

State of Alaska, Standard Specifications for Highway Construction, 2017 Edition and Modified as Follows:

**SPECIAL PROVISIONS AND
STANDARD MODIFICATIONS
FOR**



As-Advertised:

September 3, 2019

**JNU Back Loop – Mendenhall Loop Intersection Safety Improvements HSIP
Project Nos. SFHWY00240 & 0003242**

All Provisions contained in this section are considered Special Provisions unless otherwise designated as a Statewide Standard Modification (SM or HSM), Southcoast Region Standard Modification (SRM), Statewide Special Provision (S, HSP, SSP, or ES), or Southcoast Region Special Provision (SRS).

SECTION 101
DEFINITIONS AND TERMS

STANDARD MODIFICATION

101-1.03 DEFINITIONS. Delete the definition for BID and replace with the following:

BID (OR PROPOSAL). The bidder's offer, on the prescribed forms, to perform the specified work at the prices quoted.

Add the following five definitions:

BID FORMS. Department-furnished forms that a bidder must complete and submit when making a bid in response to an advertised project. Bid forms may include a bid schedule, certification forms, acknowledgement forms, and other documents.

DIGITAL SIGNATURE. An electronic signatures that conforms to the Uniform Electronic Transactions Act, AS 09.80.010 et seq.

ELECTRONIC BID. A bid that a bidder (i) prepares on the Department's bid forms accessed through the Department's approved online bidding service and (ii) submits to the Department through use of that bidding service's online submittal process.

ELECTRONIC MAIL (EMAIL). A system for sending messages from one person to another via telecommunications links between computers or terminals using dedicated software.

MANUAL BID. A bid that a bidder (i) prepares on the Department's bid forms accessed either through the Department's approved online bidding service or obtained from the Department's Regional Contracts Office and (ii) submits to the Department in physical paper form by hand delivery, U.S. Mail, or courier service.

HSM18-1 07/01/2018

STANDARD MODIFICATION

101-1.01 GENERAL. Add the following paragraph after the sixth paragraph:

Delete "Standard Drawing" throughout the Alaska Standard Specifications for Highway Construction and throughout the Alaska Traffic Manual Supplement and replace in both documents with, "Alaska Standard Plan".

101-1.03 DEFINITIONS. Add the following definition:

ALASKA STANDARD PLAN. Detail Drawing adopted by the Department for repetitive use, showing details to be used where appropriate.

Delete the following definition:

STANDARD DRAWING.

HSM18-4 02/08/2019

SECTION 102

BIDDING REQUIREMENTS AND CONDITIONS

SPECIAL PROVISION

102-1.01 QUALIFICATION OF BIDDERS. After the last paragraph add the following paragraph:

You must be registered as an Electrical Administrator, or must employ a person whose Electrical Administrator's license is assigned to you, under AS 08.40 at the time designated for bid opening.

ES 08 06/30/04

STANDARD MODIFICATION

102-1.05 PREPARATION OF BID. Delete the subsection in its entirety and replace with the following: A bidder shall prepare its bid using either the Department approved bid preparation software or the Department provided bid forms or legible copies of the Department's forms. All entries shall be legible and in ink or type.

Bidders shall:

1. Enter all prices required on the Bid Schedule, in figures;
2. Enter a unit price for each contract item for which a quantity is given;
3. Enter the products of the respective unit prices and quantities in the column provided;
4. Enter lump sum prices for lump sum contract items in the column(s) provided; and
5. Enter the total amount of all contract items for the basic bid and, when specified, any alternates.

When a bid item contains a choice to be made by the bidder, the bidder shall indicate a choice according to the Specifications for that item. No further choice is permitted.

The bid must be signed in ink or by a digital signature by the person or persons authorized to sign the Contract for the bidder. If a bidder is a corporation, the bid must be signed by a corporate officer or agent with authority to bind the corporation. If a bidder is a partnership, a partner must sign. If the bidder is a joint venture, each principal member must sign. If a bidder is a sole proprietorship, the owner must sign. Each person signing the bid must initial any changes made to entries on the bid forms.

A bidder submitting an electronic bid agrees that its digital signature constitutes a binding signature.

The bidder shall make no claim against the Department in the event it is unable to submit its bid through approved online bidding service and/or approved online bidding service is unable to submit the bid(s) to the Department. The Department reserves the right to postpone the public bid opening in the event of technical problems.

For multiple-project bid openings, the bidder may limit the total dollar amount or number of projects to be accepted by completing and attaching the following statement with its bid for at least one of the projects. The Department will then determine which of the low bids it will accept, up to the total indicated.

"We wish to disqualify all of our successful bids at this bid opening which exceed the total of \$_____ or _____ contracts and hereby authorize the Department to determine which bids to disqualify, based on this limit."

102-1.06 NONRESPONSIVE BIDS. Delete the subsection in its entirety and replace with the following:

1. A bid shall be rejected as nonresponsive if it:
 - a. Is not properly signed by an authorized representative of the bidder and in a legally binding manner;
 - b. Contains unauthorized additions, conditional or alternative bids, or other irregularities that make the bid incomplete, indefinite, or ambiguous;

- c. Includes a reservation of the right to accept or reject any award, or to enter into a contract pursuant to an award, except for an award limitation under Subsection 102-1.05;
 - d. Fails to include an acceptable bid guaranty with the bid;
 - e. Is materially unbalanced; or
 - f. Fails to meet any other material requirement of the Invitation To Bid.
2. A bid may be rejected as nonresponsive, in the Department's discretion, if it:
- a. Is not typed or completed in ink;
 - b. Fails to include an acknowledgement of receipt of each addendum by assigned number and date of issue; or
 - c. Is missing a bid price for any pay item, except when alternate pay items are authorized.

102-1.07 BID GUARANTY. Delete the subsection in its entirety and replace with the following: Bids shall be accompanied by a bid guaranty in the amount specified on the Invitation To Bid. The guaranty shall be unconditionally payable to the State of Alaska and shall be in the form of an acceptable paper Bid Bond (Form 25D-14), an electronic bid bond acceptable to the Department and verified through its online bidding service, a certified check, a cashier's check, or a money order.

The surety of a Bid Bond may be any corporation or partnership authorized to do business in Alaska as an insurer under AS 21.09. A legible power of attorney shall be included with each paper Bid Bond (Form 25D-14).

An individual surety will not be accepted as a bid guaranty.

102-1.08 DELIVERY OF BIDS. Delete the subsection in its entirety and replace with the following: Bids shall be submitted electronically through the online bidding service, or shall be submitted in a sealed envelope. When bids are submitted in a sealed envelope, the envelope shall clearly indicate its contents and the designated address, as specified on the Invitation to Bid. Bids for other work may not be included in the envelope. In the event of a bid delay, electronic bidders that have already submitted their bid prior to the bid delay must resubmit their bid utilizing all Bid Forms EBSX Files or their bid will not be received. The Department will not accept a bid submitted by email or fax unless specifically called for in the Invitation to Bid.

102-1.09 WITHDRAWAL OR REVISION OF BIDS. Delete the subsection in its entirety and replace with the following: Manual Bids may be withdrawn or revised in writing delivered by mail, fax, or email, provided that the designated office receives the withdrawal or revision before the deadline stated in the Invitation To Bid. Withdraw requests must be signed and submitted by the bidder's duly appointed representative who is legally authorized to bind the bidder. Revisions shall include both the modification of the unit bid price and the total modification of each item modified but shall not reveal the amount of the total original or revised bids.

Electronic Bids may be withdrawn or resubmitted through the online bidding service. Revisions to electronic bids delivered by mail, fax, or email will not be permitted. If electronic bid withdrawal is unsuccessful, electronic bids may be withdrawn in writing delivered by mail, fax, or email provided that the designated office receives the withdrawal before the deadline stated in the Invitation To Bid. Written withdrawal requests must be signed and submitted by the bidder's duly appointed representative who is legally authorized to bind the bidder.

102-1.11 ADDENDA REQUIREMENTS. Delete the subsection in its entirety and replace with the following: The Department will issue addenda if it determines, in its discretion, that clarifications or changes to the Contract documents or bid opening date are needed. The Department may send addenda by any reasonable method such as fax, email, or may post the addenda on its website or online bidding service. Unless picked up in person or included with the bid documents, addenda or notice that an addendum has been issued will be addressed to the individual or company to whom bidding documents were issued and sent to the email address or fax number on the plan holders' list. Notwithstanding the Department's efforts

to distribute addenda, bidders are responsible for ensuring that they have received all addenda affecting the Invitation To Bid. Bidders must acknowledge all addenda on the Bid Forms, by fax, or by email before the deadline stated in the Invitation to Bid.

102-1.12 RECEIPT AND OPENING OF BIDS. *Delete the subsection in its entirety and replace with the following:* The Department will only consider bids, revisions, and withdrawals received before the deadline stated in the Invitation to Bid.

The Department will assemble, open, and publicly announce bids at the time and place indicated in the Invitation to Bid, or as soon thereafter as practicable. The Department is not responsible for prematurely opening or failing to open bids that are improperly addressed or identified.

Add the following subsection:

102-1.14 ELECTRONIC MAIL

Within its submitted bid, a bidder must include a current electronic mail (email) address of bidder's representative who possesses authority to receive, process, and respond to Department emails regarding the advertised project.

The Department may send notices and information to a bidder by using the furnished email address of the bidder's authorized representative.

A bidder shall notify the Department if the bidder requests the Department to send email notices or information to an address different from the email address initially provided in its bid forms. The bidder shall notify the Department of such change by sending a request in writing to the Contract's point of contact identified on the Invitation to Bid that is signed by a representative who is authorized and empowered to legally bind the bidder.

Delivery of an email sent by the Department is complete upon receipt in the addressee's email account. An email sent after 4:30 pm shall be deemed to have occurred at the opening of business on the next working day.

If needed, the Department may demonstrate proof of email delivery by affidavit or certification that includes the following:

1. The date and time that the Department sent the email message;
2. The email address from which the Department sent the message;
3. The name and email address to which the Department sent the message;
4. A statement that the Department sent the email message and that the person signing the affidavit or certification believes the transmission to have been complete and without error; and
5. An attached copy of the subject email.

HSM18-1 07/01/2018

SECTION 103

AWARD AND EXECUTION OF CONTRACT

STANDARD MODIFICATION

103-1.01 CONSIDERATION OF BIDS. Delete the subsection in its entirety and replace with the following: After the bids are opened and read, the bids will be mathematically checked and compared on the basis of the sum of the products of the bid schedule quantities and the unit bid prices. The unit bid prices govern if there is an error in extending the unit bid prices, or in totaling the extensions, or if an extension is missing. The results of the bid comparisons will be made available to the public as soon as practicable.

Until the Award, the Department may reject any or all bids, waive minor informalities or advertise for new bids without liability to any bidder if the Department, in its discretion, determines that to do so is in the best interests of the State.

A bidder may request withdrawal of a bid after opening and before the Award only in accordance with AS 36.30.160(b) and State procurement regulations. Submit the request to the Contracting Officer.

