PART 4

STANDARD MODIFICATIONS

AND SPECIAL PROVISIONS

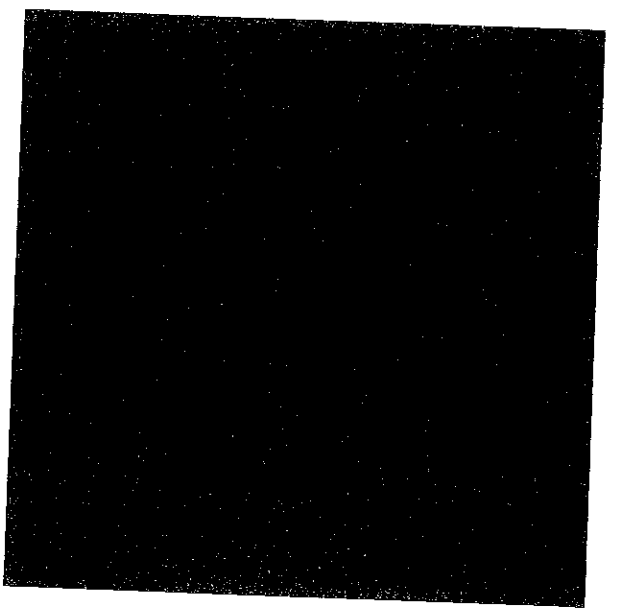
to the STATE OF ALASKA

STANDARD SPECIFICATIONS

FOR HIGHWAY CONSTRUCTION

2002

ENGLISH EDITION



SECTION 101

DEFINITIONS AND TERMS

Special Provisions

101-1.03.DEFINITIONS. Add the following definition:

NON-FROST SUSCEPTIBLE. Material that contains 6 percent or less passing the No. 200 screen as determined by sieve analysis performed with WAQTC FOP for AASHTO T 27/T 11on minus 3-inch material. (11/29/01)R1USC

SECTION 102

BIDDING REQUIREMENTS AND CONDITIONS

Special Provisions

102-1.10 ADDENDA REQUIREMENTS. Delete this Subsection in its entirety and substitute the following: Addenda will be issued to the individual or company to whom bidding documents were issued. Addenda may be issued by any reasonable method such as hand delivery, mail, telefacsimile, telegraph, courier, and in special circumstances by phone. Addenda will be issued to the address, telefacsimile number or phone number as stated on the planholder's list unless picked up in person or included with the bid documents. It is the bidder's responsibility to insure that he has received all addenda affecting the Invitation For Bids. No claim or protest will be allowed based on the bidder's allegation that he did not receive all of the addenda for an Invitation For Bids.

All addenda shall be acknowledged on the Proposal or by telegram or telefacsimile prior to the scheduled time of bid opening. If no addenda are received by the bidder, the word "None" should be entered on the Proposal Form. (10/23/02)R171USC02

SECTION 103

AWARD AND EXECUTION OF CONTRACT

Special Provisions

103-1.06 INSURANCE REQUIREMENTS. Delete this Subsection in its entirety and substitute the following: The Contractor shall provide evidence of insurance with an insurance carrier or carriers satisfactory to the Department covering injury to persons and property suffered by the State of Alaska or by a third party as a result of operations under this contract by the Contractor or by any subcontractor. The Contractor's insurance shall provide protection against injuries to all employees of the Contractor and the employees of any subcontractor engaged in work under this Contract. All insurance policies (a) shall comply with AS 21 and (b) shall be issued by insurers that (i) are licensed to transact the business of insurance in the State of Alaska under AS 21 and (ii) have a financial rating acceptable to the Department. The Contractor shall notify the Engineer, in writing, at least 30 days before cancellation of any coverage or reduction in any limits of liability.

Where specific limits and coverages are shown, it is understood that they shall be the minimum acceptable. The requirements of this subsection shall not limit the Contractor's indemnity responsibility under Subsection 107-1.13. Additional insurance requirements specific to this contract are contained in the Special Provisions, when applicable.

The Contractor shall maintain the following policies of insurance with the specified minimum coverage and limits in force at all times during the performance of the Contract:

1. Workers' Compensation: as required by AS 23.30.045, for all employees of the Contractor engaged in work under this Contract. The Contractor shall be responsible for Workers' Compensation Insurance for any subcontractor who performs work under this Contract. The coverage shall include:
   a. Waiver of subrogation against the state and Employer's Liability Protection at $500,000 each accident/$500,000 each disease;
   b. "Other States" endorsement if the Contractor directly utilizes labor outside of the State of Alaska;
   c. United States Longshore and Harbor Workers' Act Endorsement, whenever the work involves activity over or about navigable water; and
   d. Maritime Employer's Liability (Jones Act) Endorsement with a minimum limit of $1,000,000, whenever the work involves activity form or on a vessel on navigable water.

2. Commercial General Liability: on an occurrence policy form covering all operations with combined single limits not less than:
   a. $1,000,000 Each Occurrence;
   b. $1,000,000 Personal Injury;
   c. $2,000,000 General Aggregate; and
   d. $2,000,000 Products-Completed Operations Aggregate.

3. Automobile Liability: covering all vehicles used in Contract work, with combined single limits not less than $1,000,000 each occurrence.

4. Umbrella Coverage: for Contract amounts over $5,000,000 not less than $5,000,000 umbrella or excess liability. Umbrella or excess policy shall include products liability completed operations coverage and may be subject to $5,000,000 aggregate limits. Further, the umbrella or excess policy shall contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.

The State of Alaska shall be named as an additional insured on policies required by paragraphs 2 thru 4 above. All of the above insurance coverage shall be considered to be primary and non-contributory to any other insurance carried by the State of Alaska, whether through self-insurance or otherwise.

In any contract or agreement with subcontractors performing work, the Contractor shall require that all indemnities and waivers of subrogation it obtains, and any stipulation to be named as an additional insured it obtains, shall also be extended to waive rights of subrogation against the State of Alaska and to add the State of Alaska as an additional named indemnities and as an additional insured.

The apparent low bidder shall furnish evidence of insurance to the Department before award of the Contract. The evidence shall be issued to the Department and shall be either a certificate of insurance or the policy declaration page with all required endorsements attached and must:

1. Denote the type, amount, and class of operations covered;
2. Show the effective (and retroactive) dates of the policy;
3. Show the expiration date of the policy;
4. Include all required endorsements; and
5. Be executed by the carrier's representative.

When a certificate of insurance is furnished, it shall contain the following statement:

"This is to certify that the policies described herein comply with all aspects of the insurance requirements of (Project Name and Number). The insurance carrier agrees that it shall notify the Engineer, in writing, at least 30 days before cancellation of any coverage or reduction in any limits of liability."

The Department's acceptance of deficient evidence of insurance does not constitute a waiver of Contract requirements.

Failure to maintain the specified insurance or to provide substitute insurance if an insurance carrier becomes insolvent, is placed in receivership, declares bankruptcy, or cancels a policy may be grounds for withholding Contract payments until substitute insurance is obtained, and may, in the Department's discretion, be grounds for declaring the Contractor in default. (05/06/03)R271USC02

SECTION 105

CONTROL OF WORK

Special Provisions

105-1.06 COOPERATION WITH UTILITIES. Add the following: Request locates from all the utilities having facilities in the area. Use the Alaska Digline, Inc. Locate Call Center for the following utilities:

ALASKA DIGLINE, INC.
Anchorage Area..... 278-3121
Statewide.....800-478-3121
Who will notify the following:

- ACS
- Aircraft Service International Group
- Alaska Fiber Star
- Alaska Native Medical Center
- Alaska Railroad Corp.
- Anchorage School District
- Anchorage Water & Wastewater
- AT&T Alascom
- Chugach Electric Assoc.
- City of Wasilla
- ENSTAR Natural Gas
- GCI
  Kanas
- Homer Electric Assoc.
- Marathon Oil
- Matanuska Electric Assoc.
- Matanuska Telephone Assoc.
- Municipality of Anchorage Street Maintenance Department.
- Municipal Light & Power
- Phillips Alaska, Inc.
- Telalaska
  Alyeska Cable
  Eyecom, Inc.
  Interior Telecom.
  Mukluk Telecom.
- Tesoro Alaska Pipeline
- Unocal
- United Utilities
- Yukon Telephone

Call the following utilities and agencies directly:

Contact the Central Region Maintenance & Operations Office at 269-0760 to obtain the appropriate District Superintendent's phone number for this project.

There are various utility appurtenances located within the project limits. Utilities scheduled for relocation are addressed in the following utility specific sections. Cooperate with these utilities and coordinate schedule of work to allow them access to the project for their adjustments and/or relocation.

Work around those utilities not designated for relocation in the plans and the following utility specific coordination. You shall bear the expense for any changes or additional relocation requested for your convenience.

Work around all utility facilities, either existing or relocated, throughout the project unless advised by the utility that the facility is abandoned in place.

You shall bear the responsibility for any changes in contract scheduling that result in the conditions in this specification not being met. Additional coordination with the applicable utility will be required.

Schedule and coordinate the utility relocations with project construction as set forth in Section 108-1.03, Prosecution and Progress.

Right of Way and/or Construction surveying is required prior to utility relocation.

Payment will be made as follows:

1. Subsidiary to Item 642(1), Construction Surveying, if you are required to provide the surveying as part of the contract an/or
2. Under Item 642(3), Three Person Survey Party, if the construction or Right of Way staking required by the utility is either in advance of your two (2) week work plan, or not required by the contract.

The utility shall give you, through the Engineer; fifteen (15) calendar days advance written notice for required staking.

Provide the Utility Companies fifteen (15) calendar day's advance written notice of the relocations described below to begin. The Utility Companies will not be required to work in more than one location at a time, and will be allowed to complete a specific section of work prior to commencing with another section.

Relocation or adjustment of underground utility appurtenances will not normally be performed when the ground is frozen. In addition, the utility companies may prohibit you, through the Engineer, from working near the utility's facilities when the ground is frozen.

Specific coordination requirements for the specific utilities are included below:

(4/1/03)R3M98

A copy of Enstar's **Safety Requirements for Excavation Adjacent to Natural Gas Pipelines** is included in Appendix B to the Special Provisions to familiarize contractors with safe excavation methods while working close to gas pipelines.

Specific coordination requirements for the specific utilities are included below:

1. Anchorage Water and Wastewater Utility (AWWU) has existing water valves and sanitary sewer manholes located within this project limits that will as a part of this project require adjustment. It shall be the Contractor's responsibility to protect and maintain all valves and valve boxes in an operable condition during all phases of construction.

   Prior to the commencement of work by the Contractor, AWWU shall check and correct deficiencies, which may exist in any AWWU facilities. The Engineer, Contractor and AWWU representatives shall witness the condition and location of each AWWU facility. Failure to participate in this inspection shall result in the contractor forfeiting all right to

claim that the AWWU facilities were damaged prior to his beginning of work.

Notice that the Contractor is ready for the above walk through inspection shall be given to AWWU field services section in writing, a minimum of two calendar days prior to starting construction. To obtain a point of contact as well as determine where to send the written notice to, contact AWWU by calling 564-2765. The Contractor shall furnish a copy of the written notice to the Engineer.

If at any time after the pre-construction inspection AWWU finds any of their facilities damaged or rendered inoperable by the Contractor, the Contractor shall repair the damage at his expense.

The Contractor shall be responsible for the furnishing of traffic control and personal to assist AWWU while locating and performing the post and pre-construction inspections. The Contractor shall schedule the final field review with AWWU and Engineer upon completion of the valve box adjustments.

2. Municipal Light & Power (ML&P) has existing aerial and underground facilities located within this project. No known conflicts exist with this project proposed improvements. Before ML&P starts any load center service installation work the contractor shall have the new load center installed and inspected and accepted (tagged) by the Alaska Department of Labor (ADOL).

UNDERGROUND

Location / Station	Type of Facility	Calendar Days Required
1. 393+90, 75 ft	Underground service conductor	4

Clearing may be required for the new load center location. The contractor shall coordinate with ML&P and complete any required clearing before ML&P can start the service conductor placement to the new load center. ML&P will provide the staking for the clearing required for the load center. Any clearing required for the load center will be within the right of way. This work will not be paid for directly, but will be subsidiary to the load center.

105-1.07 COOPERATION BETWEEN CONTRACTORS. Add the following: The following projects will be under construction concurrently with this project:

1. AWWU Muldoon Road waterline crossing project at Duben Avenue and Peck Avenue. Final approval of lane closures on Muldoon Road may be affected by the construction activities on this project and the associated impacts on area traffic.

2. Muldoon Rd Pedestrian & Landscaping, Phase 1, 55712 / TEA-0001(289)

3. Muldoon Rd Pedestrian & Landscaping, Phase 2, 56516 / STP-0001(290)

4. Huffman / Elmore Rd Intersection, 53934 / MGS-0001(261)

5. MacInnes Street Paving and Storm Improvements, Municipality of Anchorage Project No. 00-20.

6. Seward Highway: Potter Marsh to Fireweed Lane Resurfacing, 56308/NH-0A3-1(32).

The above listed projects are not all inclusive. Coordinate traffic control, construction, and material hauling operations with the prime contractors of all adjacent projects so as to minimize impact on the traveling public, and to minimize conflicts with the work being performed under the other contract. (2/1/00)R175M98

105-1.13 MAINTENANCE DURING CONSTRUCTION. Add the following: Inspect and clean all storm drain sumps and petroleum separator manholes during the construction season and prior to winter shutdowns. This inspection and maintenance of the storm drain system will not be paid for directly but will be subsidiary to work paid for under Sections 603 and 604. (2/1/00)R4M98

105-1.15 PROJECT COMPLETION. Delete the last paragraph and substitute the following: When all physical work and cleanup provided for under the contract is found to be complete, except for work specified under Subsection 618-3.04, Plant Establishment and Maintenance; and Subsection 621-3.04, Period of Establishment; Subsection 641-2.01, Storm Water Pollution Prevention Plan (SWPPP) Requirements and Subsection 641-3.01, Construction Requirements, a letter of project completion will be issued by the Engineer. Project completion will relieve you from further maintenance responsibilities, except under Subsections 618-3.04, and 621-3.04, 641-2.01 and 641-3.01, and will stop the count of contract time but will not relieve you of any obligations under the Contract. (05/28/03)R237USC02

105-1.17 CLAIMS FOR ADJUSTMENT AND DISPUTES. Add the following Any appeal to the superior court under AS 36.30.685 must be filed in the third judicial district. (3/21/01)R93

Add the following subsection:

105-1.18 INTERIM COMPLETION. This project will have work zone time duration limits, and interim and final completion dates.

Work Zone Duration Limits:

Huffman Road at Hace Street: Complete all work within this work zone within 10 calendar days.

Tudor Road: Complete all work within this work zone within 14 calendar days.

Debarr Road: Complete all work within this work zone within 10 calendar days.

Huffman Road at Seward Highway East Ramp: Complete all work within this work zone within 10 calendar days, except for standing the new traffic signal pole and salvaging existing signal pole 2E. This includes, but is not limited to, all foundation work, raceway installation, asphalt paving, cable/conductor installation, concrete work, and topsoil and seeding activities.

Muldoon Road at Boundary Avenue: Complete all work within the Muldoon Road work zone in 30 calendar days, except for standing new traffic signal poles and cantilevered sign support by August 31, 2003. This includes, but is not limited to, all foundation work, raceway installation, cable/conductor installation, concrete work, asphalt paving, signing and striping activities.

Final Completion Date: Complete all work by December 12, 2003.

The Engineer will assess liquidated damages in accordance with subsection 108-1.07, Failure to Complete on Time, for failure to complete the work specified above for the work zone duration limits, and interim and final completion dates.

SECTION 106

CONTROL OF MATERIAL

Special Provision

106-1.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS. Add the following:

Buy America Provision. Comply with the requirements of 23 CFR 635.410, Buy America Requirements, and shall submit a completed Material Origin Certificate, Form 25D-60, prior to award of the contract.

All steel and iron products which are incorporated into the work, shall be manufactured in the United States except that minor amounts of steel and iron products of foreign manufacture may be used, provided the aggregate cost of such does not exceed one tenth of one percent (0.001) of the total contract amount, or $2500, whichever is greater. For the purposes of this paragraph, the cost is the value of the products as they are delivered to the project including freight.

"Manufactured in the United States" means that all manufacturing processes starting with the initial mixing and melting through the final shaping, welding, and coating processes must be undertaken in the United States. The definition of "manufacturing process" is smelting or any subsequent process that alters the material's physical form, shape or chemical composition. These processes include rolling, extruding, machining, bending, grinding, drilling, etc. The application of coatings, such as epoxy coating, galvanizing, painting or any other coating that protects or enhances the value of steel or iron materials shall also be considered a manufacturing process subject to the "Buy America Requirements."

Buy America does not apply to raw materials (iron ore), pig iron, and processed, pelletized and reduced iron ore. It also does not apply to temporary steel items (e.g., temporary sheet piling, temporary bridges, steel scaffolding, and falsework). Further, it does not apply to materials, which remain in place at the Contractor's convenience (e.g., sheet pilings, and forms).

The North American Free Trade Agreement (NAFTA) does not apply to the Buy America requirement. There is a specific exemption within NAFTA (article 1001) for grant programs such as the Federal-aid highway program.

When steel and iron products manufactured in the United States are shipped to a foreign country where non-steel or iron products are installed on or in them (e.g., electronic components in a steel cabinet), the steel and iron is considered to meet the requirements of this subsection.

Take whatever steps are necessary to ensure that all manufacturing processes for each covered product comply with this provision. Non-conforming products shall be replaced at no expense to the State. Failure to comply may also subject the Contractor to default and/or debarment. False statements may result in criminal penalties prescribed under Title 18 US Code Section 1001 and 1020. (08/31/99)S 13

106-1.02 LOCAL MATERIAL SOURCES. Add the following under Item 2. Inspection and Acceptance.: In compliance with 30CFR46.11, have the Operator of the sand and gravel surface

mine (materials source) provide *Site-specific Hazard Awareness Training* for all the Engineer's personnel (non-miners) before beginning any operations in your surface mine. Offer the training at each surface mine that will be used to supply processed aggregates. A competent person must provide the training in accordance with the Operator's written training plan as approved by the *Mine Safety and Health Administration*, and covering the following items:

a. Site specific health and safety risks.
b. Recognition and avoidance of hazards.
c. Restricted areas.
d. Warning and evacuation signals.
e. Other special safety procedures.
f. Site tour.

Upon completion of this training, the Engineer's personnel will sign a Visitor's Log Book to indicate that training was provided. (05/01/02)R262M98

106-1.03 TESTING AND ACCEPTANCE. Add the following:

When the specifications refer to the following test methods, use the corresponding test method shown.

REPLACE TEST METHOD:	WITH TEST METHOD:
ATM 203	Alaska FOP for AASHTO T 267
WAQTC FOP for AASHTO T 89/T 90	WAQTC FOP for AASHTO T 89 WAQTC FOP for AASHTO T 90
WAQTC FOP for AASHTO T 180	WAQTC FOP for AASHTO T 99/T 180 and WAQTC TM 9
WAQTC FOP for AASHTO T 224	Same
ATM 212	ATM T-12
WAQTC FOP for AASHTO T 310	WAQTC TM 7
WAQTC FOP for AASHTO T 27/T 11	Same
WAQTC TM 1	Same
ATM 306	ATM T-9
ATM 313	ATM T-13
WAQTC TM 4	Same
WAQTC FOP for AASHTO T 308	WAQTC FOP for AASHTO TP 53
WAQTC TM 6	Same
WAQTC FOP for AASHTO T 30	Same
WAQTC FOP for AASHTO T 209	Same
WAQTC FOP for AASHTO T 166/T 275	Same
WAQTC TM 8	Same
ATM 412	None
ATM 414	ATM T-14

REPLACE TEST METHOD:	WITH TEST METHOD:
ATM 417	ATM T-17
WAQTC TM 2	Same
WAQTC FOP for AASHTO T 309	WAQTC TM 10
WAQTC FOP for AASHTO T 119	Same
WAQTC FOP for AASHTO T 121	Same
WAQTC FOP for AASHTO T 152	Same
WAQTC FOP for AASHTO T 23	Same
ATM 520	ATM T-30

(09/04/02)B01

SECTION 107

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Special Provisions

107-1.02 PERMITS, LICENSES AND TAXES. Add the following: Obtain a written statement from the State Historic Preservation Officer stating that material disposal, extraction, stockpiling or staging, on any off project site, is not expected to impact any cultural resources. The State Historic Preservation Officer is with the Department of Natural Resources in Anchorage, and may be contacted at (907) 269-8715. If you discover cultural resources during construction activities, stop work at that site and notify the Engineer.

