STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

ORIGINAL CONTRACT

PROPOSAL, CONTRACT, BOND, STANDARD MODIFICATIONS AND SPECIAL PROVISIONS FOR:

Parks Highway, M.P. 57-67

Project No. IM-OA4-1(14)/52312

~~AS-ADVERTISED~~: April 9, 2001
DOCUMENT FEE: $100.00

Used in conjunction with 1998 State of Alaska Standard Specifications for Highway Construction, Metric (98M) and the plans for the above referenced project.

CONTRACTOR ----------

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AS-AWARDED

AS-AWARDED

PART 4

STANDARD MODIFICATIONS

AND SPECIAL PROVISIONS

to the STATE OF ALASKA

STANDARD SPECIFICATIONS
FOR HIGHWAY CONSTRUCTION (METRIC)

1998

PARKS HIGHWAY, MP 57-67
Houston to White's Crossing
Project No. IM-0A4-1(14)/52312

SECTION 101

DEFINITIONS AND TERMS

Standard Modification

101-1.03 DEFINITIONS. Add the following:

INTERIM WORK AUTHORIZATION. A written order by the Engineer initiating changes to the Contract, within its general scope, until a subsequent Change Order is executed.
(06/25/99)M68

Special Provisions

101-1.03. DEFINITIONS. Add the following definition:

NON-FROST SUSCEPTIBLE. Material that contains 6 percent or less passing the .075 mm screen as determined by sieve analysis performed with ATM T-7 on minus 75 mm material.
(02/18/00)R1M98

SECTION 102

BIDDING REQUIREMENTS AND CONDITIONS

Special Provisions

102-1.11 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 telephone. Addenda will be issued to the address, telefacsimile number or telephone 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.
(2/1/00)R171M98

SECTION 103

AWARD AND EXECUTION OF CONTRACT

Standard Modification

103-1.01 CONSIDERATION OF BIDS. Add the following after Item 9.: In addition to the circumstances described above, the Contractor may request permission from the Contracting Officer to add or replace a listed Subcontractor. The request must be made in advance, in writing, specifically detailing the basis for the request, and shall include appropriate supporting documentation. The Contracting Officer will approve the request if it is determined to be in the best interest of the State. (10/28/99)M84

Standard Modification

103-1.02 AWARD OF CONTRACT. In the third paragraph, change practical to practicable. (06/25/99)M 69

SECTION 105

CONTROL OF WORK

Standard Modification

105-1.02 PLANS AND WORKING DRAWINGS. Replace the fifth paragraph with the following: Upon receipt of an approved copy of the Shop Working Drawings, the Contractor shall furnish to the Engineer:

1. Enough additional copies to provide 8 approved sets of prints.

2. One set of reproducible transparencies (polyester film).

3. If requested, an electronic file in AutoCAD drawing interchange format (.DXF).

(09/30/99)M85

Special Provisions

105-1.06 COOPERATION WITH UTILITIES. Add the following: The Contractor shall request locates from all the utilities having facilities in the area. The Contractor shall use the locate Call Center for the following utilities:

Locate Call Center Anchorage Area 278-3121 Statewide 800-478-3121 who will notify the following:
Alaska Fiber Star Matanuska Electric Association. Matanuska Telephone Association

The Contractor shall call the following utilities and agencies directly:

Alaska Railroad Corporation 265-2520

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.

The Contractor is required to work around those utilities not designated for relocation in the plans and the following utility specific coordination. The Contractor shall bear the expense for any changes or additional relocation requested for Contractor 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.

The Contractor 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 the Contractor is 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 the Contractor's two-week work plan, or not required by the Contract.

The utility shall give the Contractor, through the Engineer, fifteen calendar days advance written notice for required staking.

Provide the Utility Companies fifteen calendar days 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 the Contractor, 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:

Matanuska Electric Association (MEA) has existing aerial and underground facilities located within this project. MEA has existing facilities that are in conflict with the proposed excavation and embankment for this project and will require adjustment and/or relocation. The Contractor shall notify MEA at 907-761-3231 to establish a point of contact and to determine were to send the written notice to MEA fifteen (15) calendar days prior to starting the relocation work on this project. MEA crews will only be required to work in one of the location listed below at one time. The Contractor shall furnish a copy of the notice to the Engineer. Below is a list of the locations that MEA facilities will require relocation and the calendar days required to complete work at each location.

AERIAL RELOCATION

LOCATION / STATION	TYPE OF FACILITY	CALENDAR DAYS REQUIRED
1. 32+486, 44 m Lt	New Pole and Anchor and Guy	2
2. 36+530, Lt. & Rt.	New Guy Pole, Span Guy and Anchors and Guys	3
3. 39+920 to 40+002	Six Poles Retired & Two New Poles & Anchors and Guys	7
4. 40+150 to 40+352 Rt.	New Pole & Conductor Anchors and Guys	5

UNDERGROUND & LOAD CENTER SERVICES

LOCATION / STATION	TYPE OF FACILITY	CALENDAR DAYS REQUIRED
5. 30+687 Rt.	Underground Service Conductor	2
6. 32+486 Rt.	Underground Service Conductor	2
7. 33+031 Rt.	Underground Service Conductor	2
8. 39+784 Rt.	Underground Service Conductor	2
9. 39+700 Lt. & Rt.	Underground Conduit Installation	5

The Contractor shall be required to provide assistance or perform work listed below prior to MEA starting and/or in conjunction with relocation work in the following locations:

Location No. 2, The Contractor shall coordinate with MEA and provide all the necessary traffic maintenance, all traffic control devices required, and flagging personal if required for the installation of this aerial road crossing.

Location No.3, The Contractor shall coordinate with MEA and provide all the necessary traffic maintenance, all traffic control devices required, and flagging personal if required for the installation of this aerial road crossing.

Location No. 4, Clearing will be required prior to MEA starting the relocation work in this location. The Contractor shall coordinate with MEA to complete clearing prior to starting pole installation in the above location. MEA will provide staking for the clearing limits. All clearing will be within the road rights-of-way.

For locations No.5 through No. 8, Clearing, shall be required before placing the underground service conductor for each load center. The Contractor shall coordinate with MEA and complete clearing before MEA can begin conductor placement in the above locations. MEA will provide the staking for the clearing limits in each load center location. All clearing for the load centers will be within the road rights-of-way. Before MEA starts any load center service installation work, the Contractor shall have the new load center location installed and accepted (tagged) by the Alaska Department of Labor (ADOL).

Location No. 9, Before starting the embankment placement operation in the approximate STA 39+700 area, the Contractor shall notify MEA to begin the conduit installation. The Contractor shall allow MEA to complete the conduit placement before beginning the embankment construction.

Matanuska Telephone Association (MTA) has existing underground facilities within the project limits that are in conflict with the excavation and embankment and will require relocation. The Contractor shall notify MTA at 907-761-2444 to establish a point of contact and to determine were to send the written notice to MTA fifteen calendar days prior to starting relocation work the project. MTA crews will only be required to work in one of the location listed below at one time. The Contractor shall furnish a copy of the written notice to the Engineer. Listed below are the areas that require relocation of MTA facilities and the calendar days required to complete work at each location.

UNDERGROUND

LOCATION / STATION	TYPE OF FACILITY	CALENDAR DAYS REQUIRED
1. 25+200, Rt. & Lt.	Lower Existing Underground Fiber Optic & New Underground Telephone Road Crossing Cable & Conduit	7
2. 27+190 to 29+660 Rt.	New Underground & Aerial Telephone Cable to Attach to Existing Poles in an Existing Easement	15
3. 30+300 to 30+740 Rt.	New Underground Telephone Cable	5
4. 31+440 to 31+960 Rt.	New Underground Telephone Cable	6
5. 36+560, Rt. to Lt.	New Underground Telephone Cable & New Conduit Road Crossing & Adjust Existing Pedestal	4
6. 36+570 to 36+830 Rt.	Adjust Existing & Placing New Underground Telephone Cables Crossing Twitty Avenue	5
7. 1+620 to 2+122 Lt. & Buckingham Palace Conduit Crossing STA 39+996 Lt. & Rt. & Nanlow Lane 1+830 to 1+980 Rt.	New Underground Telephone Cable & New Conduit Crossing	10
8. 40+200 to 40 +352 Rt.	Adjust Existing Underground Telephone Cables	5

AERIAL

LOCATION / STATION	TYPE OF FACILITY	CALENDAR DAYS REQUIRED
9. 26+710 to 26+810 Rt.	New Aerial Telephone Cable to Attach to Existing Poles in an Existing Easement	4
10. 33+030 to 33+310 Rt.	New Aerial Telephone Cable to Attach to Existing Poles in an Easement	5
Temporary 11. 36+545 Lt. & Rt.	Attach Temporary Aerial Road Crossing Telephone Cable On-To Temporary Poles	5

The Contractor shall be required to provide assistance or perform the work listed below prior and/or in conjunction with to MTA relocation work in the following locations:

Location No. 1, The Contractor shall coordinate with MTA to determine a schedule and to construct a detour for MTA in this location. Once the detour is completed the Contractor shall remove the existing asphalt required for the MTA crossing and provide all the necessary traffic maintenance for the detour and all the necessary traffic control devices as well as any flagging personal required. The detour will be maintained until MTA has completed the relocation and the detour is no longer in use. When the MTA relocation is completed the Contractor shall remove the detour and replace asphalt in the crossing location as per the Engineer.

Location No. 5, STA 36+560, Rt. Before the existing underground road crossing cable can be retired the temporary cable will need to be installed. Once the Contractor has completed the 100mm-conduit placement as per the plans and specifications, and MTA and the Engineer have accepted it, MTA can start the relocation in this location.

Location No. 6, The Contractor shall coordinate with MTA and shall provide all traffic maintenance and all traffic control devices as well as any flagging personal required for the existing cable lowering and relocation in the Twitty Avenue area.

Location No. 7, Buckingham Palace, The following Buckingham Palace locations shall require slope staking and/or rights-of-way staking prior to MTA starting the relocation from approximate STA 1+620 to STA 2+122 on the Lt. The Contractor shall complete all the necessary clearing between the stations listed above before MTA can begin relocation. MTA will stake the locations that clearing will be required for this area's relocation. When the Contractor has completed the 100mm-conduit installation at approximate STA 39+996 Lt. & Rt. as per the plans and specifications, and MTA and

the Engineer have accepted it, MTA will then be able to start the cable placement inside the 100-mm conduit crossing.

Location No. 8, Clearing will be required prior to MTA starting the relocation work in this location. The Contractor shall coordinate with MTA to complete clearing before MTA places the pole. MTA will provide staking for the clearing required. Any clearing required will be within the road rights-of-way.
(2/1/00)R3M98

105-1.12 LOAD RESTRICTIONS. Add the following: The Department requires overload and oversize permits to move the prestressed concrete girders between the Port of Anchorage or an Anchorage fabricating yard and the job site. Unless otherwise permitted by the overload permit officer, any permit will be subject to the following limitations:

Maximum Single Axle Load	13,610 kg (30,005 lbs.)
Maximum Tandem Axle Load	22,680 kg (50,001 lbs.)
Maximum Triple Axle Load	31,750 kg (69,997 lbs.)
Maximum Four Axle Load	40,820 kg (89,993 lbs.)
Minimum Spacing of Axle Group	6.1 m (20 ft) center to center axle groups
Minimum Spacing Within Group	1.2 m (3.9 ft) center to center axles
Maximum Vehicle Speed on any Structure	5 km/h (3.1 mph)

The maximum axle loads tabulated above are applicable to hauling equipment with fixed axles only; variable load suspension (VLS) axles shall not be considered part of an axle group for purposes of this specification.

The Department will not permit the Contractor to haul girders on one tractor to traveling backwards on public roads or streets for one-way travel distances totaling more than 16 kilometers.

Vehicles shall cross structures at a constant speed with the load centered on roadway and no shifting of gears. When crossing structures and the load exceeds 36,290 kg, a walking flagman shall precede the vehicle.

This overload allowance shall not apply to the transportation of construction materials other than precast prestressed concrete girders.

All overload permits are subject to seasonal load restrictions.

Routing shall be as prescribed by the Permit Officer. The Permit Officer may be contacted at (800) 478-7636 or (907) 345-7636.

The Contractor shall submit to the Engineer for review, alternate axle configurations and loading which may reduce the overload movement restrictions.
(01/08/97)R103M98

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, Maintenance of Seeded Areas; Subsection 621-3.04, Period of Establishment; Subsection 641-1.04, Storm Water Pollution Prevention Plan and Subsection 641-3.01, Construction Requirements, a letter of project completion will be issued by the Engineer. Project completion will relieve the Contractor from further maintenance responsibilities, except under Subsections 618-3.04, 621-3.04, 641-1.04 and 641-3.01, and will stop the count of Contract time but will not relieve him of any obligations under the Contract.
(7/30/99)R237M98

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

SECTION 106

CONTROL OF MATERIAL

Special Provisions

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

Buy America Provision. The Contractor shall 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 $2,500, 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.

The Contractor shall 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)S13

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 the Contractor discovers 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 the Contractor's 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: The Department has received the following permits on the Contractor's behalf:

1. Department of the Army, Corps of Engineers, Nationwide Permit 23, No. D-2000-0876, dated August 9, 2000, expires August 9, 2002.

2. Alaska Department of Fish and Game, Title 16 Permit No.:
   FG 00-II-0494 Amendment 1, Little Susitna River, dated December 6, 2000, expires December 31, 2001;
   FG 00-II-0495, Teddy Creek, dated September 22, 2000, expires December 31, 2001;
   FG 00-II-0496, Lake Creek Trib. #2, dated September 22, 2000, expires December 31, 2001;
   FG 00-II-0497, Lake Creek Trib. #3, dated September 22, 2000, expires December 31, 2001;
   FG 00-II-0498, Nancy Lake Creek, dated September 22, 2000, expires December 31, 2001;
   FG 00-II-0499, Lilly Creek, dated September 22, 2000, expires December 31, 2001;

3. Matanuska-Susitna Borough Special Flood Hazard Area-Development Permit, No. FHDP 2000-16, dated August 4, 2000.

4. U.S. Department of Transportation, Coast Guard Permit, No. 2-00a-17, dated December 27, 2000.

5. Alaska Coastal Zone Final Consistency Determination, No. AK 0008-07AA, dated September 18, 2000.

6. Alaska Department of Environmental Conservation, Letter of Non-objection, Storm Water Project No. 2021-WW-335-022, dated .

7. Alaska Department of Natural Resources, Land Use Permit, No. ADL 227838

Provide all necessary information to comply with the US Environmental Protection Agency National Pollutant Discharge Elimination System (NPDES) General Permit for Alaska to discharge storm water from the construction site. Refer to Section 641, Erosion and Pollution Control for requirements for this permit.

107-1.08 RAILWAY-HIGHWAY PROVISIONS. Delete the first paragraph and substitute the following: If the Department determines that the construction of the project will require that materials be hauled across the tracks of any railway, the Department will make arrangements with the railway for the use of such crossings. The Contractor shall obtain permits from the Railroad if additional temporary crossings are needed.
(2/18/99)R239

Delete the second paragraph and add the following:

1. Definitions of Terms.

   A. Railroad's Chief Engineer – the person employed by the Railroad as head of its Engineering Department

   B. Field Representative – the person authorized to act for the Chief Engineer and the Alaska Railroad Corporation.

   C. ARRC Representative – the person appointed to act for the Chief Engineer and the Alaska Railroad Corporation, on site during field operations. All authority given to the Chief Engineer will be assigned to this person regarding project decisions/actions.

D. Facility – any improvements owned by the Department which are to be placed on Railroad property in accordance with a written permit executed by the Railroad and the Department.

E. Railroad – the Alaska Railroad Corporation, P.O. Box 107500, Anchorage, Alaska 99510-7500.

F. Railroad Property – all lands owned or withdrawn for the use of the Railroad, in and including the track right-of-way and communications pole right-of-way.

G. Trackwork – all work on the line from the top of subgrade to the top of rail, including geotextile, when required.

H. Track Materials – all hardware, excluding signals and controllers, associated with the running of a railroad

I. Contractor – any agent of the Permittee, including Contractors or subcontractors employed to construct, reconstruct, operate and /or maintain the Facility. The term "Contractor" shall be synonymous with the term "Permittee" when the Permittee performs the construction, reconstruction, operation and/or maintenance of the facility with its personnel.

J. Permit Area – the space on ARRC property, which is or will be, occupied by the Facility plus reasonable working area and reasonable ingress and egress to the Facility.

K. Permittee – the person, company or Governmental agency to whom the right to enter upon ARRC property was given in the form of written executed by the ARRC and Permittee.

2. General Requirements.

A. All construction, reconstruction, operation and maintenance on the Railroad Property shall be performed in compliance with these specifications.

B. Failure to comply with these specifications shall result in the suspension of all work on Railroad Property.

C. All negotiations between the Railroad and the Contractor shall be handled through the Department.

D. All work on or about the Railroad Property shall be performed by experienced personnel in a safe and workmanlike manner in keeping with the approved Railroad practices, and as specified herein. Railroad traffic and property shall be protected at all times.

E. The safety and continuity of the operation of the traffic of the Alaska Railroad Corporation (ARRC) shall be of first importance and shall be at all times protected and safeguarded. The Contractor and his subcontractors shall be to perform and arrange their work accordingly. The Railroad's Field Representative shall decide all matters involving the safety of the Railroad facilities and the operation of its railroad. The approval of the Railroad's Field Representative, when given, shall not be considered as a release from responsibility or liability for any damage which the Railroad may suffer or for which it may be liable, as a result of the acts of the Contractor, its subcontractors or employees.

F. Roadway Worker Protection: The Contractor must develop a plan for compliance with Federal Roadway Worker Protection ("RWP") regulations (49 CFR 214). The Contractor shall submit the plan for review by the Railroad before any work within 100 feet (33 meters) of any track. The Contractor and the Railroad shall reconcile the plan with Railroad rules for RWP (ARRC Rule 58). The subsequent final RWP plan, when approved by the Railroad, shall apply to all the Contractor's personnel, subcontractors and other site workers.

G. Bridge Worker Safety Standards: For construction of a railroad bridge, the provisions of 49 CFR 214 regarding bridge worker safety apply. The Contractor must comply with this safety standard. The Contractor shall submit a plan to the Railroad to demonstrate compliance with this rule prior to beginning any bridge work.

H. Whenever in the opinion of the Railroad's Field Representative, the construction may cause a hazard to the safe operation of the Railroad, he may place at the site of the work the required number of qualified employees to protect the Railroad's operation. The providing of such employees and such other precautions as may be taken shall not relieve the Contractor and its contractors from liability for the payment of damages caused by their operations. The Railroad shall be the sole judge of necessity as to the number and classification of employees required. All Railroad cost and expense for providing such employees shall be collected from the Contractor, except for flagging

which shall be paid for as described in Subsection 107-1.08.6, b Flagging Protection and Protection of Railroad traffic.

I. The Contractor shall be responsible for maintaining sight triangles at all railroad crossings within the project limits and at any railroad crossing outside the project limits that is designated and used as an alternative route for traffic. Site triangle shall be maintained free of vegetation and other obstructions within the area designated by the Chief Engineer on a crossing by crossing basis.

3. Field Representation. The Railroad shall furnish a full-time Railroad Representative who will have the authority to act for the Chief Engineer and the Alaska Railroad Corporation during the periods of construction when the Contractor is working within 20 feet or 6 meters of the track in use for train traffic. The Railroad Representative will inspect the tracks at all crossings, and monitor flagging, lighting, clearances, etc., when necessary. The Railroad Representative will work directly with the Engineer. The decision of the Railroad Representative in matters pertaining to Railroad operations and safety shall be final.

4. Insurance Requirements.

A. The Contractor shall comply with all insurance requirements and conditions specified under Subsection 103-1.05, Insurance Requirements, except that the following minimum limits shall apply for Comprehensive or General Liability Insurance:

Bodily Injury - $5,000,000 each occurrence
Premises Operations
Independent Contractors
Products
Completed Operations

Property Damage - $5,000,000 each occurrence
Premises Operations
Independent Contractors
Products
Completed Operations

B. Prior to commencement of work on Railroad Property, the Contractor shall provide evidence to the Railroad, Protective Liability insurance (Alaska railroad as insured) with the following limits:

Bodily Injury - $5,000,000 per occurrence
Property Damage - $5,000,000 per occurrence

5. Notice. The Contractor shall give written notice and schedule to the Department and the Field Representative not less than 10 days in advance of the commencement of any major work on Railroad Property, in order that the necessary arrangements may be made for the protection of the Railroad's operation.

6. Flag Protection and Protection of Railroad Traffic.

A. Whenever Railroad flag protection is required, it will be provided by the Railroad. Railroad flag protection is to insure the safe movement of trains and other rail traffic and shall be done in strict accordance with the Railroad rules on flagging. The Alaska Railroad requires 48 hours minimum advance notice to schedule flagging.

B. The Railroad will, during the progress of the work, utilize as many qualified flag people as in the opinion of the Railroad may be required for the adequate protection of the Railroad traffic.

C. Vehicles and other construction equipment shall not be operated or parked closer than 20 feet or 6 meters from center line of any track without Railroad flag protection provided in accordance with Item a. above. All work with in 20 feet or 6 meters of the track requires Railroad flag protection in accordance with the Railroad's rules on flagging and shall stop when a train passes. In addition, any work that could come within 20 feet or 6 meters of the track will stop when trains pass. For example, crane or pile driving activities will stop when trains pass if the possibility exists that a boom or suspended load could come within 20 feet or 6 meters of the tracks. Pile driving shall not be done when trains are passing the work site.

D. The Contractor shall arrange with the Railroad to keep itself informed on the time of arrival of all trains and shall stop any operations or its subcontractor's operations which might be or cause a hazard to the safe passage of the train past the site of the work from ten (10) minutes before the expected arrival of the train until it has passed.

7. Train Delays.

A. All work on Railroad property shall be conducted in such a manner as to prevent delays to trains or other rail traffic operated by the Railroad.

B. The ARRC will provide a weekly forecast of train traffic and the ARRC flagmen will provide daily updates of anticipated train traffic. Under no circumstances will the ARRC be liable in any way for delays to the Contractor's work created by any changes or deviations form anticipated train schedules.

ANTICIPATED WORK WINDOWS DURING CONSTRUCTION

1) ARRC Track Maintenance Work Window: Section and summer work crews may need access into the work area to perform routine track maintenance work and scheduled summer major track replacement work. The routine track work is performed as necessary for the safe passage of trains. Railroad on-track equipment also travels through the project as needed.

2) Train Traffic: The track through the project is very active. The approximate number of trains in a 24 hour period is as follows:

Summer Season – (May 6 to September 24, 2001) Approximate Daily Trains - 2 or 3 Passenger Trains, ARRC also charters passenger trains, which may run on any day. Up to 6 Freight Trains and 1 Coal Train and Up to 2 Work Trains.

Shoulder – (April 1 to May 5 & September 25 to October 28) Approximate Daily Trains - Up to 2 passenger trains, ARRC also charters passenger trains, which may run on any day. Up to 6 Freight Trains and 1 Coal Train and 1 Work Train.

Off Season – Approximate Daily Trains Up to 2 Passenger Trains per Week, ARRC also charters passenger trains, which may run on any day. Up to 6 Freight Trains and 1 Coal Train and 1 Work or Snow Service Train.

3) Tracks out of Service: The work shall be planned to minimize track service outages.

Prior to track outages, the Contractor will submit a closure plan to the Railroad. The plan shall establish the work to be accomplished, the equipment,

manpower and other resources required, and schedule. Once agreed to by the Railroad, the Contractor shall follow the plan. The Railroad reserves the right to assume control of the work to reestablish rail service if the schedule is not met. The Contractor will bear all costs and damages, which may result from failure to meet the closure schedule, in addition to the train delay charges provided for in the contract.

