#### AMATS: Downtown Trail Connection Project No.: 0001662/CFHWY00586

### **PS&E** Review

PS&E REVIEW COMMENTS are due on May 5, 2025. The review meeting will be held at 9:00 AM on May 8, 2025 in the Construction conference room. Please E-mail comments, using the comment form, to Ryan Norkoli (ryan.norkoli@alaska.gov) and Kristina Busch (kristina. busch@alaska.gov).

#### \*\*\*Electronic Copy available on the internet at the following location: dot.alaska.gov/creg/design/highways/PS&E Review/CFHWY00586/

#### \*\*\*Meeting conference call-in number\*\*\*

GCI Conference Now Number:	(800) 315-6338		
Secondary GCI Conference Now Number:	(913) 904-9376		
Access Code:	85827		

#### **DISTRIBUTION:**

Kristina Busch PM, Project Manager, 2525 (6+CD) Sharon L. Smith. Chief. Contracts. 2525 Mike San Angelo, Statewide Materials Engineer, 2538 (email only) Mike Yerkes, Central Region Materials, 2526 (2) Mahear Aboueid, Concurrent Review Engineer, 2525 Ken Thomas, Traffic & Safety, 2525 Justin Zarr, HWY Data Supervisor, Planning, 2525 (CD) Orion LeCroy, Hydrologist, Central Region, 2525 (2) Travis Test, Survey, 2525 (email only) Bob Keiner, ROW Engineering Supervisor, 2525 James Sowerwine, ROW, 2525 (CD) Melanie Arnolds, Chief, ROW, 2525 (Memo and EE) Cindy Ferguson, Chief, TS&U, 2525 David Freese, Utilities Engineer, 2525 Shamsa Kordestani, Utilities Lead, 2525 Michael Mancill, Utilities Lead, 2525 Joel St Aubin, Regional Construction Engineer, 2525 (Memo and EE) Brian Schumacher, Construction Group Chief, 2525 Jason Lamoreaux, Construction Project Manager, 2525 (2) Athena Marinkovic, Construction ESCP Specialist Ryan Norkoli, Review Engineer, Contracts, 2525 Fred Park, Spec./Estimating Engineer, Highway Design, 2525 Alex Read, Preliminary Design & Environmental Group Chief, 2525 Brian Elliott, Preliminary Design & Environmental, 2525 Anna Bosin, Traffic Safety, 2525 (2) Vacant, Traffic Design, 2525 (2) David Post, Planning Manager, Planning, 2525 Sean Baski, Highway Design Group Chief, 2525 Kirk Warren, Chief, Maintenance and Operations, 2525 (2) Burrell Nickeson, Maintenance and Operations, 2525 (Memo and EE) Jeremy Thompson, Maintenance and Operations, 2525 Connor Eshleman, Highway Design, 2525 Luke Bowland, Pre-Construction Engineer, 2525 (Memo and EE) Dave Lee, Regional Construction Office Engineer, 2525 (Memo and EE) Jeff Carleton, Electrical, 2525 (email only) Leslie Daugherty, Bridge Design (2)

Additional Distribution Email Only (without Engineer's Estimate): Brandon Telford, PM&E MOA, <u>Brandon.Telford@anchorageak.gov</u> Kate Dueber, AKRR, <u>DueberK@akrr.com</u> Cole Carnahan, FHWA <u>cole.carnahan@dot.gov</u> **MEMORANDUM** 

State of Alaska

Department of Transportation and Public Facilities

то: See Distribution

DATE: April 14, 2025

TELEPHONE: 269-0423

FROM: Ryan Norkoli, P.E.

#### SUBJECT: AMATS: Downtown Trail Connection Project No. 0001662/CFHWY00586 PS&E Review

Attached for final review and comments are the appropriate copies of the subject assembly. The following specific replies are requested in addition to any other comments:

Right-of-WayEither that R/W is available for the project or an estimated date when it may<br/>be available.UtilitiesEither the utility agreements have been completed or an estimated date<br/>when they may be available.EnvironmentalWhat permits are required for this project and an estimated date when they<br/>will be acquired.

Ordinarily, only the principal reviewers are invited to attend. Comments are limited to those submitted in writing unless there are significant omissions.

Please use the review comment form located on the Library drive in /admin/forms/forms/pre PS&E review comment.doc. If you don't have access to the L drive, and still need a current version of the comment form, let me know and I will E-mail it to you.

IRIS Project No. CFHWY00586 IRIS Activity: 062P (or your sections activity code) IRIS Template: TTPJ001 IRIS Phase: T02015

### **MEMORANDUM**

## State of Alaska

Department of Transportation & Public Facilities Design and Engineering Services – Central Region Highway Design

**TO**: File

**DATE**: 4/9/2025

**TELEPHONE NO:** 907-268-0567

**FROM**<sup>•</sup> Kristina Busch, P.E.

Project Manager

SUBJECT: AMATS: Downtown Trail Connection

0001662/ CFHWY00586

This memo has been prepared to summarize the general traffic control methods required for construction of the AMATS: Downtown Trail Connection Project

The Alaska Department of Transportation & Public Facilities (DOT&PF) requires this plan to ensure constructability and as a starting point for a contractor generated traffic control plan (TCP). This recognizes that different contractors will have various methods for controlling traffic and safety. All TCPs must adhere to Part 6 of the Alaska Traffic Manual.

Two details are attached. These details provide direction on how to treat roadside slope, obstacles, hazards, clear distances. The location of the permanent construction signs will be installed according to Alaska Standard Plan C-04.12 unless approved otherwise by the Engineer.

Refer to the project specifications for further guidance on public information efforts and agency coordination requirements.

# STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

PROJECT LOCATION M&O STATION: ANCHORAGE

CENTRAL REGION

ALASKA

## PROPOSED HIGHWAY PROJECT AMATS: DOWNTOWN TRAIL CONNECTION

## PROJECT NO. 0001662/CFHWY00586 TRAFFIC CONTROL PLAN



 STATE	PROJECT DESIGNATIO	YEAR	SHEET NO.	TOTAL SHEETS	
ALASKA		2025	J1	J3	
ROUTE ID	N/A	MILEPOINT	N/A		
LATITUDE	61.224167*	LONGITUDE	-149.057222°		

#### INDEX

#### DESCRIPTION

TITLE SHEET CONSTRUCTION SIGN DETAILS TRAFFIC CONTROL DEVICES FOR ROADSIDES



STATE PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA 0001662/CFHWYC	0586 2025	J3	J3

1. TRAFFIC CONTROL DEVICES REQUIRED BY THE GUIDELINES ON THIS SHEET ARE INTENDED FOR CONDITIONS WHICH WILL BE IN PLACE LONGER THAN ONE CONTINUOUS WORK SHIFT. AN APPROVED TRAFFIC CONTROL

2. THE GROUND CROSS SECTION AT A LOCATION BEFORE CONSTRUCTION DETERMINES WHETHER TRAFFIC CONTROL DEVICES ARE NEEDED AT THE SAME LOCATION DURING CONSTRUCTION.

3. GUARDRAIL EXISTING AT A LOCATION BEFORE CONSTRUCTION SHALL REMAIN IN PLACE DURING CONSTRUCTION

4. INSTALL TRAFFIC CONTROL DEVICES BETWEEN THE EDGE OF TRAVELED WAY AND THE WORK AREA ON ANY ROADWAY OPENED TO TRAFFIC WHEN REQUIRED BY THIS DRAWING.

5. EXISTING ROADWAY ALIGNMENTS INSTALL TRAFFIC CONTROL DEVICES WHEN WORK OCCURS IN THE DEVICES

INSTALL TRAFFIC CONTROL DEVICES WHEN ANY OF THE FOLLOWING CONDITIONS EXIST:

THE HORIZONTAL OR VERTICAL CURVATURE IS MORE SEVERE THAN BEFORE CONSTRUCTION BEGAN. THE ROADWAY OR SHOULDER WIDTH IS LESS THAN BEFORE CONSTRUCTION BEGAN. THE BACKSLOPE OR FORESLOPE IS STEEPER THAN BEFORE CONSTRUCTION BEGAN. D. THE HEIGHT OF THE FORESLOPE IS GREATER THAN BEFORE CONSTRUCTION BEGAN.

INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE FORESLOPE SECTION DETAIL AND TABLE 1.

8. ON ANY NEWLY CONSTRUCTED SLOPE STEEPER THAN 4:1 TO 3:1 PROVIDE A TEN FOOT FLAT RECOVERY AREA AT THE TOE OF SLOPE OR INSTALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE FORESLOPE SECTION

A. ON ROADWAYS WITH A SPEED LIMIT GREATER THAN 40 MILES PER HOUR OR AVERAGE DAILY TRAFFIC VOLUME GREATER THAN 4000 VEHICLES PER DAY INSTALL TEMPORARY PORTABLE CONCRETE BARRIER OR TEMPORARY GUARDRAIL. ON MULTI-LANE ROADWAYS CLOSE THE LANE CLOSEST TO THE WORK AREA

TERMINATE RUNS OF TEMPORARY PORTABLE CONCRETE BARRIER USING ONE OF THE FOLLOWING THREE

RIGID TO SEMI-RIGID GUARDRAIL TRANSITION WITH SLOTTED RAIL TERMINAL OR OTHER FLARE THE ENDS OF THE TEMPORARY BARRIER AWAY FROM THE ROADWAY AT A RATE OF 15:1

ON A TRANSVERSE SLOPE OF 10:1 OR FLATTER TO THE OUTSIDE EDGE OF THE CLEAR ZONE AND INSTALL A SLOPING END TREATMENT, PER STANDARD PLAN G-46.11.

TERMINATE RUNS OF TEMPORARY GUARDRAIL USING EITHER OF THE FOLLOWING TWO METHODS: I. SLOTTED RAIL TERMINAL OR OTHER APPROVED CRASHWORTHY END TREATMENT. II. FLARE THE ENDS OF THE TEMPORARY GUARDRAIL AWAY FROM THE ROADWAY AT A RATE OF 15:1 ON A TRANSVERSE SLOPE OF 10:1 OR FLATTER TO THE OUTSIDE EDGE OF THE CLEAR ZONE.

B. ON ALL OTHER ROADWAYS INSTALL TYPE II BARRICADES, DRUMS OR DELINEATORS WHEN DEVICES ARE REQUIRED. SPACE THE DEVICES IN ACCORDANCE WITH THE REQUIREMENTS FOR SPACING TYPEII BARRICADES AND DRUMS SET FORTH IN THE ALASKA TRAFFIC MANUAL

10. DO NOT CONSTRUCT VERTICAL DROPOFFS GREATER THAN 1.5" WITHIN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK. PROVIDE 2' OF SHY DISTANCE FROM EDGE OF ALL TRAFFIC CONTROL DEVICES TO THE EDGE OF THE

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

AMATS: DOWNTOWN TRAIL CONNECTION

TRAFFIC CONTROL DEVICES FOR ROADSIDES

NO. DATE REVISION



#### 00586\_J2-4 - J2

#### AMATS: DOWNTOWN TRAIL CONNECTION

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

PROJECT DESIGNATION

0001662/CFHWY00586

STATE

ALASKA

SHEET NO.

J1

YEAR

2025

TOTAL SHEETS

J3

### **Erosion and Sediment Control Plan**

For

### AMATS: Downtown Trails Connection Project Number 0001662/CFHWY00586

Anchorage, Alaska



Alaska Department of Transportation & Public Facilities Central Region P.O. Box 196900 Anchorage, Alaska USA 99519-6900

### Prepared By: Tae Voight, PE

#### **Company Name: Kinney Engineering**

#### ESCP Preparation Date: November 2022

The following Erosion and Sediment Control Plan (ESCP) has been prepared by the Alaska Department of Transportation and Public Facilities (DOT&PF) to assist bidders in successfully planning their construction means and methods to comply with the 2021 Alaska Construction General Permit (CGP), United States Army Corps of Engineers (USACE) 404/10 Permit, Alaska Department of Environmental Conservation (DEC) 401 Water Quality Certification, Alaska Department of Fish and Game (ADF&G) Title 16, and other permits associated with this project. This document is not intended to be all inclusive of the best management practices (BMP's) that will be required to reduce the potential for sediment discharge during construction and comply with permit conditions or construction specifications. This ESCP is intended to guide contractors during the bidding process and assist in the preparation of the contractor's Storm Water Pollution Prevention Plan (SWPPP) that must be approved prior to commencing construction after award. The contractor is responsible for the risk assessment analysis, planning, preparation and implementation of the SWPPP.

### TABLE OF CONTENTS

1.0	PERMITTEE (5.3	5.1)	1
1.1 1.2	L Operator( 2 Subcontra	s)/Contractor(s) ictors	1 2
2.0	STORM WATER	CONTACTS (5.3.2)	3
2.2	L Contact In	formation for SWPPP Preparation	4
3.0	PROJECT INFOR	MATION (5.3.3)	5
3.2 3.2 3.3	Project Inf Project Sit Reference	formation e-Specific Conditions (5.3.3) Documents Available	5 5 6
4.0	NATURE OF CO	NSTRUCTION ACTIVITY (5.3.4)	7
4.2 4.2 4.2 4.2 4.2 4.2 4.2	<ul> <li>Scope of V</li> <li>Project Fu</li> <li>Support A</li> <li>Sequence</li> <li>Size of Pro</li> <li>Identificat</li> </ul>	Nork Inction (5.3.4.1) ctivities (As Applicable) and Timing of Soil-disturbing Activities (5.3.4.2) operty and Total Area expected to be Disturbed (5.3.4.3) tion of All Potential Pollutant Sources (5.3.4.5)	7 7 8 8 8 9
5.0 6.0	SITE MAPS (5.3. DISCHARGES	5)	.11 .13
6.2 6.2	L Locations 2 Allowable	of Other Industrial Storm Water Discharges (5.3.8) Non-Storm Water Discharges (1.4.3; 4.3.7; 5.3.9)	.13 .13
7.0	DOCUMENTATI	ON OF PERMIT ELIGIBILITY RELATED TO TOTAL MAXIMUM DAILY LOADS (3.2, 5.6)	)14
7.2 7.2	L Identify Re 2 Identify T	eceiving Waters (5.3.3.3) MDLs (5.6.1)	.14 .14
8.0	DOCUMENTATI	ON OF PERMIT ELIGIBILITY RELATED TO ENDANGERED SPECIES (3.3, 5.7)	.15
8.2	L Informatio	on on Endangered or Threatened Species or Critical Habitat (5.7.1)	.15
9.0	APPLICABLE FED	DERAL, STATE, TRIBAL, OR LOCAL REQUIREMENTS (4.10, 4.15)	.15
9.2 9.2	L Historic Pr 2 Projects n	roperties ear Public Water System (PWS) (4.10)	.15 .16
10.0	CONTROL MEAS	SURES/BEST MANAGEMENT PRACTICES (4.0; 5.3.6)	.19
10	.1 Minimize	Amount of Soil Exposed during Construction Activity (4.2.2)	.21
	10.1.1 Site Del	ineation (4.2.1)	.22
10	.2 Maintain I	Natural Buffer Areas (4.2.3)	.22
	10.2.1 Clearing	g Vegetation (4.2.4)	.23
10	.3 Control St	orm Water Discharges and Flow Rates (4.2.5)	.23

10.3	3.1 Protect Steep Slopes (4.2.6)	23
10.4	Storm Water Inlet Protection Measures (4.3.1)	24
10.5	Water Body Protection Measures (4.3.2)	25
10.6	Down-Slope Sediment Controls (4.3.3)	26
10.7	Stabilized Construction Vehicle Access and Exit Points (4.3.4)	27
10.8	Soil Management and Soil Stocknile (4.3.7)	/ ۲۷ مور
10.5	Authorized Non-Storm Water Discharges (4.3.8)	
10.11	Sediment Basins (4.3.9)	
10.12	Dewatering (4.4)	28
10.13	Permanent/Post-Construction BMPs (4.11)	29
10.1	3.1 Soil Stabilization (4.5, 5.3.6.3)	30
10.14	Treatment Chemicals (4.6; 5.3.6.4)	30
10.15	Treatment Chemicals (4.6.1)	30
10.1	5.1 Treatment Chemical Selection (4.6.2)	31
10.1	5.2 Treatment Chemical Use Procedures (4.6.3; 4.6.6)	31
10.1	5.3 Application of Treatment Chemicals (4.6.4; 4.6.5)	31
10.16	Active Treatment System Information or Cationic Treatment Chemicals (4.6.7)	31
10.17	Good Housekeeping Measures (4.8)	31
10.1	7.1 Washing of Equipment and Vehicles (4.8.1)	32
10.1	7.2 Fueling and Maintenance Areas (4.8.2)	33
10.1	7.3 Staging and Material Storage Areas (4.8.3)	
10.1	7.5 Fertilizer or Pesticide Use (4.8.5)	.8.4).33 24
10.10	$\mathbf{F}_{\mathbf{r}} = \mathbf{F}_{\mathbf{r}} + $	ייייייי סב
10.18	Spill Notification (4.9)	
11.0 INSP	PECTIONS (5.4: 6.0)	
11.1	Inspection Schodules (F $4.1.2$ ; $6.1$ ; $6.2$ ; $6.6$ )	
11.1 11.2	Inspection Schedules (5.4.1.2, 6.1, 6.2, 6.6)	
11.3	Corrective Action Procedures (5.4.1.4; 8.0)	
11.4	Inspection Recordkeeping (5.4.2)	37
12.0 MOI	NITORING PLAN (IF APPLICABLE) (5.5; 7.0)	38
12.1	Determination of Need for Monitoring Plan	38
13.0 POS	T-AUTHORIZATION RECORDS (5.8)	38
13.1	Additional Documentation Requirements (5.8.2)	38
13.1	1 Records of Employee Training (4.14; 5.8.2.8)	38
14.0 MAI	NTAINING AN UPDATED SWPPP (5.9)	39
14.1	SWPPP Amendment Log (5.9.2)	39

14.2	Deadlines for SWPPP Modifications (5.9.3)	39
15.0 ADD	DITIONAL SWPPP REQUIREMENTS (5.10)	39
15.1	Retention of SWPPP (5.10.1)	39
15.2	Main Entrance Signage (5.10.2)	40
15.3	Availability of SWPPP (5.10.3)	40
15.4	Signature and Certification (5.10.4)	40

#### **APPENDICES**

Appendices that are marked with (ESCP) are to be filled out by the Designer. All other appendices are to be filled out by the SWPPP preparer and will not be included in the ESCP.

- Site Maps and Drawings (ESCP) Appendix A
- Appendix B BMP Details (ESCP) Project Schedule
- Appendix C
- Appendix D Supporting Documentation: (ESCP)
  - TMDLs •
    - **Endangered Species** •
    - **Historic Properties** •
    - DEC Non-Domestic Wastewater Plan Review Non-Objection Letter (if required) •
    - DEC Dewatering Permit (if required)
    - **Environmental Permits and Commitments** •
    - Other Permits or Requirements •

Appendix E Project Specific ESCP Discussion & Comments (ESCP - not part of the SWPPP template)

The above Appendix E is for ESCP writers only and should include any additional information that the Designer would like to share with the SWPPP preparer. Below is the list of Appendices to be included in the SWPPP.

Appendix E	Delegation of Authority (25D-107, 25D-108), Subcontractor Certifications (25D-105), Project Staff						
	Tracking (25D-127) and Personnel Qualifications						
Appendix F	Permit Conditions:						
	Copy of Signed Notice of Intent						
	Copy of Letters from DEC Authorizing Coverage, with DEC NOI Tracking Number						
	Copy of 2021 Alaska Construction General Permit						
Appendix G	Grading and Stabilization Records (25D-110)						
Appendix H	Monitoring Plan (if applicable) and Reports						
Appendix I	Training Records (25D-125)						
Appendix J	Corrective Action Log and Delayed Action Item Reports (25D-112, 25D-113)						
Appendix K	Inspection Records (25D-100)						
Appendix L	SWPPP Preconstruction Site Visit (25D-106)						
Appendix M	SWPPP Amendment Log (25D-114)						
Appendix N	Daily Record of Rainfall (25D-115)						
Appendix O	Hazardous Materials Control Plan						
Appendix P	Treatment Chemical/Active Treatment Systems (if applicable)						
Appendix Q	Other						
	Anti-Degradation Analysis (if applicable)						

- **Correspondence with Regulatory Agencies** •
- Notices of Termination

### 1.0 PERMITTEE (5.3.1)

The Department of Transportation & Public Facilities (DOT&PF) will be a permittee for the project. Upon the approval of the contractor's Storm Water Pollution Prevention Plan (SWPPP) by DOT&PF, the contractor will be required to submit a Notice of Intent (NOI) and obtain permit coverage as an operator. The contractor's contact information as well as contact information for all subcontractors must be included in the contractor's SWPPP. All subcontractors will be required to sign a certification (DOT&PF Form 25D-105) that they have read the Alaska Construction General Permit (CGP) and the contractor's SWPPP and will adhere to their terms and conditions.

### 1.1 **Operator(s)**/Contractor(s)

Operator Information						
Organization:			Name:		Title:	
Enter Text			Enter Text	Enter Text Enter Text		ext
Phone:		Fax (op	otional):	Email:		
Enter Text Ente			<sup>-</sup> Text	Enter Text		
Mailing	Street (PO Box)	:				
Address:	Enter Text					
	City:			State:		Zip:
Enter Text				Enter Text		Enter Text
Area of	Day-to-day operational control of those activities at a site which are necessa				hich are necessary to	
Control	ensure compliance with a SWPPP or other permit conditions.				IS.	

The contractor has day-to-day operational control over activities in the field, including subcontractors, installing, maintaining, and inspecting all erosion and sediment controls and implementation of the SWPPP.

Owner/Operator Information						
Organization:			Name:		Title:	
State of Alaska Department of						
Transportation and Public						
Facilities (D	OT&PF)		Enter Text		Enter To	ext
Phone:		Fax (op	otional):	Email:		
Enter Text		Enter	<sup>-</sup> Text	Enter Text		
Mailing	Street (PO Box)					
Address:	P.O. Box 19	6900				
	City:			State:		Zip:
	Anchorage			Alaska		99519-6900
Area of	Operational	contr	ol over constructio	on plans and	l specific	ations, including the
Control	ability to make modifications to th			plans and sp	ecificatio	ons.

Repeat as necessary.

1

#### 1.2 Subcontractors

Subcontractor Information						
Organization:			Name:		Title:	
Enter Text			Enter Text		Enter Text	
Phone:		Fax (op	otional):	Email:		
Enter Text		Enter	<sup>-</sup> Text	Enter Text		
Mailing	Street (PO Box)	:				
Address:	Enter Text					
	City:			State:		Zip:
	Enter Text			Enter Text		Enter Text
Area of						
Control	Insert Area of Control (if more than one operator at site)					

Repeat as necessary to include all subcontractors.

### 2.0 STORM WATER CONTACTS (5.3.2)

Identify the qualified persons responsible for the following required positions (note: a small project may have all these responsibilities carried out by one person):

Superintendent; DOT&PF's Project Engineer; Storm Water Lead (5.3.2.1); SWPPP Preparer (5.3.2.2); Person(s) Conducting Inspections- Contractor's SWPPP Manager and DOT&PF's Storm Water Inspector (5.3.2.3); Person(s) Conducting Monitoring (if applicable, 5.3.2.4), and Person(s) Operating Active Treatment System (if applicable, 5.3.2.5).

Document that the named individuals are Qualified Persons as described in CGP Appendix C. Include documentation of qualifications in Appendix E of the SWPPP.

Qualified Personnel	Responsibility
Contractor's Superintendent Company Name Address City, State, Zip Code Telephone # Fax/Email	The Contractor's duly authorized representative in responsible charge of the work. Authority for the overall operation of the Project and for Contractor furnished sites and facilities directly related to the Project.
DOT&PF's Project Engineer Company Name Address City, State, Zip Code Telephone # Fax/Email	The DOT&PF's duly authorized representative in responsible charge of the work. Authority to stop and/or modify construction activities as necessary to comply with the SWPPP and the terms and conditions of the permit. Must approve all amendments.
SWPPP Manager (Storm Water Lead and Inspector) Company Name Address City, State, Zip Code Telephone # Fax/Email	Authority to stop and/or modify construction activities as necessary to comply with the SWPPP and the terms and conditions of the permit. Assess conditions at the construction site that could impact storm water quality. Assess the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharge, and familiar with Part 6 as a means to ensure compliance with the permit.
SWPPP Preparer Company Name Address City, State, Zip Code Telephone # Fax/Email	Possess the skills to assess conditions at the construction site that could impact storm water quality. Familiar with Part 5 as a means to implement the permit.

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586

DOT&PF's Storm Water Inspector Company Name Address City, State, Zip Code Telephone # Fax/Email	Assess conditions at the construction site that could impact storm water quality. Assess the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharge, and familiar with Part 6 as a means to ensure compliance with the permit.
Monitoring Person (If Applicable) Company Name Address City, State, Zip Code Telephone # Fax/Email	Knowledgeable in the principles and practices of water quality monitoring who is familiar with Part 7 and the monitoring plan for the site and how to conduct water quality sampling, testing, and reporting.
Active Treatment System Operator (If Applicable) Company Name Address City, State, Zip Code Telephone # Fax/Email	Knowledgeable in the principles and practices of treatment systems that employs chemical coagulation, chemical flocculation or electrocoagulation to aid in the treatment of storm water runoff. Familiar with Part 4.5 as a means to implement and comply with the permit.

A SWPPP Project Staff Tracking log (Form 25D-127) will be included in Appendix E to document any changes in personnel for the positions of Superintendent, Project Engineer, SWPPP Manager, and Inspectors.

Delete the information below prior to submittal of SWPPP. This information is provided for the SWPPP Preparer and is not part of the SWPPP template.

#### 2.1 Contact Information for SWPPP Preparation

The following people may be contacted for questions when writing the SWPPP:

<u>Name</u>	Phone	<u>Email</u>
Josh James	(907) 269-0459	<u>joshua.james@alaska.gov</u>

Add Environmental Analyst's contact info assigned to project

### 3.0 PROJECT INFORMATION (5.3.3)

#### 3.1 **Project Information**

Project Na	me:				
AMATS	: Downtown Trails Connection				
Location	Street/Location:		Borough or si	milar governmer	nt subdivision:
Address:	Tony Knowles Coastal Trail		Municipali	ty of Ancho	rage
	City:		State:	Zip:	
	Anchorage		Alaska	99501	
	Latitude (decimal degree, 5 places):	Longitue	de (decimal dec	ree, 5 places):	
	61.22417°N	149.0	5722°W		
	Determined By:  GPS  Web Map:	USGS 1	Горо Мар, Scal	e:	Other: Google Earth measurement of approximate center of project.

The proposed plan is to begin at Elderberry Park and extend the trail along the waterfront to the Ship Creek Boat Ramp, where it will turn to run along Small Boat Launch Road until it reaches the Ship Creek Trail. The project area is located within the 100-year flood plain with most of the area classified as FEMA flood Zone A.

#### 3.2 **Project Site-Specific Conditions (5.3.3)**

Mean annual precipitation based on nearest weather stations (inches): 16.58

Source: U.S. Climate Data website: https://www.usclimatedata.com/climate/anchorage/alaska/united-states/usak0012

Size of the 2-yr, 24-hr storm event (inches): 1.40

Source: NOAA Atlas 14 Point Precipitation Frequency Estimates; Anchorage, Alaska. Anchorage International AP Station: Website https://hdsc.nws.noaa.gov/hdsc/pfds/pfds\_map\_ak.html

**Soil Type(s) and Slopes:** According to the *Preliminary Geotechnical Study: Ship Creek Trail to Coastal Trail* Connection (Shannon and Wilson, Inc., 2016), soils within the project area primarily consists of varying thicknesses of granular fills or native soils, estuarine fine-grained deposits, a thin layer of gravelly alluvium, and clay of the Bootlegger Cove Formation. Construction of the pathway over undeveloped lands will likely see consolidation settlements and soft ground. Groundwater is present between 3 feet and 15 feet below the ground surface; however, the area is tidally influenced, and so the groundwater levels fluctuate seasonally and during high precipitation periods. Groundwater was found closer to the surface in the undisturbed tidal flats than in the developed areas.

The project is largely located in a Zone 4 – High Ground Failure Susceptibility seismic area, as classified by MOA. The area near and adjacent to Ship Creek is classified as Zone 3 – Moderate Ground Failure Susceptibility. Slope stability should be addressed in the pathway structural design.

Four test pits were dug during the wetland delineation, the coastal side of the alignment is largely homogenous. Soils along Ship creek largely consists of loamy non-native backfill and subgrade material along the existing pathway. Soils in intertidal, estuarine areas are alluvial deposits from Ship Creek and are classified as fine gray, clayey silts and are definitive hydric soils. Soils in this area show low chroma, typical sold soils with reduced anerobic conditions. Intertidal areas between the small boat launch and Elderberry Park are characterized by super saturated soils. Soils in the area consists of fibrous silt near the top 2 inches and transitions to clayey silt to around 17 inches deep with the exception that soils nearer to Elderberry Park consist of more undecomposed root material.

The proposed pathway profile is designed to be above the highest observed tide elevations with grades between -2.5% to 3.0% except for the tie in for the passage under the railroad bridge where slopes are 8.0%. Cross slopes for the pathway are 1.5%. Foreslopes will be 2:1 with riprap armoring placed on the seaward side of the pathway and topsoil and seed on the land side.

**Landscape Topography:** The topography of the project area is relatively flat characterized by low tundra, wetlands, floodplains, and tidal flats.

**Drainage patterns:** The project lies in the Lower Ship Creek Watershed within or adjacent to the Anchorage Coastal Zone Management boundary and the receiving waters are the Knik Arm and Ship Creek. Cook Inlet supporting streams have been identified as Essential Fish Habitat by the Alaska Department of Fish and Game and any improvements will be required to meet fish passage standards.

**Type of Existing Vegetation:** Vegetation in the project area consists of remnant or disturbed deciduous trees and shrubs (birch, willow, and alder) and landscaped plants from prior trail improvements. Much of the existing vegetation along Ship Creek has been trampled and the embankments no longer support vegetation due to the large number of people who fish the area in the spring and summer. Vegetation below the Ship Creek Bridges consists of saline tolerant, or "salt grasses" and has also been disturbed by users creating trails. Along the Ship Creek Boat Ramp access, trees and shrubs (willow, alder, and poplar) are overgrowing the parking spaces. Waterward of the ramp vegetation is also saline tolerant plants. Salt grasses, and good tongue below the driftwood line and in areas that have not been disturbed. Vegetation on the southside of the ramp has not been disturbed and in an intact tide flat community.

Approximate growing season: May 8 to October 5

**Source:** USACE Wetland Delineation Manual, Alaska Region Supplement (Version 2.0); Cook Inlet ecoregion

**Seeding Dates:** Seeding dates for this project are May 15 to August 15 or obtain written approval from the Engineer to seed at a different date. See Section 618 of the project specifications.

**Time Period to Avoid Vegetation Clearing**: Vegetation clearing for this project is not permitted within the migratory bird window of May 1 through July 15, except as permitted by federal, state, and local laws and approved by the Project Engineer.

Source: USFWS Land Clearing Timing Guidance for Alaska; Southcentral

Fish Window: See Alaska Department of Fish and Game's (ADF&G) Fish Habitat permit.

**Historic site contamination evident from existing site features and known past usage of the site:** A total of 6 active contaminated sites are located within or adjacent to the project area. The approximate plume for Hazard ID 4626 (ARRC - Anchorage Terminal Reserve GW Areas 2/3 & 4) extends into the project limits near N. C Street.

Source: Alaska Department of Environmental Conservation (DEC) Contaminated Sites Program

Additional information about these sites is available on the DEC Division of Spill Prevention and Response website:

<u>http://www.arcgis.com/home/webmap/viewer.html?webmap=315240bfbaf84aa0b8272ad1cef3cad3</u>. Include only those sites listed as 'Active' or 'Cleanup Complete – Institutional Controls'

#### **3.3 Reference Documents Available**

Listed below are the reference documents available for this project. Please contact the Project Engineer for assistance in obtaining these documents.

• Project Specific Permits - located in Appendix D and in the Special Provisions Package

- Geotechnical Report The Preliminary Geotechnical Study, Ship Creek Trail to Coastal Trail Connection, August 2016 was prepared by Shannon & Wilson, Inc and is available in the Plans room during the bidding process or download from the Bid Express project site (<u>https://www.bidx.com/ak/lettings</u>)
- Environmental Commitment Memo available at Preconstruction Meeting
- Environmental Document available for review in the DOT&PF Preliminary Design & Environmental section
- Categorical Exclusion Document Form

### 4.0 NATURE OF CONSTRUCTION ACTIVITY (5.3.4)

#### 4.1 Scope of Work

#### The Proposed Action would:

- Apply for Permitting
- Delineate project areas that will be disturbed.
- Delineate wetlands
- Relocate Utilities (if required)
- Construct watertight concrete structure and installation pumps to remove water
- Install new culverts
- Install temporary erosion and sediment control measures, as needed
- Conduct earthwork including subexcavation and placement of embankment fill.
- Remove and replace existing Stairway
- Stabilize as work progresses; install soil stabilization measures on disturbed ground as needed.
- Install RIPRAP armoring
- Install lighting
- Install fencing
- Placement of surface course
- Final soil stabilization and seeding
- Remove temporary erosion and sediment control measures.

#### 4.2 **Project Function (5.3.4.1)**

The proposed project includes connecting two of the most populated pathways in Anchorage, the Tony Knowles Coastal Trail, and Ship Creek Trail. The route will increase the safety for non-motorized users by reducing conflicts with vehicles. This route will also provide greater control over pedestrian trespassing on railroad facilities. The project will include improvements to signage, drainage features, and pedestrian lighting.

### 4.3 Support Activities (As Applicable)

Modify support activities table, as necessary. "Dedicated" only applies to activities exclusively for the project, i.e. commercial concrete or asphalt plants would be marked "No" under the "Dedicated" column. Location must be provided for ALL support activities, even those which are commercial or off-site. Provide a physical address for the support activities. For private and/or commercial support activities locations, include the name of the individual and/or company and their physical address. Location may be an address or other descriptive location, i.e. NE corner of staging area.

Support activities for this project are:

Support Activity	Location	Dedicated	
Support Activity	Location	Yes	No
Concrete Batch Plant			$\checkmark$
Asphalt Batch Plant			$\checkmark$
Equipment Staging Yards	Contractor to determine locations.	V	
Material Storage Areas	Contractor to determine locations.	V	
Excavated Material Disposal Areas	Contractor to determine locations.	V	
Borrow Areas	Contractor to determine locations.	V	

#### 4.4 Sequence and Timing of Soil-disturbing Activities (5.3.4.2)

The contractor will be required to finish, either temporary or final stabilized, individual areas prior to moving on to the next area. The contractor will be required to prepare a detailed schedule for review and approval prior to commencement of construction activities and is to be included in the SWPPP. The schedule will detail the sequence of activities and describe the stabilization schedule. The contractor must adapt this section with their specific plans in the project SWPPP.

Limit ground disturbed by construction activities and not permanently stabilized between all pathways combined, at any specific time, to a maximum of 11,000 feet parallel to the pathway(s), unless additional length is approved. Stabilize disturbed ground according to Section 641 Erosion, Sediment, and Pollution Control.

#### 4.5 Size of Property and Total Area expected to be Disturbed (5.3.4.3)

The following are estimates of the construction site:

Description	Number	Remarks
Total project area:	16 acres	Proposed pathway surface and embankment to daylight limits with 25' buffer

Construction-site area to be disturbed:	9 acres	Proposed pathway surface and embankment to daylight limits.
Percentage impervious area BEFORE construction:	1%	Value is area percentage of existing gravel pathway surface compared to the total disturbed area
Runoff Coefficient BEFORE construction:	0.26	<ul><li>1.54 acres natural vegetation-lawn</li><li>0.86 acres natural vegetation-graded slope: gravel</li><li>6.40 acres natural vegetation-wetland</li><li>0.20 acres gravel street/pathway</li></ul>
Percentage impervious area AFTER construction:	19%	Value is area percentage of proposed paved pathway compared to total disturbed area.
Runoff coefficient AFTER construction:	.41	<ul> <li>3.75 acres natural vegetation-lawn</li> <li>2.92 acres natural vegetation-graded slope: gravel</li> <li>1.72 acres paved street/pathway</li> <li>0.61 acres paved street/pathway</li> </ul>

The values shown in the table above were calculated with the information available at the time of the final design. The contractor's values will be different due to staging areas, batch plants, material stockpiles, etc.

An area-weighted "C" value from the rational method was used to calculate the Runoff Coefficient. The existing gravel pathway was assigned a "C" value of 0.60. The natural vegetation for lawn and earthen gravel surfaces was assigned a "C" value of 0.22 and 0.35. The existing forest/brush, and wetlands was assigned a "C" value of 0.11 and 0.24 respectively. The proposed paved street/pathway surface was assigned a "C" value of 0.87. Gravel pathway was assigned the "C"-value of .6. If a discrepancy is found, contact the Project Engineer to request further information.

#### 4.6 Identification of All Potential Pollutant Sources (5.3.4.5)

Identify and list all potential sources of sediment from construction materials and activities which may affect the quality of storm water discharges from the construction site.

Identify and list all potential sources of pollution, other than sediment, from construction materials and activities which may affect the quality of storm water discharges from the construction site.

Potential sources of sediment to storm water runoff:

Trade Name Material	S	torm W	ater Polli	utants	Location	
Excavation/Backfilling/Grading	Silt, Soil	Sand,	Gravel,	Organic	Within project limits an disturbed by cons activities	id areas struction

Concrete	Sand, Gravel	Within project limits and areas of concrete operations
Paving	Sand, Gravel	Within project limits and areas of paving operations
Stockpiles	Silt, Sand, Gravel	Within the general construction staging areas and areas of excavation and fill activities
Construction Dust	Silt, Sand	Within the project limits and areas disturbed by construction activity
Dewatering	Silt	Within project limits and areas of dewatering
Vehicle Tracking	Silt, Sand, Gravel, Organic Soils	At project exits

Potential pollutants and sources, other than sediment, to storm water runoff:

Trade Name Material	Storm Water Pollutants	Location
Diesel, Fuel, Gasoline, hydraulic, oil, lubricants	Petroleum distillate, oil, grease, naphthalene, xylene	Within project limits and contractor staging area
Coolant	Ethylene Glycol, heavy metals	Within project limits and contractor staging area
Sanitary Toilet	Fecal Coliform	Within contractor staging area
Fertilizer	Nitrogen, Phosphorus	Within contractor staging area and areas requiring seeding operations
General Site Litter	Paper, Plastic	Within project limits and contractor staging area
Portland Cement Concrete	Silt	Within project limits and at concrete wash-out areas

### 5.0 SITE MAPS (5.3.5)

Site map(s) and drawings are located in Appendix A.

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586 The SWPPP must include a legible site map (or set of maps for large projects) showing the entire site and identifying the following site-specific information:

- 1. North Arrow (ESCP)
- 2. Property boundaries (ESCP)
- 3. Locations where earth-disturbing activities will occur, noting any phasing dictated by design **(ESCP)**
- 4. Location of areas that will not be disturbed and natural features to be preserved (ESCP)
- 5. Locations of all storm water conveyances including ditches, pipes, and swales (ESCP)
- 6. Locations of storm water inlets and outfalls, with a unique identification code for each outfall **(ESCP)**
- Location where storm water and/or authorized non-storm water discharges to waters of the U.S. (including wetlands) or a Municipal Separate Storm Sewer Systems (MS4), if present (ESCP)
- 8. Direction of storm water flow and approximate slopes anticipated after grading activities (ESCP)
- 9. Locations where control measures will be installed (ESCP)
- 10. Locations where exposed soils will be or have been stabilized
- 11. Locations where post-construction storm water controls will be installed (i.e. seeding areas, matting, riprap, sedimentation basins, etc.) **(ESCP)**
- 12. Locations of support activities, if known
- 13. Locations where authorized non-storm water will be used
- 14. Locations and sources of run-on to the site from adjacent property that may contain quantities of pollutants (e.g., sediment, fertilizers and/or pesticides, paints, solvents, fuels) which could be exposed to rainfall, or snowmelt, and could be discharged from your construction site, if applicable (ESCP)
- 15. Locations of all waters of the U.S. (including significant wetland areas 10,000 square feet or greater) on the site within 2,500 feet of the site boundary (~1/2 mile on each side of road) that may be affected by storm water discharges from the site (see Section 7.1) (ESCP)
  - a. This can be shown on a general location map (USGS quad map, a portion of a city or county map, or other map) with enough detail to identify the location of the construction site and waters of the U.S. within the one mile distance.
- 16. Location of existing public water system (PWS) drinking water protection areas (DWPA) for PWS sources (e.g. springs, wells, or surface water intakes) that intersect the boundary of the proposed project/permit area. The DWPAs can be found using the interactive web map application, "Alaska DEC Drinking Water Protection Areas", located at http://dec.alaska.gov/das/GIS/apps.htm. (ESCP)
  - a. A copy of the webpage from the above URL will work with the addition of the project boundary and labels for the DWPAs by their ID numbers (see Section 9).
- 17. Sampling point(s), if applicable
- 18. Areas where final stabilization has been accomplished
- 19. Location of staging and material storage areas (construction materials, hazardous materials, fuels, etc.) (ESCP, if known)
- 20. Dumpsters
- 21. Porta-potties
- 22. Concrete, paint, or stucco washout areas
- 23. Stabilized construction exits (ESCP, if known)

### 6.0 DISCHARGES

Subject to compliance with the terms and conditions of the CGP, the permittee is authorized to discharge pollutants in storm water discharges from the site. If the permittee is eligible for coverage under CGP and does not comply with the requirements of the CGP, the permittee may be in violation of this general permit for otherwise eligible discharges.

Instructions:

Describe and identify the location of any storm water discharge associated with support activities, including discharges from dedicated asphalt and concrete plants covered by the CGP (5.3.8).

#### 6.1 Locations of Other Industrial Storm Water Discharges (5.3.8)

The contractor is required to identify discharges from related support activities. Portable batch plants located on department-supplied property must be included in the contractor's SWPPP and related inspections. If the DOT&PF is not a CGP operator for the site or sites listed in this subsection, then describe the sites and BMPs for them in a separate SWPPP2. In this section, explain which areas are covered within this SWPPP and which are covered within a separate SWPPP2. Also provide information on where the SWPPP2 is available for review.

#### 6.2 Allowable Non-Storm Water Discharges (1.4.3; 4.3.7; 5.3.9)

The contractor must list all allowable non-storm water discharges and describe how the discharges will be minimized and managed to reduce pollution to storm water in the contractor's SWPPP.

Allowable Non-Storm Water Discharges:

- Discharges from fire-fighting activities (1.4.3.1)
- Fire hydrant flushing (1.4.3.2)
- Waters used to wash vehicles where detergent are not used (1.4.3.3)
- Water used to control dust (1.4.3.4)
- Potable water including uncontaminated water line flushings (1.4.3.5)
- Routine external building wash down that does not use detergents (1.4.3.6)
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used (1.4.3.7)
- Uncontaminated air conditioning or compressor condensate (1.4.3.8)
- Uncontaminated, non-turbid discharges of ground water or spring water (1.4.3.9)
- Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated groundwater (1.4.3.10)
- Uncontaminated construction dewatering waters that are treated by an appropriate control measure in compliance with Part 4.4.2 or have been treated with treatment chemicals in compliance with Part 4.6 (1.4.3.11)
- Landscape irrigation (1.4.3.12)

### 7.0 DOCUMENTATION OF PERMIT ELIGIBILITY RELATED TO TOTAL MAXIMUM DAILY LOADS (3.2, 5.6)

A search of the "Alaska's Final **2022** Integrated Water Quality Monitoring and Assessment Report" found no listings or impairments for the Knik Arm. Impairments for Ship Creek are listed.

This project discharges to an impaired waterway with an EPA approved or established Total Maximum Daily Load (TMDL) There is a TMDL (Alaska ID Number 20401-020) in place for fecal coliform for Ship Creek.

#### 7.1 Identify Receiving Waters (5.3.3.3)

- Knik Arm
- Ship Creek

**Description of receiving waters:** The project area is located along Knik Arm within the Lower Ship Creek Watershed (AWC Code: 247-50-10060) and is within or adjacent to the Anchorage Coastal Zone Management boundary. Surface runoff from the northern section of the project flows primarily into Ship Creek or the Knik Arm.

Outstanding Natural Resource Waters (2.1.6):

The DEC must be consulted, at least 30 days prior to construction activities, when determining requirements for water quality analysis on all projects that meet the following:

• Will or may discharge storm water to a Tier 3 water body, also known as Outstanding Natural Resource Waters (ONRW).

No ONRW are designated in Alaska as of the date of this document.

**Description of storm sewer and/or drainage systems**: The Municipality of Anchorage owns and operates the existing piped storm drain system in the project area. There are six storm drains that outfall directly into Ship Creek. There are also five local culverts, two draining the swale between Small Boat Launch Road and the railroad tracks and three to drain the low areas within the rail yard, that drain directly into Knik Arm.

Other: None

#### 7.2 Identify TMDLs (5.6.1)

Is an EPA-established or approved TMDL published for the receiving water(s) listed in Section 7.1?

$\mathbf{V}$	Yes		No
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TMDL: Category 4a Alaska ID 20401-020

Summary of consultation with state or federal TMDL authorities (5.6.2): EPA recommends that NPDESregulated municipal and small construction stormwater discharges effluent limits should be expressed as best management practices or other similar requirements, rather than as numeric effluent limits.

Measures taken to ensure compliance with TMDL (5.6.3): There is a TMDL in place for fecal coliform for Ship Creek, consultation is pending. Follow up monitoring by ADEC and MOA will be done to track the progress of the TDML implementation.

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586

### 8.0 DOCUMENTATION OF PERMIT ELIGIBILITY RELATED TO ENDANGERED SPECIES (3.3, 5.7)

## 8.1 Information on Endangered or Threatened Species or Critical Habitat (5.7.1)

Are endangered or threatened species and critical habitats on or near the project area?

🗹 Yes 🗌 No

Describe how this determination was made:

See Categorical Exclusion Documentation Form (April, 2024) page 16 and 17 of 26.

Will species or habitat be adversely affected by storm water discharge?

🗌 Yes 🛛 🗹 No

See Categorical Exclusion Documentation Form (April, 2024) page 16 and 17 of 26.

Provide summary of necessary measures (5.7.5):

Exclusion Documentation Form (April, 2024) page 16 and 17 of 26 state that the project has no effect on listed or proposed T&E species or designated critical habitat.

### 9.0 APPLICABLE FEDERAL, STATE, TRIBAL, OR LOCAL REQUIREMENTS (4.10, 4.15)

The project will comply with all applicable Federal, State, Local, and Tribal requirements for soil erosion control and storm water management.

The contractor will be responsible for obtaining all necessary permits and clearances for material and disposal sites, and/or equipment storage areas in accordance with the CGP for Storm Water Discharges from Construction Activities.

#### 9.1 Historic Properties

SHPO consultation was completed on: 8/16/2024

Are there any historic sites on or near the construction site?

□ Yes 🗹 No

Describe how this determination was made: See Categorical Exclusion Documentation Form (April, 2024) page 9 to 11 of 26 for the Historic Property documentation.

If cultural or paleontological resources are discovered after the initial commencement of construction activities, work that would disturb such resources is to be stopped, and the Office of History and Archaeology, a Division of Parks and Outdoor Recreation of the Alaska Department of Natural Resources (<u>http://dnr.alaska.gov/parks/oha/</u>), is to be notified immediately at (907) 269-8721.

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586 It is the Contractor's responsibility, thru the Project Engineer, to get clearance for material and disposal sites that have not been assessed during the Design phase of the project.

#### 9.2 **Projects near Public Water System (PWS) (4.10)**

The project boundary does not intersect any Public Water System (PWS) Drinking Water Protection Area(s) (DWPA). Website: <u>https://dec.alaska.gov/eh/dw/dwp/protection-areas-map/</u>

The intersecting DWPAs and Provisional Protect Areas ID numbers (PWSID) with contact information are:

Water System Name	PWSID	Contact Name	Phone #	Address	Email
N/A					

The water system name, number, name of contact, and all methods of contact can be found at: <u>https://dec.alaska.gov/eh/dw/dwp/protection-areas-map/</u>.

If the project is near a PWS, add language that addresses the following items:

1. Within the identified DWPA, restrict project activities that could significantly change the natural surface water drainage or groundwater gradient (4.10.2).

2. Immediately notify the nearby PWS of any identified potential contamination, such as spills or excess erosion (4.10.3).

Record the time, date, and method of contact and enter into the SWPPP in Appendix Q. Either a copy of the email, or a formal memo stating the date of phone call, or a receipt from certified mail will fulfill this obligation.

General Principles for Erosion and Sediment Controls.

The contractor must design, install, and maintain effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:

- Control storm water volume and velocity to minimize soil erosion and pollutant discharges;
- Control storm water discharges, including both peak flowrates and total storm water volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points;
- Minimize the amount of soil exposed during construction activity;
- Minimize the disturbance of steep slopes;
- Minimize sediment discharges from the site. The design, installation, and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity, duration of precipitation; the nature of resulting storm water runoff; and soil characteristics, including the range of soil particle sizes expected to be present on the site;
- Provide and maintain natural buffers around waters of the U.S., direct storm water to vegetated areas and maximize storm water infiltration to reduce pollutant discharges, unless infeasible;
- Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates it to be compacted.
- Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

Additional Erosion and Sediment Controls Selection and Design Considerations:

Preventing storm water from coming into contact with polluting materials is generally more effective, and less costly, than removing pollutants from storm water;

Using a combination of control measures is more effective than using control measures in isolation for minimizing pollutants in the storm water discharge;

Using technologically available, economically practicable, and achievable methods in light of best industry practices;

Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures that will achieve the limits in this permit;

Minimizing impervious areas at the permittees facility and infiltrating runoff onsite (including bioretention cells, green roofs, and pervious pavement, among other approaches) can reduce runoff and improve groundwater recharge and stream base flows in local streams, although care must be taken to avoid ground water contamination;

Dissipate storm water runoff into open vegetated swales and natural depressions to reduce in stream impacts of erosive flows;

Conserving and/or restoring of riparian buffers will help protect streams from storm water runoff and improve water quality; and

Using treatment interceptors (e.g., sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

Describe the Best Management Practices (BMPs) to be implemented to control pollutants in storm water discharges. For each major activity identified:

- Clearly describe appropriate control measures.
- Describe the general sequence during the construction process in which the measures will be implemented.
- Describe maintenance and inspection procedures to be undertaken for that specific BMP.
- Include protocols, thresholds, and schedules for cleaning, repairing, and/or replacing damaged or failing BMPs.
- Identify staff responsible for maintaining BMPs. (If your SWPPP is shared by multiple operators, indicate the operator responsible for each BMP.)

Categorize each BMP under one of the following areas of BMP activity as described below:

- 1. Minimize the Amount of Soil Exposed during Construction Activity (4.2.2) & Site Delineation (4.2.1)
- 2. Maintain Natural Buffer Areas (4.2.3) & Clearing Vegetation (4.2.4)
- 3. Control Storm Water Discharges and Flow Rates (4.2.5)
- 4. Protect Steep Slopes (4.2.6)
- 5. Storm Water Inlet Protection (4.3.1)
- 6. Water Body Protection (4.3.2)
- 7. Down-Slope Sediment Controls (4.3.3)
- 8. Stabilized Construction Vehicle Access and Exit Points (4.3.4)
- 9. Track-Out from vehicles (4.3.5)
- 10. Dust Generation (4.3.6)
- 11. Stockpile Management (4.3.7)
- 12. Sediment Basins (4.3.9)
- 13. Dewatering (4.4)
- 14. Soil Stabilization (4.5)
- 15. Treatment Chemicals / Active Treatment Systems (4.6)
- 16. Good Housekeeping Measures (4.8)
- 17. Spill Notification (4.9)
- 18. Construction and Waste Materials (5.3.7)
- 19. Permanent/Post-Construction BMPs (4.11)
- 20. Projects near a Public Water System (PWS) (4.10)
- Note the location of each BMP on your site map(s).
- Any structural BMPs should have design specifications and details referred to in Section 11 or included in Appendix B.

For more information or ideas on BMPs, see the DEC Alaska Storm Water Guide:

<u>https://dec.alaska.gov/water/wastewater/stormwater/guidance/</u> & for a list of Alaska specific BMPs look at the DOT&PF *Alaska SWPPP Guide*'s Appendix B - BMP Guide for Erosion & Sediment Control at <u>http://dot.alaska.gov/stwddes/desenviron/assets/pdf/bmp/bmp\_all.pdf</u>

## 10.0 CONTROL MEASURES/BEST MANAGEMENT PRACTICES (4.0; 5.3.6)

Much of the guidance in this section is for both the ESCP & SWPPP preparers. Carefully read through the requirements listed below when filling out Section 10. When developing this section, think about how they are going to construct the project. Look at means and measures but do not direct the contractor...merely suggest. Consider 'prior to/upon construction' methods (i.e. upon placing culvert install a fiber roll and outlet protection). The following sections describe BMPs that will or may be used as necessary to prevent erosion and control sediment.

The selection, design, installation, maintenance, and removal of control measures must be in accordance with good engineering practices, manufacturer specifications, and address site-specific conditions such as precipitation, site topography, soil characteristics, and growing season.

The plan preparer will use this section to describe the types and locations of control measures and BMPs to be installed and maintained in accordance with CGP Part 4.0.

Describe each control measure and BMP, including installation schedule and maintenance, inspection, and removal requirements. You may include a brief description of each BMP in this section and refer to detailed installation, maintenance, inspection, removal requirements, and manufacturer's specifications that **MUST** be included in the Appendix B.

If a control measure or BMP will be used to comply with more than one element of this section, you do not need to repeat the detailed installation, maintenance, inspection, removal requirements, and manufacturer's information. For each repeated element, identify the control measure or BMP to be used, and refer to the section or Appendix B where the detailed information is presented.

The person(s) identified in Section 2.0 of this SWPPP will be responsible for ensuring compliance with the installation, maintenance, inspection, and removal of these control measures.

The format to be used is:

BMP Description:

Describe purpose, applicability, limitations and design. If using a BMP manual or publication, this information may be found there.

**BMP Manual/Publication:** 

Provide the citation information as described below. If referencing Appendix B, where the BMP details are provided, ensure the attached sheets clearly identify this information.

Installation Schedule:

Identify the activity or phase prior to which the BMP will be installed or the activity that requires this BMP to be installed before it can begin.

Maintenance and Inspection:

Describe the thresholds and/or indicators for maintenance and protocols for inspecting the BMP. Describe the maintenance procedures. If using a BMP manual or publication, this information may be found there.

Responsible Staff:

Name the position and company who is responsible for installation and maintenance.

How to Cite a BMP Publication:

DOT&PF requires citations for the BMP manual or publication used to select and design the BMP, along with a description of the BMP. If no BMP manual or publication was used to select or design a given BMP then state "No BMP manual or publication was used in the design or selection of this BMP". BMP designs submitted by the contractor and approved by the Project Engineer may be used but still must state that no manual or publication was used.

<u>BMP Manuals/Publications</u>: BMP manuals describe each BMP and outline details such as installation, design parameters, applicability/limitations, maintenance, and targeted pollutants. To cite a manual, include the title, author (individual or agency) and date of publication.

Be careful when citing outside of the state control measures or BMPs. Read through them to make sure they do not put any additional restrictions that go beyond the CGP. If citing outside of state BMPs, make sure to mark out any requirements that do not apply to this project or do not meet CGP requirements and cite as 'modified from (insert BMP manual title).

<u>DOT&PF Specifications and Plan Sheets</u>: The publication cited may be the DOT&PF contract specifications and plan sheets provided that the minimum information regarding the BMP is included (those listed above).

When the plans and specifications are used, the reference must include the sheet or page number and these must be appended to the SWPPP. If the specifications and plan sheets do not provide the minimum information, the plan preparer must provide the missing information in the plan. Any drawing or description developed by the plan preparer must include the statement "No BMP manual or publication was used for this design."

<u>Manufacturer's Specification Sheet</u>: Referencing a manufacturer's specification sheet is suitable only if it includes all the necessary information listed in the above subsection. When using the manufacturer's specification sheet(s), provide the product name, manufacturer, and date of copyright, and attach copies of the specification sheet(s) to the plan. It may also be helpful to provide the manufacturer's website if the information was obtained online. You may deviate from manufacturer's specifications where you provide justification for such deviation and include documentation of your rationale in the ESCP/SWPPP.

<u>Permanent/Post-Construction Control Measures</u>: Identify any permanent/post-construction control measures that will be installed during the construction process and not discussed elsewhere in the SWPPP (permanent Soil Stabilization measures should be covered in section 10.13).

#### 10.1 Minimize Amount of Soil Exposed during Construction Activity (4.2.2)

Construction will be scheduled and/or sequenced as to minimize the amount of soil that is exposed to the elements at any time. If disturbed ground will be left exposed for prolonged periods, it will be stabilized by temporary seeding or provide an alternative form of cover to preserve topsoil and prevent erosion.

Describe how the disturbed land areas (e.g., clearing and grading) and undisturbed land areas (e.g., trees, boundaries of sensitive areas, or buffers established by CGP Part 4.2.3) will be delineated.

Describe the areas that will be disturbed for each phase of construction, and the methods you will use (e.g., signs, fences, etc.) to protect the areas that are to be left undisturbed. Construction activities must be phased to minimize the extent and duration of exposed soil.

Identify natural features and describe how each will be protected during construction activity.

Describe how native topsoil will be preserved. Native topsoil should be preserved for later use with onsite stockpiles, unless deemed infeasible by space constraints or site design criteria creates impervious surfaces (CGP Part 4.2.2.1).

**BMP Description:** Preservation of Existing Vegetation AK-1

BMP Manual/Publication: DOT&PF, SWPPP Guide, 2-2011

Permanent	🗹 Temporary
Installation Schedule:	Before any clearing activity begins.
Maintenance and	- Repair or replace damaged vegetation immediately.
inspection:	<ul> <li>Inspect preservation areas regularly, if barrier has been removed or visibility reduced repair or replace barrier so that visibility is restored.</li> </ul>
	- If roots are exposed or damaged, prune ends just above damage with pruning shears or loppers and recover with native soil.
Responsible Staff:	SWPPP Manager & Superintendent

#### BMP Description: Temporary Seeding (AK DOT&PF BMP-57.00)

**BMP Manual/Publication:** ADEC Alaska Storm Water Guide, December 2011; AK DOT&PF Alaska SWPPP Guide, October 2016

Permanent	☑ Temporary
Installation Schedule:	Install temporary seeding as soon as practical after the last ground disturbing activity in the area. Temporary seeding is not recommended if permanent seeding will be completed in the same growing season.
<i>Maintenance and Inspection:</i>	<ul> <li>Water seeded areas daily until ground cover is established if rainfall does not provide moisture for seed germination.</li> <li>Check the area to ensure the grass is growing; replant at appropriate times if required</li> <li>Look for damage to the seeded area due to runoff and repair before the next runoff event</li> <li>Check for erosion and flooding after significant rainstorms and repair before the next runoff event</li> </ul>
Responsible Staff:	SWPPP Manager/Storm Water Lead and Superintendent.

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/cfhwy00586

#### **10.1.1 Site Delineation (4.2.1)**

Site delineation will involve marking the work limits with staking, flagging, signing, fencing, or other applicable means.

BMP Description: Site Delineation BMP-54.00	
BMP Manual/Publication: AK DOT&PF Alaska SWPPP Guide, October 2016	
Permanent	✓ Temporary
Installation Schedule:	Install site delineation measures prior to ground disturbing activities. They are intended to remain until construction activity is completed.
Maintenance and Inspection:	Inspect flagging and fencing to check for damage. Repair or replace any damaged fencing or flagging. Ensure that construction is staying within the project limits.
Responsible Staff:	SWPPP Manager/Storm Water Lead and Superintendent.

#### 10.2 Maintain Natural Buffer Areas (4.2.3)

**BMP Description**: Vegetation Buffer BMP-38.00

Are stream crossings or waters of the U.S. located within or immediately adjacent to the property?  $\checkmark$  Yes  $\Box$  No

If YES, describe the control measures to be implemented to comply with the CGP Part 4.2.3 (e.g., buffer areas, perimeter controls, etc.).

You must maintain natural buffer areas at stream crossings and around the edge of any waters of the U.S. that are located within or immediately adjacent to the construction activity in accordance with the following:

- The buffer must be a minimum of 25 feet wide, or the width as required by local ordinance, unless infeasible based on site dimensions;
- Exceptions are allowed for water dependent activities, specific water access activities, or necessary water crossings;
- A permittee should, to the extent practicable, use perimeter controls adjacent to buffers and direct storm water sheet flow to buffer areas to increase sediment removal and maximize storm water infiltration.

Natural buffer areas will be maintained adjacent to waterbodies with a minimum width of 25 feet to the extent practicable.

I	
BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016	
Permanent	✓ Temporary
Installation Schedule:	Install or establish vegetation buffer areas prior to construction activities
Maintenance and Inspection:	Vegetation buffer areas should be inspected for impacts from soil deposited by construction related activities, damage from channelized runoff, excess accumulation of sediment, and disturbance from construction activities
Responsible Staff:	SWPPP Manager/Storm Water Lead and Superintendent.

#### 10.2.1 Clearing Vegetation (4.2.4)

Clearing of vegetation that disturbs the vegetative mat and exposes soil is **prohibited** prior to obtaining authorization under the CGP.

Cutting of trees and brush while the ground is frozen without disturbing the vegetative mat for the purpose of clearing in accordance with the U.S. Fish & Wildlife Service "Recommended Time Periods for Avoiding Vegetation Clearing" is allowed prior to the submittal of a project's NOI. If vegetation clearing that disturbs the vegetative mat and occurs after the onset of spring thaw (as defined in Appendix C) or conditions that consist of above freezing temperatures that cause melting of snow, the permittee must develop a SWPPP and file an NOI. Operators must receive authorization under this permit and otherwise comply with the terms of this permit prior to such clearing.

#### **10.3** Control Storm Water Discharges and Flow Rates (4.2.5)

Describe control measures to comply with the CGP (e.g., divert storm water around the site, slow down or contain storm water, use of velocity dissipation devices, installing permanent storm water management controls prior to construction of site improvements to the extent practicable, etc.). Storm water that may concentrate must be slowed down or contained.

BMP Description: Interception Ditch BMP-11.00	
BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016	
Permanent	☑ Temporary
Installation Schedule:	Install interception ditches prior to construction where there is storm water runoff potential
Maintenance and Inspection:	Interception ditches should be inspected for impacts from soil deposited by construction related activities, damage from channelized runoff, excess accumulation of sediment, and disturbance from construction activities
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

#### 10.3.1 Protect Steep Slopes (4.2.6)

Will steep slopes be present at the site during construction?  $\checkmark$  Yes

🗌 No

If YES, describe control measures to be implemented to comply with CGP Part 4.2.6 (e.g., reduce continuous slope length, divert storm water around slopes, stabilized exposed areas, etc.).

BMP Description: Rock Slope Armor BMP-17.00	
BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016	
Permanent	Temporary
Installation Schedule:	Install rock slope armor as described in the plans as permanent stabilization upon completion of culvert installation and embankment fill.

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586

Maintenance and Inspection:	<u>Inspection:</u> Inspect for damage to the rock armor including displaced stones, slumping, and erosion at edges, especially downslope <u>Maintenance:</u> Repair damaged rock armor slope or edges as soon as practicable and before further damage can occur.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

BMP Description: Fiber Rolls for Erosion Control BMP-10.01.a

BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, March 2021

Permanent	✓ Temporary
Installation Schedule:	Installed prior to soil disturbance in the contributing drainage area.
Maintenance and Inspection:	Inspection: Look for roll ends remain abutted tightly. Ensure that the rolls are in contact with the soil and are entrenched. Look for scouring underneath the rolls.
	<u>Maintenance</u> : If rolls are crushed, torn, slumping, or split, the damaged sections must be replaced. Remove sediment accumulated upslope of the roll when it reaches one-half the distance between the top of the fiber roll and the ground surface.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

BMP Description: Rolled Erosion Control Products for Slopes BMP-18.00	
BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016	
Permanent	Temporary
Installation Schedule:	Install upon completion of embankment until permanent stabilization
Maintenance and Inspection:	Inspection: Inspect for erosion at edges, slumping, and proper anchorage of the netting or matting.
	<u>Maintenance</u> : Repair damaged sections and apply additional anchors as needed to secure netting or matting. Install additional flow control BMPs upstream if required.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

Sediment Controls:

Sediment control measures (e.g. sediment ponds, traps, filters, etc.) must be constructed as one of the first steps in grading. These control measures must be functional before other land disturbing activities take place.

#### **10.4** Storm Water Inlet Protection Measures (4.3.1)

Describe control measures (e.g., filter berms, perimeter controls, temporary diversion dikes, etc.) to be implemented to protect all inlets receiving storm water from the project during the duration of the project.

BMP Description: Culvert Inlet Protection BMP-08.00

Permanent	☑ Temporary
Installation Schedule:	Immediately when culvert is installed, bedded, and backfilled. All culvert inlet protection will be installed within 24 hours of culvert placement.
Maintenance and Inspection:	Inspection: Look for roll ends remain abutted tightly. Ensure that the rolls are in contact with the soil and are entrenched. Look for scouring underneath the rolls.
	<u>Maintenance</u> : Remove accumulated sediment before it reaches 1/3 of the design depth. Repair any structural damage and restore structure to original dimensions and is in full contact with soil around the inlet.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016

#### **10.5** Water Body Protection Measures (4.3.2)

Describe control measures selected to minimize discharge of sediment prior to entry into water bodies located on or immediately downstream of the site.

BMP Description: Rock Filter Berm BMP-16.00	
BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, March 2021	
Permanent	☑ Temporary
Installation Schedule:	Gravel filter berms will be used as perimeter protection 24 hours after grubbing.
<i>Maintenance and Inspection:</i>	<ul> <li><u>Inspection</u>: Look for voids, undercutting, and/or sediment accumulation.</li> <li><u>Maintenance</u>: Make repairs to berms at first sign of deterioration. Remove and either dispose of or reincorporate into the project any sediment buildup before 1/2 of above ground height or capacity or 1/3 if protecting a water body or storm drain inlet. Replace filter material when necessary.</li> </ul>
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

BMP Description: Silt Fence BMP-20.00	
BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016	
Permanent	✓ Temporary
Installation Schedule:	Install prior to commencement of work at areas within or adjacent to water bodies.
Maintenance and Inspection:	Inspection: Inspect fenceline for continuity, collapse, undermined areas, and damage; inspect fenceline for tears, punctures, fraying, weathering, and compromised integrity; confirm that fence posts are secure; ensure the fence is keyed in and that there is no undercutting; look for evidence of sediment or erosion flow leading off the downhill

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586
	edge of the fence; note depth of sediment buildup at the fence; look for signs of inadequate protection of off-site sensitive areas; check for sediment flowing through the fence; check for holes in fence where wire ties are used to secure geotextile fabric to the support post.
	<u>Maintenance</u> : Install alternate or additional BMPs as needed to prevent undesirable sedimentation of sensitive areas; replace damaged fabric; remedy fence sags as needed; remove accumulated sediment before it accumulates to one-half the capacity; or one-third the available storage if protecting a water body or storm drain inlet; if there is evidence of excessive sedimentation against the silt fence, provide increased erosion control upslope.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

### **BMP Description:** Culvert Inlet Protection BMP-08.00

BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, March 2021

Permanent	🗹 Temporary
Installation Schedule:	Immediately when culvert is installed, bedded, and backfilled. All culvert inlet protection will be installed within 24 hours of culvert placement.
Maintenance and Inspection:	<u>Inspection</u> : Look for roll ends remain abutted tightly. Ensure that the rolls are in contact with the soil and are entrenched. Look for scouring underneath the rolls.
	<u>Maintenanc</u> e: Remove accumulated sediment before it reaches 1/3 of the design depth. Repair any structural damage and restore structure to original dimensions and is in full contact with soil around the inlet.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

# **10.6** Down-Slope Sediment Controls (4.3.3)

Describe sediment controls (e.g., silt fence or temporary diversion dike) for any portion of the down-slope and side-slope perimeter where storm water will be discharged from disturbed areas of the site.

