3760	
<u>Elastomeric Bearing Pads</u>	3741 and Special Provisions	Check dimensions. Check repair of tested pad. Obtain copy of Certificate of Compliance. DO NOT USE ANY PADS THAT ARE NOT CERTIFIED.

## (2360) PLANT MIXED ASPHALT PAVEMENT

January 23, 2013

### 2360.1 DESCRIPTION

This work consists of constructing plant mixed asphalt pavement on a prepared surface.

Plant mixed asphalt pavement designed according to a gyratory mix design method for use as a pavement surface.

#### A Mixture Designations

The Department will designate the mixture for asphalt mixtures in accordance with the following:

- (1) The first two letters indicate the mixture design type:
  - (1.1) SP = Gyratory Mixture Design.
- (2) The third and fourth letters indicate the course:
  - (2.1) WE = Wearing and shoulder wearing course, and
  - (2.2) NW = Non-wearing Course.
- (3) The fifth letter indicates the maximum aggregate size:
  - (3.1) A = ½ in [12.5mm], SP 9.5,
  - (3.2) B = ¾ in [19.0mm], SP 12.5,
  - (3.3) C = 1 in [25.0mm], SP 19.0, and
  - (3.4) D = ¾ in [9.5mm], SP 4.75.
- (4) The sixth digit indicates the Traffic Level (ESAL's × 10<sup>6</sup>) in accordance with Table 2360-1, "Traffic Levels."

Traffic Level	20 Year Design ESALs
2 *	< 1
3	1 - < 3
4	3 - < 10
5	10 - ≤ 30
6	>30 (See SMA Provision)

NOTE: The requirements for gyratory mixtures in this specification are based on the 20 year design traffic level of the project, expressed in Equivalent Single Axle Loads (ESAL's)  $1 \times 10^6$  ESALs

\* AADT < 2,300  
|| AADT > 2,300 to < 6,000

- (5) The last two digits indicate the air void requirement:
  - (5.1) 40 = 4.0 percent for wear mixtures, and
  - (5.2) 30 = 3.0 percent for non-wear and shoulder.
- (6) The letter at the end of the mixture designation identifies the asphalt binder grade in accordance with Table 2360-2, "Asphalt Grades."

Table 2360-2 Asphalt Grades	
Letter	Grade
A	PG 52 – 34
B	PG 58 – 28
C	PG 58 – 34
E	PG 64 – 28
F	PG 64 – 34
H	PG 70 – 28
I	PG 70 – 34
L	PG 64 – 22
M	PG 49 – 34

Ex: Gyratory Mixture Designation -- SPWEB540E (Design Type, Lift, Aggr. Size, Traffic Level, Voids, Binder)

**2360.2 MATERIALS**

**A Aggregate**

Use aggregate materials in accordance with 3139.2.

**B Asphalt Binder Material.....3151**

**C Additives**

The Department defines additives as material added to an asphalt mixture or material that does not have a specific pay item.

Do not incorporate additives into the mixture unless approved by the Engineer. Add anti-foaming agents to asphalt cement at the dosage rate recommended by the manufacturer. The Contractor may add mineral filler in quantities no greater than 5 percent of the total aggregate weight. The Contractor may add hydrated lime in quantities no greater than 2 percent of the total aggregate weight. Do not add a combination of mineral filler and hydrated lime that exceeds 5 percent of the total aggregate weight. Use methods for adding additives as approved by the Engineer.

**C.1 Mineral Filler ..... AASHTO M 17**

**C.1.a Mineral Filler – Hydrated Lime**

Provide hydrated lime for asphalt mixtures with no greater than 8 percent unhydrated oxides (as received basis) and meeting the requirements of AASHTO M 216. Use a method to introduce and mix hydrated lime and aggregate as approved by the Engineer before beginning mixture production.

**C.2 Liquid Anti-Stripping Additive (Contractor Added)**

If adding a liquid anti-strip additive to the asphalt binder, complete blending before mixing the asphalt binder with the aggregate. Only use liquid anti-strip additives that ensure the asphalt binder meets the Performance Grade (PG) requirements in 3151. The Contractor may use asphalt binder with liquid anti-strip added at the refinery or the Contractor may add liquid anti-strip at the plant site. If using asphalt binder with liquid anti-strip added at the refinery, ensure the supplier tests the binder and additive blend to confirm compliance with the AASHTO M 320. If an anti-strip agent is added at the plant, the plant mixed asphalt producer is considered a supplier and the binder must conform to the requirements of 3151. Do not pave until the asphalt binder and additive blend testing results meet the criteria in 2360.2.B, "Asphalt Binder Material."

**C.2.a Mixture Requirements at Design**

Design the mixture with the same asphalt binder supplied to the plant site using mixture option 1, "Laboratory Mixture Design" or mixture option 2, "Modified Mixture Design."

Provide documentation with either design option and include the amount of anti-strip needed to meet the minimum tensile strength requirements. Verify that the binder with the anti-strip meets the PG binder requirements for the mixture.

**C.2.b Contractor Production Testing Requirements**

Sample and test the asphalt binder and anti-strip blend daily. The Contractor may test the blend by viscosity, penetration, or dynamic shear rheometer (DSR) of the blend. If the contract requires the use of a polymer modified asphalt binder in the mixture, use the DSR as the daily QC test.

Send the Engineer and MnDOT Chemical Laboratory Director a weekly QC report summarizing the results of the daily testing.

Perform at least one test bi-weekly per project to ensure the binder and anti-strip blend meets the requirements of AASHTO M 320. Send the test results to the Engineer and MnDOT Chemical Laboratory Director.

Provide asphalt binder and anti-strip blend field verification samples in accordance with 2360.2.G.7, "Production Test."

**C.2.c Liquid Anti-Strip Additive Metering System**

Include a liquid anti-strip flow meter and an anti-strip pump with the metering system. Connect the flow meter to the liquid anti-strip supply to measure and display only the anti-strip being fed to the asphalt binder.

Position the meter readout so that the inspector can easily read it.

Provide means to compare the flow meter readout with the calculated output of the anti-strip pump.

Provide a system that displays the accumulated anti-strip quantity being delivered to the mixer unit in gallons [liters] to the nearest gallon [liter] or in units of tons [metric tons] to the nearest 0.001 ton [0.001 tonne].

Calibrate and adjust the system to maintain an accuracy of  $\pm 1$  percent.

Calibrate each plant set-up before producing the mixture.

"Stick" the anti-strip tank at the end of the day's production to verify anti-strip usage quantities. The Engineer may require "sticking" on a daily basis.

Ensure the system has a spigot for sampling the binder and anti-strip after blending.

Use alternative blending and metering systems only when pre-approved by the Engineer.

**C.3 Coating and Anti Stripping Additive .....3161**

**C.4 Warm Mix Asphalt (WMA)**

WMA is allowed on all projects. Any mix that is produced at temperatures 30°F or lower than typical HMA mixing temperature of the asphalt binder, as defined by the asphalt supplier, is considered as WMA.

The WMA can be manufactured through use of foamed asphalt and/or chemical additive processes. Notify the Engineer in advance of using any WMA additive or process. When chemical additives are used, provide the plant mixing and the laboratory mixing and compaction temperatures as recommended by the manufacturer of the additive.

**D Bituminous Tack Coat.....2357**

**E Mixture Design**

**E.1 Submittal Location**

Submit documentation and sample aggregate materials for review to the District Materials Laboratory.

**E.2 Aggregate Quality**

Provide aggregate in accordance with 3139.2.

**E.3 Restrictions**

Do not add aggregates and materials not included in the original mixture submission unless otherwise approved by the Engineer.

**E.4 Responsibility**

Design a gyratory mixture that meets the requirements of this specification in accordance with the following:

- (1) MnDOT Laboratory Manual Method 1820,
- (2) The Asphalt Institute's Superpave Mix Design Manual SP-2 (Use a 2 h short term aging period for volumetric), and
- (3) The Laboratory Manual.

**E.5 Type of Mixture Design Submittal**

**E.5.a Option 1 — Laboratory Mixture Design**

**E.5.a(1) Aggregate**

Submit the aggregate samples for option 1, at least 15 working days before beginning production samples for quality testing. At least 30 calendar days before beginning asphalt production, submit samples of aggregates that require the magnesium sulfate soundness test to the District Materials Laboratory. Test the samples for quality of each source, class, type, and size of virgin and non-asphaltic salvage aggregate source used in the mix design. Retain a companion sample of equal size until the Department issues a Mixture Design Report. Provide 24 h notice of intent to sample aggregates to the Engineer. Provide samples in accordance with the following:

Classification	Sieve	Weight
Virgin	Retained on No. 4 [4.75 mm]	80 lb [35 kg]
Virgin	Passing No. 4 [4.75 mm]	35 lb [15 kg]
Recycled asphalt pavement (RAP)	—	80 lb [35 kg]
Recycled asphalt shingles (RAS)	—	10 lb [5 kg] sample of representative RAS material

**E.5.a(2) Mixture Sample**

At least 7 working days before the start of asphalt production, submit the proposed Job Mix Formula (JMF) in writing and signed by a Level II Quality Management mix designer for each combination of aggregates to be used in the mixture. Include test data to demonstrate conformance to mixture properties as specified in Table 2360-7, "Mixture Requirements," and 3139.2, "Bituminous Aggregates." Use forms approved by the Department for the submission.

Submit an uncompacted mixture sample plus briquettes, in conformance with the JMF, compacted at the optimum asphalt content and required compactive effort for laboratory examination and evaluation. Provide a mixture sample size and the number of compacted briquettes and in accordance with the following:

Table 2360-5 Mixture Sample Requirements	
Item	Gyratory Design
Uncompacted mixture sample size	75 lb [30 kg]
Number of compacted briquettes	2

**E.5.a(3) Tensile Strength Ratio Sample**

At least 7 days before actual production, submit sample to the District Materials Laboratory for verification of moisture sensitivity retained tensile strength ratio (TSR). The Engineer may test material submitted for TSR verification for maximum specific gravity  $G_{mm}$  compliance in addition to TSR results. The Engineer will reject the submitted mix design if the tested material fails to meet the  $G_{mm}$  tolerance. If the Engineer rejects a mix design, submit a new mix design in accordance with 2360.2.E, "Mixture Design." The Contractor may use one of the following options to verify that the TSR meets the requirements in Table 2360-7, "Mixture Requirements."

**E.5.a(4) Option A**

Batch material at the design proportions including optimum asphalt. Split the sample before curing and allow samples to cool to room temperature, approximately 77 °F [25 °C]. Submit 80 lb [35 kg] of mixture to the District Materials Laboratory for curing and test verification. Use a cure time of 2 h ±15 minutes at 290 °F [144 °C] cure time for both groups and follow procedures Laboratory Manual Method 1813.

**E.5.a(5) Option B**

Batch and cure in accordance with Option A. Compact, and submit briquettes and uncompacted mixture in accordance with Table 2360-6, "Option B Mixture Requirements."

Table 2360-6 Option B Mixture Requirements	
Item	Gyratory Design
Un-compacted mixture sample size	8,200 g
Number of compacted briquettes*	6
Compacted briquette air void content	6.5 % – 7.5 %
* 6 in [150 mm] specimens.	

For both options, cure for 2 h ±15 min at 290° F [144° C] meeting the requirements in the MnDOT Laboratory Manual Method 1813.

**E.5.a(6) Aggregate Specific Gravity**

Determine the specific gravity of aggregate in accordance with Laboratory Manual Methods 1204 and 1205.

**E.5.b Option 2 — Modified Mixture Design**

The Contractor may use the modified mixture design if testing shows that the aggregates meet the requirements of 3139.2 in the current construction season and if the Level II mix designer submitting the mixture design has at least 2 years experience in mixture design. The Department will not require mixture submittal.

**E.5.b(1) Mixture Aggregate Requirements**

Size, grade, and combine the aggregate fractions in proportions that are in accordance with 3139.2.

**E.5.b(2) JMF Submittal**

At least 2 working days before beginning asphalt production, submit a proposed JMF in writing to the District Materials Laboratory signed by a Level II Quality Management mix designer for each combination of aggregates. For each JMF submitted, include documentation in accordance with 2360.2.E.5.a, "Option 1 – Laboratory Mixture Design," to demonstrate conformance to mixture properties as specified in Table 2360-7, "Mixture Requirements," and Table 3139-3, "Mixture Aggregate Requirements." Submit the JMF on forms approved by the Department.

**E.5.b(3) Initial Production Test Verification**

The Department will take a mix verification sample within the first four samples at the start of production of each mix type. The Engineer will notify the Contractor electronically when a sample is to be taken and tested for tensile strength ratio (TSR). Initial production testing will be done within the first 5,000 tons [4500 tonnes] of the start of production.

**E.6 Mixture Requirements**

The Department will base mixture evaluation on the trial mix tests and in accordance with Table 2360-7, "Mixture Requirements."

Table 2360-7 Mixture Requirements				
Traffic Level	2	3	4	5
20 year design ESALs	< 1 million	1 – 3 million	3 – 10 million	10 – 30 million
Gyratory mixture requirements:				
Gyrations for $N_{design}$	40	60	90	100
% Air voids at $N_{design}$ , wear	4.0	4.0	4.0	4.0
% Air voids at $N_{design}$ , Non-wear and all shoulder	3.0	3.0	3.0	3.0
Adjusted Asphalt Film Thickness, minimum $\mu$	8.5	8.5	8.5	8.5
TSR*, minimum %	75 $\parallel$	75 $\parallel$	80 $\dagger$	80 $\dagger$
Fines/effective asphalt	0.6 – 1.2	0.6 – 1.2	0.6 – 1.2	0.6 – 1.2
* Use 6 in [150 mm] specimens in accordance with 2360.2.I, "Field Tensile Strength Ratio (TSR)."				
$\parallel$ MnDOT minimum = 65				
$\dagger$ MnDOT minimum = 70				

**E.7 Minimum Ratio of Added Asphalt Binder to Total Asphalt Binder**

Control recycled materials used in mixture by evaluating the ratio of new added asphalt binder to total asphalt binder as show in Table 2360-8.

Table 2360-8 Requirements for Ratio of Added New Asphalt Binder to Total Asphalt Binder <sup>1</sup> min%:			
Specified Asphalt Grade <sup>2</sup>	Recycled Material		
	RAS Only	RAS + RAP	RAP Only
PG XX-28, PG 52-34, PG 49-34, PG 64-22 Wear Non-Wear	70 70	70 70	70 65
PG 58-34, PG 64-34, PG 70-34 Wear & Non-Wear	80	80	80

<sup>1</sup>The ratio of added new asphalt binder to total asphalt binder is calculated as (added binder/total binder) x 100  
<sup>2</sup>The Contractor can elect to use a blending chart to verify compliance with the specified binder grade. The Department may take production samples to ensure the asphalt binder material meets the requirements. The blending chart is on the Bituminous Office Website.

**E.8 Adjusted Asphalt Film Thickness (Adj. AFT)..... MnDOT Laboratory Manual Method 1854**

Ensure the adjusted asphalt film thickness (Adj. AFT) of the mixture at design and during production meets the requirements of Table 2360-7, "Mixture Requirements." Base the Adj. AFT on the calculated aggregate surface area (SA) and the effective asphalt binder content.

**E.9 Documentation**

Include the following documentation and test results with each JMF submitted for review:

- (1) Names of the individuals responsible for the QC of the mixture during production,
- (2) Low project number of the contract on which the mixture will be used,
- (3) Traffic level and number of gyrations,
- (4) The following temperature ranges as supplied by the asphalt binder supplier:
  - (4.1) Laboratory mixing and compaction,
  - (4.2) Plant discharge, and
  - (4.3) Field compaction.
- (5) The percentage in units of 1 percent (except the No. 200 sieve [0.075 mm] in units of 0.1 percent) of aggregate passing each of the specified sieves (including the No. 16, No. 30, No. 50, and No. 100) for each aggregate to be incorporated into the mixture. Derive the gradation of the aggregate from the RAP after extracting the residual asphalt.
- (6) Source descriptions of the following:
  - (6.1) Location of material,
  - (6.2) Description of materials,
  - (6.3) Aggregate pit or quarry number, and
  - (6.4) Proportion amount of each material in the mixture in percent of total aggregate.
- (7) Composite gradation based on (5) and (6) above. Include virgin composite gradation based on (6) and (7) above for mixtures containing RAP/RAS.
- (8) Bulk and apparent specific gravities and water absorption (by % weight of dry aggregate). Both coarse and fine aggregate, for each product used in the mixture (including RAP/RAS). Use Mn/DOT Laboratory Manual Method 1204 and 1205. The tolerance allowed between the Contractor's and the Department's specific gravities are  $G_{sb}(\text{individual}) = 0.040$  [+4 and -4] and  $G_{sb}(\text{combined}) = 0.020$ .
- (9) FHWA 0.45 power chart represented by the composite gradation plotted on Federal Form PR-1115
- (10) Test results from the composite aggregate blend at the proposed JMF proportions showing compliance with Table 3139-3:
  - (10.1) Coarse Aggregate Angularity,
  - (10.2) Fine Aggregate Angularity, and
  - (10.3) Flat and Elongated

- (11) Extracted asphalt binder content for mixtures containing RAP/RAS with no retention factor included.
- (12) Asphalt binder percentage in units of 0.1 percent based on the total mass of the mixture and the PG grade.
- (13) Each trial mixture design includes the following:
  - (13.1) At least 3 different asphalt binder contents (with at least 0.4 percent between each point), with at least one point at, one point above and one point below the optimum asphalt binder percentage.
  - (13.2) Maximum specific gravity for each asphalt binder content calculated based on the average of the effective specific gravities measured by using at least two maximum specific gravity tests at the asphalt contents above and below the expected optimum asphalt binder content.
  - (13.3) Test results on at least two specimens at each asphalt binder content for the individual and average bulk specific gravities, density, and heights.
  - (13.4) Percent air voids of the mixture at each asphalt binder content.
  - (13.5) Adj. AFT for each asphalt binder content.
  - (13.6) Fines to Effective Asphalt (F/A) ratio calculated to the nearest 0.1 percent.
  - (13.7) TSR at the optimum asphalt binder content.
  - (13.8) Graphs showing air voids, adjusted AFT,  $G_{mb}$ ,  $G_{mm}$  and unit weight vs. percent asphalt binder content for each of the three asphalt binder contents submitted with trial mix.
  - (13.9) Evidence that the completed mixture will conform to design air voids ( $V_a$ ), Adj. AFT, TSR, F/A<sub>e</sub> (Fines to effective asphalt ratio).
  - (13.10) Gyrotory densification tables and curves generated from the gyrotory compactor for all points used in the mixture submittal.
  - (13.11) % new asphalt binder to total asphalt binder.
- (14) The Contractor has the option of augmenting the submitted JMF with additional sand or rock. When using this option, provide samples of the aggregate for quality analysis in accordance with 2360.2.E.5, "Type of Mixture Design Submittal." Also provide mix design data for two additional design points per add-material. Provide one point to show a proportional adjustment to the submitted JMF that includes 5 percent, by weight, add-material at the JMF optimum asphalt percent. Provide a second point to show a proportional adjustment to the submitted JMF that includes 10 percent, by weight, add material at the JMF optimum asphalt percent. Report the following information for each of these two points:
  - (14.1) The maximum specific gravity determined by averaging two tests,
  - (14.2) Test results showing the individual and average bulk specific gravity, density, and height of at least two specimens at the optimum asphalt binder content,
  - (14.3) Percent air voids for the mixture for each point,
  - (14.4) Fines to Effective Asphalt ratio calculated to the nearest 0.1 of a percent,
  - (14.5) Crushing of the coarse and fine aggregate,
  - (14.6) Adj. AFT, and,
  - (14.7) Up to two add materials will be allowed.

**F Mixture Design Report**

The Department will provide a Mixture Design Report consisting of the JMF. Include the following in the JMF:

- (1) Composite gradation,
- (2) Aggregate component proportions,
- (3) Asphalt binder content of the mixture,
- (4) Design air voids,
- (5) Adj. asphalt film thickness, and
- (6) Aggregate bulk specific gravity values.

Show the JMF limits for gradation control sieves in accordance with aggregate gradation broadbands shown in Table 3139-2, percent asphalt binder content, air voids, and Adj. AFT. If the Department issues a Mixture Design Report, this report only confirms that the Department reviewed the mixture and that it meets volumetric properties shown in Table 2360-7 and Table 2360-8. The Department makes no guaranty or warranty, either express or implied, that compliance with volumetric properties ensures specification compliance regarding placement and compaction of the mixture.

Provide materials meeting the requirements of the aggregate and mixture design before issuing a Mixture Design Report. The Department will review two trial mix designs per mix type designated in the plan per contract at no cost to the Contractor. The Department will verify additional mix designs at a cost of \$2,000 per design.

Provide a Department - reviewed Mixture Design Report for all paving except for small quantities of material as described in 2360.3.G, "Small Quantity Paving."

For city, county, and other agency projects, provide the District Materials Laboratory a complete project proposal, including addenda, supplemental agreements, change orders, and plans sheets, including typical sections, affecting the mix design before the Department begins the verification process.

**G Mixture Quality Management**

**G.1 Quality Control (QC)**

The Contractor will perform Quality Control (QC) as part of the production process. QC is the process control of the operations related to mixture production and determining the quality of the mixture being produced. The QC sample is the Contractor's sample taken and tested during production and used to control the production process. Provide and maintain a QC program for plant mix asphalt production, including mix design, process control inspection, sampling and testing, and adjustments in the process related to the production of an asphalt pavement.

**G.1.a Certification**

Provide the following to obtain certification:

- (1) Completed and submitted request form application for plant inspection.
- (2) Site map showing stockpile locations.
- (3) Signed asphalt plant inspection report showing the plant and testing facility passed as documented by Asphalt Plant Inspection Report (TP 02142-02, TP 02143-02). The inspection report must also include documentation showing plant and laboratory equipment has been calibrated and is being maintained to the tolerance shown in the Bituminous Manual and sections 1200, 1800, and 2000 of the Mn/DOT Laboratory Manual.
- (4) A Department-signed Mixture Design Report (MDR) before mixture production.

**G.1.b Maintaining Certification**

Maintain plant certification by documenting the production and testing of the certified plant asphalt mixtures. Sample and test asphalt mixtures in accordance with this section and meeting the requirements of the Schedule of Materials Control.

**G.1.b(1) Annual Certification**

Perform annual certification after winter suspension.

**G.1.b(2) Sampling Rate**

Sample at the rate in accordance with 2360.2.G.6 and the requirements of the Schedule of Materials Control.

**G.1.b(3) Plant Moved**

Recertify the plant if the plant moves to a new or previously occupied location.

**G.1.c. Plant Certification Revocation**

The Engineer may revoke certification for any of the following reasons:

- (1) If the mix does not meet the requirements of 2360.2.E.6, 2360.2.E.7, and 3139.2,
- (2) If there is a failure to meet the testing rates, or
- (3) If it is determined records were falsified.

If the Engineer revokes plant certification, the Department may revoke the Technical Certification of the individual or individuals involved. The Department will maintain a list of companies with revoked certifications.

**G.2 Quality Assurance (QA)**

The Engineer will perform Quality Assurance (QA) as part of the acceptance process. QA is the process of monitoring and evaluating various aspects of the Contractor's testing as described below. The QA sample is the Department's companion sample to the Contractor's QC sample. QA testing is performed to accept the work. The Engineer will perform the following:

- (1) Conduct QA and verification sampling and testing,
- (2) Observe the QC sampling and tests,
- (3) Monitor the required QC summary sheets and control charts,
- (4) Verify calibration of QC laboratory testing equipment,
- (5) Communicate Department test results to the Contractor's personnel on a daily basis, and
- (6) Ensure Independent Assurance (IA) sampling and testing requirements are met.

If the Engineer observes that the Contractor is not performing sampling and quality control tests in accordance with the applicable test procedures, the Engineer may stop production until the Contractor takes corrective action. The Engineer will notify the Contractor of observed deficiencies promptly, both verbally and in writing.

The Engineer may obtain additional samples, at any time and location during production, to determine quality levels in accordance with 2360.2.G.3, "Verification Sample."

The Department will post a chart with the names and telephone numbers for the personnel responsible for QA.

The Engineer will calibrate and correlate laboratory testing equipment in accordance with the Bituminous Manual and Laboratory Manual.

Table 2360-9 Allowable Differences between Contractor and Department Test Results*	
Item	Allowable Difference
Mixture bulk specific gravity ( $G_{mb}$ )	0.030
Mixture maximum specific gravity ( $G_{mm}$ )	0.019
Adjusted AFT (calculated)	1.2
Fine Aggregate Angularity, uncompacted voids (U) %	1
Coarse Aggregate Angularity, % fractured faces (%P)	15
Aggregate Individual Bulk Specific Gravity (+ No. 4 [+4.75 mm])	0.040
Aggregate Individual Bulk Specific Gravity (- No. 4 [-4.75mm])	0.040
Aggregate combined blend Specific Gravity ( $G_{sb}$ )	0.020
Tensile strength ratio (TSR), %	Table 2360-7
<b>Asphalt binder content:</b>	
Meter method, %	0.2
Spot check method, %	0.2
Chemical extraction methods, %	0.4
Incinerator oven, %	0.3
Chemical vs. meter, spot check, or incinerator methods	0.4
Incinerator oven vs. spot check	0.4
<b>Gradation sieve, % passing:</b>	
1 in [25.0 mm], ¾ in [19.0 mm], ½ in [12.5 mm], ¼ in [9.5 mm]	6
No. 4 [4.75 mm]	5
No. 8 [2.36 mm], No. 16 [1.18 mm], No. 30 [0.60 mm]	4
No. 50 [0.30 mm]	3
No. 100 [0.15 mm]	2
No. 200 [0.075 mm]	1.2
* Test tolerances listed are for single test comparisons.	

### G.3

#### Verification Sample

The Department will test a minimum of one of the companion samples to the Contractor's QC samples and identify this as a verification sample. The Department's verification sample is used to assure compliance of the Contractor's QC program. The verification samples can be any one or all of the splits to the Contractor's QC samples. Additionally, the Department can take a random sample at any time from behind the paver or from the truck box and will consider this a verification sample. The split of this sample, given to the Contractor, must be tested by the Contractor and will replace the next scheduled QC sample. The Department recommends sampling enough material to accommodate retesting in case the samples fail.

The Department will perform verification testing on at least one set of production tests in accordance with 2360.2.G.6.b, "Production," and 2360.2.G.7, "Production Test," on a daily basis per mix type. Use the verification companion sample to verify the requirements of Table 3139-2, Table 3139-3, and Table 2360-7. Compare the verification companion sample to the verification sample for compliance with allowable tolerances in Table 2360-9, "Allowable Differences between Contractor and Department Test Results." These include the mixture properties of  $G_{mm}$  (mixture maximum gravity),  $G_{mb}$  (mixture bulk gravity), asphalt binder content, Adjusted AFT (calculated), Coarse and Fine Aggregate crushing, and gradation. Perform one test per week on a verification companion for coarse and fine aggregate crushing meeting the requirements of 2360.2.G.7.g "Coarse Aggregate Angularity" and 2360.2.G.7.h, "Fine Aggregate Angularity." These do not include the aggregate bulk specific gravity  $G_{sb}$ , fines to effective asphalt, or the tensile strength ratio (TSR). Determine the asphalt binder content and gradation in accordance with the extraction method specified in 2360.2.G.7.a, "Asphalt Binder Content," or 2360.2.G.7.b, "Gyratory Bulk Specific Gravity."

The Contractor may access the Department's verification test results for  $G_{mm}$  (mixture maximum gravity),  $G_{mb}$  (mixture bulk gravity), air voids (calculated), asphalt binder content, within 2 working days from the time the sample is delivered to the District Laboratory. The Department will provide the gradation, crushing, and Adj. AFT (calculated) results to the Contractor within three working days. The Department will include the verification test results on the test summary sheet. The Department will compare the results with the Contractor's verification companion for the allowable tolerances in Table 2360-9, "Allowable Differences between Contractor and Department Test Results." The Department will consider the verification process complete if the Contractor's verification companion meets the tolerances in Table 2360-9.

If the tolerances between the Contractor's verification companion and the Department's verification sample do not meet the requirements of Table 2360-9, the Department will retest the material. If the retests fail to meet tolerances, the Department will substitute the Department's verification test results for the Contractor's results in the QC program and use those results for acceptance. The Department will only substitute the out-of-tolerance parameters and will recalculate volumetric properties if applicable.

If the Adj. AFT calculation does not meet the tolerance, equalize the Department Adj. AFT result by increasing the original Department value by 0.5 microns. Use the increased Department Adj. AFT for the Individual Adjusted AFT result and to calculate the Moving Average Adj. AFT results. The increased Department Adj. AFT will form the basis for acceptance.

If the verification sample retests do not meet tolerances, the Department will immediately investigate the cause of the difference that will include a review of testing equipment, procedures, worksheets, gyratory specimen height sheets, and personnel to determine the source of the problem. The Engineer may require both the Department and Contractor to perform at least one hot-cold comparison of mixture properties.

To perform a hot-cold comparison, split the sample into three representative portions. The Engineer will observe the Contractor testing. Immediately compact one part while still hot. Apply additional heating to raise the temperature of the sample to compaction temperature if necessary. Allow the second and third part to cool to air temperature. Retain the second part and transport the third part to the District Materials Laboratory. On the same day and at the same time as the District Materials Laboratory, heat samples to compaction temperature and compact. Develop a calibration factor to compare the specific gravity of the hot compacted samples to reheated compacted samples. Use at least two gyratory specimens for each test. The Engineer or the Contractor may request that this test be repeated. Reheat mix samples to 160° F [70° C] to allow splitting of the sample into representative fractions for the various tests. Do not overheat the mixture portions used for testing maximum specific gravity test.

The Department will test the previously collected QA samples until they meet the tolerances or until the Department has tested all of the remaining samples. After testing the samples, the Department will test QA samples subsequent to the verification sample until tolerances are met. The Department will base acceptance on QC data. The Department will base acceptance on QC data with substitution of Department test results for those parameters out of tolerance. Cease mixture production and placement if reestablished test results do not meet tolerances within 48 h. Resume production and placement only after meeting the tolerances. The process for dispute resolution is available on the Bituminous Office website.