C. Should any of the Contractor's or subcontractor's actions or activities cause delays to trains or other rail or water traffic, the agreed amount of liquidated damages shall be at the following rates and shall be collected form the Contractor:

Passenger Trains	$50 per minute for each delay, $3,000 minimum charge.
All other trains and rail traffic	$50 per minute for each delay over five minutes. $1500 minimum charge.
Rail barges, train-ships or other connecting carrier vessels	No charge for delays of an hour or less. $1,000 per hour for each hour or any part of an hour thereafter, with a minimum charge of $6,000.

D. Delay time will be taken from the train sheet in the Railroad Dispatcher's Office, in Anchorage, (265-2649) for all delays and such train sheet shall be the official document by which the length of time a train is delayed will be determined. If another crew is needed to relieve the original crew, the charge shall also apply to the second crew. If such delay causes a water carrier to miss a sailing, the liquidated damage computation of time covering the period of time to the next possible sailing time shall be in addition to the length of time determined by said train sheet.

8. Protection of Railroad Communication Lines.

A. All work on Railroad Property shall be conducted in such a manner as to protect the Railroad's communications facilities at all times from outages resulting directly or indirectly from the Contractor's or his subcontractor's operations.

B. Should any of the Contractor's, or his subcontractor's operations cause outages to said communications facilities, the agreed amount of liquidated damages shall be as the following rates and shall be collected from the Contractor:

Open Wire communications circuits	$1.00 per minute per circuit

Communication cable	$5.00 per minute per cable

C. A minimum charge of $250 will be made for each outage plus the total repair costs. The outage time shall be that as established by the Railroad's Test Board, Anchorage.

D. There shall be no equipment worked or excavation within 15 feet or 4.6 meters of any Railroad communication pole guy, anchor, or other communications apparatus unless authorized in advance by the Railroad Field Representative.

E. Fiber optic cables exist adjacent to the track throughout the Railroad system. Individual fiber optic companies should be contacted to locate their facilities on Railroad property.

9. Railroad Crossings and Haul Routes.

A. Whenever automatic railroad crossings signals are in the permit area, these signals must remain in operating condition at all times. If, as a result of the Contractor's activities on the facility, the signals become inoperable the crossings shall be continuously protected in accordance with Subsection 107-1.08.6 until the signals are again operable.

B. Temporary road crossings may be installed provided the Contractor has acquired from the Railroad a temporary road-crossing permit for said crossing. The temporary crossing will be constructed by the Contractor and coordinated with the Alaska Railroad. The Contractor shall notify the Alaska Railroad, in writing, at least two weeks in advance of need, of the date and exact location for the temporary crossing.

C. When the temporary road crossing is in use, Railroad flag protection shall be provided at all times. See Subsection 107-1.08.6 for specifications.

D. When a temporary road crossing is not in use the Contractor shall provide suitable barricades (gates with padlocks, posts driven into the ground, etc.) to prevent vehicular access to the crossing.

E. When not in use during the winter season, the temporary road crossing shall be removed. Upon completion of the work or termination of the crossing permit, the temporary crossing shall be removed and the area restored to its original condition.

F. The flange ways of all road crossings used by the Contractor or subcontractor as haul routes or temporary road crossings shall be kept clean and free of gravel at all times and shall otherwise be maintained to the satisfaction of the Field Representative.

G. All haul routes and access roads within the Railroad property shall be reviewed and approved by the Field representative. Operations on these routes may be suspended in accordance with Subsection 107-1.08.6,d.

10. Underground Facilities.

A. All underground utilities, including culverts, pipelines and underground power and communications lines, on Railroad property shall conform to the current American Railroad Engineering Association (AREA) / American Railroad Engineering and Maintenance-of-way Association (AREMA) Specifications.

B. Unless another method is authorized in advance by the Field Representative, all underground facilities shall be installed under tracks and roads by boring, jacking, or tunneling. The proposed plan for boring, jacking or tunneling shall be approved by the Field Representative prior to commencing the operation. All boring, jacking or tunneling headings shall be continuously protected against any loss of ground material by shoring and/or cribbing as necessary.

C. Boring, jacking and tunneling shall be done under Railroad tracks only when Railroad flag protection is provided in accordance with subsection 107-1.08.6

11. Open Trenching.

A. Only when authorized in advance and in writing by the Field Representative shall any portion of the track be removed to allow trenching for installation of the facility.

B. If allowed to open trench, the track may be removed from service only at the time authorized by the Field Representative and shall be restored to service within the time period specified. Should the track not be restored to service within the time period specified, the agreed amount of liquidated damages shall be at the rate specified in the written authorization allowing the open trenching or liquidated damages in accordance with subsection 107-1.08.7., whichever is greater, and shall be collected from the Contractor.

C. All work on track materials shall be accomplished by qualified track persons.

D. Only that portion of the track structure necessary to excavate, stockpile and install the facility shall be removed. All track material removed shall be handled, stockpiled, and relaid in a manner as to avoid damage. Any material, which is damaged, shall be replaced by the Contractor at his own expense.

E. The backfill of the trench under the track and in the roadbed prism shall be of the same type of material as taken out, except the top 2 feet or 0.6 meters shall be clean pit run gravel. Backfilling and compaction in the area affecting the roadbed prism shall be in accordance with the requirements of Section 204, Structure Excavation for Conduits and Minor Structures.

F. The ballast used in replacing the track shall be equal in depth and quality to that which was removed. The track shall be relaid and brought to original grade in accordance with standard Railroad practices.

12. Excavations.

A. Unless authorized in advance by the Field Representative, the top of any excavation shall not be within 20 feet or 6 meters of center line of any track.

B. No water shall be allowed to stand in open excavations in the track areas.

C. Bridging and shoring shall be adequate to safely carry Railroad traffic and the decision of the Railroad pertaining to same shall be final.

D. All open excavations shall be continuously protected by flags, barricades, or watchmen as directed by the Field Representative.

E. No excavation shall be left open more than three days, unless authorized by the Field Representative.

F. The Railroad embankment, and cut slopes, shall not be disturbed any more than necessary to accommodate the construction and shall be left in a stabilized condition.

G. Railroad ditches, culverts and roadways shall be kept clean and free of rock, gravel, construction debris and equipment at all times.

13. Use of Explosives.

A. The use of explosives shall be accomplished in compliance with all applicable Federal, State and local laws and ordinances regarding the same.

B. No blasting of any kind will be permitted unless the Contractor thoroughly safeguards the movement of trains and other rail traffic and personnel in the area where such blasting is being conducted. Before blasting, Railroad flag protection in accordance with subsection 107-1.08.6 shall be provided on each side of the blast area by the Contractor. This flag protection shall not be removed until the track is inspected for damage from the blast.

C. The Contractor will notify the Railroad Chief Engineer or Field Representative and the Engineer of the each time of each blast at least two hours prior to a blast.

D. When blasting rock above and adjacent to the tracks, the rail shall be protected with mats on plates during blasting operations. All clean up work shall be completed in a manner that avoids damage to rails and track components. Any damage resulting from blasting operations or cleanup shall be repaired at the Contractor's expense. Any additional, delay to train traffic will be subject to liquidated damages in accordance with subsection 107-1.09.6

14. Snow Removal.

A. Snow removal operations shall be conducted in such a manner as to not place snow (1) upon the tracks of the Railroad, (2) where it interferes with the normal operation of the automatic crossing signals, or (3) impairs the visibility of either highway or rail traffic at the crossings.

B. Snow removal operations shall be conducted in accordance with subsection 107-1.08.6

15. Clean-Up.

A. At all times, all work and activities on the Facility shall be accomplished in such a manner as to keep the Railroad Property in a neat and orderly condition. Upon completion of work all equipment and unused materials shall be removed and the Railroad property shall be left in a neat and clean condition satisfactory to the Field Representative.

B. Should the Contractor or subcontractor fail to comply with this subsection, the Railroad may perform the required clean-up. All Railroad costs and expenses for performing this work shall be collected from the Contractor.

16. Payment Guarantee.

A. The Department shall withhold 10 percent of the contract price or $10,000, whichever is smaller, from the final payment to apply against damages or other direct costs which may be assessed by the Railroad as a result of the Contractor's operations.

B. The amount withheld above shall not be release until after the Department has received a written statement from the Chief Engineer agreeing to release the payment.

(3/8/01)

107-1.11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE. Add the following: If the Contractor requires water for any construction purpose from a non-municipal water source, the Contractor shall 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.
(7/30/99)R7M98

Add the following: A bald eagle nest is located at Station 40+422.5, 94.4 LT of centerline. Upon project completion, the tree will be approximately 79.2 meters from the final work limits at that location. To avoid violations of the Bald Eagle Protection Act of 1940, and the Migratory Bird Treaty of 1918), the project construction activities shall be conducted in accordance with the following measures:

1. In order to permit eagles to initiate nesting, no construction activities shall take place within 200 meters of the nest from February 1 to May 31, and this period shall continue to August 31 if the nest contains a nesting pair of eagles. If the nest is not occupied by May 31, construction activities may proceed provided the nest tree is not jeopardized.

2. Blasting is prohibited within 0.8 kilometers of the nest from February 1 to May 31. If the nest is occupied, this prohibition will continue to August 31.

It is possible some project activities, including land clearing and earth moving equipment operations, can be conducted within the prescribed distances during the restricted time periods as stated above without disturbance to the occupied nest. This determination will be based on visual observation of the eagle nest tree and eagle activity in the area.

If the Contractor elects to attempt land clearing or earth moving equipment operations within 200 meters of the nest during the restricted time periods, he shall provide 2 weeks notice to the Engineer and nest monitoring by a qualified individual. The nest monitor shall observe the nest and eagles, and determine whether the construction activities are causing a disturbance to the nesting eagles. If any evidence of disturbance is noted, construction activities will be modified as required to comply with the act. For those unfamiliar with eagle behavior, such behavior includes alarm calls, flushing birds from the nest or perch, and aggressive behavior by the birds.

The Contractor shall be responsible for the nest monitoring. The monitor shall be obtained through a specialty professional service contract, as approved by the Engineer. The nest monitor shall have a Bachelor of Science degree in Biology, Environmental Science, or Ecology and currently working in that profession, or have 2 years experience monitoring and observing eagles or studying their habitat. The nest monitor shall work independently of the Contractors operations and have reporting authority to the Engineer.

If eagle activity halts heavy construction activity in the area, the completion date of this project may be changed. No additional compensation will be made to the Contractor if this occurs.

If additional nest trees are discovered within the vicinity of the project site, the U.S. Fish and Wildlife Service must be notified immediately by calling (907) 260-2809 or (907) 271-2780, prior to any construction activities, for further site evaluation.

107-1.16 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICE. Add the following before 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 3 m of an overhead electrical line.

2. Operations anticipated to be within 0.9 m 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 3 m 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 4.6 m of an overhead line.

Provide 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. (7/30/99)R170M98

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 25A301
EEO-1 Certification	Form 25A304
DBE Subcontractable Items	Form 25A324
DOT&PF Training Program Request	Form 25A310
Training Utilization Report	Form 25A311
Contact Report	Form 25A321A
DBE Utilization Report	Form 25A325C
Summary of Good Faith Effort Documentation	Form 25A332A
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.

In addition to the reports required in the above references, the Contractor shall submit a copy of Form CC-257 to the Department by the 15th of each month of the current construction season, reflecting the composition of the previous month's workforce. This information must also be made available, upon request, to the U.S. Department of Labor, Office of Federal Contract Compliance Programs. (8/13/98)S80

SECTION 108

PROSECUTION AND PROGRESS

Standard Modification

108-1.01 SUBLETTING OF CONTRACT. Delete the last paragraph under Item 4. and add the following to Item 5.: The Contractor shall ensure that the required prompt payment provisions of AS 36.90.210 are included in all Subcontracts.
(10/28/99)M 70

Special Provisions

108-1.03 PROSECUTION IN 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 Items 5 of the first paragraph and substitute the following:

5. The submittals identified under subsection 641-1.03, Submittals.
(5/16/00)R160M98

108-1.06 DETERMINATION AND EXTENSION OF CONTRACT TIME. Delete the 2nd paragraph under Item 3 "Suspension and Extension of Contract Time," and substitute the following:

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

1. Those instances where the Engineer orders suspension of the work for unsafe conditions,

2. For failure by the Contractor to carry out contractual provisions, or

3. 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.(2/15/01)R242M98

SECTION 109

MEASUREMENT AND PAYMENT

Standard Modification

109-1.05 COMPENSATION FOR EXTRA WORK. Under Item 1, Labor: Delete "(supported by proof of rates).

Delete Subparagraphs d, e, f, and substitute the following:

d. plus Workers' Compensation at 8% of a. The actual net rate will be used only when it exceeds 10% and when proof of rates are submitted within 30 days of the completion of the extra work.
(5/31/00)M90

e. Plus either subsistence and travel allowances, or prorated camp costs

f. Plus 35% of the sum of a, c, d, and e.

Delete Item 5. and substitute the following:

5. Work by a Subcontractor. The Contractor will receive a 5% markup on the total time and materials work defined in 1 through 4 above which is performed by an approved Subcontractor or owner-operator. This markup will be for administrative expenses incurred in connection with the work. No percentage will be paid on work covered under bid items in the original Contract. No percentage over the amount covered above will be paid if the work is done by a lower tier Subcontractor.

(02/08/01)M71

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.

Under Item 3, Equipment, add the following to the second paragraph: The rental rate area adjustment factors for this project shall be as specified on the adjustment maps for the Alaska - South Region.
(1/27/00)R14

PARKS HIGHWAY, MP 57-67
Houston to White's Crossing
Project No. IM-0A4-1(14)/52312

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. This retainage will be released by the Engineer upon receipt of current schedules from the Contractor.

Failure to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Alaska, as indicated under Section 641, Erosion and Pollution Control, will result in withholding an amount equal to 5 percent of the total amount earned from all subsequent progress payments. This retainage will be released by the Engineer upon satisfactory completion of the requirements of the permit.
(9/21/92)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 Alaska, at a location acceptable to the Engineer.
(9/1/89)R16

Add the following Section:

SECTION 120

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

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. The Contractor shall 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 DOT&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, the Contractor shall 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, the Contractor shall 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 cannot 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 USDOT.

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 either 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 effect 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, 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, the Contractor shall 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 USDOT.

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, the Contractor shall immediately notify the Engineer of the default and the circumstances surrounding the default.

The Contractor shall 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)S33

SECTION 201

CLEARING

Special Provisions

201-2.01 CLEARING. Add the following. Clearing shall be will be required for the utility relocation in the locations as defined in the 105 SECTION, under 105-1 .06 COOPERATION WITH UTILITIES.

201-4.01 BASIS OF PAYMENT. All the clearing required in the utility relocation locations shall be measured and paid for under 201(1A) Clearing.

SECTION 202

REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Special Provisions

202-1.01 Add the following: This work shall also include the removal of structure foundation, abandonment of groundwater wells and septic systems, and abandonment of an oil/gas well.

202-3.01 GENERAL. Add the following: The removal of buildings, foundations and structures shall include removal of Utility lines, sidewalks and any other attached appurtenances.

The abandonment of water wells and septic systems shall be accomplished in accordance with Department of Environmental Conservation (DEC) regulations. Abandonment of oil/gas wells shall be accomplished in accordance with Alaska Regulation 20AAC25.105, Plugging, Suspension, and Abandonment of Wells.

Materials that are to be salvaged shall be carefully removed and delivered to a site as directed by the Engineer. A disposal site for non-salvageable materials shall be provided by the Contractor.
(2/2/000)R112M98

202-3.02 MAIL BOXES. Add the following: The construction of mail box installations shall use new posts and mail boxes. Mail boxes shall be United States Postal Service approved, either traditional or contemporary design, having a minimum length of 530 mm, minimum width of 200 mm and minimum height of 270 mm. Existing posts and foundations shall be removed with remaining holes backfilled to the level of surrounding ground.
(4/18/00)R74M98

202-3.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES. Add the following: The Contractor shall excavate and remove the underdrain pipes designated on Plans which are approximately 2.5 - 4 meters below existing ditch bottom. Trenches shall be backfilled with excavated material.

Add the following: This work includes removing and disposing of the existing Little Susitna River Bridge, No. 240. The Little Susitna River Bridge is 68 meters long, 2-lane, 3-span structure. The 9-meter wide reinforced concrete deck is supported by steel girders. The pier caps are supported by steel corrugated piles. Abutments are reinforced concrete on piling. The original Construction Plans may be viewed at DOT&PF Central Region Construction Office.

Remove all piles to a minimum of 0.6 meters below the finished ground. Steel girders shall be salvaged and delivered to the State Maintenance Yard at 289 Inner Springer Loop Road in Palmer, Alaska. All concrete attached to the steel girders shall be removed prior to delivery to the State. The Contractor shall remove, handle, and transport the steel girders in such a manner that they are not damaged. The Contractor shall repair at his own expense any damage to the steel girders due to his removal operations.

The Contractor shall notify Larry Rundquist at National Weather Service (NWS), 266-5150, 2 weeks prior to bridge demolition is to begin. The existing wire gauging station will be salvaged by NWS personnel.

The Contractor shall submit to the Engineer for approval a Demolition Plan with Working Drawings showing the method they propose to follow in the removal of the structures. The use of explosives is prohibited. Demolition of the structure shall not commence until approval is given by the Engineer in writing. The Demolition Plan shall be submitted to the Engineer for analysis 2 weeks prior to commencing any demolition activities. The receipt for analysis by the Engineer of the Contractor's Plan does not constitute approval for implementation nor the accuracy of its implementation.

The Demolition Plan shall show support bents, bracing, guys, lifting devices, lifting attachments, the sequence of demolition, the type of equipment to be used, the location of cranes, the location of support or lifting points, and the weights of structure parts being removed. The Plan shall also detail how debris is to be controlled. Concrete and other types of debris shall be kept out of the river by metal nets or other means. The Demolition Plan shall show all stages of demolition work.

No waste site has been provided for the disposal of the demolished material. All material to be removed from the existing structures, except as noted otherwise in the Special Provisions, shall become the property of the Contractor and shall be disposed of in a Contractor furnished disposal site, or buried in the embankment as authorized by the Engineer.

202-3.05 REMOVAL OF PAVEMENT, SIDEWALKS, AND CURBS. Add the following: All pavement from the existing highway and approaches being reconstructed, and areas of obliteration, shall be removed. Pavement removed shall be processed and sized so that 98 percent of the materials pass the 37.5 mm sieve. This material shall be hauled and stockpiled at the State Maintenance Yard, MP 71, Willow, Alaska. Stockpiles shall be built using conveyor systems. No equipment shall operate on the stockpiles.

202-4.01 METHOD OF MEASUREMENT. Add the following: The removal of underdrains will be measured by the meter of underdrain pipe removed. Removal of cleanouts shall be considered subsidiary to the removal of underdrain.

202-5.01 BASIS OF PAYMENT. Add the following:

Item 202(1). Payment will include all labor, equipment and materials necessary to remove and dispose of the Little Susitna river bridge, concrete deck, bridge rail, expansion devices, portions of abutment and wingwalls and miscellaneous hardware as shown on the Plans and as accepted by the Engineer. These bridge elements shall become the property of the Contractor.

Add the following Pay Item:

Pay Item No.	Pay Item	Pay Unit
202(20)	Removal of Underdrain	Meter

SECTION 203

EXCAVATION AND EMBANKMENT

Special Provisions

203-1.01 DESCRIPTION. Add the following: This work also consists of placing porous backfill in the embankment, as shown on the Plans.

203-2.01 COMMON EXCAVATION. Add the following: Common Excavation shall also include grubbing in accordance with Section 201, Clearing & Grubbing, Removal of Surcharge Material, and Removal of Detour Material.

203-2.05 BORROW. Add the following: Porous Backfill for embankment shall conform to the requirements of Subsection 703-2.10, Porous Backfill Material.

203-3.01 GENERAL. Add the following to the sixth paragraph: Prior to obliterating the existing roadway, remove the existing pavement and dispose in accordance with Subsection 202-3.05, Removal of Pavement, Sidewalks, and Curbs. Existing embankments outside the new catch slopes shall be graded to provide drainage away from the new embankment.
(2/28/01)R177M98

Add the following to the eighth paragraph after the sentence ending with: At approved locations.: The Department reserves the right to approve or disapprove all proposals regarding the disposal of unsuitable or excess usable material within the right-of-way to insure the best interests of the State. This includes not only specific sites, but also general slope flattening.

Add the following: All material encountered anywhere in the excavation meeting the requirements of Selected Material, Type A to Type C, shall be utilized for construction of the Selected Material layers on the project. No additional payment will be made for stockpiling or double handling of material for construction of embankments.

203-3.02 EMBANKMENT CONSTRUCTION. On Page 88, delete the first sentence of the second paragraph, and substitute the following: Place roadway embankment of earth materials in horizontal layers not exceeding 200 mm in thickness measured before compaction. Each layer of classified material shall have its joint offset from the joint below, longitudinally by 300 mm and transversely by 3 m.

Standard Modification

203-3.02 EMBANKMENT CONSTRUCTION. Delete the 11th paragraph in its entirety and replace with the following:

Place rock embankment in lifts equal to the average rock dimension. Restrict maximum rock dimension to 1 m. Distribute spalls and finer rock fragments to level and smooth each lift. Place succeeding lifts without damaging previously completed lifts. Dump rock on the lift being constructed and distribute by blading or dozing to minimize voids, pockets, and bridging and to form a dense, well-compacted embankment. Avoid placing rocks exceeding 200 mm within 600 mm of finished subgrade.

In the 12th paragraph, first sentence, delete the words "from excavation".

In the 12th paragraph, third sentence, insert the words "from excavation" after "wasted rock".
(02/08/01)M92

Special Provisions

Add the following: Where the Plans call for placement of selected material and excavation is required, the existing material may be left in-place if tests determine that it will meet the appropriate selected material requirements. Any reduction in excavation or Borrow quantities as a result of this condition shall not constitute a basis for adjustment in Contract unit prices except as provided for in Section 104 Scope of Work.
(2/9/00)R23M98

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 percent of the maximum dry density as determined by AASHTO T 180, or ATM T-12. The Engineer will determine in-place field densities using ATM T-3, or ATM T-11.

The Engineer will determine the maximum dry density of free-draining, non-plastic, cohesionless materials with less than 10 percent by weight passing the 0.075-mm sieve using ATM T-12. (For some materials it may be necessary to perform both ATM T-12 and AASHTO T 180, in which case the highest maximum dry density is used.) For materials with greater than 80 percent by weight

passing the 4.75 mm sieve, AASHTO T 180, Method A with the plus 4.75 mm material removed and treated as oversize will be used. AASHTO T 180, Method D will be used for materials with greater than 60 percent by weight passing the 19.0 mm sieve with the plus 19.0 mm material removed and treated as oversize.

AASHTO T 180 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 4 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 percent. 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.
(4/7/00)R193M98

Compact all embankment within 6 meters of a bridge abutment full width to not less than 100 percent of the maximum density. All material used within this zone shall be graded to pass the 75-millimeter sieve.
(2/1/00)R113M98

203-4.01 METHOD OF MEASUREMENT. Add the following: No deduction from the excavation quantities will be made for pavement removed under Item 202(2), Removal of Pavement, or for grubbing; grubbing will be subsidiary to Item 203(1), Common Excavation.

Porous Backfill for embankments will be measured by the megagram in accordance with Section 109, Measurement and Payment.

203-5.01 BASIS OF PAYMENT. Add the following: Grading and placement of material used within 6 meters of bridge abutments will not be paid for directly, but will be subsidiary to Item 203(6A) Borrow, Type A.
(2/1/00)R113M98

Add the following Pay Items:

Pay Item No.	Pay Item	Pay Unit
203(25)	Porous Backfill for Embankment	Megagram

SECTION 205

EXCAVATION, BACKFILL, AND FOUNDATION FILL FOR STRUCTURES

Special Provisions

205-3.03 BACKFILL. Add the following: All backfill placed within 0.3 meters of a structural unit shall be graded to pass the 75-millimeter sieve.

205-5.01 BASIS OF PAYMENT. Add the following: Grading and placement of material used within 0.45 meters of structural units, or as shown on the Plans, will not be paid for directly, but will be subsidiary to Item 203(6A), Borrow, Type A.
(7/24/95)R154M

Excavation for structures will not be paid for directly, but will be subsidiary to Item 203(1), Common Excavation.