Provide a wetland specialist able to conduct wetlands determinations and delineations in accordance with the Corps of Engineers 1987 Wetland Delineation Manual. The wetland specialist shall conduct the determination and delineations of any site outside the project limits or not previously permitted, impacted by your operations. These delineations will be subject to Corps of Engineers approval.

Provide the Engineer a copy of all permits or clearances received prior to using any site outside the project limits. Additionally, provide the Engineer a written statement that all necessary permits or clearances have been obtained. Also provide a written statement to the Engineer listing agencies or offices contacted which responded that no additional action is required.

Add the following: A Municipality of Anchorage (MOA) Right-of-Way Use permit will be required. The Municipality will require a copy of the approved Traffic Control Plan and a copy of the Notice to Proceed from you.

107-1.11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. Add the following: If you require water for any construction purpose from a non-municipal water source, obtain a Temporary Water Use Permit from the Water Resource Manager, and provide a copy to the Engineer. The Water Resource Manager is with the Department of Natural Resources in Anchorage and may be contacted at (907) 269-8624. (05/29/02)R7M98

107-1.13 RESPONSIBILITY FOR DAMAGE CLAIMS. Delete this Subsection in its entirety and substitute the following: The Contractor shall indemnify, hold harmless and defend the State of Alaska and its agents and employees from any and all claims or actions for injuries or damages whatsoever sustained by any person or property that arise from or relate to, directly or indirectly, the Contractor's performance of the Contract, however, this provision has no effect if, but only if, the sole proximate cause of the injury or damage is the Department's negligence. This Contract does not create a third party benefit in the public or any member of the public, nor does it authorize any person or entity not a party to this Contract to maintain a suit based on this Contract or any term or provision of the Contract, whether for personal injuries, property damage or any other claim or cause of action. (05/06/03)R271USC02

107-1.16 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICE. Add the following after the last paragraph: When construction activities meet any of the following conditions, advise the appropriate owning Utility(s) in writing at least 24 hours in

advance of work.

1. Operations anticipated being within 10 feet of an overhead electrical line.

2. Operations anticipated to be within 3 feet of an underground electrical line according to locates provided by the owning Utility.

3. Operations requiring use of equipment that is capable of coming within 10 feet of an overhead electrical line.

The notice shall indicate the location and duration of the work.

Provide an attendant whose sole responsibility is to perform as a safety observer while equipment is operating such that any part is capable of reaching within 15 feet of an overhead line.

Providing a safety observer for overhead electrical facilities, or a cable watch for buried electrical facilities, will be subsidiary to the item(s) of work being performed requiring these services. (10/23/02)R170USC02

Add the following Subsection:

107-1.21 FEDERAL AFFIRMATIVE ACTION. The Federal Equal Employment Opportunity, Disadvantaged Business Enterprise, and On-the-Job Training affirmative action program requirements that are applicable to this Contract are contained in the project Special Provisions and Contract Forms, and may include:

Disadvantaged Business Enterprise (DBE) Program	Section 120
Training Program	Section 645
Federal EEO Bid Conditions	Form 25A-301
EEO-1 Certification	Form 25A-304
DBE Subcontractable Items	Form 25A-324
ADOT&PF Training Program Request	Form 25A-310
Training Utilization Report	Form 25A-311
Contact Report	Form 25A-321A
DBE Utilization Report	Form 25A-325C
Summary of Good Faith Effort Documentation	Form 25A-332A
Required Contract Provisions, Federal-Aid Contracts	Form 25D-55

In addition to the sanctions provided in the above references, non-compliance with these requirements is grounds for withholding of progress payments. (08/13/98)S 80

SECTION 108

PROSECUTION AND PROGRESS

Special Provision

108-1.03 PROSECUTION AND PROGRESS. Add the following under item no. 1: Use the schedule for coordination and monitoring of all work under the contract including all activity of subcontractors, manufacturers, suppliers, utility companies and review activity of the Department. (4/22/99)R250M98

Delete the last sentence of the first paragraph and substitute the following: Submit the following at the Preconstruction Conference:

Delete item 1. A progress schedule. and substitute the following:

1. A Critical Path Method (CPM) Schedule is required, in a format acceptable to the Engineer, showing the order in which the work will be carried out and the contemplated dates on which the Contractor and subcontractors will start and finish each of the salient features of the work, including any scheduled periods of shutdown. Indicate any anticipated periods of multiple-shift work in the CPM Schedule. If revisions to the proposed CPM Schedule are required, make them promptly. Promptly submit a revised CPM Schedule if there are substantial changes to your schedule, or upon request of the Engineer. (12/13/02)R261M98

Delete Item 5 of the first paragraph and substitute the following:

5. The submittals identified under Subsection 641-1.03, Submittals.

(01/31/02)R160M98

108-1.06 DETERMINING AND EXTENDING CONTRACT TIME. Delete the 3rd paragraph under item 2 "Suspension and Extension of Contract Time," and substitute the following:

Contract time shall continue through the suspension of work in the following conditions:

- Those instances where the Engineer orders suspension of the work for unsafe conditions,
- For failure by the Contractor to carry out contractual provisions, or
- For failure to carry out orders given by the Engineer within the limits of his contractual authority.

In the instance where the Engineer suspends a controlling item of work due to adverse weather conditions for one or more calendar days, the number of days included in the suspension period shall extend the completion date. (3/13/03)R242USC02

108-1.07 FAILURE TO COMPLETE ON TIME. Delete Table 108-1. Delete the 1st sentence of

the 1st paragraph and substitute the following: For each calendar day that the work remains incomplete after the work zone duration limit, the interim completion date, or the final completion date, the liquidated damages per day given in the table below shall be deducted from any monies due the Contractor.

COMPLETION LEVEL OR WORK ZONE	COMPLETION DATE OR TIME LIMT	DAILY CHARGE
Huffman Rd at Hace St	10 calendar days / August 31, 2003	$300
Tudor Road	14 calendar days / August 31, 2003	$300
Debarr Road	10 calendar days / August 31, 2003	$300
Huffman Rd at Seward Hwy East Ramp	10 calendar days / August 31, 2003	$300
Muldoon Rd at Boundary St	August 31, 2003	$550
Final	December 12, 2003	$1,000

SECTION 109

MEASUREMENT & PAYMENT

Special Provisions

109-1.05 COMPENSATION FOR EXTRA WORK. Under item 3, Equipment, change the first sentence to read ... "Rental Rate Blue Book for Construction Equipment", published by Primedia, 1735 Technology Drive, Suite 410, San Jose, CA, 95110-1313.

Delete the first sentence of the second paragraph of sub-item a. of item 3 and substitute the following: The regular hourly rental rate is the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 176, and multiplied by the area adjustment factor specified on the adjustment maps for the Alaska - South Region. (10/23/02)R14USC02

109-1.06 PROGRESS PAYMENTS. Add the following: Failure to submit schedules in accordance with Subsection 108-1.03, Prosecution and Progress will result in withholding an amount equal to 5 percent of the total amount earned from all subsequent progress payments. The Engineer, upon receipt of current schedules from the Contractor, will release this amount.

Failure to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Alaska, as indicated under Section 641, Erosion, Sediment, and Pollution Control, will result in withholding an amount equal to 5 percent of the total amount earned from all subsequent progress payments. This amount will be released by the Engineer upon satisfactory completion of the requirements of the permit.
(02/04/02)R137A

109-1.07 PAYMENT FOR MATERIALS ON HAND. Add the following: The location of stockpiled materials for payment in acceptable storage facilities off the project will be in Anchorage, at a location acceptable to the Engineer. (9/1/89)R16

Add the following Section:

SECTION 120

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

Special Provisions

120-1.01 DESCRIPTION. The work consists of providing Disadvantaged Business Enterprises (DBEs), as defined in Title 49, CFR (Code of Federal Regulations), Part 26, with the opportunity to participate on an equitable basis with other contractors in the performance of contracts financed in whole, or in part, with federal funds. The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. Carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT assisted contracts.

120-1.02 INTERPRETATION. It is the intent of this section to implement the requirements of 49 CFR, Part 26, and the Department's federally approved DBE Program.

120-1.03 ESSENTIAL CONTRACT PROVISION. Failure to comply with the provisions of this section will be considered a material breach of contract, which may result in the termination of this contract or such other remedy as ADOT&PF deems appropriate. The Department also considers failure to comply with this section to be so serious as to justify debarment action as provided in AS 36.30.640(4).

120-1.04 DEFINITIONS AND TERMS. The following definitions will apply.

1. Broker. A DBE certified by the Department that arranges for the delivery or provision of creditable materials, supplies, equipment, transportation/hauling, insurance, bonding, etc., within its certified category, that is necessary for the completion of the project. A broker of materials certified in a supply category must be responsible for scheduling the delivery of materials and fully responsible for ensuring that the materials meet specifications before credit will be given.

2. Commercially Useful Function (CUF). The execution of the work of the Contract by a DBE carrying out its responsibilities by actually performing, managing, and supervising the work involved using its own employees and equipment. The DBE shall be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, an evaluation of the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work. Other relevant factors will be considered. The determination of CUF is made by the Engineer after evaluating the way in which the work was performed during the execution of the Contract.

3. Disadvantaged Business Enterprise (DBE). An enterprise which is a for-profit small business concern

a. that is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals;

b. whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it; and

c. has been certified by the Department in accordance with 49 CFR, Part 26.

4. DBE Key Employee. Permanent employees identified by the DBE owner in its certification file in the Department Civil Rights Office.

5. DBE Utilization Goal. The percent of work to be performed by certified DBEs that is established by the Department and specified in the Contract.

6. Good Faith Efforts. Efforts by the bidder or Contractor to achieve a DBE goal or other requirement of 49 CFR Part 26, by their scope, intensity, and appropriateness to the objective, that can reasonably be expected to fulfill the program requirement.

7. Manufacturer. A DBE certified by the Department in a supply category that changes the shape, form, or composition of original material in some way and then provides that altered material to the project and to the general public or the construction industry at large on a regular basis.

8. Notification. For purposes of soliciting DBE participation on a project and to count toward a contractor's Good Faith Efforts, notification shall be by letter or fax transmission, with a return receipt requested or successful transmission report. Telephonic contact with a DBE may be allowed, however it shall be based on the ability of Civil Rights staff to independently verify this contact.

9. Regular Dealer. A DBE certified by the Department in a supply category that

a. maintains an in-house inventory on a regular basis of the particular product provided to this project; and

b. keeps an inventory in an amount appropriate for the type of work using that product; and

c. offers that inventory for sale to the general public or construction industry at large (private and public sectors), not just supplied as needed on a project by project basis during the construction season, except where the product requires special or heavy equipment for delivery and the DBE possesses and operates this equipment on a regular basis throughout the construction season in order to deliver the product to the general public or construction industry at large. If the distribution equipment is rented or leased, it must be on a repetitive, seasonal basis; and may additionally

d. fabricate (assembles large components) for use on a construction project, consistent with standard industry practice, for delivery to the project.

120-2.01 UTILIZATION GOAL. The DBE Utilization Goal for this contract is shown on Form 25A324 (DBE Subcontractable Items) as a percentage of the total basic bid amount. A DBE may be considered creditable towards meeting the DBE Utilization Goal at time of Contract award, if the DBE is certified by the Department in a category covering the CUF to be performed at the time of listing on Form 25A325C (DBE Utilization Report).

A bidder shall demonstrate the ability to meet the DBE Utilization Goal or perform and document all of the required Good Faith Efforts under Subsection 120-3.02 in order to be eligible for award of this Contract.

If the quantity of work of a bid item involving a DBE firm is reduced by the Department, the DBE Utilization Goal on Form 25A325C will be reduced proportionately.

120-3.01 DETERMINATION OF COMPLIANCE

1. Phase I - Bid. Each bidder must register with the Civil Rights Office annually in accordance with §§26.11 & 26.53(b)(2)(iv) of 49 CFR, Part 26. No contract may be awarded to a bidder that is not registered.

2. Phase II - Award. The apparent low bidder will provide the following within 15 days of receipt of notice of intent to award:

   a. **Written DBE Commitment.** Written commitments from DBEs to be used on the project. The written commitment shall contain the following information:

      1) A description of the work that each DBE will perform;

      2) The dollar amount of participation by the DBE firm;

      3) Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet a contract goal; and

      4) Written confirmation from the DBE that it is participating in the contract as provided in the prime Contractor's commitment.

   b. **DBE Utilization Report.** Form 25A325C listing the certified DBEs to be used to meet the DBE Utilization Goal.

   c. **Good Faith Effort Documentation.** Summary of Good Faith Effort Documentation (Form 25A332A and attachments) and DBE Contact Reports (Form 25A321A) if the Contractor submits less DBE utilization on Form 25A325C than is required to meet the DBE Utilization Goal. If accepted by the Department, this lower DBE utilization becomes the new DBE Utilization Goal. If the bidder cannot demonstrate the ability to meet the DBE Utilization Goal, and cannot document the minimum required Good Faith Efforts (as outlined in subsection 120-3.02 below), the Contracting Officer will determine the bidder to be not responsible.

3. Phase III - Construction.

a. **Designation of DBE/EEO Officer**. At the preconstruction conference, submit, in writing, the designation of a DBE/EEO officer.

b. **DBE Creditable Work**. The CUF work items and creditable dollar amounts shown for a DBE on the DBE Utilization Report (Form 25A325C) shall be included in any subcontract, purchase order or service agreement with that DBE.

c. **DBE Replacement**. If a DBE replacement is approved by the Engineer, replace the DBE with another DBE for the same work in order to fulfill its commitment under the DBE Utilization Goal. In the event that the Contractor cannot obtain replacement DBE participation, the Engineer may adjust the DBE Utilization Goal if, in the opinion of the Engineer and the Civil Rights Office, both of the following criteria have been met:

1) The Contractor has not committed any discriminatory practice in its exercise of good business judgement to replace a DBE.

2) If the Contractor is unable to find replacement DBE participation and has adequately performed and documented the Good Faith Effort expended in accordance with Subsection 120-3.02.

d. **DBE Utilization Goal**. The DBE Utilization Goal will be adjusted to reflect only that amount of the DBE's work that can not be replaced.

120-3.02 GOOD FAITH EFFORT

1. **Good Faith Effort Criteria**. The Contracting Officer will use the following criteria to judge if the bidder, who has not met the DBE Utilization Goal, has demonstrated sufficient Good Faith Effort to be eligible for award of the contract.

Failure by the bidder to perform and document all of the following actions constitutes insufficient Good Faith Effort.

a. Consideration of all subcontractable items. The bidder shall, at a minimum, seek DBE participation for each of the subcontractable items upon which the DBE goal was established as identified by the Department (on Form 25A324) prior to bid opening. It is the bidder's responsibility to make the work listed on the subcontractable items list available to DBE firms, to facilitate DBE participation.

b. If the bidder cannot achieve the DBE Utilization Goal using the list of available DBE firms based on the subcontractable items list, then the bidder may consider other items that could be subcontracted to DBEs.

c. Notification to all active DBEs listed for a given region in the Department's most current DBE Directory at least 7 calendar days prior to bid opening. The bidder must give the DBEs no less than five days to respond. The bidder may reject DBE quotes

received after the deadline. Such a deadline for bid submission by DBEs will be consistently applied. DBEs certified to perform work items identified on Form 25A324 must be contacted to solicit their interest in participating in the execution of work with the Contractor. Each contact with a DBE firm will be logged on a Contact Report (Form 25A321A).

d. Non-competitive DBE quotes may be rejected by the bidder. Allegations of non-competitive DBE quotes must be documented and verifiable. A DBE quote that is more than 10.0% higher than the accepted non-DBE quote will be deemed non-competitive, provided the DBE and non-DBE subcontractor quotes are for the exact same work or service. Bidders must have a non-DBE subcontractor quote for comparison purposes. Such evidence shall be provided in support of the bidder's allegation. Where the bidder rejects a DBE quote as being non-competitive under this condition, the work must be performed by the non-DBE subcontractor and payments received by the non-DBE subcontractor during the execution of the Contract shall be consistent with the non-DBE's accepted quote. This does not preclude increases as a result of Change documents issued by the Department.

e. Provision of assistance to DBEs who need help in obtaining information about bonding or insurance required by the bidder.

f. Provision of assistance to DBEs who need help in obtaining information about securing equipment, supplies, materials, or related assistance or services.

g. Providing prospective DBEs with adequate information about the requirements of the Contract regarding the specific item of work or service sought from the DBE.

h. Follow-up of initial notifications by contacting DBEs to determine whether or not they will be bidding. Failure to submit a bid by the project bid opening or deadline by the bidder is de facto evidence of the DBE's lack of interest in bidding. Documentation of follow-up contacts shall be logged on the Contact Report (Form 25A321A).

i. Items c through h will be utilized to evaluate any request from the Contractor for a reduction in the DBE Utilization Goal due to the default or decertification of a DBE and the Contractor's subsequent inability to obtain additional DBE participation.

2. **Administrative Reconsideration**. Under the provisions of 49 CFR. Part 26.53(d), if it is determined that the apparent successful bidder has failed to meet the requirements of this subsection, the bidder must indicate whether they would like an opportunity for administrative reconsideration. Such an opportunity must be exercised by the bidder within 3 calendar days of notification it has failed to meet the requirements of this subsection. As part of this reconsideration, the bidder must provide written documentation or argument concerning the issue of whether it met the goal or made adequate good faith efforts to do so.

a. The decision on reconsideration will be made by the DBE Liaison Officer.

b. The bidder will have the opportunity to meet in person with the DBE Liaison Officer to discuss the issue of whether it met the goal or made adequate good faith efforts to do so. If a meeting is desired, the bidder must be ready, willing and able to meet with the DBE Liaison Officer within 4 days of notification that it has failed to meet the requirements of this subsection.

c. The DBE Liaison Officer will render a written decision on reconsideration and provide notification to the bidder. The written decision will explain the basis for finding that the bidder did or did not meet the goal or make adequate good faith efforts to do so.

d. The result of the reconsideration process is not administratively appealable to US DOT.

120-3.03 COMMERCIALLY USEFUL FUNCTION (CUF).

1. **Creditable Work**. Measurement of attainment of the DBE Utilization Goal will be based upon the actual amount of money received by the DBEs for creditable CUF work on this project as determined by the Engineer in accordance with this Section. CUF is limited to that of a:

   a. regular dealer;
   b. manufacturer;
   c. broker;
   d. subcontractor;
   e. joint-venture; or
   f. prime contractor.

2. **Determination of Commercially Useful Function.** In order for the CUF work of the DBE to be credited toward the goal, the Contractor will ensure that all of the following requirements are met:

   a. The CUF performed by a DBE certified in a supply category will be evaluated by the Engineer to determine whether the DBE performed as a broker, regular dealer, or manufacturer of the product provided to this project.

   b. A DBE trucking firm certified and performing work in a transportation/hauling category is restricted to credit for work performed with its own trucks and personnel certified with the CRO prior to submitting a bid to a contractor for DBE trucking. The DBE trucking firm must demonstrate that it owns all trucks (proof of title and/or registration) to be credited for work and that all operators are employed by the DBE trucking firm. A DBE trucking firm that does not certify its trucks and personnel that it employs on a job will be considered a broker of trucking services and limited to credit for a broker. (This does not affect the CUF of that same firm, when performance includes the hauling of materials for that work.)

   c. The DBE is certified in the appropriate category at the time of

1) the Engineer's approval of the DBE subcontract, consistent with the written DBE commitment; and

2) the issuance of a purchase order or service agreement by the Contractor to a DBE performing as either a manufacturer, regular dealer, or broker (with a copy to the Engineer).

d. The Contractor will receive credit for the CUF performed by DBEs as provided in this Section. Contractors are encouraged to contact the Engineer in advance of the execution of the DBE's work or provision of goods or services regarding CUF and potential DBE credit.

e. The DBE may perform work in categories for which it is not certified, but only work performed in the DBE's certified category meeting the CUF criteria may be credited toward the DBE Utilization Goal.

f. The work of the DBE firm must meet the following criteria when determining when CUF is being performed by the DBE:

1) The work performed will be necessary and useful work required for the execution of the Contract.

2) The scope of work will be distinct and identifiable with specific contract items of work, bonding, or insurance requirements.

3) The work will be performed, controlled, managed, and supervised by employees normally employed by and under the control of the certified DBE. The work will be performed with the DBE's own equipment. Either the DBE owner or DBE key employee will be at the work site and responsible for the work.

4) The manner in which the work is sublet or performed will conform to standard, statewide industry practice within Alaska, as determined by the Department. The work or provision of goods or services will have a market outside of the DBE program (must also be performed by non-DBE firms within the Alaskan construction industry). Otherwise, the work or service will be deemed an unnecessary step in the contracting or purchasing process and no DBE credit will be allowed.

There will be no DBE credit for lower-tier non-DBE subcontract work.