If the Engineer analyzes the data using methods for determination of bias on file in the Bituminous Office and finds a bias in the test results, the Engineer will specify which results to use. If through analysis of data, it is determined that there is a bias in the test results, the Engineer will determine which results are appropriate and will govern.

#### **G.4 Contractor Quality Control**

##### **G.4.a Personnel**

Submit an organizational chart listing the names and phone numbers of individuals and alternates responsible for the following:

- (1) Mix design,
- (2) Process control administration, and
- (3) Inspection.

Provide QC technicians certified as a Level I Bituminous Quality Management (QM) Tester meeting the requirements of the MnDOT Technical Certification Program for QC testing and Level II Bituminous QM Mix Designer to make process adjustments. Provide at least one person per paving operation certified as a Level II Bituminous Street Inspector.

Provide a laboratory with equipment and supplies for Contractor quality control testing and maintain with the following:

- (1) Up-to-date equipment calibrations and a copy of the calibration records with each piece of equipment,
- (2) Telephone,
- (3) Fax and copy machine; however, the Engineer may waive the requirement to have a fax machine if internet and email are available,
- (4) Internet and Email,
- (5) Computer,
- (6) Printer, and
- (7) Microsoft Excel, version 2010 or newer

Laboratory equipment need to meet the requirements listed in Section 400 of the Bituminous Manual, Laboratory Manual, and these specifications, including having extraction capabilities. Before beginning production, the laboratory equipment needs to be calibrated and operational.

Calibrate and correlate all testing equipment in accordance with the Bituminous Manual and Laboratory Manual. Keep records of calibration for each piece of testing equipment in the same facility as the equipment.

#### **G.4.b Sampling and Testing**

Take QC samples at random tonnage or locations, quartered from a larger sample of mixture. Sample randomly and in accordance with the Schedule of Materials Control. Determine random numbers and tonnage or locations using the Bituminous Manual; Section 5-693.7 Table A or ASTM D 3665, Section 5, or, an Engineer approved alternate method of random number generation. Sample either behind the paver or from the truck box at the plant site. Other sampling locations can be approved by the Engineer. The Contractor must decide and notify the Engineer where samples will be taken before production begins. The Contractor and Engineer must both agree to a change of sampling location once production has begun. The procedure for truck box sampling is on the Bituminous Office website. The Contractor will obtain at least a 130 pound [60 kg] sample. Split the sample in the presence of the Inspector. The Inspector will retain possession of the Agency portion of each split sample that is taken and randomly submit a minimum of one sample, on a daily basis, to the District Laboratory for Verification testing (see 2360.2.G.3). Store compacted mixture specimens and loose mixture companion samples for 10 calendar days. Label these split companion samples with companion numbers.

If coarse and fine aggregate angularity are not evaluated for every QC sample retain the extracted gradation samples for the respective QC samples for additional testing. Keep the aggregate samples in containers with field identification labels for a period of 10 calendar days. The Engineer will identify which extracted gradation sample is the Verification Companion and whether it is to be tested for coarse and fine aggregate angularity.

#### **G.5 Production Test Requirements**

Determine the planned tonnage [metric tons] for each mixture planned for production during the production day. Divide the planned production by 1,000 and round to the next highest whole number. The result is

the number of production tests required for the mixture. Table 2360-11, "Production Testing Rates" shows the required production tests.

Split the planned production into even increments and select sample locations as described above. If actual tonnage is greater than the planned tonnage, repeat the calculation above and provide additional tests if the calculation results in a higher number of production tests. During production, the Department will not require mixture volumetric property tests if mix production is no greater than 300 ton [270 tonne]. Provide production tests if the accumulative weight on successive days is greater than 300 ton [270 tonne].

If there is a choice of more than one MnDOT approved test procedure, select one method at the beginning of the project with the approval of the Engineer and use that method for the entire project. The Contractor and Engineer may agree to change test procedures during the construction of the project.

**G.5a            Establishing an Ignition Oven Correction Factor .....MnDOT Lab. Manual 1853 Appendix**

On the first day of production, for each mixture type, both the Contractor and the Agency will establish an ignition oven correction factor from the produced mixture. Re-establish correction factors when:

There are aggregate or RAP substitutions

There are 3 or more tolerance failures on the extracted asphalt content between the Agency and the Contractor as defined by Table 2360-9, "Allowable Differences between Contractor and Department Test Results".

**G.6                Production Testing Rates**

**G.6.a            Start -Up**

At the start of production, for the first 2,000 ton [1,800 tonne] of each mix type, perform testing at the following frequencies:

<b>Table 2360-10 Production Start-Up Testing Rates</b>			
<b>Production Test</b>	<b>Testing Rates</b>	<b>Laboratory Manual Method</b>	<b>Section</b>
Bulk Specific Gravity	1 test per 500 ton [450 tonne]	1806	2360.2.G.7.b
Maximum Specific Gravity	1 test per 500 ton [450 tonne]	1807	2360.2.G.7.c
Air Voids (calculated)	1 test per 500 ton [450 tonne]	1808	2360.2.G.7.d
Asphalt Content	1 test per 500 ton [450 tonne]	1853	2360.2.G.7.a
Add AC/Total AC Ratio (calculated)	1 test per 1000 ton [900 tonne]	1853	2360.2.G.7.a
Adj. AFT (Calculated)	1 test per 500 ton [450 tonne]	1854	2360.2.E.6.b
Gradation	1 test per 500 ton [450 tonne]	1203	2360.2.G.7.f
Coarse Aggregate Angularity	1 test per 1,000 tons [900 tonne]	1214	2360.2.G.7.g
Fine Aggregate Angularity (FAA)	1 test per 1,000 ton [900 tonne]	1206	2360.2.G.7.h
Fines to Effective Asphalt Ratio (calculated)	1 test per 500 ton [450 tonne]	1203 & 1853	2360.2.G.7.f & 2360.2.G.7.a

**G.6.b Production**

After producing the first 2,000 ton [1,800 tonne] of each mix type test at the following frequencies:

Table 2360-11 Production Testing Rates			
Production Test	Sampling and Testing Rates	Test Reference	Section
Bulk Specific Gravity	Divide the planned production by 1,000. Round the number to the next higher whole number	Laboratory Manual 1806	2360.2.G.7.b
Maximum Specific Gravity	Divide the planned production by 1,000. Round the number to the next higher whole number.	Laboratory Manual 1807	2360.2.G.7.c
Air Voids (calculated)	Divide the planned production by 1,000. Round the number to the next higher whole number	Laboratory Manual 1808	2360.2.G.7.d
Asphalt Content	Divide the planned production by 1,000. Round the number to the next higher whole number	Laboratory Manual 1853	2360.2.G.7.a
Add AC/Total AC Ratio (calculated)	Divide the planned production by 1,000. Round the number to the next higher whole number	Laboratory Manual 1853	2360.2.G.7.a
Adj. AFT (Calculated)	Divide the planned production by 1,000. Round the number to the next higher whole number	Laboratory Manual 1854	2360.2.E.7.e
Gradation	1 gradation per 1,000 tons [900 tonne], or portion thereof (at least one per day)	Laboratory Manual 1203	2360.2.G.7.f
Coarse Aggregate Angularity	2 tests per day for at least 2 days, then 1 per day if CAA is met. If CAA >8% of requirement, 1 sample per day but test 1 per week.	Laboratory Manual 1214	2360.2.G.7.g
Fine Aggregate Angularity (FAA)	2 tests per day for at least 2 days, then 1 per day if FAA is met. If FAA >5% of requirement, 1 sample per day but test 1 per week.	Laboratory Manual 1206	2360.2.G.7.h
Fines to Effective Asphalt Ratio (calculated)	Divide the planned production by 1,000. Round the number to the next higher whole number	Laboratory Manual 1203 & 1853	2360.2.G.7.f & 2360.2.G.7.a
TSR	As directed by the Engineer	Laboratory Manual 1813	2360.G.7.i
Aggregate Specific Gravity	As directed by the Engineer	Laboratory Manual 1204, 1205, and 1815	2360.G.7.j
Mixture Moisture Content	Daily unless otherwise required by the Engineer	Laboratory Manual 1855	2360.G.7.k
Asphalt Binder	Sample first load (each grade), then 1 per 250,000 gal sample size 1 qt [1,000,000 L]	MnDOT Bituminous Manual 5-693.920	2360.G.7.l

**G.7 Production Tests**

**G.7.a Asphalt Binder Content**

Spotchecks are required only when the Engineer has waived the requirements of 2360.2G8 relating to furnishing a computerized printout of the plant blending control system. A minimum of 1 spotcheck per day per mixture blend is required to determine the new added asphalt binder.

Use an incinerator oven meeting the requirements of the Laboratory Manual Method 1853. Do not use the incinerator oven if the percentage of Class B material is greater than 50 percent within the composite blend, unless the Contractor determines a correction factor approved by the Engineer.

Perform chemical extraction meeting the requirements of Laboratory Manual Method 1851 or 1852.

**G.7.b Gyrotory Bulk Specific Gravity, Gmb**

Use two specimens to determine gyrotory bulk specific gravity meeting the requirements of Laboratory Manual Method 1806. Set Gyrotory to an internal angle of  $1.16^{\circ} \pm 0.02^{\circ}$  according to AASHTO TP 71.

**G.7.c Maximum Specific Gravity, Gmm**

Determine maximum specific gravity meeting the requirements of Laboratory Manual Method 1807.

**G.7.d Air Voids – Individual and Isolated (Calculation)**

Calculate the individual and isolated air voids meeting the requirements of Laboratory Manual Method 1808. Use the maximum mixture specific gravity and corresponding bulk specific gravity from a single test to calculate the isolated air voids. Use the maximum specific gravity moving average and the bulk specific gravity from a single test to calculate the individual air voids.

Compact gyrotory design to  $N_{design}$  in accordance with Table 2360-7, "Mixture Requirements" for the specified traffic level.

**G.7.e Adjusted Asphalt Film Thickness (AFT) (Calculation)**

Calculate the Adj. AFT meeting the requirements of the Laboratory Manual Method 1854.

**G.7.f Gradation – Blended Aggregate**

Determine the gradation of blended aggregate sample, from an extracted bituminous mixture, meeting the requirements of Laboratory Manual Method 1203.

**G.7.g Coarse Aggregate Angularity**

Test the Coarse Aggregate Angularity (CAA) meeting the requirements of Laboratory Manual Method 1214 to determine the CAA on composite blend from aggregates used in production of hot mix asphalt. Ensure CAA test results meet the requirements in accordance with Table 3139-3.

The Contractor may test mixtures containing virgin aggregates from composite belt samples. Test mixtures containing RAP from extracted aggregates taken from standard production samples. Test the percentage of fractured faces of the composite aggregate blend less than 100 percent twice a day for each mixture blend for at least two days, then one test per day if the test samples meet the CAA requirements. If the CAA crushing test results are greater than 8 percent of the requirements, take one sample per day and perform one test per week.

Report CAA results on the test summary sheet. The Department may reduce payment in accordance with Table 2360-15, "Reduced Payment Schedule for Individual Test Results," for mixture placed and represented by results below the minimum requirement in accordance with Table 3139-3. The Department will calculate tonnage subjected to reduced payment as the tons placed from the sample point of the failing test to the sampling point where the test result meets the specifications.

**G.7.h Fine Aggregate Angularity**

Use Laboratory Manual Method 1206 to test the composite blend from aggregates used in production of asphalt mixtures for Fine Aggregate Angularity (FAA) meeting the requirements of Table 3139-3. The Contractor may test mixtures that contain virgin aggregates from composite belt samples. Test mixtures that contain RAP from extracted aggregates taken from standard production samples. Perform two tests per day for each mixture blend for at least two days to test the percentage of uncompacted voids from the composite aggregate blend, then one test per day if the samples meet FAA requirements. If FAA test results are greater than 5 percent of the requirement, take one sample per day and one test per week.

Report FAA results on the test summary sheet. The Department may reduce payment in accordance with Table 2360-16, "Reduced Payment Schedule for Individual Test Results," for mixture placed and represented by results below the minimums in accordance with Table 3139-3. The Department will calculate tonnage subjected to reduced payment as the tons placed from the sample point of the failing test to the sampling point where the test result meets the specifications.

**G.7.i Field Tensile Strength Ratio (TSR) ..... Laboratory Manual Method 1813**

If the Engineer requires sampling and testing of the mixture to verify tensile strength ratio (TSR), both the Contractor and the Department will be required to test these samples within 72 h after sampling. The Contractor shall obtain a sample weighing at least 110 lb [50 kg] and split the sample in half to provide a sample for the Department and the Contractor. Label the Department companion of this split with the following information:

- (1) Date,
- (2) Time,
- (3) Project number, and
- (4) Cumulative tonnage to date.

After the sample is split and labeled, give the Department's companion sample to the Department Street Inspector or Plant Monitor or to the Materials Engineer within 24 h of sampling as directed by the Engineer. When using Option 2, obtain the sample within the first 5,000 ton [4,500 tonne] of plant mixed asphalt produced or by the second day of production, whichever comes first, to verify tensile strength ratio (TSR). Take mixture samples from the windrow or truck box. Provide a 6 in [150 mm] specimen for gyratory design. The Contractor may test the sample at a permanent lab site or a field lab site.

Refer to Table 2360-12, "Mixture Type, Minimum TSR," for the minimum acceptable TSR values for production. Stop production immediately if the material does not meet minimum TSR requirements. Do not resume production until after adding anti-strip to the asphalt binder. Determine the responsible party for the cost of the anti-strip in accordance with the Department and Contractor TSR values in Table 2360-13. If the Department is responsible for the cost of the anti-strip, the Department will only pay for the cost of the anti-strip for mixtures placed on that project. The Department will not pay for delay costs associated with making changes related to this testing.

Table 2360-12 Mixture Type, Minimum TSR			
Traffic Level 2 - 3, %		Traffic Level 4 - 5, %	
Contractor	MnDOT	Contractor	MnDOT
75	65	80	70

Gyratory Level	Contractor TSR	MnDOT TSR	Responsibility
2-3	≥ 75	≥ 65	No anti-strip required
		< 65	Contractor
	< 75	≥ 65	Department
		< 65	Contractor
4-5	≥ 80	≥ 70	No anti-strip required
		< 70	Contractor
	< 80	≥ 70	Department
		< 70	Contractor

Take another sample and test within the first 500 ton [450 tonne] after production resumes. Stop production if the re-test fails to meet the minimum specified value. Discuss a proposal to resolve the problem with the Engineer before resuming production. Do not operate below the specified minimum TSR if at least 2 successive tests fail the TSR requirements.

A new sample and retest is automatically required if a proportion changes by greater than 10 percent from the currently produced mixture for a single stockpile aggregate or the Engineer directs the Contractor to sample and retest.

**G.7.j Aggregate Specific Gravity(Gsb)..... Laboratory Manual Methods 1204, 1205, 1815**

Sample and test aggregate stockpiles to verify aggregate specific gravity if directed by the Engineer in conjunction with the District Materials Engineer. Provide 90 lb [40 kg] representative stockpile samples for each aggregate component. Split samples in half to provide material for both the Department and the Contractor. Label the Department companion with the following information:

- (1) Date,
- (2) Time,
- (3) Project number, and
- (4) Approximate cumulative tonnage to date.

Give the Department companion to the Department Street Inspector or Plant Monitor immediately after splitting or to the Materials Engineer within 24 h of sampling as directed by the Engineer. The Materials Engineer will compare the aggregate specific gravity results to the Contractor's values on the current Mix Design Report. If the results deviate beyond the tolerance in accordance with Table 2360-16, "Allowable Differences between Contractor and Department Test Results," the Materials Engineer will notify the Contractor and issue a new Mix Design Report with the current specific gravity results. Base new mixture placed after receiving notification of new specific gravity values on the Department results. The Engineer will notify the Contractor regarding new specific gravity values. The dispute resolution procedure for aggregate specific gravity is on the Bituminous Office website.

**G.7.k Moisture Content ..... Laboratory Manual Method 1855**

Provide a mixture with moisture content no greater than 0.3 percent. Measure moisture content in the mixture behind the paver or, if approved by the Engineer, in the truck box. Sample and test as directed by the Engineer. Store the sample in an airtight container. Do not perform microwave testing.

Do not provide plant mixed asphalt with a moisture content greater than 0.3 percent.

**G.7.l Asphalt Binder Samples**

Obtain asphalt binder samples from a sampling valve located between the pump and the drum. Sample each type of asphalt binder used in mixture production after 50 tons of mixture has been produced, then sample at a rate of one per 250,000 gal [1,000,000 L. A minimum of 1 gallon of binder must be drawn and wasted

from the sampling valve before the actual sample is drawn. For batch plants, obtain the asphalt binder sample from the weigh pod. Provide a 1 qt [1.0 L] sized sample. The Inspector will monitor the sampling the Contractor performs. Record sample information on an Asphalt Sample Identification Card. Submit the sample to the Central Materials Laboratory. Contact the Department Chemical Laboratory Director for disposition of failing asphalt binder samples.

#### G.8 Documentation

Maintain documentation, including test summary sheets and control charts, on an ongoing basis. Maintain a file of gyratory specimen heights for gyratory compacted samples and test worksheets. File reports, records, and diaries developed during the work as directed by the Engineer. These documents become the property of the Department.

Number test results in accordance with the MDR and record on forms approved and provided by the Department.

Send production test results on test summary sheets to the District Materials Laboratory and to other sites as directed by the Engineer by 11 AM of the day following production by facsimile, or e-mail when approved by the Engineer.

Include the following production test results and mixture information on the Department approved test summary sheet:

- (1) Percent passing on all sieves in accordance with Table 3139-2 (including No. 16, No. 30, No. 50, No. 100),
- (2) Coarse and fine aggregate crushing,
- (3) Maximum specific gravity ( $G_{mm}$ ),
- (4) Bulk specific gravity ( $G_{mb}$ ),
- (5) Percent total asphalt binder content ( $P_b$ ),
- (6) New added asphalt binder content,
- (7) Ratio of % new added asphalt binder to total asphalt binder,
- (8) Calculated production air voids ( $V_a$ ),
- (9) Calculated adjusted AFT (Adj. AFT),
- (10) Composite aggregate specific gravity ( $G_{sb}$ ) reflecting current proportions,
- (11) Aggregate proportions in use at the time of sampling,
- (12) Tons where sampled,
- (13) Tons represented by a test and cumulative tons produced,
- (14) Fines to effective asphalt ratio ( $F/A_e$ ),
- (15) Signature Line for MnDOT and Contractor Representative,
- (16) Mixture Moisture Content, and
- (17) MnDOT verification sample test result.
- (18) Identify, when used, the WMA additive or process and dosing rates.

Submit copies of failing test results to the Engineer on a daily basis.

Provide the Engineer with asphalt manifests or bill of lading's (BOL) on a daily basis.

Provide a daily plant diary, including a description of QC actions taken. Include changes or adjustments on the test summary sheets.

Provide weekly truck scale spot checks.

Provide a Department approved accounting system for mixes and provide a daily and final project summary of material quantities and types.

Provide a final hard and electronic copy of QC test summary sheets and control charts, and density worksheets at completion of bituminous operations on the project to the Engineer.

Provide an automated weigh scale and computer generated weigh ticket. Ensure the ticket indicates the following information:

- (1) Project number,
- (2) Mix designation, including binder grade,
- (3) Mixture Design Report number,
- (4) Truck identification and tare,
- (5) Net mass, and
- (6) Date and time of loading.

Do not include deviations from the minimum information on the computer generated weigh ticket unless otherwise approved by the Engineer in writing.

Continue test summary sheets, charts, and records for a mixture produced at one plant site from contract to contract. Begin new summary sheets and charts annually for winter carry-over projects. Begin new summary sheets and charts when an asphalt plant is re-setup in the same location after it has moved out.

Furnish an electronic printout (long form recordation) from an automated plant blending control system at 20 minute intervals when the plant is producing mixture. The Engineer may waive this requirement if the plant does not have the capability to produce the automated blending control information; however, the Contractor must then perform daily spotchecks to determine percent new asphalt added.

Include the following information on the plant control printout for Drum Plants:

- (1) Both the virgin and recycle belt feed rates (tons/hr),
- (2) Feeder bin proportions (%),
- (3) Total % asphalt cement in the mixture,
- (4) Virgin asphalt cement added (%)
- (5) Mixture Temperature °F [°C],
- (6) Mixture code,
- (7) Date and time stamp, and
- (8) Current tons of mixture produced and daily cumulative tons of mixture produced at time of printout.

Provide a daily electronic printout of the plant calibration (SPAN) numbers for each bin and meter.

Include the following information on the plant control printout for Batch Plants:

- (1) Both the virgin and recycle belt feed rates (tons/hr),
- (2) Feeder bin proportions (%),
- (3) Mixture Temperature °F [°C],
- (4) Mixture code,
- (5) Date and time stamp, and
- (6) Current tons of mixture produced and daily cumulative tons of mixture produced at time of printout.

Provide a daily electronic printout of the plant calibration (SPAN) numbers for each bin and meter.

G.9

Control Charts

Provide control charts and summary sheets computer generated from software approved by the Engineer. The Contractor may use software available at the Bituminous Office. Record the following data on standardized control charts:

- (1) Blended aggregate gradation, include sieves in accordance with Table 3139-2 for specified mixture;
- (2) Percent asphalt binder content ( $P_b$ );
- (3) Maximum specific gravity ( $G_{mm}$ );
- (4) Production air voids ( $V_a$ ); and
- (5) Adj. AFT.

Unless otherwise directed by the Engineer, plot individual test results for each test point and connect individual points with a solid line. Plot the moving average for each test variable starting with the fourth test and connect with a dashed line. Plot the Department's QA and verification test results with triangles. Plot the specification JMF limits on the control charts using a dotted line.

**G.10 JMF Limits**

Base the production air voids and Adj. AFT on the minimum specified requirements in accordance with Table 2360-7, "Mixture Requirements." Base gradations and asphalt binder content limits on the current Department reviewed Mixture Design Report. Provide gradation control sieves in accordance with Table 3139-2. Refer to the Mixture Design Report for the mixture production targets. JMF limits are the target plus or minus the limits in accordance with Table 2360-14, "JMF Limits (N=4)." Use JMF limits as the criteria for acceptance of materials based on the moving average.

Table 2360-14 JMF Limits (N=4)	
Item	JMF Limits
Adj. AFT	- 0.5
Production air voids, %	± 1.0
Asphalt binder content, %	- 0.4
Sieve, % passing:	
1 in [25.0 mm], ¾ in [19.0 mm], ½ in [12.5 mm], ¼ in [9.5 mm], No. 4 [4.75 mm]	Broad band limits
No. 8 [2.36 mm]	Broad band limits
No. 200 [0.075 mm]	Broad band limits

**G.11 Moving Average Calculation**

Calculate a moving average as the average of the last four test results. Continue the calculation without interruption, except begin new summary sheets and charts annually for winter carry-over projects and if an asphalt plant is re-setup in the same site after it has been moved out.

**G.12 JMF Bands**

JMF Bands are the area between the target, as identified on the Mixture Design Report, and the JMF limits.

**G.13 JMF Adjustment**

Begin mixture production with aggregate proportions within 5 percent of the design proportions and mixture parameters in Table 2360-14 within the JMF limits shown. Use all the aggregate proportions included on the Mixture Design Report unless the aggregate proportion is shown as 0 percent. If the Contractor provides the District Materials Laboratory with prior documented production data showing how production affects the mixture properties or if the Contractor provides the District Materials Laboratory with a written justification or explanation of material changes since the original mixture submittal waive the preceding requirements.

**G.13.a JMF Request for Adjustment**

The Contractor may make a request to the Bituminous Engineer or District Materials Engineer for a JMF adjustment to the mix design if the QC test results indicate a necessary change to achieve the specified properties. Do not use aggregates or materials not part of the original mix design to make adjustments unless otherwise approved by the Engineer, in conjunction with the District Materials Engineer or the Department Bituminous Engineer.

A Certified Level II Bituminous QM Mix Designer will review the requested change for the Department. If the request meets the design requirements in Table 3139-2, "Aggregate Gradation Broad Bands", Table 3139-3, "Mixture Aggregate Requirements", and Table 2360-7, "Mixture Requirements," the Department will issue a revised Mixture Design Report. Each trial mixture design submittal in accordance with 2360.2.E, "Mixture Design" may have three JMF adjustments per mixture per project without charge. The Department will charge the Contractor \$500 for each additional JMF adjustment requests.

Perform an interactive process with the Engineer before making JMF adjustments. Make JMF adjustments only within the mixture specification gradation design broadbands in accordance with Table 3139-2. Submit a new JMF if redesigning the mixture. Only reduce the JMF asphalt content if the moving average Adj. AFT is  $8.5\mu$  or more and Individual Adjusted AFT is at least  $7.5\mu$ .

The department will not allow consecutive requests for a JMF adjustment without production data. Continue calculation of the moving average after the approval of the JMF.

**G.13.b JMF Request for Adjustment for Proportion Change > 10%**

If requesting a JMF adjustment for a proportion change greater than 10 percent from the currently produced mixture for a single stockpile aggregate, provide supporting production test data from at least four tests run at an accelerated testing rate of one test per 500 ton [450 tonne] with the adjustment request. The Department will base acceptable verification and approval of the requested JMF on individual and moving average test results in addition to the requirements listed above. Individual test results must be within twice the requested JMF limits for percent asphalt binder, production air voids, and Adj. AFT. Individual gradations must be within the Broad Bands. The moving average values must be within the control limits in accordance with Table 2360-14. Continue to calculate the moving average after the change in proportions.

If the mixture meets the design requirements as discussed in G.13.a, the District Materials Laboratory will sign the request for JMF adjustment effective from the point of the proportion change. If the mixture fails to meet the design requirements, the Department will either reduce the payment or direct the Contractor to remove and replace. Do not make consecutive requests for JMF adjustments without production data.

**G.13.c JMF Request for Adjustment When Cumulative Proportion Changes > 10%**

Submit a request for JMF adjustment when the cumulative change on any one product exceeds 10% from the original MDR. The Department will issue a revised MDR provided the mixture meets the requirements in Table 3139-2, "Aggregate Gradation Broad Bands", Table 3139-3, "Mixture Aggregate Requirements", and Table 2360-7, "Mixture Requirements".

**G.14 Failing Materials**

The Department will base material acceptance on individual and moving average test results. The Department will use isolated test results for acceptance of air voids at the start of mixture production. The Department will consider individual test results greater than two times the JMF bands as failing. The Department will fail moving average test results exceeding the JMF limits. Begin new summary sheets annually for winter carry-over projects.

Stop production and make adjustments if the moving average values exceed the JMF limits. Restart production after performing the adjustments and notifying the Engineer. Resume testing at the accelerated rates and for the tests listed in Table 2360-10, "Production Start-Up Testing Rates," for the next 2,000 ton [1,800 tonne] of mixture produced. Continue calculating the moving average after the stop in production.

The Department will consider mixture produced where the moving average of four exceeds the JMF limits as unsatisfactory in accordance with 2360.2.G.14.d, "Moving Average Failure at Mixture Start-Up - Production Air Voids," 2360.2.G.14.e, "Moving Average Failure at Mixture Start-Up - Adjusted AFT," 2360.2.G.14.f, "Moving Average Failure - Production Air Voids," and 2360.2.G.14.g, "Moving Average Failure - Percent Asphalt Binder Content, Gradation, and Adj. AFT."

If the total production of a mixture type for the entire project requires no greater than four tests the Department will accept the material in accordance with 2360.2.G.14.b, "Isolated Failures at Mixture Start-Up - Production Air Voids," and 2360.2.G.14.c, "Individual Failure - Gradation, Percent Asphalt Binder, Production Air Voids, and Adj. AFT."

If the Contractor's testing data fails to meet the tolerances in accordance with Table 2360-9, "Allowable Differences between Contractor and Department Test Results," the Department will substitute QA and verification data to determine the payment factor.

**G.14.a Ratio of New Added Asphalt Binder to Total Asphalt Binder - Acceptance Criteria**

Minimum design ratio of new added asphalt binder to total asphalt binder is shown in Table 2360-15 below. During production the ratio must meet individual and moving average requirements as listed in Table 2360-15, "Ratio of New Added Asphalt Binder to Total Asphalt Binder Acceptance Criteria". If the individual or moving average ratio drops below the minimum requirement, the Contractor must stop production and make adjustments to correct the process. Restart production only after notifying the Engineer of the adjustments made. The calculation of the moving average will continue after the stop in production.

Table 2360-15 Ratio of New Added Asphalt Binder to Total Asphalt Binder Acceptance Criteria			
Specified Asphalt Grade	Recycled Material		
	RAS Only	RAS + RAP	RAP Only
PG XX-28, PG 52-34, PG 49-34, PG 64-22 Wear (ind./moving average)	66/70	66/70	66/70
Non-Wear (ind./moving average)	66/70	66/70	61/65
PG 58-34, PG 64-34, PG 70-34 Wear & Non-Wear (ind./moving average)	76/80	76/80	76/80

**G.14.b Isolated Failures at Mixture Start-Up - Production Air Voids**

At the start-up of mixture production, use the first three isolated test results for production air voids before establishing a moving average of four. Calculate isolated production air voids using the maximum mixture specific gravity and the corresponding bulk specific gravity from that single test. After testing four samples and establishing a moving average of four, the Department will base acceptance on individual and moving average production air voids.

The Department will not accept the material if any of the first three isolated test results for production air voids exceeds twice the JMF bands from the target listed on the Mixture Design Report at the start of production. The Department will reduce payment for unacceptable material in accordance with Table 2360-16, "Reduced Payment Schedule for Individual Test Results." The Department will calculate the quantity of unacceptable material on the tonnage placed from the sample point of the failing test to the sample point when the isolated test result is back within twice the JMF bands. If the failure occurs at the first test after the start of production, the Department will calculate the tonnage subject to reduced payment as described above, including the tonnage from the start of production.

If isolated air voids are less than 1.0 percent or greater than 7.0 percent, the Engineer will either reduce the payment or order the material removed and replaced at no additional cost to the Department. The Engineer may require the Contractor to test in-place mixture to better define the removal and replacement limits. The Engineer may require the Contractor to test in-place mixture placed before the failing test result. If the Engineer reduces the payment, the Department will pay for the material at 50 percent of the contract unit price.