An interested party, as defined in AS 36.30.699, may protest a proposed Award of contract as per AS 36.30.560 and AS 36.30.565. Submit the protest to the Contracting Officer.

WHOLLY STATE-FUNDED PROJECTS. On wholly state-funded projects, determination of the low bidder will include bidder preferences as required under AS 36.30.321, according to subsections 1-3 below. Alaska Bidder Preference, Alaska Veteran Preference, and Alaska Product Preference are not applicable on projects with federal funding.

1. Alaska Bidder Preference: A bidder claiming this preference shall provide with their bid an Alaska Bidder Preference Certification, certifying they qualify as an Alaska bidder eligible for Alaska Bidder Preference according to AS 36.30.

If the bidder qualifies as an Alaska bidder, a five percent (5%) preference will be applied to the price of the bid. "Alaska bidder" means a person who:

- a. holds a current Alaska business license;
- b. submits a bid for goods, services, or construction under the name as appearing on the person's current Alaska business license;
- c. has maintained a place of business within the state staffed by the bidder or an employee of the bidder for a period of six months immediately preceding the date of the bid;
- d. is incorporated or qualified to do business under the laws of the state, is a sole proprietorship and the proprietor is a resident of the state, is a limited liability company organized under AS 10.50 and all members are residents of the state, or is a partnership under former AS 32.05, AS 32.06, or AS 32.11 and all partners are residents of the state; and
- e. If a joint venture, is composed entirely of ventures that qualify under (a) through (d), above.

2. Alaska Veteran Preference: A bidder claiming this preference shall provide an Alaska Veteran Preference Certification, certifying they qualify as an Alaska bidder eligible for Alaska Veteran preference according to AS 36.30.

If a bidder qualifies as an Alaska bidder and is a qualifying entity, an Alaska Veteran Preference of 5 percent shall be applied to the bid price. The preference may not exceed \$5,000 (AS 36.30.321). A "qualifying entity" means a:

- a. sole proprietorship owned by an Alaska veteran;
- b. partnership under AS 32.06 or AS 32.11 if a majority of the partners are Alaska veterans;

- c. limited liability company organized under AS 10.50 if a majority of the members are Alaska veterans; or
- d. corporation that is wholly owned by individuals, and a majority of the individuals are Alaska veterans.

A preference under this section is in addition to any other preference for which the bidder qualifies.

To qualify for this preference, the bidder must add value by the bidder itself actually performing, controlling, managing and supervising a significant part of the services provided or the bidder must have sold supplies of the general nature solicited to other state agencies, governments, or the general public.

An Alaska veteran is a resident of Alaska who:

- (1) served in the Armed forces of the United States, including a reserve unit of the United States armed forces; or the Alaska Territorial Guard, the Alaska Army National Guard, the Alaska Air National Guard, or the Alaska Naval Militia; and
 - (2) was separated from service under a condition that was not dishonorable.
3. Alaska Product Preference: A bidder claiming this preference shall complete and sign the Alaska Product Preference Worksheet, according to the worksheet instructions, and submit the completed worksheet with their bid.

Except for timber, lumber and manufactured lumber products used in the construction project under AS 36.30.322(b), an Alaska products preference will be given as required under AS 36.30.326 - 36.30.332 when the bidder designates the use of Alaska products.

If the successful bidder/contractor proposes to use an Alaska product and does not do so, a penalty will be assessed against the successful bidder/contractor according to AS 36.30.330(a).

Each Alaska product declared on the Alaska Product Preference Worksheet must have an "Approval" date on the Alaska Product Preference Program List, that is on or before the bid opening date for this contract, and that does not expire before the bid opening date for this contract.

103-1.03 AWARD OF CONTRACT. Delete the subsection in its entirety and replace with the following: The Department will award the Contract to the lowest responsible and responsive bidder unless it rejects all bids. The Department will notify all bidders in writing via email, fax, or U.S. Mail of its intent to award. The Department will notify the successful bidder in writing of its intent to award the Contract and request that certain required documents, including the Contract Form, bonds, and insurance be submitted within the time specified. The successful bidder's refusal to sign the Contract and provide the requested documents within the time specified may result in cancellation of the notice of intent to award and forfeiture of the bid security.

If an award is made, it will be made as soon as practicable and usually within 40 days after bid opening. Award may be delayed due to bid irregularities or a bid protest, or if the award date is extended by mutual consent. Bids shall be valid for 120 days after bid opening, and may be extended by mutual consent.

HSM18-1 07/01/2018

SECTION 108

PROSECUTION AND PROGRESS

SR STANDARD MODIFICATION

108-1.03 PROSECUTION AND PROGRESS. Add the following after the list of documents submitted prior to the preconstruction conference:

The Contractor must submit three copies of the Contractor's Civil Rights Representatives contact information (Form 25A-302) identifying representatives of the Contractor and for representatives of each Subcontractor. Submit the completed form at the preconstruction conference and at the time any subcontract documents are submitted for approval. All contractors and subcontractors are required to update this information within 10 days after a personnel change occurs involving the individuals named in Form 25A-302.

Add the following new paragraph after the paragraph beginning "The Engineer's review or approval..."

The Contractor's Superintendent, SWPPP Manager, Worksite Traffic Supervisor, and Subcontractors scheduled to perform work shall attend a weekly meeting chaired by the Engineer to report project progress and action items.

SRM-2 04/06/2017

SECTION 109

MEASUREMENT AND PAYMENT

STANDARD MODIFICATION

109-1.01 GENERAL. Insert the following after the second paragraph: Pay item numbers in the Bid Schedule are cross-referenced to the pay item numbers in all other contract documents. The cross-reference for pay item numbers is included in the Estimate of Quantities table on the plans.

HSM18-1 07/01/2018

SR STANDARD MODIFICATION

109-1.02 MEASUREMENT OF QUANTITIES. Replace item "14. Weighing Procedures" with "Weighing Procedures". "Weighing procedures" is a subtopic under item "13. Ton (2,000 pounds)."

SRM-3 04/06/2017

SR STANDARD MODIFICATION

109-1.08 FINAL PAYMENT. Replace the first sentence of the second paragraph with the following: If the Contractor certifies the final estimate, or does not file a claim within 90 days of receiving the final estimate, the estimate shall be processed for final payment.

Replace the third paragraph with the following: When the Contractor executes the Certification of Final Estimate (Form 25D-116) and executes the Contractor's Release (Form 25D-117), final payment will be processed.

SRM-4 04/06/2017

SECTION 120

DISADVANTAGES BUSINESS ENTERPRISE (DBE) PROGRAM

STANDARD MODIFICATION

120-1.01 DESCRIPTION. Delete the second paragraph of Subsection 120-1.01 and replace with the following:

The Department, in coordination with the Federal Highway Administration (FHWA), adopted a Race-Neutral DBE Program with an overall DBE utilization Goal of 8.83 percent for Alaska's FHWA Federal-Aid program. Although the Race-Neutral program does not establish or require individual project DBE Utilization Goals, 49 CFR establishes the Bidder is responsible to make a portion of the work available to DBEs and to select those portions of the work or material needs consistent with the available DBEs to facilitate DBE participation.

SM-3 12/22/2017

SECTION 201

CLEARING AND GRUBBING

SR SPECIAL PROVISION

Add the following new subsection:

201-3.07 CONTROL OF INVASIVE PLANTS.

Control, remove, and dispose of soils and vegetative matter infested with invasive plants. Limit removal to those areas within the clearing and grubbing limits, and limit excavation related to invasive plants to the depths necessary to construct the work shown on the Plans. Accomplish excavation of invasive plants and soil separate from, and prior to, other clearing and ground disturbing activities in the immediate area of the infestation.

1. Invasive Plants Survey. Invasive plants have been determined by the Department as present in the project area, but not identified. Conduct a field survey prior to earth disturbing activities under the direction of a person or firm qualified by training and experience to identify invasive plants. Do not conduct any clearing and ground disturbing activities until the survey is complete. Qualified means having at least two years' experience in the identification of invasive plants in Southeast Alaska. The Contractor shall submit the qualifications of the person or firm selected to the Project Engineer for approval prior to conducting the survey. Submit an invasive plant control plan to control the surveyed plants at the locations within the work limits. Conduct the survey between June 1 and August 31.

2. Invasive Plant Control Plan.

Submit an invasive plant control plan, on the provided form, detailing steps for removal, containment, or disposal of invasive plants using the DOT&PF Southeast Region *Disposal and Control of Invasive Plant Species* as a guide. The guide is located here:

http://www.dot.state.ak.us/stwddes/desenviron/assets/pdf/resources/se_invasive_final.pdf

Submit the plan to the Engineer for approval. Allow 10 days for review by the Engineer. Do not conduct any clearing and ground disturbing activities in the immediate area of invasive plants infestations until the plan is approved by the Engineer. Pressure wash all tracked equipment, excavation equipment, and excavation hauling equipment prior to mobilization to ensure that the spread of invasive species is minimized. Clean all parts of equipment so that no invasive species would have the chance of being spread or imported into the community. Use the same cleaning method on all equipment involved in removing and disposing invasive plants after working in locations with invasive plants prior to using the equipment for a different activity, and prior to moving the equipment more than 1 mile between invasive plants areas or the cleaning location. Use the same cleaning method on all tracked equipment, excavation equipment, and excavation hauling equipment prior to demobilization to prevent the export of invasive species.

Use silt fence, tarps, and other control measures to prevent dispersal of seed and other plant material from equipment cleaning areas and temporary soil or waste stockpiles that contain invasive plants.

201-5.01 BASIS OF PAYMENT Add the following:

Payment for Invasive Plants Survey includes all expenses for the qualified person or firm to perform the survey, document the results, and provide an approved Invasive Plant Control Plan.

Payment for Invasive Plant Species Control, Removal, and Disposal will be made at the prices specified in the directive authorizing the work to implement the Invasive Plant Control Plan.

Pay Item	Pay Unit
201.2002.0000 Invasive Plants Survey	Lump Sum
201.2003.0000 Invasive Plant Species Control, Removal, and Disposal	Contingent Sum

SRS-7 10/04/2017

SECTION 615
STANDARD SIGNS

SR STANDARD MODIFICATION

615-3.01 CONSTRUCTION REQUIREMENTS. Add the following to numbered paragraph 7: Deliver salvaged sign panels, posts and hardware to the nearest State of Alaska, Department of Transportation and Public Facilities, Maintenance Yard.

Delete the second and third sentences of numbered paragraph 14 and replace with the following: Make the label at least 16 square inches and show the year and month the sign was purchased from the manufacturer. Show the last two digits of the year in clear and bold numbers. Show the month as a one quarter inch punch out of 1 through 12.

SRM-14 04/04/2017

615-5.01 BASIS OF PAYMENT. Replace first sentence with the following: Sign posts, bases, mounting hardware, and retroreflective strips are subsidiary.

Delete Section 641 in its entirety and replace with the following:

SECTION 641

EROSION, SEDIMENT, AND POLLUTION CONTROL

641-1.01 DESCRIPTION. Plan, provide, inspect, and maintain control of erosion, sedimentation, water pollution, and hazardous materials contamination.