SECTION 301

AGGREGATE BASE COURSE

Special Provisions

301-2.01 MATERIALS. Delete the second sentence of the first paragraph and substitute the following: The gradation of base course material shall conform to the requirements for Grading D-1.
(10/1/91)R116

301-3.01 PLACING. Add the following: Base course material used for the sidewalk and pathway foundation shall be placed with a "Layton box" or similar equipment capable of providing a specified depth with a uniform surface.
(9/1/89)R26

SECTION 401

ASPHALT CONCRETE PAVEMENT

Special Provisions

401-2.01 COMPOSITION OF MIXTURE - JOB MIX DESIGN. Add the following to the first paragraph after ATM T-17: (Version 01/93).

Delete the last sentence of the second paragraph on Page 114 and substitute the following: Tolerances will not be applied to the largest sieve specified.

401-2.03 ASPHALT MATERIALS. Change the last sentence of the first paragraph to read: When not specified, the grade of the asphalt cement shall be PG 52-28.

Delete the second paragraph and substitute the following: Asphalt cement may be conditionally accepted at the source. 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 Materials Engineer. Shipping documents shall include the following:

1. Manufacturer's 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.

401-3.09 PREPARATION OF AGGREGATES. In the first paragraph, delete AASHTO T-110 and substitute the following: ATM T-25.

401-3.14 JOINTS. Delete the last paragraph. 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 percent of the MSG of the panel completing the joint. Cut one minimum diameter 150 mm 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 ATM T-18.

401-3.15 SURFACE TOLERANCE. Add the following: The Engineer will measure the smoothness of the asphalt concrete pavement in all driving lanes with a California-type profilograph within 15 days after mainline paving is completed and all defects are corrected. No measurements will be taken in turn lanes, lane transitions, or within 8 meters of bridge abutments or matches with an existing pavement. The profilograph results (PrI) will be reduced and a price adjustment calculated in accordance with Subsection 401-5.01. Furnish required traffic control devices or flagging in accordance with Section 643.

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. Under Asphalt Cement, 1., add to the end of the second sentence: ..., or AASHTO TP 53.

Add the following paragraph to this Subsection: Longitudinal Joints. By the meter. 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 the third, fourth, fifth, and sixth full paragraphs on Page 122, and substitute the following: Samples taken for the determination of asphalt cement content will be taken from the windrow, at the end of the auger, or from 2 minimum diameter 200 mm core samples cut from each sublot. Asphalt cement content will be determined in accordance with ATM T-23, or AASHTO T 308, with the exception that the moisture content will be determined in accordance with ATM T-25.

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 ATM T-7. For asphalt concrete mixture samples, or cores, the gradation will be determined in accordance with AASHTO T 30 from the aggregate remaining after the ignition oven (AASHTO T 308) 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.

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 ATM T-7. For asphalt concrete mixture samples, or cores, the gradation will be determined in accordance with AASHTO T 30 from aggregate remaining after the ignition oven (AASHTO T 308) has burned off the asphalt cement.

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 minimum diameter 150 mm core is required for acceptance density testing only. Acceptance density testing will be in accordance with ATM T-18. Two minimum diameter 200 mm cores are required when acceptance asphalt cement content and/or gradation testing is done from cores. The cores will be tested separately and the results averaged to determine acceptance in accordance with Subsection 401-4.03.

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 900 megagrams.

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.

Delete the second paragraph and substitute the following: Temporary pavement will be paid for under Item 401(1), Asphalt Concrete, Type II, Class A. Temporary pavement will not be subject to the Asphalt Price Adjustment provisions of this Section.

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 meter. The accrued amount will be subtracted under Item 401(6), Asphalt Price Adjustment.

A separate price adjustment for pavement smoothness as measured in accordance with Subsection 401-3.15 will be calculated in accordance with Table 401-4 and applied under Item 401(6), Asphalt Price Adjustment.

TABLE 401-4

AVERAGE PROFILE INDEX (PRI) (MILLIMETERS PER 1,000 LANE METERS)	ADJUSTMENT TO ITEM 401(5), ASPHALT PRICE ADJUSTMENT, FOR PAVEMENT SMOOTHNESS
0 to 60	Add $335 multiplied by (61 -PrI)
61 to 94	No Adjustment
95 and greater	Deduct $335 multiplied by (PrI -94) but not to exceed $10,000

(9/18/00)R199M98

SECTION 501

STRUCTURAL CONCRETE

Special Provisions

501-1.01 DESCRIPTION. Add the following: This work shall also include the installation of incidental appurtenances associated with concrete structures. This work shall also consist of construction of cast-in-place concrete retaining walls as shown on the Plans.

Concrete surface treatments shall conform to the requirements of Section 514.

This work also consists of constructing expansion joints as shown on the Plans.

501-3.01 PROPORTIONING. Under 1. Determining Proportions and Batch Weights., delete the first sentence and substitute the following: Submit a mix design developed in accordance with ACI 211 and ACI 301, Section 4 to the Engineer for approval.
(7/6/99)R37M98

Add the following to Subparagraph 3, Using Fly Ash: Fly Ash (Class F) may be used only in the abutments of the bridges. Fly Ash shall not be used in the girders of the bridges on this project.

Fly Ash, Class C, shall not be used on this project.

501-3.02 BATCHING. Add the following to Item 5, Batching: Prior to batching, backspin all wash water from mixer.

501-3.06 PLACING CONCRETE. Under Item 9, Installation of Expansion Joints, e. Steel Joints, add the following: Steel shall conform to ASTM A709M, Grade 345W.

501-3.11 CONCRETE PLACEMENT IN PILES. When the Contract Plans and Specifications call for concrete to be placed in the piles the placement shall occur as follows:

1. Cleaning: Auger out any compacted dirt within the pipe pile due to the pile driving operation to the elevation as specified in the Contract Plans. Remove any water within the pile prior to placing the concrete or removing any dirt left within the pile. The maximum permissible water depth just prior to pouring concrete within the pipe piles shall not exceed 50 mm.

2. Placement: Place concrete continuously from bottom to top to avoid aggregate separation and to completely fill the pile without voids. Place concrete by pumping, tremie, or elephant trunks to avoid any segregation. Do not free-fall the concrete more than 1.5 meters.

501-4.01 METHOD OF MEASUREMENT. Add the following: The cast-in-place concrete walls to be measured by the square meter along the face of the wall, from top of footing to top of wall, in accordance with Section 109.

Expansion Joint will be measured by the number of meters as shown on the Plans.

501-5.01 BASIS OF PAYMENT. Add the following: Payment for Item 501(8) Cast-in-Place Concrete Walls will be full compensation for all labor, equipment, and materials required for construction of the walls, complete and in-place. Structural excavation, temporary shoring, reinforcing steel, and porous backfill required for cast-in-place walls will not be paid for separately, but will be subsidiary to Item 501(8) Cast-in-Place Concrete Walls.

Aesthetic fascia and graffiti protection for the retaining walls will be paid for under Section 514.

Add the following Pay Item:

Pay Item No.	Pay Item	Pay Unit
501(8)	Cast-in-Place Concrete Walls	Square Meter
501(18)	Expansion Joint	Meter

(7/5/95)R36M

SECTION 502

PRESTRESSED CONCRETE STRUCTURES

Standard Modifications

502-2.01 MATERIALS. In the second paragraph, delete the words "as determined by ASTM C 271"and substitute "as determined by ASTM D 3575, Suffix W, Method B".

502-3.01 PRESTRESSING METHODS. Delete the last four paragraphs.
(02/08/01)M93

Special Provisions

502-3.05 HANDLING. Add the following: The girders shall not be shipped until at least 7 days after release of prestress at which time the minimum concrete strength shall not be less than the 28-day strength called for in the Contract Plans.

Standard Modifications

502-3.06 PLACING. In the third paragraph, replace the words "place the grout" with "place grout conforming to Subsection 701-2.03 and".
(02/08/01)M 94

SECTION 503

REINFORCING STEEL

Special Provisions

503-1.01 DESCRIPTION. Add the following: This work shall include the epoxy coating of appropriate reinforcing steel bars. All reinforcing bars in the curb rails, within 200 millimeters of the deck surface, and other locations as noted in the Plans, shall be epoxy coated.

SECTION 505

PILING

505-1.01 DESCRIPTION. Add the following: The Engineer shall perform high-strain dynamic testing on the steel pipe pile at one abutment, one pier and optionally at another pier on Bridge Number 1923. After performing the test pile program as described below, the Engineer shall establish the installation and construction control criteria for Bridge Number 1923 which shall be applied to the service piles. All test piles and service piles for Bridge Number 240 and Bridge Number 1923 shall be driven at least to the minimum tip elevations shown on the plans.

There will be no high-strain dynamic testing performed on the piles for Little Susitna River, Bridge No. 240.

This item shall include any excavation or backfill within the steel pipe pile shell required before filling the shell with concrete to the elevations shown on the Plans. This item shall not include any work required to install reinforcing steel or place concrete in the steel pile shell.

Practical refusal is defined as Pile Refusal in Section 505-4.01, numbered paragraph 8 of these Special Provisions.

505-1.02 MANUFACTURED STEEL PIPE PILES. Manufactured steel pipe pile is defined as pipe pile that is produced at a facility where an electric fusion welder, electric resistance welder or seamless pipe operation is used in conformance with ASTM and API designations for commonly manufactured steel pipe pile, where this steel pipe pile can have lengths at least 9 meters long without a circumferential splice and where this manufacturing can be done routinely on a daily basis.

505-1.03 FABRICATED STEEL PIPE PILES. Fabricated steel pipe pile is defined as pipe pile produced at a facility where a variety of steel fabrication including roll forming and welding steel plate into pipe piles is performed, where this pipe pile is at least 19 mm in wall thickness, where this pipe pile is produced in conformance with API 2B or the American Institute of Steel Construction (AISC) Quality Certification Program ("Major Steel Bridge" with endorsement "F") and where this fabrication can be done on a daily basis.

Manufactured and Fabricated steel pipe pile shall conform to the following requirements:

1. ***The outside circumference of the steel pipe piling end shall not vary by more than 10mm from that corresponding to the diameter shown on the Plans.***

2. *The maximum allowable misalignment for adjacent steel pile edges to be welded shall be 0.1875 times the wall thickness, but nor more than 1.6 mm.*

3. *Steel pipe straightness shall conform to the requirements of API 5L, Section 7.6, "Straightness".*

4. *Welds shall be made by either an automatic fusion weld or an electric resistance weld process.*

5. *Twenty-five percent of each longitudinal, circumferential and spiral weld shall receive nondestructive testing (NDT) by either radiographic, radioscope, real time imaging systems or ultra sonic methods that are in conformance with the requirements of AWS D1.1. Records of this testing shall be made available to the Engineer upon request. The acceptance and repair criteria shall conform to the requirements of AWS D1.1, Section 6, for cyclically loaded nontubular connections subject to tensile stress. If repairs are required in a portion of the weld, additional NDT will be performed. The additional NDT shall be made on both sides of the repair for a length equal to ten percent of the length of the pipe outside circumference. After the additional NDT is performed, and if more repairs are required that have a cumulative length equal to or more than ten percent of the length of the pipe outside circumference, then the entire splice weld shall receive NDT.*

505-1.04 FIELD WELDING. Field welded pile splices, pile tips, pile anchors and other welded attachments to steel piles shall be performed by either flux core arc, shielded metal arc or submerged metal arc welding process. Perform welding in accordance with the current edition of AWS D1.1 "Structural Welding Code-Steel". Before welding begins, the Contractor shall have approved mill reports covering all pile steel used on the project, an approved welding procedure for the pile steel that was qualified in accordance with AWS D1.1 and proof that all pile welders have passed a qualification test in accordance with AWS D1.1. The submitted weld procedure and welder qualification test shall be for the same process as used on the project. All splices above and below in situ ground line (undisturbed), as defined by the Engineer, shall receive a visual inspection as specified in AWS D1.1 (Table 6.1) by a Certified Welding Inspector (CWI). All weld splices above or below in situ ground line (undisturbed) shall be inspected by a CWI using Ultrasonic Testing (UT) as follows: The UT shall be performed on 100% of the welded splice on 10% of all welds. The pass/fail criteria shall conform to AWS D1.1. If any of the tested welds fail the UT, an additional 10% shall be tested. If any of the additional 10% fail, then 100% of the remaining welds subject to UT shall be tested. The Contractor shall be responsible for providing all welder qualification records, welding procedure specification (WPS), WPS Test Records, CWI Inspectors (Fabrication/Erection), daily weld inspection reports and testing.

505-2.01 MATERIALS. Add the following: All pipe piles for the Little Susitna River bridge shall be fitted with a weldable high-strength cast steel driving shoe ***conforming to AASHTO M103 Grade 485-275***, flush with the outside of the pipe.

505-3.01 TEST PILES. Add the following: There shall be high-strain dynamic testing performed on at least two piles at Bridge Number 1923. The Contractor shall drive a test pile at Abutment 1 and at Pier 3, and if required by the Engineer, the Contractor shall drive a test pile at Pier 4. Dynamic measurements will be taken by the Engineer during the driving and re-strike testing of the test piles.

WHITE'S CROSSING (BR. NO. 1923)

TEST SITE	TEST PILE TYPE	REQUIREMENTS
Abutment 1	Plumb	Pile test is required
Pier 3	Plumb	Pile test is required
Pier 4	Plumb	Pile test may be required

The initial pile driven at each test location shall be a test pile. If the immediate results from the high strain dynamic testing on the test pile are acceptable to the Engineer, the Contractor may drive the remaining pier piles. Further dynamic pile tests may be required on other piles or at other test sites if in the opinion of the Engineer, performance of the hammer-pile-soil system changes from that of the test pile program. For the dynamic testing of the piles, the Contractor shall provide the Engineer reasonable and safe means of access to the test piles for attaching instruments after the pile is placed in the leads. It is estimated that the Engineer will need approximately 4 hours maximum to set up and install the dynamic test equipment. The Engineer will furnish the equipment, materials, and labor necessary for drilling holes in the test piles for mounting the testing instruments. The testing instruments will be attached near the top of the pile with bolts placed through drilled and threaded holes. If necessary, the Contractor shall furnish electric power for the setup and use of the high-strain dynamic test equipment. The power supply at the outlet shall be at least 10 amp, 115 volt, 55-60 cycle, AC only. Delays resulting from installation of the high-strain testing equipment shall not be a basis for a claim.

The Engineer will use the pile dynamic test data to verify assumptions of the original wave equation analysis, to confirm pile tip elevation, pile bearing capacity, hammer system efficiency, pile stresses during driving, soil resistance distribution on the pile, and pile integrity. The test piles shall remain as part of the permanent structure after testing, analysis, and recommendations are completed.

The test pile program with high-strain dynamic testing shall consist of the following tasks:

1. For the test pile program, 30 calendar days prior to driving the first test pile, the Contractor shall submit to the Engineer the necessary pile driving equipment information as shown on the Pile Driving Equipment Data Form. The Pile Driving Equipment Data Form will be provided by the Engineer. A minimum of 14 calendar days prior to driving the first test pile, the Contractor shall attend a meeting with the Engineer to evaluate and discuss the pile test program. The Contractor shall give the Engineer at least 7 calendar days advance notice that a test pile will be driven.

2. The Engineer shall perform an initial wave equation analysis based on subsurface soil conditions, pile capacity, pile type, and information from the Pile Driving Equipment Data Form.

3. The Contractor shall drive the test piles as specified above and to the tip elevations shown on the Plans, and to criteria established by the initial wave equation analysis. Dynamic pile testing will be performed for the total length of each test pile. If an obstruction is encountered during driving of the test pile, that pile will not be considered a test pile and the next pile driven at the test site shall be designated as a test pile. The dynamic pile testing shall be performed in accordance with these Special Provisions and ASTM D 4945-96.

4. The Engineer shall evaluate the test pile at each test sites by re-striking the test piles a minimum of 48 hours after completion of driving the test piles to the specified tip elevation. The re-strike of the test piles shall be performed by the Contractor with simultaneous testing by the Engineer using the pile dynamic analyzer.

   The re-strike testing procedure shall be performed with a warmed up hammer, the energy or fuel setting adjusted to the maximum position and shall consist of striking the test pile with 60 consecutive blows or until the pile penetrates an additional 75 millimeters, whichever comes first. In the event the pile movement is less than 25 millimeters during the re-strike, the re-strike may be terminated after 25 blows, or even fewer blows if the pile is at practical refusal.

505-3.03 PILE BEARING VALUES. Delete this Subsection in its entirety and substitute the following: All piles shall be driven to a depth at which they will satisfy the required ultimate bearing capacity. The required ultimate bearing capacity for all the piles at both bridges on this project is the ultimate pile load as indicated in the Structural Foundation Engineering Report and on the bridge plans. The pile driving criteria for both bridges on this project shall be determined by the Engineer using a Wave Equation analysis and on Bridge Number 1923, results from the high-strain dynamic testing. The Wave Equation computer program to be used on this project shall be the "GRLWEAP" program using the GRLWEAP industry standard hammer input data and data from the high-strain

dynamic testing. Determination of the ultimate bearing capacity of production piles may include re-strike testing as described above and as directed by the Engineer.

505-3.05 MINIMUM PENETRATION. Add the following: The Contractor shall furnish piles of sufficient length to be driven to: 1) the minimum tip elevation, 2) to meet the driving criteria as specified herein, and 3) to provide the required cut-off elevation. Pile lengths shall be calculated from the design cut-off elevation down to the estimated tip elevation. The Contractor shall at their own expense, increase the pile lengths given to provide for fresh heading and for such additional pile lengths as may be necessary to suit their method of operation.

505-3.09 DRIVING PILES. Add the following to the 11th paragraph: There is a possibility of encountering cobbles and boulders and/or riprap and dense till at No. 240. The Contractor is advised to have adequate size and type of equipment such as an excavator, drilling equipment, boulder extractor, and/or boulder rooter to assist in advancing the steel piles down through the strata to the specified pile tip elevation.

Add the following: All pile driving equipment used by the Contractor shall be subject to approval by the Engineer. Vibratory drivers may be used for initial pile placement for the steel pipe piles. The piles shall not penetrate more than 7.6 meters when a vibratory driver is used for initial pile placement. All pile driving systems shall be equipped with an appropriate thickness of hammer cushion to prevent damage to the hammer or pile and to insure uniform driving performance. Hammer cushions shall be made of durable, manufactured materials, and provided in accordance with the hammer manufacturers guidelines except that wood, wire rope, and asbestos hammer cushions shall not be used. The hammer cushion shall be inspected in the presence of the Engineer prior to beginning pile driving or after 100 hours of pile driving, whichever is less. Any reduction of hammer cushion thickness exceeding 25 percent of the original thickness shall be replaced by the Contractor before driving is permitted to continue.

For Bridge Number 240, 30 calendar days prior to driving the first pile, the Contractor shall submit to the Engineer the necessary pile driving equipment as requested on the Pile Driving Equipment Data Form. The Pile Driving Equipment Data Form will be furnished by the Engineer.

The pile driving equipment shall be sized such that the piles can be: 1) driven to the required ultimate bearing capacity, 2) without damage to the piles, 3) have compressive driving stresses as indicated by the high-strain dynamic testing and the wave equation analysis not exceeding 90 percent of the pile yield stress, and 4) with a penetration resistance of 120 blows per 0.3 meters or less as determined by the wave equation analyses. Approval of the pile driving equipment by the Engineer will be based on the high-strain dynamic testing (if applicable), the wave equation and the Engineer's recommendations.

All service piles shall be driven at least to the minimum tip elevation as shown in the Structural Foundation Engineering Report and the Bridge Plans, or to a tip elevation based on the high-strain dynamic test results and the Engineer's recommendations. Adequate pile penetration will be considered to be obtained when the specified wave equation requirements and if applicable, the high-strain dynamic testing criteria is achieved. Piles not achieving the required ultimate bearing capacity within these limits shall be driven to a tip elevation established by the Engineer.

After the test piles are driven and during the service pile driving operations, the Contractor shall use the approved driving system to install the service piles. No variations in the driving system will be permitted without the Engineer's written approval. Any change in the driving system will only be considered after the Contractor has submitted a revised Pile Driving Equipment Data Form for a revised wave equation analysis by the Engineer, and the analysis indicates an acceptable result. Approval of any change in the Contractor's driving system may be contingent upon obtaining satisfactory results from additional high strain dynamic tests. The Contractor will be notified of the acceptance or rejection of the revised driving system within 7 calendar days of the Engineer's receipt of the requested change. The time required for submission, review, and approval of a revised driving system shall not constitute the basis for a Contract time extension.

For the pile driving system to be acceptable, the compressive driving stresses as measured by the pile dynamic analyzer or as indicated by wave equation results, shall not exceed 90 percent of the pile yield stress. The high-strain dynamic testing and analyses shall be performed to confirm or modify pile driving criteria developed using the wave equation for the Contractor's pile-hammer combination. The Engineer reserves the right to require dynamic monitoring in addition to those previously specified if the Contractor's pile driving equipment does not seem to be working properly or in accordance with these Specifications, or if pile design modifications are ordered by the Engineer. All dynamic monitoring shall be performed by the Engineer. If changes in the approved driving system are requested by the Contractor, the additional high-strain dynamic testing shall be performed at the Contractor's expense.

505-3.11 CUTTING OFF PILES. Add the following: Piles shall be cutoff at right angles to the longitudinal axis of the pile. Cutoff piles by oxyfuel cutting, sawing or other means approved by the Engineer.

505-3.15 EXCAVATION AND CONCRETING. Add the following Subsection: All piles shall be excavated and concreted to the depth shown on the Plans with Class A concrete.

1. Excavation: Excavate the materials from within the pipe piles to the elevations or depths as shown on the Plans after the pile reaches the planned tip elevation or as determined by the Engineer. The absolute minimum depth of the excavation shall be 6 meters. Clean the inside

of the bottom of any pile of any loose, soft or disturbed material. Excavation below indicated pile tip elevation shall not be permitted without specific direction by the Engineer.

2. The piles shall be made available to the engineer for inspection after any excavation has been completed and prior to placing the steel reinforced cage within the piles.

3. Excavation and disposal of any material within the piles shall be subsidiary to pile installation and paid for under Section 505(6), ***Drive*** Structural Steel Piles, ***Each***.

4. Concreting: In accordance with Section 501-3.11, Concrete Placement in Piles.

505-4.01 METHOD OF MEASUREMENT. Add the following to numbered Paragraph 1: Furnish Piles: Piles not achieving the required ultimate bearing capacity within ***1.5 meters*** below the minimum pile tip elevation shown on the Plans shall be driven to a penetration established by the Engineer. Requirement to drive the piles more than ***1.5 meters*** deeper than the estimated pile tip elevations shown on the Plans shall be at the written direction of the Engineer. For depths up to ***4.5 meters*** below the estimated pile tip elevations, the contract bid price for piling shall be applied. For depths beyond ***4.5 meters*** below the estimated pile tip elevations, the pile unit costs shall be determined as per Section 109, Paragraph 1.05 of the Standard Specifications.

Delete numbered Paragraph 5 and substitute the following:

5. Load Tests. The specified high-strain dynamic load tests on this project will not be measured for payment. The number of high-strain dynamic load tests to be paid for shall be the number of additional tests required by the Engineer. This unit price per load test shall provide payment to the Contractor for their work required to assist the Engineer in performing additional high-strain dynamic testing if required.

Delete numbered paragraph 6 and substitute the following:

6. Splices. The number of splices to be paid for shall be the number of splices required for the pile to be driven deeper than 1.5 meters below the estimated tip elevations. In no case shall the number of splices to be paid for exceed one per pile. All other splices will be considered subsidiary.