Fibers rolls will be used as a down-slope sediment control. See Section 10.3.1 Protect Steep Slopes for the BMP description, installation, maintenance, and inspection information.

BMP Description: Fiber Rolls for Erosion Control BMP-10.01.a

BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, March 2021

Permanent	☑ Temporary
Installation Schedule:	Installed prior to soil disturbance in the contributing drainage area.
Maintenance and Inspection:	<u>Inspection</u> : Look for roll ends remain abutted tightly. Ensure that the rolls are in contact with the soil and are entrenched. Look for scouring underneath the rolls.
	<u>Maintenance</u> : If rolls are crushed, torn, slumping, or split, the damaged sections must be replaced. Remove sediment accumulated upslope of the roll when it reaches one-half the distance between the top of the fiber roll and the ground surface.

Responsible Staff:	SWPPP Manager & Superintendent, Contractor
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# **10.7** Stabilized Construction Vehicle Access and Exit Points (4.3.4)

Vehicle access points must be limited as much as possible and must be stabilized.

Describe location(s) of vehicle entrance(s) and exit(s), procedures to remove accumulated sediment offsite (i.e., vehicle tracking), and stabilization practices (i.e., stone pads and/or wash racks) to minimize offsite vehicle tracking of sediments and discharges to storm water.

Any rubber tire operating on bare soils will require a stabilized entrance / exit prior to driving on paved surfaces. Tracked equipment must be cleaned prior to operating on paved surfaces. The existing gravel surfaces will be used for the stabilized access and exit points.

BMP Description: Stabilized Construction Exit BMP-23.00	
BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016	
Permanent	✓ Temporary
Installation Schedule:	Install stabilized construction exit prior to earth work.
Maintenance and Inspection:	Inspection: Inspect stabilized construction exit for sediment accumulation and material displacement. Inspect roadway for sediment track-out. Inspect ditches to ensure no sediment accumulation.
	<u>Maintenance</u> : Maintain each exit in a condition that will prevent tracking of mud or sediment onto public right-of-way. Repair and/or clean out any structures used to trap sediment. Remove all mud and sediment deposited on paved roadways. Add more signs, fencing, or barricades when vehicles are exiting the project without using the stabilized construction exit. Install additional stabilized construction exits if needed yet use the signs and barricades to minimize the number of stabilized construction exits. Prevent track-out by using additional BMPs, such as a tire wash.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

## 10.8 Dust Generation and Track-Out from Vehicles (4.3.5, 4.3.6)

Describe control measures to minimize the generation of dust and off-site vehicle tracking of sediment. Dust must be minimized prior to the vehicle exits by application of water or other dust suppression techniques.

The contractor will be required to remove any debris including soil and rock from the roadway. Any material tracked will be swept up daily.

**BMP Description**: Street Sweeping and Vacuuming for Sediment Control BMP-55.00 **BMP Manual/Publication:** DOT&PF, Alaska SWPPP Guide, October 2016

Permanent

✓ Temporary

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586

Installation Schedule:	Implement BMP at locations where sediment is tracked from the project area onto paved surfaces.
Maintenance and Inspection:	Inspection and Maintenance: Inspect ingress/egress access points daily and sweep as needed. Manual sweeping with broom is acceptable.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

# 10.9 Soil Management and Soil Stockpile (4.3.7)

Will soil stockpiles be at the site during construction?  $\square$  Yes

If YES, describe control measures intended to control sediment loss from the stockpiles (e.g., tarps or perimeter straw wattles). Show location(s) of stockpile(s) on site maps, if known. Stockpiles must be stabilized or covered, protected with sediment controls and located away from storm water inlets, conveyance channels, or water bodies, if possible.

BMP Description: Plastic Covering BMP-12.00

BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, March 2021

Permanent	Temporary
Installation Schedule:	Plastic covering will be installed when the stockpile will not be actively worked on more than 14 days or when there are windy conditions. Plastic covering will be secured either by weighted or trenched method.
Maintenance and Inspection:	Inspection: Look for unsecured covering or locations of erosion under the covering. Maintenance: Re-secure covering.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

# 10.10 Authorized Non-Storm Water Discharges (4.3.8)

A permittee must minimize any non-storm water authorized by this permit. List any authorized non-storm water discharges.

# 10.11 Sediment Basins (4.3.9)

Refer to CGP Part 4.3.8 to determine if a sediment basin is required for your site.

Will a sediment basin be required during construction?

🗹 No

If YES, provide a brief description of the sediment basin here. Append detailed design information in appendices (e.g., calculated volume of runoff from a two-year, 24-hour storm, or other assumptions used to calculate appropriate sediment-basin size). Show location of sediment basin(s) on site maps.

# **10.12 Dewatering (4.4)**

Describe dewatering practices to be implemented if water must be removed from an area so construction activity can continue.

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586

Will dewatering be	conducted during	construction?

☑ Yes □ No

Will excavation dewatering be conducted within	1,500 feet of a DEC	c mapped contaminated site found on
the DEC website?	🗹 Yes	🗌 No

For DEC's contaminated sites:

http://www.arcgis.com/home/item.html?id=315240bfbaf84aa0b8272ad1cef3cad3.

If yes to above question, review and comply with the DEC General Permit for Excavation Dewatering (AKG002000\_- <u>https://dec.alaska.gov/water/wastewater/stormwater/dewater-hydrostatic/#dewater</u>), or most current version, for specific requirements

If a NOI for coverage under the dewatering permit is submitted, attach it and DEC's response in Appendix D.

Describe control measures to be implemented to comply with dewatering discharges authorized either under the CGP or the DEC General Permit for Excavation Dewatering requirements.

BMP Description: Excavation Dewatering BMP-09.00		
BMP Manual/Publication: DO	BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016	
Permanent	☑ Temporary	
Installation Schedule:	Implement dewatering for excavation area following the establishment of diversion structures (See Section 10.3)	
<i>Maintenance and Inspection:</i>	Inspection: When pumping, monitor pumps and intake and discharge points; inspect the conveyance structure for leaks, erosion, or other defects; inspect the treatment controls for bypass, clogging, and signs of inadequate treatment; inspect discharge point for erosion or failure of the energy dissipation material; inspect the equipment area for properly stored fuel and other potentially hazardous substances. <u>Maintenance</u> : Reinforce, repair, or restore any portion of the treatment controls, conveyance system, or energy dissipator.	
Responsible Staff:	SWPPP Manager & Superintendent, Contractor	

# **10.13 Permanent/Post-Construction BMPs (4.11)**

Describe any permanent/post-construction control measures that will be installed during the construction process AND have not been discussed elsewhere in this document.

Examples of these measures are:

- Biofilters
- Detention/Retention Devices
- Earth Dikes, Drainage Swales, and Lined Ditches
- Infiltration Basins
- Vegetated Strips and/or Swales

# 10.13.1 Soil Stabilization (4.5, 5.3.6.3)

The project must stabilize all disturbed areas of the site to minimize on-site erosion and sedimentation and the resulting discharge of pollutants.

Soil stabilization requirements vary depending on the mean annual precipitation for the site. Refer to CGP Part 4.5 for specific requirements.

Refer to the Alaska Plant Materials Center's Alaska Coastal Revegetation & Erosion Control Guide and Interior Alaska Revegetation & Erosion Control Guide at <u>http://plants.alaska.gov</u> for help in selecting appropriate seed mixes and information on methods for revegetation.

Describe permanent & temporary stabilization control measures and sequence of installation.

Describe how the site will be stabilized prior to seasonal freeze-up.

### BMP Description: Compost Blanket BMP-50.00

BMP Manual/Publication: DOT&PF, Alaska SWPPP Guide, October 2016

Permanent	☑ Temporary
Installation Schedule:	Install upon completion of work following permanent seeding, where required.
Maintenance and Inspection:	<u>Inspection</u> : Inspect weekly for adequate coverage (1 to 3 inches depth). <u>Maintenance</u> : Reapply as required to maintain depth and coverage.
Responsible Staff:	

# **10.14 Treatment Chemicals (4.6; 5.3.6.4)**

Provide documentation for all treatment chemicals and/or an Active Treatment System (ATS) to comply with CGP Part 4.6. Submit cationic treatment chemical use or ATS to DEC at least 14 days for approval be for installing.

Will treatment chemicals be used to control erosion and/or sediment during construction?

□ Yes 🗹 No

If YES, comply with CGP Part 4.6 and complete the following sections (10.15 & 10.16).

# 10.15 Treatment Chemicals (4.6.1)

The use of treatment chemicals to reduce erosion from the land or sediment in a storm water discharge is allowed provided all the requirements of CGP Part 4.6 are met. Use conventional sediment controls before and after the application of treatment chemicals. Chemicals may only be applied where storm water is treated upstream and is directed to a sediment control (e.g., sediment trap, sediment basin) before discharge.

No treatment chemicals will be used on this project.

If YES, comply with ACGP Part 4.6 and complete the following subsections. If NO, delete the following subsections.

# **10.15.1** Treatment Chemical Selection (4.6.2)

Describe what chemicals will be used, including information required by CGP Part 4.6.2.

No treatment chemicals will be used on this project.

# **10.15.2** Treatment Chemical Use Procedures (4.6.3; 4.6.6)

Describe storage methods that will be used and ensure they comply with Part 4.6.3.

Describe training for employees using treatment chemicals at the site, as specified in Part 4.6.6. Document this training in either appendix for Employee Qualifications or Training Records.

No treatment chemicals will be used on this project.

# **10.15.3** Application of Treatment Chemicals (4.6.4; 4.6.5)

The application of treatment chemicals shall be in combination with appropriate physical control measures to ensure effectiveness of treatment chemical. Use chemicals in accordance with good engineering practices and specifications of the chemical provider/supplier.

Briefly describe treatment chemical application procedures to be used. Append detailed treatment chemical application procedures Appendix P.

No treatment chemicals will be used on this project.

# 10.16 Active Treatment System Information or Cationic Treatment Chemicals (4.6.7)

A permittee who uses an Active Treatment System (ATS) or cationic treatment chemicals as a control measure must submit information required by the DEC for review at least 14 days prior to start of operation of the ATS at the project. Specific submittal requirements can be found at 4.6.7.

Will an ATS or cationic treatment chemicals be used as a control measure at the site?

🗌 Yes 🛛 🗹 No

If YES, simply include the packet submitted to DEC in Appendix P, and refer to this documentation below.

Not applicable.

## **10.17 Good Housekeeping Measures (4.8)**

Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for storm water runoff to mobilize construction site wastes and contaminate surface or groundwater.

The contractor must design, install, implement, and maintain effective good housekeeping measures to prevent and/or minimize the discharge of pollutants.

The contractor must establish proper building and material storage areas to avoid pollutants coming in contact with rainfall or flowing storm water. Any materials that have the potential to pollute storm water will be covered to prevent rainfall from coming into contact with them. Garbage containers will be covered to prevent debris from blowing away as well. Any contractor supplied staging area must be included in inspections and the SWPPP. No materials will be staged or stored, even temporarily in flowing water.

The contractor should designate a waste collection area on site that does not receive substantial amount of runoff from upland areas and does not drain directly to a water body.

BMP Description: General Construction Site Waste Management		
BMP Manual/Publication: ADE	BMP Manual/Publication: ADEC Alaska Storm Water Guide, December 2011	
Permanent	☑ Temporary	
Installation Schedule:	Continuously during construction activities	
<i>Maintenance and Inspection:</i>	Inspection: Inspect storage and use areas and identify containers or equipment that could malfunction and cause leaks or spills. Check equipment and containers for leaks, corrosion, support or foundation failure, or other signs of deterioration, and test them for soundness. Maintenance: Immediately repair or replace any that are found to be defective.	
Responsible Staff:	SWPPP Manager & Superintendent, Contractor	

A contractor must include appropriate measures for any of the following activities that are used at the site.

The project must design, install, implement, and maintain effective good housekeeping measures to prevent and/or minimize the discharge of pollutants. The project must include appropriate measures for any of the following activities at the site.

Consult the DEC Storm Water Guide or other resources for more information or ideas on BMPs. See also the EPA's National Menu of BMPs at <a href="http://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater-documents">http://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater-documents</a> & for a list of Alaska specific BMPs look at the *Alaska SWPPP Guide*'s Appendix B - BMP Guide for Erosion & Sediment Control at <a href="http://www.dot.state.ak.us/stwddes/desenviron/assets/pdf/bmp/bmp\_all.pdf">http://www.dot.state.ak.us/stwddes/desenviron/assets/pdf/bmp/bmp\_all.pdf</a>

## **10.17.1** Washing of Equipment and Vehicles (4.8.1)

Will equipment and vehicle washing and/or wheel wash-down be conducted at the site?

🗹 Yes 🗌 No

If YES, describe the control measures to be implemented to comply with CGP Part 4.8.1.

BMP Description: Tire Wash BMP 36.00 &37.00			
BMP Manual/Publication: ADEC Alaska Storm Water Guide, December 2011			
Permanent     Imporary			
Installation Schedule:	During construction activities		
Maintenance and Inspection:	Inspection: Inspect daily during construction activities and check for sediment accumulation.		
	Maintenance: Change wash water at minimum once per day.		
Responsible Staff:	SWPPP Manager & Superintendent, Contractor		

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/cfhwy00586

# **10.17.2** Fueling and Maintenance Areas (4.8.2)

Describe equipment/vehicle fueling and maintenance practices to be implemented to control pollutants to storm water (e.g., secondary containment, drip pans, spill kits, etc.).

Describe spill prevention and control measures to be implemented, including ways to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control.

Will equipment and vehicle fueling or maintenance be conducted at the site?

🗹 Yes 🗌 No

The contractor's lay down yards, fueling and maintenance areas must be delineated on the contractor's SWPPP site map. Spill kits appropriate to respond to the hazards on site will be required. Inspections will include the contractor's fueling, maintenance, and laydown areas. Equipment will be maintained to prevent oils and grease from discharging with storm water. Prior to use each day, equipment operators are required to do a visual inspection for leaks, drips, and excess grease. If leaks cannot be repaired and stopped, the equipment will be placed out of service over drip pans and/or pads to collect any fluids or grease and prevent pollution discharge. Topping off fluids will not be allowed in lieu of maintenance. Equipment operators will look for excess grease accumulations, especially when the weather warms up, removing and properly disposing of excess grease to prevent discharge.

HMCP or SPCC: For the specific sections in the Good Housekeeping BMPs that deal with fueling and oiling, equipment care and maintenance, waste materials, etc., it should be mentioned, by referencing the specific page and section, this requirement for BMP reference and citation is met. Also, it will/can create less conflict within the SWPPP due to the HMCP being project specific and the BMP citations more generic.

# 10.17.3 Staging and Material Storage Areas (4.8.3)

The contractor's staging and material storage areas must be delineated on the contractor's SWPPP site map.

Designate areas to be used for staging and material storage areas. Locate such activities, to the extent practicable, away from storm water conveyance channels, storm water inlets, and waters of the U.S.; and minimize the exposure to precipitation and storm water and vandalism for all chemicals, treatment chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment.

# 10.17.4 Washout of Applicators/Containers Used for Paint, Concrete, and Other Materials (4.8.4)

Describe location(s) and controls to minimize the potential for storm water pollution from washout areas for concrete mixers, paint, stucco, etc.

Will washout areas for trucks, applicators, or containers of concrete, paint, or other materials be used at the site?  $\checkmark$  Yes  $\Box$  No

If YES, describe control measures to be implemented to comply with CGP Part 4.8.4. If NO, delete the following paragraph.

The contractor will provide a designated concrete washout area. The washout area may be moved during the construction process but the location must be kept current on the site map. Concrete

wash water may not be discharged with storm water. The washout must have sufficient capacity for the scheduled activities.

BMP Description: Concrete Washout BMP 6.00		
BMP Manual/Publication: DO	T&PF, Alaska SWPPP Guide, October 2016	
Permanent     Temporary		
Installation Schedule:	Install prior to the commencement of concrete work	
Maintenance and Inspection:	Inspection: Inspect for leaks and potential damage; inspect that each washout sign is still secure and visible; inspect to ensure no concrete washout is occurring at non-designated locations <u>Maintenance</u> : Clean existing washouts before washout is 50% full; if necessary, provide alternate washout during existing washout cleaning; replace liners and repair any damage as required; replace signage as needed.	
Responsible Staff:	SWPPP Manager & Superintendent, Contractor	

# **10.17.5** Fertilizer or Pesticide Use (4.8.5)

Describe fertilizers and/or pesticides expected to be used and/or stored on-site and procedures for storage of materials to minimize exposure of the materials to storm water.

Will fertilizers or pesticides be used at the site? 🗹 Yes

If YES, describe control measures to be implemented to comply with CGP Part 4.8.5.

The contractor will follow all federal, state, and local regulations that apply to the use, handling or disposal of pesticides and fertilizer.

### BMP Description: General Construction Site Waste Management

BMP Manual/Publication: ADEC Alaska Storm Water Guide, December 2011

Permanent	Temporary
Installation Schedule:	Continuously during construction activities
Maintenance and Inspection:	<u>Inspection</u> : Inspect storage and use areas and identify containers or equipment that could malfunction and cause leaks or spills. Check equipment and containers for leaks, corrosion, support or foundation failure, or other signs of deterioration, and test them for soundness. <u>Maintenance</u> : Immediately repair or replace any that are found to be defective.
Responsible Staff:	SWPPP Manager & Superintendent, Contractor

Contractors will obtain authorization to spray pesticides through DOT&PF M&O utilizing the DOT&PF Integrated Vegetation Management Plan (IVMP). A permit from DEC is only required (in addition to IVMP authorization obtained via working through the regional M&O environmental analysts and a TCP from ROW) if the contractor is applying pesticide to a water body/aquatic site. Also, if spraying within the MOA,

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586 □ No

a local permit must be obtained from the MOA as well. For more information and contacts, visit <a href="http://dot.alaska.gov/stwdmno/ivmp/index.shtml">http://dot.alaska.gov/stwdmno/ivmp/index.shtml</a>.

## 10.18 Spill Notification (4.9)

The contractor shall describe spill-notification procedures, including relevant federal, state, tribal, and local agency contact information, to be implemented in the event of a leak, spill, or release of hazardous substances or oil that occur at the construction site. Refer to CGP Part 4.9 for permit requirements.

Contractor shall use DOT&PF Hazardous Material Control Plan template at <u>http://www.dot.state.ak.us/stwddes/dcsconst/assets/docs/constforms/hmcp\_template.doc</u> to create project specific plan. Include final plan as approved by DOT&PF in Appendix O.

# 10.19 Construction and Waste Materials (4.8.6, 5.3.7)

Describe in general terms the type of construction and waste materials expected to be stored at the site, with updates as appropriate, and describe the measures for handling and disposal of all wastes generated at the site, including clearing and demolition debris or other waste soils removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste. Refer also to CGP Parts 4.8.3 Staging and Material Storage Areas, and 4.8.6 Storage, Handling, and Disposal of Construction Waste.

Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for storm water runoff to mobilize construction site wastes and contaminate surface or groundwater.

The contractor must establish proper building and material storage areas to avoid pollutants coming in contact with rainfall or flowing storm water. Any materials that have the potential to pollute storm water will be covered to prevent rainfall from coming into contact with them. Garbage containers will be covered to prevent debris from blowing away as well. Any contractor supplied staging area must be included in inspections and the SWPPP. No materials will be staged or stored, even temporarily in flowing water.

The contractor should designate a waste collection area on site that does not receive substantial amount of runoff from upland areas and does not drain directly to a water body.

BMP Description: General Construction Site Waste Management			
BMP Manual/Publication: ADEC Alaska Storm Water Guide, December 2011			
Permanent	☑ Temporary		
Installation Schedule:	Continuously during construction activities		
<i>Maintenance and Inspection:</i>	<u>Inspection</u> : Inspect storage and use areas and identify containers or equipment that could malfunction and cause leaks or spills. Check equipment and containers for leaks, corrosion, support or foundation failure, or other signs of deterioration, and test them for soundness. <u>Maintenance</u> : Immediately repair or replace any that are found to be defective.		
Responsible Staff:	SWPPP Manager & Superintendent, Contractor		

# 11.0 INSPECTIONS (5.4; 6.0)

Minimum requirements for the locations and scope of site inspections are described in the CGP Part 6.4.

Inspection requirements for linear projects are described in the CGP Part 6.5.

Describe the frequency inspections will occur at your site, including any correlations to storm frequency and intensity.

Note that inspection details for particular BMPs should be included in Section 11 or Appendix B.

# 11.1 Inspection Schedules (5.4.1.2; 6.1; 6.2; 6.6)

Refer to CGP Part 6.1 for inspection frequency requirements.

Required inspection frequency is based on mean annual precipitation for the site. Refer to Section 3.2 for annual precipitation data and can be found in the project specifications.

A permittee must allow an authorized representative of DEC, EPA or the MS4 operator to conduct a site inspection in accordance with the CGP Part 6.6.

Inspection Frequency:

The inspection frequency in Central Region will now be once every seven calendar days.

### Inspection frequency: Once every seven calendar days

Justification for reduction in inspection frequency, if applicable: N/A

As defined by the CGP, winter shutdown means the cessation of soil disturbing or soil stabilizing construction activity for winter. Typically this period is from October/November to April/May and is approximately from Fall Freeze-up to Spring Thaw.

<u>CGP Definition of Fall Freeze-up</u>: For the purposes of this permit, means for planning purposes in the development of the SWPPP and initial planning of control measure maintenance the date in the fall that air temperatures will be predominately below freezing. It is the date in the fall that has an 80% probability that a minimum temperature below a threshold of 32.5 degrees Fahrenheit will occur on or after the given date.

<u>CGP Definition of Spring Thaw</u>: For the purposes of this permit, means for planning purposes in the development of the SWPPP and initial planning of control measure maintenance the date in the spring that air temperatures will be predominately above freezing. It is the date in the spring that has a 20% probability that a minimum temperature below a threshold of 32.5 degrees Fahrenheit will occur on or after the given date.

These dates can be found by looking up the "Fall 'Freeze' Probabilities" & "Spring 'Thaw' Probability" for the weather station closest to the site on the website: <u>www.wrcc.dri.edu/summary/Climsmak.html</u>. NOTE: this estimation of "Fall Freeze-up" & "Spring 'Thaw'' is for planning purposes only. During construction, the permittee will need to maintain control measures based on actual conditions.

Estimated date of winter shutdown: October 1st

The inspections will be conducted jointly with department personnel as directed by the Project Engineer. The schedule for site inspections will be established and updated daily as necessary to meet the requirements of the CGP and provide the department with notice and opportunity to participate in the site inspection.

EROSION AND SEDIMENT CONTROL PLAN (ESCP) AMATS: DOWNTOWN TRAILS CONNECTION 0001662/CFHWY00586 36

# **11.2** Inspection Form or Checklist (5.4.1.3; 6.7)

Contractor is required to attach Form 25D-100 in Appendix K. An Inspection Report will be completed after each inspection, identifying BMPs installed at the time of inspection, noting corrective actions required, and documenting complete-by-date for any actions discovered during the inspection. Each report will be certified by the Contractor's Superintendent and DOT&PF's Project Engineer.

# 11.3 Corrective Action Procedures (5.4.1.4; 8.0)

Identify how conditions found that require corrective action will be addressed:

The following guidelines apply for setting corrective action complete-by dates as required by the CGP:

For conditions that are easily remedied (i.e., removal of tracked sediment, maintenance of control measures, or spill clean-up), the permittee must initiate appropriate steps to correct the problem within twenty-four hours from the time of discovery and correct the problem as soon as possible; or

If installation of a new control measure is needed or an existing control measure requires significant redesign and reconstruction or replacement, the permittee must install the new or modified measure and make it operational within seven calendar days from the time of discovery of the need for the corrective action, unless infeasible.

If a discharge occurs during a local 2-year, 24-hour storm event, a corrective action must be initiated the day after the storm event ends as described in CGP Part 8.1.1.

For corrective actions that could affect a subcontractor, notify the subcontractor within three calendar days of taking the corrective action.

Additionally, deadlines for completion of corrective actions shall be selected to protect water quality and prior to the next storm event unless impracticable.

### **Corrective Action Log**

The corrective action log will document the following within 24 hours of discovery of any conditions listed in CGP Part 8.1 (use Form 25D-112 and include in Appendix J):

- Date the problem was identified
- Summary of corrective action taken or to be taken
- Notice of whether SWPPP modifications were required as a result of this discovery or corrective action
- Date corrective action completed and name of person completing the action

In the event there is a reason (outside of the project staff's control) that a corrective action cannot practicably be completed by the set complete-by date, DOT&PF will complete a Delayed Action Item Report (Form 25D-113). This form will set a new complete-by date and document the reason that the previous date could not be met.

# **11.4** Inspection Recordkeeping (5.4.2)

Records (including inspection reports, corrective action logs, delayed action item reports, grading and stabilization logs, amendment logs, staff tracking logs, rainfall logs, and training logs) will be maintained for a minimum period of at least three (3) years after the permit is terminated. A hard copy and electronic copy of the final SWPPP, including all appendices, will be transmitted to DOT&PF when the project's NOTs are filed.

# 12.0 MONITORING PLAN (IF APPLICABLE) (5.5; 7.0)

# 12.1 Determination of Need for Monitoring Plan

Is there an EPA-established or approved TMDL for Ship Creek (Category 4a Alaska ID 20401-020)?

🗹 Yes 🛛 🗌 No

Is the receiving water listed as impaired for turbidity and/or sediment?  $\Box$  Yes ec arDown No

What is the acreage of the disturbance in the proposed construction project? **9 Acres** 

Is the disturbed acreage equal to or greater than 20 acres?  $\Box$  Yes  $\checkmark$  No

# **13.0 POST-AUTHORIZATION RECORDS (5.8)**

## Copy of Permit Requirements (5.8.1)

The contractor's SWPPP must contain the following documents:

- copy of CGP (5.8.1.1)
- copy of the signed and certified NOI form submitted to DEC (5.8.1.2)
- upon receipt, a copy of letter from DEC authorizing permit coverage, providing tracking number (5.8.1.3)

These documents must be included in Appendix F.

# 13.1 Additional Documentation Requirements (5.8.2)

The Grading and Stabilization Log, Form 25D-110 in Appendix G, will be filled out to satisfy the following CGP requirements:

- Dates when grading activities occur (5.8.2.1.1)
- Description of grading activities and location (5.8.2.1.2)
- Dates when construction activities temporarily or permanently cease on a portion of the site (5.9.2)
- Dates when stabilization measures are initiated (5.8.2.1.4)
- Description of Stabilization Measure (5.8.2.1.5)
- Date of beginning and ending period for winter shutdown (5.8.2.2)

Other documents will be included as shown below:

- Copies of inspection reports (5.4.2; 5.8.2.3; insert in Appendix K).
- Copies of monitoring reports, if applicable (7.3.9.2; 5.8.2.4; 5.8.2.5; 5.5.2; 9.1; insert in Appendix H).
- Documentation in support of chemical-treatment processes (4.6; 5.8.2.7; insert in Appendix P).
- Documentation of maintenance and repairs of control measures (5.8.2.9; 8.1; 8.2; insert in Appendix J).
- Copy of DEC Letter of Non-Objection (insert in Appendix D).

# 13.1.1 Records of Employee Training (4.14; 5.8.2.8)

Training staff and subcontractors is an effective BMP. Document all training conducted for your staff, those with specific storm water responsibilities (e.g. installing, inspecting, and maintaining BMPs), and subcontractors. Use the Training Log (Form 25D-125) in Appendix I.

Describe Training Conducted: Insert Text

General storm water and BMP awareness training for staff and subcontractors:

During safety meetings and schedule briefings, corrective actions from the previous period will be reviewed. The contractor is encouraged to discuss timing of activities and stabilization requirements. Records of the training topics, attendees, and length must be maintained in the contractor's SWPPP.

Detailed training for staff and subcontractors with specific storm water responsibilities:

### Insert Text

Individual(s) Responsible for Training:

### Insert Names, Titles, and Contact Numbers here

Documentation of training conducted shall be record on Form 25D-125 and included in Appendix I.

# **14.0 MAINTAINING AN UPDATED SWPPP (5.9)**

This section does not need to be filled out but is a list of reminders for the applicant.

The permittee must modify the SWPPP, including site map(s), in response to any of the following:

- Whenever changes are made to construction plans, control measures, good housekeeping measures, monitoring plan (if applicable), or other activities at the site that are no longer accurately reflected in SWPPP (5.9.1.1);
- If inspections of site investigations by staff or by local, state, tribal, or federal officials determine SWPPP modifications are necessary for permit compliance (5.9.1.2); and
- To reflect any revisions to applicable federal, state, tribal, or local laws that affect control measures implemented at the construction site (5.9.1.3).

# 14.1 SWPPP Amendment Log (5.9.2)

A permittee must keep a log showing dates, name of person authorizing the change, and a brief summary of changes for all significant SWPPP modifications (e.g., adding new control measures, changes in project design, or significant storm events that cause replacement of control measures). Use DOT&PF construction form 25D-114. Amendments must be approved by an AK-CESCL or equivalently certified individual and be included in Appendix M. The Superintendent and the SWPPP Manager are the only persons authorized to amend the SWPPP and update the SWPPP Amendment Log. Amendments must be approved by the Project Engineer. This approval must be documented in the "PE's Initials column" by the Project Engineer.

# 14.2 Deadlines for SWPPP Modifications (5.9.3)

Revisions to the SWPPP must be completed within seven days of the inspection that identified the need for a SWPPP modification or within seven days of substantial modifications to the construction plans or changes in site conditions.

# **15.0 ADDITIONAL SWPPP REQUIREMENTS (5.10)**

# 15.1 Retention of SWPPP (5.10.1)

A copy of the SWPPP (including a copy of the permit), NOI, and acknowledgement letter from DEC must be retained at the construction site.

# **15.2 Main Entrance Signage (5.10.2)**

A sign or other notice must be posted conspicuously near the main entrance of the site. The sign or notice must include a copy of the completed NOI for both DOT&PF and the contractor.

# 15.3 Availability of SWPPP (5.10.3)

The permittee must keep a current copy of the SWPPP at the site. The SWPPP must be made available to subcontractors, government and tribal agencies, and MS4 operators, upon request.

# **15.4** Signature and Certification (5.10.4)

As co-permittees, the SWPPP is signed, dated, and certified by both the contractor and by DOT&PF. DOT&PF requires the use of its forms, instead of those provided as examples in the DEC template. The contractor must complete the SWPPP Contractor Certification (Form 25D-111) once DOT&PF approves the SWPPP and include it in Appendix E. Either the contractor's corporate officer or their duly authorized representative can certify the SWPPP. If a duly authorized representative certifies, the Delegation of Signature Authority form must be included in Appendix E.

Upon approval, DOT&PF will provide the contractor with signed DOT&PF forms for the DOT&PF SWPPP Certification (Form 25D-109) and DOT&PF Delegation of Authority (Form 25D-107) for inclusion in Appendix E of the SWPPP.

APPENDIX A SITE MAPS AND DRAWINGS

# STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

PROJECT LOCATION M&O STATION: ANCHORAGE

CENTRAL REGION

ALASKA

# PROPOSED HIGHWAY PROJECT **AMATS: DOWNTOWN TRAIL CONNECTION PROJECT NO. 0001662/CFHWY00586** EROSION SEDIMENT CONTROL PLAN



ESCP SUPPLEMENTA	AL LEGEND
DLLS CONTROL BMP CE R ODY PROTECTION BMP OUNDARIES TS TS F-WAY D MEAN HIGH TIDE LINE	WETLANDS DRAINAGE PATHWAY DRAINAGE PATHWAY DRAINAGE PATHWAY TEMPORARY CULVERT INLET SEDIMENT TRAP VEHICLE TRACKING ENTRANCE/EXIT RIPRAP RIPRAP
PS&E Submittal Submittal	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES AMATS: DOWNTOWN TRAIL CONNECTION

ESCP TITLE SHEET

PLANS DEVELOPED BY

KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 40 ANCHORAGE, AK 99503

 STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
 ALASKA	0001662/CFHWY00586	2025	Q1	Q9

















APPENDIX B BMP DETAILS

# APPENDIX D SUPPORTING DOCUMENTATION



### State of Alaska Department of Transportation & Public Facilities

CATEGORICAL EXCLUSION DOCUMENTATION FORM

(NEPA Assignment Program Projects)

The environmental review, consultation, and other actions required by the applicable Federal environmental laws for this project are being, or have been carried out by the DOT&PF pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated April 13, 2023 and executed by FHWA and DOT&PF.

### I. Project Information

- A. Project Name: AMATS: Downtown Trail Connection
- B. State Project Number: CFHWY00586
- C. Federal Project Number: 0001662
- **D. Primary/Ancillary Project Connections:** N/A
- E. COA Determination: 23 CFR 771.117(c)(3)
- F. Project Scope:

### TIP or STIP: STIP

**Need ID:** 6460

**Project Scope:** 

STIP Need ID 6460: AMATS CTP Program Allocation. See AMATS TIP for projects.

AMATS TIP Need ID NMO00001: Project will construct a connection between the Tony Knowles Coastal Trail to the Ship Creek Trail in downtown Anchorage

### G. Project Purpose And Need:

The purpose of the proposed project is to complete a missing link in Anchorage's trail system by directly connecting the Coastal Trail to the Ship Creek Trail. There is currently no formal connection between these popular multi-use trails.

### **H. Project Description:**

The Alaska Department of Transportation and Public Facilities (DOT&PF) is proposing to construct a connection between the Tony Knowles Coastal Trail and the Ship Creek Trail in downtown Anchorage, Alaska.

The proposed project would include:

- Constructing approximately 1.3 miles of new non-motorized pathways
- Installing new roadside hardware
- Improving drainage
- Intersection improvements
- Americans with Disabilities Act (ADA) improvements
- Utility relocations
- Vegetation clearing and grubbing

### Attachments

### **Environmental Consequences**

### **Project Plans & Location Information**

- CFHWY00586\_Location & Vicinity Map.pdf CFHWY00586.pdf
- CFHWY00586\_Proposed Route.pdf CFHWY00586.pdf

### **Historic Properties and Cultural Impacts**

- 106Initiation\_SHPOLetter-Figs.pdf CFHWY00586.pdf
- 2.21.23 & 2.22.23 Knik Tribe & MOA Parks 106Init Reply.pdf CFHWY00586.pdf
- 2.22.23 CVTC 106 Init Reply.pdf CFHWY00586.pdf
- 2.22.23 Eklutna Inc 106 Init Reply.pdf CFHWY00586.pdf
- 3.13.23 ARRC 106 Init Reply.pdf CFHWY00586.pdf
- 3.15.23 CVTC Init Reply.pdf CFHWY00586.pdf
- 106Findings\_SHPOLetter-Figs.pdf CFHWY00586.pdf
- Eklutna Inc.pdf CFHWY00586.pdf
- SHPO concurrence.pdf CFHWY00586.pdf

### Section 4(f)/6(f) Impacts

- Section 4(f) Exception CFHWY00586.pdf
- Section 4(f) ARRC-OWJ Agreement CFHWY00586 10.25.24.pdf CFHWY00586.pdf
- Section 4(f) MOA-OWJ Agreement CFHWY00586 11.2.24.pdf CFHWY00586.pdf
- SEO Final Other Properties 4(f) Determinations CFHWY00586 11.22.24.pdf CFHWY00586.pdf
- SEO Final Small Boat Launch 4(f) Determinaton CFHWY00586 12.4.24.pdf CFHWY00586.pdf

### **Contaminated Sites and Hazardous Materials Impacts**

- ADEC Contaminated Sites Program Consultation.pdf CFHWY00586.pdf
- Table G-1 Contaminated Sites Within Project Area.pdf CFHWY00586.pdf

### Floodplain Impacts (23 CFR 650, Subpart A)

• LHS CFHWY00586.pdf

CE Documentation Form April 2024 • Public Involvement Documentation CFHWY00586.pdf

### Wetland and Waterbody Impacts

- Wetlands Delineation CFHWY00586.pdf
- CFHWY00586\_Wetlands Functions and Values Report.pdf CFHWY00586.pdf

### Fish and Wildlife Impacts

CFHWY00586\_No Use Determination Email.pdf CFHWY00586.pdf

### **Comments and Coordination**

### **Public Involvement**

- Affidavit for Amats Downtown Trail Connection.pdf CFHWY00586.pdf
- Notice of Intent to Begin Engineering and Environmental Studies. AMATS\_ Downtown Trail Connection Alaska Online Public Notices.pdf CFHWY00586.pdf
- 5.16.21 Public Scoping Comment.pdf CFHWY00586.pdf
- 5.20.21 Public Scoping Comment.pdf CFHWY00586.pdf
- 5.27.21 Public Scoping Comment.pdf CFHWY00586.pdf
- 6.1.21 Public Scopinc Comment.pdf CFHWY00586.pdf

### **Agency Involvement**

- CFHWY00586\_Agency Scoping Materials.pdf CFHWY00586.pdf
- 4.20.21 DEC Solid Waste Response.pdf CFHWY00586.pdf
- 4.21.21 DEC Contaminated Sites Response.pdf CFHWY00586.pdf
- 4.22.21 SHPO Initial Receipt Response.pdf CFHWY00586.pdf
- 4.27.21 ARRC Response Letter.pdf CFHWY00586.pdf
- 4.28.21 DEC Air Quality Response.pdf CFHWY00586.pdf
- 4.30.21 BLM Response.pdf CFHWY00586.pdf
- 5.18.21 SHPO Response 2.pdf CFHWY00586.pdf
- 5.28.21 MOA Historic Preservation Commission Response.pdf CFHWY00586.pdf
- 6.18.21 ARRC-DOT-MOA Pre Meeting Summary.pdf CFHWY00586.pdf
- 7.13.21 ARRC-DOT-MOA Post Meeting Summary.pdf CFHWY00586.pdf

# II. Environmental Consequences

A. Land Use and Transportation Plans	Yes	No
1. Were land use plans for this area reviewed? If yes, include source, link, and date accessed.	$\mathbf{\overline{A}}$	
<ul> <li>Anchorage 2040 Land Use Plan (LUP; Sept. 2017): https://www.muni.org/Departments/OCPD/Planning/Publications/Documents/Anchorage %202040%20Land%20Use%20Plan/Anchorage_2040_LUP_Adopted_9-26-17.pdf</li> <li>Date Accessed: 10.10.24</li> </ul>		
<b>a.</b> Is the project consistent with land use plan(s)?	$\checkmark$	
2. Were transportation plans for this area reviewed?	$\checkmark$	

### A. Land Use and Transportation Plans

• Alaska Statewide LRTP Let's Keep Moving 2036: Policy Plan (Dec. 2016):

https://dot.alaska.gov/stwdplng/areaplans/lrtpp2016/docs/LRTPpolicyplan\_finalsigned\_12-16.pdf

• <u>Alaska Statewide Active Transportation Plan (June 2019):</u>

https://dot.alaska.gov/stwdplng/areaplans/modal\_system/docs/AK-Statewide-Active-Transportation-Plan.pdf

 <u>Anchorage Bowl 2025 Long-Range Transportation Plan with 2027 Revisions (LRTP, Apr.</u> 2007):

https://www.muni.org/Departments/OCPD/Planning/AMATS/Documents/2025LRTPw2027 Revisions[2].pdf

 <u>AMATS 2023-2026 Transportation Improvement Program (TIP) (Adopted August 25, 2022)</u> <u>Table 3 Non-motorized :</u>

https://www.muni.org/Departments/OCPD/Planning/AMATS/AMATS%20TIP %20Docs/2023 2026/2023 2026 TIP Narrative Final.pdf

• <u>MTP2040 Metropolitan Transportation Plan (June 2020):</u>

https://www.muni.org/Departments/OCPD/Planning/AMATS/MTP/2040/Final\_FHWA\_FTA Approved/2040\_MTP\_Final\_Approved.pdf

• Anchorage Bicycle Plan (Mar. 2010):

https://www.muni.org/Departments/OCPD/Planning/AMATS/Documents/AdoptedBicyclePl an.pdf

• Anchorage Pedestrian Plan (2007):

https://www.muni.org/Departments/OCPD/Planning/AMATS/Documents/PedestrianPlan W eb.pdf

• Anchorage Areawide Trails Plan (1997):

https://www.muni.org/Departments/OCPD/Planning/AMATS/documents/areawide%20trails %20plan%2097.pdf

• Anchorage Bowl Park, Natural Resource, and Recreation Facility Plan (Apr. 2006):

https://www.muni.org/Departments/OCPD/Planning/Publications/ParkPlan\_2006/Parks\_MP\_2006.pdf

Date Accessed: 10.10.24

<b>a.</b> Is the project consistent with transportation plan(s)?		
Would the project induce adverse indirect and sumulative effects on land use or transportation?		

**3.** Would the project induce adverse indirect and cumulative effects on land use or transportation?

### Summary

Summarize how the project is consistent or inconsistent with land use and transportation plan(s).

The proposed project was found to be consistent with the above land use and transportation plans. Existing land use

would not change and future land use and development opportunities would not be adversely impacted. No adverse impacts to land use or transportation systems are expected as a result of the proposed project.

### Anchorage 2040 LUP

The proposed project is consistent with multiple policies within the Anchorage 2040 Comprehensive LUP:

- Implement recommended land use patterns and growth in context with existing infrastructure capacity and planned improvements for utilities, streets, trails, public transit, parks, green infrastructure, and schools
- Encourage public joint use, co-location, and efficient use of parks, schools, and other compatible public facilities
- Provide new or upgraded pedestrian and local/collector street connections in Centers and Commercial Corridors to improve access to and from surrounding neighborhoods
- Ensure all neighborhoods and communities have access to nearby parks and recreational opportunities that support well-being
- Provide new and improved trails, greenbelts, and other pedestrian facilities as alternative travel ways connecting open spaces, neighborhoods, and centers
- Provide greenways and trail extensions into designated centers and reinvestment focus areas, to improve their connectivity with the trails system and overcome barriers to neighborhoods

### Alaska Statewide LRTP Let's Keep Moving 2036: Policy Plan

The proposed project is consistent with the following goals and objectives detailed in the Statewide LRTP:

- Develop new capacity and connections that cost-effectively address transportation system performance
- Promote and support economic development by ensuring safe, efficient, and reliable access to local, national, and international markets for Alaska's people, goods, and resources
- Improve transportation system safety and security
- Incorporate livability, community, and environmental considerations in planning, delivering, operating, and maintaining the Alaska transportation system

### Alaska Statewide Active Transportation Plan

The proposed project is consistent with the following goals and objectives detailed in the Statewide Active Transportation Plan:

- Improve facilities and wayfinding throughout Alaska to encourage walking and bicycling as transportation modes
- Identify and address gaps in the non-motorized transportation network, including where facilities need repair to facilitate a connection or for access
- Establish and identify active transportation connections to and through public lands
- Establish comfortable and safer active transportation connection to activity centers
- Create transportation systems that encourage natural movement for daily activities and encourage active transportation, in conjunction with broader community and infrastructure planning and development

### Anchorage Bowl 2025 LRTP with 2027 Revisions

The proposed project is consistent with multiple goals and objectives within the Anchorage LRTP, including:

• Provide a transportation system that moves people and goods safely throughout the Municipality

- A transportation system that supports a thriving, sustainable, broad-based economy for Anchorage by locating and using transportation infrastructure and facilities to enhance community development
- Establish community connectivity with safe, convenient, year-round auto and non-auto travel routes within and between neighborhoods, commercial centers, and public facilities
- Improve access to goods, jobs, services, housing, and other destinations; provide mobility for people and goods throughout the region in a safe, affordable, efficient, and convenient manner
- Provide a transportation system that provides viable transportation choices among various modes
- Design and maintain a transportation system that respects the integrity of Anchorage's natural and built environment and protects Anchorage's scenic vistas

### AMATS 2023-2026 TIP

The proposed project is included in the AMATS TIP for federal fiscal years 2023-2026.

### MTP2040 Metropolitan Transportation Plan

The proposed project is consistent with the following goals and objectives detailed in the MTP:

- Develop an efficient multi-modal transportation system to reduce congestion, promote accessibility, and improve system reliability
- In developing the transportation network, protect, preserve, and enhance the community's natural and built environment and quality of life, including the equity of all users and social justice, while considering our northern climate and supporting planned land use patterns

### Anchorage Bicycle Plan

The proposed project is consistent with the following goals detailed in the Bicycle Plan:

- Improve connectivity and safety of the transportation network
- Establish a bicycle network that adequately responds to the transportation needs and desires of Anchorage residents
- Develop and maintain a bicycle network that enhances safety by improving compatibility among bicycles and other transportation modes

### Anchorage Pedestrian Plan

The proposed project is consistent with the following goals detailed in the Pedestrian Plan:

- Create a safer, more walkable city that will encourage year-round winter pedestrian activity and make walking a safer and more attractive activity
- Improve community connectivity by providing safe, convenient, year-round pedestrian routes within and between neighborhoods, commercial centers, schools, and public facilities as well as between major employment centers and adjacent residential neighborhoods
- Encourage development patterns that increase and enhance pedestrian use

### <u>Anchorage Areawide Trails Plan</u>

The proposed project is consistent with the goal detailed in the Areawide Trails Plan to establish a comprehensive trail system that has the following benefits:

· Serves as a basic component of a comprehensive supplemental transportation system for use by all citizens

- Provides safe, convenient, year-round access to transit, schools, shops, major employment centers, historical facilities, and parks and recreational facilities
- Strengthens the sense of community and neighborhood by linking neighborhoods and increasing the opportunity for people to interact
- Provides new opportunities for outdoor education

### Anchorage Bowl Park, Natural Resource, and Recreation Facility Plan

The proposed project is consistent with the following goals and objectives detailed in the Facility Plan:

- Establish, develop, manage, and maintain a balanced system of parks, greenbelts, and trails for year-round utilization that meets neighborhood and community-wide needs
- Create a pedestrian-oriented system of parks and natural resource greenways linking open spaces and residential neighborhoods and existing and proposed parklands and school sites
- The municipal park and greenbelt system shall facilitate development of an integrated trail system where it is appropriate to provide trail linkages between neighborhoods, schools, park sites, major public facilities and regional trails
- Establish an integrated open space network throughout the community based upon existing natural resource space patterns and lands which are ecologically valuable and that preserves and enhances Anchorage's scenic vistas, fish, wildlife, and plant habitats and their ecological functions and values
- Connections between parks especially large community and special use areas will be established via the natural resource use areas (greenbelt and linear park systems)
- Establish a scenic trail corridor system using existing greenbelts

B. <u>Right-of-Way Impacts</u>	Yes	No
<b>1.</b> Are there any temporary right-of-way (ROW) impacts (e.g., Temporary Construction Easements (TCEs), Temporary Construction Permits (TCPs), utility relocates, construction staging area)?	V	
2. Is additional permanent ROW required?		V

### Summary

Summarize ROW impacts, if any. Include any project-specific commitments or mitigative measures in Section V.

The proposed project will take place entirely within Municipality of Anchorage (MOA) and Alaska Railroad Corporation (ARRC) property, and will not require any additional acquisitions. As such, no adverse right-of-way impacts, residential or business displacements, impacts to low-income or minority populations, or use of Alaska National Interest Lands Conservation Act (ANILCA) lands would occur as a result of the proposed project.

During construction it may be necessary to obtain temporary construction easements (TCEs) and temporary construction permits (TCPs). The TCEs and TCPs may affect the property owner during construction through general construction disturbance, but property access will be maintained and all property will be returned to original condition.

C. <u>Environmental Justice Impacts (E.O. 12898)</u>	Yes	No
<b>1.</b> Is there potential to affect environmental justice (EJ) populations?		$\checkmark$

### Summary

Summarize EJ population impacts and mitigation, if any. Include any project-specific commitments or mitigative measures in Section V.

Review of the U.S. Environmental Protection Agency Environmental Justice Screening and Mapping Tool on October 10, 2024 indicated the project area is relatively varied in regard to minority, low income, and other disadvantaged populations and none would be affected disproportionately. The proposed project area consists of primarily industrial land uses including ARRC facilities and the small boat launch. Commercial and residential land uses, as well as natural and developed park land are also present near the eastern and southern portions of the proposed alignment. Proposed improvements would include upgrading an existing informal and heavily used trail, redeveloping portions of the small boat harbor, and constructing new trail alignment along the edge of the tidal flats west of the ARRC tracks between the small boat harbor and Elderberry Park. The project is expected to have beneficial effects on non-motorized users of the area by establishing a new link between the Ship Creek and Tony Knowles Coastal Trails which would improve the safety, accessibility, and transportation efficiency of these greenbelt facilities. Additionally, connection of the Ship Creek and Tony Knowles Coastal Trails would provide important pedestrian linkages to recreational areas, employment and commercial centers, and schools. No adverse impacts to neighborhoods, community cohesion, disadvantaged social groups, or other environmental justice populations are anticipated as a result of the proposed project.

D. <u>Historic Properties and Cultural Impacts</u>		No
<b>1.</b> Is a National Register of Historic Places listed or eligible property in the proposed Area of Potential Effect (APE)?		Ø
<b>2.</b> Was a programmatic allowance processed for the project under the Section 106 Programmatic Agreement?		Ø
3. Was Section 106 consultation initiated or a Direct to Findings worksheet completed?	$\checkmark$	
a. Was a direct to findings worksheet completed?		Ø
b. Date Consultation Initiation Letters sent		

2.21.23

### Attachments

- 106Initiation\_SHPOLetter-Figs.pdf CFHWY00586.pdf
- 2.21.23 & 2.22.23 Knik Tribe & MOA Parks 106Init Reply.pdf CFHWY00586.pdf
- 2.22.23 CVTC 106 Init Reply.pdf CFHWY00586.pdf
- 2.22.23 Eklutna Inc 106 Init Reply.pdf CFHWY00586.pdf
- 3.13.23 ARRC 106 Init Reply.pdf CFHWY00586.pdf
- 3.15.23 CVTC Init Reply.pdf CFHWY00586.pdf

**c.** List consulting parties:

State Historic Preservation Officer, the Municipality of Anchorage, the Native Village of Eklutna, Eklutna Inc., Knik Tribe, Knikatnu Inc., Chickaloon Village Tribal Council, Cook Inlet Region Inc., Alaska Railroad Corporation, Turnagain Community Council, Chickaloon Moose Creek Native Association, Inc. and the Alaska Association for Historic Preservation

**d.** Were any comments received?
**2.21.23 Knik Tribe** - The Knik Tribe (KT) replied that they see no issues and know of no cultural resources that might be present. KT requested that the Tribe be informed if any cultural resources are discovered in conjunction with this project. The Tribe also asked whether there are any plans to install informative signs as part of this project.

**2.22.23 Municipality of Anchorage (MOA)** - The MOA replied that they are working with the Anchorage Park Foundation to secure funding and install indigenous place names monuments at the Ship Creek Boat Launch (Grandma Olga Park).

**2.22.23 Chickaloon Village Tribal Council** (CVTC) - CVTC acknowledged receipt of initiation email.

**2.22.23 Eklutna Incorporated**- Eklutna Inc. requested that the project consider incorporating indigenous place names interpretive signage at the Ship Creek overlook (Grandma Olga Park) of the small boat launch.

**3.13.23** Alaska Railroad Corporation (ARRC) - 1. The the footprint of proposed route would not be in the project's Area of Potential Effects (APE) and would not affect the Alaska Railroad cultural resources. 2. Under the proposed route for this project, the proposed trail would pass under the ARRC Ship Creek Railroad Bridge at MP 114.3 (AHRS ANC-01305), an eligible historic property. This bridge is scheduled for replacement in 2024. 3. ARRC can provide assisting information in the event DOT&PF seeks to conduct additional cultural surveys in the area for any railroad resources. 4. ARRC requests that DOT&PF provide ARRC with the opportunity to review and comment on any DOT&PF compiled documentation that addresses potentially historic railroad resources. 5. Any projects within this railroad corridor will need to include adequate provisions for ARRC to add a second track. 6. ARRC requests that DOT&PF provide documents during the design phase to coordinate on engineering issues. 7. ARRC requests that measures to prevent the public from trespassing onto the tracks must be included.

**3.15.22 Chickaloon Village Traditional Council** - **1.** CVTC appreciates that the proposed project design will largely utilize existing infrastructure. **2.** CVTC appreciates that the project plans to reference Dene place names and the importance of fish to Dene in the proposed project area. **3.** For the areas that have not been previously disturbed, a thorough archaeological survey should be conducted.

4. Was a Section 106 "Finding of Effect" completed?

### Attachments

- 106Findings\_SHPOLetter-Figs.pdf CFHWY00586.pdf
- Eklutna Inc.pdf CFHWY00586.pdf

**a.** Date "Finding of Effect" Letters sent:

### 7.29.24

- **b.** State "Finding of Effect":
  - No Effect

c. Were there any changes to consulting parties?

**d.** Were any comments received?

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### D. Historic Properties and Cultural Impacts

**7.29.24 - Eklutna Incorporated (EI)- 1.** El requested special consideration for our alluvial gravel, hard rock, and non-organic fill sites. **2.** Due to historic and cultural connection of the project-area land to the Eklutna people, El stated that it is imperative that Eklutna land be used in the construction and development of this area. El proposed that aggregate from the current Eagle River area be used for this purpose.

**8.16.24 - SHPO -** SHPO replied, "we concur with your finding of "No Historic Properties Affected" for this project." See additional information and SHPO reply attached.

5. Date State Historic Preservation Officer (SHPO) concurred with "Finding of Effect":

8.16.24

### Attachments

• SHPO concurrence.pdf CFHWY00586.pdf

### Summary

Summarize impacts to historic properties and mitigation, if any. List affected sites (by AHRS number only) and any commitments or mitigative measures. Also include any project-specific commitments or mitigative measures in Section V.

No historic sites would be affected by the project, therefore no mitigation measures are proposed related to cultural resources.

E. <u>Section 4(f)/6(f) Impacts</u>	Yes	No
<b>1.</b> Section 4(f) (23 CFR 774)		
<b>a.</b> Was detailed Section 4(f) resource identification conducted for this project, other than that required for Section 106 compliance?	Ø	
<b>b.</b> Does a Section 4(f) resource exist within or adjacent to the project area?	Ø	
c. Does an exception listed in 23 CFR 774.13 apply to this project?	$\square$	
• 23 CFR 774.13(g)		
Attachments		
Section 4(f) Exception CFHWY00586.pdf		
Date NEPA Manager Determination Complete:		
12/4/2024		
<b>d.</b> Does the project result in the "use" of a Section 4(f) property?		$\checkmark$
2. Section 6(f) (36 CFR 59)		
<b>a.</b> Does a Section 6(f) Land and Water Conservation Fund Act (LWCFA) resource exist within or adjacent to the project area?		V

Summary

Summarize Section 4(f)/6(f) involvement, if any.

The Section 106 process identified the Alaska Railroad, the Ship Creek Bridge (ANC-01305), and the MP 114.6 Timber Bridge (ANC-02775) as potential Section 4(f) historic properties in the project vicinity. The Alaska Railroad was determined not historically eligible, the Ship Creek Bridge (ANC-01305) will be removed before the project begins, and the project was determined to have no effect on MP 114.6.Timber Bridge (ANC-02775). As a result no Section 4(f) use of these properties would result from the project.

Review of ADF&G online listing of State of Alaska Refuges, Critical Habitat Areas, and Sanctuaries; USFWS National Wildlife Refuge website; Bureau of Land Management website; and the National Park Service (NPS) website indicated that there are no respectively managed 4(f) resources located near the project area. A review of the Municipality of Anchorage (MOA) Department of Parks and Recreation indicated several Section 4(f) resources are located in the vicinity of the project including, the Tony Knowles Coastal Trail, Elderberry Park, Resolution Park, the MOA Small Boat Launch, and the Ship Creek Trail. Additionally, a search of the Land and Water Conservation Fund (LWCF) grant records for Anchorage showed that Resolution Park received LWCF funds and is therefore a Section 6(f)-protected property. Since Resolution Park is located well outside the proposed project limits, on the opposite side of the ARRC tracks, no impacts, changes in ownership, or Section 6(f) conversion would occur related to this property .

DOT&PF Central Region (CR) coordinated with the DOT&PF NEPA Statewide Environmental Manager (SEO) on from 10.4.24 to 12.4.24 concerning the Section 4(f) status of the properties identified and the Section 4(f) approval options to pursue. SEO agreed the project would result in no use of the MP 114.6.Timber Bridge (ANC-02775) after understanding that the bridge would be removed before the Downtown Trail Connection project begins. CR followed SEO's recommendation to process a "no use" determination for Elderberry Park. CR pursued a 23 CFR 774.13(g) Section 4(f) approval option for the Small Boat Launch & Olga Park after discussing with the potential 4(f) status and potential boundaries of the property.

SEO determined the proposed project would have no Section 4(f) use of Elderberry Park and Resolution Park. Access to each of these properties would be maintained during construction and equipment and materials staging would not affect these properties.

In addition, SEO determined that proposed work at of the following (the Tony Knowles Coastal Trail, the MOA Small Boat Launch, and the Ship Creek Trail) would meet the conditions for the exception to Section 4(f) stated in 23 CFR 774.13(g). Access to these properties would remain open throughout project construction. The proposed work at each of these properties would solely be for the purpose of enhancing the activities that would qualify them for protection under Section 4(f). The Alaska Railroad Corporation (ARRC), as owner of the properties, is an official with jurisdiction (OWJ). The MOA Department of Parks and Recreation (MOA-DPR), as manager of the properties, is also an OWJ. ARRC agreed in writing, on October 25, 2024, that the project's effects to the three properties meet the requirements outlined in 23 CFR 774.13(g). The MOA-DPR agreed in writing, on November 2, 2024, that the project's effects to the three properties meet the requirements outlined in 23 CFR 774.13(g).

Refer to the attachments regarding the full 4(f) consultation.

### Attachments

- Section 4(f) ARRC-OWJ Agreement CFHWY00586 10.25.24.pdf CFHWY00586.pdf
- Section 4(f) MOA-OWJ Agreement CFHWY00586 11.2.24.pdf CFHWY00586.pdf
- SEO Final Other Properties 4(f) Determinations CFHWY00586 11.22.24.pdf CFHWY00586.pdf
- SEO Final Small Boat Launch 4(f) Determinaton CFHWY00586 12.4.24.pdf CFHWY00586.pdf

### F. Contaminated Sites and Hazardous Materials Impacts

1. Include source, link, and date accessed of databases used.

<ul> <li>Alaska Department of Environmental Conservation (ADEC) Contaminated Sites Mapper (accessed February 19, 2022):</li> </ul>		
https://www.arcgis.com/apps/mapviewer/index.html? webmap=315240bfbaf84aa0b8272ad1cef3cad3		
2. Are there known or potentially contaminated sites within or adjacent to the existing ROW?	$\checkmark$	
3. Would a documented hazardous material site be acquired?		$\checkmark$
4. Are there contaminated sites within 1,500 feet of where excavation dewatering is anticipated?	V	
Summary		

Summarize the contaminated site impacts and mitigation, if any.

Review of the ADEC Contaminated Sites Mapper on 8.30.22 and on 11.19.24 indicated 11 active contaminated sites and four sites under "Clean-up Complete - Institutional Controls (CC-IC)" status are located within 1500 feet of the proposed project (Table G-1). Per consultation with ADEC Contaminated Sites Program, encroachment into or impacts from contaminated sites are not anticipated given the location of the contaminated sites and the nature of work proposed.

### Attachments

- ADEC Contaminated Sites Program Consultation.pdf CFHWY00586.pdf
- Table G-1 Contaminated Sites Within Project Area.pdf CFHWY00586.pdf

G. <u>Floodplain Impacts (23 CFR 650, Subpart A)</u>	Yes	No
1. Does the project encroach into a mapped base floodplain or a potential unmapped base floodplain?	V	
Attachments		
LHS CFHWY00586.pdf		
Public Involvement Documentation CFHWY00586.pdf		
a. Does the project encroach into a regulatory floodway?		V
<b>b.</b> Would the proposed action increase the base flood elevation (BFE) one-foot or greater, or cause any rise in a regulatory floodway?		Ø
c. Is there a longitudinal encroachment into the 100-year floodplain?		
<b>d.</b> Is there significant encroachment as defined by 23 CFR 650.105(q)?		V
2. Does the project conform to local flood hazard requirements?	V	
3. Is the project consistent with E.O. 11988 (Floodplain Protection)?	V	

### Summary

Describe any encroachments into mapped and unmapped floodplains and summarize impacts. For c(26, 27, or 28) CE classifications describe whether encroachments are functionally dependent.

The southern section, within the mudflats of Cook Inlet, is similar in terrain and features to the existing bike trail that

runs along the coast south from Elderberry Park. The existing bike trail is on an embankment with 2:1 armored side slopes. The trail extension will be on the offshore or west side of the Alaska Railroad

(ARRC) track and adjacent to the tidal mudflat. The mudflat is very broad and is dry or above water for a large portion of the tidal cycle. Regularly spaced culverts would be installed along the length of the pathway would allow water at high tide to flood the remainder of the intertidal area between the new embankment and existing shoreline. The northern section, along the south bank of Ship Creek, would upgrade the existing gravel trail between C Street and the small boat launch (Figure 5). Riprap armoring would be installed at a 2:1 slope, including within Ship Creek, to protect the embankment and trail.

Though the project proposes to add embankment fill material, riprap armoring, and impervious surfaces within the floodplains, alterations of base flood elevations within the area are not anticipated. The proposed project would not result in any significant encroachments as defined in 23 CFR 650.105, would not include elements that support probable incompatible floodplain development, or adversely impact natural and beneficial floodplain values. The project will be developed in accordance with all local, state, and federal flood hazard regulations.

The MOA Floodplain Administrator was consulted on 1.18.2023 and stated no concerns with the project, no expectation of base floodplain elevation alterations, and an MOA Flood Hazard Permit would be required.

H. <u>Wetland and Waterbody Impacts</u>	Yes	No
<b>1.</b> Would the project affect wetlands or other Waters of the U.S. (WOTUS), as defined by the U.S. Army Corps of Engineers (USACE) (Section 404).	V	
2. Wetlands?	V	
<b>a.</b> Are the wetlands delineated in accordance with the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region (Version 2.0) Sept. 2007"?	V	
<b>b.</b> Estimated area of wetland involvement (acres): 7.5		
c. Estimated fill quantity: 60,339 cubic yards		
d. Estimated dredge quantities: 23,631 cubic yards		
e. Wetlands Finding		
Attachments		
Wetlands Delineation CFHWY00586.pdf		
i. Are there practicable alternatives to the proposed construction in wetlands?		V
ii. Does the project include all practicable measures to minimize harm to wetlands?	V	
<b>iii.</b> Only practicable alternative: Based on the evaluation of avoidance and minimization alternatives, there are no practicable alternatives that would avoid the project's impacts on wetlands. The project includes all practicable measures to minimize harm to the affected wetlands as a result of construction.	Ø	
<b>3.</b> Waters?	V	
a. Estimated fill quantities below:		

OHW: N/A cubic yards

MHW: N/A cubic yards

HTL: 60,339 cubic yards

H. Wetland and Waterbody Impacts	Yes	No
<b>b.</b> Estimated dredge quantities: 23,631 cubic yards		
<b>4.</b> Does the project involve work within or over navigable waters as defined by the USACE (Section 10)?	V	
5. Proposed waterbody involvement:	$\checkmark$	
• Culvert		
Embankment Fill		
• Permanent		
6. Is a USACE authorization anticipated?	V	
Nationwide Permit		
7. Will the project involve navigable waters as defined by the U.S. Coast Guard (USCG) (Section 9)?	$\checkmark$	
<b>a.</b> Does a 144(c) exception apply?		V
<b>b.</b> Is a USCG Bridge permit required?		$\checkmark$
<b>8.</b> Will the project affect a designated Wild and Scenic River or land adjacent to a Wild and Scenic River, including those on the Nationwide Rivers Inventory?		V

### Summary

Summarize wetland and waterbody impacts and mitigation, if any.

Reviews of the U.S. Fish and Wildlife Service National Wetland Inventory and MOA Wetlands Mappers on February 25, 2021 identified several potential wetland areas and Waters of the U.S. (WOUS) adjacent to the proposed project corridor. A wetland delineation and functional analysis of the proposed project area was conducted on October 1, 2021 and identified three large jurisdictional wetland areas: estuarine subtidal and intertidal wetlands adjacent Cook Inlet, and riverine intertidal wetlands adjacent Ship Creek. Refer to the attached Wetland Delineation and Wetland Function and Values Reports for more information.

Impacts to wetlands would include removal of native material and the permanent placement of fill material to construct the new pathway and drainage improvements, including replacement and installation of new culverts. The proposed project is being designed to avoid wetlands and WOUS to the extent practicable while still meeting the project purpose and need. However, total avoidance is not feasible given the alignment constraints posed by ARRC and the large extent of the adjacent wetland areas. Only the minimum amount of fill necessary to construct and protect the new pathway embankment would be placed within wetlands and WOUS. The project proposes to excavate approximately 23,631 cubic yards (CY) of material and permanently place 60,339 CY of fill over 7.5 acres of wetlands below the high tide line of Cook Inlet and Ship Creek.

A USACE Section 404 permit from the U.S. Army Corps of Engineers (USACE) will be obtained prior to construction and Section 404(b)(1) mitigation guidelines will be adhered to for impacts to jurisdictional waters that cannot otherwise be avoided. Though the project involves USCG-defined navigable waters, work will be limited to dredging and fill material placement within the upper intertidal areas of Cook Inlet and tidally-influenced wetland areas adjacent Ship Creek and no USCG Bridge Permit will be required.

### Attachments

CFHWY00586\_Wetlands Functions and Values Report.pdf CFHWY00586.pdf

### I. Fish and Wildlife Impacts

**1.** Anadromous and resident fish habitat.

**a.** Include source, link, and date accessed of databases used.

Source: Alaska Department of Fish and Game Anadromous Waters Catalog (AWC) Mapper		
Link: https://www.adfg.alaska.gov/sf/SARR/AWC/index_cfm?ADFG=main.interactive		
Date Accessed: 10/9/24.		
<b>b.</b> Is anadromous or resident fish habitat present in project area (Title 16.05.841 and 16.05.871)?	Ø	
c. Are there adverse effects on spawning habitat?		V
<b>d.</b> Are there adverse effects on rearing habitat?		V
e. Are there adverse effects on migration corridors?		V
f. Are there adverse effects on subsistence species?		V
g. Are there temporary impacts to fish habitat?	$\square$	
2. Essential Fish Habitat (EFH).		
a. Include source, link, and date accessed of databases used.		
Source: Alaska Essential Fish Habitat (EFH) Mapper		
Link: https://www.fisheries.noaa.gov/resource/map/alaska-essential-fish-habitat-efh-mapper		
Date Accessed: 10/9/24.		
<b>b.</b> Is EFH present in project area?	V	
c. Does the project propose construction in EFH?		
<b>d.</b> May the project adversely affect EFH?		V
3. Threatened and Endangered (T&E) Species		
a. Include source, link, and date accessed of databases used.		
Source: USFWS Information for Planning and Consultation (IPaC) Website		
Link: https://ipac.ecosphere.fws.gov/location/index		
Date Accessed: 10/9/24.		
<b>b.</b> Are listed threatened or endangered species present in the project area?	Ø	
c. Do T&E species migrate through the project area?	$\square$	
<b>d.</b> Is there designated critical habitat in the project area?	Ø	
e. Are there Candidate species or Proposed critical habitat in the project area?		$\checkmark$

No

I. <u>Fish and Wildlife Impacts</u>	Yes	No
<b>f.</b> What is the effect determination for the project?		
Attachments		
CFHWY00586_No Use Determination Email.pdf CFHWY00586.pdf		
Project has no effect on listed or proposed T&E species or designated critical habitat.	Ø	
Project is not likely to adversely affect a listed or proposed T&E species or designated critical habitat.		Ø
Project is likely to adversely affect a listed or proposed T&E species or designated critical habitat.		V
If project is not likely to adversely affect or likely to adversely affect, enter beginning and ending dates of ESA consultation.		
ESA Date Begun:		
5/11/2023		
ESA Date Concluded:		
5/11/2023		
4. Marine Mammals.		
<b>a.</b> Is the project located in the marine environment?	$\checkmark$	
<b>b.</b> Include source, link, and date accessed of databases used.		
Source: NOAA Map Viewer		
Link: <u>https://noaa.maps.arcgis.com/apps/mapviewer/index.html?</u> layers=21a53329b2274fd09b851baba3bb1a19		
Date Accessed: 10/10/24.		
c. Are MMPA species in project area?	V	
<b>d.</b> Is the project anticipated to result in an incidental take?		Ø
e. Enter beginning and ending dates of MMPA consultation.		
5. Wildlife Resources:		
<b>a.</b> Is the project in an area of high wildlife/vehicle accidents?		V
<b>b.</b> Would the project bisect migration corridors?		V
c. Would the project segment habitat?		Ø
6. Bald and Golden Eagle Protection Act.		