641-1.02 DEFINITIONS.

1. BMP (Best Management Practices). A wide range of project management practices, schedules, activities, or prohibition of practices, that when used alone or in combination, prevent or reduce erosion, sedimentation, and/or pollution of adjacent water bodies and wetlands. BMP include temporary or permanent structural and non-structural devices and practices. The Department describes common BMPs in its *Alaska Storm Water Pollution Prevention Plan Guide*.
2. WQCP (Water Quality Control Plan). Reference Section 641-3.01.
3. HMCP (Hazardous Material Control Plan). The Contractor's detailed plan for prevention of pollution that stems from the use, containment, cleanup, and disposal of hazardous material, including petroleum products generated by construction activities and equipment.
5. SPCC Plan (Spill Prevention, Control and Countermeasure). The Contractor's detailed plan for oil spill prevention and control measures that meets the requirements of 40 CFR 112.

641-1.03 SUBMITTALS. Submit an electronic copy of the HMCP (and SPCC Plan when required by 641-2.03) to the Engineer for review and approval no less than 5 calendar days prior to the pre-construction conference.

The Department will review the submittal within 14 calendar days. Submittals will be returned to you as either requiring modification, or as approved by the Department.

641-2.01 NOT USED.

641-2.02 HAZARDOUS MATERIAL CONTROL PLAN (HMCP) REQUIREMENTS.

Prepare the HMCP for prevention of pollution from storage, use, containment, cleanup, and disposal of all hazardous material, including petroleum products related to construction activities and equipment. Compile Material Safety Data Sheets in one location and reference that location in the HMCP.

Designate a Contractor's Spill Response Field Representative with 24 hour contact information. Designate a Subcontractor Spill Response Coordinator for each subcontractor. The Superintendent and Contractor's Spill Response Field Representative must have 24 hour contact information for each Subcontractor Spill Response Coordinator and the Utility Spill Response Coordinator.

List and give the location and estimated quantities of hazardous materials (Including materials or substances listed in 40 CFR 117 and 302, and petroleum products) to be used or stored on the Project. Hazardous materials must be stored in covered storage areas. Include secondary containment for all hazardous material storage areas.

Identify the locations where fueling and Improvements activities will take place, describe the activities, and list controls to prevent the accidental spillage of petroleum products and other hazardous materials. Controls include placing absorbent pads or other suitable containment under fill ports while fueling, under equipment during Improvements or repairs, and under leaky equipment. List the types and approximate

quantities of response equipment and cleanup materials available on the Project. Include a list and location map of cleanup materials, at each different work site and readily available off site (materials sources, material processing sites, disposal sites, staging areas, etc). Spill response materials must be stored in sufficient quantity at each work location, appropriate to the hazards associated with that site.

Describe procedures for containment and cleanup of hazardous materials. Describe a plan for the prevention, containment, cleanup, and disposal of soil and water contaminated by spills. Describe a plan for dealing with contaminated soil and water encountered during construction. Clean up spills or contaminated surfaces immediately.

Describe methods of disposing of waste petroleum products and other hazardous materials generated by the Project, including routine Improvements. Identify haul methods and final disposal areas. Assure final disposal areas are permitted for hazardous material disposal.

Describe methods of complying with the requirements of AS 46.04.010-900, Oil and Hazardous Substances Pollution Control, and 18 AAC 75. Include contact information for reporting hazardous materials and petroleum product spills to the Project Engineer and reporting to federal, state and local agencies.

641-2.03 SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN (SPCC Plan) REQUIREMENTS.

Prepare and implement an SPCC Plan when required by 40 CFR 112; when both of the following conditions are present on the Project:

- a. Oil or petroleum products from a spill may reach navigable waters (as defined in 40 CFR 112); and
- b. Total above ground storage capacity for oil and any petroleum products is greater than 1,320 gallons (not including onboard tanks for fuel or hydraulic fluid used primarily to power the movement of a motor vehicle or ancillary onboard oil-filled operational equipment, and not including containers with a storage capacity of less than 55 gallons)

641-3.01 CONSTRUCTION REQUIREMENTS.

Do not begin work on-site until receipt of approved HMCP (and when required by 641-2.03, the SPCC Plan) by the Department.

The Water Quality Control Plan (WQCP) for this project is contained in this paragraph. The purpose of the WQCP is to contain materials with approved sedimentation control measures around the perimeter of the work and surrounding stockpiles of materials and/or wastes where applicable to protect water quality of receiving waters. The contractor is not required to submit a NOI or NOT for coverage under the NPDES General Permit. Minimize time and exposure to weather all open excavations and stockpiled materials. Temporary containment measures shall consist of covering of stockpiled materials, silt fences, containment dikes or other approved means to minimize sedimentation and prevent off-site drainage of degraded waters to nearby waters, ditches, streams and storm drain systems during construction. Saturated soils, rain and tidewaters shall be made to drain from excavations and stockpiled materials and/or wastes through hay bales, silt fences or other methods that will trap sediments prior to discharge into navigable waters and adjacent properties. These erosion control measures shall be maintained by the Contractor at all times until such time that excavations and disturbed areas have been stabilized.

Post at the construction site:

1. Contractor's Spill Response Field Representative with 24 hour contact information, and
2. Locations of HMCP (and when required by 641-2.03, the SPCC Plan) available for viewing by the public.

Comply with all requirements of the approved HMCP, all state and federal regulations that pertain to the handling, storage, clean up, and disposal of petroleum products or other hazardous substances (and when required by 641-2.03, the SPCC Plan). Contain, clean up, and dispose of all discharges of petroleum products and/or other materials hazardous to the land, air, water, and organic life forms. Perform all fueling operations in a safe and environmentally responsible manner. Comply with the requirements of 18 AAC 75 and AS 46, Oil and Hazardous Substances Pollution Control. Report oil spills as required by federal, state and local law, and as described in your HMCP Plan.

If unanticipated or emergency conditions threaten water quality, take immediate suitable action to preclude erosion and pollution.

If you fail to pursue work required by the HMCP plan (or when required by 641-2.03, the SPCC Plan) the Engineer may, after giving you written notice, proceed to perform such work and deduct the cost thereof, including project engineer costs, from your progress payments.

641-4.01 METHOD OF MEASUREMENT. By Section 109.

641-5.01 BASIS OF PAYMENT. Payment will be made under:

PAY ITEM	PAY UNIT
641.0001.0000 Erosion, Sediment and Pollution Control Administration	Lump Sum

SR STANDARD MODIFICATION

Delete Section 643 in its entirety and replace with the following:

SECTION 643

TRAFFIC MAINTENANCE

643-1.01 DESCRIPTION. Protect and control traffic during the contract. Furnish, erect, maintain, replace, clean, move and remove the traffic control devices required to ensure the traveling public's safety. Perform all administrative responsibilities necessary to implement this work.

Maintain all roadways and pedestrian and bicycle facilities affected by the work in a smooth and traversable condition. Construct and maintain approaches, crossings, intersections, and other necessary features throughout the project for the life of the contract.

Illuminate construction activities listed in Table 643-4 during hours of night work on roads open to the public within project limits.

643-1.02 DEFINITIONS.

ATM. When used in this Section, ATM stands for the *Alaska Traffic Manual*, which is the MUTCD with Alaska Supplement.

Balloon Light: Light surrounding by a balloon-like enclosure kept inflated by pressurized air or helium, and producing uniform light through 360 horizontal degrees. The top half of the balloon enclosure shall be constructed of an opaque material.

Construction Phasing Plan. A plan for each phase of the project showing how to accommodate traffic.

Fixed Objects. Private vehicles, parked flagger vehicles, idle construction equipment, construction material stockpiles, culvert ends, individual trees, power poles, utility poles and appurtenances, and other items deemed by the Engineer to present a hazard to motorists, pedestrians, or bicyclists traveling through the work zone.

Night Work: Work occurring between sunset and sunrise on all days except the "No Lighting Required" period shown in table 643-1 below:

Table 643-1 Project Locations – Night Time Illumination Exclusion			
Latitude (degrees)	No Lighting Required		Nearby Cities
	Start	End	
South of 61	Lighting Required All Year		Everything South of Valdez
61	June 11	July 1	Valdez

Traffic. The movement of vehicles, pedestrians, and bicyclists through road construction, maintenance operations, utility work, or similar operations.

Traffic Control Plan (TCP). A drawing or drawings indicating the method or scheme for safely guiding and protecting motorists, pedestrians, bicyclists, and workers in a traffic control zone. The TCP depicts the traffic control devices and their placement and times of use.

Traffic Control Zone. A portion of a road construction project, maintenance operation, utility work or similar operation that affects traffic and requires traffic control to safely guide and protect motorists, pedestrians, bicyclists, or workers.

643-1.03 TRAFFIC CONTROL PLAN. The TCP includes all items required to direct traffic through or around the traffic control zone for the work described on the TCP according to these Specifications and the ATM. Address placement of traffic control devices, including location, spacing, size, mounting height and type in all TCPs.

When a TCP is included on the Plans, use it, modify it, or design an alternative TCP. When a TCP is omitted from the Plans, provide one according to this Section and the ATM.

Submit all TCPs, including the TCPs provided on the Plans if you intend to use them, to the Engineer for approval. All TCPs shall include the following information:

1. Project name and number.
2. A designated TCP number and name on each page (e.g. TCP #1, Permanent Construction Signs).
3. For TCPs more than one page, number each page (e.g. 1 of 3, 2 of 3, etc.).
4. The posted speed limit for each roadway.
5. Existing striping width, lane width, and road surfacing (e.g. Asphalt).
6. Construction lane widths, striping layout, and temporary pavement marker layout.
7. Provisions for Pedestrian, Bicycle, and ADA travel through the work zone.
8. Dates and times the TCP will be in effect and description of work covered by the TCP. Pay Item numbers may be used to describe the work.
9. The Worksite Traffic Supervisor's signature certifying that all TCPs conform with the ATM and the Contract.
10. The Project Superintendent's signature confirming the TCP is compatible with the work.
11. The name and 24 hour telephone number of the Worksite Traffic Supervisor, Traffic Control Technician, and Project Superintendent.
12. Signs to be used and the Alaska Sign Design Specifications (ASDS) designation number and size.
13. Location and spacing of all devices and signs. Include longitudinal buffer space for the posted speed limit, according to Table 6C-2 of the ATM, unless project conditions or geometric features prohibit including all or a portion of the buffer length.
14. A plan to address any possible slopes, drop offs, paving joints, or similar temporary features that may occur during use of the TCP.
15. For TCPs proposed to be used at night, note how the requirements will be met for the required lighting and retroreflective material.

TCPs submitted for approval without all the required information will be rejected. Allow 7 days for review of each TCP submittal, except for TCPs involving a road closure. For TCPs involving a road closure, allow 14 days for review of the submittal. All required modifications to a TCP require a new submission and an additional 7 days for review.

The TCPs, Plans, and Alaska Standard Plans show the minimum required number of traffic control devices. If unsafe conditions occur, the Engineer may require additional traffic control devices.

Use of oversize and overweight equipment within the project must conform to an approved TCP, including all traffic control devices these operations require.