**G.14.c Individual Failure – Percent Asphalt Binder, Production Air Voids, and Adj. AFT**

Table 2360-16 Reduced Payment Schedule for Individual Test Results	
Item	Pay Factor, % *
Coarse and fine aggregate crushing	90
Asphalt binder content	90
Production air voids, individual    and isolated †	80
* Apply the lowest pay factor when using multiple reductions on a single test.    Calculate individual air voids using the moving average maximum specific gravity and the bulk specific gravity from that single test. † Calculate the isolated air voids from the maximum specific gravity and the bulk specific gravity from that single test. The Engineer will only use isolated void test results for acceptance for the first three tests after mixture production start-up.	

If the individual test result for adjusted AFT is less than 7.5 $\mu$ , the Department may either reduce payment in accordance with Table 2360-17, "Reduced Payment Schedule for Individual Test Results, Adjusted AFT," or order the material removed and replaced represented by the individual test. This tonnage includes all material placed from the sample point of the failing test to the sample point when the test result meets specification requirements. If the failure occurs at the first test after the start of daily production, the Department will include the tonnage from the start of production that day with the tonnage subject to reduced payment or removal and replacement.

Table 2360-17 Reduced Payment Schedule for Individual Test Results, Adjusted AFT	
Individual Adjusted AFT, $\mu$	Pay Factor, %
$\geq 7.5$	100
7.4 – 7.0	90
6.9 – 6.1	75
$\leq 6.0$	R&R <sup>(*)</sup>
* Remove and replace at no expense to the Department.	

The Department will not accept material if the individual tests for percent asphalt binder content or production air voids exceeds twice the JMF bands from the target listed on the Mix Design Report. The Department will reduce payment in accordance with Table 2360-16, "Reduced Payment Schedule for Individual Test Results." The Department will calculate the material subject to reduced payment as the material placed from the sample point of the failing test until the sample point when the test result is back within twice the JMF limits. If the failure occurs at the first test after the start of daily production, the Department will include tonnage from the start of production that day with the tonnage subjected to reduced payment.

The Department will not accept material if individual air voids are less than 1.0 percent or greater than 7.0 percent, Remove and replace unacceptable material at no additional cost to the Department as directed by the Engineer. Test in-place mixture to better define the area to be removed and replaced as directed by the Engineer. Test mixture placed before the failing test result as directed by the Engineer. The Department may reduce payment for unacceptable material at 50 percent of the relevant contract unit price.

**G.14.d Moving Average Failure at Mixture Start-Up — Production Air Voids**

If a moving average failure occurs within any of the first three moving average results after mixture start-up (tests 4, 5, 6), the Department will accept the mixture if the individual air void, corresponding to the

moving average failure meets the JMF limits. The Department will not accept material if the individual air void fails to meet the JMF limit. The Department will reduce payment for unacceptable material unless the Engineer determines that the isolated air void corresponding to the individual air void meets the JMF limit. The Department will pay for unacceptable material at 70 percent of the relevant contract unit price. The Department will calculate the quantity of material subject to reduce payment as the tons placed from the sample point of the failing moving average result and corresponding individual air void beyond the JMF limit to the sampling point when the individual test result is back within the JMF limit. If the failure occurs at the first test after the start of daily production, the Department will include tonnage from the start of production that day with the tonnage subjected to reduced payment.

**G.14.e Moving Average Failure at Mixture Start-Up — Adj. AFT**

The Engineer will calculate the Moving Average (n=4) Adj. AFT during the sixth test after the beginning of mixture production of that specific mixture. The Engineer will include the individual results of calculations for tests No. 3, No. 4, No. 5, and No. 6 with this calculation.

**G.14.f Moving Average Failure — Production Air Voids**

A moving average production air void failure occurs when the individual production air void moving average of four exceeds the JMF limit. The Department will consider the mixture unacceptable and subject to reduced payment. The Department will pay for unacceptable mixture at 70 percent of the contract unit price. The Department will calculate the quantity of mixture subject to reduced payment as the tons placed from the sample point of all individual test results beyond the JMF limits, which contributed to the moving average value that exceeded the JMF limit, to the sampling point where the individual test result meets the JMF limits. If the failure occurs at the first test after the start of daily production, the Department will include the tonnage from the start of production that day with the tonnage subject to reduced payment.

Item	Pay Factor, % *
Gradation	.90
Coarse and fine aggregate crushing	NA (individual failures only)
Adjusted AFT	80
Asphalt binder content	80
Production air voids	70
* Lowest Pay Factor applies when there are multiple reductions on a single test.	

**G.14.g Moving Average Failure - Percent Asphalt Binder Content, Gradation, and Adj. AFT**

The Engineer will consider the mixture unacceptable and subject to reduced payment for mixture properties, including asphalt binder content and gradation, where the moving average of four exceeds the JMF limits. The Department may reduce payment for unacceptable mixture properties in accordance with Table 2360-18, "Reduced Payment Schedule for Moving Average Test Results." The Department will calculate the quantity of material subject to replacement or reduced payment as the tons placed from the sample point of all individual test results beyond the JMF limits, which contributed to the moving average value that exceeded the JMF limit, to the sampling point when the individual test result is back within the JMF limits. If the failure occurs at the first test after the start of daily production, the Department will include the tonnage from the start of production that day with the tonnage subjected to reduced payment.

The Engineer will calculate the Moving Average (n=4) Adjusted AFT during the sixth test after the beginning of mixture production of that specific mixture. The Engineer will include the individual results of calculations for tests No. 3, No. 4, No. 5, and No. 6 with this calculation. The Department will consider material with the Moving Average (n=4) of the Adjusted AFT is less than 8.0 μ as unsatisfactory and will pay for the material at 80 percent of the relevant contract unit price. The Department will calculate the quantity of material subject to replacement or reduced payment as the tons placed from the sample point of all Individual Adjusted AFT results less than 8.0μ, which contributed to the Moving Average value that was less than 8.0μ, to the sample point

where the Individual Adjusted AFT is at least 8.0 $\mu$ . If the failure occurs at the first test after the start of daily production, the Department will include the tonnage from the start of production that day with the tonnage subject to reduced payment.

**G.14.h Coarse and Fine Aggregate Crushing Failure**

If any CAA or FAA test results do not meet the requirements specified in Table 3139-3, the Department may reduce payment for the placed material in accordance with Table 2360-16, "Reduced Payment Schedule for Individual Test Results." The Department will calculate the quantity of material subject to reduced payment as the tons placed from the sample point of the failing test until the sampling point where the test result meets the specifications. If the failure occurs at the first test after the start of daily production, the Department will include the tonnage from the start of production that day with the tonnage subjected to reduced payment.

**2360.3 CONSTRUCTION REQUIREMENTS**

**A Restrictions**

**A.1 Asphalt Release Agents**

Do not use petroleum distillates to prevent adhesion of asphalt mixtures to equipment. An asphalt release agent must meet the criteria for "Effect on Asphalt" as described in the most recent Asphalt Release Agent on file in MnDOT's Office of Environmental Services.

**A.2 Edge Drop Off**

When construction is under traffic, the requirements of 2221.3.D will apply.

**A.3 Surge and Storage Bins**

Store the asphalt mixture for no more than 18 h at storage facilities that prevent segregation of the mix and drainage of asphalt from the mix. Maintain the mixture at within 9 °F [5 °C] of the temperature when discharged from the silo or mixer and prevent excessive cooling or overheating.

**A.4 Weather Limitations and Paving Date**

Do not perform work within the roadway in the spring until removal of seasonal load restrictions on roads in the vicinity unless otherwise approved by the Engineer.

Do not place asphalt mixtures when weather or roadbed conditions or moisture conditions of the roadway surface are judged unfavorable by the Engineer.

Do not place asphalt pavement final wearing course lift after October 15 north of an east-west line between Browns Valley and Holyoke, or after November 1 south of an east-west line between Browns Valley and Holyoke. The Engineer may waive these restrictions when:

- (1) The Contractor is not placing asphalt mixture on the traveled portion of the roadway,
- (2) The roadway involved is closed to traffic during the following winter, or
- (3) The Engineer provides written direction to place the mixture.

**A.5 Mixing and Discharge of Materials**

Notify the Engineer of the recommended plant mixing temperatures as provided from the asphalt supplier. Unless authorized by the Engineer, do not produce the mixture more than 30°F above the recommended maximum mixing temperature. Use the automated plant control printout to monitor discharge temperature. The Department will not pay for or allow placement of any mixture produced at more than 30°F above the recommended maximum mixing temperature unless the higher mixing temperatures have been approved by the Engineer.

**B Equipment**

**B.1 Plant**

**B.1.a Segregation**

Provide plant mixed asphalt from a plant capable of producing a uniform mix free of segregation.

**B.1.b Scales**

Test and calibrate scales in accordance with 1901.

**B.1.c Mineral Filler**

Add mineral filler to the mixture using a storage silo equipped with a device to ensure a constant and uniform feed.

**B.1.d Storage Tanks**

Provide storage tanks equipped to heat and maintain the material at the temperatures recommended by the certified asphalt supplier. Place the discharge end of the circulating line below the surface of the asphalt material. Provide agitation for modified asphalt as recommended by the supplier.

Provide an outage table or chart and measuring stick for each storage or working tank. Equip tanks with provisions to take asphalt binder material samples. After delivery of asphalt binder material to the project, do not heat the material at temperatures greater than 350° F [175° C]. Do not store modified asphalt at temperatures greater than the manufacturer's recommendation.

**B.1.e Asphalt Binder Control**

If proportioning asphalt binder material by volume, equip the plant with either a working tank or a metering system to determine asphalt binder content of the mixture.

Provide a working tank with a capacity from 1,000 gal to 2,000 gal [3,800 L to 7,600 L]. Calibrate and supply the working tank with a calibrated measuring stick. The Contractor may connect the tank to a mixing unit and use it only during spot check operations as long as it is available at all times. Return feedback to the working tank during spot check operations.

Provide a metering system with at least one approved asphalt binder flow meter and a asphalt binder pump. Connect the flow meter to the asphalt binder supply to measure and display only the asphalt binder being fed to the mixer unit. Position the meter readout for convenient observation. Provide a means to compare the flow meter readout with the calculated output of the asphalt binder pump. Provide a system to display that shows the accumulated asphalt binder quantity being delivered to the mixer in gallons [liters] or to the nearest 0.001 ton [0.001 tonne]. Calibrate and adjust the system to maintain an accuracy of  $\pm 1$  percent error for each plant set-up before producing the mixture.

Provide an outage table or chart and measuring stick for each storage or working tank. Equip tanks with provisions to take asphalt binder material samples. After delivery of asphalt binder material to the project, do not heat the material at temperatures greater than 350° F [175° C]. Do not store modified asphalt at temperatures greater than the manufacturer's recommendation.

**B.1.e (1) Asphalt Binder Sampling Valve**

Provide an asphalt binder sampling valve located between the pump and the drum. Sample asphalt binder from the weigh pod for batch plants.

**B.1.f Dryer**

The Department will not allow unburned fuel in the mix.

**B.1.g Temperature Control**

Equip the plant with enough temperature sensors to ensure temperature control of the aggregate and asphalt binder.

**B.1.h Pollution .....1717**

**B.2 Street Equipment**

**B.2.a Paver**

Provide a paver capable of spreading and finishing to widths as shown on the plans and with an operational vibratory screed and automatic screed control to place mix without segregation.

Use an asphalt paver to place the mixture. When necessary, the Contractor may use a motor grader, when approved by the Engineer, to spread mixtures in areas that are inaccessible to a paver or when the quantity of mixture makes it impractical to place with a paver.

Use a shouldering machine to spread the mixture on shoulder surfacing and uniform width widening, when the placement width is too narrow for a paver.

Using a screed or strike-off assembly, produce a finished surface of the required evenness and texture without tearing, shoving, or gouging. For mainline paving, if the paving width is greater than the basic screed, auger and mainframe extensions, which meet manufacturer's recommendations for the paving width, are required unless otherwise directed by the Engineer. The Department will not allow strike-off only extension assemblies for mainline wearing course paving, unless the Engineer directs otherwise.

Equip all pavers with an approved automatic screed control. Sensor-operated devices need to include automatic controls that follow reference lines, or surfaces on one or both sides of the paver as required. Adjust the speed of the paver to produce the best results. A string line is only required if stated in the contract.

Spread all mixtures without segregation to the cross sections shown on the plans (excluding tight blade and scratch course applications). The objective on the leveling layer is to secure a smooth base of uniform grade and cross section so that subsequent courses will be uniform in thickness. The Contractor may spread the leveling layer with a properly equipped paver or, when approved by the Engineer, a motor grader equipped with a leveling device or with other means for controlling the surface elevation of the leveling layer.

Place each course over the full width of the section under construction on each day's run, unless the Engineer directs otherwise.

**B.2.b Trucks**

Provide trucks with tight, clean, and smooth truck haul beds. Do not allow mixture to adhere to the truck beds. When directed by the Engineer, provide a cover that extends at least 1 ft [300 mm] over the truck bed sides and attach to tie-downs, if the truck is not equipped with a mechanical or automated covering system.

**B.2.c Motor Graders**

Use a motor grader with the following characteristics:

- (1) Self-propelled,
- (2) Equipped with pneumatic tires with a tread depth of ½ in [13 mm] or less,
- (3) Equipped with a moldboard blade that is at least 10 feet [3 m], and
- (4) With a wheelbase of at least 15 feet [4.5 m].

**B.2.d Distributor**

Provide a distributor capable of uniformly applying material up to 15 ft [4.6 m] wide and equipped with the following:

- (1) An accurate volume measuring device with tachometer,
- (2) Pressure gauges,
- (3) Thermometer for measuring temperatures of tank contents,
- (4) Power-operated pump, and
- (5) Full circulation spray bars with lateral and vertical adjustments.

**B.2.e Rollers**

Compact each lift of asphalt to the density require in 2360.3.D, "Compaction."

**B.2.e(1) Steel-Wheeled Rollers**

Self-propelled steel wheeled compacting equipment must weigh at least 8 ton [7.3 tonne]. If using vibratory rollers, provide rollers that produce 3,085 lbf per ft [45 kN per m] of width and a vibratory frequency of at least 2,400 vpm using the low amplitude setting. Provide a roller capable of reversing without backlash and equipped with spray attachments for moistening rollers on both sets of wheels.

**B.2.e(2) Pneumatic Tired Rollers**

Self-propelled pneumatic tired compacting equipment must have a compaction width of at least 5 ft [1.5 m] and a gross wheel load force of at least 3,000 lb [13 kN] per wheel for traffic level 2 and level 3 mixtures, 5,000 lb [22 kN] per wheel for traffic level 4 and level 5 mixtures, and, if using vibratory, at least 8 ton [7.3 tonne] total mass. Provide a roller with a tire arrangement that obtains full compaction over the full width with each pass of the roller.

**B.2.e(3) Trench Rollers**

Self-propelled trench rollers must weigh at least 2,960 lb per foot [4,400 kg per meter] of width.

**B.3 Tack Coat**

Apply a uniform asphalt tack coat to the clean and dry existing asphalt or concrete surface and to the surface of each course or lift constructed, except for the final course or lift, in accordance with 2357. Coat the contact surfaces of all fixed structures and the edge of the in-place mixture in all courses at transverse joints and in the wearing course at longitudinal joints. Do not coat the longitudinal joint if a rubberized asphalt joint adhesive will be applied to the vertical face of the joint. A uniform application will not have streaks (corn rows), bare spots, puddles, or other irregular patterns. Allow emulsified asphalt tack coats to break, as indicated by a color change from brown to black, before placing subsequent lifts. Take tack samples from the asphalt distributor according to rates provided in the Material Control Schedule. The Inspector will monitor the sampling the Contractor performs.

**C                    Joints**

**C.1                  Construction Joints**

Compact joints to produce a neat, tightly bonded joint that meets surface tolerances as described in 2360.3.E. Transverse and longitudinal joints are subject to the density requirement in accordance with 2360.3.D, "Compaction."

**C.2                  Transverse Joints**

Construct a transverse joint, the full width of the paver, at right angles to the centerline when mixture placement operations are suspended. When work resumes, cut the end vertically for the full depth of the layer unless constructing a formed edge as approved by the Engineer.

**C.3                  Longitudinal Joint**

Construct the longitudinal joint between strips and parallel to the pavement centerline. In multiple lift construction, construct the longitudinal joints between strips in each lift at least 6 in [150 mm] measured transversely from the longitudinal joints in the previously placed lift. If constructing a wearing course in an even number of strips, place one longitudinal joint on the centerline of the road. When constructing a wearing course in an odd number of strips, locate the centerline of one strip on the centerline of the road, provided that no joint is located in the wheel path area of a traffic lane. The Contractor will align longitudinal joints in multiple-lift construction over portland cement concrete pavements directly over the concrete pavement longitudinal joints as approved by the Engineer.

At longitudinal joints formed by placing multiple strips, ensure the adjoining surface is higher but does not exceed  $\frac{1}{8}$  in [3 mm], after final compaction of the previously placed strip. When constructing a strip adjoining a previously placed strip or a concrete pavement, remove to the longitudinal joint line, any fresh mixture that overlaps a previously placed strip or pavement before rolling.

**D                    Compaction**

After spreading each course, compact in accordance with the maximum density method as described in 2360.3.D.1, unless the ordinary compaction method is called for in the special provisions or as described in 2360.3.D.2, "Ordinary Compaction." Do not allow rollers to stand on the uncompacted mixture or newly rolled pavement with a surface temperature greater than 140 °F [60 °C]. Do not roll with steel-wheeled rollers if rolling produces aggregate that is crushed, cracked, or pulverized or causes displacement of the mixture.

To maintain a true surface, correct the following by removing and replacing the material in the defective areas as directed by the Engineer at no additional cost to the Department:

- (1) Variations such as depressions or high areas, which may develop during rolling operations; and
- (2) Lean, fat, or segregated areas.

When spreading mixtures with a motor grader, compact the mixture with pneumatic tired rollers simultaneously with the spreading operation.

**D.1                  Maximum Density**

Compact the pavement to at least the minimum required maximum density values in accordance with Table 2360-19, "Required Minimum Lot Density (Mat)," and Table 2360-20, "Longitudinal Joint Density Requirement." Density evaluation will include compacted mat density and compacted longitudinal joint density. Density evaluation will not include longitudinal joint density on lifts with a 1 percent reduced density requirement.

Table 2360-19 Required Minimum Lot Density (Mat)				
	SP Wear Mixtures*	SP Non-Wear Mixtures*	SP Shoulders*	
			Designed at 3% Voids	Designed at 4% voids
% Gmm	92	93	93	92
* Reduce the minimum by 1 percent on the first lift constructed over PCC pavements.    Reduce the minimum by 1 percent for the first lift constructed on aggregate base (mainline and shoulder), reclaimed or cold in place recycled base courses and first lift of an overlay on roadway with a spring load restriction no greater than 7 ton [6.35 tonne], including shoulders.				

Table 2360-20 Longitudinal Joint Density Requirement		
Location	Confined Edge of Mat*	Unconfined Edge of Mat
Long joint wear and shoulder (4% air voids)	89.5	88.1
Long joint non-wear and shoulder (3% air voids)	90.5	89.1
* The Department defines "confined" as the edges of the placed mat abutting another mat, pavement surface, or curb and gutter.    The Department defines "unconfined" or "unsupported" as no abutment on the side of the mat being placed with another mat or pavement surface.		

**D.1.a Shoulders Greater Than 6 ft [1.8 m]**

Unless otherwise shown on the plans or required by the special provisions, compact shoulders wider than 6 ft [1.8 m] paved using the maximum density method. When shoulders are compacted by the maximum density method and are paved separately from the driving lane, or have a different required minimum density than the driving lane, delineate the lot tonnage placed on the shoulder in separate lots from the driving lanes for the day paving was conducted.

**D.1.b Shoulders Equal to or Less Than 6 ft [1.8 m]**

Unless otherwise shown on the plans or required by the special provisions, use the ordinary compaction method in accordance with 2360.3.D.2 to compact a narrow shoulder no wider than 6 ft [1.8 m] paved in the same pass as a driving lane or paved separately. The Department will exclude mixture compacted under ordinary compaction from lot density requirements and from incentive or disincentive payment.

When compacting a narrow shoulder using the maximum density method, compact to densities in accordance with Table 2360-19. If the minimum required density of the shoulder is different than the driving lane, delineate the tonnage placed on the shoulder in separate lots from the driving lane.

**D.1.c Echelon Paving**

The Department considers echelon paving, two pavers running next to each other in adjacent lanes, as separate operations.

**D.1.d Density Determination (Core Bulk Density)**

Calculate each individual lot's maximum density by averaging the results of the cores within the lot expressed as the percentage of the maximum specific gravity. Use Laboratory Test Method 1810 to determine core density unless the mixture is considered coarse graded. If 45 percent or less of the aggregate material passes the No. 4 [4.75 mm] sieve the Engineer may require bulk specific gravity be determined in accordance with Laboratory Manual Method 1816, Corelok.

Obtain the maximum specific gravity value for calculating the percentage density for the lot from the maximum gravity values taken from production tests during that day's paving. If the production tests during that day's paving result in only one or two maximum specific gravity values, use the moving average value at that test point. If production tests during that day's paving result in three or more maximum specific gravity values, use the average of those tests alone as indicated above.

**D.1.e Timeline**

Complete compaction within 8 h of mixture placement and before obtaining core samples. Only use pneumatic tired or static steel rollers for compaction performed between 6 h and 8 h after mixture placement. Do not reroll compacted mixtures with deficient densities.

**D.1.f Stop Production**

If all the lots in a day's production or greater than 50 percent of the lots on multiple days fail to meet the minimum density requirement stop production and determine the source of the problem. Discuss with the Engineer what corrective action will be taken to bring the work into compliance with specified minimum required density.

**D.1.g Lot Determination**

Table 2360-21 Lot Determination	
Daily Production, ton [tonne]	Lots
300* – 600 [270* – 545]	1
601 – 1,000 [546 – 910]	2
1,001 – 1,600 [911 – 1,455]	3
1,601 – 2,600 [1,456 – 2,360]	4
2,601 – 4,600 [2,361 – 4,175]	5
> 4,600 [4,175]	
* If producing no greater than 300 ton [270 tonne] of mix, establish the first lot when the total weight is greater than 300 ton [270 tonne].	
Add one lot for each additional 900 tons [820 tonne] or part thereof.	

**D.1.h Mat Density Cores**

Obtain four cores in each lot. Take two cores from random locations as directed by the Engineer. Take the third and fourth cores, the companion cores, within 1 ft [0.3 m] longitudinally from the first two cores. Submit the companion cores to the Engineer immediately after coring and sawing. If the random core location falls on a longitudinal joint, cut the core with the outer edge of the core barrel 1 ft [0.3 m] away laterally from the edge of the top of the mat. Do not take cores for compacted mat density within 1 ft [300 mm] of any longitudinal joint. The Contractor is responsible for maintaining traffic, coring, patching the core holes, and saving the cores to the paved lift thickness before density testing.

The Engineer may require additional density lots to isolate areas affected by equipment malfunction, heavy rain, or other factors affecting normal compaction operations.

**D.1.i Contractor Core Testing**

Take and test cores at least 4 in [100 mm] in diameter at locations determined and marked by the Engineer.

Mark samples with the lot number and core number or letter. Transport the cores to the laboratory daily taking care to prevent damage to them. Schedule the approximate time of testing during normal project work

hours to allow the Engineer to observe the test and to record the saturated surface dry and immersed weight of the cores.

Determine the density by the end of the next working day after compaction. Measure each core three times for thickness before saw cutting. Report the average lift thickness on the core sheet. If placing multiple layers in a single day, saw and separate cores for each layer, test, and report by the end of the next working day. Place and compact mix into the coring hole to restore the surface within 24 h after coring or the Department will fine the Contractor \$100 per working day per lot until restored.

**D.1.j Companion Core Testing**

The Department will select at least one of the two companion cores per lot to test for verification. For lots designated as longitudinal joint density lots, the Department will test at least one of the mat density companion cores and at least one of the longitudinal joint density companion cores.

**D.1.k Tolerance Comparison**

**D.1.k(1) Tolerance Comparison – Individual**

Compare the individual core bulk specific gravities obtained by the Contractor and by the Department. If the bulk specific gravity between the Contractor and the Department cores differ by more than 0.030, use the Department's bulk specific gravity.

**D.1.k(2) Tolerance Comparison – Day's Shrinking Tolerance**

For a second comparison of the cores that pass the individual tolerance criteria, compare the average of the Contractor's bulk specific gravities with the average of the Department's bulk specific gravities. Determine the tolerance by dividing 0.030 by the square root of the number of samples compared. Use all the Department's results for the day's paving if the cores do not fall within the determined tolerance.

**D.1.l Recoring**

The Engineer may allow the Contractor to re-core a sample if the sample was damaged in the coring process or damaged in transit to the laboratory through no fault of the Contractor.

**D.1.m One Percent Reduced Density**

The Department will exclude incentive payments for reduced minimum density in accordance with Table 2360-19, "Required Minimum Lot Density (Mat)." The Contractor may elect to waive the reduced density requirement and reevaluate the density in accordance with Table 2360-19, "Required Minimum Lot Density (Mat)," including incentives, for all cases except the first lift constructed over concrete pavement. The Contractor must notify the Engineer, in writing, after the first day's paving and by the end of the third day of paving of their intent to waive reduced density. Once reduced density has been waived the normal maximum density will remain in effect for the duration of mixture placement on that lift. For multi-year projects, the waiving of reduced density will be for that year only and will be re-evaluated for subsequent years on an annual basis. The Contractor is required to comply with any construction requirements on subsequent lifts.

**D.1.n Longitudinal Joint Density**

Evaluate longitudinal joint density in one lot per day unless the total daily weight is greater than 5,000 ton [5,000 tonne]. If the total daily weight is greater than 5,000 ton [5,000 tonne], evaluate two lots per day. Randomly select the location to take cores for longitudinal joint density from the mat density core locations. Take six cores at this location. Take cores for longitudinal joint density with the outer edge of the core barrel within 6 in [150 mm] from the edge of the top of the mat for both sides of the mat. Take a companion core 1 ft [0.3 m] longitudinally from each core. Take two cores for mat density at either 2 ft [0.61 m] right or 2 ft [0.61 m] left of the center of the mat the Contractor is paving, regardless of random number generation.

**D.1.o            Imaginary Joint**

An actual longitudinal joint will not exist if pulling the shoulder and driving lane in the same paving pass. Do not cut a core on the imaginary line where a joint would have existed had the shoulder and the drive lane been paved separately.

**D.1.p            Shoulders**

**D.1.p(1)        Shoulder – Ordinary Compaction**

If compacting the shoulder under the ordinary density specification, do not take longitudinal joint cores in shoulders. Core at the centerline longitudinal edge cores (6 in [150 mm] from the joint) and at the mat density cores (2 ft [0.61 m] right or left of the center of the paving pass).

**D.1.p(2)        Shoulder-Maximum Density Specification**

Core at the following locations:

- (1)    Centerline longitudinal edge cores (6 in [150 mm] from the joint),
- (2)    Mat density cores (2 ft [0.61 m] right or left of the center of the paving pass), and
- (3)    Edge of the shoulder (6 in [150 mm] from the outside edge).

Do not cut cores on the imaginary line at the edge of the shoulder adjacent to the driving lane. Move coring locations on imaginary lines to 6 in [150 mm] inside the edge of the shoulder.

**Table 2360-22**  
**Payment Schedule for Maximum Mat Density**

SP Wear and SP Shoulders (4% Void) Density, %*	SP Non-Wear and SP Shoulders (3% Void), Density, %*	Mat Density Pay Factor A	
		Traffic Level 2 & 3	Traffic Level 4 & 5
≥ 93.6	≥ 94.6	1.03	1.05
93.1 - 93.5	94.1 - 94.5	1.02	1.04
92.0 - 93.0	93.0 - 94.0	1.00	1.00
91.0 - 91.9	92.0 - 92.9	0.98	0.98
90.5 - 90.9	91.5 - 91.9	0.95	0.95
90.0 - 90.4	91.0 - 91.4	0.91	0.91
89.5 - 89.9	90.5 - 90.9	0.85	0.85
89.0 - 89.4	90.0 - 90.4	0.70	0.70
< 89.0	< 90.0	†	†

- \* Calculate the percent of maximum specific gravity to the nearest tenth.
- || Payment will only apply if the day's weighted average individual production air voids fall within - ½ percent of the target air void value. Base the weighted average air voids on all the mixture production tests in accordance with 2360.2.G.7, "Production Tests" for the corresponding day and weight by the tons the corresponding test represents.
- † The Department will pay for the HMA material represented by the lot at 70 percent of the relevant contract unit price; unless a single core density in the lot is less than 87.0 percent of the maximum specific gravity ( $G_{mm}$ ). If a single core density is less than 87.0 percent of  $G_{mm}$ , the Engineer will decide if the mixture is subject to removal and replacement or if will be accepted at a reduced payment of 50 percent of the relevant contract unit price. If the Engineer decides the material is to be removed and replaced, the Contractor will do so at no additional cost to the Department. Take additional core samples to determine the limits of the removal and replacement area or 50% payment using the same offset from centerline as the original core. If the original low density core was taken within 1½ ft [0.45 m] of an edge of the paver pass, take the additional cores at 1½ ft [0.45 m] from the edge of the paver pass. Determine the densities at 50 ft [15 m] intervals both ahead and behind the point of unacceptable core density until finding a point of acceptable core density (>89.0% for 4% void and 1% reduced voids and >90.0% for 3% voids). If the 50 ft (15 m) incremental testing extends into a previously accepted lot, removal and replacement may be required, but, these results will not be used to recalculate the previously accepted lot density. Perform the additional coring and testing at no cost to the Department. The Department will calculate the area of unacceptable pavement as the product of the longitudinal limits as determined by the 50 ft [15 m] cores and the full width of the paver pass, laying in the traffic lane or lanes. The Department will exempt shoulders from this calculation unless density failure occurred in the shoulder area.
- Establish an additional density lot for the pavement that has been removed and replaced. Cut 2 cores randomly with companions for the Department (total 4 cores) and determine average density. Make payment in accordance with Table 2360-22 or Table 2360-23 excluding any incentive payment.
- Determine the density for the remainder of the lot by averaging the original acceptable core density value with the first two acceptable core densities taken ahead and behind the unacceptable core density. Make payment in accordance with Table 2360-22 or Table 2360-23 excluding any incentive payment.