Add the following:

8. Special Pipe Pile Excavation: Removal of unusual obstructions causing pile refusal above the specified minimum pile tip elevations, when required by the Engineer, shall be classified as

Special Pipe Pile Excavation. This work will be measured on a time and materials basis in accordance with Section 109, Paragraph 1.05, of the Standard Specifications. Pile refusal is defined as the condition reached during pile driving which results in a bearing pile driven by a impact hammer having a negligible rate of penetration per blow (such as when a pile tip reaches an impenetrable bottom such as a rock or a bedrock formation), or when the effective transferred energy (ram stroke, rate in blows per minute and rate in blows per meter) of a properly maintained, operating and efficient impact hammer blow is no longer sufficient to advance the pile tip.

505-5.01 BASIS OF PAYMENT. Add the following: The reinforcing steel to be used in the piling shall be measured and paid as Item 503(1), Reinforcing Steel. Concrete fill used in the piling shall be measured and paid as Item 501(1), Class A Concrete.

The two specified high-strain dynamic load tests at the bridges on this project will not be paid for directly, but will be subsidiary to Item 505(6D), Driven Structural Steel Piles (1219 mm dia.).

Add the following Pay Item:

Pay Item No.	Pay Item	Pay Unit
505(12)	Pile Splice	Each
505(13)	Dynamic Test Pile	Each
505(14)	Special Pipe Pile Excavation	Contingent Sum

PAGE NOT USED.

PAGE NOT USED.

SECTION 506

TIMBER STRUCTURES

Special Provisions

506-1.01 DESCRIPTION. Add the following: This work shall also consist of furnishing and installing log weirs at the locations and in accordance with the details shown on the Plans.

506-2.01 MATERIALS. Add the following: Logs to be used in the log weir shall be obtained from sound (not hollow) Cottonwood trees having no indication of rot. They shall be vertically true, having no more than 400-millimeter offset to the log centerline from a line stretched from center of both log ends.

The 2x4-inch treated lumber batten shall consist of timber meeting the requirements of a stress grade of 8.25 MegaPascal or more in accordance with the American Institute of Timber construction. Timber shall be treated in accordance with Section 714, Preservatives and Preservative Treatment Processes for Wood Materials. Treated wood placed in fresh water shall contain no creosote or pentachlorophenol. It may be treated with copper arsenate or copper napthenate.

The geotextile riprap liner shall be in accordance with Section 631, Geotextile for Subsurface Drainage and Erosion Control.

506-4.01 METHOD OF MEASUREMENT. Add the following: Log weirs will be measured by the meter, complete in-place and accepted, for each Cottonwood log installed and will include all excavation, furnishing and installing the 2x4-inch treated limber batten, geotextile, and cutting the notch in the weir.

506-5.01 BASIS OF PAYMENT. Add the following: Log weir will be paid by the meter, complete in-place and accepted. Payment for riprap will be made under Pay Item 611 (2A), Riprap, Class I.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
506 (9)	Log Weir	Meter

SECTION 507

BRIDGE RAILING

Special Provisions

507-5.01 BASIS OF PAYMENT. Add the following Pay Items:

Pay Item No.	Pay Item	Pay Unit
507 (2A)	Pedestrian Railing, Bridge	Meter
507 (2B)	Pedestrian Railing, Pathway	Meter

Delete this Section in its entirety and substitute the following:

SECTION 508

WATERPROOFING MEMBRANE

Special Provisions

508-1.01 DESCRIPTION. This work consists of furnishing and installing preformed waterproofing membrane on concrete bridge decks as specified.

508-2.01 MATERIALS.

1. Membrane Material: Membranes for bridge deck waterproofing shall be a manufactured type membrane as specified herein. The material shall consist of a cold-applied, self-adhering membrane incorporating a non-woven geotextile embedded between 2 layers of SBS modified asphalt, a primer, and a mastic. The membrane shall have a top layer of non-structural non-woven geotextile for protection against construction traffic. The sheet membrane shall have the following properties:

PROPERTY	TEST METHOD	SPECIFIC VALUE
Tensile Strength (kPa)	ASTM D 412 Modified Method A	345
Elongation (percent)	ASTM D 412 Modified Method A	60 min.
Thickness (mm)	ASTM D 1777	1.5 min.
Puncture Resistance (kg)	ASTM E 154	11.3 min.
Permeance (perms) ($g/Pa \bullet s \bullet m^2$)	ASTM E 96B	2.87 max.
Pliability	ASTM D 146	No cracks bent 180 around 6 mm mandrel at -32° C
Asphalt Concrete Mat Surface Compaction Temperature (C)	None	120

2. Overlay Material: Material requirements for pavement overlays on waterproof membranes shall conform to those specified in Section 401.

CONSTRUCTION REQUIREMENTS

508-3.01 APPLICATION OF MEMBRANE WATERPROOFING.

1. General: Install membrane in a manner to assure the following results:

   A. A complete bond between the membrane and the concrete surface of deck and curb face.

   B. An unbroken waterproof membrane in-place between the concrete deck surface and the asphalt overlay.

   C. A complete bond between the membrane and the asphalt overlay.

   Install the membranes under the supervision of a representative from the membrane manufacturing company and in accordance with the manufacturer's published instructions.

2. Preparation of Concrete Deck: All concrete surfaces including grout in girder keyways to receive membranes shall have attained a compressive strength of not less than 80 percent of the specified 28-day compressive strength (f'c) prior to application of the membrane. The entire deck shall be free of all foreign materials such as dirt, dust, moisture, loose concrete, etc. Prior to applying the membrane primer, all dust and loose materials shall be removed from the deck by power sweeping followed by a thorough cleaning with compressed air. Any sharp concrete edges on the deck surface which would puncture the membrane shall be corrected in a satisfactory manner prior to application of the membrane. Grease, oil, paint, etc., shall be removed with solvents, detergents or sand blasting on decks that are to receive manufactured membranes.

   Perform additional power sweeping, vacuuming, compressed air cleaning, or hand brooming immediately before applying the primer if deemed necessary by the Engineer or Manufacturer's representative.

3. Weather and Moisture Limitations: Work shall not be done during wet weather conditions, nor when the deck and ambient air temperatures are below 4° C.

4. Overlaying and Protection of Membrane: Do not place the asphalt overlay until the bond between the concrete deck and the membrane has fully developed. Vehicles, except the spreader and trucks used for hauling the asphalt overlay mix, shall not be operated on the membrane.
   Paving machines used over the membrane shall be rubber tired or rubber tracked. Steel-wheeled rollers only shall be used to compact the asphalt paving on the bridge decks.

Place, spread, and roll asphalt in such a manner that the membrane will not be damaged. Adhere to the manufacturer's published instructions for preparation, laydown, compaction, minimum and maximum temperature limitations for asphalt overlay material. The use of vibratory rollers, with vibrator on, will not be permitted.

508-4.01 METHOD OF MEASUREMENT. Membrane will not be measured for payment.

All materials for the asphalt overlay will be included in the measurements of quantities for the appropriate paving items.

No adjustments will be made in the quantities or prices of materials for asphalt overlay because of any variations resulting from utilizing waterproof membranes of greater or lesser thickness.

508-5.01 BASIS OF PAYMENT. Waterproofing Membrane will be paid for at the Contract Lump Sum price. Payment shall also include all costs of furnishing and installing primers.

Where Pay Item 508(1) does not appear on the Bid Schedule, membrane will be considered subsidiary.

Payment for the asphalt overlay will be made under the appropriate paving items.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
508(1)	Waterproofing Membrane	Lump Sum

(3/15/00)R172M98

Add the following Section:

SECTION 514

CONCRETE SURFACE TREATMENTS

Special Provisions

514-1.01 DESCRIPTION. This work consists of providing an aesthetic facia on all precast and cast-in-place concrete walls. Use form liners on all cast-in-place concrete retaining walls. Install graffiti protection on all walls and surfaces designated on the plans.

514-2.01 MATERIALS. Reinforcing steel shall meet the requirements of Subsection 709-2.01 Reinforcing Steel.

Provide standard reusable, non-porous form liners conforming to the pattern for Dayton-Superior Form Liner, Pattern No. 13900, Random Fractured Stone, or equal.

Use a two-step graffiti protection system designed specifically for this use. The system shall consist of a single component clear acrylic base coat covered by a clear urethane finish coat. This material is not a sealer or vapor barrier and no appreciable discoloration is allowed.

Trained personnel shall apply the material according to the manufacturer's recommendations.

514-3.01 AESTHETIC FACIA. Use form liners on all retaining wall forms which have exposed surfaces. The wall dimensions and concrete quantities provided on the Plans are minimum and do not include allowances for the thickness of the form liners and must be accounted for by the Contractor.

The liners will cover the majority of the form with a minimum of 50 mm and a maximum of 300 mm between the edge of liner and the finished top of the wall, pathway or original ground grade at the bottom, and edge or expansion joints of the wall on the sides. The Engineer shall approve the liner placement on the form prior to the concrete pour.

514-3.02 GRAFFITI PROTECTION. Let all concrete surfaces set at least 28 days before applying any coatings. Apply the base coat with a roller or sprayer in accordance with the manufacturer's recommendations. Apply two coats of the finish coat after the base coat has cured for 72 hours. Apply appropriate masking as required.

514-4.01 METHOD OF MEASUREMENT. Measure aesthetic facia by the square meter of actual design exposed in the finished structure, regardless of the type.

Measure graffiti protection by the square meter of surface area designated by the Engineer.

514-5.01 BASIS OF PAYMENT. Payment for retaining wall treatments will be full compensation for all labor, equipment and materials, including reinforcing steel, required to complete the walls in accordance with the plans and specifications.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
514(1)	Aesthetic Facia	Square Meter
514(2)	Graffiti Protection	Square Meter

(2/28/01)R41

Add the following Section:

SECTION 517

TEMPORARY BRIDGES

Special Provisions

517-1.01 DESCRIPTION. This item of work shall consist of furnishing, maintaining and removal of a temporary detour bridge and a Contractor work bridge across the Little Susitna River. The structures shall be used to maintain the general traveling public on the Parks Highway and construction equipment during the demolition of the existing bridge and construction of the new bridge. The temporary detour bridge shall not be demolished until the new bridge is open to travel by the general public.

517-1.02 QUALITY ASSURANCE. The Contractor shall prepare and submit Plan and Layout Drawings along with detailed Structural Drawings for the temporary bridges, 4 weeks prior to the intended erection of the structure, for review by the Engineer. The structure shall be designed and the Drawings sealed by an Engineer registered in the State of Alaska. The bridges shall be designed for the following:

1. HS20 highway loading (detour bridge), anticipated construction loads (work bridge);

2. Two piers per bridge in the Little Susitna River, approximately 20 meters spacing;

3. Minimum elevation of bridge girder over the river is 76.8 meters;

4. No fill allowed below ordinary high water.

CONSTRUCTION REQUIREMENTS

517-2.01 PERMITS. The temporary bridges shall meet all the requirements of the project construction and regulatory agency permits. Clearances, restrictions for in-stream piers and freeboard shall be strictly observed. The timing, placement, and removal of the temporary bridges shall meet all restrictive dates for in water work required by the Alaska Department of Fish and Game (ADF&G) permit.

517-2.02 DEMOLITION. The Contractor shall demolish the temporary bridges at the end of the project. All piles and other temporary bridge items shall be completely removed.

517-3.01 METHOD OF MEASUREMENT. Temporary Bridges under this Section will not be measured directly for payment.

517-4.01 BASIS OF PAYMENT. All costs in connection with furnishing, maintaining, and removal of the temporary bridges at the Lump Sum price will be full compensation for furnishing all materials, erection, and maintenance during the construction period and removal of the said structures.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
517(1)	Temporary Bridges	Lump Sum

SECTION 603

CULVERTS AND STORM DRAINS

Special Provisions

603-1.01 DESCRIPTION. Add the following: This work shall also consist of installing culvert marker posts.

Standard Modifications

603-2.01 MATERIALS. In the second paragraph, delete "(900 mm maximum diameter)".

In the fourth paragraph, delete the last sentence.

(02/08/01)M95

Special Provision

603-2.01 MATERIALS. Add the following: Culvert marker posts shall meet the requirements of Subsection 730-2.05 Delineator Posts, for Item 2. Flexible Posts. The color shall be blue with no other markings. The 65-millimeter by 1,800-millimeter post shall be rectangular in cross-section with reinforcing ribs capable of a minimum bending radius of 230 millimeters.

Standard Modifications

603-3.03 JOINING PIPE.

2. Metal Pipe. Replace the second sentence with the following: "Use bands that are no more than two nominal sheet thicknesses lighter than the pipe being joined, and in no case lighter than 1.3 mm." (02/08/01)M95

Special Provisions

603-3.03 JOINING PIPE. Delete Item 3 under Subparagraph a "Primary Band" under Paragraph 2 "Metal Pipe" and substitute the following:

3) Bands for pipe with diameters greater than 750 mm shall have a minimum width of 1.2 m.

603-3.06 CULVERT MARKER POSTS. Add the following Subsection: Culvert marker posts shall be installed on the approach side of storm drain outfalls 750 millimeters and smaller, field inlets not in paved parking lots, all end sections to cross culverts, or as directed by the Engineer. 1,070 millimeters of post shall remain above the ground after driving.

603-4.01 METHOD OF MEASUREMENT. Add the following: Culvert Marker Posts will not be measured for payment.

603-5.01 BASIS OF PAYMENT. Add the following: Culvert Marker Posts will not be paid for directly, but will be subsidiary to pipe items.
(5/31/96)R42M

Delete the second paragraph and substitute the following: Numerical suffixes will be included within the parentheses of the item numbers in order to denote the different sizes.

Add the following: Where extending an existing culvert, all cleaning and repairing damage of the existing culvert end will not be paid for directly, but will be subsidiary to the pipe item.

SECTION 606

GUARDRAIL

Special Provisions

606-1.01 DESCRIPTION. This work shall also consist of installing barrier cable at the locations shown on the Plans.

Standard Modification

606-2.01 MATERIALS. Delete Flexible Markers in its entirety and substitute the following:

Flexible Markers. Use plastic tubes that are:

1. Designed for use as snow poles
2. Impact-resistant to minus 60 °C (ASTM D 746)
3. Colored "Maintenance Orange" (UV stable)
4. Internally cross-braced
5. 30 to 40 mm diameter by 1,200 mm long

Furnish flexible markers with two 75-mm wide strips of white reflective sheeting, covered by a weather-resistant clear film, completely around the pole. Place the first strip 25 mm from the top of the pole and the second 40 mm below the first. Use attachment hardware made of either stainless or galvanized steel.
(03/14/00)M88

606-3.01 GENERAL. Add the following: Treat field cuts to timber posts and blocks according to AWPA standard M 4.
(10/19/98)M67

606-3.05 TERMINAL SECTIONS. Delete the fourth paragraph (flexible markers) in its entirety and substitute the following: Attach flexible markers, in a vertical position, to the last post of each guardrail terminal using 2 pipe bracket holders spaced 300 mm apart. Attach to wooden guardrail posts with wood screws and to steel guardrail posts with hex bolts.
(03/14/00)M88

Special Provisions

606-3.06 REMOVAL AND RECONSTRUCTION OF GUARDRAIL. Add the following: Guardrail removed and to be replaced with new guardrail shall have the entire new run installed within 7 calendar days after removal.

Guardrail located within 15 meters of bridge ends shall have the new guardrail installed by the end of the shift in which the existing guardrail is removed.

606-3.07 REMOVAL AND DISPOSAL OF GUARDRAIL. Delete the last sentence and substitute the following: Notify the Engineer, five days prior to removing guard rail for disposal. At that time, the Engineer will physically identify portions of guardrail to be salvaged. All guardrail and associated hardware so designated will be delivered to the Department of Transportation Maintenance Yard located at MP 71, Willow Alaska.
(9/8/00)R259M98

606-3.09 FLEXIBLE MARKERS. Add the following Subsection: For each slotted rail terminal, a flexible marker shall be attached to the extreme piece of rail. The flexible markers shall be attached using hardware and attachment methods recommended by the manufacturer. The flexible markers shall have a minimum of 530 millimeters of marker extending above the top of the guardrail. The reflective tape shall face the nearest oncoming traffic.

606-3.10 LENGTH OF NEED VERIFICATION. Add the following Subsection: After shaping the slopes and staking all proposed guardrail locations, the Contractor shall notify the Engineer to field verify the beginning and ends. The staked location of the guardrail will be approved by the Engineer prior to installation. The Engineer may determine that additional guardrail is necessary, and the Contractor shall comply without delay.
(2/7/00)R45aM98

Standard Modification

606-4.01 METHOD OF MEASUREMENT. Delete the second to the last paragraph and substitute the following:

Guardrail/Bridge Rail Connection: Per each, installed in-place. Each connection includes all brackets, beam sections, transition pieces, and all posts and associated hardware required to connect the guardrail section to a bridge rail according to the Plans and the Special Provisions.
(10/19/98)M66

Special Provisions

606-5.01 BASIS OF PAYMENT. Add the following Pay Item:

Pay Item No.	Pay Item	Pay Unit
606(19)	Barrier Cable	Meter

SECTION 608

SIDEWALKS

Special Provisions

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

608-2.01 MATERIALS. Delete paragraph Number 2 and substitute the following:

2. Asphalt Sidewalk and Asphalt Pathway

Asphalt Cement, PG52-28	Subsection 702-2.01
Aggregate, Type II or III	Subsection 703-2.04
Mix Design Requirements (ATM T-17)	
Marshall Stability, N, min.	4450
Percent Voids, Total Mix	2-5
Compaction, Blows/side	50

Add following Subitem:

608-3.04 ASPHALT PATHWAY. Construct asphalt pathway in accordance with Subsection 608-3.02 Asphalt Sidewalks.

608-4.01 METHOD OF MEASUREMENT. Add the following:

Asphalt Pathway: By the megagram of asphalt concrete in accordance with Section 109, Measurement and Payment. Asphalt cement will not be measured for payment.

Additional asphalt pavement used for matching existing surfaces such as paved parking lots behind a new sidewalk/pathway will be measured and paid under this Section.

608-5.01 BASIS OF PAYMENT. Add the following: Asphalt cement for Asphalt Pathway will not be paid for separately, but will be subsidiary to the respective Pay Items.

Embankment and bed course materials will be furnished, placed and paid under Sections 203 and 301, respectively.

Add the following Pay Items:

Pay Item No.	Pay Item	Pay Unit
608(7) (2/1/00)R47M98	Asphalt Pathway	Megagram

SECTION 615

STANDARD SIGNS

Special Provisions

615-2.01 MATERIALS. Under Item 1. delete the first sentence and substitute the following: Submit 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.

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

7. Notify the Engineer 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 sign post from panel. The panels shall then be grouped together in a manner to preclude damage. Post shall also be grouped together as with hardware in a workmanlike manner. Deliver sign panels, posts and hardware to the State Maintenance Yard located at MP 71, Willow, Alaska. 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 300 millimeters below roadway subgrade or unimproved ground, whichever applies. All signs and posts at a single installation shall be considered as 1 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 is considered subsidiary to other work under this section.

615-5.01 BASIS OF PAYMENT. 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 Signs.
(6/8/00)R50M98

SECTION 616

THAW PIPE AND THAW WIRES

Standard Modifications

616-3.02 THAW WIRE. In the table under Item 5. Color Coding, move "Red" to the Ungrounded column for 3-wire conductors.
(02/08/01)M96

SECTION 617

RAILROAD CROSSING

617-1.01 DESCRIPTION. Add the following: This work includes removal of the existing railroad crossing pads at White's Crossing. The Contractor shall also regrade the Railroad mainline embankment and ditch for drainage. The Contractor shall construct a berm on both sides of the Railroad tracks (no closer than 7.62 (25 feet) to the track centerline) to block traffic flow across the tracks.

The Contractor shall remove the existing bases once the Railroad has completed removing the signals and hardware.

617-3.01 CONSTRUCTION REQUIREMENTS. Add the following under numbered Paragraph 1. General:

e. Since the work shall be on or about the Railroad mainline track, it shall be necessary for the Contractor to schedule the work so that conflicts with Railroad traffic shall be kept to a minimum. The Contractor shall submit a proposed schedule for performing the required work to Railroad 14 days prior to the work. Once the Contractor has provided the Railroad with 14-day advance notice to remove the existing White's Crossing signals, the Contractor shall allow the Railroad 5 calendar days to complete the signal hardware removal in the White's Crossing area once the new bridge is completed and traffic has been placed onto new bridge and alignment area.

f. All work on, or within 61 meters (20 feet) of the active track, shall require full flag protection and /or slow order protection, as may be necessary.

g. At the close of each work day, inform the Engineer of the location and nature of the work to be performed the following day. Secure prior approval from the Railroad for any item of work resulting in delay to traffic, including slow orders. Submit requests for approval at least 24 hours in advance of the work.

617-4.01 METHOD OF MEASUREMENT. Add the following: Remove Railroad Crossing will not be measured for payment.

617-5.01 BASIS OF PAYMENT. Add the following: Payment for Item 617 (9), Remove Railroad Crossing, will be full compensation for all labor, equipment, flagging, and coordination required to

remove the existing at-grade crossing and existing signal bases, and to regrade the embankment and construct the berms.

Add the following Pay Item:

Pay Item No.	Pay Item	Pay Unit
617 (9)	Remove Railroad Crossing	Lump Sum

Delete this Section in its entirety and substitute the following:

Standard Modifications

SECTION 618

SEEDING

618-1.01 DESCRIPTION. This work consists of establishing a perennial stand of grass or other specified living vegetative cover in the areas indicated on the Plans and to acceptably maintain the cover for the term of the Contract.

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. Track the soil and apply seed, mulch, fertilizer and water. Provide a living ground cover on all slopes as soon as possible.
(03/28/01)R52M98

Standard Modification

618-2.01 MATERIALS. Use materials that conform to the Special Provisions and the following:

Seed	Section 724
Fertilizer (20-20-10)	Section 725

Special Provisions

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

Mulch	Subsection 727-2.01

(03/28/01)R52M98

Standard Modification

CONSTRUCTION REQUIREMENTS

618-3.01 SOIL PREPARATION. Clear all areas to be seeded of stones 100 mm in diameter and larger and of all weeds, plant growth, sticks, stumps, and other debris or irregularities that might

interfere with the seeding operation, growth of grass, or subsequent maintenance of the grass-covered areas.

Make areas to be seeded reasonably free of ruts, holes, and humps.

When specified, apply topsoil according to Section 620.

Roughen the surface slightly by means of dozer-tracking or other approved method.

Special Provisions

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 "walking" a dozer transversely up and down the slopes, or by grading with a scarifying slope board, as determined by the Engineer. The resultant indentations shall be perpendicular to the fall of the slope. Complete slope preparation as soon as topsoil is placed on the slopes. Rounding the top and bottom of the slopes is acceptable to facilitate tracking and to create a pleasing appearance, but do not disrupt drainage flow lines. (03/28/01) R52M98

Standard Modification

618-3.02 SEEDING SEASONS. Seed and fertilize during the local growing season.

Do not seed during windy conditions or when climatic conditions or ground conditions would hinder placement or proper growth.

618-3.03 APPLICATION. Apply seed mix at the rate specified in the Special Provisions.

Apply fertilizer at the rate specified in the Special Provisions.

Apply mulch at the rate specified in the Special Provisions.

Use any of the following methods:

6. Hydraulic Method.

   a. Furnish and place a slurry made of seed, fertilizer, water, and other components as required by the Special Provisions.

b. Use hydraulic seeding equipment that will maintain a continuous agitation and apply a homogeneous mixture through a spray nozzle. The pump must produce enough pressure to maintain a continuous, nonfluctuating spray that will reach the extremities of the seeding area with the pump unit located on the roadbed. Provide enough hose to reach areas not practical to seed from the nozzle unit situated on the roadbed.

c. If mulch material is required, it may be added to the water slurry in the hydraulic seeder after adding the proportionate amounts of seed and fertilizer. Add seed to the slurry mixture no more than 30 minutes before application.

d. Mix the slurry and apply it evenly.

2. Dry Methods.

a. Use mechanical spreaders, seed drills, landscape seeders, aircraft, cultipacker seeders, fertilizer spreaders, or other approved mechanical spreading equipment when seed and fertilizer are to be applied in dry form.

b. Spread fertilizer separately at the specified rate.