643-1.04 WORKSITE TRAFFIC SUPERVISOR. Provide a Worksite Traffic Supervisor responsible for maintaining 24-hour traffic operations.

1. **Qualifications.** The Worksite Traffic Supervisor shall be knowledgeable and experienced regarding the requirements of the ATM and the implementation of those requirements. The Worksite Traffic Supervisor shall be familiar with the Plans, the Specifications, proposed operations, and one of the following for the duration of the project:

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- a. Certified as a Traffic Control Supervisor, American Traffic Safety Services Association (ATSSA)
- b. Successfully completed the Traffic Control Supervisor course by ATSSA within the last 4 years and meet the minimum work experience requirements below.
- c. Certified as a Work Zone Temporary Traffic Control Technician, or Work Zone Safety Specialist, International Municipal Signal Association (IMSA).
- d. Certified as a Traffic Control Supervisor, Evergreen Safety Council.
- e. Successfully completed a Traffic Control Supervisor or equivalent course from the Association of General Contractors (AGC) within the last 4 years.
- f. Certified as a Traffic Control Supervisor or equivalent by another state Department of Transportation.

Certify according to Form 25D-124SR that the Worksite Traffic Supervisor meets the minimum hours of temporary traffic control work experience in the table below, is competent and capable, and has the authority to perform the duties and responsibilities in accordance with this section.

- Temporary traffic control work experience shall demonstrate an understanding of concepts, techniques, and practices in the installation and maintenance of traffic control devices, and skill in reading, interpreting, implementing, and modifying TCPs.
- Temporary traffic control work experience includes: flagging; installing traffic control devices in accordance with TCPs; monitoring traffic control devices and TCP performance; and recognizing and reporting deficiencies in traffic control devices and TCPs for correction.
- Temporary traffic control work experience is gained while serving as a Worksite Traffic Supervisor-in-training, temporary traffic control support personnel, and Flagger.
- Up to a maximum of 1000 hours of experience serving as a Flagger may be used in meeting these requirements.

Traffic Control Supervisor Minimum Work Experience	
Published ADT	Minimum Hours
Less than 1,000	6 months (1000 hours)
1,000-4,999	1 year (2000 hours)
5,000-9,999	2 years (4000 hours)
10,000+	4 years (8000hours)

Worksite Traffic Supervisors shall maintain current certification and be able to show their certification anytime they are on the project.

2. Duties.

- a. Prepare the TCPs and public notices and coordinate traffic control.
- b. Physically inspect the condition and position of all traffic control devices used on the project at least twice each day. Schedule inspections at regular 12 hour intervals with an inspection between 8 a.m. and 2 p.m., and an inspection between 8 p.m. and 2 a.m. Ensure traffic control devices work properly, are clean and visible, and conform to the approved TCP. Complete and sign a detailed written report of each inspection within 24 hours. Use Traffic Control Daily Review Form 25D-104.
- c. Supervise the repair or replacement of damaged or missing traffic control devices.
- d. Review and anticipate traffic control needs. Make available proper traffic control devices necessary for safe and efficient traffic movement.

- e. Ensure traffic control is set up for each work zone according to an approved TCP that includes a description of the work occurring in the work zone. Ensure that hazards near the traveled way, including staged equipment, steep embankments, and material stockpiles, are properly delineated, protected, and offset from traffic in conformance with an approved TCP.
 - f. Hold traffic safety meetings with superintendents, foremen, subcontractors, and others as appropriate before beginning construction, prior to implementing a new TCP, and as directed. Invite the Engineer to these meetings.
 - g. Supervise all traffic control workers, flaggers, and pilot car drivers.
 - h. Submit a copy of all flagger certifications to the Engineer as required by Subsection 643-3.04.
 - i. Supervise lighting for night work.
 - j. 30 minutes after work ends for the day, drive the project with the Engineer's representative to review the worksite traffic control.
3. Authority. The Worksite Traffic Supervisor shall have the Contractor's authority to stop work and implement immediate corrective action to unsafe traffic control, in locations where unsafe traffic control is present.

643-1.05 CONSTRUCTION PHASING PLAN. Submit a Construction Phasing Plan for approval no less than 5 working days prior to the preconstruction conference. Include the following:

- 1. Form 25D-124SR designating the Worksite Traffic Supervisor, providing the 24-hour telephone number, and certifying minimum hours of work experience as described in 643-1.04 Worksite Traffic Supervisor.
- 2. A construction phasing plan for each phase or segment of the project, satisfying the requirements of subsection 643-3.08.
- 3. TCPs for the first phase of the project. Show permanent and temporary traffic control measures, including the times each TCP will be used.

Submit any changes to the Engineer for approval 7 days before proposed implementation.

643-1.06 TRAFFIC MAINTENANCE SETUP. When shown on the bid schedule, Traffic Maintenance Setup items are site specific and are detailed as individual TCPs on the plan sheets. They depict the method or scheme required to route traffic safely and efficiently when any of the following restrictions occur:

- 1. Lane Closure. The closure of one or more lanes on a roadway.
- 2. Detour. The redirection of traffic through or around a traffic control zone.
- 3. Road Closure. The closure of a roadway with or without a specified detour route.
- 4. One Lane Road. A two-way roadway reduced to a single-lane roadway with flaggers, pilot cars, traffic signals, stop signs, or yield signs.

643-1.07 TRAFFIC CONTROL TECHNICIAN. On projects where the Superintendent is the Worksite Traffic Supervisor, provide a Traffic Control Technician to implement traffic control in the field. On projects where the Superintendent is a different person than the Worksite Traffic Supervisor, a Traffic Control Technician is optional.

- 1. Qualifications. The Traffic Control Technician shall be knowledgeable and experienced regarding the requirements of the ATM, the implementation of those requirements, and meet the flagging certification requirements of 643-3.04.4.. The Traffic Control Technician shall be familiar with the Plans, the Specifications, your proposed operations, and one of the following for the duration of the project:
 - a. Certified as a Traffic Control Technician, ATSSA
 - b. Successfully completed the Traffic Control Technician course by ATSSA within the last 4 years.
 - c. Certified as a Work Zone Temporary Traffic Control Technician, or Work Zone Safety Specialist, International Municipal Signal Association (IMSA).

- d. Certified as a Traffic Control Supervisor, Evergreen Safety Council.
- e. Successfully completed a Traffic Control Technician or equivalent course from the Association of General Contractors (AGC) within the last 4 years.
- f. Certified as a Traffic Control Technician or equivalent by another state Department of Transportation.

The Traffic Control Technician shall meet the minimum hours of temporary traffic control work experience in the table below, be competent and capable, and have the authority to perform the duties and responsibilities in accordance with this section.

- Temporary traffic control work experience shall demonstrate an understanding of concepts, techniques, and practices in the installation and maintenance of traffic control devices, and skill in reading, interpreting, and implementing TCPs.
- Temporary traffic control work experience includes: flagging; installing traffic control devices in accordance with TCPs; monitoring traffic control devices and TCP performance; and recognizing and reporting deficiencies in traffic control devices and TCPs for correction.
- Temporary traffic control work experience is gained while serving as a temporary traffic control support personnel or Flagger.
- Up to a maximum of 1000 hours of experience serving as a Flagger may be used in meeting these requirements.

Traffic Control Technician Minimum Work Experience	
Published ADT	Minimum Experience
Less than 1,000	None (0 hours)
1,000-4,999	6 months (1000 hours)
5,000-9,999	1 year (2000 hours)
10,000+	2 years (4000 hours)

Traffic Control Technicians shall maintain current certification and be able to show their certification anytime they are on the project.

2. **Duties.** At the direction of the Worksite Traffic Supervisor:
 - a. Install traffic control devices required by the TCP being implemented.
 - b. Repair or replace damaged or missing traffic control devices.
 - c. Clean traffic control devices.
 - d. Breakdown and remove traffic control devices when a TCP setup is no longer needed.
 - e. Relieve traffic control workers, flaggers, and pilot car drivers.
 - f. Install lighting for night work.

643-2.01 MATERIALS. Provide traffic control devices meeting the following requirements:

1. **Signs.** Use signs, including sign supports, that conform to Section 615, the ATM, and ASDS. A reflective sheeting warranty is not required.
 - a. Construction Signs: Regulatory, guide, or construction warning signs designated in the ASDS.
 - b. Permanent Construction Signs: As designated on the Plans or an approved TCP.
 - c. Special Construction Signs: All other signs are Special Construction Signs. Neatly mark the size of each sign on its back in 3-inch black numerals.
2. **Portable Sign Supports.** Use wind-resistant sign supports with no external ballasting. Use sign supports that can vertically support a 48 X 48 inch traffic control sign at the height above the adjacent roadway surface required by the ATM.

3. Barricades and Vertical Panels. Use barricades and vertical panel supports that conform to the ATM. Use Type III Barricades at least 8 feet long. Use retroreflective sheeting that meets ASTM D4956 Type II or III.
4. Portable Barriers. Use portable concrete or steel barriers that conform to the Contract. For each direction of traffic, equip each section of barrier with a continuous 4-inch wide horizontal retroreflective stripe mounted 6 inches below the top of the barrier, or at least two side-mounted retroreflective reflectors. Place the individual reflectors 2 feet or less from each end and space at not more than 10 feet apart. Use yellow tabs or stripe when barriers are placed at centerline. Use white tabs or stripe when barriers are placed on the roadway shoulder. Use retroreflective sheeting that meets ASTM D4956 Type III, IV or V.
5. Warning Lights. Use Type A (low intensity flashing), Type B (high intensity flashing) or Type C (steady burn) warning lights that conform to the ATM.
6. Drums. Use plastic drums that conform to the requirements of the ATM. Use retroreflective sheeting that meets ASTM D4956 Type II or III.
7. Traffic Cones and Tubular Markers. Use reflectorized traffic cones and tubular markers that conform to the requirements of the ATM. Use traffic cones and tubular markers at least 28 inches high. Use retroreflective sheeting that meets ASTM D4956 Type II or III.
8. Interim Pavement Markings. Apply markings according to Section 670 and the manufacturer's recommendations. In accordance with 643-3.09, use either:
 - a. Paint meeting Subsection 708-2.03 with glass beads meeting Subsection 712-2.08, or
 - b. Temporary Raised Pavement Markers meeting Subsection 712-2.15 or 712-2.16.
9. High-Level Warning Devices. Use high-level warning devices that conform to the ATM.
10. Temporary Crash Cushions. Use retroreflective sheeting that meets ASTM D4956 Type III, IV or V. Application of crash cushion must be appropriate for the intended use and be installed per manufacturer's recommendation. Temporary crash cushions that are barrels or barricade filled with sand or water are considered nonredirecive may only be used when the forecasted temperature during their use is above 32 degrees Fahrenheit.
11. Sequential Arrow Panels. Use Type A (24 X 48 inch), Type B (30 X 60 inch) or Type C (48 X 96 inch) panels that conform to the ATM.
12. Portable Changeable Message Board Signs. Use truck or trailer mounted portable changeable message board signs with a self-contained power supply for the sign and with the following features:
 - a. Message sign panel large enough to display 3 lines of 9 inch high characters
 - b. Eight character display per message line
 - c. Fully programmable message module
 - d. The capacity to create, preview, and display new messages and message sequences
 - e. A waterproof, lockable cover for the controller keyboard
 - f. An operator's manual, a service manual, and a wiring diagram
 - g. Quick release attachments on the display panel cover
 - h. Variable flash and sequence rates
 - i. Manual and automatic dimming capabilities on lamp bulb matrix models
 - j. Locate the bottom of the sign panel at least 7 feet above the pavement
 - k. Operate with a battery pack a minimum of 2 hours under full load
13. Plastic Safety Fence. Use 4 foot high construction orange fence manufactured by one of the following companies, or an approved equal:

- a. "Safety Fence" by Services and Materials Company, Inc., 2200 South "J" Street, Elwood, Indiana, 46036. Phone (800) 428-8185.
 - b. "Flexible Safety Fencing" by Carsonite, 1301 Hot Springs Road, Carson City, Nevada, 89706. Phone (800) 648-7974.
 - c. "Warning Barrier Fence" by Plastic Safety Systems, Inc. P.O. Box 20140, Cleveland, Ohio, 44120. Phone (800) 662-6338.
14. Temporary Sidewalk Surfacing. Provide temporary sidewalk surfacing as required by an approved TCP and the following:
- a. Use plywood with an anti-slip surface. Use plywood at least 1/2 inch thick for areas continuously supported by subgrade. Use plywood at least 1 inch thick for areas that are not continuously supported, with supports at a maximum spacing of 30 inches.
 - b. Do not exceed a vertical change greater than 1/2 inch, beveled with a slope not steeper than 2:1.
 - c. At curb ramps, do not exceed a slope of 12:1 with the temporary surfacing, and no vertical changes are permitted. At curb ramps, premanufactured ADA compliant curb ramps may be used in lieu of surfaces constructed from aggregate or plywood.
 - d. Use toe boards on each side of temporary surfacing. If the temporary surfacing is at least 1 inch below the level of the curb, the curb will satisfy the requirement for a toe board on that side.
 - e. Use a method that will withstand 70 mph wind velocities to hold temporary surfacing in place.
15. Temporary Guardrail. Use temporary guardrail that meets Section 606, except that posts may require placement under special conditions, such as in frozen ground.
16. Flagger Paddles. Use flagger paddles with 24 inches wide by 24 inches high sign panels, 8 inch Series C lettering (see ASDS for definition of Series C), and otherwise conform to the ATM. Use retroreflective sheeting that meets ASTM D4956 Type VIII or IX. Use background colors of fluorescent orange on one side and red on the other side.
17. Truck Mounted Attenuator, TMA. Use a TMA mounted on a vehicle with a minimum weight of 15,000 pounds and a maximum weight per the manufacturer's recommendations. The TMA shall have an adjustable height so that it can be placed at the correct elevation during usage and to a safe height for transporting. Approach ends of TMAs shall have impact attenuator markings in accordance with the ATM.
18. Portable Chain-Link Fence. Use portable, self-standing, 6 or 8 foot high temporary chain-link fence.
19. Pedestrian Barrier. Use Americans with Disabilities Act (ADA) compliant barrier, meeting the crashworthiness standards in 643-2.02. Install pedestrian barrier in accordance with manufacturer instructions.

643-2.02 CRASHWORTHINESS. Submit documentation, by the method indicated on table 643-2, that the following devices comply with Test Level 3 requirements of National Cooperative Highway Research Program (NCHRP) Report 350 or the Manual for Assessing Safety Hardware (MASH). Submit documentation of compliance to the Engineer before installing devices on the project.

Table 643-2 Work Zone Traffic Control Device and Barrier Crash Testing Compliance		
Category	Devices	Method of Documentation
1	Cones, candles, drums w/o attachments, delineators	Manufacturer's Certification for devices exceeding height and weight limits
2	Barricades, portable sign supports, drums w/lights, other devices weighing less than 100 pounds but not included in category 1	FHWA acceptance letter (when no test level is specified in the letter; it is implied that the tests were run for Test Level 3).
3	Truck mounted attenuators, redirective and nondirective temporary crash cushions, portable barrier, bridge railing, bridge and guardrail transitions, and guardrail and barrier end treatments.	FHWA acceptance letter (when no test level is specified in the letter; it is implied that the tests were run for Test Level 3).

Category 1 devices that exceed the following weights and heights require certification that they meet the evaluation criteria of NCHRP Report 350 or MASH, Test Level 3. This certification may be a one-page affidavit signed by the vendor. Documentation supporting the certification (crash tests and/or engineering analysis) must be kept on file by the certifying organization. No certification is required for devices less than or equal to both the weight and height on the schedule below:

Device	Composition	Weight	Height
Cones	Rubber	20 lb.	36 in.
	Plastic	20 lb.	48 in.
Candles	Rubber	13 lb.	36 in.
	Plastic	13 lb.	36 in.
Drums	Hi Density Plastic	77 lb.	36 in.
	Lo Density Plastic	77 lb.	36 in.
Delineators	Plastic or Fiberglass	N/A	48 in.

643-3.01 GENERAL CONSTRUCTION REQUIREMENTS. Implement an approved TCP before beginning work within the project limits. Keep the work, and portions of the project affected by the work, in good condition to accommodate traffic safely. Provide and maintain traffic control devices and services inside and outside the project limits, day and night, to guide traffic safely.

Unless otherwise provided in this Section, keep all roadways, business accesses, and pedestrian and bicycle facilities within the project limits open to traffic. Obtain the Engineer's approval before temporarily closing residential, commercial, or street approaches. Provide access through the project for emergency vehicles and school and transit buses. Properly sign and flag all locations where the traveling public must be redirected or stopped. Organize construction operations so the total of all construction related traffic delays experienced by a vehicle traveling through the project does not exceed the limits in 643-3.08. However, this does not imply that you may allow the maximum limit in all cases.

Stop equipment at all points of intersection with the traveling public unless an approved TCP shows otherwise.

Continue to operate all illumination and signalization according to the requirements of Subsection 660-3.09. When moving approach lanes, realign signal heads as necessary according to the ATM. Coordinate any modifications to existing traffic signals with the agency that maintains and operates them. Operate flood lighting at night according to the ATM. Adjust flood lighting so that it does not shine into oncoming traffic.

Provide and maintain safe routes for pedestrians and bicyclists through or around traffic control zones at all times, except when regulations prohibit pedestrians or bicyclists. Where construction activity encroaches

onto the safe route in a traffic control zone, station a flagger at the encroachment to assist pedestrians and bicyclists past the construction activity.

Maintain business access(s) during flagging operations.

Immediately notify the Engineer of any traffic related accident that occurs within the project limits as soon as you, an employee, or a subcontractor becomes aware of the accident.

643-3.02 ROADWAY CHARACTERISTICS DURING CONSTRUCTION. Obtain an approved TCP before starting construction. Maintain a clear area with at least 2 feet between the edge of traveled way and the work area. Use barricades, traffic cones, or drums to delineate this area. Place traffic control devices on the work side of the clear area. Space them according to the ATM.

If maintaining traffic on an unpaved surface, provide a smooth and even surface that public traffic can use at all times. Properly crown the roadbed surface for drainage. Before beginning other grading operations, place sufficient fill at culverts and bridges to permit traffic to cross smoothly and unimpeded. Use part-width construction techniques when routing traffic through roadway cuts or over embankments under construction. Alternate construction activities from one side to the other. Route traffic over the side opposite the one under construction.

You may detour traffic when the Plans or an approved TCP allows it. Maintain detour routes so that traffic can proceed safely. When detours are no longer required, obliterate the detour. Topsoil and seed appropriate areas.

If two-way traffic cannot be maintained on the existing roadway or detour, you may use half-width construction or a road closure if it is shown on an approved TCP. Make sure the TCP indicates closure duration and conditions. Schedule roadway closures to avoid delaying school buses and peak-hour traffic. For road closures, post closure-start and road-reopen times at the closure site, within view of waiting traffic.

643-3.03 PUBLIC NOTICE. Give a copy of all notices to the Engineer 7 days prior to giving notice to the public. Receive the Engineer's approval of the public notice before releasing it to the public. The Engineer will post notices through the Navigator system.

Give notice at least 3 days before major changes, delays, lane restrictions, or road closures. If nearby Post Offices and stores have bulletin boards open to the free use of the public, post notices on the boards. Give notice to local officials and transportation organizations, including but not necessarily limited to:

- Alaska Trucking Association
- Alaska State Troopers
- Division of Measurement Standards
- Local Police Department
- Local Fire Department
- Local Government Traffic Engineer
- School and Transit Authorities
- Local Emergency Medical Services
- Local Media (newspapers, radio, television)
- Railroads (where applicable)
- U.S. Postal Service
- Local garbage collection
- Major tour operators

Provide local traffic enforcement and maintenance agencies notice 3 days and again 24 hours before shutting down a traffic signal system. Provide notice as required by utility companies before repairing or replacing a utility.

Provide the Engineer, Alaska State Troopers, local police and fire department with the radio frequencies used on the project and the 24-hour telephone numbers of the Worksite Traffic Supervisor and the Project Superintendent. Tell them to use these numbers to alert you when emergency vehicles must pass through the project. When notified of emergencies make every necessary effort to expedite rapid passage.

Provide a phone number for the project (Project "Hotline") giving the opportunity for the caller to leave a recorded message. Document and respond to messages within 12 hours when received during business hours, and within 24 hours when received outside of business hours.

643-3.04 TRAFFIC CONTROL DEVICES. Before starting construction, erect permanent and temporary traffic control devices required by the approved TCPs. Use traffic control devices only when they are needed. The Engineer will determine advisory speeds when necessary.

For lane closures on multilane roadways, use sequential arrow panels. During hours of darkness when required by the approved TCP use flashing warning lights to mark obstructions or hazards and steady-burn lights for channelization.

Use only one type of traffic control device in a continuous line of delineating devices, unless otherwise noted on an approved TCP. Use drums or Type II barricades for lane drop tapers.

During non-working hours and after completing a particular construction operation, remove all unnecessary traffic control devices. Store all unused traffic control devices in a designated storage area which does not present a nuisance or visual distraction to traffic. If sign panels are post mounted and cannot be readily removed, cover them entirely with either metal or plywood sheeting. Completely cover signal heads with durable material that fully blocks the view of signal head and will not be damaged or removed by weather.

Keep signs, drums, barricades, and other devices clean at all times.

Use only traffic control devices that meet the requirements of the "Acceptable" category in ATSSA (American Traffic Safety Services Association) "Quality Guidelines for Temporary Traffic Control Devices" and meet crashworthiness requirements per Section 643-2.02.

Immediately replace any devices provided under this Section that are lost, stolen, destroyed, inoperable or deemed unacceptable while used on the project. Stock repair parts for each Temporary Crash Cushion used on the project. Repair damaged crash cushions within 24 hours.