17 of 26

**a.** Include source, link, and date accessed of databases used.

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Source: Alaska Dept. of Fish and Game Moose Vehicle Collisions in Alaska	
Link: <u>https://www.arcgis.com/apps/MapSeries/index.html?</u> appid=ecd4734b2937470f9d52bd121434b0bb	
Date Accessed: 10/10/24.	
Source: USFWS Eagle Database	
Link: <u>https://eagle.abrinc.com</u>	
Date Accessed: 10/10/24.	
<b>b.</b> Is the project visible from an eagle nesting tree?	
c. Is the project within 330 feet of an eagle nesting tree?	
<b>d.</b> Is the project within 660 feet of an eagle nesting tree?	
<b>e.</b> Will the project require blasting or other activities that produce extreme loud noises within 1/2 a mile from an active nest?	
<b>f.</b> Is an eagle permit required?	
7. Is the project consistent with the Migratory Bird Treaty Act?	V

### Summary

Summarize fish and wildlife impacts and mitigation, if any.

### Fish (Anadromous Waters & Essential Fish Habitat)

A review of the ADF&G Anadromous Waters Catalog Mapper indicated Ship Creek (AWC 247-50-10060), located adjacent the project area, is a cataloged

anadromous water that provides migration and spawning habitat for chum salmon, as well as migration habitat for coho, Chinook, and pink salmon. Additionally, Cook Inlet is located adjacent the proposed project area and is considered Essential Fish Habitat for numerous species. In-water work would include minor excavation and placement of riprap within Ship Creek. An Alaska Department of Fish and Game Fish Habitat Permit will be acquired for work below the ordinary high water mark of Ship Creek. In addition, placement of fill material and riprap will be needed within the mudflats at the upper most portions of the intertidal areas of Cook Inlet. Mudflats work would be completed turning low tide. Given that work in the tidal waters would occur during low tide and work in Ship Creek would comply with the provisions of a DFG Fish Habitat Permit, no adverse effects to fish species or Essential Fish Habitat are expected as a result of the proposed project.

### Threatened and Endangered Species and Marine Mammals

Reviews of the Alaska Department of Fish and Game (DFG), USFWS, and the National Oceanographic and Atmospheric Administration (NOAA) websites indicate the Cook Inlet distinct population segment of Beluga Whales (CIBW) are listed as Federally endangered under the Endangered Species Act (ESA). Additionally, CIBW are protected under the Marine Mammal Protection Act.

DOT&PF has made as Section 7 project determination of no effect on listed or proposed T&E species (including Cook Inlet Beluga Whales or their designated critical habitat) for the reasons listed below. This 5.11.2023 determination is attached.

• In-water work would be limited to minor excavation and placement of riprap within Ship Creek.

- No in-water work will be done within the documented ranges or critical habitats of any threatened and endangered species, including Cook Inlet Beluga Whales and Steller Sea Lions.
- No percussive construction activities are proposed (e.g. blasting, pile driving, etc.).

### Wildlife

Wildlife can be found in the project vicinity. Due to the existing levels of development within the project area, it is unlikely that any wildlife species will experience substantial impacts from the proposed project. Vegetation clearing would eliminate some habitat; however, there is an abundance of similar habitat in the area so impacts would likely be negligible. No adverse impacts to wildlife are anticipated as a result of the propose project.

### **Migratory Birds**

Land within and adjacent to the proposed project supports a variety of migratory bird species. As part of construction some of this land and vegetation will be permanently lost to accommodate the proposed improvements. To minimize and/or prevent impacts to migratory birds, restrictions on vegetation clearing during the nesting season would be implemented in accordance with recommendations from the U.S. Fish and Wildlife Service (USFWS). Clearing and grubbing is not permitted within the migratory bird window of May 1 to July 15th, except as permitted by federal, state, and local laws and approved by the Project Engineer.

### Eagles' Nest

No records of an active nest in the project corridor has been identified in the USFWS Bald Eagle Nest Site Database. However preferred habitat for bald and golden eagles, as described in the *USFWS National Bald Eagle Management Guidelines* (2007), potentially exists within the study corridor. Prior to construction, the Alaska Department of Transportation and Public Facilities (DOT&PF) may conduct a survey of the project area to determine if there are any active eagle nests in the project area within the primary (330 feet) or secondary (660 feet) zones. Should an active eagle nest be discovered from March 1 to August 31 within 660ft of construction activities or 1/2 mile of blasting or pile driving or 1,000ft of aircraft operations, immediately stop work and notify the Project Engineer. DOT&PF will seek guidance from the USFWS on how to proceed. With implementation of any necessary conservation measures, in coordination with USFWS, no adverse effects to bald eagles are anticipated.

### J. Invasive Species Impacts

**1.** Include source, link, and date accessed of databases used.

• University of Alaska (UAA) Anchorage Exotic Plants Information Clearinghouse (EPIC), Invasive Plants Mapper (accessed October 10, 2024):

https://aknhp.uaa.alaska.edu/apps/akepic/

**2.** Are invasive species present in project area?

**3.** Does the project include all practicable measures to minimize the introduction or spread of invasive species, making the project consistent with E.O. 13112 (Invasive Species)?  $\square$ 

### Summary

Summarize invasive species impacts and mitigation, if any.

Several invasive plant species were identified in the vicinity of the proposed project. To minimize the risk of introducing invasive species and to comply with Executive Order 13112, ground disturbing activities will be kept to a minimum and erosion and sediment control materials would be made from certified weed-free materials or locally produced products. Disturbed areas will be re-vegetated with certified weed-free native Alaskan seed. The proposed project will not have any adverse invasive species impacts.

Yes

 $\mathbf{\nabla}$ 

No

K. <u>Water Quality Impacts</u>	Yes	No
<b>1.</b> Will there be temporary degradation of water quality?	$\checkmark$	
2. Is a public or private drinking water source or protection area within or adjacent to the project?		V
3. Would the project result in a discharge of storm water to a WOTUS? [40 CFR 230.3(o)]	V	
4. Would the project discharge storm water into or affect an ADEC-designated Impaired Waterbody?	V	
<b>a.</b> List name(s), location(s), and pollutant(s) causing impairment:		
Ship Creek, Fecal Coliform Bacteria		
5. Will the project involve more than one (1) acre of ground-disturbing activities?	V	
<b>6.</b> Is there a Municipal Separate Storm Sewer System (MS4) APDES permit, or will runoff be mixed with discharges from an APDES permitted industrial facility?	V	
<b>a.</b> List APDES permit number and type:		
Anchorage Municipal Separate Storm Sewer System (MS4) Permit No. AKS052558		

### Summary

Summarize the water quality impacts and mitigation, if any.

Stormwater within the proposed project corridor generally sheet flows off the existing trails and is conveyed to lower elevations and infiltrates into the ground or drains into Ship Creek, ultimately flowing into Cook Inlet. Where no trail currently exists, stormwater directly infiltrates into wetlands and mudflats adjacent Cook Inlet. Though the proposed project would include additional impervious surfaces via the construction of new trails and embankments, the proposed project would not substantially alter the existing drainage patterns within the project area and no additional discharges to Ship Creek, Cook Inlet, or adjacent wetlands are anticipated. Establishment of new ditch lines and drainage improvements, including new cross culverts, will ensure impacts to drainage patterns are minimized. No long-term adverse impacts to water quality are expected to occur as a result of the proposed project.

A review of the ADEC Impaired Waters mapper on October 10, 2024 indicated that Ship Creek is a Category 4a impaired waterbody for fecal coliform bacteria from urban runoff, and a Total Maximum Daily Load (TMDL) was established in December 2004. The proposed project is not likely to elevate fecal coliform levels in Ship Creek because the project, by formalizing an existing dirt path along the creek, would not create any improvements with the potential to contribute additional fecal coliform.

The proposed project may cause minor deterioration of water quality due to runoff during construction. An Erosion and Sediment Control Plan (ESCP) and Stormwater Pollution Prevention Plan (SWPPP) would be prepared for the proposed project. Both would include Best Management Practices (BMPs) to be used during construction to stabilize slopes and prevent sedimentation and would comply with the Alaska Pollutant Discharge Elimination System (APDES) Construction General Permit (CGP) required for this project.

L. <u>Air Quality Impacts</u>	Yes	No
1. Will there be temporary degradation of air quality?	$\mathbf{\overline{A}}$	
<b>2.</b> Is the project located in an air quality maintenance area or nonattainment area (CO or PM-10 or PM-2.5)?		V

Summary

Summarize air quality impacts and mitigation, if any.

Anchorage officially became a Carbon Monoxide Maintenance Area in 2002. The Anchorage CO Maintenance Area reached the end of its 20-year cycle on July 23, 2024. Since a NEPA decision for this project is made after July 23, 2024, the Anchorage area's air quality conformity requirements (whether regional or project-level) no longer apply for the project.

Temporary degradation of air quality may occur from the increased airborne particulate levels and emissions from heavy equipment and dust during construction activities. Air quality impacts from construction of the proposed project are anticipated to be minimal and temporary in nature and could be abated by watering disturbed surface areas and ensuring that construction equipment receives regular maintenance.

M. <u>Noise Impacts (23 CFR 772)</u>	Yes	No
1. Will there be temporary noise impacts?	V	
2. Does the project involve any of the following Type I project actions listed below (23 CFR 772.5)?		V
Summary		

Summarize noise impacts and mitigation, if any.

Permanent noise impacts associated with the proposed project are not expected to occur. A traffic noise analysis is not required as the proposed project does not involve any of the Type I project actions listed in 23 CFR 772.5.

Temporary noise impacts would occur from the use of heavy equipment and other construction activities. No permanent noise impacts are anticipated. Abatement methods such as proper maintenance of construction equipment would help reduce these impacts.

N. <u>Social and Economic Impacts</u>	Yes	No
1. Would the project affect neighborhoods or community cohesion?		V
<b>2.</b> Would the project affect school boundaries, recreation areas, churches, businesses, police and fire protection, etc.?		Ø
<b>3.</b> Would the project affect the elderly, handicapped, non-drivers, transit-dependent, minority and ethnic groups, or the economically disadvantaged?		V
<b>4.</b> Would the project affect travel patterns and accessibility (e.g., vehicular, commuter, bicycle, or pedestrian)?		Ø
a. Would the project include temporary delays and detours of traffic?	V	
<b>5.</b> The project will have adverse economic impacts on the regional and/or local economy, such as effects on development, tax revenues and public expenditures, employment opportunities, accessibility, and retail sales.		Ŋ
6. The project will adversely affect established businesses or business districts.		V
a. Would the project have temporary impacts on businesses?		V
Summary		

Summarize social and economic impacts and mitigation, if any.

The proposed project is expected to result in beneficial social and economic impacts within the project area as connecting the Ship Creek and Coastal Trails will allow increased and safer pedestrian connectivity between communities within the Ship Creek, downtown, and west Anchorage areas. The project would provide a new, smoother asphalt surface, improved grades, safer trail facilities, and better access to adjacent recreational areas, schools, businesses and employment centers, and commercial areas. No adverse impacts to neighborhoods, community cohesion, disadvantaged social groups, or the regional or local economy are anticipated as a result of the proposed project.

Temporary trail impacts may include delays or detours for trail users. Trail use impacts would be mitigated by providing advance notice to the public through signage placed at trailheads and reports to the Municipal Parks and Recreation Department and Commission and local community council. Construction may also be scheduled at off peak hours to limit delays. No permanent impacts would occur as a result of the proposed project.

## III. Comments and Coordination

State Project Name: AMATS: Downtown Trail Connection State Project Number: CFHWY00586 Federal Project Number: 0001662

A. <u>Public Involvement</u>		No
1. Was public involvement for project completed?	$\checkmark$	
2. Was the project public noticed?	$\checkmark$	
a. Newspaper name and date of notice:	V	
Anchorage Daily News (ADN): April 23, 2021		
Attachments		
Affidavit for Amats Downtown Trail Connection.pdf CFHWY00586.pdf		
<b>b.</b> Alaska Online Public Notice date:	$\checkmark$	
Alaska Online Public Notice: April 21, 2021		
Attachments		
<ul> <li>Notice of Intent to Begin Engineering and Environmental Studies. AMATS_Downtown Trail Connection - Alaska Online Public Notices.pdf CFHWY00586.pdf</li> </ul>		
c. Were public notices completed for specific resource impacts (e.g., floodplain, Section 4(f))?		$\checkmark$
3. Was a public meeting held?		Ø
4. Is there any unresolved controversy on human, natural, or economic grounds?		Ø
Summary		

Summarize public comments and coordination efforts for this project. Discuss pertinent issues raised.

Notices of Intent to Begin Engineering and Environmental Studies for the proposed project were published on the DOT&PF online public notice website on April 21, 2021 and in the ADN on April 23, 2021. Four comments were received during the public involvement process, with two expressing support for the project and two requesting additional information. Copies of all comments received, and associated responses if applicable, are included attached. Public involvement for the proposed project is an ongoing process and will continue beyond final design through the construction phase. All comments received during the public involvement process were individually considered and addressed, and will be incorporated to the extent practicable given the project scope.

### Attachments

- 5.16.21 Public Scoping Comment.pdf CFHWY00586.pdf
- 5.20.21 Public Scoping Comment.pdf CFHWY00586.pdf
- 5.27.21 Public Scoping Comment.pdf CFHWY00586.pdf
- 6.1.21 Public Scopinc Comment.pdf CFHWY00586.pdf

B. <u>Agency Involvement</u>	Yes	No
1. Was an agency scoping conducted?	V	
Agency Scoping Letter: April 19, 2021		
Attachments		
CFHWY00586_Agency Scoping Materials.pdf CFHWY00586.pdf		
2. Was an agency scoping meeting held?	V	
Agency Scoping Meeting: July 2, 2021		
3. Was a field review completed with agencies?		V

## Summary

Summarize agency coordination efforts for this project.

Agency coordination included scoping materials submitted to stakeholders and resource agencies on April 19, 2021. Numerous responses were received. All but one resource agency provided general comments or stated no concerns. Alaska Railroad Corporation (ARRC) initially responded they did not support the project, but follow-up discussions determined the lack of support was likely based on out-of-date information regarding project alignments. Upon conclusion of the agency scoping meeting on July 2, 2021 between DOT&PF, ARRC, and MOA Department of Parks and Outdoor Recreation (DPOR), both MOA DPOR and ARRC approved of and support the project. ARRC stated a lingering concern is pedestrian safety in relation to the tracks, as such, barriers will be used to deter pedestrian access when the trail is close to the tracks.

Copies of agency scoping comments received and associated responses are attached.

### Attachments

- 4.20.21 DEC Solid Waste Response.pdf CFHWY00586.pdf
- 4.21.21 DEC Contaminated Sites Response.pdf CFHWY00586.pdf
- 4.22.21 SHPO Initial Receipt Response.pdf CFHWY00586.pdf
- 4.27.21 ARRC Response Letter.pdf CFHWY00586.pdf
- 4.28.21 DEC Air Quality Response.pdf CFHWY00586.pdf
- 4.30.21 BLM Response.pdf CFHWY00586.pdf
- 5.18.21 SHPO Response 2.pdf CFHWY00586.pdf
- 5.28.21 MOA Historic Preservation Commission Response.pdf CFHWY00586.pdf
- 6.18.21 ARRC-DOT-MOA Pre Meeting Summary.pdf CFHWY00586.pdf
- 7.13.21 ARRC-DOT-MOA Post Meeting Summary.pdf CFHWY00586.pdf

## IV. Permits and Authorizations

A. <u>Permits and Authorizations</u>	Yes	No
1. USACE, Section 404/10 Includes Abbreviated Permit Process, Nationwide Permit, and General Permit	V	
2. Coast Guard, Section 9		V
3. ADF&G Fish Habitat Permit (Title 16.05.871 and Title 16.05.841)	$\checkmark$	
4. Flood Hazard	$\checkmark$	
5. ADEC Non-domestic Wastewater Plan Approval		V
6. Requires 401 Cert		$\checkmark$
7. ADEC APDES	$\checkmark$	
8. Eagle Permit		$\checkmark$
9. Incidental Take Authorization		$\checkmark$
10. Local (Borough or City) permit (e.g., noise)		V
<b>10.</b> Other Permits		V
Summary		

Permits and authorizations noted above would be needed.

## V. Environmental Commitments

A. Environmental Commitments and Mitigation Measures [23 CFR 771.109(b)]	Yes	No
1. Are there project-specific environmental commitments for this project?	Ø	

### Summary

List all environmental commitments and mitigation measures included in the project.

DOT&PF and their Contractor(s) shall:

- 1. Should an active eagle nest be discovered from March 1 to August 31 within 660ft of construction activities or 1/2 mile of blasting or pile driving or 1,000ft of aircraft operations, immediately stop work and notify the Project Engineer. DOT&PF will seek guidance from the USFWS on how to proceed.
- 2. Clearing and grubbing is not permitted within the migratory bird window of May 1 to July 15th, except as permitted by federal, state, and local laws and approved by the Project Engineer.

## VI. Environmental Documentation Approval

A. <u>Environmental Documentation Approval</u>	Yes	No
1. Do any unusual circumstances exist, as described in 23 CFR 771.117(b)?		Ø
<b>2.</b> Does the project meet the criteria of one of the following DOT&PF Programmatic Approvals authorized in the Nov. 13, 2017 "Chief Engineer Directive - Programmatic Categorical Exclusions"?		
Programmatic Approval 2		
Summary		

This project meets all General Programmatic Criteria but cannot be processed as a Programmatic 1 since it is likely that a Nationwide 23 U.S. Army Corps of Engineers 404 Permit will be needed. A Programmatic 2 is applicable is such a case.

### **Environmental Documentation Approval Signatures**

Prepared by:

Fort a Eff

Robert Effinger

Analyst

Reviewed by:

1CB.C

Kristina Busch Engineer/Architect II

Approved by:

Brian Elliott.

Brian Elliott Central Region Environmental Manager

Date: 12/5/2024

Date: 1/10/2025

Date: 12/19/2024

State Project Name: AMATS: Downtown Trail Connection State Project Number: CFHWY00586 Federal Project Number: 0001662

## Vonlindern, Drew A (DOT)

From:	Meitl, Sarah J (DNR)	
Sent:	Tuesday, May 18, 2021 10:37 AM	
То:	Vonlindern, Drew A (DOT)	
Cc:	Meitl, Sarah J (DNR); Hilsinger, Erik D (DOT); Rollins, Mark W (DOT)	
Subject:	RE: Request for Agency Comments on DOT&PF Proposed Project: CFHWY00586 -	
	AMATS: Downtown Trail Connection	

### 3130-1R FHWA / 2021-00466

Good morning,

The Alaska State Historic Preservation Office (AK SHPO) received your correspondence (dated April 19, 2021) on April 22, 2021. Following our review of the documentation provided, we have no concerns or comments at this time. Thank you for submitting a Request for Scoping Comments for our review. We look forward to future consultation pursuant to Section 106 of the National Historic Preservation Act.

Best, Sarah

Sarah Meitl Review and Compliance Coordinator Alaska State Historic Preservation Office Office of History and Archaeology

550 West 7<sup>th</sup> Avenue, Suite 1310 Anchorage, AK 99501-3561 Office: 907-269-8720 <u>sarah.meitl@alaska.gov</u> Teleworking - Email is the best method of communication.

From: DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>
Sent: Thursday, April 22, 2021 1:03 PM
To: Vonlindern, Drew A (DOT) <drew.vonlindern@alaska.gov>
Cc: Meitl, Sarah J (DNR) <sarah.meitl@alaska.gov>
Subject: FW: Request for Agency Comments on DOT&PF Proposed Project: CFHWY00586 - AMATS: Downtown Trail Connection

### Good afternoon,

The Office of History and Archaeology/Alaska State Historic Preservation Office received your documentation, and its review has been assigned to Sarah Meitl under 2021-00466. We may contact you if we require additional information. Our office ordinarily has 30 calendar days after receipt to complete our review, but our office has entered tolling in response to complications from COVID-19 and our review may be delayed as a result. Please contact the project reviewer or myself by email if you have any questions or concerns.

Sarah

Sarah Meitl Review and Compliance Coordinator Alaska State Historic Preservation Office Office of History and Archaeology

550 West 7<sup>th</sup> Avenue, Suite 1310 Anchorage, AK 99501-3561 Direct: 907-269-8720 <u>sarah.meitl@alaska.gov</u> <u>http://dnr.alaska.gov/parks/oha</u> *Teleworking - Email is the best method of communication.* 

From: Vonlindern, Drew A (DOT) <<u>drew.vonlindern@alaska.gov</u>>

Sent: Monday, April 19, 2021 3:12 PM

To: Smith, Jimmy C (CED) < jimmy.smith@alaska.gov >; DEC-Webmaster (DEC sponsored) < DEC.Webmaster@alaska.gov >; Colvin, Rebecca A (DEC) <rebecca.colvin@alaska.gov>; Rypkema, James (DEC) <james.rypkema@alaska.gov>; Chambon, Katrina M (DEC) <katrina.chambon@alaska.gov>; Heil, Cynthia L (DEC) <cindy.heil@alaska.gov>; Benkert, Ronald C (DFG) <ronald.benkert@alaska.gov>; Marie, Megan E (DFG) <megan.marie@alaska.gov>; Graziano, Scott J (DFG) <scott.graziano@alaska.gov>; Battle, David C (DFG) <david.battle@alaska.gov>; DNR, DNR Parks Chugach State Park (DNR sponsored) <csp@alaska.gov>; DNR, Parks OHA Review Compliance (DNR sponsored) <oha.revcomp@alaska.gov>; Bittner, Judith E (DNR) <judy.bittner@alaska.gov>; Schade, David W (DNR) <david.w.schade@alaska.gov>; Carrb@akrr.com; Kubitzj@akrr.com; Maddyr@akrr.com; Flintp@akrr.com; stuart.hartford@bia.gov; mark.kahklen@bia.gov; sean.mack@bia.gov; kenneth.pratt@bia.gov; transportation.alaska@bia.gov; AK Anchorage FO@blm.gov; Hcd.Anchorage@noaa.gov; jeanne.hanson@noaa.gov; Hcd.Anchorage@noaa.gov; kaja.brix@noaa.gov; greg.balogh@noaa.gov; jon.kurland@noaa.gov; matthew.eagleton@noaa.gov; gretchen.harrington@noaa.gov; regpagemaster@usace.army.mil; Calvin.L.Alvarez@usace.army.mil; Clinton.L.Scott@uscg.mil; tcharnon@fs.fed.us; ak fisheries@fws.gov; joan kluwe@nps.gov; brooke Merrell@nps.gov; TobishTG@ci.anchorage.ak.us; SeitzJL@ci.anchorage.ak.us; ellissm@muni.org; ellissm@muni.org; bunnellKR@muni.org; aswcd@aswcd.org; jbrune@ciri.com; sconnelly@eklutnainc.com; info@eklutnainc.com; nve@eklutna-nsn.gov; richard 1 anderson@nps.gov; nogi.jill@epa.gov; Bonnie Million <br/>
spillion@blm.gov>; Buss, Stephanie D (DEC) <stephanie.buss@alaska.gov>; Hudson, Samantha A (DNR) <samantha.hudson@alaska.gov>; Carroll, Samantha J (DNR) <samantha.carroll@alaska.gov>; Rokos, Jay M (DNR) <jay.rokos@alaska.gov>; mark.kahklen@bia.gov Cc: Read, Alex L (DOT) <<u>alex.read@alaska.gov</u>>; King, Noah C (DOT) <<u>noah.king@alaska.gov</u>>; Elliott, Brian A (DOT) <br/><br/>dalaska.gov>

**Subject:** Request for Agency Comments on DOT&PF Proposed Project: CFHWY00586 - AMATS: Downtown Trail Connection

Dear Agency Staff:

The Alaska Department of Transportation and Public Facilities (DOT&PF) is soliciting comments and information on a proposed project to that would construct a connecting multi-use pathway between the Tony Knowles Coastal Trail and the Ship Creek Trail in downtown Anchorage, Alaska. The project's scoping materials are attached to this email.

After reviewing the attached scoping materials please reply with the following information:

- 1. Further analysis needed to evaluate sensitive resources potential impacted by the proposed project.
- 2. Regulatory permits and/or clearances required from your agency.
- 3. Any concerns or issues your agency or organization might have with the proposed project.

We are requesting that comments be delivered by May 31, 2021. If you feel that someone else in your organization should receive this notification, please forward this email to them so they may comment.

Thank you,



### Drew von Lindern Environmental Team Leader Alaska Dept. of Transportation & Public Facilities Preliminary Design and Environmental Section P.O. Box 196900, Anchorage, Alaska 99519-6900 Phone (907) 269-0551 | Fax (907) 243-6927 Email: drew.vonlindern@alaska.gov

## APPENDIX E PROJECT SPECIFIC ESCP DISCUSSIONS & COMMENTS





BID FORM, CONTRACT, BOND, STANDARD MODIFICATIONS AND SPECIAL PROVISIONS FOR:

# AMATS: Downtown Trail Connection Project No. 0001662 / CFHWY00586

AS ADVERTISED: TBD Document Fee: \$100.00

To be used in conjunction with State of Alaska Standard Specifications for Highway Construction dated 2020, and the Plans for the above referenced project.

www.dot.alaska.gov - "Procurement"

## **TABLE OF CONTENTS**

(Federal-Aid Highways)

1.	Invitation (yellow)		
	INVITATION TO BID	25D-7	(CR 7/18)
2.	Bid Notices (yellow)		
	REQUIRED DOCUMENTS FEDERAL EEO BID CONDITIONS	25D-4H 25A-301	(11/23) (03/23)
3.	<u>Forms</u> (yellow)		
	SUBCONTRACTOR LIST BIDDER REGISTRATION CONTRACTOR'S QUESTIONNAIRE BID FORMS a. Bid Cover Sheet b. Bid Schedule	25D-5 25D-6 25D-8	(5/17) (6/22) (8/01)
	c. Bid Attachments		
	<ul> <li>d. Addenda Acknowledgement</li> <li>e. Bidder's Acknowledgement and Certification</li> <li>CONSTRUCTION CONTRACT</li> <li>PAYMENT BOND</li> <li>PERFORMANCE BOND</li> <li>BID BOND</li> <li>BID MODIFICATION</li> <li>NON-DOMESTIC MINIMAL USE &amp; DE MINIMIS REGISTER</li> <li>EEO-1 CERTIFICATION</li> <li>DOT&amp;PF TRAINING PROGRAM REQUEST</li> <li>TRAINING UTILIZATION REPORT</li> <li>CONTACT REPORT</li> <li>DBE UTILIZATION REPORT</li> <li>PRIME CONTRACTOR'S WRITTEN DBE COMMITMENT</li> <li>SUMMARY OF GOOD FAITH EFFORT DOCUMENTATION</li> </ul>	25D-10H 25D-12 25D-13 25D-14 25D-16 25D-60 25A-304 25A-310 25A-311 25A-321A 25A-325C 25A-326 25A-32A	(1/15) (8/01) (8/01) (7/18) (11/23) (10/19) (5/13) (1/16) (10/16) (3/12) (8/01) (8/01)
4.	Contract Provisions and Specifications (white)		. ,
	STANDARD MODIFICATIONS SPECIAL PROVISIONS APPENDIX A: CONSTRUCTION SURVEY REQUIREMENTS APPENDIX B: ENVIRONMENTAL PERMITS APPENDIX C: MATERIAL CERTIFICATION LIST APPENDIX C: MATERIAL CERTIFICATION LIST APPENDIX D: SIGN SHOP DRAWINGS APPENDIX E: TEMPORARY CONSTRUCTION EASEMENTS REQUIRED CONTRACT PROVISIONS FOR FEDERAL-AID (FHWA) CONSTRUCTION CONTRACTS	25D-55H	(10/23)
5	Federal Wage Pates		

#### Federal Wage Rates Э.

Federal wage rates can be obtained at https://sam.gov/content/home for the State of Alaska. Use the federal wage rates that are in effect 10 days before Bid Opening. The Department will include a paper copy of the federal wage rates in the signed Contract.

#### State Wage Rates 6.

State wage rates can be obtained at http://www.labor.state.ak.us/lss/pamp600.htm. Use the State wage rates that are in effect 10 days before Bid Opening. The Department will include a paper copy of the State wage rates in the signed Contract.



### STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

## **INVITATION TO BID**

for Construction Contract

Date TBD

## AMATS: Downtown Trail Connection Project No. 0001662 / CFHWY00586

The Department invites bidders to submit bids for furnishing all labor, equipment, and materials and performing all work for the project described below. The Department will only consider bids received **before 2:00 PM local time (per the Department's time source) on the TBD day of 2025.** On that date, the Department will assemble, open, and then publicly announce the timely-received bids at Anchorage, Alaska at <u>2:15 PM</u>, or as soon thereafter as practicable.

Location of Project:	Anchorage, Alaska
Contracting Officer:	Sean L. Holland, P.E., Regional Director
Issuing Office:	Central Region
	State Funded 🗆 Federal Aid 🖂
Description of Work:	
This federally funded p	project will construct a connection between the Tony Knowles Coastal Trail and the Ship Creek Trail in

This federally funded project will construct a connection between the Tony Knowles Coastal Trail and the Ship Creek Trail in downtown Anchorage. Major project elements include roadside hardware, drainage improvements, intersection improvements, and ADA improvements.

Project DBE Utilization Goal: 🛛 Race-Neutral

The Engineer's Estimate is between **\$10,000,000** and **\$20,000,000** 

All work shall be completed in N/A Calendar Days, or by TBD.

The Department will identify interim completion dates, if any, in the Special Provisions.

The apparent successful bidder must furnish a payment bond in the amount of 100% of the contract and a performance bond in the amount of 100% of the contract as security conditioned for the full, complete and faithful performance of the contract. The apparent successful bidder must execute the said contract and bonds within **ten (10)** calendar days, or such further time as may be allowed in writing by the Contracting Officer, after receiving notification of the acceptance of their bid.

### Submission of Bidding Documents

Bidders may submit bidding documents electronically via the Department's approved online bidding service, through the mail or hand delivered. For mailed or hand delivered bids and for electronically submitted bids with a paper bid guaranty, documents shall be submitted in a sealed envelope marked as follows:

Bidding Documents for Project:	ATTN:
AMATS: Downtown Trail Connection	State of Alaska
Project No. 0001662 / CFHWY00586	Department of Transportation & Public Facilities
	PO Box 196900
	4111 Aviation Avenue
	Anchorage, AK 99519-6900

It is incumbent upon the bidder to ensure its bid, any amendments, and/or withdrawal arrive, in its entirety, at the location and before the deadline stated above. A bidder sending a bid amendment or withdrawal via email must transmit its documentation to the Department at this email address: <u>crdotpfcontracts@alaska.gov</u>.

To be responsive, a bid must include a bid guaranty equal to 5% of the amount bid. (*When calculating the bid amount for purposes of determining the 5% value of the bid guaranty, a bidder shall include its base bid amount, plus the amount bid for alternate and supplemental bid items, if any.*)

The Department hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this Invitation, Disadvantaged Business Enterprises will be afforded full opportunity to submit bids and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

NOTICE TO	<b>O BIDDERS</b>
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Bidders must have a Vendor ID or your bid may not be accepted. More information can be obtained at the following website: <a href="http://dot.alaska.gov/aashtoware/docs/AWP-Vendor-List-Guidance.pdf">http://dot.alaska.gov/aashtoware/docs/AWP-Vendor-List-Guidance.pdf</a>

The following data may assist a bidder in preparing its bid:

See attached Special Notice to Bidders for this project.

A bidder may obtain hard copy project plans and specifications for the price of \$100.00 from: State of Alaska, Department of Transportation & Public Facilities Plans Room 4111 Aviation Avenue PO Box 196900 Anchorage, AK 99519-6900

Phone: (907) 269-0408

If a bidder has a question relating to design features, constructability, quantities, or other technical aspects of the project, it may direct its inquiry to the questions and answers area of the Bid Express proposal page: <u>https://www.bidx.com/ak/lettings</u>

A bidder requesting assistance in viewing the project site must make arrangements at least 48 hours in advance. The point of contract for inquiries for this project is **Kristina Busch**, **P.E.** 

Email: kristina.busch@alaska.gov

Phone: (907) 269-0567

For questions relating to electronic bidding or for assistance with your Bid Express account, contact Bid Express customer support at customer.support@bidx.com or call toll free (888)352-BIDX(2439) Monday through Friday 7:00am to 8:00pm (Eastern).

A bidder may direct questions concerning bidding procedures and requirements to: Sharon L. Smith, P.E. Chief of Contracts PO Box 196900 Anchorage, AK 99519-6900

Email: <a href="mailto:sharon.smith@alaska.gov">sharon.smith@alaska.gov</a>

Phone: (907) 269-0414

Other Information:

The Bid Calendar, Plan Holder List, Bid Results and DBE information are available on the Internet at: <u>www.dot.alaska.gov</u> under <u>Procurement</u>.

This project was designed in the US customary (USC) units. Inspection will take place in USC units. Submittals must be provided in USC units.

To report bid rigging activities call: 1-800-424-9071.

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

The **2020 Standard Specifications for Highway Construction** can be obtained at http://www.dot.state.ak.us/stwddes/dcsspecs/assets/pdf/hwyspecs/sshc2020.pdf

### SPECIAL NOTICE TO BIDDERS

The Department hereby notifies bidders that information to assist in bid preparation is available from the Department of Transportation and Public Facilities, Anchorage office, located at 4111 Aviation Avenue.

- 1. **Publications**. The following are available from the Plans Room, download online, or as noted:
  - a. Standard Specifications for Highway Construction, 2020 Edition comb bound (\$25.00), download at:

www.dot.state.ak.us/stwddes/dcsspecs/assets/pdf/hwyspecs/sshc2020.pdf, or order bound book from LuLu at:

https://www.lulu.com/en/us/shop/state-of-alaska-dept-of-transportation/2020-alaska-standard-specification-forhighway-construction/paperback/product-1gq9j9qk.html

- b. Alaska Test Methods Manual (Lab & Field), May 15, 2023 Edition (\$25.00). Available online at: <u>www.dot.state.ak.us/stwddes/desmaterials/mat\_waqtc/testman.shtml</u>
- c. Alaska Storm Water Pollution Prevention Plan Guide, March 2021. www.dot.state.ak.us/stwddes/desenviron/resources/stormwater.shtml
- d. Utility facility clearance requirements. Available online at:
  - Chugach Electric Association, Inc. (CEA) Electrical Facility Clearance Requirements <a href="https://www.chugachelectric.com/system/files/Electrical%20Facility%20Clearance%202020.pdf">https://www.chugachelectric.com/system/files/Electrical%20Facility%20Clearance%202020.pdf</a>
- e. Quantity Computations
- f. Cross Sections
- g. Geotechnical Report,
- h. Erosion, Sediment Control Plan (ESCP).
- i. Traffic Control Plan (TCP).
- Materials Certification List (MCL). The MCL provides the Engineer with the appropriate approving authority. Contractor, submit certification for each material to the Engineer. The MCL is included in Appendix <u>C</u>.
- 3. **Environmental Documents**. The Department has approved an environmental document addressing concerns and environmental commitments. This document is available for review in the Department Section of Preliminary Design and Environmental. (907) 269-0542.
- 4. Section 120, Disadvantaged Business Enterprise (DBE) Program. The Department, in coordination with US DOT, has adopted a Race-Neutral DBE Program effective for Federal-aid projects advertised in Central Region after June 30, 2015. In particular, all bidders shall be aware that Good Faith Effort Documentation is required from the successful bidder for all contracts, regardless of DBE goal or DBE utilization, in accordance with Section 120 Disadvantaged Business Enterprise (DBE) Program.

The overall DBE Utilization Goal is revised to 8.28 percent.

Direct questions about this notice to the Manager of the Civil Rights Office, (907) 269-0848, <u>http://www.dot.state.ak.us/cvlrts/index.shtml.</u>

5. **Cargo Preference Act Requirements**. The provisions of the Cargo Preference Act (CPA) must be physically incorporated into all Federal-aid Projects awarded after February 15, 2016, and must be physically incorporated in all agreements with subcontractors and lower tier subcontractors.

Form 25D-55 (2/16) is revised to include the CPA provisions to the Required Contract Provisions for Federal-Aid Construction Contracts. See the last page of Form 25D-55 for the CPA requirements.

For additional details, please visit: <u>https://www.fhwa.dot.gov/construction/cqit/cargo.cfm</u>

6. **Buy America Provision**. Effective for Federal award obligations after October 23, 2023, meet the requirements at 2 CFR 184 for construction materials.

Iron products, steel products, and predominantly iron or steel manufactured products remain subject to the requirements of 23 CFR 635.410 and related FHWA Interpretations and waivers.

Manufactured products that are not predominantly iron or steel continue to be waived under FHWA's 1983 waiver of manufactured products.

On August 16, 2023, USDOT issued a waiver at 88 FR 55817 applicable to construction materials on FHWA funded projects.

HSP20-7A revises the specifications in 106-1.01 to incorporate these new requirements.

2 CFR 184:

https://www.federalregister.gov/documents/2023/08/23/2023-17724/guidance-for-grants-and-agreements

23 CFR 635.410:

https://www.govinfo.gov/content/pkg/CFR-2022-title23-vol1/xml/CFR-2022-title23-vol1-sec635-410.xml

USDOT waiver at 88 FR 55817:

https://www.federalregister.gov/documents/2023/08/16/2023-17602/waiver-of-buy-americarequirements-for-de-minimis-costs-and-small-grants

FHWA interpretations, waivers, regulations, policy and guidance on Buy America: https://www.fhwa.dot.gov/construction/cqit/buyam.cfm

 Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment. 2 CFR 200.216, as amended effective August 13, 2020, Federal Register, Vol. 85, No. 157, 49506 – 49582, Prohibition on certain telecommunication and video surveillance services or equipment. Refer to Subsection 106-1.01.

8. Confirm inclusion with DOT CR Utility engineers each project.

- 8. Utilities.
  - a. **Agreements and Dispositions**. Utility Agreements and dispositions are available for review at the office of the Utilities Engineer, (907) 269-0644. Copies may be available, coordinate with the Utility Engineer.
  - b. Utilities, and Erosion, Sediment and Pollution Control. Utilities will be relocated by others concurrently with construction of this project. The Contractor is responsible for the coordination with Other Contractor's and for control of erosion, sediment and pollution including stabilization of areas disturbed during utility relocation, as described in Section 105-1.06.

The Contractor will identify, in their SWPPP, other work that is or will occur inside or adjacent to the project limits during the contract period.

 COVID-19 Management Plan. The Governor's emergency declaration and mandates relating to COVID-19 expired on February 14, 2021. However, contractors are encouraged to review COVID-19 Response and Recovery Health Advisories that can be accessed at:

https://covid19.alaska.gov/health-advisories/

Contractors will still be required to meet any applicable local ordinances or requirements currently in effect, and comply with any future federal, state, or local declarations or mandates that might be adopted while work on the project is ongoing.

Consistent with Section 107-1.01 of the Standard Specifications for Highway Construction, the Contractor will be responsible for paying all costs and expenses incurred to comply with any COVID-19 Health Mandates or Health Advisories in effect during times when the Contractor is performing project-related work activities. The Contractor will additionally be responsible for preparing any general or site-specific mitigation and response plans required for its forces, along with any attendant schedule delays or impacts.

10. **Certified Payroll**. Certified payroll must be submitted electronically through AASHTOWare for contracts awarded after January 1, 2021.

In order to submit certified payroll, Contractors, Subcontractors, and lower tier Subcontractors must be active in AASHTOWare, which requires they have a valid Vendor ID with a 913 commodity code.

To obtain a Vendor ID, register with the State of Alaska via the Vendor Self-Serve (VSS). Instructions for creating a new account in the VSS system can be found under Reference Guides and Forms at the following link:

https://iris-vss.alaska.gov/PRDVSS1X1/Advantage4

For information on certified payroll, contact the Department of Labor and Workforce Development, Wage and Hour Administration: Juneau (907) 465-4842

Anchorage (907) 269-4900 Fairbanks (907) 451-2886

DOT&PF AASHTOWare Project guidance, including schedule, FAQs, training options:

http://dot.alaska.gov/aashtoware/

- 11. **AWWU Discharge Permits**. AWWU is not issuing Temporary Construction Water Discharge Permits for construction related water routed to AWWU collection systems in both Girdwood and Eagle River.
- 12. Limitation of Operation. Limit disturbed unstabilized ground. Refer to Subsection 652-1.04 Limitation of Operation for further information.
- Contract Price Adjustment(s). The Department will not provide cost escalation or de-escalation
  price adjustment for this contract, except for specific items described in the bid package at the time of
  bid opening.
- 14. **Post Award Conference**. There will be a mandatory post award conference held in [LOCATION], Alaska prior to the Contractor beginning work. Refer to Subsection 108-1.10 Post Award Conference.
- 15. **USDOL Davis-Bacon and Related Acts Final Rule**. On September 29, 2023 FHWA updated form FHWA-1273 to incorporate the new Davis-Bacon and Related Acts final rule. Form FHWA-1273 is required to be physically incorporated into construction contracts, subcontracts, and lower-tier subcontracts for awards made after October 23, 2023. DOT&PF satisfies this requirement by incorporating Form 25D-55H into contracts.

A section-by-section change of form FHWA-1273 is available at https://www.fhwa.dot.gov/construction/cqit/form1273.cfm

The USDOL has a website containing the final rule, frequently asked questions, and a comparison chart of changes at <u>https://www.dol.gov/agencies/whd/government-contracts/construction/rulemaking-davis-bacon</u>

16. <u>Fishing Season:</u> No in water work to occur between April 1st and October 31<sup>st</sup>.

FED\_SOA-CRSNtB-23.1201\_SSHC2020

## STANDARD MODIFICATIONS AND SPECIAL PROVISIONS

## To the STATE OF ALASKA



## STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION

2020 EDITION Blank Page

### TABLE OF CONTENTS

### Section

### Page

### **DIVISION 100 — GENERAL PROVISIONS**

Scope of Work	.3
Control of Work	.4
Control of Material	.5
Legal Relations and Responsibility to Public	. 8
Prosecution and Progress	10
Measurement and Payment1	12
Disadvantaged Business Enterprise (DBE) Program1	13
	Scope of Work Control of Work Control of Material Legal Relations and Responsibility to Public Prosecution and Progress Measurement and Payment Disadvantaged Business Enterprise (DBE) Program

### **DIVISION 200 — EARTHWORK**

201	Clearing and Grubbing	,
202	Removal of Structures and Obstructions	5
204	Structure Excavation for Conduits and Minor Structures	
205	Excavation and Fill for Major Structures	

### **DIVISION 300 — BASES**

301 Agg	egate Base and Surface Cou	e27
---------	----------------------------	-----

### DIVISION 500 — STRUCTURES

501	Concrete for Structures	31
514	Concrete Surface Finish and Treatment	36
550	Commercial Concrete	38

### **DIVISION 600 — MISCELLANEOUS CONSTRUCTION**

603	Culverts and Storm Drains	42
604	Manholes and Inlets	
608	Sidewalks	
611	Riprap	50
615	Standard Signs	51
618	Seeding	
619	Soil Stabilization	60
621	Planting Trees and Shrubs	65
622	Rest Area Facilities	71
633	Silt Fence	72
634	Geogrid for Embankment and Roadway Stabilization and Reinforcement	73
641	Erosion, Sediment, and Pollution Control	76
643	Traffic Maintenance	
644	Services to be Furnished by the Contractor	
645	Training Program	
646	CPM Scheduling	
647	Equipment Rental	
651	Control of Work – Supplemental Requirements	
652	Prosecution and Progress – Supplemental Requirements	
682	Utility Potholing	

### **DIVISION 700 — MATERIALS**

702	Asphalt Materials	169
703	Aggregates	
705	Joint Material Section Place Holder	
708	Paints	
724	Seed	
726	Topsoil	
727	Soil Stabilization Material	
730	Sign Materials	
740	Signals and Lighting Materials	
Apper	ndix A Construction Survey Requirements	
Apper	ndix B Environmental Permits	

### Section

Appendix CMaterial Certification ListAppendix DSign Shop DrawingsAppendix FDraft Permits

# **DIVISION 100 — GENERAL PROVISIONS**

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### SECTION 104 SCOPE OF WORK

Standard Modification

### 104-1.06 VALUE ENGINEERING CHANGE PROPOSALS BY CONTRACTOR.

Replace 104-1.06.3.e with the following:

e. The Contractor may submit VECPs for an approved subcontractor. If the Contractor elects to submit a VECP for an approved subcontractor and it is subsequently accepted by the Department, the Department will reimburse the Contractor per 104-1.06.5.

HSM20.2-113020R

### SECTION 105 CONTROL OF WORK

**Special Provisions** 

Add the following Subsection 105-1.011 Related Sections:

### 105-1.011 RELATED SECTIONS.

Section 651, Control of Work – Supplemental Requirements

### CR105.5-012816R1

### 105-1.15 PROJECT COMPLETION.

### Replace the 1<sup>st</sup> sentence in the 3<sup>rd</sup> paragraph with the following:

When all physical work and cleanup provided for under the Contract is found to be complete, except for work specified for Period of Establishment, the Engineer will issue a letter of project completion.

CR105.6-23.0601
# SECTION 106 CONTROL OF MATERIAL

Standard Modification

# 106-1.01 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS.

#### Add the following:

**PROHIBITION ON CERTAIN TELECOMMUNICATION AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.** On projects using federal funds, the Contractor shall comply with the requirements of 2 CFR 200.216, Prohibition on certain telecommunication and video surveillance services or equipment, including any future amends thereto that are applicable to the project.

By submitting a bid or by execution of the contract, the Contractor certifies that it has not entered into a contract nor extended or renewed a contract to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system produced by:

- Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
- Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
- Any entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

The Contractor further certifies that it has complied with the requirements of 2 CFR 200.216 and that it will continue to do so throughout the term of the Contract.

#### HSM20.20-21.1231

#### Special Provision

#### Replace the BUY AMERICA PROVISION with the following:

**BUY AMERICA PROVISION.** On projects using federal funds the Contractor shall ensure all iron, steel, manufactured products, and construction materials incorporated into the project are produced in the United States as required by 2 CFR Part 184 Buy America Preferences for Infrastructure Projects and 23 CFR §635.410, Buy America requirements.

The Contractor shall submit a completed Non-Domestic Minimal Use and De Minimis Register, Form 25D-60, prior to award of the contract. When the Contractor becomes aware of a change from or error in a previously submitted Form 25D-60, the Contractor shall submit an updated Form 25D-60.

The Contractor shall submit a certificate of compliance according to Subsection 106-1.05 for each item listed on the Material Certification List. The Engineer may authorize the use of materials based on a certificate of compliance and Form 25D-62 Certificate of Buy America Act Compliance. Materials incorporated into the project on the basis of a certificate of compliance may be tested at any time, whether in place or not, and if they do not conform to Contract specifications, they may be rejected and ordered removed under the Subsection 105-1.11.

Manufactured products that are not predominantly steel or iron, or a combination of both, or construction materials are not subject to Buy America provisions. Declare manufactured products on Form 25D-62 regardless of their exemption.

Non-domestic products in excess of the minimal use and/or the de minimis amounts shall be replaced at no expense to the State. Failure to comply may also subject the Contractor to default and debarment.

The supplier certifying Form 25D-62 may be the manufacturer, fabricator, vendor, or supplier; provided they have sufficient control and knowledge of the manufacturing process to accept responsibility and

certify full and complete conformance with 23 CFR §635.410 and 2 CFR Part 184. The Prime Contractor shall also certify Form 25D-62. Provide additional certifications and backup documentation to signed Form 25D-62 when required by the Engineer. False statements may result in criminal penalties prescribed under AS 36.30.687 and Title 18 US Code Section 1001 and 1020.

The United States, Mexico, Canada Agreement (USMCA) does not apply to the Buy America requirement.

Buy America does not apply to construction materials, steel products, and iron products, brought temporarily to the construction site and removed at or before the completion of the project. Further, it does not apply to construction materials, steel products, and iron products which remain in place at the Contractor's convenience. Buy America does not apply to iron ore, pig iron, and processed, pelletized and reduced iron ore.

The following materials are exempt from Build America, Buy America requirements per Section 70917(c) of P. L. 117-58:

- 1. cement and cementitious materials
- 2. aggregates such as stone, sand, or gravel
- 3. aggregate binding agents or additives

#### De Minimis amount:

Small amounts of non-domestic construction materials, are allowed provided the total value of the non-domestic products is no more than the lesser of \$1,000,000 or 5% of total material costs for the project including freight to the project location.

#### The total material costs of the project include (Form 25D-60):

- 1. Predominantly Iron and Steel products
- 2. Construction Materials
- 3. Manufactured Products

Do not include the cost of materials exempted per Section 70917(c) of P. L. 117-58, earth materials, processed aggregates, asphalt, concrete, fuel, lubricant, equipment repair parts, etc. in the total material costs of the project.

**PREDOMINANTLY STEEL OR IRON PRODUCTS.** Products and materials where the cost of the iron and steel, or a combination of both, exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product, or a good faith estimate of the cost of iron or steel components.

To be classified as domestic, all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.

#### Iron and Steel minimal use:

All predominately steel and iron, or a combination of both, products 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 shipping.

**CONSTRUCTION MATERIALS.** The following list contains the categories of construction materials, and the requirements for domestic origin. Construction materials are an article, material, or supply that is:

1. **Non-ferrous metals**. All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.

- 2. **Plastic and Polymer-based products**. All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.
- 3. **Glass**. All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
- 4. **Fiber Optic Cable**. All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.
- 5. **Optical Fiber**. All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
- 6. **Lumber**. All manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.
- 7. **Drywall**. All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
- 8. **Engineered Wood**. All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

If one construction material contains as inputs other construction materials, it remains classified as a construction material for the purposes of this section. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.

**MANUFACTURED PRODUCTS.** Articles, materials, or supplies that have been processed into a specific form and shape or combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.

If an item is classified as an iron or steel product, a construction material, or an exempted material per Section 70917(c) of P. L. 117-58 then it is not a manufactured product.

An article, material, or supply classified as a manufactured product may include components that are construction materials, iron or steel products, or an exempted material per Section 70917(c) of P. L. 117-58.

Replace Subsection 106-1.05 with the following:

**106-1.05 CERTIFICATES OF COMPLIANCE.** A certificate of compliance must meet one of the following:

- 1. If by manufacturer's certification, the certificate must include the project name and number, the signature of the manufacturer, and must include information that clearly demonstrates the material or assembly complies with all Contract requirements except for domestic preference.
- 2. If by Contractor's summary sheet, the summary sheet must include the project name and number, the signature of the contractor, and must include attached documentation that clearly demonstrates the material or assembly fully complies with all Contract requirements except for domestic preference.

Electronic submittals that are submitted by email from the Contractor's email account are considered signed by the Contractor.

The Contractor shall submit additional certificates of compliance or test data if required by the Contract or by the Engineer. The Engineer may refuse permission to incorporate materials or products into the project based on a certificate of compliance that does not meet the Contract requirements.

HSP20.7A-23.1114

#### SECTION 107 LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

**Special Provisions** 

# 107-1.02 PERMITS, LICENSES, AND TAXES.

The Department will: Add No. 3:

- 3. The Department has received the following permits on the Contractor's behalf:
  - a. The ARRC permit includes their specification; do not include a DOT&PF specification. Include the Letter of Non-Objection (LNO) and
  - b. Draft Temporary Construction Permit (TCP) in Appendix F. The Contractor is required to obtain the finished permit from the ARRC.

#### CR107.4-120117R2

The Contractor shall:

Replace No. 1. with the following:

- 1. Acquire all permits and licenses required to complete the project that are not acquired by the Department.
  - a. Complete all draft permits. Draft permits are included in Appendix F, when there are draft permits.

#### CR107.2-070121

<u>Add No. 10</u>:

10. Provide a wetland specialist able to conduct wetlands determinations and delineations according to the Corps of Engineers 1987 Wetland Delineation Manual, and the Regional Supplement to the Corps of Engineers Wetland Delineations Manual (Alaska Region, Version 2.0, September 2007). The wetland specialist shall conduct the determination and delineations of sites outside the project limits or not previously permitted, impacted by the Contractor's operations. These delineations will be subject to Corps of Engineers approval.

#### CR107.5-120117R

#### 107-1.07 ARCHAEOLOGICAL OR HISTORICAL DISCOVERIES.

#### Replace the 1st sentence including numbers 1, 2, and 3, with:

When operation encounters historic or prehistoric artifacts, burials, remains of dwelling sites, paleontological remains, (shell heaps, land or sea mammal bones or tusks, or other items of historical significance), cease operations immediately and notify the Engineer.

# 107-1.11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE.

#### Add the following:

<u>Non-municipal Water Source</u>. If water is required for a construction purpose from a nonmunicipal water source, obtain a Temporary Water Use Permit from the Water Resource Manager, and provide a copy to the Engineer. The Water Resource Manager is with the Department of Natural Resources in Anchorage and may be contacted at (907) 269-8645.

#### CR107.3-051517

#### 107-1.13 RESPONSIBILITY FOR DAMAGE CLAIMS.

#### Replace the first paragraph with the following:

The Contractor shall indemnify, hold harmless, and defend the State of Alaska, and the Municipality of Anchorage and its agents and employees from any and all claims or actions for injuries or damages whatsoever sustained by any person or property that arise from or relate to, directly or indirectly, the Contractor's performance of the Contract; however, this provision has no effect if, but only if, the sole proximate cause of the injury or damage is the Department's negligence.

CR107.7\_CR103.1-040123

# SECTION 108 PROSECUTION AND PROGRESS

Standard Modification

# 108-1.01 SUBCONTRACTING OF CONTRACT.

In item 1g. replace AS 45.45.101(a) with AS 45.45.010(a).

In item 2f. replace AS 45.45.101(a) with AS 45.45.010(a).

# HSM20.41-010122

**Special Provision** 

Replace Subsection 108-1.01 1h. with the following:

1h. Other required items listed in Form 25D-042 are included in the subcontracts;

Replace Subsection 108-1.01 2g. with the following:

2g. Other required items listed in Form 25D-042, are included in the lower tier subcontracts;

# CR108.4-010120

Add the following Subsection 108-1.011 Related Sections:

# 108-1.011 RELATED SECTIONS.

Section 652, Prosecution and Progress - Supplemental Requirements

CR108.3-012816R

# 108-1.07 FAILURE TO COMPLETE ON TIME.

Replace Table 108-1 with the following:

#### Table 108-1 DAILY CHARGE FOR LIQUIDATED DAMAGES FOR EACH CALENDAR DAY OF DELAY

Original Contract Amount		Doily Charge
From More Than	re Than To and Including	
<b>\$</b> 0	1,000,000	\$1,500
1,000,000	5,000,000	2,900
5,000,000	25,000,000	5,500
25,000,000		6,900

#### HSM20.43A-24.0701

Special Provision

Add the following Subsection 108-1.10 Post Award Conference:

**108-1.10 POST AWARD CONFERENCE.** The post award conference is a public meeting held in the community of the project location. The Department will schedule the post award conference and notify the Contractor at least 7 days prior to the conference date. The Contractor shall attend the post award conference and present information together with the Department to the community. The conference will be scheduled in cooperation with the local community and other participants.

The post award conference will last approximately one hour. The Contractor shall present the following minimum information at the post award conference:

- 1. Overview of the project
- 2. Project timeline
- 3. Project impacts on the community
- 4. Project job numbers and types of employees
- 5. Contractor's employment opportunities and hiring process

The Department and DOLWD will also present information at the post award conference. The Contractor shall attend the entire meeting and participate in answering public questions raised during the post award conference.

All costs incurred by the Contractor to attend the post award conference are at the Contractor's expense. The Department is not liable for delays or rescheduling of the post award conference due to unforeseen circumstances.

HSP20.9-031023

#### SECTION 109 MEASUREMENT AND PAYMENT

Special Provision

#### 109-1.01 GENERAL.

Replace the 2<sup>nd</sup> paragraph with the following:

When more than one type of material or work is specified for a pay item, the proposal line number, and the description are used to differentiate the material or work.

#### CR109.4-010120

#### 109-1.05 COMPENSATION FOR EXTRA WORK ON TIME AND MATERIALS BASIS.

Under Item 3. Equipment, Item a. 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.

Provide a printed copy of the current EquipmentWatch rate sheet for each piece of equipment utilized on time and materials work.

#### CR109.2-110118

Standard Modification

#### 109-1.08 FINAL PAYMENT. Add the following after the fifth paragraph:

On federally funded projects, if DOLWD Wage and Hour Administration notifies the Department of a pending prevailing wage investigation, and that the investigation is preventing the closing out of the project, the Contractor may place the notified amount in escrow under Wage and Hour for the exclusive purpose of satisfying unpaid prevailing wages. Upon receipt of notice from Wage and Hour that the Contractor has satisfactorily transferred the necessary funds into escrow, the Department will proceed to issue final payment.

HSM20.3-113020R

#### SECTION 120 DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

**Special Provisions** 

Delete Section 120 Disadvantaged Business Enterprise (DBE) Program:

#### CR120.1-030117

Standard Modification

#### 120-1.01 DESCRIPTION.

In the first sentence of the second paragraph, delete "8.83 percent" and substitute the following: "9.39 percent".

## 120-3.01 DETERMINATION OF COMPLIANCE.

- 2. Phase II Award.
  - a. <u>Written DBE Commitment</u>. <u>Delete in its entirety and substitute the following</u>: Complete Form 25A-326 for each DBE to be used on the project.

HSM20.21A-24.0415

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# **DIVISION 200 — EARTHWORK**

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# SECTION 201 CLEARING AND GRUBBING

**Special Provisions** 

# 201-3.01 GENERAL.

#### Add the following:

Perform the work necessary to preserve and/or restore land monuments and property corners from damage. Restore land monuments and/or property corners that are disturbed according to Section 642. An undisturbed area five feet in diameter may be left around existing monuments and property corners. A list of land monuments and property corners is shown on the Right of Way maps.

#### CR201.3-042313

#### Add the following:

Clearing and grubbing is not permitted within the migratory bird window of <u>May 1</u> to <u>July 15</u>; except as permitted by Federal, State and local laws when approved by the Engineer.

#### CR201.1-010114

## 201-5.01 BASIS OF PAYMENT.

#### Add the following:

The work required to preserve and restore land monuments and property corners is subsidiary to 201 Pay Items.

#### CR201.3-042313

#### SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

**Special Provisions** 

#### 202-1.01 DESCRIPTION.

Add the following:

Property Owner Fence: salvage and neatly stack in the owner's yard.

#### CR202.6-040120

#### 202-2.01 MATERIALS.

#### Replace Subsection 202-3.01 with the following:

**202-3.01 GENERAL.** Raze, remove, and dispose of, or salvage all buildings and foundations, structures, fences, and other obstructions, any portions of which are within the right-of-way, except utilities and those for which other provisions have been made for removal.

Remove the utility lines, sidewalks, and other attached appurtenances from the buildings, foundations, and structures. Cut the ends of retaining walls to remain, after partial removal, neat and true with no shatter.

Buildings may contain asbestos.

Fill basements, or cavities left by structure removal, to the level of surrounding ground and if within the prism of construction, compact backfill as specified under Section 203.

Stockpile all materials which are designated for use on the project at approved locations.

Burn or otherwise dispose of combustible debris as approved.

Non-combustible debris, construction and demolition waste materials, with written approval, may be placed in embankments under the provisions of Subsection 203-3.03 for placing rock in embankments (No metal pipes, wires, or cables may be placed in any embankment). Maximum allowed dimension of broken material is 6 inches.

Dispose of waste material outside of the project right-of-way limits according to Subsection 202-3.06.

#### CR202.9-040120

#### Add the following:

**Property Owner Fence**: carefully remove fences, designated by the Engineer, to the right-of-way limit, or to the end of the span beyond the right-of-way limit. Fence materials belong to the property owners. Salvage and stack fence materials neatly in the property owner's yard. If a noise barrier or separation fence is constructed, with the owner's permission, use salvaged fencing to fill fencing gaps behind the property line. Use salvaged fencing according to Section 607, for reconstructed fences.

#### CR202.6-040120

Replace Subsection 3.05 with the following:

**202-3.05 REMOVAL OF PAVEMENT, SIDEWALKS, AND CURBS.** In removing pavements, curbs, walks, driveways and similar structures, make all cuts clean, vertical, and true to designated lines where an abutting structure or a part of a structure is to be left in place.

Pavement materials, base course, sidewalks, curbs, gutters, etc., designated for removal may be placed in the embankment in accordance with 203-3.03 with written approval. Maximum allowed dimension of material is 6 inches.

Dispose of materials, not placed in the embankment, outside the right-of-way project limits according to Subsection 202-3.06.

#### CR202.2-040120

Add the following Subsection 202-3.06 Salvage and Disposal of Construction and Demolition Materials:

**202-3.06 SALVAGE AND DISPOSAL OF CONSTRUCTION AND DEMOLITION MATERIALS.** Unless otherwise noted, remove, handle, salvage, transport, store, and dispose waste materials according to the Occupational, Safety, and Health Administration (OSHA), Environmental Protection Agency (EPA), Alaska Department of Environmental Conservation (ADEC), and other Federal, State and local government agency's statutes, rules and regulations.

Use disposal sites outside the project right-of-way limits unless directed otherwise, in writing, by the Engineer. Obtain written consent from the private or public property owner for such disposal and a waiver of all claims against the State for any damage to such land which may result, together with all permits required by law for such disposal. Furnish a copy of such permission, waiver of claims, and permits to the Engineer before commencing work. Grade disposal areas to drain.

#### CR202.1-040120

#### 202-4.01 METHOD OF MEASUREMENT.

Standard Modification

# 202-5.01 BASIS OF PAYMENT.

In the first paragraph, replace "and 22.0013.\_\_\_\_." with the following: "and 202.0013.\_\_\_\_."

In the fourth paragraph, replace "Items 020.0014.\_\_\_\_" with the following: "Items 202.0014.\_\_\_\_"

HSM20.4-113020R

Add the following:

Acquiring waste disposal permits is subsidiary to 202 Pay Items.

CR202.1-040120

# Add the following:

Item 202.2022.\_\_\_\_. At the Contract Unit price for the actual length of fence taken down, disposed, or delivered to the owner, regardless of the type or height.

PAY ITEM		
Item Number	Item Description	Unit
202.2022	Removal of Fence	LF

CR202.6-040120

Replace Section 204 with the following:

# SECTION 204 STRUCTURE EXCAVATION FOR CONDUITS AND MINOR STRUCTURES

**204-1.01 DESCRIPTIONS.** Excavate and backfill for conduits (pipe culverts, structural plate pipe, pipe arches, storm drains, underdrains, and electrical conduits), headwalls, manholes, inlet boxes, and other minor structures.

Dewater ground water from work areas. Construct and maintain temporary water diversion when working in waterways, and for facilities or structures with active drainage.

Perform all pumping, bailing, draining, sheeting, bracing, and incidentals required for proper execution of the work.

204-2.01 MATERIALS. Use materials that conform to the following:

Selected Material	Subsection 703-2.07
Porous Backfill Material	Subsection 703-2.10

- 1. Structure Backfill and Bedding Material.
  - a. Selected Material, Type A.
    - (1) Material passing the 1-inch sieve.
    - (2) Material passing the 1/2-inch sieve for plastic conduits less than 8 inches in diameter.
  - b. Porous Backfill Material.

Uniform porous backfill material for underdrain conduit.

- (1) Material passing the 1-inch sieve for conduit 3-inch to 10-inch diameters.
- (2) Material passing the 2-inch-sieve for conduit 12-inch to 60-inch diameters.
- 2. Backfill Material: Selected Material Type C

In the roadbed structure use backfill material meeting the requirements of the roadbed structure, except use the structure backfill material and bedding as specified herein.

Use all suitable material from the project excavation for bedding, structure backfill, and backfill material before using material from another source.

**204-3.01 CONSTRUCTION REQUIREMENTS.** Clear and grub prior to starting excavation according to the requirements of Section 201.

Keep the work areas dewatered and divert water when working in a waterway or active drainage, Subsection 204-3.02.

Remove and dispose, Subsection 203-3.01, of unsuitable foundation material, including rock or other unyielding material, below the designed elevation as directed, except no less than 6 inches, and replace with approved material.

Place bedding material to a minimum thickness of 4 inches, except 6-inch minimum thickness for conduit over rock or unyielding material, and below electrical conduit, unless shown otherwise in the plans.

Place the bedding material to provide uniform support for conduit with the material in the middle one-third loosely placed and not compacted. Do not shape the bedding to the curvature of the round conduits. Shape the bedding for pipe arches, horizontal ellipse, and underpass shapes with spans exceeding 12

feet. Provide a minimum shaped width one-half the span of the pipe arch and underpass shapes and onethird the span of horizontal ellipse shape. Shape the bedding to the relatively flat bottom arc or fine-grade the foundation to a slight "V" shape.

Place minor precast concrete structures, other than conduits, on the 4-inch bedding/leveling course, of uniform stiffness and thickness with even compaction throughout.

Place the structure backfill over the bedding each side of the structure to 12 inches above the structure or the ground surface if less than 12 inches, except 6 inches above electrical conduit.

Place the structure backfill and backfill material in uniform layers not more than 6 inches deep. Do not create unbalanced loading with the placement of the structure backfill materials. When placing material against concrete, place the material according to the requirements of Section 550.

Compact the materials, each layer, without ponding or jetting to meet Subsection 203-3.04. In the haunch area, each side of the conduit, compact the material by firmly tamping into place.

Outside the roadbed structure, the Engineer may visually inspect and approve the excavation, bedding, structure backfill, backfill material, and compaction.

Support and protect existing conduits or utilities, not scheduled for removal or abandonment, when encountered in the excavation.

Remove all sheeting and bracing used in structure excavation upon completion of the work.

**204-3.02 DEWATERING AND WATER DIVERSION.** Submit a plan for work area dewatering and each waterway diversion, 14 days before related construction activities. Do not implement the plan without written approval. Include the permit requirements in the plan.

- 1. Do not exceed State of Alaska water quality standards.
- 2. Do not divert water onto the roadway.

204-4.01 METHOD OF MEASUREMENT. Section 109. Use neat line method as follows:

Structure Excavation:

- 1. Masonry Structures (except conduit). Between vertical planes, 18 inches outside the base of the masonry sections for the depth required.
- 2. Conduit. Between parallel vertical planes located 18 inches outside the horizontal projection of the outside diameter of the conduit and to the depth shown on the Plans.