Special Provisions

618-3.03 APPLICATION METHOD. Add the following: Apply seed, mulch, and fertilizer as follows per hectare (ha). Apply seed and mulch in 1 application if using the hydraulic method. Apply all fertilizer with the hydraulic method.

ITEM	INGREDIENTS	APPLICATION RATE (PER HA)
Seed Mix	Bering Hairgrass (Norcoast) Red Fescue (Arctared) Annual Ryegrass (Lolium) Wheatgrass (Agropyron Pauciflorum)	19.5 kg 19.5 kg 5.0 kg 5.0 kg Total=49.0 kg
Slope Stabilizer Slope ≤3:1 Slope >3:1 to 2:1	 Mulch Mulch with Tackifier	 2,240 kg 2,800 kg
Fertilizer	20-20-10	586 kg

The Contractor shall not remove the required tags from the seed bags.

Upon the Engineer's approval, Nortran Tufted Hairgrass may be used as a substitute for Bering Hairgrass if Bering Hairgrass is commercially unavailable. Substitute Nortran Tufted Hairgrass (as needed) for Bering Hairgrass, at the same application rate.
(03/28/01)R52M98

Standard Modification

618-3.04 PLANT ESTABLISHMENT AND MAINTENANCE. Protect seeded areas against traffic and erosion.

Promptly repair surfaces that are gullied or otherwise damaged following seeding by regrading, reseeding, and remulching as needed.

Water and maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work. Use equipment that can water all seeded areas without damaging the seed bed.

Reseed any areas not showing evidence of satisfactory growth within 3 weeks of seeding.

618-4.01 METHOD OF MEASUREMENT.

Seeding by the Hectare. By the area of ground surface acceptably seeded and maintained. Seed, water, and fertilizer are subsidiary.

Seeding by the Kilogram. Weight of seed acceptably placed. Any other work required will be measured separately.

Water for Seeding. By the kiloliter using calibrated tanks or distributors, accurate water meters, or by weighing. The conversion factor of 1 kilogram per liter will be used to convert weight to volume.

Special Provisions

618-4.01 METHOD OF MEASUREMENT. Add the following: The amounts of fertilizer, mulch, and water for application used in this work including any required reseeding, are subsidiary to other 618 items.

Standard Modification

618-5.01 BASIS OF PAYMENT. At the Contract unit price per unit of measurement for the pay items listed below that appear on the Bid Schedule.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
618(1)	Seeding	Hectacre
618(2)	Seeding	Kilogram
618(3)	Water for Seeding	Kiloliter

(02/08/01)M99

Special Provisions

618-5.01 BASIS OF PAYMENT. The work described under Subsection 618-3.01 Soil Preparation is subsidiary to seeding.

Water required for the hydraulic method of application is subsidiary to seeding.
(03/28/01)R52M98

SECTION 621

PLANTING TREES AND SHRUBS

Special Provisions

621-1.01 DESCRIPTION. Add the following: This work shall also include Willow Staking and Brush Layered Benches.

621-2.01 PLANT STOCK. Add the following: Dormant cuttings for willow stakes and brush layered benches shall be harvested from live woody plants. Prepare cuttings from branches of woody plants when the plant is in a dormant state. Collect cuttings that can easily be rooted without special treatment. Use plant species from the following table:

Feltleaf Willow	Salix Alaxensis
Pacific Willow	Salix Lasiandra
Little Tree Willow	Salix Arbusculoides
Diamond Leaf Willow	Salix Planifolia, ssp. Pulchra

Buds must be present on the cuttings, particularly near the top of each cutting. Avoid flower buds ("pussy willows"), if possible.

Collect cuttings during winter/early spring before leaves appear for spring and early summer plantings. Plants shall be collected within a 160-kilometer radius of the project limits. Cuttings may be obtained from State Public Lands and the Department of Transportation Right of Way. The Contractor shall obtain the appropriate permits prior to removing the cuttings.

Cuttings shall be 7-50 mm diameter at the cut end. Leave as long as possible, at least 1 meter in length. Cut branches to required length at the time of installation.

Maintain viable cuttings with proper storage. Freeze or refrigerate until installation if collection occurs while the daytime temperatures remain below 0.5° C. Refrigerate cuttings if the daytime temperature exceeds 0.5° C. Frozen cuttings can be stored with a small amount of snow to reduce drying. Store refrigerated cuttings at 0.5° C to 5° C and 60 to 70 percent humidity. Monitor the conditions of the cuttings regularly to detect problems such as desiccation, sprouting, or mold. Cuttings remain viable for only 1 season.

Take cuttings directly from storage to the planting site. Remove only that amount of material from storage that can be planted that day, particularly if windy or warm weather conditions exist. Store cuttings away from direct sunlight, and heeled into moist soil or stored in water until planting.

621-2.08 COIR FABRIC. Add the following Subsection: Use Coir Fabric that meets Section 727.

621-2.09 COIR LOGS. Add the following Subsection: Use Coir Logs that meets Section 727.

621-3.08 WILLOW STAKING. Add the following Subsection: Cut willow stakes 450-600 mm in length from dormant cuttings. At least 2 leaf buds shall be present near the top of each stake. Place topsoil where shown on the Plans. Place coir fabric on the ground and anchor per the manufacturer's recommendations. Use a 13 mm diameter rod to create planting holes a maximum of 1 meter apart, as shown on the Plans. Willow stakes shall not be hammered into the ground. Plant stakes as vertical as possible, placing approximately ¾ of the stake into the ground, keeping 1-2 leaf buds exposed above the ground. Water the stakes to help remove air pockets and increase the contact between the soil and the willow stake. Plant willow stakes no later than July 1.

621-3.09 BRUSH LAYERED BENCHES. Add the following Subsection: Begin layering at the bottom of the slope. Place top of coir log at the ordinary high water line along the stream bank. Stake the coir log per the manufacturer's recommendations. Place topsoil behind the coir log to create a bench that angles slightly downward and into the slope. Place 30 willow cuttings/meter of bench in a slightly crisscross fashion, with the tips extending beyond the edge of the bench no more than ¼ of the total branch length. Place a minimum of 100 mm of soil on top of the branches and tamp into place and water. Place coir fabric over the topsoil and stake per manufacturer's recommendations. Place topsoil over fabric, forming a new bench. Lap coir fabric over topsoil and stake into place. Repeat the branch, topsoil, tamp, and coir fabric wrapped topsoil bench sequence until the top of the bank in reached.

621-4.01 METHOD OF MEASUREMENT. Add the following:

1. 621(5) Willow Staking: The area of willow staking will be measured by the square meter, and will include all work required for a complete installation. Topsoil, coir fabric, and willows are subsidiary to the willow staking and will not be measured for payment.

2. 621(6) Brush Layered Benches: The area of brush layered benches will be measured by the square meter, and will include all work required to complete the installation. Coir logs, topsoil, coir fabric, and willows are subsidiary to the brush layered benches and will not be measured for payment.

621-5.01 BASIS OF PAYMENT. Add the following: Payment for Willow Staking and Brush Layered Benches will be full compensation for furnishing all materials, equipment, and labor necessary to complete the work as indicated.

Add the following Pay Item:

Pay Item No.	Pay Item	Pay Unit
621(5)	Willow Staking	Square Meter
621(6)	Brush Layered Benches	Square Meter

SECTION 639

DRIVEWAYS

Special Provisions

639-1.01 DESCRIPTION. Add the following: This work also includes the construction of public approaches at locations shown on the Plans.

639-1.02 CONSTRUCTION REQUIREMENTS. Add the following Subsection: Placement of materials used in driveways and public approaches shall meet the requirements specified as follows:

Selected Material, Type A	Section 203
Crushed Aggregate Base Course	Section 301
Asphalt Concrete, Type II	Section 401

639-2.01 METHOD OF MEASUREMENT. Add the following: Public approaches will be measured per each constructed as shown on the Plans, or as directed.

639-3.01 BASIS OF PAYMENT. Add the following: Payment for public approaches will be full compensation for furnishing all equipment and labor necessary to complete the work as indicated.

Add the following Pay Item:

Pay Item No.	Pay Item	Pay Unit
639(3)	Public Approach	Each

Delete the last paragraph and substitute the following: The Contract Unit Price for driveways and approaches shall be full compensation for furnishing all equipment and labor necessary to complete the work as specified. Excavation in the approach will not be measured for payment, but will be considered subsidiary to Section 639 items. Selected Material, Type A, Aggregate Base Course, and Asphalt Concrete, Type II required to construct driveways and public approaches will be paid for separately under the respective items listed in the Bid Schedule. Native material meeting the minimum requirements of Selected Material, Type C, will not be paid for directly, but will be considered subsidiary to Section 639 items.

SECTION 640

MOBILIZATION AND DEMOBILIZATION

Standard Modification

640-2.01 METHOD OF MEASUREMENT. Delete Items 3. and 4. and substitute the following:

3. The remaining balance of the amount Bid for this item will be paid after all submittals required under the Contract are received and approved.

(06/25/99)M77

Delete Section 641 in its entirety and substitute the following:

SECTION 641

EROSION AND POLLUTION CONTROL

Special Provisions

641-1.01 DESCRIPTION. This work shall consist of planning, providing, and maintaining control of erosion, water pollution, and hazardous materials contamination.

This work shall also include installation of silt fences as shown on the Plans or as directed by the Engineer.

641-1.02 DEFINITIONS.

1. Erosion and Sediment Control Plan (ESCP): The Department's general plan for the permanent and temporary control of erosion and sedimentation during construction of the project as contained in the Plans and Specifications, and supplemented by the Department's Erosion Prevention and Sediment Control Plan - Policy and Procedures; Guide to Preparing Erosion Prevention and Sediment Control Plans and Best Management Practices for Construction Erosion and Sediment Control. The Department has prepared an ESCP and it is in Appendix "Permits."

2. Storm Water Pollution Prevention Plan (SWPPP): The detailed site-specific plan prepared by the Contractor for the temporary and permanent control of erosion and sedimentation during construction of the project. The SWPPP is based upon the ESCP, and prepared according to guidance provided in the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges from Construction sites (NPDES General Permit).

3. Hazardous Material Control Plan (HMCP): The Contractor's detailed plan for the prevention, containment, cleanup, and disposal of hazardous waste material, including petroleum products generated by construction equipment or activities. Included in the HMCP is a list of quantities and types of equipment and materials available on the site where hazardous substance containment and cleanup will be done. The Plan also describes how and where the Contractor will carry out and control out construction equipment fueling and maintenance activities.

4. Notice of Intent (NOI) to utilize the NPDES General Permit for Alaska. This is a standard form (EPA Form 3510-9) giving notice to the U.S. Environmental Protection Agency (EPA)

the Contractor will conduct that work in compliance with the NPDES General Permit. The NPDES General Permit authorizes discharges of storm water from construction activities involving more than 2.02 hectares of land. The Contractor prepares the NOI, and submits, a minimum of 14 days before the preconstruction conference, to the Department for approval.

5. Notice of Termination (NOT) of coverage under the NPDES General Permit for Alaska. This is a standard form (EPA Form 3510-7(8-98)) that constitutes notice that the Contractor has stabilized the project site or when an Operator of a construction activity, as defined in the NPDES General Permit, changes. The Contractor prepares the NOT, and submits it to the Engineer once final stabilization of the project site has been completed.

6. Final Stabilization is when all soil disturbing activities at the site have been completed and the Contractor has established a uniform perennial vegetative cover, with a density of 70 percent of the cover for unpaved areas not covered by permanent structures, or the Contractor has employed equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles). The Engineer determines when final stabilization has occurred.

7. Best Management Practices (BMP) is defined as any program, technology, process, siting criteria, operating method, measure, or device which controls, prevents, removes, or reduces pollution.

641-1.03 SUBMITTALS. Submit the following items for approval a minimum of 14 days prior to the preconstruction conference:

1. Draft Storm Water Pollution Prevention Plan (SWPPP).

2. Hazardous Material Control Plan (HMCP).

3. Notice of Intent (NOI).

The Engineer will review submittals within 14 calendar days. If modifications are required for approval, modify the submittals within 5 calendar days of receiving comments from the Engineer.

The SWPPP shall be prepared and stamped by a professional engineer currently registered in the State of Alaska. The Department will review the draft SWPPP, and either approve it, or recommend changes. Make all necessary revisions to obtain the Department's approval of the SWPPP. The approved SWPPP becomes the project SWPPP. The Contractor and the Department shall sign and certify it in accordance with the NPDES General Permit.

Implement all measures in the SWPPP and ensure that it remains current.

Once the Department approves the SWPPP, the Engineer will submit your NOI along with the Department's NOI to the EPA via Certified Mail. The Engineer will also submit copies of the NOI, the SWPPP, and the Project Summary to the State of Alaska Department of Environmental Conservation (DEC) Storm Water Coordinator. Do not begin earth disturbing work until the following 2 items have been received in writing:

1. Department approval of the SWPPP

2. Notification that 48 hours have passed since the Engineer mailed the NOIs to EPA and DEC.

Post the following at the construction site:

1. NPDES Permit number if available, or a copy of the NOI.

2. Name and telephone number of Contractor's local contact person.

3. The location of a SWPPP available for viewing by the public.

Amend the SWPPP within 7 days, when requested by the Engineer. All SWPPP amendments shall be prepared and stamped by a professional engineer currently registered in Alaska. The approval process for amendments to the SWPPP is the same as with the draft SWPPP.

If a storm event occurs where storm water discharges poses a threat to water quality, take immediate action to preclude pollution subject to the directive of the Engineer. Submit to the Engineer, within 7 days of the storm event, an amended SWPPP covering the emergency measures taken.

Prior to project closeout and demobilization, you and Engineer shall review the project to determine if all areas disturbed by construction meet the requirements for final stabilization. When final stabilization has been accomplished, submit a signed Notice of Termination (NOT) to the Engineer.

641-1.04 STORM WATER POLLUTION PREVENTION PLAN. Prepare a SWPPP that covers all ground disturbing activities designated by the Contract including off-site support activities. Examples of support activities are; concrete or asphalt batch plants, equipment staging yards, overburden and material stockpiles, excavated material disposal areas, borrow areas, etc., activities only for that permitted project. In contrast, the definition of commercial operations that the SWPPP cannot cover under this permit, are those operations that serve multiple unrelated projects and would continue to operate after project completion.

A detailed description of the required contents of the SWPPP is found in the 1998 NPDES General Permit for construction activities in Alaska. The SWPPP shall follow the format presented in the NPDES General Permit and address all storm water discharge control and management issues identified in the ESCP. The SWPPP shall include the following:

1. Site Description

   A. A description of the nature of the construction activity.

   B. A description of the intended sequence of major ground disturbing activities such as grubbing, excavation, grading, or utility installation.

   C. Estimates of the total area of the site and the total area of the site expected to be disturbed, including off-site support areas.

   D. Estimates of the runoff coefficient of the site for preconstruction and post-construction conditions and data describing the soil or quality of any discharge from the site.

   E. A general location map and a site map showing the following:

      1) Drainage patterns

      2) Approximate slopes after grading

      3) Areas of soil disturbance and undisturbed areas

      4) Locations of major structural and nonstructural controls identified in the SWPPP and locations where stabilization is expected to occur

      5) Locations of off-site material, waste, borrow or equipment storage areas

      6) Locations of surface waters, including wetlands, and the locations where storm water discharges to surface waters

   F. Location and description of any discharge associated with industrial activity other than construction, and location of storm water discharges from dedicated asphalt or concrete plants covered by this permit.

G. The name of the storm water discharge receiving water(s). The aerial extent and description of wetlands or special aquatic sites at or near the project site that will be disturbed or receive storm water discharge.

H. A copy of the 1998 NPDES General Permit that can be an appendix to the SWPPP.

I. Information on whether listed threatened or endangered species, or their critical habitats are found in proximity to the project and off-site support areas, and whether storm water discharges or related activities may affect such species or habitat.

2. Controls: The SWPPP shall include a description of appropriate control measures (BMP) which will be implemented as part of the construction activity to control pollutants in storm water discharges.

The SWPPP shall clearly describe, for each major soil disturbing activity described in 1b above, the appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented, and who (you or a Subcontractor) will be responsible for implementation.

The description and implementation of controls shall address the following minimum components:

A. Erosion and Sediment Controls

1) Short and Long-Term Goals and Criteria designed to retain sediment on the site to the practicable extent, and shall include off-site support areas.

2) Stabilization Practices and Implementation Schedule. This shall include a description of interim and permanent stabilization practices such as the preservation of vegetative cover, temporary and permanent vegetation establishment, mulching, geotextiles, etc.

Maintain the following records and attach to the SWPPP:

a) The dates when major grading activities occur;

b) The dates when construction activities cease on a portion of the site, either temporarily or permanently;

c) And the dates when stabilization measures are initiated.

3) Structural Practices: This shall include a description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and discharges. Examples of structural practices include but are not limited to silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, and temporary and permanent sediment basins.

B. Storm Water Management: A description of measures that will be performed during construction to control pollutants in storm water discharges that will occur after construction operations. Examples of storm water management measures include but are not limited to storm water detention structures (wet ponds), storm water retention structures, flow attenuation, on-site filtration, and sequential systems.

C. Other Controls: This Section shall address measures to minimize dust and off-site vehicle tracking of sediments; a description of any on-site material storage and measures to minimize exposure of the materials to storm water, and measures for spill prevention and response; a description of pollutant sources from areas other than construction and a description of controls. The SWPPP shall also include a description of measures necessary to protect listed endangered or threatened species or critical habitats.

Amend the SWPPP whenever a change in design, construction, operation, or maintenance occurs. Update the SWPPP to remain consistent with any changes applicable to protecting surface water resources.

3. Maintenance: Maintain all erosion and sediment control measures and other protective measures identified in the SWPPP in effective operating condition until the Engineer has submitted the NOT to the EPA. If the required inspections described in the following item identify BMPs that are not operating effectively, perform maintenance before the next anticipated storm event, or as necessary to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, accomplish maintenance as soon as practicable.

4. Inspections: Qualified personnel shall inspect the following:

A. Disturbed areas of the construction that are not stabilized.

B. Areas used for storage of materials that the Contractor exposes to precipitation.

C. Structural control measures.

D. Locations where vehicles enter or exit the site.

Inspections shall occur at least once every 7 calendar days and within 24 hours of the end of a storm event of 12.5 mm or greater of rain. Based on the results of the inspection, modify the SWPPP as necessary to include additional or modified BMP to correct identified problems. Revisions to the SWPPP shall be completed within 7 days following inspections. If modifications to existing BMP are necessary, implementation shall be completed within 7 days.

You are eligible for a waiver of monthly inspection requirements until 1 month before expected thawing conditions result in a discharge, if all of the following requirements are met:

1) The project is located in an area where the Engineer anticipates frozen conditions to continue for extended periods of time (i.e., more than one month).

2) Land disturbance activities have been suspended.

3) Beginning and ending dates of the waiver period in the SWPPP have been documented.

5. Inspection Reports: Prepare a report with the following information:

A. A summary of the scope of the inspection.

B. The name(s) and qualifications of personnel making the inspection.

C. The date of the inspection.

D. Major observations relating to the implementation of the SWPPP.

E. Any actions taken as the result of the inspection.

Prepare inspection reports until the Engineer has submitted the NOT to the EPA. Retain all inspection reports as part of the SWPPP for at least 3 years from the date of final stabilization. The report shall also identify any areas of a noncompliance. Where a report does

not identify any incidents of a noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP and NPDES General Permit. Sign the report verifying that it was done in accordance with Part VI.G of the NPDES General Permit. The SWPPP shall include all certifications in the appendix. Submit inspection reports to the Engineer within 3 days of the inspection.

6. Non-Storm Water Discharges: Identify in the SWPPP storm water discharges associated with the construction activities that combined with non-storm water. List these in Part III.A.2 or 3 of the NPDES General Permit. Exclude flows from fire fighting activities. The SWPPP shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

641-1.05 HAZARDOUS MATERIAL CONTROL PLAN REQUIREMENTS. Comply with all State and Federal regulations that pertain to the handling, storage, cleanup, and disposal of petroleum products or other hazardous substances. Prepare the HMCP detailing a Fueling and Maintenance Plan for equipment and machinery. Identify locations where fueling and maintenance activities are to take place, and any controls to contain the accidental spillage of petroleum products. Provide a list and estimate quantities in the HMCP of potentially hazardous materials, including petroleum products that shall be used and/or stored on the site. Identify a Plan for the disposal of waste petroleum products and/or other hazardous wastes generated by the project in the HMCP. Additionally, detail a Plan for prevention, containment, cleanup and disposal of soil and water contaminated by accidental spills, and a Plan for encountering unexpected contaminated soil and water during construction in the HMCP.

641-2.01 MATERIALS. Accomplish erosion and pollution control measures utilizing BMP as specified in the SWPPP and HMCP. Undertake ground disturbing activities after the seeding deadline only under the following conditions:

1. The SWPPP describes the work and controls to be taken to control storm water runoff after the seeding deadline.

2. Personnel, materials, and equipment are on hand to accomplish the control measures identified in the SWPPP.

3. Stabilize all disturbed areas against erosion within 7 days of the temporary or permanent cessation of work on the slopes. Stabilization practices may include mulching, geotextile, sod, covering with sheet plastic, or other equivalent measures.

The silt fence filtration material shall meet the requirements of Subsection 729-2.04 Sediment Control. The silt fence support framework shall be finished 50 mm x 50 mm wood, 75 mm diameter wood,

#19M rebar with PVC sleeves, iron pipe, or other posts capable of supporting the installation, as approved by the Engineer. The mesh support shall be WWF 150x150 or as approved by the Engineer.

Temporary check dams shall be constructed of gravel and cobble graded according to the following table:

SIEVE DESIGNATION	PERCENT PASSING (BY WEIGHT)
300 mm	100%
150 mm	90% Maximum
100 mm	50% Maximum
75 mm	0 - 10 %

Straw bales will have nominal dimension of 600 millimeter x 600 millimeter x 1,200 millimeter and weight approximately 18 kg.

641-3.01 CONSTRUCTION REQUIREMENTS. Comply with all requirements of the NPDES General Permit for Alaska, and implement all temporary and permanent measures identified in the SWPPP and Plans until the Engineer has submitted the NOT to the EPA. The Contractor and the Department shall share responsibility for inspecting, and the your representative shall prepare inspection reports per the requirements of the NPDES General Permit. Compliance with the NPDES General Permit does not reduce the Engineer's authority to direct additional erosion control measures deemed appropriate. The Department reserves the right to hire another Contractor to perform this work if you are unresponsive or the Engineer cannot reach a suitable agreement with you.

Prior to the start of construction, you, your representative, the professional engineer who stamped the SWPPP, and the Engineer shall have an on-site inspection to discuss the SWPPP implementation and the requirements under that Plan.

You shall be responsible for the containment, cleanup, and disposal of all construction related discharges of petroleum fuels, oil, and/or other substances hazardous to the land and water. You shall also be responsible for performing all fueling operations in a safe and environmentally responsible manner. Performance of this activity shall comply with the requirements of 18 AAC 75 and Title 46 of the Alaska Statutes.

Silt fences shall be installed prior to any work in or near the locations shown on the Plans, and in accordance with the provisions of Subsection 107-1.11, Protection and Restoration of Property and Landscape. Install additional silt fencing at other sites as directed by the Engineer.

Do not remove the silt fence until the slopes have been stabilized from further erosion as determined by the Engineer. Remove the silt fence after the completion of construction at those sites. Dispose of the silt fence off the project. Cut the fabric off at ground level and remove the wire and posts. Do not discharge silt into the wetlands or water bodies when removing the silt fence. If a sediment height in excess of 100 mm above ground remains, spread the sediment on the roadway side of the fence location and seed immediately in accordance with Section 618, Seeding.

641-4.01 METHOD OF MEASUREMENT. Item 641(1) Erosion and Pollution Control Administration, will not be measured for payment. The Engineer's acceptance will constitute measurement.

Item 641(2) Erosion and Pollution Control, will be measured in the manner specified in the directive authorizing the work.

Silt fence will be measured by the meter along the top of the fence.

Straw bales and temporary check dams will be measured by the individual unit.