5) The cost of the goods and services will be reasonable and competitive with the cost of the goods and services outside the DBE program within Alaska. Materials or supplies needed as a regular course of the Contractor's operations such as fuel, maintenance, office facilities, portable bathrooms, and etc. are not creditable.

The cost of materials actually incorporated into the project by a DBE subcontractor is creditable toward the DBE goal only if the DBE is responsible for ordering and scheduling the delivery of creditable materials and fully responsible for ensuring that the materials meet specifications.

6) All subcontract work, with the exception of truck hauling, will be sublet by the same unit of measure as is contained in the Bid Schedule unless prior written approval of the Engineer is obtained.

7) The DBE will control all business administration, accounting, billing, and payment transactions. The prime contractor will not perform the business, accounting, billing, and similar functions of the DBE. The Engineer may, in accordance with AS 36.30.420(b), inspect the offices of the DBE and audit the records of the DBE to assure compliance.

g. On a monthly basis, report on Form 25A336 (Monthly Summary of DBE Participation) to the Department Civil Rights Office the payments made (canceled checks or bank statements that identify payor, payee, and amount of transfer) for the qualifying work, goods and services provided by DBEs.

3. **Decertification of a DBE.** Should a DBE performing a CUF become decertified during the term of the subcontract, purchase order, or service agreement for reasons beyond the control of and without the fault or negligence of the Contractor, the work remaining under the subcontract, purchase order, or service agreement may be credited toward the DBE Utilization Goal.

Should the DBE be decertified between the time of Contract award and the time of the Engineer's subcontract approval or issuance of a purchase order or service agreement, the work of the decertified firm will not be credited toward the DBE Utilization Goal. The Contractor must still meet the DBE Utilization Goal by either

a. withdrawing the subcontract, purchase order or service agreement from the decertified DBE and expending Good Faith Effort (Subsection 120-3.02, Items c through h) to replace it with one from a currently certified DBE for that same work or service through subcontractor substitution (Subsection 103-1.01); or

b. continuing with the subcontract, purchase order or service agreement with the decertified firm and expending Good Faith Effort to find other work not already subcontracted out to DBEs in an amount to meet the DBE Utilization Goal through either:
   1) increasing the participation of other DBEs on the project;
   2) documenting Good Faith Efforts (Subsection 120-3.02, items c through h); or
   3) by a combination of the above.

4. **DBE Rebuttal of a Finding of no CUF.** Consistent with the provisions of 49 CFR, Part 26.55(c)(4)&(5), before the Engineer makes a final finding that no CUF has been performed by a DBE firm the Engineer will coordinate notification of the presumptive finding through the Civil Rights Office to the Contractor, who will notify the DBE firm.

The Engineer, in cooperation with the Civil Rights Office, may determine that the firm is performing a CUF if the rebuttal information convincingly demonstrates the type of work involved and normal industry practices establishes a CUF was performed by the DBE. Under no circumstances shall the Contractor take any action against the DBE firm until the Engineer has made a final determination. The Engineer's decisions on CUF matters are not administratively appealable to US DOT.

120-3.04 DEFAULT OF DBE. In the event that a DBE firm under contract or to whom a purchase order or similar agreement has been issued defaults on their work for whatever reason, immediately notify the Engineer of the default and the circumstances surrounding the default.

Take immediate steps, without any order or direction from the Engineer, to retain the services of other DBEs to perform the defaulted work. In the event that the Contractor cannot obtain replacement DBE participation, the Engineer may adjust the DBE Utilization Goal if, in the opinion of the Engineer, the following criteria have been met:

1. The Contractor was not at fault or negligent in the default and that the circumstances surrounding the default were beyond the control of the Contractor; and

2. The Contractor is unable to find replacement DBE participation at the same level of DBE commitment and has adequately performed and documented the Good Faith Effort expended in accordance with items c through h of Subsection 120-3.02 for the defaulted work; or

3. It is too late in the project to provide any real subcontracting opportunities remaining for DBEs.

The DBE Utilization Goal will be adjusted to reflect only that amount of the defaulted DBE's work that cannot be replaced.

120-4.01 METHOD OF MEASUREMENT. The Contractor will be entitled to count toward the DBE Utilization Goal those monies actually paid to certified DBEs for CUF work performed by the DBE as determined by the Engineer. The Contractor will receive credit for the utilization of the DBEs, as follows:

1. Credit for the CUF of a DBE prime contractor is 100% of the monies actually paid to the DBE under the contract for creditable work and materials in accordance with 49 CFR 26.55.

2. Credit for the CUF of a subcontractor is 100% of the monies actually paid to the DBE under the subcontract for creditable work and materials. This shall include DBE trucking firms certified as a subcontractor and not a broker. Trucks leased from another DBE firm shall also qualify for credit and conforms to the provisions of 49 CFR 26.55(d).

3. Credit for the CUF of a manufacturer is 100% of the monies paid to the DBE for the creditable materials manufactured.

4. Credit for the CUF of a regular dealer of a creditable material, product, or supply is 60% of its value. The value will be the actual cost paid to the DBE but will not exceed the bid price

for the item.

5. Credit for the CUF of a broker performed by a DBE certified in a supply category for providing a creditable material, product or supply is limited to a reasonable brokerage fee. The brokerage fee will not exceed 5% of the cost of the procurement contract for the creditable item.

6. Credit for the CUF of a broker performed by a DBE certified in the transportation/hauling category for arranging for the delivery of a creditable material, product or supply is limited to a reasonable brokerage fee. The brokerage fee will not exceed 5% of the cost of the hauling subcontract.

7. Credit for the CUF of a broker performed by a DBE certified in a bonding or insurance category for arranging for the provision of insurance or bonding is limited to a reasonable brokerage fee. The brokerage fee will not exceed 5% of the premium cost.

8. Credit for the CUF of a joint venture (JV) (either as the prime contractor or as a subcontractor) may not exceed the percent of the DBE's participation in the joint venture agreement, as certified for this project by the Department. The DBE joint venture partner will be responsible for performing all of the work as delineated in the certified JV agreement.

120-5.01 BASIS OF PAYMENT. Work under this item is subsidiary to other contract items and no payment will be made for meeting or exceeding the DBE Utilization Goal.

If the Contractor fails to utilize the DBEs listed on Form 25A325C as scheduled or fails to submit required documentation to verify proof of payment or documentation requested by the Department to help in the determination of CUF, the Department will consider this to be unsatisfactory work. If the Contractor fails to utilize Good Faith Efforts to replace a DBE, regardless of fault (except for Subsection 120-3.04 item 3), the Department will also consider this unsatisfactory work. Unsatisfactory work may result in disqualification of the Contractor from future bidding under Subsection 102-1.13 and withholding of progress payments consistent with Subsection 109-1.06. (11/17/00)S 33

SECTION 201

CLEARING AND GRUBBING

Special Provision

201-4.01 METHOD OF MEASUREMENT. Delete this subsection and replace with the following: Areas shown on the Plans or staked for clearing and/or grubbing will not be measured.

201-5.01 BASIS OF PAYMENT. Delete this subsection and replace with the following: Work under this section is subsidiary to other contract items and no payment will be made.

SECTION 202

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Special provisions

202-1.01 DESCRIPTION. Add the following: This work also consists of pavement planing as specified in this section. (2/28/01)R143USC

202-3.05 REMOVAL OF PAVEMENT, SIDEWALKS AND CURBS. Add the following: Where approved by the Engineer, removed pavement may be used for embankment construction if it is not exposed at the completed embankment surface. The maximum allowable dimension of the broken asphalt pieces is 3 inches.

Obtain a solid waste disposal permit from DEC or use a site previously approved by DEC for disposal of removed asphalt if not using it in the embankment. A DEC permitting officer in Anchorage may be contacted at 269-7590.
(3/29/01)R84USC

202-3.06 PAVEMENT PLANING. Add the following Subsection: Remove existing asphalt concrete pavement by cold planing at locations shown on the Plan and /or Detail sheets. The surface of the pavement after planing shall be uniformly rough grooved or ridged.

Remove all planed material from the project immediately after planing. Stockpile planed material on site, in an acceptable manner, where it will be incorporated into the Boundary Avenue road structural prism as directed by the Engineer.

During the planing operation, sweep the streets with mechanical sweepers equipped with vacuum and water sprinkling devices to control dust and remove all loosened material from the planed areas. The removal operation shall follow within 50 feet of the planing machine.

Do not allow traffic to travel on surfaces that have an abrupt longitudinal planed edge greater than 2 inches. In the event that it is necessary to route traffic across such edges, an asphalt concrete transition 2 feet in width shall be placed adjacent to the edge and to all gutters.

Maintain a tolerance of 0.1 inch between adjacent passes by the planer.

Remove existing asphalt concrete pavement overlay from gutters adjacent to the area being planed.

The existing curb and gutter not designated for removal shall not be damaged or disturbed. Any damage caused by the planing operation shall be removed and replaced by the Contractor at his expense.

The planing machine shall be specifically designed for the removal of bituminous pavement without the addition of heat. The cutting drum shall be a minimum of 5 feet wide and shall be equipped with cutting teeth placed in a variable lacing pattern to produce the desired finish.

The planing machine shall have the following capabilities:

1. Operating speeds from 0 to 40 feet per minute,

2. Self propelled,

3. Able to spray water at the cutting drum to minimize dust,

4. Able to remove material next to the gutter,

5. Designed so that the operator can at all times observe the planing operation without leaving the controls,

6. Adjustable as to slope and depth,

7. Longitudinal grade control automatically actuated by the use of a 30 foot ski, and

8. Able to cut up to 3 inches without producing fumes or smoke.

Provide a smaller machine to trim areas that are inaccessible to the larger machine at manholes, valve covers, curb returns, and intersections.

202-4.01 METHOD OF MEASUREMENT. Add the following: Planing required for installation of Loop Detectors will not be measured.

202-5.01 BASIS OF PAYMENT. After the third paragraph, add the following:

Planing required for installation of Loop Detectors shall be subsidiary to Item 401(1) Asphalt Concrete, Type II, Class A. This includes mechanical sweepers required during planing operations, removal and stockpile of planed material per sub section 202-3.06.

SECTION 203

EXCAVATION AND EMBANKMENT

Special Provisions

203-3.03 CONSTRUCTION OF EMBANKMENTS WITH MOISTURE AND DENSITY CONTROL. Delete this Subsection in its entirety and substitute the following: Construct embankments with moisture and density control from specified materials placed and compacted at approximately their optimum moisture content. Dry or moisten material as required.

Compact embankment material to not less than 95% of the maximum dry density as determined by WAQTC FOP FOR AASHTO T 99/T 180/WAQTC TM 9, or ATM T-12. The Engineer will determine in-place field densities using WAQTC TM 7 and WAQTC FOP for AASHTO T 224.

The Engineer will determine the maximum dry density of free-draining, non-plastic, cohesionless materials with less than 10% by weight passing the No. 200 sieve using ATM T-12. (For some materials it may be necessary to perform both ATM T-12 and WAQTC FOP for AASHTO T 99/T 180/WAQTC TM 9, in which case the highest maximum dry density is used.) For materials with greater than 80% by weight passing the No. 4 sieve, WAQTC FOP for AASHTO T 99/T 180/WAQTC TM 9, Method A with the plus No. 4 material removed and treated as oversize will be used. WAQTC FOP for AASHTO T 99/T 180/WAQTC TM 9, Method D will be used for materials with greater than 60% by weight passing the ¾ inch sieve with the plus ¾ inch material removed and treated as oversize.

WAQTC FOP for AASHTO T 99/T 180/WAQTC TM 9 will be performed in accordance with Note 7 (the 12 hour stand time may be waived if the sample has not been dried to less than four percentage points below the optimum moisture content) and modified so that the moisture content of each trial is determined from the complete specimen and reported to the nearest 0.1%. Section 13 is modified to include: 13.1.6 Bulk Specific Gravity of the oversize material; 13.1.7 Apparent Specific Gravity of the tested material minus the oversize; and 13.1.8 Zero Air Voids Curve calculated and plotted in accordance with ASTM D 1557, Sections 11.2 and 11.5. (03/14/02)R193USC

203-4.01 METHOD OF MEASUREMENT. Add the following: No measurement of quantities will be made for Item 203(1A) Common Excavation.

203-5.01 BASIS OF PAYMENT. Add the following Pay Item:

Pay Item	Pay Unit
203(1A) Common Excavation	Lump Sum

SECTION 301

AGGREGATE BASE AND SURFACE COURSE

Special Provisions

301-2.01 MATERIALS. Add the following after the first sentence: If no gradation type is specified in the bid schedule the base course material gradation shall conform to the requirements for Grading D-1. (11/05/02)R116USC02

Add the following after the first sentence: At your option, recycled asphalt material (RAM) may be substituted for aggregate base course, inch for inch, if the following conditions are met:

1. RAM shall be crushed or processed to 100 percent by weight passing the 1.5-inch sieve and 95-100 percent by weight passing the 1-inch sieve.

2. The gradation of the extracted aggregate shall meet the following:

Sieve	Percent Passing by Weight
1 inch	100
3/4 inch	70-100
3/8 inch	42-90
No. 4	28-78
No. 16	11-54
No. 50	5-34
No. 100	3-22
No. 200	2-12

3. The asphalt content shall be 2.5 - 5.0 percent by weight of the RAM.

301-3.03 SHAPING AND COMPACTION. Add the following: If recycled asphalt material is substituted for aggregate base course, the following conditions shall be met:

1. Density acceptance will be based upon a roller pattern. The roller pattern shall be determined by a test strip using a vibratory compactor with a minimum dynamic force of 40,000 pounds. The optimum density will be determined by the Engineer using a nuclear densometer gauge to monitor the test strip. Adequate water shall be added to aid compaction.

2. After the appropriate coverage with the vibratory compactor, a minimum of 6 passes with a pneumatic tire roller shall be completed. Tires shall be inflated to 80 psi (± 5 psi), and the roller shall have a minimum operating weight per tire of 3,000 pounds.

301-5.01 BASIS OF PAYMENT. Add the following: If recycled asphalt material is substituted for aggregate base course, it will be paid for as Item 301(1), Aggregate Base Course at the unit price shown on the bid schedule for that item.
(11/05/02)R176USC02

SECTION 401

ASPHALT CONCRETE PAVEMENT

Special Provisions

401-2.01 COMPOSITION OF MIXTURE - JOB MIX DESIGN. Add the following to the third paragraph on page 84: Tolerances will not be applied to the largest sieve specified.

401-2.03 ASPHALT CEMENT. Delete the second paragraph and substitute the following: Each batch of asphalt cement shall be tested for conformance to specifications in Section 702 prior to shipping. Storage tanks used for the batch shall be noted on the test report. Anti-strip additives required by the mix design shall be added to the asphalt cement during load out for delivery to the project. A printed weight ticket of antistrip shall be included with the asphalt cement delivery ticket. The location where antistrip is added may be changed with the approval of the Engineer.

Shipping documents shall include the following:

1. Manufacturers certificate of compliance, Subsection 106-1.05
2. Conformance test results of the batch, Section 702.
3. Manufacturer shall also certify:

    a. Date and Time of loading
    b. Batch number and storage tank
    c. Type, grade, temperature, and quantity of materials loaded
    d. Type and percent of anti-strip added.

401-3.07 PREPARATION OF EXISTING SURFACE. *Delete this subsection in its entirety and substitute the following: Existing surfaces shall be prepared in conformance with the plans and specifications. Existing paved surfaces shall be cleaned of loose material by sweeping with a power broom, supplemented by hand sweeping, if necessary.*

Prior to paving, but after planing, all cracks from 0.2 inch to 1 inch in width shall be sealed with Roadsaver 231 sealant or approved equivalent. Cleaning of cracks and application of sealant shall be done according to the manufacturer's recommendations. Cracks greater than 1 inch (+1 inch) in width shall be cleaned of loose material to full depth then filled using Asphalt Concrete Pavement, Type II, and Class A, tamped in place.

After planing, the asphalt concrete pavement and crack repair, a leveling course shall be required to fill any remaining ruts or depressions having a depth greater than ½ inch. Place the leveling course material at the depth required to provide proper grades. The leveling course material shall be Asphalt Concrete Pavement, Type II, Class A. Place the leveling course material with an asphalt paver, Layton box, by hand or other approved method. Compact the leveling course with three passes of a pneumatic tired roller or by hand equipment.

Planing breakthrough areas shall be patched to match the planed surface with Asphalt Concrete Pavement, Type II. Contractor shall notify the Engineer of any pavement areas that might be considered thin or unstable.

Pavement peeling or layer separation shall be repaired by removing the upper layer to the separation surface by planing or other means approved by the Engineer. If the separated surface is greater than ½ inch below the existing planed surface, place a leveling course of Asphalt Concrete Pavement, Type II. If the separation surface is less than ½ inch below the existing planed surface, proceed with the designed pavement overlay.

Contact surfaces of curbing, gutters, manholes, pavement sawcuts, planed pavement surfaces to be overlaid, and other structures shall be coated with a thin, uniform coating of tack coat material conforming to Section 402 prior to the asphalt mixture being placed.

Asphalt concrete mixture shall not be placed upon a non-cured prime or non-broken tack coat.

401-3.13 COMPACTION. Delete the third paragraph and substitute the following: Acceptance testing for density will be determined by WAQTC FOP for AASHTO T 166/T 275 except that a 6 inch diameter core is required. (Acceptance testing for density of leveling course or temporary pavement will not be required.)

401-3.14 JOINTS. Delete the first paragraph and substitute the following: Construct the minimum number of joints to ensure a continuous bond, texture, and smoothness between adjacent sections of the pavement. The minimum specification limit for longitudinal joint density will be 91% of the MSG of the panel completing the joint. Cut one 6-inch diameter core centered on the longitudinal joint at each location the mat is cored for acceptance density testing in the panel completing the joint. Density will be determined in accordance with WAQTC FOP for AASHTO T 166/T 275.

Delete the last paragraph.

401-3.16 PATCHING DEFECTIVE AREAS. Add the following: All costs associated with the patching of defective areas shall be borne by the Contractor.

401-4.01 METHOD OF MEASUREMENT. Add the following paragraph to this Subsection: Longitudinal joints. By the linear foot. The distance measured will be in both directions from a longitudinal joint core location to a point equal distant to the next longitudinal joint core.

401-4.02 ACCEPTANCE SAMPLING AND TESTING. Delete item 1. Asphalt Cement Content. and replace with the following:

1. Asphalt Cement Content. Samples taken for the determination of asphalt cement content will be taken at the end of the auger, or from behind the screed prior to compaction. Asphalt cement content will be determined in accordance with WAQTC TM 4, or

WAQTC FOP for AASHTO TP 53 with the exception that the moisture content will be determined in accordance with WAQTC TM 6.

Delete subitems a. and b. of item 2. Aggregate Gradation. and replace with the following:

a. Drum Mix Plants. Samples taken for the determination of aggregate gradation from drum mix plants will be from the combined aggregate cold feed conveyor via a sampling device, the stopped conveyor belt, or from asphalt concrete mixture samples taken from the same location as samples for the determination of asphalt cement content. The aggregate gradation for samples from the conveyor system will be determined in accordance with WAQTC FOP for AASHTO T 27/T 11. For asphalt concrete mixture samples, or cores, the gradation will be determined in accordance with WAQTC FOP for AASHTO T 30 from the aggregate remaining after the ignition oven (WAQTC FOP for AASHTO TP 53) has burned off the asphalt cement.

Maintain cold-feed conveyor sampling devices diverting aggregate from the full width of the conveyor system to provide a representative sample of the aggregate incorporated into the asphalt concrete mixture.

b. Batch Plants. Samples taken for the determination of aggregate gradation from batch plants will be from the same location as samples for the determination of asphalt cement content, or from dry batched aggregates. The dry batched aggregate gradation will be determined in accordance with WAQTC FOP for AASHTO T 27/T 11. For asphalt concrete mixture samples, the gradation will be determined in accordance with WAQTC FOP for AASHTO T 30 from aggregate remaining after the ignition oven (WAQTC FOP for AASHTO TP 53) has burned off the asphalt cement.

Delete item 3. Density. and substitute the following:

3. Density. Within 24 hours of final rolling, neatly cut core samples with a core drill at the randomly selected locations marked by the Engineer. Use a core extractor to prevent damage to the core while removing. Do not cut core samples from bridge decks. One 6-inch diameter core is required for acceptance density testing only. Acceptance density testing will be in accordance with WAQTC FOP for AASHTO T 166/T 275.

Failure to cut core samples for acceptance testing within the specified period will result in a deduction of $100.00 per sample per day. The accrued amount will be subtracted under Item 401(6), Asphalt Price Adjustment.

Backfill and compact all voids left by sampling with new asphalt concrete mixture within 24 hours of sampling. Failure to backfill voids left by sampling in the specified period will result in a deduction of $100.00 per hole per day. The accrued amount will be subtracted under Item 401(6), Asphalt Price Adjustment.