Maintain pre-existing roadside safety hardware at an equivalent or better level than existed prior to project implementation until the progress of construction necessitates removing the hardware. All existing hazards that are currently protected with roadside safety hardware or new hazards which result from project improvements shall be protected or delineated as required on the Plans, in the specifications, and approved TCPs until permanent roadside safety hardware is installed. All temporary roadside safety hardware shall meet NCHRP 350 or MASH Test Level 3 unless otherwise noted.

All items paid under this Section remain the property of the Contractor unless noted otherwise in the contract. Remove them after completing the project.

1. Embankments. Install portable barrier, plastic drums, barricades, tubular markers, plastic safety fence, and cones as specified on the Plans or TCPs to delineate open trenches, ditches, other excavations and hazardous areas when they exist along the roadway for more than one continuous work shift.
2. Adjacent Travel Lane Paving. When paving lifts are greater than 2 inches and you cannot finish paving adjacent travel lanes or paved shoulders to the same elevation before the end of the paving shift, install: W8-11 (Uneven Lanes), W8-9 (Low Shoulder), W8-17 (Shoulder Drop-Off), W14-3 (No Passing Zone), R4-1 (Do Not Pass), R4-2 (Pass with Care), and W8-1 (Bump) signs as appropriate. Place additional signs every 1500 feet if the section is longer than 1/2 mile.

3. Fixed objects and construction vehicles and equipment working on or next to the traveled way. Do not park equipment in medians. Locate fixed objects at least 30 feet from the edge of traveled way. Fixed objects that exist prior to construction activity are not subject to this requirement unless the proposed temporary traffic routing moves the edge of traveled way closer to the pre-existing fixed object. Vehicles and other objects within parking lots in urban environments are considered pre-existing fixed objects regardless of whether they are or are not present continuously throughout the day.

When site restrictions, land features, right of way limitations, environmental restrictions, construction phasing, or other construction conditions allow no practicable location meeting the preceding requirements, the Engineer may approve alternate locations for fixed objects. Alternate locations shall be as far as practicable from the edge of traveled way. When the alternate location provides 15 feet or more separation from the edge of traveled way, the Engineer may verbally approve the alternate location. When the alternate location provides less than 15 feet separation, written approval is required.

Use drums or Type II barricades with flashing warning lights, or use portable barriers with temporary crash cushions, as approved by the Engineer, to delineate or shield fixed objects the Engineer determines present an unacceptable hazard.

4. Flagging. Furnish trained and competent flaggers and all necessary equipment, including lighting of the flagging position during nighttime operations, to control traffic through the traffic control zone. The Engineer will approve each flagging operation before it begins and direct adjustments as conditions change.

Use flaggers certified as one of the following:

- a. Work Zone Traffic Control Technician by IMSA (International Municipal Signal Association)
- b. Flagger Certification by ATSSA (American Traffic Safety Services Association)
- c. Traffic Control Supervisor, ATSSA
- d. ATSSA Flagging Instructor
- e. Flagger Certification or Flagger Instructor Certification by Evergreen Safety Council
- f. Flagger certification or equivalent by another state Department of Transportation
- g. Approved equal certification from a minimum 4 hour flagger training course

Flaggers shall maintain current flagger certification. Flaggers shall be able to show their flagger certification anytime they are on the project.

Flaggers shall maintain their assigned flagging location at all times, unless another qualified flagger relieves them, or the approved traffic control plan terminates the flagging requirements. Remove, fully cover, or lay down flagger signs when no flagger is present. Keep the flaggers' area free of encumbrances. Keep the flagger's vehicle well off the roadway and away from the flagging location so the flagger can be easily seen.

Provide approved equipment for two-way radio communications between flaggers when flaggers are not in plain, unobstructed view of each other.

Obtain the Engineer's written approval before flagging signalized intersections. When flagging a signalized intersection, either turn off and cover the traffic signal or place it in the All-Red Flash mode. Coordinate changing traffic signal modes and turning off or turning on traffic signals with the agency responsible for signal maintenance and operation and the Engineer. Get their written approval in advance. Only uniformed police officers are permitted to direct traffic in an intersection with an operating traffic signal.

5. Pilot Cars. When the Engineer deems one-way traffic necessary, the route through the traffic control zone is particularly hazardous, involved, or frequently altered to preclude adequate signing, you may

use pilot cars. Do not use pilot cars to avoid localized traffic control at several locations. Pilot car operators may not control Automated Flagger Assistance Devices while operating a pilot car.

Organize construction operations so the total of all stoppages experienced by a vehicle traveling through a project does not exceed that allowed in 643-3.08. Coordinate multiple pilot-car operations within a project or adjoining projects to minimize inconvenience to the traveling public. Two or more pilot cars may be used to provide two-way traffic through the traffic control zone to reduce the waiting period. The flagger or pilot car operator shall record each pilot car's departure time in a bound field book furnished by the Engineer. Whenever practical, the flagger should tell the motorist the reason for and approximate length of the delay. Make every reasonable effort to yield right-of-way to the public and prevent excessive delay.

Use an automobile or pickup as the pilot car, with your company logo prominently displayed. Equip the pilot car with a two-way radio for contact with flaggers and other pilot cars. Mount a G20-4 sign (Pilot Car Follow Me) on the rear at least 5 feet above the driving surface. Use high intensity flashing strobe lights, oscillating beacons, or rotating beacons on all Pilot Cars. Vehicle hazard warning lights may supplement but are not permitted to be used instead of high intensity flashing strobe lights, oscillating beacons, or rotating beacons. Identify the last vehicle in the column.

When pilot cars are authorized, use them before beginning work and continue until no longer necessary or until you have properly placed and checked functioning of all traffic control devices required for non-working hours.

6. Street Sweeping. Use a street sweeper that collects material to keep the project and affected areas free of loose material. Include paved portions of the roadway within project limits, haul routes open to the public, and sections of roadway outside of the project where your operations have deposited loose material.
7. Watering. Furnish, haul, and place water for dust control and pavement flushing, as directed. Use water trucks that can provide a high-pressure water stream to flush the pavement and a light-water spray to control dust. If the flushing operations contaminate or fill adjacent catch basins, clean and restore them to their original condition. This requirement includes sections of roadway off the project where flushing is required. The Engineer will control water application.

Obtain an Alaska Department of Natural Resources permit for water removal before taking water from a lake, stream, or other natural water body. Comply with the Alaska Department of Fish and Game screening requirements for all water removal operations.

8. Portable Changeable Message Board Signs. Furnish Portable Changeable Message Board Signs when approved on a TCP. Display only messages approved on the TCP. Follow application guidelines in the ATM.
9. Truck Mounted Attenuator, TMA. Adjust height to the correct elevation during usage and to a safe height for transporting. Do not use a damaged attenuator. Replace any damaged TMA at no expense to the Department.
10. Traffic Control Vehicles. Use high intensity flashing strobe lights, oscillating beacons, or rotating beacons on vehicles being used to transport and set-up traffic control devices. Vehicle hazard warning lights may supplement but are not permitted to be used instead of high intensity flashing strobe lights, oscillating beacons, or rotating beacons.
11. Guardrail Delineation. Before the end of the shift, delineate areas of removed guardrail as required in 606-3.06 and 606-3.07.

643-3.05 AUTHORITY OF THE ENGINEER. When conditions adversely affect the public's safety or convenience, the Contractor will receive an oral notice. A written notice will follow the oral notice according

to Subsection 105-1.01. The notice will state the defect(s), the corrective action(s) required, and the time required to complete such action(s). In no case will this time exceed 24 hours. If you fail to take corrective action(s) within the specified time, the Engineer will immediately close down the offending operations until you correct the defect(s). The Engineer may require outside forces to correct unsafe conditions. The cost of work by outside forces will be deducted from any monies due under the terms of this Contract.

643-3.06 TRAFFIC PRICE ADJUSTMENT. A Traffic Price Adjustment, under Item 643.0023.0000, will be assessed for unauthorized lane closures or reductions. Unauthorized lane reductions will be assessed as one full lane closure, for each lane reduced without authorization.

Authorized lane closures/reductions are those shown in the Contract, an approved TCP, or authorized in writing.

Unauthorized lane closures/reductions include: work done without an approved TCP; work not done in conformance with the approved TCP, and; non-conforming or out of place traffic control devices. . Failure to install temporary crash cushions or barriers, when required according to the Contract or TCP, is also considered an unauthorized lane reduction. The Engineer will make the sole determination whether unauthorized lane reductions or closures are present.

Should unauthorized conditions exist, the Engineer may verbally assess Traffic Price Adjustment liquidated damages at any time. The Engineer will provide written notification of unauthorized conditions within 24 hours of verbally assessing a Traffic Price Adjustment.

Adjustment Rates are listed in Table 643-3. These rates are liquidated damages which represent highway user costs, based on Average Daily Traffic (ADT). The Engineer will use the rate shown for the current seasonal ADT for this project shown on the Plans, or if not shown on the Plans as published in the Regional Traffic Volume Report. The Traffic Price Adjustment will be calculated by multiplying the Adjustment Rate by the number of lanes closed/reduced by the minutes the unauthorized closure/reduction existed.

Table 643-3 Adjustment Rates	
Published ADT	Adjustment Rate
Less than 1,000	\$5
1,000-4,999	\$25
5,000-9,999	\$75
10,000+	\$85

Traffic delays greater than that allowed by 643-3.08 will be considered work not done in conformance with the approved TCP. If the Engineer believes the traffic delays are exceeding the time allowed, they will spot check the time it takes a vehicle to pass through the work. The time will begin when the vehicle being checked joins the queue of vehicles. The time will stop when the vehicle passes the G20-2 End Road Work sign (or the first advanced warning sign for the opposite direction of traffic if the G20-2 sign is not used). The Engineer will then deduct the time it would have taken a vehicle to drive at the posted speed limit. If the resulting time is greater than the delay allowed, the Engineer will continue to spot check vehicles until the delay becomes less than or equal to the delay allowed. The number of minutes for the Traffic Price Adjustment will be calculated from the time the first spot checked vehicle arrived until the time of arrival of the spot checked vehicle that passed through the project within the allowable delay.

643-3.07 MAINTENANCE OF TRAFFIC DURING SUSPENSION OF WORK. Approximately one month before suspending work for the season, schedule a preliminary meeting with the Engineer and Maintenance & Operations to outline the anticipated roadway condition and the work expected to be completed before shutdown. Schedule a field review with the Department for winter maintenance acceptance. At the field review the Engineer will prepare a punch list for implementation before acceptance.

To be relieved of winter maintenance responsibility, leave all roads with a paved surface with permanent markings or painted interim pavement markings. Properly crown the roadbed surface for drainage, make drainage structures functional without ponding of water on the travel surface, and install permanent or temporary roadside safety hardware at locations where the existing safety facilities were removed. Make sure all illumination and signals, including vehicle detectors, are in good working order.

After the project is accepted for winter maintenance and until ordered to resume construction operations, the Department is responsible for maintaining the facility. The Department will accept maintenance responsibility only for portions of the work that are open to the public, as determined by the Engineer. The Department will not accept maintenance responsibility for incomplete work adjacent to accepted roads. The Contractor is responsible for maintaining all other portions of the work. The Engineer will issue a letter of "Acceptance for Winter Maintenance" that lists all portions of the work that the Department will maintain during a seasonal work suspension. The Contractor retains all contractually required maintenance responsibilities until receipt of this letter.