641-5.01 BASIS OF PAYMENT. Item 641(1) Erosion and Pollution Control Administration, will be full compensation for administration of erosion control including plan preparation and amendments, inspection, monitoring, reporting and record keeping.

Item 641(2) Erosion and Pollution Control, will be full compensation for providing all labor, equipment, and materials required to accomplish the work, as specified in the directive authorizing the work.

Failure to perform the following items diligently:

1. Pursue work required by the approved SWPPP,

2. Respond to inspection recommendations and/or deficiencies in the SWPPP,

3. Implement erosion and sedimentation controls identified by the Engineer,

will result in a permanent price adjustment under Item 641(6). If you do not respond within 2 hours of the Engineer's directive, then an amount equal to 5 percent of the total amount earned from all previous and subsequent progress payments on the Contract or $50,000 which ever is greater, will be withheld, and a permanent price adjustment made equivalent to:

1. $500 per hour for the first 4 hours of non-action;

2. $1,000 per hour for every hour over 4, but less than 10;

3. $1,500 per hour for every hour over 10 hours of non-action.

The Price Adjustment will cease when the Engineer has accepted Corrective Actions. The Department reserves the right to hire another Contractor to do Corrective Action, and to reduce the Contract amount by this cost plus the cost to the Department implementing another Contract.

In addition, the Engineer will make a price adjustment equivalent to any penalties levied against the Department by the EPA or any other State and/or Federal agencies for violations of the Clean Water Act and the NPDES General Permit if the Department is issued a notice of violation by these agencies. This price adjustment shall be the actual cost of any fines levied against the Department. An amount equal to the maximum fine for the violation will be withheld temporarily until the Engineer knows the actual cost of the fine. The Engineer will release the difference, excluding any price adjustments upon satisfactory completion of the requirements of the NPDES General Permit. Penalties for violations are as stated in Part VI.A.2 of the Standard Permit Conditions of the NPDES General Permit. You shall also be responsible for the payment of your own fines.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
641(1)	Erosion and Pollution Control Administration	Lump Sum
641(2)	Erosion and Pollution Control	Contingent Sum
641(6)	Erosion and Pollution Price Adjustment	Contingent Sum

(3/28/00)R59aM98

SECTION 642

PARKS HIGHWAY, MP 57-67
Houston to White's Crossing
Project No. IM-0A4-1(14)/52312

SECTION 642

CONSTRUCTION SURVEYING AND MONUMENTS

Special Provisions

642-3.01 GENERAL. Delete the seventh paragraph.

Delete Item 10 after the heading "Perform the following:" and substitute the following:

10. Necessary cross sections at retaining wall locations. Cross section data shall be taken at 7.5-meter intervals and given to the Engineer 10 days prior to ordering retaining wall materials. At that time, the Engineer will verify the Plan quantity and make any necessary adjustments to the wall size, design or configuration.

11. All other surveying and staking necessary to complete the project.

(5/8/00)R255M98

Add the following after Item 10 on Page 355: Prior to any work on the project, stake and reference the construction centerline. Reference the existing centerline at 25-meter intervals on tangents, and 12.5-meter intervals on curves, super elevations, transitions and cross-slopes. The reference stake shall be a minimum of 25 mm x 50 mm by 0.6 meters and shall show the offset distance to centerline and the station from the beginning of the project.

Install a reference sign every 150 meters. These reference signs shall meet the following requirements:

1. Mounted a minimum of 1.5 meters above the shoulder.

2. Located a minimum of 3 meters from the edge of shoulder.

3. Marked with the station from the beginning of the project, in 125 mm high black lettering on an orange background.

Reference the beginning and ending points of the no-passing zones in a separate field book.

Provide centerline and shoulder profiles extending 90 meters beyond the limits of the pavement removal and dig-out areas. The Engineer may require such adjustments to the planned roadway grades. This shall not be considered extra work. Provide this profile information to the Engineer

(electronically in Excel format) immediately upon its completion, along with checked computations on all level loops, but in no case later than 7 calendar days before slope staking or blue topping. (8/29/00)R61M98

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

SECTION 643

TRAFFIC MAINTENANCE

Special Provisions

643-1.03 TRAFFIC CONTROL PLAN. Replace the last paragraph with the following: The Contractor may request, in writing, a waiver of Regulation 17 AAC 25 regarding oversize and overweight vehicle movements within this project. 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 minimum 3.6-meter 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. (3/6/01) R222M98

Add the following: To minimize disruption to boaters, a Navigation Control Plan shall be developed. This plan shall be coordinated with and approved by the U.S. Coast Guard prior to any work in or over the waters of the Little Susitna River. The plan shall include the following:

1. Information on river closures (number and intervals) and the times when the closures would occur for the navigational users of the waterway;

2. Public Notices for the Wasilla and Anchorage newspapers, local radio stations, retail stores, camp grounds, visitor center, emergency response offices, community center, and public access points upstream of the construction.

3. Location of signs and fences at the bridge site, including the upstream location of the river flagger and river pullout.

Standard Modification

643-2.01 MATERIALS. Delete this Subsection in its entirety and substitute the following: Provide traffic control devices conforming to the following requirements:

1. Signs. Use signs, including sign supports, that conform to Section 615, the ATM and ASDS.

   A. Construction Signs: Use regulatory, guide, or construction warning signs designated in the ASDS.

   B. Permanent Construction Signs: As designated on the Plans or on an approved TCP.

C. Special Construction Signs: All other signs are Special Construction Signs. Clearly and neatly mark the size of each sign on the back in 75-mm black numerals.

2. Portable Sign Supports. Use wind-resistant sign supports with no external ballasting. Use sign supports that can vertically support a 1.2 m X 1.2 m traffic control sign at the height above the adjacent roadway surface required by the ATM.

3. Barricades and Vertical Panels. Use barricades and vertical panel supports that conform to the ATM. Use Type III Barricades at least 2.4 m long. Use reflective sheeting that meets AASHTO M 268 Type II or III.

4. Portable Concrete Barriers. Use portable concrete barriers that conform to the Plans. For each direction of traffic, equip barriers with at least two side-mounted retroreflective reflectors or a continuous longitudinal stripe of preformed retroreflective pavement marking tape mounted 150 mm below the top of each barrier section. Use yellow reflectors or tape if you use barriers at centerline. Use white reflectors or tape if you use barriers on the roadway shoulder.

5. Warning Lights. Use Type A (low intensity flashing), Type B (high intensity flashing) or Type C (steady burn) warning lights that conform to the ATM.

6. Drums. Use plastic drums that conform to the requirements of the ATM. Use reflective sheeting that meets AASHTO M 268 Type II or III.

7. Traffic Cones and Tubular Markers. Use reflectorized traffic cones and tubular markers that conform to the requirements of the ATM. Use traffic cones and tubular markers at least 710 mm high. Use reflective sheeting that meets AASHTO M 268 Type II or III.

8. Interim Pavement Markings. Apply markings according to Section 670 and the manufacturer's recommendations. Use either:

   A. Paint conforming to Subsection 708-2.03 with glass beads conforming to Subsection 712-2.08,

   B. Preformed marking tape (removable or non-removable) conforming to Subsection 712-2.14, or

   C. Temporary raised pavement markers conforming to Subsection 712-2.15 or 712-2.16, as appropriate.

9. High-Level Warning Devices. Use high-level warning devices that conform to the ATM.

10. Temporary Crash Cushions. Use approved temporary crash cushions conforming to the ATM. Use reflective sheeting that meets AASHTO M 268 Type II or III. Do not use permanent crash cushions as temporary crash cushions. Use sand or water filled crash cushions only when the forecasted temperature during their use is above 5° C.

11. Sequential Arrow Panels. Use Type A (610 X 1220 mm), Type B (762 X 1524 mm) or Type C (1220 X 2438 mm) panels that conform to the ATM.

12. Portable Changeable Message Board Signs. Use truck or trailer mounted portable changeable message board signs with a self contained power supply for the sign and with the following features:

    A. Message sign panel large enough to display 3 lines of 229 mm high characters.

    B. Eight-character display per message line.

    C. Fully programmable message module.

    D. The capacity to create, preview, and display new messages and message sequences.

    E. A waterproof, lockable cover for the controller keyboard.

    F. An operator's manual, a service manual, and a wiring diagram.

    G. Quick release attachments on the display panel cover.

    H. Variable flash and sequence rates.

    I. Manual and automatic dimming capabilities on lamp bulb matrix models.

    J. Locate the bottom of the sign panel at least 2.1 m above the pavement.

    K. Operate with a battery pack a minimum of 2 hours under full load.

13. Plastic Safety Fence. Use 1.2-m high construction orange fence manufactured by one of the following companies, or an approved equal:

A. "Safety Fence" by Services and Materials Company, Inc., 2200 South "J" Street, Elwood, Indiana, 46036. Telephone (800) 428-8185.

B. "Flexible Safety Fencing" by Carsonite, 1301 Hot Springs Road, Carson City, Nevada, 89706. Telephone (800) 648-7974.

C. "Warning Barrier Fence" by Plastic Safety Systems, Inc. P.O. Box 20140, Cleveland, Ohio, 44120. Telephone (800) 662-6338.

14. Temporary Sidewalk Surfacing. Provide temporary sidewalk surfacing as required by an approved TCP and the following:

A. Use plywood at least 12 mm thick for areas continuously supported by subgrade. Use plywood at least 25 mm thick for areas that are not continuously supported.

B. Do not use unsupported 25-mm plywood longer than 750 mm.

C. Use plywood with regular surfaces. Do not overlap plywood joints higher than 25 mm.

D. Use a method that will withstand 40 km/h wind velocities to hold temporary surfacing in place.

15. Temporary Guardrail. Use temporary guardrail that meets Section 606, except that posts may require placement under special conditions, such as in frozen ground.

16. Flagger Paddles. Use flagger paddles with 600 mm wide by 600 mm high sign panels, 200 mm Series C lettering (see ASDS for definition of Series C), and otherwise conform to the ATM. Use reflective sheeting that meets AASHTO M 268 Type II or III. (9/29/00) M91

Special Provision

Add the following:

17. Flexible Markers: Refer to Subsection 606-2.01, Materials. (3/6/01) R222M98

Standard Modification

Add the following Subsection:

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643-2.02 CRASH WORTHINESS. Submit documentation, by the method indicated, that the following devices comply with the requirements of National Cooperative Highway Research Program (NCHRP) Report 350 (Test Level 3) on the given schedule.

WORK ZONE TRAFFIC CONTROL DEVICE COMPLIANCE WITH NCHRP 350				
CATEGORY	DEVICES	COMPLIANCE REQUIRED FOR NEW DEVICES*	FULL COMPLIANCE REQUIRED**	METHOD OF DOCUMENTATION
1	Cones, candles, drums w/o attachments, delineators	10/1/98	1/1/02	Manufacturer's Certification for devices exceeding height and weight limits
2	Barricades, portable sign supports, drums w/lights, other devices weighing less than 45 kg but not included in category 1.	10/1/00	1/1/04	FHWA approval letter
3	Truck mounted attenuators and portable crash cushions.	10/1/98	1/1/02	FHWA approval letter
	Portable concrete barriers	10/1/02	1/1/08	FHWA approval letter

*All devices purchased after this date.
**All devices used after this date.

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

Device	Composition	Weight	Height
Cones	Rubber	9 kg	920 mm
	Plastic	9 kg	1220 mm
Candles	Rubber	6 kg	920 mm
	Plastic	6 kg	920 mm
Drums	Hi Density Plastic	35 kg	920 mm
Lo Density	Plastic	35 kg	920 mm
Delineators	Plastic or Fiberglass	N/A	1220 mm

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Category 2 and the listed **Category 3** devices may be documented by submitting an official letter from the Federal Highway Administration stating that the device meets NCHRP 350 Test Level 3 requirements. Letters for many devices may be found on the FHWA's work zone device web site: (http://www.fhwa.dot.gov/roadside/know/workzone/index.htm).

Submit documentation of compliance to the Engineer before using devices on the project.
(9/29/00)M 91

Special Provisions

643-3.01 GENERAL CONSTRUCTION REQUIREMENTS. Add the following: Whenever construction activity encroaches onto the safe route in a traffic control zone, the Contractor shall station a flagger at the encroachment to assist pedestrians and bicyclists past the construction activity.
(3/6/01) R222M 98

Standard Modification

643-3.02 ROADWAY CHARACTERISTICS DURING CONSTRUCTION. In the fourth paragraph, third sentence, change "crossings" to "closures".
(06/25/99)M80

Special Provisions

Add the following: The Contractor may maintain traffic on a gravel surface for a total of 3,048 meters (measured along the centerline) at any one time throughout the project.

643-3.04 TRAFFIC CONTROL DEVICES. Add the following to Item 4. Flagging: A flagger shall be posted on the river bank upstream of the construction zone at all times during river closure. Flaggers posted on the river bank shall be equipped with and instructed in the use of the following:

1. A personal flotation device approved by the U.S. Coast Guard.

2. A battery powered bull horn.

3. A polypropylene river rescue throw rope, 100 feet in length.

Flaggers shall inform all river traffic of the river closure and offer assistance to boaters in coming ashore upstream of the construction zone. The location of the flagger and pullout will be determined during the development of the Navigation Control Plan.

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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

Add the following: When the Little Susitna River is not open to unrestricted public use other than those cases described in Subsection 643-3.08 Construction Sequencing, the Contractor will have payment for this Contract reduced under Item 643(23) Traffic Price Adjustment. This reduction will be made at the rate of 2 dollars per minute of delay due to river closure measured to the next higher quarter hour. The Engineer will determine whether the river is open to full use.

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, do not restrict traffic during the times listed below.

1. Friday from 4:00 PM to Saturday at 6:00 AM.

2. Sunday from 10:00 AM to Sunday at 10:00 PM.

3. Around any holiday:

A. If a holiday falls on Sunday, Monday, or Tuesday, the above stipulations apply from 3:00 PM on the Friday before the holiday to 3:00 AM on the day after the holiday.

B. If a holiday falls on Wednesday, the above stipulations apply from 3:00 PM on the Tuesday before the holiday to 3:00 AM on the Thursday after the holiday.

C. If a holiday falls on Thursday, Friday or Saturday, the above stipulations apply from 3:00 PM on the day before the holiday to 3:00 AM on the Monday after the holiday.

4. Talkeetna Blue Grass Festival, Saturday 6:00 AM to Sunday 10:00 PM.

The Contractor shall make every effort not to delay school buses through the construction work zone.

Lane restrictions, if allowed, shall be conducted so that no more than a 20-minute accumulated delay is encountered by a waiting motorist through the entire length of the project, except during paving operations when 30 minutes delay will be allowed for all motorists except school buses. If a queue of traffic develops at a stop, the entire queue must be emptied to include the last car that entered the queue at the time the queue was released.

Add the following:

Winter Shut Down. By October 1, 2001, the entire traveled roadway shall be surfaced with temporary, existing pavement, permanent pavement, and striped. If the Contractor removes existing pavement from a section of roadway that is to be incorporated into the new alignment, the Contractor shall provide a 40-mm thick by7.2-meter wide temporary paved surface installed at the Contractor's expense. Positive drainage away form the roadway shall be provided prior to acceptance for winter shut down.

Add the following: All work shall be conducted so that the free navigation of the Little Susitna River is not unreasonably interfered with during construction. River closures within the project limits will be permitted only for the following durations and events or as directed by the Engineer:

1. Maximum of 2 calendar days (48 hours) for removal of the existing bridge.

2. Maximum of 14 calendar days for installation of permanent and temporary bridge pilings.

3. Maximum of 4 hours for placement of each girder.

A river closure shall be in effect continuously during all existing bridge removal activities over open water, including times of no work between shifts if deemed necessary by the Engineer. If construction materials such as cables, rebar, large pieces of concrete, or any other materials which may present a hazard to boaters are dropped in the river, a river closure shall be in effect until the material is removed.

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

643-4.01 METHOD OF MEASUREMENT. Page 376, under Item 6 "Interim Pavement Markings," delete the second paragraph.

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 Meter	$215.00
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	Each	$2,500.00
Pilot Car	Hour	$65.00
Watering	Kiloliter	$5.25
Street Sweeping	Hour	$150.00
Plastic Safety Fence	Meter	$16.40
Portable Changeable Message Board Sign	Calendar Day	$150.00
Temporary Sidewalk Surfacing	Square Meter	$12.50
Flexible Markers	Each	$50.00
Removal of Pavement Markings	Meter	$4.00
Temporary Guard Rail	Meter	$70.00
Interim Pavement Markings		
Painted Markings	Meter	$0.32
Removable Preformed Markings	Meter	$2.13
Temporary Raised Pavement Markings	Meter	$0.24
Word or Symbol Markings	Each	$40.00

Payment for Item 643(15), the Engineer will pay Flagging on a contingent sum basis at the rate of $32.00/hour. The Engineer does not require a change order/directive for the flagging Pay Item.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
643(15)	Flagging	Contingent Sum

(3/16/01)R222M98

SECTION 644

SERVICES TO BE FURNISHED BY THE CONTRACTOR

Special Provisions

644-2.01 FIELD OFFICE. Delete this Subsection in its entirety and substitute the following: Furnish and maintain a suitable office for the Engineer, available for occupancy from 2 weeks prior to commencing work, through 30 days after issuance of the notice of project completion as defined in Subsection 105-1.15. The following office requirements shall be met:

1. A minimum of 100 square meters of floor area. The office area shall be divided so that it contains an office room separated by a closable door. The office room shall have a minimum of 15 square meters of floor area.

2. A thermostatically controlled interior heating system with necessary fuel.

3. Adequate electrical lighting and 120 volt, 60 hertz power, with a minimum of 6 electrical outlets. Electrical power shall be from a commercially available source.

4. A minimum of 9 square meters of window area and adequate ventilation.

5. Adequate parking for a minimum of 16 vehicles, with one handicap parking space meeting the requirements of Americans with Disabilities Act Accessibility Guidelines (ADAAG).

6. Attached indoor plumbing with sanitary lavatory facilities and potable drinking water provided.

7. Three telephone service lines available at the office location.

8. If a part of the Contractor's building, it shall be completely partitioned off from the balance of the structure and provided with a separate outside door equipped with a lock.

9. Located within 1,600 meters of the project.

10. The Engineer's office shall be accessible by disabled individuals from the designated handicap parking space in accordance with the requirements of Americans with Disabilities Act Accessibility Guidelines (ADAAG).

11. Weekly janitorial service consisting of emptying trash receptacles, vacuuming office area, and cleaning restrooms and counter areas.

12. Provide one mobilization and one demobilization of the Engineer's office equipment and furniture.

644-2.02 FIELD LABORATORY. Delete Subitem g on Page 380 and substitute the following:

g. 1,900-liter capacity tank with a pressure pump or a commercial pressurized system.

Add the following:

7. Supply 240 volt, 60 hertz power, a 45 kilogram propane bottle, and a 1,900-liter capacity water tank with a pressure pump or a commercial pressurized system for a State provided portable asphalt lab at a location designated by the Engineer.

8. Provide one mobilization and one demobilization of the Engineer's laboratory equipment.

Standard Modification

644-4.01 BASIS OF PAYMENT. In the last full paragraph, beginning with "Furnishing the following is subsidiary", after "platform scales," insert " scale operators."
(06/25/99)M81

Special Provision

Add the following: Electricity, propane and water supplied for the State provided portable asphalt lab will not be paid for separately, but will be subsidiary to Item 644(2) Field Laboratory.
(9/28/00)R63M98

Add the following Section:

SECTION 645

TRAINING PROGRAM

Special Provisions

645-1.01 DESCRIPTION. This Training Special Provision implements 23 CFR 230, Subpart A, Appendix B.

As part of the Equal Employment Opportunity Affirmative Action Program, the Contractor shall provide on-the-job training aimed at developing full journey status in the type of trade or job classification involved. The number of individuals to be trained and the number of hours of training to be provided under this Contract will be as shown on the Bid Schedule.

645-2.01 OBJECTIVE. Training and upgrading of minorities and women toward journey status is the primary objective of this program. The Contractor shall enroll minorities and/or women, where possible, and document Good Faith Efforts prior to the hire of non-minority males in order to demonstrate compliance with this Training Special Provision. Specific Good Faith Efforts required under this Section for the recruitment and employment of minorities and women are found in the Federal EEO Bid Conditions, Form 25A301, Items 7.b, 7.c, 7.d, 7.e, 7.I, 7.j, and 7.1, located in the "green pages" of this document.

645-3.01 GENERAL. The Contractor shall determine the distribution of the required number of apprentices/trainees and the required number of hours of training among the various work classifications based upon the type of work to be performed, the size of the workforce in each trade or job classification, and the shortage of minority and female journey workers within a reasonable area of recruitment.

Training will be provided in the skilled construction crafts unless the Contractor can establish prior to Contract Award that training in the skilled classifications is not possible on a project; if so, the Department may then approve training either in lower level management positions such as office engineers, estimators, and timekeepers, where the training is oriented toward construction applications, or in the unskilled classifications, provided that significant and meaningful training can be provided. Some off-site training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Credit for off-site training hours indicated above may only be made to the Contractor where the apprentices/trainees are concurrently employed on the project and the Contractor does one or more of the following: contributes to the cost of the training, provides the instruction to the apprentice/trainee, or pays the apprentice's/trainee's wages during the off-site training period.

Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

Prior to award of the Contract, the Contractor shall submit Form 25A311, Training Utilization Report, indicating the training program to be used, the number of apprentices/trainees to be trained in each selected classification, the number of hours of training to be provided, and the anticipated starting time for training in each of the classifications.

Training must begin within 2 weeks of the anticipated start date(s); unless otherwise authorized by a Directive. Such authorization will be made only after submission of documentation by the Contractor, and approval by the Engineer, of efforts made in Good Faith which substantiate the necessity for a change.

Contractors may use a training program approved by the U.S. Department of Labor, Bureau of Apprenticeship & Training (USDOL/BAT), or one developed by the Contractor and approved prior to Contract Award by the Alaska Department of Transportation and Public Facilities (DOT&PF) Training Program Representative, using Form 25A310.

The minimum length and type of training for each classification will be established in the training program selected by the Contractor. Training program approval by the Department for use under this Section is on a project by project basis.

It is expected that each apprentice/trainee will begin training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist or until training has been completed. It is not required that apprentices/trainees be continuously employed for the duration of the Contract.

If, in the judgement of the Contractor, an apprentice/trainee becomes proficient enough to qualify as a journey worker before the end of the prescribed training period and the Contractor employs that individual as a journey worker in that classification for as long as work in that area remains, the individual's training program will be considered completed and the balance of training hours required for that apprentice/trainee shall be waived.

The Contractor shall furnish each DOT&PF training program trainee a copy of the program (Form 25A310) to be followed during training on the project, and with a written certification showing the type and length of training completed on the project. Existing USDOL/BAT apprentices should already have a copy of their program. No employee shall be employed for credit as an apprentice/trainee in a classification in which that employee has previously worked at journey status or has previously completed a training course leading to journey status.

The Contractor shall periodically review the training and promotion potential of minority and women employees and shall encourage eligible employees to apply for such training and promotion.

The Contractor shall provide for the maintenance of records and the furnishing of periodic reports documenting the progress of each apprentice/trainee. The Contractor must submit Form 25A313 by the 15th of each month and provide each DOT&PF trainee written evaluation reports for each unit of training provided as established on Form 25A310.

645-3.02 WAGES. Trainees in DOT&PF approved training programs will be paid prevailing Davis-Bacon fringe benefits plus at least 60 (but less than 100) percent of the appropriate minimum journey rate specified in the Contract for the first half of the training period, at least 75 (but less than 100) percent for the third quarter of the training period, and at least 90 (but less than 100) percent for the last quarter of the training period. Trainee wages shall be identified on Form 25A310. Apprentices in USDOL/BAT training programs shall be paid in accordance with their approved program. Beginning wages of each trainee/apprentice enrolled in a Section 645, Training Program, on the project shall be identified on Form 25A312.