Table 2360-23\*

1 Percent Reduced Table

SP Wear and SP Shld (4% Void) Maximum Specific Gravity, % <sup>  </sup>	SP Non-Wear, and SP Shld (3% Void), Maximum Specific Gravity, % <sup>  </sup>	Payment, %
≥ 91.0	≥ 92.0	100
90.0 – 90.9	91.0 – 91.9	98
89.7 – 89.9	90.5 – 90.9	95
89.4 – 89.6	90.0 – 90.4	91
89.2 – 89.3	89.5 – 89.9	85
89.0 – 89.1	89.0 – 89.4	70
< 89.0 <sup>†</sup>	< 89.0	†

\* Reduce the minimum by 1 percent for the first lift constructed on aggregate base (mainline and shoulder), reclaimed or cold in-place recycled base courses and first lift of an overlay on a roadway with a spring load restriction (including shoulders) no greater than 7 ton [6.35 tonne]. Reduce the minimum by 1 percent on the first lift constructed on PCC pavements (reduced density cannot be waived on PCC).

<sup>||</sup> Calculate the percent of maximum specific gravity to the nearest tenth.

<sup>†</sup> The Department will pay for the HMA material represented by the lot at 70 percent of the relevant contract unit price; unless a single core density in the lot is less than 87.0 percent of the maximum specific gravity ( $G_{mm}$ ). If a single core density is less than 87.0 percent of  $G_{mm}$ , the Engineer will decide if the mixture is subject to removal and replacement or if it will be accepted at a reduced payment of 50 percent of the relevant contract unit price. If the Engineer decides the material is to be removed and replaced, the Contractor will do so at no additional cost to the Department. Take additional core samples to determine the limits of the removal and replacement area or 50% payment using the same offset from centerline as the original core. If the original low density core was taken within 1½ ft [0.45 m] of an edge of the paver pass, take the additional cores at 1½ ft [0.45 m] from the edge of the paver pass. Determine the densities at 50 ft [15 m] intervals both ahead and behind the point of unacceptable core density until finding a point of acceptable core density (>89.0% for 4% void and 1% reduced voids and >90.0% for 3% voids). If the 50 ft (15 m) incremental testing extends into a previously accepted lot, removal and replacement may be required, but, these results will not be used to recalculate the previously accepted lot density. Perform the additional coring and testing at no cost to the Department. The Department will calculate the area of unacceptable pavement as the product of the longitudinal limits as determined by the 50 ft [15 m] cores and the full width of the paver pass, laying in the traffic lane or lanes. The Department will exempt shoulders from this calculation unless density failure occurred in the shoulder area.

Establish an additional density lot for the pavement that has been removed and replaced. Cut 2 cores randomly with companions for the Department (total 4 cores) and determine average density. Make payment in accordance with Table 2360-22 or Table 2360-23 excluding any incentive payment.

Determine the density for the remainder of the lot by averaging the original acceptable core density value with the first two acceptable core densities taken ahead and behind the unacceptable core density. Make payment in accordance with Table 2360-22 or Table 2360-23 excluding any incentive payment.

**Table 2360-24\***  
**Payment Schedule for Longitudinal Joint Density**  
**(SP Non-wear and SP Shoulders, 4% Void)**

Longitudinal Joint (Confined Edge) Density, %	Pay Factor B Longitudinal (Confined Edge)		Longitudinal Joint (Unsupported Edge) Density, %	Pay Factor C (Unsupported Edge)	
	Traffic Level 2 & 3	Traffic Level 4 & 5		Traffic Level 2 & 3	Traffic Level 4 & 5
≥ 92.1	1.02†	1.03†	≥ 91.0	1.02†	1.03†
91.6 – 92.0	1.01†	1.02†	90.1 – 90.9	1.01†	1.02†
89.5 – 91.5	1.00	1.00	88.1 – 90.0	1.00	1.00
88.5 – 89.4	0.98	0.98	87.0 – 88.0	0.98	0.98
87.7 – 88.4	0.95	0.95	86.0 – 86.9	0.95	0.95
87.0 – 87.6	0.91	0.91	85.0 – 85.9	0.91	0.91
< 87.0	0.85	0.85	< 85.0	0.85	0.85

\* The Department will limit incentive payment for longitudinal joint density to lots with evaluated longitudinal joint densities.  
|| Calculate the percent of maximum specific gravity to the nearest tenth.  
† Payment will only apply if the day's weighted average individual production air voids fall within - ½ percent of the target air void value. Base the weighted average air voids on all the mixture production tests in accordance with 2360.2.G.7, "Production Tests" for the corresponding day and weight by the tons the corresponding test represents.

**Table 2360-25\***  
**Payment Schedule for Longitudinal Joint Density**  
**(SP Non-wear and SP Shoulders, 3% Void)**

Longitudinal Joint (Confined Edge) Density, %	Pay Factor B Longitudinal (Confined Edge)		Longitudinal Joint (Unsupported Edge) Density, %	Pay Factor C (Unsupported Edge)	
	Traffic Level 2 & 3	Traffic Level 4 & 5		Traffic Level 2 & 3	Traffic Level 4 & 5
≥ 93.1	1.02†	1.03†	≥ 92.0	1.02†	1.03†
92.6 – 93.0	1.01†	1.02†	91.1 – 91.9	1.01†	1.02†
90.5 – 92.5	1.00	1.00	89.1 – 91.0	1.00	1.00
89.5 – 90.4	0.98	0.98	88.0 – 89.0	0.98	0.98
88.7 – 89.4	0.95	0.95	87.0 – 87.9	0.95	0.95
88.0 – 88.6	0.91	0.91	86.0 – 86.9	0.91	0.91
< 88.5	0.85	0.85	< 86.0	0.70	0.85

\* The Department will limit incentive payment for longitudinal joint density to lots with evaluated longitudinal joint densities.  
|| Calculate the percent of maximum specific gravity to the nearest tenth.  
† Payment will only apply if the day's weighted average individual production air voids fall within ½ percent of the target air void value. Base the weighted average air voids on all the mixture production tests in accordance with 2360.2.G.7, "Production Test" for the corresponding day and weight by the tons the corresponding test represents.

**D.1.r Pay Factor Determination**

Determine the pay factor in accordance with the following:

- (1) Case 1: Total Pay Factor = (Pay Factor A) × (Pay Factor B) × (Pay Factor C)
- (2) Case 2: Total Pay Factor = (Pay Factor A) × (Pay Factor B) × (Pay Factor B)
- (3) Case 3: Total Pay Factor = (Pay Factor A) × (Pay Factor C) × (Pay Factor C)

Where:

Pay Factor A = Mat density,  
Pay Factor B = Confined edge density,  
Pay Factor C = Unsupported edge density.

Use a pay factor of 1.00 for Pay Factor B, Pay Factor C, or both in lots where no cores are taken at the longitudinal joint.

## **D.2 Ordinary Compaction**

Perform ordinary compaction for the following:

- (1) Layers identified in the typical sections with a minimum planned thickness less than 1½ in [40 mm],
- (2) Thin lift leveling,
- (3) Wedging layers,
- (4) Patching layers,
- (5) Driveways, and
- (6) Areas the Contractor cannot compact with standard highway construction equipment and practices.
- (7) Bike paths, walking paths, and other similar non-traffic paving areas

If using the ordinary compaction method to evaluate density, use a control strip to establish a rolling pattern. Use the rolling pattern to compact the asphalt mixture for the layer on which the control strip is constructed or until constructing a new control strip. The Engineer may waive the control strip requirement in small localized areas or other areas not conducive to its establishment.

### **D.2.a Control Strip**

Construct a control strip at least 395 sq. yd [330 sq. m] and of the same thickness as the lift the control strip represents at the beginning of the work on each lift of each course. Begin compacting immediately after spreading the mixture. Continue compacting until additional roller coverage does not produce appreciable increase in density. Determine densities by means of a portable nuclear testing device or approved alternate and create a growth curve to determine the optimum rolling pattern. Provide documentation of the growth curve to the Engineer. Roll the remainder of that course in accordance with the pattern developed in the test strip for that roller. Provide a new control strip in accordance with the following:

- (1) If using a new JMF with a proportion change greater than 10 percent when compared to the currently produced mixture for a single stockpile aggregate,
- (2) If changing the source of either aggregate or binder, or
- (3) After 10 days of production.

### **D.2.b Equipment**

Use rollers that meet the requirements in 2360.3.B.2.e. Use the same equipment type and weight on the remainder of the pavement course that was used to construct the control strip. Provide at least two rollers. Provide a tandem steel wheeled roller for final rolling. The Contractor may use trench rollers or mechanical tampers to compact areas inaccessible to the conventional type rolling equipment.

### **D.2.c Mixture Temperature**

Refer to Table 2360-26, "Minimum Temperature Control" for the minimum laydown temperatures in all courses of the asphalt mixture as measured behind the paver or spreading machine. Do not pave when the air temperature is less than 32° F [0° C] unless otherwise directed by the Engineer in writing.

Air Temperature, °F [°C]	Compacted Mat Thickness, †			
	1 in [25 mm]	1½ in [40 mm]	2 in [50 mm]	>3 in [75 mm]
32 – 40 [0-5]	—	265 [129]	255 [124]	250 [121]
41 – 50 [6-10]	270 [130]	260 [127]	250 [121]	245 [118]
51 – 60 [11-15]	260 [127]	255 [124]	245 [118]	240 [115]
61 – 70 [16-21]	250 [121]	245 [118]	240 [115]	235 [113]
71 – 80 [22-27]	245 [118]	240 [115]	235 [113]	235 [113]
81 – 90 [28-32]	235 [113]	230 [110]	230 [110]	230 [110]
≥ 91 [33]	230 [110]	230 [110]	230 [110]	225 [107]

\* Not applicable if using a Warm Mix Asphalt (WMA) additive or process  
 † Use at least one pneumatic-tire roller for intermediate rolling unless otherwise directed by the Engineer. The Engineer may specify or modify the minimum laydown temperature in writing.  
 ‡ Based on the lift thicknesses shown on the plans.

### D.3 Mat Density Cores (Optional Department Only Core Testing)

The Contractor can request all density cores be tested by the Department. The written request should be made at the pre-construction meeting and a written response, from the Department, either approving or denying the request will be made within 5 calendar days from the date of the request. Once approval is granted, Department Only Core Testing will remain in effect for the duration of the project. For multi-year projects, Department core testing will be for that year only. Cores will be tested in either the Department's Field Lab or in the Contractor's Field Lab. The Contractor is permitted to observe and record all weighing of the cores.

#### D.3.a Contractor Coring Responsibilities

Obtain two cores in each lot. Take cores of at least 4 in [100 mm] in diameter at locations determined and marked by the Engineer. If the random core location falls on a longitudinal joint, cut the core with the outer edge of the core barrel 1 ft [0.3 m] away laterally from the edge of the top of the mat. Do not take cores for compacted mat density within 1 ft [300 mm] of any longitudinal joint. Label samples with the lot number and core number or letter. The Contractor is responsible for maintaining traffic, coring, patching the core holes.

Measure each core three times for thickness before saw cutting. Report the average lift thickness to the Engineer. If placing multiple layers in a single day, measure and record lift thickness and then saw and separate cores for each layer. Place and compact mix into the coring hole to restore the surface within 24 h after coring or the Department will fine the Contractor \$100 per working day per lot until restored.

The Engineer may require additional density lots to isolate areas affected by equipment malfunction, heavy rain, or other factors affecting normal compaction operations.

#### D.3.b Department Testing Responsibilities

The Department will take possession of the cores after they have been measured and cut. The Department will test all cores. Density results will be determined by the end day in which the cores were cut provided they are in the Department's possession by 10:00am, otherwise, results will be available the next working day. Test results will be reported on the Core Density Sheet.

#### D.3.c Longitudinal Joint Density

Evaluate longitudinal joint density in one lot per day unless the total daily weight is greater than 5,000 ton [5,000 tonne]. If the total daily weight is greater than 5,000 ton [5,000 tonne], evaluate two lots per day. Randomly select the location to take cores for longitudinal joint density from the mat density core locations. Take three cores at this location. Take cores for longitudinal joint density with the outer edge of the core barrel within 6 in [150 mm] from the edge of the top of the mat for both sides of the mat. Take one core for mat density at either

2 ft [0.61 m] right or 2 ft [0.61 m] left of the center of the mat the Contractor is paving, regardless of random number generation.

**E Surface Requirements**

After compaction, the finished surface of each lift shall be reasonably free of segregated, open and torn sections, and shall be smooth and true to the grade and cross section shown on the plans with the following tolerances:

Course/Location	Description	Tolerance
Leveling/1 <sup>st</sup> lift using automatics	Tolerance also applies to 1 <sup>st</sup> lift placed other than leveling when automatics are used.	½ in [15 mm]
Wear	Tolerance of final 2 lifts from the edge of a 10 foot [3 m] straightedge laid parallel to or at right angles to the centerline.	¼ in [6 mm]
Shoulder Wear, Temporary Wear & bypasses	Tolerance from the edge of a 10 foot [3 m] straightedge laid parallel to or at right angles to the centerline.	¼ in [6 mm]
Transverse joints/construction joints	Tolerance from the edge of a 10 foot [3 m] straightedge centered longitudinally across the transverse joint. Correction by diamond grinding required when directed by the Engineer.	¼ in [6 mm]
Transverse Slope	Tolerance for surface of each lift exclusive of final shoulder wear.	Not to vary by more than 0.4 % from plans.
Distance from edge of each lift and established centerline.	No less than the plan distance or more than 3 inches [75 mm] greater than the plan distance. The edge alignment of the wearing lift on tangent sections and on curve sections of 3 degrees or less can't deviate from the established alignment by more than 1 inch [25 mm] in any 25 foot [7.5 m] section.	See Description
Final wear adjacent to concrete pavements.	After compaction the final lift wear adjacent to concrete pavements must be slightly higher but not to exceed 1/4" [6mm] than the concrete surface.	See Description
Final wear adjacent to fixed structures.	After compaction the final lift wear adjacent to gutters, manholes, pavement headers, or other fixed structures must be slightly higher but not to exceed 1/4" [6mm] than the surface of the structure.	See Description
Finished surface of each lift.*	Must be free of segregated and open and torn sections and deleterious material. *Excluding tight blade and scratch courses.	See Description

Cut or saw and then remove and replace material placed outside the described limitations at no additional cost to the Department. If the Engineer determines the material can remain in place outside the limits, the Department will pay for the material at a reduced cost of \$10 per sq. yd [\$12 per sq. m]. The Department will consider any single occurrence of material outside the limitations to have a minimum dimension of at least 1 sq. yd [1 sq. m] in any dimension.

In addition to the list the above the pavement surface must meet requirements of 2399 (Pavement Surface Smoothness) requirements.

**E.1 Lift Thickness**

After compaction, the thickness of each lift shall be within a tolerance of ¼ in [6 mm] of the thickness shown on the plans, except that, if automatic grade controls are used, this thickness requirement will not apply to the first lift placed. This thickness requirement will not apply to a leveling lift whether or not automatic

grade controls are required. The Engineer may require removal and replacement of any part of any lift that is constructed to less than the minimum required thickness, at no additional cost to the Department.

Measure cores taken for density determination for thickness also. Measure each core three times for thickness before sawing. Report the average of these three measurements. Document each lot's average core thickness and submit to the Engineer. If the average of the two Contractor cores exceed the specified tolerance, an additional two cores may be taken in the lot in question. The Engineer will use the average of all core thickness measurements per day per lift to determine daily compliance with thickness specifications.

On that portion of any lift constructed to more than the maximum permissible thickness, the materials used in the excess mixture above that required to construct that portion of the lift to the plan thickness plus  $\frac{1}{4}$  in [6 mm] may be excluded from the pay quantities or at the discretion of the Engineer and at the Contractor's expense may be required to be removed and replaced.

**F Asphalt Mixture Production (FOB Department Trucks)**

Produce asphalt mixture for the Department. Load the mixture being produced onto Department furnished trucks at the mixing plant at a time agreed on by the Engineer and Contractor. The Engineer will notify the Contractor of the total quantity of mixture required not less than 2 weeks prior to completion of the final wearing course. The Engineer will not accept the asphalt mixture if it is unsuitable for the intended use.

**G Small Quantity Paving**

A MDR is not required for planned project quantities less than 9,000 sq. yd inches (4,500 sq. yd per 2-inch thickness, etc) [191,200 m<sup>2</sup> mm] or 500 ton [450 tonne]. Verify in writing that the asphalt mixture delivered to the project meets the requirements of Table 3139-3 and Table 2360-7, "Mixture Requirements." The Department will obtain samples, as determined by the Engineer, to verify mixture requirements and to perform material acceptance in accordance with 2360.2.G.14.b, "Isolated Failures at Mixture Start-Up — Production Air Voids," 2360.2 G.14.c, "Individual Failure — Gradation, Percent Asphalt Binder, Production Air Voids, and Adj. AFT," and 2360.2.G.14.h, "Coarse and Fine Aggregate Crushing Failure."

**2360.4 METHOD OF MEASUREMENT**

When paying for material by weight, the Engineer will measure separately asphalt mixture of each type by weight based on the total quantity of material hauled from the mixing plant. The Engineer will not make deductions for the asphalt materials.

When paying for material by area, the Engineer will separately measure asphalt mixture of each type and for each specific lift by area and by thickness on the basis of actual final dimensions placed.

**2360.5 BASIS OF PAYMENT**

The contract unit price for asphalt mixture used in each course includes the cost of constructing the asphalt surfacing and providing and incorporating asphalt binder, mineral filler, hydrated lime. Anti-stripping additives may be permitted or required as indicated in 2360.2.C.

The Department will pay for additives required by the contract at the relevant contract unit price for the mixture. The Department will pay for additives incorporated as directed by the Engineer as extra work in accordance with 1403, "Extra Work."

The Department will apply reduced payment if the mixture includes steel slag as one of the aggregate proportions and the production lab density at the design gyrations at the recommended or established asphalt content is greater than 160 lb per cu. ft [2,565 kg per cu. m]. The Department will pay for the mixture at the contract unit price, calculated as follows:

$$\%Payment = \frac{100 - (100 \times (\text{production\_density\_at\_design\_gyrations} - 160))}{160}$$

$$\left[ \%Payment = \frac{100 - (100 \times (\text{production\_density\_at\_design\_gyrations} - 2,565))}{2,565} \right]$$

If the plans do not show a contract pay item for shoulder surfacing and other special construction, the Department will include payment for the quantities of material used for these purposes in the payment for the wearing course materials.

Complete yield checks and monitor thickness determinations to construct the work as shown on the plans. Use the tolerances for lift thickness in accordance with 2360.3.E, "Surface Requirements" and surface smoothness requirements in accordance with 2399 for occasional variations and not for continuous over-running or under-running, unless otherwise required by the Engineer.

The contract unit price for asphalt mixture production includes the cost of the material and loading onto Department-provided trucks at the mixing plant.

The Department will pay for plant mixed asphalt pavement on the basis of the following schedule:

Item No.:	Item:	Unit:
2360.501	Type SP* Wearing Course Mixture †‡	ton [metric ton]
2360.502	Type SP* Non-Wearing Course Mixture †‡	ton [metric ton]
2360.503	Type SP*    Course Mixture †‡# in [mm] thick,	square yard [square meter]
2360.504	Type SP*    Course Mixture †‡	square yard [square meter]
2360.505	Type SP * Bituminous Mixture for Specified Purpose	ton [metric ton]
2360.506	Type SP * Bituminous Mixture Production	ton [metric ton]

- \* Aggregate size Designation, 9.5, 12.5 or 19 as appropriate, see 2360.1.A.3.
- || "Wearing" or "Non Wearing" as appropriate.
- † Traffic level in accordance with Table 2360-1, "Traffic Levels."
- ‡ AC binder grade designation (Table 2360-2).
- # Lift thickness shown on the plans.

**APPLICATION SPECIFICATION  
CONVENTIONAL PAVEMENT MARKING MATERIALS  
3 MINUTE DRY ALKYD AND HIGH SOLIDS LATEX**

Values stated in the International System of Units SI apply only to projects to be constructed in Metric units of measure. Values stated in inch-pound units (in parenthesis) apply only to projects to be constructed in English units of measure.

Materials

The traffic marking paint shall be yellow or white in color and shall conform to the attached Mn/DOT Specification. ALL MATERIALS shall be free of lead, cadmium, mercury, hexavalent chromium and other toxic heavy metals as defined by the United States Environmental Protection Agency.

The material shall be marked as follows:

- |                         |                      |
|-------------------------|----------------------|
| 1. Manufacturer's Name  | 4. Color of Material |
| 2. Place of Manufacture | 5. Batch Number      |
| 3. Date of Manufacture  |                      |

Only material manufactured by a Mn/DOT approved manufacturer will be allowed for use on Mn/DOT projects. The following manufacturers are approved to supply material:

Beads  
Potters, Inc.

Quality Paint  
Vogel Paints, Inc.  
Linear Dynamics, Inc.  
Centerline Industries, Inc.  
Sherwin Williams, Inc.

A sample from each batch shall be submitted to the Mn/DOT Laboratory for inspection and testing at least 15 days prior to use in the field.

Equipment

Application equipment for permanent markings shall consist of a machine of the spray type capable of applying the material under pressure at a controlled temperature through nozzles equipped with remotely controlled cutoff mechanisms and suitable line guides that will produce clean cut lines and prevent excessive material drift. The marking material shall be applied with truck-mounted traveling units properly equipped to apply the paint stripes as required. Where two or more lines are to be applied closely spaced, the

machine shall be equipped to apply those stripes simultaneously. For application of broken lines, the spray unit shall include an automatic feed control device capable of being set to produce the specified stripe to gap ratio. The truck equipment shall be capable of accumulating the length applied by each gun individually each day. Only material application shall activate the length accumulators. The read out shall be digital and not externally adjustable.

Vehicles in the striper train shall be deployed and equipped with traffic control devices as set forth in the "Field Manual" of the *Minnesota Manual on Uniform Traffic Control Devices*. Additionally, the shadow vehicle shall be equipped with a truck-mounted attenuator on high speed (SPEED LIMIT 65 kmph (40 mph) and greater), high volume (ADT 1500 and greater) highways.

The equipment shall also be capable of applying glass beads by a pressurized system. All guns on the spray carriage shall be in full view of the operators during the spraying operation.

#### Application

The Engineer will place necessary "spotting" at appropriate points to provide horizontal control for longitudinal striping, determine starting and cutoff points and provide inspection of all work. Broken line intervals will not be marked. The Contractor shall cooperate with inspection personnel and take appropriate actions to assure quality pavement marking installations.

Pavement markings shall only be applied when the air temperature is at least 10 C (50 F) unless the manufacturer, in writing, authorizes a lower temperature. Markings shall not be applied when the wind or other conditions cause a film of dust to be deposited on the pavement surface after cleaning and before the marking material can be applied. No striping operations will be permitted between sundown and sunrise without written permission from the Engineer.

At the time of applying the marking material, the application area shall be free of contamination. The contractor shall clean the roadway surface prior to the line application in a manner and to the extent required by the Engineer.

The filling of tanks, pouring of materials or cleaning of equipment shall not be performed on unprotected pavement surfaces unless adequate provisions are made to prevent spillage of the material. Waste material, spent solvents and cleaning materials shall be properly stored and disposed of in accordance with all federal, state and local laws, regulations and ordinances.

Glass beads shall be applied immediately after application of a paint line at a rate of 960 g/L (8 lbs./gal.). Beads shall be evenly distributed on pavement. All material shall be placed in a workmanlike manner, which shall result in a clearly defined line that has been adequately reflectorized with glass beads.

All pavement striping shall be 100 mm (4 in.) wide, unless otherwise specified, and broken line shall be in lengths of 2 m (6.56 ft.) separated by a gap of 8 m (26.25 ft.) for a 10 m (32.81 ft.) cycle length. All pavement striping shall be a minimum of 380  $\mu$ m thick (wet thickness) and the thickness shall be uniform across the width of the line.

A tolerance of 6 mm ( $\frac{1}{4}$  in.) over or under the specified width will be allowed for striping provided the variation is gradual and does not detract from the general appearance. Broken line segments may vary up to 75 mm (3 in.) from the specified lengths provided the over and under variations are reasonably compensatory. Alignment deviations from the control guides shall not exceed 50 mm (2 in.). Material shall not be placed over a longitudinal joint. Establishment of application tolerances shall not relieve the contractor of his responsibility to comply as closely as possible with the planned dimensions.

Application for the marking material shall be such as to provide uniform film thickness throughout the coverage area. Stripe ends shall be clean cut and square, with a minimum of material beyond the cutoff.

#### Acceptance/Rejection of Pavement Markings

Acceptance or rejection of pavement markings will be based on thickness and width of material placed as determined by field measurements and yield calculations. Visual observations will determine whether adhesion, chipping and color of the in-place pavement markings is acceptable. The minimum acceptable initial retroreflectivity, as determined in the attached METHOD OF MEASUREMENT FOR DETERMINING AVERAGE RETROREFLECTIVITY shall equal or exceed 275 mcd/m<sup>2</sup>/lux for white and 180 mcd/m<sup>2</sup>/lux for yellow material, respectively.

All retroreflectivity readings and data analysis will be provided by Mn/DOT at no cost to the Contractor. Mn/DOT reserves the right to:

- make daytime and/or nighttime visual inspections with or without the presence of the Contractor's representative, mainly to locate obvious or suspect areas of deficiency,
- determine retroreflectivity of symbols, legends and lines wider than 200 mm (8 in.) using a portable unit only, and
- accept initial retroreflectivity based on random sampling by color of all markings if computed averages exceed the specified minimum values.

### Reduction in Payment

A reduction in pay shall be made for reduced thickness, retroreflectivity and width. Thickness and retroreflectivity shall be computed by random measuring. Thickness shall be computed by the following formula:

$$\text{Thickness (micrometers)} = \frac{\text{Liters} \times 0.001 \text{ meters}^3 \times 10^{-3}}{\text{Length (meters)} \times \text{Width (meters)}}$$

Use 3.785 liters x gallons if paint is metered in gallons.

Example: A 380 micrometers thick paint line requires a liter of material for every 25.8 m of 100 mm wide line.

The equation in English units is:

$$\text{Thickness (inches)} = \frac{\text{Gallons} \times 231 \text{ cubic inches}}{\text{Length (inches)} \times \text{Width (inches)}}$$

And, 1 mil = 0.001 of an inch.

A 15 mil thick 4 inch wide line yields 320 feet per gallon.

### Correction of Defects

All pavement markings not conforming to the requirements of the Contract shall be removed and replaced or otherwise repaired to the satisfaction of the Engineer. Removal of unacceptable work shall be accomplished with suitable blasting or grinding equipment unless other means are approved by the Engineer.

Where yield computations show a deficiency in material usage of not more than 20 percent, the Engineer may require satisfactory repair or may accept the work at a reduced unit price which is in direct proportion to the percent of the deficiency. Where the deficiency in material usage exceeds 20 percent, the Engineer may require removal and replacement or otherwise corrected to the satisfaction of the Engineer.

If the Engineer requires removal and replacement of a deficient line, message or symbol, the contractor shall remove, by an approved process, at least 90% of the marking material without excessive scarring the existing pavement. The removal width shall be approximately 25 mm (1 in.) wider all around the deficient marking.

Where initial reflectivity readings fall below the minimum acceptable levels by not more than 20%, the Engineer may require satisfactory repair or may accept the work at a reduced unit price which is in direct proportion to the percent of the deficiency. Where the deficiency in retroreflectivity exceeds 20 percent, i.e., less than 220 mcd/m<sup>2</sup>/lux for white and 145 mcd/m<sup>2</sup>/lux for yellow, the Engineer may require removal and replacement or otherwise corrected to his satisfaction.

If this process has to be repeated on several projects with either the same Contractor, subcontractor and/or manufacturer(s), Mn/DOT will take corrective action. This corrective action will be a two step process:

Step 1                      Pavement marking contractor/manufacturer(s) will be considered not approved for Mn/DOT projects, except to bring workmanship/product back into compliance.

Step 2                      If the first step cannot be attained, the pavement marking contractor/manufacturer(s) will not be allowed to bid on Mn/DOT projects and/or will be removed from product lists.

## METHOD OF MEASUREMENT FOR DETERMINING AVERAGE RETROREFLECTIVITY

Measurements shall be taken with either a portable or mobile retroreflectometer conforming to 30-meter geometry which is defined as: the entrance angle (the angle between the illumination axis and the retroreflector axis) shall fall between 88.50 and 88.76 and the observation angle (the angle between the illumination axis and the observation axis) shall fall between 1.0 and 1.05 ; and, the co-viewing angle (the complement of the entrance angle) shall fall between 2.29 and 2.50 .

The following methodology will be used to evaluate retroreflectivity performance of in-service longitudinal line pavement markings:

### LENGTH AND NUMBER OF TEST SEGMENTS<sup>a</sup> PER ROADWAY<sup>b</sup> PER LINE TYPE<sup>c</sup>

Length of Roadway	Number of Test Segments	Length of Test Segments
1.5 km (1 mi.)	1	300 m (0.2 mi.)
Greater than or 1.5 km (1 mi.)	1 per 1.5 km (1 mi.)	300 m (0.2 mi.)

<sup>a</sup> TEST SEGMENTS-- Areas of a roadway chosen for measuring retroreflectivity of the line types.

<sup>b</sup> ROADWAY--As used here, means that portion of a street or highway ordinarily used for vehicular traffic. In the event a street or highway includes two or more separate roadways, the term roadway shall refer to each roadway separately.

<sup>c</sup> LINE TYPE-- Longitudinal lines of the same color and function. For example, white and yellow edge lines are each a line type.