If the Contractor suspends work due to unfavorable weather (other than seasonal) or due to failure to correct unsafe conditions, carry out Contract provisions, or carry out the Engineer's orders, all costs for traffic maintenance during the suspended period will be borne by the contractor.

When you resume work, replace or renew any work or materials lost or damaged during temporary use. If the Department caused damage during winter suspension, payment will be made for repairs by unit pay item or in accord with Subsection 109-1.05, Compensation for Extra Work. When the Engineer directs, remove any work or materials used in the temporary maintenance. Complete the project as though work has been continuous.

643-3.08 CONSTRUCTION PHASING. Follow the construction phasing detailed in these provisions, the Special Provisions, and the Plans unless you propose alternative construction phasing that is approved by the Engineer. Alternative construction phasing shall provide the same or less restriction to vehicles, pedestrians, and bicyclists than those detailed in these provisions, the Special Provisions, and the Plans.

Throughout the project, maintain the existing roadway, pedestrian walkway or route, and bicycle route or pathway configuration (such as the number of lanes and their respective widths) except for restrictions to traffic allowed in the Special Provisions or on the Plans, and addressed through approved TCPs. A restriction to traffic is any roadway surface condition, work operation, or traffic control setup that reduces the number of lanes or impedes traffic. Obtain an approved TCP before restricting traffic.

Do not restrict traffic or shut down signals during the times listed below.

1. Monday through Friday: 0530 hrs to 0800 hrs and 1630 hrs to 1900 hrs.
2. Around any Holiday (Except for Item 12 in 101-1.d03 HOLIDAY):
 - a. If the holiday falls on Sunday, Monday, or Tuesday, from 1200 hrs on the Friday before the holiday to 0300 hrs on the day after the holiday.
 - b. If a holiday falls on Wednesday, from 1200 hrs on the Tuesday before the holiday to 0300 hrs on the Thursday after the holiday.
 - c. If a holiday falls on Thursday, Friday, or Saturday, from 1200 hrs on the day before the holiday to 0300 hrs on the Monday after the holiday.

Lane restrictions, if allowed shall be conducted so that no more than a 5 minute accumulated delay, 20 vehicles, or 1/8 mile (660 feet) of traffic is detained, whichever occurs first, before releasing the detained motorists. During paving operations, a 10 minute delay, 40 vehicles, or 1/4 mile (1320 feet) of traffic

detained, will be allowed for motorists, except school buses. If a queue of traffic develops at a stop, empty the entire queue to the last car that entered the queue at the time the queue was released.

Obtain the local school bus schedule and coordinate work efforts to ensure the school buses are not delayed through the construction zone. Submit a school bus coordination plan, as a TCP, to the Engineer for approval before implementing any lane restrictions.

643-3.09 INTERIM PAVEMENT MARKINGS. Place permanent or interim pavement markings according to this Subsection, details shown on the Plans, approved TCPs, and Parts III and VI of the ATM before opening existing paved roadways, temporary paved roadways, detours, interim paving lifts, and roadways with seal coats and surface treatments for more than one continuous work shift. This work may include restriping the existing roadway before beginning construction, before seasonal suspension, and/or after seasonal suspension.

Remove conflicting pavement markings according to Subsection 670-3.04, Paint Removal.

Maintain all interim pavement markings for the duration of the approved TCP, including reapplication when necessary.

Use only paint as interim pavement markings on existing paved roadways, temporary paved roadways, detours, and interim paving lifts. Paint existing roadway sections that will be opened to traffic during the winter.

Use only temporary raised pavement markers as interim pavement markings on final pavement surfaces. Completely remove and dispose of them when placing the final markings. Completely remove any residual adhesive that might misguide motorists. Place final pavement markings on finished pavement surfaces before suspending work for the winter.

Phase construction to avoid routing traffic over conflicting markings for more than one continuous workshift. If traffic is routed over conflicting markings during a work shift, delineate the roadway with a complement of warning signs, channelizing devices, and flaggers as required by the ATM.

Use only temporary raised pavement markers as interim markings on seal coat and surface treatment pavements. Install the markers according to the manufacturer's instructions before applying the asphalt surface material and cover coat. Remove the vinyl protective covers after applying the asphalt pavement.

On multicourse surface treatments, install the temporary raised pavement markers after applying the full width of the first layer of cover coat. Install the markers on each day's completed surface before removing the pilot car operations and allowing unescorted traffic on the surface treatment.

643-3.10 LIGHTING FOR NIGHT WORK. Illuminate the night work areas according to Table 643-4.

Table 643-4 does not provide a comprehensive list of operations that require lighting. Provide lighting for other operations when necessary.

Table 643-4 Night Work Illumination Equipment and Location Requirements	
Type of Work or Equipment	Lighting Configuration
Paving, Milling, Striping, Pavement Marking Removal, Rumble Strip Installation	At least one machine-mounted balloon light of at least 2000 watts. Provide additional lights or wattage if necessary to provide complete coverage.
Rolling, pavement sweeping	At least 4 sealed beam halogen lamps in the front and four in the back. Each should be at least 55 watts.
Flagging	One balloon light of at least 2000 watts, located within 30 feet of the flagger location. Locate so the flagger and the flagging location are illuminated. Provide additional lights or wattage if necessary to provide complete coverage of the flagging location.
Truck Crossings where haul vehicles cross or enter a road with more than 10,000 ADT, or where the haul vehicle crossing or entering location is controlled by portable traffic signals or flaggers	At least one balloon light of at least 2000 watts, located on the main road on the far right side of the intersection. Locate light within 30 feet of the edge of the side street. If there is a flagger at the crossing, locate the lights or lights so the lighting requirements for Flagging are also satisfied.

Use balloon lighting as the main light sources. Do not use floodlights without prior approval by the Engineer. When approved, install floodlighting in a manner that minimizes glare for motorists, workers, and residents living along the roadway. Locate, aim, louver, and/or shield light sources to minimize glare.

The Engineer shall be the sole judge of when glare is unacceptable, either for traffic or for adjoining residences. When notified of unacceptable glare, modify the lighting system to eliminate it.

If the Contractor fails to provide required lighting equipment or provides lighting that creates unacceptable glare at any time, the Contractor shall cease the operation that requires illumination until the condition is corrected.

Use lighting equipment in good operating condition and that complies with applicable OSHA, NEC, and NEMA codes.

Provide suitable brackets and hardware to mount lighting fixtures and generators on machines and equipment. Design mountings so lights can be aimed and positioned as necessary to reduce glare. Locate mounting brackets and fixtures so they don't interfere with the equipment operator or overhead structures. Connect fixtures securely in a manner that minimizes vibration.

Ensure ground, trailer, and equipment-mounted light towers or poles are sturdy and freestanding without the aid of guy wires. Towers shall be capable of being moved as necessary to keep pace with the construction operation. Position ground, trailer-mounted towers, and trailers to minimize the risk of being impacted by traffic on the roadway or by construction traffic or equipment.

Raise trailer or equipment mounted lights to maximum height, except do not exceed the clearance required for overhead objects such as overhead signals, overhead signs, trees, aerial utilities, or bridges. Aim and adjust lights to provide the required light levels. Provide uniform illumination on the hopper, auger, and screed areas of pavers. Illuminate the operator's controls on all machines uniformly.

Furnish each side of non-street legal equipment with a minimum of 75 square inches high intensity retroreflective sheeting in each corner, so at least 150 square inches of sheeting is visible from each direction. Provide red sheeting on the rear of the equipment and yellow sheeting elsewhere.

Existing street and highway lighting and conventional vehicle headlights may supplement but do not relieve the Contract requirement to provide lighting for night work, according to the requirements of Table 643-4.

Provide sufficient fuel, spare lamps, spare generators, and qualified personnel to ensure that all required lights operate continuously during nighttime operations. Ensure generators have fuel tanks of sufficient capacity to permit operation of the lighting system for a minimum of 12 hours. In the event of any failure of the lighting system, discontinue the operation that requires illumination until the required level and quality of illumination is restored.

Maintain a supply of at least twenty emergency flares for use in the event of emergency or unanticipated situations. Comply with local noise ordinances.

Install all post-mounted electroliers located within the clear zone, on NCHRP 350 or MASH compliant breakaway bases.

643-3.11 HIGH VISIBILITY GARMENTS. Ensure all workers within project limits wear outer garments that are highly visible and comply with the following requirements:

1. Standards. Use high visibility garments conforming to the requirements of ANSI/ISEA 107-2004 or 107-2010, Class 2 for tops or Class E for bottoms, and Level 2 retroreflective material.
 2. Labeling. Use garments labeled in conformance with Section 11.2 of ANSI/ISEA 107-2004 or 107-2010.
 3. Tops. Wear high visibility vests, jackets, or coverall tops at all times.
 4. Bottoms. Wear high visibility pants or coverall bottoms during nighttime work (sunset to sunrise). Employees performing traffic control duties shall wear high visibility pants or coverall bottom at all times.
 5. Outer Raingear. Wear raingear tops and bottoms conforming to the requirements of this Subsection 643-3.11.
 6. Exceptions. When workers are inside an enclosed compartment of a vehicle, they are not required to wear high visibility garments.
 7. Condition. Furnish and maintain all vests, jackets, coveralls, rain gear, hard hats, and other apparel in a neat, clean, and presentable condition. Maintain retroreflective material to Level 2 standards.
- Payment for high visibility garments for workers is subsidiary to Traffic Maintenance.

643-4.01 METHOD OF MEASUREMENT. Section 109 and as follows. Quantities will not be measured during winter suspension of work.

1. Traffic Maintenance. Calendar Day: Every day shown on the calendar, beginning and ending at midnight. Measurement begins on the day following receipt of the Notice to Proceed or on the first day of work at the project site, whichever is later, and ends on the date of project completion.
2. Traffic Control Device Items. By the number of units of each bid item shown on the bid schedule (or the Traffic Control Rate Schedule, if item 643.0025.0000, Traffic Control, is included in the Contract) that are installed, accepted, and operational. Incomplete or unsatisfactory devices will not be measured. Special Construction Signs are measured by the total area of legend-bearing sign panel, as determined under Subsection 615-4.01. Items measured by the day are for each item per 24-hour period.

Traffic Control Devices used to delineate areas of removed guardrail will not be measured. Traffic Control Devices required to complete permanent pavement markings will not be measured.

3. Traffic Maintenance Setup Items. By each lane closure or one-lane road in place per hour. By each detour or road closure in place per 24-hour period.
4. Portable Barrier. By linear foot placed according to the approved TCPs, for the initial placement and for each subsequent relocation when moved more than 10 feet in any direction.