Structure excavation only measured below the limits of other classes of excavation. Structure's in embankment section, the natural ground line as cross-sectioned is the uppermost level of computation.

**204-5.01 BASIS OF PAYMENT.** The Contract price includes the placing and compacting of all backfill and bedding when the materials used are obtained from excavation, any clearing and grubbing required and not paid for under some other item, formation of any embankments made with surplus material from structure excavation, and disposal of all surplus or unsuitable excavation.

Culvert baffles, headwalls, temporary water diversion, dewatering and rewatering, and the removal of pavement are subsidiary to the conduit and minor structure Pay Items.

Additional excavation to provide for shoring, sheet piles, excavation shields or flattening the excavation slopes, is subsidiary.

When item 204.0001.\_\_\_\_, 0002.\_\_\_\_, or 0003.\_\_\_\_ structure Excavation, does not appear in the bid schedule, structure excavation required to complete other items of work is subsidiary, except that

excavation and disposal of unsuitable material required from below a plane 12 inches below the invert elevation of conduits and 12 inches below the bottom of structures is paid as extra work.

Any backfill or bedding material required whose source is other than project excavation is paid at the contract unit price for the materials being used, or as extra work if no unit price has been established.

Traffic control paid under Section 643 and Erosion, Sediment, and Pollution Control paid under Section 641.

# PAY ITEMItem NumberItem DescriptionUnit204.0001.\_\_\_\_Structure ExcavationCY204.0002.\_\_\_\_Structure ExcavationTon204.0003.\_\_\_\_Structure ExcavationLS

CR204-24.0501

# SECTION 205 EXCAVATION AND FILL FOR MAJOR STRUCTURES

Standard Modification

# 205-3.05 COMPACTION.

1. <u>Compaction with Moisture and Density Control</u>. <u>2<sup>nd</sup> paragraph</u> <u>delete</u>: "and ATM 214".

HSM20.5-113020R

# **DIVISION 300 — BASES**

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#### SECTION 301 AGGREGATE BASE AND SURFACE COURSE

**Special Provision** 

# 301-2.01 MATERIALS.

#### Add the following after the first sentence:

Recycled Asphalt Material (RAM) may be substituted for aggregate base course, inch for inch, if the following conditions are met:

- 1. RAM shall be crushed or processed to 100 percent by weight passing the 1.5 inch sieve and 95-100 percent by weight passing the 1 inch sieve.
- 2. The gradation of the extracted aggregate shall meet the following:

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

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

# CR301.1-012407R

#### 301-3.01 PLACING.

#### Add the following:

Place base course material, used for the sidewalk and pathway foundations, with equipment capable of providing a specified depth and uniform surface.

# CR301.2-062116

Add No. 5 after the 5th paragraph:

5. within 50 feet of detector loops.

#### CR301.3-022015

Standard Modification

# 301-3.03 SHAPING AND COMPACTION.

In the second paragraph delete "and ATM 214".

# HSM20.5-113020R

# Add the following:

If recycled asphalt material is substituted for aggregate base course, the following conditions shall be met:

- 1. Density acceptance will be determined by control strip method ATM 412. Use a test strip with a vibratory compactor with a minimum dynamic force of 40,000 pounds. The optimum density will be determined by the Engineer using a nuclear densometer gauge to monitor the test strip. Adequate water shall be added to aid compaction.
- 2. After the appropriate coverage with the vibratory compactor, a minimum of 6 passes with a pneumatic tire roller shall be completed. Tires shall be inflated to 80 psi ( $\pm$  5 psi) and the roller shall have a minimum operating weight per tire of 3,000 pounds.

# 301-5.01 BASIS OF PAYMENT.

#### Add the following:

Recycled asphalt material substituted for aggregate base course will be paid for as Item 301.0001.\_\_\_\_\_ Aggregate Base Course, at the unit price shown in the bid schedule for that Item.

CR301.1-012407R

# **DIVISION 500 — STRUCTURES**

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## SECTION 501 CONCRETE FOR STRUCTURES

Standard Modification

# 501-2.02 COMPOSITION OF MIXTURE – JOB MIX DESIGN.

Replace Table 501-4 with the following:

#### TABLE 501-4 AIR CONTENT REQUIREMENTS

Class of Concrete	Air Content	
A	6.0% ±0.5%	
A-A	6.0% ±0.5%	
Р	3.50% minimum <sup>1</sup> and	
	Super Air Meter (SAM) number ≤0.20 <sup>1</sup>	
DS	Not required	

<sup>1</sup>Not required for web and bottom flange of precast, prestressed decked bulb-tee girders.

HSM20.23-123121

**503-3.02 PROTECTION OF MATERIALS.** <u>Replace the 2nd sentence of the 1st paragraph with the</u> <u>following:</u> Before placing reinforcing steel in the work, ensure that the reinforcing steel is free of salt, rust, and foreign substances that may affect the performance of the reinforcing steel.

#### **503-3.05 SPLICING.** <u>Replace "c. Testing/Inspection" under Item 2. Electric Resistance Butt Welded</u> Joints with the following:

c. <u>Testing/Inspection</u>.

Perform job control tests using a testing laboratory with experience with ASTM A370 and California Test Method 670. A job control test consists of the fabrication, under the same conditions used to produce the splice, and the physical testing of 4 sample splices for each lot of splices. An authorized Department representative will designate when samples for job control tests are to be fabricated and will determine the limits of the lot represented by each job control test.

A lot of shop produced resistance welded butt joints is defined as no more than 150 splices of the same type of welds used for each combination of bar size and bar deformation pattern that is used in the work.

The Engineer or the Engineer's authorized representative shall witness the job control tests performed by the testing laboratory. Give the Engineer at least 7 working days' notice before beginning control tests.

Identify sample splices with tamper proof and weatherproof markings prior to shipment to the testing laboratory.

The sample shall consist of a resistance welded butt splice bar and a control bar that are identified and marked as a set. The same reinforcing bar (hoop) may be used to provide the test weld and control bar.

Test each sample to failure in accordance with ASTM A706, ASTM A370 and California Test Method 670. Determine the ultimate tensile strength for all control bars by testing the bars to failure.

The production lot will be rejected if:

- (1) a sample fails within one bar diameter of the splice at less than 95 percent of the ultimate tensile strength of the associated control bar
- (2) necking of the bar prior to rupture, as defined in California Test Method 670, is not observed
- (3) a sample does not meet the mechanical requirements of ASTM A706 Grade 60

#### <u>Replace "c. Qualifications and Submittals." and "d. Testing/Inspection." under Item 4. Mechanical Butt</u> <u>Splices with the following</u>:

c. <u>Qualifications and Submittals</u>. A splice will be considered qualified if the splice can develop a minimum tensile strength of 80000 psi, based on the nominal bar area, and the bars within the splice do not exceed a total slip shown in Table 503-3, when tested according to the relevant material ASTM, ASTM A370 and California Test Method 670.

Reinforcing Bar No.	Total Slip (inch)	
4	0.020	
5	0.020	
6	0.020	
7	0.028	
8	0.028	
9	0.028	
10	0.036	
11	0.036	
14	0.048	
18	0.060	

#### TABLE 503-3 ALLOWABLE TOTAL SLIP LENGTH

Submit the following information:

- (1) the manufacturer's name;
- (2) the name of the product or assembly;
- (3) the lot, heat, or batch number that identifies the splice;
- (4) the bar grade and size number to be spliced by the material;
- (5) a complete description of the splice and installation procedure; and,
- (6) Tensile Test results including:
  - (a) bar nominal area;
  - (b) ultimate load at failure;
  - (c) ultimate tensile strength;
  - (d) necking results (either visually or through strain values); and,
  - (e) failure mechanism and location.
- (7) Slip Test results including:
  - (f) initial length measurements;
  - (g) final length measurements; and,
  - (h) calculated slip.
- d. <u>Testing/Inspection</u>. Perform job control tests consisting of the fabrication, under conditions used to produce the splice. For each lot of splices perform 6 slip tests and 6 tensile tests using different sample splices for each test. The Engineer will designate when samples for job control tests are to be fabricated and will determine the limits of the lot represented by each job control test.

A lot of mechanical butt joints is defined as no more than 150 splices of the same type of mechanical butt splice used for each combination of bar size and bar deformation pattern that is used in the work.

Make splice samples using the same splice materials, position, equipment, and following the same procedures as used to make splices in the work. Make splice samples at least 5 feet long with the splice at mid-length. Shorter sample splice bars may be used if approved by the Engineer.

Perform job control tests in the presence of the Engineer. Splices tested in the absence of the Engineer may be rejected. Notify the Engineer, in writing, at least 7 working days prior to performing testing.

Identify sample splices with weatherproof markings prior to shipment to the testing laboratory.

Test each sample according to the relevant material ASTM, ASTM A370 and California Test Method 670. Perform tensile testing until partial or total fracture of the parent bar material, mechanical splice material, or bar-to-splice connection.

The production lot will be rejected if:

- (1) the minimum individual tensile strength of the sampled splices is less than 80000 psi based on the nominal bar area
- (2) the maximum individual slip length of the sampled splices is greater than the limits in Table 503-3

# <u>Replace "b. Qualifications" and "c. Testing/Inspection." under Item 5. Mechanical Lap Splices. with the following:</u>

b. <u>Qualifications</u>. A splice will be considered qualified if the splice can develop a minimum tensile strength of 75000 psi, based on the nominal bar area, when tested according to the relevant material ASTM, ASTM A370 and California Test Method 670.

Submit the following information:

- (1) the manufacturer's name;
- (2) the name of the product or assembly;
- (3) the lot, heat, or batch number that identifies the splice;
- (4) the bar grade and size number to be spliced by the material;
- (5) a complete description of the splice and installation procedure; and,
- (6) test results indicating the splice, used according to the manufacturer's procedures, complies with the minimum tensile strength requirements.
- c. <u>Testing/Inspection</u>. Perform job control tests consisting of the fabrication, under conditions used to produce the splice, and tensile testing of 6 sample splices for each lot of splices. The Engineer will designate when samples for job control tests are to be fabricated and will determine the limits of the lot represented by each job control test.

A lot of mechanical butt joints is defined as no more than 150 splices of the same type of mechanical butt splice used for each combination of bar size and bar deformation pattern that is used in the work.

Make splice samples using the same splice materials, position, equipment, and following the same procedures as used to make splices in the work. Make splice samples at least 5 feet long with the splice at mid-length. Shorter sample splice bars may be used if approved by the Engineer.

Perform job control tests in the presence of the Engineer. Splices tested in the absence of the Engineer may be rejected. Notify the Engineer, in writing, at least 7 working days prior to performing testing.

Identify sample splices with weatherproof markings prior to shipment to the testing laboratory.

Test each sample according to the relevant material ASTM, ASTM A370 and California Test Method 670. Tensile test each sample until partial or total fracture of the parent bar material, mechanical splice material, or bar-to-splice connection.

All splices in the lot represented by a test will be considered to meet the tensile strength requirements when the minimum individual tensile strength of the sampled splices is not less than 75000 psi, based on the nominal bar area.

#### CFHWY00568

**Special Provision** 

Replace Section 514 with the following:

#### SECTION 514 CONCRETE SURFACE FINISH AND TREATMENT

**514-1.01 DESCRIPTION.** Construct surface finish and apply surface treatment on concrete walls.

**514-1.02 SUBMITTAL.** All manufacturers are required to submit documentation for the Engineers review and approval. Refer to 105-1.02 Plans and Working Drawings. Submit:

- 1. Product data verifying compliance with specification.
- 2. Installation instructions.

# 514-2.01 MATERIALS.

Rubbed Finish Section 501, ACI 301.

- Anti-graffiti Protection Permanent, no discoloration, and not a sealer or vapor barrier. Two step system:
  - 1. Single component clear acrylic base coat
  - 2. Single component clear urethane finish

**514-3.01 CONSTRUCTION REQUIREMENTS.** Construct surface finish, and surface treatment with trained personnel according to these specifications, ACI 301 and the manufacturer.

**514-3.02 SURFACE FINISH.** Apply a rubbed finish, Section 501-3.09, to all exposed concrete surface, except where an aesthetic fascia is noted in the Plans.

# 514-3.03 SURFACE TREATMENT.

<u>Anti-graffiti Protection</u>. Allow 28 days after the forms are removed and the concrete finish is completed before applying anti-graffiti protection treatment. Apply base coat and two top coats. Follow the manufacturer's instructions for application and curing of the treatment materials. Protect surfaces from the treatment materials that are not specified for coating.

# 514-4.01 METHOD OF MEASUREMENT. Section 109 and the following:

Anti-graffiti Protection: Measure anti-graffiti protection by the square foot of surface area treated.

# 514-5.01 BASIS OF PAYMENT.

Rubbed finish is subsidiary to the item being finished.

PAY ITEM		
Item Number Item Description		Unit
514.0002	Anti-graffiti Protection	SF

CR514-092016R/ CFHWY00568

# SECTION 550 COMMERCIAL CONCRETE

**Special Provisions** 

Replace Subsection 550-1.01 with the following:

**550-1.01 DESCRIPTION.** Furnish, place, finish, and cure Portland cement concrete for minor structures and incidental construction.

#### CR550.1-060121

Standard Modification

#### 550-2.02 COMPOSITION OF MIXTURE - JOB MIX DESIGN.

Replace Table 550-1 with the following:

# TABLE 550-1 COMMERCIAL CONCRETE DESIGN REQUIREMENTS

Class	B-B	В	W
Water-Cement Ratio, lbs/lbs, maximum	0.40	0.45	0.50
Total Air Content, %	5.5 – 6.5	5.5 – 6.5	4.0 – 6.5
Coarse Aggregate Gradation, AASHTO M43 <sup>a.</sup>	No. 57 or 67	No. 57 or 67	No. 7, 8, 57, or 67
Compressive Strength, psi, minimum	5,000	4,000	3,000

a. Alternative sizes of coarse aggregate, as shown in AASHTO M 43, may be used when approved in writing.

#### HSM20.8-113020R

Add the following to the first paragraph of 1. Submittals.

Submit the JMD on Form 25D-203.

#### HSM20.25-123121

Add the following Subsection 550-2.03 Precast Concrete Products:

**550-2.03 PRECAST CONCRETE PRODUCTS.** Provide precast concrete products from an ATM 520 certified plant. Submit certification for each product.

#### **Minor and Incidental Structure Products**

- 1. Curb and gutter
- 2. Manhole sections
- 3. Headwall
- 4. Modular retaining wall units
- 5. Noise wall panels and posts
- 6. Portable barriers
- 7. Utility structures
  - a. Cabinet base
    - (1) Load center base/foundation
    - (2) Controller base/foundation
  - b. Junction box
  - c. Similar structures
- 8. Water and waste water structures
  - a. Catch basin
  - b. Inlet box
  - c. Outlet box
  - d. Similar structures

AMATS: Downtown Trail Connection PROJECT NO.: CFHWY00586/0001662

# Major Structure Products Section 501 Concrete for Structures

Major structure products include box culvert, mechanically stabilized earth, retaining walls, three-sided flat-topped culvert, three-sided arch culvert, and similar structures.

#### CR550.1-060121

Standard Modification

#### 550-5.01 BASIS OF PAYMENT.

Replace the first sentence with the following:

If items 550.0001.\_\_\_\_, 550.0002.\_\_\_\_, 550.0003.\_\_\_\_, 550.0004.\_\_\_\_, 550.0005.\_\_\_\_, or 550.0006.\_\_\_\_ do not appear in the Bid Schedule concrete is subsidiary to other items.

Add the following pay items:

PAY ITEM		
Item Number	Item Description	Unit
550.0005	Class B-B Concrete	LS
550.0006	Class B-B Concrete	CY

HSM20.8-113020R

# DIVISION 600 — MISCELLANEOUS CONSTRUCTION
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**Special Provision** 

Replace Section 603 with the following:

#### SECTION 603 CULVERTS AND STORM DRAINS

**603-1.01 DESCRIPTION.** Construct or reconstruct culvert and storm drain pipe. Install culvert marker posts, and strap plastic culvert ends.

## 603-1.02 REFERENCES.

ASTM D3953 Standard Specification for Strapping, Flat Steel and Seals ASTM D4675 Standard Guide for Selection and Use of Flat Strapping Materials

**603-2.01 MATERIALS.** Use materials that conform to the following:

Bedding and Backfill	Subsection 204-2.01
Joint Mortar	Subsection 705-2.04
Flexible Watertight Gaskets	Subsection 705-2.05
Non-reinforced Concrete Pipe	Subsection 706-2.01
Reinforced Concrete Pipe	Subsection 706-2.02
Corrugated High Density Polyethylene (HDPE) Pipe	Subsection 706-2.07
Corrugated Steel Pipe and Pipe Arches	Subsection 707-2.01
Corrugated Aluminum Pipe	Subsection 707-2.03
Galvanize	Subsection 716-2.07
Culvert Marker Posts (Flexible Delineator Posts)	Subsection 730-2.05

Item 603.0017.\_\_\_\_, Pipe, listed in the bid schedule, furnish either Corrugated Steel Pipe (CSP), Corrugated Aluminum Pipe, Reinforced Concrete Pipe, or Corrugated Dual Wall HDPE (plastic) Pipe. Select pipe for each installation that meets or exceeds the requirements shown on the Plans for height of cover.

For steel and plastic pipe, match the end section material to the pipe material.

Separate dissimilar materials with an electrical insulating material. The insulating material must be at least 1/16 inch thick and approved by the Engineer.

Culvert marker post is 6-foot tall by 2.5 inches wide with reinforcing ribs, capable of a 9-inch minimum bending radius, and blue with no marking.

Culvert marker Strap and Seals according to ASTM D3953. .625 inch x .02 inch, dry Type 1 regular-duty (magnetic, ferritic), galvanized Finish B (hot-dipped Grade 2 moderate coating, .18 oz./ft<sup>2</sup> surface or .0002 inch thick minimum. Push type seals, Style III (overlap), regular duty, galvanized Finish B (hot-dipped coating) by 1.75-inch minimum length and matched to strapping width.

## CONSTRUCTION REQUIREMENTS

**603-3.01. GENERAL.** Excavate, bed, and backfill according to the requirements of Subsections 204-2.01 and 204-3.01, and the Plans.

Dewater ground water from work areas; construct and maintain temporary water diversion when working in waterways, and for facilities or structures with active drainage according to Section 204.

**603-3.02.** LAYING PIPE. Begin the pipe laying at the downstream end of the pipe. Keep the lower segment of the pipe in contact with the bedding throughout its full length. Place bell or groove ends of rigid pipe and outside circumferential laps of flexible pipe facing upstream.

Lay paved or partially lined pipe so that the longitudinal centerline of the paved segment coincides with the flow line. Install elliptical conduit and circular conduit reinforced with other than a full circular cage or cages so the orientation of a vertical plane through the longitudinal axis of the conduit does not vary more than 5 degrees from the design orientation.

Repair damaged metallic coating on metal pipe according to AASHTO M36.

**603-3.03 JOINING PIPE.** Joints shall provide circumferential and longitudinal strength to preserve the pipe alignment, prevent separation of pipe sections, and provide a watertight joint between new sections of pipe and joints between new and existing sections of pipe of similar and dissimilar materials. Include a continuous gasket (seal) in all joints. Construct the watertight joint capable of passing a laboratory hydrostatic pressure and vacuum test of at least 4 psi for 10 minutes.

1. Rigid Pipe. Use either bell and spigot or tongue and groove joints. Join pipe sections with the ends fully entered and the inner surfaces reasonably flush and even.

Use one or more of the following joint materials, or any other if approved:

- a. Portland cement mortar
- b. Portland cement grout
- c. Rubber gaskets
- d. Coupling bands
- e. Preformed plastic sealing compound

Make mortar joints using an excess of mortar to form a bead around the outside of the pipe.

For grouted joints, use molds or runners to retain the poured grout. Install rubber ring gaskets to form a flexible, watertight seal.

When using portland cement mixtures, protect the completed joints against rapid drying using suitable covering material.

- 2. Metal Pipe. Join the metal pipe firmly using connecting bands conforming to ASTM B745 (Corrugated Aluminum Pipe) and ASTM A760 (Corrugated Steel Pipe) and as noted herein. Use bands that are no more than two nominal sheet thicknesses lighter than the pipe jointed, and in no case more than 0.052 inches lighter. Include a gasket each side of the gap.
  - a. Primary Band. Furnish and install corrugated bands so that the band corrugations match and conform to the corrugations of the pipe. Conform to the following guidelines:
    - (1) The gap between the pipes joined is in the center of the band and is no wider than one corrugation width.
    - (2) Band for 12-inch through 30-inch diameter pipe are at least 12 inches wide.
    - (3) Bands for pipe with diameters greater than 30 inches are at least 22 inches wide.
  - b. Secondary Band. Use this band only where it is not physically possible to use primary bands, such as on field-cut pipe ends, joining new pipe to existing pipe, etc. Furnish and install deformed metal sheet bands (dimple bands) so that the projections match and are the same depth as the pipe corrugations. Form these projections in circumferential rows with one projection for each corrugation of the helical pipe.

Conform to the following guidelines:

- (1) The gap between the pipes joined is in the center of the band and is no wider than 2 inches.
- (2) Bands for 12-inch diameter pipe are at least 12 inches wide and have one circumferential row of projections for each pipe end joined.
- (3) Bands for pipe with diameters greater than 12 inches are at least 24 inches wide and have two circumferential rows of projections for each pipe end joined.
- 3. Plastic Pipe. Use push-on or mechanical joints. Ensure that the plastic pipe couplings' corrugation matches the pipe corrugation and that their width is not less than one-half the nominal pipe diameter.

Furnish all bolted connections on coupling bands with cut washers placed between the nut and the angle bracket or use nuts with integral washers.

Take up any pipe that is out of alignment, unduly settled, or damaged and re-lay or replace it.

## 603-3.04 CULVERT MARKER.

- 1. Marker Post. Install a culvert marker on the approach side of storm drain outfalls 30 inches and smaller, field inlets not in paved parking lots, all end sections to cross culverts, or as directed. Drive to maintain forty-two inches of post above the ground after driving, and
- 2. Marker Strap. In addition to marker posts, install marker strap around the plastic pipe ends.

Position the strap in the valley of the first annular ring from the top end of the culvert. From the vertical centerline of the culvert, at the top, overlap the strap and extend the ends to approximately 30 degrees each side of the centerline. Place the strap loosely without twists in the valley, without compressing the pipe, and tight enough to keep the strap from moving out of the valley without deforming the pipe or pipe corrugation. Seal the strap at three locations, one at each of the ends, and one at the top of the culvert. Extend the strap ends beyond the end seals approximately 1/2-inch. Double crimp the seal, two pairs of crimps minimum each seal.

Repair the strap galvanizing where abraded and at cut ends according to ASTM A780. Prepare the surface with power tools per SSPC-SP11, hand tools per SSPC-SP2, and as required by the paint manufacturer. Apply paint, Type – paint containing zinc dust, to the prepared surfaces and allow enough time for curing as required by the manufacturer's printed instructions.

## 603-4.01 METHOD OF MEASUREMENT. Section 109, and as follows:

- 1. Culvert Pipe. The length of pipe, measured in place, along the invert.
- 2. Pipes for Storm Drains. The length of pipe, measured in place, along the invert, from center to center of structures. The length through the inlets, catch basins, and manholes is included in the measured length.

**603-5.01 BASIS OF PAYMENT.** Branch connections and elbows are subsidiary to the pipe unless included as a separate Pay Item.

Coupling bands, seals (gaskets), and other items necessary for the proper joining of the sections are subsidiary.

Culvert markers are subsidiary to the pipe.

Excavation, bedding, and backfill paid under Section 204.

PAY ITEM			
Item Number	Item Description	Unit	
603.0001	CSP Inch	LF	
603.0002	Inch CSP Arch	LF	
603.0003	End Section for CSP Inch	Each	
603.0004	End Section for Inch CSP Arch	Each	
603.0009	Corrugated Aluminum Pipe Inch	LF	
603.0010	Inch Corrugated Aluminum Pipe Arch	LF	
603.0011	End Section for Corrugated Aluminum Pipe Inch	Each	
603.0012	End Section for Inch Corrugated Aluminum Pipe Arch	Each	
603.0013	Reinforced Concrete Pipe, Inch, Class	LF	
603.0014	Reinforced Concrete End Section, Inch	Each	
603.0015	Elbow, (Type & Size)	Each	
603.0016	Branch Connection (Type & Size)	Each	
603.0017	Pipe Inch	LF	
603.0019	Inch Pipe Arch	LF	
603.0020	End Section for Pipe Inch	Each	
603.2032	Corrugated HDPE Pipe	LF	
603.2033	End Section for Corrugated HDPE Pipe	Each	

CR603-20.0615R

## SECTION 604 MANHOLES AND INLETS

**Special Provisions** 

#### 604-1.01 DESCRIPTION.

<u>Add the following</u>: For the purpose of this Section, "Utility" is the <u>AWWU</u> and the "Representative" is the Utility's \_\_\_\_\_

Fill in the Utility represented by "Utility", AWWU, Palmer Utility, City of Seward Public Works, etc. Fill in the "Representative", as in the Sanitary Sewer and Storm Drain Facilities – Condition Inspections and Item Replacement

Sanitary Sewer Facilities:

Coordinate with the Engineer and Utility; and participate in a pre-construction condition inspection, and a post-construction condition inspection of the sanitary sewer facilities.

Storm Drain Facilities:

Coordinate with the Engineer and participate in a pre-construction condition inspection of the storm drain facilities.

The pre-construction inspections may identify additional items, manhole metal frames, covers, lids, catch basin inlets and grates, to be repaired and or replaced. Make repairs and or replace additional facility items as directed by the Engineer.

#### CR604.1-061520R

#### 604-2.01 MATERIALS.

<u>Replace</u> "Precast Concrete Manhole Sections Subsection 712-2.05" with the follow
--

Precast Concrete Products

Subsection 550-2.03, 712-2.05

#### CR604.2-060121

#### 604-3.01 CONSTRUCTION REQUIREMENTS.

#### Add the following:

Dewater ground water from work areas; construct and maintain temporary water diversion when working in waterways, and for facilities or structures with active drainage according to Section 204.

#### Sanitary Sewer and Storm Drain Facilities - Condition Inspections and Item Replacement

Contractor furnishes the required traffic control, including personnel to assist, while performing inspections.

The Contractor forfeits all right to assert pre-existing damage if the Contractor fails to participate in the inspections.

Make repairs and install the replacement facility items as shown in the Plans.

Sanitary Sewer Facilities:

During inspections the Utility Representative, the Engineer and the Contractor will observe each facility's location and condition. The Engineer will indicate the additional facility items to be replaced.

Provide 3 days advance written notice to the Utility scheduling a pre-construction inspection of the facilities. Conduct this inspection before pavement removal begins. Contact the Utility representative to determine where to send the written notice, (907) \_\_\_\_.

#### Confirm the contact number and insert above.

The Utility furnishes the sanitary sewer manhole frames and covers. Contact the Utility Representative to schedule the pick-up of the furnished materials. Allow 3 working days from the time contact is made to pick-up of the materials.

Salvage the replaced manhole frames and covers. Coordinate with, and deliver to the Utility the salvaged materials.

Provide written notice to the Utility scheduling a post-construction inspection of the facilities, after the paving operations are complete and 3 days in advance of the inspection.

Provide the Engineer a copy of the written notices.

Storm Drain Facilities:

Contact the Engineer, a minimum of 15 days in advance, to schedule a pre-construction inspection of the storm drain facilities. Conduct this inspection before pavement removal begins.

During inspections, the Engineer and Contractor will observe each facility's location and condition. The Engineer will indicate the additional facility items to be replaced.

Contractor furnishes the storm drain manhole frames and lids; and catch basin inlets and grates.

Storm drain materials and sanitary sewer materials not wanted by the Utility are the property of the Contractor. Dispose of construction and demolition materials according to Subsection 202-3.06.

## 604-5.01 BASIS OF PAYMENT.

#### Add the following:

Pay Items 604.0012.\_\_\_\_, Item 604.0014.\_\_\_\_, and Item 604.0015.\_\_\_\_ include full compensation for labor, equipment, and incidental materials for installation, complete-in-place after final paving as accepted by the Engineer, including but not limited to:

- inspections
- removal and disposal of existing manhole metal frame and cover/lid; and catch basin inlets and grates
- repairs and installing the replacement materials
- adjusting the facility item down prior to the planing operation
- adjusting the facility item up prior to the paving operation

Repairs to facilities damaged or rendered inoperable, after the pre-construction inspection and before the final inspection, are the responsibility of the Contractor and no additional payment will be made.

All traffic control required for the inspections will be paid under the 643 Pay Items.

Except as being paid under Pay Item 604.0012.\_\_\_\_, .0014.\_\_\_\_, and .0015.\_\_\_\_, existing manholes being adjusted by raising or lowering the frame or ring casting 12" or less – comply with Subsection 604-3.01, paragraph beginning, "adjust existing manhole or inlet ..." The corresponding Pay Item for this adjustment is 604.0004.\_\_\_\_ Adjust Existing Manhole.

#### CR604.1-061520R

## SECTION 608 SIDEWALKS

**Special Provisions** 

Replace Subsection 608-1.01 with the following:

608-1.01 DESCRIPTION. Construct, or retrofit asphalt, or concrete sidewalks.

**Sidewalk** Section 608 includes "sidewalks", pathways, medians, curb ramps, miscellaneous on-grade concrete, and asphalt surfaces not addressed elsewhere in the specifications.

## 608-2.01 MATERIALS.

Replace Subtitle 1 and 2 with the following:

- 1. Concrete
- 2. Asphalt (HMA)

CR608.1-061520R

Standard Modification

## 608-3.01 CONCRETE SIDEWALKS.

#### Add the following after the ninth paragraph:

The Engineer will test the finished surface with a 10-foot straightedge. Variations of more than 1/4-inch from the edge of the straightedge across or along the sidewalk surface, except at grade changes, are unacceptable. Portions of the sidewalk surface and pedestrian ramps less than 10 feet in width or length may be tested using a shorter straightedge.

## HSM20.10-113020R

#### 608-3.03 CURB RAMPS.

#### Add the following:

Measure curb ramp slopes with a 24-inch electronic level. Calibrate and operate the level according to the manufacturer's instructions.

#### Replace Subsection 608-4.01 with the following:

608-4.01 METHOD OF MEASUREMENT. Section 109 and as follows:

**Sidewalk** by area of finished surface, weight of material placed, and lump sum as included in the bid schedule. Ramps are included in the measurement unless included as a separate measured and paid item.

**HMA** used for matching existing surfaces, such as paved parking lots behind a new sidewalk/pathway, will be included in the measurement of the related asphalt Pay Item.

## 608-5.01 BASIS OF PAYMENT.

## Add the following:

Asphalt binder is subsidiary to related asphalt Pay Items.

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

**Curb Ramp** when included in the bid schedule includes ramp runs, backing curbs, flares, landings to provide a single street-level access and detectable warnings, except detectable warnings are paid separately when included as an item in the bid schedule.

PAY ITEM		
Item Number	Item Description	Unit
608.2002	Asphalt Pathway	Ton
608.2004	Asphalt Medians	Ton
608.2006	Asphalt Pathways and Medians	Ton

CR608.1-061520R

## SECTION 611 RIPRAP

**Special Provision** 

## 611-2.01 MATERIALS.

#### Replace the first paragraph with the following:

Evenly graded stones that are hard, angular, and have no more than 50 percent wear at 500 revolutions as determined by AASHTO T 96. Apparent specific gravity will be determined by ATM 308. Use stones with breadth and thickness at least 1/3 of its length. Do not use round boulders or cobbles on slopes steeper than 3:1.

## CR611.1-020119

Add the following:

5.	<u>Class IA</u>	0-50% weighing up to 40 pounds 50-100% weighing 40 pounds up to no more than 70 pounds
6.	<u>Class R500</u>	0-15% weighing 225 pounds up to 300 pounds 15-50% weighing 300 pounds up to 500 pounds 50-70% weighing 500 pounds up to 700 pounds 70-95% weighing 700 pounds up to 950 pounds 95-100% weighing 950 pounds up to 1,120 pounds

## CFHWY00586

## 611-5.01 BASIS OF PAYMENT. Delete the first sentence and substitute with the following:

Excavation is paid for under Section 203. Backfill is subsidiary. If existing riprap requires processing to meet specified gradations, payment will be made under the appropriate riprap class pay items.

PAY ITEM			
Item Number	Item Description	Unit	
611.0001.001A	Riprap, Class IA	CY	
611.0001.0500	Riprap, Class R500	CY	

CFHWY00586

Replace Section 615 with the following:

## SECTION 615 STANDARD SIGNS

**615-1.01 DESCRIPTION.** Furnish and install standard signs and delineators. Remove and relocate or remove and dispose of existing signs and markers, as specified.

615-2.01 MATERIALS. Use materials that conform to the following Subsections:

- 1. <u>Shop Drawings</u>. Submit shop drawings, for all signs that must meet the ASDS letter width and spacing charts for variable width legends (such as D-series and I-3 signs), and which require custom shop drawings specific to the project. Submit 4 sets of collated shop drawings prepared according to Subsection 105-1.02. Show the following on each sign drawing:
  - a. Dimensions of all horizontal and vertical characters and spaces
  - b. Overall dimensions
  - c. Sign material and sheeting material type
  - d. Panel thickness
  - e. Legend and letter series
  - f. Whether the sign will be framed
- 2. <u>Sign Fabrication</u>. Use ASTM D4956 Type IV retroreflective sheeting (for lettering, symbols, borders, and background) on sheet aluminum panels for all signs except the following:
  - a. <u>Orange Background Signs</u>. Use Type IX or XI fluorescent orange reflective sheeting placed on sheet aluminum panels, except:
    - (1) For temporary installations, the reflective sheeting place on aluminum, plastic, or plywood sheet panels.
    - (2) For flexible signs, (Roll-Up Signs) use fluorescent reflective sheeting Type VI or better (based on durability and reflectivity, as determined by the Engineer). Roll-Up Sign – 3M Series RS 24, Reflexite Marathon Orange, or approved equal.
  - b. <u>Railroad Crossbucks and Vertical Crossbuck Supports</u>: Use white ASTM D4956 Type VIII or Type IX or XI retroreflective sheeting for background of sign and all strips.
  - c. <u>Non-Illuminated Overhead Signs with White Legends on Green Backgrounds</u>: Use ASTM D4956 Type IX or XI retroreflective sheeting for legends and background. Create the legend in one of the following ways:
    - (1) Cut border and legend from white ASTM D4956 Type IX or XI retroreflective sheeting and adhere them to a green ASTM D4956 Type IX background, or
    - (2) Cut stencil of border and legend out of green transparent acrylic film and use transparent adhesive to overlay the film on a white ASTM D4956 Type IX or XI retroreflective background.

d. <u>Fluorescent Yellow-Green School Area Signs</u>: Use ASTM D4956 Type VIII, Type IX or XI retroreflective sheeting for background.

Use a manufacturer-recommended clear coat on all screened signs.

Use sign layouts (including characters, symbols, corner radii, and borders) that conform to the ASDS.

3. <u>Sign Posts and Bases.</u> Use sign posts and bases of the types specified. The structural aspects of design and materials for sign supports must comply with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals. Do not splice sign posts.

Foundation Concrete:

- a. <u>Non-structural and Non-steel-reinforced Sign Foundations</u>. Use Class W concrete, or commercially available pre-mixed sacked concrete with a minimum compressive strength of 3,000 psi. When sacked concrete is used, acceptance will be based on manufacturer Certificates of Compliance and the compressive strength test results of the specimens prepared according to ATM 506.
- b. <u>Steel-reinforced Roadside Sign Foundations</u>. Use Class B concrete meeting the requirements of Section 550, except:

<u>Overhead Sign Support Foundations</u>. Use Class A concrete meeting the requirements of Section 501.

- 4. <u>Delineators</u>. Use delineator assemblies that conform to the requirements shown on the Plans. Fabricate flexible delineators using ASTM 4956 Type III, IV, V, IX or XI retroreflective sheeting.
- 5. <u>Reflective Sheeting Warranty</u>. Supply manufacturer's warranty for reflective sheeting, including retention of fluorescent yellow-green (measured in accordance with ASTM E2301) for ten years according to the following criteria:
  - a. Minimum Fluorescent Luminance Factor Y<sub>F</sub>: 20%
  - b. Minimum Total Luminance Factor YT: 35%

The warranty shall stipulate that: If the sheeting fails to meet the minimum fluorescence values within the first 7 years from the date of fabrication of the sign, the manufacturer shall, at the manufacturer's expense, restore the sign surface to its original effectiveness. If the reflective sheeting fails to meet the minimum fluorescence values within the 8th through 10th year from the date of fabrication, the manufacturer shall, at the manufacturer's expense, provide enough new replacement sign sheeting to the Department to restore the sign surface to its original effectiveness.

## CONSTRUCTION REQUIREMENTS.

## 615-3.01 GENERAL.

- 1. Place posts in excavated holes to the depth shown on the Alaska Standard Plans.
- 2. Backfill the space around the posts and foundations placed in holes to finish ground with selected earth or sand, free of rocks or deleterious material. Place backfill in layers approximately 6 to 12 inches thick and thoroughly compact it.
- 3. Dispose of surplus excavated material neatly along the adjacent roadway as directed.4. Install flexible delineator posts according to the manufacturer's recommendations.
- 5. Attach sign panels to posts, electroliers, traffic signal standards, bridge rails, piers, and abutments using the types and sizes of fastening hardware shown on the Plans.

- 6. If using existing signs and mileposts that are removed and relocated, ensure they conform to the details shown on the Plans or as directed.
- 7. Sign Salvage:

Notify the Engineer 5 working days prior to beginning sign salvage activities. The Engineer will physically identify those signs to salvage.

a. <u>Property of the State</u>. When 615-3.01 7a identifies a maintenance station to receive sign salvage, the signs (sign panels, posts, and hardware) are the property of the State.

Protect all items from damage during salvaging and delivery. For each sign so designated, disconnect sign post from panel and group the panels together. Group posts together with their hardware. Deliver sign panels, posts, and hardware to the State Maintenance Station noted in these Special Provisions. Do not deliver salvaged materials until inspected and approved by the Engineer. Replace any items damaged by you at no additional cost to the Department.

Deliver salvaged sign panels, posts, and hardware to the State Maintenance and Operations Station, located at:

NA

b. <u>Property of the Contractor</u>. When 615-3.01 7a does not identify a State Maintenance and Operations Station; the signs salvaged (sign panels, posts, and hardware) are the property of the Contractor.

Remove project signs and/or parts designated for salvage, off the project site.

Dispose of foundations from salvaged existing signs in a manner approved of by the Engineer (remove and dispose, abandoned in place, or otherwise). If abandoned in place, remove the tops of the foundations, reinforcing steel, anchor bolts, and conduits to a depth of not less than 12 inches below roadway subgrade or unimproved ground, whichever applies.

Dispose of sign salvage not wanted by the Contractor, not used in the project, and not accepted by the Local Maintenance and Operations Station as required by Federal, State, and Municipal environmental regulations.

All signs, the sign panels, posts, hardware, and foundations at a single installation are considered as one unit.

- 8. All materials and finished signs are subject to inspection and acceptance in place.
  - a. Surfaces exposed to weathering must be free of defects in the coating that impair serviceability or detract from general appearance or color match.
  - b. Finished signs must be clean and have no chatter marks, burrs, sharp edges, loose rivets, delaminated reflective sheeting, or aluminum marks. Do not make repairs to the face sheet.
- 9. Install the various breakaway assemblies according to the manufacturer's written instructions. Meet MASH crashworthiness requirement for breakaway hardware, unless approved otherwise by the Engineer.
- 10. Secure the anchors in templates and install them according to the manufacturer's written instructions.

- 11. Finish the foundation according to these tolerances:
  - a. Do not use more than two shims per coupling.
  - b. Do not use more than three shims to plumb each post.

Remove and replace all foundations requiring more than three shims to plumb a post without extra compensation.

- 12. Construct the top of any foundation located on a slope so that the finished slope passes through the top center of the foundation. Grade the area 24 inches up and down slope of the foundation edge so that no portion of the foundation projects above the surrounding slope and water will drain away from the foundation.
- 13. Attach a label to the back of all standard signs in the lower right corner. Make the label at least 15 square inches and show the year the sign was purchased from the manufacturer. Show the last two digits of the year in clear and bold numbers. Make the label from ASTM D4956 Type I or brighter retroreflective sheeting. Use background and legend colors meeting Table 615-1.

DECAL COLORS			
YEAR	BACKGROUND COLOR	LEGEND COLOR	
XXX1	Yellow	Black	
XXX2	Red	White	
XXX3	Blue	White	
XXX4	Green	White	
XXX5	Brown	White	
XXX6	Orange	Black	
XXX7	Black	White	
XXX8	White	Black	
XXX9	Purple	White	
XXX0	Strong Yellow-Green	Black	

## TABLE 615-1

Central values and tolerance limits for each color, as referenced in the MUTCD, are available from the Federal Highway Administration, (HHS-30), 400 7<sup>th</sup> St. SW, Washington, D.C. 20590

**615-3.02 SIGN PLACEMENT AND INSTALLATION.** The location and type of installation will be as shown on the Plans. Sign locations are approximate and subject to field adjustment by the Engineer. Do not allow the top of the embedded steel tube to extend more than 2 inches above the surrounding ground and concrete foundation.

On all signs, install 2-inch diameter wind washers, colored to match the sign face, between the fastener head and the sign. Use rust-resistant washers fabricated from a material equal in strength to the sign blank.

Mount signs on mast arms level.

Bring existing signs that are to remain, into conformance with Standard Drawing S-05. Keep existing signs in service until they are no longer needed.

## 615-4.01 METHOD OF MEASUREMENT.

<u>Standard Signs and Object Markers</u>. By the total area of legend-bearing sign panel erected in place. No deductions in quantity for corner rounding will be made. Nominal dimensions for sign sizes indicated on the Plans will be used to calculate sign pay quantities. Octagons and round signs will be measured as rectangles. Only one side of each double-faced sign will be measured for payment.

Removal and Relocation. By each, complete in place.

<u>Delineators</u>. By each, complete in place. A single delineator consists of one post equipped with three reflectors.

Salvage Sign. By each complete sign delivered in acceptable condition.

615-5.01 BASIS OF PAYMENT. Sign posts, bases, and mounting hardware are subsidiary.

<u>Salvage Sign</u>. Each complete sign includes the sign panels, posts, hardware, and foundations at a single installation.

When Items 615.0002.\_\_\_\_, 615.0003.\_\_\_\_, or 615.0006.\_\_\_\_ do not appear on the bid schedule, this work is subsidiary.

PAY ITEM		
Item Number	Item Description	Unit
615.0001	Standard Sign	SF
615.0002	Remove and Relocate Sign	Each
615.0003	Remove and Relocate Milepost	Each
615.0004	Delineator, Rigid	Each
615.0005	Delineator, Flexible	Each
615.0006	Salvage Sign	Each
615.0007	Salvage and Dispose Sign	Each

CR615-23.0501

**Special Provisions** 

Replace Section 618 with the following:

## SECTION 618 SEEDING

**618-1.01 DESCRIPTION.** Establish a healthy living perennial stand of grass or other vegetative living groundcover by seeding. Maintain the living cover for the term of the Contract.

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

Water	Subsection 712-2.01
Seed	Section 724 (Grass Seed)
Fertilizer	Section 725
Topsoil	Section 726
Soil Stabilization	Section 619
Soil Stabilization Material	Section 727

# TABLE 618-1 GRASS SEED MIX, SOIL STABILIZER, AND FERTILIZER APPLICATION RATES

Materials	Ingredients	Application Rate (per MSF°)	
Grass Seed Mix <sup>a, b</sup>	Nortran – Tufted Hairgrass Arctared – Red Fescue Annual Ryegrass	0.90 lbs. 0.45 lbs. 0.15 lbs.	
Soil Stabilizer		Total = 1.50 lbs.	
Slope ≤ 3:1	Mulch	46 lbs.	
Slope >3:1	Mulch with tackifier	45-58 lbs.	
Fertilizer	20-20-10	12 lbs.	

a. Do not remove the tags from seed bags.

b. Submit an alternate seed mix when the specified seed is not commercially available. Provide a letter confirming the specified seed is not available. Include an agronomist certified seed mix design, including application rate, suited to the project site.

c.  $MSF = 1000 \text{ ft}^2$ .

## CONSTRUCTION REQUIREMENTS

**618-3.01 SURFACE PREPARATION.** Remove ruts, holes, humps and other irregularities from the surface. Clear stones four inches in diameter and larger, weeds, plant growth, sticks, stumps, and other debris that will interfere with the application of stabilization material, topsoil, the seeding operation, growth of vegetative groundcover, and subsequent maintenance of the cover.

Smooth the slopes for a uniform appearance and round the top and bottom of the slopes to facilitate tracking or raking. Do not disrupt drainage flow lines.

Evenly place stabilization material and or topsoil when specified.

Prepare the surface material by grooving the material in a uniform pattern that is perpendicular to the fall of the slope. Use one or more of the following grooving methods with associated equipment before the application of seed:

- 1. Manual raking with landscaping rake;
- 2. Mechanical track walking with track equipment; or

3. Mechanical raking with a scarifying slope board. Form one-inch wide grooves spaced no more than six inches apart.

**618-3.02 SEEDING SEASON.** Seed disturbed areas after permanent cessation of ground disturbing activities in that area, within the period specified in the Alaska Department of Environmental Conservation (ADEC) Alaska Pollutant Discharge Elimination System (APDES) Construction General Permit (CGP) for Alaska, Section 4.5 Soil Stabilization, and Section 641 Erosion, Sediment, and Pollution Control.

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

Seed between May 15 and August 15.

**618-3.03 APPLICATION.** Seed, seeding, reseeding includes the application of seed, fertilizer, and stabilization material.

If the seed mix, fertilizer and stabilization material are not included in the Plans or Specifications, including their application rates, use the recommendations of the ADNR and the Revegetation Manual for Alaska.

Do not seed areas of bedrock and plant beds.

Use any of the following methods:

1. Hydraulic Method

Apply seed and stabilization material in one application when using the hydraulic method. Apply fertilizer with the hydraulic method. Include the fertilizer with the seed and stabilization material or apply separately.

- a. Furnish and place a slurry made of seed, fertilizer, water, and other materials.
- 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.
  - b. Spread fertilizer separately at the specified rate.

**618-3.04 MAINTENANCE.** Maintenance includes but is not limited to the following:

1. Protecting seeded areas against traffic by approved warning signs or barricades and against erosion.

- 2. Repairing surfaces gullied or otherwise damaged following seeding. Fill erosion gullies 4 inches deep and greater filling the gully to surrounding grade including the portions less than 4 inches deep. Apply and prepare the stabilization material and or topsoil for seeding. Seed repaired area. Refer to Subsections 618-3.01 & 3.03.
- 3. Reseeding areas not showing evidence of satisfactory growth within 3 weeks of seeding and after repairs are complete. Reseed bare patches of soil more than 10 square feet in area. Contact ADNR for advice or corrective measures, when seeded areas are not showing evidence of satisfactory growth.
- 4. Watering seeded areas for healthy growth of vegetative cover. Adjust the amount of water when directed.

**618-3.05 ACCEPTANCE.** The vegetative ground cover will be inspected considering each station and each side of the road a separate area. Acceptance of the ground cover requires a minimum of 75% cover density in the inspection area, gullies repaired and reseeded, and no bare patches of soil more than 10 square feet in area.

Repair/reseed areas that are not accepted.

**618-3.06 PERIOD OF ESTABLISHMENT.** Establishment period, for each seeded area, extends one complete growing season (May 1 to August 15) after the planting year, acceptance, and final inspection beginning from the date of Project completion, Subsection 105-1.15.

Employ all possible means to preserve/maintain the new vegetative groundcover in a healthy and vigorous condition to ensure successful establishment. Maintain the vegetative cover, according to Subsection 618-3.04, to not less than the requirements for acceptance, Subsection 618-3.05.

618-4.01 METHOD OF MEASUREMENT. Section 109 and as follows:

Seeding by the Acre. By the area of ground surface acceptably seeded and maintained.

Seeding by the Pound. By the weight of dry seed acceptably seeded and maintained.

Water for Seeding. If weighed, a conversion factor of 8.34 pounds per gallon will be used to convert weights to gallons.

MGAL equals 1000 gallons.

## 618-5.01 BASIS OF PAYMENT.

- 1. Pay Items 618.0001.\_\_\_\_ and .0002.\_\_\_\_ Seeding. Payment is for healthy established vegetative groundcover through the establishment period.
  - a. The initial surface preparation, seed, fertilizer, mulch when applied hydraulically, their application, and the water for hydraulic application are subsidiary.
  - b. Maintenance fill, stabilization material, topsoil, surface preparation, seed, fertilizer, mulch when applied hydraulically, and the water required for hydraulic application are subsidiary.
- 2. Pay Item 618.0003.\_\_\_\_ Water for Seeding. Payment is for water applied for growth of vegetative groundcover through the establishment period.

If Pay Item 618.0003.\_\_\_\_ Water for Seeding, is not included in the bid schedule, water applied for growth of vegetative groundcover through the establishment period is subsidiary.

Except for maintenance, stabilization material is paid under Section 619 and topsoil under Section 620.

PAY ITEM			
Item Number	Item Description	Unit	
618.0001	Seeding	Acre	
618.0002	Seeding	LB	
618.0003	Water for Seeding	MGAL	

CR618-23.0601

Replace Section 619 with the following:

## SECTION 619 SOIL STABILIZATION

**619-1.01 DESCRIPTION.** Furnish, install, and maintain materials to stabilize the soil. Control erosion, sediment, and pollution.

## 619-1.02 RELATED SECTIONS, REFERENCE ORGANIZATIONS, AND STANDARD DOCUMENTS.

1. Alaska Department of Transportation and Public Facilities (ADOT&PF):

Standard Specifications for Highway Construction

Seeding	Section 618
Topsoil	Section 620
Planting Trees and Shrubs	Section 621
Silt Fence	Section 633
Erosion, Sediment, and Pollution Control	Section 641
Soil Stabilization Material	Section 727

2. American Association of State Highway and Transportation Officials (AASHTO)

Standard Practice for:

- Compost for Erosion/Sediment Control (Filter Berms and Filter Socks) ...... R 51
- Compost for Erosion/Sediment Control (Compost Blankets).....R 52
- 3. United States Composting Council (USCC)
  - Testing Methods for the Examination of Compost and Composting (TMECC)
  - Seal of Testing Assurance Program (STA) documents
- 4. Erosion Control Technology Council (ECTC)
  - Hydraulic Erosion Control Products (HECPs) Specification Chart Table 1, Performance Chart for Standard HECPs
  - Rolled Erosion Control Products (RECPs) Specification Chart Table 1, Rolled Erosion Control - Temporary Table 2, Rolled Erosion Control - Permanent
- 5. National Transportation Product Evaluation Program (NTPEP)
  - Testing and Evaluation of Products Materials and/or Devices
- 6. Texas DOT/Texas Transportation Institute (TTI) Hydraulics and Erosion Control Laboratory

**619-1.03 SUBMITTALS.** Submit stabilization and erosion, sediment and pollution control performance testing results with certifications for each material, Section 619-2.01 Materials. Submit a sample of each material to the Engineer 7 days before the scheduled installation.

- 1) Test compost, all applications, no more than 90 days before installation.
- At a minimum, certificate will include the name of the manufacturer, product name, style number or similar, chemical composition of the material, the fibers, netting, yarn and similar and the weed free status of the material.
- 3) Organic materials shall be accompanied with all applicable health certificates and permits.
- 4) Furnish a Material Safety Data Sheet (MSDS) that demonstrates the product is not harmful to plants, animals, and aquatic life.

**619-2.01 MATERIALS.** Select stabilization materials, individually or a combination of, matched to the project applications/conditions (sheet flow, concentrated flow, slope, length of slope, access, etc.) providing performance and functional longevity meeting the most restrictive requirements of the Construction General Permit (CGP), the approved Storm Water Pollution Prevention Plan (SWPPP) and Section 641 Erosion, Sediment and Pollution Control.

1)	<ul> <li>Mulch</li> <li>Dry Erosion Control, Stabilization Products</li> <li>Hydraulic Erosion Control Products (HECPs)</li> </ul>	Subsection 727-2.01
2)	Matting	Subsection 727-2.02
,	Rolled Erosion Control Products (RECPs)	
3)	Sediment Retention Fiber Rolls (SRFRs)	. Subsection 727-2.03
,	Filter Socks	
	Compost Socks	
	Coir Logs	
4)	Compost	. Subsection 727-2.04
5)	Tackifier	Subsection 727-2.05
6)	Soil Binders (Polyacrylamide (PAM))	Subsection 727-2.06
7)	Geotextile-Encased Check Dams and Sediment Barriers	Subsection 727-2.07
8)	Sandbag	. Subsection 727-2.08
9)	Manufactured Inlet Protection System	Subsection 727-2.09
10)	Clear Plastic Covering	Subsection 727-2.10
11)	Staples	. Subsection 727-2.11
12)	Other stabilization materials submitted to and approved by the E	ngineer.

Include on the packaging the manufacturer's name, the content, the air dry-weight and the guaranteed chemical analysis of the contents. Ship and deliver to the site in the original, unopened containers.

## CONSTRUCTION REQUIREMENTS

**619-3.01 GENERAL.** Stabilization may include individual or a combination of materials, including but not limited to temporary seeding, mulch, tackifier, staples, matting, stabilizing emulsions, soil binders, dustless sweeping, dust palliatives, and others.

- 1. <u>Material Storage and Protection</u>. Store materials elevated off the ground and covered protecting them from construction and or damage from the environment including but not limited to:
  - Precipitation
  - Extended ultraviolet radiant including sunlight
  - Chemicals that are strong acids or other
  - Flames and welding sparks
  - Excess temperatures
  - Other environmental conditions that may damage the materials
- 2. Fabrication.
  - a. <u>Sandbags</u>. Sand bags shall measure 15 inches by 30 inches. Place approximately 1.0 cubic foot of select Material, Type B, in each sandbag sack. Close the open end of the sandbag as recommended by the fabric manufacturer.

**619-3.02 SURFACE PREPARATION.** Clear all areas to be stabilized of stones 4 inches in diameter and larger and of weeds, plant growth, sticks, stumps, and other debris or irregularities that might interfere with the stabilization operation, growth of cover (where vegetative cover is part of the stabilization operation) or subsequent maintenance of the vegetative-covered area(s).

Smooth the surface of the area(s) to be stabilized; make the areas reasonably free of ruts, holes, and humps; trackwalk if required by the manufacturer; apply the stabilization material to each area.

If specified, apply topsoil to the area to be stabilized before application of the stabilizing material. Section 618 and 620.

**619-3.03 APPLICATION.** Apply stabilization material, including rate of application, according to the specifications. If not specified, apply according to the manufacturer's requirements. Where manufacturer requirements conflict with the specification, except where the Engineer directs otherwise, apply the material according to the requirements of the manufacturer.

If seeding is specified, except where seed is included in the stabilization material, complete the application of stabilization materials within 24 hours after seed is placed.

Do not use vehicles or equipment which cause rutting or displacement of the subgrade or topsoil.

- <u>Temporary Seeding</u>. Annual Ryegrass per Subsection 724-2.02, Table 724-1. Apply at a rate of 1/2 lb/1000 sq. ft., minimum, on level ground to a maximum of 1 1/2 lb/1000 sq. ft., maximum, on sloping ground and highly erodible soils. Prepare surface and place seed as noted under Subsection 619-3.02 Surface Preparation and Section 618 Seeding. Confirm application of temporary seeding with the Engineer.
- <u>Tacking Agents Tackifiers</u>. Apply tacking agents according to the manufacturer's installation instructions matched to the application providing functional longevity, erosion control effectiveness, and vegetative establishment.
- 3. Soil Binders. Apply soil binders according to the manufacturer's installation instructions.
  - a. Using Polyacrylamide (PAM) and PAM with Short-Term Mulch: Apply PAM on bare soils.

Apply PAM and PAM with short-term mulch only where sediment control is in place and complete.

Do not apply PAM and PAM with short-term mulch on saturated ground during rainfall.

b. Using Moderate-Term Mulch:

Apply moderate-term mulch according to manufacturer's installation instructions. If the curing period to achieve maximum performance is greater than the time period before precipitation is predicted, or the soil is saturated, do not apply the moderate-term mulch except as approved by the Engineer.

- c. Using Long-Term Mulch: Apply long-term mulch according to the manufactures installation instructions.
- 4. <u>Erosion Control Blankets (ECBs)</u>. Select blankets, as specified by the manufacturer, to match the slope; and installed according to the manufacturer's instructions rolled out on well prepared soils to assure intimate contact and anchored with staples, stakes and or anchor trenches. Temporary erosion control blankets with 60 percent or greater open area may be installed prior to seeding. Place blankets with less than 60 percent open area immediately after the seeding operation.

Staple matting/ECBs as recommended by the manufacturer for the application.

- 5. <u>Compost Blankets</u>. Construct compost blankets according to latest AASHTO R 52 and as specified. Use coarse compost and place over bare soil a blanket of 2 inch minimum thickness, except as otherwise specified. Apply material either by hand spreading and or pneumatically. Compost will have no free water visible or produce dust when handled. Place compost before seeding or mix seed with compost.
- 6. <u>Check Dams</u>. Place check dams as soon as possible and practicable or when and where if directed by the Engineer. Place the check dams perpendicular to channels and construct of a height sufficient to maximize detention while keeping the water in the channel. Place and install check dams according to the Plans and anchor to maintain in effective position.
  - a. Sandbag. Place the initial row in tight contact with the ditchline for the length of the dam. Place each following row centered across the joint between the bags of the lift/row below.

7. <u>Stabilized Construction Entrance</u>.

Temporary stabilized construction entrance shall be constructed according to the Plans, prior to beginning any clearing, grubbing, earthwork, or excavation.

When the stabilized entrance no longer prevents track out of sediment or debris, the Contractor shall either rehabilitate the existing entrance to original condition, or construct a new entrance.

When the Plans require a tire wash in conjunction with the stabilized entrance, the Contractor shall include details for the tire wash and the method for containing and treating the sediment-laden runoff as part of the SWPPP. All vehicles leaving the site shall stop and wash sediment from their tires.

- 8. <u>Sediment Control Barriers</u>. Sediment control barriers shall be installed according to the Plans or manufacturer's recommendations in the areas of clearing, grubbing, earthwork, or drainage prior to starting those activities.
  - a. Sandbag. Place the initial row in tight contact with the surface perpendicular to the slope. Place each following row centered across the joint between the bags of the lift/row below.
  - b. Sediment Retention Fiber Rolls.
  - c. Silt Fence.
  - d. Compost Berm. Construct compost berms according to latest AASHTO R 51. Use coarse compost.
- 9. <u>Turf Reinforcement Mats</u>. According to manufacturer's installation instructions.

**619-3.04 MAINTENANCE.** Maintain stabilized areas in a satisfactory condition for the term of the Contract. Inspect as required by the CGP, approved SWPPP, and Section 641 Erosion, Sediment and Pollution Control and correct any deficiencies immediately. Remove and dispose of temporary measures, including trapped sediment and contaminants, off project at approved locations. Materials manufactured as degradable may be left in place when approved by the Engineer.

Maintenance includes but is not limited to:

- 1. <u>Protecting</u> stabilized areas against traffic by approved warning signs or barricades.
- 2. <u>Repairing surfaces gullied or otherwise damaged following application of stabilization material(s)</u>.

Where seeding is included as a part of the soil stabilization:

- 1. <u>Reseeding</u>, as required by Section 618 Seeding. Reapply the stabilization materials correcting the problems of the initial application.
- 2. <u>Watering</u>, where vegetative growth is part of the soil stabilization, according to Section 618 Seeding.

The Engineer will perform inspection of the stabilization as required in the CGP, Section 641, and the SWPPP. Make repairs as required by same and as directed.

619-4.01 METHOD OF MEASUREMENT. Section 109, measured on the slope of the ground surface.

**619-5.01 BASIS OF PAYMENT.** Water, maintenance, repair, removal, and disposal of temporary stabilization materials are subsidiary.

Seeding is paid under Section 618 Pay Items, topsoil under Section 620 Pay Items, silt fence under Section 633 Pay Items and temporary erosion, sediment, and pollution control under 641 Pay Items.

Item Number	Item Description	Unit
619.0001	Mulching	SY
619.0002	Matting	SY
619.2001	Compost	SY
619.2002	Turf Reinforcement Mat	SY
619.2003	Sediment Retention Fiber Rolls	LF
619.2004	Check Dam and Sediment Barrier (-Geotextile)	LF
619.2005	Check Dam	LF
619.2006	Sediment Barrier	LF
619.2007	Compost Berm	LF
619.2008	Sandbags	Each
619.2009	Manufactured Inlet Protection System	Each
619.2010	Sandbag Inlet Protection System	Each
619.2016	Mulch	SY

PAY ITEM

CR619-18.0501R1

**Special Provisions** 

Replace Section 621 with the following:

## SECTION 621 PLANTING TREES AND SHRUBS

**621-1.01 DESCRIPTION.** Furnish and plant trees, seedlings, and shrubs. Maintain the plants for the term of the Contract.

## MATERIALS

**621-2.01 PLANT STOCK.** Furnish plants that are true to type and name according to the current edition of *Standardized Plant Names*, American Joint Committee on Horticultural Nomenclature. Furnish plants and plant bundles labeled with durable and legible labels according to size, botanical genus, and common plant name.

Furnish the variety and species specified in the Special Provisions. Furnish plants that are typical of the species or variety and that conform to American Standard for Nursery Stock (ANSI Z60.1) for type and grade.

Furnish nursery grown plants, except specified collected plants. Furnish plants grown or conditioned to an environment similar to the project site, including elevation, annual precipitation, soil conditions, and climate. Furnish plants free from disease, injurious insects, mechanical wounds, broken branches, decay, or other defects.

Furnish tree and shrub seedlings 18 to 24 inches in height above the ground at the time of planting.

## 1. Nursery Stock.

- a. Furnish trees and shrubs root pruned during their growing period in the nursery, according to standard nursery practice, to produce a fibrous compact root system suitable for the species and sizes called for on the Plans.
- b. Furnish container grown plants that have been growing for at least one year and no more than two years in the same container. Only ground cover plants may exhibit a "pot-bound" condition.
- c. Provide trees with straight trunks, well-branched with symmetrical tops and unhealed scars less than 3/4-inch in diameter.
- 2. **Collected Stock**. Collect healthy plants growing under natural conditions in locations and soils that permit proper collecting practices. Provide collected stock with a root system or ball at least 25 percent larger than nursery-grown material.

## 3. Balled and Burlapped Plants.

- a. Meet the ball diameters and depths specified in the American Standard for Nursery Stock.
- b. Furnish plants with a firm ball of earth from the undisturbed soil in which the plant was growing. Wrap the ball with burlap or similar approved material and lace it tightly to hold the ball firm and intact. Plant material at the planting site with broken or loose earth balls or with manufactured earth, will not be accepted. Handle balled and burlapped plants by the earth ball only and protect against drying and freezing.
- 4. **Substitutions**. Substitutions require written approval.

Notify the Engineer, in writing, six weeks before the target planting date if a plant is not available. The Engineer will evaluate availability and consider allowing the nearest available size of similar variety with a corresponding adjustment to the contract unit price.

- 5. **Storage and Packing**. Handle and pack all plant material according to standard nursery practice and as required by the planting soil and climatic conditions. Improperly stored or handled plants will not be accepted.
- 6. Inspection.
  - a. Make all planting stock available for inspection in the nursery or collecting field before digging. At least 14 days before digging operations, furnish complete and detailed information about the supply source for each item of plant material.
  - b. Final inspection and acceptance for size of ball or roots, color, absence of defects, and for other requirements will be made at the planting site before placing the plants in their permanent positions.

The Engineer will reject plants:

- 1. Listed on the Alaska Department of Natural Resources Division of Agriculture webpage with an Alaska Natural Heritage Program Invasiveness Ranking greater than 70;
- 2. Without attached labels;
- 3. Lacking proper proportions, injuries to bark or roots, broken branches, insect pests, disease;
- 4. Showing signs of improper storage, handling, damaged or loose earth balls;
- 5. Containing prohibited noxious weeds (as listed in 11 AAC 34.020(a)) in the earth ball or containers.

**621-2.02 FERTILIZER.** Use a regular release, 8-32-16 (N-P-K) fertilizer in granular form with trees, seedlings, and shrubs. Mix the fertilizer with the soil at the manufacturer's recommended application rate.

**621-2.03 LIMESTONE.** Use limestone that meets Subsection 712-2.03.

**621-2.05 BACKFILL MIX.** Use free draining topsoil for backfill in planting beds of a natural friable surface soil that is without admixtures of undesirable refuse, foreign materials, roots, hard clay, noxious weeds, tall grasses, brush, sticks, stubble, litter, and toxins. Local red loam or imported peat mix with nutritional and gradation data may be used to supplement topsoil. Use topsoil backfill with 10-15 percent organic matter as determined by loss-on-ignition of oven-dried samples according to ATM 203, and meeting the following:

Sieve Designation	Percent Passing by Weight
3/4 Inch	100
No. 4	95-100
No. 16	30-55
No. 200	25-55

621-2.06 STAKES. Use stakes that are strong and fit for the purpose intended.

**621-2.07 TREE WOUND DRESSING.** Use tree wound dressing that is antiseptic, waterproof, and contains no materials harmful to the living tissue of trees.

## CONSTRUCTION REQUIREMENTS

**621-3.01 TEMPORARY STORAGE.** Where temporary storage or heeling-in of plants is required, provide, and prepare a suitable heeling-in ground or a well-ventilated and cool storage shed, located near the planting site, before shipping planting stock.

Heel-in or properly store all acceptable planting stock if not planted within 24 hours, as follows:

- 1. **Balled and Burlapped Plants**. Temporarily store in a protected area with balls 6 inches apart. Fill voids with moist mulch up to and including the top of the ball.
- 2. **Bare-Rooted Plants**. Puddle immediately, then heel-in by placing the plants, properly spread, in a trench and covering the roots with moist topsoil.

Protect bare root plants adequately at all times. Plants left out of the ground unprotected overnight, left with roots exposed to the sun, or improperly protected during transit, unloading, heeling-in, or during the planting operation, are unacceptable.

Protect the roots of plants stored in a shed at all times using moist straw or other approved material. Water as required.

**621-3.02 ADVANCE PREPARATION AND CLEANUP.** After clearing and grubbing of the area is complete, remove any stones, sticks, stumps, clods, and other debris which might interfere with growth or maintenance. Repair any subsequent damage from erosion or other causes.

621-3.03 PLANTING. Perform all planting work using good horticultural practices.

- 1. Plant Season.
  - a. Locally Grown. Plant between June 1 and September 15.
  - b. **Imported**. Handle plants according to the nursery recommendations. Plant between June 1 and August 15.

## 2. Excavation.

- a. Keep topsoil separate from underlying layers and render it loose and friable. Remove any material detrimental to plant growth and dispose of it at approved locations.
- b. Make pits for trees at least 2-5 times the diameter of the root ball or the spread root system of bare-root trees. Make the depths of pits for trees at least 2 feet and as much deeper, as may be necessary to provide a minimum depth of 9 inches below the bottom of the ball or spread root system of the tree when placed at the proper elevation.
- c. Construct planting pits for seedlings and shrubs.
- d. Ensure that the dimensions of pits, pockets, or trenches for vines, ground covers, and similar types of plants will provide space for the spread root system. Keep the depth and width at least 6 inches below and around the root system.

## 3. Pruning.

- a. **Roots**. Prune all damaged or broken main roots with a clean, oblique cut immediately above the point of damage.
- b. Branches. Use pruning techniques that conform to the best horticultural practices with due regard to natural or desired form and growth characteristics of the individual species. Preserve a single terminal leader when pruning. On all deciduous plants, remove 1/3 to 1/2 of the potential leaf-bearing surface. Treat all cut surfaces that are 3/4 inch or more in diameter with tree wound dressing.
- 4. **Transplanting**. Relocate plant material, within the limits of the project, designated for transplanting to areas shown on the drawings or as specified. Dig this material with root systems or balls as specified for collected stock and replant it the same way as new stock.