### Measurements in Test Segments

#### PORTABLE RETROREFLECTOMETER

1. Take a minimum of 10 readings in each test segment per line type.
2. On broken lines (skip striping), take no more than two readings per stripe, with readings 0.5 m (20 in.) from ends of marking.
3. For solid lines, divide test segment into ten areas of 30 m (100 ft.); space readings a minimum of 10 m (32.81 ft.) and a maximum of 30 m (100 ft.) apart.
4. For 10 percent of each message type, take 5 readings on each message line; for 10 percent of each symbol type, take 5 readings on each symbol.
5. Upon completion of the evaluation, regardless of the results, additional test segments may be ordered by the Engineer.

**MOBILE RETROREFLECTOMETER**

1. Calibration of the instruments shall be in accordance with the manufacturer's instructions.
2. Retroreflectivity shall be measured at a minimum rate of 10 percent of each roadway length by line type.
3. Should another mobile unit be available, the maximum acceptable deviation for measurements made by the two different instruments of the same manufacturer and for the same roadway length shall be  $\pm 10\%$ .
4. Repeatability for the given mobile unit shall be  $\pm 6\%$ .
5. Upon completion of the evaluation, regardless of the results, additional test segments may be ordered by the Engineer.

**MISCELLANEOUS CONTROLS**

1. Take measurements on a dry, clean roadway.
2. Collect data in direction of traffic flow.
3. Measurement units are  $\text{mcd}/\text{m}^2/\text{lux}$ .
4. Wait at least two (2) weeks from date of placement of the markings before taking initial readings.
5. Randomly select test segments unless night reviews or other knowledge supersedes a random selection process.
6. The Engineer may request additional readings or test segments.
7. Measure each line type separately.
8. In the event LASERLUX is not available, the Engineer may require the use of the portable retroreflectometer or establish an alternative evaluation plan.

**Contents of Retroreflectivity Report**

The Report shall consist of:

State Project number.

Trunk Highway number.

Test date.

Geographical location of the test site(s), including distance from the nearest permanent site identification, such as a reference point.

Identification of the pavement marking material tested: type, color, age, and transverse location on the road.

Identification of the retroreflectometer.

Remarks concerning the overall condition of the lines, messages and symbols such as carryover of asphalt, uneven distribution of beads, etc.

Average of the readings for each test segment with one standard deviation calculated.

Average of the readings for each type of message and symbol.

January 16, 1998

**MINNESOTA DEPARTMENT OF TRANSPORTATION  
SPECIFICATION  
DROP-ON GLASS BEADS**

**I. SCOPE**

This specification covers treated glass beads for reflectorizing traffic marking paint.

**II. GENERAL REQUIREMENTS**

Beads for use with solvent-based paints will have a "dry flow" type surface treatment.

Beads for use with water-based paints will have a dual surface treatment consisting of a moisture resistant silicone treatment, and a silane adherence surface treatment.

Beads for use with epoxy paints will have a moisture resistant silicone surface treatment.

The beads will be made from clean colorless transparent glass. They will be smooth, spherically shaped, and free from milkiness, pits, excessive air bubbles, chips and foreign material. The beads will be suitable for application using conventional striping equipment, and will produce a retro-reflectorized line when viewed at night with automobile headlights.

**III. SPECIFIC REQUIREMENTS**

The glass beads will meet the requirements of AASHTO M 247 Type 1 "standard gradation" except the beads will have a minimum of 80 percent true spheres.

The dual treated beads will meet the moisture resistant requirements of AASHTO M 247 Section 4.4.2 and pass the adherence treatment Dansyl Chloride Test.

The moisture resistant silicone treated beads will meet AASHTO M 247 Section 4.2.2.

#### IV. SAMPLING AND TESTING

##### A. SAMPLING

The beads will be sampled at the rate of one sample per 4,000 kg (10,000 lbs) of beads. For beads shipped in 22 kg (50 lbs) bags a sample will consist of two bags selected at random and reduced to approximately one quart using a sample splitter. For bulk shipments, sampling will be by means of a perforated tube type "sampling thief." Three samples from each of three separate containers will be combined for one sample.

##### B. TESTING

Testing will be according to the requirements of AASHTO M 247.

Adherence coating will be tested by the Dansyl Chloride Method on file at the Mn/DOT Materials Laboratory.

Retroreflectivity will be determined by the Mn/DOT Method.

1. 3 draw downs (100 mm wide, 15 mil wet thickness) will be conducted in the lab for each color of paint.
2. Glass beads will be dropped on at a rate of 3.6 kg (8 lbs) per gallon.
3. 3 readings will be taken per draw down.
4. The average of those 9 readings will be the retroreflectivity of the system (paint and beads).

Roundness will be determined by the Mn/DOT Method detailed below.

##### Mn/DOT Method for Determining Roundness of Glass Beads.

1. Reduce sample to 25 to 50 grams by means of a sample splitter. Weigh to the nearest 0.01 grams.
2. Split the reduced sample into two fractions using a 297  $\mu\text{m}$  (No. 50) sieve.

3. To separate rounds from imperfects, a smooth, 30 mm by 45 mm (12 in by 18 in), inclined glass or aluminum plate is used. The plate is inclined at approximately 3 degrees for the +297  $\mu\text{m}$  (+50) fraction and at approximately 10 degrees for the -297  $\mu\text{m}$  (-50) fraction.

Slowly apply part of the beads to the top of the plate. Tap the plate with a wooden pencil or brush to cause round beads to roll down the incline into a collecting pan. Brush the remaining beads into a separate collecting pan. Continue with small applications until the entire sample is processed. Repeat the process with beads that rolled off plate at least three times for the +297  $\mu\text{m}$  (+50) fraction and at least four times for the -297  $\mu\text{m}$  (-50) fraction.

4. Weigh the separated fractions of round beads and calculate percent rounds.

#### V. PACKAGING

Unless otherwise specified the beads will be packaged in moisture-proof multi-wall shipping bags.

Each container will be marked with name and address of the manufacturer, type of moisture treatment, batch number and date of manufacture.

The containers and contents will be delivered in a good, dry condition.

Any beads not meeting the requirements of this specification or delivered in an unusable condition will be rejected.

## **DISADVANTAGED BUSINESS ENTERPRISE (DBE) SPECIAL PROVISIONS**

### **PURPOSE**

These provisions (1) provide an explanation of the federal law and information regarding compliance with the DBE requirements applicable to this contract, (2) explain the process Mn/DOT will follow to evaluate bidders' efforts to obtain DBE participation, (3) provide the standards Mn/DOT will use to measure compliance with these requirements, and (4) identifies sanctions.

### **POLICY STATEMENT**

It is the policy of the Minnesota Department of Transportation (Mn/DOT) that DBEs, as defined in 49 C.F.R. § 26, shall have the maximum feasible opportunity to participate in contracts financed in whole or in part with public funds provided by the U.S. Department of Transportation (DOT). Consistent with this policy, Mn/DOT will not allow any person or business to be excluded from participation in, denied the benefits of, or to otherwise be discriminated against in connection with the award and performance of any DOT-assisted contract because of sex, color, race, or national origin. Mn/DOT has established a Disadvantaged Business Enterprise Program in accordance with regulations of the DOT, 49 C.F.R. § 26.

Mn/DOT has received federal financial assistance from DOT for this contract, therefore the DBE requirements of 49 C.F.R. § 26 apply to this contract. As a condition of receiving this assistance, Mn/DOT has provided assurance it will comply with the 49 C.F.R. § 26. This regulation requires that contractors take necessary and reasonable steps to ensure that DBEs have the maximum opportunity to compete for and perform this contract. These special provisions provide detailed information about these requirements, and identify the responsibility the contractor has to demonstrate compliance with the requirements.

### **CONTRACT ASSURANCE**

The contractor, and its subcontractor(s), shall not discriminate on the basis of sex, color, race or national origin in the performance of this contract. The contractor agrees to act in accordance with applicable requirements of 49 C.F.R. § 26 in the execution and award of this contract. Failure by the contractor to comply with these requirements is a material breach of this contract, which may result in the termination of this contract or other such remedy as Mn/DOT deems appropriate.

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### BASIC REQUIREMENT

In order to be awarded this contract, the Apparent Low Bidder (ALB) must establish either (1) that it has met the DBE participation goal of the contract; or (2) that it has made adequate good faith efforts (GFE) to meet the DBE goal. This requirement is in addition to all other pre-award requirements.

### DBE GOAL OF THIS CONTRACT

The DBE goal on this contract is 2.4% percent.

### METHODS TO ATTAIN THE GOAL

The goal may be attained by:

1. Subcontracting with a DBE certified by the Minnesota Unified Certification Program (Mn/UCP). To prove the existence of such a subcontract, the Apparent Low Bidder (ALB) shall submit a signed agreement or a signed affidavit committing it to enter into such a subcontract;
2. Leasing equipment from a Mn/UCP-certified DBE;
3. Entering into a joint venture with a Mn/UCP-certified DBE. This joint venture must be approved in writing by the Mn/DOT Office of Civil Rights prior to bid opening;
4. Purchasing materials and supplies from a Mn/UCP-certified DBE. Generally, sixty percent (60%) of the supplier's contracted amount will be credited toward the DBE goal; however 100% of the amount will be credited towards the DBE goal if the supplies or materials are obtained from a Mn/UCP -certified DBE manufacturer; or
5. Using other services as approved in writing by the Mn/DOT Office of Civil Rights prior to bid opening.

### SOLICITING DBEs

**All bidders should make every reasonable effort to subcontract work to DBEs through good faith negotiations and solicitations in advance of the dates specified for submitting and opening of bids.**

In order to fulfill a DBE goal, the firms utilized as DBE subcontractors or suppliers must be certified as DBEs by the Mn/UCP **prior to the date of the bid opening**. The Mn/UCP DBE directory, which is found on Mn/DOT's Office of Civil Rights website, includes the names and addresses of all certified DBE firms. To be listed in the DBE directory, a DBE needs only to be

certified as a DBE by the Mn/UCP. Neither Mn/DOT nor the Mn/UCP makes any representation as to any DBE's technical or financial ability to perform the work. Prime contractors are solely responsible for performing due diligence in hiring DBE subcontractors. A DBE subcontractor's failure to perform the work will not be considered justification for a compensation increase.

#### APPARENT LOW BIDDER (ALB) SUBMITTAL OF INFORMATION

The ALB must identify the efforts it made to meet the DBE goal. The ALB must submit the information described in this section to the Mn/DOT Office of Civil Rights. All bidders are required to thoroughly document these solicitation efforts. The ALB shall justify any bids, quotes, or proposals it rejects from properly certified, qualified DBE firms.

**THE FOLLOWING INFORMATION MUST BE SUBMITTED ON THE SUBMISSION DUE DATE. The Submission Due Date is the fifth business day after the bid letting date, unless the Mn/DOT Director of the Office of Civil Rights grants a written extension for good cause shown. The five day period starts the business day following the bid letting date. Information sent by fax or personal delivery must be received by the Mn/DOT Office of Civil Rights no later than 4:30PM central time on the Submission Due Date. Information sent by U.S. mail must be postmarked no later than the Submission Due Date. FAILURE TO SUBMIT ALL REQUIRED INFORMATION WITHIN THE ALLOWED FIVE BUSINESS DAY PERIOD WILL RESULT IN REJECTION OF YOUR BID ON THE BASIS THAT YOU ARE NOT A RESPONSIBLE BIDDER. PARTIAL SUBMISSIONS WILL NOT BE CONSIDERED.**

The ALB must either (1) identify DBE participation sufficient to meet the DBE goal; or (2) demonstrate that the ALB made adequate good faith efforts to meet the DBE goal. The ALB must submit the following documents to the Mn/DOT Office of Civil Rights:

1. Certificate of Good Faith Efforts Consolidated Form (GFE Consolidated Form)
2. DBE Description of Work and Field Monitoring Report (Exhibit A)
3. Supporting Documentation to Verify Good Faith Efforts

The ALB must complete and submit the attached **Certificate of Good Faith Efforts Consolidated Form** as stated in the form instructions.

Part A - The ALB must provide contact information.

Part B - The ALB must provide project information including the DBE goal and the amount of DBE commitment the ALB obtained.

Part C - The ALB must provide information stating the amount of self-performance and DBE and non-DBE subcontractors' participation in this contract.

Part D - The ALB must list each subcontractor it solicited. The information must include all DBE and non-DBE firms (including all subcontractors, service providers and suppliers) from whom the ALB solicited quotes to provide work and supplies for this contract. Part D must be completed only if the ALB did not obtain sufficient DBE participation to meet the DBE goal.

Part E - The ALB must list the DBE firms that it intends to use on this contract and

- provide an Exhibit A form and quote.
- Part F - The ALB must list all non-DBE firms that provided a quote and indicate whether the non-DBE quote was accepted.
- Part G - The ALB must list DBE firms that provided a quote but were not selected. Part G must be completed only if the ALB did not obtain sufficient DBE participation to meet the DBE goal.
- Part H - The ALB must complete this **Good Faith Efforts Affidavit** regardless of whether the ALB's list of proposed subcontractors, service providers, and suppliers shows sufficient DBE participation to meet the DBE goal set for this contract.

The ALB must submit **DBE Description of Work and Field Monitoring Report (Exhibit A)**. A separate form must be submitted for each DBE firm the ALB proposes to utilize on the project. This must *be accompanied by proof of commitment to use the DBE firms*, such as copies of signed agreements, affidavits, or letters of intent. These commitments will be used to determine the "commitment rate" (the percentage of DBE participation). The ALB must commit to using the proposed DBE firms for not less than the percentage of the DBE participation shown on the DBE Description of Work and Field Monitoring Report (Exhibit A). An ALB will be deemed a non-responsible bidder if it fails to include in its submission a completed DBE Description of Work and Field Monitoring Report (Exhibit A) for each DBE along with the required signed agreements or affidavits.

The ALB must submit information that demonstrates its adequate good faith efforts to achieve the DBE goal. This information can include, but is not limited to, copies of solicitation letters, faxes, and emails to DBE firms. The ALB must identify the actions it took to achieve the DBE goal, including those actions listed in 49 C.F.R. § 26 Appendix A.

#### FAILURE TO SUBMIT INFORMATION

If the ALB fails to submit the information required by the previous section the ALB is a non-responsible bidder and Mn/DOT will reject the ALB's bid. **All required information must be submitted by the Submission Due Date.** The information submitted shall state the ALB's commitment to use DBEs for not less than the commitment rate.

#### IF THE DBE GOAL IS NOT MET, A GOOD FAITH EFFORTS REVIEW WILL BE CONDUCTED

An ALB that does not commit to meeting the DBE goal is thereby not disqualified if the ALB demonstrates that it made adequate good faith efforts (GFE) to meet the DBE goal. An ALB that does not commit to meet the DBE goal and fails to show adequate GFE were made is a non-responsible bidder and Mn/DOT will reject its bid. See 49 C.F.R. § 26.53(a)(2).

A DBE firm that bids as a prime contractor will be deemed to have met the DBE goal if the value of the work performed by its own forces, combined with any work that it has committed to be performed by DBE subcontractors and DBE suppliers, meets or exceeds the DBE goal. See 49 C.F.R. § 26.53(g).

In addition to the GFE activities listed in the following section, Mn/DOT may, as permitted by the Federal regulations, take into account the performance of other bidders in meeting the DBE contract goal. See 49 C.F.R. § 26 Appendix A(V).

#### EVALUATION OF GOOD FAITH EFFORTS

If an ALB has a DBE commitment rate that is below the DBE goal, then the ALB must demonstrate that it made adequate good faith efforts in attempting to meet the DBE goal. Mn/DOT's Office of Civil Rights (OCR) staff will review the GFE documents submitted by the ALB and the DBE commitment submitted by each bidder to evaluate the ALB's commitment rate.

The ALB must show that it took all necessary and reasonable steps to achieve the DBE goal which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful. In evaluating the ALB's adequate good faith efforts, Mn/DOT will consider the following list of actions. This is not a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases. Compliance with the adequate good faith efforts requirement will be determined on a case-by-case basis.

- A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and /or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The ALB must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
- B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
- C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- D(1) Negotiating in good faith with interested DBEs. It is the ALB's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why

additional agreements could not be reached for DBEs to perform the work.

- D(2) An ALB using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the ALB of the responsibility to make the good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
- E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal.
- F. Making efforts to assist interested DBEs in obtaining bonding , lines of credit, or insurance as required by the recipient or contractor.
- G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

Following this review, the OCR staff will make a recommendation to the Director of OCR, or designee, (Director) as to whether the ALB has met the DBE goal or made adequate good faith efforts. The Director of OCR will determine whether the ALB has met the DBE goal or made adequate good faith efforts to meet the goal for this contract in accordance with 49 C.F.R. § 26.53 and 49 C.F.R. § 26 Appendix A. The Director's written determination will be mailed to the ALB informing it of this decision approximately 10-12 business days after the Submission Due Date. If the Director determines that the ALB failed to meet the DBE goal or that it failed to make adequate good faith efforts to do so, the determination notice will be sent by certified U.S. mail.

An ALB that fails to meet the DBE goal or fails to make adequate good faith efforts to meet the goal is a non-responsible bidder and shall not be awarded the contract.

## ADMINISTRATIVE RECONSIDERATION

If the Director determines that the ALB failed to make adequate good faith efforts, the ALB may request administrative reconsideration. (49 C.F.R. § 26.53(d)). If the ALB does not make a timely written request for administrative reconsideration as described herein, the ALB will be deemed to have waived its right to request administrative reconsideration.

The ALB's request for administrative reconsideration must be made in writing. Requests sent by fax or personal delivery must be received by the Mn/DOT Office of Civil Rights no later than 4:30 PM on the fifth business day after the ALB receives written notice of the determination. Administrative reconsideration requests sent by U.S. mail must be postmarked no later than the fifth business day after the ALB receives notice of the determination. The ALB is deemed to have notice as of the date indicated on the certified mail receipt signed by the ALB, or its representative, at the time of delivery. The ALB must submit the written request for reconsideration to the attention of **Mn/DOT Deputy Commissioner at MnDOT, 395 John Ireland Blvd. St. Paul, Minnesota 55155; or by fax 651-366-4795. A copy of the request must be sent to the Director of the Office of Civil Rights at the same address or fax 651-366-3129.**

The Mn/DOT Deputy Commissioner, or a designated official, will serve as the Reconsideration Official. The Reconsideration Official shall not have any role in the original determination that the ALB failed to meet the DBE goal or failed to make adequate good faith efforts to do so.

In the reconsideration process, the ALB will have the opportunity to:

- Provide written documentation or argument concerning the issue of whether the ALB met the goal or made adequate good faith efforts to do so. (49 C.F.R. § 26.53(d)(1).
- Meet in person with the Reconsideration Official to discuss the issue of whether the ALB met the goal or made adequate good faith efforts to do so. (49 C.F.R. § 26.53(d)(3).

The Reconsideration Official will reconsider the record documenting the good faith efforts of the ALB. The reconsideration process will include the documents and arguments that the ALB is permitted to submit. The reconsideration process is a review of only the good faith efforts made by the ALB as of the Submission Due Date. Good faith efforts made subsequent to that date will not be considered.

Mn/DOT will provide the ALB with a written decision on reconsideration, explaining the basis for the determination **within 5 business days following the date scheduled for the ALB to meet with the Reconsideration Official to discuss the issue.** In accordance with 49 C.F.R. § 26.53(d)(5), the result of Mn/DOT's reconsideration process is not subject to administrative appeal to the U.S. Department of Transportation.

### COUNTING DBE PARTICIPATION & COMMERCIALY USEFUL FUNCTION

In accordance with 49 C.F.R. § 26.55, Mn/DOT will determine the percentage of DBE participation that will be counted toward the overall DBE goal as follows:

- (a) When a DBE participates in a contract, Mn/DOT will only count the value of the work actually performed by the DBE toward DBE goals.
  - 1. The entire amount of the portion of a construction contract (or other contract not covered by paragraph 49 C.F.R. § 26.55(a)(2)) that is performed by the DBE's own forces. Include the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies, and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).
  - 2. The entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, counts toward DBE goals, provided that Mn/DOT determines the fee to be reasonable and not excessive as compared with fees customarily allowed for similar services.
  - 3. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontract work may be counted toward DBE goals only if the DBE's subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm will not count toward DBE goals.
- (b) When a DBE performs as a participant in a joint venture, Mn/DOT will count a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces toward DBE goals.
- (c) Mn/DOT will count expenditures of a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract.
  - 1. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the materials, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, Mn/DOT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and DBE credit claimed for its performance of the work, and other relevant factors.

2. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which the funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, Mn/DOT must examine similar transactions, particularly those in which DBEs do not participate.
  3. If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, Mn/DOT must presume that it is not performing a commercially useful function.
  4. When a DBE is presumed not to be performing a commercially useful function as provided in the preceding paragraph, the DBE may present evidence to rebut this presumption. Mn/DOT may determine that the firm is performing a commercially useful function given the type of work involved and normal industry practices.
  5. Mn/DOT decisions on commercially useful function matters are subject to review by the concerned operating administration, but are not administratively appealable to U.S. DOT.
- (d) Mn/DOT will use the following factors in determining whether a DBE trucking company is performing a commercially useful function:
1. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there can not be a contrived arrangement for the purpose of the meeting DBE goals.
  2. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
  3. The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures and operates using drivers it employs.
  4. The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.
  5. The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit for the total value of transportation services provided by non-DBE lessees not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE lessees receives credit only for the fee or commission it receives as a result of the lease arrangement. If a recipient chooses this approach, it must obtain written consent from the Director of the Office of Civil Rights.

6. For purposes of this section, a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for the use of the leased truck. Leased trucks must display the name and identification number of the DBE.
- (e) Mn/DOT will count expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:
1. Mn/DOT will count 100% of the cost of the materials or supplies toward DBE goals if the materials or supplies are obtained from a DBE manufacturer.
  2. For purposes of this section (e), a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described in the specifications.
  3. If the materials or supplies are purchased from a DBE regular dealer, Mn/DOT will count 60% of the cost of the materials or supplies toward DBE goals.
  4. For purposes of this section (e), a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold to or leased to the public in the usual course of business.
    - A. To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.
    - B. A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating, or maintaining a place of business as provided in 49 C.F.R. §26.55(e)(2)(ii) if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long -term lease agreement and not on an ad hoc or contract-by-contract basis.
    - C. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this section (e).
  5. With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, Mn/DOT will count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a

job site, toward DBE goals, provided Mn/DOT determines the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. Mn/DOT, however, will not count any portion of the cost of the materials or supplies themselves toward DBE goals.

- (f) If a firm is not currently certified as a DBE in accordance with the standards of 49 C.F.R. § 26 Subpart D at the time of execution of the contract, Mn/DOT will not count the firm's participation toward any DBE goals.
- (g) The dollar value of the work performed under a contract with a firm after it has ceased to be certified will not be counted toward the overall goal.
- (h) Mn/DOT will not count the participation of a DBE subcontractor toward the contractor's final compliance with its DBE obligations on a contract until the amount being counted has been actually paid to the DBE.

#### FAILURE TO FULFILL DBE COMMITMENT

Mn/DOT will invoke appropriate administrative sanctions for non-compliance when a contract has been awarded and performance has begun, but the contractor fails to meet the DBE goal or make an adequate good faith effort to do so. Sanctions for noncompliance may include, but are not limited to, Mn/DOT withholding progress payments and taking a monetary deduction from the contract proceeds. If the contractor fails to complete its work on the contracts executed with DBE firms, as required by this contract, and the failure is through no fault of the DBE firms, Mn/DOT may deduct a sum equal to the portion of the DBE commitment not fulfilled. This provision will not apply if Mn/DOT reduces the quantity of work subcontracted to the DBE.

Mn/DOT may allow an adjustment of the commitment if the DBE participant that was part of the original commitment fails to perform and cannot be replaced with another DBE subcontractor despite the contractor's adequate good faith efforts to find another DBE to perform the same amount of work.

#### DBE REPLACEMENT

The contractor must make good faith efforts to replace a DBE subcontractor who is unable to perform successfully with another DBE to perform the same amount of work. The contractor shall not terminate for its convenience a DBE subcontract and then perform the work of the terminated subcontract with its own forces.

Once a contractor submits an affidavit, subcontract or other signed agreement, and the DBE Description of Work and Field Monitoring Report (Exhibit A), the DBE firm cannot be replaced by another DBE or a non-DBE firm for any reason until the following occurs:

1. Mn/DOT's Office of Civil Rights receives a written request for approval of the

substitution, including the reasons for the substitution; and,

2. Mn/DOT's Office of Civil Rights grants the contractor a written approval of the substitution.

Mn/DOT staff may assist the Contractor, when requested, in replacing DBEs. This assistance may include but is not limited to:

1. Providing the contractor with information regarding the availability of other DBEs.
2. Providing the contractor with assistance in locating available DBEs

#### PROMPT PAYMENT

Minnesota Statutes §16A.1245 requires that the prime contractor agrees to pay each subcontractor within ten (10) days of the prime contractor's receipt of payment from the state for undisputed services provided by the subcontractor. The prime contractor is subject to pay interest charges of 1-1/2 percent per month, or any part of a month, to the subcontractor on any undisputed amount not paid to the subcontractor within the ten (10) day period. This provision applies to DBE and non-DBE subcontractors.

Prime contractors are required to make prompt and full payment of any retainage kept by the prime contractor to the subcontractor within 10 days after the subcontractor's work is satisfactorily completed. Satisfactorily completed means when all the tasks called for in the subcontract have been accomplished and documented as required by Mn/DOT. When Mn/DOT has made incremental acceptances of a portion of a prime contract, the work of a subcontractor covered by that acceptance is deemed to be satisfactorily completed. See 49 C.F.R. § 26.29(b) and (c).

Failure to comply with these payment provisions may result in penalties including the withholding of progress payments to prime contractors. Appropriate penalties will be determined by Mn/DOT. The Contractor Payment Form must be completed for payments to subcontractors regardless of their DBE status.



Prime Contractor \_\_\_\_\_ State Project # \_\_\_\_\_

**DBE Description of Work  
And Field Monitoring Report (Exhibit A)**

A contract will not be awarded to the Prime Contractor unless this form is submitted with a signed subcontract, purchase order or affidavit for each DBE participating in the contract. This form is complete when the DBE subcontractor has filled in all of the applicable information in sections A and B and signs in section C.  
PLEASE PRINT CLEARLY OR TYPE.

Section (A): (All DBE Subcontractors, including Trucking firms must complete this Section.)

**MUST BE COMPLETED BY THE DBE PRINCIPAL**

Letting Date: \_\_\_\_\_ State Project Number: \_\_\_\_\_  
 Prime Contractor: \_\_\_\_\_ Phone #: \_\_\_\_\_  
 DBE Subcontractor: \_\_\_\_\_ Phone #: \_\_\_\_\_  
 DBE Principal Name: \_\_\_\_\_ Total Subcontract \$: \_\_\_\_\_  
 DBE Participation Claimed: Percent \_\_\_\_\_ % Amount \$ \_\_\_\_\_

1. Did you bid and sign a subcontract agreement with the above-named prime contractor? \_\_\_\_\_
2. Are the items, quantities, and prices listed on the subcontract agreement or affidavit correct? \_\_\_\_\_
3. List the line items to be performed: \_\_\_\_\_  
\_\_\_\_\_
4. Are there any other agreements not addressed in the subcontract? If yes, please explain: \_\_\_\_\_  
\_\_\_\_\_
5. If equipment to be used is other than what is listed in your DBE certification file please answer the following:
  - a. Will the renting or leasing include any of the following: (Attach a copy of the lease or rental agreement(s).  
Equipment \_\_\_\_\_ Insurance \_\_\_\_\_ Operator \_\_\_\_\_ or Maintenance \_\_\_\_\_
  - b. Lessor's name: \_\_\_\_\_  
Amount to be paid: \_\_\_\_\_ Number of days to be used: \_\_\_\_\_
6. Will there be any other firm(s) providing work listed in your (DBE) subcontract?  
If yes, answer the following: Firm's Name: \_\_\_\_\_ \$ amount of the work: \_\_\_\_\_
2. What is the name of the person supervising your work on this project? \_\_\_\_\_  
Is this your employee? \_\_\_\_\_
8. How many people will you be employing on this project? \_\_\_\_\_ Minorities: \_\_\_\_\_ Females: \_\_\_\_\_
9. Total dollar amount of materials to be supplied? \_\_\_\_\_
10. Who are you purchasing the materials from? \_\_\_\_\_
1. Please submit Purchase Agreement and/or Purchase Order from manufacturer(s) or primary material supplier(s).  
**NOTE: This Exhibit 'A' will not be approved without the Purchase Agreement/Purchase Order.**
2. Please list all subcontracts that your firm will be performing during the current construction season including non-DBE work:  
(Attach additional sheet if necessary.)

Project Number	Prime Contractor	Project Location	# of Working Days
1.			
2.			
3.			

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Prime Contractor \_\_\_\_\_ State Project # \_\_\_\_\_

**Section (B):**

**TO BE COMPLETED ONLY BY THE DBE TRUCKER**

1. The number of hours contracted or quantities to be hauled on this project? \_\_\_\_\_
2. How many fully operational units will be used on this Project? \_\_\_\_\_ (Tractor/trailers: \_\_\_\_\_ Dump trucks: \_\_\_\_\_)
3. How many fully operational units will be yours? \_\_\_\_\_ (Dump trucks: \_\_\_\_\_ Tractors/trailers: \_\_\_\_\_)
4. How many other units will be yours? \_\_\_\_\_ (Tractors: \_\_\_\_\_ Trailers: \_\_\_\_\_)
5. If ITO's or trucking companies are to be used on this project answer the following:

	Name of ITO/Company	Dollar Amount of Contract/Agreement	Number of Dump Trucks, Tractors/Trailers (specify)
1.			
2.			
3.			
4.			

**Section (C): (All DBE Subcontractors, including Trucking firms, must complete Section C.)**

I hereby certify that the information presented above is correct. I agree to inform the Office of Civil Rights in writing of any changes within 10 days of the change(s).