5. Temporary Crash Cushion. By each acceptable installation.
6. Interim Pavement Marking. By the single-stripe station. A single stripe is a marking or a temporary raised pavement marker 4 inches wide. Wider striping is measured in multiples of 4 inches. Centerline gaps are not deducted from measurements.
7. Flagging and Pilot Car. By the number of approved hours, supported by certified payroll. Flagging done by the Worksite Traffic Supervisor or Traffic Control Technician will not be measured for payment.
8. Street Sweeping. By the number of operated hours, supported by certified payroll and approved by the Engineer.
9. Watering. By the 1,000 gallons (M-Gallon) of water applied. The Engineer may specify measurement by weight or volume. If by weight, convert to gallons at 8.34 pounds per gallon. If by volume, convert to gallons at 7.48 gallons per cubic foot.
10. Traffic Price Adjustment. From the time the unauthorized closure/reduction began until the time it was removed, as determined by the Engineer.
11. Traffic Control. By the units specified in the Special Provisions.
12. Portable Changeable Message Board Sign. By the 24-hour period for each sign, as shown on an approved TCP and displaying an approved message.
13. Plastic Safety Fence. By the linear foot, as placed, to protect or channelize pedestrian traffic as shown on an approved TCP. Any adjustments in configuration of the fence at the same location that does not result in an increased amount of fence is not measured. Opening and closing the fence to gain access to and from the worksite is not measured.
14. Temporary Sidewalk Surfacing. By the square yard as shown on an approved TCP.
15. Temporary Guardrail. By the linear foot, including end treatments, as shown on an approved TCP.
16. Pedestrian Barrier. By the linear foot, as placed, to protect or channelize pedestrian traffic as shown on an approved TCP. Any adjustments in configuration of the pedestrian barrier at the same location that does not result in an increased amount of pedestrian barrier is not measured. Removal and later placement of pedestrian barrier at the same location is not measured.

643-5.01 BASIS OF PAYMENT.

1. Traffic Maintenance. The contract price includes all resources required to provide the Worksite Traffic Supervisor, Traffic Control Technician, all required TCPs and public notices, the Construction Phasing Plan, and the maintenance of all roadways, approaches, crossings, intersections and pedestrian and bicycle facilities, as required. This item also includes any Traffic Control Devices, Permanent Construction Signs, and Flagging required but not shown on the bid schedule. Traffic control devices, barriers, and crash cushions required to delineate or shield fixed objects will not be measured or paid for separately, but will be subsidiary to Traffic Maintenance.

Items required by the Contract that are not listed on the bid schedule or not included in other items are subsidiary to Item 643.0001.0000 or 643.0002.0000 Traffic Maintenance.

2. Traffic Control Device Items. The contract price includes all resources required to provide, install, maintain, move, and remove the specified devices. Warning lights, high-level warning devices, vertical panels, and sign supports required for traffic control devices are subsidiary.

Traffic control devices, barriers, and crash cushions required to delineate or shield guardrail posts or non-crashworthy ends are subsidiary when required for failure to meet completion timelines in subsection 606-3.01. Traffic Control Devices used to delineate areas of removed guardrail are subsidiary to work under Section 606.

Traffic Control Devices required to complete permanent pavement markings are subsidiary to work under Section 670.

3. Traffic Maintenance Setup Items. Each setup consists of all traffic control devices, flaggers, pilot cars, and subsidiary items necessary to implement the TCP shown on the Plans. Warning lights, high-level warning devices, vertical panels, and sign supports required for traffic control devices are subsidiary.

Construction and obliteration of temporary roadways, when required on the Plans or approved TCP under a traffic maintenance setup item, is paid for under their respective roadway pay items.

When topsoil or seeding is required for detours, payment will be made under Sections 620 and/or 618.

4. Portable Barrier. The contract price includes all resources required to provide, install, maintain, and remove barrier.
5. Temporary Crash Cushion. The contract price includes all resources required to provide, install, maintain, repair, and remove each crash cushion.
6. Interim Pavement Marking. The contract price includes all resources required to provide, install, maintain, and remove the specified markings. Installation of word and symbol markings are subsidiary. The No-Passing Zone signing, described in Subsection 643-3.04, is subsidiary.

When Pay Item 643.0014.0000 Interim Pavement Marking does not appear in the Bid Schedule, interim pavement markings are subsidiary to work under Section 670.

7. Flagging and Pilot Car. Payment includes all required labor, vehicles, radios, flagger paddles and pilot car signs, and transportation to and from the worksite. Work done by the Worksite Traffic Supervisor or Traffic Control Technician is subsidiary to Traffic Maintenance. Payment for item 643.0032.0000, Flagging will be paid on a contingent sum basis at the rate of \$58.00/hour. A change order/directive is not required for the flagging pay item.
8. Street Sweeping. The contract price includes all resources required to keep the roadway free of loose material. Sweeping haul routes is subsidiary to Traffic Maintenance. Sweeping with equipment that does not collect the material is subsidiary to Traffic Maintenance.
9. Watering. The contract price includes all resources required to provide watering, as directed. Watering haul routes is subsidiary to Traffic Maintenance.
10. Traffic Price Adjustment. If Item 643.0023.0000, Traffic Price Adjustment, is shown on the bid schedule, the total value of this contract will be adjusted, for unauthorized lane reductions or closures, at the rates listed in Table 643-3.
11. Traffic Control. If item 643.0025.0000 Traffic Control appears in the bid schedule, payment will be made at the unit rate value contained in Table 643-5 for the accepted units of traffic control devices.
12. Portable Changeable Message Board Sign. The contract price includes all resources required to furnish, move, and operate the sign.

Portable Changeable Message Board Signs required on the Plans for Permanent Construction Signing will be paid for under Item 643.0003.0000 Permanent Construction Signs. Additional portable changeable message board signs will be paid for under 643.0025.0000 Traffic Control.

13. Plastic Safety Fence. The contract price includes all resources required to install, maintain, and remove the fence.
14. Temporary Sidewalk Surfacing. The contract price includes all resources required to construct, maintain, and remove the surfacing.
15. Temporary Guardrail. The contract price includes all resources required to construct, maintain, and remove the guardrail.
16. Lighting for Night Work. Payment for illuminating night work areas and any required adjustments to work zone illumination is subsidiary to Traffic Maintenance.

Table 643-5 643.0025.0000 Traffic Control Rate Schedule 03/2019		
Traffic Control Device	Pay Unit	Unit Rate
Construction Signs	Each/Day	\$6.50
Special Construction Signs	Square Foot	\$28.00
Type II Barricade	Each/Day	\$3.30
Type III Barricade	Each/Day	\$11.00
Traffic Cone or Tubular Marker	Each/Day	\$1.10
Drums	Each/Day	\$3.30
Temporary Guardrail	Linear Foot	\$25.00
Portable Barrier	Linear Foot	\$8.00
Temporary Crash Cushion / non-redirective Water filled barrier (all required per end)	Each	\$2,500.00
Temporary Crash Cushion / non-redirective Water filled Barrels (all required per end)	Each	\$3,285.00
Temporary Crash Cushion / non-redirective Sand filled Barrels (all required per end)	Each	\$4,325.00
Temporary Crash Cushion / Redirective	Each	\$9,230.00
Plastic Safety Fence	Linear Foot	\$1.00
Temporary Sidewalk Surfacing	Square Foot	\$2.00
Portable Chain-Link Fence	Linear Foot	\$5.00
Pedestrian Barrier	Linear Foot	\$6.00
Flexible Markers (Flat Whip, Reflective)	Each	\$60.00
Electronic Boards, Panels, and Signals		
Sequential Arrow Panel	Each/Day	\$36.00
Portable Changeable Message Board Sign	Each/Day	\$130.00
Cars and Trucks w/driver		
Pilot Car	Hour	\$72.00
Watering Truck – up to 4900 gallon capacity	M-Gallon	\$28.00
Watering Truck – more than 4900 gallon capacity	M-Gallon	\$21.00
Street Sweeping (Regenerative Sweeper, Vacuum Sweeper, Mechanical or Power Broom with vacuum)	Hour	\$214.00
40,000 GVW Truck with Crash Attenuator	Hour	\$162.00

Payment will be made under:

Pay Item	Pay Unit
643.0001.0000 Traffic Maintenance	Calendar Day
643.0002.0000 Traffic Maintenance	Lump Sum
643.0003.0000 Permanent Construction Signs	Lump Sum
643.0004.0000 Construction Sign	Day
643.0005.0000 Type II Barricade	Day
643.0006.0000 Type III Barricade	Day
643.0007.0000 Traffic Cone/Tubular Marker	Day
643.0008.0000 Plastic Safety Fence	Linear Foot
643.0009.0000 Drum	Day
643.0010.0000 Sequential Arrow Panel, Type C	Day
643.0011.0000 Special Construction Signs	Square Foot
643.0013.0000 Temporary Crash Cushion	Each
643.0014.0000 Interim Pavement Marking	Station
643.0016.0000 Pilot Car	Hour
643.0017.0000 Street Sweeping	Hour
643.0018.0000 Watering	M-Gallon
643.0019.0000 Lane Closure	Hour
643.0020.0000 Detour	Day
643.0021.0000 Road Closure	Day
643.0022.0000 One Lane Road	Hour
643.0023.0000 Traffic Price Adjustment	Contingent Sum
643.0024.0000 Portable Changeable Message Board Sign	Day
643.0025.0000 Traffic Control	Contingent Sum
643.0026.0000 Temporary Sidewalk Surfacing	Square Yard
643.0027.0000 Temporary Guardrail	Linear Foot
643.0032.0000 Flagging	Contingent Sum
643.2017.0000 Pedestrian Barrier	Linear Foot
643.2018.0000 Portable Barrier	Linear Foot

SRM-21 03/10/2019

643-5.01 BASIS OF PAYMENT.

1. Traffic Maintenance. *In the first sentence, delete:* "and public notices".

Add the following:

17. Public Information Program. The contract price includes all materials, equipment, labor, and resources required to perform the requirements in 643-3.03 Public Notice.

SECTION 730

SIGN MATERIALS

SR STANDARD MODIFICATION

730-2.01 SHEET ALUMINUM. Delete the first sentence of the second paragraph and replace with: Treat the aluminum base metal sheets with conversion coating for aluminum meeting ASTM B921 or ASTM B449, Class 2.

SRM-13 04/06/2017

STANDARD MODIFICATION

730-2.05 FLEXIBLE DELINEATOR POSTS. Delete this subsection in its entirety and replace with the following: Durable fiberglass composite, polymer, or plastic material meeting the dimensions and colors shown on the Plans. Resistant to ultraviolet light, ozone and hydrocarbon damage and remain flexible at a temperature of minus 40 °F. Provide posts with reflectors that are capable of self-erecting and remaining serviceable after 5 head-on impacts at 55 mph and 10 impacts at 35 mph with an automobile at an air temperature of plus 40 °F.

SM-6 12/22/2017

SECTION 740

SIGNALS AND LIGHTING MATERIALS

740-2.17 FLASHING BEACONS. Replace this subsection with the following: Each beacon consists of a single section traffic signal head, meeting the provisions in Subsection 740-2.14 with yellow or red lens as shown on the Plans.

Use a solid state NEMA Type 3 flasher meeting the requirements of NEMA Standard TS 1-1989, *Traffic Control Systems*.