## 5. Placing Plants.

- a. Set plants plumb on lightly tamped backfill mix and at a level so that the root collar will bear the same relation to the planting site as it bore to the ground from which it was dug.
- b. Handle balled and burlapped plants by the earth ball and not by the plant itself. Place the plants in holes without removing the burlap.
- c. Fill the hole with water before placing the plant. Place the backfill gradually, allowing the soil to soak up the water.
- 6. Backfilling. Backfill seedlings, trees, and shrubs with topsoil and fertilizer mix.

Work backfill mix around the roots and firmly tamp it as it is placed into the holes to eliminate air pockets. Avoid bruising or breaking the roots while tamping or firming the backfill mix about them. Hold upright plants plumb during the backfilling operation. When the backfilling is 2/3 completed, loosen the exposed burlap and lay it back from the ball or cut off excess. After thorough watering, complete the backfilling. During backfilling, remove stocks, sod, clods, or other material that tend to form air pockets. Except in areas for shrub beds, construct a shallow basin of backfill mix approximately 3 inches deep and as wide as the diameter of the hole around each plant. On steep slopes, pull enough soil to the lower side of the plants to form shallow basins to catch and hold water. After the backfilling is completed, water the plant basins thoroughly.

7. **Wrapping**. When specified, wrap the trunks of all deciduous shade and flowering trees with 4-inchwide waterproof paper, overlapping 1-1/2 inches, between the lowest main branches to the ground line. Tie the wrapping in at least 5 places, including top, middle, and bottom. Complete these protective measures within 4 days after planting.

## 8. Staking and Guying.

- a. Immediately after planting, brace all evergreen trees 4 to 6 feet high and all deciduous trees 6 feet and over in height and less than 1-1/2 inch in diameter. Use a single stake measuring at least 2 inches by 2 inches by 6 feet and place it 2 feet deep into the ground on the windward side to avoid injury to the root system. Connect the stake to the tree using approved binding straps.
- b. Immediately guy all deciduous trees 1-1/2 inches and over in diameter, and all evergreen trees 6 feet and over in height using 3 cables spaced approximately 120 degrees apart around the tree. Use cables each made of 2 No. 12 galvanized steel wires, free from bends and kinks, twisted into a strand. Fasten cables around the trunk immediately above a substantial limb wherever possible. Fasten cables around the trunk at a distance from the ground equal to 1/2 to 2/3 of the total height of the tree. Anchor cables to the ground at an equal distance away from the trunk. Protect the tree from damage caused by the cable using an approved method.
- c. Use other anchor stakes that are at least 2 inches x 2 inches x 2 feet. Drive the stakes at right angles to the guy wire. Ensure that the stakes do not extend more than 3 inches above the ground. Notch or drill the stakes to prevent cables from slipping.

**621-3.04 PERIOD OF ESTABLISHMENT.** The establishment period extends one complete growing season (May 1 to September 30) after the planting year, acceptance, and final inspection beginning from the date of Project completion, Subsection 105-1.15. The growing season may include the time remaining after September 30, from the first 45 days of deep watering in the planting year resuming after May 1 of the following year, Subsection 621-3.07.

Employ all possible means to preserve/maintain the plants in a healthy and vigorous condition to ensure successful establishment. Maintain the plants according to Subsection 621-3.07, to not less than the requirements for acceptance, Subsection 621-3.06. In addition, apply fertilizer to seedlings, trees, and shrubs by driving a 1 1/2 ounce fertilizer spike, of the same material and proportions initially applied to the soil, into the ground at the drip line of each plant between May 15 and May 31; and again for the shrubs between June 15 and June 30.

**621-3.05 CLEANUP.** Remove from planting sites any quantities of subsoil, rock, and other spoils resulting from excavation after planting. Dispose of them as directed. On slopes 3:1 and steeper, you may scatter or dispose of material other than rock and coarse debris. Leave all planting sites in an acceptable condition.

**621-3.06 PLANT ACCEPTANCE AND REPLACEMENTS.** Engineer and Contractor, in the growing season after the planting year and before June 30, inventory seedlings and shrubs planted to determine the number of dead and unhealthy plants.

- 1. Acceptance. Acceptance of each species of tree, seedling, and shrub requires a minimum of 75% of the number originally planted to be in healthy and vigorous condition in the growing season after the planting year.
- 2. **Replacement**. For each species of tree, seedling and shrub, replace the dead and unhealthy plants to maintain at least 75% of the number originally planted, in a healthy and vigorous condition. The Engineer will select the dead and unhealthy plants to replace. Remove the dead and unhealthy plants selected.

Provide healthy replacement plants of the same species and size as the original plantings. Complete replacement planting between July 1 and July 15.

621-3.07 MAINTENANCE. Maintenance includes but is not limited to the following:

- 1. Protecting planted areas against traffic by approved warning signs, barricades, or other approved means and against erosion.
- 2. Replacing plants vandalized, stolen, or damaged during the maintenance period. Replace plants as soon as weather conditions permit.
- 3. Performing the necessary weeding, spraying (with approved insecticides or fungicides), cultivating, replacing mulch, and tightening or replacing guy wires and stakes as may be required, and maintaining the plants in an upright position and at the proper grade.
- 4. Apply fertilizer to trees, seedlings, and shrubs by driving a 1 1/2 ounce fertilizer spike, of the same material and proportions initially applied to the soil, into the ground at the drip line of each plant between May 15 and May 31, and again for the shrubs between June 15 and June 30.
- 5. Deep water the trees, seedlings, and shrubs immediately after planting. Deep watering shall provide water penetration throughout the entire root zone to the total depth of the plantings, planting pits and trenches with a minimum of runoff. Keep the immediate root areas moist at all times. Rain is not a substitute for deep watering unless permitted by the Engineer.

Deep water trees, seedlings and shrubs according to the following maintenance schedule:

- a. Deep water plants at least twice a week during the first 45 days after planting.
  - (1) The 45 Days Extend Past September 30. Stop the twice weekly deep watering after September 30 and resume the twice weekly watering on May 1 of the following calendar year for the balance of the 45 days. Continue to water the plants as noted in Subsection 621-3.07.3.a.(2).
  - (2) The 45 Days Does Not Extend Past September 30. After the 45 days of deep watering in the planting year, water the plants for the balance of the growing season.
    - (a) Once a week in June and July,
    - (b) Once between August 10 and August 20,
    - (c) Once during the last week in September.
- b. Deep water the plants during the Period of Establishment.

- (1) Once a week during May, June, and July,
- (2) Once between August 10 and August 20,
- (3) Once during the last week of September.
- c. When directed, deep water trees, seedlings, and shrubs past September 30, or provide supplemental watering any time during the life of the project if weather conditions are excessively warm or dry.
- d. When directed, deep water trees, seedlings and shrubs before freeze-up.

Equip watering equipment with, or following equipment with a Type B advance warning arrow panel using caution mode according to Part VI of the Alaska Traffic Manual.

**621-4.01 METHOD OF MEASUREMENT.** Section 109, by the number of plants or length of hedge alive, healthy and in a vigorous condition accepted at final inspection.

**621-5.01 BASIS OF PAYMENT.** Excavation, topsoil, backfill, fertilization, and disposal of all unsuitable and surplus material and water for planting are subsidiary.

Pay Item 621.2006.\_\_\_\_ Water for Maintenance. Payment is for water for maintenance, growth, and establishment through the term of the Contract. Type B Advance Warning Arrow Panel for watering is subsidiary. Water for planting is subsidiary to planting.

Pay Items, except Pay Item 621.2006.\_\_\_\_, paid at rate of 90% of the bid unit price for the initial plantings. The balance withheld is after the establishment period and all dead and unhealthy plants, Subsection 621-3.06, are replaced, and established.

Item Number	Item Description	Unit
621.0001	Tree,	Each
621.0002	Shrub,	Each
621.0003	Hedge	LF
621.0004	Vine	Each
621.0004	Perennial,	Each
621.0005	Furnishing and Planting,	Each
621.0006	Water for Maintenance	MGAL

PAY ITEM

CR621-23.0601\_1

## SECTION 622 REST AREA FACILITIES

**Special Provisions** 

## 622-1.01 DESCRIPTION. Add the following:

- 9. Landscape Edging
- 10. Landscape Boulders
- 11. Bearproof Trash Receptacle
- 12. Bench
- 13. Wayfinding Sign Post for Directional Totem
- 14. Wayfinding Sign Post for Map Kiosk

## MATERIALS:

#### Add the following Subsections

**622-2.13 LANDSCAPE EDGING.** Use pure polyethylene plastic edging with 3 1/2 to 4 percent carbon black concentrate added for ultraviolet stabilization, a medium density and with a melt factor under 2. Provide an average wall thickness between 95/1000 to 105/1000-inch, a height of 4 inches, with a 1-inch round top and 4-groove base. Install per manufacturer's specifications, straight, level and secure.

## 622-2.14 LANDSCAPE BOULDER. Install per plan details.

**622-2.15 BEARPROOF GARBAGE CAN.** Bearsaver - Hid-A-Bag Single Trash Enclosure, 70 GAL - HB1-P, Fir Green, include primer for added corrosion resistance; or approved substitute.

**622-2.16 BENCH.** <u>Add the following:</u> Victor Stanley Parson Series Backed Bench. Model P-8, 6-foot length with ipe wood slats. Color: Blue. In-ground mount. Or approved substitute.

622-2.17 WAYFINDING SIGN POST FOR DIRECTIONAL TOTEM. As specified in the plan details.

622-2.18 WAYFINDING SIGN POST FOR MAP KIOSK. As specified in the plan details.

#### 622-5.01 BASIS OF PAYMENT.

Add the following Pay Item:

Item Number	Item Description	Unit
622.2019	Bench	Each
622.2023	Landscape Edging	LF
622.2025	Landscape Boulder	Each
622. 2023	Bearproof Garbage Can	Each
622	Wayfinding Sign Post for Directional Totem	Each
622	Wayfinding Sign Post for Map Kiosk	Each

CFHWY00586

## SECTION 633 SILT FENCE

Standard Modification

## 633-2.01 MATERIALS.

Replace "Silt Fence Subsection 729-2.04" with the following:

Silt Fence Subsection 729-2.02

## 633-3.01 CONSTRUCTION REQUIREMENTS.

Replace the first sentence with the following:

Install silt fence according to the SWPPP, Appendix B.

HSM20.13-113020R

**Special Provisions** 

Replace Section 634 with the following:

## SECTION 634

## GEOGRID FOR EMBANKMENT AND ROADWAY STABILIZATION AND SOILD REINFORCEMENT

**634-1.01 DESCRIPTION.** Furnish and install geogrid material at locations shown on the Plans. This includes furnishing and installing materials that serve to protect the existing fuel lines from stress due to construction of the pathway embankment at the location and per the details shown on the Plans.

634-2.01 MATERIALS. Use materials that conform to the following:

- Geogrid Subsection 729-2.04
- Grating: Pultruded High Load Capacity/Heavy Duty (HLC/HD) Grating shall be a composite constructed of fiberglass with vinylester resin material, any color, fire retardant (Flame spread rating of 25 or less per ASTM E-84), UV inhibited, no coarse-grit traction surface required. Grating at each level shall have load bearing bars oriented as indicated in the drawings. Minimum structural properties: I = 9.35 in4/ft., S = 6.95 in3/ft., E = 4,700,000 psi, ultimate tensile stress 68,000 psi. Grating shall be supplied in panel lengths and panel widths as indicated on the Plans. Fibergrate HI5830 (3 inch bearing bars) and Strongwell HD4000 2-1/2 inch bearing bars are approved product standards.

Geotextile, Reinforcement – Type 2 Section 630

## CONSTRUCTION REQUIREMENTS

**634-3.01 WEATHER LIMITATIONS.** Do not expose geogrid to sunlight for longer than 14 days after removal of protective covering. This work is not permitted to occur when the ground is frozen.

## 634-3.02 SURFACE PREPARATION.

1. <u>Very Soft Ground (CBR < 1)</u>. Care should be taken to avoid disturbing any surface crust overlying softer soil. In these cases the geogrid should be placed directly on the unprepared subgrade.

If directed by the Engineer, minimize disturbance of the subgrade by leaving root mats in place, cutting stumps and other projecting vegetation as close and even to the ground surface as practical.

Swampland, peat, muskeg or marshes may be difficult to smooth grade and/or compact. Create a surface that is as uniformly smooth as possible. Grade or crown the surface for positive drainage away from the construction zone.

- Firm Ground (CBR 1 3). Prepare surface by removal of stumps, brush, boulders, and sharp objects. Fill holes and large ruts, as directed by the Engineer, with material shown on the Plans or as approved by the Engineer.
- 3. <u>Firm Ground (CBR > 3)</u>. Compact and finish subgrade or subbase prior to placement of the geogrid.

**634-3.03 GEOGRID PLACEMENT.** Unroll geogrid directly onto the prepared ground surface in the direction of advancing construction, parallel to the centerline of the roadway or according to the Plans. Do not drag the geogrid across the subgrade. Install the geogrid in the longest continuous practical length, free from folds, creases or wrinkles. Hold the geogrid in place with pins, staples, sandbags or piles of granular material.

1. <u>Very Soft Ground</u>. Overlap geogrid panels a minimum of 36-inches at all joints with the upper geogrid in the direction that fill will be placed. Tie panels together securely with cable ties or hog rings at 5-feet intervals or as recommended by the manufacturer and approved by the Engineer.

To limit lateral spreading and separation of overlaps, if approved by the Engineer, the Contractor may unroll the geogrid transversely/perpendicular to the roadway embankment alignment. Overlap the adjacent rolls and tie together with cable ties or hog rings at 5-feet intervals.

- 2. <u>Soft Ground</u>. Overlap geogrid panels a minimum of 24-inches at all joints with the upper geogrid in the direction that fill will be placed. Tie panels together securely with cable ties or hog rings at 20-feet intervals or as recommended by the manufacturer and approved by the Engineer.
- 3. <u>Firm Ground</u>. Overlap geogrid panels a minimum of 12-inches at all joints in the direction that fill will be placed. Tie panels together securely with cable ties or hog rings at 20-feet intervals. Hand-tension geogrid and stake to the ground at the edges, overlaps, and in the center of each roll, at 30-feet intervals or as specified on the Plans.
- 4. <u>HD Geofabric Placement.</u> Place HD geofabric directly onto the prepared and approved ground surface in the direction of advancing construction, parallel to the centerline of the pathway, to the extents indicated on the Plans. Geofabric shall be free from folds, creases or wrinkles. Hold the geofabric in place with sandbags or piles of granular material. Do not use metal pins or stakes.
- **634-3.04 PLACING AND SPREADING COVER MATERIAL.** Do not operate equipment directly on the unprotected geogrid. Spread fill material in the direction of the fabric overlap. Compact using a smooth drum roller. Do not allow construction equipment to make sudden stops, starts, or turns on the cover material.
- 1. <u>Very Soft Ground</u>. End-dump material onto previously placed material and spread over the geogrid with a low ground pressure (LGP equates to tire pressure of 4 psf) dozer to the depth permitted. Maintain a minimum depth of 12-inches of cover material at all times between the geogrid and the wheels or tracks of the construction equipment, unless otherwise shown on the Plans or directed by the Engineer. Do not dump material directly on the geogrid. To prevent a mud wave, end-dump fill along the edges of the geogrid to form toe berms or access roads that extend one to two panel widths ahead of the remainder of the embankment fill placement. After constructing the two berms, spread fill in the area between the toe berms by placing material parallel to the alignment and symmetrical from the toe berms inward toward the center to maintain a U-shaped leading edge (i.e., concave outward) to contain the mud wave. Limit height of dumped piles above the geogrid to avoid local bearing failure. Traffic on the first lift should be parallel to the embankment alignment. Do not allow construction equipment to turn on the first lift. Compact the first lift by tracking in place with dozers or end-loaders. Compact with specified compaction equipment once the embankment is at least 2-feet above the geogrid.
- 2. <u>Soft Ground</u>. End dump material onto previously placed material and spread over the geogrid with a LGP dozer to the depth permitted. Maintain a minimum depth of 6-inches of cover material at all times between the geogrid and the wheels or tracks of the construction equipment unless otherwise shown on the Plans or directed by the Engineer. Place the end-dumped material along the roadway centerline and spread it outward to the roadway edges to prevent the development of wrinkles or movement of the geogrid during construction. Fill in any ruts that form during construction with material shown on the Plans. Do not cut down the fill adjacent to the ruts.
- 3. <u>Firm Ground</u>. Maintain a minimum depth of 6 inches of cover material at all times between the geogrid and the wheels or tracks of the construction equipment.

**634-3.05 GEOGRID REPAIR.** If the geogrid is torn, punctured, or the overlaps disturbed – as evidenced by visible geogrid damage – remove the backfill around the damaged area and repair or replace the damaged area. Make repairs to the damaged area with a patch of the same class of geogrid originally placed. Overlay torn area with geogrid with a minimum 3-feet overlap around the edges of the torn area and secure as recommended by the geogrid manufacturer, unless otherwise directed by the Engineer.

## 634-4.01 METHOD OF MEASUREMENT.

<u>Geogrid – Utility Overcrossing</u> is lump sum.

<u>All Other Geogrid</u> Measure geogrid other than by the square yard of ground surface covered. No allowance will be made for overlap, whether at joints or patches.

**634-5.01 BASIS OF PAYMENT.** Payment will be made at the Contract unit price. Repair and replacement costs for damaged geogrid are subsidiary to the Section 634 Pay Items.

Material used to fill ruts and holes paid at the unit price for the class of material used.

Item Number	Item Description	Unit
634.0001	Geogrid, Stabilization, Class	SY
634.0002	Geogrid, Reinforcement, Class	SY
634.2001	Geogrid – Utility Overcrossing	LS

PAY ITEM

CFHWY00586

Special Provision

Replace Section 641 with the following:

## SECTION 641 EROSION, SEDIMENT, AND POLLUTION CONTROL

## 641-1.01 DESCRIPTION.

Provide project administration and Work relating to control of erosion, sedimentation, and discharge of pollutants, according to this Section and applicable local, state, and federal requirements, including the Alaska Pollution Discharge Elimination System (APDES) Construction General Permit (CGP). The state APDES program is administered by the Department of Environmental Conservation (DEC). Section 301(a) of the Clean Water Act (CWA) and 18 AAC 83.015 provide that the discharge of pollutants to water of the U.S. is unlawful except as allowed by the CGP.

## 641-1.02 DEFINITIONS.

These definitions apply only to Section 641.

## ACTIVE TREATMENT SYSTEM (ATS) OPERATOR. CGP Appendix C.

ALASKA CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (AK-CESCL). A person who has completed training, testing, and other requirements of, and is currently certified as, an AK-CESCL from an AK-CESCL Training Program (a program developed under a Memorandum of Understanding between the Department and others). The Department recognizes AK-CESCLs as "qualified personnel" required by the CGP. An AK-CESCL must be recertified every three years. (See Qualified Person)

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC). The state agency authorized by EPA to administer the Clean Water Act's National Pollutant Discharge Elimination System.

## ALASKA GENERAL PERMIT FOR EXCAVATION, DEWATERING (Excavation Dewatering Permit).

Permit authorizing excavation dewatering discharges from Construction Activities.

ALASKA MULTI-SECTOR GENERAL PERMIT (MSGP). Permit authorizing storm water discharges associated with Industrial Activity.

**ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM (APDES).** A system administered by DEC that issues and tracks permits for storm water discharges.

## BEST MANAGEMENT PRACTICES (BMPS). CGP Appendix C.

**CLEAN WATER ACT (CWA).** Federal Water Pollution Control Amendments of 1972, as amended (33 U.S.C. 1251 et seq.).

**CONSTRUCTION ACTIVITY.** Ground disturbing activity by the Contractor, Subcontractor or utility company; that may result in erosion, sedimentation, or a discharge of pollutants into storm water. CGP Appendix C.

**CONSTRUCTION GENERAL PERMIT (CGP).** The permit authorizing storm water discharges from Construction Activities, issued and enforced by Alaska DEC. It authorizes storm water discharges providing permit conditions and water quality standards are met.

**U.S. ARMY CORPS OF ENGINEERS PERMIT (COE Permit).** U.S. Army Corps of Engineers Permit for construction in waters of the U.S. may be issued under Section 10 of the Rivers and Harbors Act of 1899, or Section 404 of the Clean Water Act.

ELECTRONIC NOTICE OF INTENT (ENOI). CGP Appendix C.

ELECTRONIC NOTICE OF TERMINATION (ENOT). CGP Appendix C.

AMATS: Downtown Trail Connection PROJECT NO.: CFHWY00586/0001662
**ENVIRONMENTAL PROTECTION AGENCY (EPA).** The federal agency charged to protect human health and the environment.

**ERODIBLE STOCKPILE.** Any material storage area or stockpile consisting of mineral aggregate, organic material, or a combination thereof, with greater than 5 percent passing the #200 sieve, and any material storage where wind or water transports sediments or other pollutants from the stockpile. Erodible Stockpile also includes any material storage area or stockpile where the Engineer determines there is potential for wind or water transport of sediments or other pollutants away from the stockpile.

**EROSION AND SEDIMENT CONTROL PLAN (ESCP).** The Department's project specific document that illustrates measures to control erosion and sediment on the project. The ESCP provides bidders with the basis for cost estimating and guidance for developing an acceptable Storm Water Pollutant Prevention Plan (SWPPP).

FINAL STABILIZATION. CGP Appendix C, "Stabilization".

**HAZARDOUS MATERIAL CONTROL PLAN (HMCP).** The Contractor's detailed project specific plan for prevention of pollution from storage, use, transfer, containment, cleanup, and disposal of hazardous material (including, but are not limited to, petroleum products related to construction activities and equipment). The HMCP is included as an appendix to the SWPPP.

**MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT.** A DEC storm water discharge permit issued to certain local governments and other public bodies, for operation of storm water conveyances and drainage systems. CGP Appendix C.

**OPERATOR(S).** The party(s) responsible to obtain CGP permit coverage. CGP Appendix C.

- 1. Contractor the Contractor is an Operator inside and outside the Project Zone.
- 2. Department the Department is an Operator inside the Project Zone.

**POLLUTANT.** Any substance or item meeting the definition of pollutant contained in 40 CFR § 122.2. A partial listing from this definition includes: dredged spoil, solid waste, sediment, sewage, garbage, sewage sludge, chemical wastes, biological materials, wrecked or discarded equipment, rock, sand, cellar dirt and industrial or municipal waste.

**PROJECT ZONE.** The physical area provided by the Department for Construction. The Project Zone includes the area of highway or facility under construction, project staging and equipment areas, and material and disposal sites; when those areas, routes and sites, are provided by the Contract.

Material sites, material processing sites, disposal sites, haul routes, staging and equipment storage areas; that are furnished by the Contractor or a commercial operator, are not included in the Project Zone.

**QUALIFIED PERSON.** CGP Appendix C and Section 641-1.04.

**SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN (SPCC PLAN).** The Contractor's detailed plan for petroleum spill prevention and control measures that meet the requirements of 40 CFR 112.

**SPILL RESPONSE FIELD REPRESENTATIVE.** The Contractor's representative with authority and responsibility for managing, implementing, and executing the HMCP and SPCC Plan.

**STORM EVENT.** CGP Appendix C.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP).** The Contractor's plan for compliance with the CGP for construction activities inside the Project zone, CGP Appendix C and Section 641.

**STORM WATER POLLUTION PREVENTION PLAN TWO (SWPPP2).** The Contractor's plan for compliance with the CGP and MSGP for construction activities outside the Project Zone.

**SUPERINTENDENT.** The Contractor's duly authorized representative with authority and responsibility for the overall operation of the Project and Contractor furnished sites and facilities.

**SWPPP AMENDMENT.** A modification to the SWPPP. CGP Part 5.0.

SWPPP MANAGER. The Contractor's Qualified Person with authority and responsibility. CGP Appendix C.

SWPPP PREPARER. The Contractor's Qualified Person with authority and responsibility. CGP Appendix C.

**SWPPPTRACK.** Software Subscription service version SWPPPTrack DOT AK developed and provided by SWPPPTrack AK LTD, for use on construction projects that require coverage under the APDES CGP.

TEMPORARY STABILIZATION. CGP Appendix C, "Stabilization".

## 641-1.02.01 REFERENCE.

A list of websites and documents referenced herein, including SWPPP preparation documents and construction forms, are available at the DOT&PF Statewide Design and Engineering Services Storm Water web page and Construction Forms webpage.

DEC Permit information is available at the DEC Division of Water webpage.

# 641-1.03 PLAN AND PERMIT SUBMITTALS.

For plans listed in Subsection 108-1.03.5 (SWPPP, HMCP, and SPCC), use the Contractor submission and Department review deadlines identified in this subsection.

Partial and incomplete submittals will not be accepted for review. Any submittal that is re-submitted or revised after submission, but before the review is completed, will restart the submittal review timeline. No additional Contract time or additional compensation will be allowed due to delays caused by partial or incomplete submittals, or required re-submittals.

1. <u>Storm Water Pollution Prevention Plan</u>. Submit one electronic copy (single PDF file) of the SWPPP to the Engineer for approval. Deliver these documents to the Engineer at least 21 days before beginning Construction Activity. Organize the SWPPP and related documents for submittal according to the requirements of Subsection 641-2.01.2.

The Department will review the SWPPP submittals within 14 days after they are received. Submittals will be returned to the Contractor, and marked as either "rejected" with reasons listed or as "approved" by the Department. When the submittal is rejected, the Contractor must revise and resubmit the SWPPP. The 14-day review period will restart when the Contractor submits an electronic copy of the revised SWPPP to the Engineer for approval.

After the SWPPP is approved and certified by the Department using Form 25D-109, the Contractor must certify the approved SWPPP using Form 25D-111. See Subsection 641-1.03.4 for further SWPPP submittal requirements.

Submit the final SWPPP. Transmit an electronic copy (single pdf file) of the final SWPPP to the Engineer when the Contractor's eNOT is filed, or within 30 days of the Department's eNOT being filed, whichever is sooner. Include all SWPPP documents.

- 2. <u>Hazardous Material Control Plan</u>. The HMCP Template is available at the DOT&PF Construction Forms webpage. The HMCP submittal, review timeline, and signature requirements are the same as the SWPPP.
- 3. <u>Spill Prevention, Control, and Countermeasure Plan</u>. When a SPCC Plan is required under Subsection 641-2.03, submit an electronic copy of the SPCC Plan to the Engineer. Deliver these documents to the Engineer at least 21 days before beginning Construction Activity. The Department reserves the right to review the SPCC Plan and require modifications.

4. <u>CGP Coverage</u>. The Contractor is responsible for permitting of Contractor and subcontractor Construction Activities related to the Project. Do not use the SWPPP for Construction Activities outside the Project Zone where the Department is not an operator. For Construction Activities outside the Project Zone, the Contractor must use a SWPPP2. Department approval is not required for a SWPPP2.

After the Department certifies the SWPPP and prior to beginning Construction Activity, submit an eNOI with the required fee to DEC for coverage under the CGP. Submit a copy of the signed eNOI and DEC's written acknowledgement (by letter or other document), to the Engineer as soon as practicable and no later than three days after filing eNOI or receiving a written response.

Do not begin Construction Activity until the conditions listed in Subsection 641-3.01.1 are completed.

The Department will submit an eNOI to DEC for Construction Activities inside the Project Zone. The Engineer will provide the Contractor with a copy of the Department's eNOI and DEC's written acknowledgment (by letter or other document), for inclusion in the SWPPP.

Before Construction Activities occur, transmit to the Engineer an electronic copy of the approved and certified SWPPP, with signed Delegations of Signature Authorities on Forms 25D-107 and 25D-108, SWPPP Certifications on Forms 25D-111 and 25D-109, both permittee's signed eNOIs and DEC's written acknowledgement.

- 5. <u>DEC SWPPP Review</u>. When CGP Part 2.1.3, or 2.1.4 requires DEC SWPPP review:
  - a. Transmit a copy of the Department-approved SWPPP to DEC using delivery receipt confirmation;
  - b. Transmit a copy of the delivery receipt confirmation to the Engineer within seven days of receiving the confirmation; and
  - c. Retain a copy of delivery receipt confirmation in the SWPPP.
- 6. <u>Local Government SWPPP Review</u>. When local government or the CGP Part 2.1.4, requires local government review:
  - a. Transmit a copy of the Department-approved SWPPP and other information as required to local government, with the required fee. Use delivery receipt confirmation;
  - b. Transmit a copy of the delivery receipt confirmation to the Engineer within seven days of receiving the confirmation;
  - c. Transmit a copy of any comments by the local government to the Engineer within seven days of receipt;
  - d. Amend the SWPPP as necessary to address local government comments and transmit SWPPP Amendments to the Engineer within seven days of receipt of the comments;
  - e. Include a copy of local government SWPPP review letter in the SWPPP; and
  - f. File a notification with local government that the project is ending.
- Modifying Contractor's eNOI. When required by the CGP Part 2.7, modify your eNOI to update or correct information within 30 calendar days of the change. Reasons for modification are in the CGP Part 2.7.1. The Contractor must submit an eNOT instead of an eNOI modification when the operator has changed. The new operator must file an eNOI to obtain permit coverage.

# 641-1.04 PERSONNEL QUALIFICATIONS.

Provide documentation in the SWPPP that the individuals serving in these positions meet the personnel qualifications. The Department accepts the following certificates as equivalent to AK-CESCL: Certified Professional in Erosion and Sediment Control (CPESC), or Certified Inspector in Sediment, and Erosion Control Certified (CISEC). These equivalent certificates are included in the CGP Appendix C and repeated below.

Personnel Title	Required Qualifications		
SWPPP Preparer	<ol> <li>Current certification as a Certified Professional in Erosion and Sediment Control (CPESC); or</li> </ol>		
	<ol> <li>Current certification as AK-CESCL, and at least two years' experience in erosion and sediment control as a SWPPP Manager or SWPPP writer, or equivalent; or</li> </ol>		
	<ol> <li>Professional Engineer registered in the State of Alaska with current certification as AK-CESCL.</li> </ol>		
Superintendent	Current AK-CESCL, or substitute training from CGP Appendix C, Qualified Person Table 4		
SWPPP Manager	Current AK-CESCL or substitute training from CGP Appendix C, Qualified Person Table 4.		
Active Treatment System Operator	Current AK-CESCL or substitute training from CGP Appendix C, Qualified Person Table 4. ATS operator should possess a recognized certification, or professional standing, or who by extensive knowledge, training, and experience has successfully demonstrated the ability to meet the ATS requirement.		

# TABLE 641-1.04 PERSONNEL QUALIFICATIONS

# 641-1.05 SIGNATURE/CERTIFICATION REQUIREMENTS AND DELEGATIONS.

- 1. <u>eNOI and eNOT</u>. The eNOI, eNOT, and eNOI Modifications must be signed and certified by a responsible corporate officer according to CGP Appendix A, Part 1.12. Signature and certification authority for the eNOI and eNOT cannot be delegated.
- Delegation of Signature Authority for Other SWPPP Documents and Reports. Use Form 25D-108 to delegate signature authority and certification authority to the Superintendent position, according to CGP Appendix A, Part 1.12.3, for the SWPPP, Inspection Reports and other reports required by the CGP. The Superintendent position is responsible for signing and certifying the SWPPP, Inspection Reports, and other reports required by the CGP, except the eNOI, eNOI Modifications, and eNOT.

The Engineer will provide the Department's delegation on Form 25D-107, which the Contractor must include in the SWPPP.

- 3. <u>Subcontractor Certification</u>. Subcontractors must certify on Form 25D-105, that they have read and will abide by the CGP and the conditions of the project SWPPP.
- 4. <u>Signatures and Initials</u>. Where documents are completed in SWPPPTrack, utilize SWPPPTrack to sign and initial documents. When documents are not completed in SWPPPTrack (e.g. Form 25D-111 SWPPP Certification for Contractor), upload scanned copies after signing and initialing the documents into SWPPPTrack.

# 641-1.06 RESPONSIBILITY FOR STORM WATER PERMIT COVERAGE.

107-1.02 includes the requirements to obtain permits, and to provide permit documents to the Engineer.

1. The Department and the Contractor are jointly responsible for permitting and permit compliance within the Project Zone.

- 2. The Contractor is responsible for permitting and permit compliance for all construction support activity in the Project Zone and outside the Project Zone. The Contractor has sole responsibility for compliance with DEC, COE, and other applicable federal, state, and local requirements, and for securing all necessary clearances, rights, and permits. The Contractor is responsible for protection, care, and upkeep of all work, and all associated off-site zones.
- 3. The Contractor is responsible for obtaining an Excavation Dewatering Permit (AKG002000) if construction activities are within 1,500 feet of a DEC-identified contaminated site or groundwater plume.
- 4. An entity that owns or operates, a commercial plant (as defined in Subsection 108-1.01.4) or material source or disposal site outside the Project Zone, is responsible for permitting and permit compliance. The Contractor has sole responsibility to verify that the entity has appropriate permit coverage.
- 5. The Department is not responsible for permitting or permit compliance, and is not liable for fines resulting from noncompliance with permit conditions:
  - a. For areas outside the Project Zone;
  - b. For Construction Activity and Support Activities outside the Project Zone; and
  - c. For commercial plants, commercial material sources, and commercial disposal sites.

# 641-1.07 UTILITY.

<u>Relocation Coverage</u>. A Utility company is not an Operator when utility relocation is performed concurrently with the Project, as outlined in Section 105-1.06. The Department maintains operational control over the Utility's plans and specifications for coordination with project construction elements, and the Contractor has day-to-day control over the various utility construction activities that occur in support of the Project. A Utility company is considered a subcontractor for concurrent relocation.

After the Contractor has an active NOI for the Project, a Utility Company performing advance relocation work under a separate SWPPP no longer has Operator status and files the NOT for the Utility Company's SWPPP covering only the completed utility work. Remaining utility relocation work is included in and performed under the Project SWPPP.

**641-1.08 USE of SWPPPTRACK.** The Contractor is responsible for purchasing and contracting with SWPPPTrack AK LTD for the use of the SWPPPTrack software application and services until final stabilization is achieved and the eNOT has been completed. Contact SWPPPTrack Alaska Support at (888) 401-1993 or <u>AKSupport@SWPPPTrack.com</u> for project fees, setup coordination, device requirements, and training.

Perform and document all inspections required by the CGP and the SWPPP with SWPPPTrack and populate all inspection fields accurately to represent current project conditions. Complete the following forms using SWPPPTrack:

- 1. SWPPP Construction Site Inspection Report (25D-100)
- 2. SWPPP Grading & Stabilization Activities Log (25D-110)
- 3. SWPPP Corrective Action Log (25D-112)
- 4. SWPPP Amendment Log (25D-114)
- 5. SWPPP Daily Record of Rainfall (25D-115)
- 6. SWPPP Training Log (25D-125)
- 7. SWPPP Project Staff Tracking (25D-127)

# 641-2.01 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS.

1. <u>SWPPP Preparer and Pre-Construction Site Visit</u>.

Use a SWPPP Preparer to develop the SWPPP according to the CGP, DEC and Department SWPPP Template. Subsection 641-1.02.01 provides directions to templates.

The SWPPP Preparer must conduct a pre-construction inspection at the Project site before construction activity begins. If the SWPPP Preparer is not a Contractor employee, the SWPPP Preparer must visit the site accompanied by the Contractor. Give the Department at least seven days advance notice of the site visit, so that the Department may participate.

Document the SWPPP Preparer's pre-construction inspection in the SWPPP on Form 25D-106, SWPPP Pre-Construction Site Visit, include the names of attendees and the date.

- 2. Developing the SWPPP.
  - a. Meet all CGP requirements.
  - b. Use the Department's ESCP, Environmental commitments, and other Contract documents as a starting point for developing the SWPPP.
  - c. Develop the SWPPP with sections and appendices according to the DEC CGP SWPPP Template and DOT&PF SWPPP Template. Include the information required by the Contract and described in the CGP Part 5.0. Use the forms available at the DOT&PF Construction Forms website.
  - d. Compile the SWPPP in three ring binders with tabbed and labeled dividers for each appendix. Submit the SWPPP according to Subsection 641-1.03.
- 3. <u>SWPPP Considerations and Contents</u>.
  - a. The SWPPP must provide erosion and sediment control measures for all Construction Activity within the Project Zone.

Construction activity outside the Project Zone must have permit coverage. Document permit compliance according to SWPPP2 requirements.

b. The SWPPP must consider the activities of the Contractor and all subcontractors and utility companies performing work in the Project Zone. Describe the roles and responsibilities of the Contractor, subcontractors, utility companies, and the Department with regard to implementation of the SWPPP. Include the utility companies and other operators performing Construction Activity.

Identify areas:

- (1) Over which each operator has operational control; and
- (2) Where the Department and Contractor are co-operators.
- c. For work outside the Project Zone the SWPPP must identify the entity that has storm water permit coverage, the operator, and areas that are:
  - (1) Dedicated to the Project and where the Department is not an operator; and
  - (2) Not dedicated to the project, but used for the project.
- d. If the project discharges to a Tier III, Outstanding Natural Resource Water, comply with the CGP Part 2.1.6. Submittal deadlines apply prior to filing an eNOI and beginning construction activities. As of the issuance of the CGP 2021, no Tier III, Outstanding Natural Resource Water is designated in the State of Alaska.
- e. There are special requirements in the CGP Part 3.2, for storm water discharges into an impaired water body. Monitoring of storm water discharges may be required. The Contractor is responsible for monitoring and reporting inside and outside the project zone.

- f. Describe the sequence and timing of activities that disturb soils and BMP implementation and removal. Phase earth-disturbing activities to minimize unstabilized areas, and to achieve temporary or final stabilization. Whenever practicable incorporate final stabilization work into excavation, embankment, and grading activities. Include drawings showing each phase of the project with the BMPs implemented in the Phase.
- g. Delineate the site according to the CGP Part 4.2.1.
- h. Minimize the amount of soil exposed and preserve natural topsoil on site, unless infeasible according to the CGP Part 4.2.2.
- i. Describe methods and time limits, to initiate temporary or final soil stabilization. Comply with stabilization requirements in the CGP Part 4.5.
- j. If construction will cease during winter months, describe all requirements for winter shutdown according to the CGP Part 4.12.
- k. Plans for ATS must meet with the requirements in the CGP Part 2.1.5 and 4.6.
- I. Design all temporary BMPs to accommodate a two year 24-hour storm event. Describe and document all installed control measures in the SWPPP according to the CGP Part 5.3.6. Include a citation from a published BMP Manual, publication, or manufacturers specification used as a source, or include a statement "No BMP Manual was used for this design". If using out of state BMPs, follow the instructions in the DOT&PF SWPPP Guide.
- m. Provide a legible site map or set of maps in the SWPPP, showing the entire site and identifying boundaries of the property where construction and earth-disturbing activities will occur. Include all elements described in the CGP Part 5.3.5 and the DEC CGP SWPPP Template Section 5.0.
- n. Identify the inspection frequency in the SWPPP according to the CGP Part 6.1; except, inspect once every seven calendar days regardless of the precipitation amount.
- o. Linear Project Inspections, described in CGP Part 6.5, are not applicable to this Contract.
- p. The SWPPP must cite and incorporate applicable requirements of the Project permits, environmental commitments, COE permit, and commitments related to historic preservation. Make additional consultations or obtain permits as necessary for Contractor specific activities that were not included in the Department's permitting and consultation.
- q. The SWPPP is a dynamic document. Keep the SWPPP current by noting installation, modification, and removal of BMPs, and by using amendments, SWPPP amendment logs, Inspection Reports, corrective action logs, records of land disturbance and stabilization, and any other records necessary to document storm water pollution prevention activities and to satisfy the requirements of the CGP and this specification. See Subsection 641-3.03 for more information.

## 4. <u>Recording Personnel and Contact Information in the SWPPP</u>.

Identify the SWPPP Manager as the Storm Water Lead and Storm Water Inspector positions in the SWPPP. Document the SWPPP Manager's responsibilities in Section 2.0 Storm Water Contacts, of the SWPPP Template and:

- a. Identify that the SWPPP Manager does not have authority to sign inspection reports (unless the SWPPP Manager is also the designated project Superintendent).
- b. Identify that the SWPPP Manager cannot prepare the SWPPP unless the SWPPP Manager meets the Contract requirements for the SWPPP Preparer.

Include in the SWPPP proof of AK-CESCL, or equivalent certifications for the Superintendent and SWPPP Manager, and for any acting Superintendent and acting SWPPP Managers. If the Superintendent or SWPPP Manager is replaced, permanently or temporarily, by an acting Superintendent or acting SWPPP Manager; record in the SWPPP, on Form 25D-127, the names of the replacement personnel, and date of replacement. For temporary personnel, record their beginning and ending dates.

Provide 24-hour contact information for the Superintendent and SWPPP Manager. The Superintendent and SWPPP Manager must have 24-hour contact information for all Subcontractor SWPPP Coordinators and Utility SWPPP Coordinators.

Include in the SWPPP, proof of AK-CESCL or equivalent certifications of ATS operators. Record names of ATS operators and their beginning and ending dates, on Form 25D-127.

The Department will provide proof of AK-CESCL, or equivalent certifications for the Department's Project Engineer, Storm Water Inspectors, and Monitoring Person, and names and dates they are acting in that position. Include Department's staff certifications in SWPPP Appendix E. Include the Department's staff names, dates acting, and assignments in Section 2.0 of the SWPPP and on Form 25D-127.

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

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

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

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

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

Reference the SPCC Plan in the HMCP and SWPPP.

## 641-2.04 RESPONSIBILITY AND AUTHORITY OF THE SUPERINTENDENT AND SWPPP MANAGER.

The Superintendent shall certify the SWPPP, Inspection Reports, and other reports required by the CGP, except the eNOI and eNOT. The Superintendent may not delegate the task or responsibility of certifying these documents.

The Superintendent may assign certain duties to the SWPPP Manager.

- 1. Ensuring Contractor's and subcontractor's compliance with the SWPPP and CGP;
- 2. Ensuring the control of erosion, sedimentation, or discharge of pollutants;
- 3. Directing and overseeing installation, maintenance, and removal of BMPs;
- 4. Performing Inspections; and
- 5. Updating the SWPPP including adding amendments and forms.

When Bid Item 641.0007.\_\_\_\_ is part of the Contract, the SWPPP Manager must be a different person than the Superintendent, be available at all times to administer SWPPP requirements, and be physically present within the Project Zone or the project office, when construction activities are occurring.

The Superintendent and SWPPP Manager shall be knowledgeable in the requirements of Section 641, the SWPPP, CGP, BMPs, HMCP, SPCC Plan, environmental permits, and environmental commitments.

The Superintendent and SWPPP Manager shall have the Contractor's complete authority and be responsible for suspending construction activities that do not conform to the SWPPP or CGP.

#### 641-2.05 MATERIALS.

Use materials suitable to withstand hydraulic, wind, and soil forces, and to control erosion and trap sediments according to the requirements of the CGP and the Specifications.

Use the seed mixture specified in the Contract or as directed by the Engineer.

Use soil stabilization material as specified in Section 727.

Use silt fences as specified in Section 729.

Use straw and straw products certified weed free of prohibited and restricted noxious weed seed and quarantined pests, according to Alaska Administrative Code, Title 11, Chapter 34 (11 AAC 34). When straw or straw products certified according to 11 AAC 34 are not available, use non-certified products manufactured within Alaska before certified products manufactured in another state, country, or territory. Non-certified straw or straw products manufactured in another state, country, or territory shall not be used. Grass, legumes, or any other herbaceous plants produced as hay, shall not be substituted for straw, or straw products.

## 641-3.01 CONSTRUCTION REQUIREMENTS.

Comply with the SWPPP and the requirements of the CGP Part 5.0.

1. Before Construction.

The following actions must be completed before Construction Activity begins:

- a. The SWPPP Preparer must visit the Project. Document the visit on SWPPP Form 25D-106. The SWPPP must be developed, or amended with the findings from the visit.
- b. The SWPPP must be approved by the Engineer on Form 25D-109.
- c. The Contractor must be authorized to begin work by the Engineer.
- d. The Project must have an eNOI for the Department and for the Contractor.
- e. The Department approved SWPPP must be submitted to DEC and Local Governments per CGP Part 2.1.2, Part 2.1.4, and Part 2.4.1.
- f. The Contractor has transmitted to the Engineer an electronic copy of the approved SWPPP.
- g. The Delegation of Authority, Forms 25D-108 and 25D-107, for both the Contractor and Engineer are signed.
- h. Main entrance signage must meet the requirements of CGP Part 5.10.2.

Post notices on the outside wall of the Contractor's project office, and near the main entrances of the construction project. Protect postings from the weather. Locate postings so the public can safely read them without obstructing construction activities or the traveling public (for example, at an existing pullout). Do not use retroreflective signs for the SWPPP posting. Do not locate SWPPP signs in locations where the signs may be confused with traffic control signs or devices. Update the notices if the listed information changes.

- i. Track precipitation according to CGP Part 7.3.9. Submit the method to track precipitation to the Engineer for approval.
- J. Complete all setup and training required to implement SWPPPTrack.
- k. Complete the upload of the BMP inventory into SWPPPTrack.
- 2. During Construction.
  - a. Delineate The Site. Comply with the CGP Part 4.2.1.
  - b. BMPs. Install BMPs according to the SWPPP prior to the initiation of ground disturbance.
  - c. Document subcontractors. Provide a copy of the SWPPP and the CGP to all subcontractors and utility companies before they begin soil-disturbing activities. Verify they understand and comply with the SWPPP and CGP.
    - (1) Document all subcontractors and utility companies that may work on the site, according to the CGP Part 5.3.1, and SWPPP Section 1.2.
    - (2) Require subcontractors and utility companies to sign the SWPPP Subcontractor Certification, Form 25D-105. Include Form 25D-105 in the SWPPP Appendix E.
    - (3) Inform subcontractors and utility companies, in a timely manner, of SWPPP amendments that affect them. Coordinate with subcontractors and utility companies to protect BMPs, including temporary and final stabilization from damage.
    - (4) Notify the Engineer immediately if the actions of any utility company or subcontractor do not comply with the SWPPP and the CGP.
  - d. Provide Training. Provide ongoing training to all employees, subcontractors, and utility companies according to the CGP Part 4.14.
    - (1) Provide training no less than once a month during construction activity;
    - (2) Document training in the SWPPP Training Log on Form 25D-125. Include the training record in the SWPPP Appendix I.
  - e. Protection and Restoration. Comply with Subsection 107-1.11.
  - f. Good Housekeeping Measures. Comply with the SWPPP and CGP Part 4.8.
  - g. Control Measures. Comply with the SWPPP and CGP Part 5.3.6.
    - (1) Maintain BMPs.
    - (2) Comply with requirements of the HMCP and SPCC Plan, and all local, state, and federal regulations that pertain to the handling, storage, containment, cleanup, and disposal of petroleum products or other hazardous materials.
    - (3) Keep the SWPPP and HMCP current, Subsection 641-2.01.3, SWPPP Considerations and Contents.
- 3. Winter Construction.

If winter construction activity occurs, the project must have BMPs in place, Part 4.12.2. Inspections can be reduced to once per month if the project meets the CGP Part 6.2.4.

4. Storm Water Discharge Pollutant Reporting Requirements.

If an incident of non-compliance occurs, that may endanger health or the environment, a report must be made, CGP Appendix A, Part 3.4.

A permit non-compliance is any type of pollutant, such as turbidity or petroleum that enters storm water runoff and flows into a receiving water body, MS4, or wetland that is connected to waters of the U.S.

- a. Report the incident to the Engineer immediately;
- b. Report to DEC orally within 24 hours after the permittee becomes aware of the incident; and
- c. Report to DEC in writing within five days after the permittee becomes aware of the circumstances. To report in writing, complete the written noncompliance report on Form 25D-143, and file the written report with DEC. Coordinate the report with the Engineer. Include in the report:
  - (1) A description of the noncompliance and its causes;
  - (2) The exact dates and times of noncompliance;
  - (3) If not yet corrected the anticipated time the project will be brought back into compliance; and
  - (4) The corrective action taken or planned to reduce, eliminate and prevent reoccurrence.
- d. Report an incident of noncompliance with COE Permits to the Engineer immediately. The Engineer will notify the COE.
- 5. Hazardous Materials Reporting Requirements.

Report any release of a hazardous substance immediately to the Engineer, as soon as the person has knowledge of the discharge.

Report spills of petroleum products or other hazardous materials to the Engineer and other agencies as required by law, and according to the CGP Part 9.3.

a. To water.

Any amount of hazardous material released must be reported immediately to the Engineer, DEC, and the Coast Guard.

b. To land.

Any release of a petroleum product, must be reported as soon as the person has knowledge of the discharge, CGP Part 9.3.2.

- (1) Release in excess of 55 gallons,
- (2) Release in excess of 10 gallons but less than 55 gallons, must be reported to the DEC within 48 hours after the person has knowledge of the discharge, and
- (3) Release in excess of 1 gallon to 10 gallons, must be recorded, logged, and provided to the DEC on a monthly basis.
- c. Use the HMCP and SPCC Plan for contact information to report spills to regulatory agencies.
- d. Implement measures to prevent the reoccurrence of and to respond to the release of hazardous materials.
- e. Prior to disposal of contaminated material, submit a Contaminated Media Transport and Treatment Disposal Approval Form to the DEC Division of Spill Prevention and Response. Dispose as approved by the DEC.
- 6. Maintenance of BMPs and Corrective Action.

Implement maintenance and corrective action as required by the CGP Part 4.13 and Part 8.0, SWPPP, and manufacturer's specifications, whichever is more restrictive.

a. Implement corrective actions. Comply with the CGP Part 8.0 and the SWPPP.

- b. Corrective Action deadlines and documentation.
  - (1) Complete Corrective actions according to the CGP Part 8.2.
  - (2) Document corrective actions in the Corrective Action Log, Form 25D-112, according to the SWPPP, CGP Part 5.9.2, and Part 8.3.

If a different BMP is installed to correct the condition leading to the corrective action, a SWPPP Amendment must be completed.

(3) Document the conditions, in the Corrective Action Log, for corrective actions not completed according to the CGP 8.2. Notify the Engineer, and implement the corrective action as soon as possible.

The Engineer may assign a new complete-by date using a Delayed Action Item Report, Form 25D-113 (DAIR Form), if the Contractor is unable to complete the corrective action within the required timeframe. The DAIR Form can only be authorized and completed by the Engineer.

- 7. Stabilization.
  - a. All Soil stabilization requirements must be met in accordance with CGP Part 4.5 and the SWPPP.
  - b. When temporary or permanent seeding is required, provide a working hydro seeding equipment located within 100 miles of the project by road; with 1,000 gallon or more tank capacity, paddle agitation of tank, and the capability to reach the seed areas with an uniform mixture of water, seed, mulch and tackifier. If the project is located in an isolated community, the hydro-seeder must be located at the project.
  - c. Apply temporary seed and stabilization measures after preparing the surface to reduce erosion potential and to facilitate germination and growth of vegetative cover according to Section 618 and 619.
  - d. Apply permanent seed and other stabilization measures after land-disturbing activity has permanently ceased. Comply with the CGP, SWPPP, and the Contract Sections 618, 619, 724, and 727.
  - e. Incorporate final or temporary stabilization immediately after installing culverts or other drainage structures to satisfy the CGP Part 4.5, SWPPP and Engineer. Stabilize under any bridge and in areas upstream and downstream of culverts, drainages and areas disturbed by related construction activities after installation, or before deactivating stream bypass or diversion.
  - f. Stabilization before Fall Freeze-up, and Spring Thaw.

Stabilize Construction Activities within the Project Zone with BMPs prior to the anticipated date of fall freeze-up, according to the SWPPP and CGP Part 4.12.

Exceptions to stabilization prior to anticipated date of fall freeze-up include:

- (1) Where temporary stabilization activities are precluded by snow cover or frozen ground conditions prior to the anticipated date of fall freeze-up, stabilization measures must be initiated as soon as practicable following the actual spring thaw.
- (2) When winter construction activity is authorized by the Engineer and conducted according to the Contract.
- 8. Ending CGP Coverage.
  - a. The Engineer will determine the date that the following conditions for ending CGP coverage have been met within the Project Zone:
    - (1) Land disturbing activities have ceased;

- (2) Final Stabilization has been achieved on all portions of the Project Zone, including Department furnished material sources, disposal sites, staging areas, equipment areas, etc., according to the CGP Part 4.5.2; and
- (3) Temporary BMPs have been removed.
- b. After the Engineer has determined the conditions for submitting an eNOT have been met according to the CGP Part 10.2, the Department will:
  - (1) Send written notice to the Contractor with the date that the conditions were met;
  - (2) Submit an eNOT to DEC within 30 days, and
  - (3) Provide a copy of the eNOT and DEC's acknowledgement letter to the Contractor.
- c. If the Contractor's CGP eNOI acreage includes Support Activities and any other areas where the Department is not an Operator, the Contractor may not be able to file an eNOT at the same time as the Department.
- d. The Contractor must submit a copy of each signed eNOT and DEC's acknowledgement letter to the Department within three days of filing the eNOT or receiving a written response. Insert the eNOT and DEC acknowledgement letter in the SWPPP Appendix Q.
- e. The Contractor is responsible for coordinating local government inspections of work and ending permit coverage with local governments. See Subsection 641-1.03.6 for more information.
- 9. Ending Inspections, BMP maintenance, and SWPPP Updates in the Project Zone.

The Contractor is responsible for continuing inspections, BMP maintenance, and SWPPP updates until permit coverage is ended.

10. Transmit final SWPPP.

Collate all documents into a single electronic file before transmittal. Transmit one electronic copy of the final SWPPP to the Engineer according to Subsection 641-1.03.1.

# 641-3.02 SWPPP DOCUMENTS, LOCATION ON-SITE, AVAILABILITY, AND RECORD RETENTION.

The SWPPP and related documents maintained by the Contractor are the Record for demonstrating compliance with the CGP. Copies of SWPPP documents transmitted to the Engineer under the requirements of this specification are informational and do not relieve the Contractor's responsibility to maintain complete records as required by the CGP and this specification.

Keep the SWPPP, HMCP, and SPCC Plan at the on-site project office. If there is not an on-site project office, keep the documents at a locally available location that meets CGP requirements and is approved by the Engineer. Records may be moved to another office for record retention after the eNOTs are filed. Records may be moved to another office during winter shutdown. Update on-site postings if records are relocated during winter shutdown. Provide the Department with copies of all Records.

Retain Records including a copy of the SWPPP, for at least three years after the date of eNOT according to the CGP Part 9.4.

The SWPPP and related documents must be made available for review and copy, to the Department and other regulatory agencies that request them. See CGP Parts 5.10, 6.6 and 9.5.

## 641-3.03 SWPPP INSPECTIONS, AMENDMENTS, REPORTS, AND LOGS.

Perform Inspections, prepare Inspection Reports, and prepare SWPPP Amendments in compliance with the SWPPP and the CGP using Department forms from the DOT&PF Construction Forms website.

1. Inspection during Construction.

Conduct Inspections according to the schedule and requirements of the SWPPP and CGP Part 6.0, except inspect once every seven calendar days regardless of the precipitation amount, Subsection 641-2.01.3.n.

Inspections required by the CGP and SWPPP must be performed by the Contractor's SWPPP Manager and the Department's Storm Water Inspector jointly, unless approved by the Engineer, when:

- a. One of the inspectors is not on site, access is only by air, and weather delayed or canceled flights;
- b. One of the inspectors is sick;
- c. The project is on a reduced frequency inspection schedule with no staff on site, the only access to the site is by air, and it is economical to send only one inspector; or
- d. When the Engineer determines a safety concern that makes joint inspection impracticable.

When this is the case, the Operator who conducts the Inspection must provide a copy of the Inspection Report to the other Operator within three days of the Inspection date and document the date of the report transmittal in Appendix K.

2. Inspection Reports.

Use only the Department SWPPP Construction Site Inspection Report, Form 25D-100, to record Inspections. Changes or revisions to Form 25D-100 are not permitted, except for adding or deleting data fields that list: Location of Discharge Points and Site Specific BMPs. Complete all fields in the Inspection Report; do not leave any field blank.

The Superintendent or SWPPP Manager must review and correct all errors within three days of the date of inspection.

Inspection Reports must be signed by the person described in the CGP Appendix A, Part 1.12 or by a duly authorized representative of that person. Only the Superintendent can certify the Inspection Form.

Insert a Complete-by-Date for each corrective action listed that complies with the CGP Part 8.2.

Provide a copy of the completed, unsigned Inspection Report to the Engineer by the end of the next business day following the inspection.

The Engineer may coordinate with the Superintendent to review and correct any errors or omissions before the Superintendent signs the report. Corrections are limited to adding missing information or correcting entries to match field notes and conditions present at the time the Inspection was performed. The signed and certified Inspection Report must be provided to the Engineer on the same day the Superintendent signed the form.

The Engineer will sign and certify the Inspection Report and will return the original to the Contractor within three working days if compliant with the CGP and SWPPP.

If the Inspection Report is not compliant with the CGP or SWPPP, the Engineer may make corrections after the Superintendent has signed and certified the Inspection Report. The Engineer will initial and date each correction. If the Engineer makes corrections, the Superintendent must recertify the Inspection Report by entering a new signature and date in the white space below the original signature and date lines. Send a copy of the recertified Inspection Report to the Engineer on the day it is recertified.

When an Inspection Report, certified by both the Superintendent and Engineer, requires corrections:

- a. Document the corrections in an addendum memo addressing only the omitted or erroneous portions.
- b. Superintendent and Engineer sign and certify the updated Inspection Report and the addendum memo.
- c. File the corrected Inspection Report and addendum memo in Appendix K and update the amendment log.

The issuance of an addendum memo does not relieve the Contractor of liquidated damages that may have been incurred as a result of the error on the original certified inspection report.

#### 3. Items and Areas to Inspect.

Conduct inspections of all areas required by the CGP Part 6.4 and SWPPP.

#### 4. Reduced Inspection Frequencies.

Conduct Inspections according to the inspection schedule indicated in the approved SWPPP. Any change in inspection frequency must be approved by the Engineer, and beginning and ending dates documented as an amendment to the SWPPP.

The frequency of inspections may be reduced according to the CGP Part 6.2.1 if the site is stabilized and the reduced frequency is approved by the Engineer. At actively staffed sites, inspect within two business days of the end of a storm event that results in a discharge from the site.

#### 5. Winter Shutdown Inspections.

Conduct winter shutdown inspection 14 calendar days after the anticipated fall freeze-up date and conditions under the CGP Parts 4.12.and 6.2.3, and the SWPPP are met. The Engineer may approve suspension of inspections and waive requirements for updating the Grading and Stabilization Activities Log and Daily Record of Rainfall, Form 25D-115, during winter shutdown.

Inspections must resume on a regular frequency or reduced inspection frequency identified in the SWPPP, at least 21 days before anticipated spring thaw, CGP Part 6.2.3. Resume updating the Daily Record of Rainfall Form at the start of the 21-day spring thaw inspection.

#### 6. Inspection before Project Completion.

Conduct Inspection to ensure Final Stabilization is complete throughout the Project, and temporary BMPs that are required to be removed are removed. Temporary BMPs that are biodegradable and are specifically designed and installed with the intent of remaining in place until they degrade, may remain in place after project completion if approved by the Engineer.

#### 7. <u>SWPPP Amendments and SWPPP Amendment Log</u>.

The SWPPP Amendment Log, Form 25D-114, must be filled out by an individual who holds a current AK-CESCL, or equivalent certification. The Superintendent or the SWPPP Manager must sign and date amendments to the SWPPP and updates to the SWPPP Amendment Log.

SWPPP Amendments must be approved by the Engineer.

Amendments must occur:

- a. Whenever there is a change in design, construction operation, or maintenance at the construction site that has or could cause erosion, sedimentation or the discharge of pollutants that has not been previously addressed in the SWPPP;
- b. If an Inspection identifies that any portion of the SWPPP is ineffective in preventing erosion, sedimentation, or the discharge of pollutants;

- c. Whenever an Inspection identifies a problem that requires additional or modified BMPs or a BMP not shown in the original SWPPP is added;
- d. If the Inspection frequency is modified (note beginning and ending dates);
- e. When there is a change in personnel who are named in the SWPPP, according to Subsection 641-2.01;
- f. When an inspection is not conducted jointly;
- g. When an eNOI modification is filed;
- h. When a Noncompliance Report is filed with the DEC.

Place all correspondence with the DEC, EPA or MS4s in Appendix Q.

Amend the SWPPP as soon as practicable after any change or modification, but in no case, later than seven days following identification of the need for an amendment. All SWPPP Amendments must have an amendment number, be dated, and signed.

Keep the SWPPP Amendment Log current. Prior to a scheduled Inspection or submittal of an inspection, submit to the Engineer a copy of the pages of the Amendment Log that contain new entries since the last submittal. Include copies of any documents amending the SWPPP.

Keep the SWPPP Amendment Log in appendix M.

8. Site Maps.

Maintain site maps in accordance with CGP Part 5.3.5 and the SWPPP Template 5.0. It is acceptable to have separate site maps for BMPs, grading and stabilization activities.

9. <u>Corrective Action Log</u>.

The Superintendent and SWPPP Manager are the only persons authorized to make entries on the SWPPP Corrective Action Log, Form 25D-112.

The Corrective Action Log must document corrective actions required by the conditions listed in the CGP Part 8.0. Document the need for corrective action within 24 hours of either:

- a. Identification during an inspection, or
- b. Discovery by the Department's or Contractor's staff, a subcontractor, or a regulatory agency inspector.
- c. If a corrective action is discovered outside of an inspection, update the log with the date of discovery, the proposed corrective action, and the date the corrective action was completed.

Keep the Corrective Action Log current and submit a copy to the Engineer prior to performing each scheduled SWPPP Inspection.

Keep the Corrective Action Log in Appendix J.

#### 10. Grading and Stabilization Activities Log.

The Superintendent and SWPPP Manager are the only persons authorized to date and initial entries on the SWPPP Grading and Stabilization Activities Log, Form 25D-110. Use the SWPPP Grading and Stabilization Activities Log, to record land disturbance and stabilization activities.

Keep the Grading and Stabilization Activities Log current and submit a copy to the Engineer prior to performing each scheduled SWPPP Inspection. Keep the Grading and Stabilization Activities Log organized and completed to demonstrate compliance with the CGP Part 4.5.

Keep the Grading and Stabilization Activities Log in Appendix G.

11. Daily Record of Rainfall.

Use SWPPP Daily Record of Rainfall, Form 25D-115, to comply with CGP Part 7.3.9. Submit a copy to the Engineer with each completed Inspection Report. Keep the Daily Record of Rainfall current in Appendix N.

For projects on a 14-day inspection frequency or reduced inspection frequency, SWPPPTrack will generate a precipitation alert for storm events that produce more than 0.5 inch of rainfall in 24 hours. If a storm event does not produce a discharge from the project zone, submit an explanation in response to the SWPPPTrack precipitation alert.

12. Staff Tracking Log.

Use the SWPPP Project Staff Tracking, Form 25D-127, to identify project staff that are required to be AK-CESCL certified or an equivalent qualification, CGP Appendix C. Complete this form to document the positions of Superintendent, SWPPP Manager, Engineer, DOT&PF Storm Water Inspector, and when these positions have changed personnel, either permanently or temporarily. Update the SWPPP Project Staff Tracking Form within 24 hours of any changes in personnel, qualifications, or other staffing items related to administration of the CGP or Section 641.

## 641-3.04 FAILURE TO PERFORM WORK.

The Engineer has authority to suspend work and withhold monies for an incident of non-compliance with the CGP, or the SWPPP, that may endanger health or the environment or for failure to perform work related to Section 641.

## Non-compliance.

- 1. Incidents of Non-compliance. Failure to:
  - a. Obtain appropriate permits before Construction Activities occur;
  - b. Perform SWPPP Administration;
  - c. Perform timely Inspections;
  - d. Update the SWPPP;
  - e. Transmit updated SWPPP, Inspection Reports, and other updated SWPPP forms to the Engineer;
  - f. Maintain effective BMPs to control erosion, sedimentation, and pollution in accordance with the SWPPP, the CGP, and applicable local, state, and federal requirements;
  - g. Perform duties according to the requirements of Section 641;
  - h. Meet requirements of the CGP, SWPPP, or other permits, laws, and regulations related to erosion, sediment, or pollution control; or
  - i. Any other requirements established or included in the Contract.
- 2. Notice of non-compliance, either oral or written will include:
  - a. Reason/defects
  - b. Corrective actions required
  - c. Time allowed for completing the corrective action

- 3. Levels of Non-compliance and Response correspond with harm to the workers, the public or the environment and whether the harm is:
  - a. **Not-imminent**, the Engineer will either orally or in writing, or both, provide notice to the Contractor indicating the incident of non-compliance.

Contractor's that take corrective action and complete the action to the satisfaction of the Engineer, within the time specified, may return to the status of compliance, and avoid elevating the response to imminent.

b. **Imminent**, the Engineer will orally provide notice to the Contractor of non-compliance and promptly provide written notice to suspend work until corrective action is completed.

Additional actions, taken against the Contract whether the level of non-compliance is Not-imminent or Imminent, may include:

- a. Withholding monies until corrective action is completed
- b. Assessing damages or equitable adjustments
- c. Employing others to perform the corrective action and deduct the cost

No additional Contract time or additional compensation is allowed due to delays caused by the Engineer's suspension of work.

## 641-3.05 ACCESS TO WORK.

The Project, including any related off-site areas or support activities, must be made available for inspection, or sampling and monitoring, by the Department and other regulatory agencies. CGP Part 6.6.

# 641-4.01 METHOD OF MEASUREMENT.

See Section 109 and as follows:

Item 641.0005.\_\_\_\_, measured as specified in the Directive authorizing the work.

Item 641.0006.\_\_\_\_, measured as specified in Table 641-2 Version C.

## 641-5.01 BASIS OF PAYMENT.

- 1. <u>BMP Values</u>. Table 641-1 BMP Values Reserved.
- Erosion, Sediment, and Pollution Control Liquidated Damages. Liquidated Damages assessed according to Table 641-2 are not an adjustment to the Contract amount. These damages charges are related to Contract performance but are billed by the Department to the Contractor, independent of the Contract amount. An amount equal to the Liquidated Damages may be withheld, for unsatisfactory performance, from payment due under the Contract until the Contractor remits payment for billed Liquidated Damages.