401-4.03 EVALUATION OF MATERIALS FOR ACCEPTANCE. Add the following: The longitudinal joint density price adjustment will apply when Asphalt Concrete Pavement quantities are equal to or greater than 1,000 tons.

Add the following under item 3.: The tolerances for the largest sieve specified will be plus 0 percent and minus 1 percent.

401-5.01 BASIS OF PAYMENT. Add the following to the first paragraph: No payment shall be made for asphalt cement, and asphalt concrete mix made with this cement, if tests of the asphalt cement sampled during production are out of specification.

Add the following: Longitudinal joint densities less than 91 percent of MSG, as defined is Subsection 401-3.14, will be measured in accordance with Subsection 401-4.01 and assessed a price adjustment of $1.00 per yard. The accrued amount will be subtracted under Item 401(6), Asphalt Price Adjustment. (4/7/03)R199USC02

Add the following Section:

SECTION 408

ASPHALT CONCRETE PAVEMENT

Special Provisions

408-1.01 DESCRIPTION. This work consists of constructing one or more courses of plant mixed hot asphalt on an approved surface, as specified and in conformance with the lines, grades and thickness shown on the plans. Superpave mix design procedures will be used to design the mix.

408-2.01 COMPOSITION OF MIXTURE - JOB MIX DESIGN. The Job Mix Design will be developed using Asphalt Institute's SP-2 and also meet the requirements of Table 408-1 and Table 408-2. Evaluation of moisture sensitivity by AASHTO T 283 will not be part of the mix design process

TABLE 408-1
Asphalt Concrete Mix Design Requirements

Design ESALs, millions	As shown on front Plan Sheet
Nom. Max Aggr. Size, inch	3/4
Rut Index, max.	3

Asphalt concrete mixtures shall be composed of aggregate, asphalt cement, and required additives combined within the limits for the type and class of asphalt concrete specified in the contract.

At least 15 calendar days prior to the production of this asphalt concrete pavement mixture, the Contractor shall submit the following to the Engineer.

1. A letter stating the location, size, and type of mixing plant, the proposed gradation for the Job Mix Design, gradations for individual stockpiles with supporting process control information, and the blend ratio of each aggregate stockpile. The proposed Job Mix Design gradation must meet the requirements of Table 408-2

2. Representative samples from each of the stockpiles replicating the weight proportions of the proposed blend ratios, for a total sample weight of 350 pounds.

3. A minimum of five 1-gallon samples of the asphalt cement proposed for use in the mixture, including name of product, manufacturer, and test results as required in Subsection 702-2.01. This shall also include a manufacturer's certificate of compliance in accordance with Subsection 106-1.05, a temperature viscosity curve, specific gravity of the asphalt binder, the recommended mixing temperature, and a Materials Safety Data Sheet (MSDS).

4. A sample of the anti-strip additive proposed, including name of product, manufacturer, and manufacturer's data sheet, and current Materials Safety Data Sheet (MSDS).

From this material, the Engineer will develop the Job Mix Design using procedures in SP-2. Approved Job Mix Designs will become a part of the contract and will specify the target value for asphalt cement content, additives, and the allowable mixing temperature range. Up to15 working days will be required to determine the Job Mix Design after receipt of all items specified above do not produce any asphalt concrete mix for payment until the Job Mix Design is approved.

The approved Job Mix Design shall be consistent with the traffic level published in the plans, and will specify the target values for gradation, the target values for asphalt cement content, and the maximum specific gravity (MSG) of the mix, applying the limits from Table 408-3 for acceptance testing. Tolerances will not be applied to the largest sieve specified.

Changes in the source of asphalt cement, source of aggregates, aggregate quality, aggregate gradation changes from Job Mix, or blend ratio requires a new Job Mix Design. The Contractor must provide submittals and materials to create a new job mix design. Approved changes to the mix design may be only initialized after a lot is competed using the former mix design.

The Contractor will be assessed a mix design fee of $3,600.00 for each mix design subsequent to the first approved Job Mix Design for each Type of Asphalt Concrete specified.

Table 408-2
Design Aggregate JMF Control Points

Sieve Size		Nominal Maximum Sieve Size Metric (English) Percent Passing By Weight		
Metric	English	19.0 mm (3/4")	12.5 mm (1/2")	.5 mm (3/8")
25 mm	1"	100		
19 mm	¾"	90-100	100	
12.5 mm	½"	65-75	90-100	100
9.50 mm	3/8"	48-60		90-100
4.75 mm	No. 4	30-40		
2.36 mm	No.8	20-30	28-58	32-67
0.075 mm	No.200	2-8	2-10	2-10

Boundaries of Aggregate Restricted Zone

Sieve Size		Nominal Maximum Sieve Size Metric (English)Percent Passing By Weight					
Metric	English	19.0 mm (3/4")		12.5 mm (1/2")		9.5 mm (3/8")	
		Min. %	Max. %	Min. %	Max. %	Min. %	Max. %
2.36 mm	No 8	34.6	34.6	39.1	39.1	47.2	47.2
1.18 mm	No. 16	22.3	28.3	25.6	31.6	31.6	37.6
0.60 mm	No. 30	16.7	20.7	19.1	23.1	23.5	27.5
0.30 mm	No. 50	13.7	13.7	15.5	15.5	18.7	18.7

Note: The Contractor's proposed aggregate blend proportions shall fall between the aggregate control points, shown in Table 401-1, and will plot below the lower boundary line of the restricted zone as defined above.

408-2.02 AGGREGATES. Aggregates shall conform to the requirements of Subsection 703-2.13 Aggregate for Stone Mastic Asphalt Pavement and consensus aggregate properties in SP-2. Subsection 703-2.13 will govern if there is a conflict in the specifications.

Remove all natural fines passing a #4 (4.75 mm) sieve before crushing aggregates for asphalt concrete mixtures. Divide the crushed aggregate into a minimum of 3 stockpiles; coarse, intermediate, and fine. Additional stockpiles may be required for some material sources to create a Design Aggregate Structure that meets the volumetric requirements of the SHRP mix design procedures.

408-2.03 ASPHALT MATERIALS. Use PG 58-28 asphalt cement, no binder adjustment will be made for traffic load rate. The asphalt cement shall conform to the applicable requirements of Section 702. Each batch of asphalt cement shall be tested for conformance to specifications in Section 702 prior to shipping. Storage tanks used for the batch shall be noted on the test report. Anti-strip additives required by the mix design shall be added to the asphalt cement during load out for delivery to the project. A printed weight ticket of antistrip shall be included with the asphalt cement delivery ticket. The location where antistrip is added may be changed with the approval of the Engineer.

Shipping documents shall include the following:

1. Manufacturers certificate of compliance, Subsection 106-1.05
2. Conformance test results of the batch, Section 702.
3. Manufacturer shall also certify:
4. Date and Time of loading
5. Batch number and storage tank
6. Type, grade, temperature, and quantity of materials loaded
7. Type and percent of anti-strip added.

408-2.04 ANTI-STRIP ADDITIVES. Use anti-strip agents in the proportions determined by ATM T-14 and included in the approved Job Mix Design. At least 70 percent of the aggregate shall remain coated when tested in accordance with ATM T-14. Anti-stripping additive shall be furnished in the minimum amount of 0.25 percent per ton of asphalt cement.

408-2.05 QUALITY CONTROL. It is expressly understood that the Contractor is solely responsible for the sampling and testing of material for quality control of the asphalt concrete mixture in accordance with Subsection 106-1.03.

Failure to perform quality control forfeits the Contractor's right to retest as provided for in Subsection 408-4.02.

A paving and plant control plan shall be submitted at least 3 working days before the pre-paving meeting. The paving and plant control plan shall address sequence of operations, joint construction and sealing, outline steps to assure product consistency, to minimize segregation, and to prevent premature cooling of the asphalt concrete mixture. The plan shall also include a proposed testing frequency for gradation, asphalt cement content and compaction and shall include temperatures for bituminous mixture and materials. The pre-paving meeting shall be held on-site with the Project

Engineer at least 2 days before paving begins, and shall include the project superintendent, the paving foreman, the asphalt plant operator, and the Contractor's quality control supervisor.

CONSTRUCTION REQUIREMENTS

408-3.01 WEATHER **LIMITATIONS.** Do not place the asphalt concrete mixture on a dry non-yielding roadbed, when the frozen base material, or when free water is present on the road surface, or when weather conditions prevent proper handling, or finishing of the mix. Do not place asphalt concrete mixture unless the road surface temperature is 40° F and rising.

408-3.02 EQUIPMENT, **GENERAL.** Use equipment in good working order and free of asphalt concrete mixture buildup. Make all equipment available for inspection and demonstration of operation a minimum of 24 hours before placement of asphalt concrete mix.

408-3.03 BITUMINOUS **MIXING PLANTS.** Use an asphalt plant designed to dry aggregates, maintain accurate temperature control, and accurately proportion asphalt cement and aggregates. Calibrate the asphalt plant and furnish copies of the data to the Engineer at least one day prior to production. Maintain a current Air Quality Permit issued by the State Of Alaska.

Provide a scalping screen on the asphalt plant to prevent oversize material or debris from being incorporated into the mixture. Provide aggregate and asphalt cement-sampling locations meeting OSHA safety requirements.

Do not use proportioning (batch) scales for weighing material for payment. Weigh scales used in conjunction with a storage silo may be used to weigh the final product for payment, provided the scales are certified.

408-3.04 HAULING **EQUIPMENT.** Haul asphalt mixtures in trucks having tight, clean, smooth metal beds, thinly coated with a minimum amount of paraffin oil, lime water solution or other manufactured asphalt release agent included on the Department's Approved Products List. Do not use diesel fuel or fuel oil as an asphalt release agent.

Cover the asphalt mixture in the haul vehicle, when required.

408-3.05 ASPHALT PAVERS. Use self-propelled asphalt pavers having a heated vibratory screed, with grade and cross slope controlled through the use of automatic grade and slope control devices. Use a paver screed control system that is automatically actuated by the use of an erected string line, mobile string line (ski) on the high side of the paver at least 30 feet in length, or other approved grade follower. Use grade control on either a) both the high and low sides or b) grade control on the high side and slope control on the low side.

Equip the paver with a receiving hopper having sufficient capacity for a uniform spreading operation and a distribution system that places the asphalt concrete mixture uniformly in front of the screed.

Use a screed assembly that produces a finished surface of the required smoothness, thickness and texture without tearing, shoving or displacing the asphalt concrete mixture. Provide heaters and vibrators on the main screed and screed extensions. Maintain auger extensions within 1.5 feet of the screed extension on both sides.

408-3.06 ROLLERS. Use a sufficient number of static, vibratory steel wheel, and pneumatic-tire rollers having adequate weight to compact the mixture to the required density while maintaining the pace of the paving operations. Use self-propelled rollers capable of reversing without backlash, specifically designed to compact hot asphalt concrete mixtures.

Pneumatic-rollers are required and shall be fully skirted; have a minimum operating weight per tire of at least 3,000 pounds, inflated to 90-psi minimum.

408-3.07 PREPARATION **OF EXISTING SURFACE.** Existing surfaces shall be prepared in conformance with the plans and specifications. Existing paved surfaces shall be cleaned of loose material by sweeping with a power broom, supplemented by hand sweeping, if necessary.

Prior to paving, but after planing, all cracks from 0.2 inch to 1 inch in width shall be sealed with Roadsaver 231 sealant or approved equivalent. Cleaning of cracks and application of sealant shall be done according to the manufacturer's recommendations. Cracks greater than 1 inch (+1 inch) in width shall be cleaned of loose material to full depth then filled using Asphalt Concrete Pavement, Type III, and Class B, tamped in place.

After planing, the asphalt concrete pavement and crack repair, a leveling course shall be required to fill any remaining ruts or depressions having a depth greater than ½ inch. Place the leveling course material at the depth required to provide proper grades. The leveling course material shall be Asphalt Concrete Pavement, Type III, Class B. Place the leveling course material with an asphalt paver, Layton box, by hand or other approved method. Compact the leveling course with three passes of a pneumatic tired roller or by hand equipment.

Planing breakthrough areas shall be patched to match the planed surface with Asphalt Concrete Pavement, Type II or Type III, and be paid for as leveling course material. Contractor shall notify the Engineer of any pavement areas that might be considered thin or unstable.

Pavement peeling or layer separation shall be repaired by removing the upper layer to the separation surface by planing or other means approved by the Engineer. If the separated surface is greater than ½ inch below the existing planed surface, place a leveling course of Asphalt Concrete Pavement, Type II or Type III. If the separation surface is less than ½ inch below the existing planed surface, proceed with the designed pavement overlay.

Contact surfaces of curbing, gutters, manholes, pavement sawcuts, planed pavement surfaces to be overlaid, and other structures shall be coated with a thin, uniform coating of tack coat material conforming to Section 402 prior to the asphalt mixture being placed.

Asphalt concrete mixture shall not be placed upon a non-cured prime or non-broken tack coat.

408-3.08 PREPARATION **OF ASPHALT.** A continuous supply of asphalt cement shall be supplied to the mixer at a uniform temperature, within the allowable mixing temperature range noted in the approved mix design.

408-3.09 PREPARATION **OF AGGREGATES.** The aggregate for the asphalt concrete mixture shall be heated and dried to a temperature compatible with the mix requirements specified. The

burner on the dryer shall be properly adjusted to avoid damage to the aggregate and to avoid the presence of unburned fuel on the aggregate. Any asphalt concrete mixture in which soot or fuel is present is unacceptable in accordance with Subsection 105-1.11.

Drying operations shall reduce the aggregate moisture content so that the moisture content of the asphalt concrete mixture, sampled at the point of acceptance for asphalt cement content, shall be no more than 0.5% (by total weight of mix), as determined by WAQTC TM 6.

408-3.10 MIXING. The aggregate, asphalt cement and additives shall be combined at the plant in the amounts required by the Job Mix Design and contract specifications.

The materials shall be mixed such that a complete and uniform coating of the aggregate is obtained. For batch plants, dry aggregate shall be in motion prior to the addition of asphalt cement. Wet mixing time shall be adequate to obtain 98% coated particles when tested in accordance with AASHTO T 195.

The temperature of the asphalt concrete mixture at the time of the mixing shall be as determined by the Job Mix Design.

408-3.11 TEMPORARY **STORAGE OF ASPHALT CONCRETE MIXTURE.** Asphalt concrete mixture drawn from silo type storage bins shall conform to all of the requirements for asphalt concrete mixtures as if loaded directly into hauling equipment from the mixing plant. Signs of visible segregation, heat loss, change from the Job Mix Design, change in the characteristics of asphalt cement, lumpiness or stiffness of the mixture will be cause for rejection. Asphalt concrete mixtures shall not be stored or transported by barges.

408-3.12 PLACING AND SPREADING. Place the asphalt concrete mixture upon an approved surface, spread, strike off, and compacted to the required compacted thickness. Use asphalt pavers to distribute the asphalt concrete mixture in lanes from the roadway crown outward and of such widths as to hold to a practical minimum the number of longitudinal joints required. Use asphalt pavers to distribute asphalt concrete mixture for leveling course unless otherwise allowed.

When the section of roadway being paved is open to traffic, pave adjacent traffic lanes to the same elevation within 24 hours unless prevented by weather or other factors beyond the Contractor's control, in order to prevent lane edge drop off. Place approved material against the pavement edge when the outside pavement edge drop off exceeds 2 inches.

When multiple lifts are specified in the contract, the final lift shall not be placed until all lower lifts throughout that section, as defined by the Paving Plan, have been placed and accepted.

Areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the mixture shall be spread, raked and luted by hand tools. For such areas, the mixture shall be placed to the required compacted thickness.

When laying asphalt concrete mixtures, the paver shall be operated at uniform forward speeds consistent with the delivery of asphalt concrete mix to avoid unnecessary stopping and starting of the paver. The Contractor shall continuously pave a single lane within a single work shift to avoid unnecessary starting and stopping of the paver.

At the pre-paving conference the Contractor shall submit a production/paving plan. The plan shall consist of but not be limited to the following:

1. Paving schedule to include sequence of operations and number of anticipated days of paving,

2. Operational details to include:
   a. Plant operating capacity, target production rate and number of hours of paving.
   b. Number and capacity of trucks, cycle time, and delivery rate.
   c. The manufacturer and model of the paver and pickup machine, to include information on grade followers, sensors, operating speed and production rate of the pavers.
   d. Trucks shall be added or subtracted so that at least one, but no more than two trucks are waiting to deliver mix during the course of paving operations.
   e. Number, type, weight, and operating speed of rollers.

408-3.13 COMPACTION. Thoroughly and uniformly compact the asphalt concrete mixture by rolling. Follow the paving plan established for the project. In areas not accessible to large rollers, compact with mechanical tampers or trench rollers.

The target value for density is 94% of the maximum specific gravity (MSG), as determined by WAQTC FOP for AASHTO T 209. For the first lot of each type of asphalt concrete pavement, use the MSG determined by the Job Mix Design. For subsequent lots, use the MSG of the first sub lot as a standard for the lot.

Acceptance testing for field density will be determined according to WAQTC FOP for AASHTO T 166 and T 275 from a 6" diameter core of the finished mat.

Use pneumatic-tire rollers to compact asphalt concrete pavements.

Rollers or other vehicles shall not be parked or left standing on any pavement that has not cooled to ambient temperature.

408-3.14 JOINTS. Joints shall be constructed to ensure a continuous bond between sections of the course. All joints shall present the same texture and smoothness as other sections of the course.

At the beginning and end of a project, when joining old existing pavement and new pavement, the old pavement shall be cut in a neat line with a power driven saw, or ground out with a milling machine.

Apply tack coat of asphalt cement or asphalt emulsion to all cold joints and allow emulsions to break prior to placing any fresh asphalt concrete mixture against the joint. Tack just prior to paving.

Form transverse joints by saw cutting back on the previous run to expose the full depth of the course or by using a removable bulkhead. Transverse joints shall not be perpendicular to centerline.

Offset longitudinal joints in one layer from those in the layer immediately below by at least 6". The joints shall be at centerline or lane lines. Where preformed marking tape striping is required, the longitudinal joint in the top layer shall be offset 2" to not more than 6" from the edge of the stripe.

Cut one 6" diameter core centered on the longitudinal joint at each location the mat is cored for acceptance density testing in the panel completing the joint. Density will be determined in accordance with WAQTC FOP for AASHTO T 166/T 275. The minimum specification for longitudinal joint density is 91 percent of the MSG of the panel completing the joint.

If the average of joint densities in a lot are less than 91.0% MSG, the Contractor must immediately change and improve the method used for joint construction and also seal all the joints with an approved joint sealing method, according to manufacturers recommendations, at no expense of money or time to the State prior to paint striping. If the Contractor elects to cut back a joint, there will be no deduction of pay quantity.

408-3.15 SURFACE TOLERANCE. The surface will be tested after final rolling at selected locations using a 16-foot straightedge. The variation of the pavement surface from the testing edge of the straightedge shall not exceed 3/16 inch. Then the Engineer will measure the surface smoothness of the top lift of the asphalt in all of the driving lanes with an inertial profiler before final acceptance of the project. Remove and replace, or grind any portion of final pavement surface having smoothness Profile Index (PrI) greater than 15 inches per mile in a 0.1-mile segment.

After completion of corrective work, the Engineer will measure the pavement surface with an inertial profiler for a smoothness price adjustment. No measurements will be taken in turn lanes, lane transitions, within 25 feet of bridge abutments, or within 25 feet of remaining existing pavement, or on roads with curb and gutters.

Smoothness will be measured in the left wheel path of each lane and reported as profilograph results **(PrI)** filtered with a 0.2-inch blanking band. Report PrI as a job average for all measured lanes, calculated to the nearest 0.1 inch per mile.

408-3.16 PATCHING DEFECTIVE AREAS. Any asphalt concrete mixture that becomes contaminated with foreign material, is segregated, or is in any way defective as determined by the Engineer shall be removed. Patches shall be full-depth of the pavement thickness. Defective materials shall be removed for the full thickness of the course. The pavement shall be cut so that all edges are vertical, the longitudinal sides are parallel to the direction of traffic, and the transverse ends are skewed at an angle to centerline. Edges shall be coated with a tack coat of material conforming to Section 402 and allowed to break. Fresh asphalt concrete mixture shall be placed, and compacted in accordance with Subsection 408-3.13 so that the finished surface will conform to grade and smoothness requirements.

408-4.01 METHOD OF MEASUREMENT.

ASPHALT CONCRETE. The asphalt concrete mixture will be measured by the ton or by the square yard in accordance with Section 109. The tons used will be the weight used in the accepted pavement and no deduction will be made for the weight of asphalt cement material and anti-stripping additive in the mixture. A price adjustment, when applicable, will be made based on a quality level analysis under Subsection 408-4.03.