645-3.03 SUBCONTRACTS. In the event the Contractor subcontracts a portion of the work, he shall determine how many, if any, of the apprentices/trainees are to be trained by the Subcontractor. Any such Subcontracts shall include this Section 645, Form 25A311 and Form 25A310, where appropriate. However, the responsibility for meeting these training requirements remains with the Contractor; compliance or non-compliance with these provisions rests with the Contractor and sanctions and/or damages, if any, shall be applied to the Contractor in accordance with Subsection 645-5.01, Basis of Payment.

645-4.01 METHOD OF MEASUREMENT. The Contractor will be credited for each approved apprentice/trainee employed on the project and reimbursed on the basis of hours worked, as listed in the certified payrolls. There shall be no credit for training provided under this Section prior to the Contractor's submittal and approval by the Engineer of Form 25A312 for each apprentice/trainee trained under this Section. Upon completion of each individual training program, no further measurement for payment shall be made.

645-5.01 BASIS OF PAYMENT. Payment will be made at the Contract Unit Price for each hour of training credited. Where a trainee or apprentice, at the discretion of the Contractor, graduates early and is employed as a journey worker in accordance with the provisions of Subsection 645-3.01, the Contractor will receive payment only for those hours of training actually provided.

This payment will be made regardless of any other training program funds the Contractor may receive, unless such other funding sources specifically prohibit the Contractor from receiving other reimbursement.

Payment for training in excess of the number of hours specified on the approved Form 25A311, may be made only when approved by the Engineer through Change Order.

Non-compliance with these Specifications shall result in the withholding of progress payments until good faith efforts documentation has been submitted and acceptable remedial action has been taken.

Payment will be at the end of the project following the completion of all training programs approved for the project. No payment or partial payment will be made to the Contractor if he fails to do any of the following and where such failure indicates a lack of good faith in meeting these requirements:

1. Provide the required hours of training (as shown on the approved Form 25A311),

2. Train the required number of trainees/apprentices in each training program (as shown on the approved Form 25A311), or,

3. Hire the apprentice/trainee as a journey worker in that classification upon completion of the training program for as long as work in that area remains.

Failure to provide the required training damages the effectiveness and integrity of this affirmative action program and thwarts the Department's Federal mandate to bring women and minorities into the construction industry. Although precise damages to the program are impractical to calculate, they are at a minimum, equivalent to the loss to the individuals who were the intended beneficiaries of the program. Therefore, where the Contractor has failed, by the end of the project, to provide the required number of hours of training and has failed to submit acceptable good faith efforts documentation which establishes why he was unable to do so, the Contractor will be assessed an amount equal to the following damages to be deducted from the final progress payment:

Number of hours of training not provided, times the journey worker hourly scale plus benefits. The journey worker scale is that for the classification identified in the approved programs.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
645(1)	Training Program for Labor 2 Trainees/Apprentices	Hour

(10/29/91)S16

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 draft CPM schedule at the preconstruction conference for the Engineer's approval. The finalized CPM schedule must be completed and accepted prior to any work being done on the project site.

646-3.01 REQUIREMENTS AND USE OF SCHEDULE Delete Item 2, 60-Day Preliminary Schedule.
(3/12/01)R261M98

Add the following Section:

SECTION 647

EQUIPMENT RENTAL

Special Provisions

647-1.01 DESCRIPTION. This item consists of furnishing construction equipment, operated, fueled and maintained, on a rental basis for use in construction of extra or unanticipated work at the direction of the Engineer. Construction equipment is defined as that equipment actually used for performing the items of work specified and shall not include support equipment such as, but not limited to, hand tools, power tools, electric power generators, welders, small air compressors and other shop equipment needed for maintenance of the construction equipment.

The work is to be accomplished under the direction of the Engineer, and the Contractor's operations shall at all times be in accordance with the Engineer's instructions. These instructions by the Engineer shall be to the Contractor's supervisory personnel only, not to the operators or laborers. In no case shall these instructions by the Engineer be construed as making the Department liable for the Contractor's responsibility to prosecute the work in the safest and most expeditious manner.

647-2.01 EQUIPMENT FURNISHED. In the performance of this work, the Contractor shall furnish, operate, maintain, service, and repair equipment of the numbers, kinds, sizes, and capacities set forth on the Bid Schedule or as directed by the Engineer. The operation of all equipment shall be by skilled, experienced operators familiar with the equipment.

The kinds, sizes, capacities, and other requirements set forth shall be understood to be minimum requirements. The number of pieces of each equipment to be furnished and used shall be as the Engineer considers necessary for economical and expeditious performance of the work. The equipment shall be used only at such times and places as the Engineer may direct.

All equipment shall be in first-class working condition and capable of full output and production. The minimum ratings of various types of equipment shall be as manufactured and based on manufacturer's specifications. Alterations will not be considered acceptable in achieving the minimum rating. Equipment shall be replaced at any time when, in the opinion of the Engineer, their condition is below that normal for efficient output and production.

All equipment shall be fully operated, which shall be understood to include the operators, oilers, tenders, fuel, oil, air hose, lubrication, repairs, maintenance, insurance, and all incidental items and expenses.

647-2.02 EQUIPMENT OPERATORS AND SUPERVISION PERSONNEL. Equipment operators shall be competent and experienced and shall be capable of operating the equipment to its capacity. All personnel furnished by the Contractor shall be, and shall remain during the work hereunder, employees solely of the Contractor.

The Contractor shall furnish, without direct compensation, a job superintendent or Contractor's representative together with such other personnel as are needed for Union, State, or Federal requirements and in servicing, maintaining, repairing and caring for the equipment, tools, supplies, and materials provided by the Contractor and involved in the performance of the work. Also, the Contractor shall furnish, without direct compensation, such transportation as may be appropriate for the personnel.

647-3.01 CONSTRUCTION REQUIREMENTS. The performance of the work shall be in accordance with the instructions of the Engineer, and with recognized standards and efficient methods.

The Contractor shall furnish equipment, tools, labor, and materials in the kinds, number, and at times directed by the Engineer and shall commence, continue, and stop any of the several operations involved in the work only as directed by the Engineer.

Normally, the work is to be done when weather conditions are reasonably favorable, 6 days per week, Mondays through Saturdays, holidays excepted.

The Engineer will begin recording time for payment each shift when the equipment begins work on the project. The serial number and brief description of each item of equipment listing in the Bid Schedule and the number of hours, or fractions thereof to the nearest one-quarter hour, during which equipment is actively engaged in construction of the project shall be recorded by the Engineer. Each day's activity will be recorded on a separate sheet or sheets, which shall be verified and signed by the Contractor's representative at the end of each shift, and a copy will be provided to the Contractor's representative.

647-4.01 METHOD OF MEASUREMENT. The number of hours of equipment operation to be paid for shall be the actual number of hours each fully operated specified unit of equipment, or each fully operated specified combination of units of equipment, is actually engaged in the performance of the specified work on the designated areas in accordance with the instruction of the Engineer. The pay time will not include idle periods, and no payment will be made for time used in oiling, servicing, or

repairing of equipment, or in making changeovers of parts to the equipment. Travel time to or from the project, will not be authorized for payment.

647-5.01 BASIS OF PAYMENT. Payment will be the measured number of hours times the rate contained in the equipment rate schedule.

EQUIPMENT SCHEDULE

EQUIPMENT TYPE	
Wide Pad Dozer, 48 kW mm	$125/Hour
Backhoe, 4WD, 0.75 m^3 Bucket 56 kW, 4.4 m Depth	$90/Hour

Payment shall be full compensation for furnishing, operating, maintaining, servicing and repairing the equipment, and for all incidental costs related to the equipment. Furnishing and operating of equipment of heavier type, larger capacity, or higher wattage than specified will not entitle the Contractor to any extra compensation.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
647(1)	Wide Pad Dozer, 48 kW Minimum	Contingent Sum
647(2)	Backhoe, 4 WD, 0.75 m3 Bucket 56 kW, 4.4 m Depth	Contingent Sum

(11/12/98)R15M98

SECTION 660

SIGNALS AND LIGHTING

Special Provisions

660-1.03 EQUIPMENT LIST(S) AND DRAWINGS. 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.

660-1.05 MAINTAINING EXISTING AND TEMPORARY 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, but is not limited to, repairing, replacing, adjusting, realigning, cleaning, and relocating components of traffic signals, lighting systems, and flashing beacons to keep them wholly operational and positioned in accordance with the following specifications.

At the Pre-construction Conference, furnish the Engineer with the name and telephone number of the person responsible for maintaining 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 the Contractor begins work, the Engineer will notify the Contractor and the local maintenance agencies in writing of the transfer of maintenance responsibilities, providing an effective date and time. Maintenance does not include replacement of defective equipment or repair of damage prior to the transfer of maintenance responsibility. Therefore, before commencing work on the project, the Contractor should inventory the condition of the existing equipment and present written documentation of all damaged and defective equipment, which the Engineer will inspect with the Contractor. If the Contractor begins work before providing the Engineer with an inventory, the Contractor waives the right to claim extra compensation when the Engineer later finds damaged or defective equipment.

Keep the existing and temporary electrical systems in effective operation during the progress of the work, except when the Engineer allows shutdowns for alteration or final removal of the systems. The Engineer will consider these systems in effective operation when he finds no damaged or defective equipment is in service, and photoelectric controls operate the lighting systems. The State will pay for all electricity required for the operation of the systems, if the public benefits from their operation. Furnish replacement equipment compatible with existing equipment used in the Central Region.

Begin repair work on all systems within one hour of notification by the Engineer. If repairs are not completed, the Engineer may have outside forces complete the repairs and deduct the amount billed from any monies due the Contractor. When work is done on a traffic signal system, maintain a hand printed record of all work performed in the diary found in each controller cabinet. Each entry shall include the following:

1. The date(s) and time(s) the changes or maintenance operations began and were completed, and the names of the crew members 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. Conclude each entry with the printed name and signature of the person responsible for making the repairs or changes.

The Engineer will limit signal system shutdowns to periods during normal working hours as specified in Section 643, Traffic Maintenance. During the shutdowns, use flag persons to control traffic. Provide local traffic enforcement and maintenance agencies 24-hour notice prior to shutting down a traffic signal system.

Ascertain the location of existing conduit runs, buried cables, junction boxes, and all underground utilities before beginning work that may damage these facilities or interfere with these systems.

Where roadways are to remain open to traffic and existing lighting systems are to be modified, energize the modified circuit by sunset on the same day the original circuit is retired.

Relocate or replace signal poles, lighting standards, sign poles, flashing beacon poles, load centers, and controller cabinets whenever they come within than 1.8 meters to the traveled way.

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

1. For overhead signals, maintain between 5.3 m and 5.8 m of clearance between the traveled way and the bottom of each signal.

2. For side mounted signals, maintain between 2.7 m and 3.4 m 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 2 or more lanes with the lane lines separating the lanes.

5. Check the horizontal angle to the side mounted far right signal from the center of the farthest left through lane at the stop bar. When the angle exceeds 20 degrees, move this signal to an overhead location. With 2 or more through lanes, center one signal head over each lane. With one through lane and protected-permitted signal phasing, leave the 5 section signal over the lane line and center the signal to be relocated over the through lane, otherwise install the relocated signal 2.4 meters to the right of the signal centered over the through lane.

6. For pedestrian signals, maintain between 2.1 m and 2.7 m between the traveled way and the bottom of each pedestrian signal.

7. Aim all signal heads in accordance with Subsection 660-3.08, Installation Details.

When no longer required, salvage all original and Department provided equipment in accordance with the Plans and Subsection 660-3.21, Salvaging or Reusing Electrical Equipment, and remove all other materials used in the temporary systems from the project.

660-2.01 EXCAVATING AND BACKFILLING. In the fourth paragraph, change "Subsection 204-3.01" to "Section 204."

Add the following after the fourth paragraph: Backfill the first 150 mm lift with material free of rocks exceeding a 25 mm maximum dimension.

660-2.05 CONDUIT. Add the following: The Engineer will only allow trenching to install conduits across roadways scheduled to be paved or overlaid. The Engineer will not allow trenching after the Contractor paves the final asphalt course.

660-2.06 JUNCTION BOXES. Delete the second paragraph and substitute the following: Only use pre-cast reinforced concrete junction boxes conforming to the sizes and details shown on the Plans. Use only cast iron box lids.

660-2.08 CONDUCTORS. Add the following to Subsection 2. Power Conductors and Cables: Furnish cables consisting of three #8 AWG conductors with conductor insulation colored black, white, and red. Furnish cables with 3 conductors larger than #8 AWG with conductor insulation colored black, white, and red, or with all black conductor insulation with printed numbers identifying each conductor per ICEA Method 4.

660-2.09 WIRING. Delete the phrase "and loop lead-in cable splice (single pair or multiple pair)" from the first sentence in the paragraph numbered 11.

Delete paragraph numbered 14. and add the following: Label the cables used in the signal and illumination systems with the following legends:

1. For the cables listed in Table 660-1, use the legends included in the same Table.

2. Use the loop number shown on the Plans to label each tail of all loop detectors and the paired loop lead-in conductors in the controller cabinet.

3. For interconnect cables, use the first letter of the direction the cable follows to the adjacent intersection on each cable. Add a number suffix if more than one cable is routed to the adjacent intersection.

Furnish the 2 types of identification tags listed below that feature hand written legends. Write the legends specified neatly and legibly, using a black marking pen recommended by the tag manufacturer. Replace at no expense to the State all identification tags the Engineer deems illegible.

1. Use identification cable ties for labeling loop detector tails and the paired conductors included in each loop lead-in cable in the controller cabinet. Furnish identification cable ties made of nylon that feature a nonmagnetic stainless steel locking device embedded in the head and a tag attached "flag style" to the head. The cable ties shall consist of a single strap with a minimum size tag of 20 mm by 9 mm.

2. To label all other cables, use cable tags made of nylon reinforced vinyl impervious to the elements and which will not tear. Provide tags with a 100 mm by 44 mm minimum size that attach flag style at one corner to a single strap. Furnish yellow tags for labeling all signal and interconnect cables and red tags for labeling lighting and feeder cables.

660-2.10 FUSED SPLICE CONNECTORS. Add the following: Retrofit reused poles with new tap wires, and fused disconnect kits.

660-2.11 BONDING AND GROUNDING. Add the following after the first paragraph: Install a 19 mm by 3.0 m copper clad ground rod under "P" type controller cabinet foundations.

Add the following after the second paragraph: All hardware, including insulated throat grounding bushings, ground rods, and ground rod clamps shall be UL listed. Grounding bushings shall be the threaded type.

Where wire is pulled and reinstalled in existing conduits, the bare No. 8 AWG copper wire shall also be installed. Where conduits are installed for future conductors, the above mentioned copper wire may be omitted.
(3/30/00)R215M98

660-3.16 LUMINAIRES. Add the following: Furnish high pressure sodium lamps with a rated life of 24,000 hours based on 10 hours per start.

The luminaire manufacturer shall furnish light fixtures free of substances (such as paint) that affect luminaire photometric performance.

Furnish luminaires that provide the specified uniformity (or better) in the configurations listed on the Plans. Uniformity is defined as the average maintained illumination level divided by the maintained illumination at the dimmest point. Calculate uniformity using the manufacturer's current published photometric charts. Derive uncorrected illumination values by straight-line interpolation between lines of the isolux curves.

Luminaire Type Definitions:

MC-3: Mastarm Mounted Medium Cutoff, Type 3 as defined by the Illuminating Engineering Society (I.E.S.).

MS-3: Mastarm Mounted Semi Cutoff, Type 3 as defined by the Illuminating Engineering Society (I.E.S.).

Offset: Pole top mounted luminaires designed to be offset between 6 and 15 meters from the edge of traveled way and angled between 30 and 50 degrees from the horizontal.

660-5.01 BASIS OF PAYMENT. Add the following: The Lump Sum prices paid for the items included in the Contract includes full compensation for all work involved in furnishing and installing, assembling, modifying, and removing the components of the systems shown on the Plans. This includes: completing all excavation to install foundations, conduits, and junction boxes, backfilling and compacting trenches, removing and replacing improvements, installing sumps under junction boxes, and pulling conductors. The Lump Sum prices paid also include full compensation for all work specified in the Standard Specifications and Special Provisions. This includes: getting all materials

approved; preparing As-Built Plans, maintaining the electrical systems, adjusting junction boxes to grade, making all splices, labeling all conductors, completing all tests, and delivering salvaged electrical equipment.
(6/8/00)R65M98

Add the following Pay Item:

Pay Item No.	Pay Item	Pay Unit
660 (5)	Structure Illumination System Complete, Pedestrian Undercrossing	Lump Sum

SECTION 661

ELECTRICAL LOAD CENTERS

Special Provisions

661-3.01 CONSTRUCTION REQUIREMENTS. Add the following: Prior to calling MEA for a service to be placed to any new load center the Contractor shall have had all the new load centers inspected and accepted (tagged and dated). Once the load centers have been accepted, the Contractor can call MEA at (907) 761-3231 to schedule the service to each load center.

661-5.01 BASIS OF PAYMENT. Add the following: Payment of any fees required by the local authority for an electrical inspection and the costs of correcting the deficiencies noted during the inspection shall be considered incidental to the Section 661 items.
(5/28/98)R213M

SECTION 669

AUTOMATED TRAFFIC RECORDER STATIONS

Special Provisions

669-1.01 DESCRIPTION. This work shall consist of relocating an existing Automated Traffic Recorder (ATR) station and installing new induction loops.

An ATR station is a vehicle detection system. The ATR to be relocated consists of inductive loops buried beneath the asphalt in each traffic lane with lead wires run into a roadside CBA1 cabinet and attached to a terminal block. Traffic volume information is collected when a portable, battery-operated traffic counter is connected to the inductive loop wires; the traffic counter detects passage of vehicles and stores the data for later retrieval. Telephone and Electrical utilities are not included.

669-1.02 REGULATION AND CODE. All materials and workmanship shall conform to the standards of the Underwriter's Laboratories, Inc., the National Electrical Safety Code, and local safety code requirements where applicable. All electrical equipment shall conform to the standards of the National Electrical Manufacturers Association, where applicable.

669-2.01 MATERIALS. All materials provided for the work shall be new, and shall meet the following requirements:

1. Wiring: All wiring shall be in accordance with Subsection 660-2.09(A), Wiring. All single wire conductors and cables shall have clear, distinctive and permanent markings on the outer surface throughout the entire length giving the manufacturer's name or trademark, the insulation type-letter designation, the conductor size, voltage rating and the number of conductors if a cable. All wires and cables must be home run labeled for detection type and field location in each junction box and cabinet; for example, V1SLA (for wire) and GaSLA (for cable).

2. Conduit: All conduit shall be in accordance with Subsection 660-2.05, Conduit. All conduit, except for PVC conduit forming the inductive loops, shall be Galvanized Rigid Conduit (GRC), or Intermediate Metal Conduit (IMC)except as noted herein or on the Plans.

3. Junction Boxes: All junction boxes shall be in accordance with Subsection 660-2.06, Junction Boxes. Junction boxes used for loops and sensor wires shall not contain any wiring or conduit greater than 24-volts. The covers of all junction boxes used for loops or sensor wires shall be labeled 'TRAFFIC'.

4. Terminal Blocks: Relocated as part of the existing cabinet.

5. Inductive Loops: All inductive loops shall be in accordance with Subsection 660-2.08, Conductors. Conductors used for detector inductive loops shall be #14 AWG conductor in a polyethylene tube conforming to IMSA Specification 51-5.

   Loop lead-in cable home run shall consist of a twisted pair 18AWG stranded tinned copper wire with polyethylene insulation, covered with an aluminum foil shield, stranded copper drain wire, and PE outer jacket conforming to IMSA Specification 50-2.

   Multiple pair loop lead-in cable shall consist of 18AWG stranded tinned copper wire with each twisted pair containing a 20AWG tinned copper drain wire, an aluminum shield and overall PVC or PE jacket.

6. Cabinets: Relocate the existing cabinet. The cabinet shall be mounted on a pedestal that is supported with a foundation per standard details as noted on the Plans.

669-3.01 CONSTRUCTION REQUIREMENTS.

1. Field Inspection: Before installation (of conduit/wiring, inductive loops, and cabinets) the Contractor shall notify the Engineer in writing a minimum of 3 working days (excluding Saturday, Sunday and State or Federal Holidays). The Engineer shall be present to approve the installation prior to final burial or encasement. Any unacceptable installations shall be corrected and re-inspected for completeness prior to burial or encasement. Any installation buried or encased without approval by the Engineer shall be uncovered, removed, and/or replaced at the Contractor's expense. Any expense or delay in the project scheduling will be the responsibility of the Contractor.

2. Wiring: All wiring shall be installed in accordance with Subsection 660-2.09(A), Wiring. All conductors shall terminate and be soldered to "spade" type terminal lugs.

   A. All unused pairs shall be properly terminated. At junction boxes, unused pairs shall be terminated within splices and labeled. At cabinets, unused pairs shall be terminated to a terminal block and labeled.

   B. All wiring shall have at least 600 millimeters of slack cable in each junction box and at least 1.8 meters of slack cable available in the equipment cabinet prior to the terminal block.

C. All wiring shall be labeled in all junction boxes.

3. Conduit: All conduit shall be installed in accordance with Subsection 660-2.05, Conduit or as indicated on the Plans. Nylon pull cords shall be left in all conduit larger than 25mm Conduits to be sloped to drain into junction boxes.

4. Junction Boxes: All junction boxes shall be installed in accordance with Subsection 660-2.06, Junction Boxes, or as indicated on the Plans. Junction boxes used for ATR inductive loops and other sensors shall not contain wiring carrying greater then 24 volts.

5. Terminal Blocks: All terminal blocks shall be permanently and clearly labeled. All wire pairs shall be permanently and clearly labeled on the block. Wire pairs shall be labeled such that inductive loops and other sensors in the lane nearest to the cabinet are at the top or left side of the block. All conductors shall terminate and be soldered to "spade" type terminal lugs.

6. Inductive Loops: All inductive loops shall be installed and constructed in accordance with Subsection 660-4.01, Installation Details, unless otherwise specified on the Plans. In addition:

   A. Placement: The Plans are not schematics; installation of the inductive loops shall be centered within the travel lane and shall closely conform to the location and layout of conduit runs shown in the Plans.

   B. Installation Sequence: All loops installed in new asphalt paving shall be installed immediately prior to final paving of the particular section of road. Installation of loops after final lift paving shall not be permitted.

   C. Loop Size: All inductive loops shall be formed of 4 turns of wire, and shall be 1.83 meters square with plus-or-minus 25-millimeters tolerance, except as noted on the Plans.

   D. Lead-in Conduit: All lead-in conduits from edge of pavement to the inductive loops shall be straight and perpendicular to the centerline of the road. The loops shall be installed such that the weather-sealed cover plate on the X body connector is on the top. Conduits between junction boxes and from other loops shall not be closer than 300-millimeters from induction loops. Induction loop tails may be installed with zero clearance between each other and other ATR conduits.

7. Cabinets: The Engineer shall be consulted prior to cabinet relocation.

A. All cabinets shall be installed out of the clear zone unless protected by safety barriers.

B. All cabinets shall be installed with the doors facing away from the road.

669-3.02 ACCEPTANCE TESTING. The Contractor shall perform acceptance testing on all ATR installations. The State will not accept anything less then a 100 percent fully tested and functional installation of all equipment and materials.

1. General Tests: All installations shall have tests conducted in accordance with Subsection 660-4.01, Installation Details. Specifically included are Continuity Tests, Inductance Tests, and Insulation Resistance Tests.

669-3.05 DELIVERABLES. All deliverables shall be submitted to the Engineer prior to final approval of the work or as otherwise called for herein.

1. Equipment List(s) and Drawings: The Contractor shall submit for review and approval by the Engineer within 30 days following award of the Contract, 3 collated copies of a portfolio of equipment and materials, which he proposes to install for the ATRs. The portfolio(s) shall consist of a table of contents which includes each item's intended use(s), and a description that includes product name, manufacturer, and model or part number.

   The Department will not be liable for any materials purchased, labor performed, equipment used or delay to the work before all equipment and materials have been reviewed and approved.