# TABLE 641-2- VERSION C

### **EROSION, SEDIMENT AND POLLUTION CONTROL – LIQUIDATED DAMAGES**

		Deductible	Cumulative
		Amount in	Deductible Amounts
Code	Specification Section Number and Description	Dollars	in Dollars
Α	641-1.05 Failure to have a qualified (AK-CESCL or	Calculated in	
	equivalent) SWPPP Manager	Code B or F	
В	Failure to meet SWPPP requirements of:	\$750 per	
	(1) 641-2.01.1 Name of SWPPP Preparer	omission	
	(2) Not Applicable		
	(3) 641-3.03.8 Sign and Date SWPPP		
	amendments by qualified person.		
	(4) 641-3.02 Records maintained at project and		
	made available for review		
C	Not Applicable.		
D	641-3.03.5 Failure to stabilize a Project prior to fall	\$5,000 per	
	freeze-up.	Project per	
		year	
E	641-2.01.1. Failure to conduct pre-construction	\$2,000 per	
	Inspections before Construction Activities on all	Project	
<b>E</b> *	641.2.02 Eailure to conduct and record CCP	¢750 por	Additional \$750 for
F	Inspections		every additional 7 day
	641-3 03 1 Personnel conducting Inspections and	inspection	period without
	Frequency		completing the
	641-3.03.2 Inspection Reports use Form 25D-100		required inspection
	completed with all required information		
G	641-3.01.4 Corrective action, failure to timely	\$500 per	
	accomplish BMP maintenance and/or repairs. In	Project per day	
	effect until BMP maintenance and/or repairs is		
	completed.		
н	641-3.01.3 Failure to provide to the Engineer and	\$750 for the	Additional \$750 for
	DEC a timely oral noncompliance report of	first day the	every 14 day period
	violations or for a deficient oral noncompliance	report is late or	without the required
	report	deficient	Information
	641-3.01.3 Failure to provide to the Engineer and	\$750 for the	Additional \$750 for
	DEC a unitely written noncompliance report, use	report in late or	every 14 day period
	noncompliance report	deficient	information
	641-3.04 Failure to comply with the requirements of	\$750 per	Additional \$750 for
5	the CGP approved SWPPP and Section 6/1		every day the
	excent as listed above	the first day of	deficiency remains
		noncompliance	
L		noncompliance	

\*CODE F. Liquidated Damages according to Code F will not be billed for typographic errors and minor data entry errors, except the liquidated damages will be assessed for these errors when:

a. the Contractor has previously been notified and subsequent inspection reports repeat the same or similar error,

- b. multiple inspection reports are submitted after the submission due date and the same or similar errors are repeated on multiple overdue reports,
- c. an error in recording the inspector's AK-CESCL certification date results in an inspector performing the inspection during a period when their certification was lapsed or was otherwise invalid

See Subsection 641-3.04 Failure to Perform Work, for additional work and payment requirements.

<u>Item 641.0001.</u> <u>Erosion, Sediment, and Pollution Control Administration</u>. At the Contract lump sum price for administration of all work under this Section. Includes, but is not limited to, SWPPP and HMCP and SPCC Plan preparation, agency fees for SWPPP reviews, SWPPP amendments, pre-construction Inspections, Inspections, monitoring, reporting, and recordkeeping or copying Records related to the SWPPP and required by the CGP, and Record retention.

<u>Item 641.0005.</u> <u>Temporary Erosion, Sediment and Pollution Control by Directive</u>. At the contingent sum prices specified in the Directive using time and materials to authorize the work, for all labor, supervision, materials, equipment, and incidentals to install, maintain, remove and dispose of temporary erosion, sedimentation, and pollution control BMPs. Prices for this item will be by time and materials according to Subsection 109-1.05, or by mutual agreement between the Engineer and Contractor. All additional Erosion, Sediment, and Pollution Control Administration necessary due to this item will not be paid for separately but will be subsidiary to other bid items.

<u>Item 641.0006.</u> <u>Withholding</u>. The Engineer may withhold an amount equal to Liquidated Damages, assessed according to Section 641, from payment due the Contractor. Liquidated Damages for violations of the Contract, CWA, and CGP are determined by the Engineer according to Table 641-2. The Engineer may withhold payment due the Contractors until the Contractor pays the Liquidated Damages to the Department.

The Department will not release performance bonds until Liquidated Damages assessed according to Section 641 are paid to the Department, and all requirements according to Subsection 103-1.05 are satisfied.

<u>Item 641.0007.</u> <u>SWPPP Manager</u>. At the Contract lump sum price for a SWPPP Manager that conforms to this specification. When Item 641.0007.\_\_\_\_ appears in the Bid Schedule, the SWPPP Manager must be a different person than the superintendent, and must be physically present during construction activity with duties and authority as described in Subsection 641-2.04. When Item 641.0007.\_\_\_\_ does not appear in the Bid Schedule, the SWPPP Manager is subsidiary to Item 641.0001.\_\_\_\_.

<u>Item 641.0008.</u> <u>SWPPPTrack</u>. Payment for purchasing and contracting with SWPPPTrack AK LTD for the use of the SWPPPTrack software application and services will be based on paid receipts plus a 5 percent markup.

<u>Subsidiary Items</u>. Temporary erosion, sediment, and pollution control measures that are required outside the Project Zone are subsidiary. Work required by the HMCP and SPCC Plan including hazardous material storage, containment, removal, cleanup and disposal, are subsidiary to Item 641.0001.\_\_\_\_\_ Erosion, Sediment and Pollution Control Administration.

<u>Work under other pay items</u>. Work that is paid for directly or indirectly under other pay items will not be measured and paid for under Section 641. This work includes but is not limited to:

- 1. Dewatering;
- 2. Shoring;
- 3. Bailing;
- 4. Permanent seeding;
- 5. Installation and removal of temporary work pads;
- 6. Temporary accesses;
- 7. Temporary drainage pipes and structures;
- 8. Diversion channels;
- 9. Settling impoundment; and
- 10. Filtration.

Permanent erosion, sediment, and pollution control measures will be measured and paid for under other Contract items, when shown on the bid schedule.

<u>Work at the Contractor's Expense</u>. Temporary erosion, sediment, and pollution control measures that are required due to carelessness, negligence, or failure to install temporary or permanent controls as scheduled or ordered by the Engineer, or for the Contractor's convenience, are at the Contractor's expense.

Payment will be made under:

Item Number	Item Description	Unit
641.0001	Erosion, Sediment and Pollution Control Administration	LS
641.0005	Temporary Erosion, Sediment and Pollution Control by Directive	CS
641.0006	Withholding	CS
641.0007	SWPPP Manager	LS
641.0008	SWPPPTrack	CS

CR641-24.0401

Replace Section 643 with the following:

## SECTION 643 TRAFFIC MAINTENANCE

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

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

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

643-1.02 DEFINITIONS. These definitions apply only to Section 643.

**ATM**. When used in this Section, ATM stands for the Alaska Traffic Manual, which is comprised of the Manual on Uniform Traffic Control Devices (MUTCD), the Alaska Traffic Manual Supplement, any adopted revisions or interim addenda to either document issued subsequently, and corrections to known errors to either document.

**BALLOON LIGHT**. Light surrounding by a balloon-like enclosure kept inflated by pressurized air or helium, and producing uniform light through 360 horizontal degrees.

**CONSTRUCTION PHASING PLAN**. A plan for each phase of the project showing how to accommodate traffic. Show the sequence of work by segment or phase, if required.

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

**NIGHT WORK**. Work occurring between sunset and sunrise on all days except the "No Lighting Required" period shown in the Table 643-1 below:

PROJECT LOCATIONS - NIGHT TIME ILLUMINATION EXCLUSION			
Latitude	No Lighting Required		Nearby Cities
(degrees)	Start	End	
South of 61	Lighting	Required All Year	Everything South of Hope
61	June 11	July 1	Anchorage, Valdez, Girdwood
62	June 2	July 13	Wasilla, Palmer, Glennallen, Talkeetna
63	May 27	July 17	Cantwell, Paxson, McGrath
64	May 22	July 21	Tok, Delta, Nome
65	May 18	July 25	Fairbanks
66	May 14	July 29	Circle City
67	May 10	August 2	Coldfoot, Kotzebue
68	May 7	August 6	Galbraith Lake
69	May 3	August 9	Happy Valley
70	April 30	August 12	Deadhorse
71	April 27	August 15	Barrow
72	April 24	August 19	

 TABLE 643-1

 PROJECT LOCATIONS – NIGHT TIME ILLUMINATION EXCLUSION

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

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

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

**643-1.03 TRAFFIC CONTROL PLAN**. Implement an approved TCP before beginning work within the project limits.

The TCP includes, but is not limited to, signs, barricades, traffic cones, plastic safety fence, sequential arrow panels, portable changeable message board signs, special signs, warning lights, portable concrete barriers, crash cushions, flaggers, pilot cars, interim pavement markings, temporary lighting, temporary roadways and all other items required to direct traffic through or around the traffic control zone according to these Specifications and the ATM. Address in the TCPs placement of traffic control devices, including location, spacing, size, mounting height and type. Include code designation, size, and legend per the ATM and the Alaska Sign Design Specification (ASDS). Include longitudinal buffer space for the posted speed limit, according to Table 6C-2 of the ATM unless project conditions or geometric features prohibit including all or a portion of the buffer length.

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

Submit new or modified TCPs to the Engineer for approval. All TCPs must include the following information:

- 1. Project name and number.
- 2. A designated TCP number and name on each page.
- 3. For TCPs more than one page, each page must be numbered.
- 4. The posted speed limit for each roadway.
- 5. Existing striping width, lane width, and road surfacing.
- 6. Construction lane widths, striping layout, and temporary pavement marker layout.
- 7. Provisions for Pedestrian, Bicycle, and ADA travel through the work zone.
- 8. Dates and times the TCP will be in effect and why it is being used.
- 9. The Worksite Traffic Supervisor's signature certifying that all TCPs conform to the ATM and the Contract.
- 10. The Project Superintendent's signature confirming the TCP is compatible with the work plan.
- 11. The name(s) of the Worksite Traffic Supervisor, his/her alternate and their 24-hour telephone number(s).
- 12. Signs to be used and the ASDS designation number and size.
- 13. Location and spacing of all devices and signs.
- 14. A plan to address any possible slopes, drop offs, paving joints, or similar temporary features that may occur during use of the TCP.
- 15. For TCPs proposed to be used at night, note how the requirements will be met for the required lighting and retroreflective material.

TCPs submitted for approval without all the required information will be rejected. Allow 7 days for review of each TCP submittal. All required modifications to a TCP require a new submission and an additional 7 days for review.

A minor revision to a previously approved TCP during construction requires 48 hours for review and approval by the Engineer.

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

A waiver may be requested, in writing, of regulation 17 AAC 25 regarding oversize and overweight vehicle movements inside the project limits. If the waiver is approved, movements of oversize and overweight vehicles in or near traffic inside the project limits will be done according to the provisions of an approved Traffic Control Plan. Maintain a minimum 12-foot lateral separation between the nonstreet legal vehicles and the motoring public. The Traffic Control Plan shall specify the traffic control devices required for these operations.

**Road Closures and Major Traffic Sequencing (events)**. Submit a written request to the Engineer for review and approval of each proposed event and event date. Allow 7 days for the Engineer to review any proposed event or subsequent changes/corrections. The proposed event date will be no less than 14 days from the date of written approval.

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

- 1. **Qualifications**. Provide a Worksite Traffic Supervisor knowledgeable and experienced regarding the requirements of the ATM and the implementation of those requirements. Provide a Worksite Traffic Supervisor familiar with the Plans, the Specifications, proposed operations, and certified as one of the following:
  - a. Traffic Control Supervisor, American Traffic Safety Services Association (ATSSA)
  - b. Traffic Control Supervisor, Laborers' International Union of North America (LIUNA)
  - c. Work Zone Temporary Traffic Control Technician, International Municipal Signal Association (IMSA). After December 31, 2026 IMSA certification will not be accepted.

Certify according to Form 25D-124 that the Worksite Traffic Supervisor has a minimum 4000 hours of temporary traffic control work experience, is competent and capable, and has the authority to perform the duties and responsibilities in accordance with this section.

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

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

## 2. Duties.

- a. Prepare the TCPs and public notices and coordinate traffic control operations between the Project Superintendent and the Engineer.
- b. Physically inspect the condition and position of all traffic control devices used on the project at least twice each day and at approximately 12-hour intervals. Ensure that traffic control devices work properly, are clean and visible, and conform to the approved TCP. Complete and sign a detailed written report of each inspection within 24 hours. Use Traffic Control Daily Review Form 25D-104.
- c. Supervise the repair or replacement of damaged or missing traffic control devices.
- d. Review and anticipate traffic control needs. Make available proper traffic control devices necessary for safe and efficient traffic movement.
- e. Review work areas, equipment storage, and traffic-safety material handling and storage.
- f. Hold traffic safety meetings with superintendents, foremen, subcontractors, and others as appropriate before beginning construction, prior to implementing a new TCP, and as directed. Invite the Engineer to these meetings.
- g. Supervise all traffic control workers, flaggers, and pilot car drivers.
- h. Certify that all flaggers are certified as required by Subsection 643-3.04.4. Submit a copy of all flagger certifications to the Engineer.
- i Supervise lighting for night work.
- 3. **Authority**. The Worksite Traffic Supervisor shall have the Contractor's authority to stop work and implement immediate corrective action to unsafe traffic control, in locations where unsafe traffic control is present.

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

- 1. Form 25D-124 designating the Worksite Traffic Supervisor, providing the 24-hour telephone number, and certifying minimum 4,000 hours of work experience as described in 643-1.04 Worksite Traffic Supervisor.
- 2. A construction-phasing plan for each phase or segment of the project.
- 3. TCPs for the first phase of the project. Show permanent and temporary traffic control measures, including the times each TCP will be used.

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

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

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

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

- 1. Signs. Use signs, including sign supports, that conform to Section 615, the ATM, and ASDS.
  - a. Construction Signs: Regulatory, guide, or construction warning signs designated in the ASDS.
  - b. Permanent Construction Signs: As designated on the Plans or an approved TCP.
  - c. Special Construction Signs: All other signs are Special Construction Signs. Neatly mark the size of each sign on its back in 3-inch black numerals.
- 2. **Portable Sign Supports**. Use wind-resistant sign supports with no external ballasting. Use sign supports that can vertically support a 48 X 48 inch traffic control sign at the height above the adjacent roadway surface required by the ATM.
- 3. Barricades and Vertical Panels. Use barricades and vertical panel supports that conform to the ATM. Use Type III Barricades at least 8 feet long. Use retroreflective sheeting that meets ASTM D4956 Type II or III.
- 4. Portable Concrete Barriers. Use portable concrete barriers that conform to the Contract. For each direction of traffic, equip each 12.5-foot section of barrier with at least two side-mounted retroreflective tabs placed approximately 6 to 8 feet apart, or a continuous 4-inch wide horizontal retroreflective stripe mounted 6 inches below the top of the barrier. Use yellow tabs or stripe when barriers are placed at centerline. Use white tabs or stripe when barriers are placed on the roadway shoulder. Use retroreflective sheeting that meets ASTM D4956 Type III, IV or V.
- 5. **Warning Lights**. Use Type A (low intensity flashing), Type B (high intensity flashing) or Type C (steady burn) warning lights that conform to the ATM.
- 6. **Drums**. Use plastic drums that conform to the requirements of the ATM. Use retroreflective sheeting that meets ASTM D4956 Type II or III.
- 7. **Traffic Cones and Tubular Markers**. Use reflectorized traffic cones and tubular markers that conform to the requirements of the ATM. Use traffic cones and tubular markers at least 28 inches high. Use retroreflective sheeting that meets ASTM D4956 Type II or III.
- 8. **Interim Pavement Markings**. Apply markings according to Section 670 and the manufacturer's recommendations. Use either:
  - a. Paint meeting Subsection 708-2.03 with glass beads meeting Subsection 712-2.08,
  - b. Preformed Marking Tape (removable or non-removable) meeting Subsection 712-2.14, or
  - c. Temporary Raised Pavement Markers meeting 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 retroreflective sheeting that meets ASTM D4956 Type III, IV or V. Application of crash cushion must be appropriate for the intended use and be installed per manufacturer's recommendation. Temporary crash cushions used as rail or barrier end treatments must be redirective. Temporary crash cushions that are barrels or barricade filled with sand or water may only be used when the forecasted temperature during their use is above 32 degrees Fahrenheit.
- 11. **Sequential Arrow Panels**. Use Type A (24 X 48 inch), Type B (30 X 60 inch) or Type C (48 X 96 inch) panels that conform to the ATM.
- 12. **Portable Changeable Message Board Signs**. Use new truck or trailer mounted portable changeable message board signs with self-contained power supply for the sign and with:
  - a. Message sign panel large enough to display 3 lines of 18-inch high characters
  - b. Eight character display per message module

- c. Fully programmable message module
- d. Remote control cellular, wireless radio frequency (RF), landline
- e. Waterproof, lockable cover for the controller keyboard
- f. Capacity for electric/hydraulic sign raising or lowering
- g. Radar over speed detection
- h. Variable flash and sequence rates
- i. Light emitting diode (LED) display, using Institute of Transportation Engineers (ITE) amber/yellow
- j. The capacity for a minimum of 150 pre-programmed messages
- k. Battery-Pack Operation Duration: minimum of 55 hours under full load
- Power chords shall comply with the National Electrical Code (NEC) Article 600.10 Portable or Mobile Signs, paragraphs 600.10(C)(1) Cords and 600.10(C)(2) Ground-Fault Circuit Interrupter (GFCI). The cord will have integral GFCI protection located in either the attachment plug or 12 inches or less from the plug.
- 13. **Plastic Safety Fence**. Use 4-foot high construction orange fence manufactured by one of the following companies, or an approved equal:
  - a. "Safety Fence" by Jackson Safety, Inc., Manufacturing and Distribution Center, 5801 Safety Drive NE, Belmont, Michigan, 49306. Phone (800) 428-8185.
  - b. "Flexible Safety Fencing" by Carsonite Composites, LLC, 19845 U.S. Highway 76, Newberry, South Carolina, 29108. Phone (800) 648-7916.
  - c. "Reflective Fencing" by Plastic Safety Systems, Inc., 2444 Baldwin Road, Cleveland, Ohio 44104. Phone (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 1/2-inch thick for areas continuously supported by subgrade. Use plywood at least 1 inch thick for areas that are not continuously supported.
  - b. Do not use unsupported 1-inch plywood longer than 30 inches.
  - c. Use plywood with regular surfaces. Do not overlap plywood joints higher than 1/2-inch. Bevel overlap joints so the maximum slope of the overlapping edge is 2 horizontal to 1 vertical.
  - d. Fasten so wind and traffic will not displace temporary surfacing.
- 15. **Temporary Guardrail**. Use temporary guardrail that meets Section 606, except that posts may require placement under special conditions, such as in frozen ground.
- 16. Flagger Paddles. Use flagger paddles with 24 inches wide by 24 inches high sign panels, 8 inch Series C lettering (see ASDS for definition of Series C), and otherwise conform to the ATM. Use retroreflective sheeting that meets ASTM D4956 Type VIII, IX or XI. Use background colors of fluorescent orange on one side and red on the other side.
- 17. **Truck Mounted Attenuator (TMA)**. The TMA shall be mounted on a vehicle with a minimum weight of 15,000 pounds and a maximum weight per the manufacturer's recommendations.

- 18. Portable Steel Barriers. Use portable steel barriers that conform to the contract. For each direction of traffic, equip each section of barrier with side-mounted retroreflective tabs placed approximately 6 to 8 feet apart, or a continuous 4-inch wide horizontal retroreflective stripe mounted 6 inches below the top of the barrier. Use yellow tabs or stripe when barriers are placed at centerline. Use white tabs or stripe when barriers are placed on the roadway shoulder. Use retroreflective sheeting that meets ASTM D4956 Type III, IV, or V.
- 19. Flexible Markers. Refer to Subsection 606-2.01 Materials.

**643-2.02 Crashworthiness**. Temporary Work Zone devices, including portable barriers, manufactured after December 31, 2019, must have been successfully tested to the 2016 edition of Manual for Assessing Safety Hardware (MASH). Such devices manufactured on or before this date, and successfully tested to National Cooperative Highway Research Program (NCHRP) Report 350 or the 2009 edition of MASH, may continue to be used throughout their normal service lives.

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

Catego	Devices	Devices Manufactured Before Dec. 31, 2019 <sup>1</sup>	Devices Manufactured after Dec. 31, 2019 <sup>1</sup>	Method of Documentation
1	Low-mass single-piece devices w/o attachments; traffic cones, tubular markers, single piece drums, delineators	NCHRP 350, MASH 2009, or MASH 2016	MASH 2016	Manufacturer's Certification for devices exceeding height and weight limits
2	Category 1 devices with attachments, barricades, portable sign supports, drums w/lights, other devices weighing less than 100 pounds but not included in Category 1	NCHRP 350, MASH 2009, or MASH 2016	MASH 2016	FHWA eligibility letter, at Test Level 32.
3	Fixed sign supports, truck mounted attenuators, temporary crash cushions, bridge railing, bridge and guardrail transitions, and guardrail and barrier end treatments.	NCHRP 350, MASH 2009, or MASH 2016	MASH 2016	FHWA eligibility letter, at Test Level 32.
	Portable Concrete and steel barriers	NCHRP 350, MASH 2009, or MASH 2016	MASH 2016	FHWA eligibility letter, if available, at Test Level 3, or DOT&PF eligibility determination, unless otherwise required in the Contract

### TABLE 643-2 WORK ZONE TRAFFIC CONTROL DEVICE AND BARRIER CRASH TESTING COMPLIANCE

1 The Engineer will determine whether a device is in serviceable condition. Serviceable means the device will function equivalent to a new device of the same manufacture.

2 When no test level is specified in a FHWA Eligibility letter; it is implied that the tests were run for Test Level 3.

In Table 643-2, Category 1 devices that exceed the following weights and heights require certification that they meet the evaluation criteria of NCHRP Report 350 or MASH, Test Level 3. This certification may be a one-page affidavit signed by the vendor. Documentation supporting the certification (crash tests and/or engineering analysis) must be kept on file by the certifying organization. No certification is required for devices less than or equal to both the weight and height on the schedule below:

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

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

Unless otherwise provided in this Section, keep all roadways, business accesses, and pedestrian facilities within the project limits open to traffic. Obtain the Engineer's approval before temporarily closing residential, commercial, or street approaches. Provide access through the project for emergency vehicles and school and transit buses. Properly sign and/or flag all locations where the traveling public is redirected or stopped. Organize construction operations so the total of all construction related stoppages experienced by a vehicle traveling through the project does not exceed 20 minutes except when indicated otherwise in the Contract.

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

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

Provide and maintain safe routes for pedestrians and bicyclists through or around traffic control zones at all times, except when regulations prohibit pedestrians or bicyclists. Station a flagger, where construction activity encroaches onto the safe route in a traffic control zone, to assist pedestrians, and bicyclists past the construction activity.

Maintain business access(s) during flagging operations.

Immediately notify the Engineer as soon as an employee or a subcontractor becomes aware of any traffic related crash that occurs within the project limits, between construction warnings signs, along a detour route, or involving traffic in a queue back up from project work. Within 3 days fill out the information on Form 25D-123 Work Zone Crash Report and submit a copy to the Engineer.

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

# Traffic Traversing Unpaved Surface(s).

**Traffic Traversing unpaved surface(s).** Coordinate with the Construction Engineer!! Delete the brackets [] after filling in. The total length of unpaved surfaces(s), measured parallel to the roadway, may not exceed the disturbed ground limit in Subsection 652-1.04 and as noted in 643-3.02.

Always include the para. above and below. Fill in the # of concurrent paved surfaces [] (two is preferred). Application: 1R, 3R, 4R projects. Limit the concurrent unpaved surfaces to [xx], and the immediate area of work. Patch with hot mix asphalt less than 48 hours after removing the existing pavement.

Except. Application: 3R and 4R projects. If no exception to the above para. delete "Except" and the 1<sup>st</sup> & 2<sup>nd</sup> para. below. Except:

1st para below: fill in the roadway, # of concurrent unpaved surfaces [], length [] (11,000 ft max 651-1.04). Delete the 2<sup>nd</sup> para. below. [Replace with roadway]. Limit the concurrent unpaved surfaces to [xx], and less than [xx] feet total measured parallel to the roadway. Patch with hot mix asphalt less than [xx] days after removing the existing pavement.

2<sup>nd</sup> para. below is very rare. Do not select this para, for convenience. If the 2<sup>nd</sup> paragraph is used, delete the 1<sup>st</sup> para. above.

[Replace with roadway]. Traffic may traverse a continuous gravel surface for [the project duration, days, months, etc.]

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

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

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

Pave lanes next to the median first. Pave lanes next to exit and entrance ramps last. Place temporary 12:1 sloped wedge of asphalt concrete against the abrupt pavement edge on lanes next to exit and entrance ramps. Do not open the roadway to traffic until slope wedges are in place.

**643-3.03 PUBLIC NOTICE.** Give notice at least 3 days before major changes, delays, lane restrictions, or road closures to local officials and transportation organizations, including but not necessarily limited to:

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

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

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

Additional notices may be given through the Navigator or 511 System for selected projects. Check the special provisions for those requirements.

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

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

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

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

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

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

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

Maintain pre-existing roadside safety hardware at an equivalent or better level than existed prior to project implementation until the progress of construction necessitates removing the hardware. All existing hazards that are currently protected with roadside safety hardware or new hazards which result from project improvements shall be protected or delineated as required in the plans, specifications, and approved TCPs until permanent roadside safety hardware is installed. All temporary roadside safety hardware shall meet crashworthiness requirements of Subsection 643-2.02.

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

1. **Embankments**. Close trenches and excavations at the end of each continuous work shift, except as indicated by the Engineer.

Install portable concrete or steel barrier, plastic drums, barricades, tubular markers, plastic safety fence, and cones as specified on the Plans or TCPs to delineate open trenches, ditches, other excavations, and hazardous areas when they exist along the roadway for more than one continuous work shift.

- Adjacent Travel Lane Paving. When paving lifts are 2 inches or greater and you cannot finish paving adjacent travel lanes or paved shoulders to the same elevation before the end of the paving shift, install: W8-11 (Uneven Lanes), W8-9 (Low Shoulder), W8-17 (Shoulder Drop-Off), W14-3 (No Passing Zone), R4-1 (Do Not Pass), R4-2 (Pass with Care), and W8-1 (Bump) signs as appropriate. Place additional signs every 1500 feet if the section is longer than 1/2 mile.
- 3. Fixed Objects, Construction Vehicles and Equipment Working On or Next to the Traveled Way. Do not park equipment in medians. Locate fixed objects at least 30 feet from the edge of traveled way. Fixed objects that exist prior to construction activity are not subject to this requirement unless the proposed temporary traffic routing moves the edge of traveled way closer to the pre-existing fixed object. Vehicles and other objects within parking lots in urban environments are considered preexisting fixed objects regardless of whether they are or are not present continuously throughout the day.

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

When the Engineer determines a fixed object or fixed objects present unacceptable hazard, use drums, or Type II barricades with flashing warning lights, or use portable concrete or steel barriers, or temporary crash cushion to delineate or shield the hazard, as approved by the Engineer.

Remove obstructions greater than 4 inches above the nominal foreslope grade at the end of each continuous work shift.

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

Flaggers must be certified as one of the following:

- a. ATSSA Flagger
- b. ATSSA Flagging Instructor
- c. LIUNA Flagger
- d. LIUNA Traffic Control Technician
- e. IMSA Work Zone Temporary Traffic Control Technician

After December 31, 2026, IMSA certification will not be accepted.

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

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

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

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

5. Pilot Cars. You may use pilot cars when part of an approved TCP, if the Engineer determines one-way traffic is necessary, or if the route through the traffic control zone is particularly hazardous, involved, or frequently altered to preclude adequate signing. Do not use pilot cars to avoid localized traffic control at several locations. Pilot car operators may not control Automated Flagger Assistance Devices while operating a pilot car.

Organize construction operations so the total of all stoppages experienced by a vehicle traveling through a project does not exceed 20 minutes. However, this does not imply that you may allow 20 minutes in all cases. Coordinate multiple pilot-car operations within a project or adjoining projects to minimize inconvenience to the traveling public. Two or more pilot cars may be used to provide two-way traffic through the traffic control zone to reduce the waiting period. The flagger or pilot car operator must record each pilot car's departure time in a bound field book furnished by the Engineer. Whenever practical, the flagger should tell the motorist the reason for and approximate length of the delay. Make every reasonable effort to yield right-of-way to the public and prevent excessive delay.

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

When pilot car operations are approved, establish all required pilot car traffic control devices before beginning work. Continue pilot car operations until no longer necessary and an approved TCP is in place for operations without pilot car, including all required traffic control devices.

6. **Street Sweeping and Power Brooming**. Keep free of loose material paved portions of the roadway and haul routes open to the public, including sections of roadway off the project where the Contractor's operations have deposited loose material. Use equipment for brooming and sweeping as recommended by the manufacturer and the following:

Dirt, dust and construction materials, mobilized as a result of power brooming and or sweeping, shall not be pushed, ejected, thrown or drift beyond the lesser of, 2 feet from the equipment perimeter or the edge of the paved surface.

All equipment shall operate to typical industry standards. Maintain equipment to operate as designed by the manufacturer. Equipment will employ safety equipment, warning lights, and other as required by the Specifications and these Special Provisions.

Sweeper and Broom Options: Table 643-5, Traffic Control Rate Schedule, Street Sweeping

- a. **Regenerative Sweeper**: Sweeper that blows a stream of air at the paved surface, causing fine particles to rise, and then caught through a vacuum system.
- b. **Vacuum Sweeper**: Sweeper that creates a vacuum at the paved, surface sucking dirt, dust, and debris into a collection system.
- c. **Mechanical Broom Sweeper**: Sweeper designed to pick up and collect larger size road debris, stones and litter, etc. In addition to the requirements noted in these Specifications, use of a mechanical broom sweeper requires the Engineer to approve the sweeper for the intended use.

d. **Power Broom**: Power brooming that wets, pushes and or ejects loose material directly into an attached collection/pickup container may be used when approved by the Engineer. The added moisture will be contained to the paved roadway surface.

Dry Power Brooming is not permitted. Power brooming without direct/immediate means of collection/pickup is not permitted.

7. Watering. Furnish, haul, and place water for dust control and pavement flushing, as directed. Use water trucks that can provide a high-pressure water stream to flush the pavement and a light-water spray to control dust. If the flushing operations contaminate or fill adjacent catch basins, clean and restore them to their original condition. This requirement includes sections of roadway off the project where flushing is required. The Engineer will control water application.

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

- 8. **Portable Changeable Message Board Signs**. Furnish Changeable Message Signs when approved on a TCP. Display only messages approved on the TCP. Follow application guidelines in the ATM.
- 9. Truck Mounted Attenuator (TMA). TMAs are mounted on the rear of work vehicles. Impact attenuators shall meet crashworthiness requirements of 643-2.02. TMAs shall be mounted on a vehicle with a minimum weight of 15,000 pounds and a maximum weight in accordance with the manufacturer's recommendations. TMAs shall have an adjustable height so that it can be placed at the correct elevation during usage and to a safe height for transporting. Approach ends of TMAs shall have impact attenuator markings in accordance with the ATM. Do not use a damaged attenuator in the work. Replace any damaged TMA at your expense.
- 10. **Traffic Control Vehicles**. Use high intensity flashing strobe lights, oscillating beacons, or rotating beacons on the Work Zone Supervisor's vehicle and on vehicles being used to transport and set-up traffic control devices. Vehicle hazard warning lights may supplement but are not permitted to be used instead of high intensity flashing strobe lights, oscillating beacons, or rotating beacons.

**643-3.05 AUTHORITY OF THE ENGINEER.** When existing conditions adversely affect the public's safety or convenience, the Contractor will receive an oral notice, and then a written notice according to Subsection 105-1.01, Authority of the Engineer. The notice will state the defect(s), the corrective action(s) required, and the time required to complete the corrective action(s). In no case shall this time exceed 24 hours. If corrective action(s) are not completed within the specified time, the Engineer may immediately suspend work on the offending operations until the defect(s) are corrected. The Engineer may require outside forces to correct unsafe conditions. The cost of work by outside forces will be deducted from any monies due under the terms of this Contract.

**643-3.06 TRAFFIC PRICE ADJUSTMENT.** A Traffic Price Adjustment, under Item 643.0023.\_\_\_\_, will be assessed for unauthorized lane closures or reductions. Unauthorized lane reductions will be assessed as one full lane closure, for each lane reduced without authorization.

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

Unauthorized lane reductions include unacceptable roadway, pedestrian walkway or route, and bicycle route or pathway surfaces, such as severe bumps, ruts, washboarding, potholes, excessive dust or mud, and non-conforming or out of place traffic control devices. Failure to install temporary crash cushions or barriers, when required according to the Contract or TCP, is also considered an unauthorized lane reduction. The Engineer will make the sole determination whether unauthorized lane reductions or closures are present.

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 643-3, Adjustment Rates, for the time the roadway or pedestrian facility is in an unacceptable condition.

The rates are liquidated damages which represent highway user costs, based on Average Daily Traffic (ADT). The Engineer will use the rate shown for the current ADT for this project, as published in the Regional Traffic Volume Report prepared by the Department's Planning Section. Adjustment rates for unauthorized reduction or closure of each lane of pedestrian walkways or route, and bicycle route or pathway, are the same as for one full roadway lane closure.

Published ADT	Dollars/Minute of Unauthorized Lane Reduction or Closure
Less than 1,000	\$6
1,000-4,999	\$25
5,000-9,999	\$75
10,000-29,999	\$105
30,000+	\$150

# TABLE 643-3 ADJUSTMENT RATES

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

To be relieved of winter maintenance responsibility, leave all roads with a smooth and even surface for public use at all times. Properly crown the roadbed surface for drainage and install adequate safety facilities. Make sure all illumination and signals, including vehicle detectors, are in good working order.

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

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

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

Write lane restrictions in terms of when the Contractor is **Not** allowed on the Roadway. Coord with DOT&PF Traffic and Safety Engineers. **643-3.08 CONSTRUCTION SEQUENCING.** The construction sequencing detailed in these provisions, the Special Provisions, and the Plans is suggested only. The Contractor may propose alternative construction sequencing.

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

Unless otherwise determined by the Engineer and on an approved Traffic Control Plan (TCP), do not restrict traffic during the times listed below:

- Coordinate No. 1 and No. 2 with DOT Traffic & Safety Engineers. Tailor to Project requirements.
- 1. Monday through Friday: 0530 hrs to 0800 hrs and 1630 hrs to 1900 hrs.

## 2. Around any Holiday:

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

No. 3 is a project specific restriction. Coordinate w/ DOT Traffic & Safety Engineers.

3. **During the Alaska State Fair**: Friday from 1600 hrs. to Sunday 2300 hrs on all streets except Palmer-Wasilla Highway. Weekend traffic restrictions not allowed on Palmer-Wasilla Highway.

Add 1<sup>st</sup> or 2<sup>nd</sup> paragraph below, coordinate w/ DOT Traffic & Safety Engineers. Delete other paragraph. Lane restrictions, if allowed, conducted so that no more than a 10 minute accumulated stopped delay, 40 vehicles, or 1/4 mile (1320 feet) of traffic detained, whichever occurs first, before releasing the detained motorists. During paving operations, a 20 minute stopped delay, 80 vehicles, or 1/2 mile (2640 feet) of traffic detained, allowed for motorists, except school buses. If a queue of traffic develops at a stop, empty the entire queue to include the last car that entered the queue at the time the queue was released.

Lane restrictions, if allowed shall be conducted so that no more than a 5 minute accumulated stopped delay, 20 vehicles, or 1/8 mile (660 feet) of traffic is detained, whichever occurs first, before releasing the detained motorists. During paving operations, a 10 minute stopped delay, 40 vehicles, or 1/4 mile (1320 feet) of traffic detained, allowed for motorists, except school buses. If a queue of traffic develops at a stop, empty the entire queue to include the last car that entered the queue at the time the queue was released.

Do not delay the school busses through the construction zone; obtain the local school bus schedule and coordinate work efforts. Submit the plan, as a TCP, to the Engineer for approval before the implementation of the school bus coordination plan.

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

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

Mark existing roadway sections that will be opened to traffic during the winter. Mark over the existing lines and markings, unless shown otherwise on the Plans or an approved TCP.

Maintain all interim pavement markings for their intended life including reapplication when necessary. There will be no compensation to upgrade interim pavement markings required for work operations lasting up to 2 weeks.

Use only temporary raised pavement markers as interim pavement markings on final pavement surfaces. Completely remove and dispose of them when placing the final markings. Completely remove any residual adhesive that might misguide motorists. Place final pavement markings on finished pavement surfaces and interim pavement surfaces before suspending work for the winter.
Stage the construction to avoid routing traffic over conflicting markings, for more than one continuous work shift. If traffic is routed over conflicting markings during a work shift, delineate the roadway with a complement of warning signs, channelizing devices, and flaggers as required by the ATM.

Use only temporary raised pavement markers meeting Subsection 712-2.16 as interim markings on seal coat and surface treatment pavements. Install the markers according to the manufacturer's instructions before applying the asphalt surface material and cover coat. Remove the vinyl protective covers after applying the asphalt pavement.

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

Apply final pavement markings according to Subsection 670-3.01, Construction Requirements, of these Special Provisions.

Keep 1<sup>st</sup> paragraph below if using MMA, keep 2<sup>nd</sup> if using paint. Delete other paragraph.

Do not place final pavement markings until traffic has traveled over the seal coat or surface treatment for at least 15 days and no more than 21 days, as directed by the Engineer.

Apply final pavement markings within 10 days of completing the final sweeping or brooming of the mainline seal coat or surface treatment.

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

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

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

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

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

#### TABLE 643-4 NIGHT WORK ILLUMINATION EQUIPMENT AND LOCATION REQUIREMENTS

If the Contractor fails to provide required lighting equipment or provides lighting that creates unacceptable glare, the Contractor shall cease all construction activities that require illumination, including flagging operations, until the condition or conditions are corrected.

Use lighting equipment in good operating condition and that complies with applicable state and local adopted codes and standards, and OSHA, NEC, and NEMA requirements.

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

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

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

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

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

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

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

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

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

- 1. **Standards**. Use high visibility garments conforming to the requirements of ANSI/ISEA 107-2004, Class 2 for tops or Class E for bottoms, and Level 2 retroreflective material.
- 2. Labeling. Use garments labeled in conformance with Section 11.2 of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010.
- 3. **Tops**. Wear high visibility vests, jackets, or coverall tops at all times.
- 4. **Bottoms**. Wear high visibility pants or coverall bottoms during nighttime work (sunset to sunrise). Worksite traffic supervisors, employees assigned to traffic control duties, and flaggers wear high visibility pants or coverall bottom at all times.
- 5. **Outer Raingear**. Wear raingear tops and bottoms conforming to the requirements of this Subsection 643-3.11.

- 6. **Exceptions**. When workers are inside an enclosed compartment of a vehicle, they are not required to wear high visibility garments.
- 7. **Condition**. Furnish and maintain all vests, jackets, coveralls, rain gear, hard hats, and other apparel in a neat, clean, and presentable condition. Maintain retroreflective material to Level 2 standards.

Payment for high visibility garments for workers is subsidiary to other traffic contract items.

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

- 1. **Traffic Maintenance**. Calendar Day: Every day shown on the calendar, beginning and ending at midnight. Measurement begins on the day following receipt of the Notice to Proceed or on the first day of work at the project site, whichever is later, and ends on the date of project completion.
- 2. Traffic Control Device Items. By the number of units of each bid item shown on the bid schedule (or the Traffic Control Rate Schedule, if item 643.0025.\_\_\_\_, Traffic Control, is included) that are installed, accepted, and operational. Incomplete or unsatisfactory devices will not be measured. Special Construction Signs are measured by the total area of legend-bearing sign panel, as determined under Subsection 615-4.01. Compensation for a 24-hour period shall be made under Construction Signs in the Traffic Control Rate Schedule, Table 643-5. Items measured by the day are for each item per 24-hour period.
- 3. **Traffic Maintenance Setup Items**. By each lane closure or one-lane road in place per hour. By each detour or road closure in place per 24-hour period.
- 4. **Portable Concrete Barrier**. By each nominal 12.5-foot section placed according to the approved TCPs, for the initial placement and for each subsequent relocation when moved more than 10 feet in any direction. Each transition piece (sloping end) will be measured as a single section.
- 5. **Temporary Crash Cushion**. By each acceptable installation.
- 6. **Interim Pavement Marking**. By the single-stripe station. A single stripe is a marking or a temporary raised pavement marker 4 inches wide. Wider striping is measured in multiples of 4 inches. Centerline gaps are not deducted from measurements.
- 7. Flagging and Pilot Car. By the number of approved hours, supported by certified payroll.
- 8. **Street Sweeping**. By the number of operated hours, supported by certified payroll and approved by the Engineer.
- 9. **Watering**. By the 1,000 gallons (M-Gallon) of water applied. The Engineer may specify measurement by weight or volume. If by weight, convert to gallons at 8.34 pounds per gallon. If by volume, convert to gallons at 7.48 gallons per cubic foot.
- 10. **Traffic Price Adjustment**. By each minute that any lane of traffic is not open to full use by the traveling public, measured to the nearest minute. The Engineer will determine whether the roadway is opened to full use.
- 11. **Traffic Control**. By the units specified in the Special Provisions.
- 12. **Portable Changeable Message Board Sign**. By the 24-hour period for each sign, as shown on an approved TCP and displaying an approved message.
- 13. **Plastic Safety Fence**. By the linear foot, as placed, to protect or channelize pedestrian traffic as shown on an approved TCP. Any adjustment in configuration of the fence at the same location that does not result in an increased amount of fence is not measured. Opening and closing the fence to gain access to and from the worksite is not measured.

- 14. Temporary Sidewalk Surfacing. By the square yard as shown on an approved TCP.
- 15. Temporary Guardrail. By the linear foot, including end treatments, as shown on an approved TCP.
- 16. **Portable Steel Barrier**. By the linear foot placed according to the manufacturer's recommendation and approved TCPs, for the initial placement, and for each subsequent relocation when moved more than 10 feet in any direction.
- 17. **Hotline Road Report**. 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. Work will be subsidiary to Pay Item 643.0001.\_\_\_\_ or 643.0002.\_\_\_\_, Traffic Maintenance.

# 643-5.01 BASIS OF PAYMENT.

1. **Traffic Maintenance**. The contract price includes all resources required to provide the Worksite Traffic Supervisor, all required TCPs and public notices, the Construction Phasing Plan, and the maintenance of all roadways, approaches, crossings, intersections and pedestrian and bicycle facilities, as required. This item also includes any Traffic Control Devices required but not shown on the bid schedule.

Items required by the Contract that are not listed on the bid schedule or not included in other items are subsidiary to Item 643.0001.\_\_\_\_ or 643.0002.\_\_\_\_ Traffic Maintenance, except the following:

- a. Traffic Price Adjustment
- b. Traffic Maintenance Setup
- 2. **Traffic Control Device Items**. The contract price includes all resources required to provide, install, maintain, move, and remove the specified devices. Warning lights, high-level warning devices, vertical panels, and sign supports required for traffic control devices are subsidiary.
- 3. **Traffic Maintenance Setup Items**. Each setup consists of all traffic control devices, flaggers, pilot cars, and subsidiary items necessary to implement the TCP shown on the Plans. Warning lights, high-level warning devices, vertical panels, and sign supports required for traffic control devices are subsidiary.

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

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

- 4. **Portable Concrete Barrier**. The contract price includes all resources required to provide, install, maintain, and remove each barrier section.
- 5. **Temporary Crash Cushion**. The contract price includes all resources required to provide, install, maintain, repair, and remove each crash cushion.
- 6. **Interim Pavement Marking**. The contract price includes all resources required to provide, install, maintain, and remove the specified markings. Installation of word and symbol markings are subsidiary. The No-Passing Zone signing, described in Subsection 643-3.04, is subsidiary.
- 7. Flagging and Pilot Car. The contract price includes all required labor, vehicles, radios, flagger paddles and pilot car signs, and transportation to and from the worksite.

No. 7, use \$82.00 flagger rate for projects advertised after March 31, 2024.

The Engineer will pay for Item 643.0032.\_\_\_\_ Flagging on a contingent sum basis at the rate of \$82.00/hour. The Engineer does not require a change order/directive for the flagging Pay Item. Flagging associated with Change Order work paid at the prices according to Subsection 109-1.05 Compensation for Extra Work.

- 8. **Street Sweeping**. The contract price includes all resources required to keep the roadway free of loose material.
- 9. Watering. The contract price includes all resources required to provide watering, as directed.
- 10. **Traffic Price Adjustment**. If Item 643.0023.\_\_\_\_, Traffic Price Adjustment, is shown on the bid schedule, the total value of this contract will be adjusted, for unauthorized lane reductions or closures, at the rates listed in Table 643-3.
- 11. **Traffic Control**. Payment for Item 643.0025.\_\_\_\_, Traffic Control, will be made at the unit rate value contained in the Traffic Control Rate Schedule shown in the Special Provisions for the accepted units of traffic control devices. The Engineer does not require a change order/directive for Pay Item 643.0025.\_\_\_\_, Traffic Control.
- 12. **Portable Changeable Message Board Sign**. The contract price includes all resources required to furnish, move, and operate the sign.

No. 12 requires two PCMBs be shown in the plans. Confirm two are required.

Two Portable Changeable Message Board Signs used for Permanent Construction Signing paid for under Item 643.0003.\_\_\_\_ Permanent Construction Signs. Additional portable changeable message board signs will be paid for under 643.0025.\_\_\_\_, Traffic Control.

- 13. **Plastic Safety Fence**. The contract price includes all resources required to install, maintain, and remove the fence.
- 14. **Temporary Sidewalk Surfacing**. The contract price includes all resources required to construct, maintain, and remove the surfacing.
- 15. **Temporary Guardrail**. The contract price includes all resources required to construct, maintain, and remove the guardrail.
- 16. **Portable Steel Barrier**. The contract price includes all resources required to provide, install, maintain, move, and remove each barrier.
- 17. Lighting for Night Work. Payment for illuminating night work areas and any required adjustments to work zone illumination is subsidiary to other items.

No. 18, tailor to Project requirements, delete if not applicable. Coordinate Pay Item.

- 18. **Pavement Breaks**. Temporary hot mix asphalt at pavement breaks, as noted in Subsection 643-3.02. Gravel Surface Not Specified is subsidiary to Pay Item 401.0001.\_\_\_\_.
- 19. **Temporary Pavement Markings**. Except where specified as an individual Pay Item (Interim Pavement Markings) temporary pavement markings are subsidiary to Section 670 Pay Items. Refer to Section 670 Traffic Markings, for further information.
- 20. **Temporary Crash Cushion / Redirective**. The price listed in the Traffic Control Rate Schedule, Table 643-5, will be full compensation for the purchase, installation, maintenance during construction, removal, and salvaging the Temporary Crash Cushion / Redirective unit(s). Deliver the salvaged unit(s) to the nearest ADOT & PF Maintenance & Operations Station or as directed by the Engineer.

Traffic control devices, barriers, and crash cushions required to delineate or shield fixed objects will not be measured or paid for separately, but will be subsidiary

Traffic control devices, barriers, and crash cushions required to delineate or shield guardrail posts or noncrashworthy ends will not be measured or paid for separately, but will be subsidiary, when required for failure to meet completion timelines in subsection 606-3.01.

<b>TABLE 643-5</b>
TRAFFIC CONTROL RATE SCHEDULE

Traffic Control Device	Pay Unit	Unit Rate
Construction Signs	Each/Day	\$6.50
Special Construction Signs	Square Foot	\$31.00
Type II Barricade	Each/Day	\$3.30
Type III Barricade	Each/Day	\$11.00
Traffic Cone or Tubular Marker	Each/Day	\$1.10
Drums	Each/Day	\$3.30
Temporary Guardrail	Lineal Foot	\$35.00
Portable Concrete or Steel F Shape Barrier (12.5 foot long or \$8/foot for other lengths)	Each	\$100.00
Temporary Crash Cushion / Non-redirective Water Filled Barrier (all required per end)	Each	\$2500.00
Temporary Crash Cushion / Non-redirective Water Filled Barrels (all required per end)	Each	\$3285.00
Temporary Crash Cushion / Non-redirective Sand Filled Barrels (all required per end)	Each	\$4325.00
Temporary Crash Cushion / Redirective	Each	\$9230.00
Plastic Safety Fence	Lineal Foot	\$1.00
Temporary Sidewalk Surfacing	Square Foot	\$2.00
Flexible Markers (Flat Whip, Reflective)	Each	\$60.00
Cars and Trucks w/driver		
Pilot Car (4x2, 1/2 ton truck)	Hour	\$128.00
Watering Truck – up to 4900 gallon capacity	M-Gallon	\$40.00
Watering Truck – more than 4900 gallon	M-Gallon	\$30.00
Street Sweeping: Regenerative Sweeper, Vacuum Sweeper,		
Mechanical or Power Broom with Vacuum	Hour	\$214.00
40,000 GVW Truck with Crash Attenuator	Hour	\$162.00
Electronic Boards, Panels, and Signals		
Sequential Arrow Panel	Each/Day	\$60.00
Portable Changeable Message Board Sign	Calendar Day	\$210.00

Item Number	Item Description	Unit
643.0001	Traffic Maintenance	CDAY
643.0002	Traffic Maintenance	LS
643.0003	Permanent Construction Signs	LS
643.0004	Construction Sign	Day
643.0005	Type II Barricade	Day
643.0006	Type III Barricade	Day
643.0007	Traffic Cone/Tubular Marker	Day
643.0008	Plastic Safety Fence	LF
643.0009	Drum	Day
643.0010	Sequential Arrow Panel, Type C	Day
643.0011	Special Construction Signs	SF
643.0012	Portable Concrete Barrier	Each
643.0013	Temporary Crash Cushion	Each
643.0014	Interim Pavement Marking	STA
643.0015	Flagging	HR
643.0016	Pilot Car	HR
643.0017	Street Sweeping	HR
643.0018	Watering	MGAL
643.0019	Lane Closure	HR
643.0020	Detour	Day
643.0021	Road Closure	Day
643.0022	One Lane Road	HR
643.0023	Traffic Price Adjustment	CS
643.0024	Portable Changeable Message Board Sign	Day
643.0025	Traffic Control	CS
643.0026	Temporary Sidewalk Surfacing	SY
643.0027	Temporary Guardrail	LF
643.0030	Portable Steel Barrier	LF
643.0031	Interim Pavement Marking	LS
643.0032	Flagging	CS
643.0033	Detour	LS

PAY ITEM

CR643-24.0401

#### SECTION 644 SERVICES TO BE FURNISHED BY THE CONTRACTOR

**Special Provisions** 

Replace Subsection 644-2.01 with the following:

**644-2.01 FIELD OFFICE.** Furnish and maintain a suitable office for the Engineer, available for occupancy from 2 weeks before beginning 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 1000 square feet 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 160 square feet 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.
- 4. A minimum of 100 square feet 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. Provide engineering communication services to the field office, Subsection 644-2.08.
- 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 3 miles of the project.
- 10. Weekly janitorial service consisting of emptying trash receptacles, vacuuming office area, and cleaning restrooms and counter areas.
- 11. Provide one mobilization and one demobilization of the Engineer's office equipment and furniture.
- 12. Provide a security system controlled by the Department for the office including camera coverage for the vehicle parking.

## CR644.FOCOM-080120

#### 644-2.05 VEHICLES.

Replace the second and third paragraphs with the following:

<u>Pickup(LT)/Sport Utility Vehicle (SUV)</u>: Furnish full-size, four-wheel drive vehicles, either pickup/light truck(s) with crew cabs or sport utility vehicle(s). Provide vehicles less than three model years old, in good condition, and with less than 36,000 miles on the odometer. Furnish all fuels, maintenance and parts, and insurance during the Department's operation and use.

Equip each vehicle with lightbars wired into the vehicle's electrical system with a dash mounted switch easily accessible to the vehicle operator. Provide Code 3; Reflex C5590AA 15.3-inch mini lightbar, or approved equal. Approved equal equipment shall have the following characteristics:

- (4) 55 watt rotators with amber filters
- 1200 flashes per minute
- (2) diamond mirrors
- 55 inches in length

Equip each vehicle with hands-free communication connectivity.

If you are working after October 1, provide four studded snow tires mounted on each vehicle.

You are responsible for normal wear and tear, and any other incidental damage including broken windshields, occurring during the Department's operation and use. The State of Alaska is responsible for damage to any vehicle caused by its own negligent operation.

#### CR644.LTSUV-113020

#### 644-4.01 METHOD OF MEASUREMENT.

#### Replace the third paragraph with following:

<u>Vehicle (LT/SUV)</u>. For each vehicle provided. If a replacement vehicle is necessary, no additional measurement will be made.

## CR644.LTSUV-113020

#### 644-5.01 BASIS OF PAYMENT.

#### Add the following:

Pay Item 644.2007. Vehicle (LT/SUV):

- 1. A percentage of the Contract unit price, to be determined by the Engineer, will be paid as full compensation for furnishing the vehicle at the site.
- 2. The balance of the Contract unit price will be prorated over the anticipated active construction period with a portion included as part of each interim payment, for maintenance, repairs, and fuel and, at the end of the project, for removing it from the site. If anticipated construction period changes, the final increment will be held until final payment.

FATILEM		
Item Number	Item Description	Unit
644.2007	Vehicle (LT/SUV)	Each

DAVITEM

## CR644.LTSUV-113020

#### Add the following:

Pay Item 644.2004. Engineering Communications:

Usage services including long distance calls made by State personnel and the Internet service provider will be reimbursed by the State. Payment for communication usage services and equipment rental agreements shall be based on paid receipts to the service provider plus 15%.

Connection fees (initial connection) local calls, providing equipment and disconnection are subsidiary to Pay Item 644.0001.\_\_\_\_ Field Office and as such are paid by the Contractor.

PAY ITEM		
Item Number	Item Description	Unit
644.2004	Engineering Communications	CS

## CR644.FOCOM-080120

Special Provision

Add the following Section:

#### SECTION 645 TRAINING PROGRAM

**645-1.01 DESCRIPTION**. This Statewide Special Provision for on-the-job training (OJT) 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 25A-301.

**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 offsite 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 offsite 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 offsite 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 25A-311, 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, Office of Apprenticeship (USDOL/OA); or one developed by the Contractor using Form 25A-310 and approved prior to contract award by the OJT Coordinator in the DOT&PF Civil Rights Office.

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 judgment 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 ADOT&PF training program trainee a copy of the program (Form 25A-310) 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/OA 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 25A-313 by the 15th of each month and provide each ADOT&PF trainee written evaluation reports for each unit of training provided as established on Form 25A-310.

**645-3.02 WAGES.** Trainees in ADOT&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 25A-310. Apprentices in USDOL/OA 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 25A-312.

**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 25A-311 and Form 25A-310, 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 25A-312 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 25A-311 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 in the Bid Schedule and approved Form 25A-311),
- 2. train the required number of trainees/apprentices in each training program (as shown in the Bid Schedule and approved Form 25A-311), 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.

Item Number	Item Description	Unit
645.0001	Training Program, Trainees/Apprentices	LH

HSP20.2-113020

# SECTION 646 CPM SCHEDULING

**Special Provisions** 

Replace Subsection 646-2.01 with the following:

## 646-2.01 SUBMITTAL OF SCHEDULE.

Submit a detailed initial CPM Schedule at the preconstruction conference for the Engineer's acceptance as set forth below.

The construction schedule for the entire Project shall not exceed the specified contract time. Allow the Engineer 14 days to review the initial CPM Schedule. Revise promptly. The finalized CPM Schedule must be completed and accepted before beginning work on the Project.

# 646-3.01 REQUIREMENTS AND USE OF SCHEDULE.

Replace the first sentence of No. 2 Schedule Updates. with the following:

Hold job site progress meetings with the Engineer for the purpose of updating the CPM Schedule. Meet with the Engineer monthly or as deemed necessary by the Engineer.

CR646.1-23.0501

Add the following Section:

#### SECTION 647 EQUIPMENT RENTAL

**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 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 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.

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.

Equipment shall be fully operated, which shall be understood to include the operators, oilers, tenders, fuel, oil, air hose, lubrication, repairs, maintenance, insurance, and 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. 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 according to 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 begin, 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, except holidays.

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. Section 109.

Hourly Rental Rate: Includes the equipment rate plus the operating costs including: furnishing, travel time, operating, maintaining/servicing and repairing the equipment along with the costs incidental to the equipment and its' operation.

**647-5.01 BASIS OF PAYMENT.** Payment is for the time that fully operational equipment is engaged in the performance of the work directed by the Engineer. Time not payed for includes: idle periods, maintaining/servicing and repairing the equipment, making change-overs of equipment parts, and time to travel to and from the project. Payment will only be for time supported by certified payroll.

Furnishing and operating equipment that is heavier, has larger capacity, or greater power than specified will not entitle the Contractor to extra compensation.

Pay Item 647.2000. Wide Pad Dozer, 65-HP Minimum: payed at the rate of <u>\$00</u>/hour.

Pay Item 647.2002.\_\_\_\_ Backhoe, 4WD, 1 CY Bucket, 75-HP Minimum, 15 ft Depth: payed at the rate of <u>\$170</u>/hour.

Item Number	Item Description	Unit
647.2000	Wide Pad Dozer, 65-HP Minimum	CS
647.2002	Backhoe, 4WD, 1 CY Bucket, 75-HP Minimum, 15 ft Depth	CS

PAY ITEM

CR647-110316R

**Special Provision** 

Replace Section 651 with the following:

## SECTION 651 CONTROL OF WORK – SUPPLEMENTAL REQUIREMENTS

651-1.01 DESCRIPTION. Supplemental requirements for Section 105, Control of Work.

651-1.02 RELATED SECTIONS. Section 105, Control of Work

651-1.03 UTILITIES. Request locates from the utilities having facilities in the area.

Use the Alaska Digline, Inc. "Locate Call Center" for the following utilities.

	ALASKA DIGLINE, INC.		
	Locate Call Centers:		
Anc	chorage	278-3121	
Stat	tewide	(800) 478-3121	
Call	Centers will notify the following:		
Alaska Communications Systems (ACS)			
Alaska Bailroad Corporation (ARRC)			
Anchorage Fuel Supply Company (AFSC)			
Anchorage Water & Wastewater Utility (AWWU)			
	Chugach Electric Association (CEA)		
	GCI Communication Corp.		
	Marathon Oil Company (MOC)		
	Municipality of Anchorage Signal & Street	Maint.	
	State of AK, DOT/PF Anchorage Street Li	ghts (DOT)	
	XTO Energy (XTO)		
ition	before beginning work contact the Con	tral Pagion Maintonanco	

State Facility Utilities: before beginning work, contact the Central Region Maintenance & Operations Office at (907) 269-0760 to obtain the District Superintendent's phone number where the project is located, and request locates.

Add utilities and agencies as needed below. Remove the below statement if no additional utilities or agencies added. Call the following utilities and agencies directly:

CR651-23.0601

**Special Provisions** 

Replace Section 652 with the following:

# SECTION 652 PROSECUTION AND PROGRESS – SUPPLEMENTAL REQUIREMENTS

652-1.01 DESCRIPTION. Supplemental requirements for Section 108. Prosecution and Progress.

652-1.02 RELATED SECTIONS. Section 108, Prosecution and Progress.

652-1.03 PROSECUTION AND PROGRESS. In Subsection 108-1.03:

- Replace the last sentence in the 1<sup>st</sup> paragraph with: "Submit the following at the Preconstruction Conference:"
- Replace No. 1 with: "A Critical Path Method (CPM) Schedule is required, in a format acceptable to the Engineer, showing the order the work will be carried out, and the contemplated dates the Contractor, subcontractors, and utilities will start and finish each of the salient features of the work, including scheduled periods of shutdown. Indicate anticipated hours of operations and periods of multiple shift work. Revise the proposed schedule promptly. Promptly submit a revised CPM Schedule if there are substantial changes to the schedule, or upon request of the Engineer."

# 652-1.04 LIMITATION OF OPERATIONS. In Subsection 108-1.04:

 Add: "Limit ground disturbed by construction activities and not permanently stabilized between all roadways combined, at any specific time, to a maximum of 11,000 feet parallel to the roadway(s), unless additional length is approved. Stabilize disturbed ground according to Section 641 Erosion, Sediment, and Pollution Control."

CR652-23.0501

Replace Section 660 with the following:

## SECTION 660 SIGNALS AND LIGHTING

**660-1.01 DESCRIPTION.** Furnish and install, modify, remove, or salvage one or more traffic signal systems, flashing beacon systems, highway lighting systems, sign illumination systems, traffic count systems, electrical equipment on structures, falsework lighting, partial installations for future systems, or combinations thereof, as specified.

Where an existing system is to be modified, reuse the existing material in the revised system as shown on the Plans or specified in the Special Provisions, and salvage or dispose of all other materials.

When required by the Special Provisions, provide an on-site manufacturer's representative to:

- 1. Energize and adjust the electrical system.
- 2. Provide acceptable instruction for the operation and maintenance of the electrical system.

# 660-1.02 DEFINITIONS.

Use the definitions in NEMA TS 2-2003 V02.06, *Traffic Controller Assemblies with NTCIP Requirements*, Section 1, Definitions, along with the following:

- 1. <u>Electrolier</u>. The complete assembly of pole, mast arm, luminaire, ballast or driver, and light source.
- Luminaire. The assembly which houses the light source and controls the light emitted from the light source. Luminaires consist of hood (including socket, lamp, and ballast or driver), reflector, and glass globe or refractor.
- 3. Lighting Standard. The pole and mast arm which supports the luminaire.
- 4. <u>Vehicle</u>. Any motor vehicle licensed for highway use by the State of Alaska.

**660-2.01 MATERIALS.** Use materials that conform to Section 740, the Materials Certification List, the Plans, Specifications, and the following:

Concrete	Section 501 (Class A)
Grout	Subsection 701-2.03
Reinforcing Steel	Section 503
Paint	Subsection 708-2.01
Steel Pipe Pile	Section 715
Anchor Plate	ASTM A709
Galvanizing	Subsection 716-2.07
Anchor Bolts	Section 740-2.02
Precast Concrete Products	Subsection 550-2.03

- 1. <u>Equipment List(s) and Drawings</u>. Within 30 days after the Contract award, submit an electronic portfolio of equipment and materials proposed for installation to the Department for review and approval. Include a table of contents in the portfolio(s) that includes each item's intended use(s) and the following:
  - a. <u>Materials on the Qualified Products List</u>. The Qualified Products List does not apply to the 660 items. Provide catalog cuts of materials to the Engineer for review and approval.

- b. <u>Materials Not on the *Qualified Products List:*</u> Catalog cuts that include the manufacturer's name, type of product, size, model number, conformance specifications, and other data as may be required, including manufacturer's maintenance and operations manuals, or sample articles.
- c. <u>Pole Package</u>. A complete set of design, fabrication, and installation proposals for each signal and lighting pole. Include stamped engineering calculations, mill certifications, shop drawings, welding plans, equipment lists, and pole installation plans.
- d. <u>Materials Not Requiring Certification</u>: Only submit those materials for review and approval if they are included on the Materials Certification List (MCL).
- 2. <u>As-Built Plans</u>. Prepare 3 complete sets of red lined as-built plans and keep them current with the construction. Detail in the as-built plans all construction changes made to the Plans. Include the following information on the appropriate sheets:
  - a. Location and depth of conduit runs,
  - b. Station and offset of all junction boxes,
  - c. Heights of signal faces and overhead signs, and
  - d. A list of equipment, including manufacturer, brand, and model number installed in each controller cabinet.

Furnish copies of the as-built plans at least twice a month during construction so that they may be reviewed for accuracy and completeness. Furnish any additional information required to clarify the asbuilt plans and correct all discrepancies. The Department will not make progress payments for the signal and illumination work completed until reviewing accurate as-built plans reflecting the construction progress. Correct any deficiencies before payment.

Before final inspection of the work, submit 3 complete sets of as-built plans to the Engineer. You may substitute 2 colored copies of the as-built plans in lieu of keeping the 3 separate original copies. If you elect to do this, a sample of the method of copying must be approved before starting any work on the signal and lighting items.

Place 1 copy of the controller cabinet diagram, detector assignment sheet and the intersection and phase diagram as reviewed by the Engineer in clear plastic envelopes and attach to the inside of each controller cabinet. In addition, submit two complete sets of all electrical related plan sheets. The engineer will deliver one copy of each to MOA Signal Electronics and MOA Street Light Maintenance.

3. <u>Warranties, Guarantees, and Instruction Sheets</u>. Deliver to the Engineer all manufacturers' warranties, guaranties, instruction sheets, and parts furnished with materials used in the work before the Department assumes maintenance responsibilities.

# CONSTRUCTION REQUIREMENTS

## 660-3.01 GENERAL.

1. <u>Scheduling of Work</u>. Complete each new traffic signal system, highway lighting system, and sign illumination system and ensure it is ready for operation before opening to traffic the corresponding section of new alignment.

Contact the MOA Signal Electronics Shop and MOA Street Light Maintenance 48 hours in advance of work on a signal and/or lighting systems. During final inspection, contractor shall provide traffic control for MOA signals to perform inspection of signal equipment as many times as necessary until inspections are passed. Contact and scheduling shall be made through the Engineer.

After staking pole foundations, verify there will be no overhead or underground utility conflicts with foundations, poles, mast arms, or conduits. Locate and protect existing underground and overhead utilities. The location of cables, conduits, junction boxes, foundations and poles that are shown on

the Plan sheets are approximate and it is the Contractor's responsibility to verify the actual location when working in the area. See Subsection 105-1.06.

Existing signing and traffic markings shall not be allowed to conflict with new signal modifications. New signing and traffic marking modifications shall not conflict with existing signals and shall be kept current with signal modifications.

Conduct work with the existing traffic signal systems remaining in operation unless authorized otherwise by the Engineer.

Incidental materials and other items that are not shown on the Plans, assembly drawings, or specified herein, that are necessary to complete the system, must be furnished and installed as though such materials and other items were shown on the Plans, assembly drawings, or specified herein.

Protect metallic materials against corrosion. Hot-dip galvanize ferrous metals such as bolts, braces, bodies, clamps, fittings, guards, nuts, pins, rods, shims, thimbles, washers, and miscellaneous parts not of corrosion resistant steel, according to ASTM A 123 or A 153, except where other equivalent protection treatment is specifically approved in writing by the Engineer.

Asphalt patches placed in existing asphalt for loops and conduit crossings must be placed prior to the end of shift in which the loops and crossings are placed. Asphalt patches will match the thickness of the existing asphalt to a maximum of 3 inches thick. Where the existing asphalt is thicker than 3 inches, use compacted crushed aggregate base course to make up the difference.

Do not place traffic signal systems in operation until the street lighting is energized at controlled intersections.

Install detector loops and underground conduit before applying new pavement.

Do not pull conductors or cables into conduit until the junction boxes are set to grade, crushed rock sumps are installed, grout is placed around the conduit, and metallic conduit is bonded.

In vehicular undercrossings, place soffit lights in operation as soon as practicable after removing falsework from the structure. Place lighting for pedestrian structures in operation before opening the structure to pedestrian traffic.

 <u>Safety Precautions</u>. Before starting work on existing street lighting circuits, de-energize the system by opening disconnect switches, and/or opening bypass switch plugs, and tagging each opened device as detailed in Part 4, Section 44, Article 440 of NESC. Where said circuits are under the control of an electric utility, obtain written assurance daily from the utility that the circuit being worked on has been de-energized.

Prior to beginning work, perform lockout/tagout procedures and establish an electrically-safe work condition per NFPA 70E Article 120.Post suitable signs at load centers when any of the circuits from that load center are being worked on.

Existing circuits listed on the wiring diagrams and Plan sheets were obtained from as-built information and must be verified before work involving those circuits.

3. <u>Excavating and Backfilling</u>. Complete excavation and backfill required to install the signal and lighting components embedded in the roadway as shown in the Plans, including foundations, conduits, junction boxes, and loop detectors before final lift paving. Provide traffic control to complete this work according to the requirements of Section 643. Place excavated materials where it will not interfere with surface drainage.

Support and protect conduits and utilities scheduled to remain in service when encountering them during excavation.

Excavate trenches wide enough to install the number of conduits specified and to compact the bedding and backfill materials according to these specifications.

To install conduits, excavate trenches deep enough to allow for 6 inches of bedding material, the depth of the largest conduit, and the minimum burial depth specified between the top of the conduit and finished grade of the ground above the conduit. Keep the longitudinal profile of trench bottoms

free of irregularities that would prevent the assembled conduit run from continuously contacting the top of the bedding material.

When conditions allow HDPE conduit to be installed by a plowed technique, restoring the area disturbed from the process shall be accomplished according to Subsection 204-3.01. Density testing may be waived and compactive effort substituted at the discretion of the Engineer. This work is subsidiary to conduit installation. Use Selected Material, Type A for backfill.