ASPHALT CEMENT. The method of measurement to be used for asphalt cement will be the weight of asphalt cement calculated using the percent of asphalt cement for each sublot multiplied by

the total tonnage represented by that lot. WAQTC TM 4 (replaces ATM T-23) will be used to determine percent of asphalt cement. The same tests used for the acceptance testing of the sublot will be used for computation of the asphalt cement quantity.

No payment will be made for any asphalt cement that is more than 0.4% above the optimum asphalt content specified in the Job Mix Design.

LONGITUDINAL JOINTS. Longitudinal joints on the top pavement surface will be measured by the foot.

PREPARATION OF EXISTING PLANED PAVEMENT SURFACES. Preparation of existing planed asphalt pavement surfaces as required by Subsection 408-3.07, will not be measured. This includes all labor, tools, equipment, and materials required to repair cracks, ruts, depressions, and pavement breakthrough areas within the planed asphalt pavement limits.

408-4.02 ACCEPTANCE **SAMPLING AND TESTING.** The quantity of each type of asphalt concrete mixture produced and placed will be divided into lots and the lots evaluated individually for acceptance.

A lot will normally be 5,000 ton. The lot will be divided into sublots of 500 ton, each randomly sampled and tested for asphalt cement content, density, and gradation according to this subsection. If the project has more than 1 lot, and less than 8 additional sublots have been sampled at the time a lot is terminated, the material in the shortened lot will be included as part of the prior lot. The price adjustment computed, according to Subsection 401-4.03, for the prior lot will include the samples from the shortened lot.

If 8 or 9 samples have been obtained at the time a lot is terminated, they will be considered as a lot and the price adjustment will be based on the actual number of test results (excluding outliers) in the shortened lot.

If the contract quantity is between 1,000 ton and 4,999 ton, the contract quantity will be considered 1 lot. The lot will be divided into 5 equal sublots and randomly sampled for asphalt cement content, density, and gradation according to this subsection. The Engineer will select 1 sample for every 1,000 ton of mix, or majority portion thereof, for testing. If the test result(s) conform(s) to the specification limits, the lot will be accepted and the weight of asphalt cement for the lot will be calculated from the average of the asphalt cement content tests performed. If only one asphalt cement content test is performed, the weight of asphalt cement for the lot will be calculated from that one test result. If any of the test results fail to conform to specification limits, the remaining samples will be tested and the lot evaluated for price adjustment according to Subsection 401-4.03 with the exception that the Pay Factor shall not exceed 1.0 for any sieve size, asphalt cement content and density.

If the contract quantity is less than 1,000 ton, asphalt concrete pavement will be accepted for payment based on the Engineer's approval of a Job Mix Design and the placement and compaction of the asphalt concrete pavement to the specified depth and finished surface requirements and tolerances.

Any area of finished surfacing that is visibly segregated, fails to meet surface tolerance, or density requirements, or is in any other way defective, shall be removed and replaced with new asphalt concrete pavement as per Subsection 105-1.11. Removal and replacement of defective pavement shall be at no additional cost to the Department.

The Engineer will sample the mix for the determination of asphalt cement content and aggregate gradation from either behind the screed prior to initial compaction, or at the end of the auger, or from the windrow in front of the paver. The sample location will be selected by the Contractor and documented at the pre-paving meeting. WAQTC TM 4 will determine asphalt cement content. AASHTO T30 will determine ignition furnace and extracted aggregate gradations.

Cut 6" diameter full-depth core samples from the finished mat for density acceptance testing within 12 hours of final rolling for each sublot. The Engineer will randomly select core locations and use WAQTC FOP for AASHTO T 166/T 275 to determine density. Cut no samples from asphalt concrete mats on bridge decks. All voids left by sampling shall be backfilled with new asphalt concrete mixture and compacted within 24 hours of sampling.

Failure to cut core samples within the specified period will result in a deduction of $100.00 per sample per day. Failure to backfill voids left by sampling within the specified period will result in a deduction of $100.00 per hole per day. The accrued amount for each will be subtracted under Item 408(3), Asphalt Price Adjustment.

The Contractor may request a retest of any sample outside the limits specified. This request shall be in writing and delivered to the Engineer within 7 days of receipt of the initial test result. The Engineer will select the sample location for the retest. The original test result will be discarded and the retest result will be used in the price adjustment calculation regardless of whether the retest result gives a higher or lower pay factor. Only one retest per sample will be allowed.

408-4.03 EVALUATION OF MATERIALS FOR ACCEPTANCE. The following method of price adjustment will be applied to each type of Asphalt Concrete Pavement, for which the contract quantity equals or exceeds 5,000 ton, except as defined in Subsection 408-4.02.

Acceptance test results for a lot will be analyzed collectively and statistically by the Quality Level Analysis method as specified in 106-1.03 to determine the total estimated percent of the lot that is within specifications limits.

The price adjustment is based on the lower of two pay factors. The first factor is the composite pay factor for asphalt concrete mixture, which includes gradation and asphalt cement concrete. The second pay factor is density.

A lot containing materials with less than 1.00 pay factor will be accepted at an adjusted price, provided the pay factor is at least 0.75 and there are no isolated defects identified by the Engineer. A lot containing material that fails to obtain at least a 0.75 pay factor will be considered unacceptable and rejected under Subsection 105-1.11.

The Engineer may reject material, which appears defective based on visual inspection. If requested by the Contractor, a minimum of two samples will be collected and tested from the rejected material. If all test results are within specification limits, the Engineer will pay for the material. If any of the

test results fail to meet Specifications, no payment will be made and the Contractor is responsible for removal and disposal of the material.

Outlier Test. Before computing the price adjustment the validity of the test results will be determined using SP-7, the Standard Practice for Determination of Outlier Test Results. Outlier test results will not be included in the price adjustment calculations; but, if out of specification limits, outlier test results will be evaluated by the Engineer to determine acceptability of materials. The Engineer may determine that the materials in the outlier sublot need to be removed and replaced. Replacement will be at no cost to the Department.

If any sieve size on a gradation test or asphalt cement content is an outlier, then the gradation test results and the asphalt cement test results for that sample will not be included in the price adjustment. The density test for that sample will be included in the price adjustment provided it is not also an outlier.

If the density test is an outlier, the density test result will not be included in the price adjustment, however, the gradation and asphalt cement results for that sample will be included provided neither is an outlier.

Quality Level Analysis. Pay factors are computed as follows:

1. Outliers (determined by SP-7) and any test results on material not incorporated into the work are eliminated from the quality level analysis.

   The arithmetic mean ($\bar{x}$) of the remaining test results: $\bar{x} = \frac{\sum x}{n}$

   Where: $\sum$ = summation of
   x = individual test value to x_n
   n = total number of test values.
   $\bar{x}$ is rounded to the nearest tenth for density and all sieve sizes except the #200 sieve.
   $\bar{x}$ is rounded to the nearest hundredth for asphalt cement content and the #200 sieve.

2. The sample standard deviation *(s)* after the outliers have been excluded is computed:

$$s = \sqrt{\frac{n\sum(x^2) - \left(\sum x\right)^2}{n(n-1)}}$$

   Where: $\sum(x^2)$ = summation of the squares of individual test values
   $\left(\sum x\right)^2$ = Square of the summation of the individual test values.

   The sample standard deviation *(s)* is rounded to the nearest hundredth for density and all sieve sizes except the #200. The sample standard deviation *(s)* is rounded to the nearest 0.001 for asphalt cement content and the #200 sieve.

   If the computed sample standard deviation (s) is <0.020, and the arithmetic mean (x) is between the Upper Specification Limit (USL) and Lower Specification Limit (LSL), set the

Upper Quality Index (Qu) and Lower Quality Index (Ql) equal to 10 in steps 4 and 5 respectively. If the computed standard deviation (s) is <0.020 and the arithmetic mean (x) is outside the USL or LSL, then use 0.020 for the standard deviation.

3. Compute the Upper Specification Limit *(USL)* and Lower Specification Limit *(LSL)*. For aggregate gradation and asphalt cement content, the Specification Limits *(USL* and *LSL)* are equal to the Target Value *(TV)* plus and minus the allowable tolerances in Table 408-3. The *TV* is the specification value defined by the Job Mix Design. The *TV* for density is 94% of the maximum specific gravity *(MSG)*, the *LSL* is 92% of *MSG* and the *USL* is 97%. When applying tolerances for gradation, the specification limits will not exceed 100% for the Upper Specification Limit (USL) nor 0% for the Lower Specification Limit (LSL). Tolerances for the largest sieve specified will be plus 0% and minus 1 for price adjustment determination.

Table 408-3

LOWER SPECIFICATION LIMIT *(LSL)* and UPPER SPECIFICATION LIMIT *(USL)*

Measured Characteristics	*LSL*	*USL*
1 Inch Sieve	*TV*-6.0%	*TV*+6.0%
¾ Inch Sieve	*TV*-6.0%	*TV*+6.0%
½ Inch Sieve	*TV*-6.0%	*TV*+6.0%
3/8 Inch Sieve	*TV*-6.0%	*TV*+6.0%
No. 4 Sieve	*TV*-6.0%	*TV*+6.0%
No. 8 Sieve	*TV*-6.0%	*TV*+6.0%
No. 16 Sieve	*TV*-5.0%	*TV*+5.0%
No. 30 Sieve	*TV*-4.0%	*TV*+4.0%
No. 50 Sieve	*TV*-4.0%	*TV*+4.0%
No. 100 Sieve	*TV*-3.0%	*TV*+3.0%
No. 200 Sieve	*TV*-2.0%	*TV*+2.0%
Asphalt %	*TV*-0.40%	*TV*+0.40%
Density	92%	97%

4. Compute the Upper Quality Index *(Qu)*: $Q_L = \frac{\bar{x} - LSL}{s}$

Where: *USL* = Upper Specification Limit

Qu is rounded to the nearest hundredth.

$$Qu = \frac{USL - \bar{x}}{s}$$

5. Compute the lower quality index *(Q_L)*:

   Where: *LSL* = Lower Specification Limit

   Q_L is rounded to the nearest hundredth.

6. Determine *Pu* (percent within the upper specification limit that corresponds to a given *Qu)* from Table 106-1.

7. Determine P_L (percent within the lower specification limit that corresponds to a given Q_L) from Table 106-1.

8. Determine the Quality Level (the total percent within specification limits) for aggregate gradation, asphalt cement content, and density.

   $Q_L = (P_L + Pu) - 100$

9. Using the Quality Levels from step 8, determine the lot Density Pay Factor *(DPF)* and gradation and asphalt cement content Pay Factors *(PF)* from Table 106-2. The maximum pay factor for the largest sieve size specification for gradation will be 1.00.

10. Compute the asphalt concrete mixture Composite Pay Factor *(CPF)* for asphalt cement content and gradation using the following formula:

$$CPF = \frac{[f_{3/4"}(PF_{1/2"}) + f_{1/2"}(PF_{1/2"}) + \ldots\ldots f_{ac}(PF_{ac})]}{\sum f}$$

The CPF is rounded to the nearest hundredth.

Table 408-4 is used to determine the weight factor *(f)* for each sieve size and asphalt cement content.

Table 408-4

WEIGHT FACTORS

Gradation	Factor "f"
1 Inch	0
¾ Inch	5
½ Inch	10
3/8 Inch	5
No. 4	5
No. 8	10
No. 16	
No. 30	5
No. 50	

Gradation	Factor "f"
No. 100	
No. 200	20
Asphalt %	40

The price adjustment will be based on either the *CPF* or *DPF*, whichever is the lowest value. The price adjustment for each individual lot will be calculated as follows:

Price Adjustment = [*(CPF* or *DPF)** –1.00] x (Ton in lot) x *(PAB)*

* *CPF* or *DPF*, whichever is lower

PAB = Price Adjustment Base = $45/Ton

The Asphalt Price Adjustment will be the sum of the price adjustments for each lot and will be algebraically added to the Contractor's payment for Asphalt Concrete under Item 408(3) Price Adjustment.

408-5.01 BASIS OF PAYMENT. The accepted quantity will be paid for at the adjusted contract unit price for the pay item listed below, complete in place.

The Asphalt Price Adjustment will be the sum of the price adjustments for each lot, and for fees accrued for failure to cut cores and/or backfill voids left by sampling in the allotted time as outlined in Subsection 408-4.02.

A separate price adjustment for longitudinal joint density measured in accordance with Subsection 408-3.14 and calculated according to the criteria noted below, and applied under Item 408(3) Asphalt Price Adjustment;

- If less than 91.0% MSG,
  - The Contractor shall repair all of the asphalt joints on a project at his expense with an approved asphalt joint sealing method as per 408-3.14.
  - A disincentive = $1.00 / lineal foot / 1.0% density difference of paved joint for the entire project x (Project Average Joint Density – 91.0) shall be assessed as a price adjustment and applied in 401(6) Asphalt Price Adjustment
- If greater than 91.0% MSG,
  - Contractor shall be paid an incentive under Item 401(6), Asphalt Price Adjustment as follows;
    Incentive = $0.25 / lineal foot / 1.0% of density difference of paved joint for the entire project x (Project Average Joint Density – 91.0)

A separate price adjustment for pavement smoothness as measured in accordance with Subsection 408-3.15 will be calculated in accordance with Table 408-4 and applied under Item 408(3) Asphalt Price Adjustment.

Preparation of existing planed pavement surfaces as required by Subsection 401-3.07 and items necessary to place asphalt concrete pavement over the loop detectors will be subsidiary to Item

660(11) Traffic Loop. This includes all labor, tools, equipment, and materials required to repair cracks, ruts, depressions, and pavement breakthrough areas within the planed pavement limits.

Asphalt cement, anti-stripping additives, and tack coat will be subsidiary to the asphalt concrete pavement unless specified as pay items.

Additional Job Mix Design evaluations by the Department, as outlined in Subsection 408-2.01, will be subtracted from the Contractor's payment.

Calculate and apply a separate asphalt Smoothness Price Adjustment as measured in accordance with subsection 408-3.15. Calculate the smoothness price adjustment as follows;

Smoothness Price Adjustment ($) = SA x PAB x PQ

If PQ is less than 1500 tons, SA = 0
If PQ is 1500 to 5000 tons, SA = 0.1333 - 0.01666 (PrI)
If PQ is 5000+ tons, SA = 0. 0666 – 0.0083 (PrI)

SA = Smoothness Adjustment factor
PrI = Profile Index, measured pavement smoothness (inches/mile)
PAB = Price Adjustment Base, 408-4.03
PQ = final pay quantity of 408(1) in tons

Apply smoothness price adjustment as an incentive/disincentive under Item 408(3), Asphalt Price Adjustment

Payment will be made under:

Pay Item	Pay Unit
408(1) Asphalt Concrete, Type S (3/4)	Ton
408(2) Asphalt Cement, PG 58-28	Ton
408(3) Asphalt Price Adjustment	Contingent Sum

SECTION 505

PILING

Special Provisions

505-3.03 PILE BEARING VALUES. Delete the first paragraph of this section and substitute the following: Drive all piles, except piles for lighting standards, to the required ultimate bearing capacity. For lighting standards, install piles of sufficient length to cut the pile at the required cut-off elevation and to provide the minimum installed length shown on the plans.

505-3.09 DRIVING PILES. Add the following: In many cases, you may need to pre-bore, spud, use a larger pile-driving hammer, and excavate inside the pile, in addition to normal pile driving techniques. Sites for the lighting standard foundations can contain subsurface soils that consist of very dense sandy gravel with cobbles and boulders.

Submit a pile-driving plan to the Engineer, for approval, at least 14 calendar days before driving the first steel pipe pile. At a minimum, the pile-driving plan shall consist of the

a.) pile driving hammer, or hammers, to be used,
b.) alternate techniques planned for pile installation, and
c.) equipment used for the pile driving operation.

When you cannot achieve the minimum installed length shown on the contract plans, install the pile tip to an elevation established by the Engineer.

505-4.01 METHOD OF MEASUREMENT.

Add the following to numbered paragraph 2:

Do not measure piles for lighting standards for payment. Include all costs of furnishing and installing piles in Item 660(3), Highway Lighting System Complete.
(03/12/02)R65M98

SECTION 604

MANHOLES AND INLETS

Special Provisions

604-3.01 CONSTRUCTION REQUIREMENTS. Add the following after the third sentence: Any proposed access manhole that falls within a concrete sidewalk or asphalt pathway must have a lid with a rough cobbled grit surface, or be specifically designed to hold a minimum of 1 inch of concrete or asphalt, as applicable.

Under the heading "Reconstruct existing manhole by using one or more of the following methods," add the following:

8. Salvage existing frame and grate, remove and dispose of the existing reducing slab and adjustment rings and install a new cover slab (reducing slab without an access hole). Salvaged frame and grate shall be delivered to the local DOT maintenance station.

Add the following: When installing new pipe in an existing manhole, cleanly cut a hole by approved means at the invert elevation given on the plans and 2 inches larger than the outside diameter of the new pipe. Then, grout joint with non-shrinking cement mortar.

All curb inlet structures shall have a 3 inch formed hole approximately 2 feet below the top of casting on the project centerline side to provide for direct drainage during subgrade construction to avoid embankment saturation. Keep the openings functional. This may require temporary dikes, RMC extensions, etc., as necessary. Fill these holes with grout upon final paving.

Cast standard drainage structure steps during structure pour or install them before concrete hardens.

604-4.01 METHOD OF MEASUREMENT. Add the following: Frames, grates and lids will not be measured for payment.

Removal of abandoned pipe necessary to install new pipe will not be measured for payment.

604-5.01 BASIS OF PAYMENT. Add the following: Frames, grates and lids are subsidiary to the drainage structure. (11/05/02)R43USC02

Removal and disposal of abandoned pipe is subsidiary to reconstruct existing manhole.

Delete Item 604(1) Storm Sewer Manhole and add the following new pay item:

Pay Item	Pay Unit
604(1) Storm Drain Manhole, Type ___	Each

SECTION 606

GUARDRAIL

Special Provisions

606-4.01 METHOD OF MEASUREMENT. Add the following:

4. Guardposts. Per each, installed in place.

606-5.01 BASIS OF PAYMENT. add the following new pay item:

Pay Item	Pay Unit
606(17) Guardpost	Each

SECTION 608

SIDEWALKS

Special Provisions

608-1.01 DESCRIPTION. Add the following: This work also consists of constructing concrete median(s) in conformance with the Plans.

608-3.03 CURB RAMPS. Delete the second sentence of this Subsection. (06/11/02)R256USC

608-3.06 CONCRETE MEDIANS. Construct concrete medians in accordance with subsection 608-3.01, Concrete Sidewalks.

608-4.01 METHOD OF MEASUREMENT. Delete the Curb Ramp item and substitute the following:

Curb Ramp. By each installation, complete in place, including construction of the ramp runs, flares, composite detectable warning tiles and landings necessary to provide a single street-level access.

Concrete Median. Exclusive of curb, by the square yard of finished surface, complete in place, including welded wire fabric (WWF).

608-5.01 BASIS OF PAYMENT. Add the following: Backing curb will be subsidiary to Item 608(6), Curb Ramp.

The composite detectable warning tiles are subsidiary to item 608(6) Curb Ramp. (06/11/02)R256USC

The welded wire fabric (WWF) is subsidiary to item 608(25) Concrete Median.

Add the following pay item:

Pay Item	Pay Unit
608(25) Concrete Median	Square Yard

SECTION 609

CURBING

Special Provisions

609-3.01 GENERAL. Add the following after the last paragraph: When casting curbs on top of rutted asphalt or asphalt with depressions, the tops of the curb shall be straight line in an appearance, except when crossing grade changes.

Non-conforming curbs shall be subject to rejection by the Engineer.

609-3.02 CAST-IN-PLACE CONCRETE CURBING. Add the following to the sixth paragraph: Concrete placed by the extrusion or slip-form process shall have a slump of less than 2 inches. (11/06/02) R202USC02

609-4.01 METHOD OF MEASUREMENT. Add the following:

Doweled Curb. By the linear foot along the front face of the curb at the finished grade elevation, complete in place.

609-5.01 BASIS OF PAYMENT. Add the following: No separate payment will be made for rebar pins or other materials required to install the doweled curb.

Add the following pay item:

Pay Item	Pay Unit
609(8) Doweled Curb	Linear Foot

SECTION 615
STANDARD SIGNS

Special Provisions

615-2.01 MATERIALS. Under item 1. delete the first sentence and substitute the following: Unless Shop Drawings have been provided in the Contract, submit shop drawings for all signs that require the use of the Alaska Sign Design Specifications (ASDS), the Department of Transportation and Public Facilities - Sign Face Fabrication Requirements, and the Alaska Traffic Manual, letter width and spacing charts for approval before fabrication.

Add the following subsections:

615-2.02 WELDING. Apply the following requirements to all welding done to manufacture and install pipe piles, poles, and mast arms.