DBE Company: \_\_\_\_\_

DBE Principal: \_\_\_\_\_  
Signature
Title
Date

**Section (D): TO BE COMPLETED BY Mn/DOT OFFICE OF CIVIL RIGHTS STAFF PERSON**

Project Number: \_\_\_\_\_ District # \_\_\_\_\_  
Mn/DOT OCR Staff Person: \_\_\_\_\_ Phone No. \_\_\_\_\_  
Project Engineer: \_\_\_\_\_ On-site Phone #: \_\_\_\_\_  
Office Phone #: \_\_\_\_\_

**Section (E): TO BE COMPLETED BY PROJECT ENGINEER WHEN THE DBE'S PORTION OF WORK IS 1/3 TO 1/2 COMPLETED**

1. Does it appear that the DBE firm is performing the work specified in (Exhibit "A") description of work?  
Yes \_\_\_\_\_ No \_\_\_\_\_
2. Does it appear that the DBE contractor is managing their portion of the project and using their own company employees?  
Yes \_\_\_\_\_ No \_\_\_\_\_
3. Does it appear that the DBE contractor is providing the equipment for their items of work or other work specified?  
Yes \_\_\_\_\_ No \_\_\_\_\_
4. Does it appear that the quality of the DBE contractor's performance, scheduling and project management are meeting industry standards?  
Yes \_\_\_\_\_ No \_\_\_\_\_
5. Comments: \_\_\_\_\_

**NOTE:** If you, as the Project Engineer, have checked "NO" to any of the above questions or have any other comments, it is important that you contact the Mn/DOT Office of Civil Rights Staff Person assigned to this project.

Project Engineer: \_\_\_\_\_ Date: \_\_\_\_\_

Mn/DOT OCR

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Prime Contractor \_\_\_\_\_ State Project # \_\_\_\_\_

## Certificate of Good Faith Efforts Consolidated Form (GFE Form) Instructions

This form consolidates the Certificate of Good Faith Efforts, the Good Faith Efforts Affidavit, and the Bidders List in the DBE Special Provisions and is referred to as the GFE Consolidated form. All parts of this form must be completed unless otherwise stated in the section's heading. The Apparent Low Bidder (ALB) must complete this form and submit it with the Good Faith Efforts Information by the Submission Due Date as defined in the DBE Special Provisions. Prime contractors may also use this form to demonstrate good faith efforts when a DBE is replaced after the contract is awarded.

The ALB should include in its Good Faith Efforts Information a cover letter addressed to the Mn/DOT Office of Civil Rights. The cover letter should identify in detail the efforts the ALB made to meet the DBE goal. The ALB is required to thoroughly document its solicitation efforts and justify any bids, quotes or proposals it rejects from properly certified DBE firms. **THE COVER LETTER SHOULD INCLUDE EACH OF THE FACTORS IDENTIFIED IN 49 C.F.R. Part 26, App. A, SUMMARIZED AS FOLLOWS:**

1. This GFE Consolidated Form must be completed. Please note that "Part D - SOLICITATION OF SUBCONTRACTORS, SUPPLIERS, AND SERVICE PROVIDERS" on pg. 4, and "Part G - DBES QUOTED BUT NOT SELECTED" on pg. 7 are to be completed **ONLY IF** the DBE goal is **NOT** met.
2. A statement of the ALB's overall plan for obtaining DBE participation noting barriers or challenges the ALB encountered in obtaining DBE participation. Specifically, detailing how all necessary and reasonable steps to achieve the DBE goal or other requirements which, by their scope, intensity, and appropriateness to the objective of achieving the DBE goal, could reasonably be expected to obtain sufficient DBE participation - even if the ALB was not successful.
3. **The solicitation requirement is two-fold and includes the *initial solicitation* and appropriate *follow up* with interested DBEs.** Evidence of solicitation efforts of DBEs such as copies of requests for bids sent to DBE firms with identification of the firms clearly stated; fax confirmation sheets displaying the date, fax number, name of DBE firm, and status; list of all DBE firms called, date, contact name and response; or email distribution lists with date and time clearly indicated. The solicitations to DBEs should provide sufficient information about the type of work available on the project.
4. Identify the efforts made to select portions of work to be performed by DBEs in order to increase the likelihood that the DBE goal will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation.
5. A detailed explanation of the reason for not accepting DBE quotes. Each non-accepted quote should be addressed individually. Provide an explanation of the efforts the ALB made to negotiate in good faith with interested DBEs. Provide information about any cost comparisons that were considered in the decision to not accept DBE quotes. **The fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for an ALB's failure to meet the contract DBE goal, as long as such costs are reasonable.** The ALB is not required to accept higher quotes from DBEs if the price difference is excessive or unreasonable. If the ALB makes such a determination it should provide a written explanation for this conclusion.
6. A detailed explanation of the ALBs efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance.
7. A detailed explanation of the ALBs efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services.
8. A detailed explanation of the effective use by the ALB of the services of available minority/women community organizations; minority/women contractor's groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
9. Provide copies of any advertisements placed on hardcopy or websites. Advertisements should include information about the project(s), type(s) of work for which quotes are being solicited, and specific contact information for the ALB.

Contact the Mn/DOT Office of Civil Rights if you have any questions; main line 651-366-3073



Prime Contractor \_\_\_\_\_ State Project # \_\_\_\_\_

## Guidelines for Certificate of Good Faith Efforts (GFE) Consolidated Form

The Apparent Low Bidder (ALB) must show that it took all necessary and reasonable steps to achieve the DBE goal which by their scope, intensity and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if not fully successful. The criteria for evaluating good faith efforts is described in 49 CFR, Part 26, Appendix A which can be found at <http://www.osdbu.dot.gov/DBEProgram/>. ALBs submitting good faith efforts information should address the following factors in its Good Faith Efforts Information submission. The information below is not a mandatory list, nor is it exclusive or exhaustive.

### Criteria 1: "Solicitation Efforts"

1. Did the ALB use the current DBE Directory to identify DBEs?
2. Did the ALB perform sufficient solicitations given the amount of work to meet the DBE goal?
3. Did the ALB break out and solicit for work in economically feasible units?
4. Did the ALB solicit for work that it otherwise would self-perform?
5. Were DBEs with business operations in close geographic proximity to the project solicited?

### Criteria 2: "Timely Notice"

1. Did the ALB send timely written (e-mail/fax) solicitation notices to certified DBE firms?
2. Did the solicitation notice include the following:
  - a. Name and location of project
  - b. Bid date
  - c. Scope of work requested
  - d. Location where DBE's can review plans and specifications
  - e. Date and time to submit quote
  - f. Contact name for technical assistance
  - g. Any special requirements

### Criteria 3: "Finance and Bonding Outreach"

1. Did the ALB offer assistance by providing contacts for possible bonding, insurance, and lines of credit?
2. Did the ALB offer assistance by providing technical assistance in these areas?

### Criteria 4: "ALB follow-Up"

1. Did the contractor maintain a "follow-up log" from the initial solicitation? The log must show:
  - a. Type of contact (fax, telephone, e-mail)
  - b. Name of contact person
  - c. Name of DBE firm
  - d. Date and time of DBE contacted
  - e. Response received
  - f. Reason for DBE not bidding project (if applicable)

### Criteria 5: "ALB DBE Program Outreach and Support"

1. Did the ALB host DBE informational workshops, attend Minnesota Department of Transportation (Mn/DOT) sponsored DBE events; such as networking sessions, DBE conferences, DBE/ALB meetings, etc.?
2. Did the ALB contact minority business organizations about DBE opportunities?

Note: The Submission Due Date is the **fifth business day after the bid letting date** in accordance with the Mn/DOT DBE Special Provisions. Contact the Mn/DOT Office of Civil Rights if you have any questions; main line 651-366-3073

Prime Contractor \_\_\_\_\_ State Project # \_\_\_\_\_

**MINNESOTA DEPARTMENT OF TRANSPORTATION  
OFFICE OF CIVIL RIGHTS  
CERTIFICATE OF GOOD FAITH EFFORTS CONSOLIDATED FORM**

This Certificate of Good Faith Efforts Consolidated form (GFE Consolidated form) is required to demonstrate that the Apparent Low Bidder (ALB) either met the DBE goal, or made adequate good faith efforts to meet the DBE goal pursuant to 49 C.F.R. Part 26, Appendix A. Please refer to the instruction sheet prior to completing the form. This form and all supporting Good Faith Efforts documentation must be provided to the Mn/DOT Office of Civil Rights prior to the Submission Due Date as defined within the DBE Special Provisions.

<b>PART A – PRIME CONTRACTOR’S INFORMATION (All Primes complete this section.)</b>				
COMPANY NAME				
ADDRESS	STREET	CITY	STATE	ZIP CODE
PHONE #	FAX #		EMAIL ADDRESS	
CONTACT PERSON			TITLE	

<b>PART B - PROJECT DESCRIPTION (All Primes complete this section.)</b>			
STATE PROJECT #	CONTRACT # (if Applicable)		<input type="checkbox"/> Attach copy of Mn/DOT Advertisement
ANTICIPATED START DATE (Based on progress schedule)		EXPECTED COMPLETION DATE (Based on progress schedule)	
DBE GOAL	% VS	DBE COMMITMENT	(Type of GFE Information – Check one only) <input type="checkbox"/> Pre-award <input type="checkbox"/> Post-award/Execution
TOTAL DBE PARTICIPATION DOLLARS BASED ON ADVERTISED DBE GOAL (Total prime bid \$ * DBE % Goal)			

<b>PART C – PROJECT SUMMARY AMOUNTS (All Primes complete this section.)</b>	
TOTAL PRIME BID	\$
TOTAL DOLLARS COMMITTED TO NON-DBE’S (Not including suppliers)	\$
TOTAL DOLLARS COMMITTED TO DBE’S (Not including suppliers)	\$
TOTAL DOLLARS COMMITTED TO DBE SUPPLIERS (Total paid to DBE suppliers 60%)	\$
WORKED PERFORMED BY PRIME	\$
PERCENT OF WORK PERFORMED BY PRIME	%
TOTAL DBE PARTICIPATION REMAINING (Difference between DBE goal \$ and DBE commitment \$)	\$

**PART D – SOLICITATION OF SUBCONTRACTORS, SUPPLIERS, AND SERVICE PROVIDERS** (Complete this part only if DBE goal is not met.)  
 List all subcontractors solicited, both DBE and non-DBE contractors, truckers and suppliers for this specific project. Include initial contact and follow-up dates, as well as methods of contact (Phone, Fax, Email, etc.).

The good faith effort submission should include evidence of the solicitation effort such as: copies of request for bids sent to DBE firms with the name of the DBE firms clearly identified; fax confirmation sheets showing the date, fax number, name of DBE firm, confirmation the fax was sent; list of all DBE firms called time of call, person contacted and response; or email lists with time/day sent clearly indicated etc.

Subcontractor/Supplier/Service provider	DBE?		Phone #	Dates, Method of Contact		Description of Work	Dollar Amount of Quote
	Yes	No		DATES	METHO DS		
1	<input type="checkbox"/>	<input type="checkbox"/>					
2	<input type="checkbox"/>	<input type="checkbox"/>					
3	<input type="checkbox"/>	<input type="checkbox"/>					
4	<input type="checkbox"/>	<input type="checkbox"/>					
5	<input type="checkbox"/>	<input type="checkbox"/>					
6	<input type="checkbox"/>	<input type="checkbox"/>					
7	<input type="checkbox"/>	<input type="checkbox"/>					
8	<input type="checkbox"/>	<input type="checkbox"/>					
9	<input type="checkbox"/>	<input type="checkbox"/>					
10	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>					
	<input type="checkbox"/>	<input type="checkbox"/>					

Make additional copies of this page as necessary.

Prime Contractor \_\_\_\_\_

State Project # \_\_\_\_\_

**Make additional copies of this page as necessary.**

PART E - DBE COMMITMENTS (All Primes complete this section.)						Dollar Amount Of Bid/Proposal.
DBEs COMMITMENTS List only DBEs who have executed Exhibit A forms. DBE Contractor Information						
1.	DBE Contractor Name	Contact Name	Address	Federal Tax #	Phone	
					E-mail Fax:	
2.	DBE Contractor Name	Contact Name	Address	Federal Tax #	Phone	
					E-mail Fax:	
3.	DBE Contractor Name	Contact Name	Address	Federal Tax #	Phone	
					E-mail Fax:	
4.	DBE Contractor Name	Contact Name	Address	Federal Tax #	Phone	
					E-mail Fax:	
5.	DBE Contractor Name	Contact Name	Address	Federal Tax #	Phone	
					E-mail Fax:	

Prime Contractor \_\_\_\_\_

State Project # \_\_\_\_\_

**Make additional copies of this page as necessary.**

PART F – NON-DBE QUOTES SUBMITTED (All Primes complete this section.)						Dollar Amount Of Bid/Proposal	Will Firm Be Used?
NON-DBE COMMITMENTS List all non-DBE firms who provided quotes or bid proposals. Indicate whether the quotes were accepted.						Description of Work	Y or N
NON-DBE Contractor Information							
<b>1.</b>	NON-DBE Contractor Name						Y or N
	Contact Name						
	Address						
	Federal Tax #	E-mail					
	Phone	Fax:					
<b>2.</b>	NON-DBE Contractor Name						Y or N
	Contact Name						
	Address						
	Federal Tax #	E-mail					
	Phone	Fax					
<b>3.</b>	NON-DBE Contractor Name						Y or N
	Contact Name						
	Address						
	Federal Tax #	E-mail					
	Phone	Fax					
<b>4.</b>	NON-DBE Contractor Name						Y or N
	Contact Name						
	Address:						
	Federal Tax #	E-mail					
	Phone	Fax					

Minnesota Department of Transportation  
Office of Civil Rights

**PART G - DBEs QUOTED BUT NOT SELECTED (Complete this part only if DBE goal is not met.)**

**If DBE quotes were rejected, attach a separate sheet of paper explaining the specific basis for rejecting any DBE quote.**

Note: Additional cost is not in itself sufficient reason for rejecting a DBE quote. However, prime contractors need not accept excessive or unreasonable DBE quotes. The contractor's standing within its industry, membership in specific groups (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bid in the contractor's efforts to meet the project goal. (See Instructions attached to this form.)

QUOTED DOLLARS	DBEs WHO QUOTED, BUT WERE NOT SELECTED	TYPE OF WORK QUOTED	REASON NOT SELECTED
1.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
2.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
3.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
4.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
5.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
6.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
7.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
8.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
9.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
10.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
11.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
12.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
13.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
14.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
15.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
16.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
17.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
18.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
19.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
20.			Clearly state specific basis for rejecting the DBE on a separate sheet of paper
<b>NUMBER OF DBEs SOLICITED</b>			

**PART H – CERTIFICATION / GOOD FAITH EFFORTS AFFIDAVIT (All Primes complete this section.)**

STATE OF MINNESOTA  
COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_, being first duly sworn, state as follows:  
(Full Name)

1. I am the \_\_\_\_\_ of \_\_\_\_\_  
(Title) (Name of Individual, Company, Partnership, or Corporation)

that has been identified as the apparent low bidder of the State Project \_\_\_\_\_.

- 2. I have the authority to make this affidavit for and on behalf of the apparent low bidder.
- 3. The information provided in the attached Certificate of Good Faith Efforts is true and accurate to the best of my belief.

SIGNATURE (Bidder or Authorized Representative)	TITLE	DATE

Subscribed and sworn to before me

This \_\_\_\_\_ day of \_\_\_\_\_, 20

\_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_, 20

Under Sec. 26.107 of "49 CFR Part 26," dated February 2, 1999, if at any time, the Department or a recipient has reason to believe that any person or firm has willfully and knowingly provided incorrect information or made false statements, the Department may initiate suspension or debarment proceedings against the person or firm under 49 CFR Part 29, take enforcement action under 49 CFR Part 31, Program Fraud and Civil Remedies, and/or refer the matter to the Department of Justice for criminal prosecution under 18 U.S.C. 1001, which prohibits false statements in Federal programs.



**Minnesota Department of Transportation  
Office of Civil Rights**

Page \_\_\_\_\_ of \_\_\_\_\_

**Contractor Payment Form**

State Project Number \_\_\_\_\_ From: \_\_\_\_\_ To: \_\_\_\_\_ Prime Contractor: \_\_\_\_\_ 1<sup>st</sup> Tier Sub-Contractor: \_\_\_\_\_

Payment Reporting Period: \_\_\_\_\_

Instructions: All Contractors making payments to Contractors/Subcontractors/Suppliers/Service Providers, regardless of their tier or DBE status, are required to complete and submit this form to the Mn/DOT Office of Civil Rights (OCR), each time payments are made to sub-contractors until final payment is made. Failure to comply with this form and Minnesota's prompt payment law may cause progress payments to be withheld. Submit one copy of this form to the Mn/DOT OCR and one copy to the Project Engineer, no later than ten (10) days after receiving payment from Mn/DOT.

Contractor Information		Original Contract Amount	Committed DBE %	Actual DBE % to Date
Name:				
Address:				
Phone:				
Name of Subcontractor/Supplier	DBE? (Check if Yes)	Description of Work	Subcontract Amount	
1.	<input type="checkbox"/>	1.	1.	
2.	<input type="checkbox"/>	2.	2.	
3.	<input type="checkbox"/>	3.	3.	
4.	<input type="checkbox"/>	4.	4.	
5.	<input type="checkbox"/>	5.	5.	
6.	<input type="checkbox"/>	6.	6.	
Amount of Current Payment	Total Sub-Contractor Payment-To-Date	% Paid to date	Final Payment? Yes/No	
1.	1.	1.	1.	
2.	2.	2.	2.	
3.	3.	3.	3.	
4.	4.	4.	4.	
5.	5.	5.	5.	
6.	6.	6.	6.	
Company Officials Signature & Title		Date Signed	Name & Title of Individual Completing Report (Type or Print Clearly)	
Title:		Title:		
Phone:		Phone:		
Fax:		Fax:		

**Minnesota Department of Transportation  
Office of Civil Rights**

**Contractor Payment Form Instructions**

All Contractors making payments to Contractors/Subcontractors/Suppliers/Service Providers, regardless of their tier or DBE status, are required to complete and submit this form to the Mn/DOT Office of Civil Rights (OCR), each time payments are made to sub-contractors until final payment is made. Failure to comply with this form and Minnesota's prompt payment law may cause progress payments to be withheld. Submit one copy of this form to the Mn/DOT OCR and one copy to the Project Engineer, no later than ten (10) days after receiving payment from Mn/DOT.

**State Project Number:** As identified by Mn/DOT

**Prime Contractor:** The contractor who was awarded the project.

**1<sup>st</sup> Tier Sub-Contractor:** If a subcontractor has a subcontractor, list the 1<sup>st</sup> tier sub here and then list all of the 2<sup>nd</sup> tier Subcontractor(s) in the Name of Subcontractor/Supplier area. *All areas should be filled in regarding the prime as well.*

**Payment Reporting Period:** This should reflect the current payment period.

**Contractor Information:** Contractor's information who is making the payments. This must be filled out completely.

**Original Contract Amount:** Prime contractor's contract dollar amount.

**Committed DBE%:** The DBE commitment certified in the prime's bid is the minimum percentage of DBE participation on the project.

**Actual DBE % to Date:** The percent met to date.

**Name of Subcontractor/Supplier:** Company who is working for the prime contractor on this project.  
(If a sub was contracted for more than one contract, list each contract separately.)

**DBE?:** Check this box if the subcontractor is a certified DBE in Minnesota. You can find a listing of the DBE firms certified in Minnesota at <http://www.dot.state.mn.us/eeo/cm/uepdirrectory.html>.

**Description of Work:** The type of work the subcontractor was contracted for.

**Subcontract Amount:** The dollar amount the subcontractor was contracted for.

**Amount of Current Payment:** The current dollar amount being paid to the sub.

**Total Sub-Contractor Payment-to-Date:** Total dollar amount paid to the sub including the current payment.

**% Paid to Date:** Percentage of total payments made in comparison to the prime's award amount.

**Final Payment?:** Indicate whether this is the final payment being made to the sub.

**Company Officials Signature & Title:** Self explanatory

**Name & Title of Individual Completing Report:** Self explanatory

*If you have questions on completing the form, call the Office of Civil Rights at (651) 366-3073.*

## DBE Total Payment Affidavit

Pursuant to Mn/DOT Standard Specifications for Construction, Section 1908, the following DBE Total Payment Affidavit shall be executed by the Prime Contractor after all work contracted to be performed by DBEs has been satisfactorily completed. Identify each DBE firm that worked on the project and the dollar amount of the subcontract. If the dollar value of a DBE firm's total work is less than the DBE's original subcontract, please attach an explanation.

State Project Number: \_\_\_\_\_

STATE OF MINNESOTA  
COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_, being first duly sworn, state as follows:  
(Full Name)

1. I am the authorized representative of \_\_\_\_\_ (Name of Individual, Company, Partnership or Corporation) and I have the authority to make this affidavit for and on behalf of said Prime Contractor.

2. The following DBE Subcontractors/Suppliers/Service Providers/Sub-Consultants have performed work on the above project with a total dollar value of:

	Name of DBE Firm	Dollar Amount of Subcontract	Total Dollar Amount
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

3. I have fully informed myself regarding the accuracy of the statements made in this Affidavit.

Signed: \_\_\_\_\_  
(Prime Contractor or Authorized Representative)

Subscribed and sworn to before me  
This \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
(Notary Public)

My commission expires \_\_\_\_\_, 20\_\_\_\_

Prepare Affidavit in duplicate. Submit one original to the Project Engineer, and one original to:  
**Mn/DOT's Office of Civil Rights**  
**395 John Ireland Blvd., MS 170**  
**St. Paul, MN 55155**

**No. 1908 – Standard Specifications for Construction**  
Unless the Contractor has presented an Affidavit showing the total dollar amounts of work performed by Disadvantaged Business Enterprises (DBE), final payment may be withheld.

## NOTICE TO BIDDERS

This project has a Disadvantaged Business Enterprise (DBE) requirement.

If you are the apparent low bidder, you will be required to submit certain DBE documents to the Office of Civil Rights at the Minnesota Department of Transportation **within five (5) business days after the bid opening date** (the five day period starts the next business day after the bid opening date). Failure to do so could result in **disqualification** as the lowest responsible bidder and award proceedings may then be initiated with the next lowest responsible bidder.

The local agency will attempt to notify the apparent low bidder as soon as possible after the bids are opened and examined. To ensure that the apparent low bidder is notified in a timely manner it is required to have the contact information for at least one responsible party and an alternate party – at least one of whom must be available immediately after the bids have been examined – capable of commencing the DBE document submittal.

Fill in the contact information in the spaces provided.

Responsible party:

Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email address: \_\_\_\_\_

Postal address: \_\_\_\_\_

\_\_\_\_\_

Alternate party:

Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email address: \_\_\_\_\_

Postal address: \_\_\_\_\_

\_\_\_\_\_

## EQUAL EMPLOYMENT OPPORTUNITY (EEO) SPECIAL PROVISIONS

This section of Special Provisions contains the Equal Employment Opportunity (EEO) rules and regulations for highway construction projects in Minnesota which are federally and/or State funded.

The source of funding determines which EEO regulations and goals (Federal and/or State goals) apply to a specific project. When a project contains funding from both Federal and State sources, both sets of regulations apply, and the Minnesota Department of Transportation (MnDOT) monitors and reviews projects at both levels.

If the project contains any Federal funding, and has a total dollar value exceeding \$10,000, Federal EEO regulations and goals apply (pages 2, 6, 7-8, 9-14, 15, 16-17, 22-26, 27-38). The MnDOT Office of Civil Rights monitors and reviews these projects on behalf of the Federal Highway Administration (FHWA), under Federal statutes (23 USC 140) and rules (23 CFR 230).

If the project contains any State funding, and has a total dollar value exceeding \$100,000, State EEO regulations and goals apply (pages 2, 3, 4, 5, 6, 9-14, 16-22). MnDOT's Office of Civil Rights monitors and reviews these projects in conjunction with the Minnesota Department of Human Rights under Minnesota Statutes §363A.36 and its accompanying rules.

MnDOT has established a single review and monitoring process which meets both Federal and State requirements.

Please note that Pages 23-38 of these Special Provisions may be omitted from projects with no Federal funding.

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**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION  
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY  
(23 USC 140, 23 CFR 230 and Minnesota Statute §363A.36)**

1. The offerer's or bidder's attention is called to the "Minnesota Affirmative Action Requirements" (EEO Page 4), the "Specific Federal Equal Employment opportunity Responsibilities" (EEO Pages 7-8), the "Standard Federal and State Equal Employment Opportunity Construction Contract Specifications" (EEO Pages 9-14), the "Equal Opportunity Clause" (EEO Page 15) and "Required Contract Provisions - Federal-Aid Construction Contracts" (EEO Pages 27-38).
2. The goals and timetables for minority and women participation, expressed in percentage terms of hours of labor for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as shown on EEO Pages 16-17.

These goals are applicable to all the Contractor's construction work (whether or not it is State or State assisted, Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the regulations in 41 CFR Part 60-4, and/or Minnesota Statutes §363A.36 and its accompanying rules shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a) for Federal or federally assisted projects, and Minnesota Statutes §363A.36, and its accompanying rules for State or State assisted projects, and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and women employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority and women employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4 for Federal or federally-assisted projects and/or Minnesota Statutes §363A.36 and its accompanying rules for state or state-assisted projects. Compliance with the goals will be measured against the total work hours performed.

3. If the contract is federally funded, the Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within ten working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. If the contract is state funded, the Contractor shall provide written notification to the Compliance Division, Minnesota Department of Human Rights, Freeman Building, 625 Robert Street North, Saint Paul, Minnesota 55155 within ten working days of award of any construction subcontract in excess of \$100,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the Subcontractor; employer identification number of the Subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the county or counties of the State of Minnesota where the work is to be performed.

**NOTICE TO ALL PRIME AND SUBCONTRACTORS  
PRE-AWARD REPORTING REQUIREMENTS**

In order to ensure compliance with Federal and State laws and regulations (23 USC 140, and 23 CFR 230, and Minnesota Statutes §363A.36) and to ensure Mn/DOT's ability to monitor and enforce compliance efforts, the following requirements apply if the apparent low bid exceeds \$ 5,000,000.00:

- 1) The Apparent Low Bidder ("ALB") must provide to Mn/DOT the "EEO-8 Form" (also entitled "EEO Compliance Review Report"), which must provide detail on the contractor's total company workforce in the State of Minnesota during the twelve month period preceding July 30<sup>th</sup> of the previous year (Office and/or clerical personnel need not to be included).
- 2) The ALB must provide to Mn/DOT a work plan for meeting the minority and women employment goals established by the Minnesota Department of Human Rights, for the project in question. The work plan must include, at a minimum (1) how the ALB will incorporate its current minority and women employees in the ALB's efforts to meet the established goals; and (2) a contingency plan if the ALB has determined that its current workforce is not sufficient in order to achieve the established employment goals. If the ALB relies in whole or in part upon unions as a source of employees, then the ALB must (1) include a list of established organizations that are likely to yield qualified minority and women candidates if those union(s) are unable to provide a reasonable flow of minority and women candidates in their work plan; and (2) document the method by which these organizations will refer candidates to the ALB for employment opportunities. All bidders are hereby notified that the U.S. Department of Labor has determined that a contractor will not be excused from complying with the Federal and State laws and regulations cited above based solely on the fact that a contractor has a collective bargaining agreement with a union providing for the union to be the exclusive source of referral and that the union failed to refer minority employees. A contractor may obtain a list of organizations likely to yield qualified minority and women candidates from the Mn/DOT Office of Civil Rights.
- 3) The ALB must provide to Mn/DOT the ALB's total workforce and labor projections for the project (represented in hours), the ALB's projected total number of minority hours for the project, and the ALB's projected total number of women hours for the project. The details must include the trade(s) that will be utilized in order to complete the project.

The ALB must submit documents as required to comply with this section no later than five business days after the date that bids for the contract are opened. The five day period starts the business day following the date that bids were opened. The required documents must be received prior to Contract Award, and must be sent to the Mn/DOT Office of Civil Rights - 395 John Ireland Blvd., Mail Stop 170 St. Paul, MN 55155-1899. Submittal of the documents described in (1), (2) and (3) is required for contract award to the ALB. The submitted documents will be used as a tool to assist contractors in meeting employment goals; the content itself will not be evaluated for the purpose of determining contract award.

## MINNESOTA AFFIRMATIVE ACTION REQUIREMENTS

1. It is hereby agreed between the parties to this contract that Minnesota Statutes, Section §363A.36, and its accompanying rules are incorporated into any contract between these parties based upon this specification or any modification of it. A copy of Minnesota Statutes, Section §363A.36, and its accompanying rules is available upon request from the contracting agency. The Contractor hereby agrees to comply with the rules and relevant orders of the Minnesota Department of Human Rights issued pursuant to the Minnesota Human Rights Act.
2. It is hereby agreed between the parties to this contract that this agency requires that the Contractor meet affirmative action criteria as provided for by Minnesota Statutes §363A.36 and its accompanying rules. It is the intent of the Minnesota Department of Transportation to fully carry out its responsibility for requiring affirmative action, and to implement sanctions for failure to meet these requirements. Failure by a contractor to implement an affirmative action plan, meet project employment goals for minority and women employment or make a good faith effort to do so may result in revocation of his/her Certificate of Compliance or suspension or revocation of the contract (Minnesota Statutes §363A.36).
3. Under the affirmative action obligation imposed by the Human Rights Act, Minnesota Statutes, Section §363A.36, contractors shall take affirmative action to employ and advance in employment minority, female, and qualified disabled individuals at all levels of employment. Affirmative action must apply to all employment practices, including but not limited to hiring, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor shall recruit, hire, train and promote persons in all job titles, without regard to race, color, creed, religion, sex, national origin, marital status, status with regard to public assistance, physical or mental disability, sexual orientation or age except where such status is a bona fide occupational qualification. These affirmative action requirements of the Minnesota Human Rights Act are consistent with but broader than the Federal requirements as covered in this contract.
4. Affirmative Action for disabled workers. The Contractor shall not discriminate against any employee or applicant for employment because of a physical or mental disability in regard to any position for which the employee or applicant for employment is qualified. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled individuals without discrimination based upon their physical or mental disability in all employment practices such as employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training (including apprenticeship). In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with Minnesota Statutes, section §363A.36 and the rules and relevant orders of the Minnesota Department of Human Rights pursuant to the Minnesota Human Rights Act.
5. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the commissioner of the Minnesota Department of Human Rights. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment minority, women and qualified disabled employees and applicants for employment, and the rights of applicants and employees. A poster entitled "Contractor Non-discrimination is the Law" may be obtained from: Compliance Unit, Minnesota Department of Human Rights, Freeman Building, 625 Robert Street North, Saint Paul, Minnesota 55155. (651) 539-1100, TTY 296-1283, Toll Free 1-800-657-3704.
6. The Contractor shall notify each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Minnesota Statutes, section §363A.36 of the Minnesota Human Rights Act, and is committed to take affirmative action to employ and advance in employment minority, women and qualified physically and mentally disabled individuals.