Dispose of, according to Subsection 203-3.01, excavated materials that remain after completing backfill work and excavated material not meeting the requirements of Selected Material, Type C, as defined in Subsection 703-2.07. Disposal of this material is subsidiary to the 660 Pay Items.

Dewater foundation and conduit excavations immediately before and during embedding and backfilling operations. Backfill excavations with materials that meet the following requirements:

- a. Backfill foundations with material that meets the requirements of Selected Material, Type A that passes through a 3 inch sieve.
- b. Within the limits of the typical section, embed conduits and backfill trenches using material that meets the requirements of the lift where it is located, reusing excavated materials if it meets the requirements of the applicable lift.
- c. In other locations, embed conduits and backfill trenches using material that meets the requirements of Selected Material, Type C, reusing excavated materials if it meets this requirement.
- d. Import, when ordered, embedment and backfill materials that satisfy the preceding materials requirements.

Embed conduit(s) between two 6 inch lifts of material cleaned free of rocks exceeding a 1 inch maximum dimension. Grade and compact the first lift to provide a surface that continuously contacts the assembled conduit run.

Within 6 feet of paved surfaces and around foundations, backfill in uniform layers no more than 6 inches deep and compact each layer according to Subsection 203-3.04. In other locations, compaction may be as approved by the Engineer.

4. <u>Welding</u>. Complete welding according to Subsection 504-3.01.7. Welding and approved shop drawings.

Submit shop drawings of the proposed work with the welding plans for approval. The shop drawings shall include material specifications, component dimensions, the types of welds that will be made, and the proposed type and extent of weld inspection.

Repair the holes that were used to mount equipment, in reused poles and mast arms by welding in disks flush with the adjoining surface. For the disk material, use steel that matches the ASTM designation, grade, and thickness of the steel used to fabricate each pole. Cut disks that match the dimensions of the hole being repaired from pieces of steel plate bent to match the pole's radius at the hole. Grind the welds smooth and flush with the adjoining pole and disk surfaces. Repair the damaged finish according to Subsection 660-3.01.8.

- 5. <u>Removing and Replacing Improvements</u>. The Contractor shall complete the following work at the Contractor's expense.
  - a. Remove improvements that block completion of the work detailed in the Plans as specified herein.
  - b. Reconstruct with new materials the non-reusable improvements the Contractor removed to complete the work.
  - c. Replace with new materials the reusable items damaged by the Contractor, that are specified for reuse.
  - d. Reconstruct with new materials improvements damaged or removed by the Contractor not conflicting with the work and not scheduled for removal.

Nonreusable improvements consist of cast in place items, including asphalt concrete pavement, sidewalks, curb and gutter, lawns, and traffic markings. Reusable improvements include the items

that were made before installation. Crushed aggregate base material may not be used as backfill in the base course if excavation depth exceeds the thickness of the base course.

Complete reconstruction work, including materials, according to the applicable sections of the Alaska SSHC, and leave the work in a satisfactory and serviceable condition. In completing the reconstruction work, match the alignments, widths, thicknesses, shapes, sizes, cross sections, and finishes of the existing improvements.

If removing a portion of sidewalk or curb and gutter, remove an entire segment between the weakened plane contraction joints or between an expansion joint and a weakened plane contraction joint.

Before removing a segment of Portland or asphalt cement concrete material, cut completely through the material with a saw along the outline of the area to be removed. Make cuts neat and true and prevent shatter outside the area removed.

To replace lawns, leave the top of the backfilled excavation low enough to install 4 inches of compacted topsoil. Match the top of the topsoil with the bottom of the vegetative mat. Apply seed and keep the seeded areas watered according to Section 618.

Remove, keep alive, and replant trees, shrubs, and plants according to Section 621. Replace the trees, shrubs, and plants that do not survive with plants of like size and type.

6. <u>Salvaging and Reusing Electrical Equipment</u>. When the Plans include existing electrical equipment scheduled for removal or relocation, remove, and store the equipment listed in the following paragraph without damaging it. Deliver removed equipment not scheduled for reuse to the local District Maintenance Station or place specified in the Plans or Special Provisions. Notify the district superintendent or person specified by telephone one week before planned delivery date.

Salvage the controller assemblies, signal heads, mounting brackets, luminaires, lighting standards, signal posts and poles, mast arms, optical detectors, load centers, light emitting diode optical units, and the lids of junction boxes scheduled for removal and other materials scheduled for relocation. The Contractor shall replace at the Contractor's expense salvaged equipment damaged or destroyed before or during delivery or reinstallation.

Controller assemblies and load centers include the cabinet and equipment contained in the cabinet before Contract award.

Remove from the highway right-of-way materials associated with the equipment removed or relocated and not scheduled for reuse, including conduits, junction boxes, conductors, and foundations. Raze the tops of foundations abandoned in place according to Subsection 660-3.02. Fill the holes left by removing junction boxes and foundations with Selected Material, Type A and compact as directed.

With approval, after removing conductors, buried conduits that do not interfere with other construction may be abandoned in place. The Department may require a credit for this waiver. Remove the ends of abandoned conduits from the junction boxes that will remain in service.

Within 15 days of the Notice to Proceed, complete an inventory of the materials that will be salvaged in the presence of the Engineer. Note the location and condition of the materials. When material specified for reuse is found in an unserviceable condition, the Engineer will determine whether to repair it or replace it with new material that will be paid for as extra work under Subsection 109-1.05. Retain a copy of the inventory and give the original documents to the Engineer.

When the Plans specify reinstalling existing equipment at new locations and installing State furnished equipment, complete the following work at the Contractor's expense.

- a. For poles, install new foundations, furnishing the new nuts, bolts, washers, and conduits needed to complete the installations.
- b. For lighting poles, install new illumination tap wires and fused disconnect kits.
- c. For luminaires, clean the luminaires inside and out and install new lamps of the same wattage.
- d. For signal heads, furnish and install the mounting brackets needed to complete the relocation, and clean the signal heads inside and out.

e. For poles and undisturbed poles from which the Plans specify removing equipment, repair the holes that were made to mount equipment according to Subsection 660-3.01.4 Welding and repair the finishes according to Subsection 660-3.01.8 Repairing Damaged Finishes.

Repair holes left in the shafts of existing metal poles, due to removal of equipment or mast arms, by welding in a suitable disk, grinding smooth, and painting as provided for repair of damaged coatings in AASHTO M 36 or using a knockout seal.

When ordered, the Engineer will pay for repairing existing damaged finishes on existing equipment according to Subsection 660-3.01.8 as extra work.

If deciding to use new equipment rather than reusing the equipment specified, notify the Engineer of the change and include a submittal according to Subsection 660-2.01.1.

Salvaged traffic signal system items shall be delivered to the MOA Traffic Signal warehouse at 5923 Rowan Street. Signal poles, mast arms and electroliers shall be delivered to the MOA Traffic Signal Pole yard at 3<sup>rd</sup> & Orca Street. Contact Municipality of Anchorage Signal Electronics Shop Foreman (telephone 907-343-8355) to arrange delivery of signal poles and mast arms. Contact Street Light Administrator for more information on salvage and delivery of electroliers. Allow MOA maintenance personnel to select equipment and pole items they would like to salvage. The remaining items become the property of the Contractor.

7. <u>Field Tests</u>. Electrical circuits must pass the following tests before the Engineer will accept the work for payment. Perform these tests in the presence of the Engineer and document the results of each test on a per circuit basis. Retain a copy of test results and give the original documents to the Engineer. Furnish equipment needed to perform these tests.

Replace or repair at the Contractor's expense, and in an approved manner, faulty materials and work revealed by these tests. After making repairs, repeat tests on the repaired circuit and continue this process until circuits have passed required tests. The Department reserves the right to have the Contractor retest circuits, and to use the retest results to accept or reject individual circuits.

- a. <u>Grounds</u>. Before completing the circuitry and functional tests, physically examine conduits ends, junction box lids, load centers, and the foundations for signal posts and poles, lighting poles, and controller cabinets to ensure the grounding system required by Subsections 660-3.06 and 661-3.01 has been installed and splices and connections are mechanically firm.
- b. <u>Continuity</u>. When loop detector work is included, test each loop detector circuit for continuity at the roadside junction box before splicing the loop detector to the lead-in cable. Each loop detector must have a resistance less than 0.5 ohms.

After splicing the loop detectors to the lead-in cables, test each pair at the controller or detector cabinet. Each pair must have a value less than 5 ohms for single pair lead-in cables and 10 ohms for multipair lead-in cables. The continuity test ohm reading at the cabinet must be greater than the ohm reading measured for the loop detector at the junction box.

c. <u>Insulation Resistance (megohm) Test</u>. Complete this test to verify the integrity of each conductor's insulation after pulling the conductors and cables into position and before terminating the conductors. At 500 VDC, each conductor's insulation shall measure a minimum resistance of 100 megohms or the minimum specified by the manufacturer. With single conductors, complete the test between each conductor and ground. In each multiconductor cable, complete the test between conductors and between each conductor and ground.

When loop detector work is included, after splicing the loops to the shielded pairs in the lead-in cables, measure each pair in the lead-in cables at the controller or detector cabinet between one conductor and the cabinet ground rod.

- d. <u>Inductance Test</u>. When loop detector work is included, measure each detector loop and lead-in cable system at the controller or detector cabinet. The inductance must be in the range of 50 to 500 microhenries.
- e. <u>Circuit</u>. Energize every signal indication circuit with lamps installed before installing the load switches.

- f. <u>Functional</u>. Perform the following tests on each signal and lighting system after the component circuits have satisfactorily passed the tests for continuity, grounding, insulation integrity, and circuitry.
  - (1) For each new traffic signal system, complete at least 24 hours of flashing operation, followed by not less than 5 days of continuous, satisfactory operation. The Engineer may decide to omit the flashing portion of the test for modified signal systems and for new signals that replaced existing signals that remained in operation during the construction phase.

If the Engineer omits flashing operation and the system performs unsatisfactorily, correct the condition and repeat the test until the system runs for five days with continuous, satisfactory operation.

Begin the signal functional tests between 9:00 a.m. and 2:00 p.m. on any day, except a Saturday, Sunday, a legal holiday, or the day before the legal holiday.

Before each system activation, aim signal faces according to Subsection 660-3.08 and ensure equipment specified in the Plans is installed and operable, including: pedestrian signals and push buttons; signal backplates and visors; vehicle detectors; highway lighting; and regulatory, warning, and guide signs.

- (2) Perform the functional test for each highway lighting system and sign illumination system until the systems burn continuously 5 days without the photocell, followed by a 5 day operational test using the photocell.
- (3) Perform the functional test for each flashing beacon system for not less than 5 days of continuous, satisfactory operation.
- (4) Perform a continuous 5 day burning test on each pedestrian overpass and underpass lighting system before final acceptance.

A shut down of the electrical system due to a power interruption does not constitute discontinuity of the functional test if the system functions normally when power is returned.

- 8. <u>Repairing Damaged Finishes</u>. Examine new, reused, and State furnished equipment for damage to its finish before putting the equipment into service. Repair the damaged finishes found according to the following:
  - a. <u>Galvanized</u>. Repair damaged areas more than 12 inches away from welds and slip fit areas, by applying minimum 7.8 mils of zinc-based alloy applied according to ASTM A780.

If the damaged areas are within 12 inches of welds and slip fit areas, make the repair by applying a minimum 7.8 mils of zinc rich paint applied according to ASTM A780.

- b. <u>Painted.</u> Repair damage to painted finishes according to the following:
  - (1) Wash the equipment with a stiff bristle brush using a solution containing two tablespoons of heavy-duty detergent powder per gallon of water. After rinsing, wire brush surfaces to remove poorly bonded paint, rust, scale, corrosion, grease, or dirt. Remove dust or residue remaining after wire brushing before priming.
  - (2) Factory or shop cleaning methods may be used for metals if equal to the methods specified herein.
  - (3) Immediately after cleaning, coat bare metal with pretreatment, vinyl wash primer, followed by 2 prime coats of zinc chromate primer for metal.
  - (4) Give signal equipment, excluding standards, a spot finishing coat on newly primed areas, followed by 1 finishing coat over the entire surface.
  - (5) Give nongalvanized standards 2 spot finish coats on newly primed areas.

Paint coats may be applied either by hand brushing or by approved spraying machines. Perform the work in a neat and workmanlike manner. The Engineer reserves the right to require the use of brushes for the application of paint, should the work done by the paint spraying machine prove unacceptable.

- 9. <u>Regulation and Code</u>. Complete work according to the standards of the NEC, the NESC, and local safety codes as adopted and amended by the Authority Having Jurisdiction.
- 10. <u>Failed Equipment and Workmanship</u>. For the term of the Contract, from initial equipment installation through final acceptance, Subsection 105-1.16, when directed, promptly replace failed equipment, equipment components and repair failed workmanship.

660-3.02 FOUNDATIONS. Use foundation type shown in Plans.

- 1. <u>Cast-in-Place Foundations</u>. Cast-in-place foundations for posts and poles in drilled holes. Use either precast or cast-in-place foundations for cabinets. Locate the tops of traffic signal post and pole foundations flush with the adjacent finished walkway, shoulder, or surrounding ground.
  - a. Form the entire controller foundation and the top 12 inches of pole or post foundations and give the top a smooth steel trowel finish.
  - b. Place conduits in the center of the pole-post foundations with clearance allowed for bushings. If subsurface conditions prevent completing a drilled hole, and when approved, use a corrugated metal pipe (CMP) form as a substitute for the drilled hole. Consider the savings in concrete to offset the cost of supplying and installing the CMP form. No additional payment will be made for the CMP formed foundation.
  - c. When a CMP is used, over-excavate the area around the form enough to allow for proper compaction around the form. Backfill and compact according to Section 205, and Subsections 203-3.04 and 660-3.01. Do not use water for drilling operations or for any other purpose where it may enter the hole.
  - d. Use controller cabinet anchor bolts as recommended by cabinet manufacturer and set with a template.
  - e. Place Class A concrete meeting Section 501. Place reinforcing steel meeting Section 503. If required, use corrugated steel pipe that is at least 14 gauge, meeting Subsection 707-2.01.
  - f. Drill holes or use forms that are vertical and true to the locations shown in the Plans. Before placing the form or reinforcing steel cage, remove loose material to ensure the foundation rests on firm, undisturbed ground.
  - g. If a reinforcing steel cage is required, place and secure it symmetrically about the vertical axis and securely block it to clear the sides of the foundation. Use a template to securely support all anchor bolt assemblies and conduit ends so they do not move during concrete placement.
  - h. Do not permit surface water to enter the hole. Before placing concrete, remove all water that may have infiltrated in the hole. Thoroughly moisten both the forms and the ground before placing concrete. Pour each foundation in one continuous pour.
  - i. Do not erect or place posts, poles, and pedestals on the foundation until 7 days after placing the concrete. Plumb the assembly by adjusting the nuts on the anchor bolts before attaching the skirt.
  - j. Replace, with no additional compensation, all finished foundations with anchor bolts that do not match the base plate of the pole or are out of plumb. Do not modify the anchor bolts or base plate to get the base plate set on the leveling nuts. Protect foundation anchor rods from damage before installing controller cabinets. The Engineer must approve the method used for protection. This work does not relieve the Contractor of responsibility specified under Subsection 107-1.15.

k. Furnish anchor rods that conform to ASTM F1554, the grade and supplementary Charpy V-Notch requirements listed in the Plans. Furnish each anchor bolt with three nuts and two washers.

Install the bottoms of the bottom leveling nuts in a level plane within 1 inch of the top of foundations. Adjust nuts until their tops form a level plane. Install one washer on top of leveling nuts and, after setting the pole on these washers, install one washer under top nuts.

Bring leveling nuts (bottom nuts) to full bearing on the bottom of the base plate.

Generously lubricate the bearing surface and internal threads of top nuts with beeswax. Tighten top nuts to a "snug" condition. Use a click type torque wrench to apply 600 foot-pounds of torque to the "snug" top nuts.

- I. Attach a bare, copper wire as a grounding electrode conductor to the spiral bar in the reinforcing steel cage. Use an irreversible compression type connector to make the attachment. Protect the attachment during concrete placement. In foundations that lack reinforcing steel cages, install 21 feet of coiled #4 AWG, bare, copper wire as the grounding electrode. Route the conductor to protrude near the top, center of the foundations. Slide a minimum 6 inch long, Schedule 80 polyvinyl chloride (PVC) or high-density polyethylene (HDPE), protective sleeve over the conductor. Allow 1 inch of the sleeve and 24 inches of conductor to protrude from the foundations.
- 2. Pile Foundations.
  - a. Install pipe piles according to Section 505.
  - b. Install pipe piles open-ended and to a minimum depth of 15 feet (less top projection).
  - c. Use CJP groove welds for all circumferential welds.
  - d. Inspect 100% of CJP welds using UT or RT.
  - e. Backfill and compact the work hole around upper portion of each pile in 8-inch lifts with a soilcement mixture.
  - f. Certify steel pipe piles by matching the stencils on the pipe piles (by 300 foot lots) to the physical and chemical tests for the applicable lot.
  - g. Use no more than one splice per foundation. Locate the splice at least 10 feet from the top of the pile.
- 3. All Foundations.
  - a. Install frangible couplings according to the manufacturers written installation instructions. Use shims furnished by the coupling manufacturer.
  - b. Provide new foundations and anchor bolts of the proper type and size for standards that are to be relocated. Install the anchor bolts on a bolt circle that matches the base plate.
  - c. Install a raised Type III junction box on the door side of the controller cabinet and butt it against the cabinet's foundation unless installing a one-piece cabinet/junction box foundation. Extend the top of the controller cabinet foundation 18 inches above the junction box and provide it with a 1inch diameter drain. The drain connected to the cabinet interior must empty to the rear and above the ground. Place all conduits in the door side half of the foundation to provide adequate terminal block clearance.
  - d. Existing foundations may be abandoned-in-place unless otherwise stated in the Plans. However, remove the tops of the foundations, reinforcing steel, anchor bolts, and conduits to at least 12

inches below the roadway subgrade, sidewalk, or unimproved ground. Backfill the resulting hole with Selected Material, Type A and compact material as directed by the Engineer.

**660-3.03 CONDUIT.** Electrical conductors shall be installed in conduit, except for overhead wiring, wiring inside poles, and when otherwise specified. Use rigid metal conduits (RMC) and fittings for raceways, including bored casings, except when the Plans specify using polyethylene conduits. Install conduits of the sizes specified along the routes detailed on the Plans. When routing is not shown, route conduits as directed by the Engineer.

- 1. Install conduits at least 30 inches below the finished grade of the ground above the conduit, except conduits that will be sealed under a minimum 4 inch thick Portland cement concrete sidewalk may be installed a minimum of 18 inches below the top back of curb or surface above the conduit, whichever is lower.
- 2. Install conduits that cross unpaved areas and paved roadways that will be overlaid in excavated trenches. Excavate, bed conduits, and backfill trenches according to Subsection 660-3.01.3, Excavating and Backfilling.
- 3. Install conduit(s) under paved roadways and approaches that will not be overlaid by boring or drilling methods. Jacking conduits into position is allowed. However, if subsurface conditions prevent the successful completion of the work, install the conduit(s) by boring or drilling methods without additional compensation.
- 4. If encountering obstructions during jacking or drilling operations obtain approval and cut small holes in the pavement to clear the obstruction. Locate the bottom inside face of the bore pit no closer than the catch point of a 11/4 to 1 slope (a horizontal to vertical ratio) from the edge of pavement. Do not leave these pits unattended until installing an approved means of protection.
- 5. Sweep both rigid metal and polyethylene conduits through the open bottom of junction boxes by installing 90 degree rigid metal elbows on the ends of conduit runs. To each elbow, install a nipple that terminates 5 to 12 inches above the bottom edge of each junction box. At junction boxes where polyethylene conduits runs are to enter the junction box, install a 5 foot section of RMC on the horizontal end of the RMC sweeps.
- 6. When loop detector work is included, install the tails of loop detectors without elbows through the walls of junction boxes at elevations that ensure the loops drain into the box. Extend the ends a minimum of 2 inches beyond the inside wall of the box.
- 7. Drill a 3/8 inch drain hole in the bottom of the lower straight section of elbows and in the bottom of conduits at the low points of conduit runs. Smooth the edges of the drilled holes on the inside of elbows to prevent scraping the conductors. Cover the holes with a wrap of approved filter cloth secured with 2 self-clinching nylon cable ties.
- 8. Keep conduits clean. Install grounding bushings and approved plastic insert type plugs on the ends of conduit runs before backfilling around the conduit ends. Tapered or universal fit plugs are acceptable for temporary usage. Any permanent plug or cap shall be an approved watertight cap.
- 9. At the low points of conduit runs, install sumps containing a minimum 2 cubic feet of coarse concrete aggregate material that conforms to Subsection 703-2.02. Compact the aggregate sumps as directed to prevent settlement of the trench backfill.
- 10. Install conduits that must cross existing facilities such as storm drainpipes, duct systems, and other underground utilities at the minimum depths specified, going under the facilities if necessary. Install additional drains and aggregate sumps at the low spots, if any.
- 11. Position conduits in trenches, junction boxes, and foundations to provide clearances of at least 21/2 inches around 2 inch conduits and at least 2 inches around conduits larger than 2 inches.

- 12. Fabricate rigid metal conduits less than 10 feet long from standard lengths of conduit. Cut conduits squarely to ensure the threading die starts squarely on the conduit. Cut the same number of threads as found on the factory threaded ends. Ream the inside of conduit ends cut in the shop or field to remove burrs and sharp edges. Do not use slip joints or pieces of running thread pipe.
- 13. Coat drilled holes, shop and field cut threads, and the areas with damaged zinc coating with zinc rich paint.
- 14. When standard couplings cannot be used to join conduit components, use approved threaded unions.
- 15. Bury a continuous strip of 4 mils thick, 6 inch wide polyethylene marker tape above underground conduit runs. Install the tape 9 inches (± 3 inches) below finished grade, using two strips side by side to mark road crossings. Furnish tapes with a black legend on a red background.
- 16. When the Plans specify using polyethylene conduit, install RMC in structures and foundations, between type 2 and 3 load centers and the nearest junction box, and on the surfaces of poles and other structures.
- 17. In foundations, install 90 degree elbows and conduits of the size and quantity shown on the Plans. Extend the conduits a maximum of 2 inches above the top of the foundations for posts and poles with breakaway bases and 4 inches above the top of foundations for fixed base structures.
- 18. Seal conduits leading to electrical equipment mounted on soffits, walls, and other locations below the grade of the serving junction box with an approved duct sealing compound.
- 19. Install expansion fittings in conduits that cross expansion joints.
- 20. Install a polypropylene pull rope with a minimum 200 pound tensile strength in future use or spare conduits and reinstall the plugs. Double back pull rope, at least two feet, into both ends of each conduit. Tapered or universal fit plugs are acceptable for temporary usage. Any permanent plug or cap shall be an approved watertight cap.
- 21. Install a pull tape with a minimum 200 pound tensile strength in all traffic signal conduits entering signal poles, signal junction boxes, and signal controller cabinet foundations. Double back pull tape, at least two feet, into both ends of each conduit.
- 22. The Contractor may install conduits larger than the sizes specified. If used, it must be for the entire length of the run. Reducing couplings or bushings are not allowed. Complete work associated with installing conduits larger than specified without extra compensation.
- 23. Clean existing conduits that will remain in service using a heavy-duty air compressor that delivers at least 125 cubic feet of air per minute at a pressure of 110 pounds per square inch. Clean the conduits before pulling in new cables and after removing cables to be removed or replaced as follows:
  - a. When the conduits contain cables that will remain in service, leave the cables in place during the cleaning, and
  - b. Ream empty conduits with a mandrel or cylindrical wire brush before blowing them out with compressed air.
- 24. When modifying existing conduit runs, complete the work as required for new installations using the same sizes and types of conduit. When extending existing conduits, add no more than a 90 degree horizontal bend to the extension.
- 25. When installing a junction box in a continuous run of existing conduit, remove a length of conduit in each conduit run and complete the work of installing the conduits, elbows, and nipples as required for a new installation.

- 26. When adjusting existing junction boxes to a new grade, remove cables and replace the nipples as required to provide the clearances specified for new installations.
- 27. Remove the ends of abandoned conduits from junction boxes that will remain in service.
- 28. When Plans call for connecting polyethylene conduit to RMC use a UL listed DuraLine Shur Lock type coupler or approved equivalent rated for direct bury application. The coupler must be rated for same wall thickness as the adjoining conduits. Thread the ends of the RMC with the same number of threads as found on the factory threaded ends of RMC. Ream the inside of conduit ends cut in the shop or field to remove burrs and sharp edges.

**660-3.04 JUNCTION BOXES**. Install precast reinforced concrete junction boxes of the types specified. For junction boxes that contain traffic signal conductors, furnish cast iron lids with the word TRAFFIC inscribed into them. For junction boxes that contain lighting conductors exclusively, furnish cast iron lids with the word LIGHTING inscribed into them.

## Junction Box Location

When shown, install junction boxes at the station and offset locations specified. When lateral locations are not specified, install junction boxes 8 feet from the face of curb or edge of pavement. If the 8 feet offset falls:

- 1. In a pedestrian facility separated less than 7 feet from the roadway face of curb or edge of pavement, increase the offset and install the junction boxes on the backside of the facility. When lacking the right of way to install junction boxes outside the pathway, install at locations as directed, avoiding curb ramps, curb ramp landings, and the middle of walkways.
- 2. In a pedestrian facility separated at least 7 feet from the roadway face of curb or edge of pavement, reduce the offset and install the junction box next to the facility.
- 3. Outside the right of way, install the boxes just inside the right of way line.
- 4. In a raised median, install junction boxes near the center of the median.
- 5. In a ditch bottom or area that collects drainage, install the junction boxes at locations as directed.
- 6. Behind guardrails that shield slopes steeper than 3:1 (a horizontal to vertical ratio), install junction boxes between posts and at least 5 feet back from the face of rail.
- 7. On top of underground utilities or storm drains, install the junction boxes at locations as directed.

Longitudinally, install junction boxes adjacent to the loop detectors or pole they serve, except avoid installing Type 1A junction boxes in driveways and in locations subject to use by heavy trucks. When shown near the ends of medians, install junction boxes at least 10 feet from the median end. When the offsets for electroliers and flashing beacon posts place them near the junction boxes that serve them, install the junction boxes on the side of the electroliers and posts downstream of traffic flow. When installing copper signal interconnect cable use minimum size Type II junction boxes.

## Four (4) Limitations

Limit the distance between adjacent junction boxes to the following dimensions:

- 1. 300 feet for conduits that exclusively contain two loop lead-in cables.
- 2. 300 feet for conduits that contain a single cable other than signal interconnect.
- 3. 190 feet for conduits that contain more than one cable.

If the preceding limitations require installing additional junction boxes not shown on the Plans, the Engineer will pay for them as extra work; otherwise, installing additional junction boxes will be at the Contractor's expense.

After grading the roadside, vertically adjust those junction boxes that do not conform to the following criteria. In unpaved areas that will not be seeded, in areas adjacent to pedestrian facilities, and in paved medians, install the tops of junction boxes 1 inch below finished grade. In seeded areas, adjust tops of junction boxes to be flush with final grade.

Bond junction box lids to an equipment grounding conductor according to Subsection 660-3.06. Attach the jumpers to the lids with brass or stainless-steel hardware.

Install a porous backfill material under each junction box. Porous backfill material shall conform to Subsection 703-2.10, Gradation B. Dimensions for porous backfill material include an 18" depth and a length and width equal to those of the junction box it drains. Compact the porous backfill material as directed to prevent junction box settlement.

In every new and reused junction box, install an electronic marker. Conform markers to the American Public Works Association Standards including but not limited to:

- 1. Color red
- 2. Material high-density polyethylene
- 3. Shape round (ball like)
- 4. Size 4 to 5 inches in diameter
- 5. Configuration encapsulating an antenna tuned to the appropriate frequency for locating power
- 6. Responsive range up to 5 feet away from the locator device
- 7. Environmental conditions including extremes in temperature at the installation site
- 8. Contain no internal power source

Acceptable marker manufacturers include:

- 1. 3M, Dynatel EMS ball marker model no. 1402-XR
- 2. Tempo (a Textron Company), Omni Marker
- 3. Substituted, equivalent approved equal device

**660-3.05 WIRING.** Install power conductors serving the cabinet sized such that their ampacity rating is greater than the cabinet total connected load after applicable diversity factors have been applied. Make wiring neat in cabinets by cabling wires together with self-clinching nylon ties. Terminate all spare conductors on terminal blocks. Attach all conductors, including spares, to terminal blocks with "spade" type terminal lugs. Furnish additional terminal blocks if enough locations are unavailable in existing terminal blocks. Install signal cabling continuously without splices from the controller cabinet to the termination lugs in the signal housing.

- 1. Do not pull conductors into conduits until the following conditions are met:
  - a. The prescribed clearances around conduit ends are provided,
  - b. Crushed rock sumps are installed under junction boxes,
  - c. Conduit ends protrude above the bottom of junction boxes within the prescribed range,
  - d. New conduits are free of material that became lodged in them during the completion of the work,
  - e. Reused conduits are cleaned according to Subsection 660-3.03,
  - f. Junction boxes are set to grade, and
  - g. Grounding bushings are installed on the ends of metallic conduits.
- 2. Pull conductors by hand or by approved commercially built cable-pulling equipment that is specially designed for that purpose. Do not pull cable by any other means. Equip the cable pulling device with a force limiting circuit and force gauge.
- 3. Use wire-pulling lubricant when placing the cables and conductors in conduit. Do not allow the tension of the wire or cable to exceed the manufacturer's recommend allowable tension for the conductor or cable.

- 4. When adding new conductors to a conduit with existing conductors, remove all conductors and clean the conduit with a mandrel or brush. Pull both old and new conductors through as a unit. In a new installation, pull all conductors through the conduit as a unit.
- 5. Leave at least 1 foot of slack in the bottom of each signal or combination signal and lighting pole of each signal conductor or cable. Neatly leave at least 3 feet of slack illumination and signal conductor or cable curled up in the bottom of each junction box or splice location.
- 6. Separate the neutral for pedestrian push button circuits from the signal light circuit neutral.
- 7. Run all signal and feeder conductors continuously without splices from a terminal block located in a cabinet, compartment, or signal head, to a similarly located terminal block. When modifying an existing signal system when specifically shown in plans, splice existing conductors (cables) to new conductors (cables) as required to complete the signal system. Make these splices when indicated in the plans.
- 8. Route highway illumination cable through each lighting pole designated for connection to that cable's circuit. Do not splice illumination cable between a load center and a pole or between poles. Join the individual conductors by using non-insulated, overlap type pressure connectors. Insulate with mastic-lined heat shrink tubing or 2 layers of one-half lapped UL listed electrical tape. Do not use wire binding screws, studs, or nuts. Stagger splices to minimize the overall diameter.
- 9. Install all loops in 1-inch rigid schedule 80 PVC conduit in the roadway and to the nearest junction box. Run loop lead-in cable continuously without splices from the controller cabinet to the curbside detection junction box nearest the loop being spliced to the lead-in cable. Splice the loop(s) to the lead-in cable by soldering at the junction box and encapsulating in a waterproof splice kit.

Multiple loop configurations must have the individual lead-ins, multiple pair, or single pair brought to the controller cabinet for termination. Make series connection of loop lead-ins in the controller cabinet only. Wind all loops in the same direction with the starting lead marked with an "S." Connect the black conductor of the pair shown in Table 660-1 to the "S" designated conductor of the loop. Connect multiple loop detectors in the same lane so that the adjacent loops are in alternating directions clockwise (CW), counter clockwise (CCW), etc.

- 10. When splicing loop detectors to multi-pair loop lead-in cables, complete the work according to the following.
  - a. See the Plans for the identifying number assigned to each loop detector and the loops assigned to each loop lead-in cable. Using this information, splice the loop detector tails to the paired conductors found in each lead-in cable, using the color code in Table 660-1.
  - b. Remove a short section of cable jacket and only cut the shielded pairs dedicated to loop detectors being spliced. Run these pairs, without splices, to the controller cabinet.
  - c. Join loop and lead-in conductors with crimp and self-solder adhesive-lined heat shrink sealed butt splice connectors.

Loop Detector Number	Colored Pair
The lowest numbered loop detector	Red and Black
The second lowest numbered loop detector	Blue and Black
The third lowest numbered loop detector	White and Black
The fourth lowest numbered loop detector	Green and Black

# TABLE 660-1 MULTIPLE PAIR LOOP LEAD-IN COLOR CONNECTION SCHEDULE

Loop Detector Number	Colored Pair
The fifth lowest numbered loop detector	Brown and Black
The sixth lowest number loop detector	Yellow and Black
Spare pair	Orange and Black

- d. Crimp spade terminals to the ends of the shielded pairs in the controller cabinet.
- 11. Maintain the electrical isolation between shields and do not allow the drain wires to come in contact at any point other than the ground bus in the cabinet. Tie all drain wires to the ground bus at the controller cabinet.
- 12. Encapsulate illumination/power cable splices in four-piece molds that are held together with stainless steel hose clamps. Two pieces form a cylinder and two flexible end caps. Seal the ends and allow the conductor entry. Use molds with dimensions suitable for the splice made, encase the cable jackets, and fill with an insulating and sealing epoxy resin. Furnish molds rated for 600 VAC operation, feature fill, and vent funnels for epoxy resin. Fill the splice mold bodies with epoxy resin that is resistant to weather, aromatic and straight chain solvents, and that will not sustain combustion.

When approved by the Engineer, one splice may be used in the following cases:

- a. An in-line splice may be used when a planned cable run exceeds the length available from the manufacturer on a single spool of cable.
- b. In a run of 1,000 linear feet or more.

When a cable is spliced, it shall occur within an appropriately sized junction box or in the base of an electrolier designed for said splice.

Insert a loose woven polyester web that allows a full 1/4 inch of insulating compound to flow between the splice and the inside of the mold. Fill the PVC molds with epoxy resin that cures transparent, is nontoxic, is non-corrosive to copper, and does not support fungi or mold growth.

13. Encapsulate all loop lead-in splices in HDPE flexible corrugated approved conduit filled with reenterable non-urethane encapsulating compound.

Use 2" HDPE flexible corrugated conduit, encase all conductor and cable jackets and completely fill the conduit section.

- 14. Permanently identify all cables and single wire conductors by labeling all pole bases and cabinets, at each detector loop tail/lead-in cable and illumination cable splices, and in junction boxes adjacent to lighting and signal poles. When modifying an existing system, label all new and existing lighting cables/conductors with circuit numbers at locations noted above. If the existing circuits are not identified, the Engineer will provide the required circuit numbers.
- 15. Label the cables used in the signal and illumination systems with the following legends:
  - a. Use the legends included in Table 740-2, for the cables listed.
  - b. 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.
  - c. 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.
  - d. Furnish the two types of identification tags listed below that feature handwritten 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) <u>Type 1 Tag:</u> 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. Use cable ties consisting of a single strap with a minimum size tag of 3/4 inch by 3/8 inch.
- (2) <u>Type 2 Tag:</u> 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 4 inch by 1-3/4 inch 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.
- e. Label all cables in the controller cabinet with Type 1 Tags only. All controller cabinet tags shall be within six inches of the termination of the cable.
- f. Label all loop detector tails and paired loop conductors with Type 1 Tags only. All other cables shall be labeled with Type 2 Tags outside of the controller cabinet.
- 16. Terminate the control and power cables as shown in Table 740-2.
- 17. Telemetry cable termination shall be coordinated with a signal technician. Provide type No. 66B3-50 terminal blocks as required.
- 18. Wire luminaires using No. 10 AWG illumination tap conductors that run from the fused disconnect kit in the pole base.

Install a fused splice connector between the line and luminaire ballast tap conductors in the base of every pole equipped with a luminaire.

Attach the conductors to the connector halves with setscrew type pressure connectors. Provide the plug and socket assembly so that the fuse remains in the load side plug without exposing live metal parts when the connector separates and the coil springs are not included in the current carrying circuit.

Make the fused connectors readily accessible from the handhole. Install tap conductors to prevent slack when their ends touch the top of the foundation.

- 19. Retrofit reused poles with new tap wires, fused disconnect kits, and fuses.
- 20. Whenever conductors cannot be terminated as specified in the Plans in circuit breakers due to size, splice a piece of #8 AWG copper power conductor onto the end of each conductor using an overlap type, irreversible compression connector. Insulate the splice with heat shrink tubing. Complete the splice in the space between the top of the load center foundation and the bottom of the cabinet. Limit the length of the #8 AWG conductors to 5 feet. Note: this splice is acceptable only if the overcurrent protective device protecting the #8 AWG conductors is rated 40A or less.
- 21. Spare lighting conductors shall be capped in the pole bases and load centers by cutting the wire flush with the end of the insulation and bending the conductor back against itself and securing with three layers of electrical tape to prevent any possibility of making contact with ground or current carrying conductors.

**660-3.06 BONDING AND GROUNDING.** All installations must comply with the grounding and bonding requirements of NEC Article 250 and the following requirements: Normally non-current-carrying conductive materials enclosing electrical conductors or equipment, or forming part of such equipment, including metallic cable sheaths, metal conduits, non-metallic conduit grounding wire, junction box lids and frames, cabinets, transformer cases, and metal posts and poles, must be electrically connected to earth ground, and must be connected together and to the electrical supply source in a manner that establishes an effective ground-fault current path. Make fixtures mounted on metal poles, including signal

components and luminaires, mechanically and electrically secure to the pole. An equipment grounding conductor must be installed between the grounding lug near the base of the pole and the lighting fixture.

Install grounding bushings with insulated throats on the ends of metallic conduits.

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

Retrofit existing spare conduits that will contain new cables exclusively with new grounding bushings. When the Plans require installation or removal of conductors from existing conduits, retrofit with new equipment grounding conductors sized according to the preceding paragraph.

Bond junction box lids to the equipment grounding conductor using copper braid with a cross sectional area equal to a #8 AWG and eyelet spaced at 6 inch intervals. Connect bonding jumpers to the grounding conductors using irreversible compression type connectors.

Replace missing or damaged conduit and junction box lid bonding jumpers.

Join the equipment grounding conductors from the conduits to the #4 AWG grounding electrode conductor using irreversible compression type connectors at Portland cement concrete foundations. For pile foundations, attach the equipment grounding conductor from the conduit to the pile cap adapter with a listed mechanical grounding connector.

When installing signal poles, signal posts, and lighting standards with frangible coupling bases, run a 5 feet long grounding conductor from the grounding bushing on the conduit to the grounding lug located in the handhole of each pole.

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

Solidly ground one side of the secondary circuit of a transformer.

Install a 3/4 inch by 10 feet copper clad ground rod inside each controller cabinet foundation and a #6 AWG bare stranded copper wire for the grounding electrode conductor. Furnish one piece bronze clamps with a hex head setscrew that are suitable for direct burial and for use with copper clad ground rods.

When routing a new conduit into an existing junction box or replacing an existing junction box, new and existing conduits shall have the grounding improved to current specifications.

**660-3.07 TRAFFIC CONTROLLER ASSEMBLIES.** Prepare each solid-state, traffic controller assembly to operate various traffic signal devices as shown on the Plans. The controller must provide right-of-way, clearance, and other indications using duration and sequence as determined by preset programming.

Details of operation for the complete controller assembly must be according to the traffic phases; preferential phase sequence and concurrence; signal indications; signal indication sequence; detection requirements; and other details shown on the Plans or as specified herein.

- 1. <u>Shop Tests</u>. The Controller Assembly manufacturer shall conduct a pretest of the cabinet and controller assembly. The pretest includes but is not limited to:
  - a. Ensure the cabinet is free of paint scratches, dents, sharp edges, and other physical defects.
  - b. Ensure cabinet hinges, heater, ventilation system, lighting, and door locking mechanism function properly.
  - c. Ensure that there are no short circuits between AC+, AC-, and GND anywhere in the cabinet.
  - d. Check that there is no continuity between AC+ and DC+.
  - e. Check for continuity between any green wire connection point and GND.

f. Ensure devices within the cabinet are labeled properly.

The Controller Assembly manufacturer shall conduct a final test of the cabinet and controller assembly. Qualified Cabinet Test Technicians shall conduct the final test. The final test includes but is not limited to ensuring proper operation of flash colors & combination, standard controller phasing, pedestrian pushbutton isolation, MMU, circuit breaker/fuse operation, telemetry operation, loop panel/detector rack operation, EVP operation, and proper police & auxiliary panel operation.

Upon completing the final test, the cabinet shall be run, "burned in," under full loads for a period of not less than 48 hours with a test timing plan in effect which utilizes full cabinet phases and functionality.

In the course of testing, a component found to function incorrectly or exhibit physical damage must be replaced with an equivalent new component before delivery. Should the cabinet fail during burn in, the cause of the failure must be remedied and the test restarted with another 48 hours of burn in. The intent of this specification is to meet or exceed the requirements of Econolite test procedure MWI-10-28 Rev. C. With prior approval of the Engineer, other equivalent test procedures may be substituted.

Upon completion of the pretest, final test, and burn in, the Controller Assembly manufacturer shall issue a letter of certification stating that the required tests have been completed, note defects found and the remedial action taken. Further, the certification shall state the assembly conforms to the NEMA TS 2-2003 v02.06, Traffic Controller Assemblies with NTCIP Requirements, Section 2 Environmental Requirements. Submit the certification letter and copies of the test results to the Engineer.

The work required in this subsection is subsidiary to the associated traffic signal system under Pay Item 660.0001.\_\_\_\_Traffic Signal System Complete.

- 2. Controller Cabinet Installation.
  - a. Where the cabinet is mounted on a concrete pedestal foundation, place a 1-inch drain hole or pipe with screen in the foundation, connecting to the cabinet and emptying above the ground line.
  - b. Place a 3/8-inch fillet of silicone caulking between each controller cabinet and the concrete slab foundation to prevent dust and dirt from entering the cabinet.
  - c. When called for in the Plans or Special Provisions, add 2 inches of approved foam insulation within the bottom of the cabinet between the control equipment and the concrete base. Design all wiring, terminals, and other items to allow sufficient room for the insulation.
  - d. On Precast Controller Foundations. When called for in the Plans or Special Provisions, place a 3/8-inch thick, 2-piece exterior grade plywood board on the bottom of the cabinet and under the foam insulation. Place the plywood within the controller cabinet, and do not extend under it. Make holes to allow for the conduits entering the cabinet. Place a pliable sealant composed of a silicon caulking compound between the plywood board and the cabinet and between the plywood board and all the conduits.
  - e. Place a ground rod in the Type III junction box next to the cabinet or in the foundation of the cabinet if it is precast foundation.
  - f. See Subsection 660-3.05 and Section 740 for wiring requirements.
- 3. <u>Controller Operation</u>. Provide the following operations.
  - a. Wire the controller cabinet to flash the yellow signals on the main street or highway, and the red signals on the cross streets and left turn lanes.
  - b. Make the flashing circuit independent of the controller unit. They must remain in operation upon shutdown of the controller or removal of the controller from the cabinet.

- c. Wire the controller cabinet so that removal of the conflict monitor causes the intersection to go into flashing operation.
- d. Accomplish transfer to flashing operation by relays between the normal load switching device and the field terminals.
- e. Do not operate pedestrian pushbuttons at more than 24 volts.
- f. Controller Priorities. Prioritize the drives, controls, and equipment so that each device, control, or item of equipment overrides the operation of those items listed below it:
  - (1) Power failure
  - (2) Power restart
  - (3) Flashing
  - (4) Railroad preemptor
  - (5) Emergency vehicle preemptor
  - (6) Phase selector
  - (7) Interconnect
  - (8) Time switch
  - (9) Normal controller unit operation

Provide the following preemption operations when called for on the Plans or as specified in the Special Provisions.

- a. <u>General</u>. Preemption units must use the controller unit functional inputs and timings to the largest extent possible. Signal load switching control must remain with the controller unit.
- b. <u>Railroad Preemption</u>. The Railroad Preemption Routine must consist of 4 functional intervals in the order listed below:
  - (1) Enter Preemption Interval.
    - (a) Energize a 120 VAC alarm circuit which may be used for a sign, bell, or beacon.
    - (b) Immediately advance to the pedestrian clearance interval of any walk that is being displayed. On any phase other than the track clearance phase(s), abbreviate the pedestrian clearance interval by a timer with a minimum range of 0-30 seconds.
    - (c) Following the pedestrian clearance period, the controller must advance into and time normally the vehicle clearance intervals.
    - (d) If the preemption is received while in the track clearance phase(s), skip step (b) and (c) above.
  - (2) Track Clearance Interval.
    - (a) Provide a timing period to allow sufficient green clearance time for any vehicles that may be stopped on or immediately behind the railroad tracks. The timing must be adjustable over a range of 0 to 30 seconds.
- (b) Following the track clearance period, the controller must advance into and time normally the vehicle clearance interval(s).
- (3) <u>During Preemption Interval</u>. Allow the controller to operate normally except for phases that conflict with the railroad crossing. Keep this interval in effect until the preemption call is removed.
- (4) Leaving Preemption Interval.
  - (a) De-energize alarm circuit.
  - (b) Immediately advance to the active phase normal pedestrian and/or vehicle clearance interval(s).
  - (c) The controller must advance to those phases that were omitted under preemption control when complete control is returned to the controller unit.
- c. <u>Emergency Equipment Preemption</u>. The Emergency Equipment Preemption Routine must consist of 3 functional intervals in the order listed below:
  - (1) Enter Preemption Interval.
    - (a) Energize a 120 VAC alarm circuit which may be used for a sign, bell, or beacon.
    - (b) Immediately advance to the pedestrian clearance interval of any walk that is being displayed. On any phase other than the track clearance phase(s), abbreviate the pedestrian clearance interval by a timer with a minimum range of 0-30 seconds.
    - (c) Following the pedestrian clearance period, the controller must advance into and time normally the vehicle clearance intervals.
    - (d) If the preemption call is received while in the preempt phase(s), skip step (b) and (c) above.
  - (2) <u>Preempt Phase Interval</u>. Hold the controller in the preempt phase(s) until the call is removed.
  - (3) <u>Leaving Preemption Interval</u>. When the preemption call is removed, the controller unit must immediately revert to normal operation.

**660-3.08 SIGNAL AND LIGHTING INSTALLATION REQUIREMENTS**. Install signal and lighting equipment according to the details shown on the Plans and the following:

Apply anti-seizing compound to the following fasteners: frangible couplings, mechanical grounding connectors, bolts that secure handhole covers and signal mounting hardware to poles and mast arms. Remove the fasteners from luminaire mounting brackets, fused disconnect kits, grounding bushings, and signal faces that secure the visors, and apply anti-seizing compound to these fasteners before completing the installation.

Before passing conductors through the holes made in posts, poles, and mast arms for wireways, remove the burrs and sharp edges from the inside and outside of these holes.

Until each traffic signal and/or flashing beacon goes into operation, keep the vehicular and pedestrian signal faces covered with beige colored canvas shirts sized to fit the signal faces shown in the Plans. Each signal shirt shall feature elasticized openings that fit over the visors and at least two straps to secure it to the signal. Provide shirts with a legend that reads "out of service" and a center section that allows an operator to see the indications during system tests.

When not shown in the Plans, determine the shaft lengths of lighting and signal poles and signal mast arm connector plate locations to provide the plan mounting heights of luminaires and traffic signal heads.

Furnish work to install foundations for relocated poles, including conduit, excavation, reinforcing steel, class A concrete, anchor bolts, nuts, and washers.

1. <u>Electrolier Installation</u>. Before installing electroliers, check the socket position of each luminaire to verify it matches the position indicated in the instructions for the light distribution type shown on the Plans.

Install electroliers with mast arms with a slight rake by plumbing the side of the pole opposite the mast arm. After the pole has been plumbed, level the luminaire as recommended by the manufacturer.

Install electroliers without mast arms with the centerline of the pole plumb.

2. <u>Signal Pole Installation</u>. Install signal poles with a slight rake by plumbing the side of the pole opposite the mast arm just above the base plate. Tighten the nuts on the anchor bolts/rods as described in Subsection 660-3.02.

Cover the gap between the foundation and base plate by installing a metal skirt around the base plate, secured with stainless steel sheet metal screws.

3. <u>Vehicular Signal Head Installation</u>. With two-piece mast arms, do not install signal heads within 12 inches on either side of the overlapped splice section.

Attach each side mounted terminal compartment with two 1/2" x 13 bolts, with washers, threaded into holes tapped into the side of the pole at the location shown on Alaska Standard Plan T-30. Install the vertical pipe members plumb.

When installing 4 or 5 sections vertically stacked signal heads on the sides of poles, secure the vertical pipe to the pole using a steel conduit hanger mounted 6 inches below the top horizontal pipe.

Aim through phase vehicular signal faces at a point located a distance from the face as shown in Table 660-2. If two through signal faces are not visible from this point at a height of 42 inches above finished grade, consult the Engineer for corrective measures.

# **TABLE 660-2**

85th Percentile Speed (mph)	Minimum Visibility Distance (feet)
20	175
25	215
30	270
35	325
40	390
45	460
50	540
55	625
60	715

# THROUGH PHASE SIGNAL FACE AIMING POINTS

4. <u>Pedestrian Signal and Push Button Installation</u>. Orient pedestrian signal faces at the center of the crosswalk on the opposite side of the street. Attach each clamshell bracket with two 1/2" x 13 bolts threaded into holes tapped into the side of the pole. Install a spacer, furnished by the bracket manufacturer, on each bolt.

Install the push button on the crosswalk side of the pole. Install push button signs above each push button. Furnish signs with the arrow pointing in the direction of the appropriate crosswalk. When channel is used for mounting push button signs, tap the top and bottom sign bolts into the pole.

- 5. <u>Underpass Lighting System Installation</u>. Mount the luminaires as detailed on the drawings to orient the axis of the lamp perpendicular to the axis of the underpass.
- 6. <u>Flashing Beacon Installation</u>. When the Plans specify using the flasher in a signal controller cabinet to energize beacons, furnish a two pole, fused block with built in fuse pullers and two fuses to protect the flasher. Furnish and leave 5 feet of cable in the cabinet. Others will install the fused block and terminate the beacon cables.
- 7. <u>Wood Pole Installation</u>. Place the poles in the ground to at least 6 feet deep.

After setting each pole in the ground, backfill the space around the pole with selected earth or sand, free of rocks 4 inches and larger, or deleterious material. Place the material in layers approximately 4 inches thick and thoroughly compact them with mechanical tampers.

Furnish poles that provide a minimum vertical clearance of 21 feet between the pavement and low point of overhead conductor.

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

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

When beginning 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 replacing defective equipment or repairing equipment damaged before the transfer of maintenance responsibility. Therefore, before starting work on the project, inventory the condition of the existing equipment with the Engineer and document the damaged and defective equipment. If beginning 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 components of the existing and temporary electrical systems operational during the progress of the work, except when the Engineer allows shutdowns to alter or remove the systems. The Engineer will consider these systems operational when no damaged or defective equipment is found in service, components are clean, located, and aligned as specified herein, and photoelectric controls operate the lighting systems. The State will pay for electricity used to operate the systems if the public benefits from their operation. Furnish replacement equipment compatible with equipment used in the Central Region.

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

- 1. <u>Records</u>. When working on a traffic signal system, print a record of work performed in the diary found in each controller cabinet. Make sure each entry includes:
  - a. The dates and times beginning and completing work, and the names of the Crewmembers completing the work.
  - b. The characteristics of the equipment failure or faulty operation evident before repair.
  - c. The changes made or corrective actions taken.

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

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

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

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

Relocate or replace signal poles, lighting standards, sign poles, flashing beacon poles, load centers, and controller cabinets whenever reducing clearance from the traveled way to less than 15 feet.

- 2. <u>Alignment</u>. During the various phases of construction, shift the signal heads to keep them aligned horizontally and vertically with the approaches according to the following:
  - a. For overhead signals located 53 feet and more from the stop line, maintain 18 feet to 20 feet of clearance between the traveled way and the bottom of each signal. For closer signals refer to the MUTCD for maximum clearances.
  - b. For side mounted signals, maintain 9 feet to 11 feet of clearance between the traveled way and the bottom of the signal.
  - c. Align overhead signals controlling a single lane with the center of the lane.
  - d. Align overhead signals controlling two lanes with the lane lines separating the lanes.
  - e. When the horizontal angle to the side mounted far right signal exceeds 20 degrees, relocate this signal to an overhead location. Measure the angle 10 feet back from the stop line on the lane line between the two farthest left through lanes.
    - (1) With two or more through lanes, center one signal head over each lane.
    - (2) With one through lane and protected permitted signal phasing, leave the five-section signal over the lane line and center the signal to be relocated over the through lane.
    - (3) Otherwise, install the relocated signal 8 feet to the right of the signal centered over the through lane.
  - f. For pedestrian signals, maintain 7 to 9 feet between the traveled way and the bottom of each pedestrian signal.
  - g. Aim signal heads according to Table 660-2 found in Subsection 660-3.08. When no longer required, salvage original and Department provided equipment according to the Plans and No. 6. <u>Salvaging or Reusing Electrical Equipment</u>, found in Subsection 660-3.01. Remove other materials used in the temporary systems from the project.

**660-3.10 FALSEWORK LIGHTING.** When required by the Special Provisions, install falsework lighting where vehicular traffic with or without pedestrian traffic crosses through or under structure falsework.

Provide illumination of the portal faces of falsework during the hours from dusk to dawn. Provide illumination of the pavement and pedestrian openings through or under falsework 24 hours a day.

Submit a plan for the proposed lighting installations and do not commence falsework construction until the Engineer has reviewed such plans. The Engineer will make a subsequent review after you place falsework lights in operation.

Falsework lighting equipment remains your property and must be removed from the site of the work upon completion of the project or when directed.

**660-3.11 TRAFFIC SIGNAL MODIFICATIONS**. Required work is detailed in the Plan sheets and notes and the following. Work related to the Traffic Signal Communications System will be paid for separately.

The Contractor will have 10 hours to "changeover" the new controller assembly. Changeover includes but is not limited to removing the existing controller assembly, replacing with new controller assembly, landing new and existing wires, programming the new controller unit, and bringing the signal back to full functionality. The 10 hour window will only occur on the days assigned under an approved traffic control plan. The Contractor will be assessed a Traffic Price Adjustment for an unauthorized lane closure according to Subsection 643-3.06. Refer to section 643 for further restrictions.

Traffic control during the changeover will be paid for under section 643 Pay Items. At a minimum, traffic control will include the following:

- 1. A portable changeable message board in advance of each approach with the message "Traffic Signal Work, New Traffic Pattern Ahead, from 00:00 AM/PM mm/dd/yy to 00:00 AM/PM mm/dd/yy
- 2. A flagger for each approach

Traffic signal modifications are subject to the full <u>Standard Specification for Highway Construction</u>, the <u>Special Provisions</u>, and the following:

- 1. <u>Traffic Controller Cabinet:</u> When a new traffic controller cabinet is called for, ensure legible labeling of all cabinet cables including but not limited to; control, detector, EVP, UPS, interconnect, and telephone. Label detectors and signal heads individually.
- 2. <u>Traffic Signal Heads</u>: When new traffic signal heads are required, provide with new LED units and new mounting hardware. If new heads are not called for, replace any missing visors or backplates subsidiary to the Traffic Signal Modification Pay Item.

When replacing traffic signal or pedestrian indications conform to Subsections 740-2.14 and 2.15 and maintain brand consistency throughout intersection. When new heads are provided aim heads according to Table 660-2.

- 3. <u>Loops:</u> When shown in the plans, replace inductive loops including homerun cable and required splice. Loop tests are required per Section 660-3.01.7.
- 4. <u>Conduits</u>: Unless new conduits are called for reuse existing conduits. When new conductors are being added to existing conduits, conform to sections 660-3.03, 3.05, and 3.06.
- 5. <u>EVP Components</u>: When called for in the plans provide EVP components including all cables and mounting hardware. Ensure proper operation of EVP system.
- 6. <u>UPS</u>: When called for in the plans provide fully functioning UPS system. If no separate UPS item exist, the UPS will be paid for subsidiary to the Traffic Signal Modifications Pay Item.
- 7. <u>Load Center:</u> When called for in the plans provide fully functioning Load Center. If no separate load center item exists, the load center will be paid for subsidiary to the Traffic Signal Modifications Pay Item.
- 8. <u>Conductors:</u> Reuse existing conductors except where the plans call for new conductors.

Salvage decommissioned reusable traffic signal equipment, components/materials and deliver to the local Maintenance & Operations station within 72 hours of removal. Refer to section 660-3.01 for delivery locations. Decommissioned components damaged as part of the salvage effort must be replaced with new components at no additional cost.

**660-3.12 SIGNAL SYSTEM TIMING AND ADJUSTMENTS.** The Engineer will use Municipality of Anchorage (MOA) signal maintenance personnel for certain work inside controller cabinets. Before MOA personnel arrive to test loop detector conductors, ensure terminal connectors are attached to paired loop

detector conductor ends and paired loop detector conductors and cables are labeled as specified in subsection 660-3.05, Wiring.

- 1. <u>Loop Detector Wiring</u>. Municipality of Anchorage Traffic Signal Maintenance (MOA Signal Maintenance) will test and connect paired loop detector conductors to the terminal blocks.
- 2. <u>Control Cable Wiring</u>. When modifying an operational signal system or controller assembly, MOA Signal Maintenance will connect control cables within the controller cabinet to the terminal blocks.
- 3. <u>Timing Adjustments</u>. During construction, MOA Signal Maintenance/Operations may adjust the system and intersection operational timing to accommodate project conditions.
- 4. <u>Interconnect Wiring</u>. MOA Signal Maintenance will test and connect copper interconnect wiring to the terminal blocks and will perform copper interconnect splices.

**660-3.13 CONTROLLER CABINET PREPARATION.** Ship new traffic controller cabinet(s) and equipment to the Municipality of Anchorage Traffic Signal Electronics Shop at 3601 Dr. Martin Luther King Jr. Avenue. MOA will inspect cabinet wiring, burn in signal equipment, customize cabinets for desired operation and test the equipment according to subsection 660-3.07, Shop Tests. Allow 6 weeks for cabinet testing.

**660-3.14 ARC FLASH HAZARD WARNING.** Label traffic controller cabinets, and other electrical equipment that is likely to require examination, adjustment, servicing, or maintenance while energized, to warn qualified persons of potential electrical arc flash hazards per NEC 110.16. The labels must meet the requirements in NEC 110.21(B) and must contain the information required in NFPA 70E 130.5(H).

660-4.01 METHOD OF MEASUREMENT. Section 109 and the following:

<u>Bored Casing</u>. By the linear foot along the slope of the bored or jacked casing for the actual length bored or jacked, in place.

<u>Traffic Loop</u>. By each loop unit, complete and in place, including all conduit, conductors, and other equipment to the nearest junction box.

<u>Traffic Loop Replacement</u>. By each loop unit damaged during the milling operation, complete and in place, including all conduit, conductors, and other items necessary per this section to replace fully functioning loops. Work to include splicing of loops to existing lead-in cable.

Relocate Electrolier. By each complete unit, removed, relocated, reinstalled, and functional.

<u>Temporary Electrolier</u>. By each electrolier and foundation furnished, installed, and maintained as directed by the Engineer.

Signals and Lighting (Miscellaneous). Measured in accordance with the directive authorizing the work.

## 660-5.01 BASIS OF PAYMENT.

Payment Includes labor, equipment, and materials required to provide fully functional traffic signals and lighting systems, permanent and temporary, using new equipment. Remanufactured or rebuilt equipment will not be permitted.

Subsidiary to each Pay Item including but not limited to (Except when included as a separate Pay Item):

- 1. General construction requirements,
- 2. Bonding and grounding,
- 3. Bored Casings,
- 4. Completing tests,
- 5. Conductors,

- 6. Conduit,
- 7. Dewatering excavations,
- 8. Excavation, trenches in rock or soil, bedding, backfill for foundations, conduits, components,
- 9. Foundations including concrete to complete foundations,
- 10. Junction boxes including adjustment to final grade,
- 11. Labeling conductors,
- 12. Maintaining temporary and existing electrical systems,
- 13. Minor routing changes directed by the Engineer,
- 14. Preparing as-builts,
- 15. Removal and disposal of existing/new unused foundations, conduit, conductors, and junction boxes,
- 16. Removing, repairing, and replacing improvements,
- 17. Removal of signs and reinstallations required to install foundations, conduits, and junction boxes,
- 18. Repairing damage to finishes on new equipment,
- 19. Salvaging reusable equipment and materials and delivering to the local Maintenance and Operations station including but not limited to existing signal structure (refer to section 660-3.01 for delivery locations),
- 20. Wiring, and
- 21. Replacing failed equipment, equipment components and repairing failed workmanship.

660 Pay Items do not include: roadway planing, roadway paving, drainage structures, erosion, sediment, and pollution control, signing, striping and pavement markings, traffic control, and components of the traffic signal communication system when included as separate pay items.

Pay Item 660.0001.\_\_\_\_Traffic Signal System Complete, ( ).

- 1. Signal structures
- 2. Traffic controller assemblies including assembly testing and preparation, vehicle and pedestrian indications, detection systems, emergency vehicle preemption systems, PTZ cameras, auxiliary and test equipment, on-site manufacturer assisted start up, and training when called for in the Plans.
- 3. Work associated with installing loop detectors and conduit crossings, and any other items except when included in a separate Pay Items such as saw cutting, asphalt removal, aggregate base course, tack coating, and installing new hot mix asphalt.
- 4. Includes salvage of existing signal system components not specified in plans to be reused, when not included as a separate item.

Pay Item 660.0003.\_\_\_\_Highway Lighting System Complete, ( ).

- 1. Lighting structures.
- 2. Includes salvage of existing lighting components not specified in plans to be reused, when not included as a separate item.

Pay Item 660.2000. Temporary Electrolier.

- 1. Work to have plans and materials approved.
- 2. Temporary electrolier including the structures, foundations, and load centers (as needed) and their removal. Moving the electroliers, assembly and operational installation, removing and replacing, and

installing conductors (in conduit or direct bury only). Furnishing and installing temporary electrical load centers when existing load centers are not available for use.

3. Temporary electrolier will be paid on a contingent sum basis at the unit price of \$3300/each. The Engineer does not require a change order/directive for this Pay Item.

Pay Item 660.2008.\_\_\_\_ Traffic Loop Replacement.

1. Replace loops within the specified depth of planning that are damaged during the planning operation at a rate of \$1250 each. Loops outside the specified depth of planning that are damaged during the planning operation are replaced at no expense to the Department per 202-5.01.

Payment will be made under:

Item Number	ber Item Description			
660.0001	Traffic Signal System Complete,	LS		
660.0002	Flashing Beacon System Complete,			
660.0003	Highway Lighting System Complete,	LS		
660.0004	Sign Illumination System Complete,	LS		
660.0005	Structure Illumination System Complete,	LS		
660.0007	Temporary Signal System Complete,	LS		
660.0008	Temporary Illumination System Complete	LS		
660.0009	Bored Casing,Inch Minimum Diameter	LF		
660.0011	Traffic Loop	Each		
660.0012	Underpass Lighting System Complete	LS		
660.0013	Relocate Electrolier	Each		
660.2000	Temporary Electrolier,	CS		
660.2001	Signal and Lighting Salvage,	LS		
660.2002	Pedestrian Lighting,	LS		
660.2003	Traffic Signal System Modifications			
660.2004	Adjust Junction Box			
660.2005	Junction Box, Type			
660.2008	Traffic Loop Replacement	CS		
660.2031	Signal System Timing and Adjustments			

PAY	ITEM
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# SECTION 661 ELECTRICAL LOAD CENTERS

**Special Provisions** 

#### 661-1.01 DESCRIPTION.

#### Add the following:

Furnish and install load center assembly Type 1A with an integral uninterruptible power supply (secondary power source) to power intersection traffic and pedestrian signals (no lighting) and control equipment during interruptions to the utility power (primary power source).

#### Add the following load center type:

Type 1A with UPS: ..... Pad mounted with underground service (large)

Add the following Subsections 661-1.02 Acronyms, 661-1.03 Definitions:

#### 661-1.02 ACRONYMS.

BBS	Battery Backup System
LC	Load Center
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LC/UPS	Load Center with Integral Uninterruptible Power Supply
MBPS	Manual Bypass Switch
MMU	Malfunction Management Unit
PLC	Powerline Communications
PTS	Power Transfer Switch
THD	Total Harmonic Distortion
UPS	Uninterruptible Power Supply

#### 661-1.03 DEFINITIONS.

BUCK-BOOST. Switch-mode voltage regulator in which voltage can be above or below the input voltage.

#### 661-2.01 MATERIALS.

Add the following:

Precast Concrete Products

Subsection 550-2.03

#### CR661.3-060121

Add the following:

1. Load Center with Integral Uninterruptible Power Supply (LC/UPS).

Design, fabricate, deliver, and install as specified in the Specifications and Plans.

a. Design of LC/UPS

Design and manufacture for outdoor applications and the environment specific to the project location.

The UPS shall be designed to provide for efficient fabrication and assembly using standard, readily available industry components facilitating the current project requirements. The design shall provide for future quick replacement of the complete system or the individual components.

The design shall allow the maintenance department to quickly acquire a replacement UPS or replacement parts and personnel to easily remove the existing UPS and install the new UPS or UPS parts as may be needed (complete turnkey system with all necessary hardware). Special tools shall not be required to install the UPS.

The design shall specifically include a shelf-mount, rack-mount, swing-tray mount, or combination thereof. The UPS and PTS units individually shall not exceed 5.25" in height. If swing-trays are used, a minimum of 6 bolts/fasteners shall be used to secure the tray to the cabinet rack.

b. Submit.

Submit shop drawings, equipment technical specifications, and certifications for review and approval. Do not begin manufacture of the LC/UPS prior to submitting and receiving approval of shop drawings and required certifications for the system assembly, the individual equipment pieces, components, and hardware. Provide documentation confirming delivery dates of the individual pieces of equipment and overall system in-place completion date satisfying the project construction schedule.

- c. Manufacturers.
  - (1) Meyers Power Products, Inc.

LC/UPS: Power Model MEUG35-PB Metered/Unmetered with MP2000 UPS

Address: 2950 E Philadelphia Street Ontario, CA 91761 Ph: (909) 923-1800 or (866) 696-9377

(2) Or equal:

Manufacturers satisfying the requirements of the Plans, Specifications and Contractual requirements for the assembled system, including delivery, quality and timeliness of installation and responsive remote and onsite service, shall submit, as a substitution, for review and approval.

d. UPS Run Time Capacity.

Power intersection LED traffic, pedestrian signals, and control equipment for the consecutive time periods noted below: (lighting and traffic controller auxiliary circuits are not included)

RUN TIME CAPACITY			
Operation Mode	Continuous Uninterruptible Operation Time*		
Normal	2 Hours		
Flash	2 Hours		
Total (Normal + Flash)	4 hours		

\*Continuous uninterruptible operation time at 77 °F (25 °C) at load 875 W.

e. <u>Operation</u>.

The transfer from utility power to the UPS shall not interfere with the normal operation of the traffic controller, MMU and other peripheral devices within the traffic controller assembly.

The MBPS shall be rated at 240 VAC, 40 Amps minimum. The MBPS shall allow replacement of the UPS without interrupting power to the intersection. The MBPS and PTS shall be separate units. Without interrupting power to the intersection, the MBPS shall permit the replacement of the PTS, and the MBPS and PTS shall each permit replacement of the UPS.

The UPS shall use a temperature compensated battery charging system. The charging system shall compensate over a range of 2.5 to 4 mV / °C / Cell and be rated 10 Amps at 48 VDC. Batteries shall not be charged when battery temperature exceeds 122 °F ± 5.4 °F (50 °C ± 3 °C). The temperature sensor shall be external to the UPS unit and supplied with 9' - 10" of wire.