All welding and the non-destructive examination (NDE) specified in the Plans and specifications shall conform to AWS D1.1, Structural Welding Code–Steel.

The Department will only allow a one-time repair of a defective weld. If a repair is required, provide additional NDE for the length of the repair plus a length on both sides of the repair equal to 10% of the outside circumference.

Furnish all quality control (QC) inspection necessary to ensure the materials meet contract requirements and to complete the NDE specified in the following subsections. Repair all defects in welding revealed by the QC and quality assurance inspections according to AWS D1.1 without additional compensation. Submit all completed QC inspection documents to the Engineer.

For each welding process, submit a welding plan and the mill certification reports for all steel materials to be welded to the Engineer for review. Do not begin welding until he has returned the submittal approved in writing. Each welding plan shall consist of:

a. Welding Procedure Specifications,
b. Procedure Qualification Records,
c. Welder Performance Qualification Records,
d. NDE personnel qualification records, and
e. The name of the quality control (QC) manager with documentation of qualifications.

If a manufacturer must wait until fabrication begins to provide the mill certification reports, the Department will withhold approval of the finished product until it has approved the mill certification reports.

615-2.03 CANTILEVERED SIGN POLES. Design, fabricate, and install cantilevered sign poles according to the following requirements. Furnish poles that have the appearance of the "slanted single post cantilever" shown on Standard Drawing S-22.00. See the Plans for the size of sign each pole must support, their span, and mast arm heights.

1. Design Requirements. A registered professional engineer shall design each cantilevered sign pole according to the following requirements. He shall submit his stamped calculations and shop drawings to the Engineer for review. The shop drawings shall include the details of the features specified in the fabrication requirements subsection and the specifications cited below.

   Design the cantilevered sign poles according to the 2001 edition of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (referred to hereafter as the Standard Specs for Structural Supports) for the following design parameters.

   a. Use non-tapered tubes with a round cross section that features a maximum 32-inch outside diameter.
   b. Design for the basic wind speed shown in Standard Specs for Structural Supports or for 100 mph, whichever is greater.
   c. Design all poles for a 50-year design life.
   d. Use a gust effect factor of 1.14.
   e. Design all poles using fatigue category I importance factors.
   f. Design all poles to resist galloping forces, vortex shedding, and truck-induced loads. Use an average truck speed of 40 mph in the design.

   Design the poles and mast arms using steels that meet the requirements of ASTM A709 plus the fracture critical Charpy V-notch impact test requirements for zone 3 service temperatures listed in the supplement of ASTM A709.

   Design each sign pole with a one-piece mast arm that bolts to a one-piece structural support. Indicate the diameter, length, and wall thickness of both pieces on the shop drawings. Provide details of the plates and bolts that attach the mast arm to the structural support. If you need a pick point to lift a pole or mast arm, weld a tab onto the structure; do not cut holes in the structure. Remove the tab and repair the finish when you no longer need the pick point. Include the total weight of each pole on the shop drawings.

   Design the pole's base plate using a 42-inch diameter bolt circle and **2-1/2"**-inch diameter anchor bolts to match the foundation detailed in the Plans. Use anchor bolts that conform to ASTM F1554, grade 55 and meet the Charpy V-Notch impact strengths listed in subsection S4 of F1554.

   Include two reinforced hand holes that measure 5.5-inches wide by 7.5-inches high. See the fabrication requirements subsection for the location of these hand holes.

   Furnish a pole installation plan that documents the proper assembly of the pole and mast arm, the location and width of dunnage supports during assembly, and the recommended number and location of lift points during pole installation.

2. Fabrication Requirements. Fabricate the various pole components according to the following requirements.

   Fabricate the mast arms and structural supports according to the following requirements:

a. Fabricate each piece from one piece of steel.
b. Make all welds continuous.
c. Wherever a longitudinal seam intersects a circumferential weld, provide a complete joint penetration (CJP) weld in the longitudinal seam at least 12-inches long.
d. For all remaining longitudinal seams, complete welds that provide at least 60% penetration.
e. Discard all pieces that vary more than ¾-inch from a straight line throughout their length after they are hot-dip galvanized.

Fabricate tubes with a single longitudinal seam; the Department will not accept laminated tubes or tubes with spiral-shaped seams.

Bend one end of the structural support 80 degrees into a circular arc with a radius that measures 12 feet to the centerline of the tube.

Provide a minimum nine-inch diameter electrical access hole centered in the base plate and in the plates that connect the mast arm to the structural support. Attach these plates to the tube sections with CJP welds.

Install two hand holes in the pole. Locate one a foot above the base plate at 90 degrees to the mast arm, measured clockwise in the plan view. Locate the other in the mast arm, one-foot from the mast arm connector plate on the same side of the pole as the other hand hole. Attach the hand hole frames to the tube sections with CJP welds.

NDE 100% of the CJP welds by radiographic testing (RT); NDE at least 25% of the partial joint penetration welds by magnetic particle testing (MT); and NDE 100% of the fillet welds by MT. Show the NDE symbols for the test type on the shop drawings.

Do not hot-dip galvanize the poles until the Contractor gives notice that the Engineer has approved the QC and QA test results. Hot-dip galvanize each pole section according to AASHTO M 111 and these specifications. In one dip, completely submerge each section in a kettle of concentrated zinc ammonium chloride flux solution heated to 130°F. Then, in one dip, completely submerge each section in a separate kettle of prime western grade zinc heated to approximately 825°F. Furnish all bolts and fasteners hot-dip galvanized according to AASHTO M 232.

3. Construction Requirements. Submit a package that consists of stamped engineering calculations, shop drawings, mill certifications, welding plan, and pole installation plan to the Engineer for approval.

Assemble the pole sections, furnish and install all required dunnage, and lift the assembled pole according to the manufacturer's pole installation plan.

Furnish all required sign mounting hardware per Standard Drawing S-22.00.

615-2.04 SIGN POLE FOUNDATIONS. Install the cantilevered sign pole foundation detailed in the Plans according to the following requirements.

All longitudinal and circumferential welds made to manufacture and install the piles shall provide complete joint penetration (CJP).

1. Materials.

NDE 100% of all longitudinal and circumferential welds made to fabricate the piles. Use the acceptance criteria for cyclically loaded non-tubular connections using radiographic, radio scope, real time imaging systems, or ultrasonic methods to complete the NDE.

Furnish steel pipe piles that feature the diameter and wall thickness shown on the Plans. Only furnish seamless piles or piles with a single longitudinal seam; the Department will not accept piles with spiral-shaped seams.

Provide pipe piles that are a minimum forty feet long and conform to ASTM A 252 Grade 3, modified as follows:

a. The carbon equivalency (CE) shall not exceed 0.45 as defined in AWS D1.1, Section XI5.1 and the sulfur content shall not exceed 0.05%.
b. The circumference of the pile shall not vary more than plus or minus 0.375 inches from the circumference computed from the pile diameter shown on the plans.
c. The maximum allowable deviation in the edge alignment for the piles is 0.1875 times the wall thickness or 0.063 inches whichever is less.
d. Pipe straightness shall conform to the requirements of API 5L, Section 7.6 "Straightness".
e. The Department will only accept those piles made by either an automatic fusion or electric resistance weld process that results in CJP.

Use the number, size, and length of ASTM F1554, grade 55, anchor bolts, nuts, and washers as shown in the cantilevered sign pole foundation detail included on the Plans. Furnish bolts that also meet the Charpy V-Notch impact strengths listed in subsection S4 of ASTM F1554.

2. Fabrication Requirements. Fabricate the reinforcing steel cage to ensure the anchor bolts tied into it are equally spaced and form a circle with the diameter shown on the Plans. Use a steel template to ensure the anchor bolts will match the base plate with no modifications.

3. Construction Requirements. Install pipe piles open ended according to Section 505. The Engineer will only accept piles cut from a longer piece.

Secure the anchor bolts to ensure they do not move during concrete placement. Replace, with no additional compensation, all finished concrete pile caps that feature anchor bolts that do not match the base plate of the pole or are out of plumb. The Department will not allow modification of the anchor bolts or base plate to get the base plate set on the leveling nuts.

Embed a two-inch rigid metal conduit in the foundation. Terminate one end two inches above the top of the foundation and near the center of the foundation and the other end in a Type 1A junction box.

Install a grounding electrode conductor in the foundation according to subsection 660-2.03, Foundations. Complete all bonding and grounding according to subsection 660-2.11, Bonding and Grounding.

Complete all Class A Portland cement concrete and reinforcing steel work according to Sections 501 and 503, respectively.

Install the bottoms of the bottom leveling nuts in a level plane within one inch of the top of concrete pile cap. Generously lubricate the bearing surface and internal threads of all top nuts with beeswax and tighten the top nuts according to the anchor bolt tightening procedure included in the appendices.

615-3.01 CONSTRUCTION REQUIREMENTS. Delete item 7 and substitute the following:

7. Notify the Engineer five (5) days prior to beginning sign salvage activities. At that time, the Engineer will physically identify those signs to be salvaged. For each sign so designated, disconnect signpost from panel. The panels shall then be grouped together in a manner to preclude damage. Posts shall also be grouped together as with hardware in a workmanlike manner. Deliver sign panels, posts and hardware to the State Maintenance Yard located on Tudor Road. Do not deliver salvaged materials until they have been inspected and approved by the Engineer. Replace all panels, posts and hardware damaged during salvaging or delivery with new panels, posts and hardware at no additional cost to the Department.

   Remove and dispose of project signs and/or parts designated for removal and not selected for salvage.

   Dispose of foundations from salvaged existing signs in a manner approved of by the Engineer (remove and dispose, abandoned in place, or otherwise dispose of). If they are abandoned in place, the tops of the foundations, reinforcing steel, anchor bolts, and conduits shall be removed to a depth of not less than 12 inches below roadway subgrade or unimproved ground, whichever applies. All signs and posts at a single installation shall be considered as one unit.

615-3.02 SIGN PLACEMENT AND INSTALLATION. Add the following: Do not remove existing signs without authorization from the Engineer.

615-4.01 METHOD OF MEASUREMENT. Add the following to the second paragraph: Concrete used for sign bases are considered subsidiary to other work under this section.

Add the following:

Item 615(11), Slanted Single Post Cantilevered Signs. By each, complete in place

615-5.01 BASIS OF PAYMENT. Delete the first sentence and substitute the following: Sign posts, bases, mounting hardware and concrete used for sign bases are subsidiary.

Add the following: No separate payment for keeping existing signs in service until they are no longer needed, or temporary relocation of existing signs will be made. This work is subsidiary to Item 615(1), Standard Sign.

No separate payment for removal of existing sign post foundations, or work required to abandon them in place will be made, but shall be subsidiary to Item 615(1), Standard Sign.

No separate payment for salvaging activities detailed in Subsection 615-3.01 will be made. This work will be subsidiary to Item 615(1), Standard Sign. (11/06/02)R50USC02

Slanted Single Post Cantilevered Signs. The contract price includes all legend bearing sign panels, rigid metal conduit and fittings (from Load center 'A' to sign foundation), Type 1A junction box installed adjacent to the sign foundation, galvanized steel pipe support, sign foundation, galvanized steel anchor bolts, nuts, and washers, and associated hardware required for a complete installation.

Add the following pay item:

Pay Item	Pay Unit
615(11) Slanted Single Post Cantilevered Signs	Each

SECTION 618

SEEDING

Special Provisions

618-1.01 DESCRIPTION. Add the following: Topsoil and seed all new or disturbed slopes and any other areas directed by the Engineer. Grade the soil and apply seed, mulch, fertilizer and water. Provide a living ground cover on all slopes as soon as possible.

618-2.01 MATERIALS. Add the following to the list of material specifications:

Topsoil	Subsection 726-2.01
Mulch	Subsection 727-2.01

618-3.01 SOIL PREPARATION. Add the following: Apply seed as detailed in subsection 618-3.03 immediately after the shaping of the slopes. Cover all slopes to be seeded with topsoil in accordance with Section 620. Prepare slopes for seed by grading with a scarifying slope board. Complete slope preparation as soon as topsoil is placed on the slopes. Rounding the top and bottom of the slopes is acceptable to create a pleasing appearance, but do not disrupt drainage flow lines.

618-3.02 SEEDING SEASONS. Add the following: All seeding shall be performed between May 15 and August 15.

618-3.03 APPLICATION. Add the following: Apply seed, mulch and fertilizer as follows per acre. Apply seed and mulch in one application if using the hydraulic method. Apply all fertilizer with the hydraulic method.

Seed Mix	Component	Ingredients	Application Rate (per MSF)
Type A	Seed	Slender Wheatgrass (Wainwright) Red Fescue (Arctared) Annual Ryegrass (Lolium)	0.50 lbs. 0.40 lbs. 0.10 lbs. Total = 1.00 lbs
	Soil Stabilizer Slope $\leq$ 3:1 Slope >3:1 – 2:1	 Mulch Mulch with tackifier	 46 lbs. 45-58 lbs.
	Fertilizer	20-20-10	12.0 lbs.

Do not remove the required tags from the seed bags.

Upon the Engineer's approval, Nortran Tufted Hairgrass may be used as a substitute for Slender Wheatgrass (Wainwright) if Slender Wheatgrass (Wainwright) is commercially unavailable. If this substitution is made, apply at the same application rate.
(11/06/02)R52USC

618-4.01 METHOD OF MEASUREMENT. Add the following: No measurement will be made of work required, including any required reseeding.

618-5.01 BASIS OF PAYMENT. Add the following: The lump sum contract amount will include all work required to provide a living ground cover.

Payment will be made under:

Pay Item	**Pay Unit**
618(6) Topsoil and Seeding	Lump Sum

SECTION 620

TOPSOIL

Special Provisions

620-2.01 MATERIALS. Add the following: Provide topsoil of the class specified on the Plans.

620-4.01 METHOD OF MEASUREMENT. Add the following: Limestone, if required, will not be measured for payment, but will be subsidiary to Item 620(1) Topsoil. (11/06/02)R53USC02

SECTION 635

INSULATION BOARD

Special Provisions

635-2.01 MATERIALS. Add the following: The insulation boards shall have a minimum combined total R value of 9.

635-4.01 METHOD OF MEASUREMENT. Delete this Subsection in its entirety and substitute the following: By the cubic foot of insulation board, in place based on the nominal dimensions or the materials, or by the square foot of insulation board with the required "R" value in its final position, including transitions, regardless of thickness, complete and accepted.

Sand blanket material is subsidiary.

(8/23/00)R57USC

635-5.01 BASIS OF PAYMENT. Add the following: Payment will be made under:

Pay Item	Pay Unit
635(2) Insulation Board	Square Foot

SECTION 642

CONSTRUCTION SURVEYING & MONUMENTS

Special Provisions

642-3.01 GENERAL. Add the following item after Item 10:

11. Measure and document the actual intersection sight distance triangles at all public intersections. List the actual sight distance available up to 600 feet. Note locations with greater than 600 feet of sight distance as "600+". Measure sight distance triangles are shown in Figure 1190-1 of the Highway Preconstruction Manual by setting up an instrument at the driver's eye location. Certify and record the results on standard "letter" size paper and provide it to the Engineer at least 2 weeks prior to submitting shop drawings for permanent signing. Provide an additional copy to the Regional Traffic Engineer. (05/16/03)R269USC

642-3.02 CROSS-SECTION SURVEYS Under the heading "The following shall be required of the Contractor:," delete item 1, and substitute the following:

1. Field Books (level, Cross-Section, Slope Stake, etc.). Hardbound "Rite-in-the-Rain" or similar weather resistant books. Field books become the property of the Department upon completion of the work. (3/31/00)R252M98

642-3.03 MONUMENTS. Delete the second sentence of the first paragraph and substitute the following: Reference all property markers/corners, monuments or accessories which may be disturbed or buried during construction. Prepare and record Monument Record Forms in the appropriate Recorder's Office prior to disturbing monuments. Monument Record Forms may be obtained from the Engineer. Reestablish monuments in their original position prior to the completion of the Project. Then, prepare and file a Monument Record Form for each reestablished monument. (05/16/03)R269USC

642-5.01 BASIS OF PAYMENT. Add the following after the first paragraph: Where the bid item for Reference Existing Monument does not appear in the bid schedule, all work necessary to reference existing monuments and prepare and file Monument Record Forms is subsidiary to Item 642(1) Construction Surveying. Five percent of the contract lump sum bid price for Item 642(1) will be withheld until the Monument Record Forms are prepared and recorded in the local Recorder's Office. Where the bid item for Reference Existing Monument does appear in the bid schedule, all work associated with preparing and recording the Monument Record Forms is subsidiary to Item 642(9) Reference Existing Monument. You will not receive any payment for Item 642(9) until the Monument Record Forms are prepared and recorded in the local Recorder's Office. (05/16/03)R269USC

SECTION 643

TRAFFIC MAINTENANCE

Special Provisions

643-1.03 TRAFFIC CONTROL PLAN. Replace the last paragraph with the following: You may request a waiver of regulation 17 AAC 25 regarding oversize and overweight vehicle movements within this project in writing. If the waiver is approved, all movements of oversize and overweight vehicles in or near traffic within the project limits will be done in accordance with the provisions of an approved Traffic Control Plan. Maintain a minimum12 foot lateral separation between the non-street legal vehicles and the motoring public. The Traffic Control plan shall specify the traffic control devices required for these operations.

643-2.01 MATERIALS. Add the following:

17. Flexible Markers. Refer to Subsection 606-2.01 Materials.

643-3.01 GENERAL CONSTRUCTION REQUIREMENTS. Add the following: Whenever 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.

643-3.04 TRAFFIC CONTROL DEVICES. Delete the first sentence of the eighth paragraph and substitute the following: All items paid under this Section remain your property unless stated otherwise.

Add the following to 1. Embankments.: Close all trenches and excavations at the end of each continuous work shift.

Add the following to 3. Fixed Objects.: Remove all obstructions greater than 4 inches above the nominal foreslope grade at the end of each continuous work shift.

Delete item 6 and replace with the following:

6. Street Sweeping. Keep free of loose material all paved portions of the roadway and haul routes open to the public, including sections of roadway off the project where your operations have deposited loose material using a street sweeper that can collect materials rather than eject them to the shoulder of the road.

7. Power Brooming. Keep free of loose material all paved portions of the roadway and haul routes open to the public, including sections of roadway off the project where your operations have deposited loose material using a power broom that can eject them to the shoulder of the road.

Change items 7 and 8 to 8 and 9 respectively.

Add the following:

10. ET-2000 LET. The price listed in the Traffic Control Rate Schedule will be full compensation for the purchase, installation, maintenance during construction, removal and salvaging the ET-2000 LET unit(s). Deliver the salvaged unit(s) to the nearest DOT &PF Maintenance and Operations' district office, or as directed by the Engineer.

643-3.05 AUTHORITY OF THE ENGINEER. Add the following after the second sentence: In no case shall this time exceed 24 hours.

643-3.06 TRAFFIC PRICE ADJUSTMENT. Add the following: Traffic Price Adjustment will also apply to unacceptable driving conditions, such as severe bumps, "washboarding," potholes, excessive dust or mud, or dirty or out of place traffic control devices. The Engineer will make the sole determination as to whether the roadway or pedestrian facility is acceptable for full-unimpeded use by the public. Failure to maintain an acceptable infrastructure or traffic control plan will result in a price adjustment equal to 100 percent of the applicable rate shown in Table 643-1, for the time that the roadway or pedestrian facility is in an unacceptable condition.

Delete Table 643-1 and substitute the following:

TABLE 643-1
ADJUSTMENT RATES

Published ADT	Dollars/Minute of Delay/Lane
0-4,999	$10
5,000-9,999	$30
10,000+	$40

643-3.08 CONSTRUCTION SEQUENCING. Delete the last sentence and substitute the following: Unless otherwise determined by the Engineer and on an approved Traffic Control Plan (TCP).

No restriction to traffic will be allowed during the times listed below unless authorized by the Engineer:

1. Monday through Friday from 0600 hours to 0830 hours and 1400 hours to 1830 hours.

2. Friday from 1200 hours to Sunday 2300 hours.

3. Around any holiday:

   a. If a holiday falls on Sunday, Monday or Tuesday, the above stipulations apply from 1200 on the Friday before the holiday to 0300 on the day after the holiday.

   b. If a holiday falls on Wednesday, the above stipulations apply from 1200 on the Tuesday before the holiday to 0300 on the Thursday after the holiday.

c. If a holiday falls on Thursday, Friday or Saturday, the above stipulations apply from 1200 on the day before the holiday to 0300 on the Monday after the holiday.

4. During the Alaska State Fair (August 23 – August 24, 2003 and August 30 - September 1, 2003).

All road and lane closures are subject to approval by the Department.

Other than Boundary Avenue, road closures will not be allowed.