## APPROPRIATE WORK PLACE BEHAVIOR ON Mn/DOT CONSTRUCTION PROJECTS UTILIZING STATE FUNDS

It is the Minnesota Department of Transportation's (MnDOT's) policy to provide a workplace free from violence, threats of violence, harassment and discrimination. MnDOT has established a policy of zero tolerance for violence in the workplace. Contractors who perform work on MnDOT construction projects, or local government entities or public agencies utilizing state funds on highway construction projects, shall maintain a workplace free from violence, harassment and discrimination (See definitions, below).

### Definitions:

1. Violence is the threatened or actual use of force which results in or has a high likelihood of causing fear, injury, suffering or death. Employees are prohibited from taking reprisal against anyone who reports a violent act or threat.

2. Harassment is the conduct of one employee (toward another employee) which has the purpose or effect of 1) unreasonably interfering with the employee's work performance, and/or 2) creating an intimidating, hostile or offensive work environment. Harassment is not legitimate job-related efforts of supervisor to direct/evaluate an employee or to have an employee improve work performance.

A. Unlawful discriminatory harassment is harassment which is based on these characteristics: race, color, creed, religion, national origin, sex, disability, age, marital status, status with regard to public assistance or sexual orientation. Managers, supervisors and employees shall not take disciplinary or retaliatory action against employees who make complaints of sexual harassment.

Sexual harassment is unwelcome sexual advances, requests for sexual favors, or sexually motivated physical contact, or other verbal or physical conduct or communication of a sexual nature, when submission to that conduct or communication is 1) made a term or condition, either explicitly or implicitly, of obtaining employment; or 2) is used as a factor in decisions affecting an individual's employment; or 3) when that conduct or communication has the purpose or effect of substantially interfering with an individual's employment or creating an intimidating, hostile or offensive work environment, and the employer knows or should have known of the existence of the harassment and fails to take timely and appropriate action. Examples include but are not limited to insulting or degrading sexual remarks or conduct; threats, demands or suggestions that status is contingent upon toleration or acquiescence to sexual advances; displaying in the workplace sexually suggestive objects, publications or pictures, or retaliation against employees for complaining about the behavior cited above or similar behaviors.

B. General harassment is harassment which is not based on the above characteristics. Examples may include, but are not limited to: physically intimidating behavior and/or threats of violence; use of profanity (swearing), vulgarity; ridiculing, taunting, belittling or humiliating another person; inappropriate assignments of work or benefits; derogatory name calling.

3. Discrimination includes actions which cause a person, solely because of race, color, creed, religion, national origin, sex, disability, age, marital status, status with regard to public assistance or sexual orientation to be subject to unequal treatment.

Prime Contractors who work on MnDOT projects shall ensure that their managers, supervisors, foremen/women and employees are familiar with MnDOT's policy on appropriate work place behavior; and shall ensure that their subcontractors are familiar with this policy. Managers, supervisors and foremen/women will respond to, document, and take appropriate action in response to all reports of violence, threats of violence, harassment or discrimination. Failure to comply with this policy may result in cancellation, termination or suspension of contracts or subcontracts currently held and debarment from further such contracts or subcontracts as provided by statute. If you need additional information or training regarding this policy, please contact the Office of Civil Rights at (651) 366-3073.

## NOTICE TO ALL PRIME AND SUBCONTRACTORS REPORTING REQUIREMENTS

1. In order to monitor compliance with Federal Statutes 23 USC 140 and 23 CFR 230, and Minnesota Statutes §363A.36, all prime contractors and subcontractors are required to complete a Mn/DOT Monthly Employment Compliance Report each month for each project (Form EEO-13, sample copy at EEO Pages 20-21.) Prime contractors are also required to complete a Contractor Employment Data Report (Form EEO-12, sample copy at EEO Pages 18-19) once prior to work commencing on the project, unless one has been completed already within the calendar year.

The prime contractor of each project collects Monthly Employment Compliance Reports from each subcontractor who performed work during the month, and completes a Monthly Employment Compliance Report on its own work force. **For the month of July only, an EEO-13 is required for each payroll period within the month of July.** The prime contractor submits the EEO-13 forms to the Mn/DOT Project Engineer by the 15th day of the subsequent month.

Failure to submit the required reports in the allowable time frame will be cause for the imposition of contract sanctions.

It is the intent of Mn/DOT to implement monitoring measures on each project to ensure that each prime contractor and subcontractor is promoting the full realization of equal employment opportunities. Any project may be scheduled for an in depth on-site contract compliance review. During the scheduled on-site review, the Contractor will be required to provide to Mn/DOT documentation of its "good faith efforts" as shown in EEO Pages 10-13, at 7 a-p of this contract.

2. If a Federally funded project requires On-the-Job-Training (OJT) participation, information is provided in the contract and can be located by referring to the Table of Contents for Division S. (OJT is also listed as a bid line item under Trainees.) When a contract requires OJT participation, the Prime Contractor shall submit a training plan as indicated in the Proposal. The training plan shall include the job classification titles of trainees, planned training activities and the approximate start date of trainees.

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3. When a Contractor selects a trainee applicant for OJT, the Contractor completes an On the Job Training Program-Trainee Assignment form (sample copy at EEO Page 23) and submits it to the Contract Compliance Specialist (CCS) assigned to the project for approval. The CCS notifies the Contractor and Project Engineer when the applicant is approved.
4. Hours of work performed by OJT employees shall be documented on a monthly basis on the Certification of On-The-Job Training Hours form, (Mn/DOT Form No. 21860, sample copy at EEO Page 24). The Contractor shall submit the original and one copy to the Project Engineer, and one copy to the CCS assigned to the project.

Do not remove forms from this contract. Please duplicate forms from the copies in this contract, or the Mn/DOT Office of Civil Rights will provide these forms upon request. Please call the Office of Civil Rights, (651) 366-3073.

## SPECIFIC FEDERAL EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 CFR 230, Subpart A, Appendix A, FAPG June 6, 1996)

### I. General.

a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required contract Provisions (Form PR-1273 or 1316, as appropriate) and these Special Provisions which are imposed pursuant to Section 140 of title 23, U.S.C., as established by Section 22 of the Federal-Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.

b. The contractor will work with the State highway agencies and the Federal Government in carrying out equal employment opportunity obligations and in their review of his/her activities under the contract.

c. The contractor and all his/her subcontractors holding subcontracts not including material suppliers, of \$10,000 or more, will comply with the following minimum specific requirement activities of equal employment Opportunity: (The equal employment opportunity requirements of Executive Order 11246, as set forth in volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway program Manual, are applicable to material suppliers as well as contractors and subcontractors.) The contractor will include these requirements in every subcontract of \$10,000 or more with such modification of language as is necessary to make them binding on the subcontractor.

### 2. Equal Employment Opportunity Policy.

The contractor will accept as his operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote their full realization of equal employment through a positive continuing program:

It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre apprenticeship, and/or on-the-job training.

3. Equal Employment Opportunity Officer. The contractor will designate and make known to State highway agency contracting officers

an equal employment opportunity officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

### 4. Dissemination of Policy.

a. All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action will be made fully cognizant of, and will implement, the contractor's equal employment opportunity policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

(1). Periodic meetings of supervisory and personnel office staff will be conducted before the start of work and then not less often than once every six months, at which time the contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

(2). All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official, covering all major aspects of the contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the contractor.

(3). All personnel who are engaged in direct recruitment for the project will be instructed by the EEO officer or appropriate company official in the contractor's procedures for locating and hiring minority group employees.

b. In order to make the contractor's equal employment policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the contractor will take the following actions:

(1). Notices and posters setting forth the contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

(2). The contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

### 5. Recruitment.

a. When advertising for employees, the contractor will include in all advertisements for employees the notation "An Equal Opportunity Employer." All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

b. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the contractor will, through his/her EEO Officer, identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where the implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

6. Personnel Actions. Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, or national origin. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each

**SPECIFIC FEDERAL EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (cont.)**

classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his/her obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all his avenues of appeal.

**7. Training and Promotion.**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e. apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event the Training Special Provision is provided under this contract, this subparagraph will be superseded as indicated in Attachment 2.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The Contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

**8. Unions.** If a contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as

agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group members and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the State highway department and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, or national origin; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the State highway agency.

**9. Subcontracting.**

a. The contractor will use his best efforts to solicit bids from and to utilize minority group subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of minority-owned construction firms from State highway agency personnel.

b. The contractor will use his best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.

**10. Records and Reports:**

a. The contractor shall keep such records as necessary to determine compliance with the contractor's equal employment opportunity obligations. The records kept by the contractor will be designed to indicate:

(1) The number of minority and non minority group members and women employed in each work classification on the project.

(2) The progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to contractor's who rely in whole or in part on unions as a source of their work force),

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and

(4) The progress and efforts being made in securing the services of minority group subcontractors with meaningful minority and female representation among their employees.

b. All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the State highway agency and the Federal Highway Administration.

c. The contractors will submit an annual report to the State highway agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR-1391. If on-the-job training is being required by a "Training Special Provision", the contractor will be required to furnish Form FHWA 1409.

**STANDARD FEDERAL AND STATE EQUAL EMPLOYMENT OPPORTUNITY  
CONSTRUCTION CONTRACT SPECIFICATIONS  
(41 CFR 60-4.3 and Minnesota Statute §363A.36)**

*Unless noted, the following apply to both Federal/federally assisted projects and State/state assisted projects. Item 3 applies to Federal/federally assisted projects only*

1. As used in these specifications:
  - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
  - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
  - c. "Employer Identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
  - d. "Minority" includes:
    - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
    - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
    - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
    - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 (\$100,000 for State projects) the provisions of these specifications and the Notice which contains the applicable goals for minority and women participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4, 5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work on the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7(a) to (p) of these specifications (itemized as 4 [a] to [o], Minnesota Rules

**STANDARD FEDERAL AND STATE EEO CONSTRUCTION  
CONTRACT SPECIFICATIONS (cont.)**

5000.3535). The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minorities and utilization the Contractor should (shall, for State or state assisted projects) reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor shall make substantially uniform progress toward its goals in each craft during the period specified. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Federal goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any office of Federal Contract Compliance programs or from Federal procurement contracting officers. State goals are published periodically in the State Register in notice form, and may be obtained from the Minnesota Department of Human Rights or the Minnesota Department of Transportation Office of Civil Rights. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union, with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications and Executive Order 11246 and its associated rules and regulations for Federal or federally assisted projects, and Minnesota Statutes, Section §363A.36 of the Minnesota Human Rights Act, or the rules adopted under the Act for State or state assisted projects.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained according to training programs approved by the Minnesota Department of Human Rights, the Minnesota Department of Labor and Industry, or the United States Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications must be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following (referred to in Minnesota Rules 5000.3535 as items 4(a) to (o)):
  - (a) Ensure and maintain, or for State or state assisted projects make a good faith effort to maintain, a working environment free of harassment, intimidation, and coercion at all sites and in all facilities at which the Contractor's employees are assigned to work. For

**STANDARD FEDERAL AND STATE EEO CONSTRUCTION  
CONTRACT SPECIFICATIONS (cont.)**

Federal or federally assisted projects, the Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or women individuals working at such sites or in such facilities.

- (b) Establish and maintain a current list of minority and women recruitment sources, provide written notification to minority and women recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- (c) Maintain a current file of the names, addresses, and telephone numbers of each minority and woman off-the-street applicant and minority or woman referral from a union, a recruitment source, or community organization and of what action was taken with respect to each individual. If the individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the Contractor may have taken.
- (d) Provide immediate written notification to the commissioner of the Minnesota Department of Human Rights for State or state assisted projects, or the director of the Office of Federal Contract Compliance for Federal or federally assisted projects; when the union, or unions with which the Contractor has a collective bargaining agreement, has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

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- (e) Develop on-the-job training opportunities and/or participate in training programs for the areas which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the State of Minnesota for State or state assisted projects or the Department of Labor, for Federal or federally assisted projects. The Contractor shall provide notice of these programs to the sources compiled under (b).
- (f) Disseminate the Contractor's equal employment opportunity policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its equal employment opportunity obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and women employees at least once a year; and by posting the company equal employment opportunity policy on bulletin boards accessible to all employees at each location where construction work is performed.

**STANDARD FEDERAL AND STATE EEO CONSTRUCTION  
CONTRACT SPECIFICATIONS (cont.)**

- (g) Review, at least annually, the company's equal employment opportunity policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions; including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the first day of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- (h) Disseminate the Contractor's equal employment opportunity policy externally by including it in any advertising in the news media, specifically including minority and women news media, and providing written notification to and discussing the Contractor's equal employment opportunity policy with other contractors and subcontractors with whom the Contractor does or anticipates doing business.
- (i) Direct its recruitment efforts, both oral and written, to minority, women, and community organizations; to schools with minority and women students; and to minority and women recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- (j) Encourage present minority and women employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and women youth, both on the site and in other areas of a Contractor's work force.
- (k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3. (This requirement applies only to Federal and federally assisted projects.)
- (l) Conduct, at least annually, an inventory and evaluation at least of all minority and women personnel for promotional opportunities; and encourage these employees to seek or to prepare for, through appropriate training, such opportunities. (This is Item 4(k) in Minnesota Rules.)
- (m) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the equal employment opportunity policy and the Contractor's obligations under these specifications are being carried out. (This is item 4(l) in Minnesota Rules.)

**STANDARD FEDERAL AND STATE EEO CONSTRUCTION  
CONTRACT SPECIFICATIONS (cont.)**

- (n) Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes. (This is item 4(m) in Minnesota Rules.)
  - (o) Document and maintain a record of all solicitations or offers for subcontracts from minority and women construction contractors and suppliers, including circulation of solicitations to minority and women contractor associations and other business associations. (This is item 4(n) in Minnesota Rules.)
  - (p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment opportunity policies and affirmative action obligations. (This is item 4(o) in Minnesota Rules.)
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7(a) to (p) for Federal or federally assisted projects, and 4(a)-(o) for State or state assisted projects). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7(a) to (p) or 4(a) to (o) of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and women work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor however, is required to provide equal employment opportunity and to take affirmative action for all minority groups both male and female, and all women both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order for Federal or federally assisted projects, or Minnesota Rules for State or state assisted projects, if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order or Minnesota Rules part 5000.3520 if a specific minority group is under-utilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, creed, religion, sex, or national origin. Minnesota Statutes §363A.36, part 5000.3535 (Subp. 7) also prohibits discrimination with regard to marital status, status with regard to public assistance, disability, age, or sexual orientation.

**STANDARD FEDERAL AND STATE EEO CONSTRUCTION  
CONTRACT SPECIFICATIONS (cont.)**

11. The Contractor shall not enter into any subcontract with any person or firm debarred from government contracts under the federal Executive Order 11246 or a local human rights ordinance, or whose certificate of compliance has been suspended or revoked pursuant to Minnesota Statutes, Section §363A.36.
12. The Contractor shall carry out such sanctions for violation of these specifications and of the equal opportunity clause, including suspension, termination, and cancellation of existing contracts as may be imposed or ordered pursuant to Minnesota Statutes, Section §363A.36, and its implementing rules for State or state assisted projects, or Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs for Federal or federally assisted projects. Any contractor who fails to carry out such sanctions shall be in violation of these specifications and Minnesota Statutes, Section §363A.36, or Executive Order 11246 as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications (paragraph 4 in Minnesota Rules 5000.3535), so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of these Specifications or Minnesota Statutes, Section §363A.36 and its implementing rules, or Executive Order 11246 and its regulations, the commissioner or the director shall proceed in accordance with Minnesota Rules part 5000.3570 for State or state assisted projects, or 41 CFR 60-4.8 for Federal or federally assisted projects.
14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company equal employment opportunity policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Minnesota Department of Human Rights or the Government, and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (for example, mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing provided in this part shall be construed as a limitation upon the application of other state or federal laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents.

## EQUAL OPPORTUNITY CLAUSE (41 CFR Part 60-1.4 b, 7-1-96 Edition)

The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

During the performance of this contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoffs or termination; rates of pay or other forms of compensation; and, selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the State Highway Agency (SHA) setting forth the provisions of this nondiscrimination clause.

2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

3. The Contractor will send to each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. The Contractor will comply with all provisions of Executive Order 11246, Equal Employment Opportunity, dated September 24, 1965, and of the rules, regulations (41 CFR Part 60), and relevant orders of the Secretary of Labor.

5. The Contractor will furnish all information and reports required by Executive Order 11246 and by rules, regulations, and orders of the Secretary of Labor, pursuant thereto, and will permit access to its books, records, and accounts by the Federal Highway Administration (FHWA) and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract, or with any of such rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

7. The Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraph (1) through (7) in every subcontract or purchase order so that such provisions will be binding upon each subcontractor or vendor, unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246. The Contractor will take such action with respect to any subcontract or purchase order as the Secretary of Labor, SHA, or the Federal Highway Administration (FHWA) may direct as a means of enforcing such provisions, including sanctions for noncompliance. In the event a contractor becomes a party to litigation by a subcontractor or vendor as a result of such direction, the contractor may request the SHA to enter into such litigation to protect the interest of the State. In addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: *Provided*, that if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

## Minority and Women Employment Goals

County	Federal Goals		State Goals	
	Minority Goal	Women Goal	Minority Goal	Women Goal
Aitkin	2.2%	6.9%	5%	6%
Anoka	2.9%	6.9%	22%	6%
Becker	0.7%	6.9%	6%	6%
Beltrami	2.0%	6.9%	6%	6%
Benton	0.5%	6.9%	3%	6%
Big Stone	2.2%	6.9%	4%	6%
Blue Earth	2.2%	6.9%	4%	6%
Brown	2.2%	6.9%	4%	6%
Carlton	1.2%	6.9%	5%	6%
Carver	2.9%	6.9%	22%	6%
Cass	2.2%	6.9%	6%	6%
Chippewa	2.2%	6.9%	4%	6%
Chisago	2.9%	6.9%	3%	6%
Clay	0.7%	6.9%	6%	6%
Clearwater	2.0%	6.9%	6%	6%
Cook	1.2%	6.9%	5%	6%
Cottonwood	0.8%	6.9%	4%	6%
Crow Wing	2.2%	6.9%	6%	6%
Dakota	2.9%	6.9%	22%	6%
Dodge	0.9%	6.9%	4%	6%
Douglas	2.2%	6.9%	6%	6%
Faribault	2.2%	6.9%	4%	6%
Fillmore	0.9%	6.9%	4%	6%
Freeborn	0.9%	6.9%	4%	6%
Goodhue	2.2%	6.9%	4%	6%
Grant	2.2%	6.9%	6%	6%
Hennepin	2.9%	6.9%	32%	6%
Houston	0.6%	6.9%	4%	6%
Hubbard	2.0%	6.9%	6%	6%
Isanti	2.2%	6.9%	3%	6%
Itasca	1.2%	6.9%	5%	6%
Jackson	0.8%	6.9%	4%	6%
Kanabec	2.2%	6.9%	3%	6%
Kandiyohi	2.2%	6.9%	3%	6%
Kittson	2.0%	6.9%	6%	6%
Koochiching	1.2%	6.9%	5%	6%
Lac Qui Parle	2.2%	6.9%	4%	6%
Lake	1.2%	6.9%	5%	6%
Lake of the Woods	2.0%	6.9%	6%	6%
Le Sueur	2.2%	6.9%	4%	6%
Lincoln	0.8%	6.9%	4%	6%
Lyon	0.8%	6.9%	4%	6%

Minnesota Department of Transportation EEO Special Provisions  
Office of Civil Rights

Revised 07/12

County	Federal Goals		State Goals	
	Minority Goal	Women Goal	Minority Goal	Women Goal
Mahnomen	2.0%	6.9%	6%	6%
Marshall	2.0%	6.9%	6%	6%
Martin	2.2%	6.9%	4%	6%
McLeod	2.2%	6.9%	3%	6%
Meeker	2.2%	6.9%	3%	6%
Mille Lacs	2.2%	6.9%	3%	6%
Morrison	2.2%	6.9%	6%	6%
Mower	0.9%	6.9%	4%	6%
Murray	0.8%	6.9%	4%	6%
Nicollet	2.2%	6.9%	4%	6%
Nobles	0.8%	6.9%	4%	6%
Norman	2.0%	6.9%	6%	6%
Olmsted	1.4%	6.9%	4%	6%
Otter Tail	2.2%	6.9%	6%	6%
Pennington	2.0%	6.9%	6%	6%
Pine	2.2%	6.9%	3%	6%
Pipestone	0.8%	6.9%	4%	6%
Polk	1.2%	6.9%	6%	6%
Pope	2.2%	6.9%	6%	6%
Ramsey	2.9%	6.9%	32%	6%
Red Lake	2.0%	6.9%	6%	6%
Redwood	0.8%	6.9%	4%	6%
Renville	2.2%	6.9%	3%	6%
Rice	2.2%	6.9%	4%	6%
Rock	0.8%	6.9%	4%	6%
Roseau	2.0%	6.9%	6%	6%
Scott	2.9%	6.9%	22%	6%
Sherburne	0.5%	6.9%	3%	6%
Sibley	2.2%	6.9%	4%	6%
St. Louis	1.0%	6.9%	5%	6%
Stearns	0.5%	6.9%	3%	6%
Steele	0.9%	6.9%	4%	6%
Stevens	2.2%	6.9%	6%	6%
Swift	2.2%	6.9%	4%	6%
Todd	2.2%	6.9%	6%	6%
Traverse	2.2%	6.9%	6%	6%
Wabasha	0.9%	6.9%	4%	6%
Wadena	2.2%	6.9%	6%	6%
Waseca	2.2%	6.9%	4%	6%
Washington	2.9%	6.9%	22%	6%
Watsonwan	2.2%	6.9%	4%	6%
Wilkin	0.7%	6.9%	6%	6%
Winona	0.6%	6.9%	4%	6%
Wright	2.9%	6.9%	3%	6%
Yellow Medicine	2.2%	6.9%	4%	6%

Minnesota Department of Transportation Office of Civil Rights Contractor Employment Data		1. Contractor Name and Address:					
		Phone:					
2. Employment Data		b) Social Security #	c) New Hire (Y or N)	d) Ethnicity	e) Gender (M or F)	f) Trade/Foreman, Supervisors, Managers	g) Level (A, J, or T)
a) Name: Last Name, First Name, MI							
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**INSTRUCTIONS FOR EEO-12  
CONTRACTOR EMPLOYMENT DATA**

This form should be submitted at the Pre-Con to the Project Engineer prior to the start of your first MnDOT construction project for the calendar year (Prime and Subs)

1. Contractor Name and Address self-explanatory.
2. Employment Data information will coincide with your employment records.
  - 2a. Name should be listed First Name, Middle Initial, and Last Name. This will enable MnDOT EEO staff to readily identify individuals on all projects.
  - 2b. Social Security Number self-explanatory.
  - 2c. New Hire is to be indicated with a "Y" for Yes or an "N" for No. "New Hire" is an employee who has not worked for you in any capacity or on any other project within the current calendar year.
  - 2d. Ethnicity can be indicated by Black (B), Hispanic (H), American Indian/Alaskan Native (AI), Asian/Pacific Islander (AP), or White (W).
  - 2e. Gender is to be indicated with an "M" for Males or an "F" for Females.
  - 2f. Trade/Foreman, Supervisors, Managers self-explanatory. List trade that applies unless the employee fits one of the other three categories.
  - 2g. Level "A" is for an Apprentice, "J" is for a Journey Worker, and "T" is for a MnDOT approved Trainee.

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If you have questions about filling out this form, contact the Office of Civil Rights at (651) 366-3073.  
(Please make copies as you need them.)

This information can be submitted electronically via the web, through MnDOT's Work force Information Tracking Initiative (WITI) Program. To open a free account to gain access to WITI or to find out more about this possibility please contact MnDOT's Office of Civil Rights at (651) 366-3015.

Minnesota Department of Transportation EEO Special Provisions  
Office of Civil Rights

Revised 07/12

<b>Minnesota Department of Transportation</b> <b>Office of Civil Rights</b> <b>Monthly Employment Compliance Report</b> <b>EEO-13</b>		<b>1. SP</b> <input type="checkbox"/> <b>SAP</b> <input type="checkbox"/> (Check one) SF# _____ County or City _____		<b>3. Contractor Name:</b> Federal Tax ID: _____ Street Address: _____ City, State Zip _____		<b>4. Prime</b> <input type="checkbox"/> <b>Subcontractor</b> <input type="checkbox"/> (check one) 5. Dollar Amount of Contract: _____ 6. Percent of Completion: _____											
<b>2. Reporting Period</b> _____ to _____		<b>7. Employment Data</b> a) Name: Last, First Middle Initial		<b>b) Social Security #</b>		<b>c) New Hire (Y or N)</b>		<b>d) Ethnicity</b>		<b>e) Gender (M or F)</b>		<b>f) Trade/Foreman, Supervisors, Managers</b>		<b>g) Level (A, J or T)</b>		<b>h) Hours Worked This Period</b>	
1.																	
2.																	
3.																	
4.																	
5.																	
6.																	
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8.																	
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14.																	
15.																	
16.																	
17.																	
18.																	
19.																	
20.																	
<b>8. Contract Goals</b> MINNESOTA GOALS      %OBTAINED % Minority _____ % % Women _____ %		<b>9. Prepared by: (Signature)</b> _____ Print Name: _____ Title: _____ Date: _____ Phone: _____ Fax: _____		<b>10. Reviewed by: (Signature)</b> _____ Print Name: _____ Title: _____ Date: _____ Phone: _____ Fax: _____													

**INSTRUCTIONS FOR EEO-13**  
MONTHLY EMPLOYMENT COMPLIANCE REPORT

- 1.-5. Self-explanatory – State Project #, county project is located in, are you a prime or sub, and contract value.
  6. Percent of Completion is the estimated percentage of work completed including this reporting period.
  7. Employment Data information will coincide with your employment records...All professional, supervisory and managerial hours actually worked on the project site must be included, whether or not they appear on the certified payroll.
    - 7a. Name should be listed Last Name, First Name, and Middle Initial. This will enable MnDOT EEO staff to readily identify individuals on all projects.
    - 7b. Social Security Number self-explanatory.
    - 7c. New Hire is to be indicated with a "Y" for Yes or an "N" for No. "New Hire" is an employee who has not worked for you in any capacity or on any other project within the current calendar year.
    - 7d. Ethnicity can be indicated by Black (B), Hispanic (H), American Indian/Alaskan Native (AI), Asian/Pacific Islander (AP), or White (W).
    - 7e. Gender is to be indicated with an "M" for Males or an "F" for Females.
    - 7f. Trade/Foreman, Supervisors, Managers list the trade that applies unless the employee fits one of the other three categories.
    - 7g. Level "A" is for an Apprentice, "J" is for a Journey Worker, and "T" is for a MnDOT approved Trainee.
    - 7h. Hours Worked for This Period will be all hours worked by the individual, for each trade, during the specified reporting period.
  8. Contract Goals are the percent of total project hours to be worked by minority and women employees. The goals are determined by the geographic location and source of funding for the project. Projects in excess of \$100,000 with any State funding must meet the State Employment Goals. Projects in excess of \$10,000 with any Federal funding must meet the Federal Employment Goals. (See chart on EEO Pages 16-17.) Minority and women employee hours shall be distributed evenly throughout the length of the project and in every trade and craft that performs work on the project.
  9. % Obtained is the percent of the total project hours worked by minority and women employees, up to and including this reporting period.
  9. Prepared by Contractor Designee is the signature of the prime or subcontractor's EEO officer/designee.
  10. Reviewed by Project Engineer is the signature of the MnDOT staff monitoring the project.
- The Prime Contractor will submit EEO-13 forms for its workforce and all subcontractors to the MnDOT Project Engineer by the 15<sup>th</sup> day of the month following the month when work was performed. If you have questions about filling out this form, contact the Office of Civil Rights at (651) 366-3073. (Please make copies as you need them.)
- This information can be submitted electronically via the web, through MnDOT's Workforce Information Tracking Initiative (WITI) Program. To open a free account to gain access to WITI or to find out more about this possibility please contact MnDOT's Office of Civil Rights at (651) 366-3321.