2. As-Built Plans: The Contractor shall prepare 4 complete sets of As-Built Plans, which will be kept current with the construction. These As-Built Plans shall detail all construction changes made to the Plans and also include the following information on the appropriate sheets:

   A. The location and depth of all inductive loops and conduit runs, and,

   B. The station and offset of all junction boxes.

   Redlines of full-size Construction Plans will be acceptable.

   Three sets of As-Built Plans shall be presented to the Engineer, and one set shall be affixed in a waterproof, clear plastic holder to the inside of the cabinet door at the appropriate Automated Traffic Recorder Installation.

3. Photographs: The Contractor shall present photographs and 35-millimeter negatives documenting the installation of all inductive loops. The photos shall show the loops in-place prior to covering with gravel and asphalt pavement. The photographs shall include at least one view of each loop showing the conduit to the nearest junction box, and at least 2 overall views of each ATR installation showing placement of the inductive loops. The photographs shall be 127 millimeter x 178 millimeter (3" x 5" nominal) color prints, and shall be labeled with the identification of each loop as indicated on the Plans [for example; (State project number) *52480*, (ATR #) *H1*, and (Loop designation) *V1NLA,* and (Date photos are taken) *mm/dd/yy*].

4. Test Results: Written or printed copies of the final results of all tests, signed by the Contractor, shall be provided to the Engineer prior to acceptance of the Automated Traffic Recorder Installation.

5. Materials: The Contractor shall provide to the Engineer any and all epoxy grout remaining after installation.

669-4.01 METHOD OF MEASUREMENT. Automated Traffic Recorders installations will not be measured for payment.

669-5.01 BASIS OF PAYMENT. Automated Traffic Recorders will be paid for at the Contract Lump Sum price, and shall be full compensation for relocating the existing cabinet and installing new inductive loops, wiring, junction boxes necessary to provide a complete and working ATR, with the following exceptions:

1. Excavation and backfill materials required will be paid for under their respective Pay Items.

2. Asphalt required will be paid for under a separate Pay Item.

3. Traffic Control shall be paid for under the appropriate Pay Item(s).

Materials, As-Built Plans, the manufacturer's representative(s), and acceptance testing required for these installations will not be paid for separately, but will be subsidiary to the Automated Traffic Recorder.

A sum equal to one-tenth of the total cost for Pay Item 669(1) shall be withheld until after the Engineer certifies in writing that the installations have passed all Acceptance Tests in Section 669-3.02 and that all Deliverables in Section 669-3.05 have been submitted.

Payment will be made under:

PARKS HIGHWAY, MP 57-67
Houston to White's Crossing
Project No. IM-0A4-1(14)/52312

Pay Item No.	Pay Item	Pay Unit
669(1)	Automatic Traffic Recorder	Lump Sum

SECTION 670

TRAFFIC MARKINGS

Special Provisions

670-3.01 CONSTRUCTION REQUIREMENTS. Under Item 4, Methyl Methacrylate Pavement Markings, delete the last sentence in the first paragraph and substitute the following: Do not apply striping to the new asphalt until the asphalt has cured for the duration listed below and at the Engineer's discretion:

Stone Mastic Asphalt Concrete	30 Days
All Others	15 Days

Under Item 4. Methylmethacrylate Pavement Markings, delete the second paragraph and substitute the following: Apply Methylmethacrylate marking material with truck-mounted equipment designed and capable of properly mixing at the point and time of application according to the manufacturer's recommendations.

Add the following under Item 4. before the third paragraph: A film test stripe will be required at the beginning of each striping shift, and when there is a change in the asphalt type. Additional film test stripes may be required at the Engineer's discretion.
(7/28/99)R221M98

Under Item 4. Methylmethacrylate Pavement Markings, delete the first sentence in the fifth paragraph and substitute the following: Apply markings for lane lines, edge lines, and Centerlines at a thickness of 2.3 mm. Apply transverse markings (diagonals and chevrons) between exit gores at a thickness of 1.5 mm.

Under Item 4 Methylmethacrylate Pavement Markings, delete the first sentence of the sixth paragraph and substitute the following: Apply transverse type Methylmethacrylate pavement markings (exclusive of diagonals and chevrons between exit gores) and symbols at a thickness of 3 mm. This includes crosswalks, stop bars, symbols and legend markings as well as gore borders on exit ramps.

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 requirement for removal. Any method

utilizing burning with an open flame shall not be used for the removal of pavement markings on the final paving lift.

670-3.05 PRELIMINARY SPOTTING. Add the following: After acceptance of the aggregate base course layer, but prior to paving, the Engineer will establish passing/no passing zones. The Engineer will establish the no passing zones in accordance with Chapter 3 of the Alaska Traffic Manual. (2/28/01)R192M98

670-3.06 TOLERANCE FOR LINE STRIPING. Replace criteria number 2 with the following:

2. Width of Stripe. The width shall not vary more than 6 mm in width in any 15 m longitudinal run from the plan quantity.

(12/15/00)R246M98

Add the following Section:

SECTION 680

TELEPHONE RELOCATION

Special Provisions

680-1.01 DESCRIPTION. This work shall consist of furnishing and installing telephone conduit replacements and improvements, including all appurtenant facilities, as shown on the plans or as specified herein.

For the purpose of these specifications, "Telephone Utility" shall mean Matanuska Telephone Association (MTA), which owns and operates aerial and underground telephone distribution facilities along and crossing the Parks Highway throughout the length of the project.

Matanuska Telephone Association
1740 South Chugach
Palmer, Alaska
907-745-3211

680-2.01 MATERIALS. Conduit materials furnished shall be in accordance with the applicable standards of ANSI, ASTM, NEMA, REA, RUS, UL, and all local codes and permits. Conduit components shall be installed in accordance with applicable requirements of the NEC. In case of a conflict between the requirements of any of the above referenced codes and standards and these specifications, the requirements of these specifications shall govern. All materials, devices, and practices shall be in accordance with the applicable requirements of the Federal "Occupational Safety and Health Standards."

All high density polyethylene conduit (HDPE) conduit shall be 100 mm in diameter and have a minimum wall thickness in accordance with DR-13.5 (.333-inch) ASTM D-3035 for a 100 mm HDPE conduit, and shall be orange in color.

All polyvinyl chloride (PVC) conduit shall be 100 mm in diameter and be a schedule 40 in accordance with ASTM D-2447.

Nylon pull cords shall be 6.35 mm (0.25-inch), 226.8 kg (500 lb) rated cord that shall be left in all 100 mm conduit crossings. Plastic end plugs shall be approved by MTA prior to installation.

680-3.01 GENERAL CONSTRUCTION REQUIREMENTS. MTA, through the Engineer, reserves the right to suspend the conduit installation at any time that the Contractor fails to meet the requirements set forth herein until such time as the Contractor makes the necessary corrections. Suspensions of work will not entitle the Contractor to an extension of time for the completion of the project, and will not entitle him to extra payment for costs incurred.

The Contractor shall be responsible for the location, shoring, and protecting of all property (real and personal), in the vicinity of the roadway crossings within the project. It shall be the Contractor's responsibility to establish the location of each facility by calling for field locates in accordance with Subsection 105-1.06, Cooperation with Utilities.

The conduit locations are approximate only, and must be field located and confirmed with the Engineer and MTA Engineering prior to starting work.

All temporary bridging for traffic utilized by the Contractor shall be inspected and approved by the Engineer prior to installation. This does not relieve the Contractor of responsibility for providing bridging of sufficient size and strength. Any bridging open to public traffic will provide a smooth driving joint.

The minimum depth of bury for each conduit crossing is 1.22 meters (4 feet) below the ditch bottom grade, on a continuous grade unless approved by the engineer. The ends of each conduit crossing shall be covered with end caps in such a way that material will not enter the conduits. The Contractor shall coordinate with MTA Engineering to obtain EMS locators to be placed above the ends of each conduit crossing prior to backfill as detailed on the plans. Locators can be obtained at MTA's Palmer Office, 1740 South Chugach Street. In addition, the Contractor shall, through the Engineer, provide MTA with the schedule for each crossing a minimum of three calendar days in advance of construction.

680-3.02 GENERAL CONDUIT INSTALLATION REQUIREMENTS FOR ROAD CROSSINGS. The road crossings shall be installed in accordance with the MTA Conduit Crossing detail shown in the plans. The conduit shall be trenched, bored, jacked or otherwise forced underneath the highway, or the conduit may be installed in a casing.

Polyvinyl chloride conduit shall be installed in accordance with the following requirements:

Joints shall be solvent cement type as recommended by the conduit manufacturer. The contact surfaces of the conduit and fitting shall be cleaned with solvent, methyl ethyl ketone or acetone, then liberally coated with solvent cement, promptly and fully engaged, and either conduit or fitting rotated approximately ¼ turn to dispel any air and evenly distribute solvent cement over contact surfaces. Total elapsed time between the start of cement application to the surface being joined and final

assembly of joint shall not exceed 60 seconds. The initial strength of the joint will permit continuous conduit installation. However, additional stress at the joint shall be avoided for at least 24 hours after joining.

High Density Polyethylene Duct (HDPE) shall be one continuous piece.

Plastic pipe shall be shaded from sunlight as required to prevent curvature and deterioration due to thermal expansion and exposure to sunlight.

Defective conduit shall not be installed and shall be removed immediately from the site of work.

680-3.03 CONDUIT ROAD CROSSING USING A CASING. There shall be no space between the earth and the outside of the conduit or casing pipe. No wet bores will be permitted. Only enough water to lubricate the casing during installation may be used.

Casing pipe shall be installed using jacking equipment. Casing shall be installed such that the hole is cased as the earth is removed through the interior of the casing.

Boring without the concurrent installation of the casing pipe will not be permitted. The installation shall be performed in a manner that will neither disrupt traffic nor damage the sub-grade, and will provide accurate alignment and grade of pipe.

Smooth wall casing pipe shall be new and fabricated from welded steel. The diameter and wall thickness shall be selected by the Contractor to allow for the type of materials encountered.

Joints in the casing pipe shall be welded. Pipe ends shall be welded. Pipe ends shall be machine cut and beveled at an angle of 37 ½ degrees. The beveled ends shall be butted and aligned axially and welded to provide a full strength joint capable of resisting all stresses, including jacking stresses.

Before starting work on a crossing that will be using any type of boring equipment, the Contractor shall submit complete details of his proposed methods, materials, and time schedule to the Engineer. Work shall not begin until written notification to proceed has been obtained from the Engineer.

Casing pipe shall have an inside diameter that will accommodate a 100 mm-conduit, and the conduit couplings that connect the lengths of conduit. Alignment of the bore casing shall be within .61 meters (2 feet) of the staked requirements per 30 meters of casing installed. At no time shall the depth of the bore be less than indicated on the plans. The successful bore shall meet the above requirements and allow for 97% utilization of the ordered size bore to be considered successful.

680-3.04 CONDUIT TESTING. Upon completion of the boring and the installation of the conduit, and compaction of the embankment to a minimum of 1.22 meters or 4-feet above the conduit, the Contractor shall clean and test the conduit. Conduit which is not used or tested immediately shall be plugged at each end. Prior to starting the testing of the conduit crossing, the Contractor shall notify MTA five (5) calendar days in advance of testing.

The Contractor shall coordinate with MTA so that when testing is started and completed, an MTA inspector is on site for the testing of the directional bore conduit installation. As a clearance test, the conduit shall pass a rigid mandrel with a length not less than .30 meter or 12-inches and a diameter of 6.35 mm (1/4-inch) less than the inside diameter of the conduit. All foreign material, earth, sand, and gravel, shall be removed from the conduit.

680-3.05 BACKFILL AND COMPACTION. Backfill shall be in accordance to Section 203, Excavation and Embankment. All backfill for the conduit crossings shall be in 200 mm or 8-inch lifts to 95 percent of the maximum density.

Backfill to the bottom of trench grade, if necessary, shall be compacted in 200 mm (8-inch) lifts with material meeting the requirements of Selected Material, Type A. If large quantities of water are evident, the Contractor may elect to install backfill with 60 mm to 150 mm (2 to 6 inch) of course oversized rock overlaid with geotextile. Compaction shall be by a minimum of six full width coverages with a mechanical compactor. The conduit shall then be placed on a 100 mm sand bedding on the trench bottom, with the sand being water compacted to 100 mm above the conduit. The Contractor shall then use such materials as have been excavated from the trench that meet the requirements of Select Material, Type C, above the conduit sand bedding, up to the bottom of the roadway structural section.

The soil compaction of the trenches shall be randomly tested at various depths by the Engineer.

The existing asphalt pavement shall be replaced in accordance with Section 401, Asphalt Concrete.

Patching roadway crossing areas after the installation of the conduit crossing shall be done within two calendar days after the completion of the roadway crossing or as approved by the Engineer. The Contractor shall maintain the roadway surface in the conduit crossing locations in such a manner that traffic is not impeded, as directed and approved by the Engineer, until the roadway crossings are paved.

680-3.06 SURVEYING AND STAKING. Crossings are approximate station only and each crossing will need to be field located and confirmed with the Engineer and MTA engineering personnel prior to starting work.

The Contractor shall as-built each crossing. The elevation of the finish grade, project centerline at the crossing location and at the end of each conduit crossing shall be recorded. In addition, the distance left and right of the project centerline of each crossing will also be referenced. Location and elevation information for each conduit crossing will be documented by a Registered Land Surveyor, and be provided to the Engineer.

680-4.01 METHOD OF MEASUREMENT. Item 680(1-100) 100 mm Conduit Crossing, shall be measured by the meter of conduit installed.

680-5.01 BASIS OF PAYMENT. Crossings may be trenched, jacked or bored at the Contractor's option. Jacking or boring in lieu of trenching shall not be a basis for extra payment.

If open trenching is used for the installation of the 100 mm conduit crossings, the backfill materials shall be considered subsidiary to the conduit installation.

If unsuitable material is encountered and excavated .61 meters (2 feet) below the conduit, and Select Material, Type A is placed as bedding, the excavation will be subsidiary to Item 203(6A) Borrow, Type A. In addition, the costs for as-builts, placing end caps, installing pull cords, and placement of EMS markers will not be paid directly, but will be subsidiary to the conduit installation.

Payment will be made under:

Pay Item No.	Pay Item	Pay Unit
680(1-100)	100 mm Conduit Crossing	Meter

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 MP 1 and the additional properties defined by AASHTO T-53 and ASTM D5801 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)	49° C	52° C
Toughness (Min.)	ASTM D5801	(None)	12.4 N-m	12.4 N-m
Tenacity (Min.)	ASTM D5801	(None)	8.5 N-m	8.5 N-m

(9/18/00)R244M98

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
37.5 mm	100		
25 mm	70-100	100	100
19 mm	60-90	70-100	70-100
9.5 mm	45-75	50-79	50-85
4.75 mm	30-60	35-58	35-65
2.36 mm	22-52	20-47	23-50
0.600 mm	10-33	10-26	13-31
0.300 mm	6-23	6-19	10-26
0.075 mm	0-6	0-6	8-15

(2/28/00)R117M98

Standard Modifications

703-2.04 AGGREGATE FOR ASPHALT CONCRETE PAVEMENT. Under Blended Aggregate, delete the last sentence and substitute: "Ensure that the fraction actually retained between any 2 consecutive sieves larger than the 0.150 mm is not less than 2 percent of the total."

703-2.07 SELECTED MATERIAL. Replace the last sentence in both Items 1. and 2. with the following: The percent passing the 0.075 mm sieve will be determined on minus 75 mm material. (06/25/99)M82

Special Provisions

703-2.10 POROUS BACKFILL MATERIAL. Replace Table 703-7 with the following:

TABLE 703-7
REQUIREMENTS FOR GRADING FOR
POROUS BACKFILL MATERIAL

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING
37.5 mm	100
25 mm	95-100
12.5 mm	25-60
4.75 mm	0-10
2.36 mm	0-5

(7/6/95)R10M

SECTION 710

FENCE AND GUARDRAIL

Special Provisions

710-2.11 GUARDRAIL TERMINALS. Add the following:

The current Guardrail End Terminal Drawings approved by the Department are as follows:

		DRAWING NUMBER	ORIGINAL DATE	LATEST REVISION
SRT-350	Metric English	SS 444M SS 444	7/12/99 5/21/99	None 7/12/99
ET-2000	Metric English	SS 270M SS 270	8/24/99 8/24/99	None None

(2/11/00)R249

SECTION 712

MISCELLANEOUS

Special Provisions

712-2.17 METHYLMETHACRYLATE PAVEMENT MARKINGS. Add the following Subsection:

2. Performance Properties: Add the following:

   k. Adhesion: To Portland Cement, minimum 13.8 MegaPa, to asphalt, dependent on tensile failure of the substrate.

(7/28/99)R221M98

SECTION 715

STEEL FOR PILES

Special Provisions

715-2.02 GENERAL REQUIREMENTS. Add the following to Item 1. Structural Steel for Piling: Structural steel for H-piles shall conform to the requirements of ASTM A572, Grade 50. (10/1/91)R95

Add the following:

4. ***Steel Pipe Piles. Meet the requirements of ASTM A-252 Grade 3 with a minimum yield strength of 345 Mpa or API 5L with a minimum yield strength of 345 Mpa.***

Add the following: When the Contract Plans call for cylindrical steel piles of specific diameter and wall thickness, the piling shall conform to the physical and chemical requirements of ASTM A572M, Grade 345 and the requirements of ASTM A530 or API 5L x52, with the following additions or revisions:

1.	Minimum yield stress	345 Mpa
2.	Minimum tensile strength	450 Mpa
3.	Minimum elongation in 200 mm	19 percent
4.	Minimum elongation in 50 mm	25 percent
5.	Charpy Impact, minimum	20 Newton Meters @-12E C
6.	Minimum individual pile section length	3 meters
7.	Minimum finished pile section lengths	22 meters
8.	Wall thickness minimum	Shown on Plans

9. Spirally welded pipes are not acceptable.

10. Piles that are seamless or with one longitudinal seam are acceptable.

SECTION 724

SEED

Standard Modifications

724-2-02. MATERIALS. Delete this Subsection in its entirety and substitute the following

Meet applicable requirements of the State of Alaska Seed Regulations, 11 AAC 34, Article 1 and Article 4.

Furnish "certified seed" or 4 signed copies of a report certifying that each lot of seed has been tested by an approved laboratory within 9 months of date of application. Include: name and address of laboratory, date of test, lot number for each kind of seed, and results of test as to name, percentages of purity and germination, and percentage of weed content for each kind of seed furnished.

Meet or exceed the percentages of sproutable seed specified in Table 724-1.

TABLE 724-1

SEED REQUIREMENTS

SPECIES	SPROUTABLE SEED*, %, Min.
Red Fescue	78
American Sloughgrass	67
Bering Hairgrass	71
Tufted Hairgrass	71
Polargrass	71
Bluejoint	71
Tilesy Sagebrush	71
Glaucous Bluegrass	76
Alpine Bluegrass	72
Kentucky Bluegrass	76
Beach Wildrye	28
Annual Ryegrass	76
Perennial Ryegrass	76

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

(02/08/01)M100

Delete this Section in it's entirety except for Table 726-1 and substitute the following:

SECTION 726

TOPSOIL

Special Provisions

726-2.01 TOPSOIL. Furnish topsoil which is representative of the existing, natural organic blanket of the project area. Perform a quality test, as defined by ATM T-6, on the soil to determine the organic content of the soil. Supply the results to the Engineer.

Soil with an organic content of 5 percent or more may be reused and spread on the finished slopes where topsoil is noted on the Plans. Remove roots, stumps, unnatural material, and rocks greater than 75 mm in diameter from the organic material before it is graded onto the finished slope.

Soil with an organic content of less 5 percent cannot be used as topsoil for the project. In this case, furnish topsoil consisting of a natural friable surface soil without admixtures of undesirable subsoil, refuse, or foreign materials having an organic content of 5 percent or more, as determined by ATM T-6. The material shall be reasonably free from roots, clods, hard clay, rocks greater than 75 mm in diameter, noxious weeds, tall grass, brush, sticks, stubble or other litter, and shall be free-draining and non-toxic. Notify the Engineer of the location from which topsoil is to be furnish at least 30 calendar days prior to delivery of topsoil to the project from that location. The Engineer will inspect the topsoil and its sources before approval will be granted for its use.
(7/23/99)R208M98

SECTION 727

SOIL STABILIZATION MATERIAL

Special Provisions

727-2.01 MULCH. Delete numbered Item 1 in its entirety and substitute the following:

1. Virgin/Recycled Wood Fiber, Recycled Paper ("wood cellulose") Mulch, or a Blend of Virgin/Recycled Wood Fiber with Recycled Paper Mulch. Blended mulch may contain up to 50 percent recycled paper. The mulch shall meet the following requirements:

   A. Contains no growth or germination inhibiting factors.

   B. Will remain in uniform suspension in water under agitation and will blend with grass seed, fertilizer, and other additives to form a homogeneous slurry.

   C. Mulch can be applied uniformly on the soil surface.

   D. Will not create a hard crust upon drying and have moisture absorption and retention properties and the ability to hold grass seed in contact with the soil.

   E. Dyed a suitable color to facilitate inspection of its placement.

Ship the mulch material in packages of uniform weight (plus or minus 5 percent) and bear the name of the manufacturer and the air-dry weight content.

Use a commercial tackifier on all areas steeper than 3:1. Use the amount recommended by the manufacturer.
(8/19/99)R206M98

727-2.02 MATTING. Add the following:

6. Coir Fabric: The coir fabric shall consist of two separate fabrics layered together.

   The first fabric shall be placed against the soil. This fabric shall be a commercially available blanket constructed of coconut fiber strands, uniformly twisted and woven into a flexible matrix. The minimum unit weight of the fabric shall be 0.70 kilogram/square meter.

The second fabric shall be placed over the first fabric. This fabric shall be a commercially available blanket constructed of coconut fiber placed between two biodegradable, organic fiber netting. The netting shall be woven according to the Leno weave process to form an approximately 12.5 x 25 millimeter mesh. The blanket shall be sewn together with biodegradable thread at a maximum spacing of 50 millimeters on center. The minimum unit weight of the blanket shall be 0.35 kilogram/square meter.

727-2.04 COIR LOG. Log material shall consist of the following:

1. Fiber: 100 percent mattress grade coconut (coir) fiber, 2.268 kg per 0.3048-meter minimum.

2. Netting: 100 percent coconut (coir) fiber yarn, mesh opening approximately 50 mm, mesh tied at junctions, tensile strength per yarn 25 kg dry, 18 kg wet.

3. Size:

Length:	6 meters long
Diameter:	.4 meter
Weight:	81 kg approx.

4. Description: Manufactured from 100 percent coconut (coir) fiber, the log shall be a machine fabricated cylinder, encased in 100 percent coconut (coir) fiber netting. Fiber shall be packed tightly into netting. Netting mesh shall have mesh junctions tied to prevent misalignment. Use only coir logs specifically for stream bank reclamation.

(6/22/99)R248M98

SECTION 729

GEOTEXTILES

Standard Modifications

729-2.01 EMBANKMENT SEPARATION AND REINFORCEMENT.

1. Separation. Replace "(medium survivability)" with "(Class 3)".

2. Reinforcement. Replace "Separation (high survivability)" with "Stabilization".

729-2.02 SUBSURFACE DRAINAGE AND EROSION CONTROL.

2. Erosion Control. Replace "Erosion Control" with "Permanent Erosion Control".

729-2.04 SEDIMENT CONTROL. Replace the first sentence with "Meet AASHTO M 288 for Temporary Silt Fence".
(02/08/01)M98

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.

Standard Modification

In Item 2. Perforated Steel Posts., Paragraph a., first sentence, replace "ASTM A 446" with "ASTM A 653 and ASTM A 924".
(06/25/99)M83

Special Provisions

Add the following:

5. Structural Tubing and W Shape Beams.

   1. 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 5 millimeter thick walls. 11 millimeter diameter holes shall be drilled as required to permit mounting of the sign.

   2. W shape beams shall conform to ASTM A36.

   3. 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.

(2/29/00)R81M