The UPS shall automatically and continually monitor and display the current percent of battery power available for use. A "Battery Not Connected" alarm shall be issued if battery power is not present. When utilizing battery power, the UPS output voltage shall be between 110 VAC and 125 VAC, pure sine wave output with THD < 3% at 60 Hz +/- 3 Hz.

The UPS shall provide adequate power capacity to supply an external fan with field programmable temperature setting capability located in the same or in a separate battery cabinet. The temperature setting shall be adjustable locally and remotely. The temperature range shall be from +68 °F to +131 °F (+20 °C to +55 °C) in 1 degree F increment.

In the event of UPS failure, battery failure, or complete battery discharge, the PTS shall revert to the utility or line mode (in a de-energized state) where utility power is supplying the cabinet.

f. Components:

The LC/UPS shall include all equipment, hardware, foundation and foundation materials, interconnecting wiring and other materials for a complete operable LC/UPS inclusive of materials and performance requirements specified herein, but not limited to:

- (1) UPS
- (2) UPS Controller Unit
  - (a) Re-settable Inverter Event Counter
  - (b) Cumulative Inverter Timer
  - (c) Event log, Time and Dated (stores the last 100 events, minimum)
  - (d) Self-Test (programmable in 1-minute increments from 1 min. to 255 min.)
  - (e) Low Battery Alarm (programmable, adjustable in increments of .25 VDC)
  - (f) Buck-Boost Mode (UPS shall be capable of Buck-Boost 10% ±)
- (3) PTS (activated during Buck-Boost operations; transfer times 10 milliseconds)
- (4) MBPS (non-electrical)
- (5) Batteries and Battery Enclosure
- (6) Battery Heater Mats
- (7) Cabinets and Enclosures
- (8) External Fan

- g. UPS Access and Password Protection.
  - Provide local and remote access.
  - Provide the UPS with a default password.

## Access:

- (1) Local provide an LCD display screen and touch pad as part of the UPS
- (2) Remote
  - (a) RS232 interface
  - (b) USB interface

Local and remote access shall provide same access use.

# <u>User</u>:

- (1) The "User" includes the Department Traffic Engineers and Maintenance Personnel.
- (2) The User shall be able to monitor the following at the LC/UPS cabinet (locally) and remotely.

# <u>Use</u>:

- (1) Provide the Department with the default password and administrative authority to add/change password protection. Make the procedure intuitive and direct.
- (2) Control, programming, maintenance, and inquiry (view and adjust) including but not limited to:

# Monitor:

- (a) Time,
- (b) Date,
- (c) Current battery charge status,
- (d) Input/output voltages,
- (e) Power output,
- (f) Battery temperature,
- (g) Field programmable relay settings

# Current status shall be indicated by LED lights:

- (a) Green Flashing for battery back-up mode
- (b) Green Steady ON for normal line mode operation
- (c) Red Flashing for ALARM conditions
- (d) Red Steady ON for FAULT conditions

# Maintenance Controls - password protect:

- (a) UPS Inverter ON/OF,
- (b) Battery Test,
- (c) Event Log (Retrieving, viewing and printing in plain English),
- (d) Changing Default Settings

## Other Settings:

- (a) Temperature Settings,
- (b) Re-Settable Inverter Event Counter,
- (c) Cumulative Inverter Timer,
- (d) Self-Test,
- (e) Low Battery Alarm
- (3) Upload firmware software updates of the non-volatile, read-only memory type.
- h. Specifications.
  - (1) Environmental:

The operating temperature for the (UPS), (PTS) and (MBPS) shall be -34.6 °F to 165.2 °F (-37 °C to +74 °C).

(2) UPS Input/Output:

Input Specifications	
Nominal Input Voltage	120 VAC, Single Phase
Input Voltage Range	120 VAC ± 25%
Input Frequency	60 Hz ± 5%
Output Specifications	
Nominal Output Voltage	120 VAC, Single Phase
Power Rating*	2000 VA (1500 Watts)
Output Frequency	60 Hz ± 5%
Voltage Wave Form	Sine Wave, THD < 3%
Efficiency (nominal)	95 – 97%

# **UPS SPECIFICATIONS**

\*The UPS power rating of 2000 VA / 1500 Watts shall be with a minimum inverter efficiency of 80%.

(3) Loss/Restoration of Utility Power:

When the utility line voltage is outside the High and Low Limits (100 & 130 VAC respectively set as defaults), the UPS shall transfer the load to battery power. The UPS shall return to line mode when the utility power has been restored to above 105 VAC or below 125 VAC; or the UPS shall return to line mode when the utility power is back to nominal for more than 30 seconds (the line qualification time). The line qualification time shall be adjustable to 3, 10 or 30 seconds.

The maximum transfer time allowed, from disruption of normal utility line voltage to stabilized UPS line voltage from batteries, shall be 65 milliseconds. The same maximum allowable transfer time shall also apply when switching from UPS line voltage to utility line voltage.

- (4) Battery(s):
  - (a) Batteries as part of the UPS provide the power.

Individual batteries shall be rated at 105 Amp-Hour minimum. Batteries shall be 12 VDC type and shall be easily replaced and commercially available off the shelf. The battery system used in the UPS shall consist of 4 batteries and shall be of a voltage not to exceed 60 VDC. Batteries shall be provided with quick disconnect terminals and a polarized - keyed battery cable for easy field installation.

Batteries shall be deep cycle, sealed prismatic lead-calcium based AGM/VRLA (Absorbed Glass Mat/Valve Regulated Lead Acid) batteries - able to withstand extreme temperature. Batteries shall be certified to operate over a temperature range of -4 °F to 165.2 °F (-20 °C to +74 °C). The batteries shall be provided with appropriate interconnect wiring and a corrosion-resistant stationary or swing-out mounting tray and/or brackets appropriate for the cabinet into which they will be installed as specified in "Design of LC/UPS".

Batteries shall indicate maximum recharge data and recharging cycles. Recharge time for the battery from protective low cutoff to 80% or more of full battery charge capacity, shall not exceed twenty (20) hours.

(b) Battery Compartment:

The battery cabinet shall be vented through the use of louvered vents, filter, and one thermostatically controlled fan operated from the UPS. The fan will automatically turn ON at the temperature programmed into the UPS.

External battery compartments may be used to satisfy environmental and physical requirements. When submitting shop drawings, material and equipment submittals, request in writing and demonstrate graphically the need for an external compartment(s).

(c) Back-Feed and Other Protections:

The UPS shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service per UL 1778, Section 48 "Back-Feed Protection Test". The upstream back-feed voltage from the UPS shall be less than 1 VAC for the protection of persons accessing the equipment.

The UPS shall have lightning surge protection compliant with IEEE/ANSI C.62.41 for 2000 VAC.

(5) Relay Contacts:

The UPS shall provide the user with 6 sets of fully programmable, relay contacts of type NO/NC, panel-mounted, potential free and rated 1 Amp, 120 VAC and labeled C1 through C6. Each relay's setting shall be programmable to activate under conditions through local access or remote access. The minimum number of relay settings is outlined below.

Independently configure relay contacts C1 through C6 to activate under the following conditions:

- (a) ON BATTERY relay activates when BBS switches to battery power.
- (b) LOW BATTERY relay activates when batteries have reached a specified level of remaining useful capacity while on battery power. The specified level shall be adjustable from 0 to 100%.
- (c) TIMER- relay activates after being on battery power for a specified amount of time. The specified time shall be adjustable from 0 to 8 hours.
- (d) ALARM relay activates after a specific or general alarm is detected. These alarm conditions include:
  - Line frequency
  - Low output voltage
  - No temperature probe
  - Overload
  - Batteries not connected
  - High temperature
  - Low temperature

The relay shall be programmed to activate when any of these alarm conditions occur, or when a specified condition occurs.

- (e) FAULT- relay activates after a specific or general fault is detected. These fault conditions include:
  - Short circuit
  - Low battery voltage
  - High battery voltage
  - High internal temperature
  - Overload

The relay shall be programmed to activate when any of these fault conditions occur, or when a specific condition occurs.

- (f) OFF- relay is disabled and shall not activate under any condition.
- (6) Default Relay Settings:
  - (a) Relay C1 and C2 shall be set to activate whenever the UPS transfers to battery power and shall be labeled "ON BATT."
  - (b). Relays C3 and C4 shall be set to activate whenever the batteries reach 40% of remaining useful capacity and shall be labeled "LOW BATT."
  - (c) Relays C5 and C6 shall be set to activate whenever the UPS has been on battery power for 2 hours and shall be labeled "TIMER."

Terminal block position 19 & 20 shall be set to activate a self-test. This test confirms that a unit can transfer into and out of battery mode while supporting the output load.

(7) Load Center for Temporary Power:

Use the following load centers for distribution of power for temporary lighting and signals including the control systems. Provide work needed to modify load centers to provide functional temporary lighting and signal systems according to the NEC.

- (a) Permanent load centers installed in their plan location.
- (b) Existing load centers scheduled to remain intact until completion of the project. Relocate and reuse existing load centers only if approved.
- (c) Approved temporary load centers with photoelectrical controlled lighting circuits. Provide a temporary load center when retiring an existing load center that is not approved, and when approved load centers are unavailable.

Approved load centers include load centers UL labeled as Service Equipment, or UL labeled as Industrial Control Equipment and marked "Suitable for use as service equipment."

## 661-5.01 BASIS OF PAYMENT.

## Add the following Pay Item:

PAY ITEM				
Item Number Item Description Unit				
661.2001	Load Center, Type 1A with UPS (LC/UPS)	Each		

## CR661.2-010120

## 661-2.01 MATERIALS.

Add the following Section:

### SECTION 682 UTILITY POTHOLING

**682-1.01 DESCRIPTION.** Expose subsurface utilities using a vacuum-extract truck. Record the location of the utility(s). Backfill the pothole and dispose of waste materials.

#### 682-2.01 MATERIALS.

Backfill Material:	Aggregate Base Course, Grading D-1	Section 703
Asphalt Patch Material:	Hot Mix Asphalt Type II, Class B	Section 401

**682-3.01 CONSTRUCTION.** Submit the utility potholing schedule to the Engineer and utility companies not less than 7 days before starting potholing.

Deliver the vacuum-extract truck to the job-site with the debris tank empty.

Expose the subsurface utilities. Log the as-built information, subsection 682-3.02. Backfill the pothole immediately after the Engineer accepts the logged data. Backfill the first 6 inch lift using the excavated material, compact the material. Backfill the balance of the pothole using Aggregate Base Course, Grading D-1, compact the material. In paved areas, use Hot Mix Asphalt Type II, Class B to patch over the pothole, match the thickness of the surrounding pavement.

Dispose of excavations off-site. Before beginning potholing, provide to the Engineer a certificate, signed by the owner or owner's representative, identifying the disposal site and acceptance of the project potholing excavations.

Utilities damaged by the potholing operation require the Engineer to be immediately notified. The Contractor is responsible for the repairs and the associated costs. Contact and coordinate repairs with the utility owner.

**682-3.02 AS-BUILTS.** Create a utility pothole log, as-built, recording for each pothole: the date of potholing operation, utility type and size, station, offset, elevation, groundwater, and other pertinent data. Survey the utility location using the project horizontal and vertical control; comply with the requirements of Section 642. Submit the completed log to the Engineer within two working days following the completion of the pothole excavation.

**682-4.01 METHOD OF MEASUREMENT.** The pay unit, contingent sum, is measured by the hour of work performed.

**682-5.01 BASIS OF PAYMENT.** Pay Item No. 682.2000.\_\_\_\_\_ is paid at \$450/hour for the work to pothole; expose the utility(s), backfill the hole, patch disturbed pavement and dispose of excavations. The paid time includes the work; labor, and the fully operated vacuum truck or combination of vacuum truck and other Engineer approved equipment engaged in potholing at the area(s) identified in the Plans and/or identified by the Engineer. The paid time includes the time to empty the vacuum truck of excavation material, including the travel time, from this project only, to a certified disposal site.

Travel time to and from the project, idle time, maintenance and repairs (labor, material and time) are incidental and not included in the measured time.

As-built, utility pothole log, per subsection 682-3.02, will be paid under Section 642.

Potholes for the Contractor's information and potholes not accepted by the Engineer will not be paid for by the Department.

Payment will be made under:

ΡΔΥ	ITEM

Item Number	Item Description	Unit
682.2000	Vac-Truck Pothole	CS

CR682-010114R

# **DIVISION 700 — MATERIALS**

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# SECTION 702 ASPHALT MATERIALS

Standard Modification

Replace Subsection 701-2.01 with the following:

**702-2.01 ASPHALT BINDER.** Meet AASHTO M 320 or M 332 for the specified Performance Grade, except as indicated in Table 702-2.01-1 Exceptions to Performance-Graded Binder Specifications.

 TABLE 702-2.01-1

 EXCEPTIONS TO PERFORMANCE GRADED ASPHALT BINDER SPECIFICATIONS

Performance	AASHTO	Viscosity	MSCF	R, AASHT	O T 350	PAV,	Direct
Grade	Specification	AASHTÓ				Dynamic	Tension
		T 316	huna a kDa <sup>-1</sup>	In Diff	% Recoveryas	Shear	AASHTO
			JNR3.2 KF a	JNK DITI	70 Necover y3.2	AASHTO	T 314
						T 315	
PG 52-28	M 320	None			_	None	Delete
PG 52-34 E	M 332	None	None	Delete	60 min.	None	Delete
PG 58-28 E	M 332	None	None	Delete	60 min.	None	Delete
PG 58-34 V	M 332	None	None	Delete	60 min.	None	Delete
PG 64-28 E	M332	None	None	Delete	60 min.	None	Delete
PG 52-40 E	M 332	None	None	Delete	75 min.	None	Delete
PG 58-34 E	M 332	None	0.25 max.	Delete	85 min.	None	Delete
PG 64-40 E	M 332	1 Date may	0.10 max.	Delete	95 min.	5000 max.	Delete
		I Pa•S MdX.				@ 4°C	

None indicates no exceptions from the listed test. Delete indicates this property is not required from the listed test.

Use asphalt binders without re-refined engine oil bottoms (REOB)/vacuum tower extenders (VTAE) as a modifier. REOB/VTAE are materials as defined in the Asphalt Institute document IS-235. Furnish a certificate of compliance according to Subsection 106-1.05.1 certifying that REOB/VTAE were not used as a modifier of asphalt binder.

## HSM20.44-23.0801

# 702-2.03 EMULSIFIED ASPHALT.

Replace item 1. with the following:

1. <u>Cationic Emulsified Asphalt</u>. Meet AASHTO M 208, except CRS-2P meet AASHTO M316.

#### HSM20.32-21.1231

## 702-2.07 WARM MIX ASPHALT (WMA). Add the following to Table 702-3:

WMA Technology	Process Types	WMA Supplier
AD-here ULTRA 1	Chemical Additive	Arkema – Road Science
Cecabase RT	Chemical Additive	Arkema – Road Science

HSM20.44-23.0801

# SECTION 703 AGGREGATES

Standard Modification

# 703-2.03 AGGREGATE FOR BASE AND SURFACE COURSE.

In Table 703-1 replace the line for Degradation Value with the following:

# TABLE 703-1AGGREGATE QUALITY PROPERTIES FOR BASE AND SURFACE COURSE

PROPERTY	BASE COURSE	SURFACE COURSE	TEST METHOD
Micro-Deval	15%, max.	15%, max.	AASHTO T 327

HSM20.40-050122

**Special Provisions** 

Replace Subsection 703-2.04 with the following:

**703-2.04 AGGREGATE FOR HOT MIX ASPHALT.** Process and crush aggregate that is free from clay balls, organic matter, other deleterious material, and not coated with dirt or other finely divided mineral matter. Aggregate used must consist of sound, tough, durable rock of uniform quality.

Remove all natural fines passing a No. 4 sieve before crushing aggregates for Type IV, and VH mixes.

Coarse Aggregate. Aggregate retained on the No. 4 Sieve.

Meet Table 703-3 requirements:

TABLE 703-3 COARSE AGGREGATE QUALITY FOR HMA

Description	Specification	Type II, Class A	Type I; Type II, Class B; Type III	Type IV	Туре VH
LA Wear, % max.	AASHTO T 96	45	45	45	45
Micro-Deval, % max.	AASHTO T 327	18	18	18	18
Sodium Sulfate Loss, % max. (5 cycles)	AASHTO T 104	9	9	9	9
Fracture, % min.	ATM 305	90, 2 face	80, 1 face	90, 2 face	98, 2 face
Flat-Elongated Pieces, % max.	ATM 306				
1:5		8	8	8	8
Absorption, % max.	ATM 308	2.0	2.0	2.0	2.0
Nordic Abrasion, % max.	ATM 312	-	-	-	8 a

a. Hard Aggregate that meets the Nordic Abrasion values specified may be obtained from, but not limited to, the following sources:

• MS 52-068-2, located at MP 217 on the Parks Highway near Cantwell

- Alaska Lime Co, Jim Caswell, located at MP 216.5 on the Parks Highway near Cantwell
- CalPortland plants located in Dupont Washington
- Jack Cewe Ltd located in Coquitlam British Columbia, Canada

Fine Aggregate. Aggregate passing the No. 4 sieve.

Aggregate shall meet the quality requirements of AASHTO M 29, including S1.1, Sulfate Soundness.

Aggregate for Type II, Class A mix shall not contain more than 10% natural fines (blend sand and mineral filler) added to the crushed aggregate, and shall not exhibit rut depth larger than 1/4-inch, as determined by ATM 419.

Fine aggregate for Type IV and VH mixes:

- do not blend back natural sand
- shall be non-plastic as determined by ATM 205
- shall have a minimum uncompacted void content (Fine Aggregate Angularity) determined by AASHTO T 304, Method A, of 45%

	GRADATION				
SIEVE	Туре І	Type II	Type III	Type IV	Type VH
1 inch	100	-	-	-	-
3/4 inch	80-90	100	-	-	100
1/2 inch	60-84	77-99	100	100	65-90
3/8 inch	48-78	68-88	80-90	80-95	55-80
No. 4	28-63	48-68	44-81	55-70	40-60
No. 8	14-55	33-53	26-70	35-50	≤ 45
No. 16	9-44	20-40	16-59	20-40	≤ 35
No. 30	6-34	14-30	9-49	15-30	≤ 25
No. 50	5-24	9-21	6-36	10-24	≤ 20
No. 100	4-16	6-16	4-22	5-15	≤ 12
No. 200	4-7	3-6	4-7	4-7	4-7

#### TABLE 703-4 BROAD BAND GRADATIONS FOR HOT MIX ASPHALT AGGREGATE Percent Passing by Weight

## CR703.1-050122

## 703-2.05 AGGREGATE FOR COVER COAT AND SURFACE TREATMENT.

In Table 703-5 replace the line for Degradation Value with the following:

# TABLE 703-5 QUALITY PROPERTIES FOR COVER COAT AND SURFACE TREATMENT

Micro-Deval	AASHTO T 327	15%, max.

HSM20.40-050122

Special Provision

## 703-2.07 SELECTED MATERIAL.

Replace 1. Type A with the following:

1. <u>Type A</u>. Aggregate containing no muck, frozen material, roots, sod or other deleterious matter and with a plasticity index not greater than 6 as tested by ATM 204 and ATM 205. Meet the following gradation as tested by ATM 304:

<u>Sieve</u>	Percent Passing by Weight		
No. 4	20-55%		
No. 200	0-6%, determined on the minus 3-inch portion of the sample		

CR703.1-050122

## 703-2.09 SUBBASE.

In Table 703-8 replace the line for Degradation Value with the following:

TABLE 703-8 QUALITY PROPERTIES FOR SUBBASE

Micro-Deval	AASHTO T 327	25%, max.

#### HSM20.40-050122

## 703-2.10 POROUS BACKFILL MATERIAL.

Add the following to the end of the paragraph:

Use Gradation A unless otherwise specified.

#### HSM20.33-123121

**Special Provision** 

## 703-2.13 STRUCTURAL FILL. Replace Table 703-12 with the following:

	TABLE 703-12		
AGGREGATE GRADATION FOR STRUCTURAL FILL			

SIEVE	PERCENT PASSING BY WEIGHT			
3-inch	100			
3/4-inch	75-100			
No. 4	20-55			
No. 200	0-6			

Replace Subsection 703-2.16 with the following:

**703-2.16 RECYCLED ASPHALT PAVEMENT (RAP).** RAP shall be free of contamination and deleterious materials. RAP maximum particle size shall not exceed 1.5-inch.

## CR703.1-050122

# SECTION 705 JOINT MATERIAL

Section place holders. Keep or remove the place holder as required by the project. Remove the place holder content by (1) individually highlighting the content, including the page and section breaks, and then using the delete key or (2) in the navigation pane - select the section to be removed > right click the shaded section heading and select "delete" (this removes the Section, page and section breaks and all content in the section). Verify the headers and footers remain correct for the section before and after the deleted Section.

# SECTION 708 PAINTS

Standard Modification

# 708-2.01 PAINT FOR STEEL STRUCTURES.

3. <u>Top Coat</u>. <u>In the 2<sup>nd</sup> sentence of the 1<sup>st</sup> paragraph, replace Federal paint specification</u> "FSS No. 595B" <u>with</u> "AMS-STD-595".

HSM20.31-123121

**Special Provision** 

Replace Section 724 with the following:

### SECTION 724 SEED

724-2.01 DESCRIPTION. Grass seed to provide a living vegetative cover.

**724-2.02 MATERIALS.** Provide seed mix as specified in the Special Provisions. Provide seed collected or harvested within 2 years of the targeted seeding date. Provide all seed in pure live seed (PLS) unless otherwise directed.

Furnish seed true of genus and species. Meet applicable requirements of the State of Alaska Seed *Regulations*, Alaska Administrative Code, Title 11, Chapter 34, (11 AAC 34), and the Federal Seed Act, 7 CFR Part 201.

The Engineer will review requests for genus, species, or cultivar substitutions(s). The Contractor shall submit a proposed seed mix accompanied by approval from the Alaska Plant Materials Center, and confirmation the vendor can provide the requested mix in quantities adequate for the project.

- Prohibited and Restricted Noxious Weeds and Quarantined Pests. Furnish seed certified to be free of prohibited noxious weeds or quarantined pests, and certified to contain no more than the maximum allowable tolerances for restricted noxious weeds, according to 11 ACC 34.
  - a. Seed found to contain prohibited noxious weeds or quarantined pests will be rejected, according to 11 AAC 34.020(a) and 11 AAC 34.105 through 34.180, respectively.
  - b. Seed found to contain restricted noxious weed seed in excess of the maximum allowable tolerance per pound will be rejected, according to 11 AAC 34.020(b).

Prohibited and restricted noxious weeds are listed in 11 AAC 34.020, and can be viewed at the following URL: <u>http://plants.alaska.gov/invasives/noxious-weeds.htm</u>.

- 2. <u>Labeling</u>. Ensure each bag or container of individual seed species is labeled to meet requirements of 11 AAC 34.010. Do not remove labels from bags or containers.
- 3. <u>Certification</u>. Certify seed is free of prohibited noxious weeds and restricted noxious weeds are within allowable tolerances. Furnish to the Engineer a statement signed by the vendor identifying the lot number or lot numbers, certifying each lot of seed has been tested within the preceding nine months, by a recognized seed testing laboratory, a member of the Association of Official Seed Certifying Agency (AOSCA), or the Alaska Plant Materials Center.

Seed will be rejected if:

- a. Contains prohibited noxious weeds;
- b. Contains restricted noxious weeds above maximum allowable tolerances;
- c. Not certified as tested within the preceding nine months;
- d. Wet, moldy, or otherwise damaged in transit or storage; or
- e. Containers do not have labels or the labels have been removed.

Seed may be rejected for:

a. Discrepancies in the lot numbers listed on the statement to the lot numbers indicated on the labels of the seed containers.

The Contractor shall immediately remove rejected seed from the project premises. If seed is rejected for containing prohibited noxious weeds or for exceeding maximum allowable tolerances of restricted noxious weeds, dispose of rejected seed according to 11 AAC 34.075(g).

CR724-113020

**Special Provision** 

## Replace Section 726 with the following:

### SECTION 726 TOPSOIL

**726-2.01 TOPSOIL.** Furnish topsoil that is representative of the existing, natural organic blanket of the project area, and free of prohibited and restricted noxious weeds (Prohibited and Restricted Noxious Weeds 11AAC 34.020 <u>http://plants.alaska.gov/invasives/noxious-weeds.htm</u>). Perform a quality test, as defined by ATM 203, 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 3 inch in diameter from the organic material before it is graded onto the finished slope.

Soil with an organic content of less than 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 203. The material shall be reasonably free from roots, clods, hard clay, rocks greater than 3 inches in diameter, noxious weeds, tall grass, brush, sticks, stubble or other litter, and shall be free draining and nontoxic. Notify the Engineer of the topsoil source location at least 30 calendar days before delivery of topsoil to the project from the identified location. The Engineer will inspect the topsoil and its sources before approval will be granted for its use.

Soil pH	Limestone, tons/acre	
Above 6.0	0	
5.0-6.0	1.5	
Below 5.0	3.0	

# TABLE 726-1 LIMESTONE REQUIREMENTS

CR726-20.0101R

Special Provisions

Replace Section 727 with the following:

# SECTION 727 SOIL STABILIZATION MATERIAL

**727-2.00 GENERAL.** Free of restricted and prohibited noxious weeds (11 AAC 34), seeds, chemical printing ink, germination and growth inhibitors, herbicide residue, chlorine bleach, (except where specified: rock, metal, plastics) and other deleterious materials and not harmful to plants, animals and aquatic life. Wood cellulose "paper" fiber, wood chips, sawdust, and hay are not permitted as stand-alone stabilization materials.

**727-2.01 MULCH.** Flexible blanket/covering, temporary degradable (bio/photo) form of erosion control. Use one of the following:

Dry Erosion Control, Stabilization Products. Hand applied or spread with mulch blower equipment.

- <u>Straw</u>. Use straw, in an air-dried condition, from oats, wheat, rye, barley, or other approved grain crops that are free from noxious weeds, seeds, mold, or other materials detrimental to plant life. Straw material shall be certified weed-free straw using North American Invasive Species Management Association (NAISMA) Standards. In-lieu of certified weed-free straw provide documentation that the material is steam or heat treated to kill seeds or provide U.S. or state's department of agriculture laboratory test reports, dated within 90 days prior to the date of application showing that there are no viable seeds in the straw.
- 2. <u>Shredded Bark Mulch</u>. Shredded bark and wood with the following characteristics:
  - a. Not containing resin, tannin, or other compounds in quantities harmful to plant life.
  - b. Maximum length of individual pieces is 2 inches with 75% passing through a 1 inch sieve.
  - c. Will form a uniform ground cover/mat, have moisture absorption, retention, and percolation properties, not be susceptible to spreading by wind or rain providing a good growth medium.
  - d. May contain up to 50% shredded wood material.
  - e. Shredded wood material aged 1 year minimum prior to use.

# Hydraulic Erosion Control Products (HECPs) Applied hydraulically.

A fiber mulch matrix: biodegradable and composed of wood, straw, coconut and other fibers natural and man-made. When applied, create a continuous, porous, absorbent high water holding, flexible blanket/mat/mulch/covering making intimate contact with, and adhering to sloped soil surface; permitting water infiltration; resists erosion and promotes rapid germination and accelerated plant growth. The fibers may be thermally processed, and cross-linked with a hydro-colloidal or linear anionic tackifier (curing period 24-48 hours) or mechanically-bonded (no curing period). When agitated in slurry tanks with water the fibers will become uniformly suspended, without clumping to form homogeneous slurry.

The HECPs shall be delivered premixed by the manufacturer. The HECP will contain only the materials provided in the sealed containers from the manufacturer. No added components are permitted after the manufacturer seals the product container, before application, during application or otherwise. Submit documentation dated within 3 years of application, from an independent accredited laboratory as approved by the Engineer, showing that the product's testing performance meets the requirements for the slope(s) to be protected on the project, according to the National Transportation Product Evaluation Program (NTPEP), Erosion Control Technology Council (ECTC) and or the Texas DOT/Texas Transportation Institute (TTI) Laboratory.

If the HECP contains cotton or straw provide documentation that the material is certified weed free using NAISMA Standards. In-lieu of certified weed-free straw, provide documentation that the material is steam or heat treated to kill seeds or provide U.S. or state's department of agriculture laboratory test reports, dated within 90 days prior to the date of application showing that there are no viable seeds in the straw.

The HECP shall contain a dye to facilitate placement and inspection of the material.

1. Wood Strand, Fiber.

A blend of angular, loose, long thin wood pieces with a high length to width ratio and that are frayed. Minimum 95% of strands between 2 inches and 10 inches, at least 50% of the length shall have a width thickness between 1/16 and 1/8 inch. No single strand shall have a width or thickness greater than 1/2 inch. Processed wood fiber with the following characteristics:

- a. Will remain in uniform suspension in water under agitation and will blend with grass seed, fertilizer and other additives to form homogeneous slurry.
- b. Will form a blotter-like uniform ground cover on application, have moisture absorption, retention and percolation properties, the ability to cover, and hold grass seed in contact with soil, and not create a hard crust upon drying providing a good growth medium.
- 2. <u>Dried Peat Moss</u>. Partially decomposed fibrous or cellular stems and leaves of any of several species of Sphagnum mosses with the following characteristics:
  - a. Chopped or shredded to allow distribution through normal hydraulic type seeding equipment and capable of being suspended in water to form part of a homogeneous slurry.
  - b. Free from woody substances and mineral matter such as sulfur or iron and with a pH value of between 4.0 and 6.5.
  - c. Furnished in an air dry condition and containing less than 35% moisture by weight. Have a water holding capacity of not less than 800% by weight on an oven dry basis.
- 3. Fiber Matrix (FM) Mulch Types.
  - a. Stabilized Mulch Matrices (SMMs)
  - b. Bonded Fiber Matrices (BFMs)
  - c. Mechanical Bonded Fiber Matrix (MBFM)
  - d. Polymer Stabilized Fiber Matrix (PSFM)
  - e. Fiber Reinforced Matrices (FRMs)
    - Flexible Growth Medium (FGM)
    - Extended-Term Flexible Growth Medium (ET-FGM)

**727-2.02 MATTING.** Fiber mulches, mulch matrices, nets and turf reinforcement mats manufactured from wood fibers, straw, jute, coir, polyolefins, PVC, nylon and others creating dimensionally stable nets, meshes, geotextiles and blankets; creating a continuous, porous, absorbent, flexible blanket/mat/mulch/covering making intimate contact with and adhering to sloped soil surface, resisting erosion and promoting rapid germination and accelerated plant growth.

**Rolled Erosion Control Products (RECPs)** (Temporary Degradable and Permanent Erosion Control) Use RECPs that bear the Quality and Date Oversight and Review (QDOR) Seal from the ECTC. Independent test results from the NTPEP, that the mulch, when tested according to ASTM 6459 Standard Test Method for Determination of Rolled Erosion Control Products (RECP), Performance in Protecting Hillslopes from Rainfall-Induced Erosion, meets the performance requirement using the Revised Universal Soil Loss Equation (RUSL).

Functional Longevity.

- 1. <u>Temporary Degradable</u>.
  - a. Duration.
    - <u>Short-Term RECPs</u>. (RECPs 3 12 months) C Factor = .15 maximum Test Soil Type = Sandy Loam (National Resources Conservation Service (NCRS) Soil Texture Triangle)
    - <u>Moderate (Extended)</u> -Term RECPs. (RECPs 24 months) C <sub>Factor</sub> = .05 maximum Test Soil Type = Sandy Loam (NCRS Soil Texture Triangle)

- 3) Long-Term RECPs. (RECPs 36 months) C Factor = .01 maximum Test Soil Type = Sandy Loam (NCRS Soil Texture Triangle)
- b. Product types.
  - 1) <u>Mulch-Control Nets (MCNs)</u>. Planar woven natural fiber or extruded geosynthetic mesh used to anchor loose fiber matting/mulches.
  - Erosion Control Blankets (ECBs). Processed natural and/or polymer fibers, yarns or twines mechanically, structurally, or chemically bound together to form a continuous matrix with a minimum weight of 8 oz/yd<sup>2</sup> and a limiting shear stress of 0.45 lb/ft<sup>2</sup>.
  - 3) <u>Netless</u>. Fibers mechanically interlocked and/or chemically adhered together.
  - 4) <u>Single-net and Double-net</u>. Fibers mechanically bound together by single or double netting.
  - 5) <u>Open Weave Textiles (OWTs)</u>. Fibers woven into a continuous matrix.
- c. Materials.
  - 1) <u>Burlap</u>. Standard weave with a weight of 3.5 to 10 oz/yd<sup>2</sup>.
  - 2) <u>Jute Mesh Fabric</u>. Cloth of a uniform, open, plain weave of undyed and unbleached single jute yarn. Use yarn that is loosely twisted and not varying in thickness more than one-half its normal diameter. Furnish jute mesh in rolled strips meeting the following requirements:
    - a) Width: 45 to 48 inches,  $\pm$  1 inch
    - b) 78 warp-ends per width of cloth (minimum)
    - c) 41 weft-ends per yard (minimum)
    - d) Weight: 20 ounces per linear yard,  $\pm$  5%
  - 3) <u>Woven Paper or Sisal Mesh Netting</u>. Woven from twisted yarns available in rolls 45 to 48 inches wide. Mesh may vary from closed to open weave, ranging from 1/8 to 1/4 inch openings. Shrinkage after wetting may not exceed 20% of the surface area.
  - 4) <u>Knitted Straw Mat</u>. Commercially manufactured ECB. Use photodegradable netting and biodegradable thread. Use straw, in an air-dried condition, from oats, wheat, rye, barley, or other approved grain crops that are certified weed free of prohibited and restricted noxious weed seed and quarantined pests, according to Alaska Administrative Code, Title 11, Chapter 34 (11 AAC 34), and in conjunction with North American Invasive Species Management Association (NAISMA) standards, and free of mold, or other objectionable materials detrimental to plant life. When straw or straw products certified according to 11 AAC 34 are not available, use non-certified products manufactured within Alaska before certified products manufactured in another state, country, or territory. Non-certified products manufactured in Alaska In-lieu of certified weed-free straw, provide documentation that the material is steam or heat treated to kill seeds or provide U.S. or state's department of agriculture laboratory test reports, dated within 90 days prior to the date of application showing that there are no viable seeds in the straw. Non-certified straw or straw products manufactured in another state, country, or territory shall not be used. ECB may contain coconut or fiber to reinforce the straw.
  - 5) <u>Woven/Curled Wood blanket</u>. Machine produced mat of curled wood shavings with a minimum of 80% 6-inch or longer fibers, with consistent thickness and the fibers evenly distributed over the entire area of the blanket. Smolder resistant without the use of chemical additives. Cover the top side of the blanket with biodegradable extruded plastic mesh.
  - 6) <u>Coconut (Coir Fiber)</u>. Machine produced mat, ECB of consistent thickness and coir fiber evenly distributed over the area of the mat. Use bio/photo degradable netting and thread.

- 2. Permanent.
  - a. Product Types and Materials.
    - <u>Turf Reinforcement Mats (TRMs)</u>. A rolled erosion control product composed of nondegradable synthetic fibers, filaments, nets, wire mesh, and/or other elements, processed into a permanent, three-dimensional matrix of sufficient thickness with a minimum weight of 8 oz/yd<sup>2</sup> and a minimum limiting shear stress of 1.5 lb/ft<sup>2</sup>. TRMs (may be supplemented with degradable components) shall impart immediate erosion protection, enhance vegetation establishment during and after maturation and permanent vegetation reinforcement providing long-term functionality.

**727-2.03 SEDIMENT RETENTION FIBER ROLLS (SRFRs).** Fiber rolls also referred to as wattles. Manufacture of photodegradable or biodegradable fabric netting without preservative treatment, evenly woven, free of crusted material, cuts, and tears. Manufacture stakes of photodegradable or biodegradable material (wood stakes, except as approved by the Engineer).

- 1. Filter Sock (Wattle)
  - a. Fabric netting.
  - b. Filled with wood fiber, straw, flax, rice, coconut fiber material.
  - c. Minimum diameter 5 inches.
- 2. <u>Compost Sock</u>.
  - a. Extra Heavy weight fabric netting with a minimum strand width of 5 mils.
  - b. Filled with coarse compost.
  - c. Minimum diameter 8 inches.
- 3. Coir Log.
  - a. Woven wrap bristle coir twine netting.
  - b. Filled with 100% coconut (coir) fiber uniformly compacted.
  - c. Segments maximum length 20 foot, diameter as suited to the application and a density of 7 lbs/pcf or greater.
  - d. Coir twine strength equal to 80 lb minimum weaved to a 2 inch x 2 inch opening pattern.
  - e. Ties made of hemp rope by 1/4 inch diameter.

**727-2.04 COMPOST.** Suitable for serving as a soil amendment or an erosion control material. Sanitized, mature compost meeting local, state, and Federal quality requirements tested and certified by the U.S. Composting Council (USCC) under the Seal of Testing Assurance (STA) Program. Biosolids compost must meet the Standards for Class A biosolids outlined in 40 Code of Federal Regulations (CFR) Part 503. Additionally, meet the requirements of the AASHTO specifications:

- 1. <u>Compost Blankets</u>. Standard Practice for Compost for Erosion/Sediment Control (Compost Blankets) R 52.
- 2. <u>Compost Filter Berms and Filter Socks</u>. Standard Practice for Compost for Erosion/Sediment Control (Filter Berms and Filter socks) R 51.

**727-2.05 TACKIFIER.** Tackifier, viscous overspray, generally composed of dry powered vegetable gums derived from guar gum, psyllium and sodium alginase; asphaltic emulsions; petroleum distillates; copolymer emulsions; and lignosulfonates and used to anchor soil, compost, seed, the mulch fibers to one another, and the ground. Contain no growth or germination inhibiting materials nor significantly reduce infiltration rates. Tackifier shall hydrate in water and readily blend with other slurry material. Tackifier options include:

- 1. <u>Type A</u>. Organic tackifier with certification of plant sources; or
- 2. <u>Type B</u>. Synthetic tackifier with certification confirming product is not harmful to plants, animals, or aquatic life.

**727-2.06 POLYACRYLAMIDE (PAM).** Use as a tie-down for soil, compost, seed and as a flocculent. Polyacrylamide (PAM) products shall meet the requirements of American National Standards Institute (ANSI)/National Sanitation Foundation International (NSF) Standard 60 for drinking water treatment, be anionic (not cationic), linear and not cross-linked with an average molecular weight greater than 5 Mg/mole, minimum 30 percent charge density; contain at least 80% active ingredients and a moisture content not exceeding 10% by weight.

Deliver PAM in a dry granular powder or liquid form.

**727-2.07 GEOTEXTILE-ENCASED CHECK DAM AND SEDIMENT BARRIER.** Urethane foam core encased in geotextile material (silt fence material Section 633), minimum 8 inches height by minimum base width of 16 inches by minimum 7 foot length. Overhang the geotextile 6 inch minimum each end with apron type ties by 24 inches each side of the foam core.

# 727-2.08 SANDBAG.

- 1. <u>Sandbag Sack Fabric</u>. Fabric shall be a nonwoven, needle punched design meeting the Minimum Average Roll Values (MARV) verified in accordance with ASTM D4759.
- 2. <u>Seam Thread</u>. Similar durability to the sandbag sack fabric.
- 3.Sandbag Fill Material.a.Selected Material703-2.07Type B
- 4. <u>Cinch Ties</u>. Plastic ties or equivalent tie recommended by the sandbag manufacturer.

# 727-2.09 MANUFACTURED INLET PROTECTION SYSTEM.

- 1. Manufacturers:
  - a. Ultra Tech International Ultra-DrainGuard
  - b. Bowhead Environmental and Safety StreamGuard Exert II Sediment Insert
  - c. Enpac Catch Basin Insert, Oil and Sediment or
  - d. Approved equal.

**727-2.10 CLEAR PLASTIC COVERING.** A clear plastic covering meeting the requirements of the National Institute of Standards and Technology (NIST) voluntary Product Standard PS 17 - 69 for polyethylene sheeting having a minimum thickness of 6 mils.

**727-2.11 STAPLES.** U-shaped staples for anchoring matting, approximately 6 inches long and 1 inch wide. Machine-made: No. 11 gage or heavier steel wire. Hand-made: 12-inch lengths of No. 9 gage or heavier steel wire.

CR727-12.0508R2

# SECTION 730 SIGN MATERIALS

Special Provisions

## 730-2.04 SIGN POSTS.

## <u>Add No</u>. <u>7</u>:

## 7. Structural Tubing and W-Shape Beams.

- a. Structural tubing shall conform to ASTM A500, Grade B, or ASTM A501. The tubing shall be square and of the dimensions called for in the Plans with 0.2 inch thick walls. 0.4 inch diameter holes shall be drilled as required to permit mounting of the sign.
- b. W-shape beams shall conform to ASTM A36.
- c. Structural tubing and W-shape beams shall be hot dip galvanized according to 1.b. of this subsection. Damaged and abraded tubes and beams shall be repaired according to 1.c. of this subsection.

#### CR730.1-062204

Replace Subsection 730-2.05 with the following:

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

<u>Terminal Markers - Flexible (marker)</u>. The marker includes the pole/post/rod (pole), reflective and retroreflective sheeting and mounting hardware.

Provide durable markers: resistant to impact from (snow and vehicle), vandals, ultraviolet light, moisture, ozone, and hydrocarbons.

When the pole is loaded, the marker shall bend/flex, remain flexible and oriented as installed continuing to function as designed without permanent displacement along the length of the member. Provide the flexibility in the primary vertical element, a connecting device between the vertical element and connection to the support member (spring or other) or a combination.

Provide a connection sufficient to transfer the loads from the pole to the supporting member without reducing the strength, flexibility, or durability of either. The connection shall not negatively influence the performance of the guardrail. Provide approval of the connection from the marker manufacturer and support member manufacturer (if proprietary).

- Design Loads:
  - Impact load from snow thrown by snowplows
  - > Weight of snow covering the pole (snow thrown from snowplows)
  - Wind loads (100 mph, 3 sec gust)
- Service Temperature Range: -40° F to +140° F.

- Pole:
  - 1. Material:
    - > Steel, or
    - Stainless Steel, or
    - Other Poles:
      - (a) Continuous glass fiber and marble reinforced thermosetting composite, or
      - (b) Engineered plastic alloy, or
      - (c) Fiberglass Reinforced Polyester (FRP)
      - (d) High-Impact Polyolefins
  - 2. Dimensions
    - > Top of Pole: 60 inches to 84 inches above top of guardrail
    - Width/Diameter: minimum = 1 1/4 inches, maximum = 2 inches (steel/stainless steel not be greater than 5/8 inch diameter)
    - > Thickness: as required by design
  - 3. Visibility:
    - Daytime: Pole color orange
      - a. Steel and Stainless Steel Poles: Applied permanent finish.
      - b. Other Poles: Color pigment ultraviolet stabilized and solid through the cross section from end to end.
    - > Nighttime: Added retroreflective sheeting color white
      - a. Approximately 12 square inches visible from the traveled way before and after the marker. Applied to a flag attached to the pole or as banding applied directly to the pole. (A flag is required when using steel/stainless steel poles.)
      - b. Place top edge of flag/banding 1 inch from top of pole.
        - (1) Flag: Single retroreflective sheet each face
        - (2) Banding: Two bands completely around marker, 4 inches between bands
- Hardware and Fasteners:
  - Steel, and/or
  - Stainless Steel, or
  - Aluminum alloy (hardware only)

Manufacturers of flexible markers (snowpoles):

Manufacturer	Model	Туре	Contact	
Nordic Fiberglass, Inc.	FF2	Steel Pole w/ Flag	Ph: (218) 745-5095	
PEXCO	Model 3639	High-Impact Polyolefins	Ph: (404) 564-8560	
New Century Northwest, LLC	NCN2549	Engineered Plastic Alloy	Ph: (541) 485-5566	
Carsonite Composites, LLC	SNFB	Continuous glass fiber and marble reinforced thermosetting composite	Ph: (800) 648-7916	

Submit manufacturer's specifications to the Engineer for review and approval before ordering terminal markers.

# CR730.2-122217
## SECTION 740 SIGNALS AND LIGHTING MATERIALS

**Special Provisions** 

## 740-2.18 ROADWAY LUMINAIRES

Luminaries General

- 2. Luminaries LED
  - g. <u>Failed Equipment and Workmanship</u>. The luminaire and all of its components, for the term of the Contract, from initial installation through final acceptance 105-1.16, when directed, promptly replace failed equipment and repair failed workmanship.
    - (1) Negligible light output from more than 10% of the LED packages,
    - (2) Moisture inside the optical assembly,
    - (3) Driver that continues to operate at a reduced output, and/or
    - (4) Other failed conditions that do not meet specifications.

CR740.1-010120

APPENDIX A

CONSTRUCTION SURVEY REQUIREMENTS

APPENDIX B

ENVIRONMENTAL PERMITS

APPENDIX C

MATERIAL CERTIFICATION LIST

Project Name

AMATS: Downtown Trail Connection

Project Number

CFHWY00586/0001662

## Project Engineer Signature

Unshaded boxes indicate who approves the manufacturer's certificate of compliance or materials submittals. If two boxes aren't shaded, either approving authority may be used.

	Specification	Const	ruction		Design		Statewide	e Materials		Certificate
Materials Item	2020 or Std.	Project	Regional	Design	State	Regional	*Qualified	State	Manufacturer/	Location
	Mod./Special Provisions, if	Engineer	Materials or	Engineer	Bridge	Traffic	Products	Materials or	Remarks	e.g.
	noted		QA Engineer	of Record	Engineer	Engineer	List (QPL)	QA Engineer		Binder #
501 CONCRETE FOR STR	UCTURES				-	-				
Concrete Mix Design	501-2.02									
Grout	501-2.01.5, 701-2.03									
Epoxy Adhesive for Crack Sealing	501-2.01.5									
Epoxy Adhesive for Crack Injection	501-2.01.5									
Low-Viscosity Resin	501-2.01.5, 712-2.19									
Epoxy Bonding Agents	501-2.01.5									
Concrete Anchor Bolts and Inserts	712-2.20									
Asphalt Felt	501-2.01.4									
Curing Materials	711-2.01									
Utiliduct, HDPE	706-2.08									
Utiliduct, Steel	716									
Structural Steel	716									
503 REINFORCING STEEL										
Reinforcing Steel Bars	709-2.01.1									
Epoxy-Coated Reinforcing Steel Bars	709-2.01.3									
Headed Reinforcing Steel Bars	709-2.01.2									
Epoxy-Coating Patch Material	709-2.01.7									
Bar Supports	709-2.03									
Epoxy for Bonding Dowels	712.2.21									

514 CONCRETE SURFACE FINISH AND TREATMENT

	Specification	C	ruction		Decian	su,	Ctotour!	Matoricle		Contificato
	specification	Const	ruction		Design	_	Statewide	e waterials		Certificate
Materials Item	2020 or Std.	Project	Regional	Design	State	Regional	*Qualified	State	Manufacturer/	Location
	Brovisions if	Engineer	Materials or	Engineer	Bridge	Traffic	Products	Materials or	Remarks	e.g.
	noted		QA Engineer	of Record	Engineer	Engineer	List (QPL)	QA Engineer		Binder #
Anti-graffiti Protection	514-2.01								CRSP	
516 EXPANSION JOINTS		GS								
Grout	701-2.03									
Bridge Seals	705-2.03									
Expanded Polyethylene	705-2.06									
Structural Steel	716									
Elastomeric Bearing Pads	720-2.01									
Elastomeric Bearing Pads	720-2.02									
(PTFE) Bearings	720-2.03									
Water Stops	723									
550 COMMERCIAL CONCI	RETE								1	1
Concrete Mix Design	550-2.02 701-2.03, 501-									
Grout & Epoxy	2.01.5, 712- 2.19									
Concrete Anchor Bolts and Inserts	712-2.20									
Asphalt Felt	501-2.01.4									
Curing Materials	711-2.01									
Utiliduct, HDPE	706-2.08									
Utiliduct, Steel	716									
Structural Steel	716									
603 CULVERTS AND STO	RM DRAINS									
Flexible Watertight Gaskets										
Ring Gaskets for Rigid										
Pipe & Precast Manhole Sections	705-2 05 1									
Ring Gaskets for Flexible Metal Pipe	705-2.05.2									
Corrugate Aluminum Pipe										
Corrugated Aluminum	707-2.03									

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	Specification	Const	ruction		Design		Statewide	Materials		Certificate
Materials Item	2020 or Std.	Project	Regional	Design	State	Regional	*Qualified	State	Manufacturer/	Location
	Mod./Special	Engineer	Materials or	Engineer	Bridge	Traffic	Products	Materials or	Remarks	e.g.
	noted		QA Engineer	of Record	Engineer	Engineer	List (QPL)	QA Engineer		Binder #
End Section for inch			Ŭ			Ŭ				
Alloy Pipe, inch	707-2.03/Plans									
Galvanizing	716-2.07									
Culvert Marker Posts (Flexible	720.2.05								0000	
Demieator Posts)	730-2.03								CRSP	
Culvert Marker Strap and Seals	603-2.01								CRSP	
604 MANHOLES & INLE I	5									
Concrete Mix Design	550-2.02									
Curing Materials	711-2.01									
Clay or Shale Brick									1	
Sewer Brick	704-2.01									
Building Brick	704-2.01									
Concrete Brick	704-2.02									
Concrete Masonry Block	704-2.03									
Elexible Watertight Gaskets										
Ring Gaskets for Rigid										
Pipe & Precast Manhole Sections	705-2.05.1									
Ring Gaskets for Flexible	100 2.00.1									
Metal Pipe	705-2.05.2									
Elastomeric Seals for Plastic Pipe	705-2 05 3									
ion nacion ipo	100 2.00.0									
Reinforcing Steel										
Reinforcing Steel Bars	709-2.01.1									
Headed Reinforcing Steel Bars	709-2.01.2									
Epoxy-Coated Reinforcing Steel Bars	709-2.01.3									
Epoxy-Coating Patch Material	709-2.01.7									
Bar Supports	709-2.03									
Epoxy for Bonding Dowels	712.2.21									
Precast Concrete Manhole Sections	712-2.05									
Frames, Grates, Covers & Ladder Rungs										

Unshaded boxes indicate who approves the manufacturer's certificate of compliance or materials submittals. If two boxes aren't shaded, either approving authority may be used.			
	Unshaded boxes indicate who approves the manufacturer's certificate of compliance or materials submittals	. If two boxes aren't shaded, either approving authority may be used.	

	Specification	Const	ruction		Design		Statewide	Materials		Certificate
Materials Item	2020 or Std.	Project	Regional	Design	State	Regional	*Qualified	State	Manufacturer/	Location
	Mod./Special Provisions if	Engineer	Materials or	Engineer	Bridge	Traffic	Products	Materials or	Remarks	e.g.
	noted		QA Engineer	of Record	Engineer	Engineer	List (QPL)	QA Engineer		Binder #
Gray Iron Castings	712-2.06									
Carbon-Steel Castings	712-2.06									
Structural Steel	712-2.06									
Galvanizing	712-2.06									
Malleable Iron Castings	712-2.06									
Steps	See Plans									
Corrugated Metal Units	712-2.07									
607 FENCE	,									
Concrete Mix Design	550-2.02									
Woven Wire	710-2.02									
Chain Link Fabric	710-2.03									
Fence Posts	710-2.05									
608 SIDEWALKS										
Concrete Sidewalk									1	
Concrete Mix Design	550-2.02									
Joint Fillers	705-2.01									
Joint Sealer	705-2.02									
Asphalt Sidewalk										
Asphalt (HMA) Mix Design	608-2.01.2								CRSP	
Asphalt Binder	702-2.01								CRSP	
Detectable Warnings	608-3.04									
609 CURBING										
Concrete Mix Design	550-2.02									
Joint Fillers	705-2.01									
Joint Sealer	705-2.02									

Unshaded boxes indicate who app	proves the manufac	cturer's certificate	e of compliance o	r materials subm	ittals. If two boxe	es aren't shaded,	either approving	authority may be	used.	
	Specification	Const	ruction		Design		Statewide	e Materials		Certificate
Materials Item	2020 or Std.	Project	Regional	Design	State	Regional	*Qualified	State	Manufacturer/	Location
	Mod./Special	Engineer	Materials or	Engineer	Bridge	Traffic	Products	Materials or	Remarks	e.g.
	Provisions, if			of Pocord	Engineer	Engineer	List (OPL)			Binder #
			QA Lingineer	of Record	Lingineer	Lingineer		QA Engineer		Bilder #
Joint Mortar	705-2.04									
Precast Concrete Curbing	712-2.04									
Asphalt (HMA) Mix Design	609-2.01									
Asphalt Binder	702-2.01								CRSP	
615 STANDARD SIGNS									1	1
Sheet Aluminum	730-2.01/Plans									
Retroreflective Sheeting	730-2.03									
Orange Background Signs	615-2.01.2								CRSP	
Railroad Crossbucks & Vertical Crossbuck Support Panels	615-2.01.2								CRSP	
Reflective Sheeting Warranty	615-2.01.5								CRSP	
<u>Sign Posts</u>										Γ
Perforated Steel Posts	730-2.04.2									
Zinc Coating for Repairs	730-2.04.6.b									
Acrylic Prismatic Reflectors	730-2.06									
<u>Sign Bases</u>										1
Slip Base	615- 2.01.3/Plans								CRSP	
Concrete Mix Design	615-2.01.3/ 501- 2.02/550-2.02								CRSP	
618 SEEDING										
Seed	724									
Fertilizer	618-2.01/725								CRSP	
Soil Stabilization Material	727								CRSP	
619 SOIL STABILIZATION										T
Mulch	727-2.01								CRSP	
Matting	727-2.02								CRSP	
Sediment Retention Fiber Rolls (SRFRs)	727-2.03								CRSP	

Unshaded boxes indicate who approves the manufacturer's ce	ertificate of compliance or materials submittals.	If two boxes aren't shaded, either approving authority may be used.
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	Specification	Const	ruction		Design		Statewide	Materials		Certificate
Materials Item	2020 or Std.	Project	Regional	Design	State	Regional	*Qualified	State	Manufacturer/	Location
	Mod./Special	Engineer	Materials or	Engineer	Bridge	Traffic	Products	Materials or	Remarks	e.g.
	noted		QA Engineer	of Record	Engineer	Engineer	List (QPL)	QA Engineer		Binder #
_										
Compost	727-2.04								CRSP	
Tackifier	727-2.05								CRSP	
Polyacrylamide (PAM)	727-2.06								CRSP	
Geotextile-Encased Check Dams and Sediment Barriers	727-2.07								CRSP	
Sandbags	727-2.08								CRSP	
Manufactured Inlet Protection System	727-2.09								CRSP	
Clear Plastic Covering	727-2.10								CRSP	
Staples	727-2.11								CRSP	
621 PLANTING TREES AN	D SHRUBS									
Plant Stock									I	
Nursery Stock	621-2.01.1									
At least 2 full growing seasons in age	621-2.01.1.a									
2 full growing seasons in age	621-2.01.1.b									
Collected Stock	621-2.01.2									
Balled and Burlapped Plants	621-2.01.3									
Fertilizer	621-2.02								CRSP	
Limestone	712-2.03									
Mulch	621-2.04								CRSP	
Stakes	621-2.06									
Tree Wound Dressing	621-2.07									
622 REST AREA FACILITIE	ES									
Rest Area Signs and Posts										
<u>Sign Posts</u>										
Metal Pipe Posts	730-2.04.1									

	Specification	Const	ruction		Design		Statewide	Materials		Cartificato
	2020 or Std	During	Burland	<b>D</b>	Design	Butter	5tatewide		Manufacturent	Certificate
viateriais item	Mod./Special	Project	Regional	Design	State	Regional	^Qualified	State	Manufacturer/	Location
	Provisions, if	Engineer	Materials or	Engineer	Bridge	Traffic	Products	Materials or	Remarks	e.g.
	noted		QA Engineer	of Record	Engineer	Engineer	List (QPL)	QA Engineer		Binder #
	700.0.04.0									
Perforated Steel Posts	730-2.04.2									
<u>Sign Bases</u>										
	615-2.01.3/ 501									
Concrete Mix Design	2.02/550-2.02								CRSP	
Jurnichingo										
umsnings										
)h	COD 0 40									
Jench	022-2.10									
andesana Dauldar	600.0.14									
andscape Boulder	622-2.14									
andressa Eduina	000.0.40									
andscape Edging	622-2.13									
	000 0 17									
Vayfinding Sign Post for Direction	622-2.17									
Wayfinding Sign Post for Map Kiosi	622-2.18									
625 PIPE HAND RAIL										
	550.0.00									
Concrete MIX Design	550-2.02									
Pipe	625-2.01									
30 GEOTEXTILE FOR EM	BANKMENT	SEPARATIO	N AND STAB	LIZATION						
Seotextiles and Sewing Thread										
	700.0.01.0									
Separation	729-2.01.2									
31 GEOTEXTILE FOR SU	BSURFACE D	RAINAGE A	ND EROSION	CONTROL						
secrextlies and Sewing Thread										
Erosion Control	729-2.01.4									
33 SILT FENCE	[ [ ]									
Geotextile, Erosion Control	729-2.01.4									
Silt Fence	729-2.02									
34 GEOGRID SOIL REINF	ORCEMENT									
Geogrid, Reinforcement, Class	729-2.04.2								1	1

	Specification	Const	ruction		Design		Statewide	e Materials		Certificate
Materials Item	2020 or Std. Mod./Special Provisions, if	Project Engineer	Regional Materials or	Design Engineer	State Bridge	Regional Traffic	*Qualified Products	State Materials or	Manufacturer/ Remarks	Location e.g.
	noted		QA Engineer	of Record	Engineer	Engineer	List (QPL)	QA Engineer		Binder #
641 EROSION, SEDIMEN			ROL							
Materials	641-2.05								CR Special Provision - 641 Control and Stabilization Materials identified and documented in SWPPP and approved on project.	
643 TRAFFIC MAINTEN	ANCE							-	•	
Traffic Control Devices	643-3.04								CR Special Provision - 643 Materials approved on project with TCP conforming to Alaska Traffic Manual (ATM).	
670 TRAFFIC MARKING	S									
Traffic Paint, Glass Beads	708-2.03, 712- 2.08									
Additional Materials										
								1		

Project	Name
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AMATS: Downtown Trail Connection

Project Number

## CFHWY00586/0001662

Project Engineer Signature

Unshaded boxes indicate who a	approves the manu	facturer's certific	ate of complianc	e or materials sul	bmittals. If two b	oxes aren't shad	ed, either approv	ving authority mag	y be used.		
		SECI	<b>FION 660</b>	/661/669/7	740 MAT	ERIALS C	ERTIFIC	ATION L	IST		
			Acceptance By:								
Materials Item		Third Party Listing or	Const	ruction		Design		Statewide	Materials		Certificate
	Specification	Labeling Required? (Y/N)	Project Engineer	Regional Materials or QA Engineer	State Electrical Engineer	Regional Highway Data Manager	Regional Traffic Design Engineer	Qualified Products List (QPL)	State Materials or QA Engineer	Manufacturer/ Remarks	Location e.g. Binder #
660 SIGNALS AND LIG	HTING										
HIGHWAY LIGHTING SYST	EMS										
PCC STREET LIGHT POLE FC	UNDATION: Cast	in Place									I
Concrete Mix Design	660-2.01	N									
Reinforcing Steel Bars	Std. Plans 709-2.01	N									
Anchor	Std. Plans	N									
Corrugated Metal Pipe	Std. Plans 660-3.02	N									
Frangible Couplings	Std. Plans	N									
PRECAST FOUNDATIONS	See Detail in Plans	N									
PIPE PILE ELECTROLIER FOU		1									1
	Plans 660-2.01										
Pipe Pile	660-3.02 Plans	N									
	740-2.02	IN									
JONG HON BOXES.	See Detail In Plans 660-2.01 709-2.01										
Type I / IA, II, III	711-2.01	N									
Concrete Mix Design	660-2.01	N									
Curing Materials	711-2.01	N									
Reinforcing Steel	709-2.01	N									
Electronic ball marker	Plans 660-3.04	N									

SECTION 660/661/669/740 MATERIALS CERTIFICATION LIST											
		Third Party	Acceptance By:								
		Listing or	Const	ruction		Design		Statewide	e Materials		Certificate
Materials Item	Specification	Labeling Required? (Y/N)	Project Engineer	Regional Materials or QA Engineer	State Electrical Engineer	Regional Highway Data Manager	Regional Traffic Design Engineer	Qualified Products List (QPL)	State Materials or QA Engineer	Manufacturer/ Remarks	e.g. Binder #
Junction Box Cover	See Detail in Plans 660-3.04	Ν									
LIGHTING STRUCTURES:											
Steel Poles	Plans 740-2.02	Ν									
Galvanizing	740-2.02	N									
Shop Drawings	660-3.01 740-2.02	N									
Calculations	740-2.02	N									
Welding Plan	660-3.01 740-2.02	N									
Mill Certifications	740-2.02	Ν									
CONDUIT:											
Galvanized Rigid Metal Conduit (RMC)	740-2.06	Y									
High Density Polyethylene Conduit (HDPE)	740-2.06	Y									
High Density Polyethylene Couplings	660-3.03	Y									
Galvanized Couplings	740-2.06	Y									
Galvanized Split Couplings	740-2.06	Y									
Galvanized Elbows	740-2.06	Y									
Galvanized Nipples	740-2.06	Y									
Bore Casing	660-3.03	N									
Underground Marker Tape	660-3.03	N									
Pull Rope	660-3.03	N									
Type "C" and "LB" Conduit Outlet Bodies with Covers, Gaskets & Plugs	See Detail in Plans 740-2.06	Y									

BONDING & GROUNDING:

		SEC	<b>FION 660</b>	/661/669/	740 MAT	ERIALS C	CERTIFIC	ATION L	IST		
		Third Dout	Acceptance By:								
Materials Item Grounding Bushings Bare Copper Ground Wire Braided Copper J-Box Lid Bonding Wire Irreversible Compression Type Connectors CONDUCTORS / CABLES: Illumination Cable - PE Jacket Power Cable - PE Jacket Luminaire Tap Conductors Identification Labels SPLICES: Heat Shrink Tubing Electrical Tape Power Cable Splice Kit (Lighting) Double Fuse Connector Kits (Lighting)		Listing or	Construction		Design			Statewide	e Materials	1	Certificate
	Specification	Labeling Required? (Y/N)	Project Engineer	Regional Materials or QA Engineer	State Electrical Engineer	Regional Highway Data Manager	Regional Traffic Design Engineer	Qualified Products List (QPL)	State Materials or QA Engineer	Manufacturer/ Remarks	e.g. Binder #
Grounding Bushings	Plans Plans 740-2.06 660-3.01 660-3.06 See Detail in	Y									
Bare Copper Ground Wire	Plans 660-3.06	N									
Braided Copper J-Box Lid Bonding Wire	Plans 740-2.06 660-3.06	Y									
Irreversible Compression Type Connectors	Plans 660-3.02 660-3.06	Y									
CONDUCTORS / CABLES:				1							
Illumination Cable - PE Jacket	740-2.05	Y									
Power Cable - PE Jacket	740-2.05	Y									
Luminaire Tap Conductors	740-2.05	Y									
Identification Labels	660-3.05	N									
SPLICES:	See Detail in									L	
Heat Shrink Tubing	Plans 660-3.05 See Detail in	Y									
Electrical Tape	Plans 660-3.05 See Detail in	Y									
Power Cable Splice Kit (Lighting)	Plans 660-3.05	Y									
Double Fuse Connector Kits (Lighting)	Plans 740-2.07	Y									
Fuses for Double Fuse Connector Kits	See Detail in Plans 740-2.07	Y									

		SEC	FION 660	/661/669/7	740 MAT	ERIALS C	CERTIFIC	ATION LI	ST		
		Third Party		Acceptance By:							
Materials Item		Listing or	Const	ruction	Design			Statewide	Materials	İ	Certificate
	Specification	Labeling Required? (Y/N)	Project Engineer	Regional Materials or QA Engineer	State Electrical Engineer	Regional Highway Data Manager	Regional Traffic Design Engineer	Qualified Products List (QPL)	State Materials or QA Engineer	Manufacturer/ Remarks	e.g. Binder #
LIGHTING FIXTURES:											
	See Detail in										
LED Luminaire (include all additional requirements)	Plans 740-2.18	Y									
	Plans										
	740-2.18										
HPS Luminaire, Lamp, Ballast	740-2.21	Y									
	Plans										
Sign Lighting, Lamp, Ballast	740-2.19	Y									
	See Detail in										
Ballast	740-2.23	Y									
ILLUMINATION CONTROL:	See Detail in										
	Plans										
Node	740-2.20	N									
	Plans										
Gateway	740-2.20	Ν									
	See Detail in										
Modem	740-2.20	N									
				•							·
661 ELECTRICAL LOAD	CENTERS						1				T
FOUNDATIONS	661-2 01	N									
Wood Posts (TYPE 2 & 3	Std. Plans										
FOUNDATIONS)	661-2.01	N									
Treatment	5td. Plans 714-2 01	N									
	111 2101										I
BONDING & GROUNDING:	Std Plans			1			1				T
Copper Ground Rod	661-2.01	Y									
Ground Rod Clamps	661-2.01	Y									
Bare Copper Grounding Wire	Std. Plans 661-3.01	N									
						ł	•	ł			+
COMPONENTS IN COMMON:	Std. Plans	-									1
	740-2.20										
Photoelectric Control	661-2.01	Y									
Photocell Cable	740-2.05	Y									
	Std. Plans										
Contactor	661-2.01 Std. Plans	Y									
Load Panel	661-2.01	Y									
	Std. Plans										
Neutral Bus Bar System	661-2.01	Y									

		SEC	<b>FION 660</b>	/661/669/	740 MAT	ERIALS C	CERTIFIC	ATION LI	ST		
		Third Party	Acceptance By:								
		Listing or	Const	ruction		Design		Statewide	Materials		Certificate
Materials Item Ground Bus Bar System Terminals Control Switch (selector switch) Uninterruptible Power Supply Cabinet Uninterruptible Power Supply Controller Uninterruptible Power Supply Batteries Power Transfer Switch Meter Socket Manual Circuit Closing Device Circuit Breakers Galvanized Rigid Metal Conduit LOAD CENTER ASSEMBLIES: Type 1 Type 1A Type 1A Type 1A with UPS	Specification	Labeling Required? (Y/N)	Project Engineer	Regional Materials or QA Engineer	State Electrical Engineer	Regional Highway Data Manager	Regional Traffic Design Engineer	Qualified Products List (QPL)	State Materials or QA Engineer	Manufacturer/ Remarks	e.g. Binder #
Ground Bus Bar System	Std. Plans 661-2.01	Y									
Terminals Control Switch (selector	661-2.01 Std. Plans	Y									
switch)	661-3.01 See Detail in	Y									
Uninterruptible Power Supply Cabinet	Plans 661-2.01 See Detail in	Y									
Uninterruptible Power Supply Controller	Plans 661-2.01	Y									
Uninterruptible Power Supply Batteries	Plans 661-2.01	Y									
Power Transfer Switch	661-2.01	Y									
Meter Socket	661-2.01	Y									
Manual Circuit Closing Device	661-2.01 Std. Plans	Y									
Circuit Breakers Galvanized Rigid Metal	661-2.01 Std. Plans	Y									
Conduit	661-2.01	Y									
LOAD CENTER ASSEMBLIES:	Std. Plans										
Туре 1	661-2.01 Std. Plans	Y									
Туре 1А	661-2.01 See Details in	Y									
Type 1A with UPS	Plans 661-2.01	Y									
Туре 2	661-2.01	Y									
Туре 3	661-2.01	Y									
TRANSFORMERS	661-2.01	Y									
ADDITIONAL MATERIALS	5:										

APPENDIX D

SIGN SHOP DRAWINGS

APPENDIX E

DRAFT PERMITS