Boundary Avenue may be closed at Muldoon Road for one (1) weekend to allow for removal of pavement, pavement planning, installation of raceway, storm drain work, curb work, grading, installation of detector loops, and asphalt paving.

Obtain the local school bus schedule and coordinate his work efforts to ensure the school buses are not delayed through the construction zone. This plan shall be submitted, as a TCP, to the Engineer for approval before the implementation of the school bus coordination plan.

643-3.09 INTERIM PAVEMENT MARKINGS. In the second paragraph, delete the words "or cover them with black removable preformed marking tape."

Replace the first sentence in the last paragraph with the following: Apply final pavement markings according to Subsection 670-3.01 CONSTRUCTION REQUIREMENTS of these Special Provisions.

643-4.01 METHOD OF MEASUREMENT. Add the following: No measurement required to provide a 24-hour toll free (1-800-###-####) "hotline road report" telephone with a prerecorded message, and weekly notices with daily updates. All work will be subsidiary to Item 643(1) or 643(2), Traffic Maintenance.

643-5.01 BASIS OF PAYMENT. Add the following: The Engineer does not require a change order/directive for Item 643(25) Traffic Control.

TRAFFIC CONTROL RATE SCHEDULE

Traffic Control Device	Pay Unit	Unit Rate
Construction Signs	Each/Day	$5.00
Special Construction Sign	Square Foot	$20.00
Type II Barricade	Each/Day	$ 3.00
Type III Barricade	Each/Day	$ 10.00
Traffic Cone or Tubular Marker	Each/Day	$ 1.00
Drums	Each/Day	$ 3.00
Sequential Arrow Panel	Each/Day	$55.00
Portable Concrete Barrier	Each	$60.00
Temporary Crash Cushion / ET-2000 LET	Each	$3,000.00

Traffic Control Device	Pay Unit	Unit Rate
Pilot Car	Hour	$65.00
Watering	M-Gallon	$ 20.00
Street Sweeping	Hour	$150.00
Power Broom	Hour	$75.00
Plastic Safety Fence	Foot	$2.50
Portable Changeable Message Board Sign	Calendar Day	$150.00
Temporary Sidewalk Surfacing	Square Foot	$1.15
Flexible Markers	Each	$50.00
Removal of Pavement Markings	Foot	$1.25
Temporary Guardrail	Foot	$21.00
Interim Pavement Markings		
Painted Markings	Foot	$0.30
Removable Preformed Markings	Foot	$0.65
Temporary Raised Pavement Markings	Each	$0.75
Word or Symbol Markings	Each	$40.00

The Engineer will pay for Item 643(15), Flagging on a contingent sum basis at the rate of $36.00/hour. The Engineer does not require a change order/directive for the flagging pay item. Flagging associated with Change Order work will be paid at the prices agreed to in the Change Order, or on a time and materials basis in accordance with Subsection 109-1.05. (05/14/03)R222USC02

Delete Item 643(15) and substitute the following:

Pay Item	**Pay Unit**
643(15) Flagging	Contingent Sum

SECTION 646

CPM SCHEDULING

Special Provisions

646-2.01 SUBMITTAL OF SCHEDULE. Delete this Subsection in its entirety and replace with the following: Submit a detailed initial CPM Schedule at the preconstruction conference for the Engineer's acceptance as set forth below.

The construction schedule for the entire Project shall not exceed the specified contract time. Allow the Engineer 14 days to review the initial CPM Schedule. If revisions are required, make them promptly. The finalized CPM Schedule must be completed and accepted prior to commencement of any work on the Project.

646-3.01 REQUIREMENTS AND USE OF SCHEDULE. Delete item 2. 60-Day Preliminary Schedule.

Delete the first sentence of item 3. Schedule Updates. and substitute the following: Hold job site progress meetings with the Engineer for the purpose of updating the CPM Schedule. Meet with the Engineer monthly, or as deemed necessary by the Engineer. (12/13/02)R261M98

SECTION 660

SIGNALS AND LIGHTING

Special Provisions

660-2.01 MATERIALS. 1. Equipment List(s) and Drawings. Delete item (a) that follows the first paragraph and add the following: The Approved Products List does not apply to the 660 items. Provide catalog cuts of all materials to the Engineer for review and approval.

2. As-Built Plans. Add the following to the last paragraph. The Engineer will deliver one copy each to State Maintenance and Operations; Technical Services; and attach the appropriate sheets of the last set in clear plastic envelopes to the inside of each controller assembly and load center.

660-3.01 GENERAL. 6. Salvaging or Reusing Electrical Equipment. Add the following: Deliver the salvaged materials undamaged to the State Maintenance Yard at 5300 East Tudor Road in Anchorage, Alaska. Notify Mike Knowles, Electrician, or Jerry Reed at 338-1466 one-week before your planned delivery date.

660-3.02 FOUNDATIONS. 1. Cast-in-Place Foundations. In subparagraph f, revise the second sentence to read: Before you place the form or reinforcing steel cage, remove all loose material to ensure the foundation rests on firm, undisturbed ground.

In the second sentence of subparagraph i, delete "prior to grouting" and add, "before you attach the galvanized skirt."

In the first sentence of subparagraphs j and k, delete "concrete pile caps" and add, "foundations."

Add the following new subparagraph l (lowercase L). Attach a 4 AWG, bare, solid copper wire as a grounding electrode conductor to the #4 spiral bar in the reinforcing steel cage. Use an irreversible compression connector or cadweld to make the attachment. Protect the attachment during concrete placement. In foundations that lack reinforcing steel cages, install 21 feet of coiled 4 AWG, bare, solid copper wires as the grounding electrode. Route the conductor to protrude near the top, center of the foundations. Slide a minimum 6-inch long, non-metallic, protective sleeve over the conductor. Allow one inch of the sleeve and two feet of conductor to protrude from the foundations.

2. Pile Foundations. Add the following new subparagraph g. Use no more than one splice per foundation. Locate the splice at least seven feet from the top of pile.

3. All Foundations. Add the following new subparagraph e. Cover the gap between the top of the foundation and the bottom of the pole's base plate with a 0.08-inch thick aluminum skirt. You may fabricate the skirt from up to four pieces. Attach the pieces together with stainless sheet metal screws.

660-3.03 CONDUIT. Revise subparagraph 6, to read: Install rigid metal conduit under pavements that will not be overlaid by jacking them under pavements up to 30 feet wide and under pavements greater than 30 feet wide by boring or drilling methods. The Engineer will only allow trenching to

install conduits across roadways scheduled to be paved or overlaid and will not allow trenching after you place the final lift of asphalt.

In subparagraph 8, delete "non-metallic"

Delete subparagraph 9, and add the following: 9. Position conduit ends in junction boxes to provide clearances of at least 2-1/2 inches around all 2-inch conduits and at least 2-inches around all conduits larger than two inch.

Add the following to subparagraph 11, Provide enough clearance between conduits, including protective sleeves, to ensure you can install grounding bushings on all conduits.

660-3.05 WIRING. In subparagraph 9a, add the following as the seventh line in Table 660-1: Usually a spare pair, Orange and Black.

Delete subparagraph 11 and add the following: Encapsulate illumination cable splices in rigid 2-piece plastic molds filled with an insulating and sealing epoxy resin. Furnish molds large enough to complete the splices and encase the cable jackets in the epoxy resin. Furnish molds rated for 600 volts AC operation and feature fill and vent funnels for epoxy resin. Fill the splice mold bodies with epoxy resin that is resistant to weather, aromatic and straight chain solvents, and which will not sustain combustion.

Delete subparagraph 12 and renumber the paragraph that follows subparagraph 11 to 12. Also revise the first sentence of new subparagraph 12 to read: Encapsulate all loop lead-in *and telemetry* cable splices in rigid, transparent, PVC molds filled with re-enterable polyurethane electrical insulating and sealing compound.

Add the following new subparagraph: 18. Retrofit reused poles with new tap wires, fused disconnect kits, and fuses.

Add the following new subparagraph: 19. Whenever you can not terminate the conductors specified in the Plans in circuit breakers due to their size, splice a piece of #8 AWG power conductor onto the end of each conductor using an overlap type, irreversible compression connector. Insulate the splice with heat shrink tubing. Complete the splice in the space between the top of the load center foundation and the bottom of the cabinet. Limit the length of the #8 AWG conductor to 5 feet.

660-3.06 BONDING AND GROUNDING. Delete this subsection and add the following: Bond and ground all branch circuits according to the NEC and the following requirements. Make all non-current carrying but electrically conductive components, including: metal conduits, junction box lids, cabinets, transformer cases, and metal posts and poles, mechanically and electrically secure to an equipment grounding conductor. Make fixtures mounted on metal poles, including signal components and luminaires, mechanically and electrically secure to the pole.

Install threaded-type grounding bushings made of malleable iron or steel with a zinc or galvanized finish on the ends of all metallic conduits. Use bushings with an insulated throat, a tin-plated copper saddle for attaching the grounding conductors, and stainless steel set screws.

Install a bare stranded copper wire for the equipment-grounding conductor in all conduits, except those conduits you install for future use. Install size 8 AWG conductors, except in those conduits that contain circuit conductors larger than 8 AWG. In this case, install a wire equal in size to the largest circuit conductor. Attach the grounding conductors to the grounding bushings, leaving 12 inches of slack between each bushing. Connect grounding conductors together using irreversible compression type connectors to form a fully interconnected and continuous grounding system.

Retrofit all existing spare conduits that will contain new cables exclusively with new grounding bushings. When the Plans require you to install or remove conductors from existing conduits, retrofit them with new grounding conductors sized according to the preceding paragraph.

Bond junction box lids to the grounding conductor using copper braid with a cross-sectional area equal to an 8 AWG conductor. Connect bonding jumpers to the grounding conductors using irreversible compression type connectors. Replace all missing or damaged conduit and junction box lid bonding jumpers.

At Portland cement concrete foundations, join the equipment grounding conductors from the conduits to the 4 AWG grounding electrode conductor using irreversible compression connectors. With pile foundations, attach the equipment-grounding conductor from the conduit to the pile cap adapter with a listed mechanical grounding connector.

When you install signal poles, signal posts, and lighting standards with frangible coupling bases, run a four feet long grounding conductor from the grounding bushing on the conduit to the grounding lug located in the hand hole of each pole.

Bond slip-base type standards and pedestals by using 2 conductors from the conduit, one attached with a ground rod clamp to an anchor bolt and the other connected to the grounding lug located in the hand hole of each pole.

Ground one side of the secondary circuit of a transformer.

Install a ¾ inch by 10 feet copper clad ground rod inside each controller cabinet foundation and a 6 AWG bare stranded copper wire for the grounding electrode conductor.

660-3.08 SIGNAL AND LIGHTING STRUCTURES. 4. Signal Head Mounting. Add the following: When you side-mount 5-section vertically stacked signal heads on poles, install a steel conduit hanger six inches below the upper horizontal framework pipe and secure the vertical framework pipe to the pole.

660-3.09 MAINTAINING TEMPORARY AND EXISTING ELECTRICAL SYSTEMS. Delete this subsection in its entirety and substitute the following: This work consists of protecting and maintaining the existing and temporary electrical systems during the life of the contract. The work includes: locating, repairing, replacing, adjusting, realigning, cleaning, and relocating components of traffic signals, lighting systems, and flashing beacons to keep them wholly operational and positioned according to the following specifications.

If you fail to maintain the electrical systems as specified herein, the Engineer will adjust payments to you according to subsection 643-3.06, Traffic Price Adjustment.

At the Pre-construction Conference, furnish the Engineer with the name and phone number of the person who will maintain the existing and temporary electrical facilities. Make this person available at all times until the date of Acceptance for Traffic and Maintenance and provide all labor, materials, and equipment this person may need to complete repairs ordered by the Engineer.

When you begin work, the Engineer will notify you and the local maintenance agencies in writing of the transfer of maintenance responsibilities, providing an effective date and time. Maintenance does not include replacing defective equipment or repairing damage before transferring maintenance responsibility. Therefore, before starting work on the project, you should inventory the condition of the existing equipment and document all damaged and defective equipment, which the Engineer will inspect with you. If you begin work before providing the Engineer with an inventory, you waive the right to claim extra compensation when the Engineer later finds damaged or defective equipment.

Keep all components of the existing and temporary electrical systems fully operational during the progress of the work, except when the Engineer allows shutdowns to alter or remove the systems. The Engineer will consider these systems fully operational when he finds no damaged or defective equipment in service, all components are clean, located, and aligned as specified herein, and photoelectric controls operate the lighting systems. The State will pay for all electricity used to operate the systems, if the public benefits from their operation. Furnish replacement equipment compatible with equipment used in the Central Region.

Begin work to repair, replace, adjust, realign, clean, and/or relocate components of an affected system within one hour when ordered by the Engineer. If you do not complete the work, the Engineer may have outside forces complete the repairs and deduct the amount billed from any monies due you.

When you work on a traffic signal system, print a record of all work performed in the diary found in each controller cabinet. Make sure each entry includes

1. The dates and times you began and completed your work, and the names of the crewmembers completing the work.

2. The characteristics of the equipment failure or faulty operation evident before repair.

3. The changes made or corrective actions taken.

4. The printed name and signature of the person responsible for making the repairs or changes.

The Engineer will limit signal system shutdowns to the hours traffic restrictions are allowed in Subsection 643-3.08, Construction Sequencing. During shutdowns, use flag persons to control traffic. Provide local traffic enforcement and maintenance agencies 24-hour notice before shutting down a traffic signal system.

Locate existing conduit runs, buried cables, junction boxes, and all underground utilities before starting work that may damage these facilities or interfere with these systems.

Where roadways remain open to traffic and the work includes modifying the existing lighting systems, energize the modified circuit by sunset on the same day you retire the original circuit.

Relocate or replace signal poles, lighting standards, sign poles, flashing beacon poles, load centers, and controller cabinets whenever you reduce their clearance from the traveled way to less than six feet.

During the various phases of construction, shift the signal heads to keep them aligned horizontally and vertically with the approaches according to the following:

1. For overhead signals located 53 feet and more from the stop line, maintain 17.5 feet to 21.5 feet of clearance between the traveled way and the bottom of each signal. For closer signals refer to the MUTCD for maximum clearances.

2. For side mounted signals, maintain nine feet to 11 feet of clearance between the traveled way and the bottom of the signal.

3. Align overhead signals controlling a single lane with the center of the lane.

4. Align overhead signals controlling two or more lanes with the lane lines separating the lanes.

5. When the horizontal angle to the side mounted far right signal exceeds 20°, relocate this signal to an overhead location. Measure the angle 10 feet back from the stop line on the lane line between the two farthest left through lanes.
   - With two or more through lanes, center one signal head over each lane.
   - With one through lane and protected-permitted signal phasing, leave the five section signal over the lane line and center the signal to be relocated over the through lane.
   - Otherwise, install the relocated signal eight feet to the right of the signal centered over the through lane.

6. For pedestrian signals, maintain seven feet to nine feet between the traveled way and the bottom of each pedestrian signal.

7. Aim all signal heads according to Table 660-2 found in subsection 660-3.08, Signal and Lighting Structures.

When no longer required, salvage all original and Department provided equipment according to the plans and item 6 Salvaging or Reusing Electrical Equipment found in subsection 660-3.01, and remove all other materials used in the temporary systems from the project.

Add the following subsection:

660-3.09(A) TEMPORARY SIGNAL SYSTEMS. Provide temporary traffic signals at the intersections listed in the plans or special provisions. Move traffic through these intersections at all times with fully functional traffic signals, except during shutdowns to change from one system to another. The Engineer will limit temporary signal system shutdowns to the times when traffic restrictions are allowed in Section 643, Traffic Maintenance. During these shutdowns, use flag-control to control the flow of traffic.

Submit a plan for each temporary signal system to the Engineer for approval before implementation. Include the same number of signal heads, signal phases, pedestrian pushbuttons, etc. found in the signal system being replaced or modified in the plan, plus the following details:

1. A scale drawing of the intersection that includes all lanes, their widths, and auxiliary lane pocket lengths.
2. The location of all signal poles, controller cabinet, and the load center that will feed the temporary signal system.
3. The location, sizes, and type of each signal head.

Temporary signal systems may consist of any combination of the existing systems, relocated components of the existing systems, guyed wood poles, and parts of the permanent signal system. Provide load centers as required in subsection 660-3.09(B), Temporary Electroliers.

Furnish and install all materials and miscellaneous hardware required for a functional traffic signal system. Furnish all signal faces with back plates and visors. Use temporary controller equipment compatible with equipment used in the Central Region. All materials shall conform to the plans and specifications, except you may

1. Install temporary controller assemblies on Type III junction boxes.

2. Suspend traffic signals from messenger cables provided you mount them with standard span wire hangers and secure them with a second cable to prevent misalignment in a wind. Leave sufficient signal cable slack at each pole to provide for drip loops and to allow realignment of each signal head.

3. Use a minimum of two circuits to energize the signals of each phase that include two or more signal faces. The Engineer will allow splices only at the terminal blocks in the signal faces.

Whenever temporary signals include a span wire attached to a permanent signal pole, install a guy on the permanent pole and provide protective collars to prevent chafe damage. Exclude poles with breakaway bases in span wire supported signal systems.

Maintain fully actuated traffic signals during the normal course of construction by installing loop detectors or a video detection system. During winter shutdown, provide loop detectors in the signal systems according to Section 6.080 of Chapter 6 of the Municipality of Anchorage's Design Criteria Manual.

660-3.11 SIGNAL SYSTEM TIMING AND ADJUSTMENTS. Add the following subsection: The Engineer will use Municipality of Anchorage (MOA) signal maintenance personnel for certain work inside controller cabinets. Before they arrive to terminate conductors, ensure you have attached terminal connectors to all conductor ends and labeled all paired loop detector conductors and cables as specified in Subsection 660-3.05, Wiring. On projects outside the MOA, send controller equipment to the MOA for testing and complete all work specified inside controller cabinets.

Controller Cabinet Preparation. Ship the traffic controller cabinet(s) and equipment to the Municipality of Anchorage Traffic Signal Electronics Shop at 3650 E. Tudor Road, Building C. They will inspect cabinet wiring, burn in signal equipment, customize cabinets for desired operation, and test the equipment according to Subsection 660-3.07, Shop Tests.

1. Loop Detector Wiring. Municipality of Anchorage Traffic Signal Maintenance (MOA Signal Maintenance) will test and connect all paired loop detector conductors to the terminal blocks.

2. Control Cable Wiring. When you modify an operational signal system or controller assembly, MOA Signal Maintenance will connect all control cables within the controller cabinet to the terminal blocks.

3. Timing Adjustments. During construction, MOA Signal Maintenance may adjust the system and intersection operational timing to accommodate project conditions.

4. Interconnect Wiring. MOA Signal Maintenance will test and connect all interconnect wiring to the terminal blocks.

660-5.01 BASIS OF PAYMENT. Add the following: The Engineer will pay Item 660(26), Signal System Timing and Adjustments, based on paid receipts plus 15 percent for authorized work performed by the Municipality of Anchorage. A directive will not be required to initiate payment for work performed under Item 660(26). Pay all costs of the Municipality re-testing equipment that fails to comply with the Plans and Specifications.

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Payment will be made under:

Pay Item	Pay Unit
660(1) Traffic Signal System Complete, Muldoon Road & Boundary Ave.	Lump Sum
660(7) Temporary Signal System Complete, Huffman Rd & Seward Hwy East Ramp	Lump Sum
660(11) Traffic Loop	Each
660(18) Traffic Signal System Modifications Complete, Huffman Road and Seward Highway East Ramp	Lump Sum
660(26) Signal System Timing and Adjustments	Contingent Sum

Add the following Section:

SECTION 662

SIGNAL INTERCONNECT

Special Provisions

662-1.01 DESCRIPTION. This item consists of all work required to furnish and install signal interconnect in conduit between the controller assemblies shown on the Plans along the route indicated, or on a route as directed by the Engineer.

662-1.02 REGULATIONS AND CODE. Complete all work in accordance with these specifications and Section 660, Signals and Lighting.

662-2.01 MATERIALS. Submit all materials for review and approval per the requirements of subsection 660-1.03, Equipment List and Drawings.

Furnish a 25 pair #19 telephone cable conforming to REA Specification PE-39 for the interconnect cable. Install the interconnect cable in a 2" galvanized steel rigid metal conduit.

Encapsulate completed splices in waterproof reenterable type splice kits of the same type used for loop lead-in cable splices. REA Bulletin 344-2 entitled "Lists of Materials Acceptable for use on Telephone Systems of REA Borrowers" provides a list of acceptable splice materials.

662-2.03 JUNCTION BOX. Furnish pre-cast, reinforced concrete junction boxes conforming to the sizes and details shown on the Plans. Install junction box lids made of cast iron.