## EEO COMPLIANCE REVIEW REPORT

Total Company Workforce  
(For 12 Month Period Preceding July 30<sup>th</sup> of the previous year)

Name and Address of Contractor

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name and Title of Corporate Officer

Name of EEO Officer

\_\_\_\_\_

\_\_\_\_\_

Job Categories	Total Employees		Total Minorities		Blacks		Asian/ Pacific Is.		American Indian		Hispanic		On-the-Job Trainees	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Officials (Managers)														
Supervisors														
Foremen/Women														
Clerical														
Equipment Operators														
Mechanics														
Truck Drivers														
Iron Workers														
Carpenters														
Cement Masons														
Electricians														
Pipefitters & Plumbers														
Painters														
Laborers														
Misc. Trades														
<b>Total</b>														
On-the-Job Trainees														



MINNESOTA DEPARTMENT OF TRANSPORTATION
ON-THE-JOB TRAINING PROGRAM
TRAINEE ASSIGNMENT

SP #: \_\_\_\_\_ Location: \_\_\_\_\_ District: \_\_\_\_\_

Project Engineer: \_\_\_\_\_ Phone: ( ) \_\_\_\_\_

Prime Contractor: \_\_\_\_\_ Phone: ( ) \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

EEO Officer: \_\_\_\_\_ Project Manager: \_\_\_\_\_

Tel: \_\_\_\_\_

Training Contractor: \_\_\_\_\_ Phone: ( ) \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

EEO Officer: \_\_\_\_\_ Project Manager: \_\_\_\_\_

Tel: \_\_\_\_\_

TRAINEE

Job Title or Trade Classification: \_\_\_\_\_ Number of Training Hours on this Project: \_\_\_\_\_

Name: \_\_\_\_\_ S.S.#: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: ( ) \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

EEO Officer: \_\_\_\_\_ Project Manager: \_\_\_\_\_

Tel: \_\_\_\_\_

Approximate Start Date: \_\_\_\_\_

Approximate Completion Date: \_\_\_\_\_

Is the trainee a member of a certified apprenticeship program?
If YES, verify with Apprenticeship Form or Indenture Number: \_\_\_\_\_

1. Ethnic Background: Hispanic \_\_\_\_\_; Black \_\_\_\_\_; Asian/Pacific Islander \_\_\_\_\_; White \_\_\_\_\_;
Am. Ind/Alaskan \_\_\_\_\_ (Verify with Tribal I.D. # or Affiliation \_\_\_\_\_);
2. Male; \_\_\_\_\_ Female; \_\_\_\_\_

**CERTIFICATION OF ON-THE-JOB TRAINING HOURS  
FEDERAL-AID-PROJECTS**

*Contractor: submit original and one copy monthly to the project engineer*

CONTRACTOR	REPORTING PERIOD:
ADDRESS	S.P. NO. (LOW):
	F.P. NO.:

TRAINEE	HOURS WORKED PREVIOUSLY	HOURS WORKED THIS PERIOD	TOTAL HOURS TO DATE

AMOUNT OF CLAIM \_\_\_\_\_ HOURS @ \_\_\_\_\_ PER HOUR = \$ \_\_\_\_\_

Progress of Trainee(s)  Excellent  Very Good  Good  Below Good

COMMENTS (Please detail any supplementary training offered):

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

<p><b>CONTRACTOR:</b>                  The undersigned contractor hereby certifies that the listed employees are bonafide trainees as required by the On-the-Job Training Special Provisinn and that they have worked the hours as reported above.</p> <p>_____  <i>Contractor Signature/Title</i> <span style="float: right;">Date</span></p>
<p><b>PROJECT ENGINEER:</b>                  I hereby certify that the On-the-Job training hours reported above have been reviewed and found correct.</p> <p>_____  <i>Engineer Signature/Title</i> <span style="float: right;">Date</span></p>



Minnesota Department of Transportation EEO Special Provisions  
 Office of Civil Rights  
**On-the-Job Training (OJT) Program Approval Form**

07/12

The Special Provisions of the contract clearly indicate that training and upgrading of minorities and women toward Journey worker status is the primary objective of the training provisions.

We,		, submit the following training program for (Trade) for approval.
	(Name of Contractor)	

**I. Project Information**

Contractor Name	S.P. #	County	Prime	Sub
Address	City	State	Zip	
Contact Person/ EEO Officer		Phone #	e-mail address	
Project Goals				
Trainees	Hours			

**II. Project Training Plan Information**

Trade	# of Trainees Projected	Hourly Assignment per Trainee	Estimated Start Date	Estimated End Date	Recruiting Resource

Planned Training Activities

**III. Contractor Acknowledgment Statement.**

I understand and will comply fully with the plans and specifications under which this training is being performed, and will report subsequent revisions to the training program as changes occur.

Contractor's Representative Signature	Title	Date

**IV. Instruction for the Contractor.**

The contractor's proposed training programs must be documented on this form and submitted as indicated in the Proposal. Your Company's compliance with this specification will factor into any and all employment related "Good Faith Effort" determinations.



## On-the-Job Training Program Trainee Termination Form

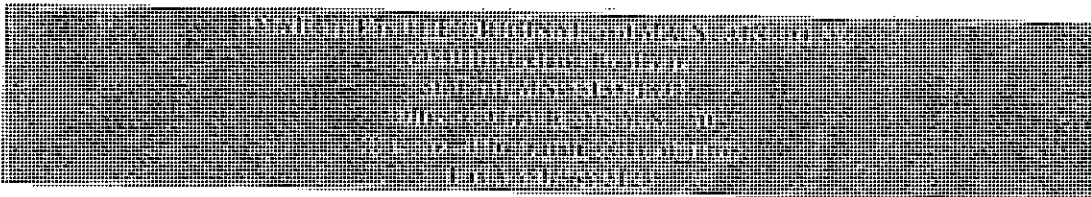
Contractor Name		County	Prime	Sub
Address	City	State	Zip	
EEO Officer		Phone #	e-mail address	
Trainee Name		Phone #	Social Security No.	
Address	City	State	Zip	
<b>Race/Ethnicity</b>				
<input type="checkbox"/> Hispanic		<input type="checkbox"/> White		<input type="checkbox"/> Asian
<input type="checkbox"/> Black		<input type="checkbox"/> American Indian		<input type="checkbox"/> Other
Gender		Classification/Trade		S.P. #
<input type="checkbox"/> Female	<input type="checkbox"/> Male			
Start Date	Termination Date	Hours Assigned	Hrs Completed	

**Reason for Termination/Separation/Layoff:**

<input type="checkbox"/> Construction phase completed
<input type="checkbox"/> Death
<input type="checkbox"/> Fired (please explain below)
<input type="checkbox"/> Illness/health problems
<input type="checkbox"/> Lack of transportation and /or travel distance
<input type="checkbox"/> Military duty
<input type="checkbox"/> Relocated
<input type="checkbox"/> Personal
<input type="checkbox"/> Quit to work for another company
<input type="checkbox"/> Other (please explain below)

Please provide comments:

Contractor's Representative Signature	Title	Date
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**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS**

Form-1273

(52 FR 36920, October 2, 1987, revised October 21, 1993, FHWA Electronic Version May 1, 2012)

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

**ATTACHMENTS**

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

**I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

**II. NONDISCRIMINATION**

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

**REQUIRED CONTRACT PROVISIONS (cont.)**

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

**REQUIRED CONTRACT PROVISIONS (cont.)**

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

## REQUIRED CONTRACT PROVISIONS (cont.)

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any

location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of

**REQUIRED CONTRACT PROVISIONS (cont.)**

this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit

which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

**2. Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**3. Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain

**REQUIRED CONTRACT PROVISIONS (cont.)**

written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5; and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly; and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the

"Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**4. Apprentices and trainees**

**a. Apprentices (programs of the USDOL).**

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

**REQUIRED CONTRACT PROVISIONS (cont.)**

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**b. Trainees (programs of the USDOL).**

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

**d. Apprentices and Trainees (programs of the U.S. DOT).**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

**REQUIRED CONTRACT PROVISIONS (cont.)**

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any

subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section

**VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its

## REQUIRED CONTRACT PROVISIONS (cont.)

own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract.

Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

**REQUIRED CONTRACT PROVISIONS (cont.)**

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

**X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

**1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who

has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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**2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

**REQUIRED CONTRACT PROVISIONS (cont.)**

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier

Covered Transactions" refers to any covered transaction under a

First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\*\*\*\*\*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Participants:**

I. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently

**REQUIRED CONTRACT PROVISIONS (cont.)**

debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\*\*\*\*\*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

**APPENDIX A (Short Version)**  
**REQUIRED CONTRACT PROVISIONS**  
**FEDERAL-AID CONSTRUCTION CONTRACTS**

The Required Contract Provisions for Federal-aid construction contracts, Form FHWA-1273 (Rev. 4-93) is restated here for emphasis:

Section IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

Section IV.2, Classification

2. Classification

a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) the work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) the additional classification is utilized in the area by the construction industry;

(3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) with respect to helpers as defined in Section IV.4(c), when such a classification prevails in the area in which the work is performed.

**For implementation reference Section IV.2(c), (d) and (e).**

Complete your application online!



Minnesota  
Pollution  
Control  
Agency

**Application for General Stormwater Permit for  
Construction Activity (MN R100001)  
National Pollutant Discharge Elimination System  
/ State Disposal System (NPDES/SDS)**

Please submit to: Minnesota Pollution Control Agency  
Construction Stormwater Permit Program  
520 Lafayette Road North, St. Paul, MN 55155-

4194

PLEASE READ: This form is for new permit applications only. Use the Notice of Termination/Permit Modification form to transfer permit coverage for a project or a portion of a project to a new owner/contractor. Forms are available at the MPCA's Construction Stormwater Web site: [www.pca.state.mn.us/water/stormwater/stormwater-c.html](http://www.pca.state.mn.us/water/stormwater/stormwater-c.html). Complete your application online!

Please refer to the application instructions and the NPDES/SDS General Stormwater Permit for Construction Activity (MN R100001) as you complete this form. Brackets '[ ]' refer to specific parts of the permit. For assistance, call the Stormwater Program at 651-757-2119 or toll-free at 800-657-3804.

**Are you ready to apply?**

**1. Stormwater Pollution Prevention Plan (SWPPP)**

- a. Has a Stormwater Pollution Prevention Plan been developed for this project and incorporated into the project's plans and specifications [Part III.A]  Yes  No
- b. If an environmental review was required for this project or a common plan of development or sale that includes this project, has the environmental review been completed and all stormwater mitigative requirements been incorporated in the SWPPP as required in Part III.A.6 of the permit?  Yes  No  NA

**2. Discharges to Special or Impaired Waters**

- a. If any portion of the project has a discharge point within 1 mile of a special water or a water that is impaired for sediment or a sediment related parameter (see Appendix A,B), does the SWPPP contain the additional requirements found in Appendix A, Part A-C? If the project does not have a discharge point within 1 mile of a special water or a water that is impaired for sediment or a sediment related parameter of the permit indicate "NA"  Yes  No  NA
- b. If this project is discharging to a Calcareous fen, has an approval letter been obtained from the DNR as required in Part III.A.8 of the permit?  Yes  No  NA

STOP If you responded 'No' to any question above. A SWPPP must be developed prior to submitting a permit application. Complete the above requirements and check 'Yes' before submitting this application. Continue if you responded 'Yes' or 'NA' to all questions above.

**3. Additional Application Review:**

- a. Will the project include alternative treatment methods? [Part III.C.5] If yes, this application and the alternative treatment plans must be submitted a minimum of 90 days before construction starts.  Yes  No
- b. If yes, are the plans attached?  Yes  No
- c. Will the project disturb 50 acres? AND Is there a discharge point within one mile of an impaired or special water whose discharge may reach an impaired or special water listed in Appendix A of the permit? [Part II.B.1.b] If yes, this application and the SWPPP must be submitted a minimum of 30 days before construction starts.  Yes  No
- d. If 'Yes,' is the SWPPP attached?  Yes  No

**4. Application Fee:**

Is the required \$400 Application Fee (payable to the MPCA) enclosed?

Yes

**Construction Activity Information**

5. Project name: CSAH 10 Concrete Surfacing

**6. Project location:**

a. Briefly describe where the construction activity occurs  
(For example: "Intersection of 45th St. and Irving Ave.")  
Include address if available:

CSAH 10 from US 59 to Cottonwood

b. All cities where project will occur:

Cottonwood

c. All counties where project will occur:

Lyon

d. All townships where project will occur:

T113N R41W, T113N R40W

e. Project ZIP Code:

56229

f. Latitude and longitude of approximate centroid of project:

Latitude: 44.6155 ° N (decimal)  
*Preferred*

Longitude: 95.7474 ° W (decimal) *Preferred*

    °     '     " N (degrees, minutes, seconds)

    °     '     " W (degrees, minutes, seconds)

g. Method used to collect latitude and longitude:

GPS

USGS Topographic map — Map scale: GIS ArcMap

Other

**7. Project size:**

Number of acres to be disturbed to the nearest quarter acre:

34.0

**8. Project map:**

A map must be included with the application for all projects disturbing 50 acres or more. Is  Yes  No a project map included?

**9. Project type:**

Residential

Residential / Road construction

Other:

Commercial / Industrial

Commercial / Road construction

Road construction

Commercial / Residential / Road construction

**10. Cumulative impervious surface:**

a. Existing area of impervious surface in acres:

34.62

b. Post-construction area of impervious surface in acres (If additional new impervious surface created by the project is less than one acre, skip to Question 12):

29.08

**11. Permanent stormwater management:**

- Wet sedimentation basin
- Infiltration / filtration
- Regional ponding
- Other (Use only if there is no feasible way of installing the treatment systems listed above for reasons such as lack of right-of-way or proximity to bedrock)
- Alternative methods (If using alternative methods, construction cannot commence until receiving approval from the MPCA.)

**12. Receiving waters:**

Identify surface waters within one mile of project boundary that will receive storm water from the site or discharge from permanent Stormwater management system. Include waters shown on USGS 7.5 minute quad or equivalent, all Special Waters and Impaired waters identified in Appendix A of the permit (To find Special or Impaired Waters, use the Special and Impaired Waters Search tool at [www.pca.state.mn.us/water/stormwater/stormwater-c.html](http://www.pca.state.mn.us/water/stormwater/stormwater-c.html)).

The Impaired Waters\* list, also known as the Section 303(d) list can be found at <http://www.pca.state.mn.us/water/tmdl/index.html> Use additional paper if necessary.

\* Impaired waters for the purpose of this permit are those identified as impaired for the following pollutant(s) or stressor(s): phosphorus, turbidity, dissolved oxygen, or biotic impairment

Name of water body	Type of water body (Ditch, pond, wetland, stream, river)	Special Water? See Stormwater Permit, Appendix A	Impaired Water? See Stormwater Permit, Appendix A
Judicial Ditch 2	Ditch	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
County Ditch 11	Ditch	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

**13. Dates of construction**

- a. Start date: 5 / 1 / 13
- b. Estimated Completion date: 9 / 1 / 13

**STOP** This form will not be accepted if the Owner and Contractor contact information sections, below, are BOTH not completed and signed. If the owner is also the contractor, or a contractor hasn't yet been selected, the owner must also fill out the contractor information section and sign again.

**Responsible parties****BOTH PARTIES MUST SIGN****Owner**

Lyon County Highway Department

**Business or firm name**

Kanwar | Suhail | Engineer

**Last name** | **First name** | **Title**

suhailkanwar@co.lyon.mn.us | (507) 532-8205

**E-mail** | **Phone (include area code)**

504 Fairgrounds Rd | Marshall | MN | 56258

**Mailing address** | **City** | **State** | **ZIP Code**

Aaron VanMoer | aaronvanmoer@co.lyon.mn.us | (507) 532-8202

**Alternate contact name** | **E-mail** | **Phone (include area code)**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the NPDES/SDS General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

**X** Authorized signature: Suhail Kanwar Date: 2-7-12

This Application must be signed by:

- Corporation: a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.
- Partnership or Sole Proprietorship: a general partner or the proprietor.
- Municipality, State, Federal or Other Public Agency: principal executive officer or ranking elected official.

**Contractor****Business or firm name****Last name** | **First name** | **Title****E-mail** | **Phone (include area code)****Mailing address** | **City** | **State** | **ZIP Code****Alternate contact name** | **E-mail** | **Phone (include area code)**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage this system, or the persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also certify under penalty of law that I have read, understood, and accepted all terms and conditions of the NPDES/SDS General Stormwater Permit Construction Activity (MN R100001) that authorizes stormwater discharges associated with the construction site identified on this form.

**X** Authorized signature: \_\_\_\_\_ Date: \_\_\_\_\_

This Application must be signed by:

- Corporation: a principal executive officer of at least the level of vice-president or the duly authorized representative or agent of the executive officer if the representative or agent is responsible for the overall operation of the facility that is the subject of the permit application.
- Partnership or Sole Proprietorship: a general partner or the proprietor.

- *Municipality, State, Federal or Other Public Agency: principal executive officer or ranking elected official.*



Minnesota  
Pollution  
Control  
Agency

## INSTRUCTIONS FOR THE APPLICATION FOR MINNESOTA'S NPDES/SDS GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY

Submission of an application is notice that the owner and general contractor identified on the application intend to be authorized by an NPDES/SDS permit issued for Stormwater discharges associated with a construction activity in the State of Minnesota.

### Are you ready to apply?

1. Indicate if a Stormwater Pollution Prevention Plan (SWPPP) has been prepared and the appropriate sections (a and b of this question) have been addressed by answering "Yes" or "No". A SWPPP is a plan for Stormwater discharge that includes erosion prevention measures and sediment controls that, when implemented, will decrease soil erosion on a parcel of land and decrease pollution in receiving waters. This plan must be developed prior to submitting a permit application. A sample plan and development tools are available from the U.S. Environmental Protection Agency Stormwater Pollution Prevention Plans for Construction Activities and from the MPCA "Stormwater Compliance Tool Kit for Small Construction Operators"

For section "b" indicate if an Environmental Review has been completed if required, by answering "Yes" or "No" or "NA" (not applicable). Environmental review looks at how a proposed project could potentially affect the environment and looks at ways to avoid or minimize impacts before the project is permitted and built. Examples of categories that may need an environmental review include residential development; industrial, commercial, and institutional facilities; and also highway projects. For certain projects, environmental review is mandatory. For more details see the Guide to Minnesota Environmental Review Rules, Chapter 6.

2. Discharges to Special or Impaired Waters
  - a. Special waters have qualities that warrant extra protection. There are several categories of special waters and the requirements are different for each. A list of these special water categories can be found in Appendix A of the permit. The additional requirements apply only to those portions of a project that drain to a discharge point on the project that is within 1 mile of and flows to the special water. Refer to Appendix A of the permit for the list of special waters and what additional requirements apply to each. The information is also available using the Special and Impaired Waters Search Tool.

Impaired waters are bodies of water that do not meet the water quality standards set up for their designated use as determined by the State. Projects discharging to impaired waters also have additional requirements. The additional requirements apply only to those portions of a project that drain to a discharge point on the project that is within 1 mile of and flows to the impaired water. The specific requirements can be found in Appendix A of the permit. Impaired waters for the purpose of this permit are limited to those identified as impaired pursuant to section 303(d) of the Clean Water Act where the pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). Use the interactive Special and Impaired Waters Search Tool to determine if your project is required to follow the additional requirements. On the application, indicate if the SWPPP for the project incorporates the additional requirements, if applicable. Consult the web page General Information about Impaired Waters and Current TMDL List of Impaired Waters for additional information including a list of impaired waters.

- b. An approval letter from the Department of Natural Resources (DNR) is needed to discharge to calcareous fens. If the DNR does not respond to the request for a letter of approval within 30

calendar days, you may apply for permit coverage and check the NA box. Document this process in the SWPPP for the project.

3. Additional Application Review
  - a. Indicate by answering "Yes" or "No" whether the project will include alternative methods for the permanent stormwater management system. You have the option of proposing an alternative, innovative, permanent stormwater management system. You must send in the permit application and the additional required information (see Part III.C.5 of the Permit) at least 90 days prior to the start of construction if you choose this approach. You must receive an approval letter from the MPCA for this method before beginning construction.
  - b. Attach the plans for the alternative system.
  - c. If the project disturbs 50 acres or more and has a discharge point (including sheet flow) that is within one mile of and flows to an impaired or special water listed in Appendix A, the application and SWPPP need to be submitted to the MPCA a minimum of 30 days prior to the start of construction.
4. The application requires a \$400 application fee. Indicate that the application fee has been enclosed by answering "Yes". Please make checks payable to: Minnesota Pollution Control Agency and submit the check with the completed application to: MPCA, Construction Stormwater Permit Program, 520 Lafayette Road North, St. Paul, MN 55155-4194. Applications received without the required fee will be returned to the sender.

### Construction Activity Information

5. List the construction project's name. Be specific. Examples: "Driveway at 123 Main St, Hudson", "Highway 169 bridge replacement (#79605) at the Rum River".
6. Project Location
  - a. Provide an address (if available) and brief description of the construction activity's location (for example, "North West Corner of the Intersection of 45<sup>th</sup> Street and Irving Avenue, Minneapolis, MN"). Use any type of description that accurately portrays the project location.
  - b-e. Provide the names of all cities, counties, zip codes, and townships the construction activity takes place in (for example, a roadway may cross county, city, or township boundaries).
  - f. Give the latitude and longitude of the centroid of the site. If the centroid of the site is not within the site, give the latitude and longitude of a point within the site that is closest to the centroid of the site. Give these values in degrees and decimal of degrees (preferred) alternatively in degrees, minutes and seconds. To obtain the decimals of a degree, divide the minutes by 60 and the seconds by 360 and add this to the degrees.
  - g. State how the information was gathered, if by GPS, by using a USGS topographic map (give the scale), or an online tool such as the [Toxics Release Inventory Facility Siting Tool](#). To use this tool, type either the zip code or the city/township and the state. Zoom in to obtain the latitude and longitude.
7. List, in acres, the amount of area that will be disturbed for this project. This is not the size of the property; do not include areas of the project that will not be disturbed.
8. Add the map to the SWPPP. United States Geological Survey (USGS) 7.5-minute quad maps or equivalent maps may be used. USGS 7.5-minute quad maps may be printed from the [Special and Impaired Waters Search Tool](#) or ordered at the [USGS store](#). The map does not need to be submitted with the application unless the project is disturbing 50 acres or more. The map should include the project boundaries. The project boundaries can be added to the map electronically using the search tool above.
9. Indicate the type of construction activity by checking the appropriate box. Check "Residential and Road Construction" if the road is part of a common plan of development and is developed in association with residential development. If you check "Other", describe the project.
10. Indicate to the nearest quarter acre, the existing and resulting areas of impervious surfaces. Impervious surface means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads. (a.) "Existing" area means the area of impervious surface that is present prior to the start of this construction project. (b.) "Post construction" means the entire area of impervious surface after construction is completed. Subtract (a.) from (b.) to determine the area of new impervious

surface.

11. For projects creating one or more acres of cumulative new impervious surfaces, check the appropriate box to indicate which type(s) of permanent stormwater management practices will be used. The "Other" box is limited to those situations (such as proximity to bedrock) that are described in Part III.C of the permit. See the permit for a further description. If the "Other" box is checked, describe which situation outlined in Part III. C. fits the project and what other permanent treatment (such as grassed swales, smaller ponds and/or grit chambers) will be used on the project.
12. BRIEFLY describe which water body(s) will receive stormwater runoff from the construction site or from the discharge from permanent Stormwater management systems by completing the table. To determine which water body(s) will receive stormwater runoff discharges, make a brief survey of the project's surrounding area. Include the waters identified on a USGS 7.5-minute quad or equivalent map. See Appendix A of this permit to determine if a water body is a special water or visit the website Special Waters Document. Impaired waters for the purpose of this permit are those identified as impaired for the following pollutant(s) or stressor(s) phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). The easiest way to find special or impaired waters in addition to all waterbodies is to use the interactive map tool, Special and Impaired Waters Search tool. Impaired waters are also listed here: <http://www.pca.state.mn.us/water/tmdl/index.html>
13. List the start and estimated completion dates of the construction project.

#### Responsible Parties

14. **Owner Information:** Provide the information requested of the owner of the company, organization, or other entity for which this construction project is being done. The Owner means the person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease, easement, or mineral rights license holder, the party or individual identified as the lease, easement or mineral rights license holder; or the contracting government agency responsible for the construction activity. The owner is the party responsible for the compliance with all terms and conditions of the permit. The alternate contact should be the owner's representative in charge of the project.

After completing this application, certify it with a signature and date from an individual authorized to sign the application. This application form must be signed by either a principal executive officer, vice president, representative agent responsible for overall operations, general partner, or a proprietor. If the activity is being conducted by a unit of government (state, county, municipality, or township), this application must be signed by a principal executive officer or ranking elected official (for example, city or county engineer, administrator, or manager; director of public works; mayor, etc.) For additional information, see Minnesota Rules 7001.0060.

15. **Contractor (Operator) Information:** Provide the information requested of the contractor. The Contractor means the party who signs the construction contract with the owner to construct the project described in the final plans and specifications. Where the construction project involves more than one contractor, the general contractor will be the party responsible for managing the project on behalf of the owner. In some cases the owner may be the general contractor. In these cases, the owner may contract an individual as the operator who would be the co-permittee. The operator (usually the general contractor) is jointly responsible with the owner for compliance with Part II.B., Part II.C., and Part IV of the permit.

After this application has been completed by the owner, the contractor must certify it with a signature and date from an individual authorized to sign the form. The application must be signed by either a principal executive officer, vice president, representative agent responsible for overall operations, general partner, or a proprietor. If the general contractor is a unit of government (state, county, municipality, or township), this application must be signed by a principal executive officer, ranking elected official, administrator, manager, coordinator, or engineer. (For additional information, see Minnesota Rules 7001.0060.) The alternate contact should be the contractor's representative in charge of the project.





SP 042-610-034 & 042-070-003 Minn.Proj.No. STP-HSIP4213(161))

**\*\*NOTICE TO CONTRACTOR\*\***

**Storm Water Permit Application**

The enclosed **Application for General Storm Water Permit for Construction Activity** must be completed (**Questions #4 and 15**) and mailed to:

Minnesota Pollution Control Agency  
Metro District, Community and Area-wide Programs  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

The application fee of **\$400.00**, payable to Minnesota Pollution Control Agency, must also be included with the Application.

**NPDES Declaration**

The enclosed **NPDES Declaration** must be completed and mailed with a copy of the above application, and your Contracts and Bonds, to the addresses below:

**Mr. Suhail Kanwar**  
**Lyon County Engineer**  
**504 Fairgrounds Road**  
**Marshall, Minnesota 56258**

**Mr. Mel Odens**  
**MnDOT District 8 State Aid Engineer**  
**P.O. Box 768**  
**2505 Transportation Road**  
**Willmar, MN 56201**

*These instructions must be completed for the Contracting Agency to give Final Approval Authority to begin work on this project.*

THE FOLLOWING CERTIFICATION WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND THE FILING OF REQUIRED REPORTS SHALL BE EXECUTED BY THE BIDDER.

The bidder hereby certifies the he/she has \_\_\_\_\_, has not \_\_\_\_\_, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114 or 11246, and that he/she has \_\_\_\_\_, has not \_\_\_\_\_, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

\_\_\_\_\_  
*(Company)*

By: \_\_\_\_\_

\_\_\_\_\_  
*(Title)*

Date: \_\_\_\_\_

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41CFR 60-1.7(b)(1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are exempt from the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

## NON-COLLUSION AFFIDAVIT

The following Non-Collusion Affidavit shall be executed by the bidder:

State Project No. \_\_\_\_\_

Federal Project No. \_\_\_\_\_

State of Minnesota \_\_\_\_\_ )

) ss

County of \_\_\_\_\_ )

I, \_\_\_\_\_, do state under penalty of  
(name of person signing this affidavit)

perjury under 28 U.S.C. 1746 of the laws of the United States:

(1) that I am the authorized representative of \_\_\_\_\_

\_\_\_\_\_  
(name of person, partnership or corporation submitting this proposal)

and that I have the authority to make this affidavit for and on behalf of said bidder;

(2) that, in connection with this proposal, the said bidder has not either directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding;

(3) that, to the best of my knowledge and belief, the contents of this proposal have not been communicated by the bidder or by any of his/her employees or agents to any person who is not an employee or agent of the bidder or of the surety on any bond furnished with the proposal and will not be communicated to any person who is not an employee or agent of the bidder or of said surety prior to the official opening of the proposal, and

(4) that I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed: \_\_\_\_\_  
(bidder or his authorized representative)

THE SCHEDULE OF PRICES SHEETS HAVE INTENTIONALLY BEEN LEFT OUT OF THE PDF PRINT OUT OF THIS PROPOSAL. TO REQUEST THE SCHEDULE OF PRICES SHEETS, PLEASE VISIT OUR WEBSITE, [WWW.LYONCO.ORG](http://WWW.LYONCO.ORG), FOR INSTRUCTIONS OR CONTACT THE LYON COUNTY HIGHWAY DEPARTMENT AT 507-532-8205. THE SCHEDULE OF PRICES SHEETS WILL BE EMAILED TO YOU FOR INSERTION INTO THE PROPOSAL TO MAKE IT COMPLETE.

GRAND TOTAL \$ \_\_\_\_\_

PROPOSAL GUARANTY required by 1208 of the Specifications: "A (certified check) (bond), prepared as required by 1208 of the Specifications and payable to the Lyon County Treasurer, in an amount equal to at least 5% of the total amount of the bid is submitted herewith as a proposal guaranty.

DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATION: Our firm will meet a minimum goal of \_\_\_\_% of this contract to Disadvantaged Business Enterprises. A bidder who fails to indicate a specific goal above must fulfill the total goals indicated in the proposal.

NON-COLLUSION AFFIDAVIT: A Non-Collusion Affidavit is found in this proposal which must be signed by each bidder.

RECEIPT OF ADDENDA as required by 1210 of the Specifications:

The undersigned hereby acknowledges receipt of and has considered:

Addendum No. \_\_\_\_ Dated \_\_\_\_\_ Addendum No. \_\_\_\_ Dated \_\_\_\_\_  
Addendum No. \_\_\_\_ Dated \_\_\_\_\_ Addendum No. \_\_\_\_ Dated \_\_\_\_\_

**Signed**

EXECUTION OF PROPOSAL as required by 1206 of the Specifications:

This proposal dated the \_\_\_\_ day of \_\_\_\_\_, 20

Signed: \_\_\_\_\_, P.O. Address \_\_\_\_\_ as an individual.

Signed: \_\_\_\_\_, P.O. Address \_\_\_\_\_ as an individual.

doing business under the name and style of

Signed: \_\_\_\_\_, for \_\_\_\_\_ a partnership.

NAME

BUSINESS ADDRESS

Signed: \_\_\_\_\_, for \_\_\_\_\_ a corporation,

incorporated under the laws of the State of Minnesota

Name of President \_\_\_\_\_ Business Address \_\_\_\_\_

Name of Vice-President \_\_\_\_\_ Business Address \_\_\_\_\_

Name of Secretary \_\_\_\_\_ Business Address \_\_\_\_\_

Name of Treasurer \_\_\_\_\_ Business Address \_\_\_\_\_

(NOTE: Signatures shall comply with 1206 of the Specifications.)