662-3.01 CONSTRUCTION REQUIREMENTS. The signal interconnect consists of cable, conduit, junction boxes, other necessary hardware required to complete the item, cable splicing, and the termination of conductors on terminal blocks.

Install the galvanized steel rigid metal conduits at least 30" below finished grade.

Install junction boxes at all abrupt changes in conduit alignment and on 300' maximum centers. Angle points and curves with delta angles greater than 45 degrees constitute an abrupt change. Unless otherwise noted in the plans, install Type 1A junction boxes, except when you need to splice interconnect cables together. Complete all interconnect cable splices in Type II or III junction boxes. Complete all splices in accordance with Rural Electrification Administration (REA) Specification PC-2 for splicing telephone cables. You may determine the locations for making signal interconnect splices. The Engineer, however, will not allow splices to be made at low points in the terrain or the bottom of sag vertical curves. Keep splices in the interconnect cable to an absolute minimum, and get the splice locations approved by the Engineer beforehand.

Furnish the controller cabinets with terminal blocks for the interconnect cable.

662-3.02 EXCAVATING AND BACKFILLING. Backfill the excavations according to Section 204.

The Engineer will not allow ripping or plowing for installation of conduit. Backfill around the galvanized steel rigid metal conduit with a 6" lift of material free of rocks exceeding a 1" maximum dimension.

662-4.01 METHOD OF MEASUREMENT. The Engineer will measure signal interconnect by the linear foot from the center of junction box to center of the next junction box, following the slopes of the existing ground.

662-5.01 BASIS OF PAYMENT. The contract unit price paid per linear foot for signal interconnect constitutes full compensation for furnishing all work required to complete the work specified.

Terminal blocks for the interconnect cable shall be paid under Item 660(1) Traffic Signal System Complete. (11/19/02)R67USC

Minor conduit routing changes as directed are subsidiary to existing contract items. All work required to complete the interconnect installation is subsidiary. All work to remove and replace improvements under Subsection 660-3.01, paragraph number 5, and including curb ramps are subsidiary.

Payment will be made under:

Pay Item	Pay Unit
662(1) Signal Interconnect	Linear Foot

SECTION 670

TRAFFIC MARKINGS

Special Provisions

670-3.01 CONSTRUCTION REQUIREMENTS. Delete Item 4 in its entirety and substitute the following:

4. Methyl Methacrylate Pavement Markings. Apply Methyl Methacrylate markings with truck-mounted equipment designed and capable of properly mixing at the point and time of application according to the manufacturer's recommendations. Provide the manufacturer's installation instructions for the Methyl Methacrylate markings at least 15 days prior to application. Retain a copy of the instructions for use on the project.

   A manufacturer's representative shall be present on the first day of striping and any additional days as required by the Engineer.

   Supply and use a Methyl Methacrylate application monitoring system (MMAMS) that calculates flow throughout the high-pressure airless pumps. The MMAMS shall measure the combined A and B Methyl Methacrylate components and show the total volume applied on a digital readout display. The digital readout shall display two (2) decimal places and be located on the operator control panel. The digital readout display shall be selectable to show output volume in gallons or liters.

   Perform a film test strip at the beginning of each striping shift and when there is a change in asphalt type. In addition, measure out one (1) gallon of Methyl Methacrylate for field verification of the MMAMS accuracy. Additional film test strips and MMAMS accuracy samples may be required at the Engineer's discretion.

   Apply glass beads as specified in Subsection 712-2.18. Use a minimum drop on rate of 1 lb/yd^2 for transverse type markings. Apply glass beads for Type V sprayed material by double bead gun, one gun directly in front of the spray unit and another directly behind.

   Remove contaminants such as curing agents, surface oils or existing pavement marking materials prior to applying the new pavement markings. Then, thoroughly clean and dry the roadway surface immediately prior to applying Methyl Methacrylate pavement markings.

   Apply Methyl Methacrylate pavement markings as shown in the following table. The table shows final design thickness. The maximum allowable yield thickness per single-pass of Longitudinal Type markings (non-inlaid) is 60 mils.

METHYL METHACRYLATE PAVEMENT MARKING YIELD THICKNESS TABLE

Marking Type	Non-Inlaid Markings[1]	Inlaid Markings[2]
Longitudinal Type[3] (Center and Edge lines)	90 mils	230 mils
Transverse Type (Cross Walks, Stop Bars,"Only"s, Arrows and Tracking Lines)	120 mils	230 mils
Neutral Area (Diagonals, Chevrons)	60 mils	Do not inlay these markings

1. Measure Type V spray without glass beads. Tolerance is ±4 mils. Measure the thickness utilizing a wet film thickness gauge. Collect a sample on a 6" x 12" flat sheet of 80 mils thick aluminum placed in the path of the striping guns.

2. Cut the inlaid slots to a depth of 250 mils. Do not over fill the slots.

3. Install Non-Inlaid Longitudinal Type markings at a maximum yield thickness of 60 mils per application pass.

Non-Inlaid Markings

New asphalt pavement: Apply interim non-inlaid Longitudinal and Transverse Type markings at 30 mils.

Unless directed otherwise by the Engineer, apply the final 60 mils of the Longitudinal Type markings once the asphalt has cured for the duration listed below.

Stone Mastic Asphalt Concrete	30 days
All others	15 days

Apply the final Transverse and Neutral Area markings as shown in the application table at this time. Multiple application passes are required for Transverse Type markings.

Existing asphalt pavement: Apply markings according to the Yield Thickness Table. Longitudinal Type markings will require multiple application passes.

Inlaid Markings

Apply markings in the milled groves after all millings have been removed. The extruded Methyl Methacrylate may be installed at the final yield thickness at the Engineer's discretion.

670-3.04 PAINT REMOVAL. Change the title of this Subsection to "Pavement Markings Removal".

Replace the first sentence of the second paragraph with the following: Remove pavement markings to the fullest extent possible by a method that does not materially damage the surface or texture of the pavement. Painting over existing striping does not meet the removal requirement. Do not use any method utilizing burning with an open flame for removing pavement markings on the final paving lift.

670-3.06 TOLERENCES FOR LINE STRIPING. Replace criteria number two with the following:

2. Width of Stripe. The width shall not vary more than ¼" in width for any 50' longitudinal run from the width shown in the Plans.

670-4.01 METHOD OF MEASUREMENT. Add the following after Item 4:

5. Gallon Basis: The Methyl Methacrylate material used to form the pavement markings accepted by the Engineer will be measured in gallons.

6. Foot Basis: Item 670(10D), Milling for Inlayed Markings will be measured by the linear foot of 4 inch wide slot ground into the pavement at the depth specified in the Yield Thickness Table and accepted by the Engineer.

670-5.01 BASIS OF PAYMENT. Add the following to the second paragraph: All costs associated with the MMAMS are subsidiary to Item 670(10B) and 670(10C).
No separate payment shall be made for furnishing and maintaining the MMAMS.

Add the following: Item 670(10D), Milling for Inlayed Markings shall be paid at the contract unit price for the quantity shown in the Bid Schedule. Payment includes all costs associated with this item, including the removal of millings. (12/4/02)R246

Payment will be made under:

Pay Item	Pay Unit
670(10B) Methyl Methacrylate Pavement Markings	Gallon
670(10C) Methyl Methacrylate Pavement Markings, Inlay	Gallon
670(10D) Milling for Inlayed Markings	Linear Foot

SECTION 702

ASPHALT MATERIALS

Special Provisions

702-2.01 ASPHALT CEMENTS. Add the following: Performance Graded Asphalt Binder shall conform to the requirements of AASHTO MP1 and the additional properties defined by AASHTO T 53 for and ASTM D 5801 assigned to each grade.

		Performance Graded Asphalt Cement		
Property	Standard	PG 52-28	PG 58-28	PG 64-28
Softening Point	AASHTO T 53	(none)	120°F	125°F
Toughness (min)	ASTM D 5801	(none)	110 inch-lbs	110 inch-lbs
Tenacity (min)	ASTM D 5801	(none)	75 inch-lbs	75 inch-lbs

(09/18/00)R244USC

SECTION 703

AGGREGATES

Special Provisions

703-2.03 AGGREGATE FOR BASE. Delete Table 703-2 and substitute the following:

TABLE 703-2
AGGREGATE FOR UNTREATED BASE
Percent Passing By Weight

Sieve Designation	Grading C-1	Grading D-1	Grading E-1
1 ½ inch	100		
1 inch	70-100	100	100
3/4 inch	60-90	70-100	70-100
3/8 inch	45-75	50-79	50-85
No. 4	30-60	35-58	35-65
No. 8	22-52	20-47	23-50
No. 30	10-33	10-26	13-31
No. 50	6-23	6-19	10-26
No. 200	0-6	0-6	8-15

(2/28/00)R117USC

Add the following subsection:

703-2.13 AGGREGATE FOR STONE MASTIC ASPHALT PAVEMENT.

Coarse Aggregate (retained on the # 4 sieve). Coarse aggregate shall be free from clay balls, vegetative matter or other deleterious matter and consist of sound, tough, durable rock of uniform quality not coated with dirt or other finely divided mineral matter. Crush stone or cobbles to such a degree that all faces are fractured and meet the following requirements:

Property	Test Method	Requirement
Percent of Wear	AASHTO T 96	30 max.
Degradation	ATM T-13	30 min.
Percent Sodium Sulfate Loss	AASHTO T 104	9 max. (5 cycles)
Percent Fracture	WAQTC TM 1	
All Faces		75 min.
Thin & Elongated Particles	ATM T-9	
3 to 1		20% max.
5 to 1		5% max.
Absorption	AASHTO T 85	2% max.
Nordic Abrasion		12.0 max.

Fine Aggregate (passing the #4 sieve). Consist entirely of 100 percent crushed aggregate and be non-plastic as determined by WAQTC FOP for AASHTO T 90. Meet the quality requirements of AASHTO M 29, including S1.1, Sulfate Soundness.

SECTION 712

MISCELLANEOUS

Special Provisions

712-2.06 FRAMES, GRATES, COVERS AND LADDER RUNGS. Add the following:

Ductile iron castings	ASTM A536 for grade 60-401.

(2/22/00)R78M98

712-2.14 PREFORMED PAVEMENT MARKINGS. Add the following to paragraph a. under Item 1., General Requirements: The preformed ribbon shall consist of one solid piece of required width and length. In solid stripe areas, the tape length shall, where possible, be a minimum of 100 feet. (7/15/96)R79USC

712-2.17 METHYL METHACRYLATE PAVEMENT MARKINGS. Add the following Subsection:

2. Performance Properties: Add the following:

   k. Adhesion: To Portland Cement, minimum 2000 psi, to asphalt, dependent on tensile failure of the substrate.

(12/04/02)R246

SECTION 724

SEED

Special Provisions

724-2-02. MATERIALS. Delete Table 724-1 and substitute the following:

TABLE 724-1
SEED REQUIREMENTS

SPECIES	Sproutable Seed*, %, Min.
Arctared Red Fescue	78
Egan American Sloughgrass	67
Norcoast Bering Hairgrass	71
Nortran Tufted Hairgrass	71
Wainwright Slender Wheatgrass	88
Alyeska Polargrass	71
Bluejoint	71
Tilesy Sagebrush	71
Tundra Glaucous Bluegrass	76
Gruening Alpine Bluegrass	72
Nugget Kentucky Bluegrass	76
Beach Wildrye	70
Annual Ryegrass	76
Perennial Ryegrass	76

* Sproutable Seed is the mathematical product of Germination and Purity.

(11/06/02)R52USC

SECTION 726

TOPSOIL

Special Provisions

726-2.01 TOPSOIL. Replace Item No. 3 with the following:

TABLE 726-1
TOPSOIL REQUIREMENTS

REQUIREMENT	CLASS A	CLASS B
Sieve Designation	Percent Passing by Weight	
3 inch	-	100
½ inch	100	-
No. 4	95-100	75-100
No.16	64-90	50-95
No. 200	30-60	20-80
Organic Content*	10% - 40%	5% minimum
Limestone	1.5 Ton/Acre	-

* Determined by loss on ignition of oven dried sample in accordance with ALASKA FOP for AASHTO T 267

(12/05/01)R139USC

SECTION 730

SIGN MATERIALS

Special Provisions

730-2.04 SIGN POSTS. Under item 1., Metal Pipe Posts, add the following to paragraph a.: Posts conforming to ASTM A53 shall be either Type E grade B, or Type S grade B.

Add the following:

6. Structural Tubing and W Shape Beams.

   a. Structural tubing shall conform to either ASTM A500, grade B, or ASTM A501. The tubing shall be square and of the dimensions called for in the Plans with 0.2-inch thick walls. 0.4-inch diameter holes shall be drilled as required to permit mounting of the sign.

   b. W shape beams shall conform to ASTM A36.

   c. Structural tubing and W shape beams shall be hot dip galvanized in accordance with 1.b. of this subsection. Damaged and abraded tubes and beams shall be repaired in accordance with 1.c. of this subsection.

(12/4/02)R81USC

SECTION 740

SIGNALS AND LIGHTING MATERIALS

Special Provisions

740-2.02 SIGNAL AND LIGHTING STRUCTURES. Add the following after the fifth paragraph: Furnish all poles and mast arms with a round or 16-sided cross section. Fabricate all elements greater than ½-inch thick from steels that conform to ASTM A 709 and meet the Fracture Critical Impact Test requirements for zone 3.

Delete the sixth and seventh paragraphs and add the following: Fabricate all posts, poles, and mast arms from tapered steel tubes that taper at a minimum rate of 0.14-inches of diameter per foot of length. Fabricate tubes with walls up to ½-inch thick from the prequalified base metals listed in AWS D1.1 and which feature maximum yield strengths of 70,000-psi.

Fabricate 10 feet long signal posts from sheet steel that features a minimum thickness of 11 US Standard Gage. Fabricate each post with a minimum five-inch inside diameter at the base plate. Use a three and one-half inch long piece of 4-inch schedule 40 pipe that conforms to ASTM A 53 as a post-top adapter.

Add the following to the eighth paragraph: The Department will not accept poles and mast arms made with laminated steel elements.

Delete the twelfth paragraph and add the following: Fabricate pile cap adapters from grade X42 steel line pipe that conforms to API 5L and from steel plate that conforms to ASTM A 709 Grade 50. Attach the anchor plate to the pile section with a complete joint penetration (CJP) weld. Fabricate the anchor plate to match the base plate of the lighting standard. Furnish the pile cap adapters with either of the following durable finishes: (a) hot dip galvanization per ASTM A 123, except leave the beveled edge free of zinc (see attached pile cap adapter detail), or (b) metalizing per Steel Structures Painting Council (SSPC) 23.00 Guide for Thermal Spray Metallic Coating Systems to a minimum thickness of 10 mils after abrasive blast cleaning the adapter per SSPC SP5 White Metal Blast Cleaning.

Delete the fourteenth paragraph and add the following: Perform all welding to conform to Subsection 504-3.01 8. Welding and the following:

Delete the last two sentences in subparagraph 4 that follow the fourteenth paragraph.

Add the following to subparagraph 5 that follow the fourteenth paragraph. Inspect 100% of all fillet welds by MT.

740-2.05 CONDUCTORS. In subsection 6, Loop Lead-in Cables, delete the first sentence of the second paragraph and add the following: Use seven-pair size18 AWG, 16 strand, tinned copper conductors per ASTM B-33 insulated with flame-retardant polyvinyl chloride (PVC) and clear polyamide (nylon).

740-2.11 CONTROLLER CABINET.

1. STANDARD FEATURES

   c. Cabinet Wiring. Add the following to (1): Furnish all controller cabinets wired to accommodate five 4-channel inductive loop detector units and two 2-channel inductive loop detector units.

740-2.12 STANDARD AUXILIARY EQUIPMENT.

3. Conflict Monitors. Add the following:

   a. Whenever the Plans or Special Provisions call for a Traffic Management Communication System, supply conflict monitors with an RS-232 serial port that allows the monitor to download information through an external dial-up multi-port modem or to a personal computer using the Microsoft Windows NT operating system.

740-2.13 SPECIAL AUXILIARY EQUIPMENT. Add the following:

6. Opticom Priority Control System. Install the following components of the 3M Company's Opticom Priority Control System according to 3M's written installation instructions at the signalized intersections listed on the plans.

   Install the quantity of model 711, 721, and 722 optical detectors on the signal pole mast arms shown on the Plans. Before you install the detectors, gain approval of their final lateral location from the Engineer. See the Plans for installation details.

   Install Model 138 Optical detector lead-in cable between the end of each signal mast arm and the controller cabinet. Furnish enough slack in these cables for them to extend 2-feet beyond the end of each signal mast arm and to leave 10-feet of slack in the controller cabinet. Seal both ends of each lead-in cable with mastic lined, heat shrink tubing end caps.

   Before you attach the conductors to the optical detectors, strip the insulation for the conductors and attach all four conductors to ground in the controller cabinet. Attach the signal cable to the confirmation light. The Municipality of Anchorage Signal Maintenance Section (MOA Signal Maintenance) will tie down the conductors in the controller cabinet under Item 660(26), Signal Timings and Adjustments.

   Furnish each controller cabinet with a Model 754 phase selector, a Model 760 card rack, and an Opticom Panel Assembly, U.S. Traffic Corporation part number 103303. The panel assembly interfaces the card rack to the controller cabinet. Furnish new controller assemblies with these parts installed by the controller assembly manufacturer. To retrofit existing controller assemblies, deliver the parts to MOA Signal Maintenance, who will install the parts under Item 660(26), Signal Timings and Adjustments.

7. Traffic Logging System. Furnish, and others will install in the controller cabinet, a stand-alone unit that collects, time stamps, and stores data in an unattended manner. The traffic

logging system shall conform to the following:

a. Operation. The unit shall accept a new operating program, operational parameters, and the date and time stamp from a personal computer, downloaded through an RS-232 cable. The use of replaceable proms to change the operational program is unacceptable. Data collection shall be automatic and not require an operator to reset or start operation.

In the event of a power interruption, data collection shall automatically restart at the proper time. Other than the current sample being collected, the unit shall not lose stored data because of the power interruption. At power-up or at the restoration of power after an outage, the unit shall log the date and time at the start of data collection.

The unit shall maintain the operating program, data storage, and date/time for a minimum of 5 years from when power is removed from the unit. The internal program/data size shall be a minimum of 32,000 bytes.

b. Input Interface. The unit shall have a minimum of 28 inputs. Furnish all new and existing controller cabinet with a loose Detector Systems TLS-1-C1 interface cable only to connect the unit to the output of the loop detector units. The Municipality of Anchorage's Signal Maintenance Section will install the interface cable in the controller cabinets under Item 660(26), Signal System Timing and Adjustments. Do not furnish new controller cabinets with a built-in interface panel.

c. Output Interface. Furnish all units with an RS-232 serial port that allows a user to download and upload directly between the unit and a personal computer using the Microsoft Windows NT operating system or the external dial-up multi-port modem.

d. Software. Supply Microsoft Windows NT compatible software and user manuals with the unit that provides the operator an interface to the hardware. Furnish menu driven software that allows an operator to: 1) download to initialize the unit with its operating program and data collection parameters, 2) upload information from the unit (both stored data and real-time data) and 3) transfer a data file to a text file.

The operating program shall provide for month, day, day-of-week, hour, minute, and second information and allow sampling periods of 5, 15, 30, and 60 minutes.

8. Traffic Management Communication System. Furnish software driven, multi-port modem system that provides communication between interconnected traffic controller assemblies and an off-site personal computer using the Microsoft Windows NT operating system. Supply all necessary parts and cabling that enables full duplex communications through an uncompressed baud range of 300 to 9600. The modem system shall remain operational through a temperature range of –40 F to +104 F.

a. Office Modems. Furnish two external dial-up master modems designed to provide communications between an off-site personal computer using the Microsoft Windows NT operating system and an on-site dial-up multi-port modem. Supply software that

provides a front-end to a third party software connection between the off-site computer and the components connected to the multi-port modems.

b. Modems for traffic signal controller cabinets with telephone service.

1) For each traffic signal controller cabinet with a telephone service, provide a dial-up, remote modem equipped with five communication ports. Furnish a modem with: four RS-232 serial ports, designed to interface between the traffic signal controller unit, the conflict monitor, the traffic logging system, and the emergency vehicle preemption system; and one port designed to allow communication to the lease-line master modem. The modem shall be remotely addressable and able to switch between ports without hanging up.

2) Install a lease line master modem designed to allow communications between the dial-up remote modem and lease-line remote modems located in downstream traffic signal controller cabinets.

c. Modems for interconnected traffic signal controller cabinets without telephone service. In each downstream traffic signal controller cabinet, install a lease-line remote, modem equipped with four RS-232 serial ports. The ports shall interface between the traffic signal controller unit, the conflict monitor, the traffic logging system, and the emergency vehicle preemption system. The modem shall be remotely addressable and able to switch between ports without hanging up.